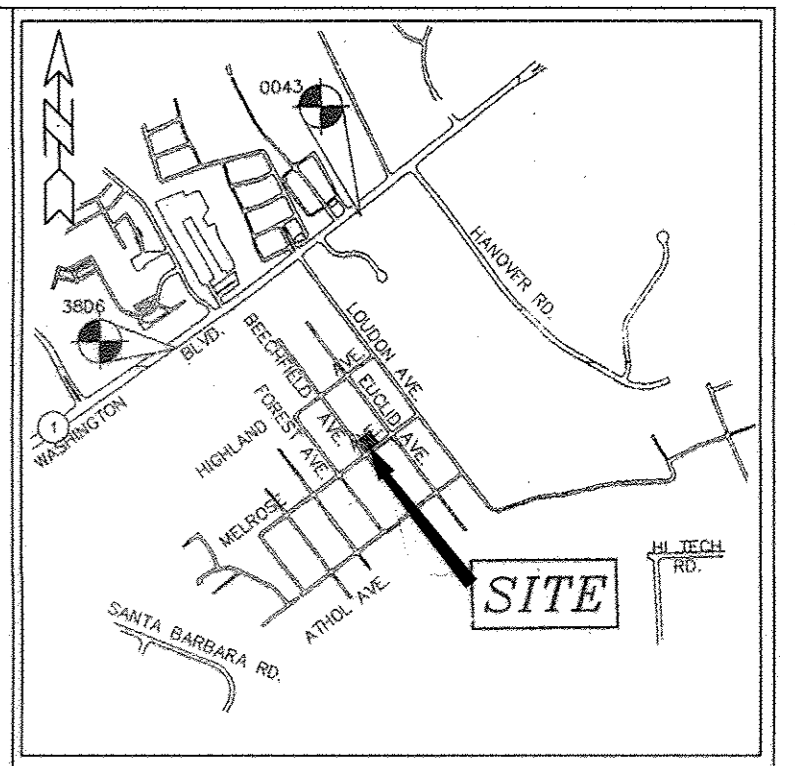
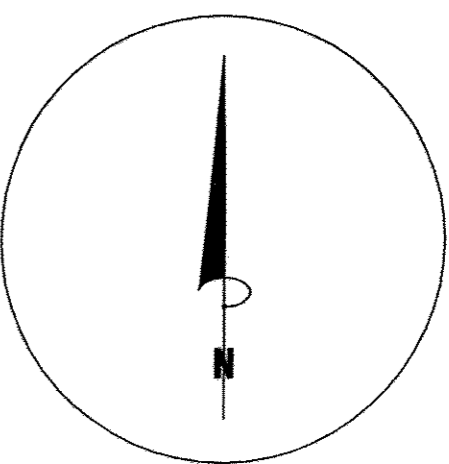


**UTILITY DISCLAIMER**

THE UNDERGROUND UTILITIES HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE SEWER AND WATER CONTRACT NUMBERS ARE RESPECTIVELY 23S AND 457B.



VICINITY MAP  
SCALE: 1" = 2000'  
ADC MAP=35, GRID=C4

**GEODETIC SURVEY CONTROLS**  
HOWARD COUNTY MONUMENT 3806  
N. 557,155.429 E. 1,384,992.260 EL:174.525  
HOWARD COUNTY MONUMENT 3805  
N. 558,378.540 E. 1,386,524.200 EL:192.990

**GENERAL NOTES:**

- THE SUBJECT PROPERTY IS ZONED R-12 PER THE 10/06/13 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY = 12,000 S.F. ± OR 0.2755 AC ±
- PUBLIC WATER AND SEWER WILL BE USED WITHIN THIS SITE VIA EXISTING CONTRACT 23-S.
- ON-SITE TOPOGRAPHY BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PREPARED BY AAH CONSULTANTS, LLC IN JUNE 23RD 2014 WITH TWO FOOT CONTOURS. OFF SITE TOPOGRAPHY BASED ON HOWARD COUNTY 1998 AERIAL TOPOGRAPHIC SURVEY WITH FIVE FOOT CONTOURS.
- NUMBER OF PROPOSED BUILDABLE LOTS: 4
- AREA OF PROPOSED BUILDABLE LOTS: 4,900.0 S.F. ± OR 0.1125 AC ±
- IN ACCORDANCE WITH SECTION 12B OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 10 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
  - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
  - SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM);
  - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
  - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H2S-LOADING);
  - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER SURFACE;
  - MAINTENANCES - SUFFICIENT TO ENSURE ALL WEATHER USE
- THERE ARE NO FLOODPLAINS, HISTORIC STRUCTURES, CEMETERIES, STEEP SLOPES, WETLANDS, STREAMS OR STREAM BUFFERS ON-SITE.
- THIS PROPERTY IS SUBJECT TO THE 5TH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THIS SITE IS LOCATED IN THE METROPOLITAN DISTRICT.
- FOR THIS SITE DEVELOPMENT PROJECT, AN INSTALLATION OF A 42" HIGH BOARD FENCE IS GRANTED AS PART OF LANDSCAPING BUFFER/SCREENING REQUIREMENT FOR LOT 464 ADJACENT TO A ROADWAY.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 

|   |                |
|---|----------------|
| STATE HIGHWAY ADMINISTRATION                              | 410-531-5533   |
| BGE (CONTRACTOR SERVICES)                                 | 410-850-4620   |
| BGE (UNDERGROUND DAMAGE CONTROL)                          | 410-787-9068   |
| MISS UTILITY  | 1-800-257-7777 |
| COLONIAL PIPELINE COMPANY                                 | 410-795-1390   |
| HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES | 410-313-4900   |
| HOWARD COUNTY HEALTH DEPARTMENT                           | 410-313-2840   |
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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 THE START OF WORK. ALL FILLS FOR PUBLIC ROAD SURFACES REQUIRE 95% COMPACTION (MSHTO-T-180).
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THIS PROJECT IS EXEMPT PER SECTION 16.1202(b)(1)(i) FOR A FOREST CONSERVATION PLAN FOR DEVELOPMENT ON LAND WHICH IS LESS THAN 40,000 SQUARE FEET IN SIZE.
- CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FIELD AND IF A DISCREPANCY IS FOUND, CONTACT THE ENGINEER.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METERING SETTINGS.
- COORDINATES BASED ON NAD 83 (HORIZONTAL) AND NAVD 188 (VERTICAL) MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC SURVEY CONTROL STATIONS NO. 38 D6 AND 38 D5.
- STORMWATER MANAGEMENT IS PROVIDED VIA RAIN BARRELS M-1 AND RAIN GARDENS M-7 WITH OVERFLOW SPLASH BLOCKS IN ACCORDANCE WITH THE 2007 MDE STORMWATER DESIGN MANUAL USING ESD METHODS. ON-SITE SWM PRACTICES ARE SUBJECT TO THE REQUIREMENTS OF A RECORDED DECLARATION OF COVENANTS.
- THIS PROJECT SHALL COMPLY WITH THE MARYLAND AVIATION ADMINISTRATION'S VEGETATIVE ESTABLISHMENT DETAILS AND SPECIFICATIONS FOR PROJECTS WITHIN 4 MILES OF THE BALTIMORE WASHINGTON INTERNATIONAL AIRPORT, DATED JULY 1, 2004.

- THIS PROJECT HAS BEEN GRANTED A WAIVER OF DESIGN MANUAL, VOLUME III, SECTION 2.6.D, WHICH REQUIRES A MINIMUM CORNER CLEARANCE BETWEEN RESIDENTIAL DRIVEWAYS AND PUBLIC INTERSECTIONS. THIS APPROVAL DATED AUGUST 18TH, 2016 IS SUBJECT TO THE FOLLOWING:
  - THE EDGE OF THE DRIVEWAY ON LOT 464 CAN BE NO CLOSER THAN 12- FEET FROM THE PC OF THE INTERSECTION PAVEMENT.
  - THERE SHALL BE NO OBSTRUCTIONS PROPOSED BETWEEN THE DRIVEWAY OF LOT 464 AND MELROSE AVENUE.
- A VARIANCE REQUEST OF HCZR SECTION 109.0.D.4.b.(1).(c) TO REDUCE THE SIDE SETBACK FROM 20FT TO 7.5 FT WAS GRANTED ON OCTOBER 6TH, 2016 BY BOA CASE No. 16-004V WITH THE FOLLOWING CONDITIONS:
  - THE VARIANCE SHALL APPLY ONLY TO THE USES AND STRUCTURES AS DESCRIBED IN THE PETITION AND PLAN SUBMITTED AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS ON THE PROPERTY.
  - PETITIONER SHALL INCLUDE A NOTE ON THE SITE DEVELOPMENT PLAN CITING TO THIS DECISION AND ORDER, DETAILING THE VARIANCE GRANTED AND NOTING THE DATE OF DECISION.
  - PETITIONER SHALL OBTAIN ALL NECESSARY PERMITS.

"This plan has been prepared in accordance with Section 16.124 of the Howard County Code and the Landscape Manual with 10 shrubs provided with landscape surety in the amount of \$400 with the DPW, Developer's Agreement."

**ADDRESS CHART**

| LOT/PARCEL No. | STREET ADDRESS             |
|----------------|----------------------------|
| LOT 464        | 6397 - A BEECHFIELD AVENUE |
| LOT 465        | 6397 - B BEECHFIELD AVENUE |
| LOT 466        | 6399 - A BEECHFIELD AVENUE |
| LOT 467        | 6399 - B BEECHFIELD AVENUE |

**SHEET INDEX**

| DESCRIPTION  | SHEET No. |
|--|-----------|
| Boundary, Topographic survey, and Demolition Plan    | 1 of 5    |
| Site Development Plan OR Landscape Plan              | 2 of 5    |
| SWM & Sediment and Erosion Control Plan              | 3 of 5    |
| SWM & Sediment and Erosion Control Notes and Details | 4 of 5    |
| SWM & Sediment and Erosion Control Notes and Details | 5 of 5    |

**UTILITY COMPANIES**

POTOMAC ELECTRIC POWER CO.  
701 9th STREET, N.W.  
WASHINGTON D.C. 20068  
202-331-6237

GAS SERVICE  
WASHINGTON GAS COMPANY  
6501 INDUSTRIAL RD  
SPRINGFIELD VA. 22151  
703-750-1000

TELEPHONE SERVICE  
VERIZON  
3901 CALVERTON BOULEVARD  
BELTSVILLE, MD. 20705  
301-595-6052

SEWER & WATER SERVICE  
D.C. WATER & SEWER AUTHORITY  
5000 OVERLOOK AVENUE, S.W.  
WASHINGTON, D.C. 20032

**SITE ANALYSIS DATA CHART**

- TOTAL PROJECT AREA: 0.2755 ACRES ±
- LIMIT OF DISTURBED AREA: 0.310 ACRES ±
- SUBJECT PROPERTY ZONED "R-12" PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- PROPOSED USES FOR SITE & STRUCTURES: SINGLE FAMILY ATTACHED DWELLINGS (DUPLX)
- BUILDING COVERAGE OF SITE: 0.1 ACRES OR 36.30% OF GROSS AREA
- DPZ FILE REFERENCES: SDP-16-006 & ECP-16-003
- TOTAL NUMBER OF UNITS PROPOSED FOR THIS SUBMISSION: 4 (2 DUPLX)
- THE REQUIRED PARKING SPACE FOR EACH LOT IS 3.
- THE PROPOSED PARKING SPACE FOR EACH LOT IS 3.

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: *Andrew Husbands* DATE: 3/27/18

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Edmondson* 3-1-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*William J. Jones* 3/27/18  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*William J. Jones* 3-29-18  
DIRECTOR DATE

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.

NAME: ANDREW HUSBANDS  
LICENSE No. : 21188 EXPIRATION DATE: 01-04-2018

**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Andrew Husbands* 3-12-2018  
SIGNATURE OF SURVEYOR DATE

**OWNER/DEVELOPER**

Kody Group Inc.  
c/o Darryls S  
6397 Beechfield Avenue  
Elkridge MD 21075  
(301) 674-5197



**BOUNDARY + TOPOGRAPHIC SURVEY**  
#6397-6399 BEECHFIELD AVENUE  
ELKRIDGE, MD 21075  
**HARWOOD**  
LOTS 464-467

PARCEL 873  
TAX MAP 38 GRID 13  
1ST ELECTION DISTRICT

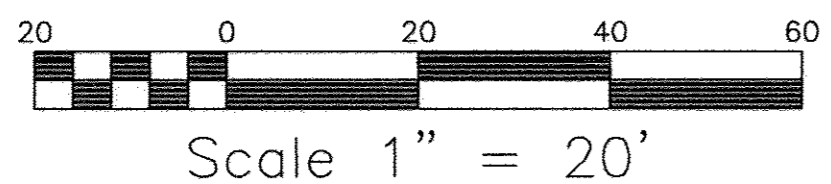
ZONING DISTRICT R-12  
ECP-16-003  
LIBER 16023 FOLIO 189  
HOWARD COUNTY, MARYLAND.

|          |          |
|----------|----------|
| DRAWN    | R.P.     |
| DESIGNED |          |
| CHECKED  | A.H.     |
| SCALE    | 1" = 20' |
| DATE     |          |
| SHEET    | 1 OF 5   |
| JOB No.  | 15-037   |

**AAH CONSULTANTS LLC**  
4200 FORBES BLVD, SUITE 203  
LANHAM, MARYLAND 20706  
(301) 429-1750 429-1757 (FAX)

- LEGEND**
- ⊙ SEWER MANHOLE
  - ⊕ FIRE HYDRANT
  - ⊙ PEPCO POWER POLE
  - WM WATER METER
  - E— ELECTRIC OVERHEAD WIRE
  - S— SEWER LINE
  - SD— STORM DRAIN LINE
  - W— WATER LINE
  - WF— WOOD FENCE
  - ⊕ IRON PIPE FOUND
  - ⊕ IRON PIPE SET
  - x 145.3 EXISTING GRADE
  - + 14.8 PROP. GRADE
  - 148 PROP. CONTOUR
  - 146- EXISTING CONTOUR

| No. | DESCRIPTION | NAME | DATE |
|-----|-------------|------|------|
|     | REVISIONS   |      |      |





**UTILITY DISCLAIMER**

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**LANDSCAPING NOTES:**

"At the time of plant installation, all shrubs and trees listed on the Landscaping Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved Landscaping Plan result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the applicable plans."

"The owner, tenants and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced."

"Please be advised that the landscaping cannot be located within any public easements for water, sewer or storm drains in accordance with Section 16.124(b)(1)(c) of the Subdivision and Land Development Regulations."

**LANDSCAPING SCHEDULE ON LOT 464 ADJACENT ON ROADWAY**

| KEY | QTY. | BOTANICAL NAME        | COMMON NAME      | SIZE      | HEIGHT  |
|-----|------|-----------------------|------------------|-----------|---------|
| GA  | 5    | ABELIA GRANDIFLORA    | GOSSY ABELIA     | 2'-3" CAL | 3' - 5' |
| SD  | 3    | CORNUS ALBA CULTIVARS | SIBERIAN DOGWOOD | 2'-3" CAL | 3' - 6' |
| SS  | 2    | CLETHRA ALNIFOLIA     | SUMMERSWEET      | 2'-3" CAL | 3' - 6' |

(\*) A VARIANCE REQUEST OF HCZR SECTION 109.0.D.4.b.(1)(a) TO REDUCE THE SIDE SETBACK FROM 20FT TO 7.5 FT WAS GRANTED ON OCTOBER 6TH, 2016 BY BOA CASE No. 16-004V WITH THE FOLLOWING CONDITIONS:

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2. PETITIONER SHALL INCLUDE A NOTE ON THE SITE DEVELOPMENT PLAN CITING TO THIS DECISION AND ORDER, DETAILING THE VARIANCE OBTAINED AND NOTING THE DATE OF DECISION.
3. PETITIONER SHALL OBTAIN ALL NECESSARY PERMITS.

"This plan has been prepared in accordance with Section 16.124 of the Howard County Code and the Landscape Manual with 10 shrubs provided with landscape surety in the amount of \$400 with the DPW, Developer's Agreement."

**LEGEND**

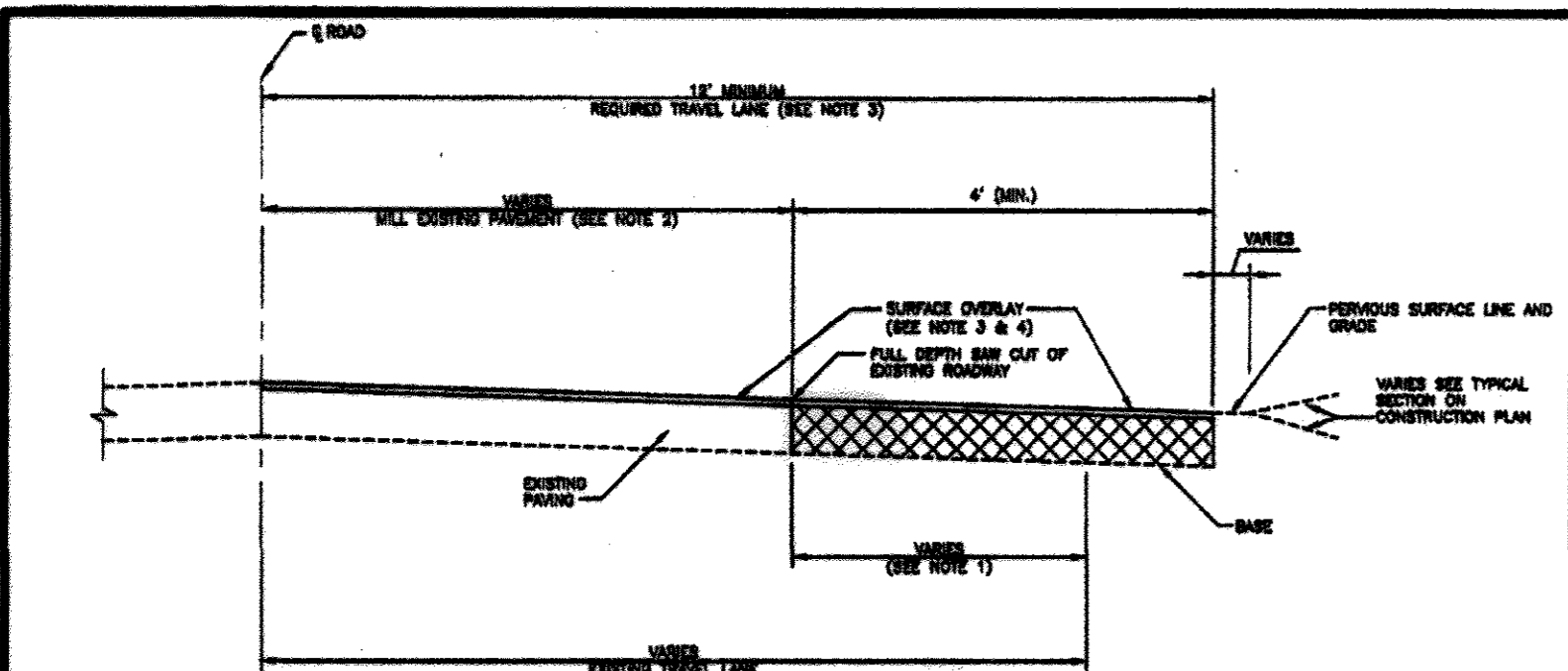
- ⊙ SEWER MANHOLE
- ⊕ FIRE HYDRANT
- PP Ⓞ PEPCO POWER POLE
- WM ⊙ WATER METER
- E— ELECTRIC OVERHEAD WIRE
- S— SEWER LINE
- SD— STORM DRAIN LINE
- W— WATER LINE
- WF— WOOD FENCE
- IPF IRON PIPE FOUND
- IPS IRON PIPE SET
- X 145.3 EXISTING GRADE
- + 145.3 PROP. GRADE
- 148 PROP. CONTOUR
- 148 EXISTING CONTOUR

**UTILITY COMPANIES**

**POTOMAC ELECTRIC POWER CO.**  
701 9th STREET, N.W.  
WASHINGTON D.C. 20068  
202-331-6237

**GAS SERVICE**  
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6801 INDUSTRIAL RD  
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703-750-1000

**TELEPHONE SERVICE**  
VERIZON  
3801 CALVERTON BOULEVARD  
BELTSVILLE, MD. 20705  
301-595-6052



**NOTES:**

1. WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12" CURB CONTRACTOR SHALL REMOVE A MINIMUM OF 1" FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4" WIDENING FROM FACE OF GUTTER PAV.
2. THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE HELD AT DEPTH OF 1 1/2" (MINIMUM).
3. THE RESURFACING SHALL BE PLACED TO THE CENTERLINE OF THE ROADWAY.
4. RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION.

Howard County, Maryland  
Department of Public Works

Existing Roadway  
Widening Strip

Detail  
R-1.08

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: *Andrew Husbands* DATE: 3-6-18

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN FOR SEDIMENT AND EROSION CONTROL AND TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER: *Andrew Husbands* DATE: 3-6-18

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.

NAME: ANDREW HUSBANDS  
LICENSE No. : 21188 EXPIRATION DATE: 01-04-2020

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Robinson* 3-12-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

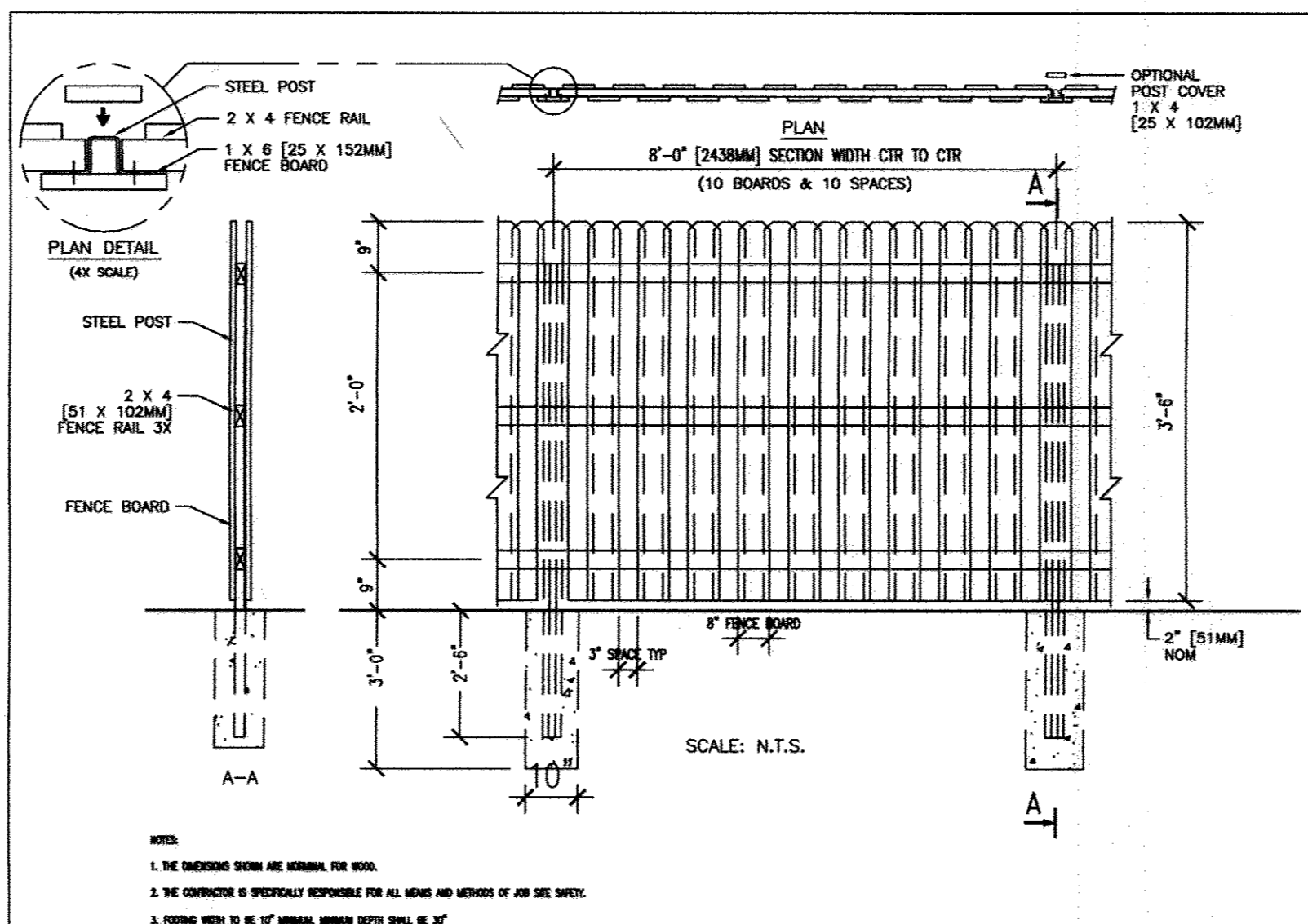
*John N. ...* 3-27-18  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*William J. ...* 3-29-18  
DIRECTOR DATE

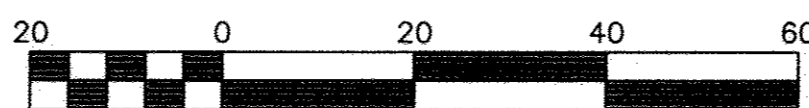


**DETAIL OF FENCE**

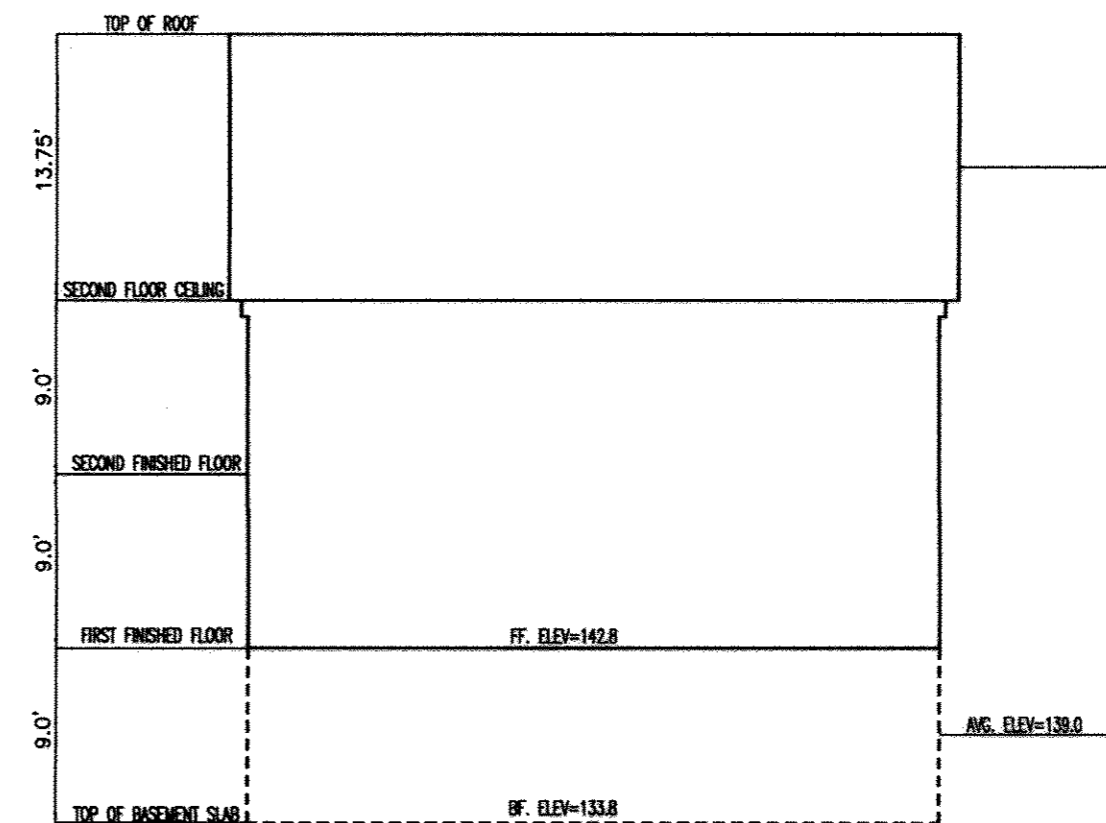
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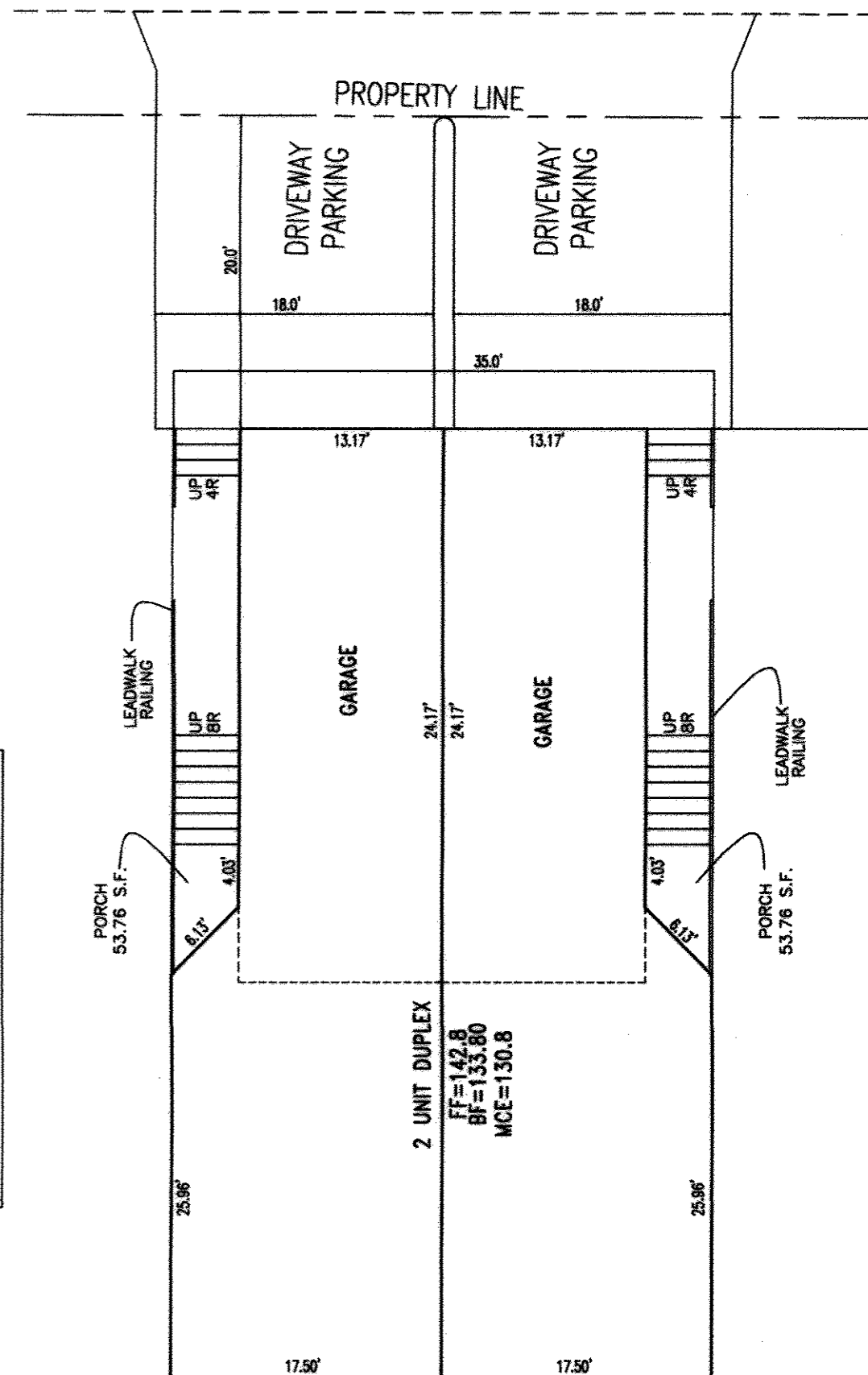
- NOTES:
1. THE UNDERGROUND UTILITIES ARE SHOWN FOR INFO.
  2. THE CONTRACTOR IS SPECIFICALLY RESPONSIBLE FOR ALL HAND AND METHODS OF JOB SITE SAFETY.
  3. FENCING SHALL BE 12" MINIMUM HEIGHT WITH 12" MINIMUM SPACING.



Scale 1" = 20'



**ELEVATION**



**PLAN**

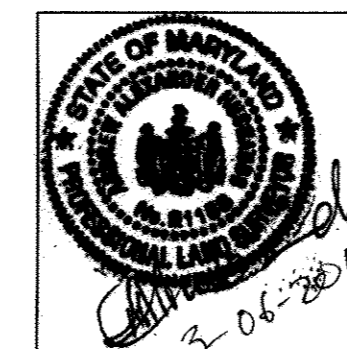
2 UNIT DUPLEX  
BEECHFIELD AVE.  
SCALE: 1"=10'

**SITE DEVELOPMENT & LANDSCAPE PLAN**  
#6397-6399 BEECHFIELD AVENUE  
ELKRIDGE, MD 21075  
**HARWOOD**  
LOTS 464-467

PARCEL 873  
TAX MAP 38 GRID 13  
1ST ELECTION DISTRICT

ZONING DISTRICT R-12  
ECP-16-003  
LIBER 16091 FOLIO 370  
HOWARD COUNTY, MARYLAND.

**AAH CONSULTANTS LLC**  
4200 FORBES BLVD, SUITE 203  
LANHAM, MARYLAND 20706  
(301) 429-1750 429-1767 (FAX)



OWNER/DEVELOPER  
Kody Group Inc.  
c/o Darryls S  
6397 Beechfield Avenue  
Elkridge MD 21075  
(301) 674-5197

|          |          |
|----------|----------|
| DRAWN    | R.P.     |
| DESIGNED |          |
| CHECKED  | A.H.     |
| SCALE    | 1" = 20' |
| DATE     |          |
| SHEET    | 2 OF 5   |
| JOB No.  | 15-037   |



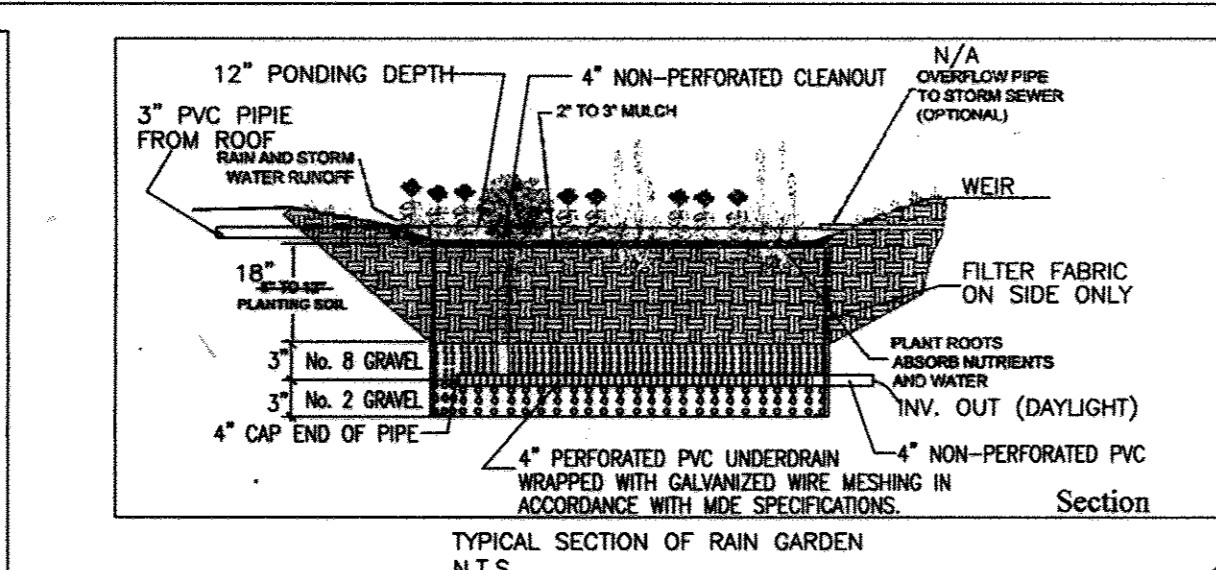
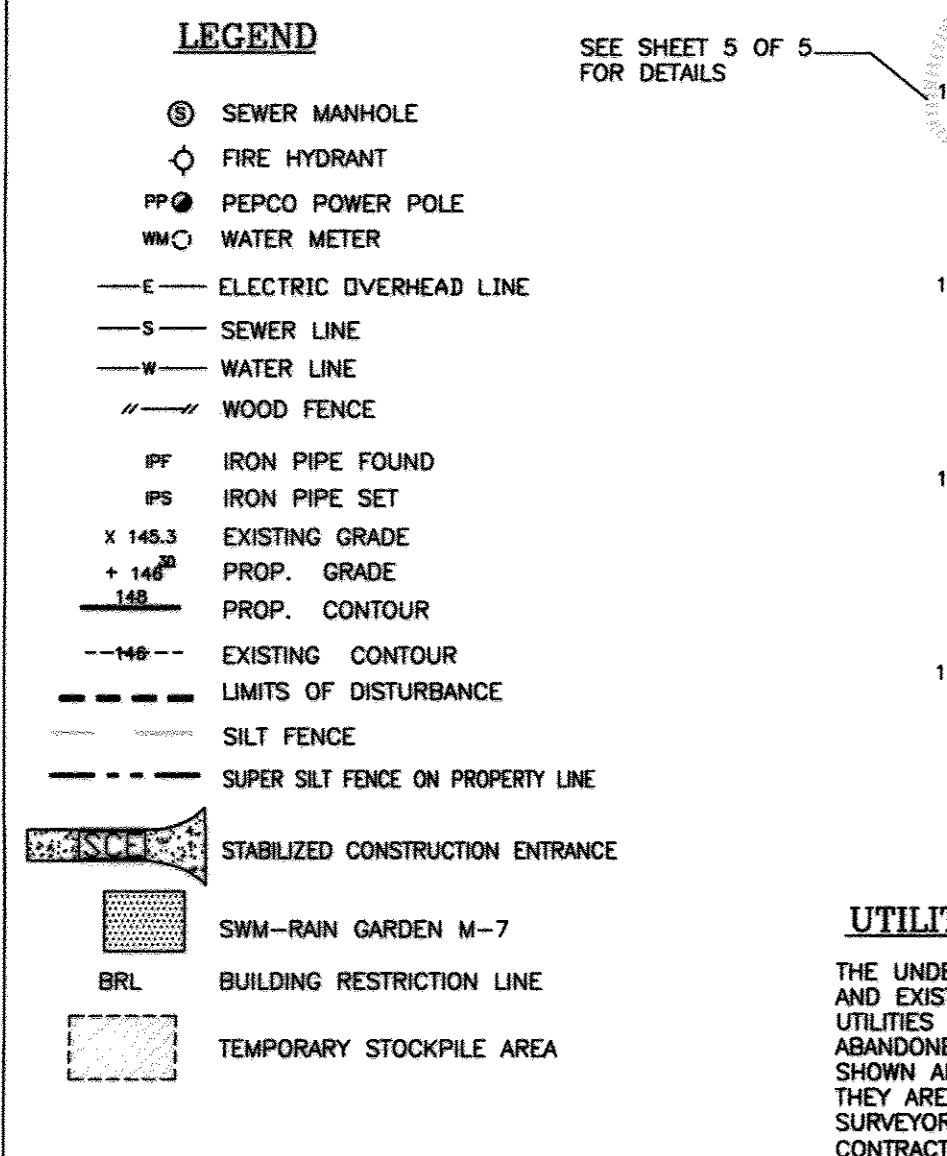
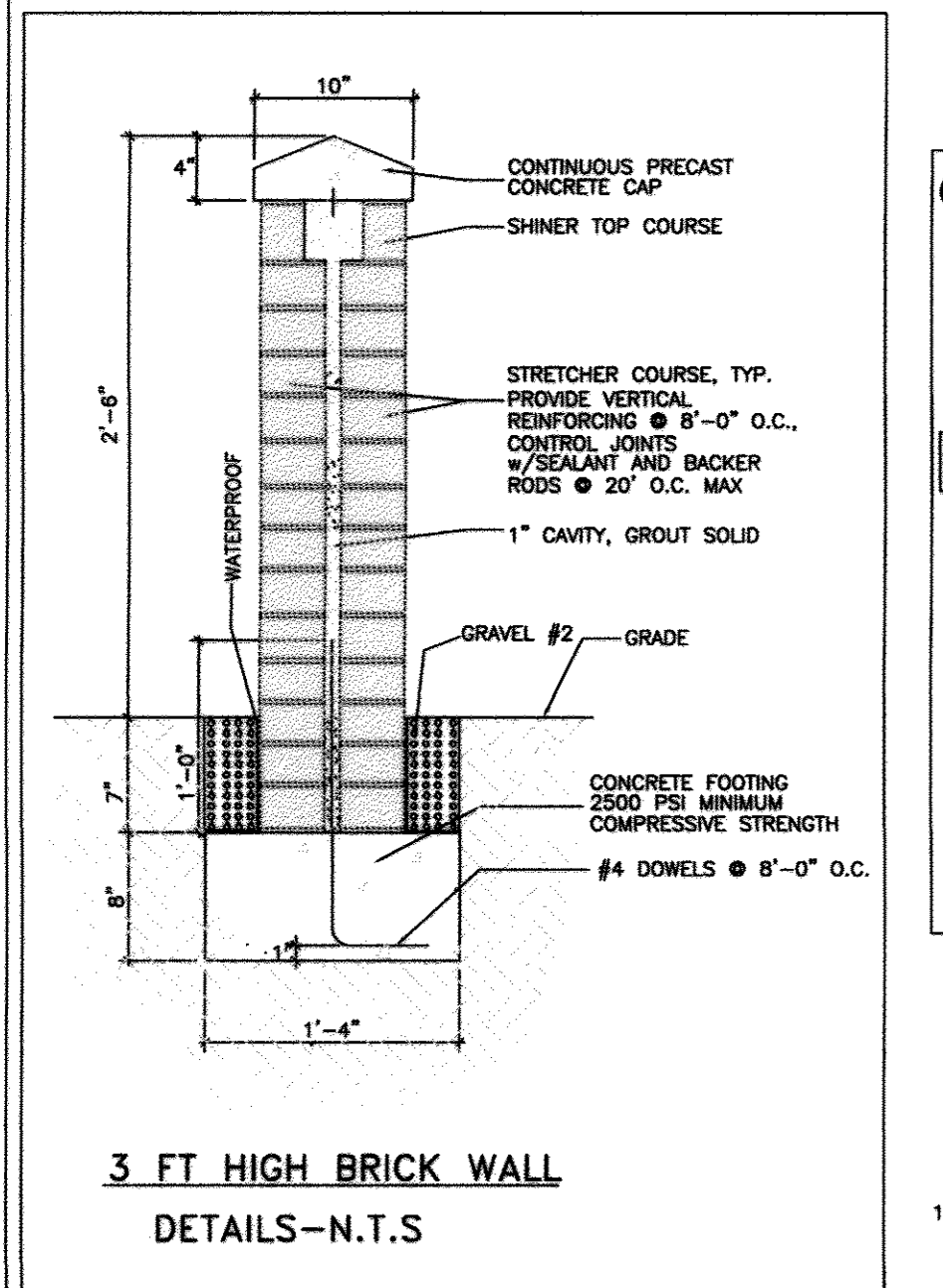
**OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-4), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9)**

- The Owner shall maintain the plant material, mulch layer and soil layer 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 infestation and maintenance will address dead material and 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.
- 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.
- The Owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.
- The top few inches of the planting soil to be removed and replaced when water ponds for more than 24 hours after a storm event.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED Rainwater Harvesting (M-1)**

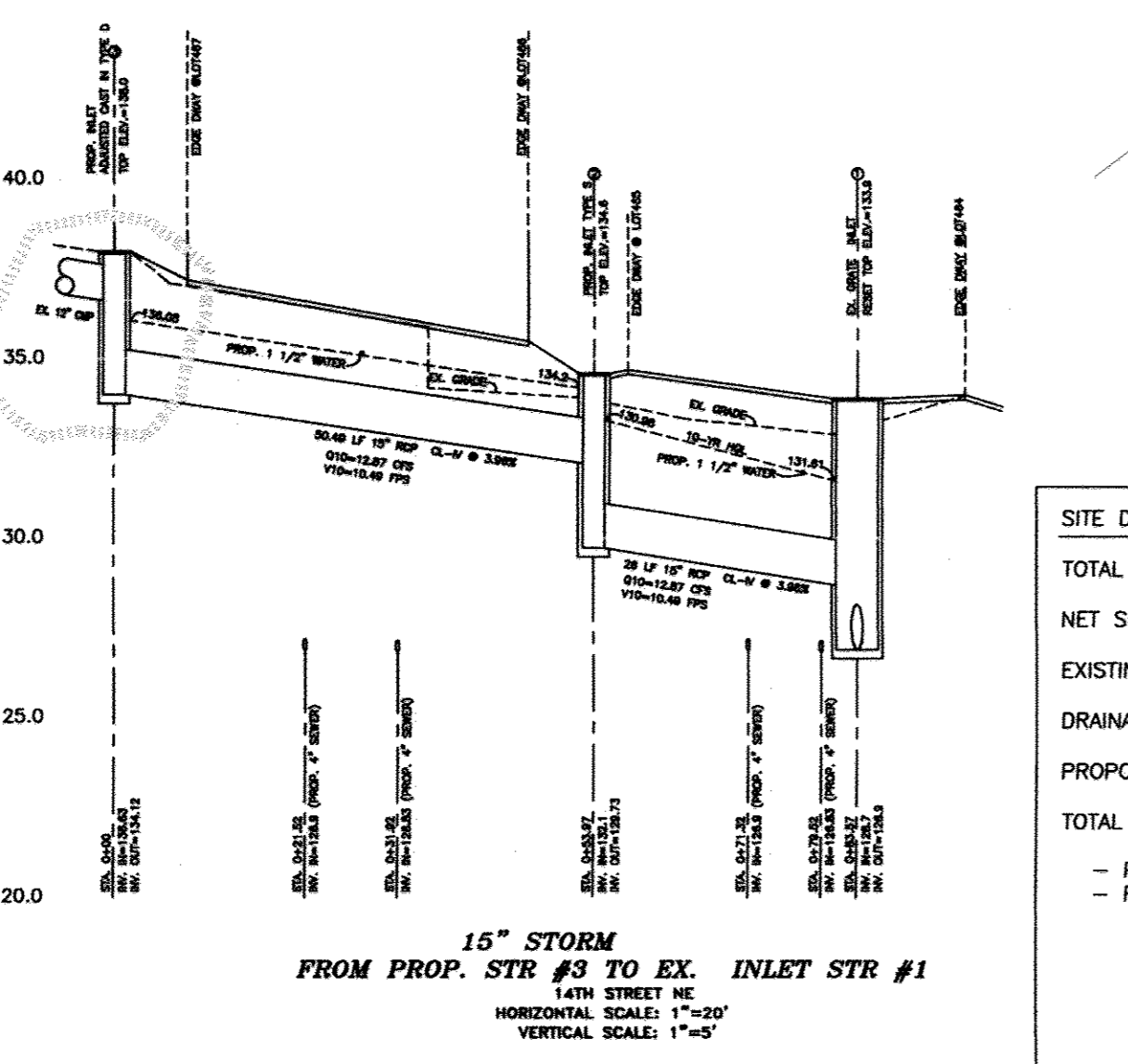
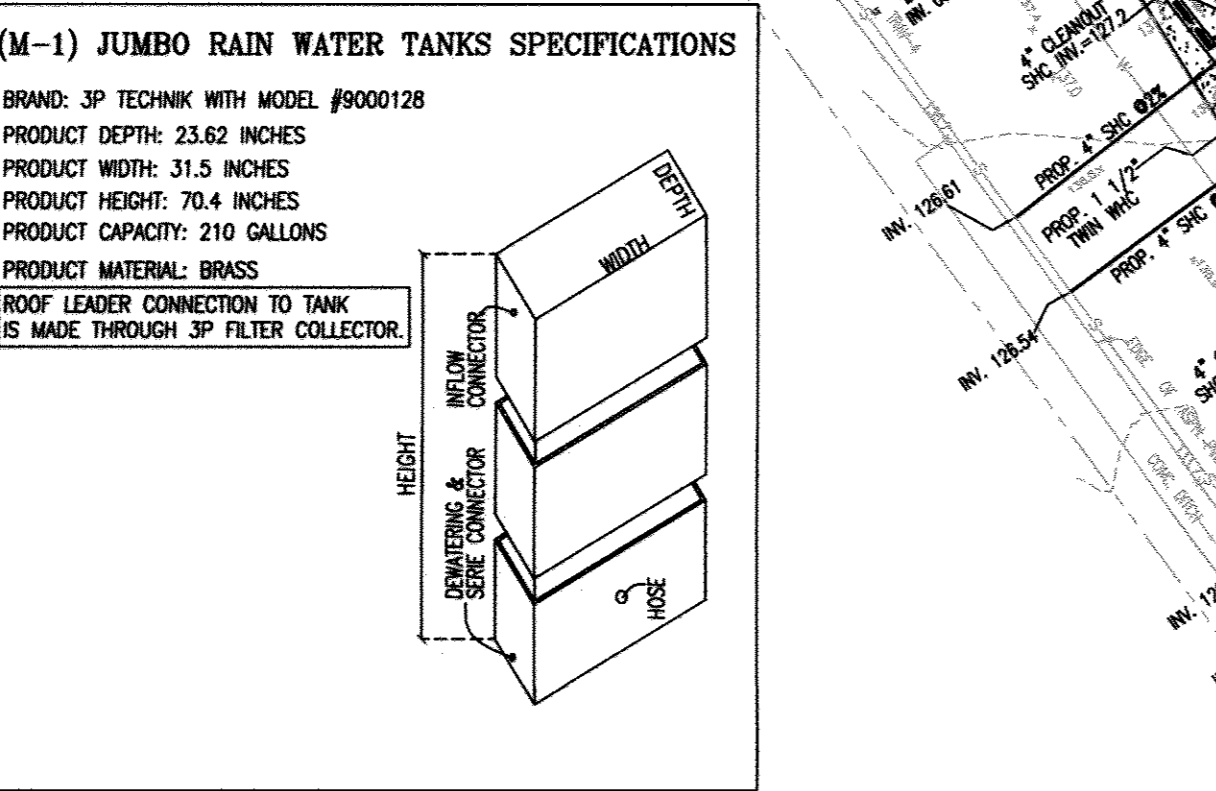
- Empty barrels on a monthly basis and clean barrel with a hose.
- Verify integrity of leaf screens, gutters, downspouts, spigots, and mosquito screens. Clean and remove any debris.
- Damaged components shall be replaced as needed.
- To avoid freezing, barrel should be either disconnected or allowed to drain by bottom spigot during the winter season.

**CONTRACTOR NOTE:**  
THE CONTRACTOR IS RESPONSIBLE FOR PUMPING ALL STANDING WATER THROUGH A FILTERING DEVICE TO A CLEAR WATER OUTFALL WITHIN 24 HOURS FOLLOWING ANY RAINFALL EVENT."



**RAIN GARDEN MATERIAL**

- PLANTING SOIL: LOAMY SAND (60-65%) & COMPOST (35-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%) (CLAY CONTENT < 5% AND ORGANIC CONTENT MIN. 10%)
- MULCH: SHREDDED HARDWOOD (NO PINE OR WOOD CHIPS)
- FILTER FABRIC: PE TYPE 1 NONWOVEN



**UTILITY DISCLAIMER**

THE UNDERGROUND UTILITIES HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE SEWER AND WATER CONTRACT NUMBERS ARE RESPECTIVELY 235 AND 4578.

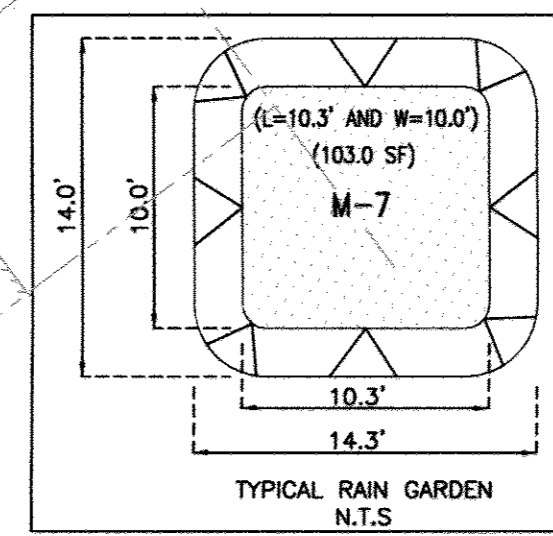
**PROJECT SITE SOILS**

| SYMBOL | NAME/DESCRIPTION   | SOIL GROUP | CHILLUM | BELTSVILLE | K-VALUE |
|--------|--|------------|---------|------------|---------|
| UcD    | Urban land-Chillum-Beltsville complex, 5 to 15 percent slopes for the entire project site. | C/D        | 0.37    | 0.37       |         |

PERMANENT OR TEMPORARY SEEDING AND STABILIZATION IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED IN THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION CONTROL, WHICHEVER IS MORE STRINGENT.

**(M-7) RAIN GARDEN**

BOTTOM AREA = 103.0 SF  
 TOP AREA = 192.4 SF  
 AVERAGE AREA = 147.7 SF  
 12" PONDING STORAGE  
 ESDv = (147.7\*1.0) = 147.7 CF  
 ESDv = 147.7 CF PROVIDED PER LOT  
 TWO RAIN BARRELS @ 210 GAL. PER BARREL PER LOT  
 ESDv (provided)=815.39 cubic feet FOR THE FOUR (4) LOTS.  
 ESDv (minimum)=458.0 cubic feet (for P=1")



NOTES: ALL EXTERIOR DOWNSPOUTS WILL HAVE OVERFLOW WITH SPLASH BLOCK TO SHEET TOWARD THE FRONT OF THE PROPERTY. GUTTER DRAIN FILTERS TO BE INSTALLED FOR ALL ROOF GUTTER-DOWNSPOUT SYSTEMS.

GRADING AND DRAINAGE NOTE: THE PROPOSED WALL WITH THE SITE GRADING WILL BE DONE IN SUCH WAY THE OFFSITE RUNOFF SHALL NOT DRAIN INTO THE RAIN GARDENS. IN ADDITION TO THAT, THERE WILL BE NO RESULTING OFFSITE DRAINAGE PROBLEMS CREATED WITH THIS DEVELOPMENT.

**RAIN GARDENS SCHEDULE**

| NO | SIZE     | TOP ELEV. | WEIR ELEV. | PONDING ELEV. | INV. IN. | INV. OUT |
|----|----------|-----------|------------|---------------|----------|----------|
| 1  | 103.0 SF | 140.0     | 141.0      | 141.0         | 138.0    | 137.5    |
| 2  | 103.0 SF | 140.0     | 141.0      | 141.0         | 138.0    | 137.5    |
| 3  | 103.0 SF | 140.0     | 141.0      | 141.0         | 138.0    | 137.5    |
| 4  | 103.0 SF | 140.0     | 141.0      | 141.0         | 138.0    | 137.5    |

**PLANT LIST FOR EACH RAIN GARDEN**

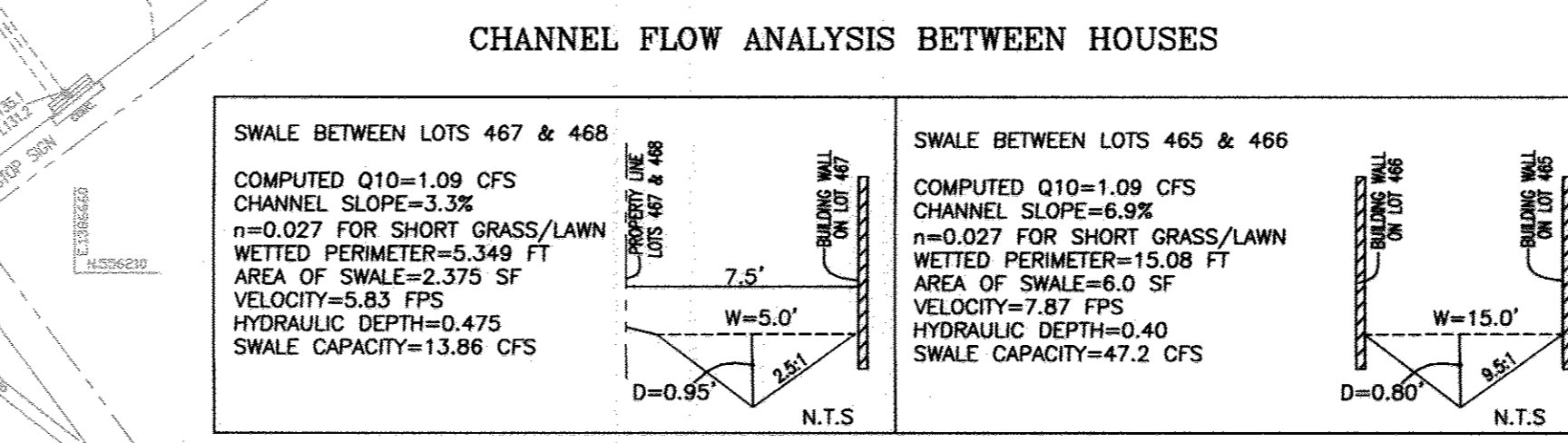
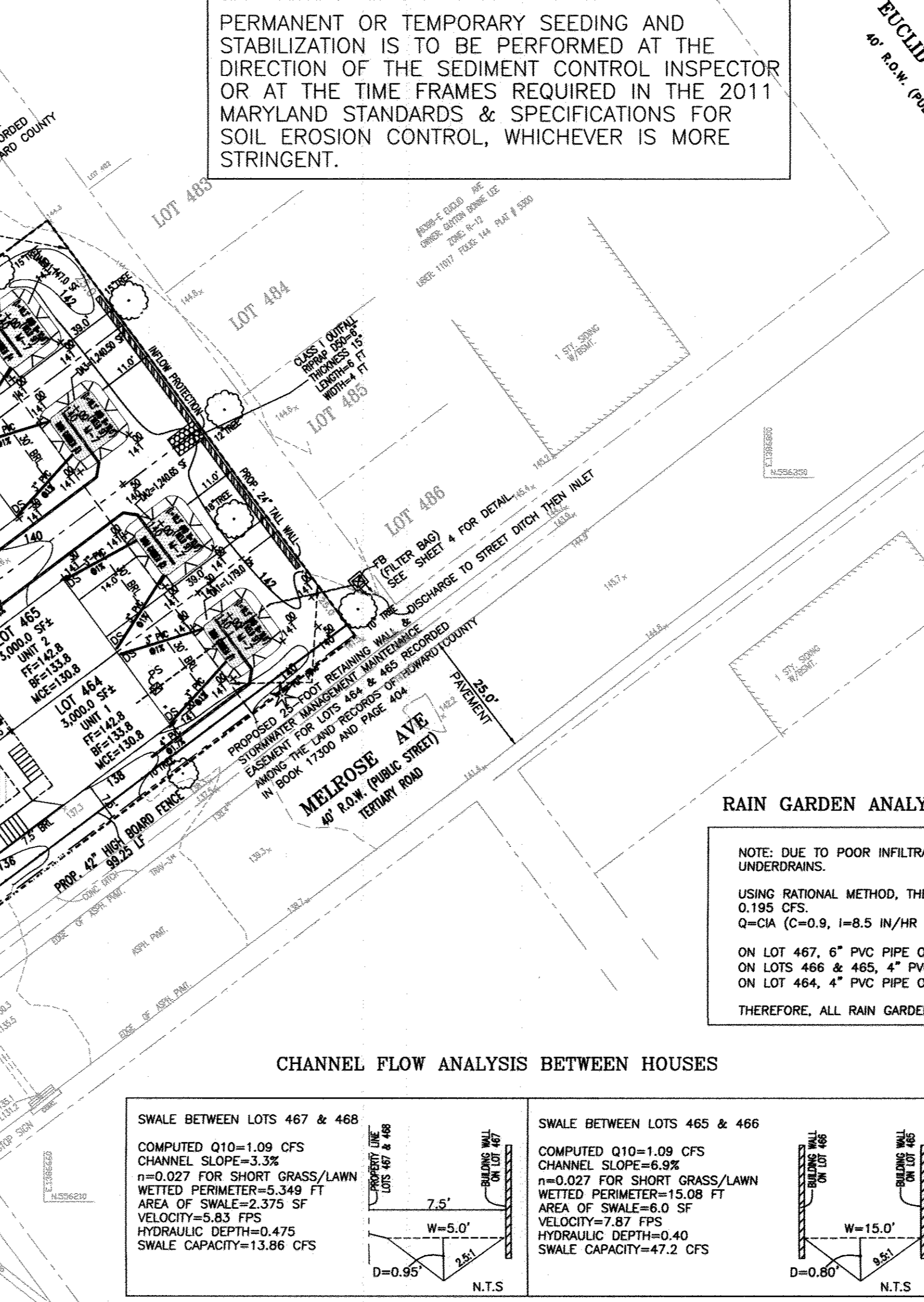
| PLANT QUANTITY | BOTANICAL NAME         | COMMON NAME        | SIZE               |
|----------------|------------------------|--------------------|--------------------|
| 3              | ILEX GLABRA            | INK BERRY          | 1.5' - 2.5' HEIGHT |
| 5              | ASTER NOVAE ANGLAE     | NEW ENGLAND ASTER  | 1 GAL. CONTAINER   |
| 5              | LOBELIA SIPHILITICA    | GREAT BLUE LOBELIA | 1 GAL. CONTAINER   |
| 3              | HYPERICUM DENSIFFLORUM | ST. JOHNSWORT      | 1.5' - 3.0' HEIGHT |

**PUBLIC RIGHT OF WAY PIPE SCHEDULE**

| SIZE | TYPE       | LENGTH |
|------|------------|--------|
| 15"  | RCP CL. IV | 74 LF  |

**PUBLIC RIGHT OF WAY STRUCTURE SCHEDULE TABLE**

| STRUCTURE #     | DESCRIPTION                  | SIZE         | INV. ELEV. | TOP ELEV. |
|-----------------|------------------------------|--------------|------------|-----------|
| EX. BRICK STR#1 | RESET TYPE S INLET STD D-422 | 3.0' BY 5.5' | 126.9      | 133.9     |
| STR#2           | TYPE S INLET STD D-422       | 3.0' BY 4.5' | 129.73     | 134.6     |
| STR#3           | TYPE D INLET STD D-410       | 2.5' BY 2.5' | 133.0      | 135.8     |



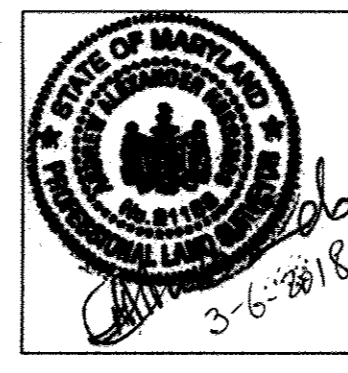
**STORMWATER MANAGEMENT PRACTICES**

| LOT # | GREEN ROOF | PERMEABLE PAVEMENTS | REINFORCED TURF | DISCONNECTION OF ROOFTOP RUNOFF | DISCONNECTION OF NON-ROOFTOP RUNOFF | SHEETFLOW TO CONSERVATION AREAS | RAINWATER HARVESTING | SUBMERGED GRAVEL WETLANDS | LANDSCAPE INFILTRATION | INFILTRATION BERMS | DRY WELLS | MICRO-BIORETENTION | RAIN GARDENS | SWALES    | ENHANCED FILTERS |
|-------|------------|---------------------|-----------------|---------------------------------|-------------------------------------|---------------------------------|----------------------|---------------------------|------------------------|--------------------|-----------|--------------------|--------------|-----------|------------------|
| 464   | A-1 (Y/N)  | A-2 (Y/N)           | A-3 (Y/N)       | N-1 (Y/N)                       | N-2 (Y/N)                           | N-3 (Y/N)                       | M-1 (Y/N)            | M-2 (Y/N)                 | M-3 (Y/N)              | M-4 (Y/N)          | M-5 (Y/N) | M-6 (Y/N)          | M-7 (Y/N)    | M-8 (Y/N) | M-9 (Y/N)        |
| 465   |            |                     |                 |                                 |                                     |                                 | 2                    |                           |                        |                    |           |                    | 1            |           |                  |
| 466   |            |                     |                 |                                 |                                     |                                 | 2                    |                           |                        |                    |           |                    | 1            |           |                  |
| 467   |            |                     |                 |                                 |                                     |                                 | 2                    |                           |                        |                    |           |                    | 1            |           |                  |

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.

NAME: ANDREW HUSBANDS  
 LICENSE No. : 21188 EXPIRATION DATE: 01-04-2020



**OWNER/DEVELOPER**  
 Kody Group Inc.  
 c/o Darryl S  
 6397 Beechfield Avenue  
 Elkridge MD 21075  
 (301) 674-5197

**SWM AND SEDIMENT & EROSION CONTROL PLAN**  
**#6397-6399 BEECHFIELD AVENUE**  
 ELKBRIDGE, MD 21075  
**HARWOOD**  
**LOTS 464-467**

PARCEL 873  
 TAX MAP 38 GRID 13  
 1ST ELECTION DISTRICT

ZONING DISTRICT R-12  
 ECP-16-003  
 LIBER 16091 FOLIO 370  
 HOWARD COUNTY, MARYLAND.

**AAH CONSULTANTS LLC**  
 4200 FORBES BLVD, SUITE 203  
 LANHAM, MARYLAND 20706  
 (301) 429-1750 429-1757 (FAX)

DRAWN R.P.  
 DESIGNED  
 CHECKED A.H.  
 SCALE 1" = 20'  
 DATE  
 SHEET 3 OF 5  
 JOB No. 15-037

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

3-12-18  
 DATE

3/27/18  
 DATE

3-29-18  
 DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

3/14/18  
 DATE

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

3-6-18  
 DATE

**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

3-6-2018  
 DATE



**DUST CONTROL**

**DEFINITION**

Controlling dust blowing and movement on construction sites and roads.

**PURPOSE**

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

**Conditions Where Practice Applies**

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

**SPECIFICATIONS**

**Temporary Methods**

1. Mulches— See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
2. Vegetative Cover— See standards for temporary vegetative cover.
3. Tillage— To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
4. Irrigation— This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
5. Barriers— Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride— Apply at rates that will keep surface moist. May need retreatment.

**Permanent Methods**

1. Permanent Vegetation— See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
2. Topsoiling— Covering with less erosive soil materials. See standards for topsoiling.
3. Stone— Cover surface with crushed stone or coarse gravel.

**References**

1. Agriculture Handbook 346. Wind Erosion Forces in the United States and their Use in Predicting Soil Loss.
2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

**SEQUENCE OF CONSTRUCTION**

1. Obtain grading permit.
2. Notify Howard County Department of Inspections, License and Permits at (410) 313-1855 at least 48 hours before starting any work.
3. Install Stabilized Construction Entrance and Silt Fence and repair any damaged existing controls to remain.
4. Rough grade site and begin house construction. (1 week)
5. Fine grade site. (1 week)
6. Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area. (1 week)
7. Construct primary structures, utility connections, storm drains, inlet, driveways/overlays, drainage walls and rain gardens. (20 weeks)

**Note:**

- Following initial soil disturbance or any redisturbances, permanent or temporary stabilization shall be completed within:
  - 3 calendar days for all perimeter sediment control structures, dikes, swales and all slopes greater than 3:1.
  - 7 calendar days for all other disturbed areas.

-During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the sediment control measures on this plan.

| Lot # | Inv. @ Main | Inv. @ R/W | Ground Floor |
|-------|-------------|------------|--------------|
| 464   | 126.31      | 127.0      | 141.0        |
| 465   | 126.35      | 127.0      | 141.0        |
| 466   | 126.54      | 127.2      | 141.8        |
| 467   | 126.61      | 127.2      | 141.8        |

**TEMPORARY SEEDING SUMMARY**

| No. | Species         | Application Rate (lb/ac) | Seeding Dates          | Seeding Depths | Fertilizer (10-20-20)       | Lime Rate                   |
|-----|-----------------|--------------------------|------------------------|----------------|-----------------------------|-----------------------------|
| 1   | Rye             | 112                      | 3/1-5/15 and 8/1-11/15 | 1"             | 436 lb/ac (10 lb/1000 s.t.) | 2 tons/ac (90 lb/1000 s.t.) |
| 2   | Foxtail Millet  | 30                       | 5/18-7/31              | 0.5"           |                             |                             |
| 3   | Annual Ryegrass | 40                       | 3/1-5/15 and 8/1-10/15 | 0.5"           |                             |                             |

**PERMANENT SEEDING SUMMARY**

| Mix No. | Species  | Application Rate (lb/ac) | Soil Drainage Class | Max. Height (inch) | N                         | P <sub>2</sub> O <sub>5</sub> | K <sub>2</sub> O          | Lime Rate                   |
|---------|--|--------------------------|---------------------|--------------------|---------------------------|-------------------------------|---------------------------|-----------------------------|
| 4       | Creeping Red Fescue<br>Virginia Wild Rye<br>Canada Wild Rye    | 20<br>5<br>5             | W - P               | 4 - 6              |                           |                               |                           |                             |
| 10      | Orchardgrass<br>Creeping Red Fescue<br>Bermuda<br>White Clover | 25<br>10<br>1<br>1       | W - SP              | 2 - 3              | 45 lb/ac (1 lb/1000 s.t.) | 90 lb/ac (2 lb/1000 s.t.)     | 90 lb/ac (2 lb/1000 s.t.) | 2 tons/ac (90 lb/1000 s.t.) |
| 13      | Alkali Salsgrass<br>Creeping Red Fescue<br>Fowl Meadowgrass    | 20<br>15<br>2            | W - P               | 2 - 3              |                           |                               |                           |                             |

**B-4.2 STANDARDS AND SPECIFICATIONS**

**FOR**

**SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

**Definition**

The process of preparing the soils to sustain adequate vegetative stabilization.

**Purpose**

To provide a suitable soil medium for vegetative growth.

**Conditions Where Practice Applies**

Where vegetative stabilization is to be established.

**Criteria**

- A. Soil Preparation**
1. Temporary Stabilization
    - a. Seeded 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 chisel plows or rippers mounted on construction equipment. 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 rippers running parallel to the contour of the slope.
    - b. Apply fertilizer and lime as prescribed on the plan.
    - c. 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 loess will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      - 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 above 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 5 inches.

B.12

- 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 seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

**B. Topsoiling**

1. 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 concern 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 representative soil profile section in the Soil Survey published by USDA-NRCS.
3. 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 furnish containing supplies of moisture and plant nutrients.
  - 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 design.
5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
  - 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 1/4 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.
6. Topsoil Application
  - a. Erosion and sediment control practices must be maintained when applying topsoil.
  - b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to 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 may otherwise be detrimental to proper grading.

B.13

**STANDARD STABILIZATION NOTE**

Following initial soil disturbance or re-disturbance, permanent or temporary stabilization must be completed within:

- a) Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and
- b) Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* DATE: 2-12-18

SIGNATURE OF DEVELOPER

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.

NAME: ANDREW HUSBANDS  
LICENSE No. : 21188 EXPIRATION DATE: 01-04-2018

**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* DATE: 2-12-18

SIGNATURE OF SURVEYOR

and seeded preparation.

- C. Soil Amendments (Fertilizer and Lime Specifications)**
1. 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 or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
  2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Measure 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 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**

**FOR**

**SEEDING AND MULCHING**

**Definition**

The application of seed and mulch to establish vegetation cover.

**Purpose**

To protect disturbed soils from erosion during and at the end of construction.

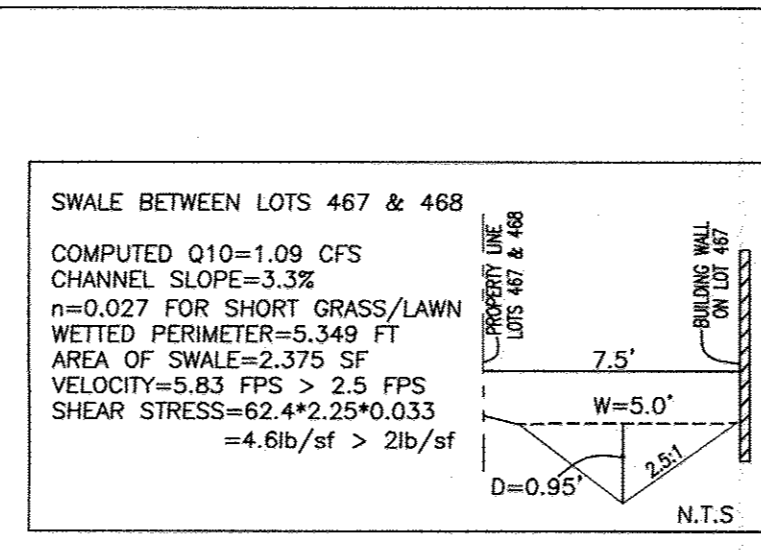
**Conditions Where Practice Applies**

To the surface of all perimeter controls, slopes, and all disturbed area not under active grading.

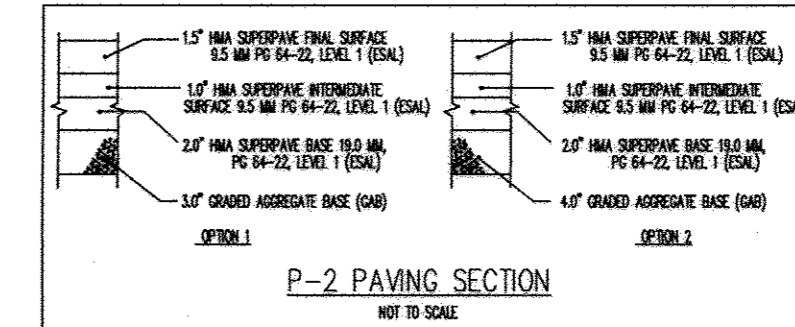
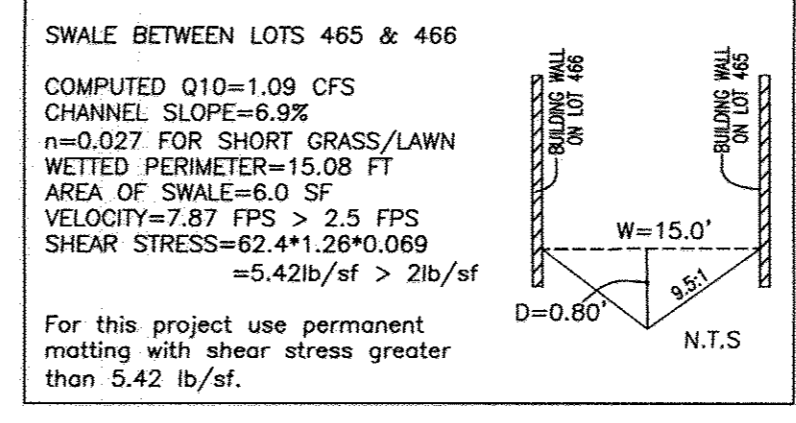
**A. Seeding**

1. Specifications
  - 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 upon request to the inspector to verify type of seed and seeding rate.
  - b. Match sowing 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 thaws.
  - c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
  - d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
2. Application
  - a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1. Permitted Seeding Table B.3, or site-specific seeding summaries.
    - ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

B.15



**MATTING COMPUTATIONS**



Note:  
Paving sections shown are based on a California Bearing Ratio (CBR) of greater than or equal to 7. Actual CBR tests may result in modifications to the paving sections. For other CBR values go to the Howard County Volume IV Design Manual, standard detail R-2.01, for associated P-2 Paving Sections.

**HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES**

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future L.O.D and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
  - a. Prior to the start of earth disturbance.
  - b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - c. 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 practices.
 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.
2. 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.
3. 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, 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.
4. 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 the 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 out and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be bench cut with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
6. Site Analysis:
 

|                                     |                    |         |
|-------------------------------------|--------------------|---------|
| Total Area of Site:                 | 0.2755             | Acres   |
| Area Disturbed:                     | 0.3535             | Acres   |
| Area to be seeded or planted:       | 0.1214             | Acres   |
| Area to be vegetatively stabilized: | 0.52               | Acres   |
| Total Cu:                           | 545.74             | Cu Yds. |
| Total Fill:                         | 202.67             | Cu Yds. |
| Offsite waste/borrow area location: | TWOEED GARAGE AREA |         |
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. 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)
  - Name and title of inspector
  - 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 stabilization requirements
  - Photographs
  - Monitoring/sampling
  - Maintenance and/or corrective action performed
  - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
9. 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 each workday, whichever is shorter.
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with the construction. Minor revisions may be approved by the CID per the list of HSCD-approved field changes.
11. 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 subsequent 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 HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution on other final grade.
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.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - Use I and II March 1 - June 15
  - Use III and I/IV October 1 - April 30
  - Use IV March 1 - May 31
16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and approved permits shall be on-site and available when the site is active.

Rev. 8.2016

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* DATE: 3-1-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* DATE: 3/27/18  
CHIEF, DIVISION OF PLANNING AND DEVELOPMENT

*[Signature]* DATE: 3-29-18  
DIRECTOR

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* DATE: 3/14/18

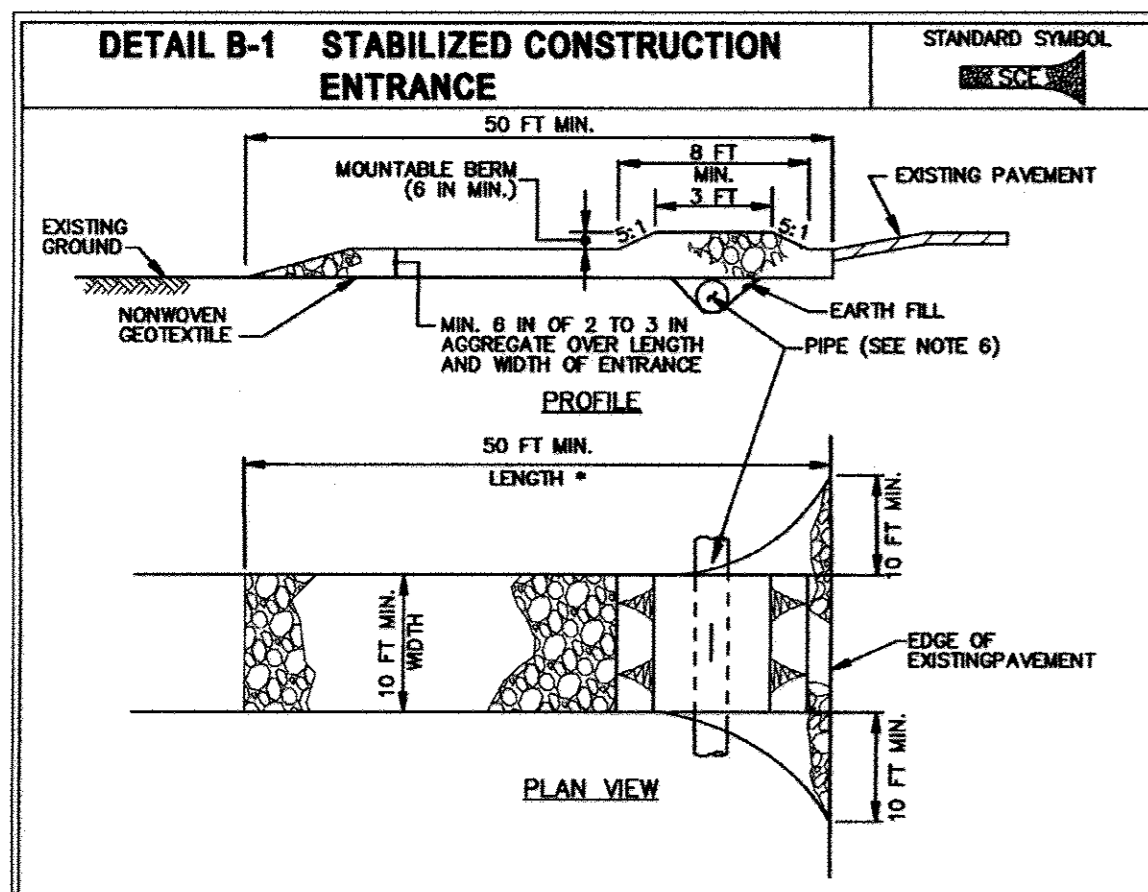
APPROVED: HOWARD COUNTY BUREAU OF HIGHWAYS  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
DIRECTOR DATE

**SWM & SEDIMENT AND EROSION CONTROL NOTES AND DETAILS**  
#6397-6399 BEECHFIELD AVENUE  
ELKRIDGE, MD 21075  
HARWOOD PARK  
LOTS 464-467 ZONING DISTRICT R-12  
PARCEL 873 TAX MAP 38 GRID 13 1ST ELECTION DISTRICT  
LIBER 16091 FOLIO 370  
HOWARD COUNTY, MARYLAND.

AAH CONSULTANTS LLC  
4200 FORBES BLVD, SUITE 203  
LANHAM, MARYLAND 20706  
(301) 429-1750 429-1757 (FAX)

|          |          |
|----------|----------|
| DRAWN    | R.P.     |
| DESIGNED |          |
| CHECKED  | A.H.     |
| SCALE    | 1" = 20' |
| DATE     |          |
| SHEET    | 4 OF 5   |
| JOB No.  | 15-037   |

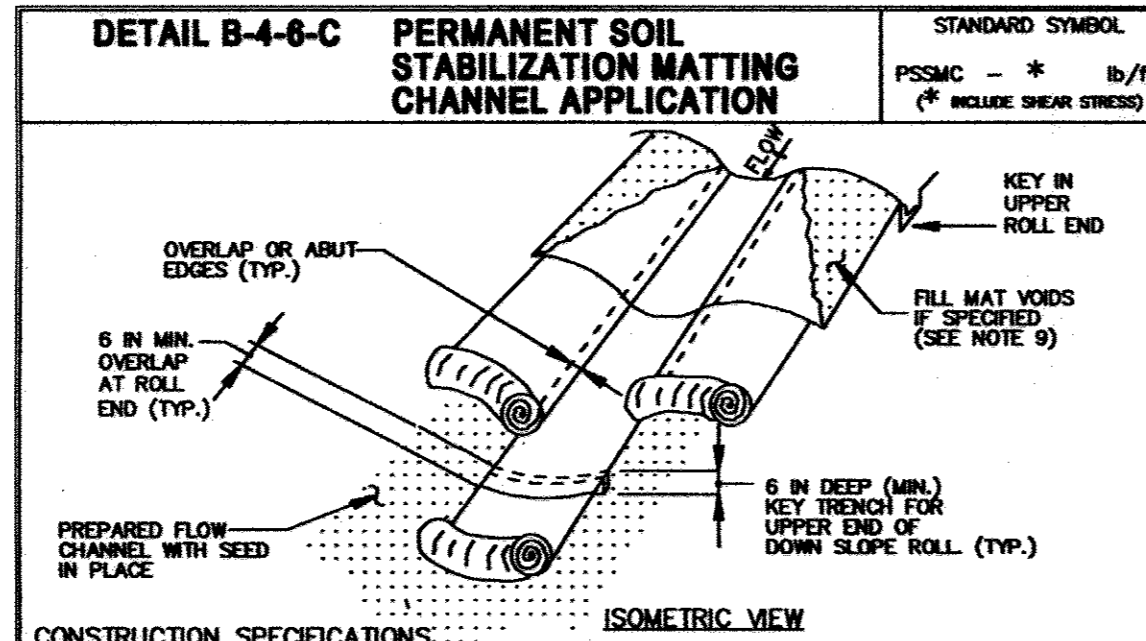




**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (430 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BEAM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BEAM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

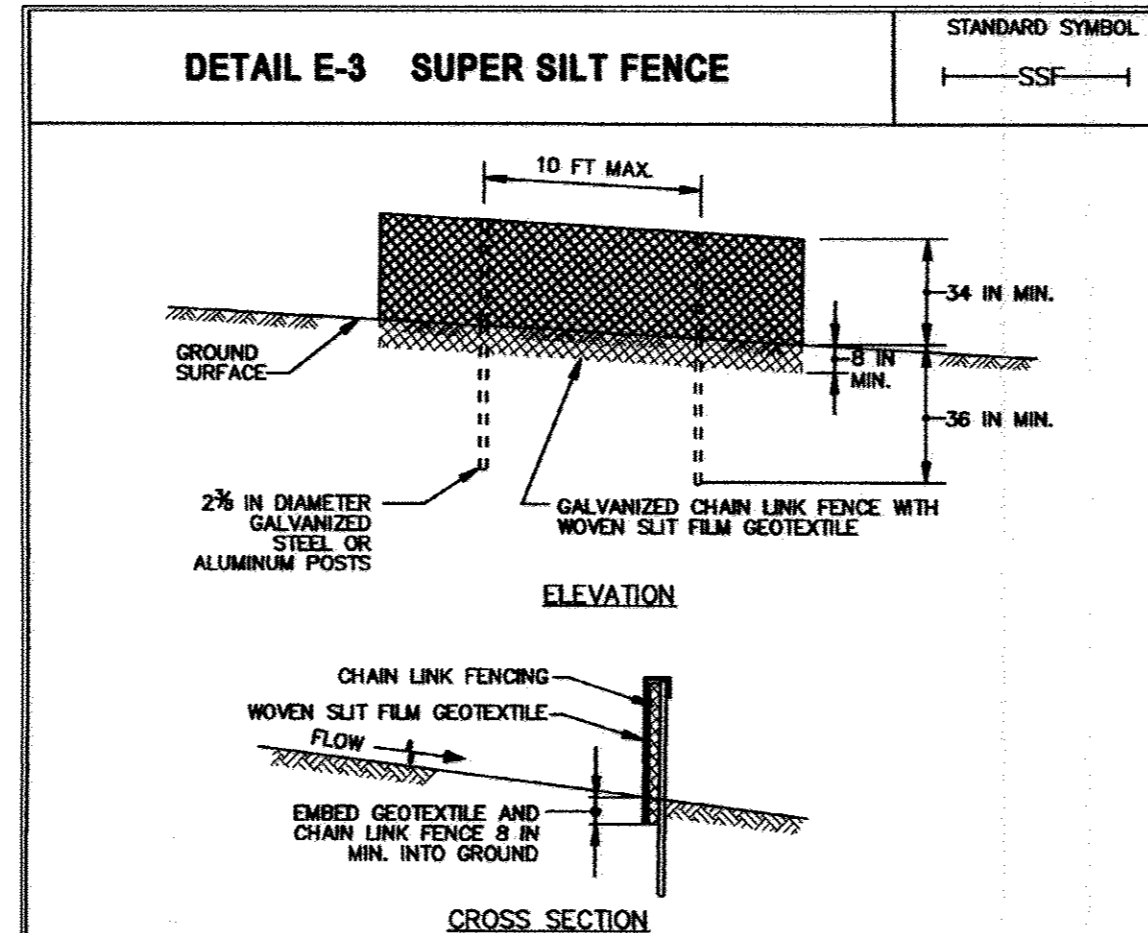
| MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL |      |   |  |
|---|------|---|--|
| U.S. DEPARTMENT OF AGRICULTURE<br>NATURAL RESOURCES CONSERVATION SERVICE    | 2011 | U.S. DEPARTMENT OF ENVIRONMENT<br>WATER MANAGEMENT ADMINISTRATION |  |
| B.2   |      |   |  |



**CONSTRUCTION SPECIFICATIONS**

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, MATTING MUST BE EXTENSIVELY PLASTIC WITH A MINIMUM MESH OPENING OF 242 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXES OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- 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. 9 RESPECTIVELY. "T" SHAPED STAPLES MUST HAVE AN AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 8 INCHES LONG. "U" 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, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- 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 SEEDING SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- 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 TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 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.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

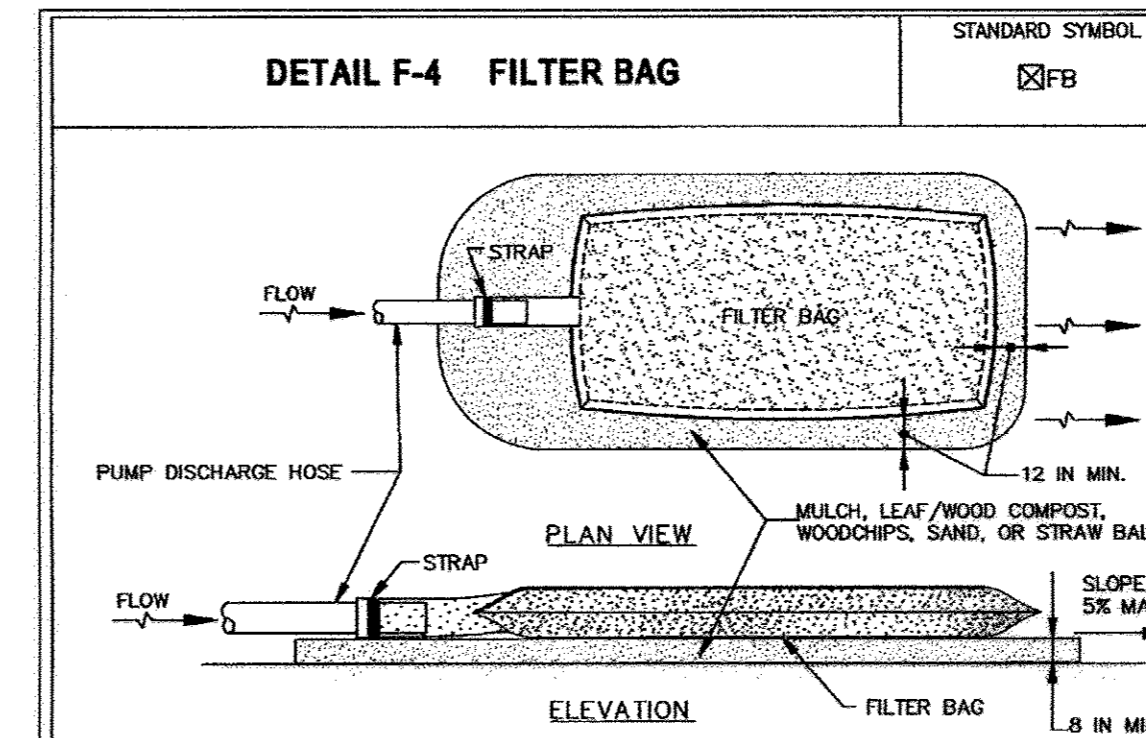
| MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL |      |   |  |
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| U.S. DEPARTMENT OF AGRICULTURE<br>NATURAL RESOURCES CONSERVATION SERVICE    | 2011 | U.S. DEPARTMENT OF ENVIRONMENT<br>WATER MANAGEMENT ADMINISTRATION |  |
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**CONSTRUCTION SPECIFICATIONS**

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEEDING BY PASS.
- 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 USE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 20% 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 |      |   |  |
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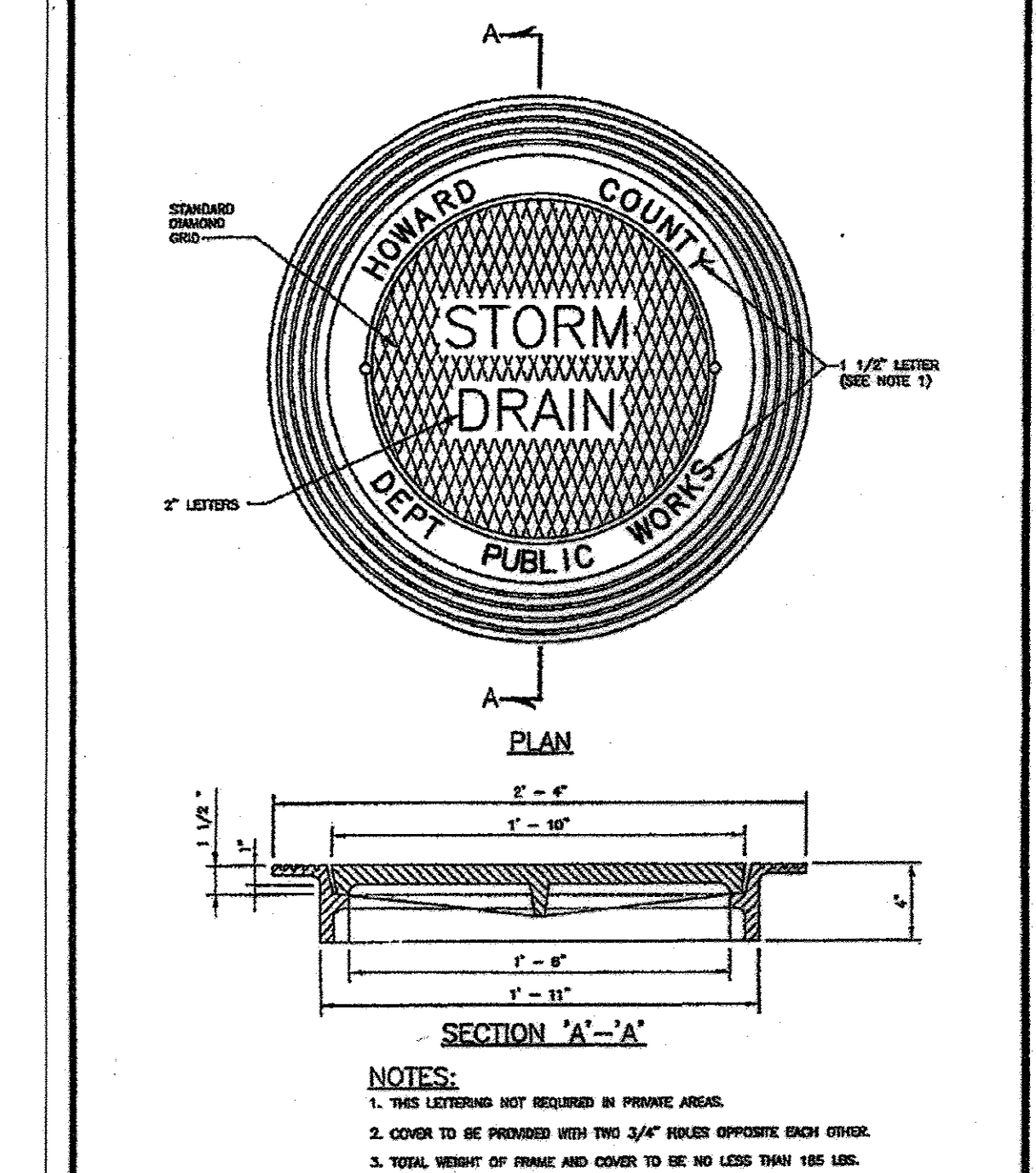
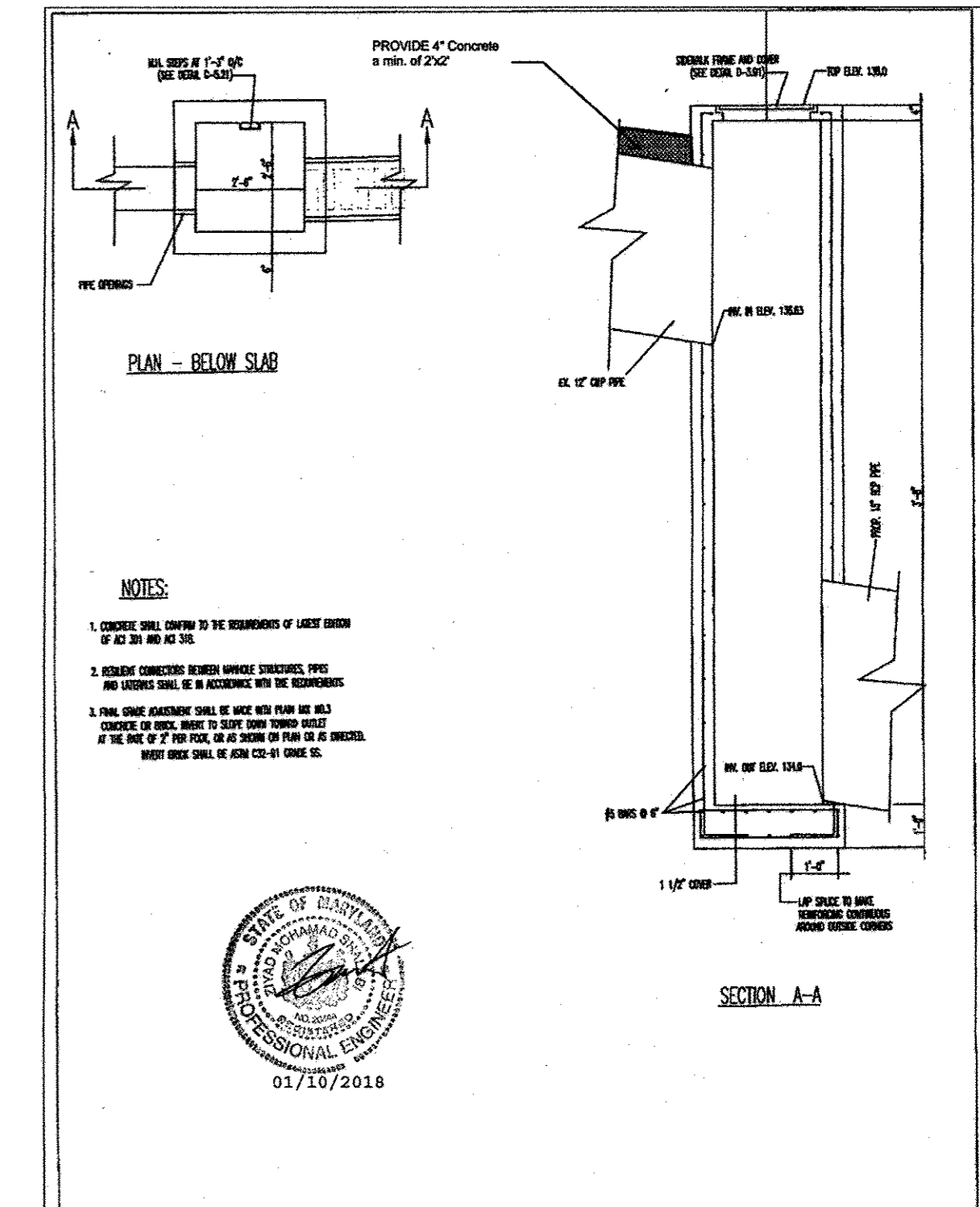


**CONSTRUCTION SPECIFICATIONS**

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR SIX MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA, EXTENDED BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
- CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
- REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
- USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MAYV) FOR THE FOLLOWING:  

|                                   |                           |             |
|-----------------------------------|---------------------------|-------------|
| GRAB TENSILE                      | 250 LB                    | ASTM D-4632 |
| PUNCTURE                          | 150 LB                    | ASTM D-4833 |
| FLOW RATE                         | 70 GAL/IN/FT <sup>2</sup> | ASTM D-4491 |
| PERMEABILITY (SEC <sup>-2</sup> ) | 1.2 SEC <sup>-2</sup>     | ASTM D-4491 |
| UV RESISTANCE                     | 70% STRENGTH @ 500 HOURS  | ASTM D-4355 |
| APPARENT OPENING SIZE (AOS)       | 0.15-0.18 MM              | ASTM D-4751 |
| SEAM STRENGTH                     | 90%                       | ASTM D-4632 |
- REPLACE FILTER BAG IF BAG CLOSURE OR HAS RIPS, TEARS, OR FURTHER. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

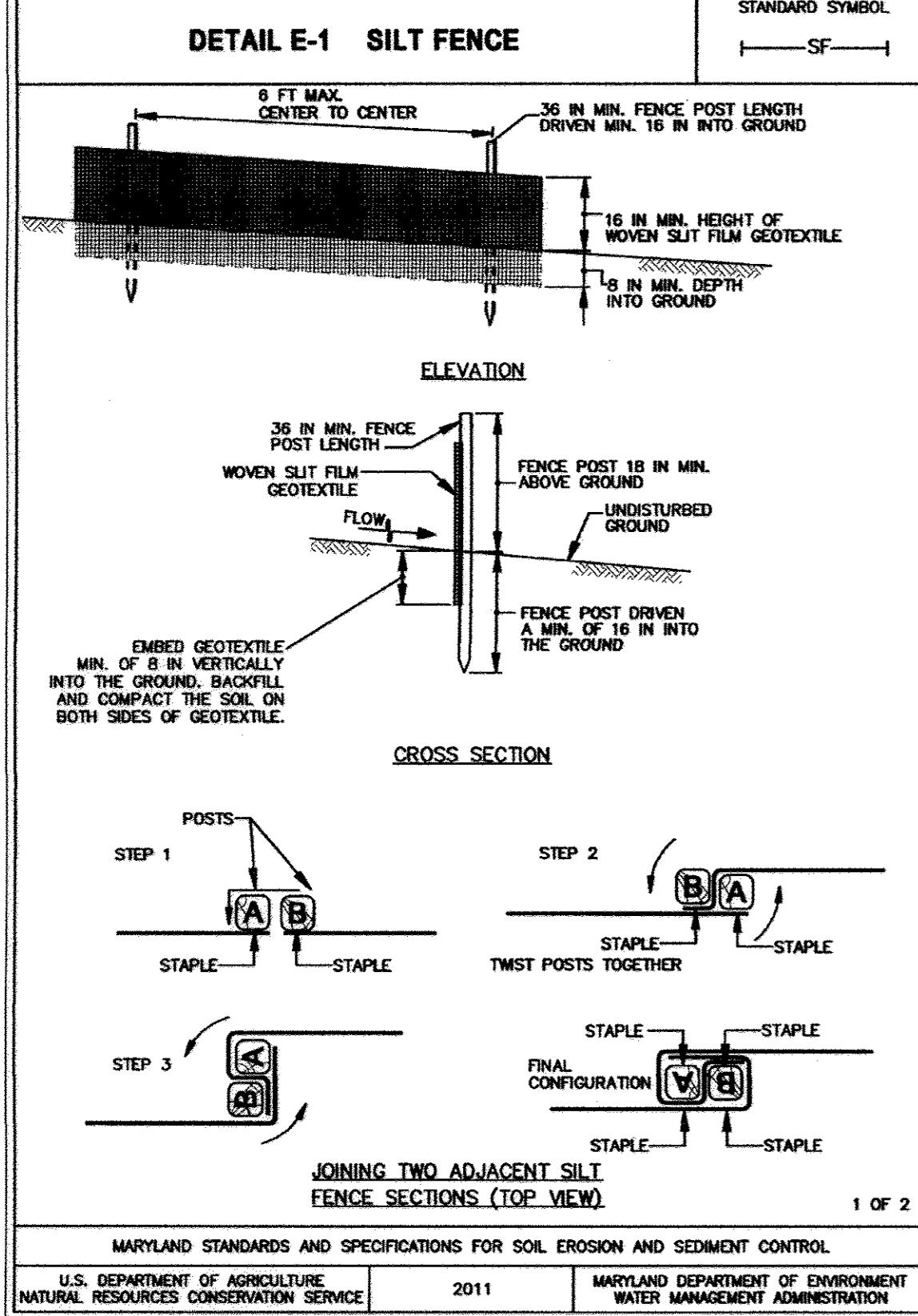
| MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL |      |   |  |
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| U.S. DEPARTMENT OF AGRICULTURE<br>NATURAL RESOURCES CONSERVATION SERVICE    | 2011 | U.S. DEPARTMENT OF ENVIRONMENT<br>WATER MANAGEMENT ADMINISTRATION |  |
| B.9   |      |   |  |



**CONSTRUCTION SPECIFICATIONS**

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
- PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PRESSURE CLOSING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

| MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL |      |   |  |
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| B.43  |      |   |  |



**B-4.8. STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA**

**Definition**  
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

**Purpose**  
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

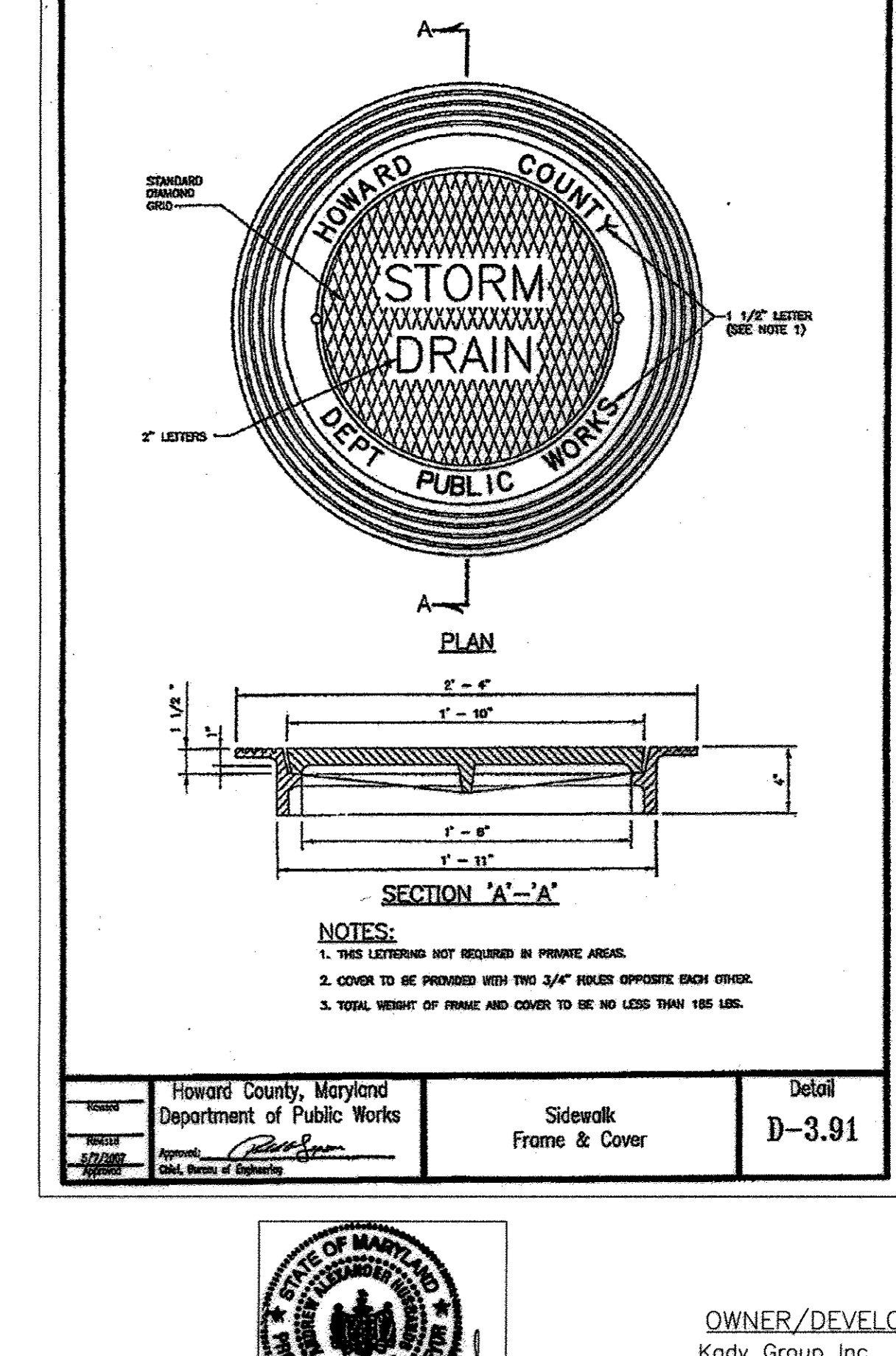
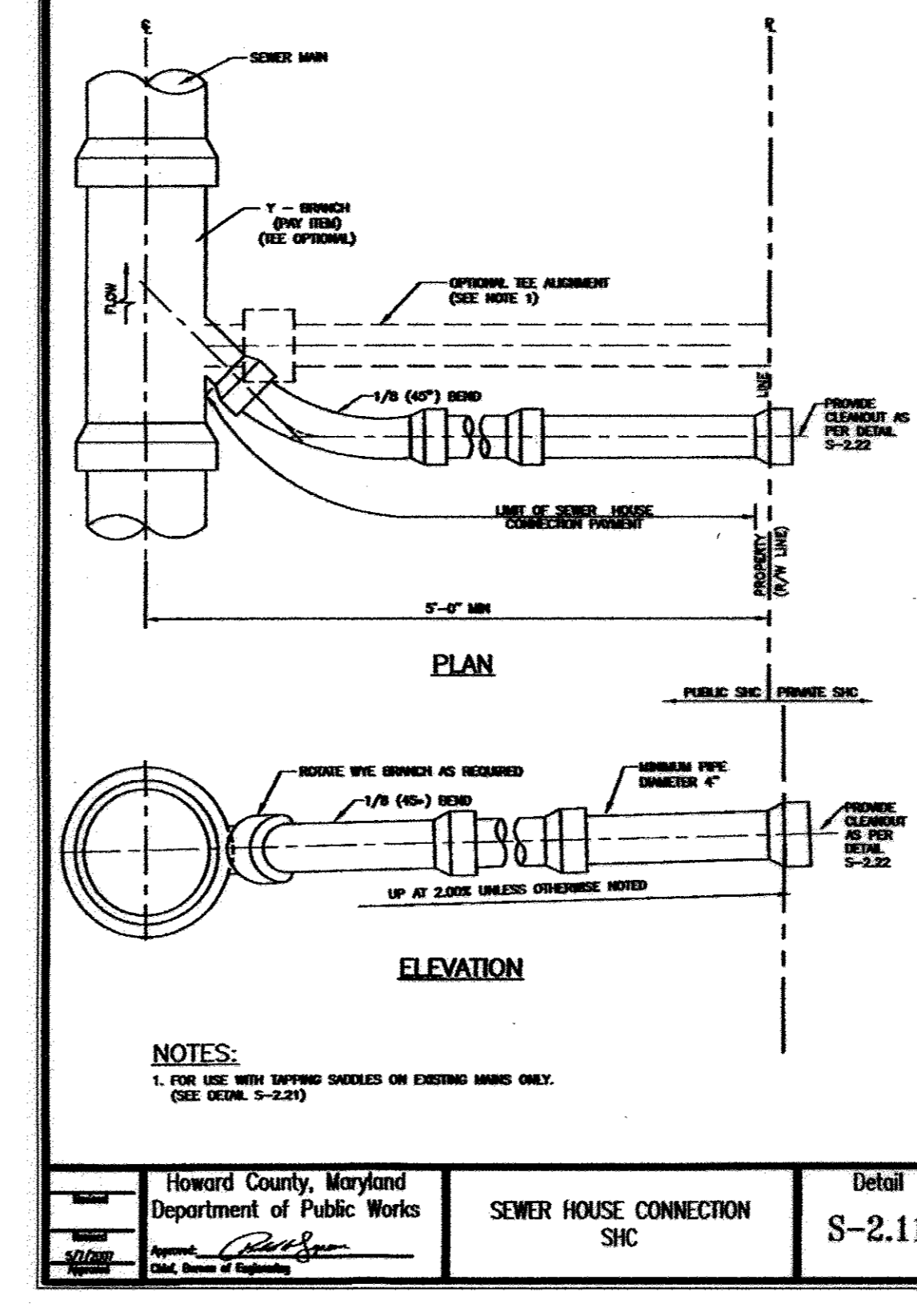
**Conditions Where Practice Applies**  
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

**Criteria**

- 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 Section B-3 Land Grading.
- 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 37 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 sheeting.

**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.

| MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL |      |   |  |
|---|------|---|--|
| U.S. DEPARTMENT OF AGRICULTURE<br>NATURAL RESOURCES CONSERVATION SERVICE    | 2011 | U.S. DEPARTMENT OF ENVIRONMENT<br>WATER MANAGEMENT ADMINISTRATION |  |
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| MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL |      |   |  |
|---|------|---|--|
| U.S. DEPARTMENT OF AGRICULTURE<br>NATURAL RESOURCES CONSERVATION SERVICE    | 2011 | U.S. DEPARTMENT OF ENVIRONMENT<br>WATER MANAGEMENT ADMINISTRATION |  |
| S-2.11  |      |   |  |

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Andrew Husbands* 2-12-18  
SIGNATURE OF DEVELOPER DATE

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.

NAME: ANDREW HUSBANDS  
LICENSE No.: 21188 EXPIRATION DATE: 01-04-2018

**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Andrew Husbands* 2-12-18  
SIGNATURE OF SURVEYOR DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*John L. Robertson* 3-14-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*John L. Robertson* 3/14/18  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John L. Robertson* 2-29-18  
DIRECTOR DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John L. Robertson* 3/14/18  
DATE

APPROVED: HOWARD COUNTY BUREAU OF HIGHWAYS

\_\_\_\_\_  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

\_\_\_\_\_  
DIRECTOR DATE

**SWM & SEDIMENT AND EROSION CONTROL NOTES AND DETAILS**

#6397-6399 BEECHFIELD AVENUE

ELKRIDGE, MD 21075

PARCEL 873 TAX MAP 38 GRID 13 1ST ELECTION DISTRICT

ZONING DISTRICT R-12 ECP-16-003 LIBER 16091 FOLIO 370 HOWARD COUNTY, MARYLAND.

**AAH CONSULTANTS LLC**

4200 FORBES BLVD, SUITE 203 LANHAM, MARYLAND 20706 (301) 429-1750 429-1767 (FAX)

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|----------|----------|
| DRAWN    | R.P.     |
| DESIGNED |          |
| CHECKED  | A.H.     |
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