#### **GENERAL NOTES** THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED. THE SUBJECT PROPERTY IS ZONED R-SC IN ACCORDANCE WITH THE 10/6/13 ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE, OR BUILDING AND GRADING PERMITS. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON F-18-059. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS BM 47GE AND BM 47GD WERE USED FOR THIS PROJECT. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE AND NON STRUCTURAL PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO- BIORETENTIONAS (M-6), RAIN GARDENS (M-7) AND DRYWELLS (M-5). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION METER SETTINGS. ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT. HE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING 1-800-252-1133 410-637-8713 BGE (EMERGENCY) BUREAU OF UTILITIES COLONIAL PIPELINE CO 410-795-1390 MISS UTILITY STATE HIGHWAY ADMINISTRATION 1-800-257-777 410-531-5533 VERIZON THERE ARE NO EXISTING DWELLING/STRUCTURES LOCATED ON THIS SITE. - IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: A) WIDTH - (12' [16' SERVING MORE THAN ONE RESIDENCE]) - 18 FEET PROPOSED UIC DRIVEWAY ) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1"-1/ MIN.) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT $_{ m 0})$ structures (culverts/bridges) – capable of supporting 25 gross tons (H25 $^{ m 1}$ ZOADING) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN. TRASH & RECYCLING COLLECTION WILL BE AT THE COUNTY ROADWAYS WITHIN FIVE FEET (5') OF THE COUNTY ROADWAY. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT WATER FOR THIS PROJECT IS PROVIDED BY CONTRACT NO. 24-5032-D. SEWER FOR THIS PROJECT IS SERVICE CONNECTIONS FROM EXISTING CONTRACT 20-1018. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT ALL WATER HOUSE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS PROPERTY OR THE COUNTY'S OLD SCAGGSVILLE ROAD IS CLASSIFIED AS A LOCAL ROAD. PROPOSED ROAD IS A PRIVATE USE-IN-COMMON DRIVEWAY. A WETLAND AND SIMPLIFIED FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, AUGUST 16, 2016. AND APPROVED AS PART OF THE ECP & SKETCH PLAN SUBMISSION. -AN INTERMITTENT STREAM IS LOCATED OFFSITE. ITS BUFFER DOES NOT IMPACT THE PROJECT SITE -SEVEN (7) SPECIMEN TREES WERE FOUND ONSITE. THE PROPOSAL INCLUDES THE REMOVAL OF 6 TREES. EFFORTS WILL BE MADE TO SAVE TREE #4. REFER TO WP-17-059. FOREST CONSERVATION OBLIGATIONS HAVE BEEN MET BY PAYMENT OF FEE-IN-LIEU UNDER F-18-059. A TRAFFIC STUDY FOR THIS PROJECT PREPARED BY THE TRAFFIC GROUP, INC., DATED SEPTEMBER 2016, WAS APPROVED UNDER S-17-003. A NOISE STUDY IS NOT REQUIRED FOR THIS SITE. NOISE WALL MITIGATION CURRENTLY EXISTS ALONG INTERSTATE 95. CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THE LOCATIONS OF GROUNDWATER AND/OR ROCK. OPEN TEST PITS WERE OBSERVED THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON JULY 7, 2016 AT THE NORTH LAUREL COMMUNITY CENTER. THE ENVIRONMENTAL CONCEPT PLAN (ECP-17-004) WAS APPROVED ON JANUARY 24, 2017. A PRELIMINARY PLAN (P-17-005) WAS APPROVED ON OCTOBER 4, 2017. A FINAL PLAN (F-18-059) WAS APPROVED ON JULY 26, 2018. PUBLIC STREET TREES AND PERIMETER LANDSCAPING WAS PROVIDED FOR THIS PROJECT UNDER F-18-059 IN ACCORDANCE WITH SECTION 16.124(e) (1) OF THE SUBDIVISION REGULATIONS, AND THE LANDSCAPE MANUAL FINANCIAL SURETY WAS POSTED AS PART OF THE F-18-059 DEVELOPER'S AGREEMENTS. THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT IMPACT ENVIRONMENTAL FEATURES OR BUFFERS. NO FLOODPLAIN IS LOCATED ONSITE. NO STEEP SLOPES OVER 20,000 SF CONTIGUOUS ARE LOCATED ONSITE. - IN ACCORDANCE WITH DESIGN MANUAL-VOLUME 3, CHAPTER 2 - SECTION 2.9.B. PARKING IS REQUIRED AT TWO (2) SPACES PER UNIT OFF STREET PARKING TO INCLUDE GARAGE SPACE, DRIVEWAY AND PARKING PADS. GARAGES COUNT AS A FULL SPACE. THE ONE (1) GARAGE SPACE MAY NOT BE CONVERTED TO LIVING SPACE AND SHALL ONLY BE UTILIZED FOR VEHICULAR PARKING SPACE. REFER TO PARKING TABULATION. THE HOMEOWNERS ASSOCIATION DOCUMENTS HAVE BEEN RECORDED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION REFERENCE NUMBER D19052299. HOMEOWNERS ASSOCIATION COVENANTS AND RESTRICTIONS WERE RECORDED SIMULTANEOUSLY WITH F-18-059. REFER TO LIBER 18523 FOLIO 267, DEED DATED 8-27-2018. THIS PROJECT IS SUBJECT TO WP-17-059. ON MARCH 9, 2017; THE PLANNING DIRECTOR APPROVED THE REQUEST FOR ALTERNATIVE COMPLIANCE TO SECTION 16.1205(A)(7) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH REQUIRES THE RETENTION OF STATE CHAMPION TREES, TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES, AND TREES 30" IN DIAMETER OR LARGER. THIS PROJECT PROPOSES THE REMOVAL OF SEVEN (7) SPECIMEN TREES APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: ADD A GENERAL NOTE FOR THE ALTERNATIVE COMPLIANCE WP-17-059, ON & S-17-003, MAGNOLIA MANOR WEST STATING THE REQUEST, SECTION REFERENCE NUMBER, THE APPROVAL DATE AND CONDITIONS. SHOW THE SPECIMEN TREES BEING REMOVED AND LABELED PER WP-17-059 ON THE PLAN MYLAR ORIGINAL, FOR S-17-003. 3. REMOVAL OF THE 7 SPECIMEN TREES IS SUBJECT TO PROVIDING THE REPLACEMENT OF FOURTEEN 3-1/2 "MINIMUM CALIPER NATIVE SHADE TREES AS STATED IN THE ALTERNATIVE COMPLIANCE JUSTIFICATION TO BE LOCATED AT A MORE APPROPRIATE LOCATION. ODERATE INCOME HOUSING UNITS (MIHU) ARE REQUIRED FOR THIS PROJEC IN ACCORDANCE WITH SECTION 110.0.E OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS (RS-C), THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. THE MIHU OBLIGATION FOR THIS DEVELOPMENT WAS PROVIDED BY A PAYMENT OF FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE ONE (1) UNIT REQUIRED BY THE DEVELOPMENT. THE MIHU AGREEMENT WAS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY SIMULTANEOUSLY WITH THE RECORDING OF THE F-18-059 PLAT. THIS FINAL PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES: F-84-62, ECP-17-004, S-17-003, P-17-005, WP-17-059, F-18-059. AN AGREEMENT WAS MADE TO SATISFY THE SIDEWALK REQUIREMENT. ADDITIONAL SIDEWALK SHALL BE PROVIDED ACROSS OLD SCAGGSVILLE ROAD WITH THE MAGNOLIA MANOR (F-19-019) PLAN. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER - DMV2-19-004. ON OCTOBER 30, 2018, THE DEPUTY DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS APPROVED THE REQUEST TO WAIVE THE REQUIREMENTS OF HOWARD COUNTY DESIGN MANUAL VOLUME II - WATER AND SEWER, SECTION 4.3.B.2.C. TO ALLOW THE SEWER SERVING THE SUBJECT-REFERENCED SUBDIVISION DEVELOPMENT TO BE PLACED OUTSIDE OF THE PAVED ROADWAY SECTION: REFER TO F-18-059 AND CONTRACT 24-5032-D. 6. A PRIVATE ROAD STREET NAME SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.

STORMWATER MANAGEMENT PRACTICE CHART

LOT 7 9070 OLD SCAGGSVILLE ROAD (1) DRY WELL (M-5) -(1) MICRO BIO-RETENTION (M-6

2) DRY WELL (M-5)

(2) DRY WELL (M-5)

(2) DRY WELL (M-5)

1) MICRO BIO-RETENTION (M-6)

1) DRY WELL (M-5) -(1) MICRO BIO-RETENTION (M-6

(2) DRY WELL (M-5) -(1) MICRO BIO-RETENTION (M-6)

STREET ADDRESS

3-13-19

3-13-19

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DEVELOPMENT ENGINEERING DIVISION

9066 OLD SCAGGSVILLE ROAD

9109 MAGNOLIA MANOR DRIVE

13 MAGNOLIA MANOR DRIVE

17 MAGNOLIA MANOR DRIVE

I MAGNOLIA MANOR DRIVE

24 MAGNOLIA MANOR DRIVE

SITE DEVELOPMENT PLAN MAGNOLIA MANOR WEST

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAIL W-3.28 OUTSIDE

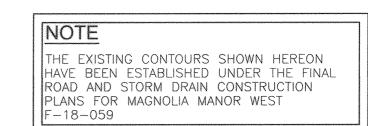
LOTS 1 - 7 AND OPEN SPACE LOT 8 OLD SCAGGSVILLE ROAD HOWARD COUNTY, MD

LOT 3

**LOCATION MAP** 

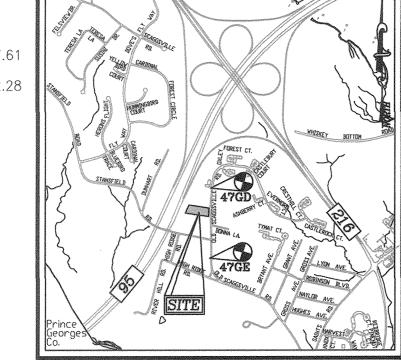
LOT 2

LOT 7



**BENCHMARKS** 

HOWARD COUNTY BENCHMARK - 47GE N 529044.94 E 1350855.03 ELEV.: 337.61 HOWARD COUNTY BENCHMARK - 47GD N 530494.49 E 1350872.35 ELEV.: 312.28



VICINITY MAP SCALE: 1"=2,000'
ADC MAP COORDINATE: 40- A6

LEGEND EXISTING PAVING EXISTING UTILITY POLE DESCRIPTION EXISTING MAILBOX OVER SHEET EXISTING SIGN PROPERTY LINE RIGHT-OF-WAY LINE EX. 24' PRIVATE USE IN

COMMON ACCESS EASEMENT PLAT# 24913-24914 EXISTING WETLAND SEWER, WATER AND UTILITY EASEMENT PLAT# 24913-24914 EX. PUBLIC 15' SEWER

EX. VARIABLE WIDTH PRIVATE STORMWATER

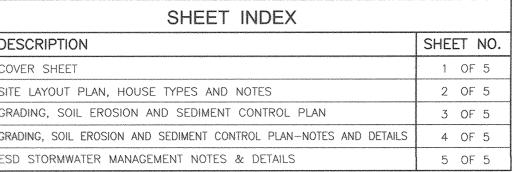
# PARKING TABULATION:

TOTAL NUMBER OF DWELLING UNITS PROPOSED : TOTAL PARKING REQUIRED: 14 (7 X 2) TOTAL PARKING PROVIDED: 28 OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT =

PARKING SPACES PROVIDED SFD = 1 GARAGE/1 DRIVEWAY 2 SPACE IN GARAGE = 14 SPACES (FOR 7 UNITS) 2 SPACES ON DRIVEWAY = 14 SPACES (FOR 7 UNITS) TOTAL PARKING SPACES PROVIDED: = 28 SPACES OFF-STREET

14 SPACES

OVERFLOW / GUEST PARKING SPACES REQUIRED: 0.5 SPACES PER SFD UNIT X 7 = 4 SPACES REQUIRED TOTAL OVERFLOW PARKING SPACES PROVIDED = 7 SPACES (DRIVEWAY) REFER TO OFF-STREET EXCESS.



SITE ANALYSIS DATA

AREA OF PLAN SUBMISSION: LIMIT OF DISTURBANCE: PRESENT ZONING DESIGNATION PROPOSED USES FOR SITE AND F. FLOOR SPACE ON EACH LEVEL OF BUILDING PER USE: TOTAL NUMBER OF UNITS ALLOWED H. TOTAL NUMBER OF UNITS PROPOSED:

FOR PROJECT AS SHOWN ON FINAL PLAT: ON THIS SUBMISSION: MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE: NUMBER OF PARKING SPACES REQUIRED BY HO.CO. ZONING REGULATIONS: NUMBER OF PARKING SPACES PROVIDED

OPEN SPACE ON SITE: AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS: BUILDING COVERAGE OF SITE: ANY OTHER INFORMATION WHICH MAY

Q. FLOOR AREA RATIO:

1.34 AC = AREA OF BUILDABLE LOTS 1.73 AC SINGLE FAMILY DETACHED REFER TO DENSITY TABULATION 7 BUILDABLE LOTS

SEE PARKING TABULATION HEREON 2 PFR SFD SEE OPEN SPACE TABULATION

SÉE GENERAL NOTE 43

6TH ELECTION DISTRICT N/A

MIHU AGREEMENT

PLEASE NOTE THAT ALL NEW LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION (LOTS 1-7) ARE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.

OWNER

MAGNOLIA MANOR LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 (410) 480-0023

**DEVELOPER** TRINITY HOMES MARY LAND, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

(410) 480-0023

12-22-20 REVISE GRADING AND SWM ON LOTS 4 AND 5 1-16-20 REVISE TO SHOW THE KITCHEN EXTENSION AS OPTIONAL ON THE PLANS DATE

SITE DEVELOPMENT PLAN

**COVER SHEET** 

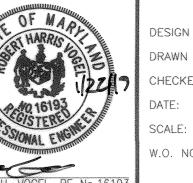
# MAGNOLIA MANOR WEST

A SUBDIVISION OF TAX MAP 47 - PARCEL 558 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157 "GIDDINGS PROPERTY - LOTS 1 AND 2" (PLAT 5708)

TAX MAP: 47 PARCELS: 157 & 558 6TH ELECTION DISTRICT

ROBERT H. VOGEL NGINEERING, INC. ENGINEERS · SURVEYORS · PLANNERS

3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666 ELLICOTT CITY. MD 21043 FAX: 410.461.8961



DESIGN BY: RHV/EDS KG/EDS DRAWN BY: CHECKED BY: DATE: FEBRUARY 2019 AS SHOWN W.O. NO.:

WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2020 SHEET 5

PROFESSIONAL CERTIFICATE

LOT 5 LOT 1 LOT 4 LOT 3 MAGNOLIA MANOR DRIVE PRIVATE DRIVEWAY H.O.A. LOT 7 **OPEN SPACE** LOT 6 N81°30'02"W TM. 0047 P. 0158

LOT 5

LOT 6

LOT 4

| LOT | LAYOUT | DETAIL |
|-----|--------|--------|
|     |        |        |

| MINIMUM LOT SIZE CHART |            |               |          |               |  |  |  |  |  |
|------------------------|------------|---------------|----------|---------------|--|--|--|--|--|
| LOT                    | GROSS AREA | PIPESTEM AREA | NET AREA | MIN. LOT SIZE |  |  |  |  |  |
| 2                      | 6,686 SF   | 282 SF        | 6,404 SF | 6,000 SF      |  |  |  |  |  |
| 3                      | 7,735 SF   | 690 SF        | 7,045 SF | 6,000 SF      |  |  |  |  |  |
| 4                      | 8,620 SF   | 990 SF        | 7,630 SF | 6,000 SF      |  |  |  |  |  |
| 5                      | 10,702 SF  | 1,303 SF      | 9,399 SF | 6,000 SF      |  |  |  |  |  |
| 6                      | 10,063 SF  | 1,464 SF      | 8,599 SF | 6,000 SF      |  |  |  |  |  |

SCALE 1"=50'

|                       | PERMIT                                   | INFO | RMATIC   | N CH   | ART   |                            |
|-----------------------|--|------|----------|--------|-------|----------------------------|
|                       | I <mark>VISION NAME</mark><br>A MANOR WE |      | SECTION, |        |       | <b>S/PARCEL #</b> 57 & 558 |
| PLAT # OR L/F         | BLOCK NO.                                | ZONE | TAX MAP  | ELECT. | DIST. | CENSUS TR.                 |
| PLATS#<br>24912-24914 | 19                                       | R-SC | 47       | 6TH    | -     | 606906                     |

10% OR 1 UNITS

7 UNITS

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING

Total Number of Lots/Units Proposed

Number of MIHU Required

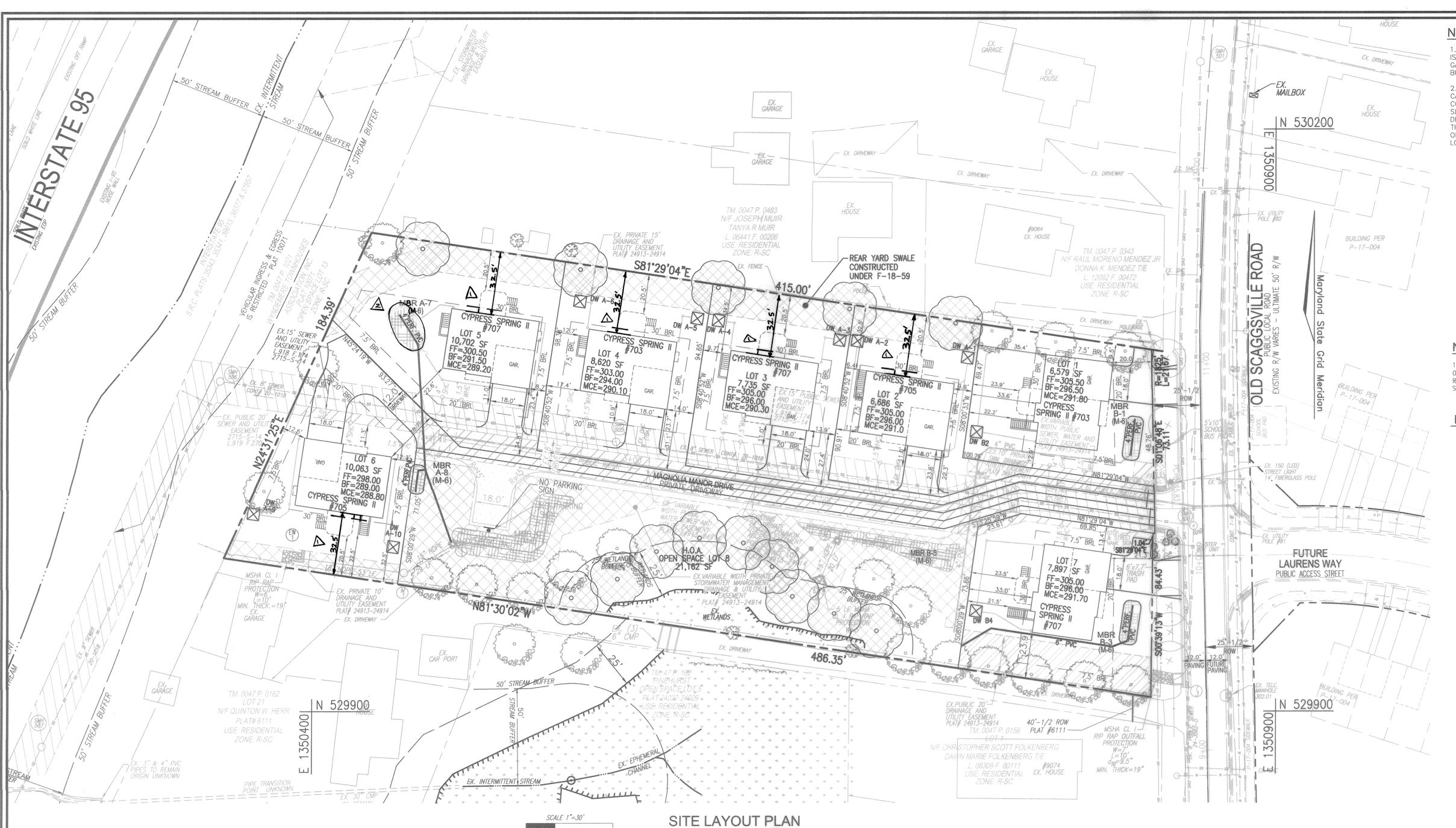
Number of MIHU Provided Onsite

(exempt from APFO allocations)

Number of APFO Allocations Required

(remaining lots/units) MIHU Fee-in-Lieu

(indicate lot/unit numbers



NOTE:

1. TYPICAL DRIVEWAY WIDTH SHOWN HEREON IS 18 FEET WIDE FOR THE PROPOSED 2 CAR GARAGE. WIDTH SUBJECT TO CHANGE WITH

2. DRIVEWAYS: THE SHOWN DRIVEWAY LOCATION CANNOT CHANGE UNLESS NOTED ON THIS SDP CONFIRMING THAT THE GRADING AND DRIVEWAY SLOPES WILL REMAIN THE SAME WHETHER THE DRIVEWAY IS ON THE RIGHT OR LEFT SIDE OF THE HOUSE. ONLY ONE DRIVEWAY ORIENTATION CAN BE SHOWN FOR CORNER

NOTES:

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER

NOTES:

1. REFER TO SHEET 4 FOR DRYWELL (DW) SIZE, NOTES & DETAILS

### LEGEND

RIGHT-OF-WAY LINE ------ ADJACENT PROPERTY LINE CENTERLINE OF EXISTING STREAM EXISTING STREAM BANK == == EXISTING CURB AND GUTTER CURB AND GUTTER . EXISTING TREELINE

. TREELINE EXISTING UTILITY POLE

EXISTING LIGHT POLE EXISTING MAILBOX EXISTING SIGN

EXISTING SANITARY MANHOLE - EXISTING SANITARY LINE EXISTING CLEANOUT EXISTING FIRE HYDRANT - EXISTING WATER LINE

- EXISTING 10' CONTOUR --- EXISTING 2' CONTOUR \*\*\*\*\*\*\*\*\* SOILS

EXISTING STORM DRAIN STORMWATER MANAGMENT FACILITY (M-6) F-18-059

DRY WELL (M-5) EXISTING CONCRETE SIDEWALK

EX. PUBLIC 20' SEWER AND UTILITY EASEMENT

PLAT# 24913-24914

EX. VARIABLE WIDTH
PUBLIC SEWER,
WATER AND UTILITY
EASEMENT PLAT# 24913-24914

EXISTING WETLAND

ON-LOT STORMWATER MANAGEMENT PRACTICES LOT NUMBER DRYWELL Lot 1 Lot 2 Lot 3 Lot 4

Lot 5

Lot 6 Lot 7

OWNER MAGNOLIA MANOR LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

(410) 480-0023

DEVELOPER

\*\* \*\*\*

TRINITY HOMES MARY LAND, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 (410) 480-0023

REVISE GRADING AND SWM ON LOTS 4 AND 5 12-22-20 1-16-20 DATE REVISE TO SHOW THE KITCHEN EXTENSION AS OPTIONAL ON THE PLAUS

SITE LAYOUT PLAN, HOUSE TYPES AND NOTES

SITE DEVELOPMENT PLAN

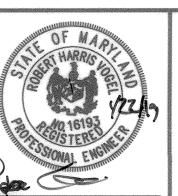
LOTS 1 - 7 AND OPEN SPACE LOT 8

A SUBDIVISION OF TAX MAP 47 - PARCEL 558 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157

"GIDDINGS PROPERTY - LOTS 1 AND 2" (PLAT 5708) TAX MAP: 47 PARCELS: 157 & 558 6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC HOWARD COUNTY, MARYLAND ROBERT H. VOGEL





DESIGN BY: RHV/EDS KG/EDS DRAWN BY: CHECKED BY: RHV DATE: FEBRUARY 2019 AS SHOWN SCALE: W.O. NO.: 16-15

PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL. ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2020

2 SHEET 5

### HOUSE TYPE NOTES:

RECOMMENDED.

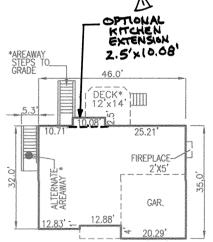
- ADDITIONAL HOUSE TYPES AND OPTIONS MAY FIT ON ANY GIVEN LOT. THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS
- 3. A MINIMUM OF 10 FEET SHALL BE PROVIDED BETWEEN THE CHOSEN HOME MODEL AND A MICRO-BIORETENTION / RAIN GARDEN OR DRYWELL ESD STORMWATER FACILITY 4. MODEL ELEVATION SHALL NOT EXCEED 34' MAX HEIGHT AS ALLOWED
- 5. IN ACCORDANCE WITH SECTION 128.O.A OF THE HOWARD COUNTY ZONING REGULATIONS: A. MAX ENCROACHMENT INTO SETBACK FOR CORNICES, EAVES AND CANTILEVERED BUILDING FEATURES WHICH DO NOT CONTAIN ANY FLOOR AREA OR EXTENSION OF INTERIOR LIVING

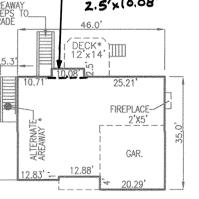
SPACE IS: 3 FEET INTO ANY SETBACK B. MAX ENCROACHMENT INTO SETBACK FOR BAY WINDOWS, WINDOW WELLS, ORIELS, VESTIBULES, BALCONIES AND CHIMNEYS IS: 4 FEET INTO ANY SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS, PROVIDED THE FEATURE HAS A MAXIMUM WIDTH OF 16 FEET AS MEASURED HORIZONTALLY ALONG THE WALL FROM WHICH THE FEATURE EXTENDS. C. MAX ENCROACHMENT INTO SETBACK FOR EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GROUND LEVEL EXCLUDING THOSE ATTACHED TO A PORCH OR DECK (SEE E) IS: 10 FEET INTO A FRONT SETBACK OR A SETBACK FROM A PROJECT BOUNDARY OR DIFFERENT ZONING DISTRICT; 16 FEET INTO A REAR SETBACK; 4

FEET INTO A SIDE SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS. D. MAX ENCROACHMENT INTO SETBACK FOR OPEN OR ENCLOSED PORCHES AND DECKS, AND THE STAIRWAYS OR RAMPS ATTACHED THERETO IS: 10 FEET INTO A FRONT OR REAR SETBACK, A SETBACK FROM A PROJECT BOUNDARY, A SETBACK FROM A DIFFERENT ZONING DISTRICT, OR A REQUIRED DISTANCE BETWEEN BUILDINGS.

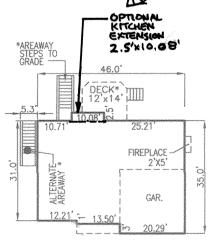
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

3-13-19 3-13-19





CYPRESS SPRING SCALE: 1"=30' LOTS 2, 6 **ELEVATION 705** 



CYPRESS SPRING I SCALE: 1"=30' LOTS 3, 5, 7 **ELEVATION 707** 

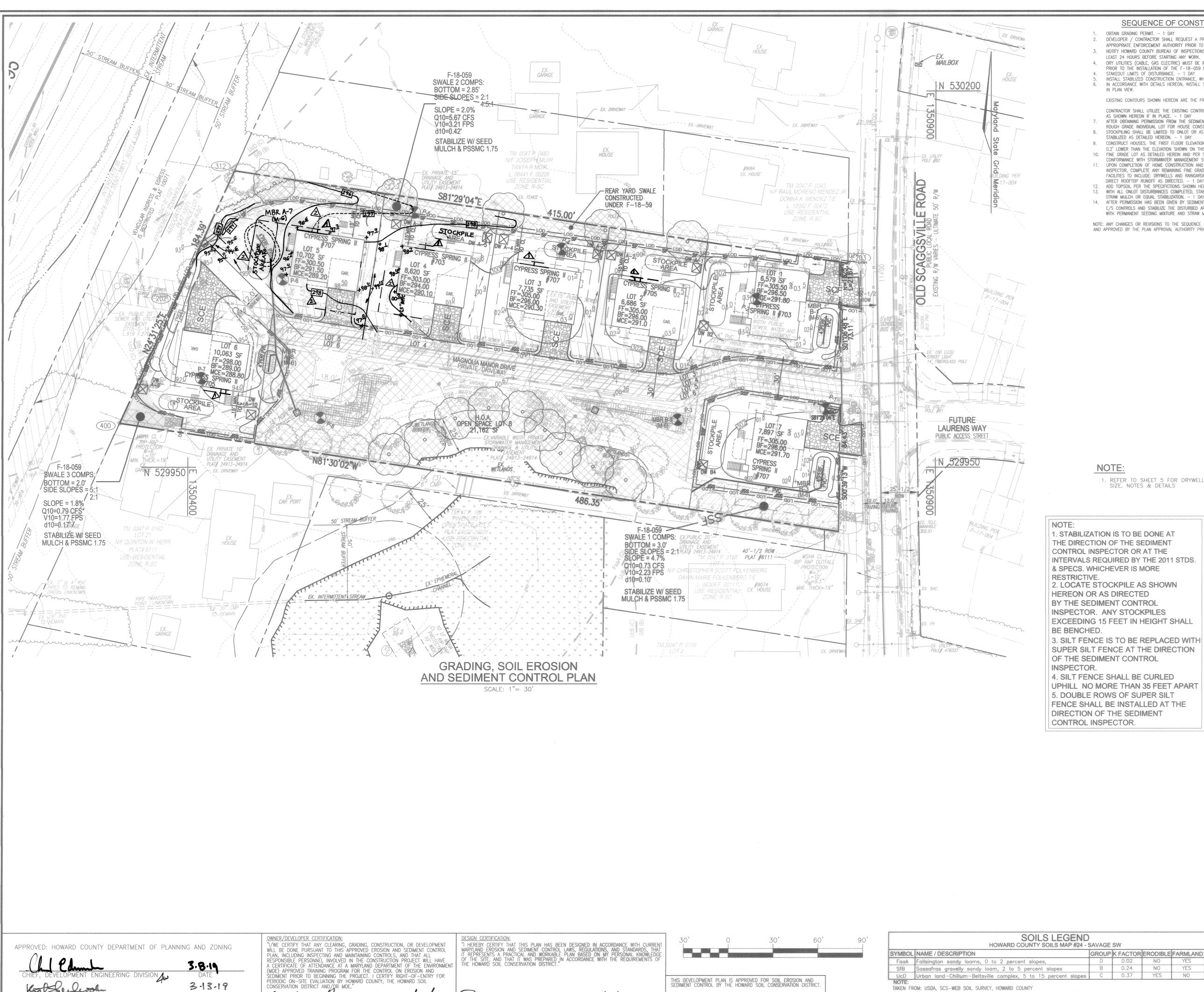
SCALE: 1"=30' LOTS 1, 4 **ELEVATION 703** \* AREAWAY / DECKS MUST CONFORM TO SECTION 128.0.A OF THE HOWARD COUNTY ZONING REGULATIONS; SEE HOUSE TYPE

TYP. ELEVATION

SCALE: N.T.S.

CYPRESS SPRING I

— OPTIONAL KITCHEN EXTENSION 2.5'x 10.08'



MD REGISTRATION NO. 16193
P.E., R.L.S., OR R.L.A. (circle one)

3-13-19

3-13-19

#### SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. 1 DAY DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION.(1 DAY) NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY)
- DRY UTILITIES (CABLE, GAS ELECTRIC) MUST BE INSTALLED AFTER ROAD CONSTRUCTION PRIOR TO THE INSTALLATION OF THE F-18-059 MICRO BIO RETENTION FACILITIES. STAKEOUT LIMITS OF DISTURBANCE. - 1 DAY
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, WHERE SHOWN HEREON. 1 DAY IN ACCORDANCE WITH DETAILS HEREON, INSTALL SEDIMENT CONTROL MEASURES AS SHOWN IN PLAN VIEW.

EXISTING CONTOURS SHOWN HEREON ARE THE PROPOSED GRADES FROM F-18-059

- CONTRACTOR SHALL UTILIZE THE EXISTING CONTROLS INSTALLED UNDER F-18-059 AS SHOWN HEREON IF IN PLACE. — 1 DAY
  AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, ROUGH GRADE INDIVIDUAL LOT FOR HOUSE CONSTRUCTION. - 1 DAY STOCKPILING SHALL BE LIMITED TO ONLOT OR AS SHOWN HEREON. STOCKPILES SHALL BE
- 9. CONSTRUCT HOUSES. THE FIRST FLOOR ELEVATIONS CANNOT BE MORE THAN 1' HIGHER OR 0.2' LOWER THAN THE ELEVATION SHOWN ON THIS PLAN. - 6 MONTHS FINE GRADE LOT AS DETAILED HEREIN AND PER SPOT ELEVATION AS SHOWN TO BE IN CONFORMANCE WITH STORMWATER MANAGEMENT SCHEME APPROVED FOR THE PROJECT - 1 DA UPON COMPLETION OF HOME CONSTRUCTION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING, INSTALL ONLOT STORMWATER MANAGEMENT FACILITIES TO INCLUDE: DRYWELLS AND RAINGARDENS. INSTALL ROOF GUTTER DOWNSPOUTS TO
- DIRECT ROOFTOP RUNOFF AS DIRECTED. 1 DAY ADD TOPSOIL PER THE SPECIFICTIONS SHOWN HEREON. - 1 DAY WITH ALL ONLOT DISTURBANCES COMPLETED, STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH OR EQUAL STABILIZATION. - 1 DAY 14. AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING

E/S CONTROLS AND STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES

NOTE: ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION

WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. - 1 DAY

NOTE:

1. REFER TO SHEET 5 FOR DRYWELL (DW)

GROUP K FACTOR ERODIBLE FARMLAND HYDRIC

Urban land-Chillum-Beltsville complex, 5 to 15 percent slopes

FALLSINGTON SOILS HAVE SEVERE LIMITATIONS FOR HOME CONSTRUCTION.

HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT

OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

A SLOPE GREATER THAN 5 PERCENT

SIZE, NOTES & DETAILS

SOILS --- EXISTING STORM DRAIN FACILITY (M-6) F-18-059 DRY WELL (M-5) EXISTING CONCRETE SIDEWALK AND UTILITY EASEMENT L.918 F.174 - 2715-S-14 EX. PUBLIC 20' SEWER

LEGEND

PROPERTY LINE

RIGHT-OF-WAY LINE

CURB AND GUTTER

. EXISTING TREELINE

EXISTING WATER LINE

EXISTING 10' CONTOUR ----- 328----- EXISTING 2' CONTOUR

. TREELINE

EXISTING CURB AND GUTTER

CENTERLINE OF EXISTING STREAM

---- EXISTING STREAM BANK

EXISTING UTILITY POLE

EXISTING LIGHT POLE

EXISTING SANITARY MANHOLE

- EXISTING SANITARY LINE

EXISTING FIRE HYDRANT

EXISTING CLEANOUT

EXISTING MAILBOX

EXISTING SIGN

2' CONTOUR SUPER SILT FENCE SILT FENCE
LIMIT OF DISTURBANCE

SPOT ELEVATION

STABILIZED CONSTRUCTION

### NOTES

1. REFER TO SHEETS 4 FOR STANDARD DETAILS AND STABILIZATION NOTES. 2. REFER TO SHEET 5 FOR TEST PIT DATA.

OWNER MAGNOLIA MANOR LLC

DEVELOPER TRINITY HOMES MARY LAND, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

12-22-20

DATE

BLOCK: 19 ZONING: R-SC HOWARD COUNTY, MARYLAND

3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 (410) 480-0023 (410) 480-0023

REVISE TO SHOW THE KITCHEN EXTENSION AS OPTIONAL ON THE PLANS 1-16-20 SITE DEVELOPMENT PLAN GRADING, SOIL EROSION

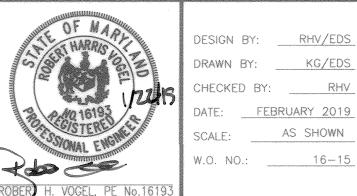
REVISE GRADING AND SWM ON LOTS 4 AND 5

AND SEDIMENT CONTROL PLAN

LOTS 1 - 7 AND OPEN SPACE LOT 8 A SUBDIVISION OF TAX MAP 47 - PARCEL 558 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157 "GIDDINGS PROPERTY - LOTS 1 AND 2" (PLAT 5708)

TAX MAP: 47 PARCELS: 157 & 558 6TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS · SURVEYORS · PLANNERS 3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



ROFESSIONAL CERTIFICATE DESIGN BY: RHV/EDS DRAWN BY: CHECKED BY: RHV DATE: FEBRUARY 2019

SHEET

SDP-19-013

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTE A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT

OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER DEFINITION HE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: PRIOR TO THE START OF FARTH DISTURBANC UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND

SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. AND REVISIONS THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN 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 SEVEN (7) CALENDAR

DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN TH FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN, INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. 8-4-6). ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN

TOTAL AREA OF SITE: AREA DISTURBED AREA TO BE ROOFED OR PAVED: AREA TO BE VEGETATIVELY STABILIZED: O\_\_\_\_ CU. YDS. TOTAL OFFSITE WASTE/BORROW AREA LOCATION: (1) REFER TO ITEM 11 BELOW

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY: AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE: INSPECTION DATE

> INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT) WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES

EVIDENCE OF SEDIMENT DISCHARGES IDENTIFICATION OF PLAN DEFICIENCIES IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND

MONITORING/SAMPLING

STABILIZATION REQUIREMENTS

MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF

FACH WORKDAY, WHICHEVER IS SHORTER. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A

SUBSECUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID. NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER OURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT

TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO 14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED

A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR

TIME PERIODS (INCLUSIVE): USE I AND IP MARCH 1 - JUNE 15 USE III AND IIIP OCTOBER 1 - APRIL 30 LISE IV MARCH 1 - MAY 31

ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE

OWNER/DEVELOPER CERTIFICATION "I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT DE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND DIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR ERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

OWNER/DEVELOPER SIGNALUE

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

REGISTRATION NO. 16193 (P.E), R.L.S., OR R.L.A. (circle one)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING PMENT ENGINEERING DIVISION 3.13.19

B-4-5 STANDARDS AND SPECIFICATIONS PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

A. SELECT ONE OR MONE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S) PPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN. B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES

RECOMMENDED BY THE SOIL TESTING AGENCY. D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY. 2. TURFGRASS MIXTURES

A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN. I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE

INTENSIVE MANAGEMENT, IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE, RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT. II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT, CERTIFIED PERENNIAL RYFGRASS CHITIVARS/ CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH

EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE REFNOFD IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH

SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET.

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURE AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

- WESTEM MD: MARCH 15 TO JUNE 1, AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB, 6A) - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7R)

TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 11/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED), THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN APPRORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE OP GROWTH AND THATCH, BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION. D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. È. SOD MUST BE HARVESTÉD, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION,

A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER, STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH, ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS. C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE

A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN

THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT

ADEQUATE MOISTURE CONTENT C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b SEED MIXTURE (FROM TABLE B.3): 9 (10-20-20)N P<sub>2</sub> O<sub>5</sub> K<sub>2</sub> O NO SPECIES RATE (LB/AC) DATES T.F. 60 LB / AC MAR 1 TO 45 LB/AC 90 LB/AC 90 LB/AC 2 TONS/AC 1/4-1/2 IN. (1 LB PER (2 LB PER (2 LB PER (90 LB PER K.B. 40 LB / AC AUG 15 TO 1000 SF ) 1000 SF ) 1000 SF ) 1000 SF )

# NOTES

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON.

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

A. 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.

B. 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT

R-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

A. SOIL PREPARATION

A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISFL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION FOUIPMENT. AFTER THE SOIL IS LOOSENED. IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS

. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking OR OTHER SUITABLE MEANS. 2. PERMANENT STABILIZATION A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

I. SOIL PH BETWEEN 6.0 AND 7.0. II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM) III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT. V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE AROVE CONDITIONS C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST. E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS, RAKE LAWN AREAS TO SMOOTH THE SURFACE REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION TRACK SLOPES 3-1 OR FLATTER WITH TRACKED FOLLIPMENT LEAVING TH SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR

SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. 2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE

OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE.

REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA . TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE. 4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING

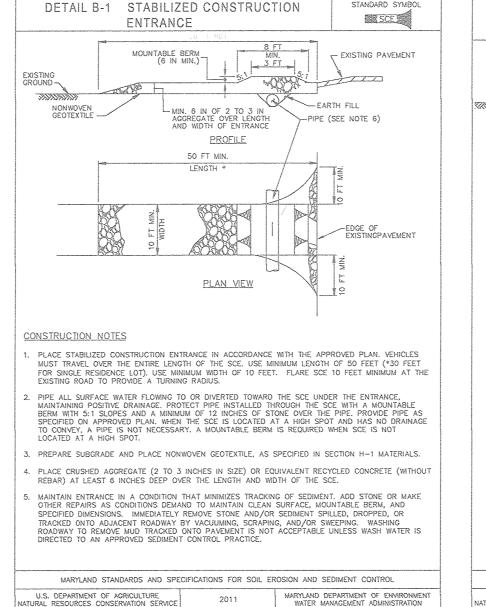
A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 11/2 INCHES IN DIAMETER. B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED. C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL

AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL. TOPSOIL APPLICATION A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING 3. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT O A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS) I. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE, SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OF COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND

MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

WARRANTY OF THE PRODUCER. 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE. 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.



B-4-3 STANDARDS AND SPECIFICATIONS

SEEDING AND MULCHING

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE

A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE

SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY

PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE

B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE

GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND

C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A

INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH

D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS

JR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) IC

I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING

TABLE 8.1, PERMANENT SEEDING TABLE 8.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING

B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

AT LEAST 1/4 INCH OF SOIL COVERING, SEEDBED MUST BE FIRM AFTER PLANTING.

C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND

ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE

PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, OAT, OR BARLEY AND REASONABLY

USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN

II. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD

WITH SFFD. FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL

PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT

IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE

V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10

B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS

MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

I A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT

IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS

II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY

WEIGHT OF 750 POUNDS PER ACRE, MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50

TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS

WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS

RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET

SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES

IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER

PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A

C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500

A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS

BY WIND OR WATER, THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PRFFFRFNCF). DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING

POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A

MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6

MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND

CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND

APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

II. WCFM. INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS

B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE

BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE

MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE:

I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING

I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT

P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.

II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED

BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT

EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN;

RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD

INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN

HYDROSFEDING NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTI

USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE

PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES.

A DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

SEED TO SOIL CONTACT.

I. MULCH MATERIALS (IN ORDER OF PREFERENCE)

NHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

PRACTICE SHOULD FOLLOW THE CONTOUR

IS STRICTLY PROHIBITED

POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER

III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSE

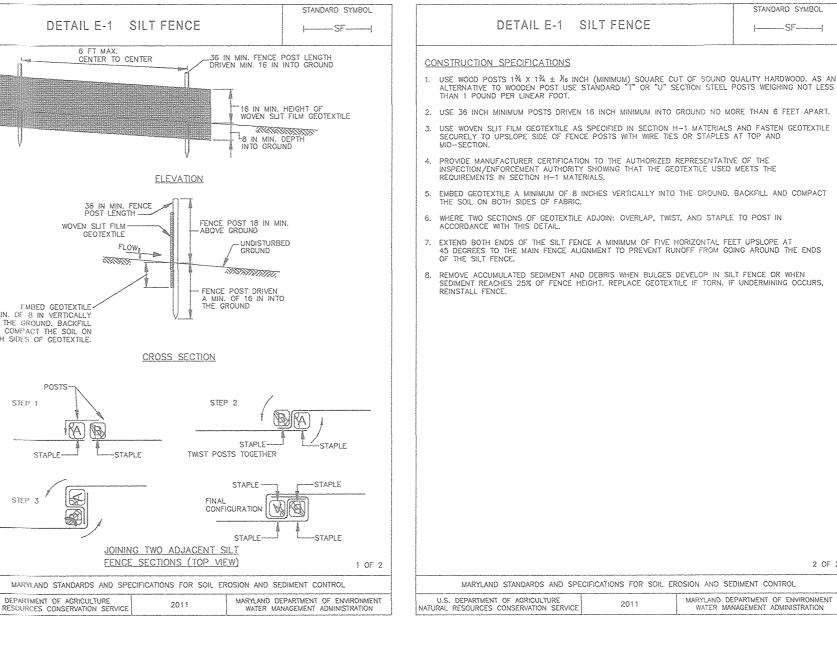
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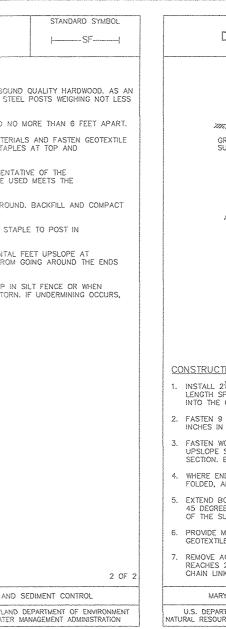
CRITERIA

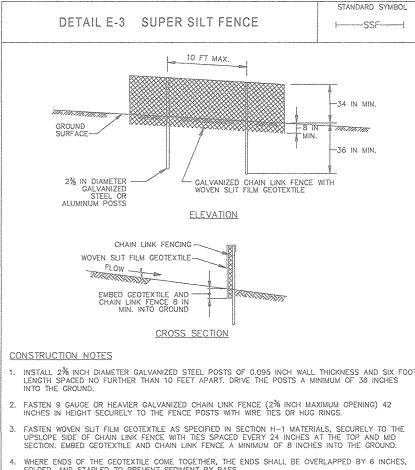
A. SEEDING

CONDITIONS WHERE PRACTICE APPLIES

DETAIL E-1 SILT FENCE \_\_\_\_SF\_\_\_ CENTER TO CENTER 16 IN MIN. HEIGHT OF WOVEN SLIT FILM GEOTEXTILE ELEVATION FENCE POST 18 IN MIN. -- ABOVE GROUND CROSS SECTION STAPLE-L-STAPLE TWIST POSTS TOGETHER STAPLE ---JOINING TWO ADJACENT SIL FENCE SECTIONS (TOP VIEW) MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL







. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

5. EXTEND BOTH ENDS OF THE SUPER 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 SUPER SILT FENCE.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. 7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL STANDARD SYMBOL DETAIL B-4-6-C PERMANENT SOII PSSMC - 1.75 1b/ft STABILIZATION MATTING CHANNEL APPLICATION (\* INCLUDE SHEAR STR · ISOMETRIC VIEW CONSTRUCTION NOTES

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. USE PERMANEAN SOIL STABILIZATION WATHING MADE OF OPEN WEAVE STRIFFER, NON-DEGRADABLE FIBERS OF ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VECETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

5. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LOONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE ROUTEN.

. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPIN' TO SECURE THE MAT END IN THE KEY.

2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL

B-4-4 STANDARDS AND SPECIFICATIONS TEMPORARY STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND

TEMPORARY SEEDING SUMMARY

| NO   SPECIES   APPLICATION   RATE (LB/AC)   DATES   DEPTHS   (10-20-20)   |  | HARDINESS Z<br>SEED MIXTUR | FERTILIZER<br>RATE | LIME RATE          |         |            |            |
|---|--|----------------------------|--------------------|--------------------|---------|------------|------------|
| 1 ANNUAL RYEGRASS OR EQUAL 40 LB / AC AUG 1 TO OCT 15 1/2 IN. (10 LB PER 1000 SF ) (90 LB PER 1000 SF )  2 WARM SEASON FOXTAIL 30 LB / AC JUL 31 1/2 IN. JUL 31 1/2 IN. | NO   | SPECIES                    |                    | 1                  |         | (10-20-20) |            |
| FOXTAIL 30 LB / AC MAY 16 TO 1/2 IN.  | Ques que la constitución de la c | ANNUAL<br>RYEGRASS         | 40 LB / AC         | MAY 15<br>AUG 1 TO | 1/2 IN. | (10 LB PER | (90 LB PER |
|   | 2  | FOXTAIL<br>MILLET          | 30 LB / AC         |                    | 1/2 IN. |            |            |

B-4-8 STANDARDS AND SPECIFICATIONS STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE

CONDITIONS WHERE PRACTICE APPLIES STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL

THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH

RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE

OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE

STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE

MAINTENANCE

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

OWNER

DEVELOPER MAGNOLIA MANOR LLC TRINITY HOMES MARY LAND, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

(410) 480-0023 (410) 480-0023 DATE REVISION

GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN - NOTES AND DETAILS

SITE DEVELOPMENT PLAN

LOTS 1 - 7 AND OPEN SPACE LOT 8 A SUBDIVISION OF TAX MAP 47 - PARCEL 558 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157

"GIDDINGS PROPERTY - LOTS 1 AND 2" (PLAT 5708) 6TH ELECTION DISTRICT



ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS 3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666 ELLICOTT CITY, MD 21043 TEL: 410.461.8961



DESIGN BY: RHV/EDS DRAWN BY: KG/EDS CHECKED BY: AS SHOWN SCALE: W.O. NO.:

PROFESSIONAL CERTIFICATE HEREBY CERTIFY THAT THESE DOCUMENTS

SHEET

BLOCK: 19 ZONING: R-SC HOWARD COUNTY, MARYLAND

SDP-19-013

#### "MICRO-BIORETENTION/RAINGARDEN" PLANTING SCHEDULE NOTES:

- 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN
- ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS. 2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO
- 3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES. 4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- 5. MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDV SUMMARY. 6. FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

| BIORETE  | OITM  | N PLANTING SCHEDULE (SHRUE                              | 3/OR     | NIM   | ENTAL                       | GRASSES)  |
|--|-------|---|----------|-------|-----------------------------|---|
| LEGEND/KEY   | QTY   | BOTANICAL NAME/COMMON NAME                              |          | S     | IZE                         | REMARKS   |
| ₩ IG   | 5     | ILEX GLABRA 'SHAMROCK'<br>INKBERRY HOLLEY               | 1 G      | ALLON | gamen.                      |   |
| <b>₩</b> IV  | 5     | ITEA VIRGINICA 'HENRY'S GARNETT'<br>VIRGINIA SWEETSPIRE | 1 G      | ALLON |                             |   |
| HQ   | 5     | HYDRANGEA QUERCIFOLIA<br>OAKLEAF HYDRANGEA              | 1 G      | ALLON |                             |   |
| ₩ LR   | 5     | LEUCOTHEO RACEMOSA 1<br>FETTERBUSH                      |          | GAL.  | - second                    |   |
| PV   | 5     | PANICUM VIRGATUM<br>SWITCHGRASS                         |          | 1     | GAL.                        |   |
| BIORE  | TENTI | ON PERENNIALS/GROUNDCOVE                                | R P      | LAN   | TING S                      | CHEDULE   |
| LEGEND   | QTY   | BOTANICAL NAME/COMMON NAME                              | SIZ      | ZE    | RE                          | EMARKS  |
|  | 28    | BAPTISIA AUSTRALIS<br>FALSE INDIGO                      | 4"       | POT   | AND BO<br>MIX ALL<br>NATURA | " O.C. FOR SIDES<br>OTTOM OF MBR,<br>VARIETIES IN A<br>LIZED RANDOM |
| The state of the s | 28    | ACORUS GRAMINEUS 'OGON'<br>GOLDEN VARIEGATED SWEET FLAG | <b>P</b> | QT.   | PLANT                       | N THROUGHOUT,<br>IN GROUPS OF<br>IS THAN 9 PLANTS<br>UMP            |

| MICRO-B     | NORETEN | TION PLAN | NTING REQUI                   | IREMENTS          | PLANTINGS PROVIDE |    |    | VIDED |     | PERRENIALS/GROUND  COVER PROVIDED |    |       |
|-------------|---------|-----------|-------------------------------|-------------------|-------------------|----|----|-------|-----|-----------------------------------|----|-------|
| MBR-RG<br># | E.F.    | AREA      | STEMS<br>REQUIRED<br>(0.0229) | STEMS<br>PROVIDED | IG                | IV | HQ | LR    | PV  | BA                                | AG | TOTAL |
| MBR-A7      | 73      | 390       | 9                             | 10                | 2                 | 2  | 2  | 2     | 2   | 13                                | 13 | 26    |
| MBR-A8      | 41      | 112       | 3                             | 5                 | 1                 | 1  | 1  | 1     | 1   | 3                                 | 3  | 6     |
| MBR-B1      | 58      | 189       | 5                             | 5                 | 1                 | 1  | 1  | 1     | 1   | 6                                 | 6  | 12    |
| MBR-B3      | 58      | 196       | 5                             | 5                 | 1                 | 1  | 1  | 1     | 1   | 6                                 | 6  | 12    |
| TOTALS:     | 230     | 887       | 22                            | 25                | 5                 | 5  | 5  | 5     | - 5 | 28                                | 28 | 56    |

**BIORETENTION AREAS ARE TO BE PLANTED BASED ON** A MINIMUM DENSITY OF 1000 STEMS PER PLANTED

Appendix A. Landscaping Guidance for Stormwater BMPs ...... Specific Landscaping Criteria

| rees                    | Shrubs                    | Herbaceous Species      |
|-------------------------|---------------------------|-------------------------|
| ser rubrum              | Aesculus pariviflora      | Andropogon virginicus   |
| Ro Maple                | Bottlebrush Buckeye       | Broomsedge              |
| Bett a nigra            | Cephalanthus occidentalis | Eupatorium perpurea     |
| River Birch             | Buttonbush                | Joe Pye Weed            |
| Junipe) is virginiana   | Hamemelis virginiana      | Scirpus pungens         |
| Eastern ed Cedar        | Witch Hazel               | Three Square Bulrush    |
| Chionanth is virgin cus | Vaccinium corymbosum      | Iris versicolor         |
| Fringe-tree             | Highbush Blueberry        | Blue Flag               |
| Nyssa sylvati o         | Ilex glabra               | Lobelia cardinalis      |
| Black Gum               | Inkberry                  | Cardinal Flower         |
| Diospyros vir li ana    | Ilex verticillata         | Panicum virgatum        |
| Persimmon/              | Winterberry               | Switchgrass             |
| Platanus ( seidenta 's  | Viburnum dentatum         | Dichanthelium scoparium |
| Sycamor                 | Arrowwood                 | Broom Panic Grass       |
| Querci palustris        | Lindera benzoin           | Rudbeckia laciniata     |
| Pin C/k                 | Spicebush                 | Tall Coneflower         |
| Que cus phellos         | Myrica pennsylvanica      | Scirpus cyperinus       |
| Willow Oak              | Bayberry                  | Woolgrass               |
| S lix nigra             | <b>\</b>                  | Vernonia noveboracensis |
| lack willow             |                           | New York Ironweed       |

1. TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II - APPENDIX A. CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C. CONSTRUCTION SPECIFICATIONS AND TABLE B.4.1 MATERIAL SPECFICAITIONS. IN ADDITION THE "2000 MARYLAND STORMWATER DESIGN MANUAL - VOLUME II - APPENDIX A OFFERS ADDITIONAL HELPFUL INFORMATION. 3. NO TREES SHALL BE PLANTED WITHIN A MICRO-BIORETENTION FACILITY. USE ONLY SHRUB OR HERBACEOUS SPECIES. 4. ABOVE TABLE A.4. IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR SHALL INSTALL PLANTINGS SPECIFIED OR USE APPROVED EQUAL SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS. . PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.

#### MAGNOILA MANOR WEST STORMWATER TEST PITS

| TEST PIT | SURFACE   | PROPOSED | BOTTOM FACILITY | BORING I                | DEPTH |               |
|----------|-----------|----------|-----------------|-------------------------|-------|---------------|
| PIT      | ELEVATION | GRADE    | +4 FEET         | PROPOSED                | DUG   | CONDITION     |
|          |           |          |                 | beh de jiya ee da ah be |       |               |
| P-1      | 300.0     | 300.5    | 292.5           | 7.5                     | 10    | DRY / NO ROCK |
| P-2      | 299.5     | 301.5    | 293.5           | 6.0                     | 10    | DRY / NO ROCK |
| P-3      | 295.2     | 299.5    | 291.5           | 3.7                     | 10    | DRY / NO ROCK |
| P-4      | 300.2     | 299.0    | 291.0           | 9.2                     | 10    | DRY / NO ROCK |
| P-5      | 298.5     | 297.0    | 289.0           | 9.5                     | 10    | DRY / NO ROCK |
| P-6      | 294.2     | 294.7    | 286.7           | 7.4                     | 10    | DRY / NO ROCK |
| P-7      | 289.6     | 288.0    | 280.0           | 9.6                     | 10    | DRY / NO ROCK |
| P-8      | 291.8     | 291.5    | 283.5           | 8.3                     | 10    | DRY / NO ROCK |

CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THE LOCATIONS OF GROUNDWATER AND/OR ROCK. OPEN TEST PITS WERE OBSERVED BY TRINITY HOMES ON APRIL 2017.

| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNIN | G AND ZONING |
|---|--------------|
| 00181.6                                       | 3.8.19       |
| CHIEF, DEVELOPMENT ENGINEERING DIVISION       | DATE         |
| Kent Sherbroom                                | 3-13-19      |
| CHIEF, DIVISION OF LAND DEVELOPMENTUS         | DATE         |
| Vallyo Bli                                    | 3-13-19      |
| DIRECTOR                                      | DATE         |

# APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, LANDSCAPE INFILTRATION

1. MATERIAL SPECIFICATIONS THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS. ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA

\* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION). \* ORGANIC CONTEN - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).

\* CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%. \* PH RANGE — SHOULD BE BETWEEN 5.5 — 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS, MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SC TOTATION OF THE POWE MATERIAL SPALE DE REFER MOST DISTRICT REPORT AND OFFICE OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

\* PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HDPE). PERFORATIONS — IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH.

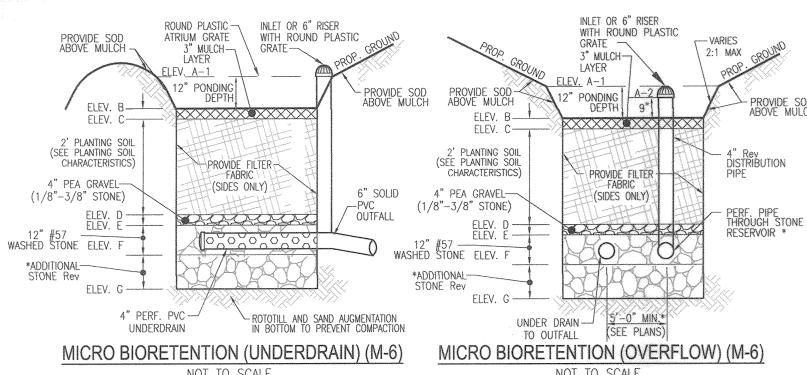
GRAVEL — THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

\* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

\* A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

\* A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24". THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



## MICROBIORETENTION NOTES:

MRB A-7 PLANTING

MBR A-8 PLANTING

1. ONLY THE SIDES OF MICROBIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICROBIORETNTION WILL CAUSE THE MBR TO

26 PERRENIALS

. AND THEREFORE SHALL NOT BE INSTALLED. 2. WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER

GALVANIZED HARDWARE CLOTH 3. PROVIDE 5' MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESIVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)

> PERRENIALS /AND

GROUNDCOVER

**GROUNDCOVER** MICRO-BIORETENTION DATA CHART Bottom Bottom Ponding Top of Bottom of Plant of Pea Depth of Invert of Bottom Bottom Elevation Mulch of Mulch Mix Gravel Stone Underdrain of Stone of Stone MBR Facility Ponding Depth (ft) ELEV. A ELEV. B ELEV. C ELEV. D ELEV. E (ft.) Size of Underdrain (ft.) ELEV. F ELEV. G 298.755 298.42 297.42 301 5 300 5 300 25 298 25 297 92 291.05 290.72 298.72 2 295.30 294.30 294.05 292.05 291.72 0.33 288.755 288.42 287.42 293 292 291.75 289.75 289.42

Appendix B.4. Construction Specifications for Environmental Site Design Practices

see Appendix A, Table A.4

loamy sand (60 - 65%) &

compost (35 - 40%)

sandy loam (30%),

compost (40%)

(ASTM D 2974)

AASHTO M-43

shredded hardwood

coarse sand (30%) &

Min. 10% by dry weight

pea gravel: ASTM-D-448

758, Type PS 28 or AASHT

MSHA Mix No. 3: P. = 3500

AASHTO-M-6 or ASTM-C-33 1 0.02" to 0.04

psi @ 28 days, normal weight

meet ASTM-615-60

[2' to 4' deep]

Organic content

Pea gravel diaphragn

Gravel (underdrains an

Poured in place concrete (i

nfiltration berms)

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration-

(1/8" TO 3/8")

NO. 57 OR NO.

PVC or SDR35

plantings are site-specific

SDA soil types loamy sand or sandy loam; clay conte

aged 6 months, minimum; no pine or wood chips

Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes pe

underneath pipes. Perforated pipe shall be wrapped with 1/4-inch

on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place

or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a

professional structural engineer licensed in the State of Maryland

- design to include meeting ACI Code 350.R/89; vertical loading

[H-10 or H-20]; allowable horizontal loading (based on soil

Sand substitutions such as Diabase and Graystone (AASHTO)

#10 are not acceptable. No calcium carbonated or dolomitic sand

ubstitutions are acceptable. No "rock dust" can be used for sand.

ROBERT H. VOGEL ENGINEERING, INC.

MAGNOLIA MANOR WEST

FACILITY PERMEABLE GRAVEL MICRO GRAVEL SAND

TREATED NUMBER PAVEMENT BELOW PP BIORTENTION BELOW MBR FILTER

MAGNOLIA MANOR WEST

1.00

1.00

1.00

0.55

0.36

1.00

0.54

1.00

0.29

0.23

0.53 AC

1.77 : N

828

3445

1656

920

15164

1369

2205

1003

10767

ENVIRONMENTAL SITE DESIGN PRACTICE (CF

ROBERT H. VOGEL ENGINEERING, INC.

LIMIT OF DISTURBANCE

TOTAL ESDV TARGET

**GROSS AREA** 

0.37

0.95

0.95

0.31

131

393

189

1022

129

692

3561 CF

pressures); and analysis of potential cracking

A5,6

row; minimum of 3" of gravel over pipes; not necessary

galvanized hardware cloth

PROJECT MAGNOLIA MANOR WEST

AREA

2210

2203

15164 14166

PROJECT

AREA:

AREA:

**ESDv** 

MAGNOLIA MANOR

A1/2

A3/4 A5/6

A8

A9/10

**IMPERVIOUS** 

828

1240

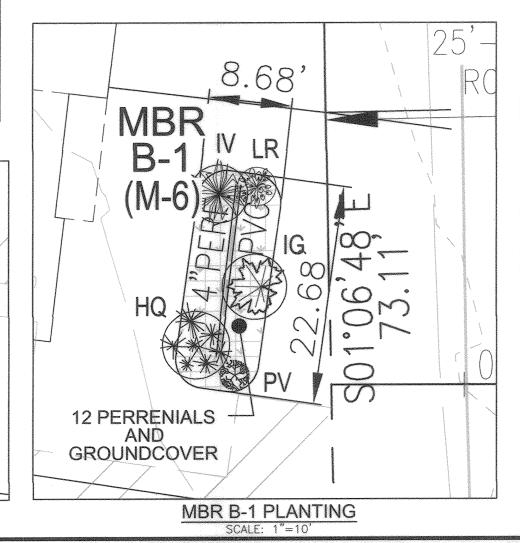
920

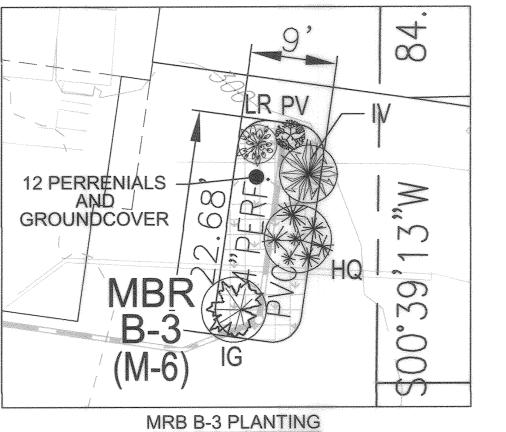
\* THIS AREA IMPERVIOUS AREA ONLY

TOTAL ESDV PROVIDED

TARGET PE:

DESIGNER RHV



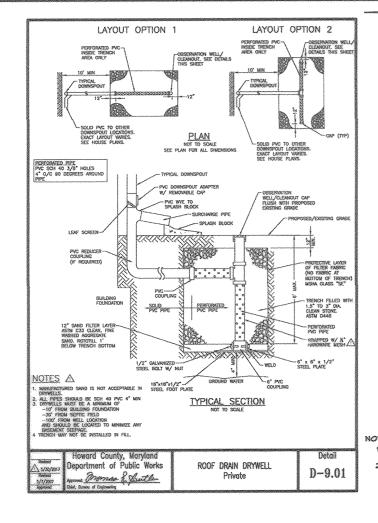


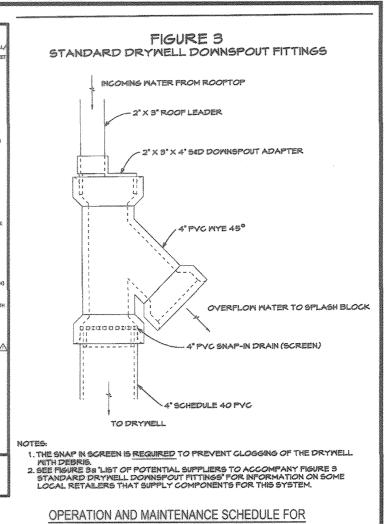
### OPERATION AND MAINTENANCE SCHEDULE FOR LANSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8)

1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULTCH LAYER AND SOIL AYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT NFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED. 4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

| LOT    | M-F     |
|--------|---------|
| NUMBER | DRYWELL |
| Lot 1  | 1       |
| Lot 2  | 2       |
| Lot 3  | 2       |
| Lot 4  | 2       |
| Lot 5  |         |
| Lot 6  | 2       |
|        |         |





# PRIVATELY OWNED AND MAINTAINED

STORMWATER DRY WELLS (M-5)

THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE. IRENCH DRAINAGE.
 A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
 WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
 THE MAINTENANCE LOG BOOK SHALL ST. THE MAINTENANCE LOG BOOK SHALL ST.

BE TAKEN.
THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

|           | ON-LOT DRYWELL - DESIGN ELEVATION CHART |                    |                   |                        |               |               |              |                            |                      |                     |
|-----------|---|--------------------|-------------------|------------------------|---------------|---------------|--------------|----------------------------|----------------------|---------------------|
| SWM<br>DA | LOT<br>#                                | DW<br>LOCATIO<br>N | NUMBER<br>OF DW'S | PROP<br>GRADE*<br>OVER | TOP<br>STONE* | INV<br>STONE* | INV<br>SAND* | SURFACE<br>SIZE<br>FT X FT | STONE<br>DEPTH<br>FT | SAND<br>DEPTH<br>FT |
| B-2       | 1                                       | R                  | 1                 | 302.0                  | 301.0         | 297.0         | 296.0        | 4 X 8                      | 4                    | 1                   |
| A-1       | 2                                       | R                  | 1                 | 300.9                  | 299.9         | 295.9         | 294.9        | 6 X 8                      | 4                    | 1                   |
| A-2       | 2                                       | R                  | 1                 | 300.0                  | 299.0         | 295.0         | 294.0        | 6 X 8                      | 4                    | 1                   |
| A-3       | 3                                       | R                  | 1                 | 299.4                  | 298.4         | 294.4         | 293.4        | 4 X 7                      | 4                    | 1                   |
| A-4       | 3                                       | R                  | 1                 | 299.0                  | 298.0         | 294.0         | 293.0        | 4 X 7                      | 4                    | 1                   |
| A-5       | 4                                       | R                  | 1                 | 298.5                  | 297.5         | 293.5         | 292.5        | 2.5 X 6                    | 4                    | 1                   |
| A-6       | 4                                       | R                  | 1                 | 297.0                  | 296.0         | 292.0         | 291.0        | 2.5 X 6                    | 4                    | 1                   |
| A-9       | 6                                       | R                  | 1                 | 298.0                  | 297.0         | 293.0         | 292.0        | 4 X 7.5                    | 4                    | 1                   |
| A-10      | 6                                       | R                  | 1                 | 291.8                  | 290.8         | 286.8         | 285.8        | 4 X 7.5                    | 4                    | 1                   |
| B-4       | 7                                       | R                  | 1                 | 301.6                  | 300.6         | 296.6         | 295.6        | 5 X 7                      | 4                    | 1                   |

| 010   | RIVIVIATER IVIANAG        | SEMENT PRACTICE CHART                             |
|-------|---------------------------|---|
| LOT#  | STREET ADDRESS            | ESD PRACTICE                                      |
| LOT 1 | 9066 OLD SCAGGSVILLE ROAD | (1) DRY WELL (M-5) -(1) MICRO BIO-RETENTION (M-6) |
| LOT 2 | 9109 MAGNOLIA MANOR DRIVE | (2) DRY WELL (M-5)                                |
| LOT 3 | 9113 MAGNOLIA MANOR DRIVE | (2) DRY WELL (M-5)                                |
| LOT 4 | 9117 MAGNOLIA MANOR DRIVE | (2) DRY WELL (M-5)                                |
| LOT 5 | 9121 MAGNOLIA MANOR DRIVE | (1) MICRO BIO-RETENTION (M-6)                     |
| LOT 6 | 9124 MAGNOLIA MANOR DRIVE | (2) DRY WELL (M-5) -(1) MICRO BIO-RETENTION (M-6) |
| LOT 7 | 9070 OLD SCAGGSVILLE ROAD | (1) DRY WELL (M-5) -(1) MICRO BIO-RETENTION (M-6) |

### OWNER

MAGNOLIA MANOR LLC

3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

**DEVELOPER** TRINITY HOMES MARY LAND, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

(410) 480-0023 (410) 480-0023 12-22-20 REVISE GRADING AND SWM ON LOTS 4 AND 5 DATE

SITE DEVELOPMENT PLAN

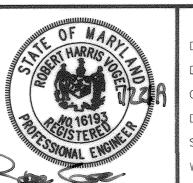
ESD STORMWATER MANAGEMENT NOTES & DETAILS

MAGNOLIA MANOR WEST LOTS 1 - 7 AND OPEN SPACE LOT 8

A SUBDIVISION OF TAX MAP 47 - PARCEL 558 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157 "GIDDINGS PROPERTY - LOTS 1 AND 2" (PLAT 5708)

TAX MAP: 47 PARCELS: 157 & 558 6TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS . SURVEYORS . PLANNERS 3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666 ELLIGOTT CITY, MD 21043 FAX: 410.461.8961 ELLICOTT CITY, MD 21043



| DESIGN BY:  | RHV/EDS     |
|-------------|-------------|
| DRAWN BY:   | KG/EDS      |
| CHECKED BY: | RHV         |
| DATE: FEI   | BRUARY 2019 |
| SCALE:      | AS SHOWN    |
| W.O. NO.: _ | 16-15       |

PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2020 SHEET

BLOCK: 19 ZONING: R-SC HOWARD COUNTY, MARYLAND