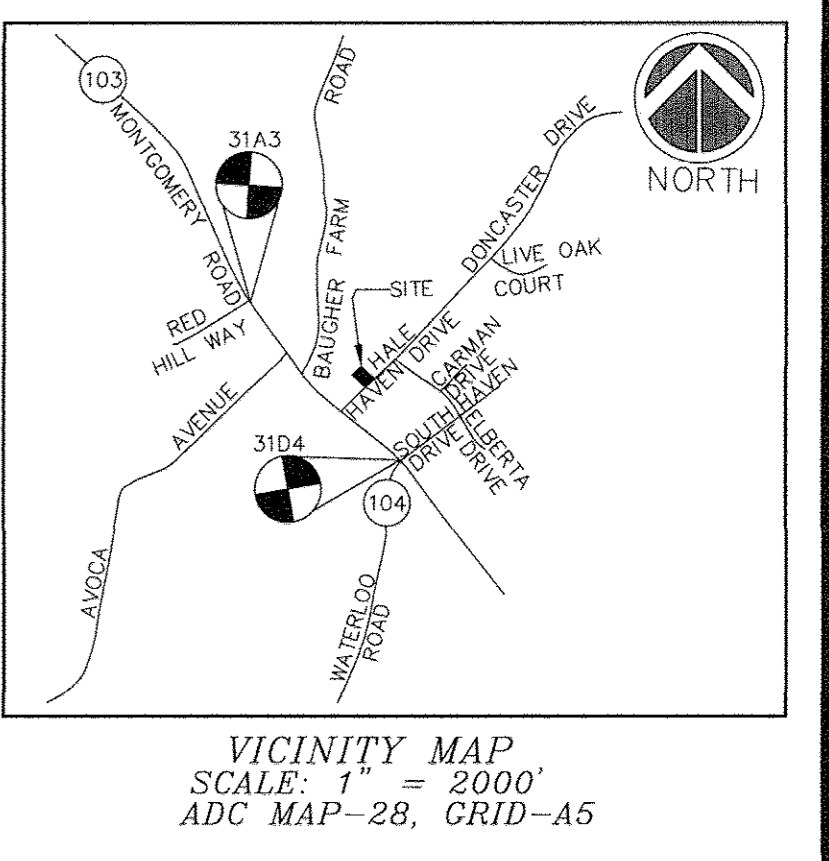


- SEQUENCE OF CONSTRUCTION :**
1. REQUEST FOR PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY, (2-WEEKS).
  2. CLEARING AND GRUBBING AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS, (1 DAY).
  3. CONSTRUCTION AND STABILIZATION OF PERIMETER CONTROLS, (1 DAY).
  4. REMAINING CLEARING AND GRUBBING WITHIN INSTALLED PERIMETER CONTROLS (1 DAY).
  5. DRIVEWAY GRADING, (1 DAY).
  6. GRADING FOR THE REMAINDER OF THE SITE, (2 DAYS).
  7. UTILITY INSTALLATION AND CONNECTIONS TO EXISTING STRUCTURES, (4 DAYS).
  8. CONSTRUCTION OF BUILDING, ROADS, AND OTHER CONSTRUCTION, (4 MONTHS).
  9. FINAL GRADING, LANDSCAPING, AND STABILIZATION, (3 DAYS).
  10. INSTALLATION OF STORMWATER MANAGEMENT MEASURES (4 DAYS).
  11. APPROVAL OF THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO REMOVAL OF SEDIMENT CONTROLS, (1 WEEK).
  12. REMOVAL OF CONTROLS AND STABILIZATION OF AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROLS, (2 DAYS).
- 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.

**MICR-BIORETENTION FACILITY ELEVATION CHART**

ELEVATION - A	ELEVATION - B	ELEVATION - C	ELEVATION - D
517.0	516.0	512.5	511.67

- GENERAL NOTES**
1. THE SUBJECT PROPERTY IS ZONED R-20 PER THE 10/06/13 COMPREHENSIVE ZONING PLAN.
  2. THIS PROPERTY IS LOCATED IN THE METROPOLITAN DISTRICT AND IS TO BE SERVED BY PUBLIC WATER AND PUBLIC SEWER.
  3. THE PLAN IS BASED ON A FIELD RUN BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED BY NJR & ASSOCIATES IN SEPTEMBER OF 2017.
  4. THERE IS NO FLOODPLAIN ON SITE.
  5. THERE ARE NO STEEP SLOPES 25% OR GREATER, FOREST, WETLANDS, STREAMS OR ANY ASSOCIATED BUFFERS LOCATED ON THIS SITE.
  6. THERE ARE NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES ON SITE.
  7. TOTAL AREA WITHIN LOD = 18,014 SQ.FT.
  8. THIS PROJECT IS LOCATED WITHIN THE LITTLE PATUXENT RIVER WATERSHED.
  9. APPROVAL OF THIS ECD DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIVISION, FOREST CONSERVATION OR SITE DEVELOPMENT PLAN. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS THAT MAY ALTER THE SITE DESIGN, HOUSE LOCATION, DRIVEWAY LOCATION GRADING, TREE CLEARING, AND/OR OTHER REQUIREMENTS AS THE DEVELOPMENT PLAN PROCESS THROUGH THE PLAN REVIEW PROCESS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS.
  10. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
  11. CONTRACTOR TO MAINTAIN POSITIVE SLOPE AWAY FROM THE FOUNDATION OF THE HOUSE.
  12. PREVIOUS DPZ FILE REFERENCE: PLAT BOOK 4, PAGE 41.
  13. THE SUBJECT PROPERTY IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(1)(i) AS THE PROPERTY IS LESS THAN 40,000 SQUARE FEET.
  14. LANDSCAPING WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.



**SWM Concept Design Narrative**

Stormwater management at the proposed development will be addressed by implementing Environmental Site Design (ESD) practices to the maximum extent possible (MEP), in accordance with the revised Maryland Department of the Environment (MDE) Stormwater Design Manual Chapter 5.

The proposed development is not within any Critical Areas per Appendix D.4, nor is this a redevelopment project, or a commercial/industrial project. This site is not defined as a hot spot.

Environmental Site Design (ESD) will be achieved for the project by structural ESD practices. These include one Micro-Bioretention (M-6), Permeable Concrete (A-2) and Non-Rooftop Disconnects (N-2).

**Background**  
The property is currently vacant as the house on this lot was demolished. A new, 4,300 square foot house is proposed with a new 12-foot wide driveway constructed according to the County Standards.

The property will be serviced by public water and a public sewer system. The property is not subject to Historic District Commission requirements. The property does not lie within the BWI Airport Noise Zone or the Airport Zoning District. Furthermore, the property is not subject to Design Advisory Panel review (Route 1 or Route 40 Corridor).

**Natural Resources Protection and Enhancement**  
The property is primarily occupied with grass. No specimen trees are proposed to be cut. There are no other significant environmental features or areas on site. There is no offsite drainage area draining through the site.

The proposed construction of the new house and driveway is anticipated to cause disturbance of approximately 18,014 square feet of area.

**Maintenance of Natural Flow Patterns**  
Natural topography of the site exhibits runoff sheet flowing in northern directions from south side and around the proposed house located approximately in the middle of the property. The proposed design maintains the natural flow patterns on site. Minimal grading will be performed to preserve the hydrologic characteristics of the land to its pre-development state. The post-developed drainage patterns very closely mimic the existing hydrology. All runoff from proposed impervious areas and from treatment facilities flow directly onto grassed areas, before being conveyed to the ultimate discharge points.

**Reduction of Impervious Areas**  
The house footprint has been minimized by proposing a mid-sized 2-story house with basement rather than a rancher-style design. The proposed driveway width will be kept to the 12' and an access to a two car garage. The limit of disturbance is kept to a minimum possible for this site.

**Integration of Erosion & Sediment Controls into SWM Strategy**  
A stabilized construction entrance will ensure that any construction equipment does not track mud onto public roads. Super silt fence will be installed on downstream side of the limit of disturbance to trap any sediment-laden runoff during construction.

**Implementation of ESD Planning Techniques and Practices**  
The following is an overview of applicability for stormwater ESD practices considered for this project.

**Alternative Surfaces:** ESD practice includes green roofs and reinforced turf. Green roofs were not applied due to the relative high cost of the system for a residential structure. Reinforced turf has not been used, since frequent vehicle movement is expected on the driveway.

**Nonstructural Practices:** ESD practice involves directing flow from impervious areas onto vegetated areas where it can soak into or filter over ground instead of being connected to storm drain system. Disconnection of Non-Rooftop Runoff (N-2) was applied for the sidewalk but no ESDv credit was included on the calculation for that. Disconnection of Rooftop runoff (N-1) was not applied as slopes are greater than 5%, to facilitate natural treatment and infiltration of rainwater into the ground. Sheetflow to Conservation Areas (N-3) is not applicable since there are no preserved environmental areas downstream of outfall.

**Structural Micro-Scale Practices:** Micro-Bioretention (M-6) and Permeable Pavement (A-2) will be used to treat runoff from the rooftop downspouts and the driveway. These items were unable to be disconnected for sufficient length to be eligible as N-1 practices.

**Waiver to Environmental Regulations**  
No Alternative Compliance will be required for construction of a single family on this property.

**PLANTING SCHEDULE -- MICRO-BIORETENTION**

BOTANICAL NAME	COMMON NAME	CONDITION	SIZE	PLANT 'S' APART	REMARKS
SHRUB ILEX GABRA	INKBERRY	CONTAINER	12"	PLANT 3' APART	
SHRUB HAMAMELIS VIRGINIANA	WITCH HAZEL	CONTAINER	12"-24"	PLANT 3' APART	
PERENNIAL IRIS VERSICOLOR	BLUE FLAG	SEEDLINGS		PLANT 15" APART, TRIANGULAR GRID	
PERENNIAL GERANIUM MACULATUM	CRANESBILL	SEEDLINGS		PLANT 15" APART, TRIANGULAR GRID	
PERENNIAL SOLIDAGO SPHACELATA	GOLDEN FLEECE	SEEDLINGS		PLANT 15" APART, TRIANGULAR GRID	

**LEGEND**

- EX. HOWARD COUNTY WATER PANEL
- EX. UNKNOWN VALVE
- EX. UTILITY POLE
- EX. SANITARY SEWER MANHOLE
- EX. EVERGREEN TREE
- EX. DECIDUOUS TREE
- PROP. SPOT ELEVATION
- EX. CONTOUR
- PROP. CONTOUR
- EX. OVERHEAD ELECTRIC LINE
- EX. SHEET METAL FENCE
- EX. SPLIT RAIL FENCE
- PROP. SUPER SILT FENCE
- PROP. SILT FENCE
- PROP. LIMIT OF DISTURBANCE
- PROP. DRAINAGE DIVIDE
- DISCONNECTION OF NON-ROOFTOP RUNOFF, N-2
- EXISTING UTILITY RESERVATION AREA
- PROP. PERMEABLE CONCRETE PAVEMENT
- SOIL BORING LOCATION

**PLANTING NOTES:**

1. Plant a mix of shrubs and perennials.
2. Reference standards: comply with those listed below.
  - a. Nomenclature for plant materials shall be in accordance with Hortus III, by the staff of L.H. Bailey Hortorium.
  - b. American Standard for Nursery Stock, ANSI Z60.1, latest edition, American Nursery & Landscape Association (ANLA).
  - c. Landscape Specification Guidelines, latest edition, Landscape Contractors Association.
3. proceed with planting only when existing and forecast weather conditions are suitable for work. perform actual planting when ground is workable, i.e., moist, not wet or frozen.

**SITE ANALYSIS DATA CHART**

EXISTING ZONING = R-20

TOTAL LOT AREA = 0.550 ACRES (23,949SF.)

LOT AREA "PROP. TO BE DISTURBED" = 0.421 ACRES (18,334 SF.)

TOTAL LOT IMPERVIOUS AREA PROPOSED = 0.109 ACRES (4,737 SF.)

TOTAL LOT AREA GREEN AREA = 0.441 ACRES (19,212 SF.)

PROPOSED SITE USE = SINGLE FAMILY DWELLING

SITE AREA WITHIN WETLAND = 0 ACRES

SITE AREA WITHIN 25' WETLAND BUFFER = 0 ACRES

SITE AREA OF STEEP SLOPES = 0 ACRES

SITE AREA OF ERODIBLE SOILS = 0 ACRES

SITE AREA WITHIN 100-YR FLOODPLAIN = 0 ACRES

SITE AREA WITHIN 100' STREAM BUFFER = 0 ACRES

SITE TOTAL FORESTED AREA = 0 ACRES

**STORMWATER MANAGEMENT SUMMARY**

FACILITY	ESDv CREDIT	TARGET Pp	REQUIRED Pp
MICRO-BIORETENTION (M-6)	605 CF	1.6"	2.6"
PERMEABLE PAVEMENT (A-2)	227 CF	1.6"	1.7"
NON-ROOFTOP DISCONNECT (N-2)	0 CF	1.6"	1.0"
TOTAL	832 CF		

ESDv PROVIDED = 832 CF

ESDv REQUIRED = 697 CF

ESDv SURPLUS = +135 CF

**SOIL TABLE**

SYMBOL	NAME/DESCRIPTION	TYPE	HYDRIC
UcB	Urban land, Chillum-Beltsville Complex, 0 to 5 % slope	C	No
ChC	Chillum-Russett Loom, 5 to 10 % slope	C	No

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Chad Edmund*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION NY  
6-15-18 DATE

*Karl S. Lush*  
CHIEF, DIVISION OF LAND DEVELOPMENT JS  
6-4-18 DATE

PLAN PREPARED BY:

**NJR & ASSOCIATES**  
Land Surveying and Planning  
2770 STATE ROUTE 32  
WEST FRIENDSHIP, MD 21794  
TEL: (240) 508-3200

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 11048, EXPIRATION DATE: 2/10/2019.

*M. J. ...*  
DATE

DEVELOPER:

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2120 BALDWIN AVENUE, SUITE-200  
CROFTON, MD 21144  
(301) 261-0277

OWNER:

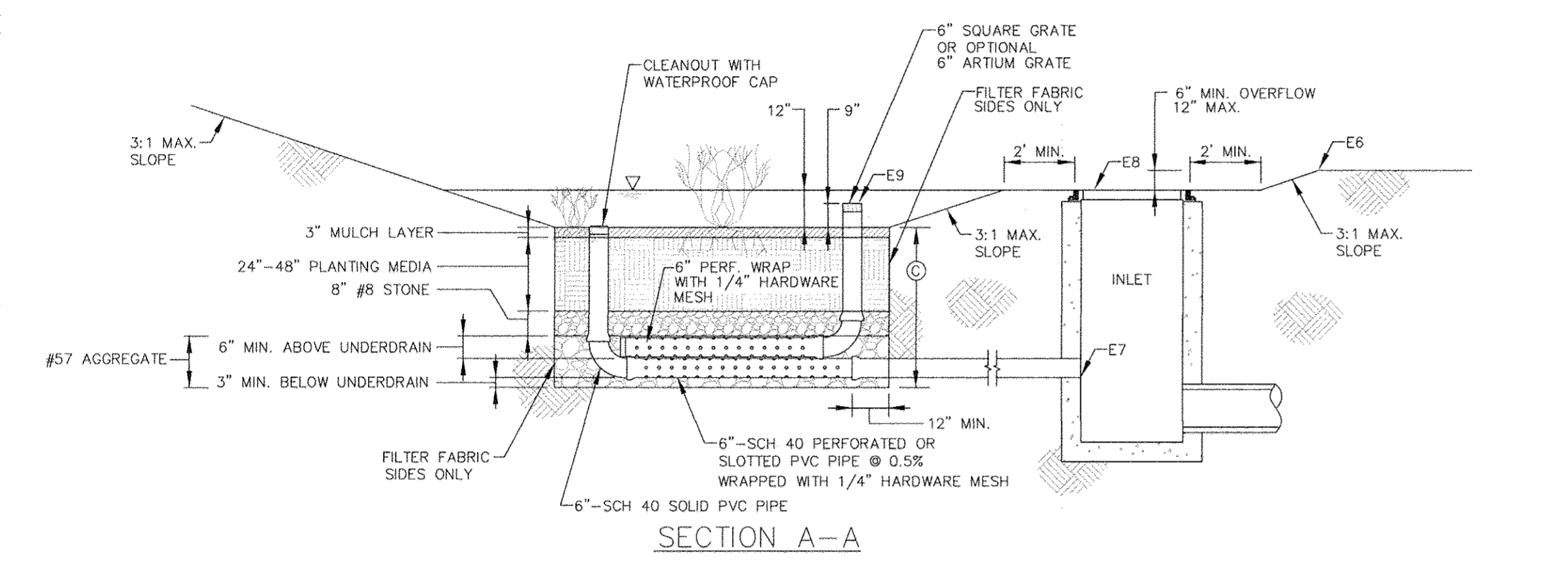
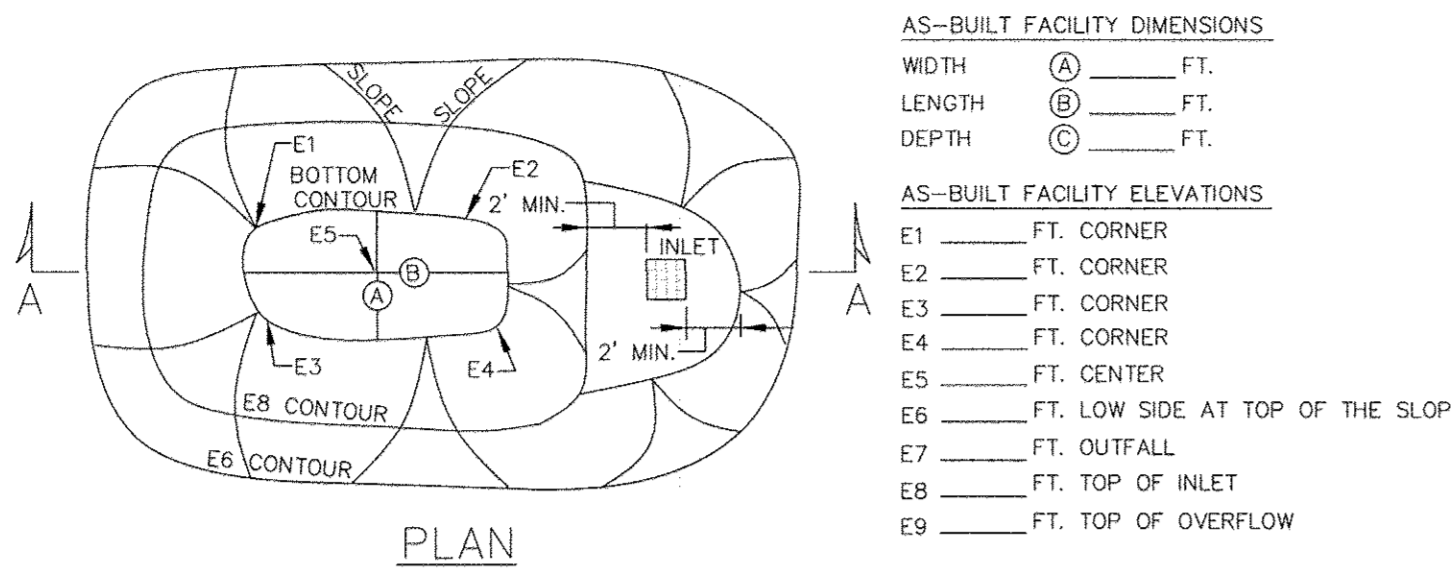
MARTIN CHANGSOO HONG  
4814 HALE HAVEN DRIVE  
ELLCOTT CITY, MD 21043  
(206) 902-7562

**ENVIRONMENTAL CONCEPT PLAN**  
GARRIAN ORCHARDS  
BLOCK A, LOT 4  
PLAT BOOK 4, PAGE 41  
TAX MAP 31, GRID 7, PARCEL 290  
4814 HALE HAVEN DRIVE, ELLICOTT CITY  
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1" = 20'  
JOB NO.: 3425  
DATE: MAY 24, 2018  
SHEET: 1 OF 2

**NOTES**

- FACILITY SHALL BE MINIMUM OF 10FT FROM ANY BUILDING.
- FACILITY SHALL BE INSTALLED IN EXCAVATED VIRGIN SOIL (NOT FILL).
- FACILITY SHALL BE MINIMUM 4" ABOVE THE SEASONAL HIGH WATER TABLE.
- REGULAR INSPECTIONS SHALL BE REQUIRED DURING FOLLOWING STAGES OF THE CONSTRUCTION.
  - DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEM.
  - DURING PLACEMENT OF PLANTING MEDIA.
  - DURING CONSTRUCTION OF APPURTENANT CONVEYANCE.
  - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.
- E1 TO E9 AS-BUILT SPOT ELEVATION LOCATIONS.
- THIS STANDARD IS A REFERENCE TO SHOW THE ELEMENTS AND MINIMUM DIMENSIONS FOR A MICRO-BIO RETENTION FACILITY. EACH FACILITY SHALL BE DESIGNED AND APPROVED ON A SITE SPECIFIC BASIS. THIS DETAIL PROVIDES BLANK SPACES TO INFORM WHERE AS-BUILT INFORMATION IS REQUIRED FOR SWM CLOSEOUT.



**MICRO-BIORETENTION (M-6) DETAIL**  
(NOT TO SCALE)

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile	AASHTO M-43	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)		NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; F <sub>c</sub> = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	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 pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

**I. BIORETENTION AREA SOIL SPECIFICATION**

- A. PLANTING SOIL:**
- THE BIORETENTION AREA SHALL CONSIST OF A PLANTING SOIL HAVING A HOMOGENOUS MIX OF 50% CONSTRUCTION SAND, 20-30% TOPSOIL WITH AN ALLOWABLE 5% MAXIMUM CLAY CONTENT, AND 20-30% ORGANIC COMPOST OR MULCH TO PROVIDE A SOIL MEDIUM WITH HIGH HYDROLOGIC CAPACITY.
- THE PLANTING SOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUAKE GRASS, JOHNSON GRASS, MUGWART, NUTSEDGE, POISON IVY, CANDIAN THISTLE OR OTHER AS SPECIFIED.
- IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH.
- THE PLANTING SOIL SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:
- PH RANGE: 5.5 - 6.5
  - ORGANIC MATTER: 15 - 30%
- THE FOLLOWING TESTING FREQUENCIES SHALL APPLY TO THE ABOVE SOILS:
- PH ORGANIC MATTER: 1 TEST PER 90 CUBIC YARDS, BUT NOT MORE THAN 1 TEST PER BIORETENTION AREA.

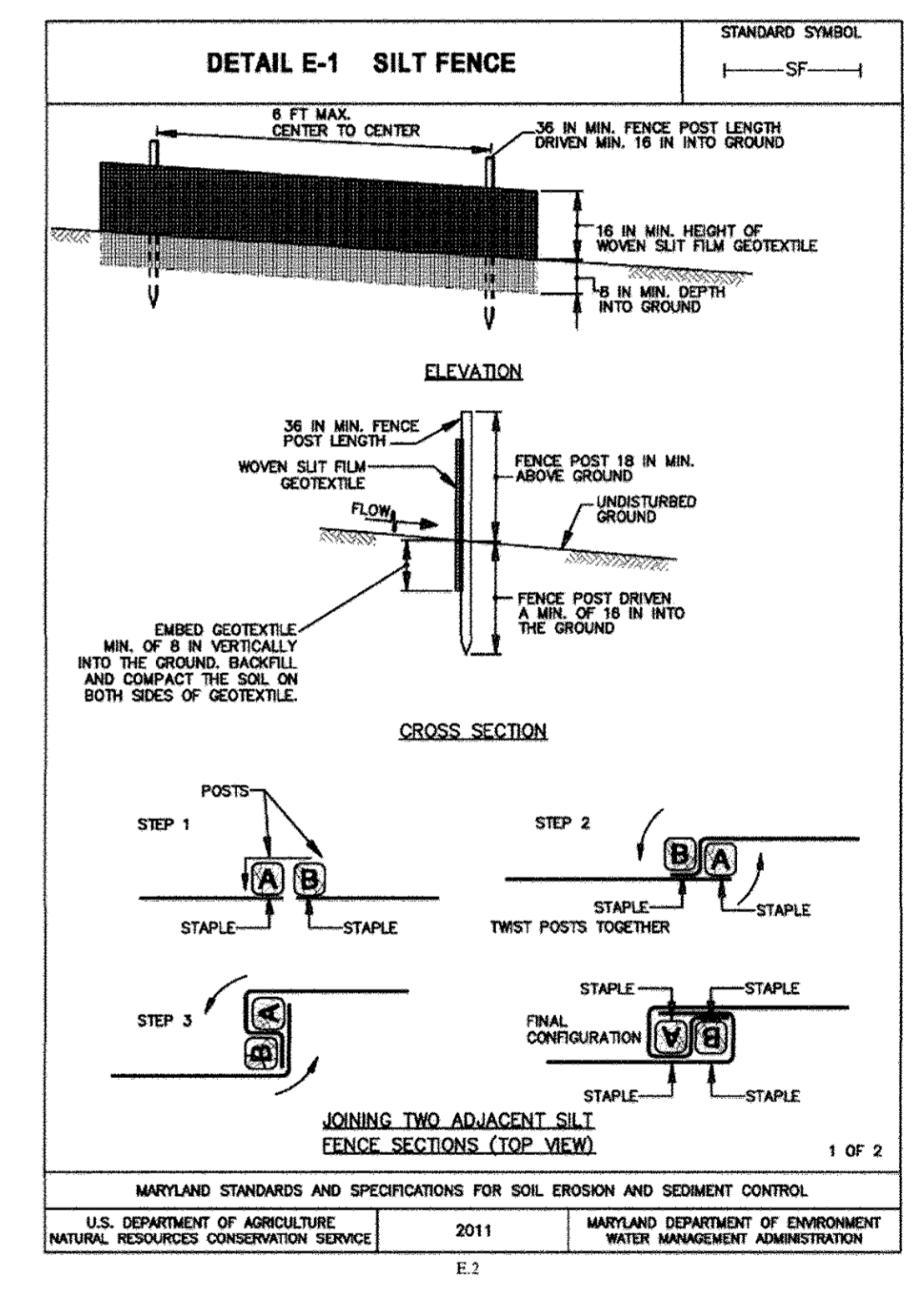
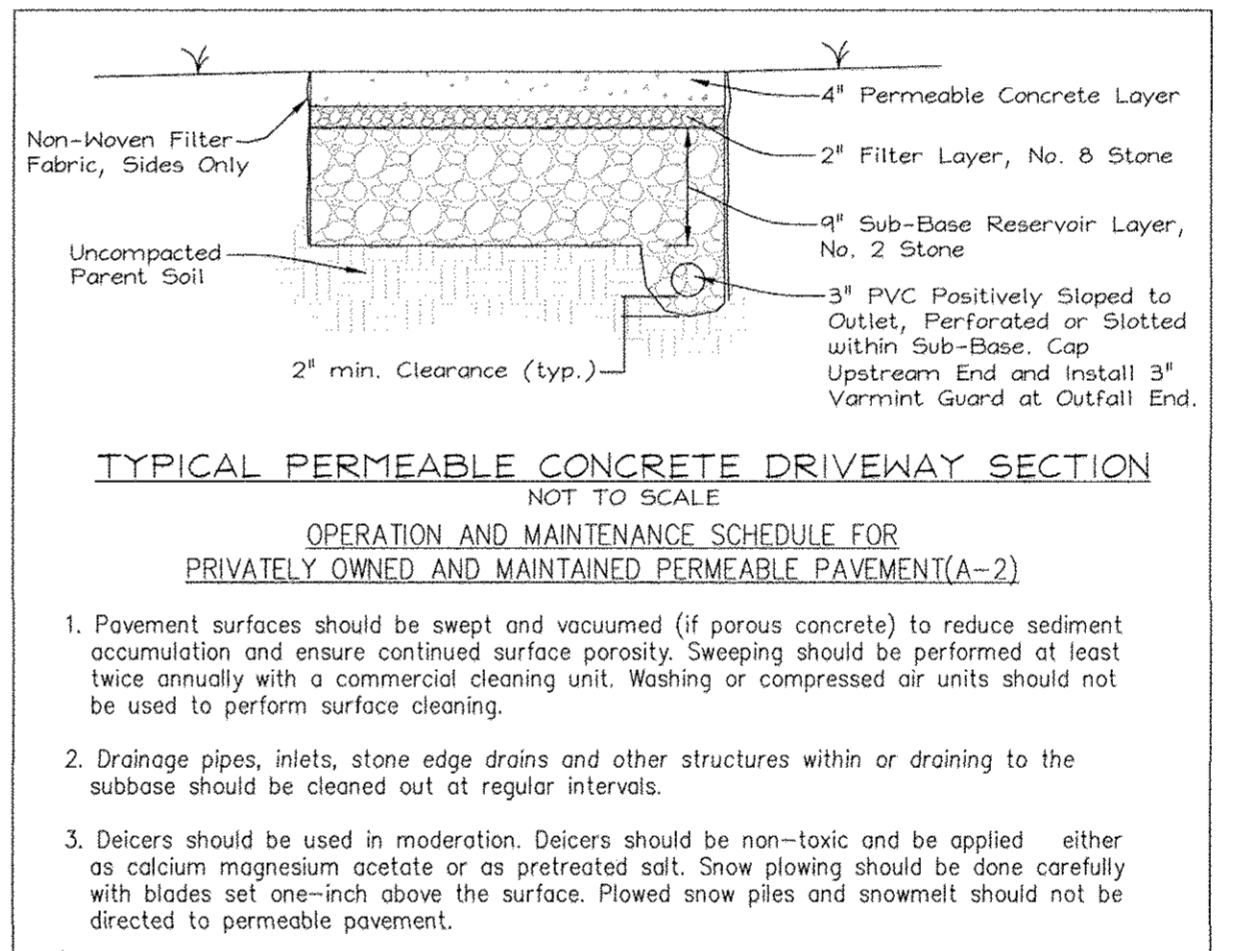
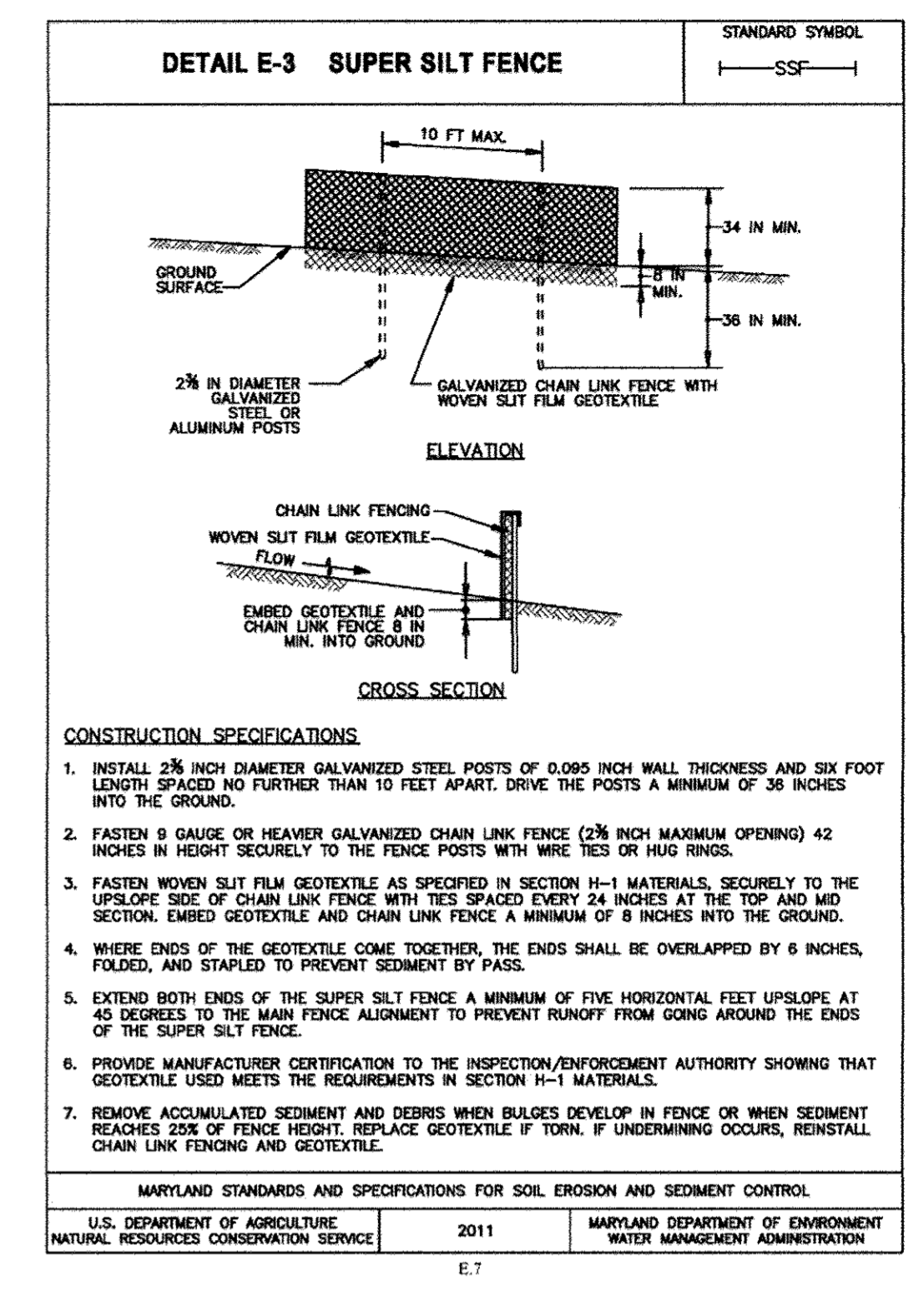
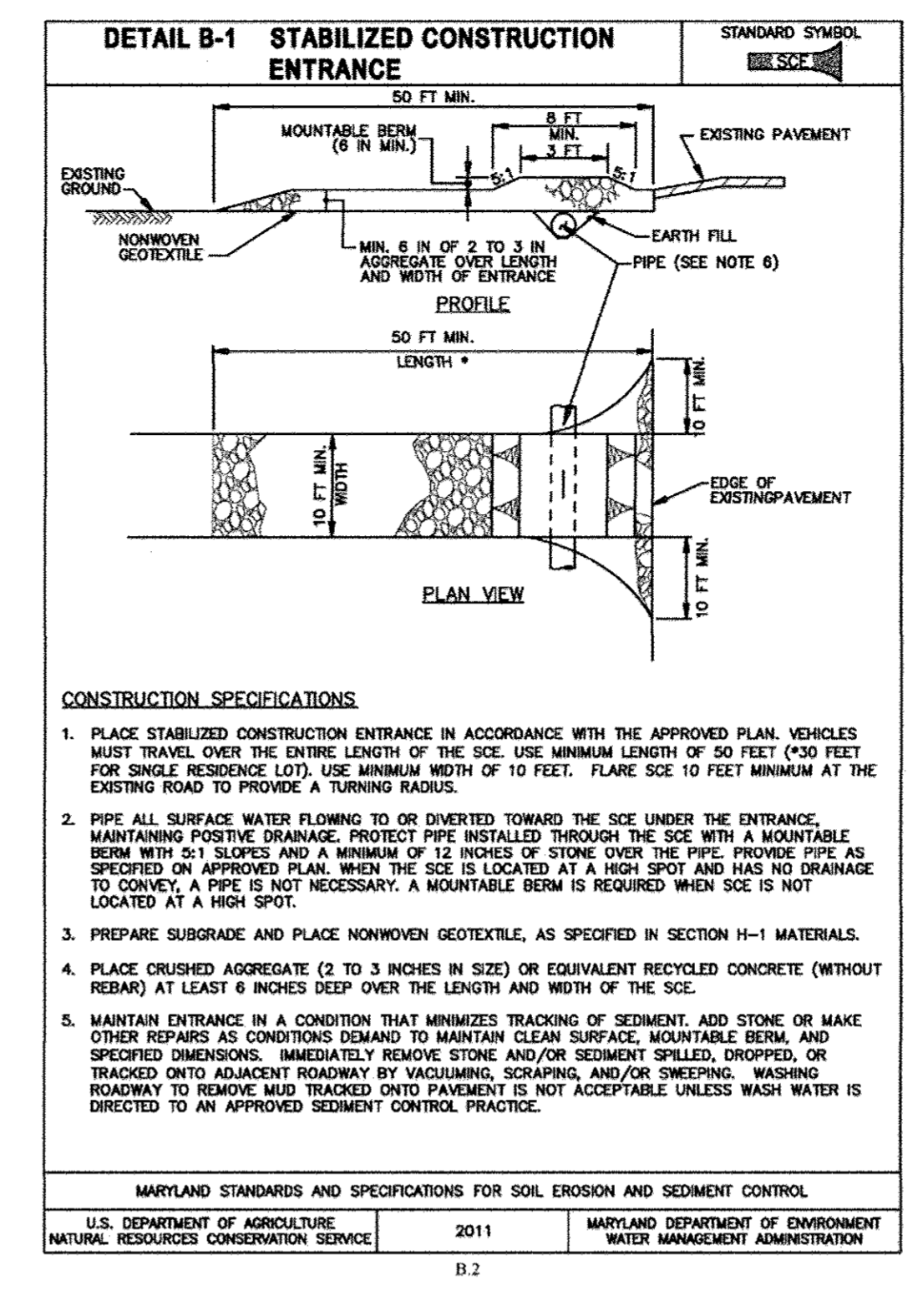
- B. MULCH LAYER SPECIFICATION:**
- A MULCH LAYER SHALL BE PROVIDED ON TOP OF PLANTING SOIL. AN ACCEPTABLE MULCH LAYER SHALL INCLUDE SHREDDED HARDWOOD OR SHREDDED WOOD CHIPS OR OTHER SIMILAR PRODUCTS APPROVED BY THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES.
- OF THE APPROVED MULCH PRODUCTS, ALL MUST BE WELL AGED, UNIFORM IN COLOR, AND FREE OF FOREIGN MATERIALS, INCLUDING PLANT MATERIAL. WELL AGED MULCH IS DEFINED AS MULCH THAT HAS BEEN STOCK PILED OR STORED FOR AT LEAST TWELVE (12) MONTHS.
- C. SAND SPECIFICATION:**
- THE SAND SHALL BE FREE OF DELETERIOUS MATERIAL AND ROCKS GREATER THAN ONE INCH IN DIAMETER.
- D. COMPACTION:**
- SOIL SHALL BE PLACED IN LIFTS LESS THAN 18 INCHES AND LIGHTLY COMPACTED.

**II. BIORETENTION AREA PLANT SPECIFICATION**

- GENERAL PLANTING:**
- ROOT STOCK OF PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM SOURCE TO THE JOB SITE AND UNTIL PLANTED.
  - WALLS OF PLANTING PIT SHALL BE DUG SO THAT THEY ARE VERTICAL.
  - THE DIAMETER OF PLANTING PIT MUST BE A MINIMUM OF SIX INCHES LARGER THAN THE DIAMETER OF THE ROOT BALL.
  - THE PLANTING PIT SHALL BE DEEP ENOUGH TO ALLOW 1/4 OF THE BALL TO BE ABOVE THE EXISTING GRADE. LOOSE SOIL AT THE BOTTOM OF THE PIT SHALL BE TAMPED BY HAND.
  - THE APPROPRIATE AMOUNT OF FERTILIZER IS TO BE PLACED AT THE BOTTOM OF THE PIT.
  - THE PLANT SHALL BE REMOVED FROM THE CONTAINER AND PLACED AT THE BOTTOM OF THE PLANTING PIT BY LIFTING AND CARRYING THE PLANT BY ITS BALL. NEVER LIFT THE PLANT BY THE BRANCHES OR TRUNK.
  - SET THE PLANT STRAIGHT AND IN THE CENTER OF THE PIT SO THE CENTER OF THAT THE BALL IS APPROXIMATELY 1/4 ABOVE THE FINAL GRADE.
  - BACKFILL PLANTING PIT WITH EXISTING SOIL.
  - MAKE SURE PLANT REMAINS STRAIGHT DURING BACKFILLING PROCEDURE.
  - NEVER COVER THE TOP OF THE BALL WITH SOIL. MOUND SOIL AROUND THE EXPOSED SIDE OF THE BALL.
  - MAKE SURE MULCH DOES NOT CONTACT TREE'S TRUNK.
  - TREE SHALL BE BRACED USING 2" X 2" WHITE OAK STAKES. STAKES SHALL BE PLACED PARALLEL TO WALKWAYS AND BUILDINGS. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL. THE TREE IS BRACED TO THE STAKES UTILIZING HOSE AND WIRES.

- FERTILIZER:**
- TREE AND SHRUB FERTILIZER SHALL BE A 21 gm. TIGHTLY COMPRESSED, LONG LASTING, SLOW RELEASE (2-YEAR) FERTILIZER TABLET WITH MINIMUM GUARANTEED ANALYSIS OF 20-10-5:
- |   |   |
|---|---|
| TOTAL NITROGEN (N) - 20%                | WATER SOLUBLE ORGANIC NITROGEN - 7%     |
| WATER IN SOLUBLE ORGANIC NITROGEN - 13% | AVAILABLE PHOSPHORIC ACID (P2 O5) - 10% |
| SOLUBLE POTASH (K2O) - 5%               |   |
- FOR CONTAINERIZED TREES AND SHRUBS, PLACE THE SPECIFIED FERTILIZER TABLET(S) IN THE BOTTOM OF THE PLANTING PIT ACCORDING TO THE FOLLOWING RATES:
- |                  |                       |
|------------------|-----------------------|
| 1 GAL. CONTAINER | 1 ea, 21 gm. TABLETS. |
| 3 GAL. CONTAINER | 2 ea, 21 gm. TABLETS. |
| 5 GAL. CONTAINER | 3 ea, 21 gm. TABLETS. |
| 7 GAL. CONTAINER | 5 ea, 21 gm. TABLETS. |

- PLANTING NON-GRASS GROUND COVER:**
- THE GROUND COVER PLANTING HOLES SHALL BE DUG THROUGH THE MULCH WITH ONE OF THE FOLLOWINGS: HAND TROWEL, SHOVEL, BULB PLANTER, OR HOE (THIS DOES NOT APPLY TO GRASS OR LEGUMES).
  - BEFORE PLANTING BIODEGRADABLE POTS, THEY SHALL BE SPLIT, AND NON BIODEGRADABLE POTS SHALL BE REMOVED. ROOT SYSTEMS OF THE POTTED PLANTS SHALL BE SPLIT OR CRUMBLED.
  - THE GROUND COVER SHALL BE PLANTED SO THAT ROOTS ARE SURROUNDED BY THE SOIL BELOW THE MULCH. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH THE EXISTING GRADE. THE ROOTS OF BARE-ROOT PLANTS SHALL BE COVERED TO THE CROWN.
  - THE MULCH AND PLANTED GROUND COVER BED SHOULD BE COVERED WITH A PRE-EMERGENT HERBICIDE.
  - THE ENTIRE GROUND COVER BED SHALL BE THOROUGHLY WATERED.



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6-15-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 6-4-18  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

PLAN PREPARED BY:

**NJR & ASSOCIATES**  
Land Surveying and Planning

2770 STATE ROUTE 32  
WEST FRIENDSHIP, MD 21794  
TEL: (240) 508-3200

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 110493, EXPIRATION DATE: 2/10/2019.

*[Signature]* 05/24/18  
DATE

**DEVELOPER**  
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2120 BALDWIN AVENUE, SUITE-200  
CROFTON, MD 21114  
(301) 261-0277

**OWNER**  
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ELLICOTT CITY, MD 21043  
(206) 902-7562

**ENVIRONMENTAL CONCEPT PLAN**  
GARRIAN ORCHARDS  
SECTION 2  
BLOCK A, LOT 4  
FLAT BOOK 4, PAGE 41  
TAX MAP 31, GRID 7, PARCEL 290  
4814 HALE HAVEN DRIVE, ELLICOTT CITY  
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1" = 20'  
JOB NO.: 3425  
DATE: MAY 24, 2018  
SHEET: 2 OF 2