



**U.S. Army Corps  
of Engineers**

Baltimore District  
PN-24-03

# Public Notice

**In Reply to Application Number  
NAB-2023-61604-P33 (Jug Bay Sanctuary Living  
Shoreline)**

Comment Period: January 23, 2024 to February 22, 2024

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**THE PURPOSE OF THIS PUBLIC NOTICE IS TO INFORM INTERESTED PARTIES OF THE PROPOSED ACTIVITY AND TO SOLICIT COMMENTS. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.**

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344), as described below:

## **APPLICANT:**

Anne Arundel County (Jug Bay Wetlands Sanctuary)  
1361 Wrighton Road  
Lothian, MD 20711

## **WATERWAY AND LOCATION OF THE PROPOSED WORK:**

The proposed project is located in Patuxent River, in Lothian Anne Arundel County, Maryland (38.774773, -76.704849)

## **OVERALL PROJECT PURPOSE:**

To provide shoreline erosion control and establish/enhance habitat.

## **PROJECT DESCRIPTION:**

The applicant proposes, in accordance with the attached plans, to stabilize the shoreline approximately 411 linear feet of shoreline utilizing a living shoreline design by emplacing a series of four (4) shore connected headland control vegetated breakwater structures, all within an approximately 13,974 square foot or 0.32 acre impact area as follows: to construct a 102-foot long by 34-foot wide stone breakwater (breakwater 1), to construct a 65-foot long by 34-foot wide stone breakwater (breakwater 2), to construct a 106-foot long by 34-foot wide stone breakwater (breakwater 3), to construct a 104-foot long by 34-foot wide stone breakwater (breakwater 4), all not to exceed 100 foot channelward of the approximate mean high water line: 8 woody habitat structures within the breakwater structures, to emplace approximately 2,011 cubic yards of sand with

approximately 364 linear feet and 14,444 square feet of marsh terrace with high (*S. patens*) /low (*Spartina alterniflora*) marsh plantings not to exceed 68-foot channelward of the mean high water line, and to create a 1,450 square foot pocket beach with 50 cubic yards of sand fill not to exceed 45-foot channelward of the mean high water line: all within the area of each of the four above-described breakwaters.

All work is proposed in accordance with the attached plans prepared by Bayland Consultants & Designers, Inc. dated October 2023.

#### **EFFECTS ON AQUATIC RESOURCES:**

<b>Proposed Activity</b>	<b>Aquatic Resource Impact (sf)</b>	<b>Aquatic Resource Type</b>	<b>Authority</b>
Breakwater/Pocket Beach	27,949	Tidal Waters	Section 10/404
<b>Total:</b>	<b>27,949</b>		

#### **LEAD FEDERAL AGENCY:**

The United States Army Corps of Engineers, as the lead federal agency, is responsible for all coordination pursuant to applicable federal authorities.

#### **APPLICANT'S PROPOSED AVOIDANCE, MINIMIZATION, AND COMPENSATORY MITIGATION:**

As part of the planning process for the proposed project, steps were taken to avoid and minimize impacts to aquatic resources to the maximum extent practicable based on the existing site conditions. The applicant proposes to avoid and minimize impacts by designing the headland breakwaters to be of the minimum channelward extent necessary to provide reduced wave energy and erosion rates.

No compensatory mitigation is currently proposed. The project would result in the establishment of approximately 11,728 sf of low marsh vegetation (*Spartina alterniflora*) and 13,156 sf of high marsh vegetation (*S. patens*) with the vegetated breakwaters and marsh terrace. The applicant designed the proposed ratio of low to high marsh vegetation to mimic the natural shorelines more closely, which tend to be dominated by *S. patens* and beach strand habitat.

**CORPS EVALUATION REQUIREMENTS:**

This project will be evaluated pursuant to Corps Regulatory Program Regulations (33 CFR Parts 320-332). The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonable may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people. The evaluation of the impact of this project will also include application of the Clean Water Act Section 404(b)(1) Guidelines promulgated by the Administrator, United States Environmental Protection Agency.

**ENDANGERED SPECIES:**

A preliminary review of this application indicates that the proposed work is not likely to adversely affect federally listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

**ESSENTIAL FISH HABITAT:**

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH), including species of concern, life cycle habitat, or Habitat Areas of Particular Concern. The project site lies in or adjacent to EFH as described under MSFCMA for managed species under the MSFCMA. The Baltimore District has made a preliminary determination that the project will not have a substantial adverse effect on EFH. The Baltimore District has made a preliminary determination that mitigative measures are not required to minimize adverse effects on EFH at this time. This determination may be modified if additional information indicates otherwise.

**HISTORIC RESOURCES:**

Pursuant to Section 106 of the National Historic Preservation Act of 1966 and applicable guidance, the Corps has reviewed the latest published version of the National Register of Historic Places and initially determined that no registered properties listed as eligible for inclusion, therein, are located at the site of the proposed work. The Corps has made the preliminary determination that the proposed project would have no adverse effect on historic properties. The Corps final eligibility and effect determination will be based on coordination with the State Historic Preservation Office as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps' identified permit area.

**TRIBAL RESOURCES:**

Section 106 of the National Historic Preservation Act also requires federal agencies to consult with federally recognized American Indian tribes that attach religious and cultural significance to historic properties that may be affected by the agency's undertaking. Corps Tribal Consultation Policy mandates an open, timely, meaningful, collaborative, and effective deliberative communication process that emphasizes trust, respect, and shared responsibility. The policy further emphasizes that, to the extent practicable and permitted by law, consultation works toward mutual consensus and begins at the earliest planning stages before decisions are made and actions taken. The Corps final eligibility and effect determination will be based on coordination with interested tribes, in accordance with the Corps current tribal standard operating procedures as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on tribal resources.

**MODIFICATION OF CIVIL WORKS PROJECTS: 33 USC 408 (SECTION 408):**

All Section 408 proposals will be coordinated internally at the United States Army Corps of Engineers. The Section 408 decision will be issued along with the Section 404 and/or Section 10 decision. Please see the following link for more information regarding Section 408: <https://www.nab.usace.army.mil/Missions/Regulatory/Section-408-Requests/>.

**WATER QUALITY CERTIFICATION:**

The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act.

**COASTAL ZONE MANAGEMENT PROGRAMS:**

Where applicable, the applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with the approved Coastal Zone Management Program. By this public notice, we are requesting the state concurrence or objection to the applicant's consistency statement.

The applicant must obtain any state or local government permits which may be required.

**SUBMISSION OF COMMENTS:**

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action and are subject to release to the public through the Freedom of Information Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Written comments concerning the work described above related to the factors listed above or other pertinent factors must be received by the United States Army Corps of Engineers, Baltimore District within the comment period specified above through postal mail at the address below or electronic submission to the project manager email address below. Written comments should reference the Application Number NAB-2023-61604-P33 (Jug Bay Sanctuary Living Shoreline).

**PUBLIC HEARING REQUESTS:**

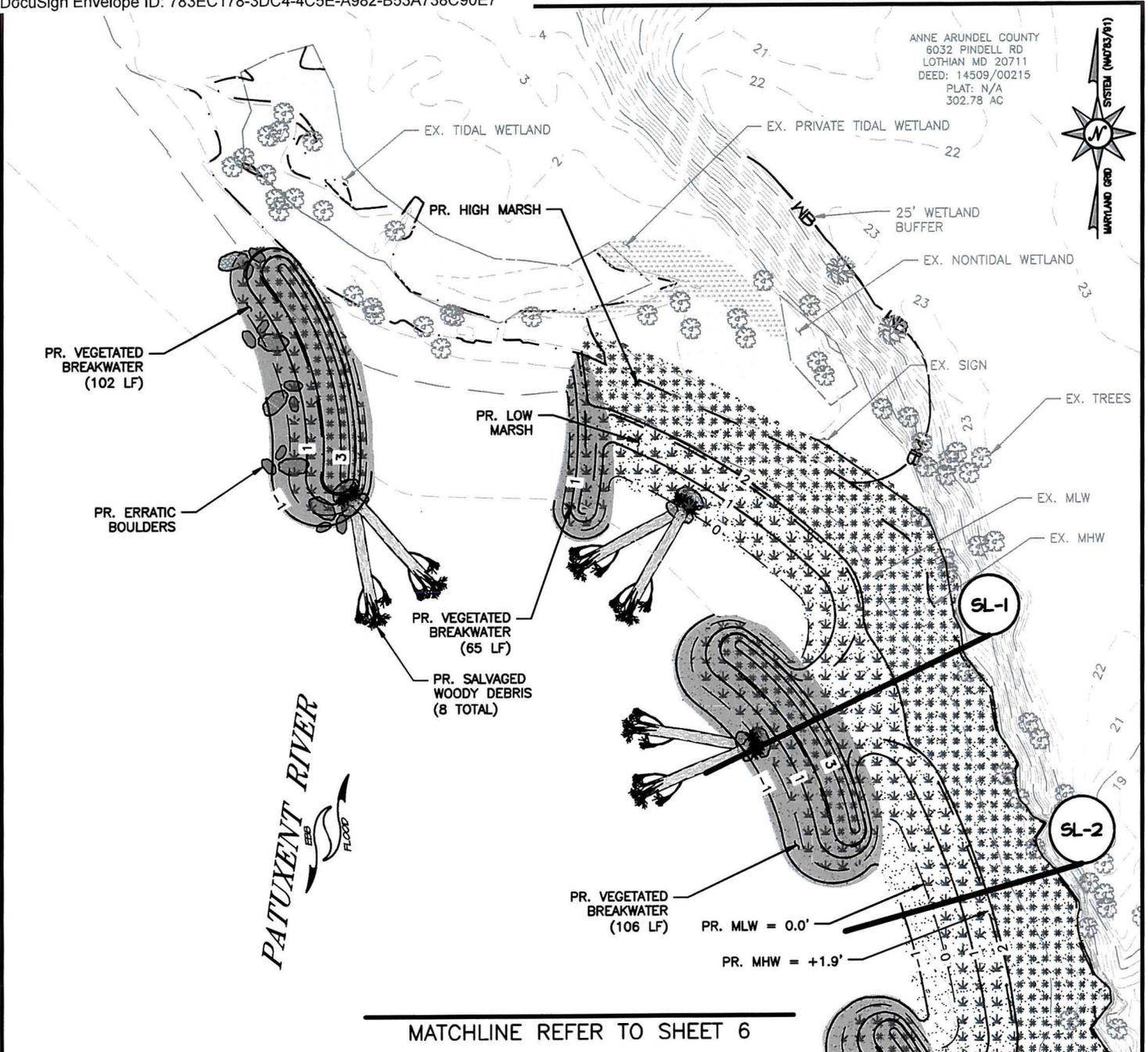
Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received within the comment period as specified above to receive consideration. Also, it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected. The public hearing request may be submitted by electronic mail or mailed to the following address:

Alicia Palmer  
[alicia.e.palmer@usace.army.mil](mailto:alicia.e.palmer@usace.army.mil)  
United States Army Corps of Engineers, Baltimore District  
Regulatory Branch  
1631 South Atherton Street  
State College, PA 16801

It is requested that you communicate this information concerning the proposed work to any persons known by you to be interested, who did not receive a copy of this notice.

General information regarding the Corps' permitting process can be found on our website at <https://www.nab.usace.army.mil/Missions/Regulatory.aspx>. This public notice has been prepared in accordance with Corps implementing regulations at 33 CFR 325.3. If you have any questions concerning this specific project or would like to request a paper copy of this public notice, please contact Alicia Palmer, 814-235-1764, and [alicia.e.palmer@usace.army.mil](mailto:alicia.e.palmer@usace.army.mil). This public notice is issued by the Chief, Regulatory Branch.

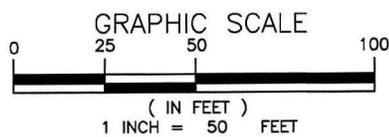
ANNE ARUNDEL COUNTY  
 6032 PINDELL RD  
 LOTHIAN MD 20711  
 DEED: 14509/00215  
 PLAT: N/A  
 302.78 AC



**LEGEND**

	EX. LOW MARSH		PR. LOW MARSH
	EX. HIGH MARSH		PR. VEGETATED BREAKWATER
	PR. SAND		
	PR. HIGH MARSH		

**JUG BAY SHORELINE RESTORATION  
 AT  
 JUG BAY WETLANDS SANCTUARY  
 ANNE ARUNDEL COUNTY**



APPL. BY: ANNE ARUNDEL COUNTY (JUG BAY WETLANDS SANCTUARY)

**SITE PLANS**

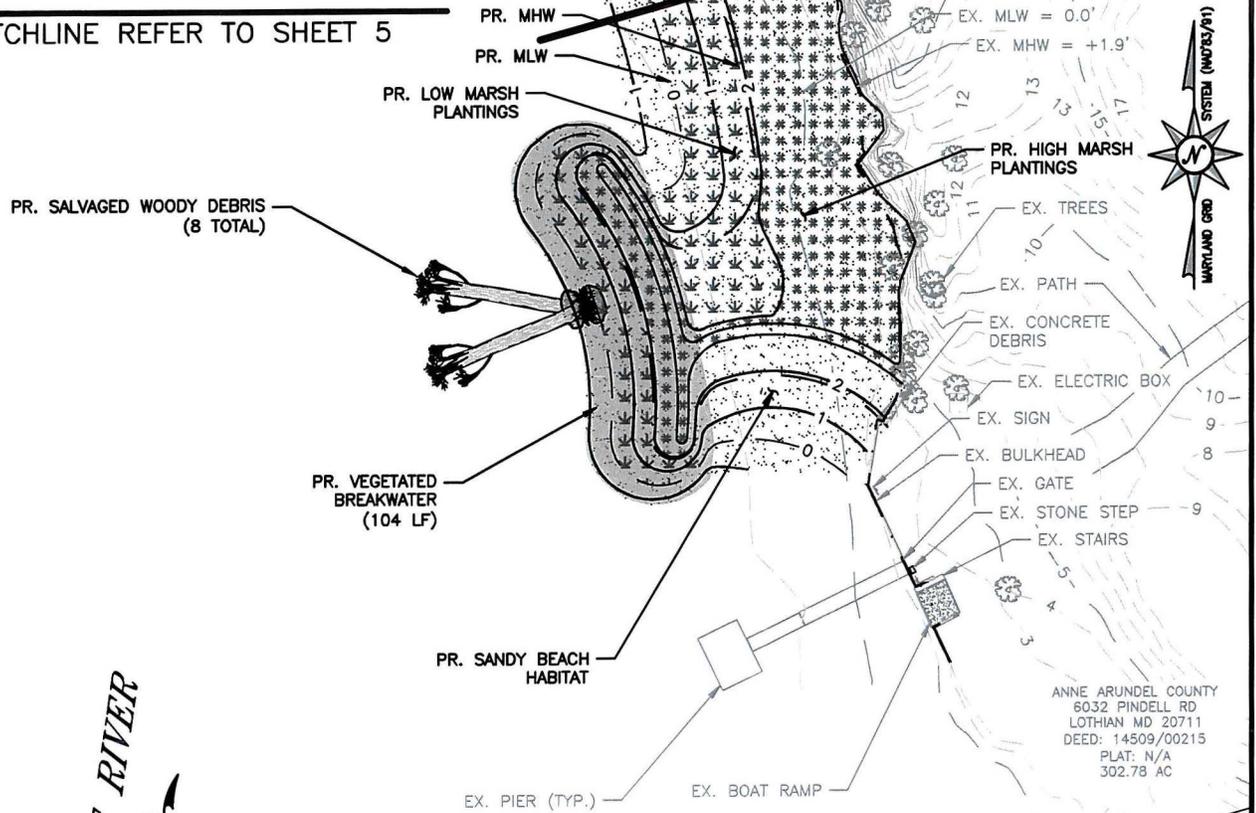
DATE: OCTOBER 2023 SHEET 5 OF 8

**BayLand**  
 Consultants & Designers, Inc.  
 "Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
 Hanover, Maryland 21076 Fax: (410) 694-9405  
 www.baylandinc.com

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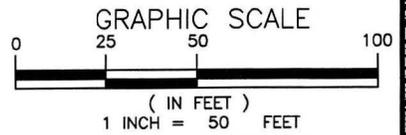
MATCHLINE REFER TO SHEET 5



PATUXENT RIVER  
E.P.B.  
FLOOD

**LEGEND**

	EX. LOW MARSH		PR. LOW MARSH
	EX. HIGH MARSH		PR. VEGETATED BREAKWATER
	PR. SAND		
	PR. HIGH MARSH		



JUG BAY SHORELINE RESTORATION  
AT  
JUG BAY WETLANDS SANCTUARY  
ANNE ARUNDEL COUNTY

APPL. BY: ANNE ARUNDEL COUNTY (JUG BAY WETLANDS SANCTUARY)

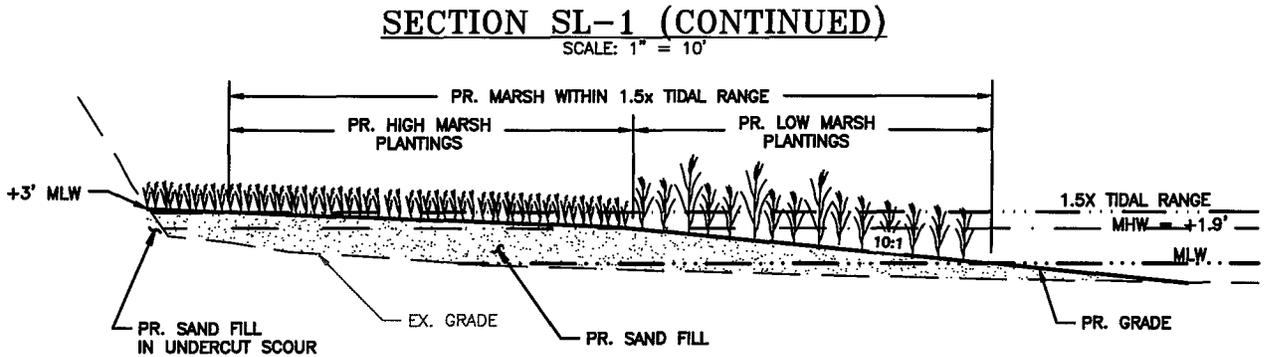
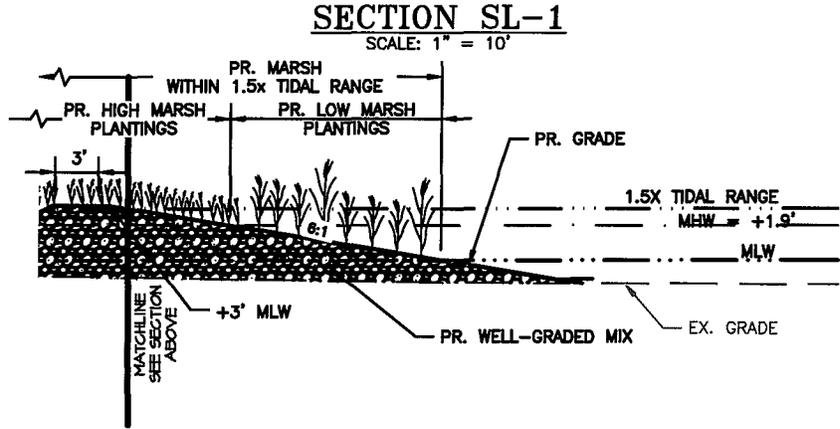
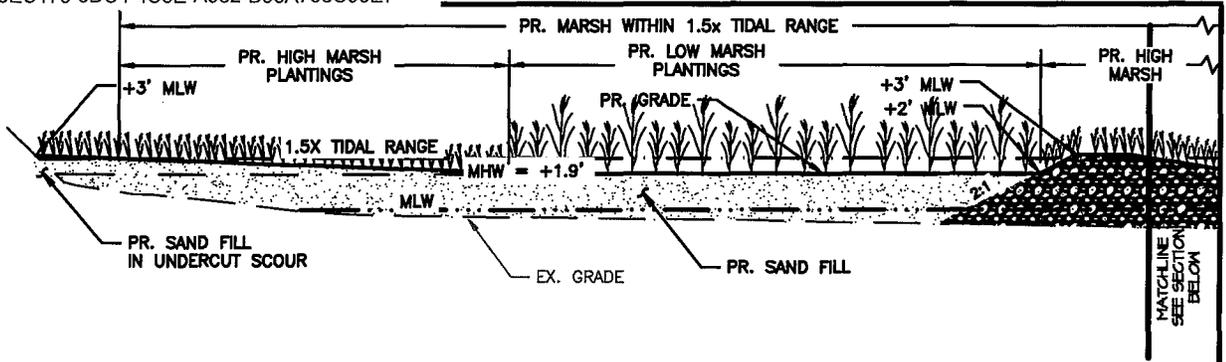
**SITE PLANS**

DATE: OCTOBER 2023 SHEET 6 OF 8

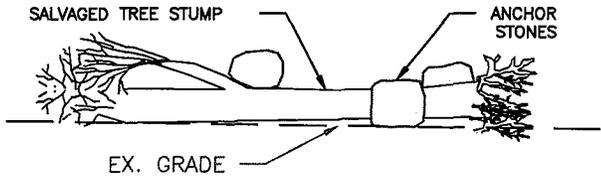
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SECTION SL-2  
SCALE: 1" = 10'



JUG BAY SHORELINE RESTORATION  
AT  
JUG BAY WETLANDS SANCTUARY  
ANNE ARUNDEL COUNTY

APPL. BY: ANNE ARUNDEL COUNTY (JUG BAY WETLANDS SANCTUARY)

CROSS SECTIONS & TYPICALS

DATE: OCTOBER 2023 SHEET 7 OF 8

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## PROJECT SUMMARY

### PROPOSED STRUCTURES:

WOODY HABITAT STRUCTURE - (8 TOTAL)

LIVING SHORELINE - 28,418 SF (26,499 SF BELOW EX. MHW)  
 VEGETATED BREAKWATER - 13,974 SF (4 TOTAL) (13,903 SF BELOW EX. MHW)  
 TOTAL LENGTH : 411 LF  
 AVG. WIDTH : 34 LF  
 MAX. CHANNELWARD ENCROACHMENT - 100 LF  
 VOLUME - 837 CY (837 CY BELOW EX. MHW)  
 MARSH TERRACE - 14,444 SF (12,596 SF BELOW EX. MHW)  
 TOTAL LENGTH - 364 LF  
 AVG. WIDTH - 59 LF  
 VOLUME - 1,174 CY (1,127 CY BELOW EX. MHW)  
 MAX CHANNELWARD ENCROACHMENT - 68 LF

POCKET BEACH - 1,450 SF (1,450 SF BELOW EX. MHW)  
 TOTAL LENGTH - 50 LF  
 AVG. WIDTH - 29 LF  
 VOLUME - 50 CY (50 CY BELOW EX. MHW)  
 MAX CHANNELWARD ENCROACHMENT - 45 LF

MARSH PLANTINGS - 24,884 SF (23,036 SF BELOW EX. MHW)  
 LOW MARSH PLANTINGS - 11,728 SF  
 HIGH MARSH PLANTINGS - 13,156 SF  
 MARSH PLANTINGS IN 1.5X TIDAL RANGE SEAWARD OF EX. MHW (+0.0' TO +2.9') - 23,036 SF  
 MARSH PLANTINGS ABOVE EX. MHW - 1,848 SF  
 AREA OF IMPACTS OUTSIDE 1.5X TIDAL RANGE SEAWARD OF EX. MHW - 5,633 SF  
 MARSH IN TIDAL RANGE IMPACTS RATIO - 4:1 (23,036 : 5,633)

## IMPACT SUMMARY

TOTAL AREA OF IMPACT FROM EX. MHW INTO TIDAL WATERS = 27,949 SF (0.64 AC)  
 TOTAL AREA OF IMPACT FROM EX. MHW INTO TIDAL WATERS (STRUCTURES ONLY) = 13,903 SF (0.32 AC)  
 TOTAL AREA OF PERMANENT IMPACT TO SHALLOW WATER HABITAT = 27,949 SF (0.64 AC)  
 TOTAL AREA OF IMPACT TO PRIVATE TIDAL WETLANDS = 0 SF

## NOTES

1. BASEMAP COMPILED FROM ANNE ARUNDEL COUNTY 2018 PLANIMETRICS AND AERIAL PHOTOGRAPHY.
2. SOUNDINGS AND CONTOURS ARE IN FEET AND REFER TO MLW.
3. TIDAL RANGE IS 1.9'
4. BATHYMETRIC & TOPOGRAPHIC SURVEY PERFORMED BY BAYLAND CONSULTANTS & DESIGNERS MAY 22, 2023 AND JUNE 19, 2023.
5. THESE ARE PERMIT DRAWINGS ONLY AND SUBJECT TO CHANGE DURING THE PERMIT PROCESS. DESIGN DRAWINGS ARE TO BE PREPARED SEPARATELY.

# JUG BAY SHORELINE RESTORATION AT JUG BAY WETLANDS SANCTUARY ANNE ARUNDEL COUNTY

APPL. BY: ANNE ARUNDEL COUNTY (JUG BAY WETLANDS SANCTUARY)

## SITE NOTES

DATE: OCTOBER 2023 SHEET 8 OF 8



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### Jug Bay Sanctuary – Living Shoreline Design

The Patuxent River shoreline project begins immediately north of the existing Jug Bay Pier bulkhead and continues approximately 540 LF upriver. Banks along this reach average 17-feet in height and exhibit undercutting, exposing roots, and downed trees (photos 1 and 2). The shoreline has eroded approximately one foot per year since 1972 with some areas having eroded as much as 64 feet. The farthest fetch extends approximately 1.1 miles to the north.

This reach is characterized by unstable banks, downed trees, and the exposed roots of many other trees at risk of falling with the potential to cause large amounts of sediment to enter Jug Bay. There is also more than 1,000 square feet (SF) of native marsh along the most naturally protected stretch of shoreline (photo 3).



*Photo 1 – Undercutting and exposed tree roots*



*Photo 2 – Steep banks along the shoreline*



*Photo 3 – Existing tidal freshwater marsh*

#### Living Shoreline Proposed Concept Approach

This project approach incorporates multiple innovative strategies that BayLand has incorporated on past living shoreline projects including living breakwaters, and marsh terrace with marsh migration area, pocket beaches, and native marsh plantings to minimize shore erosion and sustain new and existing wetland, open water, and upland habitat. The design will result in

increased coastal resiliency, restoration of currently unstable banks, increased habitat for fish and marsh birds, new habitat for freshwater mussels and clams, improved water quality through the reduction of pollutant loads, and enhanced public outreach and educational opportunities.

Over 12,000 SF of new tidal marsh will be planted both below and above the high tide line to create diverse marsh habitat and provide a natural transition to adjacent upland. Existing marsh is thriving along the northern half of the site, and the adjacent proposed plantings will be of the same or similar species. The low and high marsh plantings will contain a mix of tidal fresh-oligohaline species such as Wild Rice (*Zizania aquatica*), Arrow arum (*Peltandra virginica*), and Rose Mallow (*Hibiscus moscheutos*). This native marsh will provide additional habitat for small schooling fish and for birds such as the Least Bittern, Swamp Sparrow, Sora, and other marsh birds.

Protection of these marshes will be provided using two different living shoreline strategies that are congruent with the shoreline characteristics and coastal conditions for the area. Along the southern half of the site, two vegetated breakwaters will be constructed to a top elevation of approximately +3.0' above Mean Low Water (MLW). This will place the top of the structures at approximately 0.5 feet below the Mean High Water line in the year 2050 according to SLR projections, providing continued protection for proposed and existing marsh. They will be composed of a well-graded mix of sand and cobbles and vegetated to provide additional habitat while also offering protection to the marsh and steep banks. At the northernmost end of the project, a vegetated breakwater will also be constructed to a top elevation of +3.0' above MLW to account for SLR, and it will be composed of a well-graded sand/cobble mix with stones provided along the face of the breakwater as this structure is anticipated to experience the most wave and high-velocity flows. Woody debris features will be incorporated to offer additional wave attenuation and sediment retention and capture.

Gaps between the structures have been provided to create an irregular and natural shoreline. A pocket beach will provide beach habitat and function as a wildlife corridor from open water to shallow marsh areas and upland.