

# Public Notice

U.S. Army Corps  
of Engineers  
Baltimore District

In Reply to Application Number  
NAB-2018-61292 (Loch Haven Civic Assoc. Inc./Beach and  
Breakwater)

PN-19-61

Comment Period:

September 19, 2019 to October 19, 2019

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**THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. 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 of 1899 and/or Section 404 of the Clean Water Act (33. U.S.C. 1344) as described below:

**APPLICANT:**

Loch Haven Civic Association Incorporated  
P.O. Box 1814  
Edgewater, Maryland 21037

**WATERWAY AND LOCATION OF THE PROPOSED WORK:** The project is located in the South River, a tidal water, located at 3448 South River Terrace in Edgewater, Anne Arundel County, Maryland.

**OVERALL PROJECT PURPOSE:** The overall project purpose is to renourish an existing 275 linear foot beach and provide additional shoreline protection to the beach at 3448 South River Terrace in Edgewater, Anne Arundel County, Maryland.

**PROPOSED WORK:** The following work is proposed for authorization under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Three breakwater structures would be installed, totaling approximately 4,600 square feet (0.11 acre of permanent impact from placement of 310 cubic yards of stone). The first structure would be constructed through a realignment and extension of the existing stone sill located at the northwestern end of the Cape, resulting in a new extension of constructed breakwater 30 feet long and 20 feet wide (600 square feet of permanent impact). Work associated with the realignment and extension of the breakwater and beach renourishment would temporarily impact 230 square feet of low marsh, through access by equipment and sand deposition during construction, with the area being restored and replanted with *Spartina alterniflora*. The second breakwater would be 90 feet long by 20 feet wide (1800 square feet of permanent impact) and would be installed starting at +/-55 feet from the end of the first breakwater and would run parallel to the existing beach. After a second +/-55 foot opening, the final and longest breakwater structure, measuring 110 feet long by 20 feet wide (2200 square feet of permanent impact), would be installed running parallel to the beach and then turning to follow the alignment of the existing wood groin/jetty, and then terminate at the beach. The breakwaters would be set at a crest height of +2.5 feet, which is approximately 0.8 foot above the spring tide elevation of +1.7 feet. Approximately 700 cubic yards of sand fill and 10 cubic yards of cobble would be placed over an 8945 square feet (0.21 acre of permanent impact) area behind the proposed breakwaters for the

purpose of beach nourishment and to create part of a small infiltration basin with cobble lined channel, installed just below the pedestrian path leading to the beach. Removal of 50 feet of the wooden groin/jetty (50 square feet of permanent impact) is also proposed.

The following work is proposed for authorization under Section 404 of the Clean Water Act only. At the end of the pedestrian walkway, geopaving and a cobble lined outfall approximately 15 feet long x 15 feet wide (225 square feet) in size, is proposed to be constructed, permanently impacting 225 square feet of open water. Two areas of grading and deposition of 375 cubic yards of sand in an approximate 130 feet long x 40 feet wide (5200 square feet) area and a 110 feet long x 15 feet wide (1650 square feet) area are proposed, resulting in permanent impacts to 6850 square feet of open water. The proposal also includes removal of 25 feet of the existing wooden groin/jetty resulting in 25 square feet of permanent impact to open water.

All work is proposed to be completed in accordance with the enclosed plans.

**LEAD FEDERAL AGENCY:** The U.S. 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:** Impacts to waters were avoided by limiting the beach nourishment to the area most in need of replenishment based upon comparison to the location of the shoreline in 1972. Spacing the breakwaters 55 feet apart would reduce impacts by minimizing the footprint of the filled area, leaving the areas between the breakwaters in their existing condition, and allowing for water to flow between them. The realignment and extension of the breakwater and beach renourishment would temporarily impact 230 square feet of low marsh, through access by equipment and sand deposition, with the area restored and replanted with *Spartina alterniflora* to minimize impacts. Additional mitigation for the 230 square feet of temporary impacts to tidal marsh is proposed to be provided by planting an additional 295 square foot area adjacent to the impact area and a 3,840 square foot area just at or above the mean high water line would be planted with high marsh grasses (*Spartina patens*, *Panicum amarun* and *Solidago sempivirens*).

**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, U.S. Environmental Protection Agency.

**ENDANGERED SPECIES:** A preliminary review of this application indicates that the proposed work will not affect Federal 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 (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). The Corps has made a preliminary determination this project will not affect any EFH. This determination may be modified if additional information indicates otherwise.

**HISTORIC RESOURCES:** Pursuant to Section 106 of the National Historic Preservation Act (NHPA) 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 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 NHPA 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.

**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 (CZM) Program.

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 U.S. 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-2018-61292.

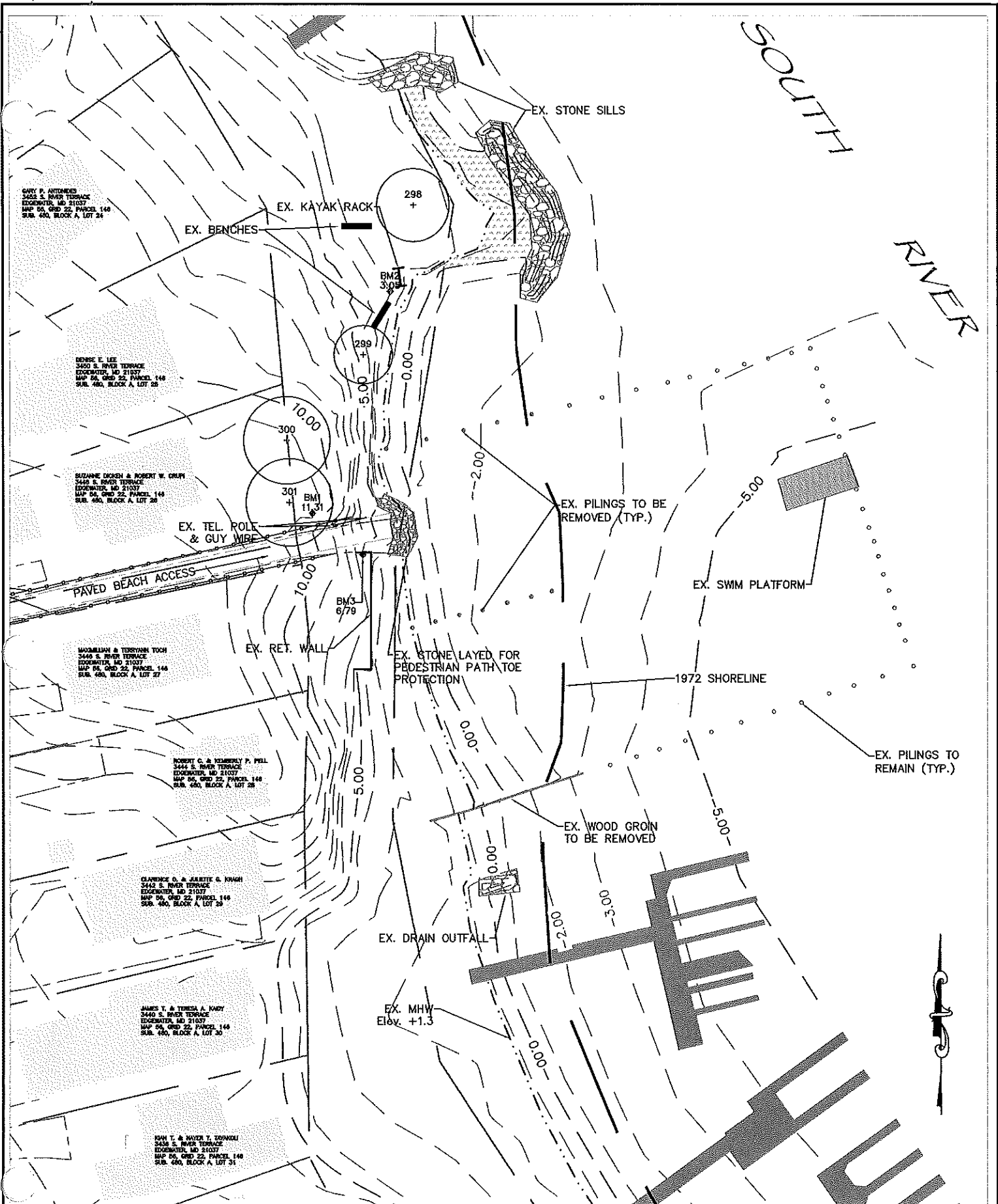
**PUBLIC HEARING REQUESTS:** Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received within the comment period as specified above to receive consideration. Also it must clearly 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:

Ms. Terry Eucker  
[Terry.P.Eucker@usace.army.mil](mailto:Terry.P.Eucker@usace.army.mil)  
U.S. Army Corps of Engineers, Baltimore District  
Regulatory Branch  
Tioga Regulatory Field Office  
170 Ives Run Lane  
Tioga, Pennsylvania 16946

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, please contact Ms. Terry Eucker at (570) 835-4262 or [Terry.P.Eucker@usace.army.mil](mailto:Terry.P.Eucker@usace.army.mil). This public notice is issued by the Chief, Regulatory Branch.





GUY P. ANTONES  
3442 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 146  
SUB. 460, BLOCK A, LOT 24

DEBBIE E. LEE  
3440 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 148  
SUB. 460, BLOCK A, LOT 26

SUZANNE DICKEN & ROBERT W. CRUM  
3440 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 144  
SUB. 460, BLOCK A, LOT 28

MACMILLAN & TERRYANN TOSH  
3448 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 146  
SUB. 460, BLOCK A, LOT 27

ROBERT C. & KATHERINE P. PELL  
3444 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 148  
SUB. 460, BLOCK A, LOT 26

CLARENCE D. & JARRETTE G. KNIGH  
3442 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 146  
SUB. 460, BLOCK A, LOT 29

JAMES T. & TERESA A. KNOY  
3440 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 144  
SUB. 460, BLOCK A, LOT 30

KIM T. & NAYER T. TORANGLI  
3438 S. RIVER TERRACE  
EDGEWATER, MD 21037  
MAP 66, GRID 22, PARCEL 146  
SUB. 460, BLOCK A, LOT 31

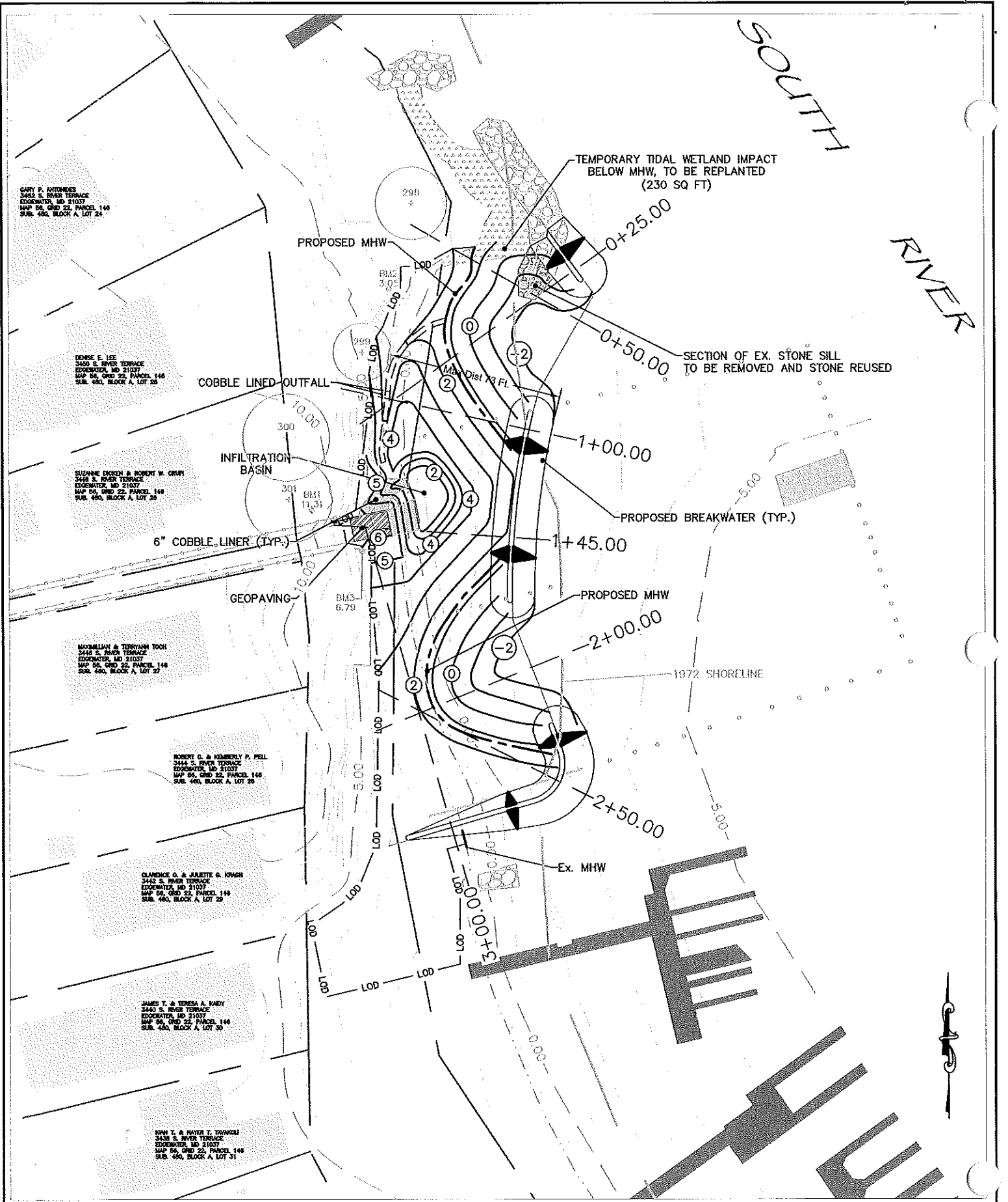
**EXISTING CONDITIONS**

LOCH HAVEN CIVIC ASSOCIATION, INC.  
BEACH NOURISHMENT/BREAKWATER PROJECT  
South River Terrace, Edgewater, Maryland  
Anne Arundel County Tax Map 60, Grid 3,  
Parcel 24, Sub 480

**SUSTAINABLE SCIENCE LLC**  
Ecological Engineering Services  
410 S. Second Street  
Denton, Maryland 21629  
Phone: (410) 924-4316  
www.sustainable-science.com

**BRAY HILL, LLC**  
Ecology & Assessment - Environmental Planning - Remediation Design  
1079 Gunpowder Way, Columbia, Maryland 21044-3883  
Tel: 410-745-6103, email: brayhill\_llc@brayhill.com

DATE:	June 15, 2018	SCALE:	1"=30'
REVISION DATE:		DESIGN BY:	AM & CM
REVISION TYPE:		DRAWN BY:	AM & CM
REVISION DATE:		CHECKED BY:	AM & CM
REVISION TYPE:		SS PROJECT NO:	
REVISION DATE:		SHEET NUMBER	2 OF 9
REVISION TYPE:			



### SITE & GRADING PLAN

LOCH HAVEN CMC ASSOCIATION, INC.  
 BEACH NOURISHMENT/BREAKWATER PROJECT  
 South River Terrace, Edgewater, Maryland  
 Anne Arundel County Tax Map 60, Grid 3,  
 Parcel 24, Sub 480

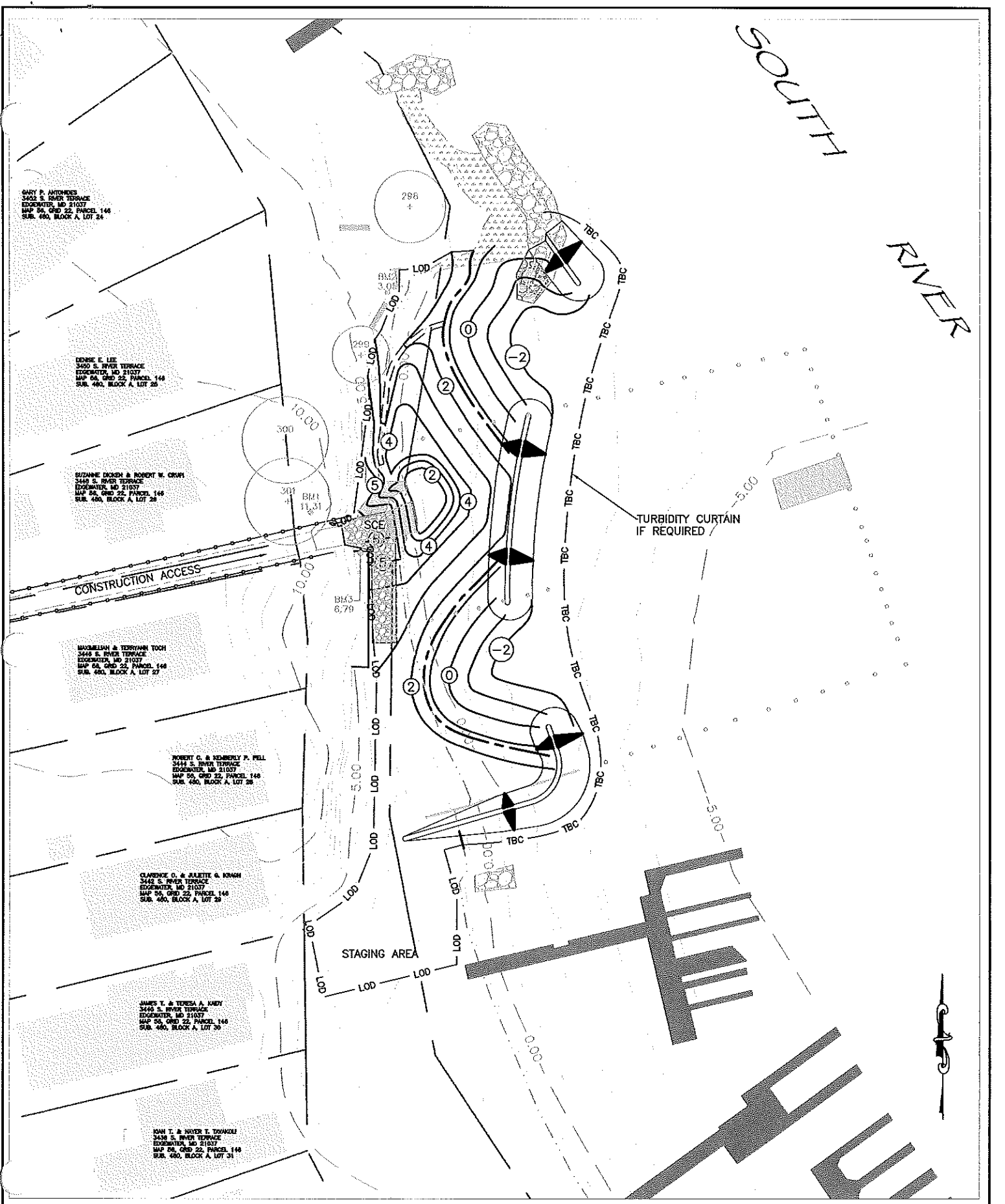
**SUSTAINABLE SCIENCE LLC**  
*Ecological Engineering Services*  
 410 S. Seward Street  
 Denton, Maryland 21629  
 Phone: (410) 924-4316  
 www.sustainable-science.com

**BRAY HILL, LLC**  
 Ecological Assessment - Environmental Planning - Restoration Design  
 10307 Wilshire Way, Columbia, Maryland 21044-3182  
 Tel: 443-745-6121, Fax: 410-326-5146

DATE:	June 15, 2018	SCALE:	1"=50'
REVISION DATE:		DESIGN BY:	AM & CM
REVISION TYPE:		DRAWN BY:	AM & CM
REVISION DATE:		CHECKED BY:	AM & CM
REVISION TYPE:		SS PROJECT NO:	
REVISION DATE:		SHEET	3 OF 9
REVISION TYPE:		NUMBER	



SOUTH RIVER



**EROSION & SEDIMENT CONTROL PLAN**

LOCH HAVEN CIVIC ASSOCIATION, INC.  
 BEACH NOURISHMENT/BREAKWATER PROJECT  
 South River Terrace, Edgewater, Maryland  
 Anne Arundel County Tax Map 60, Grid 3,  
 Parcel 24, Sub 480

**SUSTAINABLE SCIENCE LLC**  
*Ecological Engineering Services*  
 410 S. Second Street  
 Dorton, Maryland 21629  
 Phone: (410) 924-4316  
 www.sustainable-science.com

**BRAY HILL, LLC**  
 Ecological Assessment - Environmental Permitting - Restoration Design  
 1035/101462461707, COV MD & US 21055-3162  
 Tel: 443-745-6103 Email: brayhill@brayhill.com

DATE:	June 15, 2018	SCALE:	1"=50'
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REVISION TYPE:		SS PROJECT NO:	
REVISION DATE:		SHEET NUMBER	5 OF 9
REVISION TYPE:			

SOUTH RIVER

GARY P. ANTONIENIS  
3436 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 24

DORSE E. LEE  
3430 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 25

SUZANNE DICKZI & ROBERT W. GRAY  
3448 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 26

MAXIMILIAN & TERRANN TOCH  
3448 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 27

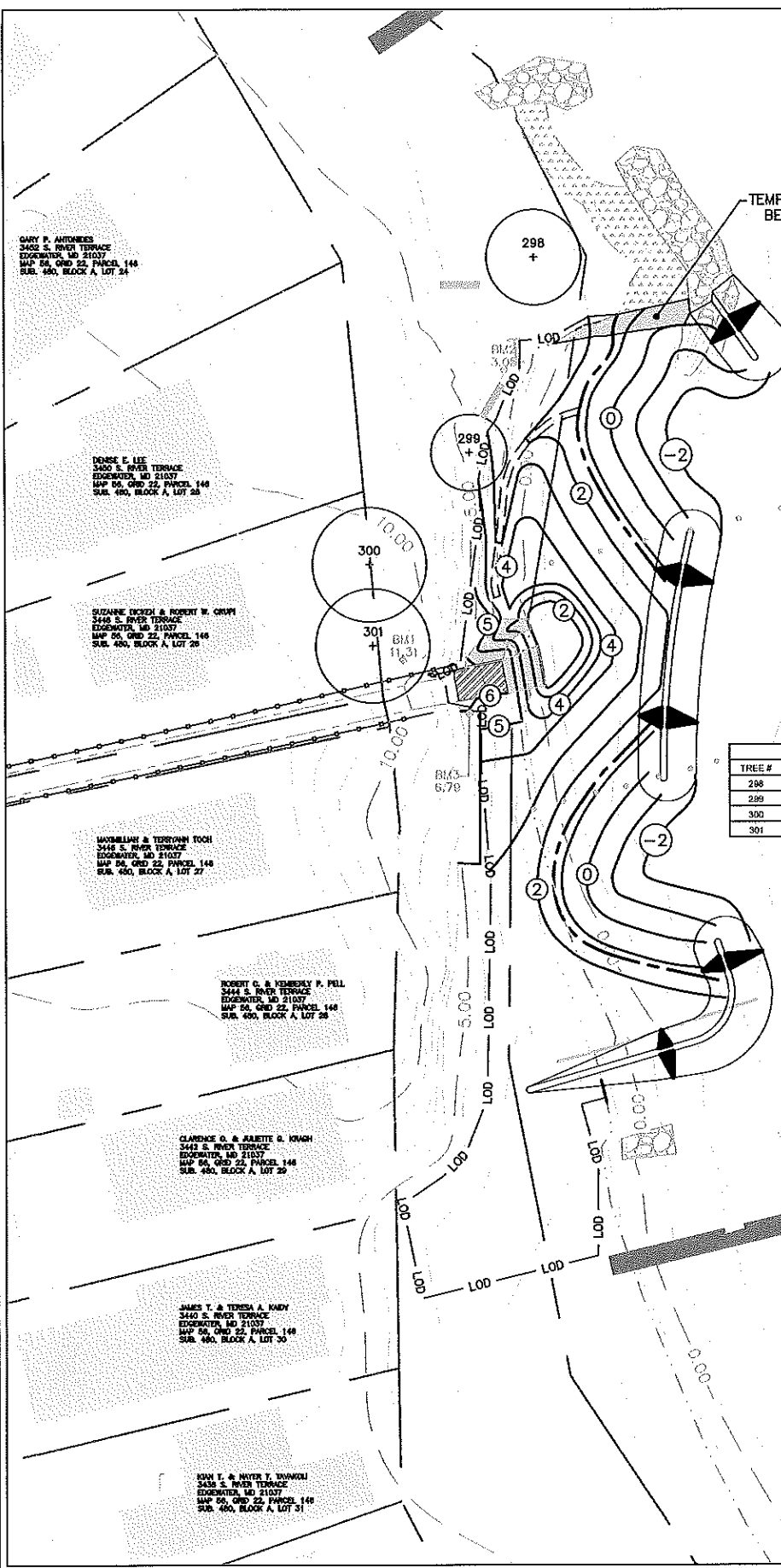
ROBERT C. & KENNEDY P. HILL  
3444 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 28

CLARENCE O. & KARETTA G. KWASH  
3443 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 29

JAMES T. & TERESA A. KADY  
3440 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 30

JOHN T. & NIKI T. SHAWON  
3438 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 06, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 31

TEMPORARY TIDAL WETLAND IMPACT  
BELOW MHW, TO BE REPLANTED  
(230 SQ FT)



LOCH HAVEN BEACH EXISTING TREE INVENTORY						
TREE #	COMMON NAME	SCIENTIFIC NAME	DBH	CRZ (Sq. Ft.)	CONDITION	NOTES
298	Black Locust	<i>Robinia pseudoacacia</i>	24"	1809	Fair to Poor	To Be Saved
299	Sleepy Elm	<i>Ulmus flabra</i>	22"	1520	Good	To Be Saved
300	Sand Hickory	<i>Carya pallida</i>	21"	1385	Good	To Be Saved
301	Black Walnut	<i>Juglans nigra</i>	20"	1256	Good	To Be Saved

**Buffer Management Notes**

1. This is a Breakwater/Beach Nourishment project designed to restore the Loch Haven Community Beach and prevent future shore erosion.
2. The project site is located within the 100 foot Critical Area of the Chesapeake Bay and is designated as a Limited Development Area (LDA) by Anne Arundel County.
3. There are four existing trees located in the immediate vicinity of this project. None of those trees will be disturbed by this project.
4. Approximately 250 square feet of existing tidal marsh composed of *Spartina patens*, *Spartina alterniflora*, and *Phragmites communis* will be disturbed during the construction process. This area and more will be replanted with herbaceous plug plantings of Salt Meadow Hay, Coastal Panic Grass, Seaside Goldenrod (a native forb), and Switchgrass. These plantings are also shown on Sheet 7 of this plan set.
5. The master planting schedule, planting specifications, and maintenance plan for all of the plantings are provided on Sheet 9 of this plan set.

**BUFFER MANAGEMENT PLAN**

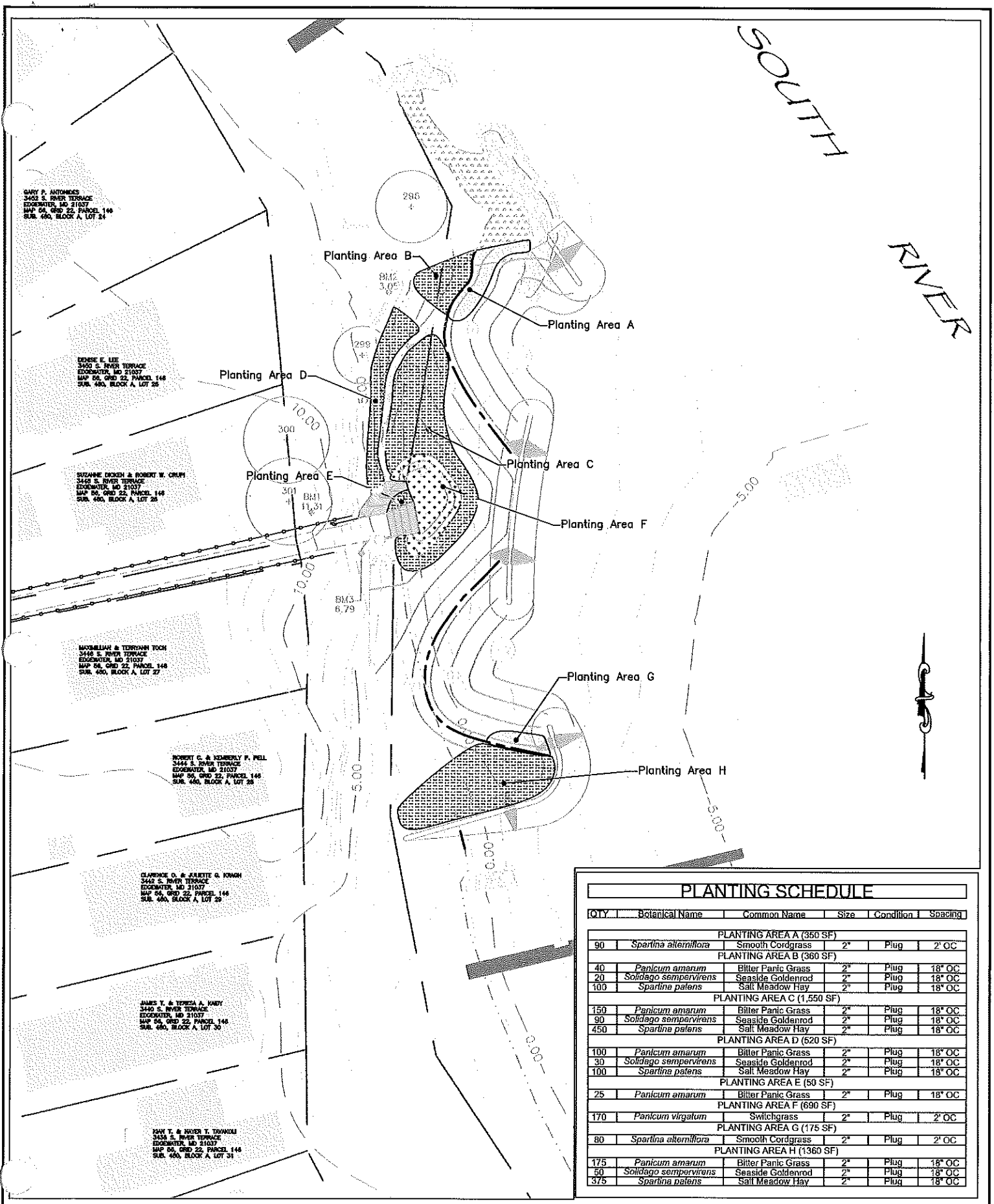
LOCH HAVEN CIVIC ASSOCIATION, INC.  
BEACH NOURISHMENT/BREAKWATER PROJECT  
South River Terrace, Edgewater, Maryland  
Anne Arundel County Tax Map 06, Grid 3,  
Parcel 24, Sub 480

**SUSTAINABLE SCIENCE LLC**  
Ecological Engineering Services  
410 S. Second Street  
Denton, Maryland 21529  
Phone: (410) 924-4316  
www.sustainable-science.com

**BRAY HILL, LLC**  
Ecological Assessment - Environmental Planning - Restoration Design  
16357 Winchester Way, Columbia, Maryland 21044-0180  
Tel: 410-755-6173 Email: brayhill\_llc@outlook.com

DATE:	June 15, 2018	SCALE:	1"=50'
REVISION DATE:		DESIGN BY:	AM & CM
REVISION TYPE:		DRAWN BY:	AM & CM
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REVISION DATE:		SHEET	6 OF 9
REVISION TYPE:		NUMBER	

SOUTH  
RIVER



GARY P. ANTONIOS  
3443 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 24

DEVISE E. LEE  
3450 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 25

SUZANNE DICKER & ROBERT W. CRUP  
3449 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 26

MAXWELLIAN & TERRIANN TOCH  
3448 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 27

ROBERT C. & KATHERINE P. PELL  
3444 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 28

CLARENCE O. & ARIETTE G. KNIGH  
3442 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 29

JAMES Y. & TERESA A. HAYD  
3440 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 30

DAVY T. & NAYEN T. TANAKAI  
3438 S. RIVER TERRACE  
EDgewater, MD 21037  
MAP 60, GRID 22, PARCEL 148  
SUB. 480, BLOCK A, LOT 31

**PLANTING SCHEDULE**

QTY	Botanical Name	Common Name	Size	Condition	Spacing
PLANTING AREA A (350 SF)					
90	<i>Spartina alterniflora</i>	Smooth Cordgrass	2"	Plug	2' OC
PLANTING AREA B (360 SF)					
40	<i>Panicum amarum</i>	Blitter Panic Grass	2"	Plug	18" OC
20	<i>Solidago sempervirens</i>	Seaside Goldenrod	2"	Plug	18" OC
100	<i>Spartina patens</i>	Salt Meadow Hay	2"	Plug	18" OC
PLANTING AREA C (1,550 SF)					
150	<i>Panicum amarum</i>	Blitter Panic Grass	2"	Plug	18" OC
90	<i>Solidago sempervirens</i>	Seaside Goldenrod	2"	Plug	18" OC
450	<i>Spartina patens</i>	Salt Meadow Hay	2"	Plug	18" OC
PLANTING AREA D (520 SF)					
100	<i>Panicum amarum</i>	Blitter Panic Grass	2"	Plug	18" OC
30	<i>Solidago sempervirens</i>	Seaside Goldenrod	2"	Plug	18" OC
100	<i>Spartina patens</i>	Salt Meadow Hay	2"	Plug	18" OC
PLANTING AREA E (50 SF)					
25	<i>Panicum amarum</i>	Blitter Panic Grass	2"	Plug	18" OC
PLANTING AREA F (690 SF)					
170	<i>Panicum virgatum</i>	Switchgrass	2"	Plug	2' OC
PLANTING AREA G (175 SF)					
80	<i>Spartina alterniflora</i>	Smooth Cordgrass	2"	Plug	2' OC
PLANTING AREA H (1360 SF)					
175	<i>Panicum amarum</i>	Blitter Panic Grass	2"	Plug	18" OC
50	<i>Solidago sempervirens</i>	Seaside Goldenrod	2"	Plug	18" OC
375	<i>Spartina patens</i>	Salt Meadow Hay	2"	Plug	18" OC

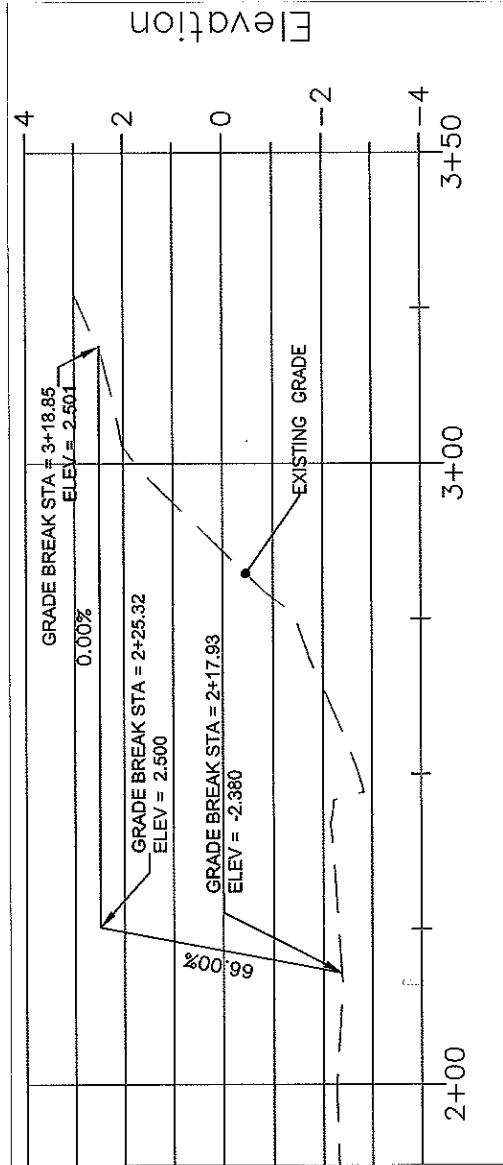
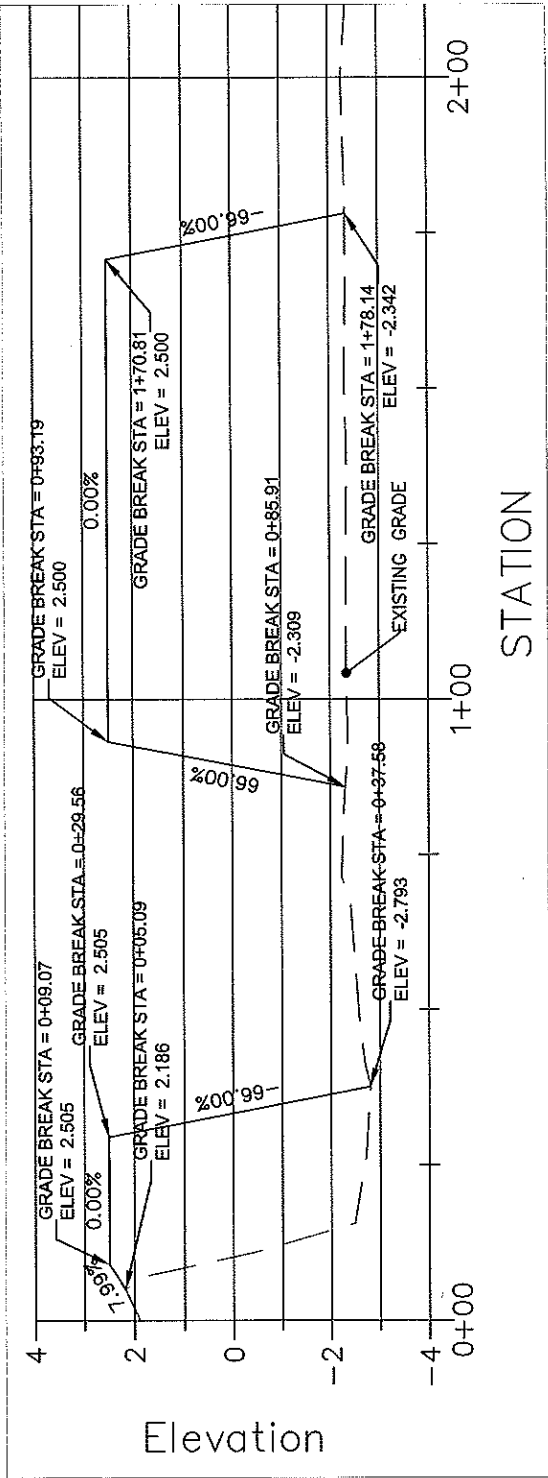
**PLANTING PLAN**

LOCH HAVEN CIVIC ASSOCIATION, INC.  
BEACH NOURISHMENT/BREAKWATER PROJECT  
South River Terrace, Edgewater, Maryland  
Anne Arundel County Tax Map 60, Grid 3,  
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**BRAY HILL, LLC**  
Ecological Assessment - Environmental Planning - Restoration Design  
16357 Calverton Rd., Columbia, Maryland 21044-5182  
Tel: 443-754-0121, email: bray.hill@ecog.com

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REVISION TYPE			



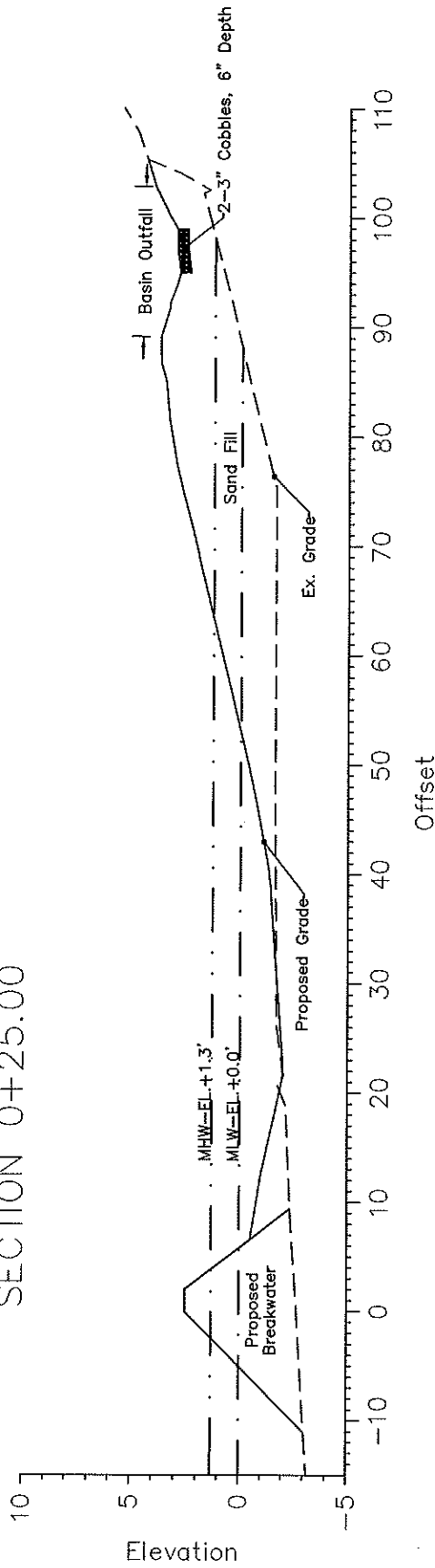
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REVISION TYPE:		DRAWN BY:	CM
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REVISION TYPE:		PROJECT NO.:	
REVISION DATE:		SHEET NUMBER:	1 OF 1
REVISION TYPE:			

**Breakwater Profile**  
 LOCH HAVEN CIVIC ASSOCIATION, INC.  
 BEACH NOURISHMENT/BREAKWATER PROJECT  
 South River Terrace, Edgewater, Maryland  
 Anne Arundel County Tax Map 60, Grid 3,  
 Parcel 24, Sub 480

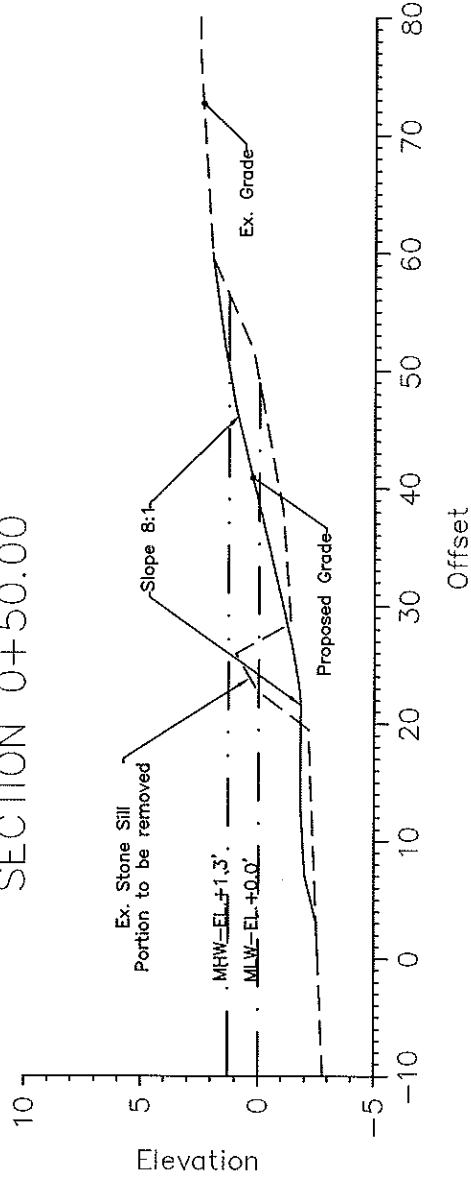
**SUSTAINABLE SCIENCE LLC**  
*Ecological Engineering Services*  
 410 S. Second Street  
 Denton, Maryland 21529  
 Phone: (410) 924-4316  
 www.sustainable-science.com

**BRAY HILL, LLC**  
 Ecological Assessment - Environmental Planning - Restoration Design  
 10357 Whitewasher Way, Columbia, Maryland 21044-3183  
 Tel. 443-745-6133 email: BrayHill.LLC@outlook.com

SECTION 0+25.00



SECTION 0+50.00



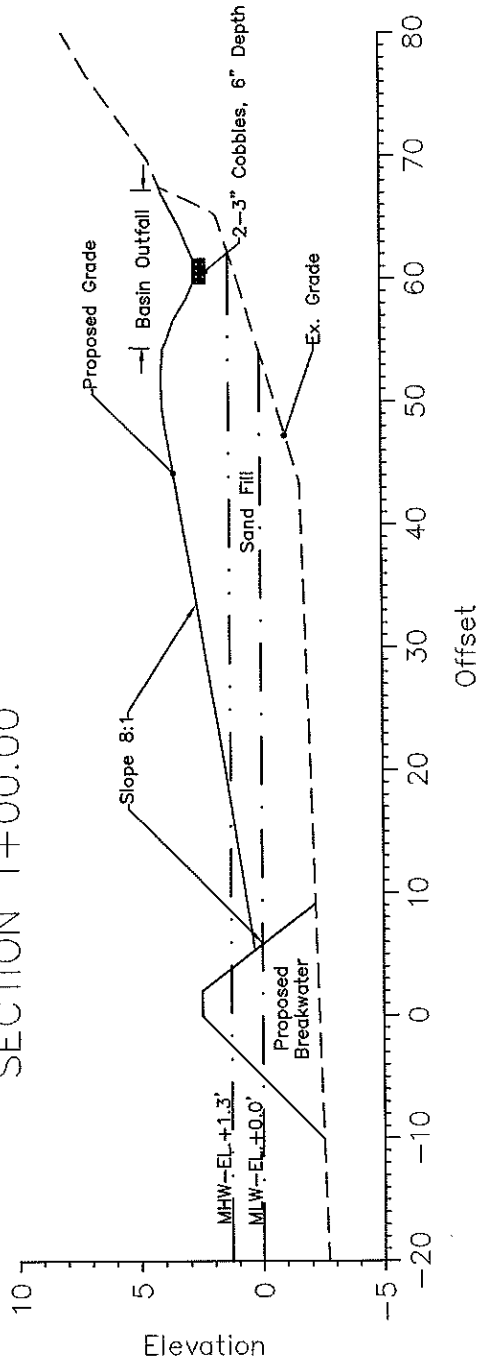
DATE:	July 17, 2018	SCALE:	As Shown
REVISION DATE:		DESIGN BY:	AM & CM
REVISION TYPE:		DRAWN BY:	CM
REVISION DATE:		CHECKED BY:	AM & CM
REVISION TYPE:		PROJECT NO.:	
REVISION DATE:		SHEET NUMBER:	1 of 4
REVISION TYPE:			

**Sections**  
 LOCH HAVEN CIVIC ASSOCIATION, INC.  
 BEACH NOURISHMENT/BREAKWATER PROJECT  
 South River Terrace, Edgewater, Maryland  
 Anne Arundel County Tax Map 60, Grid 3,  
 Parcel 24, Sub 480

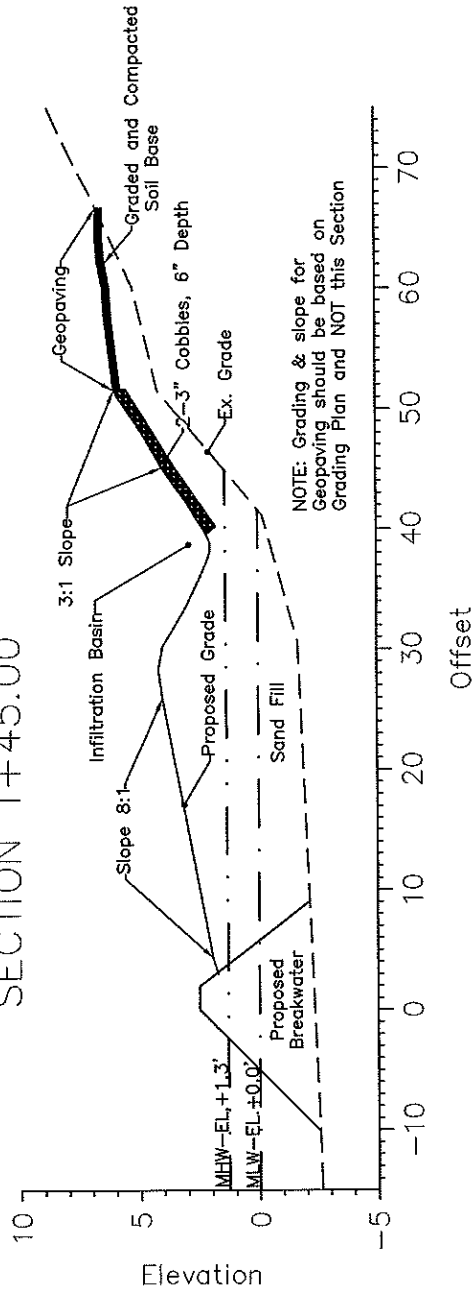
**SUSTAINABLE SCIENCE LLC**  
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**BRAY HILL, LLC**  
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SECTION 1+00.00



SECTION 1+45.00



NOTE: Grading & slope for Geopaving should be based on Grading Plan and NOT this Section

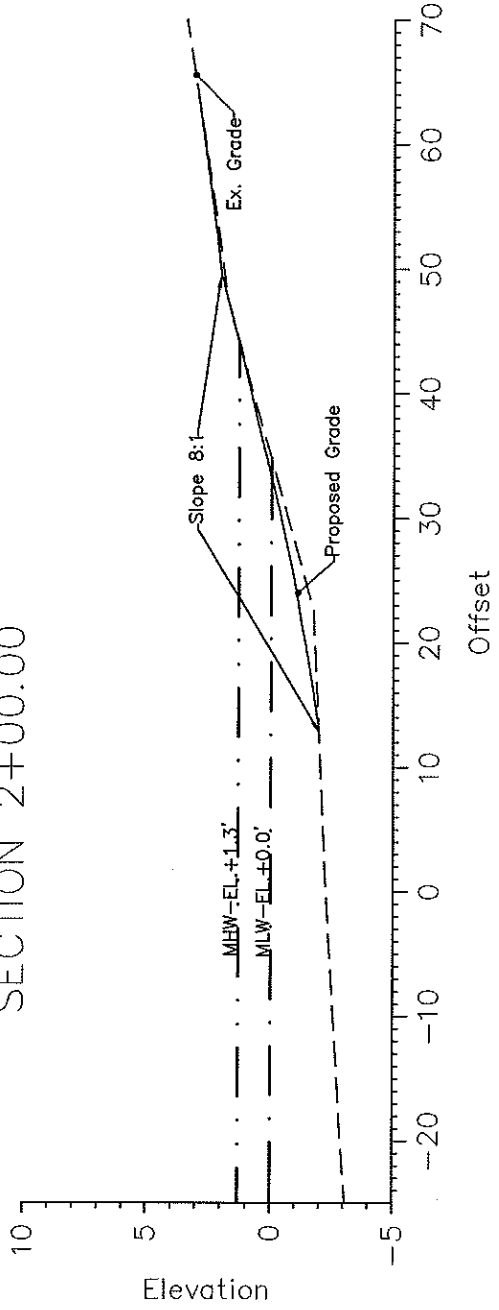
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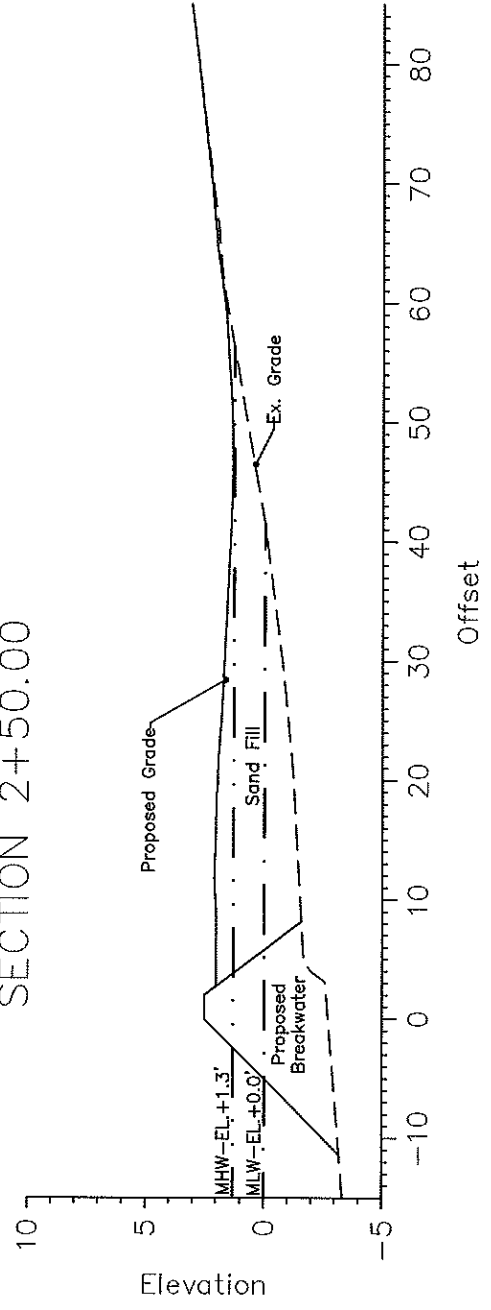
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SECTION 2+00.00



SECTION 2+50.00



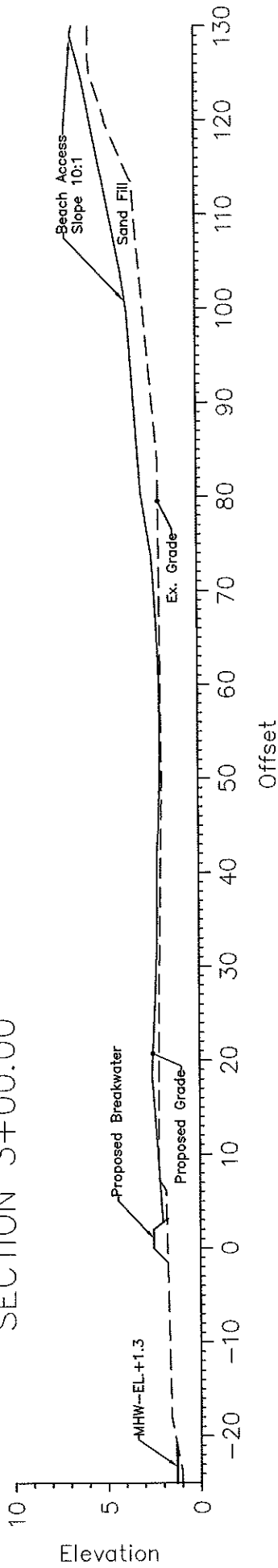
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SECTION 3+00.00



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## SITE ANALYSIS

<b>Total Site Area</b>	<b>0.48 AC/20,920 SF</b>
<b>Total Disturbed Area (above Existing MHW)</b>	<b>0.17 AC/7,375 SF</b>
<b>Proposed Fill Area Below MHW (Sand Fill and Breakwaters)</b>	<b>0.31 AC/13,545 SF</b>
<b>Sand Fill Volume</b>	<b>1,075 CY</b>
<b>Proposed Breakwater Volume</b>	<b>310 CY</b>
<b>Cut Volume</b>	<b>14 CY</b>

Fill exceeds cut. All material will be used on site with no material leaving the location.

## SUMMARY TABLE OF IMPACTS

### WATERS OF THE US IMPACTS

Jurisdictional Class	Description	Impact Type	Area (sq.ft.)
Tidal Waters	Breakwaters and Sand Fill for Beach Nourishment	Permanent	13545
<b>TOTAL PERENNIAL WATERS IMPACTS</b>			<b>13,545</b>
<b>TIDAL WETLAND IMPACTS</b>			
Tidal Wetland	Sand Fill for Beach Nourishment	Temporary	230
<b>TOTAL TIDAL WETLAND IMPACTS</b>			<b>230</b>

### Site Analysis and Impact Summary

LOCH HAVEN CIVIC ASSOCIATION, INC.  
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**GENERAL NOTES**

1. This is a beach nourishment and shore erosion control project for the Loch Haven Community Beach (Cape Loch Haven) in Edgewater, Maryland and being constructed by Loch Haven Civic Association, a non-profit organization tasked with community maintenance.
2. The beach area where the work will be performed is the property of the Loch Haven Civic Association, Inc. recorded in the Anne Arundel County Land Records as Parcel 24 in Subdivision 480. The site does not have a street address but can be accessed via a paved pedestrian path between the parcels located at 3446 and 3448 South River Terrace.
3. The proposed work area is located entirely within the Effective FEMA 100 Year Floodplain. This project will result in no change to the 100 Year Floodplain elevation.
4. In addition to the floodplain, the work area is located within the 100 foot Critical Area Buffer of the Chesapeake Bay and, therefore, subject to the State of Maryland's Critical Area Act (Title 27). A Buffer Management Plan has been included in this plan set to comply with Title 27.
5. Due to limited land access and space at this site, the Contractor will not be able to stockpile stone and sand. Construction materials will have to be delivered and placed the same day. The "Staging Area" show on this plan set is for the storage of construction equipment, tools, and geotextile cloth only. Should the Contractor choose, construction and/or material delivery may be done by water.
6. The project scope includes the following:
  - Partial removal of an existing stone "sill", select pilings close to shore, and a deteriorating wood jetty.
  - Replace jetty and the stone sill with new breakwater system oriented and sized to prevent future shore erosion
  - Place clean sand fill behind the breakwaters to restore the eroded beach.
  - Partial replacement of paved pedestrian path where it is deteriorating due to shoreline erosion. Replacement will be a porous paving grid system known as "GeoPaving" to encourage infiltration. There will be NO change in footprint (square footage) between the existing paved path and the propose GeoPaving. Install small infiltration basin with stone lined swale, flow paths and outfall to manage any run-off from the pedestrian path.
  - 7. The infiltration basin and the select sand fill areas will be planted with native herbaceous plugs for stabilization, habitat, and mitigation.
  - 8. A topographic and bathymetric survey was performed by Sustainable Science, LLC and Bray Hill, LLC in December of 2017. Horizontal datum is NAD 83 and Vertical datum is NAVD 88. All positions provided on this plan are in Maryland State Plane Coordinates.
  - 9. All work shall be confined to the Limits of Disturbance (LOD) shown on these plans.
  - 10. Impacts to natural resources within the limits of disturbance are summarized in the Impact Table on this sheet as well as on the Buffer Management Plan (Sheet 6). In brief, the natural resource impacts are to a small area of tidal wetlands resulting from the realignment of an existing stone sill. This same area and more will be replanted with tidal wetland vegetation.
  - 11. During the partial demolition of the existing jetty and pilings, the Contractor shall remove all materials from the site and dispose of them at a State approved receiving site. No demolished materials shall be left at the site.
  - 12. Final graded surfaces and structure elevations shall not vary from the lines and grades indicated on these drawings by more than +/- 0.2 feet.
  - 13. As this is a beach nourishment project, some areas have not been designated for planting and shall remain as sand (beach). Disturbed areas that are not to remain as sand and are not otherwise specified for planting shall be stabilized with improved, turf-type tall fescue as specified for other lawn areas. K-31 Tall Fescue shall NOT be used.

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**General Conditions**  
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14. The work installed as part of the project shall contain no faulty or imperfect materials, or any imperfect, careless, or unskilled workmanship and shall be guaranteed against defects for a period of one year from acceptance.
15. The contractor shall correct, repair, or remove and replace with proper work, at no cost to the property owner, any work found not to be per the guarantee. The Contractor shall also make good all damages caused to other work or materials in the process of fulfilling the guarantee.
16. Should there be any conflict between the notes and specifications contained on these drawings and the Written Specifications document, the Written Specifications document shall supersede.
17. Any and all material quantities listed on these plans are for general permitting purposes ONLY. Quantities are NOT for bidding purposes. Contractors bidding on this project shall prepare their own quantity calculations and shall be responsible for all quantities and materials required to complete this project according to these plans and the accompanying specifications.

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