

**WATER AND SCIENCE ADMINISTRATION  
TIDAL WETLANDS DIVISION**

**Wetland Report and Recommendation**

State Wetlands Case No:

19-WL-0910

**Applicant:** Rodrick Jabin  
2504 Lyon Drive  
Annapolis, Maryland 21403  
443-336-3664  
rod@bjyy.com

**Agent:** Waterfront Engineering, Design and  
Construction, Inc  
Atten: Chris Snyder  
8348 Governor Ritchie Hwy  
Pasadena, Maryland 21122  
chris.snyder@waterfrontedc.com

**Date Application Received:** August 23, 2019 Public Notice Required? Yes

**Comment Period Closing Date:** October 15, 2020

**Maryland Coordinates:** 143016 x 445980

**Book Map Coordinates:** Anne Arundel Co. ADC Map Num: 26 Ed: 26 Coord: 1 C

**Location of Proposed Work:** 2504 Lyon Drive, Annapolis, Anne Arundel County, MD 21403

**Purpose of Proposed Work:** To create and improve habitat, and to control shoreline erosion.

**Description of Authorized Work:**

1. Replenish and reconstruct 150 feet of stone revetment within a maximum of 5 feet channelward of the mean high water line;
2. Eradicate 5,330 square feet of Phragmites; construct a 120-foot long by 15-foot wide stone, sand containment groin extending a maximum of 15 feet channelward of the mean high water line; fill and grade with approximately 595 cubic yards of sand along 110 feet of eroding shoreline and plant with 8,050 square feet of marsh vegetation;
3. Construct a 475 foot long revetment within a maximum of 6 feet channelward of the mean high water line; and extend two existing drain pipes through revetment.

**Waterbody:** Heron Lake and Chesapeake Bay

**Requires Water Quality Certification?:** No, WQC was issued for the MDSPGP.

**Qualifies for Maryland State Programmatic General Permit?:** Yes, Category B and the MDSPGP will be issued by the United States Army Corps of Engineers directly to the applicant.

**Area of Vegetated Wetland Impacts Requiring Mitigation:** 0 s.f.

**Area of Open Water Tidal Wetlands Requiring Mitigation:** 0 s.f.

**Area of Wetlands Created:** 4,025 s.f. high marsh and 4,025 s.f. low marsh

## **Was the Applicant's Original Project Modified?: No**

### **Department Comment:**

As required by § 5-204 (b) of the Environment Article, the Department drafted and issued a public notice by posting the public notice on its WEB site from September 15, 2020 to October 15, 2020 and publishing the public notice for the proposed project in The Capital on September 17, 2020. In addition, the public notice was provided to adjacent property owners listed on Attachment A.

The Maryland Department of Natural Resources (DNR) reviewed the proposed project and determined that DNR had no comment.

The Maryland Historical Trust reviewed that proposed project and determined that there are no historic properties affected by this undertaking.

The Department received public comments and a request for a public hearing from Mr. David Bastian. Prior to the hearing, MDE, the Applicant and his Agent met separately with Mr. Bastian on site to discuss his questions and concerns. After that meeting, Mr. Bastian decided that he wanted to move forward with his request for a public hearing. The hearing was announced in The Capital on May 25, 2022, and posted on the Department's website on June 1, 2022. The hearing was held on June 16, 2022 at the Edgewater Public Library meeting room, Edgewater, MD. All previous commenters were also notified by the Department via letter or email. The subsequent list of attendees and interested parties are listed in Attachment B. The Public Hearing is summarized in Attachment C. The hearing was recorded but not transcribed. Participants were notified that comments were due by June 30, 2022 and 5:00 pm. Questions and comments were received by members of the public who were in support and opposition to the proposed project. Comments were received during and after the public notice, at the hearing, and during the comment period after the hearing. Comments and responses are summarized below.

The evaluation of this project has taken into account ecological, economic, recreational, developmental, and aesthetic considerations appropriate for this proposal as well as other requirements set forth in the Code of Maryland Regulations. To ensure that impacts to resources are avoided and minimized to the maximum extent possible and to ensure that all work is performed in accordance with critical area and local regulations, the Department has recommended a number of special conditions. Provided all general and special conditions are adhered to, the work proposed will not cause significant deleterious impacts to marsh vegetation, submerged aquatic vegetation, finfish, shellfish, or navigation.

### **History of the Site**

Heron Lake ("Lake") is located on the northern side of the Annapolis peninsula at the mouth of the Severn River on the Chesapeake Bay ("Bay"). In 1972, the lake was mapped as open water with an entrance to the Bay that measured approximately 10 feet in width. Aerial imagery in 1984 shows the entrance to the lake in a similar location with a similar width. Between 1994 and 2014, the entrance to the lake regularly shifted position and meandered between the lake and Bay and was not navigational by watercraft. According to a member of the public who has lived on the lake since the 1980s, the previous owner of the Applicant's property blocked off the western end of the existing channel without an authorization, which forced the channel to reconfigure itself and create the meandering path seen in historic aerials (See Attachment D). In the early 2000's the barrier was no longer maintained and the channel reestablished in its historic footprint. Small piers began to show up on aerial imagery around 2002, but no watercraft have been viewed on historic aerial imagery inside of the lake and MDE has been unable to locate authorizations for most of the piers located inside of the lake. In 2010, MDE issued an authorization for a living shoreline with breakwaters on the opposite side of the entrance of the lake (10-GL-0452). This project was originally a WL (10-WL-0452)

ad a report and recommendation was provided to BPW. After reduction of the channelward extent, the project was issued as a General License. In aerial imagery, these structures were constructed by 2014. At a similar time, the entrance of the lake began to widen and material appears to have begun to deposit within the lake. MDE is not able to confirm the reason for the widening of the lake entrance, but it has continued to this day. By 2019, when MDE received the application, the entrance to the Lake had widened to approximately 15 to 20 feet in width. In 2020-2021, the existing Phragmites marsh was eradicated with an herbicide and the area has continued to erode. Eradicating the Phragmites did not require approval from BPW. Additionally, according to the property owner, the area was significantly eroded during a major storm event in October 2021. Based on the littoral drift map, sediment transport on the Bayside of the entrance is moving from the south to the north along the shoreline.

### **Comments in Opposition**

Comments were received by Mr. Bastian during the public notice period, after the on-site meeting with MDE, the Applicant and his Agent, and during the public hearing comment period. Mr. Bastian was provided with responses to the comments associated with the public notice (see Attachment E). Additional comments that Mr. Bastian submitted after an on-site meeting and after the public hearing are also attached (see Attachments F, G, and H). After the public hearing, Mr. Bastian stated that his only concern is the proposed groin that is associated with the living shoreline. Regardless, all comments and responses have been summarized below.

### **General Information**

Comments and questions related to plan standards and details were submitted by the public. Comments included questions about the location of the mean high water line (MHWL), scale, aesthetics, volume and area of the lake. Most of these comments and their responses can be found in Attachment E. MDE has determined that the plans meet application requirements in COMAR for shoreline erosion control measures. This is expanded in the below section labeled “Compliance with COMAR”.

### **Analyses Conducted**

#### *Comments*

Mr. Bastian requested information regarding the analyses that have been conducted on the project location. He asked if the Agent had conducted a wave analysis on the lakeside of the project site, a sediment transport analysis to determine the hydrodynamic impacts of the design and to determine if the project will scour or accrete material in the inlet of the pond, soil samples to determine the characteristics of the sediment in the inlet, on the sand bar and on the delta, and if a geotechnical stability analysis was conducted for the proposed revetment inside the lake.

#### *Response*

According to the Agent, the suggested analyses have not been conducted. A wave analysis was not conducted, but field observations were adequate to determine the wave climate. Also, to determine sediment transport, the Agent used observations of historical aerial imagery, which indicated that the area behind the existing revetment is being eroded and transported into the lake. Sediment cores were not collected because it was unlikely that MDE or USACE would authorize dredging of the lake. Also, a geotechnical analysis was not completed because it is not a standard requirement for revetment that are proposed with minimized channelward extents. MDE has not required any of the above-listed analyses to be completed and has determined that they were not a requirement for the application submission.

### **Groin Associated with Living Shoreline**

The majority of the comments received regarding this application focus on the groin associated with the proposed living shoreline. As stated above, in the comments received after the public hearing, Mr. Bastian stated that his “concern is only with the groin” and that he is not addressing the revetments proposed inside of the lake or on the bayside of the proposed living shoreline. To address many of these concerns, MDE requested that the Agent provide a stamped Engineer’s Report (see Attachment I).

### Size and Orientation of Groin

#### *Comments*

Mr. Bastian has also expressed concerns related to the size and orientation of the proposed groin, and its purpose and need. He also provided an alternative design for consideration. The suggested design curves the groin to the south, lowers the height, and expands the planting area to the south (see Attachment G). This design had previously been presented by Mr. Bastian to the Applicant and his Agent, and not incorporated into their design.

#### *Response*

To address these concerns, MDE asked for the Engineer’s Report to explain how the proposed groin is appropriately sized and orientated within the lake. According to the Agent, the groin is sized to “provide the necessary protection required for the site and its subjectivity to large waves mostly generated from wind driven, high tide storm events”. Additionally, the site has a 16-mile fetch to the northeast so the proposed groin “must be large enough to dissipate wave energy and prevent further shoreline erosion of the adjacent marsh”. The site is exposed to intense, long-duration winds from nor’easter storms and the 10-year storm in Annapolis is +4.5 ft MLW. The structure is designed to provide enough protection from sea level rise and typical tides and storms, along with the summer tides that are regularly +2 ft MLW with boat wakes. Therefore, the structure’s size is the minimum necessary for these frequent events, as well as wave action during more extreme events. During these more extreme events, the waves need to be attenuated. An undersized structure is likely to lead to failure of the living shoreline. Regarding the placement and orientation of the groin, the Agent responded that “the goal of the project is to preserve the footprint of the existing marsh”. Additionally, the Agent responded that the current groin is acting as a spur groin and is designed to diffract wave energy into the proposed marsh area and reduce any further impacts to other properties inside the Lake. According to the Agent, the groin will act as a spur groin by allowing waves to wrap around the diffraction point and dissipate into the shoreline and this is why the groin must remain straight and cannot be curved. If the groin is curved, the wave energy will dissipate on the opposite shoreline. Without the groin, sediment will settle at the mouth of the Lake because there is no secondary diffraction point. The Agent has stated that the groin is necessary because the existing stone structure on the bayside of the property is being eroded and that material is being transported into the lake. The addition of the groin into the lake will minimize that erosion.

MDE has determined that the size and orientation of the proposed groin appear to be reasonably sized and orientated for the project location and site conditions. MDE reviewed the project file for the living shoreline constructed on the opposite side of the lake entrance (10-GL-0452). Based on the plans for that project, the site necessitated the need for a living shoreline with stone breakwaters with a height of + 4 feet above MLW (+3 ft above MHW). According to the MDE’s records, this height was necessary because it was designed to the 25-year storm event. Additionally, MDE reviewed available literature to determine if the height of the groin is appropriate for the site. According to the U.S. Army Corps of Engineers Coastal Engineering Technical Note from 1981, groins should have a minimum height that is about the same height as the beach berm height. Based on the plan sheets, the height of the proposed groin will be 3 feet above mean low water (MLW) and the maximum elevation of the living shoreline/marsh enhancement area is also 3 feet above MLW. MDE has not required the Applicant to use the proposed alternative design proposed by Mr. Bastian.

### Impacts to Tidal Flow

### *Comments*

Mr. Bastian has expressed concerns that the proposed groin and living shoreline will change the hydraulics of Heron Lake. Mr. Bastian stated that blockage of the lake will result from 1) the groin, and 2) the redirected laden flow, which will create accretion to the western shore. Raising the elevation of the area of the Phragmites marsh will make it impervious to tidal flow. According to Mr. Bastian, the Phragmites marsh is currently at an elevation of below mean low water (MLW) and the tide between the Bay the Lake moves freely through this vegetation where the Phragmites filters and attenuates wave energy. Mr. Bastian also stated that the groin will redirect 1) the wave suspended, and 2) the current carried sediment at the end of the groin because the flow washing over the wetland will be blocked. As flow velocity decreases along the groin during flood flow, sand will deposit on the existing shoal inside of the lake. According to Mr. Bastian, a shoal has already accreted inside of the lake and the proposed groin will exacerbate the situation. Mr. Bastian also expressed concerns about impacts on the western shore of the Lake, which is the location of his property.

### *Response*

To address these concerns, MDE requested that the Engineer's Report explain how the design will maintain the existing patterns of tidal flow, will not impact littoral drift, will not result in an increase in accretion in the pond and within its entrance, and will not redirect accretion to the western side of the pond. According to the Agent, the proposed groin follows the line of the existing marsh and MHWL to avoid redirecting accretion and maintain the existing flow patterns. Without the proposed groin further accretion will inevitably develop at the mouth and cut off the tidal flow into the lake.

MDE also consulted with two independent Coastal Engineers. Based on their cursory review of the plans, neither thought that the placement of the groin would cause accretion in the entrance of the lake and close off the entrance of the lake. According to one Engineer, littoral drift moves from south to north along this section of shoreline. Because the shoreline to the south is armored (approximately 1,900 LF of hardened shoreline to the south of the lake) there is a limited source of sediment to enter the water and deposit in the entrance of the lake. The second Engineer noted that the stone groin will most likely prevent deposition in the opening of the lake because the stone may actually increase the velocity of the water moving through the entrance. Both Engineers noted that the stone groin will stop erosion of the Jabins' shoreline along the entrance, but the ongoing erosion opposite of the entrance may continue. Both Engineers also said that after briefly reviewing the plans they did not see any "red flags" with the design.

Regarding the concern related to the loss of tidal flow through the Phragmites, MDE does not believe that enhancement of the marsh will significantly alter tidal flow through the area based on the provided plans and MDE's site visits. Based on the plan set, the elevation of this area was a higher elevation than mean high water (MHW) and this was confirmed during MDE's site visit. Additionally, during MDE's site visit the existing stone structure of the bayside of the Phragmites marsh did not have staining at the top of the stone. This indicates that the area was not regularly inundated and overtopped by the tide. Additionally, the location of the MHWL was confirmed during MDE's site visit. According to the Agent, the MHWL was also determined during their site visits and using Anne Arundel County LIDAR maps. Phragmites typically grows at an elevation above mean high water (MHW). As a high marsh plant, it typically grows above MHW and is only periodically inundated during spring or storm tides. Based on the information provided in the Engineer's Report, by the independent coastal engineers, MDE does not think that the groin will increase the rate of accretion that is already happening within the lake.

### Dredging of Shoal in Lake

#### *Comments*

Mr. Bastian has asked that as part of the proposal, the Applicant dredge the shoal of deposited sediment inside of the Lake and beneficially use the material on the living shoreline.

### *Response*

MDE cannot require the Applicant to dredge the shoal and use the material in the proposed living shoreline and it has not been proposed by the Applicant. COMAR 26.24.03.02.D.(3) prohibits dredging in shallow water 3 feet or less at MLW unless certain requirements have been met. Additionally dredging for fill material (COMAR 26.24.03.02.C.(10)) requires an environmental analysis to determine that the activity will have no adverse environmental impact. While no analysis has been completed because dredging has not been proposed, SAV has been mapped in the lake and will be impacted by this activity. Therefore, it would not meet regulatory requirements for dredging as fill material.

### Navigational Access

#### *Comments*

In his comment, Mr. Bastian expressed concern that the groin lining the entrance into the Lake will create a safety problem for kayaks and small motor boats that use the lake. Additionally, if either the groin or accreted material blocks the lake, then the value of properties around the lake will be reduced due to loss of access.

#### *Response*

According to the Agent, access to the lake will be maintained. The entrance to the lake is currently 1 ft deep, so motorboat access is limited. Access for kayakers will be maintained. As shown on the plan sheets, the stone groin will be placed at the existing edge of the Phragmites marsh and encroachment on the entrance will be minimized to allow for continued tidal flushing. The width of the entrance will be maintained at over 20 feet, leaving plenty of room for kayaks and personal watercrafts. MDE believes that access to the lake will be maintained. At the time of application submission, the entrance to the lake is the widest it had ever been. The width that is proposed post-construction of the living shoreline will maintain this width. Based on historic aerial imagery, it does not appear that boats have ever been moored inside of the lake.

### Other Impacts on Heron Lake

#### Water Quality

#### *Comments*

Mr. Bastian and Mrs. Jayleen Fonisca expressed concerns about decreased water quality associated both with decreased flushing of the lake, and accreditation of sediment into the lake from the placement of the structures and sand fill in the waterway.

#### *Response*

To address these concerns, MDE requested that the Agent explain in the Engineer's Report the degree to which the proposed groin would alter the natural water flow, water temperature, water quality and natural tidal circulation of the lake. According to the Agent, by the groin not affecting tidal flow, the temperature and water quality of the water in the lake will not be affected. Also, the proposed groins are designed to protect the marsh and maintain the size and orientation of the lake entrance. The native marsh plants will act to enhance the water quality and local ecosystem. The groin will contain the sand and protect the marsh from erosion.

To date, MDE has not been provided with any evidence that the water quality of the lake is currently degraded. If the lake begins to close off from decreased tidal flow, then MDE could further discuss the option of dredging the entrance of the lake due to degraded water quality.

### Natural Resources

### *Comments*

Comments were received from Mr. Bastian regarding the impacts on natural resources within the lake. These resources included the existing marsh, SAV, the bottom substrate, and nesting and spawning fish habitat. Mr. Bastian questioned what the benefit of the proposed marsh creation would have over the existing vegetation, if the proposed marsh vegetation would replace SAV, what are the environmental loss for the filling of the lake bottom, if the lake bottom could be pulled up, and place over the revetment inside of the lake or plant it with vegetation, and how will the spawning and nursing areas in the lake be impacted.

### *Response*

The proposed project will have minimized impacts on natural resources in Heron Lake. The existing marsh is dominated by Phragmites, which is an invasive, non-native wetland species. Phragmites outcompete and block the growth of native salt marshes and provide little to no habitat or food for salt marsh-dependent species. Additionally, the dense vegetation is difficult for birds and other animals to penetrate. The conversion of the Phragmites to native marsh vegetation will improve the habitat of waterfowl, other animals, and fish species. Additionally, if the marsh is successful, vertical accretion may keep up with sea level rise, reduce the displacement of sediment to the nearshore area, and sequester carbon and other nutrients. Phragmites is a high marsh plant, but the proposal will create both low (*Spartina alterniflora*) and high marsh (*Spartina patens*). Unlike the Phragmites, spartina grasses will allow for the natural colonization of other plant species and create greater habitat diversity.

The proposed project will impact approximately 2,105 square feet of SAV, but most of the area that will be impacted will be replaced with native marsh plantings. SAV and living shorelines, especially the low marsh areas, can serve similar functions, such as wave attenuation, carbon sequestration, nutrient uptake, and habitat. Controlling the ongoing erosion will also help to prevent sediment from entering the lake, which may help to improve water quality and benefit SAV. In regard to the spawning and nursing areas, DNR has reviewed the proposal and did not express concerns for spawning fish by requesting a construction time of year restriction.

The proposed activities will fill in areas that are the bottom substrate of the lake. MDE does not consider living shorelines to be detrimental to the environment and regulations allow for associated stone containment structures. The Living Shoreline Protection Act 2008 states the nonstructural shoreline erosion control methods (i.e. living shorelines) are Maryland's preferred method of shoreline erosion control in recognition of impacts to the natural environment due to shore erosion induced by sea level rise. The Act stated that living shorelines are the preferred method of shoreline erosion control due to their ability to trap sediments, filter pollution, and provide important aquatic and terrestrial habitat. Additionally, the stone revetment inside of the lake did receive a waiver to the living shoreline requirement and the stone has been minimized to extend no more than 6 feet channelward of the MHWL. MDE cannot require or recommend that the Applicant "pull up" the bottom of the lake and place it over the revetment due to impacts to shallow water habitat or to plant the revetment with vegetation, which may be costly and unsuccessful.

### Other Proposed Structures

#### *Comments*

In addition to the proposed groin, comments were received for the two sections of the proposed revetment. As stated above, after the public hearing Mr. Bastian stated that his only concern is with the groin, but comments for these structures were received prior to the hearing and have been addressed. Regarding the replenishment of the stone revetment on the Bayside of the property, Mr. Bastian asked about the purpose of the elevation of the structure, why the proposal will succeed when the existing structure has not. In regard to the revetment proposed inside of the lake, Mr. Bastian questioned if the lake bottom could support the stone and if the weight would squeeze out the substrate underneath into the lake.

#### *Reponses*

Responses to these comments can be found in detail in Attachment E. According to the Agent, the existing revetment on the bayside of the property worked to a degree, but it is undersized, not properly constructed and collapsed. Therefore, it needs to be rebuilt. The 6 foot height is needed because this area is exposed to the Bay and, if lower, it will be overtopped and eventually collapse. Regarding the lakeside revetment, the shoreline will be able to support the rock and the weight will not further push sediment into the lake. The weight will be distributed over a large area and there will be no significant outward displacement of material.

Maryland regulations require stone revetments to be designed and constructed to prevent the loss of fill material to the waterways of Maryland. As shown on the cross-section, this structure will include the use of a filter cloth underneath the stone to prevent the loss of material. Based on the plans, the elevation and design of the proposed revetments are typical of revetments authorized in similar conditions.

## Compliance with COMAR

### *Comments*

Mr. Bastian also submitted comments stating that the application requirements for shoreline erosion control structures have not been satisfied. Comments were specifically submitted for sections. Those specific sections are listed below.

### *Responses*

Below lists how these sections of COMAR have been satisfied:

- COMAR 26.24.04.01.A.(3)(a): This section of COMAR states that the Department may not authorize an erosion control project if the proposed project will adversely affect adjacent properties. Based on the information provided by the Agent, MDE does not believe that the project will adversely impact adjacent properties and considers this section of COMAR satisfied.
- COMAR 26.24.04.01-3.A.(1) (g) and (j): This section of COMAR lists plan standards that should be included with an application for shoreline erosion control measures, including adjacent shoreline features and site bathymetry. This information is included on the plan sheets.
- COMAR 26.24.04.01-3.A.(6)(i) and (j): This section of COMAR states that the Department may require a design report that includes the estimated impact of the project on adjacent properties and public access to the shore. MDE has required an Engineer's Report that addresses these concerns.
- COMAR 26.24.04.01-3.A.(7)(c): This section of COMAR states that the Department may require an alternatives analysis for structural shoreline stabilization measures that includes impacts to habitat. Because the groin is stone, sand containment structure associated with a living shoreline (i.e. a non-structural shoreline stabilization measure), this section of COMAR does not apply.
- COMAR 26.24.04.01-4.A.(2) and (3): This section of COMAR states that a person must design a structural shoreline stabilization measure to minimize shoaling and use materials that are appropriate of size, weight, and strength. Because the groin is a stone, sand containment structure associated with a living shoreline (i.e. a non-structural shoreline stabilization measure), this section of COMAR does not apply.
- COMAR 26.24.04.01-4.B.(1): This section of COMAR states that the Department may not authorize encroachment into tidal wetlands unless the encroachment is limited to what is structurally necessary and verified by a design report. While MDE did receive a design report (Engineer's Report) which clarified the need for the size and orientation of the groin, this section of COMAR does not apply because the groin is a stone, sand containment structure associated with a living shoreline (i.e. a non-structural stabilization measure).



Based on the information provided by the Agent, the requirements of COMAR for the groin, as a structure associated with a living shoreline, have been satisfied.

### **Comments in Support**

Comment letters were also received in support of the proposed project. Letters were received from Mr. and Mrs. George and Linda Graefe, Mr. Clifford Meiselbach and Mr. and Mrs. Love. Mr. and Mrs. Graefe live at the property that is directly across the entrance to Heron Lake. In their letter (see Attachment J), they stated that they are in favor of the project and think it will be good for the Lake. Additionally, they stated that it is important for the lake entrance to be maintained as clear and open to allow for tidal flushing and continued access.

Mr. Meiselbach attended the public hearing and submitted an email in support of the project (see Attachment K). He stated that his support was relying on the Applicant's Engineers answer to his questions during the hearing. The response he received stated that the project would enhance tidal flow in and out of the lake, thereby preserving the current wildlife habitat. He also stated that if the State concluded differently, then he would reconsider his support.

Robert and Rose Love also provided a letter in support of the proposed project (see Attachment K). The Loves stated that they are completely in favor of the project and that it would be a great improvement to the entrance of the lake and partially protect against Phragmites. Additionally, they hope the entrance will stay open to tidal flow and the groin will not be unsightly and the Spartina will soften it. They applaud the Jabins for the extensive project to control shoreline erosion.

**Project Justification:** In consideration of the site characteristics and the nature of the proposed work, the Department concludes that the application represents a reasonable exercise of riparian rights. Living Shoreline (LS) projects are an adaptation strategy for coastal communities vulnerable to sea-level rise and other effects of anthropogenic climate change. Along with shoreline erosion control, LS projects can provide critical habitat for a variety of estuarine organisms.

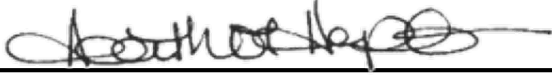
### **SPECIAL CONDITIONS:**

- A. The Maryland Department of the Environment has determined that the proposed activities comply with, and will be conducted in a manner consistent with the State's Coastal Zone Management Program, as required by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended.
- B. The Licensee 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.
- C. 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.

- D. The issuance of this license 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 Licensee of the obligation to resolve any existing noncompliant structures and activities within tidal wetlands.
- E. The Licensee shall design and construct the stone revetment to prevent the loss of fill material to waters of the State of Maryland.
- F. The Licensee shall not use asphalt rubble in the revetment. Filter cloth shall be placed between the riprap and the soil. Prior to emplacement of the revetment, all rebar is to be cut off flush with the concrete. After emplacement of the revetment, any rebar exposed as a result of the concrete breaking during the emplacement is to be cut flush with the concrete. Except for the larger material placed along the leading edge of the revetment, the concrete shall be broken prior to emplacement so that random sized interlocking pieces are formed.
- G. The Licensee shall not stockpile any material in State or private tidal wetlands.
1. The Licensee shall construct the marsh establishment area in accordance with the following conditions:
  2. The Licensee shall use clean substrate fill material, no more than 10% of which shall pass through a standard number 100 sieve.
  3. The marsh establishment area shall be planted within one year following completion of the filling operation.
  4. 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.
  5. If the fill is graded hydraulically, the licensee shall use a turbidity curtain around the perimeter of the instream work.
  6. If the existing bank is to be cleared or graded:
    - a. The Licensee 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
    - b. The Licensee 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.
- H. The Licensee 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 License. If the Licensee 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.
- I. The Licensee shall obtain a General Permit for Discharges from the Application of Pesticides from MDE by contacting the Industrial Discharge Permits Division at 410-537-3323 prior to the application of any herbicide to eradicate Phragmites. Toxic materials use permits are required for any homeowner, farmer, local government or other person who wants to control aquatic life in ponds, ditches or waterways by the deliberate use of chemical products.

J. The Licensee shall plant the existing Phragmites area depicted on the existing plans dated January 16, 2023 with *Spartina patens* and *Spartina alterniflora*.

**DEPARTMENT OF THE ENVIRONMENT APPROVAL:**



\_\_\_\_\_  
Heather Hepburn, Natural Resource Planner  
Tidal Wetlands Division

\_\_\_\_\_  
06/05/2024

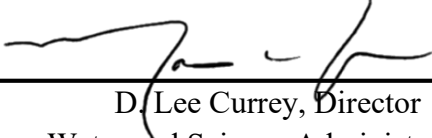
DATE



\_\_\_\_\_  
Tammy Roberson, Deputy Program Manager  
Wetlands and Waterways Protection Program

\_\_\_\_\_  
6/6/2024

DATE



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D. Lee Currey, Director  
Water and Science Administration

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6/6/2024

DATE

**WETLANDS ADMINISTRATION CONCURRENCE:**

\_\_\_\_\_  
William Morgante, Wetlands Administrator  
Board of Public Works

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DATE