HILLSMERE SHORES COASTAL RESILIENCY PROJECT

ANNE ARUNDEL COUNTY, MARYLAND

APRIL, 2023

PROPERTY OWNER /APPLICANT
HILLSMERE SHORES IMPROVEMENT ASSOCIATION
P.O. BOX 3485
ANNAPOLIS, MD 21403
EMAIL: marina@hillsmereshores.org

PROPERTY ADDRESS:
133 C BAY VIEW DRIVE
ANNAPOLIS, MD 21401

PROPERTY SIZE: 1.0 ACRES

APPLICANT
ARUNDEL RIVERS FEDERATION
2822 SOLOMONS ISLAND RD., SUITE 202
EDGEWATER, MD 21037
PHONE #: 410-224-3802

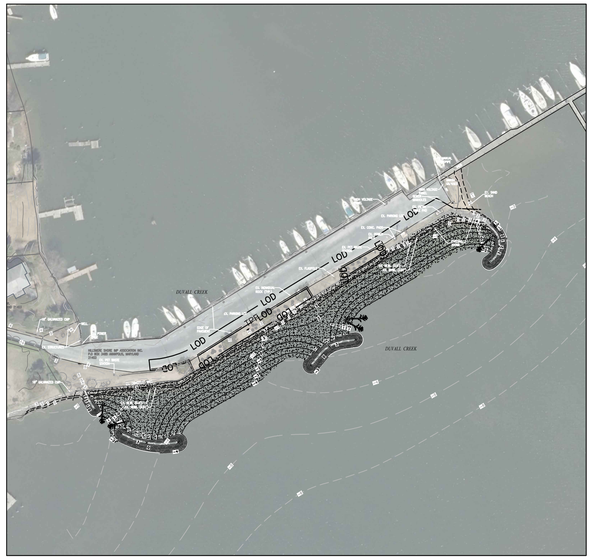
DESIGN CONSULTANT
ENVIRONMENTAL SYSTEMS ANALYSIS, INC.
2141 PRIEST BRIDGE DR., SUITE 1
CROFTON, MD 21114
PHONE #: 410-267-0495

GENERAL NOTES:
1. PROPERTY BOUNDARIES, TOPOGRAPHY OUTSIDE OF PROJECT AREA AND EXISTING STRUCTURS SHOWN ARE TAKEN FROM ANNE ARUNDEL COUNTY GIS, ACCESSED IN NOVEMBER, 2022
2. SHORELINE FEATURES, TOPOGRAPHY AND BATHYMETRY WAS SURVEYED BY SUSTAINABLE SCIENCE, LLC IN NOVEMBER 2022.
3. VERTICAL DATUM: MLW = 0.0' (NAVD88: MLW = -0.32' MWH = 0.65')
4. HORIZONTAL DATUM: NAD83/2011
5. THE PROPERTY LIES WITHIN THE LIMITED DEVELOPMENT AREA (LDA) OF THE ANNE ARUNDEL COUNTY CRITICAL AREA.
6. PER FEMA FLOOD MAP 24003C0261F, FLOODZONE AE EXTENDS TO THE 6 FOOT ELEVATION.

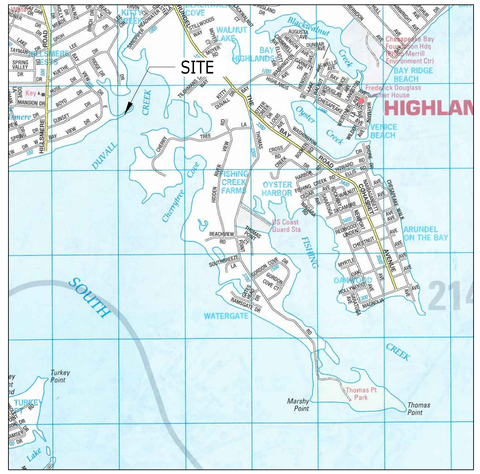
SITE DATA:
ZONING: MA1 – COMMUNITY MARINA
MDE TRACKING NUMBER:
TOTAL SITE AREA: 1.0 ACRES

MEAN HIGH WATER LINE (MHWL): 0.97
MEAN LOW WATER LINE (MLWL): 0.00
DISTURBED AREA (LOD): 0.32 AC. (13,967 SF)
AREA VEGETATIVELY STABILIZED: 0.16 AC. (6,895 SF)
AREA PERMANENTLY STABILIZED: 0.32 AC.
PROPOSED CUT: 0 CY
PROPOSED FILL: 3963 CY
(SAND FILL = 3227 CY, ROCK FILL = 736 CY)
EXCESS SPOIL TO BE REMOVED: 0 CY
BORROW TO BE PLACED ON SITE: 3963 CY

NOTE: THIS PROJECT CONSISTS ENTIRELY OF SAND AND ROCK FILL. WHEN POSSIBLE, EXISTING ROCK WILL BE REUSED IN THE PROPOSED STONE STRUCTURES.



AERIAL IMAGE SCALE: 1"=100'



VICINITY MAP SCALE: 1"=2000'

STANDARD RESPONSIBILITY NOTES

I (WE) CERTIFY THAT:

1.
   a. ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE ANNE ARUNDEL SOIL CONSERVATION AASCD BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
   b. ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

      RESPONSIBLE PERSONNEL ON SITE:_____

   c. IF APPLICABLE, THE APPROPRIATE ENCLOSURE WILL BE CONSTRUCTED AND MAINTAINED ON SEDIMENT BASIN(S) INCLUDED IN THIS PLAN. SUCH STRUCTURE(S) WILL BE IN COMPLIANCE WITH THE ANNE ARUNDEL COUNTY CODE.

2. THE COUNTY IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHT, AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THE PLAN.
3. FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT AND/OR TEMPORARY STABILIZATION PER THE AASCD VEGETATIVE ESTABLISHMENT SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. THE GRADING AND SEDIMENT CONTROL APPROVAL ON THIS PLAN EXTENDS ONLY TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE.
5. THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE DEVELOPER / CONSULTANT FROM COMPLYING WITH FEDERAL, STATE OR COUNTY REQUIREMENTS PERTAINING TO ENVIRONMENTAL ISSUES.
6. THE COUNTY MUST REQUEST THAT THE SEDIMENT AND EROSION CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT, AND THE ORDINANCE.
7. ALL MATERIAL SHALL BE TAKEN TO A SITE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
8. FIRST PHASE INSPECTION AND APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR SHALL BE REQUIRED UPON COMPLETION OF THE INSTALLATION OF EROSION AND SEDIMENT CONTROLS PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE SEDIMENT AND EROSION CONTROL INSPECTOR IS GIVEN. INSPECTION AND PERMITS MAY ALSO REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROLS ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
9. APPROVAL FROM THE INSPECTOR MUST BE REQUESTED ON FINAL STABILIZATION OF ALL SITES PRIOR TO REMOVAL OF SEDIMENT AND EROSION CONTROLS.
10. EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED BY RESPONSIBLE PERSONNEL TO THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK.

_____ _____
SIGNATURE OF DEVELOPER / OWNER DATE

PRINT: NAME: _____
TITLE: _____
AFFILIATION: _____
ADDRESS: _____
TELEPHONE #: _____
EMAIL: _____

INDEX OF SHEETS

MISS UTILITY

BEFORE YOU DIG CALL
1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.

THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

CONSULTANT'S CERTIFICATION
THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMETNS OF THE AASCD PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

MD P.E. LICENSE # _____

MD LAND SURVEYOR LICENSE # _____

MD LANDSCAPE ARCHITECT # _____

NAME _____

FIRM NAME _____

ADDRESS _____

CITY _____ STATE ___ ZIP CODE _____

SEQUENCE OF CONSTRUCTION:
1. NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS (410-222-7780) AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS. (1 DAY)
2. NOTIFY MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTION AND COMPLIANCE PROGRAM (410-537-3510) AT LEAST FIVE DAYS PRIOR TO THE START OF CONSTRUCTION. NOTIFY THE COUNTY CM/I AT LEAST 2 WEEKS PRIOR TO BEGINNING WORK.
3. NOTIFY MISS UTILITY (1-800-257-7777) A MINIMUM OF 48 HOURS PRIOR TO THE START OF WORK. (1 DAY)
4. CONDUCT A PRE-CONSTRUCTION MEETING. WORK MAY NOT COMMENCE UNTIL THE PERMITEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS. (1 DAY)
5. THE LIMITS OF DISTURBANCE (LOD) MUST BE FIELD-MARKED USING STAKES AND FLAGGING PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION OR OTHER LAND DISTURBING ACTIVITIES AS SHOWN ON THE GRADING PLAN. THE LIMITS OF DISTURBANCE AND EXISTING CONDITIONS MUST BE APPROVED BY THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK. CLEAR THE MINIMUM AREA NECESSARY TO INSTALL SEDIMENT CONTROL AND THE STAGING AREA.
6. TEMPORARY AND PERMANENT STABILIZATIONS OF DISTURBED AREAS WILL BE REQUIRED THROUGHOUT CONSTRUCTION AS MANDATED BY EROSION AND SEDIMENT CONTROL REGULATIONS.
7. INSTALL STABILIZED CONSTRUCTION ENTRANCE (SCE). (1 DAY)
8. ESTABLISH THE STOCKPILE AREA ACCORDING TO THE ESC PLANS. THIS AREA IS TO BE FOR TEMPORARY USE ONLY. ALL EXCAVATED MATERIAL SHOULD BE DEPOSITED AND STABILIZED IN AN APPROVED AREA.
9. INSTALL TURBIDITY CURTAIN. ALL NECESSARY EROSION AND SEDIMENT CONTROL (ESC) AND TREE PROTECTION MEASURES MUST BE INSTALLED PRIOR TO THE COMMENCEMENT OF GRADING WORK. THESE CONTROLS AND DEVICES MUST BE MAINTAINED THROUGH THE CONSTRUCTION PROCESS AND UNTIL THE SITE IS STABILIZED. (5 DAYS)
10. ONCE SEDIMENT CONTROLS HAVE BEEN INSTALLED, CONTACT THE SEDIMENT CONTROL INSPECTOR FOR APPROVAL OF THE SEDIMENT CONTROL INSTALLATION PRIOR TO COMMENCING WORK. INSPECTIONS AND PERMITS MAY ALSO REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROL BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING. (1 DAY)
11. BEGIN REMOVING AND STOCKPILING EXISTING STONE FOR USE IN THE NEW PROPOSED STRUCTURES, ONLY REMOVING WHAT IS NEEDED FOR CONSTRUCTION AT THAT TIME.
12. INSTALL STONE STRUCTURES A, B, C, AND D BASED ON THE LOCATIONS, ELEVATIONS, AND DESIGN SPECIFICATIONS SHOWN ON THE PLANS. (20 DAYS)
    a. LAY GEOTEXTILE ON EXISTING GRADE TO COVER THE ENTIRE BOTTOM OF THE HEADLAND STRUCTURE AND ENOUGH TO WRAP AROUND THE SIDE OF THE STRUCTURE. HEADLAND STRUCTURE SHALL TIE INTO EXISTING GRADE.
    b. PLACE LARGEST BOULDERS FOR THE STRUCTURE ON TOP OF THE GEOTEXTILE SUCH THAT EACH BOULDER IS IN CONTACT WITH ITS NEIGHBOR AND FORMS A RELATIVELY FLAT SURFACE. ARRANGE BOULDERS AS NECESSARY TO MINIMIZE VOID SPACE WITHIN THE FOOTER LAYER.
    c. PLACE A LAYER OF SMALLER BOULDERS ATOP THE FOOTER BOULDERS SUCH THAT THEY ARE STABLE AND INTERLOCK WITH THEIR NEIGHBOR AND THE FOOTER LAYER. USE RECYCLED EXISTING WEATHERED STONE ALONG EXTERIOR OF THE STRUCTURE AS MUCH AS POSSIBLE TO BLEND INTO THE LANDSCAPE BETTER. ALL BOULDERS ARE TO BE INDIVIDUALLY PLACED TO CREATE A STABLE, UNIFORM STRUCTURE IN WHICH VOIDS ARE MINIMIZED.
    d. CHINK VOIDS.
    e. WRAP WOVEN GEOTEXTILE AROUND LANDWARD SIDE OF THE HEADLAND STRUCTURE TO PROPOSED SAND/COBBLE ELEVATION. TRIM ANY EXPOSED GEOTEXTILE.
    f. THE ALLOWABLE VERTICAL TOLERANCE ON ALL ELEVATIONS IS +/- 0.1 FEET.
12. CONCURRENT WITH THE INSTALLATION OF THE STONE STRUCTURES, MIX AND PLACE COBBLE / SAND SO AS TO COVER THE EXPOSED WALL WHERE STONE WAS REMOVED AND AS NECESSARY TO CONSTRUCT THE STONE STRUCTURES. (10 DAYS)
    a. STOCKPILE WASHED COBBLE AND WASHED COARSE SAND (CONCRETE SAND) IN ACCORDANCE WITH THE APPROVED PLAN SET.
    b. USING TRACKED EXCAVATION EQUIPMENT, SEQUENTIALLY PLACE FOUR (4) BUCKETS OF COASE SAND AND ONE (1) BUCKET OF WASHED COBBLE INTO DUMP TRUCK UNTIL TRUCK IS FILLED.
    c. DUMP LOAD INTO COBBLE / SAND ZONE THEN GRADE WITH DOZER TO ACHIEVE DESIGN GRADES AND INCLINATIONS.
13. INSTALL PLANTS PER PLANS, AT LEAST ONE MONTH (INCLUDING ONE STORM EVENT) AFTER COMPLETION OF THE SAND DUNES. INSTALL THE PROPOSED SHRUBS AS SPECIFIED ON THE PLANS. INSTALL GOOSE EXCLUSIONARY FENCING OVER PLANT ZONE. (7 DAYS)
14. REMOVE TRASH AND ALL EXCESS CONSTRUCTION MATERIALS FROM THE PROJECT SITE. (3 DAYS)
15. CONDUCT FINAL INSPECTION PRIOR TO DE-MOBILIZING FROM THE SITE. REPAIR AND ADDRESS ANY DEFICIENCIES IDENTIFIED DURING THE FINAL INSPECTION WITHIN 5 DAYS OF RECEIPT OF PUNCH LIST. (6 DAYS)
16. UPON APPROVAL OF COUNTY INSPECTOR, REMOVE SEDIMENT AND EROSION CONTROLS. (1 DAY)

REVISIONS			
NO.	BY	DATE	DESCRIPTION

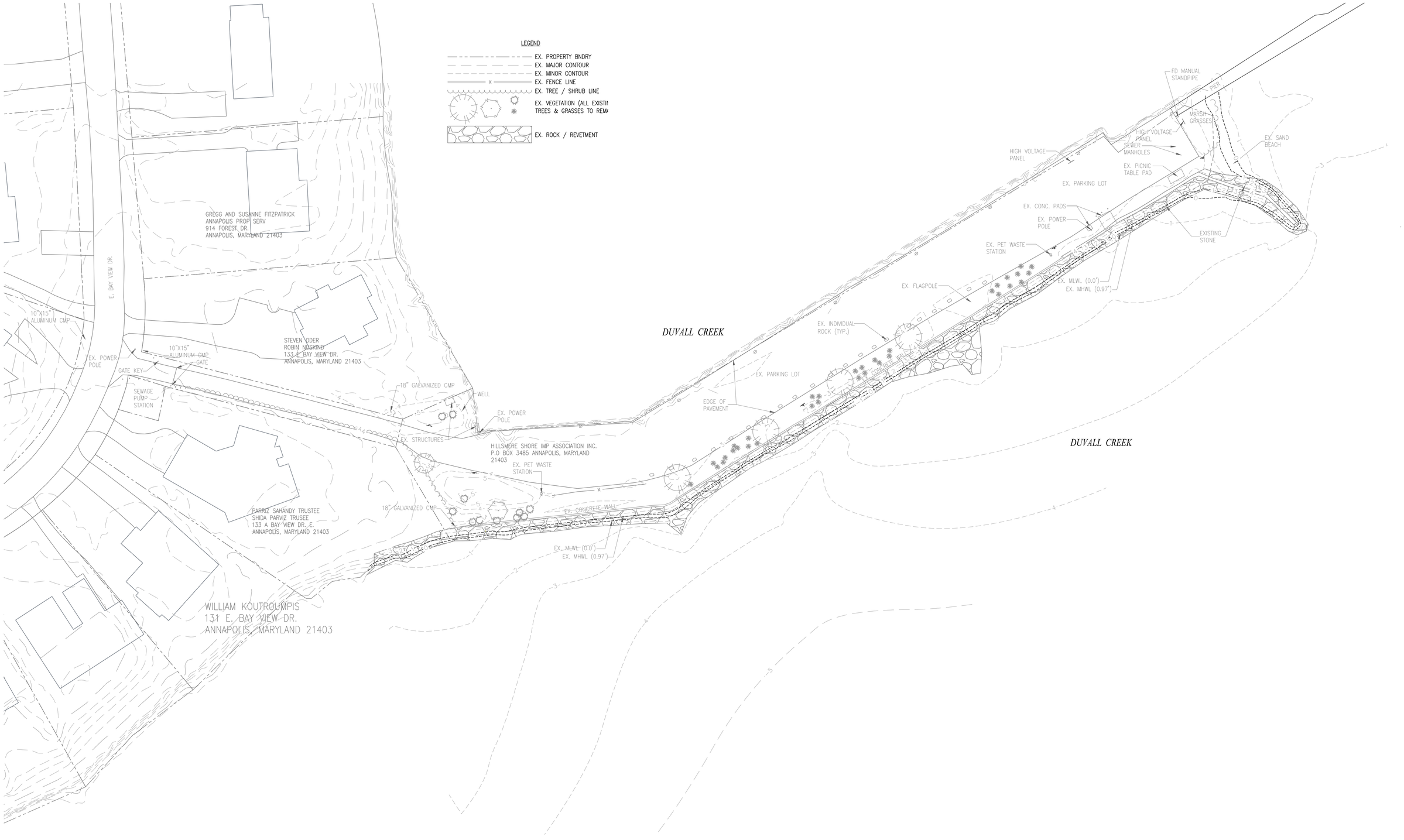
Survey:
Sustainable Science, LLC
410 S. Second Street
Denton, MD 21629
phone: (410) 924-4316

Prepared for/Applicant:
Hillsmere Shores Improvement Association (HSIA)
P.O. Box 3485
Annapolis, MD 21043

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

COVER SHEET
HILLSMERE SHORES COASTAL RESILIENCY PROJECT
MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412
2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD
SCALE:
DATE: APRIL, 2023
ESA PROJECT NAME: 22587 HILLSMERE MARINA LIVING SHORELINE
SHEET: 1 of 7

April 2023 FILE: T:\NEWPROJ\2022\22587 Hillsmere Marina Shoreline\CAD\Plans\Grading Permit Plans\Sheet 1 - Cover.dwg



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EXISTING CONDITIONS

HILLSMERE SHORES COASTAL RESILIENCY PROJECT

MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412

2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD

NORTH

0' 15' 30' 60'

SCALE: 1"=30'

SCALE:	1"=30'
DATE:	APRIL, 2023
ESA PROJECT NAME:	22587 HILLSMERE MARINA LIVING SHORELINE
SHEET:	2 of 7

April 2023 FILE: T:\NEWPROJ\2022\22587 Hillsmere Marina Shoreline\CAD\Plans\Grading Permit Plans\Sheet 2 - Ex Conditions.dwg

LEGEND

- EX. PROPERTY BNDRY
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FENCE LINE
- EX. TREE / SHRUB LINE
- EX. VEGETATION (ALL EXISTING TREES & GRASSES TO REMAIN)
- EX. ROCK / REVETMENT
- EX. MHWL / MLWL
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED ROCK STRUCTURE
- SAND / COBBLE FILL
- LOD — LIMIT OF DISTURBANCE
- SF — SILT FENCE
- TPF — TREE PROTECTION FENCE
- TC — TC — TURBIDITY CURTAIN
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED WOODY DEBRIS

STRUCTURE TABLES

STRUCTURE A

NO.	CENTERLINE NORTHING (FT)	CENTERLINE EASTING (FT)	CREST EL.
1	460051	1458045	3.0'

STRUCTURE B

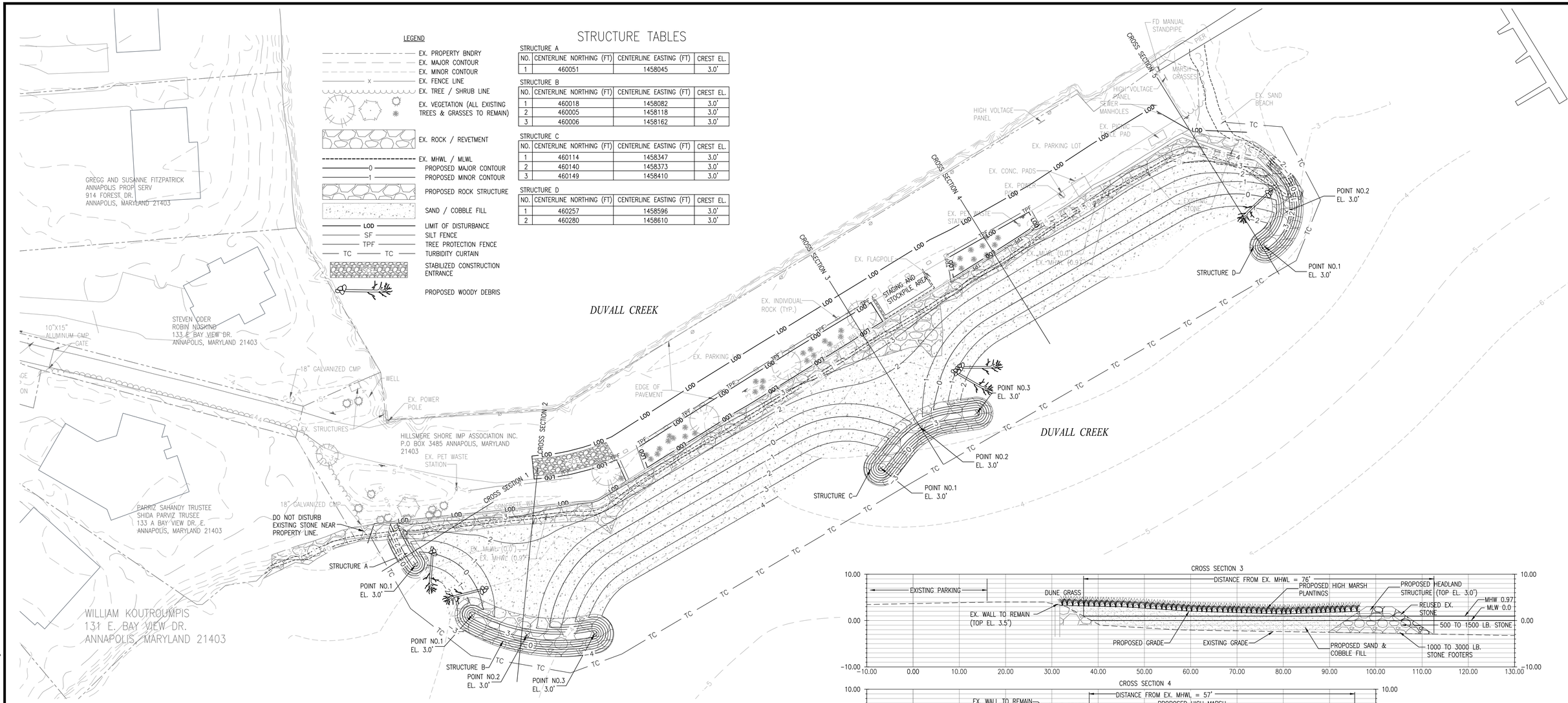
NO.	CENTERLINE NORTHING (FT)	CENTERLINE EASTING (FT)	CREST EL.
1	460018	1458082	3.0'
2	460005	1458118	3.0'
3	460006	1458162	3.0'

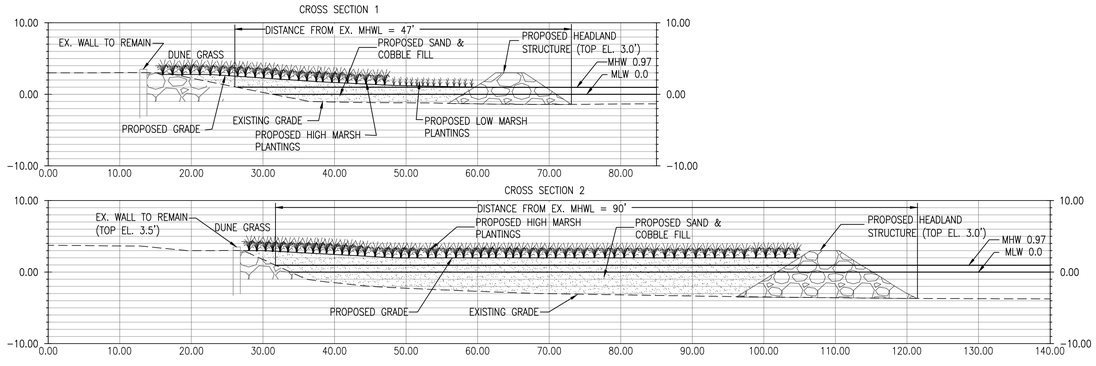
STRUCTURE C

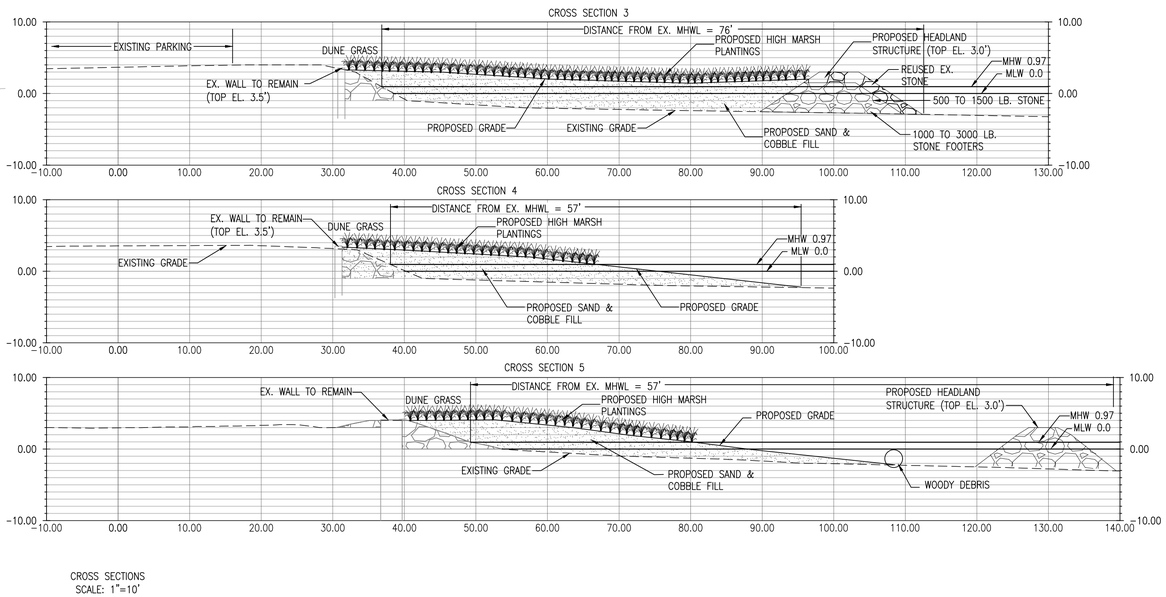
NO.	CENTERLINE NORTHING (FT)	CENTERLINE EASTING (FT)	CREST EL.
1	460114	1458347	3.0'
2	460140	1458373	3.0'
3	460149	1458410	3.0'

STRUCTURE D

NO.	CENTERLINE NORTHING (FT)	CENTERLINE EASTING (FT)	CREST EL.
1	460257	1458596	3.0'
2	460280	1458610	3.0'







CROSS SECTIONS
SCALE: 1"=10'

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GRADING / EROSION & SEDIMENT CONTROL PLAN

HILLSMERE SHORES COASTAL RESILIENCY PROJECT

MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412

2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD

NORTH

0' 15' 30' 60'
SCALE: 1"=30'

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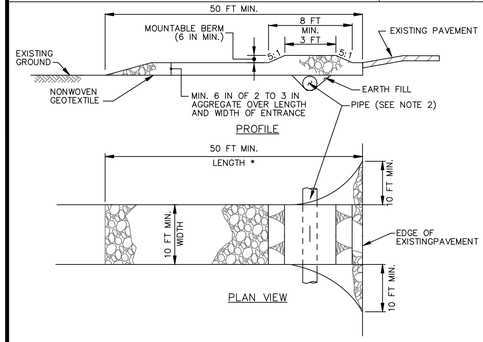
DATE: APRIL, 2023
ESA PROJECT NAME: 22587 HILLSMERE MARINA LIVING SHORELINE
SHEET: 3 of 7

April 2023 FILE: T:\NEWPROJ\2022\22587 Hillsmere Marina Shoreline\CAD\Plans\Grading Permit Plans\Sheet 3 - Proposed Conditions.dwg

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

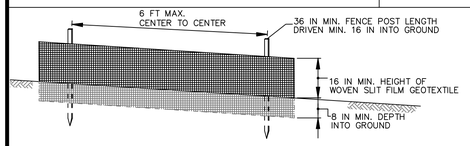
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

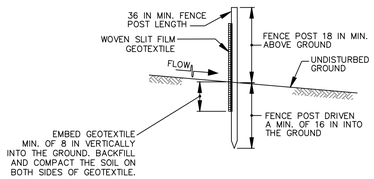
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



ELEVATION



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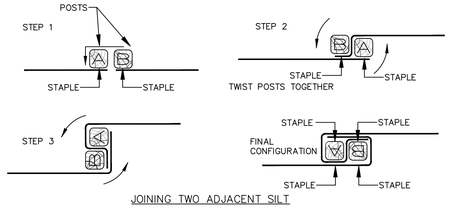


JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

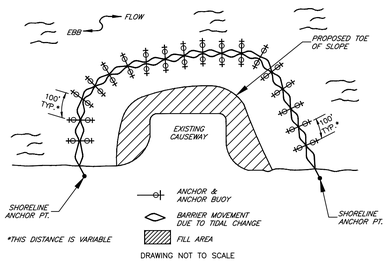
1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

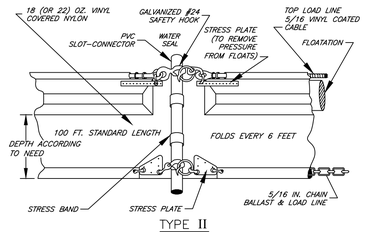
TIDAL WATERS AND/OR HEAVY WIND & WAVE ACTION



DRAWING NOT TO SCALE

TURBIDITY CURTAIN PLAN VIEW

Detail Drawing 4.6–A



TYPE II

DRAWING NOT TO SCALE

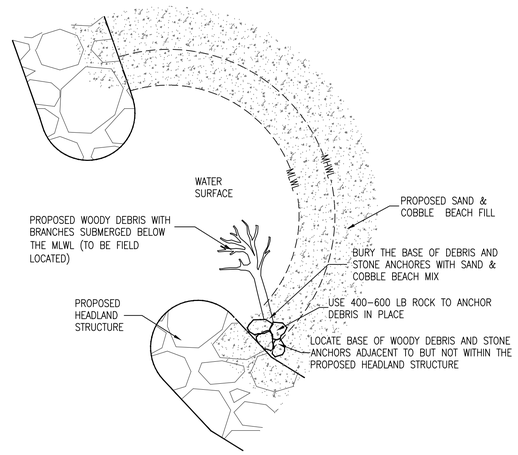
EROSION CONTROL MANUAL

TURBIDITY CURTAIN CONNECTIONS

Detail Drawing 4.6–B

WOODY DEBRIS DETAIL

Not to Scale

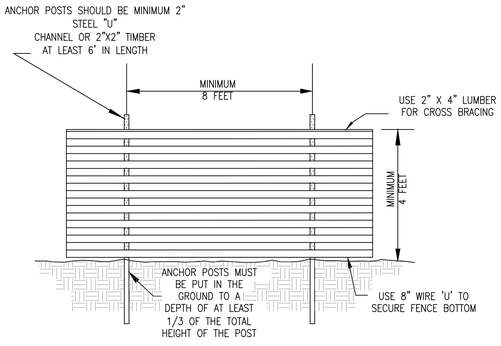


TYPICAL TREE PROTECTION FENCE DETAIL

BLAZE ORANGE FENCE

PROFILE

Not to Scale



TYPICAL TREE PROTECTION FENCE DETAIL

INSTALLATION SEQUENCE

1. FOREST PROTECTION DEVICE ONLY
2. PROTECTION AREA(S) WILL BE SET AS PART OF THE REVIEW & DESIGN PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

REVISIONS			
NO.	BY	DATE	DESCRIPTION

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SEDIMENT & EROSION CONTROL DETAILS

HILLSMERE SHORES COASTAL RESILIENCY PROJECT

MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412

2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD

SCALE:
DATE: APRIL, 2023
ESA PROJECT NAME: 22587 HILLSMERE MARINA LIVING SHORELINE
SHEET: 4 of 7

FILE: T:\NEWPROJ\2022\22587 Hillsmere Marina Shoreline\CAD\Plans\Grading Permit Plans\Sheet 4–5 – E&S Details.dwg

April 2023

2018 VEGETATIVE ESTABLISHMENT

FOLLOWING INITIAL SOIL DISTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

1. PERMANENT SEEDING:
   A. SOIL TESTS: LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF INITIAL ROUGH GRADING OR AS RECOMMENDED BY THE SEDIMENT CONTROL INSPECTOR. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.

      OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6-WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.

      THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
      a. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
      b. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
      c. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (> 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE.
      d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
      e. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
      f. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR AMENDMENTS MADE AS RECOMMENDED BY A CERTIFIED AGRONOMIST.

   B. SEEDBED PREPARATION: AREA TO BE SEEDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3-5 INCHES. THE TOP LAYER SHALL BE LOOSENED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3-5 INCHES ON SLOPES FLATTER THAN 3:1.

   C. SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE ¼ INCH IN CLAYEY SOILS AND ½ INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE WHERE NECESSARY TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER SEED MIXES ARE TO BE USED, SELECT FROM TABLE B3 AND B5 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

   D. MULCHING: MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED, MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNROTTED, UNCHOPPED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET (2 BALES). APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH-ANCHORING TOOL IS USED, APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES.

   E. SECURING STRAW MULCH: STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:
      g. USE A MULCH-ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH, HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.
      h. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
      i. LIQUID BINDERS MAY BE USED. APPLY AT HIGHER RATES AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.
      j. LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

2. TEMPORARY SEEDING:
   LIME: 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET.

   FERTILIZER: 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET.

   SEED: PERENNIAL RYE – 0.92 POUNDS PER 1,000 SQUARE FEET (FEBRUARY 1 THROUGH APRIL 30 OR AUGUST 15 THROUGH OCTOBER 31).
   MILLET – 0.92 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15).

   MULCH: SAME AS 1 D AND E ABOVE.

3. NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL IS TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS, EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL COMPACTION REQUIREMENTS ARE IN ACCORDANCE TO ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS THE AA COUNTY DESIGN MANUAL AND STANDARD DETAILS. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.

4. PERMANENT SOD:
   INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. SEEDBED PREPARATION FOR SOD SHALL BE AS NOTED IN SECTION (B) ABOVE. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ABUTTING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE INSTALLED ON FROZEN GROUND. SOD SHALL NOT BE TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO ENSURE ESTABLISHMENT OF SOD.

5. MINING OPERATIONS:
   SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES:
   FOR SEEDING DATES OF FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SERICEA LESPEDEZA AT THE MINIMUM RATE OF 0.5 POUNDS PER 1,000 SQUARE FEET.

6. TOPSOIL SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

7. USE OF THESE VEGETATIVE ESTABLISHMENT SPECIFICATIONS DOES NOT PRECLUDE THE PERMITTEE OR CONTRACTOR FROM MEETING ALL OF THE REQUIREMENTS SET FORTH IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

TEMPORARY AND PERMANENT STABILIZATION NOTES:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

- THREE CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1);
- SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

THE ABOVE REQUIREMENTS DO NOT APPLY TO INTERIOR AREAS OF A SURFACE MINE SITE WHERE THE STABILIZATION MATERIAL WOULD CONTAMINATE THE RECOVERABLE RESOURCE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT THE STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE '2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL'.

IF ADDITIONAL STOCKPILE AREAS ARE NEEDED WITHIN THE EXISTING LOD, THE CONTRACTOR MUST GET APPROVAL FROM THE S&E INSPECTOR, AND WRAP THE STOCKPILES WITH FILTER LOGS (12") OR REINFORCED SILT FENCE.

NO DISTURBED AREA SHALL BE LEFT OVERNIGHT; TEMPORARY STABILIZATION MUST BE PROVIDED AT THE END OF EACH WORK DAY.

CONSTRUCTION NOTES

1. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THESE PLANS. SEE STANDARD NOTES AND DETAILS, CROSS-SECTION, AND EROSION AND SEDIMENT CONTROL NOTES AND DETAILS FOR ADDITIONAL INFORMATION FOR GRADING.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ENVIRONMENTAL PERMITS' CONDITIONS.
3. STOCKPILE AREA WILL BE LOCATED AND IDENTIFIED ON PLANS.
4. EVERY EFFORT SHALL BE MADE TO CONDUCT GRADING WORK DURING LOW TIDE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ALL PUBLIC AND PRIVATE FEATURES WHICH ARE DAMAGED AS A RESULT OF THIS STABILIZATION PROJECT. FEATURES INCLUDE, BUT ARE NOT LIMITED TO: ROADWAYS, CULVERTS, PARKING LOTS, UTILITY POLES, ASPHALT PATHWAYS, SIDEWALKS, AND ASSOCIATED INFRASTRUCTURE FEATURES. DETERMINATION OF WHETHER A REPAIR OR REPLACEMENT IS ACCEPTABLE SHALL BE MADE BY THE RESTORATION SPECIALIST, OR THE OWNER OF THE PARTICULAR FEATURE.
6. THE CONTRACTOR SHALL REMOVE ANY/ALL REFUSE FROM THE WORK AREA. THIS REFUSE SHALL BE HAULED OFF-SITE.
7. CONTRACTORS SHALL REVIEW AND CONFIRM THE EXISTING CONDITIONS AND SUBSOIL SUPPORTING QUALITIES PRIOR TO PREPARING A PROPOSAL AND INCLUDE IN THE SUBMITTED BID ESTIMATE ANY AND ALL CHANGES THAT WOULD BE NECESSARY TO FULLY ACCOMPLISH THE SHOWN CONSTRUCTION. IT SHOULD BE EXPECTED THAT SOME SETTLEMENT AND DISPLACEMENT OF THE STONE STRUCTURES MAY OCCUR DURING CONSTRUCTION AND SHOULD BE TAKEN INTO ACCOUNT IN DETERMINING THE TOTAL VOLUME OF STONE REQUIRED. NO ADDITIONAL PAYMENT WILL BE MADE FOR SUCH ADDITIONAL STONE REQUIRED DUE TO SETTLEMENT OR DISPLACEMENT.
8. THE STRIPS OF GEOTEXTILE SHALL BE SPREAD PARALLEL TO THE MAJOR AXIS OF THE STRUCTURE ON THE PREPARED FOUNDATION AS SHOWN ON THE DRAWINGS. THE FABRIC SHALL BE LOOSELY LAID (NOT STRETCHED) WITH NO MORE THAN ONE OVERLAP. THE OVERLAP SHALL BE A MINIMUM OF 5 FEET. STRIPS OF CLOTH SHALL BE SPREAD IN A MANNER SUCH THAT THE STRIP IS TOTALLY IN CONTACT WITH THE SOIL SHALL BE THE UPPER STRIP. OVERLAPS PERPENDICULAR TO THE MAJOR AXIS OF THE STRUCTURE SHALL BE STAGGERED A MINIMUM OF 5 FEET. ROLLS OF AS GREAT A LENGTH AS IT IS ECONOMICAL FOR THE CONTRACTOR TO HANDLE SHALL BE USED WHENEVER POSSIBLE IN ORDER TO MINIMIZE THE NUMBER OF OVERLAPS PERPENDICULAR TO THE MAJOR AXIS OF THE STRUCTURE. OVERLAPS AT OR AROUND EXISTING STRUCTURES, SPECIFICALLY THE EXISTING REVETMENT, SHALL ALSO BE A MINIMUM OF 5 FEET. EXISTING STONES LARGER THAN 1" IN ITS LARGEST DIMENSION SHALL BE REMOVED PRIOR TO PLACEMENT OF GEOTEXTILE TO PREVENT TO CLOTH.
9. ADEQUATE PRECAUTION SHALL BE TAKEN TO PREVENT DAMAGE OF THE GEOTEXTILE FROM PLACEMENT OF OVERLAYING MATERIALS. STONE WEIGHING MORE THAN 100 POUNDS SHOULD NOT BE DROPPED FROM A HEIGHT GREATER THAN 5 FEET ONTO THE CLOTH. STONES WEIGHING MORE THAN 500 POUNDS SHOULD NOT BE DROPPED FROM A HEIGHT GREATER THAN 2 FEET. ANY GEOTEXTILE DAMAGED OR DISPLACED BEFORE OR DURING PLACEMENT OF OVERLYING LAYERS SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
10. THE GEOTEXTILE MAY BE TEMPORARILY PINNED IN PLACE WITH SECURING PINS TO PREVENT SLIPPAGE DURING CONSTRUCTION. THE PINS SHALL BE RETAINED UNTIL SUFFICIENT ARMOR STONES ARE SET TO HOLD THE GEOTEXTILE. THE SECURING PINS SHALL THEN BE REMOVED AS ADDITIONAL ARMOR STONES ARE PLACED TO RELIEVE HIGH TENSILE STRESS WHICH MAY CAUSE DAMAGE TO THE GEOTEXTILE. ALTERNATE ANCHORING MAY BE USED SUBJECT TO THE APPROVAL OF THE OWNER.

MATERIAL SPECIFICATIONS

STRAW – THOROUGHLY THRESHED STEMS AND LEAVES OF BARLEY, OATS, RYE AND WHEAT. STRAW SHALL BE FREE OF MOLD, WEEDS AND FOREIGN SUBSTANCES.

GEOTEXTILE FABRIC – THE FABRIC WILL BE OF MIRAFI FW 700X OR APPROVED EQUIVALENT, WOVEN, INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, ROT AND MILDEW RESISTANT, AND SHALL ALSO RESIST DETERIORATION FROM ULTRAVIOLET RADIATION.

100-3000 LBS. GRANITE STONE – ALL STONE SHALL BE PREDOMINATELY GRAY OR BROWN IN COLOR. THE STONE SHALL BE HARD AND ANGULAR, FREE FROM LAMINATIONS, WEAK CLEAVAGES, AND UNDESIRABLE WEATHERING, AND OF SUCH CHARACTER THAT IT WILL NOT DISINTEGRATE FROM THE ACTION OF AIR, SALT WATER, FREEZING AND THAWING, AND IN HANDLING AND PLACING. CONTRACTOR SHALL PROVIDE AN EXAMPLE OF ALL STONE TO BE USED.

COBBLE – COBBLE SHALL BE ROUNDED RIVER COBBLE, SIZE RANGE OF 2" TO 8" WITH A MEDIAN DIAMETER OF 5".

COARSE SAND – SIZE SHOULD RANGE FROM 0.3MM TO 2.0MM. COARSE SAND SHALL INCLUDE LESS THAN 1% BY WEIGHTS OF CLAY, SILT, OR FINE SAND PARTICLES, AND LESS THAN 5% BY WEIGHT OF ANY COMBINATION OF DIABASE, GREYSTONE, CALCAREOUS OR DOLOMITIC SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.

GOOSE EXCLUSION FENCE – FENCE SHALL BE 2-INCH BY 2-INCH WOODEN POSTS, 5 FEET IN LENGTH, INSTALLED APPROXIMATELY 1.5 FEET DEEP AT ABOUT 10 FOOT INTERVALS IN A GRID PATTERN THROUGHOUT THE GRASS PLANTING AREA AND ALONG THE PERIMETER OF THE PLANTING AREA. NYLON STRING, MINIMUM 18 GAUGE, WILL BE STRETCHED TAUT BETWEEN POSTS, WRAPPED ONCE AROUND EACH POST, AND SECURED WITH STAPLES. THE FIRST STRAND OF STRING WILL BE 6 INCHES ABOVE THE GROUND LEVEL WITH 3 ADDITIONAL STRANDS OF STRING INSTALLED AT EVEN SPACING HIGHER UP ON THE POSTS, FOR A TOTAL OF 4 STRANDS.

FERTILIZER – FERTILIZER SHALL BE GRANULAR, PACKET OR PELLET IN SLOW RELEASE, 2-YEAR FORM. FERTILIZER SHALL BE COMPLETE WITH A MINIMUM ANALYSIS OF 10% NITROGEN, 6% PHOSPHORUS, AND 4% POTASSIUM.

COMPOST – COMPOST SHALL HAVE A pH OF 6.0 TO 7.5, ORGANIC MATTER OF AT LEAST 25%, MOISTURE CONTENT BETWEEN 30-55% AND PARTICLE SIZE OF 0.5 IN. OR LESS. LEAFGRO® AND COMPRO® MEET THESE REQUIREMENTS.

WOODY DEBRIS – NATIVE HARDWOOD TREE AT LEAST 20' TALL AND 12" DIAMETER INCLUDING MAJOR BRANCHES.

CHINKING STONE – NO. 2 CRUSHED AGGREGATE

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY MDE AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY MDE, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF MDE.
2. THE CONTRACTOR SHALL NOTIFY MDE IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
   A. THE REQUIRED PRE-CONSTRUCTION MEETING.
   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
   C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.
   F. PRIOR TO FINAL ACCEPTANCE.
3. THE PLAN APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE AND THE AGENCY RESPONSIBLE FOR THE PROJECT.
4. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE MDE INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE MDE INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM MDE INSPECTOR. THE CONTRACTOR SHALL OBTAIN PRIOR AGENCY AND MDE APPROVAL FOR MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.
5. THE MDE INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
6. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
7. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE MDE INSPECTOR.
8. EROSION AND SEDIMENT CONTROL FOR UTILITY CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH APPROVED PLANS. UTILITY CONSTRUCTION SHALL ONLY BE FOR AREAS WITHIN THE DELINEATED LIMIT OF DISTURBANCE. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK. WHEN SAME DAY STABILIZATION IS APPROVED:
   A. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
   B. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY.
9. ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH AN MDE APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE.
10. CONCRETE WASHOUT STRUCTURES SHALL BE USED WHEN CONCRETE TRUCKS, DRUMS, PUMPS, CHUTES, OR OTHER EQUIPMENT IS RINSED OR CLEANED ON-SITE.
11. CONSTRUCTION ACTIVITIES PRODUCING DUST SHALL IMPLEMENT CONTROL MEASURES TO AVOID THE SUSPENSION OF DUST PARTICLES AND/OR PREVENT DUST FROM BLOWING OFF-SITE OR TO AREAS WITHOUT TREATMENT.
12. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
    A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
    B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
13. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.
14. WHEN SEEDING, ALL DISTURBED AREAS WITH SLOPES FLATTER THAN 2:1 SHALL BE STABILIZED WITH 4 INCHES OF TOPSOIL, SEED, AND MULCH. ALL DISTURBED AREAS WITH SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITH MATTING OVER 2 INCHES OF TOPSOIL AND SEED.
15. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL BE MINIMIZED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
16. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SEED AND AN APPROVED EROSION CONTROL MATTING, SOD, RIP-RAP, OR OTHER APPROVED STABILIZATION MEASURES.
17. FOR STOCKPILE SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), THE CONTRACTOR SHALL APPLY SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN THREE (3) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. FOR SLOPES 3:1 OR FLATTER, THE CONTRACTOR SHALL APPLY STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN SEVEN (7) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
18. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.
19. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE SHALL BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE SHALL BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
20. ALL SEDIMENT TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS SHALL HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.
21. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.
22. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE SHALL BE DIRECTED TO AN MDE APPROVED SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.
23. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT FOR SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN (7) CALENDAR DAYS FOR FLATTER SLOPES. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
24. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED WITH PERMISSION OF THE MDE INSPECTOR WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. UPON REMOVAL OF SEDIMENT CONTROL DEVICES, THE AREA DISTURBED BY REMOVAL SHALL BE STABILIZED WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED, WITHIN 24 HOURS OF SAID REMOVAL. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
25. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY SHALL HAVE PRIOR APPROVAL BY MDE AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES; OTHERWISE APPROVAL SHALL BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE SHALL BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.
26. SITE INFORMATION:
    A. AREA DISTURBED: 0.32 ACRES (13,967 S.F.)
    B. TOTAL CUT 0 CUBIC YARDS
    C. TOTAL FILL 3,963 CUBIC YARDS
    D. OFF-SITE WASTE / BORROW AREA LOCATION: TBD

REVISIONS			
NO.	BY	DATE	DESCRIPTION

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SEDIMENT & EROSION CONTROL DETAILS

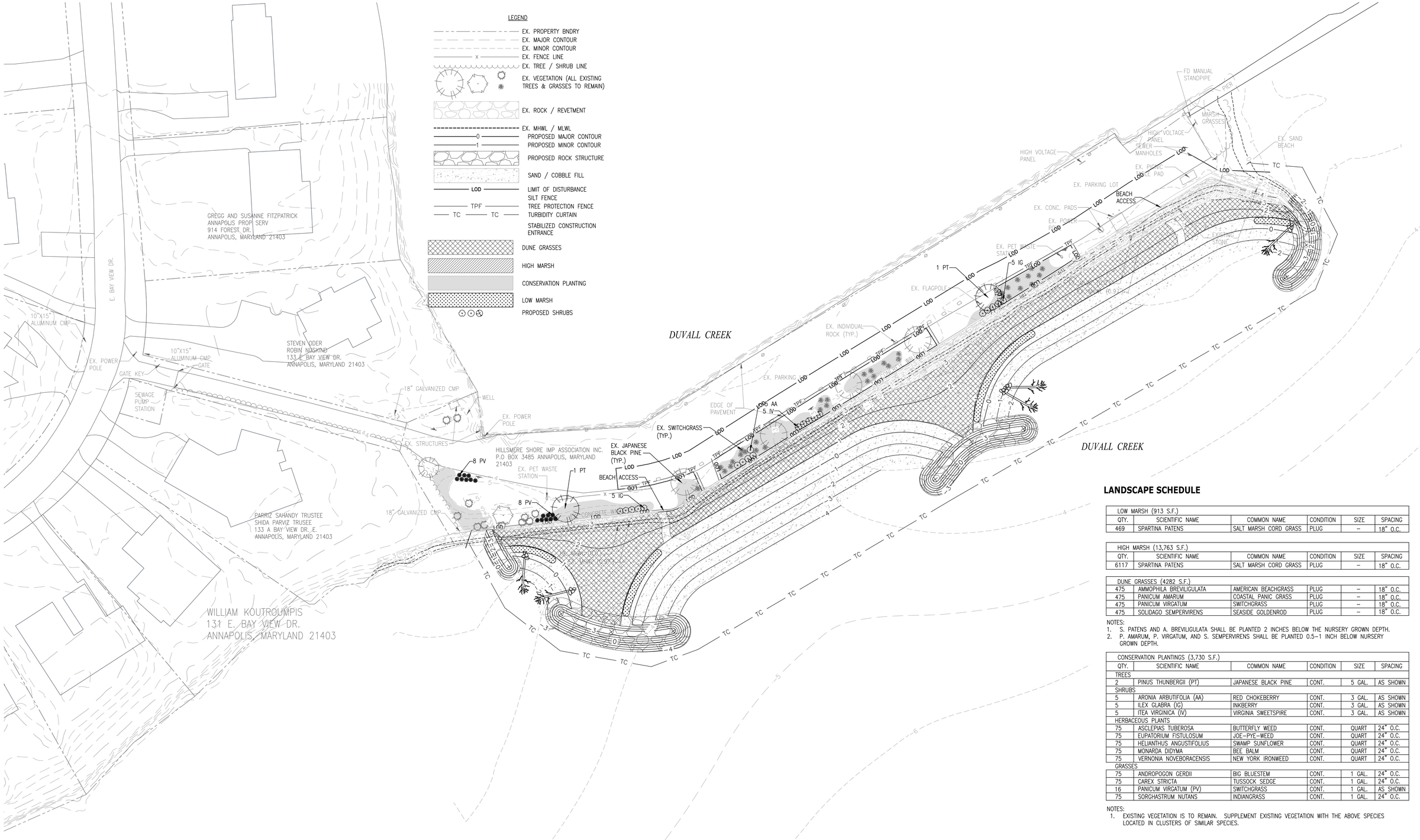
HILLSMERE SHORES COASTAL RESILIENCY PROJECT

MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412

2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD

SCALE:
DATE: APRIL, 2023
ESA PROJECT NAME: 22587 HILLSMERE MARINA LIVING SHORELINE

April 2023 FILE: T:\NEWPROJ\2022\22587 Hillsmere Marina Shoreline\CAD\Plans\Grading Permit Plans\Sheet 4-5 – E&S Details.dwg



LANDSCAPE SCHEDULE

LOW MARSH (913 S.F.)					
QTY.	SCIENTIFIC NAME	COMMON NAME	CONDITION	SIZE	SPACING
469	SPARTINA PATENS	SALT MARSH CORD GRASS	PLUG	–	18" O.C.

HIGH MARSH (13,763 S.F.)					
QTY.	SCIENTIFIC NAME	COMMON NAME	CONDITION	SIZE	SPACING
6117	SPARTINA PATENS	SALT MARSH CORD GRASS	PLUG	–	18" O.C.

DUNE GRASSES (4282 S.F.)					
475	AMMOPHILA BREVILIGULATA	AMERICAN BEACHGRASS	PLUG	–	18" O.C.
475	PANICUM AMARUM	COASTAL PANIC GRASS	PLUG	–	18" O.C.
475	PANICUM VIRGATUM	SWITCHGRASS	PLUG	–	18" O.C.
475	SOLIDAGO SEMPERVIRENS	SEASIDE GOLDENROD	PLUG	–	18" O.C.

NOTES:
1. S. PATENS AND A. BREVILIGULATA SHALL BE PLANTED 2 INCHES BELOW THE NURSERY GROWN DEPTH.
2. P. AMARUM, P. VIRGATUM, AND S. SEMPERVIRENS SHALL BE PLANTED 0.5–1 INCH BELOW NURSERY GROWN DEPTH.

CONSERVATION PLANTINGS (3,730 S.F.)					
QTY.	SCIENTIFIC NAME	COMMON NAME	CONDITION	SIZE	SPACING
TREES					
2	PINUS THUNBERGII (PT)	JAPANESE BLACK PINE	CONT.	5 GAL.	AS SHOWN
SHRUBS					
5	ARONIA ARBUTIFOLIA (AA)	RED CHOKEBERRY	CONT.	3 GAL.	AS SHOWN
5	ILEX GLABRA (IG)	INKBERRY	CONT.	3 GAL.	AS SHOWN
5	ITEA VIRGINICA (IV)	VIRGINIA SWEETSPIRE	CONT.	3 GAL.	AS SHOWN
HERBACEOUS PLANTS					
75	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	CONT.	QUART	24" O.C.
75	EUPATORIUM FISTULOSUM	JOE-PYE-WEED	CONT.	QUART	24" O.C.
75	HELIANTHUS ANGUSTIFOLIUS	SWAMP SUNFLOWER	CONT.	QUART	24" O.C.
75	MONARDA DIDYMA	BEE BALM	CONT.	QUART	24" O.C.
75	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	CONT.	QUART	24" O.C.
GRASSES					
75	ANDROPOGON GERDII	BIG BLUESTEM	CONT.	1 GAL.	24" O.C.
75	CAREX STRICTA	TUSSOCK SEDGE	CONT.	1 GAL.	24" O.C.
16	PANICUM VIRGATUM (PV)	SWITCHGRASS	CONT.	1 GAL.	AS SHOWN
75	SORGHASTRUM NUTANS	INDIANGRASS	CONT.	1 GAL.	24" O.C.

NOTES:
1. EXISTING VEGETATION IS TO REMAIN. SUPPLEMENT EXISTING VEGETATION WITH THE ABOVE SPECIES LOCATED IN CLUSTERS OF SIMILAR SPECIES.

REVISIONS			
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PLANTING PLAN

HILLSMERE SHORES COASTAL RESILIENCY PROJECT
MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412
2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD

NORTH
0' 15' 30' 60'
SCALE: 1"=30'

SCALE: 1"=30'
DATE: APRIL, 2023
ESA PROJECT NAME: 22587 HILLSMERE MARINA LIVING SHORELINE
SHEET: 6 of 7

April 2023 FILE: T:\NEWPROJ\2022\22587 Hillsmere Marina Shoreline\CAD\Plans\Grading Permit Plans\Sheet 6 – Planting Plan.dwg

GENERAL PLANTING NOTES

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

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

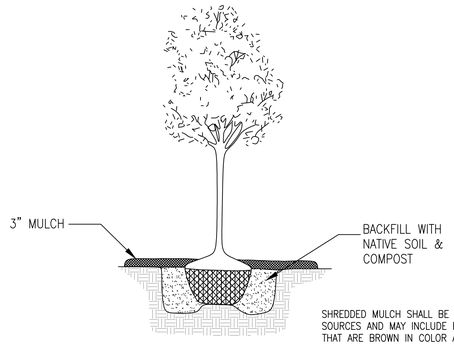
STORAGE AND DELIVERY
1. AFTER BEING DELIVERED TO THE JOB SITE, PLANTS SHALL BE STORED IN A COOL, SHADY LOCATION. PLANT ROOT MASSES SHALL BE KEPT MOIST WITH PERIODIC WATERING UNTIL THE TIME OF PLANTING.
2. SOIL ROOT MASSES SHALL BE THOROUGHLY MOIST UPON DELIVERY TO THE SITE. DRY OR LIGHT WEIGHT PLANTS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

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

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

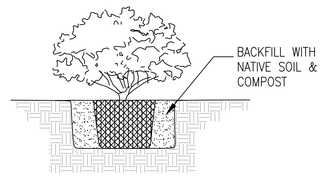
CONTAINER STOCK
1. FOR TREES AND SHRUBS, EXCAVATE A HOLE AT LEAST 12" WIDER THAN THE WIDTH OF THE ROOTBALL AND TO A DEPTH WHICH LEAVES APPROXIMATELY $\frac{1}{8}$ OF THE ROOTBALL ABOVE THE EXISTING GRADE. FOR HERBACEOUS STOCK, EXCAVATE THE HOLE AT LEAST 1" WIDER THAN THE WIDTH OF THE ROOT MASS.
2. REMOVE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

TYPICAL DECIDUOUS PLANTING DETAIL
CONTAINER / B&B

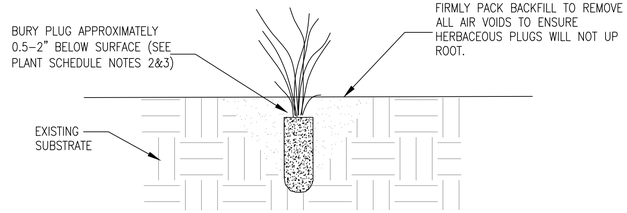


SHREDDED MULCH SHALL BE FROM HARDWOOD OR PINE SOURCES AND MAY INCLUDE BARK AND WOOD FRAGMENTS THAT ARE BROWN IN COLOR AND AGED. MULCH SHALL BE FREE OF LEAVES, VINES, TRASH AND FOREIGN MATTER.

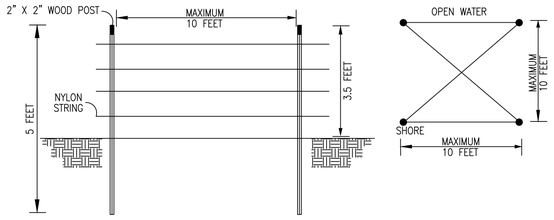
TYPICAL SHRUB / HERBACEOUS PLANTING DETAIL
CONTAINER / B&B



TYPICAL HERBACEOUS PLUG PLANTING DETAIL



GOOSE EXCLUSIONARY FENCING
NOT TO SCALE



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

REVISIONS			
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PLANTING DETAILS

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MAP 0057, GRID 0013, PARCEL 0159, SUBDIVISION 412
2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY, MD

SCALE:
DATE: APRIL, 2023
ESA PROJECT NAME: 22587 HILLSMERE MARINA LIVING SHORELINE
SHEET: 7 of 7