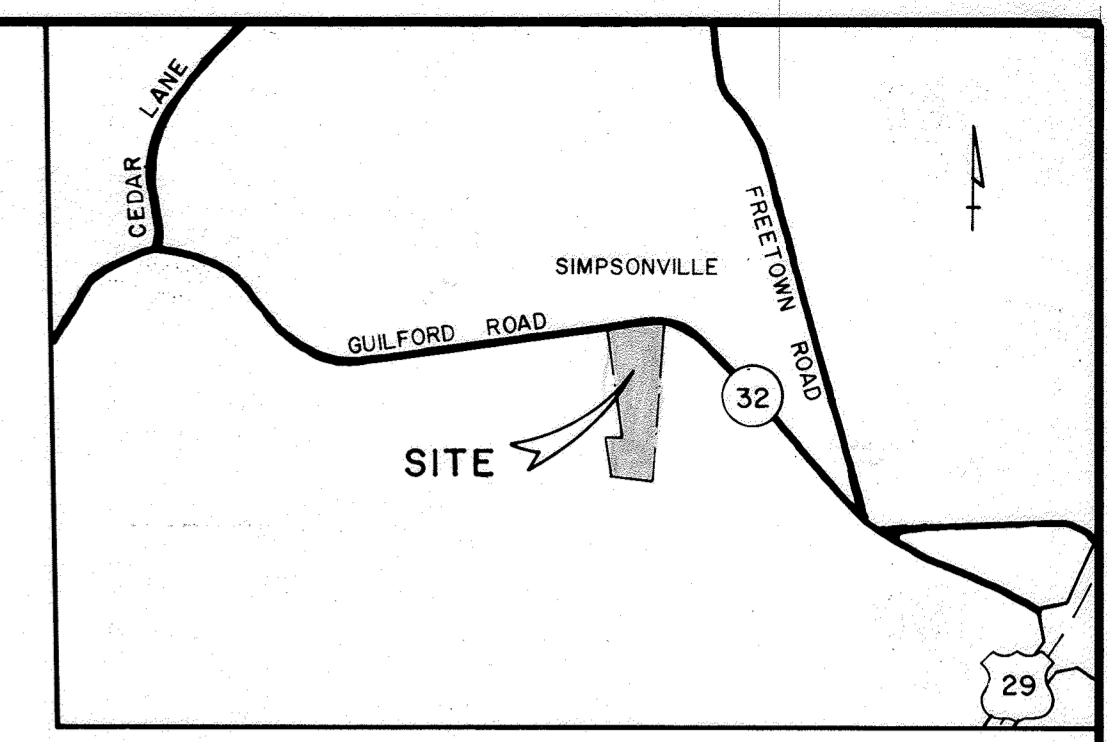
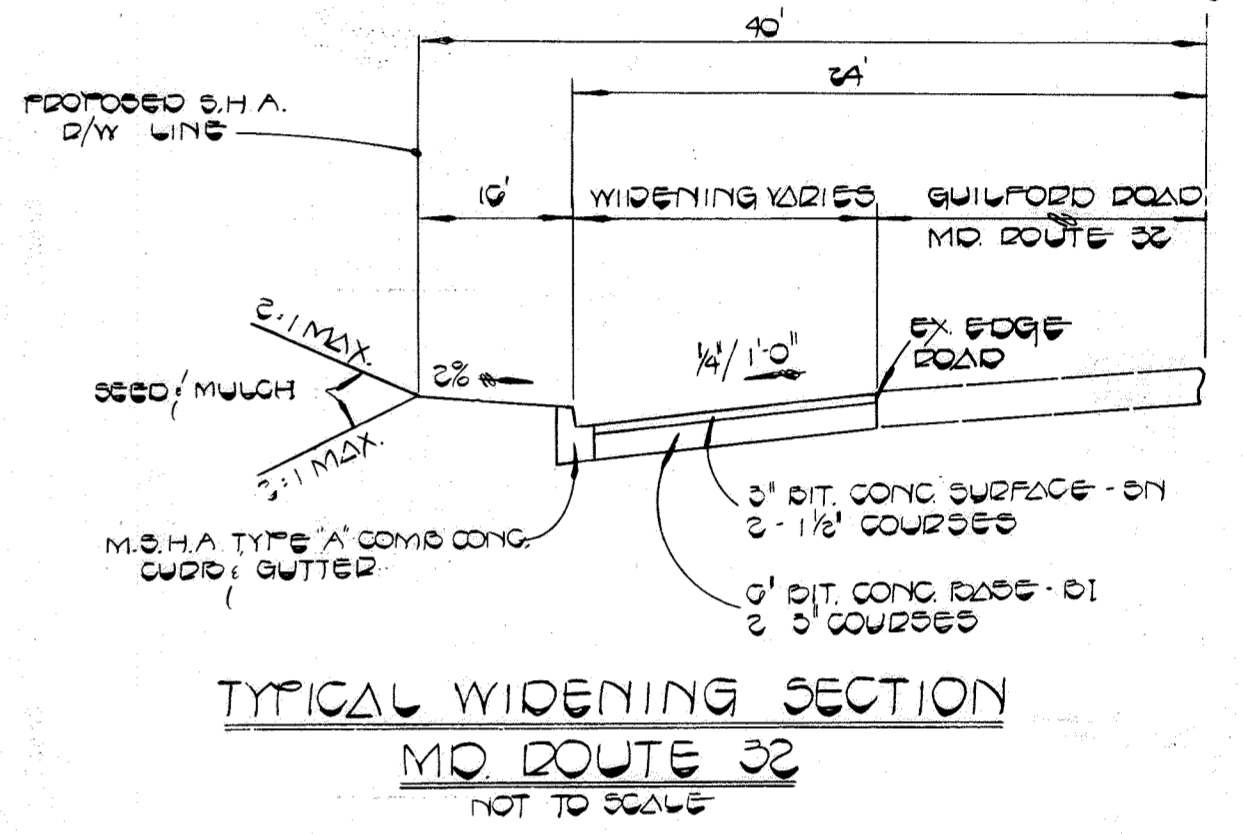
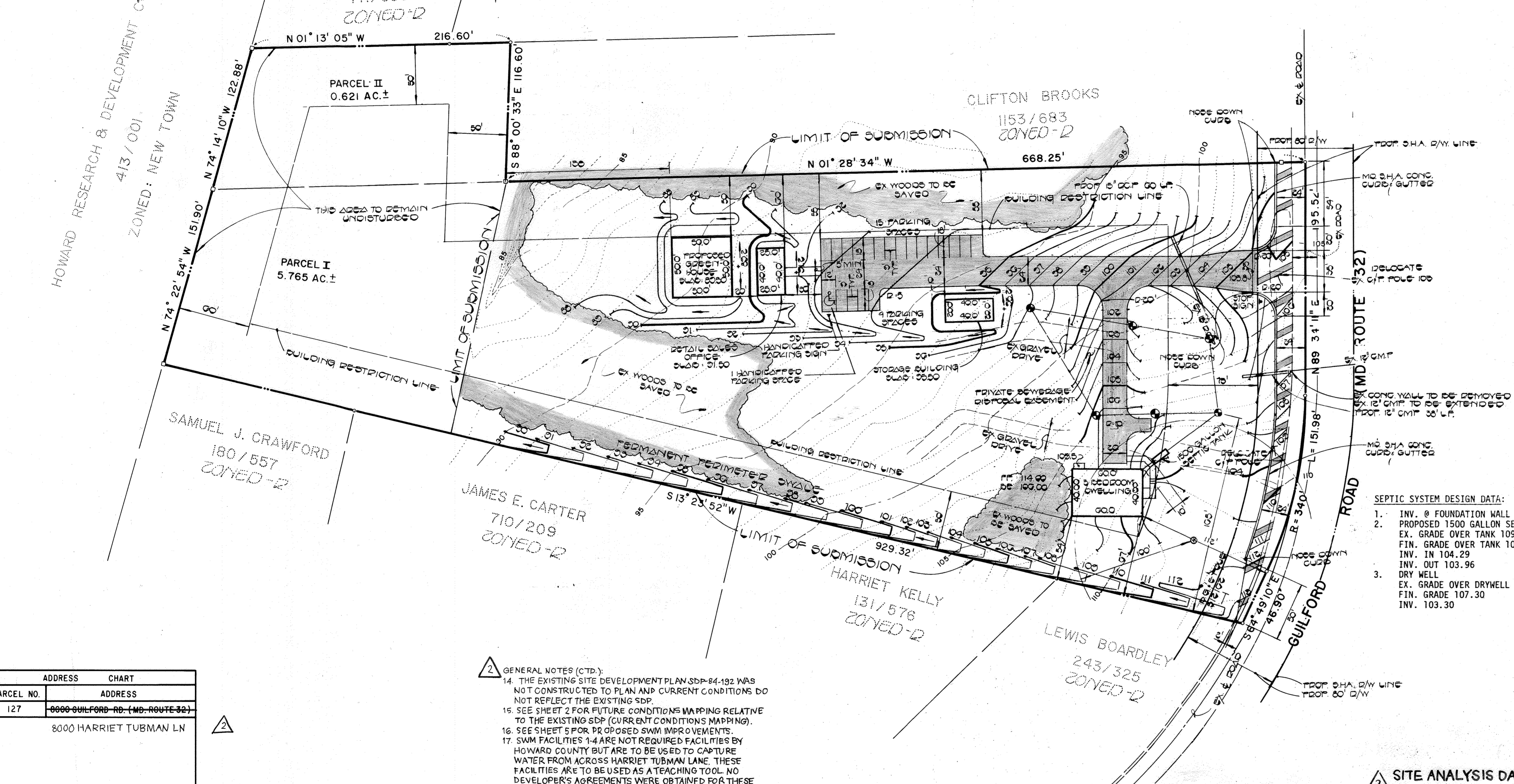


Sheet List Table	
Sheet Number	Sheet Title
1	SITE DEVELOPMENT PLAN
2	FUTURE CONDITIONS
3	DETAILS
4	DRAINAGE AREA MAP
5	PROPOSED CONDITIONS
6	DESIGN DETAILS
7	EROSION AND SEDIMENT CONTROL PLAN
8	SEQUENCE OF CONSTRUCTION
9	PLANTING PLAN



VICINITY MAP
SCALE: 1" = 1200'

LARRY ANTHONY KELLY
715/646
ZONED-2



TYPICAL WIDENING SECTION
MD ROUTE 32
NOT TO SCALE

- GENERAL NOTES:
- TOTAL AREA OF PARCEL: 6.386 AC.±
 - LIMIT OF SUBMISSION: 4.67 AC.±
 - PRESENT ZONING: R (RURAL)
 - PROPOSED USE: FARM AND GARDEN STORE W/GREENHOUSE AND SINGLE FAMILY RESIDENCE.
 - DEED REFERENCE: LIBER 1071, FOLIO 113
 - PROPERTY IS SHOWN ON TAX MAP 35, PARCELS 126 & 127
 - SEE BOARD OF APPEALS CASE NO. 81-566
 - THERE WILL BE NO TOOLS OR EQUIPMENT STORED OUTDOORS.
 - ALL PROPOSED ON-SITE LIGHTING WILL BE DEFUSED DOWNWARD AND INWARD.
 - PARKING DATA:
 - INTENDED USES OF STRUCTURES: FARM AND GARDEN STORE W/GREENHOUSE AND SINGLE FAMILY RESIDENCE.
 - TOTAL AREA OF BUILDINGS: 6700 S.F. OR 0.15 AC.± (2.3% BUILDING COVERAGE).
 - TOTAL RETAIL SALES: 1600 S.F.
 - SINGLE FAMILY RESIDENCE: 2400 S.F. (NO RETAIL SALES)
 - STORAGE BUILDINGS: 800 S.F. (STORAGE ONLY)
 - OFFICES: 1000 S.F. (RETAIL SALES)
 - GREENHOUSE: 2500 S.F. (600 S.F. RETAIL SALES)
 - TOTAL NUMBER OF SPACES REQUIRED: 20
 - 1 SPACE/100 S.F. OF SALES AREA: 1600 S.F. + 100 = 16
 - 1 SPACE/EMPLOYEE: 4 + 1 = 4
 - MAXIMUM NO. OF EMPLOYEES: 3-4
 - TOTAL NUMBER OF SPACES PROVIDED: 20
 - NUMBER OF HANDICAPPED SPACES PROVIDED: 1
 - THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION/SURVEY DIVISION 24 HOURS PRIOR TO COMMENCEMENT OF WORK AT 792-7272.
 - HANDICAPPED FACILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH THE "DESIGN OF BARRIER FREE FACILITIES" AND THE "MARYLAND BUILDING CODE FOR THE HANDICAPPED AND AGED".
 - EXISTING UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD AND OFFICE INFORMATION. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES TO HIS OWN SATISFACTION BEFORE MAKING ANY CONNECTION THERETO OR EXCAVATING IN THE AREA THEREOF.
 - SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.
 - 3.24 OF THE FOREST CONSERVATION MANUAL FOR THE SWM WORK ON REVISION SECTION 2, JULY 2021 REQUIRES AN OBLIGATION OF 0 AC (SEE CHART).

- SEPTIC SYSTEM DESIGN DATA:
- INV. @ FOUNDATION WALL - EL 104.50
PROPOSED 1500 GALLON SEPTIC TANK
EX. GRADE OVER TANK 109.00
FIN. GRADE OVER TANK 109.00
INV. IN 104.29
INV. IN 103.96
DRY WELL
EX. GRADE OVER DRYWELL 107.30
FIN. GRADE 107.30
INV. 103.30
 - CONCRETE WALL TO BE REMOVED
EX. 12" CMP TO BE EXTENDED
PROP. 12" CMP 38" L.F.
 - CONCRETE WALL TO BE REMOVED
EX. 12" CMP TO BE EXTENDED
PROP. 12" CMP 38" L.F.

SITE ANALYSIS DATA CHART

1.	TOTAL AREA OF SITE: 5.8 ACRES
2.	TOTAL PROJECT AREA: 0.32 ACRES (13,759 SF)
3.	DISTURBED AREA: 0.32 ACRES
4.	OPEN SPACE ON SITE: 0.32 ACRES (13,759 SF)
5.	TOTAL AREA TO BE REVEGETATED: 0.15 AC. (6,627 SF)

- GENERAL NOTES CONTINUED (THIS SHEET)
- TOTAL AREA OF SITE: 6.386 AC.±
 - TOTAL AREA TO BE DISTURBED: 0.32 AC.±
 - TOTAL IMPERVIOUS AREA: 0.65 AC.±
 - TOTAL AREA TO BE REVEGETATED: 3.75 AC.±

ADDRESS	CHART
PARCEL NO.	ADDRESS
127	8000 GUILFORD RD. (MD. ROUTE 32)
	8000 HARRIET TUBMAN LN

- LEGEND
- EXISTING CONTOUR (1' INTERVAL)
 - PROPOSED CONTOUR (1' INTERVAL)
 - SPOT ELEVATION
 - DRAINAGE FLOW
 - RETAINING WALL
 - EX. WOODS TO BE SAVED
 - STRAW BALE DIKE (S.B.D.)
 - SILT FENCE (S.F.)
 - STABILIZED CONSTRUCTION ENTRANCE (S.C.E.)
 - PERIMETER DIKE (P.D.)

- GENERAL NOTES (CONT.)
- THE EXISTING SITE DEVELOPMENT PLAN SDP-84-192 WAS NOT CONSTRUCTED TO PLAN AND CURRENT CONDITIONS DO NOT REFLECT THE EXISTING SDP.
 - SEE SHEET 2 FOR FUTURE CONDITIONS MAPPING RELATIVE TO THE EXISTING SDP (CURRENT CONDITIONS MAPPING).
 - SEE SHEET 5 FOR PROPOSED SWM IMPROVEMENTS.
 - SWM FACILITIES 1-4 ARE NOT REQUIRED FACILITIES BY HOWARD COUNTY BUT ARE TO BE USED TO CAPTURE WATER FROM ACROSS HARRIET TUBMAN LANE. THESE FACILITIES ARE TO BE USED AS A TEACHING TOOL. NO DEVELOPER'S AGREEMENTS WERE OBTAINED FOR THESE FACILITIES.
 - NOTE THAT SITE CONDITIONS SHOWN ON SHEET 2 ARE FOR INFORMATION ONLY AND APPROVAL OF THE SWM WORK DONE UNDER REVISION NUMBER 2 ON JULY 6, 2021 IS NOT APPROVAL OF EXISTING CONDITIONS OR FUTURE WORK.
 - APPROVAL OF REVISION NO. 2 IS FOR THE LOD SHOWN AS A ONLY. THE DEPARTMENT OF PLANNING AND ZONING REQUIRES AN ADDITIONAL REVISION TO REVIEW AND APPROVE THE SITE MODIFICATIONS BOTH EXISTING AND PROPOSED AS PART OF THE CHANGE IN USE APPROVED WITH BA CASE 19-023-C. NO OTHER PERMITS, INCLUDING FOR INTERIOR ALTERATIONS, CAN BE ISSUED UNTIL AN ADDITIONAL REVISION OR SITE PLAN IS SUBMITTED, REVIEWED AND APPROVED.

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND

5-17-84

RED-LINE REVISION #	DATE	LOG AREA	REVISION FC	OBLIGATION	DATE
2	7-6-21	0.32 AC.	0.0 AC.		

DATE	NUMBER	BY	REVISION
7-6-21	2	RW	REDLINE REVISION 2 FOR PROPOSED SWM, ADD SHEETS 4-9, REPLACE SHEET 2
4-11-84	1	K.P.	DESIGN PER HOWARD CO COMMENTS 3/3/84

OWNER & DEVELOPER
DAVE'S LAWN & LANDSCAPE SERVICE, INC.
(CEI BMP DESIGN)
PROPERTY OF DAVID A. SHAW, ET. AL.
TAX MAP 35 PARCEL 127
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN JANUARY 23, 1984
SHEET 1 OF 3 9

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVE.
ELLICOTT CITY, MD. 21043
(301) 461-2855

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

6/18/84
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEGGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

6/18/84
SIGNATURE OF DEVELOPER

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
6/28/84
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED:
6/28/84
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR
7-10-84
DATE

7-10-84
DATE

APPROVED: HOWARD COUNTY HEALTH DEPARTMENT
FOR PRIVATE WATER AND SEWERAGE SYSTEMS.
7-6-84
DATE

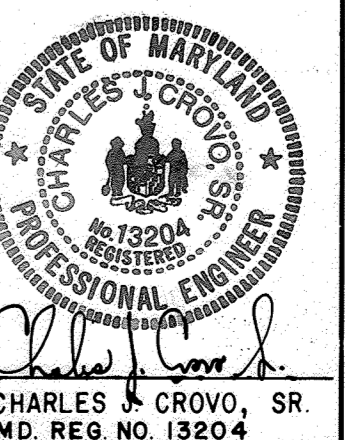
APPROVED: DEPARTMENT OF PUBLIC WORKS.
FOR STORM DRAINAGE SYSTEMS AND ROADS.
7-2-84
DATE

6-29-84
DATE

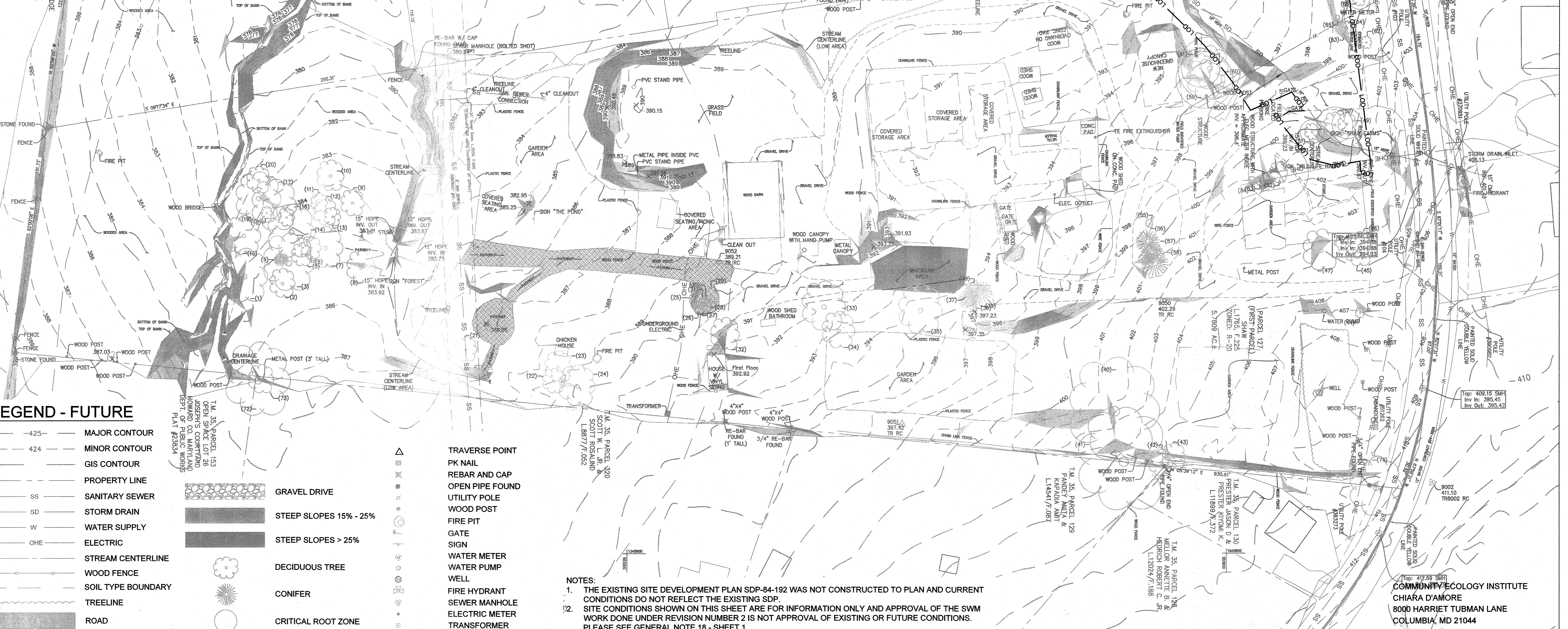
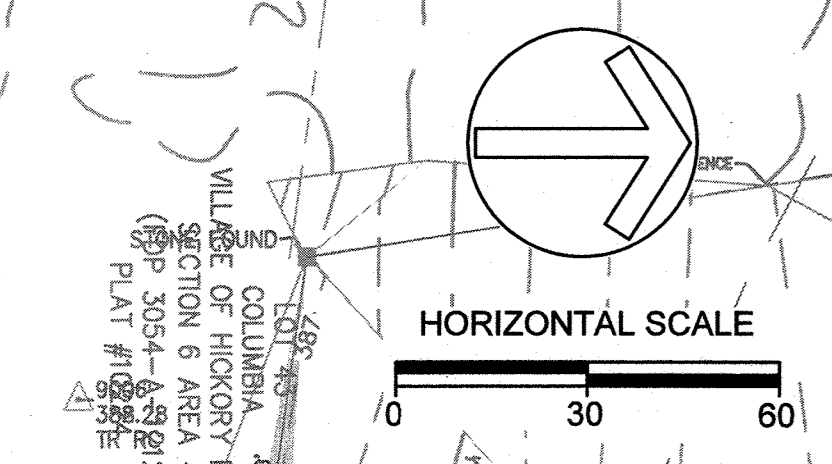
COMMUNITY ECOLOGY INSTITUTE
PROPERTY OF DAVID A. SHAW, ET. AL.
DAVE'S LAWN & LANDSCAPE SERVICE, INC.
SECTION/AREA LOT / PARCEL NO.
P. 127

REVISOR'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

6/18/84
SIGNATURE OF REVISOR



Traverse/Benchmark Control				
POINT	NORTH (feet)	EAST (feet)	ELEV. (feet)	DESCRIPTION
9002	553737.2343	1345852.3543	411.10	TR8002 RC
9003	553725.5481	1345436.9503	399.52	TR RC
9005	552993.0409	1345486.0696	377.14	TR RC
9006	552793.3213	1345515.1495	388.28	TR RC
9007	552766.7014	1345777.1255	391.40	TR RC
9050	553557.6780	1345729.4660	402.29	TR RC
9051	553383.5430	1345813.0190	397.42	TR RC
9052	553261.2550	1345703.6200	389.21	TR RC



LEGEND - FUTURE

- 425— MAJOR CONTOUR
 - 424— MINOR CONTOUR
 - GIS CONTOUR
 - PROPERTY LINE
 - SS SANITARY SEWER
 - SD STORM DRAIN
 - W WATER SUPPLY
 - OHE ELECTRIC
 - STREAM CENTERLINE
 - WOOD FENCE
 - SOIL TYPE BOUNDARY
 - TREELINE
 - ROAD
-
- △ TRAVERSE POINT
 - ⊗ PK NAIL
 - ⊗ REBAR AND CAP
 - ⊗ OPEN PIPE FOUND
 - ⊗ UTILITY POLE
 - ⊗ WOOD POST
 - ⊗ FIRE PIT
 - ⊗ GATE
 - ⊗ SIGN
 - ⊗ WATER METER
 - ⊗ WATER PUMP
 - ⊗ WELL
 - ⊗ FIRE HYDRANT
 - ⊗ SEWER MANHOLE
 - ⊗ ELECTRIC METER
 - ⊗ TRANSFORMER
-
- ▨ GRAVEL DRIVE
 - ▨ STEEP SLOPES 15% - 25%
 - ▨ STEEP SLOPES > 25%
 - ⊗ DECIDUOUS TREE
 - ⊗ CONIFER
 - ⊗ CRITICAL ROOT ZONE

NOTES:
 1. THE EXISTING SITE DEVELOPMENT PLAN SDP-84-192 WAS NOT CONSTRUCTED TO PLAN AND CURRENT CONDITIONS DO NOT REFLECT THE EXISTING SDP.
 2. SITE CONDITIONS SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY AND APPROVAL OF THE SWM WORK DONE UNDER REVISION NUMBER 2 IS NOT APPROVAL OF EXISTING OR FUTURE CONDITIONS. PLEASE SEE GENERAL NOTE 18 - SHEET 1.

ENGINEERS 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 COUNTY SOIL CONSERVATION DISTRICT.
 DATE: 7-6-2021
 SIGNATURE OF ENGINEER: [Signature]

DEVELOPERS 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 THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 DATE: 7-14-2021
 SIGNATURE OF DEVELOPER: [Signature]

THIS RED-LINED SITE DEVELOPMENT PLAN MEETS THE REQUIREMENTS FOR A HOWARD COUNTY SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL PLAN AND THEREFORE DOES NOT REQUIRE THE APPROVAL OF HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE	ISSUES / REVISIONS	PURPOSE
7-6-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM, ADD SHEETS 4-9, REPLACE SHEET 2

PERMIT INFORMATION CHART				
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL#	TAX MAP NO.	SECTION
COMMUNITY ECOLOGY INSTITUTE	127		35	4TH
PLAT# OR LF	GRID#	ZONING	TAX MAP NO.	ELECT. DISTR.
18755/290	35	R-20	4TH	6056.02
WATER CODE	SEWER CODE			

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 7/1/21
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 7/29/21
 DIRECTOR: [Signature] DATE: 7/23/21

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
 DIRECTOR OF PUBLIC WORKS: [Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: [Signature]
 CHIEF, STORMWATER MANAGEMENT DIVISION: [Signature]

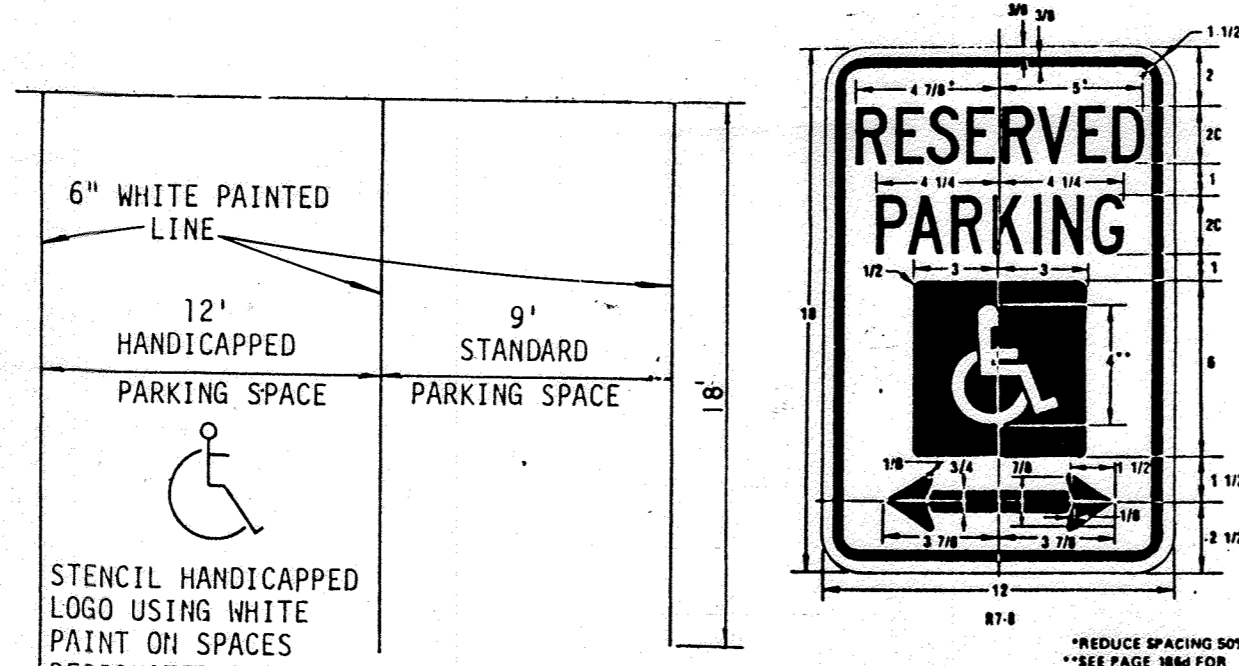
Biohabitats
 The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
 Restore the Earth & Inspire Ecological Stewardship

STATE OF MARYLAND
 BRYAN J. ARVAI
 PROFESSIONAL ENGINEER
 NO. 48608

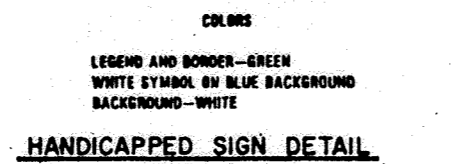
DAVE'S LAWN & LANDSCAPE SERVICE, INC. (CEI BMP DESIGN)
 TITLE: **FUTURE CONDITIONS**
 PROJECT NO.: 20005.01 SCALE: 1" = 30'
 PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD
 1371 ELECTORAL DISTRICT HOWARD COUNTY, MARYLAND
 BY: RW/TB CHECK: BA
 DWS. NO.: 2 OF 9

SEDIMENT CONTROL NOTES

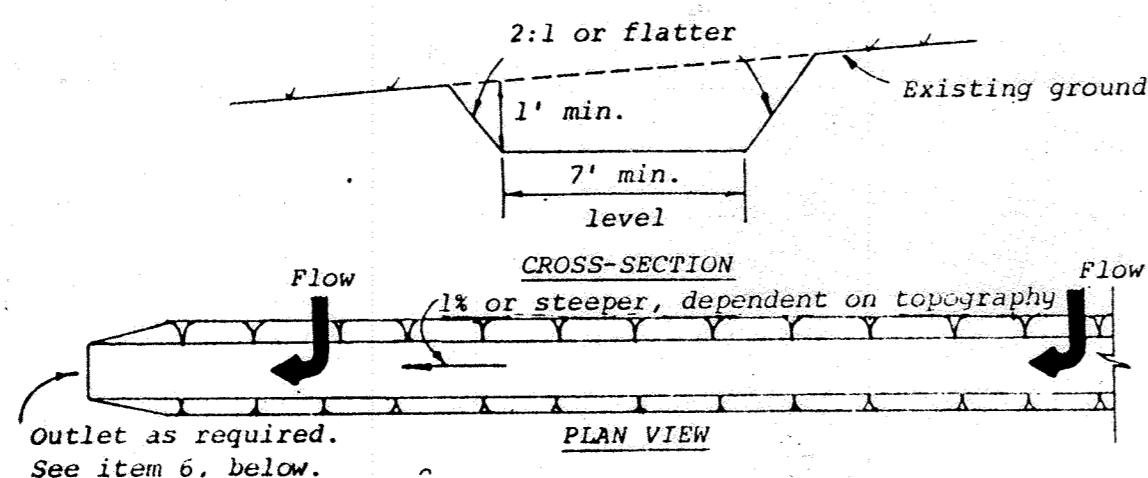
- SPECIFICATIONS FOR THE SEDIMENT CONTROL DETAILS INCLUDED IN THE U.S.D.A. SOIL CONSERVATION SERVICE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS."
- THE DEVELOPER SHALL NOTIFY THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS AT LEAST 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION SHOWN HEREON (792-7272).
- SEDIMENT CONTROL STRUCTURES TO BE CONSTRUCTED PRIOR TO ANY ON-SITE GRADING OR DISTURBANCE TO ANY EXISTING SURFACE MATERIAL, AND ARE TO BE STABILIZED AS SOON AS CONSTRUCTED.
- ALL SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE OBTAINED FROM THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS (792-7272)
- ALL GRADED AREAS NOT TO BE SODDED SHALL BE STABILIZED BY SEEDING AND MULCHING IN ACCORDANCE WITH THE FOLLOWING:
 - SITE PREPARATION
 - HARROW OR DISC IN AREAS PROPOSED TO BE SEED THE FOLLOWING MATERIALS
 - PULVERIZED LIMESTONE AT 2 TONS/ACRE.
 - COMMERCIAL FERTILIZER 10-10-10 AT 3/4 TONS/ACRE.
 - SUPER PHOSPHATE AT 600 LBS./ACRE.
 - SEEDING
 - SOW THE FOLLOWING SEED MIXTURE AT THE RATE OF 200 LBS./ACRE WITH A MECHANICAL SPREADER.
 - TEMPORARY: ITALIAN OR PERENNIAL RYE GRASS.
 - PERMANENT: 40% MARION BLUE GRASS, 40% DAKOTA BLUE GRASS AND 20% PENN LAWN CREEPING FESCUE.
 - THE SEED AREA SHALL THEN BE RAKED WITH A YORK RAKE (A MINIMUM OF 2 PASSES) COVERED AND COMPACTED WITH CULTIPACKER OR OTHER APPROVED METHOD.
 - MULCHING
 - SEED AREA SHALL BE UNIFORMLY MULCHED IMMEDIATELY AFTER SEEDING WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 - 2 TONS/ACRE.
 - TIE MULCH DOWN WITH LIQUID ASPHALT AT 0.1 GAL./S.Y. OR EMULSIFIED ASPHALT AT 0.04 GAL./S.Y. OR MULCH NETTING.



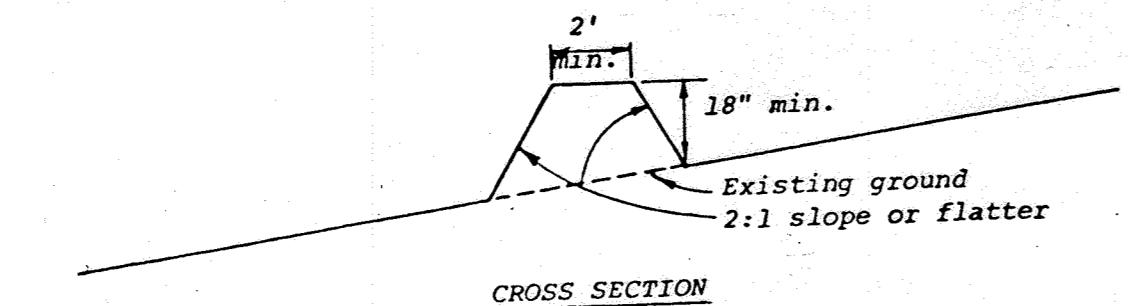
TYPICAL PARKING DETAIL
NO SCALE



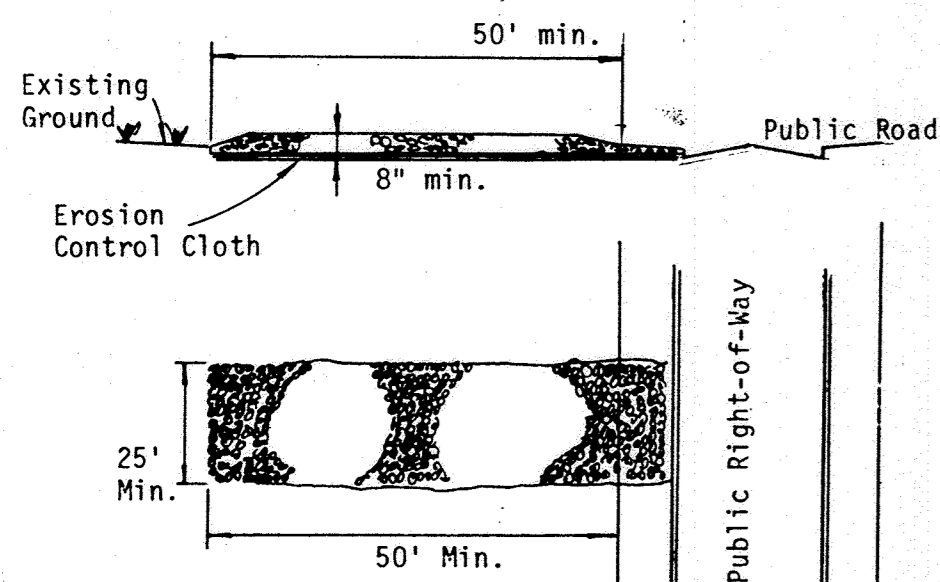
HANDICAPPED SIGN DETAIL
NOT TO SCALE



PERIMETER SWALE
NOT TO SCALE

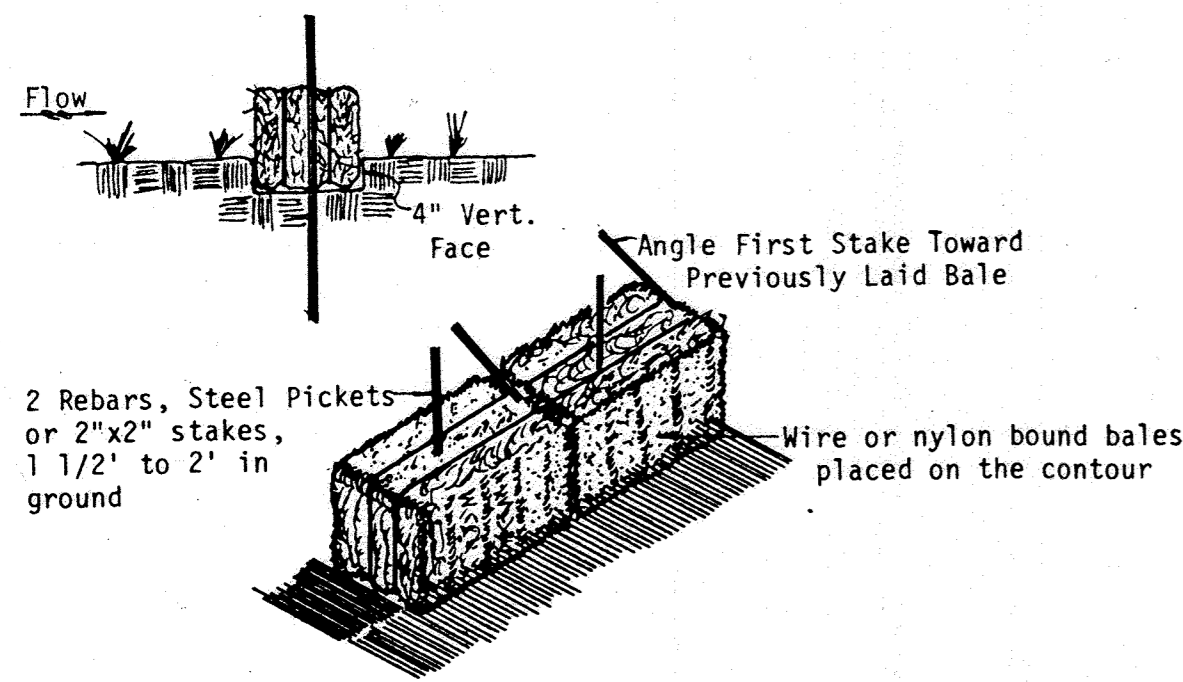


PERIMETER DIKE
NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

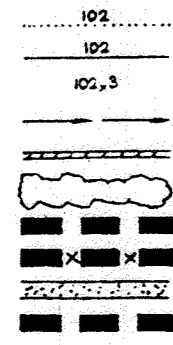
Provide appropriate transition between stabilized construction entrance and public right-of-way



STRAW BALE DIKE
NOT TO SCALE

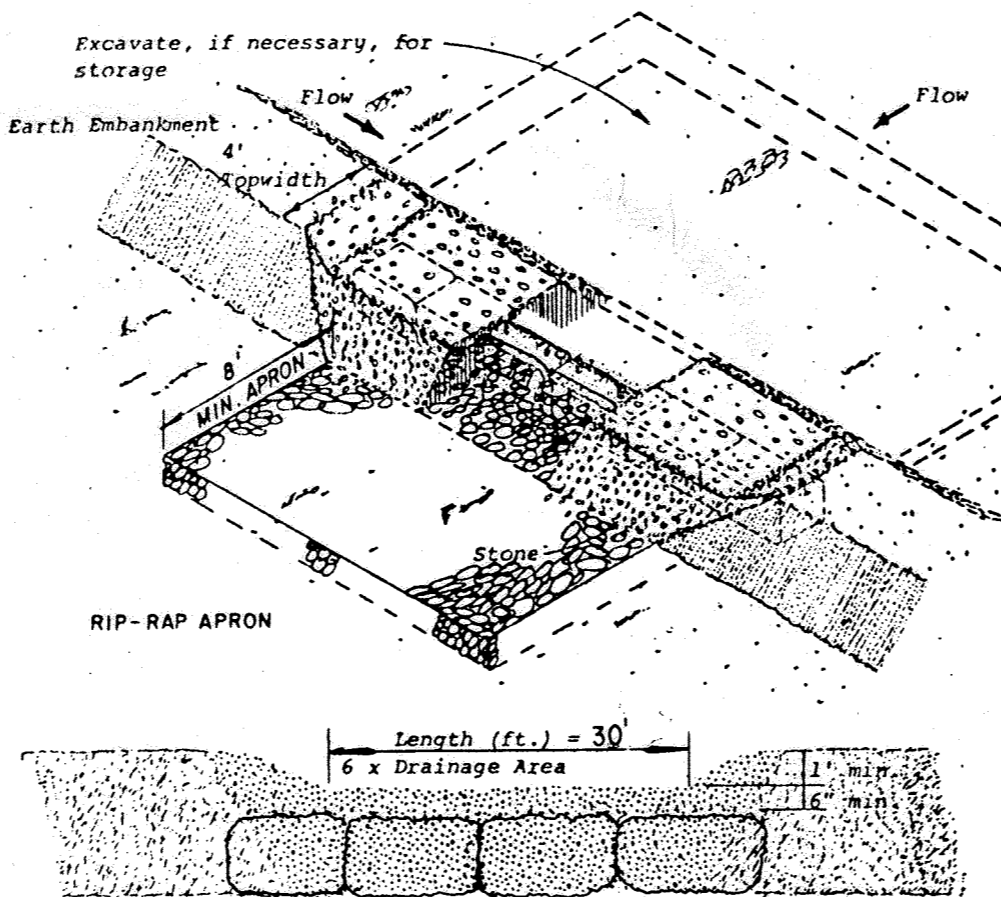
LEGEND

- EXISTING CONTOUR (1' INTERVAL)
- PROPOSED CONTOUR (1' INTERVAL)
- SPOT ELEVATION
- DRAINAGE FLOW
- RETAINING WALL
- EX. WOODS TO BE SAVED
- STRAW BALE DIKE (S.B.D.)
- SILT FENCE (S.F.)
- STABILIZED CONSTRUCTION ENTRANCE (S.C.E.)
- PERIMETER DIKE (P.D.)

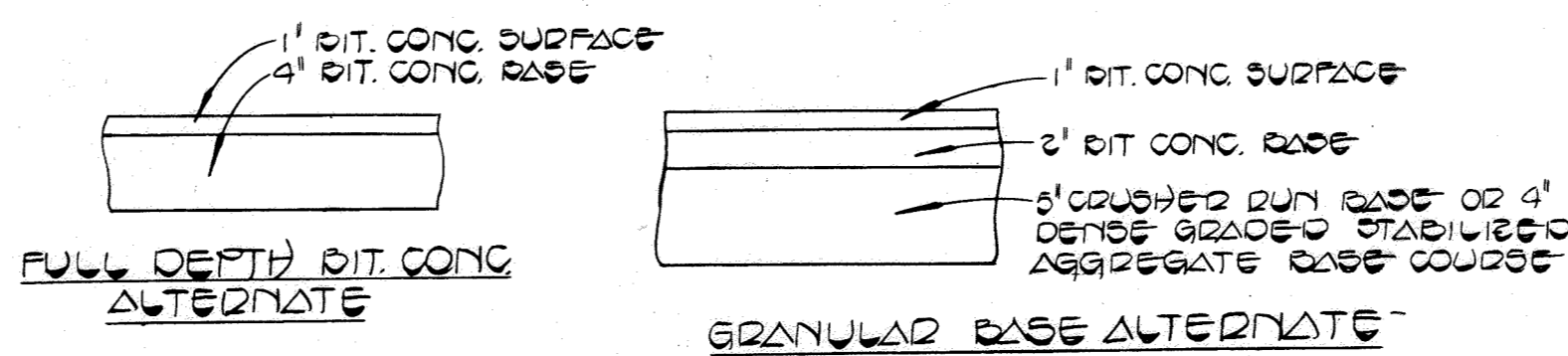


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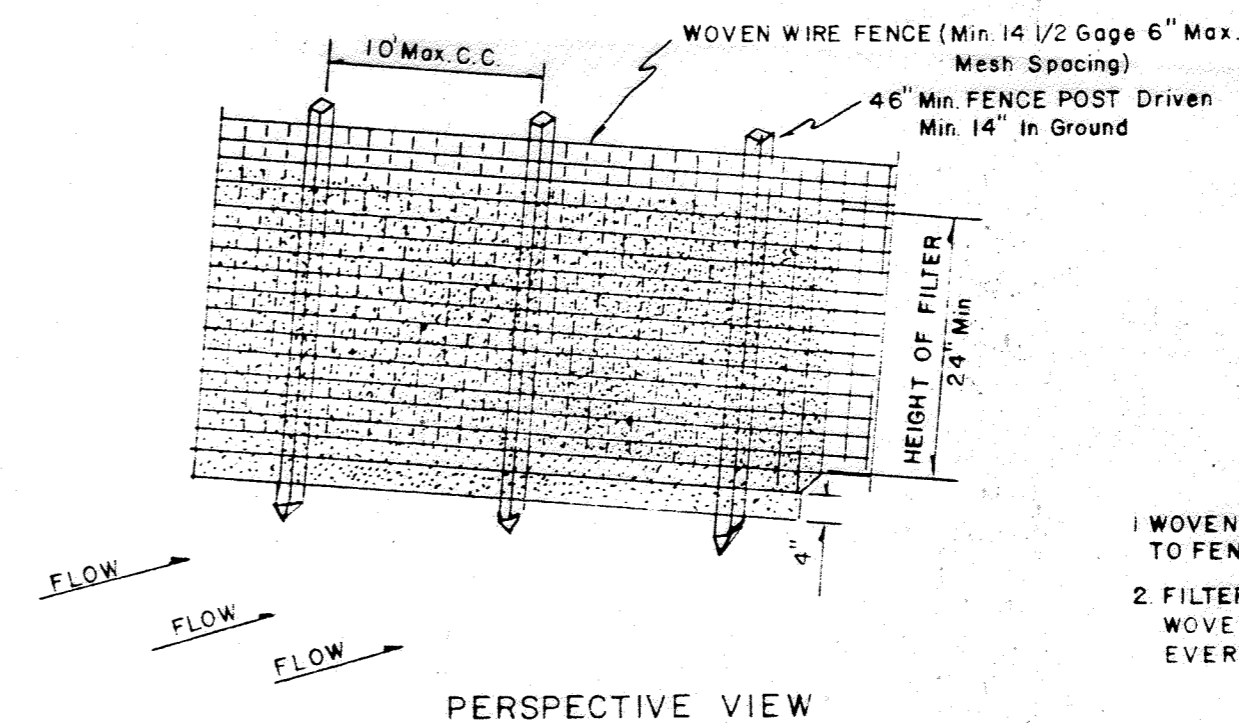
- THE EXISTING SITE DEVELOPMENT PLAN SDP-84-192 WAS NOT CONSTRUCTED TO PLAN AND CURRENT CONDITIONS DO NOT REFLECT THE EXISTING SDP.
- SEE SHEETS 5, 6, AND 7 FOR DETAILS ASSOCIATED WITH PROPOSED SWM IMPROVEMENTS.



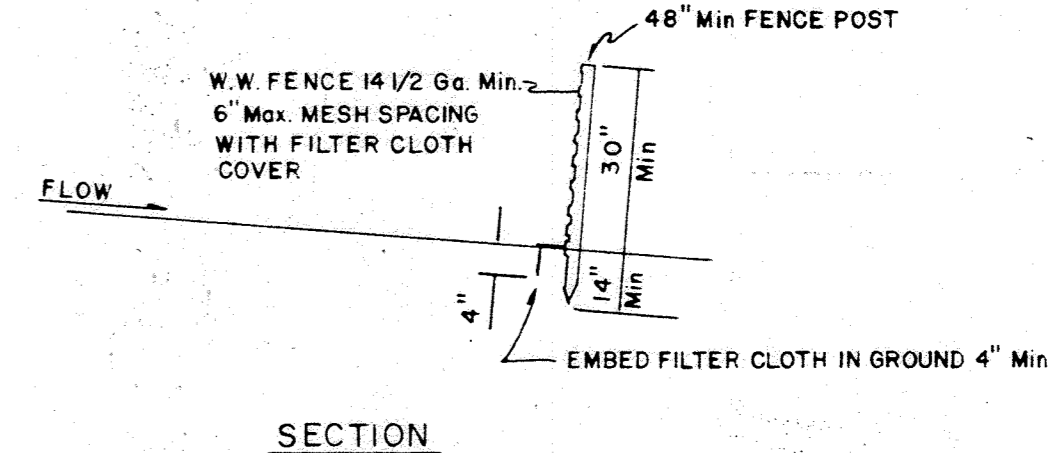
STONE OUTLET SEDIMENT TRAP
NOT TO SCALE



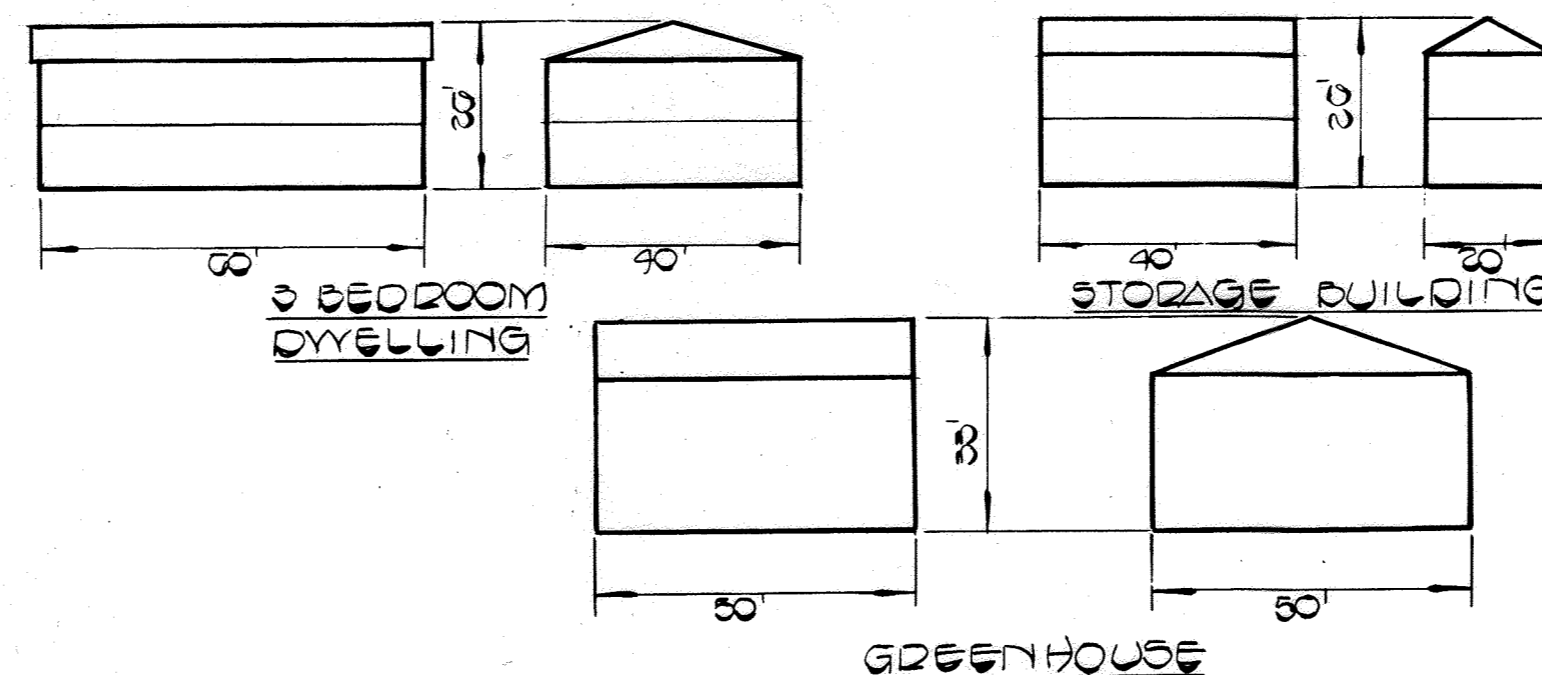
PAVING SECTION
NOT TO SCALE



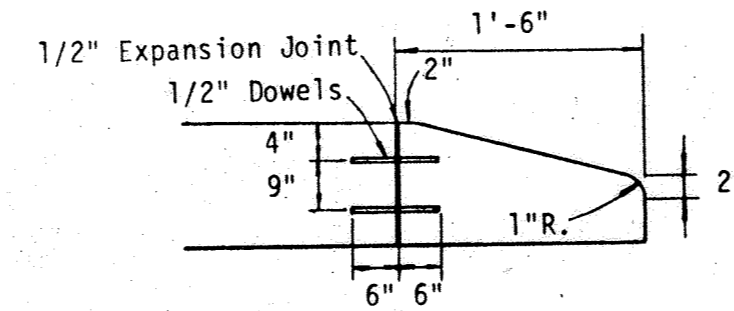
SILT FENCE DETAIL
NOT TO SCALE



SECTION



TYPICAL BUILDING PROFILE
NOT TO SCALE



NOSE DOWN CURB
NOT TO SCALE
USE CLASS 1 CONCRETE

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 5-17-84

COMMUNITY ECOLOGY INSTITUTE
CHARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

OWNER & DEVELOPER
DAVE'S LAWN & LANDSCAPE SERVICE, INC.
5029 EVEN STAR PLACE
COLUMBIA, MD - 21044
(301) 730-3367

DATE	NUMBER	BY	REVISION
7-6-84	2	RW	REPLING REVISION 2 FOR PROPOSED SWM; ADD SHEETS 4,1. REPLACE SHEET 2
4-11-84	1	K.P.	REVISED PER HOWARD CO COMMENTS 3/3/84

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVE.
ELLICOTT CITY, MD. 21043
(301) 461-2855

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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 COUNTY SOIL CONSERVATION DISTRICT.

STATE OF MARYLAND
CHARLES J. GROVO, SR.
PROFESSIONAL ENGINEER
No. 13204

Signature of Engineer: Charles J. Grovo, Sr.
DATE: 6/14/84

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Signature of Developer: [Signature]
DATE: 6/14/84

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

APPROVED: OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR: [Signature] DATE: 7-10-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION: [Signature] DATE: 7-10-84

APPROVED: HOWARD COUNTY HEALTH DEPARTMENT FOR PRIVATE WATER AND SEWERAGE SYSTEMS.
HEALTH OFFICER: [Signature] DATE: 7-6-84

U.S. SOIL CONSERVATION SERVICE
APPROVED: [Signature] DATE: 6/28/84
DISTRICT: [Signature] DATE: 6/28/84

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.
DIRECTOR, PUBLIC WORKS: [Signature] DATE: 7-2-84
CHIEF, BUREAU OF ENGINEERING: [Signature] DATE: 6-29-84

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.
DIRECTOR, PUBLIC WORKS: [Signature] DATE: 7-2-84
CHIEF, BUREAU OF ENGINEERING: [Signature] DATE: 6-29-84

STATE OF MARYLAND
CHARLES J. GROVO, SR.
PROFESSIONAL ENGINEER
No. 13204

DETAIL SHEET
DAVE'S LAWN & LANDSCAPE SERVICE, INC.
(CEI BMP DESIGN)
PROPERTY OF DAVID A. SHAW, ET. AL.
TAX MAP 35 PARCEL 127
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN JANUARY 23, 1984
SHEET 3 OF 3

SWM CONCEPT DESIGN NARRATIVE:
 STORMWATER MANAGEMENT FOR THIS PROJECT SITE IS TREATING ONLY EXISTING IMPERVIOUS AND IS NOT REQUIRED FOR THIS SITE.

STORMWATER MANAGEMENT AT THE PROJECT SITE WILL BE ADDRESSED BY IMPLEMENTING ENVIRONMENTAL SITE DESIGN (ESD) AND WATER QUALITY (WQ) PRACTICES TO THE MAXIMUM EXTENT POSSIBLE (MEP), IN ACCORDANCE WITH THE REVISED MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) STORMWATER DESIGN MANUAL CHAPTER 5 AND CHAPTER 3.

THE PROPOSED PROJECT IS NOT WITHIN ANY CRITICAL AREAS, PER APPENDIX D.4, NOR IS THIS A REDEVELOPMENT PROJECT, NEW DEVELOPMENT PROJECT, OR A COMMERCIAL/INDUSTRIAL PROJECT. THIS SITE IS NOT DEFINED AS A HOT SPOT. NO NEW IMPERVIOUS AREA IS ASSOCIATED WITH THIS PROJECT AND THE PROPOSED PRACTICES WILL TREAT EXISTING IMPERVIOUS AREA, OF WHICH DRAINS ONTO THE SITE FROM PUBLIC RIGHT-OF-WAY.

WATER QUALITY TREATMENT WILL BE ACHIEVED FOR THE PROJECT BY STRUCTURAL ESD PRACTICES AND WATER QUALITY PRACTICES. THE PROPOSED STRUCTURAL ESD PRACTICES INCLUDE TWO INFILTRATION BERMS AND THE PROPOSED WATER QUALITY PRACTICES INCLUDE A GRASSED SWALE AND A BIORETENTION.

BACKGROUND:
 THE PROPERTY IS CURRENTLY AN URBAN FARM AND NATURE EDUCATION CENTER, OWNED AND OPERATED BY THE COMMUNITY ECOLOGY INSTITUTE. THE AREA WITHIN THE PROJECT SITE LIMITS CONSISTS OF GRASSES AND SMALL TREES. THE FACILITIES WILL SERVE AS EDUCATIONAL TOOLS TO TEACH VISITORS TO THE FARM ABOUT WATER QUALITY TREATMENT PRACTICES THAT THEY CAN IMPLEMENT ON THEIR OWN PROPERTY.

THIS PROPERTY IS SERVICED BY PUBLIC WATER AND PUBLIC SEWER. THE PROPERTY IS NOT SUBJECT TO HISTORIC DISTRICT COMMISSION REQUIREMENTS. THIS PROPERTY DOES NOT LIE WITHIN THE BWI AIRPORT NOISE ZONE OR THE AIRPORT ZONING DISTRICT. FURTHERMORE, THIS PROPERTY IS NOT SUBJECT TO DESIGN ADVISORY PANEL REVIEW (ROUTE 1 OR ROUTE 40 CORRIDOR).

NATURAL RESOURCES PROTECTION AND ENHANCEMENT:
 NO SPECIMEN TREES EXIST ON SITE. THERE ARE NO FLOODPLAINS, WETLANDS, OR THEIR ASSOCIATED BUFFERS EXISTING WITHIN THE SITE AREA. THERE ARE STEEP SLOPES (SLOPE > 15%) AND ERODIBLE SOILS (SLOPE > 25%) EXISTING ON THE PROPERTY AND THE EXTENTS OF BOTH ARE INDICATED ON THE PLANS. THIS SITE IS NOT LOCATED IN NOR DOES IT DISCHARGE TO A TIER II WATERBODY.

MAINTENANCE OF NATURAL FLOW PATTERNS:
 NATURAL TOPOGRAPHY OF THE SITE EXHIBITS RUNOFF FLOWING IN A WESTERLY DIRECTION FROM THE EASTERN SIDE. ALL DRAINAGE PATTERNS WILL BE MAINTAINED AS SUCH. DRAINAGE FROM EXISTING IMPERVIOUS AREA, WITHIN THE PROPERTY LIMITS AND PUBLIC RIGHT-OF-WAY, WILL BE DIRECTED TO THE ESD AND WQ FACILITIES.

REDUCTION OF IMPERVIOUS AREAS:
 NO IMPERVIOUS AREAS ARE PROPOSED AS PART OF THIS PROJECT.

INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO SWM STRATEGY:
 SILT FENCE WILL BE INSTALLED ON THE DOWNSTREAM SIDE OF THE LIMIT OF DISTURBANCE TO TRAP ANY SEDIMENT-LADEN RUNOFF DURING CONSTRUCTION.

IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES:
 THIS PROJECT IS A RETROFIT THAT IS INTENDED TO TREAT ONLY EXISTING IMPERVIOUS AREA. AS SUCH, THE PROPOSED FACILITIES WERE CHOSEN FOR THEIR SUITABILITY FOR THE SITE CONDITIONS OVER OTHER ESD OR WQ TREATMENT OPTIONS.

SYMBOL	NAME	K Factor	Hydrologic Soil Group	Drainage Class
GbC	Gladstone loam, 8 to 15 percent slopes	0.28	A	Well Drained
GfB	Gladstone-Urban land complex, 0 to 8 percent slopes	0.28	A	Well Drained
GfC	Gladstone-Urban land complex, 8 to 15 percent slopes	0.28	A	Well Drained
GnB	Glenville-Bale silt loams, 0 to 8 percent slopes	0.43	C	Moderately Well Drained
McD	Manor loam, 15 to 25 percent slopes, very rocky	0.28	B	Well Drained
UfB	Urban land-Urban land complex, 0 to 8 percent slopes		D	

NOTE: A TREATMENT TRAIN APPROACH WAS USED ON THIS SITE. THE DRAINAGE AREAS SHOWN ABOVE REPRESENT THOSE USED TO DETERMINE FLOW RATES THROUGH PRACTICES OR CULVERTS. A FURTHER BREAKDOWN OF DRAINAGE AREAS WAS USED TO DETERMINE WATER QUALITY TREATMENT. SEE "NOTES" COLUMN IN TABLE FOR MORE CLARITY.

Facility ID	Direct Area (AC)	Direct Imp Area (AC)	Percent Impervious (%)	Total Area (AC)	Imp Area (AC)	Percent Treatment (%)	Target Treatment Depth (in)	Target Vol. (CF)	Vol. Treated (CF)	P _t Treated (in)	Notes for Treatment Train
Landscape Berm 1	0.09	0.02	27%	0.09	0.02	27%	1	92	156	1.7	Overflows to Bioretention
Landscape Berm 2	0.09	0.02	26%	0.09	0.02	26%	1	93	78	0.83	Overflows to Bioretention
Grassed Swale	1.90	0.22	11%	1.90	0.22	11%	1	1048	11	0.01	Flows to Bioretention
Bioretention	0.48	0.17	36%	2.56	0.43	18%	1	652	1665	0.6	End of Treatment Train
Total	2.56	0.43						1,885	1,910		

*TOTAL AREA REFERS TO TOTAL AREA DRAINING TO PRACTICE, INCLUDING AREA THAT IS PARTIALLY OR FULLY TREATED BY UPSTREAM PRACTICES
 *DIRECT AREA REFERS TO ONLY AREA DIRECTLY DRAINING TO PRACTICE, NOT TREATED BY UPSTREAM PRACTICES

ENGINEERS 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 COUNTY SOIL CONSERVATION DISTRICT.

7-8-2021
 DATE

7-14-2021
 DATE

DEVELOPERS 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 THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

7-14-2021
 DATE

THIS RED-LINED SITE DEVELOPMENT PLAN MEETS THE REQUIREMENTS FOR A HOWARD COUNTY SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL PLAN AND THEREFORE DOES NOT REQUIRE THE APPROVAL OF HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE	ISSUES / REVISIONS	PURPOSE
7-8-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM; ADD SHEETS 4-9, REPLACE SHEET 2

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL#
COMMUNITY ECOLOGY INSTITUTE		127

PLAT# OR LIF	GRID#	ZONING	TAX MAP NO.	ELECT. DIST.	CENSUS TRACT
18755290	24	R-20	35	4TH	6056.02

WATER CODE: SEMER CODE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/11/21
 DATE

7/23/21
 DATE

7/23/21
 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

DIRECTOR OF PUBLIC WORKS

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

CHIEF, STORMWATER MANAGEMENT DIVISION

Biohabitats

The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
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OWNER & DEVELOPER
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 CHIARA D'AMORE
 8000 HARRIET TUBMAN LANE
 COLUMBIA, MD 21044

STATE OF MARYLAND
 PROFESSIONAL ENGINEER

BRYAN J. ARVAI
 NO. 46808

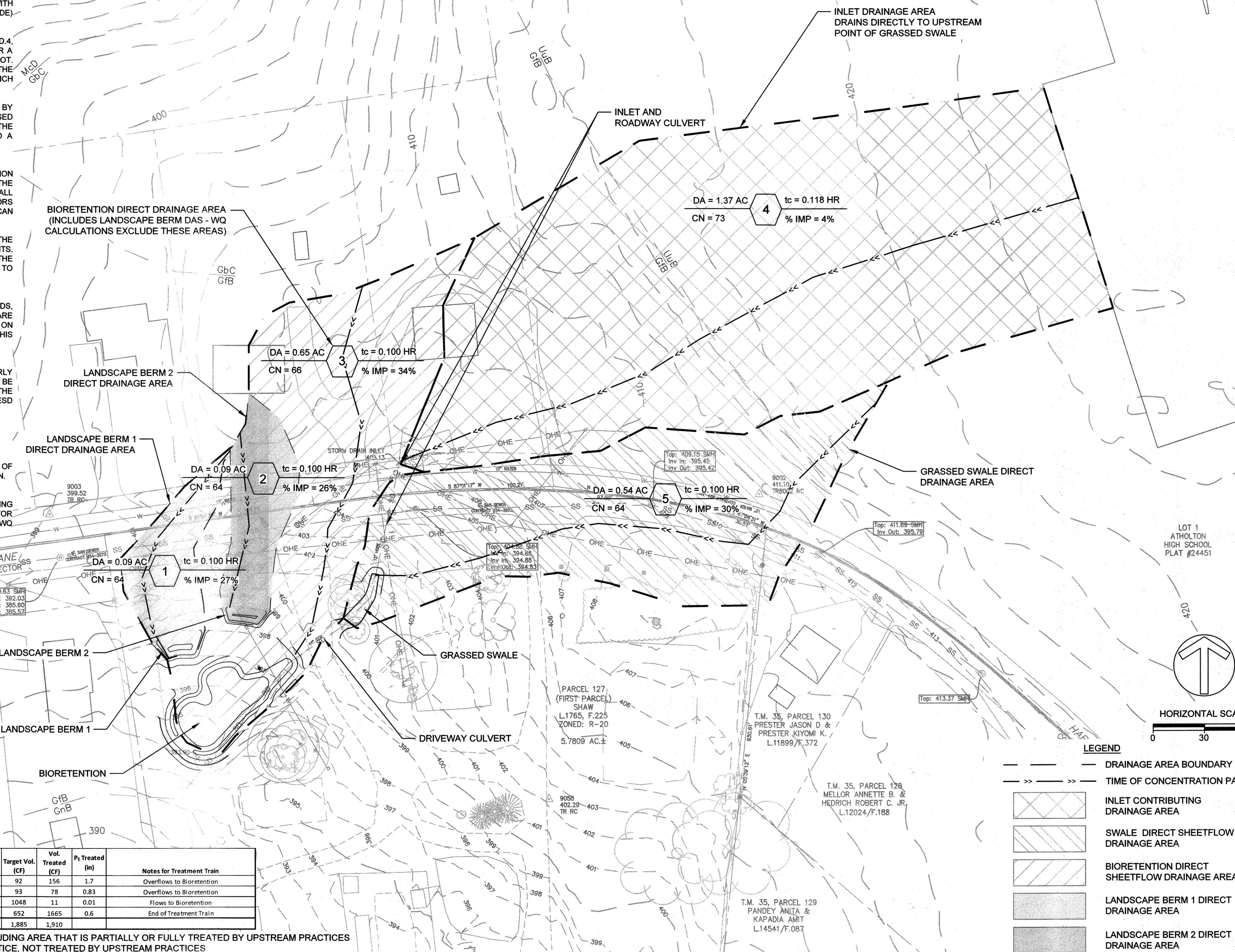
DAVE'S LAWN & LANDSCAPE SERVICE, INC.
 (CEI BMP DESIGN)

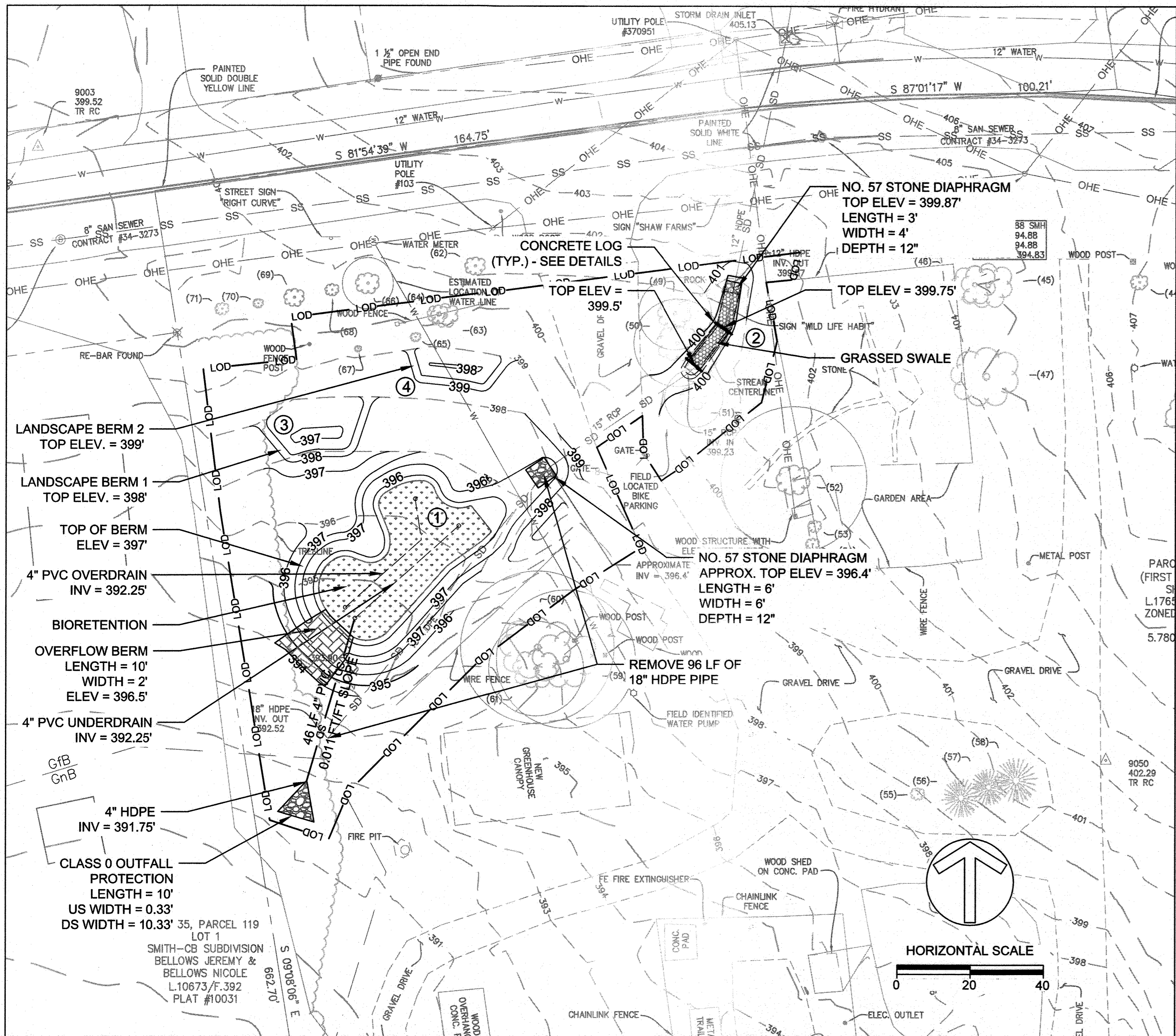
DRAINAGE AREA MAP

PROJECT NO.: 20005.01
 SCALE: 1" = 30'

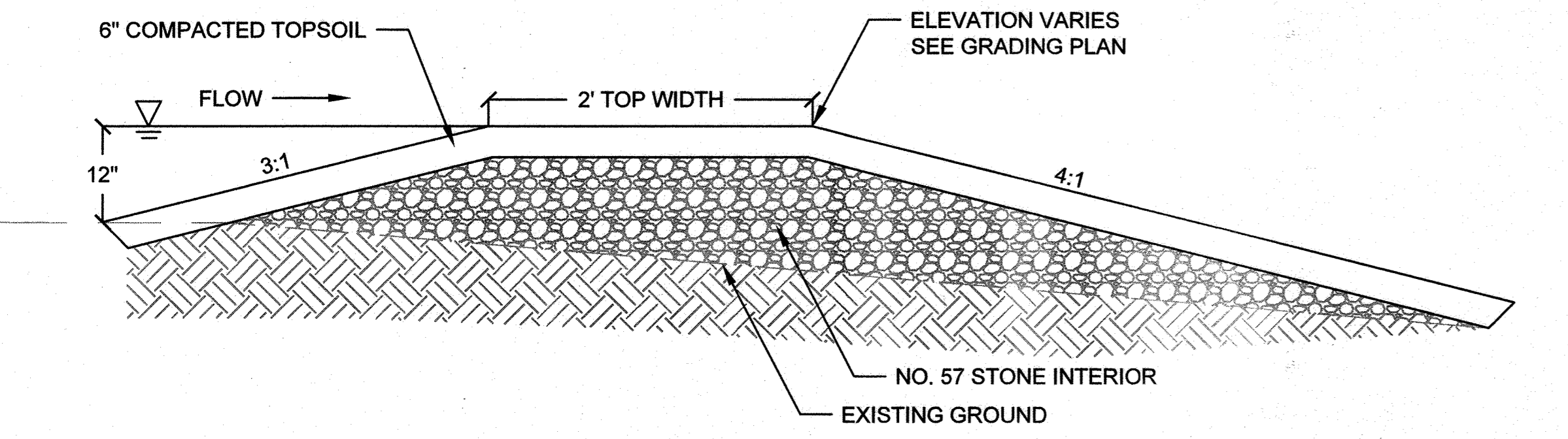
PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD
 TAX MAP 35, PARCEL 127
 13TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

BY: RW/TB
 CHECK: BA
 DWS. NO.: 4 OF 9



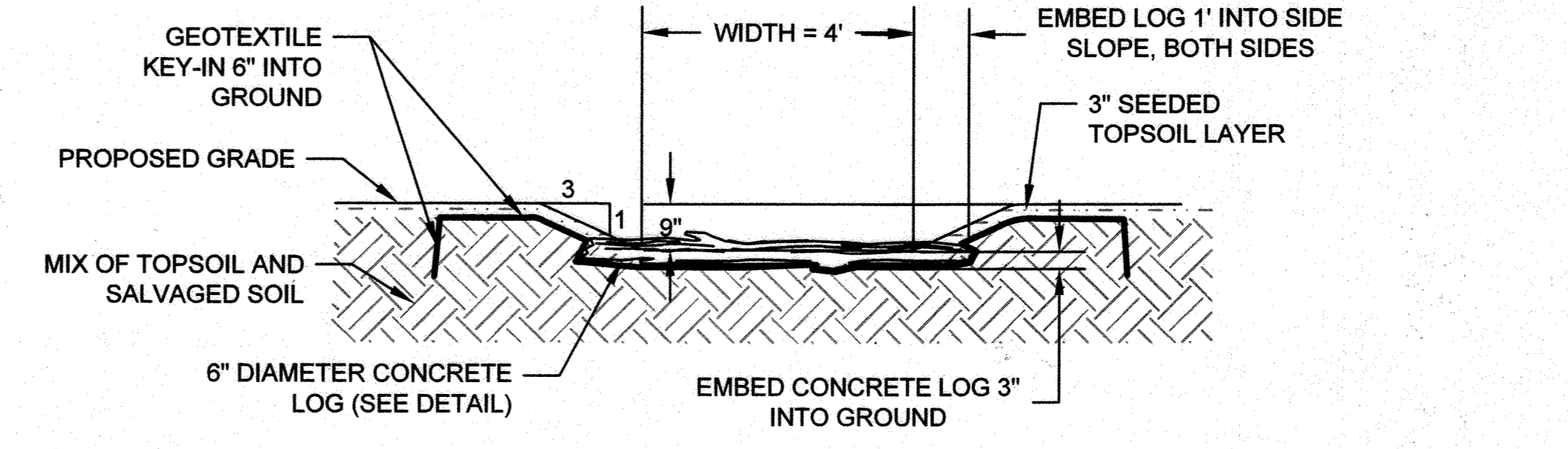


NOTE:
1. SEE SHEET 8 FOR BIORETENTION DETAILS AND SPECIFICATIONS.

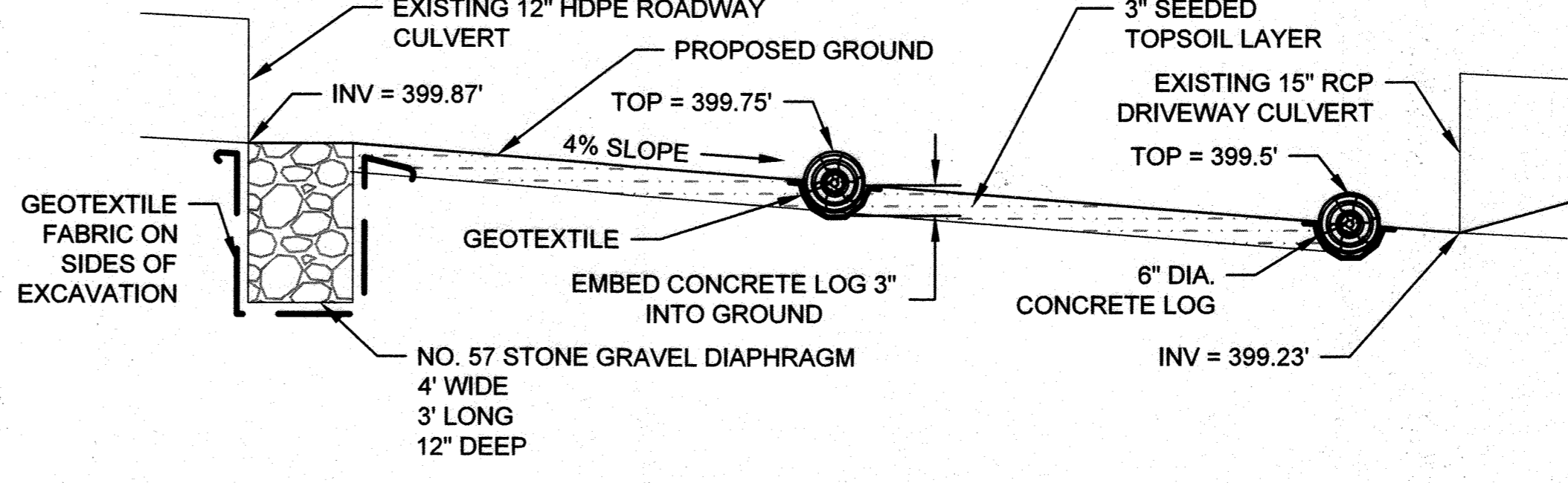


LANDSCAPE BERM CROSS SECTION

NOT TO SCALE



GRASSED SWALE CROSS SECTION



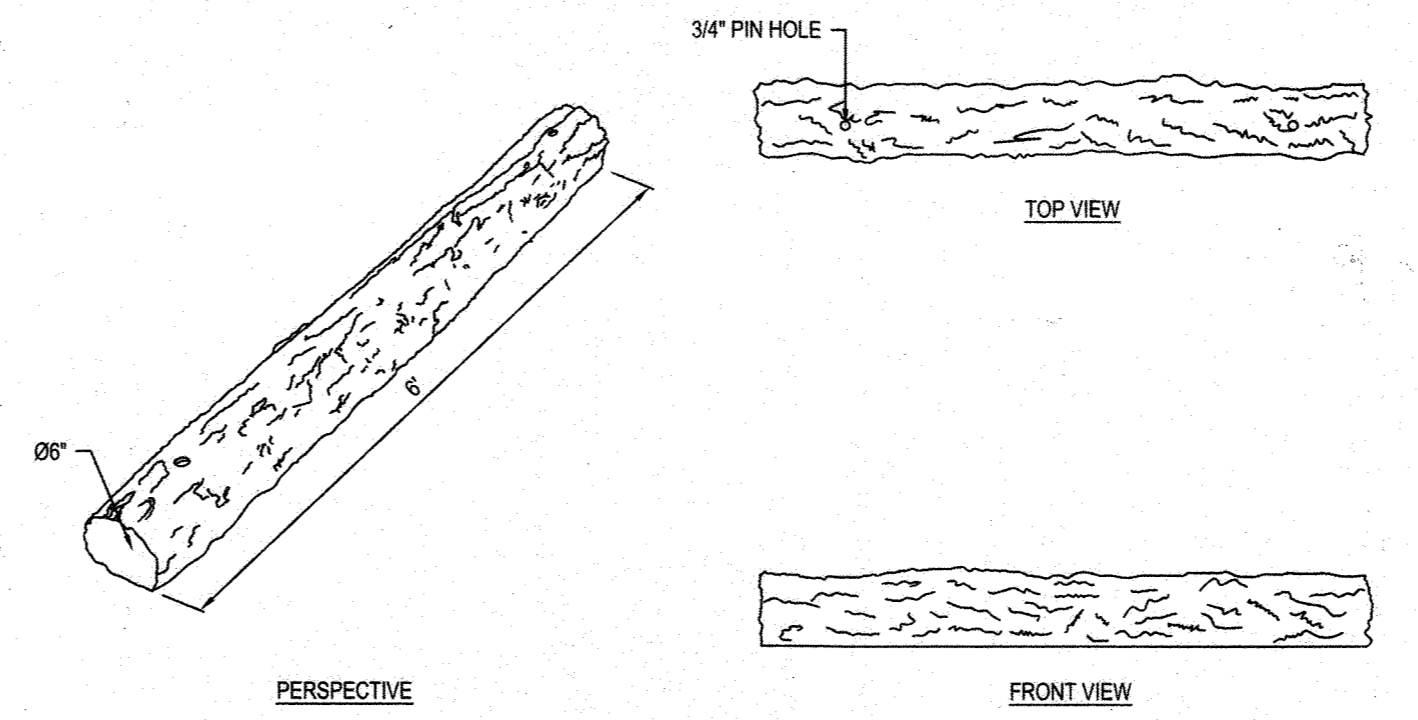
GRASSED SWALE PROFILE

LEGEND - PROPOSED

- 425— MAJOR CONTOUR
- 424— MINOR CONTOUR
- LOD— LIMIT OF DISTURBANCE
- SF— SILT FENCE
- BOF— BLAZE ORANGE FENCE
- BIORETENTION FILTER
- OUTFALL PROTECTION
- GRASS SWALE
- SOIL STABILIZATION MATTING
- CONCRETE LOG
- STAGING AND STOCKPILING AREA

NITTERHOUSE
MASONRY PRODUCTS, LLC

NITTERHOUSE MASONRY PRODUCTS, LLC
859 CLEVELAND AVE.
CHAMBERSBURG, PA 17201
PHONE: (717) 267-4500
FAX: (717) 267-4527
www.nitterhousemasonry.com



2452-017
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REVISION DATE 01/03/2019
CADDDETAILS.COM

- GENERAL NOTES (FOR REDLINE REVISION 1, MAY 2021):**
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410.313.1880 AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1.800.257.7777 AT LEAST TWO (2) WORKING DAYS BEFORE STARTING WORK.
 - THE SYSTEM OF COORDINATES USED IS BASED ON THE FOLLOWING DATUMS:
2.1. HORIZONTAL: MARYLAND STATE PLANE NAD OF 1983/2011
2.2. VERTICAL: NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 GEOID 12A
 - THE ORIGINAL SITE DEVELOPMENT PLAN ASSOCIATED WITH THIS ADDRESS IS SDP-84-192. THE SITE DEVELOPMENT PLAN WAS CREATED ON BEHALF OF DAVE'S LAWN AND LANDSCAPE SERVICE, INC. ON JANUARY 23, 1984.
 - THE FOREST CONSERVATION OBLIGATION FOR THE SITE IS BEING MET USING SECTION 3.2.4 OF THE FOREST CONSERVATION MANUAL. THE SWM WORK ON REDLINE REVISION 1, MAY 2021 REQUIRES AN OBLIGATION OF 0 AC (SEE CHART). ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
 - THIS SITE QUALIFIES FOR A STANDARD SEDIMENT CONTROL PLAN UNDER HOWARD COUNTY SOIL CONSERVATION DISTRICT REGULATIONS. DETAILED EROSION AND SEDIMENT CONTROL PRACTICES AND A SEQUENCE OF CONSTRUCTION ARE PROVIDED ON SHEETS 7 AND 8 FOR THE BENEFIT OF THE CONTRACTOR.
 - TOPOGRAPHIC SURVEY WAS PERFORMED BY FISHER, COLLINS, AND CARTER IN MAY 2020.
 - SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER OR OWNER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE COUNTY, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS, AND PROGRAMS UNLESS OTHERWISE NOTED ON THE PLANS.
 - UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND TAKEN FROM AVAILABLE PLANS, RECORDS, AND/OR FIELD RECONNAISSANCE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO LOCATE AND PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
9.1. UTILITY CONTACTS:
9.1.1. BALTIMORE GAS AND ELECTRIC - ELECTRIC: 410.597.7920
9.1.2. BALTIMORE GAS AND ELECTRIC - GAS: 410.291.4844
9.1.3. VERIZON: 410.224.9285
9.1.4. COMCAST: 301.630.7094
9.1.5. COLONIAL PIPELINE CO.: 443.821.1797
 - A WETLANDS/WATERWAY CONSTRUCTION PERMIT IS NOT REQUIRED FOR THIS PROJECT AS THERE ARE NO WETLANDS OR WATERWAYS WITHIN SITE EXTENTS.
 - A DAM SAFETY PERMIT IS NOT ANTICIPATED FOR THIS PROJECT.
 - ALL SPECIFIED OR PROPRIETARY PRODUCTS SHOWN HEREON MAY BE SUBJECT TO SUBSTITUTION WITH OTHER PRODUCTS RECOMMENDED BY THE CONTRACTOR SUBJECT TO WRITTEN REVIEW AND APPROVAL BY THE ENGINEER OR OWNER.

- PROJECT NOTES (FOR REDLINE REVISION 1, MAY 2021):**
- THE CONTRACTOR SHALL CONTINUALLY MONITOR WEATHER FORECASTS DURING WORK ACTIVITIES AND SCHEDULE WORK DURING FAVORABLE CONDITIONS.
 - THE CONTRACTOR SHALL EXERCISE CARE IN ACTIVITIES THAT INVOLVE CUTTING, FILLING, OR GRADING IN THE VICINITY OF TREES THAT ARE TO REMAIN.
 - THE CONTRACTOR SHALL NOT STORE EQUIPMENT, MATERIALS, AND/OR SUPPLIES BEYOND THE LIMIT OF DISTURBANCE SHOWN ON THE PLANS.
 - UPON COMPLETION OF THE WORK, BUT PRIOR TO DE-MOBILIZATION, THE CONTRACTOR SHALL REMOVE ALL REMNANTS OF CONSTRUCTION MATERIALS FROM THE SITE. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE PRE-CONSTRUCTION CONDITIONS.
 - PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES, PHOTOGRAPHS OF THE PROPOSED WORK AREA AND ACCESS SHALL BE TAKEN BY THE CONTRACTOR AND PROVIDED TO THE OWNER.
 - ALL MATERIALS SHALL BE REMOVED AND DISPOSED OF OFFSITE. REMOVED TREES AND BRUSH MAY BE REDISTRIBUTED ON SITE AT THE DISCRETION OF THE OWNER/ENGINEER.
 - THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN EXITING THE PROJECT SITE AND PAY CLOSE ATTENTION TO PEDESTRIANS WALKING NEAR THE PROJECT SITE.
 - THE CONTRACTOR SHALL AVOID TRACKING HEAVY EQUIPMENT OVER THE CRITICAL ROOT ZONE OF SPECIMEN TREES. IF UNAVOIDABLE, SPECIAL PRECAUTIONS SHOULD BE USED WHEN TRACKING OVER THE CRITICAL ROOT ZONES.

MISS UTILITY
CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF THE WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF THE PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION.

COMMUNITY ECOLOGY INSTITUTE
CHIARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

ENGINEERS CERTIFICATE
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7-6-2021
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DATE	ISSUES / REVISIONS	PURPOSE
7-6-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM, ADD SHEETS 4-9, REPLACE SHEET 2

PERMIT INFORMATION CHART

SUBDIVISION NAME COMMUNITY ECOLOGY INSTITUTE	SECTION/AREA 35	LOT/PARCEL# 127
PLAT# OR LF 18755/290	GRID# 24	ZONING R-20
TAX MAP NO. 35	ELECT. DIST. 4TH	CENSUS TRACT 6058.02
WATER CODE	SEWER CODE	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/24/21
DATE

7/23/21
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

7/23/21
DATE

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Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com
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STATE OF MARYLAND
BRYAN J. ARVAI
NO. 46608
LICENSED PROFESSIONAL ENGINEER

DAVE'S LAWN & LANDSCAPE SERVICE, INC.
(CEI BMP DESIGN)

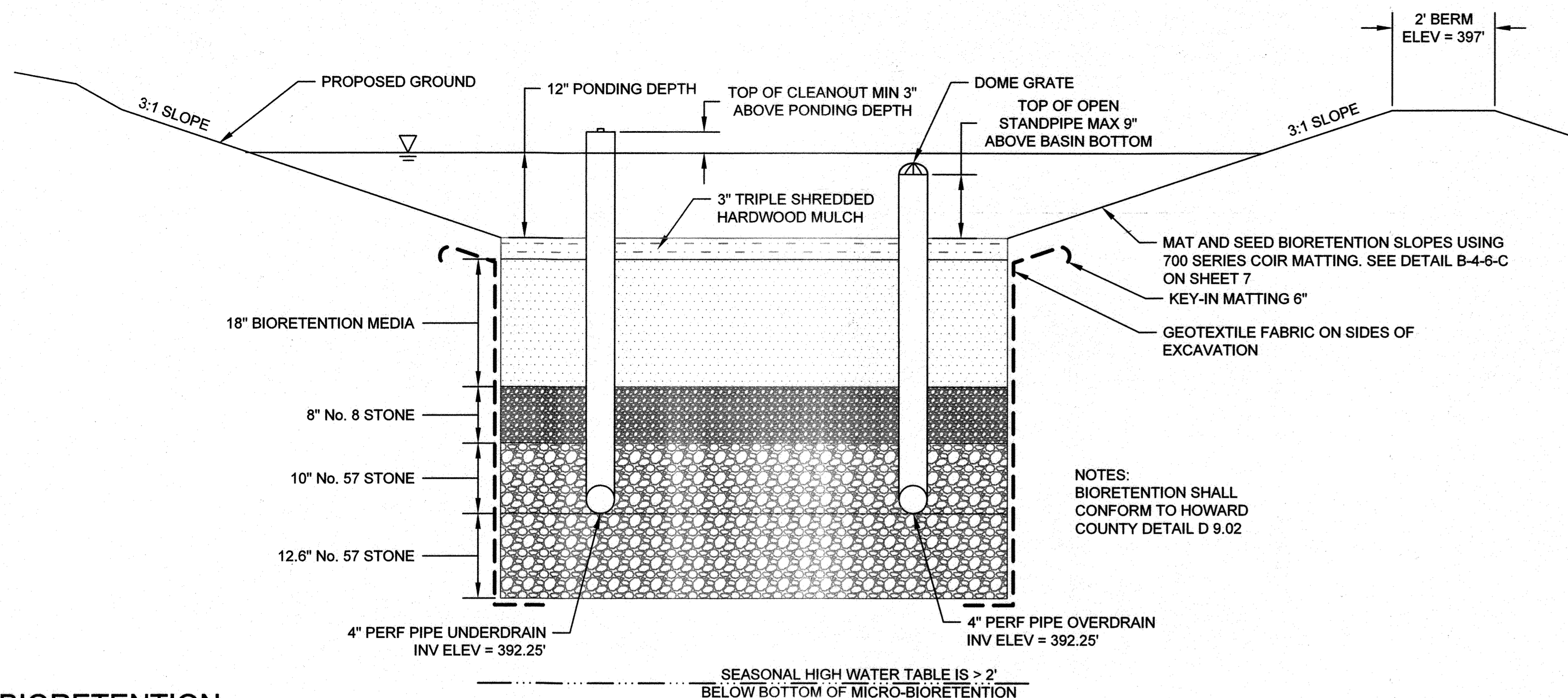
PROPOSED CONDITIONS

PROJECT NO.: 20005.01
SCALE: 1" = 20'

OWNER & DEVELOPER
COMMUNITY ECOLOGY INSTITUTE
CHIARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

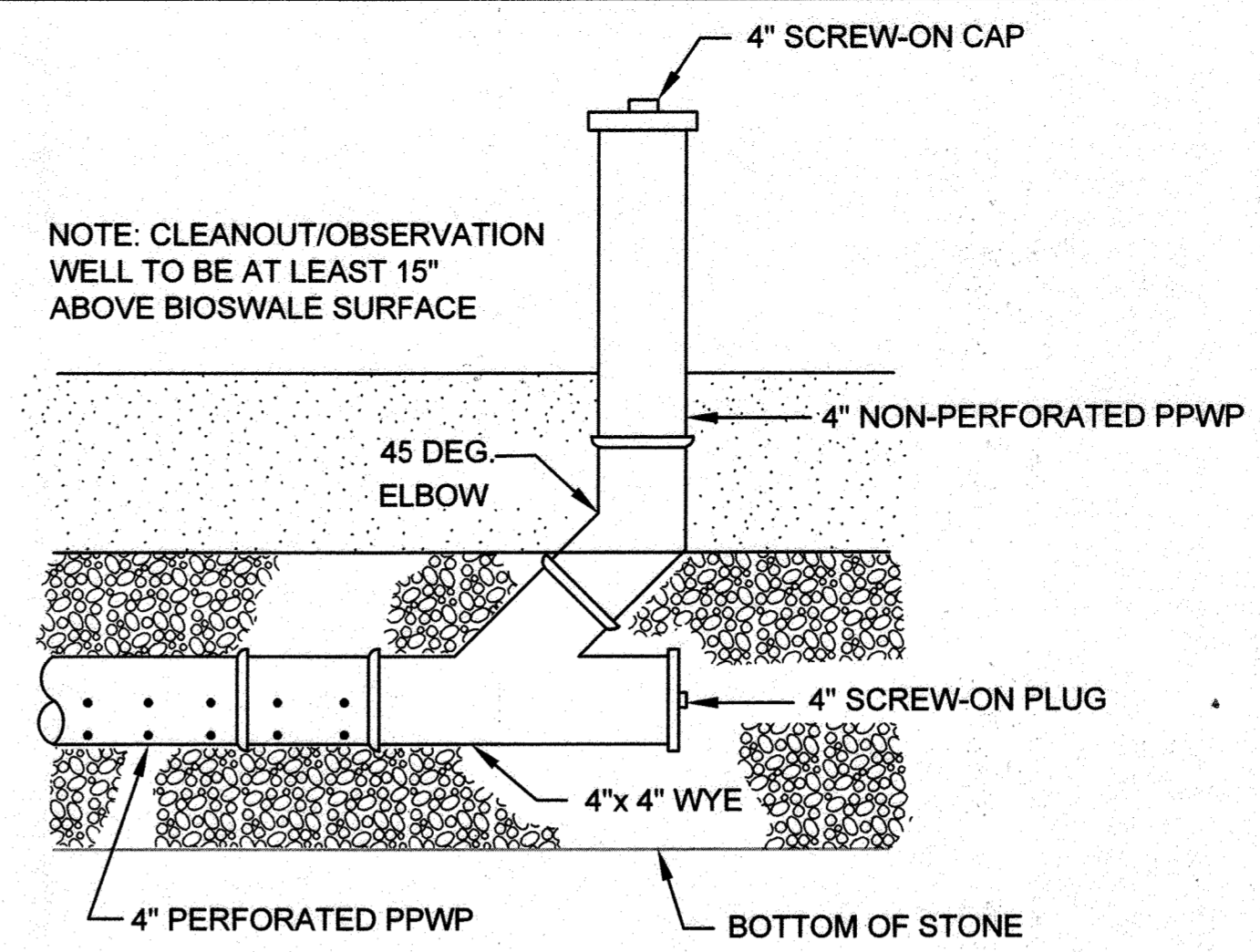
PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD
TAX MAP 35 PARCEL 127
10TH ELECTRIC DISTRICT
HOWARD COUNTY, MARYLAND

BY: RW/TB
CHECK: BA
DWS. NO.: 5 OF 9



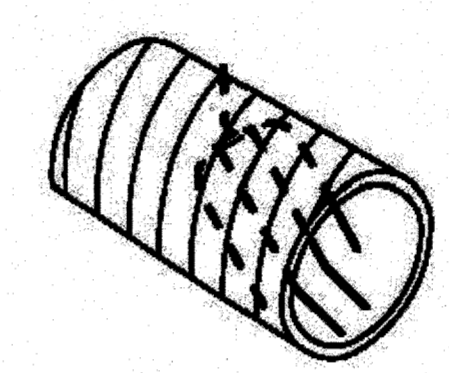
BIORETENTION CROSS-SECTION

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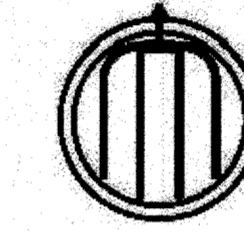


CLEANOUT/OBSERVATION WELL END OF PIPE

NTS



ISOMETRIC VIEW

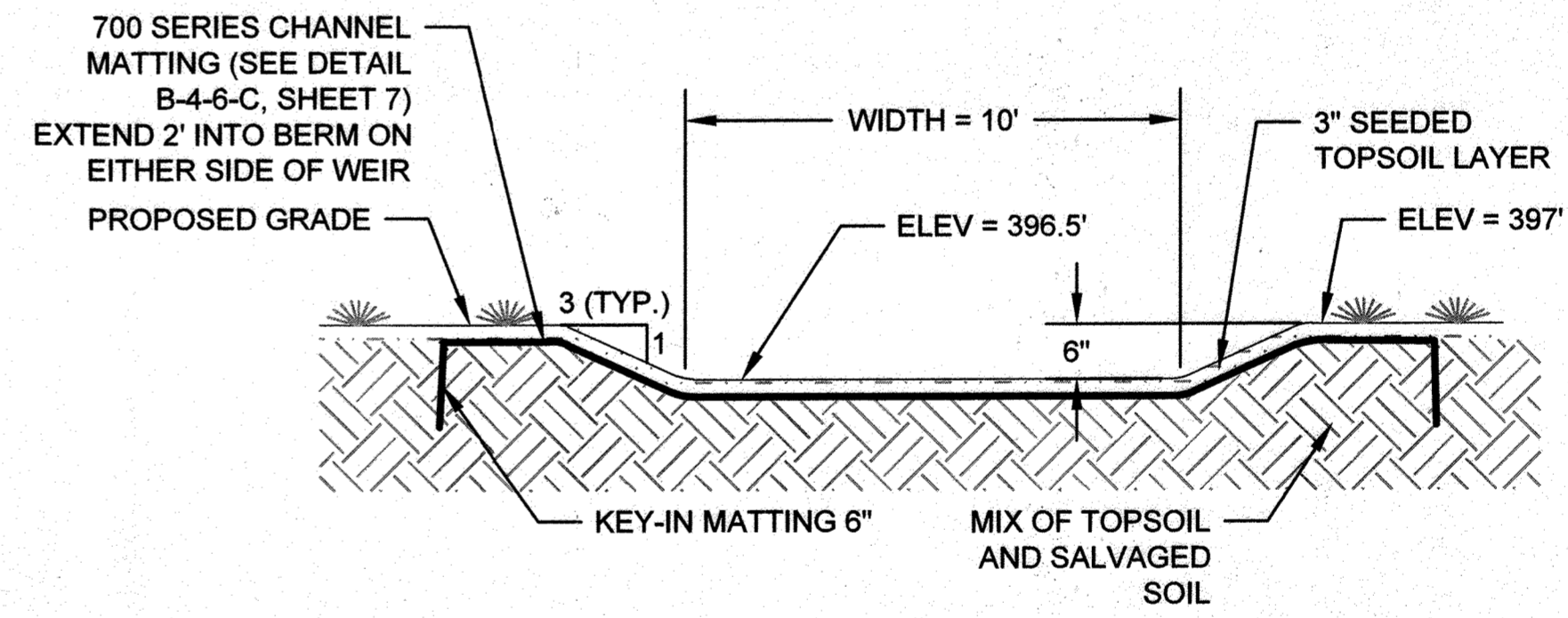


FRONT VIEW

REMOVABLE FORK RODENT GUARD DETAILS

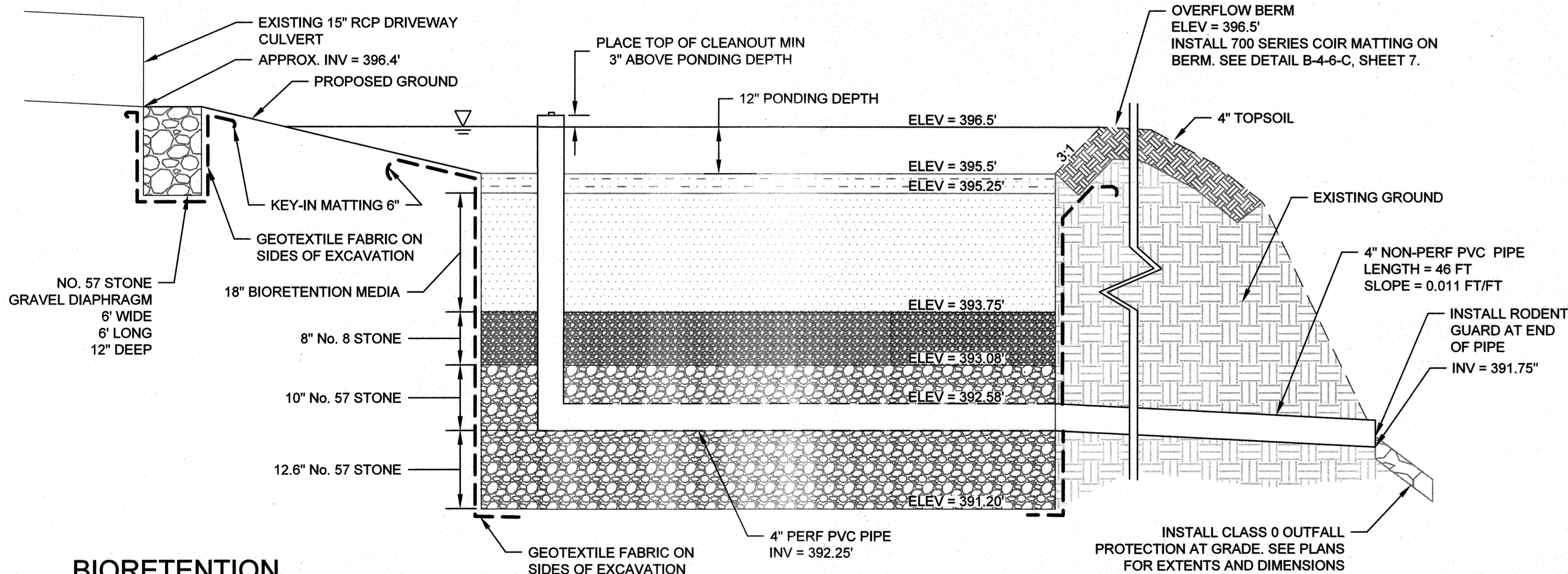
RODENT GUARD

NTS



BIORETENTION OVERFLOW WEIR

NTS



BIORETENTION PROFILE

NOT TO SCALE

MATERIAL	SPECIFICATIONS
Select Class 0 Rip Rap	Class 0 Riprap shall be locally sourced stone that is dark in color and meets the requirements for Class 0 Riprap as set forth in the Maryland State Highway Administration (MDSHA) Material Specification 901.02.01 Stone for Riprap.
Mulch	3" depth of shredded hardwood mulch; aged for a minimum 6 months; no pine or wood chips
Bioretention Soil	Bioretention media shall consist of 60-65% loamy sand & 35-40% compost OR 30% sandy loam, 30% coarse sand, & 40% compost; USDA soil types loamy sand or sandy loam; clay content < 5%; minimum 10% organic content by dry weight (ASTM-D-2974); Required permeability rate of 1 inch per hour. Bioretention soil shall meet Appendix B.4.C Specifications for Micro-Bioretention in the Maryland Stormwater Design Manual. Engineer shall provide reference standard at kickoff meeting.
No. 8 Stone	Double washed, AASHTO No. 8 stone (AASHTO T-27)
No. 57 Stone	Double Washed, AASHTO No 57. Stone (meets AASHTO M-43)
4" Perforated PVC Pipe	4" rigid schedule 40 PVC or SDR35; 3/8" perf. @ 6" on center, 4 holes per row; minimum 3" of gravel over pipes. Meets F758, Type PS 28 or AASHTO M-278
Non-woven Geotextile	Meets Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)
Turf Reinforcement Mat (TRM)	Tensar Rollmax Eronet P300 or approved equal, as approved by engineer, and meeting Type SA, 5B, specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.18. See Detail B-4-6-C on Sheet 6.

COMMUNITY ECOLOGY INSTITUTE
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STATE OF MARYLAND PROFESSIONAL ENGINEER
BRYAN J. ARVAI
No. 44808
7-6-2021
DATE

DEVELOPERS 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 THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

CHIARA D'AMORE
7-14-2021
DATE

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DATE	ISSUES / REVISIONS	PURPOSE
7-6-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM; ADD SHEETS 4-9, REPLACE SHEET 2

PERMIT INFORMATION CHART

SUBDIVISION NAME COMMUNITY ECOLOGY INSTITUTE	SECTION/AREA	LOT/PARCEL# 127
PLAT OR L/F 18755/290	GRID# 24	ZONING R-20
TAX MAP NO. 35	ELECT. DIST. 4TH	CENSUS TRACT 6056.02
WATER CODE	SEWER CODE	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIARA D'AMORE
7/21/21
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

CHIARA D'AMORE
7/23/21
DATE

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BRYAN J. ARVAI
NO. 46808
7-6-2021
DATE

STATE OF MARYLAND PROFESSIONAL ENGINEER
BRYAN J. ARVAI
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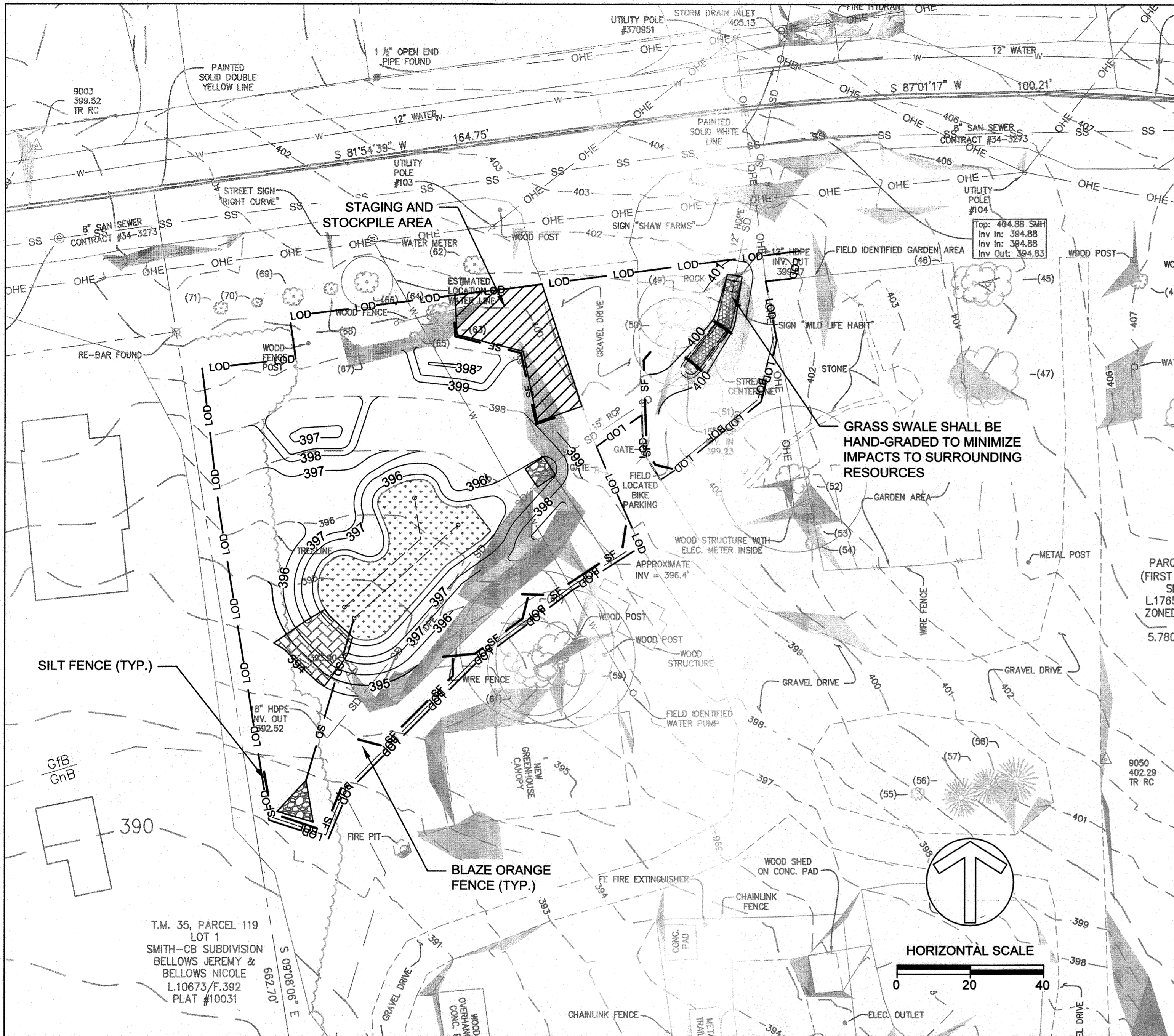
DAVE'S LAWN & LANDSCAPE SERVICE, INC. (CEI BMP DESIGN)

DESIGN DETAILS

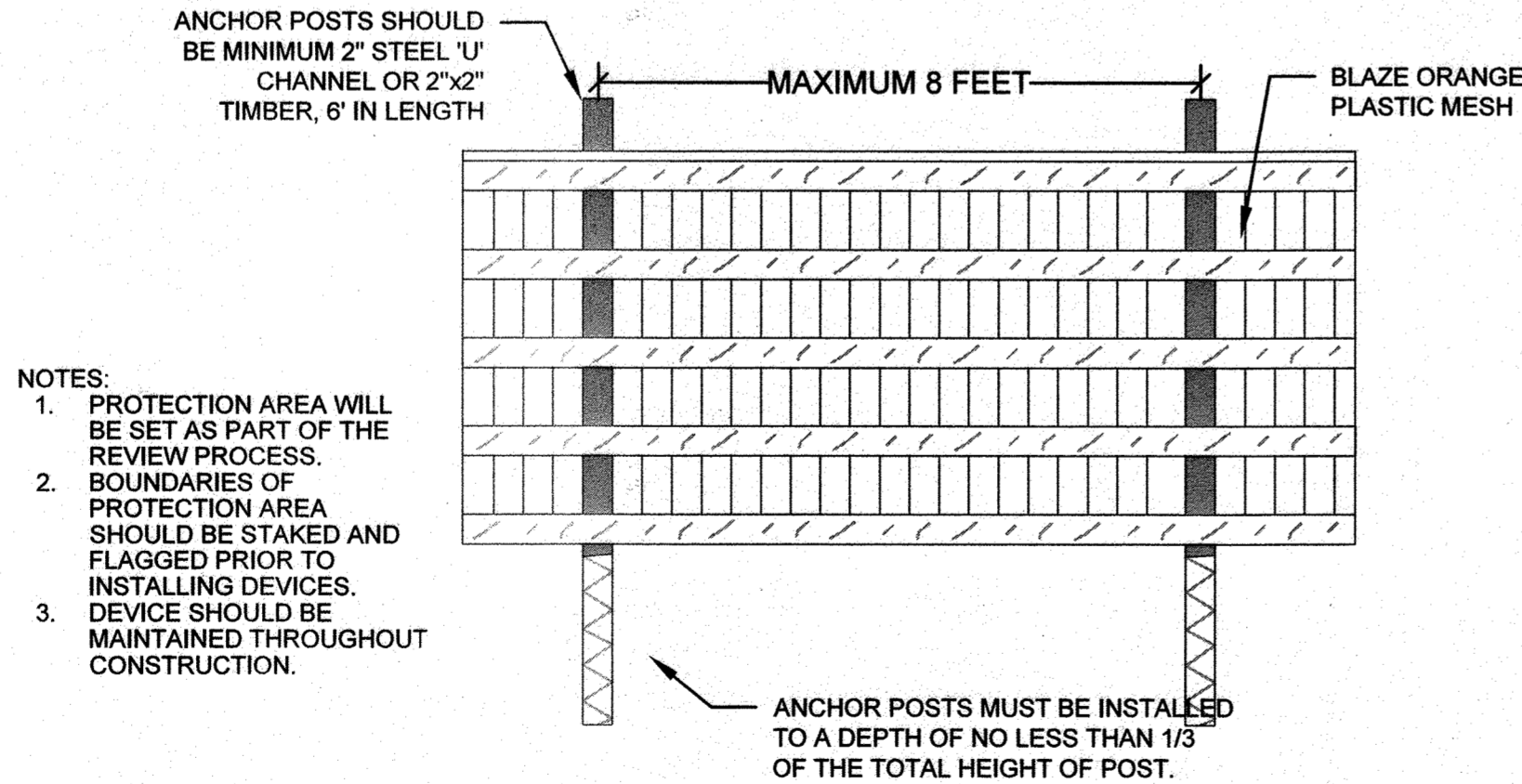
PROJECT NO.: 20005.01
SCALE: NTS

PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD
TAX MAP 35 PARCEL 127
12TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

BY: RW/TB
CHECK: BA
DWG. NO.: 6 OF 9



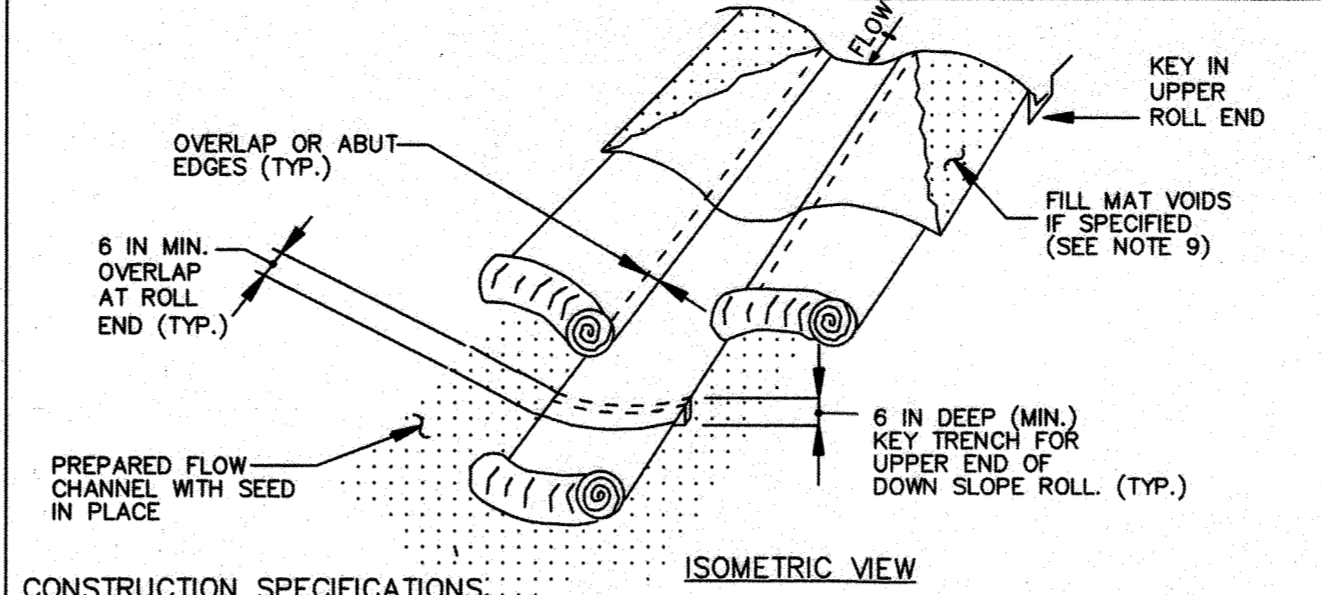
NOTE:
TEMPORARY SOIL STABILIZATION MATTING SHALL BE ADDED TO ALL SLOPES GREATER THAN OR EQUAL TO 3:1 WITHIN THE GRADING LIMITS. SEE DETAIL B-4-6-B, THIS SHEET.



BLAZE ORANGE FENCE

NOT TO SCALE

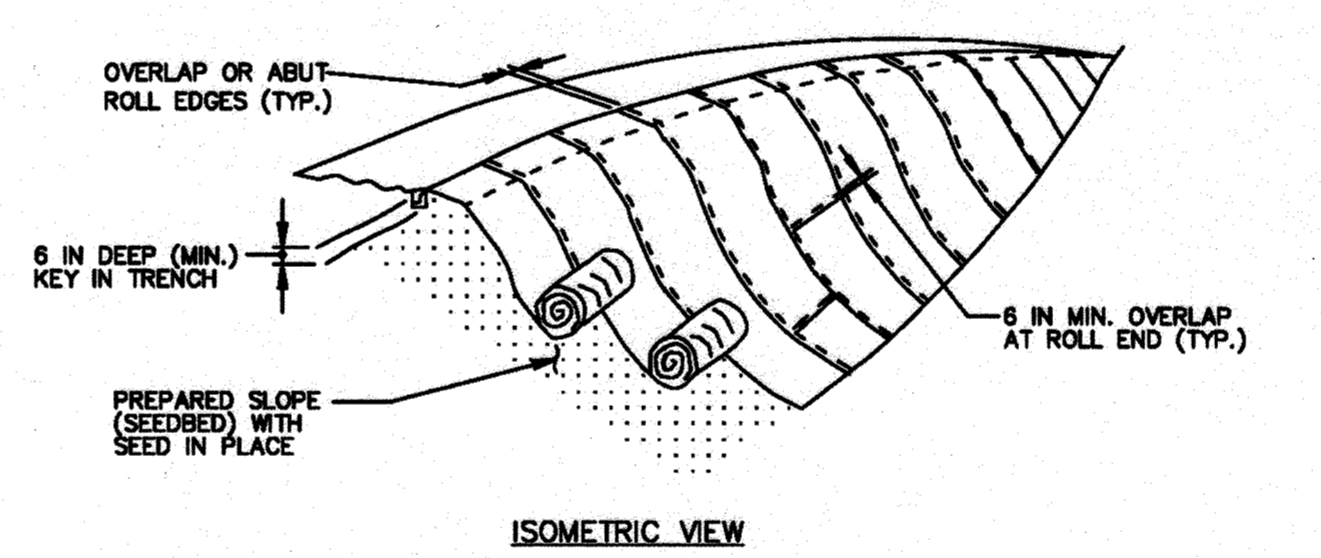
DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION



- 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 AND BE SHOULDER RESISTANT. 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, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
 - SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 8 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
 - PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED 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 ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
 - OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE 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 KEYPED 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	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

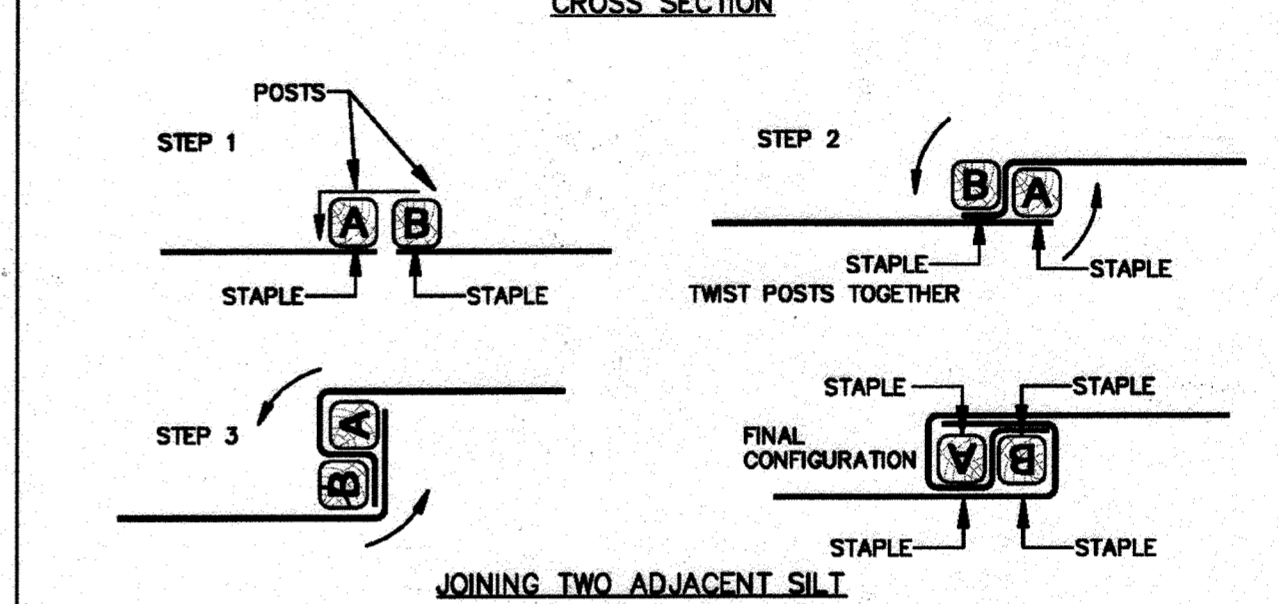
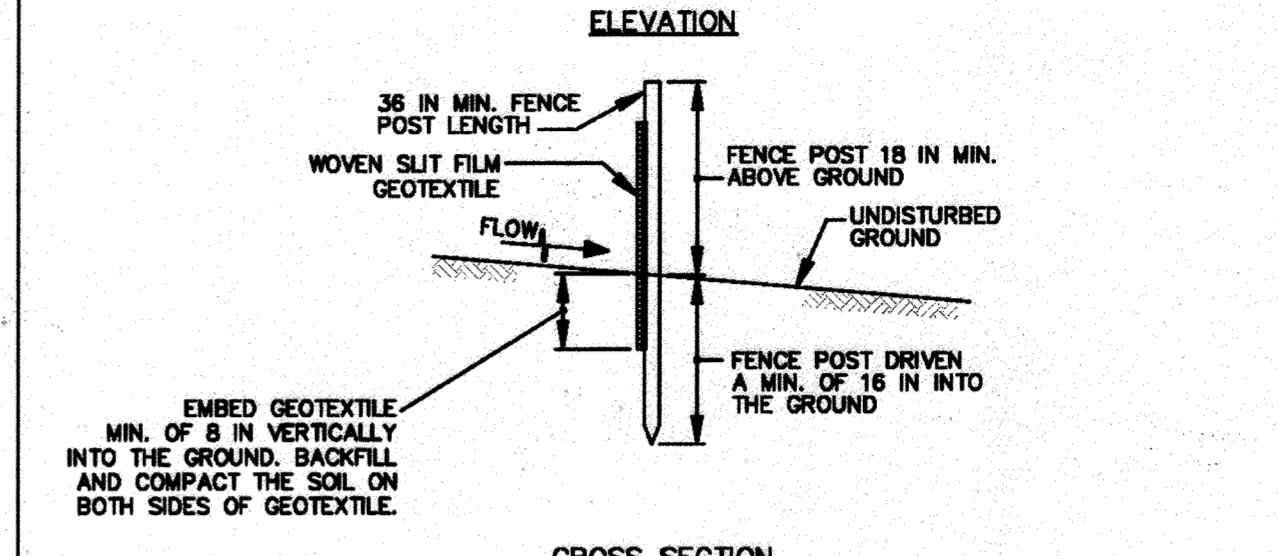
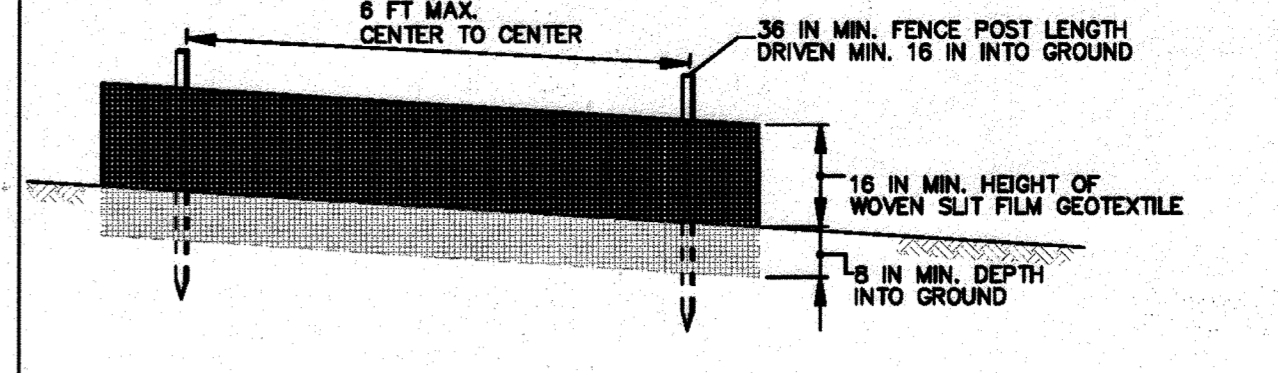
DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION



- 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 TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SHOULDER RESISTANT. 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, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
 - SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
 - PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED 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 & SEDIMENT CONTROL PLAN.
 - UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
 - OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
 - KEY IN THE UPSLOPE 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.
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DETAIL E-1 SILT FENCE



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

DETAIL E-1 SILT FENCE

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

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

ENGINEERS 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 COUNTY SOIL CONSERVATION DISTRICT."

STATE OF MARYLAND
Professional Engineer
No. 48808
Signature: [Signature]

7-6-2021
DATE

DEVELOPERS 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 THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

State of Maryland
Signature: [Signature]
DATE: 7-14-2021

THIS RED-LINED SITE DEVELOPMENT PLAN MEETS THE REQUIREMENTS FOR A HOWARD COUNTY SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL PLAN AND THEREFORE DOES NOT REQUIRE THE APPROVAL OF HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE	ISSUES / REVISIONS	PURPOSE
7-6-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM, ADD SHEETS 4-9, REPLACE SHEET 2

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL#
COMMUNITY ECOLOGY INSTITUTE		127
PLAT# OR L/F	GRID#	ZONING
18755/290	24	R-20
TAX MAP NO.	ELECT. DIST.	CENSUS TRACT
35	4TH	6056.02
WATER CODE	SEWER CODE	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/21/21

7/23/21

7/23/21

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

7/23/21

7/23/21

Biohabitats

The Stables Building, 2081 Clipper Park Road
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com

Restore the Earth & Inspire Ecological Stewardship

OWNER & DEVELOPER
COMMUNITY ECOLOGY INSTITUTE
CHIARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

STATE OF MARYLAND
Professional Engineer
No. 48608
Signature: [Signature]

DAVE'S LAWN & LANDSCAPE SERVICE, INC.
(CEI BMP DESIGN)

EROSION AND SEDIMENT CONTROL PLAN

PROJECT NO.: 20005.01
SCALE: 1" = 20'

PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD
18755/290 PARCEL 127
13TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

BY: RW/TB
CHECK: BA
DWG. NO.: 7 OF 9

SAFETY REGULATIONS

ALL EXCAVATION AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MOSHA) STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE CODE OF MARYLAND REGULATIONS.

CONSTRUCTION NOTIFICATION

- BIOHABITATS IS RESPONSIBLE FOR ALL CONSTRUCTION INSPECTION AND ENSURING CONSERVATION PRACTICES ARE INSTALLED ACCORDING TO THE APPROVED PLANS AND SPECIFICATIONS. BIOHABITATS IS RESPONSIBLE FOR ALL INSTALLATION DELIVERABLES AS SHOWN IN THE SOW FOR EACH CPS INCLUDED IN THE PROJECT.
- A PRECONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING THE PROJECT. CONTACT PGSCD THREE (3) BUSINESS DAYS IN ADVANCE OF THIS MEETING TO COORDINATE PGSCD INVOLVEMENT, THE LANDOWNER, CONTRACTOR, AND A BIOHABITATS REPRESENTATIVE ARE REQUIRED TO BE PRESENT AT THE PRECONSTRUCTION MEETING.
- BIOHABITATS MUST APPROVE ANY CHANGES MADE DURING CONSTRUCTION AND NOTE THESE CHANGES ON THE AS-BUILT DRAWINGS. THE AS-BUILT CONSTRUCTION DRAWINGS SHALL SHOW DIMENSIONS, FINAL QUANTITIES, LINES AND GRADES OF THE INSTALLED PRACTICES AND ANY CHANGES THAT WERE MADE TO THE ORIGINAL SET OF PLANS. PGSCD SHALL ALSO BE KEPT INFORMED OF ANY CHANGES DURING CONSTRUCTION TO ENSURE COMPLIANCE WITH NRCS CPS AND SOW.

CONSTRUCTION NOTES

- A CONSERVATION TECHNICIAN MAY REQUEST TO BE PRESENT AT THE TIME OF PIPE INSTALLATION.
- CONSTRUCTION SHALL NOT BEGIN UNTIL ALL SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR. THE CONTRACTOR SHALL STAY WITHIN THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORKING AREA WHEREVER POSSIBLE. NO TREES SHALL BE REMOVED WITHIN THE LIMIT OF DISTURBANCE. THE CONSTRUCTION SEQUENCE MUST BE FOLLOWED UNLESS THE CONTRACTOR GETS WRITTEN APPROVAL FROM THE SEDIMENT AND EROSION CONTROL INSPECTOR.
- THROUGHOUT THE TIMEFRAME OF CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING THAT THE SEDIMENT CONTROL MEASURES ARE FUNCTIONAL ON A DAY TO DAY BASIS. NO DISTURBED AREAS ARE TO BE ALLOWED TO DRAIN DIRECTLY OFF SITE. DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER COMPLETION.
- CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION AND GRADING PLANS, PROJECT SPECIFICATIONS, AND EROSION AND SEDIMENT CONTROL STANDARD DETAILS AND NOTES.

CONSTRUCTION SEQUENCE

PHASE 1 - EROSION AND SEDIMENT CONTROL SETUP

- THE CONTRACTOR SHALL CONTACT MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION TO LOCATE UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL CONTACT THE HOWARD SOIL CONSERVATION DISTRICT (HOWARD SCD) AT LEAST 3 DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING.
- THE CONTRACTOR SHALL STAKE OUT THE LIMIT OF DISTURBANCE.
- THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING ON SITE WITH THE PROJECT ENGINEER, CONSTRUCTION SUPERVISOR, HOWARD SCD PERSONNEL, AND A DPZ REPRESENTATIVE TO REVIEW THE EROSION AND SEDIMENT CONTROL REQUIREMENTS, SEQUENCE OF CONSTRUCTION, AND LIMITS OF DISTURBANCE BEFORE WORK BEGINS. THE PARTICIPANTS WILL ALSO VERIFY THE LOCATION OF THE TEMPORARY STOCKPILE AREA AND ANY NECESSARY STAGING AREAS.
- BEGIN CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS.
- BEGIN CONSTRUCTION AND STABILIZATION OF PERIMETER CONTROLS AND SILT FENCE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- UPON COMPLETION OF CONTROL INSTALLATION AND PRIOR TO THE START OF EARTH DISTURBANCE, THE OWNER/DEVELOPER OR REPRESENTATIVE SHALL REQUEST THAT HOWARD SCD APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING PERMIT, AND SHALL OBTAIN WRITTEN INSPECTION APPROVAL BY HOWARD SCD.
- STOCKPILE SHALL BE LIMITED TO THE AREA IDENTIFIED ON THE PLANS AND ONLY USED SPARINGLY. MOST MATERIALS ARE EXPECTED TO BE DELIVERED AND INSTALLED UPON ARRIVAL TO THE SITE.
- FINISH REMAINING CLEARING AND GRUBBING WITHIN INSTALLED PERIMETER CONTROLS.

PHASE 2 - FACILITY INSTALLATION

- THE BIORETENTION FACILITY SHALL BE CONSTRUCTED AND STABILIZED PRIOR TO CONSTRUCTING THE LANDSCAPE BERMS AND GRASSED SWALE.
- ALL WORK SHALL BE CONDUCTED DURING A THREE-DAY DRY-WEATHER PERIOD.
- AT THE END OF EACH DAY, ALL EXCAVATIONS IN WORK AREAS OTHER THAN THE BIORETENTION SHALL BE PROTECTED BY TEMPORARY BACKFILL AS NEEDED AND THE WORK SITE SHALL BE LEFT IN SAFE CONDITIONS FOR ON-SITE PERSONNEL.
- STRIP AND STOCKPILE ALL TOPSOIL FROM THE SITE IN THE VICINITY OF THE BIORETENTION AND THE GRASSED SWALE IN THE AREAS SHOWN ON THE PLANS.

BIORETENTION

- EXCAVATE AND INSTALL BIORETENTION IN ACCORDANCE WITH THE BIORETENTION MATERIAL AND CONSTRUCTION SPECIFICATIONS.
- PLACE THE APPROPRIATE DEPTH OF NO. 57 STONE (CLEAN DOUBLE WASHED) ON THE

BOTTOM, INSTALL THE PERFORATED UNDERDRAIN PIPE AND OULET PIPE, PACK NO. 57 STONE TO 3 INCHES ABOVE THE UNDERDRAIN PIPE, AND ADD THE CHOKING LAYER AS A FILTER BETWEEN THE UNDERDRAIN AND THE SOIL MEDIA LAYER.

- APPLY THE BIORETENTION MEDIA IN 12-INCH LIFTS UNTIL THE DESIRED TOP ELEVATION OF THE BIOSWALE AREA IS ACHIEVED. CONTRACTOR SHALL FILL THE BIOSWALE WITH WATER AND LET IT NATURALLY DRAIN TO HYDRO-COMPACT THE MEDIA. REPEAT AS NECESSARY UNTIL FINAL PROPOSED GRADE IS ACHIEVED.
 - APPLY 3 INCH DOUBLE SHREDDED HARDWOOD MULCH.
 - PREPARE FILTER MEDIA FOR PLANTS. PREPARE PLANTING HOLES FOR ANY TREES AND SHRUBS.
 - INSTALL GRAVEL DIAPHRAGM AS SHOWN ON PLANS AND DETAIL.
- LANDSCAPE BERMS**
- EXCAVATE TO GRADES SHOWN ON PLANS. EXISTING SOILS SHOULD BE SCARIFIED TO MAXIMIZE INFILTRATION.
 - INSTALL NO. 57 STONE GRAVEL AGGREGATE AS SHOWN IN DETAIL.
 - INSTALL 6" TOPSOIL LAYER ON TOP OF NO. 57 STONE GRAVEL AGGREGATE.
- GRASSED SWALE**
- EXCAVATE TO GRADES SHOWN ON PLANS.
 - INSTALL CONCRETE LOGS AS SHOWN IN DETAILS. EMBED LOGS 3" BELOW PROPOSED GRADE AND WITHIN PROPOSED SIDE SLOPES. INSTALL CLASS 0 STONE ON UPSTREAM AND DOWNSTREAM SIDES OF CONCRETE LOGS AS SHOWN IN DETAILS.
 - INSTALL GRAVEL DIAPHRAGM AS SHOWN ON PLANS AND DETAIL.
 - WHEN CONSTRUCTION IS COMPLETE, STABILIZE ANY REMAINING DISTURBED AREAS. PERMANENT VEGETATIVE GROUNDCOVER MUST BE ESTABLISHED IN AREAS SHOWN ON PLANS WITHIN 14 WORKING DAYS OR 120 CALENDAR DAYS OF COMPLETION OF THE PROJECT, WHICHEVER IS SHORTER.

PHASE 3 - DEMOBILIZATION

- UPON COMPLETION OF PERMANENT VEGETATIVE GROUNDCOVER INSTALLATION AND PRIOR TO THE REMOVAL OF SEDIMENT CONTROL PRACTICES AND TEMPORARY BYPASS PIPES, THE OWNER/DEVELOPER OR REPRESENTATIVE SHALL REQUEST SCD INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING PERMIT, AND SHALL OBTAIN WRITTEN INSPECTION APPROVAL BY THE INSPECTOR.
- REMOVE SEDIMENT CONTROLS AND STABILIZE AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROLS.

PHASE 4 - PLANTING

- ONCE ALL AREAS HAVE BEEN STABILIZED, INSTALL SEED AND OTHER PLANT MATERIALS AS INDICATED ON PLANTING PLAN. ALL AREAS TO BE PLANTED SHALL BE STRIPPED OF ALL EXISTING PLANT MATERIAL, TILLED, SEEDED, AND THEN MULCHED WITH 2" OF MULCH. WATER AS NEEDED.
- UPON COMPLETION OF PLANTING, THE CONTRACTOR SHALL REQUEST AN INSPECTION BE MADE BY THE ENGINEER/OWNER TO DETERMINE THAT INSTALLATION IS COMPLETE.

HOWARD SOIL CONSERVATION DISTRICT STANDARD EROSION AND SEDIMENT CONTROL NOTES

- A PRE-CONSTRUCTION MEETING MUST BE CONDUCTED WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (C.I.D.), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO THE C.I.D. MUST BE GIVEN AT THE FOLLOWING STAGES:
 - PRIOR TO THE START OF EARTH DISTURBANCE,
 - UPON COMPLETION OF THE INSTALLATION OF PERIMETER SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
 - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
 - 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.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3H:1V; AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC B-4-4), AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN 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 CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE C.I.D.

SITE ANALYSIS:

TOTAL AREA OF SITE:	0.32 ACRES
AREA DISTURBED:	0.32 ACRES
AREA TO BE ROOFED OR PAVED:	0 SF (0.00 ACRES)
AREA TO BE VEGETATIVELY STABILIZED:	0.32 ACRES
TOTAL CUT:	234 CUBIC YARDS
TOTAL FILL:	49 CUBIC YARDS
OFFSITE WASTE/BORROW LOCATION	ANY OFFSITE WASTE/BORROW LOCATION
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

- HOWARD SOIL CONSERVATION DISTRICT STANDARD EROSION AND SEDIMENT CONTROL NOTES CTD.
- ANY SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE C.I.D. 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).
- 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.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE C.I.D. PER THE LIST OF HSCD-APPROVED FIELD CHANGES. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE C.I.D. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
 - USE I AND IP: MARCH 1 - JUNE 15
 - USE III AND IIIP: OCTOBER 1 - APRIL 30
 - USE IV: MARCH 1 - MAY 31

A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

GENERAL SEDIMENT CONTROL NOTES:

- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- THE OWNER OR OWNER'S REPRESENTATIVE SHALL CONTACT THE HOWARD COUNTY C.I.D. SEDIMENT CONTROL INSPECTOR AT THE FOLLOWING STAGES OF THE PROJECT AND/OR IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT FOR INSPECTION:
 - PRIOR TO THE START OF EARTH DISTURBANCE;
 - UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING;
 - PRIOR TO REMOVAL OF THE SEDIMENT CONTROL PRACTICES.
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES AND EXISTING INFRASTRUCTURE. THE CONTRACTOR SHALL RESTORE ALL EXISTING INFRASTRUCTURE, TREES, LANDSCAPING, AND OTHER SITE FEATURES TO PRE-CONSTRUCTION CONDITIONS AFTER CONSTRUCTION IS COMPLETE.

BIORETENTION FILTER MEDIA SPECIFICATIONS

SUMMARY OF FILTER MEDIA CRITERIA FOR BIORETENTION		
SOIL MEDIA CRITERIA	DESCRIPTION	STANDARD(S)
GENERAL COMPOSITION	FILTER MEDIA MUST HAVE THE PROPER PROPORTIONS OF SAND, FINES, AND ORGANIC MATTER TO PROMOTE PLANT GROWTH, DRAIN AT THE PROPER RATE, AND FILTER POLLUTANTS.	60-85% LOAMY SAND AND 35-40% COMPOST OR 30% SANDY LOAM, 30% COARSE SAND, 40% COMPOST, MAXIMUM OF 5% CLAY; AND MINIMUM 10% ORGANIC MATTER
SAND	SILICA BASED COARSE AGGREGATE	BASED ON FINAL FILTER MEDIA PARTICLE SIZE
TOP SOIL	LOAMY SAND OR SANDY LOAM	USDA TEXTURAL TRIANGLE
ORGANIC MATTER	WELL-AGED, CLEAN COMPOST	APPENDIX J
P-INDEX OR PHOSPHORUS (P) CONTENT	SOIL MEDIA WITH HIGH P LEVELS WILL EXPORT P THROUGH THE MEDIA AND POTENTIALLY TO DOWNSTREAM CONVEYANCES OR RECEIVING WATERS.	P-INDEX OF 10-30 OR P CONTENT = 5 TO 15 MG/KG (MEHLICH I) OR 18 TO 40 MG/KG (MEHLICH III)
CATION EXCHANGE CAPACITY (CEC)	THE CEC IS DETERMINED BY THE AMOUNT OF SOIL FINES AND ORGANIC MATTER. HIGHER CEC WILL PROMOTE POLLUTANT REMOVAL	CEC > 5 MILLIEQUIVALENTS PER 100 GRAMS

- NOTES:
- P-INDEX IS AN AGRONOMIC TEST USED IN NORTH CAROLINA TO INDICATE THE POTENTIAL FOR P LEACHING FROM SOIL. THE TEST METHOD HAS BEEN REVISED TO ADD P CONCENTRATION TO FACILITATE LOCAL LAB TESTING. THE VALUE OF THE P-INDEX IS THE CORRELATION BETWEEN THE CEC AND P CONCENTRATIONS. HIGHER CEC INDICATES GREATER ADSORPTION SITES WITHIN THE MEDIA, THUS INCREASING THE ABILITY TO FIX P WITHIN THE SOIL, THEREBY ALLOWING HIGHER P CONCENTRATIONS WITHOUT LEACHING. WHILE P-INDEX MAY BE A BETTER OVERALL REPRESENTATION OF P, THE TEST METHOD MAY NOT BE READILY AVAILABLE.
 - TESTS FOR ORGANIC CONTENT, CEC, SOLUBLE SALTS, AND PH ARE REFERENCED TO BE IN ACCORDANCE WITH RECOMMENDED SOIL TESTING PROCEDURES FOR THE NORTHEASTERN UNITED STATES, CURRENT EDITION, NORTHEASTERN REGIONAL PUBLICATION NO. 493.

FILTER MEDIA

THE FILTER MEDIA OF A BIORETENTION PRACTICE CONSISTS OF AN ENGINEERED SOIL MIXTURE THAT HAS BEEN CAREFULLY BLENDED TO CREATE A SOIL MEDIA THAT MAINTAINS LONG-TERM PERMEABILITY WHILE ALSO PROVIDING ENOUGH NUTRIENTS TO SUPPORT PLANT GROWTH. THE FINAL FILTER MEDIA SHALL CONSIST OF A WELLBLENDED MIXTURE OF MEDIUM TO COARSE SAND, BASE LOAM SOIL (SOIL FINES), AND AN ORGANIC AMENDMENT (COMPOST). THE SAND MAINTAINS A DESIRED LONG-TERM PERMEABILITY OF THE MEDIA WHILE THE LIMITED AMOUNT OF SOIL FINES AND ORGANIC AMENDMENTS ARE CONSIDERED ADEQUATE TO HELP SUPPORT INITIAL PLANT GROWTH. IT IS ANTICIPATED THAT THE GRADUAL INCREASE OF ORGANIC MATERIAL THROUGH NATURAL PROCESSES WILL CONTINUE TO SUPPORT PLANT GROWTH WITHOUT THE NEED TO ADD FERTILIZER, AND THE ROOT STRUCTURE OF MATURING PLANTS AND THE BIOLOGICAL ACTIVITY OF THE MEDIA WILL MAINTAIN SUFFICIENT LONG-TERM PERMEABILITY. THE FOLLOWING IS THE RECOMMENDED COMPOSITION OF THE THREE MEDIA INGREDIENTS:

- SAND (FINE AGGREGATE). SAND SHALL CONSIST OF SILICA-BASED MEDIUM TO COARSE SAND, ANGULAR OR ROUND IN SHAPE. THE MATERIALS SHALL NOT BE DERIVED FROM SERPENTINE AND SHALL BE FREE OF LOAM OR CLAY, DIABASE, SURFACE COATINGS, OR ANY OTHER DELETERIOUS MATERIALS AND SHALL CONTAIN LESS THAN 0.5% MICA BY WEIGHT WHEN TESTED WITH ASTM C295, PETROGRAPHIC EXAMINATION OF AGGREGATES FOR CONCRETE.

ASTM C-33 CONCRETE SAND WILL TYPICALLY MEET THE REQUIREMENTS FOR THE SAND TO BE USED IN FILTER HOWEVER, SOME SAMPLES OF ASTM C-33 SAND MAY HAVE TOO HIGH A FRACTION OF FINE SAND AND SILT- AND CLAY-SIZED PARTICLES TO ALLOW THE FINAL FILTER MEDIA PARTICLE SIZE DISTRIBUTION REQUIREMENTS TO BE MET. IN GENERAL, COARSER GRADATIONS OF ASTM C-33 WILL BETTER MEET THE FILTER MEDIA PARTICLE SIZE DISTRIBUTION AND HYDRAULIC CONDUCTIVITY REQUIREMENTS.

ANY OTHER MATERIALS, SUCH AS LIMESTONE-BASED SANDS OR CRUSHED GLASS, SHALL MEET THE REQUIRED PARTICLE SIZE DISTRIBUTION AND BE DEMONSTRATED AS ADEQUATELY DURABLE WHEN TESTED BY AASHTO T103 OR T-104.

- BASE LOAM SOIL. BASE LOAM SOIL IS GENERALLY DEFINED AS THE COMBINATION OF SAND-SIZED MATERIAL, FINES (SILT AND CLAY), AND ANY ASSOCIATED SOIL ORGANIC MATTER. SINCE THE OBJECTIVE OF THE SPECIFICATION IS TO CAREFULLY ESTABLISH THE PROPER BLEND OF THESE INGREDIENTS, THE CONTRACTOR MUST CAREFULLY SELECT THE TOPSOIL SOURCE MATERIAL IN ORDER TO NOT EXCEED THE AMOUNT OF ANY ONE INGREDIENT.

GENERALLY, A NATURAL LOAMY SAND, SANDY LOAM, OR LOAM (PER THE USDA TEXTURAL TRIANGLE) A-HORIZON TOPSOIL FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, VIABLE NOXIOUS WEED SEED, PLANT PROPAGULES, BRUSH, OR OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS IS SUITABLE FOR THE BASE LOAM (SOIL FINES) SOURCE MATERIAL.

- ORGANIC AMENDMENTS. ORGANIC AMENDMENTS SHALL CONSIST OF STABLE, WELL-DECOMPOSED, NATURAL, CARBON-CONTAINING ORGANIC MATERIALS SUCH AS PEAT MOSS, HUMUS, OR YARD WASTE (CONSISTENT WITH THE MATERIAL SPECIFICATIONS FOUND IN APPENDIX J. THE MATERIAL SHALL BE FREE OF DEBRIS SUCH AS PLASTICS, METAL, CONCRETE, STONES LARGER THAN 1/2 INCH, LARGER BRANCHES AND ROOTS, AND WOOD CHIPS OVER 1 INCH IN LENGTH OR DIAMETER.

COMPLETE FILTER MEDIA. THE COMPLETE FILTER MEDIA SOIL MIX SHALL CONSIST OF A PUG MILLED OR MECHANICALLY BLENDED MIX OF THE THREE SOURCE MATERIALS RESULTING IN A FILTER MEDIA THAT MEETS THE FOLLOWING PARTICLE SIZE COMPOSITION, AS WELL AS THE GRAIN SIZE DISTRIBUTION INDICATED IN TABLE 3.19.

- 60-65% LOAMY SAND AND 35-40% COMPOST OR 30% SANDY LOAM, 30% COARSE SAND, 40% COMPOST
- MAXIMUM OF 5% CLAY; AND
- MINIMUM 10% ORGANIC MATTER

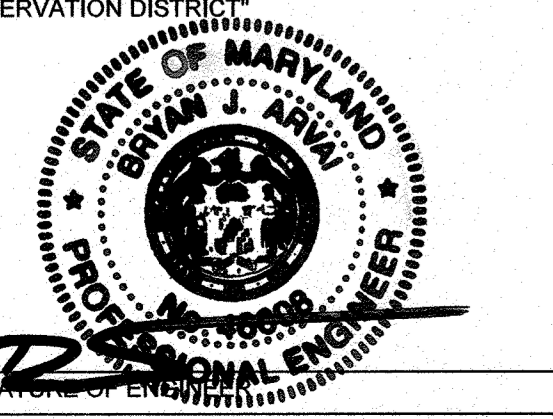
NOTE: THE ABOVE PERCENTAGES ARE BASED ON WEIGHT RATHER THAN VOLUME. THE PARTICLE SIZE ANALYSIS MUST BE CONDUCTED ON THE MINERAL FRACTION ONLY OR FOLLOWING APPROPRIATE TREATMENTS TO REMOVE ORGANIC MATTER BEFORE PARTICLE SIZE ANALYSIS.

FILTER MEDIA GRAIN SIZE DISTRIBUTION		
SIEVE TYPE	PARTICLE SIZE (mm)	PERCENT PASSING (%)
	8.0	100
No. 5	4.0	92-100
No. 10	2.0	72-100
No. 18	1.0	43-95
No. 35	0.5	20-65
No. 60	0.25	11-37
No. 140	0.105	10-25
No. 270	0.053	10-20
	0.002	0-10

- THE FILTER MEDIA SHALL ALSO MEET THE FOLLOWING CRITERIA:
- ORGANIC CONTENT SHALL BE BETWEEN 3.0% AND 5.0% BY WEIGHT;
 - PH SHALL BE BETWEEN 6.0 AND 7.2;
 - CATION EXCHANGE CAPACITY (CEC) SHALL BE A MINIMUM OF 5 MEQ/100G OR CMOL+/KG;
 - PHOSPHORUS CONTENT SHALL MEET ONE OF THE FOLLOWING:
 - P-INDEX BETWEEN 10 AND 30;
 - 5-15MG/KG MEHLICH I EXTRACTION;
 - 18-40MG/KG MEHLICH III EXTRACTION; AND
 - SOLUBLE SALTS SHALL BE LESS THAN 500 PPM/ 0.5 MMHOS/CM.
- COMMUNITY ECOLOGY INSTITUTE
CHIARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

ENGINEERS 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 COUNTY SOIL CONSERVATION DISTRICT."



7-6-2021
DATE

DEVELOPERS 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 THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

Chiara D'Amore
SIGNATURE OF DEVELOPER

7-7-2021
DATE

THIS RED-LINED SITE DEVELOPMENT PLAN MEETS THE REQUIREMENTS FOR A HOWARD COUNTY SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL PLAN AND THEREFORE DOES NOT REQUIRE THE APPROVAL OF HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE	ISSUES / REVISIONS	PURPOSE
7-6-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM; ADD SHEETS 4-8; REPLACE SHEET 2

PERMIT INFORMATION CHART

SUBDIVISION NAME COMMUNITY ECOLOGY INSTITUTE	SECTION/AREA 127	LOT/PARCEL#
PLAT# OR LIF 18755/250	GRID# 24	ZONING R-20
TAX MAP NO. 35	ELECT. DIST. 4TH	CENSUS TRACT 8056.02
WATER CODE	SEWER CODE	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature]
DATE: 7/6/21

CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature]
DATE: 7/23/21

DIRECTOR
[Signature]
DATE: 7/23/21

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

DIRECTOR OF PUBLIC WORKS
[Signature]

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
[Signature]

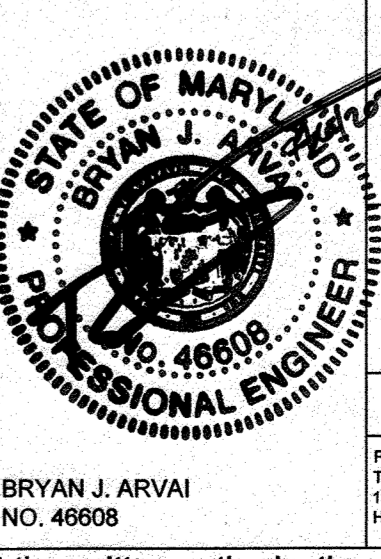
CHIEF, STORMWATER MANAGEMENT DIVISION
[Signature]

Biohabitats

The Stables Building, 2081 Clipper Park Road
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com

Restores the Earth & Inspire Ecological Stewardship

OWNER & DEVELOPER
COMMUNITY ECOLOGY INSTITUTE
CHIARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

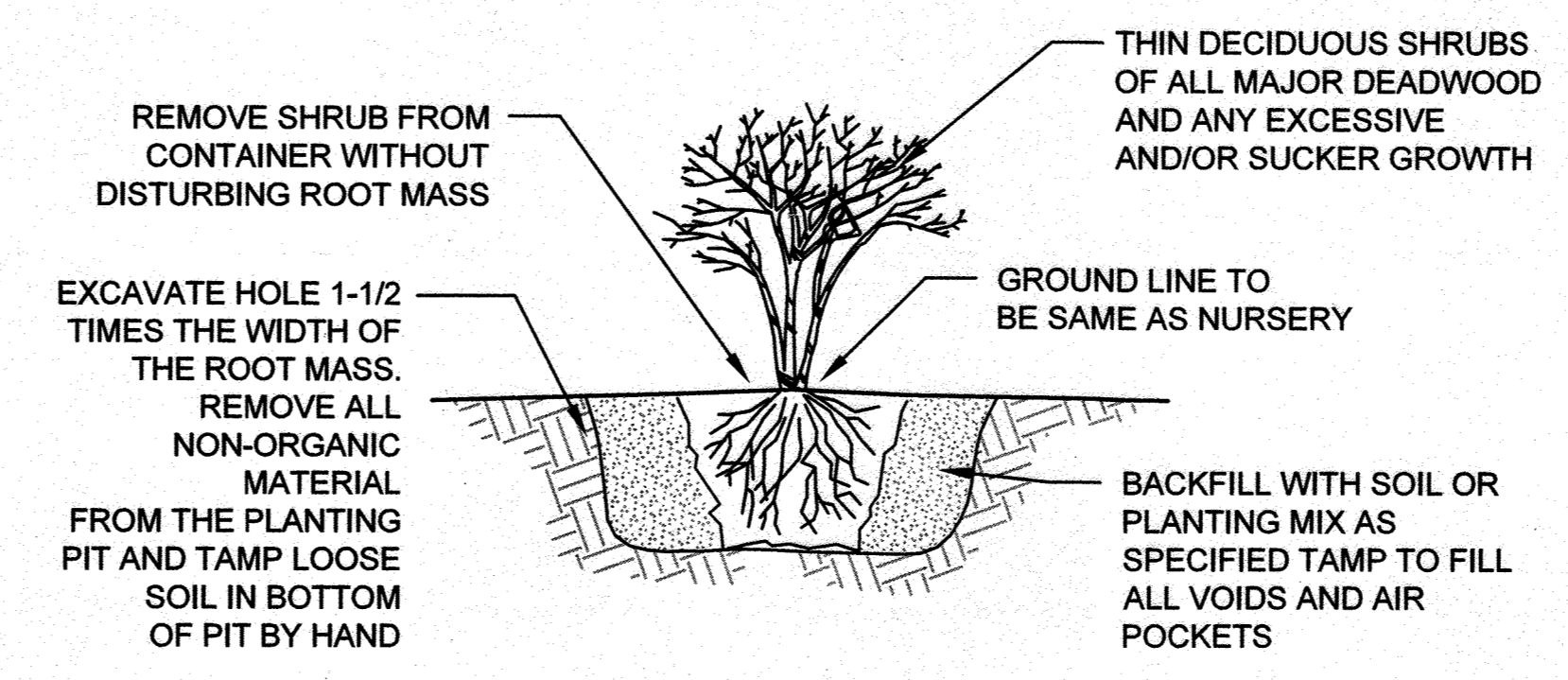


BRYAN J. ARVAI
No. 48908

DAVE'S LAWN & LANDSCAPE SERVICE, INC. (CEI BMP DESIGN)

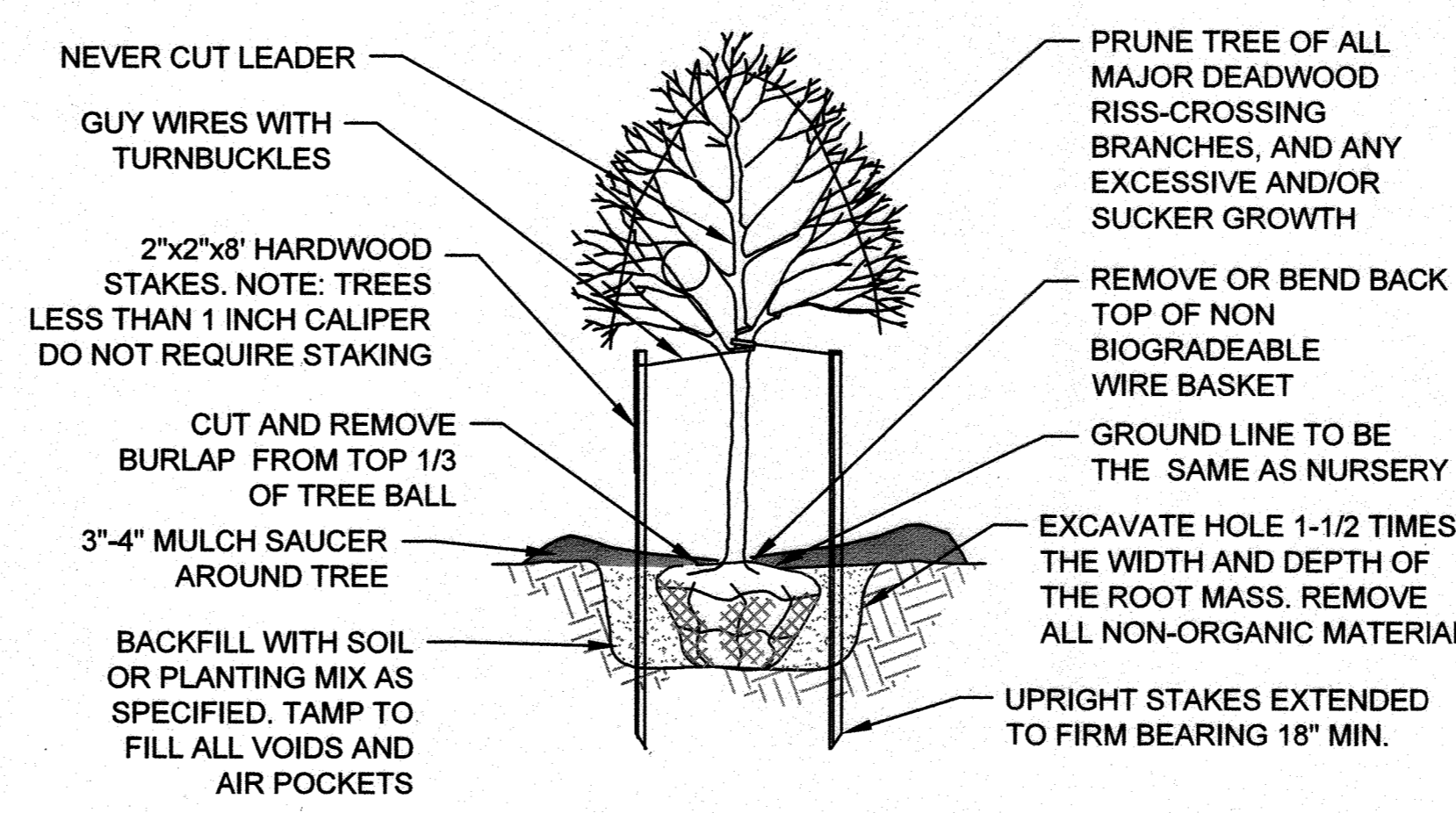
SEQUENCE OF CONSTRUCTION

PROJECT NO.:	20095.01	SCALE:	NTS
PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD	TAX MAP 35 PARCEL 127	BY:	RW/TB
127H DISTRICT DISTRICT	HOWARD COUNTY, MARYLAND	CHECK:	BA
		DWG. NO.:	8 OF 9



SHRUB PLANTING - CONTAINER GROWN

NOT TO SCALE



TREE PLANTING - BALLED AND BURLAPPED

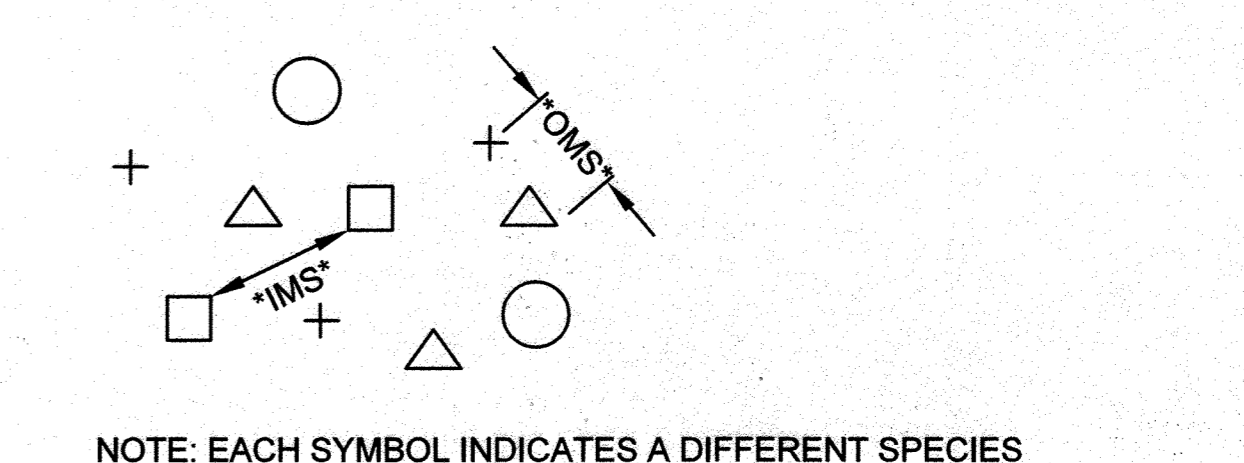
NOT TO SCALE

PLANTING LEGEND

	ZONE 1 - POLLINATOR MEADOW
	ZONE 1 - TREE/SHRUB LOCATIONS
	ZONE 2 - BIORETENTION AREA
	ZONE 3 - TURF ESTABLISHMENT

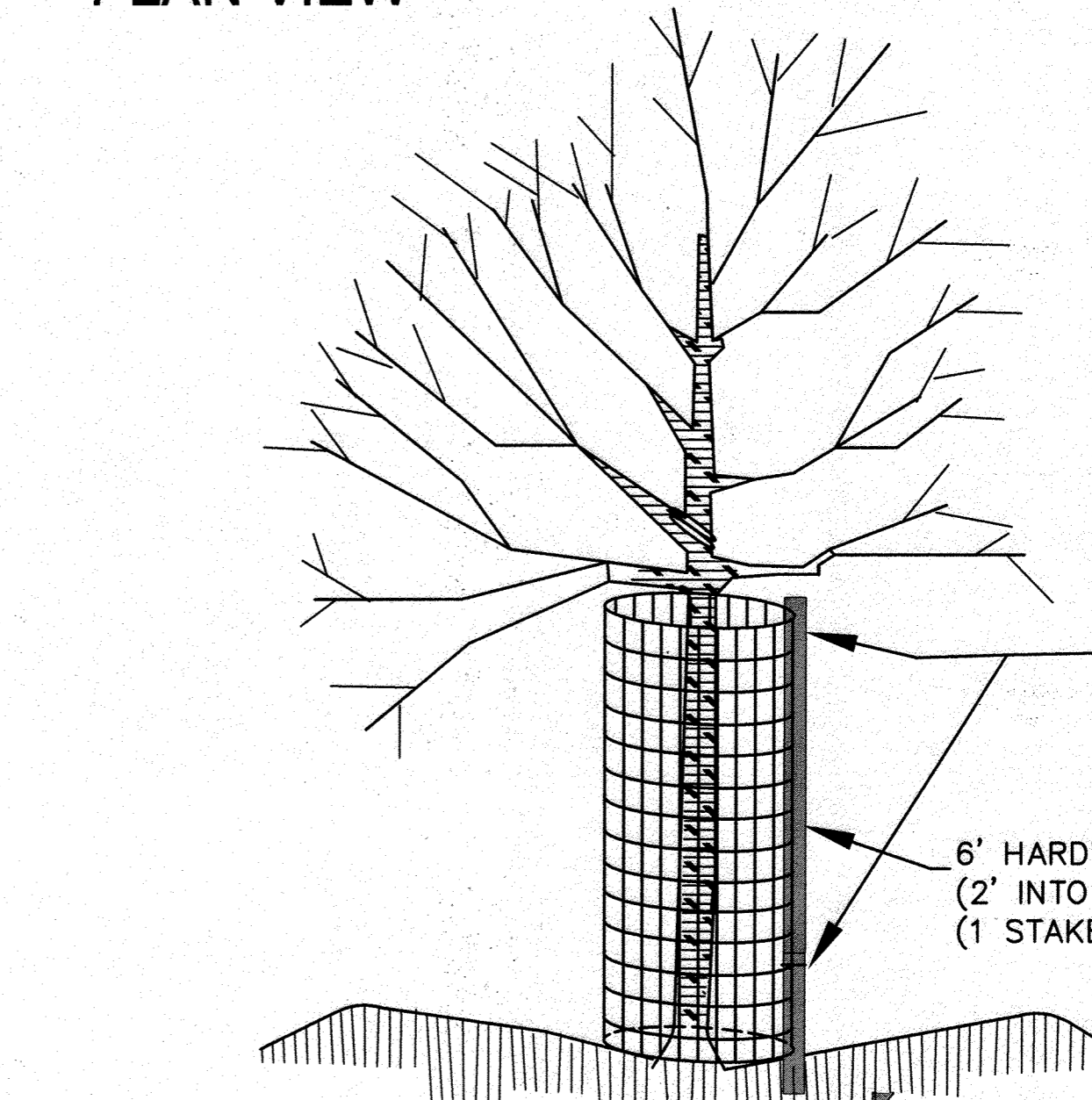
OMS - AN OVERALL MINIMUM SPACING DISTANCE "OMS" IS ASSIGNED TO THE PLANTING CONFIGURATION
SEE PLANT SCHEDULE

IMS - AN INDIVIDUAL MINIMUM SPACING DISTANCES "IMS" IS ASSIGNED TO EACH INDIVIDUAL SPECIES
SEE PLANT SCHEDULE



PLANT SPACING - RANDOM

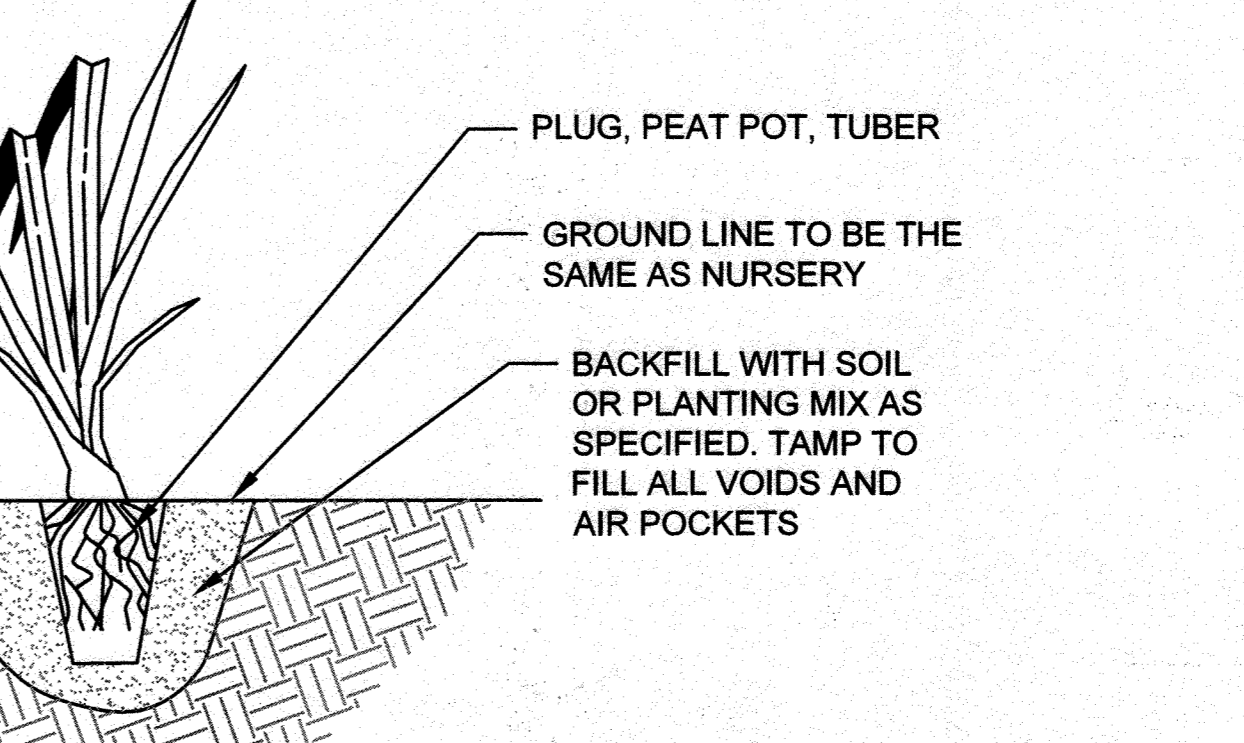
NOT TO SCALE



- NOTES:
- DEER PROTECTION CAGES TO BE INSTALLED AROUND ALL PLANTED TREES AND SHRUBS.
 - HEIGHT OF CAGE SHALL BE 4-FEET (MIN.)
 - CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11-INCH RELEASABLE CABLE TIES (ONE AT TOP AND ONE 6" (MIN.) ABOVE THE GROUND.)
 - DO NOT DAMAGE TREE DURING INSTALLATION.
 - DEER BARK PROTECTORS (ITEM #bg48, BY A.M. LEONARD, OR EQUAL) MAY BE SUBSTITUTED FOR TREES GREATER THAN 3/4" CALIPER. ALL OTHER SUBSTITUTIONS MUST BE APPROVED BY LANDSCAPE ARCHITECT.
 - CAGES TO BE REMOVED AT DIRECTION OF FOREST ECOLOGIST.
 - ENSURE CAGE IS SECURE TO GROUND TO PREVENT UPLIFT BY DEER.

DEER PROTECTION CAGE

NOT TO SCALE



HERBACEOUS PLANTING - PLUGS

NOT TO SCALE

PLANT COMPOSITION SCHEDULE

ZONE 1 - Pollinator Meadow

Size (acres): 0.12

Overall Minimum Spacing (ft.)	Quantity per acre	Frequency (%)	Species Quantity	Species Name	Common Name	Unit	Spacing Type	Size		
20	NA	0%	2	<i>Sassafras albidum</i>	Sassafras	B&B	20'	2" cal		
			3	<i>Amelanchier alaborea</i>	Downy Serviceberry	B&B	N/A	2" cal		
			= total							
			SHRUBS							
			11	<i>Cornus racemosa</i>	Gray dogwood	CON	N/A	3-4'		
11	<i>Itea virginica</i>	Virginia Sweetspire	CON	N/A	3-4'					
10	<i>Rubus allegheniensis</i>	Allegheny blackberry	CON	N/A	3-4'					
= total										
2.5	6970	100%	HERBACEOUS PLUGS							
			121	<i>Andropogon virginicus</i>	Broomsedge	CON	Cluster	Quart		
			121	<i>Asclepias tuberosa</i>	Butterfly Milkweed	CON	Cluster	Quart		
			162	<i>Liatris spicata</i>	Blazingstar	CON	Cluster	Quart		
			121	<i>Pycnanthemum tenuifolium</i>	Appalachian Mountain Black-eyed Susan	CON	Cluster	Quart		
			121	<i>Rubekia hirta</i>	Black-eyed Susan	CON	Cluster	Quart		
			162	<i>Symphoricarum novi-belgii</i>	New York Aster	CON	Cluster	Quart		
			= total							
			HERBACEOUS SEED							
			75%	Mesic to Dry Native Pollinator Mix	ERNMX-105	SEED	LB of P.L.S. 76%	N/A		
25%	Showy Northeast Native Wildflower Mix	ERNMX-153-1	SEED	LB of P.L.S. 76%	N/A					
= total										

B&B = Balled and Burlapped
CON = Container Planting
P.L.S. = Pure Live Seed

PLANT COMPOSITION SCHEDULE

ZONE 2 - Bioretention Area

Size (acres): 0.03

Overall Minimum Spacing (ft.)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/ Name	Species	Common Name	Unit	Spacing Type	Size	
2	10890	100%	HERBACEOUS PLANTS							
			50	<i>Panicum clandestinum</i>	Deertongue	CON	Cluster	Quart		
			53	<i>Adropogon virginicus</i>	Broomsedge	CON	Cluster	Quart		
			30	<i>Chamaecrista fasciculata</i>	Partridge Pea	CON	Cluster	Quart		
			30	<i>Desmodium paniculatum</i>	Narrow leaf tick-trefoil	CON	Cluster	Quart		
			44	<i>Baptisia australis</i>	Blue False Indigo	CON	Cluster	Quart		
			30	<i>Liatris spicata</i>	Blazingstar	CON	Cluster	Quart		
			30	<i>Helopsis helianthoides</i>	Oxeye sunflower	CON	Cluster	Quart		
			30	<i>Panicum virgatum</i>	Switchgrass	CON	Cluster	Quart		
			= total							
HERBACEOUS SEED										
0.5	Seasonally Flooded Wildlife Food Mix	ERNMX-128	SEED	LB of P.L.S. 76%	N/A					
= total										

CON = Containerized
P.L.S. = Pure Live Seed

PLANT COMPOSITION SCHEDULE

ZONE 3 - Turf Establishment

Size (acres): 0.01

Overall Minimum Spacing (ft.)	Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Unit	Spacing Type	Size	
N/A	75	100%	HERBACEOUS SEED						
			0.7	Commercial Conservation Mix	ERNMX-113	SEED	LB of P.L.S. 76%	N/A	
			= total						

P.L.S. = Pure Live Seed

ENGINEERS 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 COUNTY SOIL CONSERVATION DISTRICT."

STATE OF MARYLAND
BRYAN J. ARVAI
PROFESSIONAL ENGINEER
NO. 48608

7-6-2021
DATE

DEVELOPERS 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 THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

Chiara D'Amore
SIGNATURE OF DEVELOPER
7-14-2021
DATE

THIS RED-LINED SITE DEVELOPMENT PLAN MEETS THE REQUIREMENTS FOR A HOWARD COUNTY SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL PLAN AND THEREFORE DOES NOT REQUIRE THE APPROVAL OF HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE	ISSUES / REVISIONS	PURPOSE
7-6-2021	2	REDLINE REVISION 2 FOR PROPOSED SWM; ADD SHEETS 4-9, REPLACE SHEET 2

PERMIT INFORMATION CHART

SUBDIVISION NAME COMMUNITY ECOLOGY INSTITUTE	SECTION/AREA 127	LOT/PARCEL# 127
PLAT# OR LF 18755280	GRID# 24	ZONING R-20
TAX MAP NO. 35	ELECT. DIST. 4TH	CENSUS TRACT 6056.02
WATER CODE	SEWER CODE	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/6/21
DATE

7/23/21
DATE

7/28/21
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

7/28/21
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

7/28/21
DATE

7/28/21
DATE

7/28/21
DATE

Biohabitats

The Stables Building, 2081 Clipper Park Road
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com

Restore the Earth & Inspire Ecological Stewardship

OWNER & DEVELOPER
COMMUNITY ECOLOGY INSTITUTE
CHIARA D'AMORE
8000 HARRIET TUBMAN LANE
COLUMBIA, MD 21044

STATE OF MARYLAND
BRYAN J. ARVAI
PROFESSIONAL ENGINEER
NO. 48608

DAVE'S LAWN & LANDSCAPE SERVICE, INC.
(CEI BMP DESIGN)

PLANTING PLAN

PROJECT NO.: 20005.01
SCALE: 1" = 20'

PROPERTY OF COMMUNITY ECOLOGY INSTITUTE LTD
TAX MAP 35, PARCEL 127
13TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

BY: RW/TB
CHECK: BA
DWG. NO.: 9 OF 9