SITE DEVELOPMENT PLAN
CEDAR LANE PROGRAM AT THE FULTON CAMPUS

TAX MAP No.: 41/46 PARCEL No.: 115

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

SITE ANALYSIS DATA

1. General Site Data:
   A. Present Zoning: RR-MXD3
   B. Proposed use of site or structure: Institutional (Public School)
   C. Public water and sewer to be utilized.
2. Area Tabulation:
   A. Total project area: 99.83 Ac±
   B. Area of this plan submission: 11.45 Ac.± is the limit of submission and grading disturbance for the construction of the school and associated parking.
   C. Impervious Coverage
      Ex. Reservoir High School = 3.0± Acres
      Ex. Lime Kiln Middle School = 2.1± Acres
      Ex. Fulton Elementary School = 1.6± Acres
      Paved areas (parking, and walkways) = 18.2± Ac.
      Proposed Cedar Lane Program at Fulton Campus = 2.3 ± Acres
      Proposed Paved areas (parking, and walkways): 3.49 Ac.
   D. Building Coverage
      Ex. Buildings = 6.7% (6.7± Acres)
      Proposed Building Coverage = 2.3% (2.3± Acres)
      Total Building Coverage = 9% (9± Acres)
3. Open Space Data:
   A. Open space Required on Site: N/A
   B. Open Space Proposed: N/A
4. Parking Space Data:
   A. The Number of parking spaces in accordance with the Public School System's requirements = 152.
   B. Total number of parking spaces provided on site: 152 (Including handicap Parking)
   C. Number of Handicapped parking spaces provided: 11 (Including 1 Handicap Van Spaces)

LEGEND

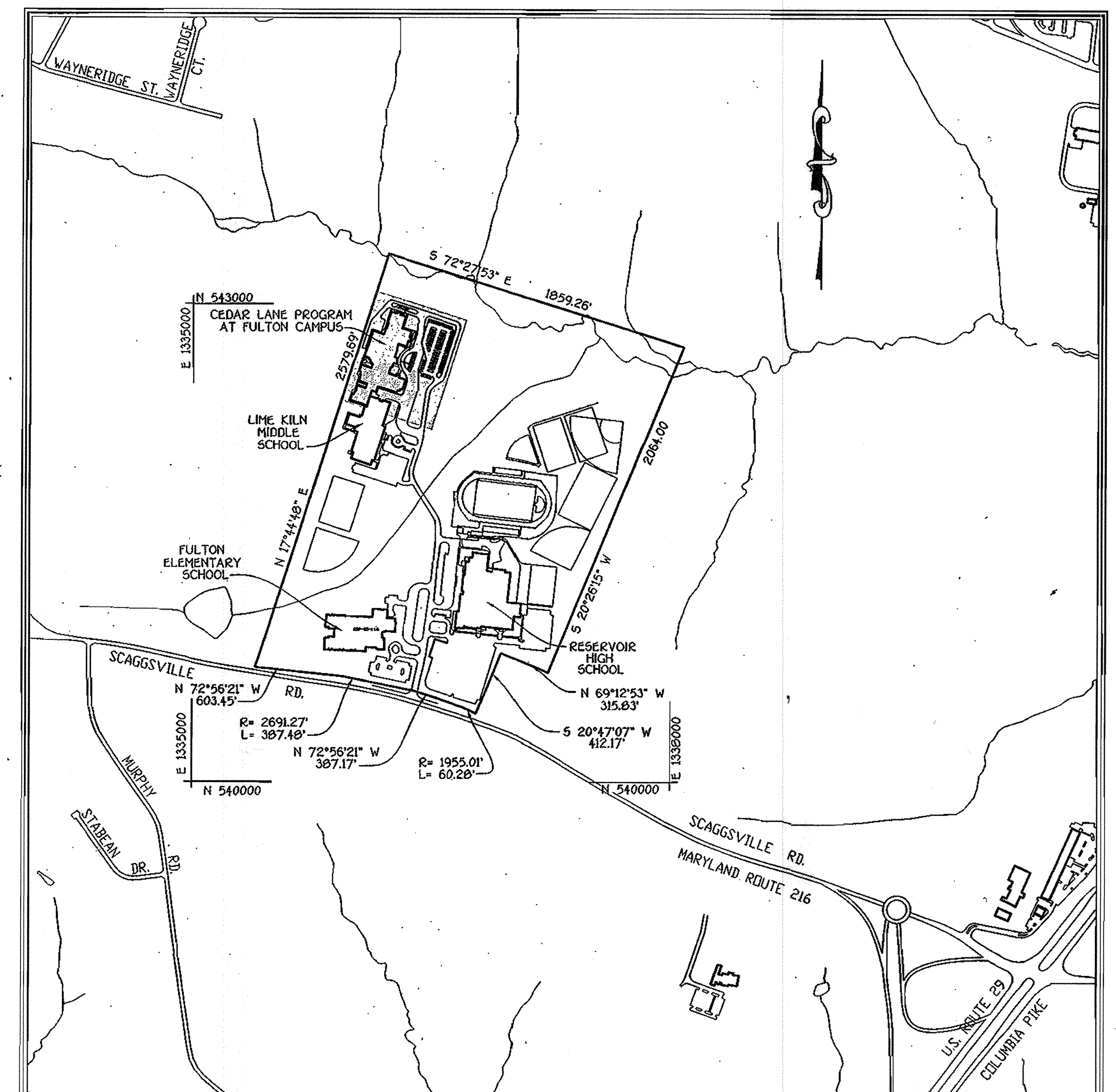
Description	Symbol
Existing Contour	--440----
New Contour	—440—
Existing Curb Line	
New Curb Line & Flow Line Elev.	432.50 / 432.35
Existing water Line	
New water Line	
Existing Fire Hydrant	
Existing Sewer Line	Ex. 8" S
New Sewer Line	6" S
Existing Storm Drain Line	Ex. 12" S.D.
New Storm Drain Line	15" HDPE
New Sidewalk	
Existing Tree & Treeline	
Existing Street Light to be relocated	
New Pole Light. See Electrical Plans	
Number of Parking Spaces	10
Ex. Fence Line	X——X——X—
Limit of Grading Disturbance (L.O.D.)	
Stream Buffer	SB——SB——SB

⟨3⟩ PROFESSIONAL CERTIFICATION

FOR REVISION: ⟨3⟩

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND
LICENSE NO.: 12975 EXPIRATION DATE: MAY 26, 2020

7-19-18



PLAN
SCALE: 1" = 600'

⟨3⟩ NOTES FOR CONSTRUCTION WITHIN THE FOREST CONSERVATION EASEMENT

THE FOLLOWING CONDITIONS, ESTABLISHED BY THE DEPARTMENT OF PLANNING AND ZONING, HAVE BEEN MET, ALLOWING THE CONSTRUCTION OF THE PEDESTRIAN PATHWAY WITHIN THE FOREST CONSERVATION EASEMENT:

1. SHOW TREES OF 6" DBH OR GREATER ON THE PLANS.
2. THE PATHWAY MUST BE NO CLOSER THAN 6' FROM THE BASE OF THE TRUNK OF ANY TREE OVER 12"DBH.
3. THAT THE PATHWAY MUST BE INSTALLED USING EQUIPMENT WITH A MAXIMUM WEIGHT OF 1/2 TON.
4. THE PATHWAY MUST BE CONSTRUCTED WITHOUT FILLING GREATER THAN 6"
5. THE PATHWAY MUST BE NO WIDER THAN 8'-0"
6. TREES 6" DBH OR GREATER CANNOT BE REMOVED.

DATE	REVISION	BY
2017-06-06	⟨3⟩ ADDED SHEET 24 FOR CURRENT SEDIMENT CONTROL NOTES AND DETAILS, AND ADDED NOTES FOR CONSTRUCTION WITHIN THE FOREST CONSERVATION EASEMENT.	DEV

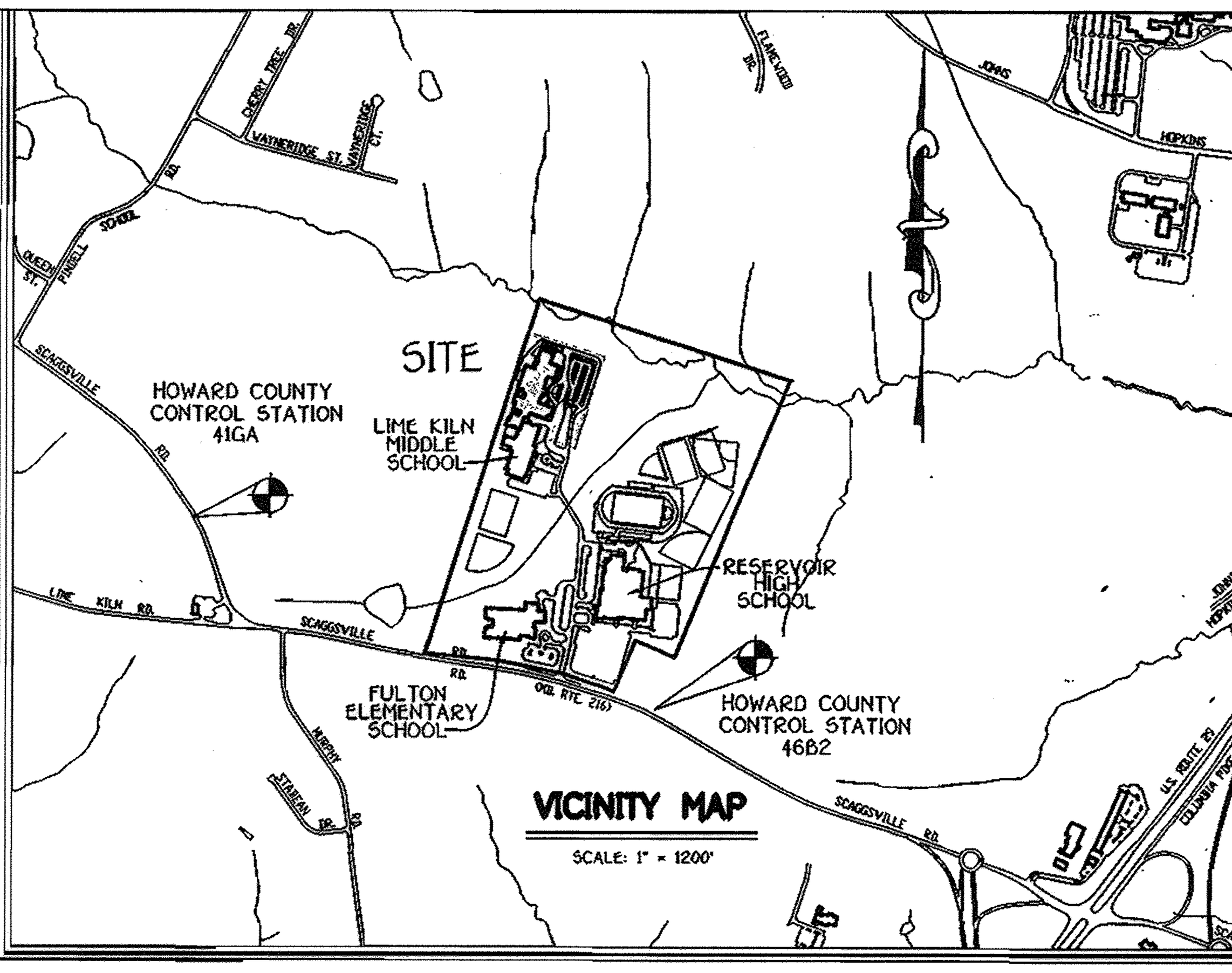
Forest Conservation Notes

1.) THE LIMIT OF DISTURBANCE SHOWN ON THIS SITE DEVELOPMENT PLAN IS WITHIN THE LIMIT OF SUBMISSION SHOWN ON THE WESTERN MIDDLE SCHOOL No. 2 SDP 98-01. THE FOREST CONSERVATION REQUIREMENTS FOR THIS PROJECT AREA WAS PREVIOUSLY ADDRESSED UNDER SDP 00-86.

2.) FOREST CONSERVATION EASEMENTS WERE CREATED ON THE SITE DEVELOPMENT PLAN SDP 98-01 WHEN THE SITE DEVELOPMENT FOR RESERVOIR HIGH SCHOOL SDP 00-86 WAS DESIGNED.

3.) THERE ARE 3 FOREST CONSERVATION EASEMENTS BEING IMPACTED BY UTILITIES, A STORMWATER MANAGEMENT POND AND A SERVICE DRIVE.

4.) THERE IS 1.16 A.C. OF DISTURBANCE TO THE EXISTING FOREST CONSERVATION EASEMENT. THE 1.16 ACRES OF PLANTING REQUIRED WILL BE DONE AT THE NORTHEASTERN ELEMENTARY SCHOOL No. 4 SDP 02-36. (SEE SHEET 23) PLAT REFERENCES 16737 THRU 16740



VICINITY MAP
SCALE: 1" = 1200'

General Notes

1. All construction shall be accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
2. The contractor shall notify the Bureau of Engineering/Construction Inspection Division at 410-313-1880 at least five working days prior to start of work.
3. The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any digging and excavation work.
4. Project Background:
Location: Tax Map 41/46, Parcel 115
Zoning: This project is zoned RR-MXD3
Election District: FIFTH
Section/Area: N/A
Site Area: 99.83 Ac.± (Gross)
5. Traffic control devices, markings and signing shall be in accordance with the latest edition of the manual on Uniform Traffic Control Devices (MUTC). All street and regulatory signs shall be in place prior to placement of any asphalt
6. All plan dimensions are to the face of curb or face of building unless otherwise noted. Dimensions are measured perpendicular or radial between items unless otherwise noted.
7. Existing topography and features were derived from survey by Fisher, Collins and Carter Inc. and Harford Aerial Surveys inc. Dated August 15, 2003.
8. Coordinates are based on NAD 83 Maryland Coordinates System as projected by Howard County Geodetic Control Stations. 41GA N 541,399.078 E 1,333,808.248 ELEV. 462.807; 46B2 N 539,987.714 E 1,337,218.435 ELEV. 475.235
9. Public water and sewer is to be utilized for this project. Contract* 24-3452-D, and 44.3633-D. Little Patuxent Drainage Area.
10. Stormwater management is provided by a on-site private retention facility that is to be privately maintained.
11. All on-site storm drains under this site development plan are private.
12. The existing utilities shown hereon were derived from available public records. The contractor must dig test pits by hand at all utility crossings and connection points to verify the exact location.
13. All proposed ramps shall be in accordance with current A.D.A. Standards Accessibility Guidelines. Maximum sidewalk cross slope shall be two percent. Provide a (5'x5') five foot by five foot level landing (max. slope 2%) at the top and bottom of all ramps and building entrances and exits. Handrails shall be provided on all ramps in accordance with section 4.8.5 of the A.D.A. Standards Accessibility Guidelines.
14. All driveways and parking to be owned and maintained by the Howard County Public School System.
15. Any damage to County and or State owned right-of-way to be corrected at the contractor's expense.
16. Trench bedding for storm drains structures shall be in accordance with Howard County Standard G2.01 Class C Bedding unless otherwise noted.
17. Gutter pan of curbs shall be pitched to conform to the adjacent drainage patterns of the adjoining paving for vehicular use. See detail
18. All curb fillets are 5' radius unless noted otherwise. Curb spot elevations along curb line are at the flow line unless noted otherwise.
19. For details of building profile, parking, road section, handicap, curb and gutter see sheets 5 and 6
20. There are no known grave sites or cemeteries on this site.
21. Other topics related to this site:
Soils Analysis prepared by: Penniman and Browne Dated January 9, 2004.
22. All outside lighting shall comply with Zoning Regulations Section 134 which requires lights to be installed to direct/reflect light downwards and inwards on the site and away from all public streets and residential areas.
23. The building shall be equipped with an automatic fire prevention sprinkler system.
24. There are no wetlands within the limits of disturbance as shown on SDP 98-01
25. This Project is recorded among the land records in Howard County, Maryland in Liber 3218, Folio 618
26. Previous DPZ file numbers SDP 00-86, SDP 95-118, SDP 98-01, Council Resolution 96-1995, WP 95-112, WP 98-01, WP 00-78, GP 00-131, Council Resolution 47-2000, and WP 00-95.
27. This SDP is subject to the First Amendment to the Fifth Edition of the Subdivision and Land Development Regulations dated October 2, 2003 and the Comprehensive Zoning Plan and Regulations adopted on 2/2/04.
28. No clearing, grading or construction is permitted within the limit of wetlands, streams or their required buffers, except as approved on this plan for necessary utility line disturbances in accordance with Section 16.116(c) of the Subdivision and Land Development Regulations.
29. All exterior light fixtures shall be oriented to direct light inwards and downwards on-site away from all adjoining residential properties and public roads in accordance with section 134 of the Howard County Zoning Regulations. Site lighting shall be pole mounted cutoff luminaire (by lithonia) with 12" arm, 1000 watts metal halide lamps, 480 volt fused. Pole shall be same dark bronze. see sheet 7 for the lithonia specifications. for additional information. See project specifications and electrical drawing to be submitted with building permit submission package.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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.

Signature — Date 6.17.04

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."

6/10/19

Signature Of Developer — Date 6.18.04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/2/04

Chief, Division of Land Development — Date 7/2/04

Chief, Development Engineering Division — Date 6/30/04

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT	SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS	N/A	115

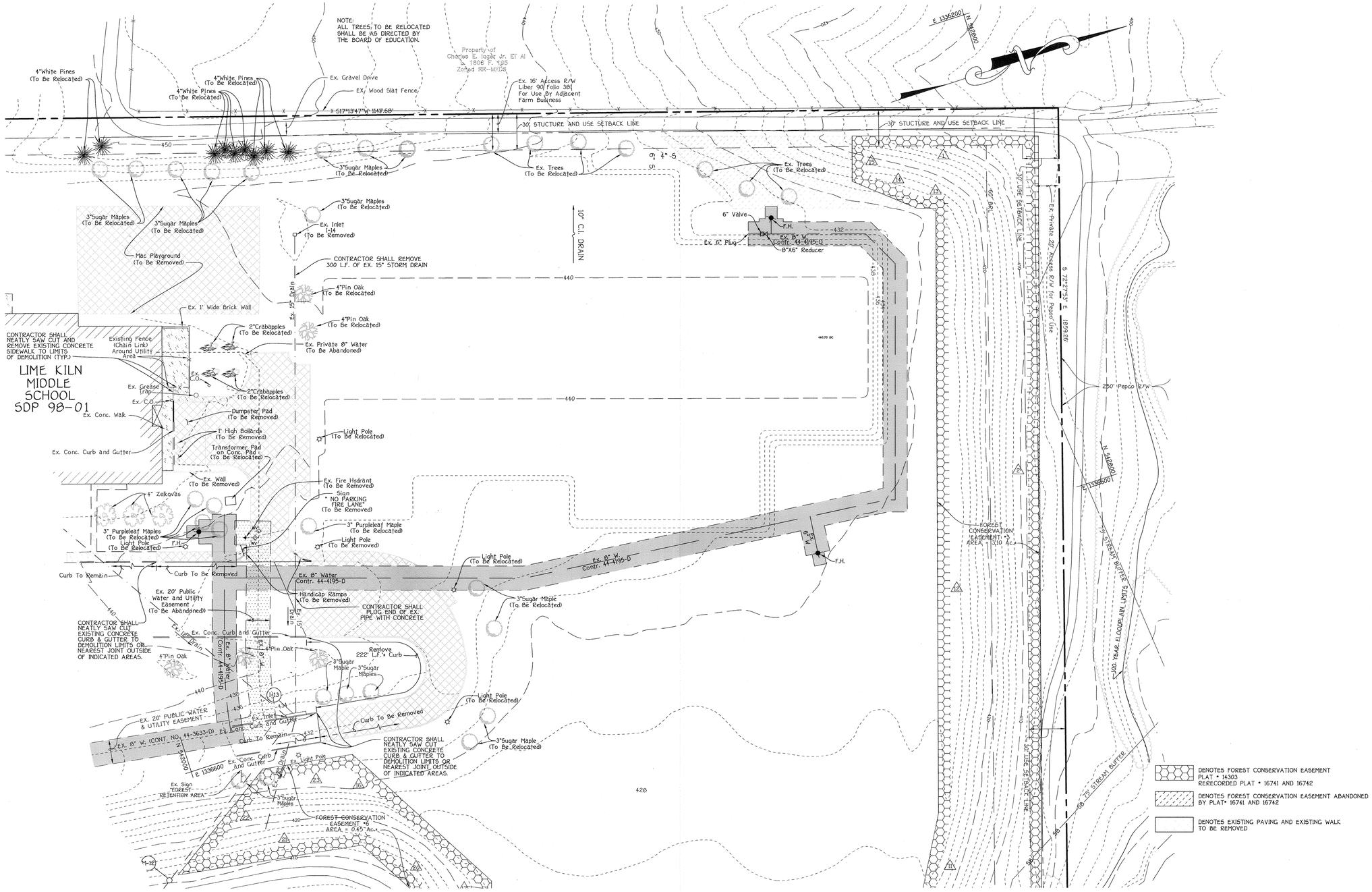
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02

WATER CODE	SEWER CODE
E20	7695000

TITLE SHEET

CEDAR LANE PROGRAM AT THE FULTON CAMPUS
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004



PLAN
SCALE: 1" = 40'

FISHER, COLLINS & CARTER, INC.
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(410) 461 - 2855

ENGINEER'S CERTIFICATE

I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Workable 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 Of Engineer — 6-17-04 Date

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 — 6.18.04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

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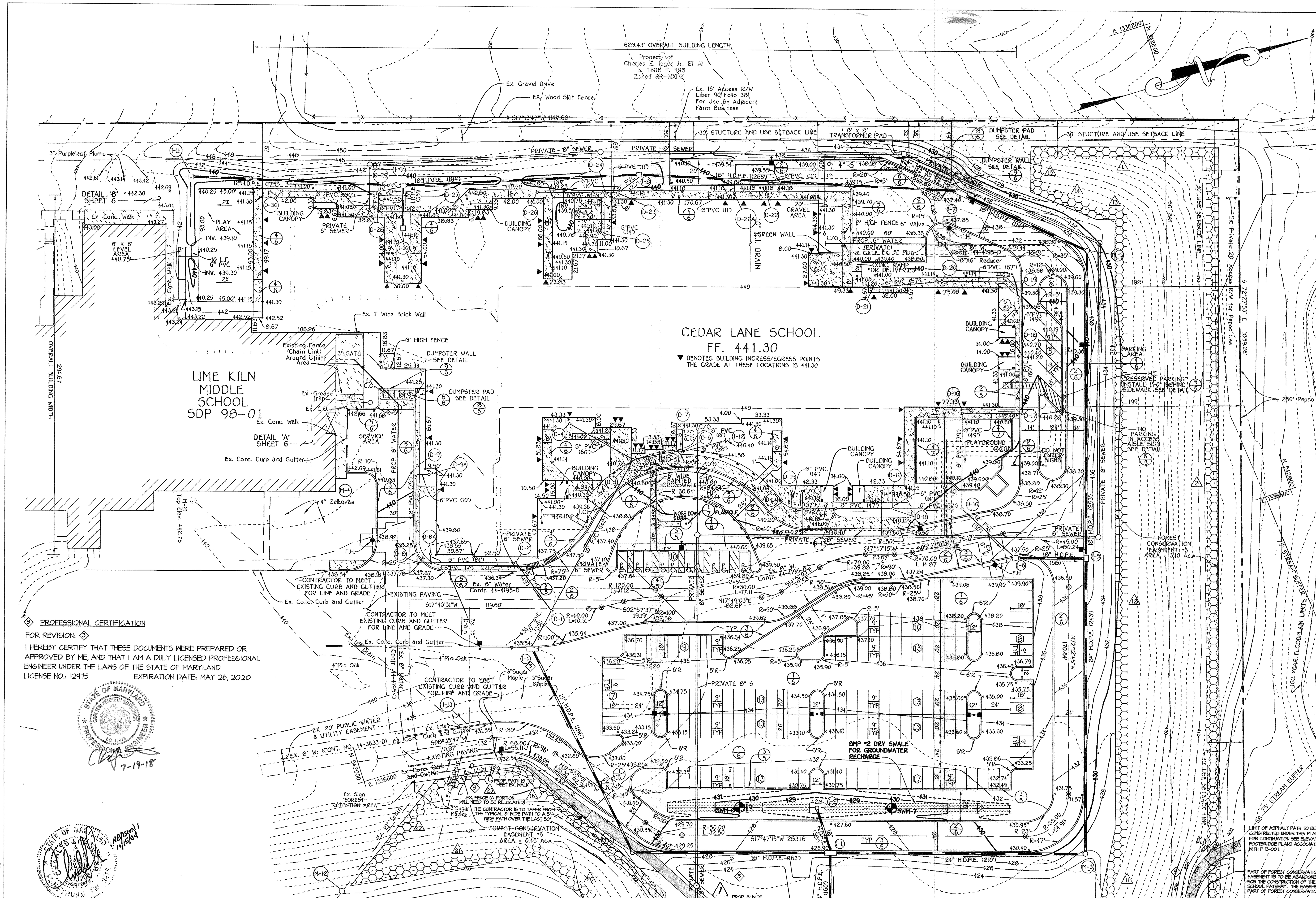
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE		SEWER CODE			
E20		7695000			

DEMOLITION PLAN

CEDAR LANE PROGRAM AT THE FULTON CAMPUS
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SHEET 2 OF 24 SDP 04-118



◇3 PROFESSIONAL CERTIFICATION

FOR REVISION: ◇3

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

LICENSE NO.: 12975 EXPIRATION DATE: MAY 26, 2020

7-19-18

FOREST CONSERVATION EASEMENT #3
AREA = 3.11 Ac.±

1	S 17°44'48" W	154.13'
2	S 72°27'53" E	1180.33'
3	S 44°44'16" W	381.47'
4	S 45°02'16" W	2.99'
5	S 44°57'44" E	35.79'
6	S 16°21'37" W	183.86'
7	S 60°25'30" W	62.74'
8	S 29°34'30" E	35.00'
9	N 60°25'30" E	58.78'
10	S 71°21'55" E	261.49'
11	N 60°32'54" W	127.72'
12	N 72°27'53" W	499.99'
13	S 17°44'48" W	15.04'
14	N 40°21'17" E	58.82'
15	S 72°15'12" E	37.38'

FOREST CONSERVATION EASEMENT #6
AREA = 0.45 Ac.±

16	N 60°01'05" E	155.57'
17	S 72°40'13" E	121.94'
18	N 16°56'33" E	45.82'
19	N 73°03'27" W	97.10'
20	S 60°01'05" W	82.13'
21	S 08°33'52" W	154.46'
22	N 33°30'18" W	112.17'
23	N 08°31'07" E	75.19'

DENOTES FOREST CONSERVATION EASEMENT PLAT # 14303 RERECORDED PLAT # 16741 AND 16742

DENOTES FOREST CONSERVATION EASEMENT ABANDONED BY PLAT# 16741 AND 16742

No.	Revision	Date
1	Relocated sewer MH 510	10.15.04

DATE	REVISION	BY
2017-06-06	◇3 ADDED 8' WIDE ASPHALT PATH, REQUIRED GRADING, AND EXISTING FEATURES. ADDED PROFESSIONAL CERTIFICATION	DEV

MATCHLINE SEE SHEET 4

PLAN
SCALE: 1" = 40'

FISHER, COLLINS & CARTER, INC.
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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 And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 6-17-04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. Natural Resources Conservation Service — 6/28/04 Date

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 — 6/10/19; 6.18.04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — 6/6/19; 6/28/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
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10910 Maryland Route 108
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Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA	PARCEL	
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A	115	
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE		SEWER CODE			
E20		7695000			

SITE DEVELOPMENT PLAN

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

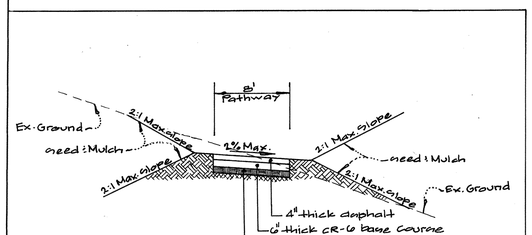
TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SWM SUMMARY TABLE

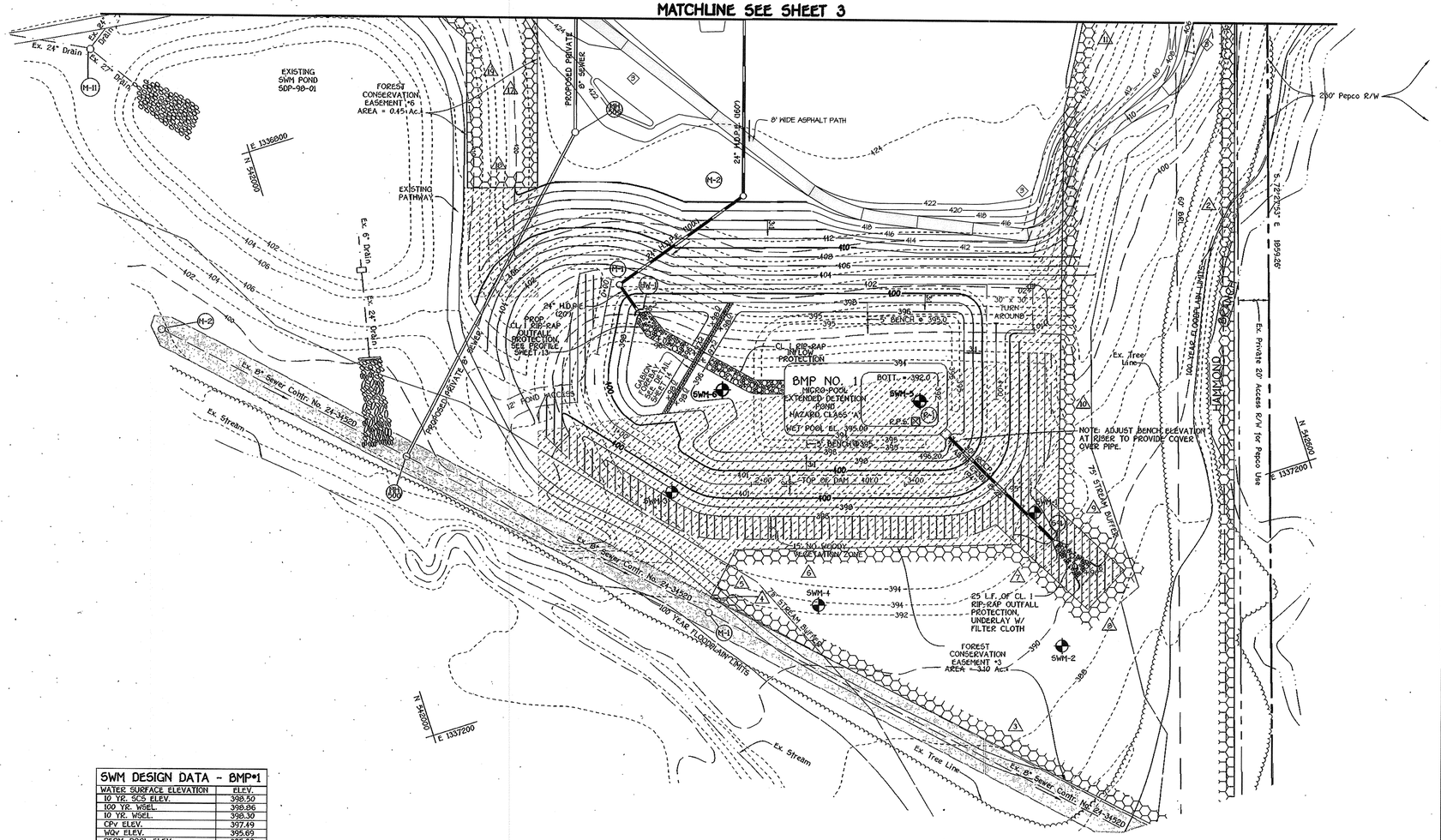
Type of Requirement	Volume Required	Volume Provided
Re, (Recharge Vol. for Entire Site)	1.612 acres or 0.133 acre-feet	The dry swale provide 0.136 acre-foot of recharge volume.
WQ,		
Study Point #1 (11.25 acres)	0.412 acre-feet	0.412 acre-feet provided in micropool
Cp,		
Study Point #1 (11.25 acres)	0.7358 acre-feet	0.7358 acre-feet provided in micropool

Note: Both Q_p (Overbank Flood Protection or 10-year storm) and Q_f (Extreme Flood Volume or 100-year storm) are not required for this site since this watershed area is not classified as one of the sensitive watershed areas for Howard County.

This school site has been analyzed as one drainage area since it drains to the Hammond Branch River which runs offsite parallel to the property line. The recharge volume for the entire site is met through the use of dry swale structural BMPs located roughly in the middle of the site at the rear of the proposed parking area. The water quality volume for this site is reduced by subtracting the recharge volume treated in the dry swales. The remaining water quality volume is met through the use of a micropool extended detention pond. The channel protection volume for this site has been satisfied through the use of the micropool extended detention pond using a 24 hour draw down.



Asphalt Pathway Detail
No scale



PLAN
SCALE: 1" = 40'

SWM DESIGN DATA - BMP#1	
WATER SURFACE ELEVATION	ELEV.
10 YR. SCS ELEV.	398.50
100 YR. WSEL.	398.86
10 YR. WSEL.	398.30
CPv ELEV.	397.49
WQv ELEV.	395.69
PERM. POOL ELEV.	395.00

DENOTES FOREST CONSERVATION EASEMENT PLAT • 14303 RERECORDED PLAT • 16741 AND 16742

DENOTES FOREST CONSERVATION EASEMENT ABANDONED BY PLAT• 16741 AND 16742

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature _____ P.E. No. _____

Date: _____

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party from Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

PROFESSIONAL CERTIFICATION

FOR REVISION: ③

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND
LICENSE NO.: 12975 EXPIRATION DATE: MAY 26, 2020

STATE OF MARYLAND — CARLTON KENNETH CRAWFORD — NO. 12975 — PROFESSIONAL ENGINEER

7-19-18

DATE	REVISION	BY
2017-06-06	③ ADDED 8' WIDE ASPHALT PATH, REQUIRED GRADING, AND EXISTING FEATURES. ADDED PROFESSIONAL CERTIFICATION	DEV

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By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans And That Any 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 Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer _____ 6/11/19

Dr. William Brown
Printed Name Of Developer

Wm. Brown 6.18.04
Date

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

USDA-Natural Resources Conservation Service _____ 6/28/04
Date

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And [illegible] Design Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Owner That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

Signature _____ 6-17-04
Date

ALDO [illegible]
Printed Name Of Engineer

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District _____ 6/6/19 _____ 6/28/04
Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning _____ 7/2/04
Date

Chief, Division of Land Development _____ 7/2/04
Date

Chief, Development Engineering Division _____ 6/30/04
Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
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SITE DEVELOPMENT PLAN

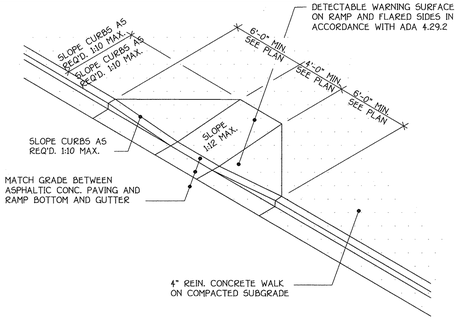
CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

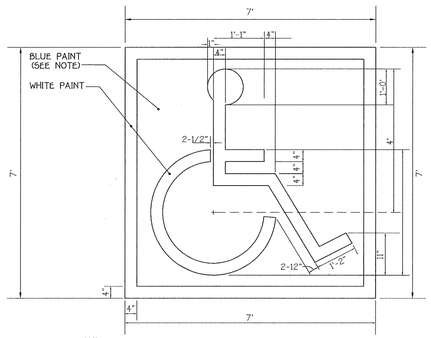
SHEET 4 OF 24 SDP 04-118

L:\CADD\DRAWINGS\1100\REDLINE\SCHOOL_PATHWAY\REPLACEMENT MYLARS\SDP 04-118_sheet 04.dwg, PLOTTED:6/6/2017 8:33 AM, LAST SAVED:6/5/2017 3:58 PM, PLOTTED BY: Terry Leggett



TYPE A CURB RAMP DETAIL 1/5

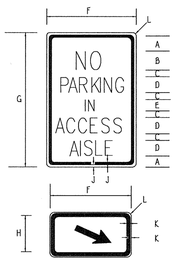
NO SCALE



NOTE:
SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND (WHITE ON BLUE: COLOR NO. 105090 IN FED. STANDARD 595Z-DOUBLE COAT TYP.)

ACCESSIBLE SPACE STENCIL LAYOUT 4/5

SCALE: 1" = 20'



NOTE: APPROPRIATE ARROW PLATE MAY BE USED WHEN IT IS NECESSARY TO OFFSET INSTALLATION LOCATION DUE TO ACCESS RAMP.

SIGN SIZE	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	
STANDARD	1-3/4	2-1/2	D	1	2	C	1-1/2	D	12	18	6	3/8	1/4	1-1/2

REFERENCES

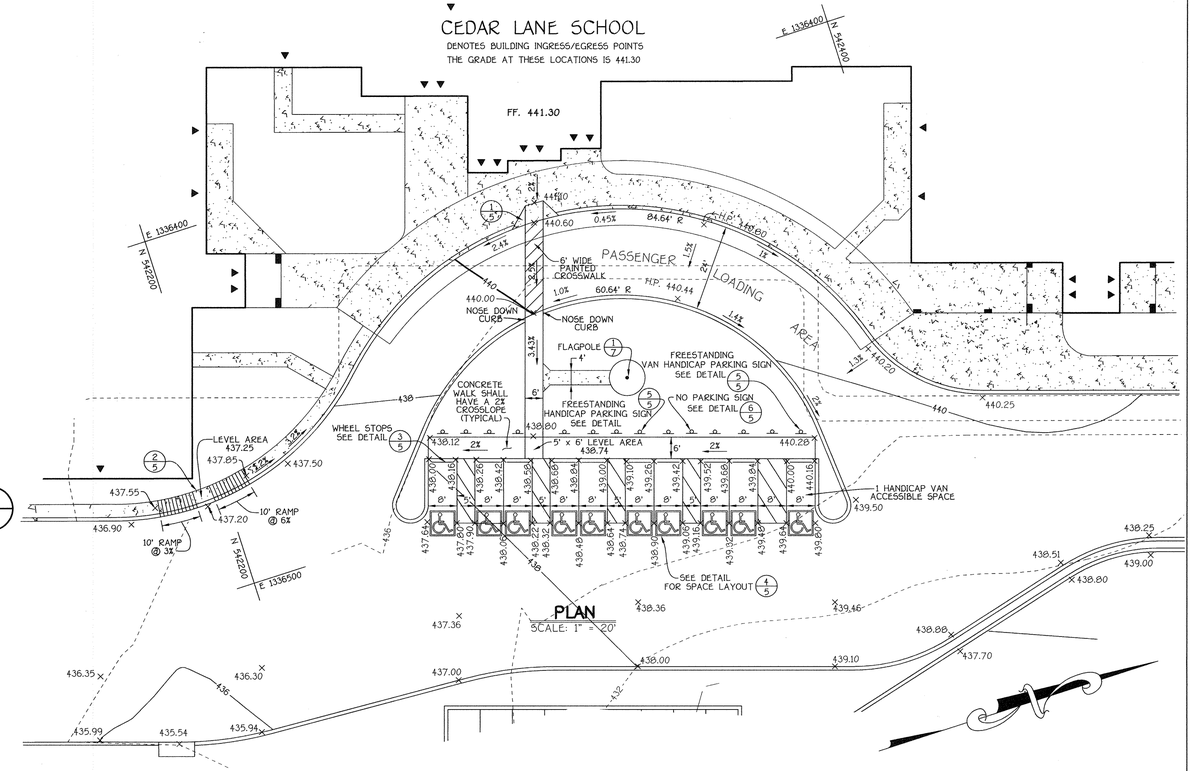
MUTCD SECTION - 2B-35
MUTCD SUPPLEMENT - 2B-31

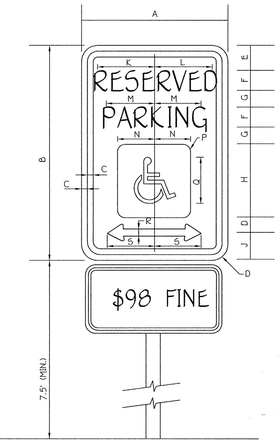
COLORS

LEGEND - RED
BACKGROUND - WHITE

NO PARKING SIGN DETAIL 6/5

NOT TO SCALE

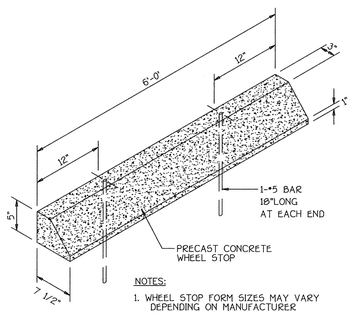




SIGN SIZE	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	J
MIN.	6	12	3/8	3/8	1-1/2	1-1/2	1D	1/2	1-1/2D
STD.	9	18	3/8	3/8	1-1/2	2-1/4	1-1/2D	1	2D

TYPE C CURB RAMP DETAIL 2/5

NO SCALE



NOTES:

1. WHEEL STOP FORM SIZES MAY VARY DEPENDING ON MANUFACTURER
2. CONCRETE STRENGTH SHALL BE 3,000 P.S.I.

WHEEL STOP DETAIL 3/5

NO SCALE

SIGN SIZE	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
STD.	12	18	3/8	1-1/2	2	2 C	1	6	2-1/2	4-7/8	5	4-1/4	3	1/2	4	3/4	3-7/8

GENERAL NOTES:

1. SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.
2. ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE DEVELOPEMENT PLAN.
3. SPACE INDICATED ON SITE DEVELOPEMENT PLAN AS "VAN" ACCESSIBLE SHALL BE SIGNED SCCORDINGLY.
4. SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP PF SIGNS 9'-1" ABOVE FINISHED GRADE OR AS INDICATED ON SITE DRAWINGS.
5. SIGN SHALL BE ATTACHED TO FLANGED SIDE OF POST. POST SHALL EXTEND INTO GROUND 2'-6" MIN.
6. LEGEND AND BORDER-GREEN
   SYMBOL-WHITE ON BLUE BACKGROUND
   BACKGROUND-WHITE

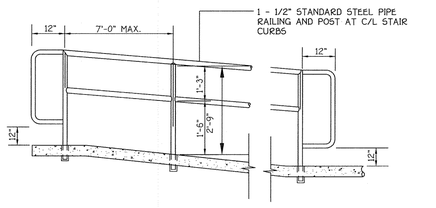
COLORS

DIRECTIONAL
LEGEND - WHITE
BACKGROUND - BLUE

REGULATORY
LEGEND - GREEN OR BLACK
BACKGROUND - WHITE

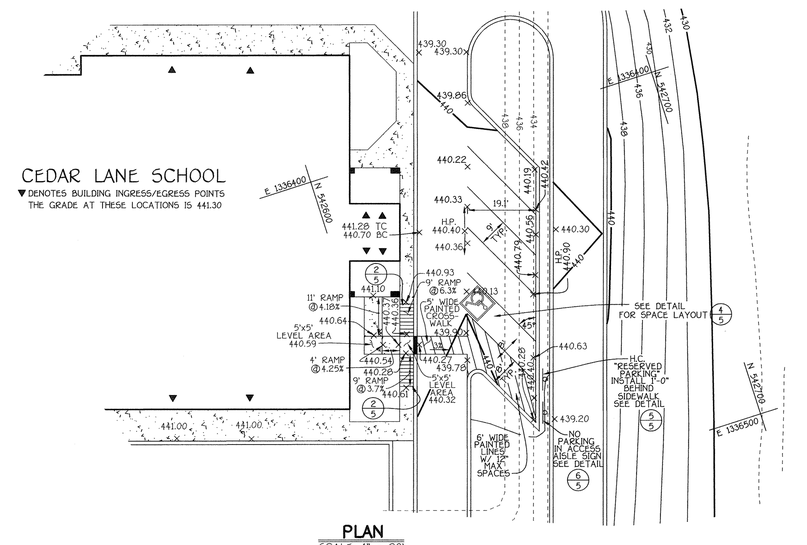
ACCESSIBLE SPACE STENCIL LAYOUT 5/5

NO SCALE



HAND RAIL DETAIL 7/5

NO SCALE



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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

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Signature Of Engineer — 6-17-04 Date

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 — 6.18.04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/6/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

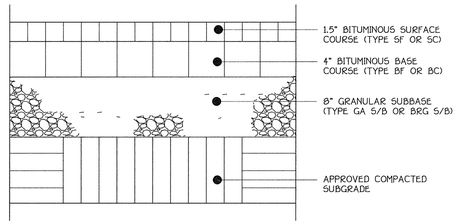
PROJECT			SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A	115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE		SEWER CODE			
E20		7695000			

HANDICAP PLAN AND DETAILS

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

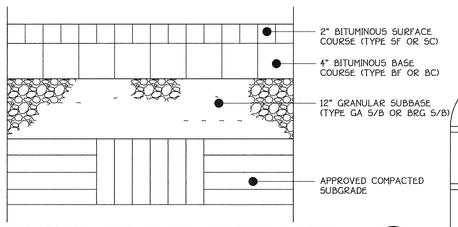
PUBLIC SCHOOL

TAX MAP No.: 41/46 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004



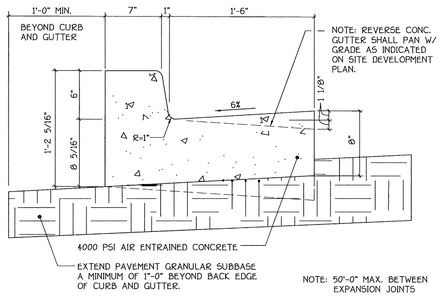
LIGHT DUTY ASPHALTIC PAVING DETAIL (1/6)

NOT TO SCALE



HEAVY DUTY ASPHALTIC PAVING DETAIL (2/6)

NOT TO SCALE



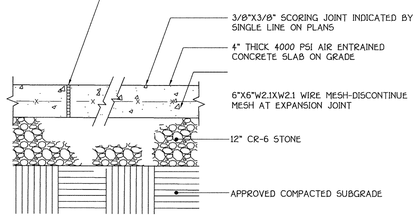
NOTE: 50'-0" MAX. BETWEEN EXPANSION JOINTS

10'-0" MAX. BETWEEN CONTROL JOINTS

ALL ON-SITE CURB AND GUTTER SHALL BE 6" HIGH.

CONCRETE CURB AND GUTTER DETAIL (3/6)

NO SCALE

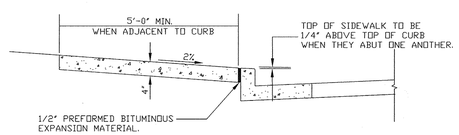


NOTE: REFER TO SITE PAVING PLAN AND FLOOR PLANS FOR LOCATIONS OF EXPANSION JOINTS AND SCORING JOINTS. WHERE NOT INDICATED, INSTALL EXPANSION JOINTS AT MAX. 15'-0" O.C. AND INSTALL SCORING JOINTS AT MAX. 5'-0" O.C.

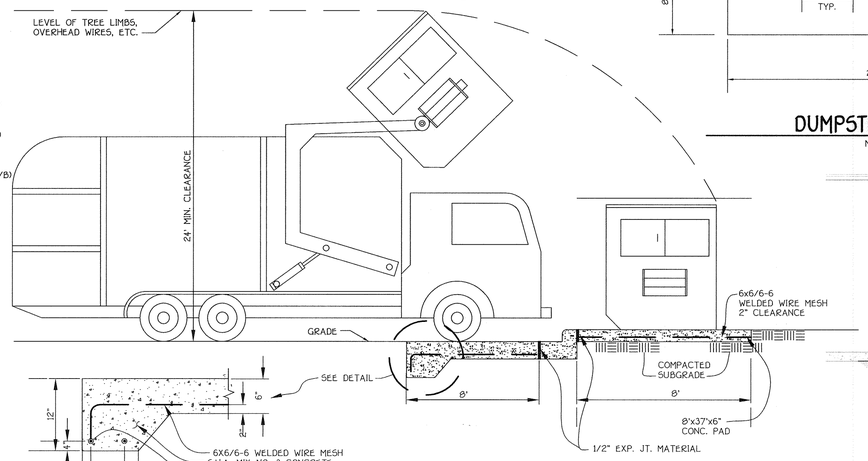
SLOPE ACROSS SIDEWALK SHALL BE MIN. 1/8"/FT.

CONCRETE WALK DETAIL (4/6)

NO SCALE



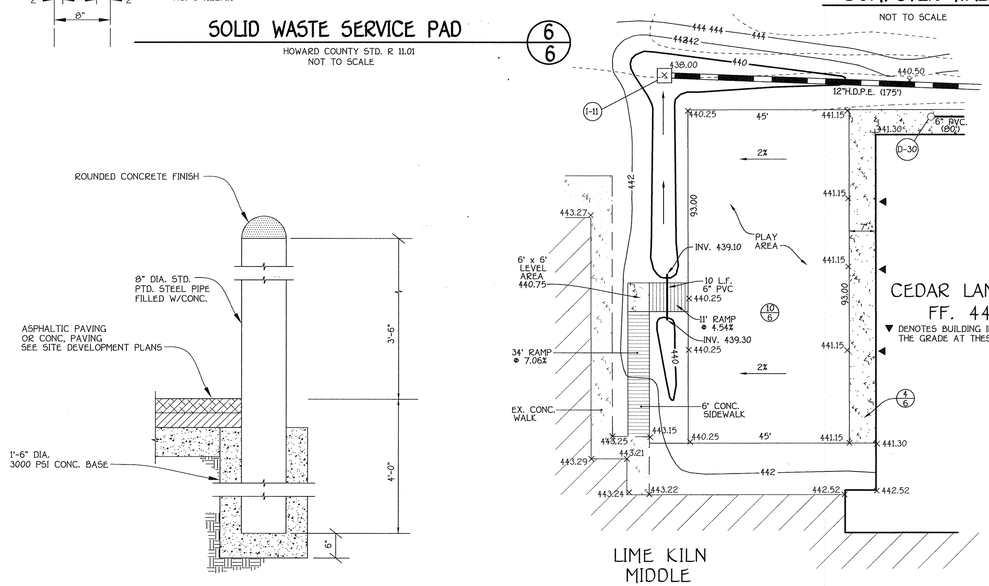
CONCRETE SIDEWALK DETAIL (5/6)



SOLID WASTE SERVICE PAD (6/6)

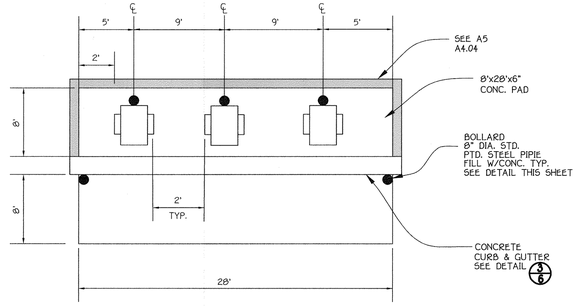
HOWARD COUNTY STD. R 11.01

NOT TO SCALE



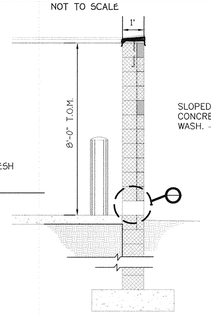
BOLLARD DETAIL (7/6)

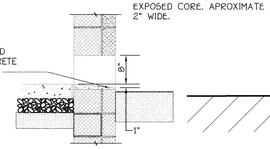
NOT TO SCALE



DUMPSTER PAD DETAIL (8/6)

NOT TO SCALE





DUMPSTER WALL (9/6)

NOT TO SCALE

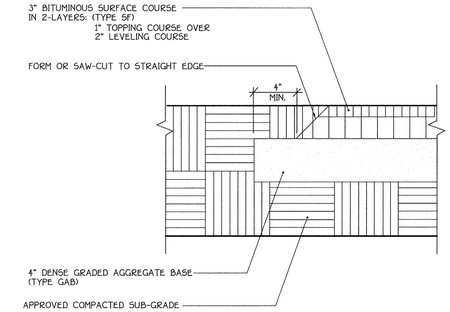
LIME KILN MIDDLE SCHOOL

DETAIL B

SCALE: 1" = 20'

CEDAR LANE SCHOOL FF. 441.30

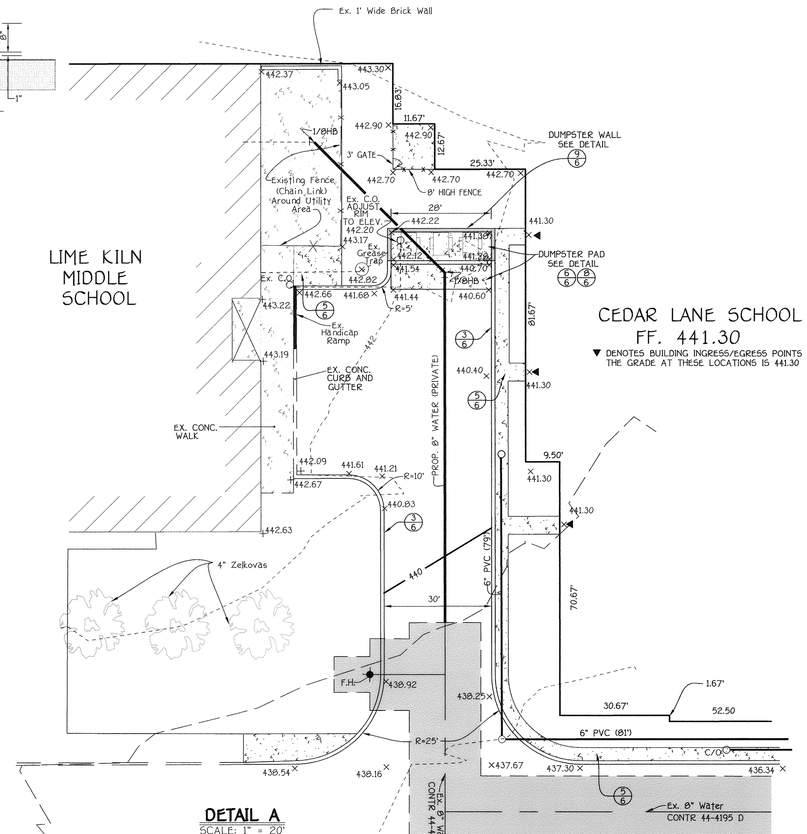
▼ DENOTES BUILDING INGRESS/EGRESS POINTS THE GRADE AT THESE LOCATIONS IS 441.30



PAVED PLAY AREA PAVEMENT DETAIL (10/6)

NOT TO SCALE

LIME KILN MIDDLE SCHOOL



DETAIL A

SCALE: 1" = 20'

CEDAR LANE SCHOOL FF. 441.30

▼ DENOTES BUILDING INGRESS/EGRESS POINTS THE GRADE AT THESE LOCATIONS IS 441.30

FISHER, COLLINS & CARTER, INC.
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Director - Department of Planning and Zoning — 7/2/04 Date

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CEDAR LANE PROGRAM AT THE FULTON CAMPUS	N/A	115

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02

WATER CODE	SEWER CODE
E20	7695000

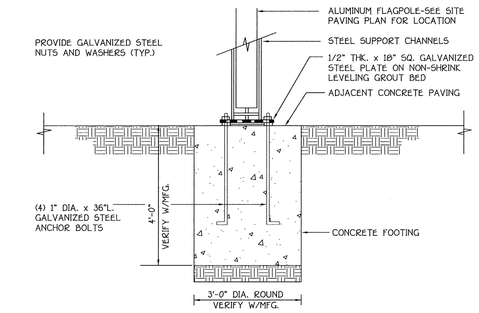
DETAIL SHEET

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

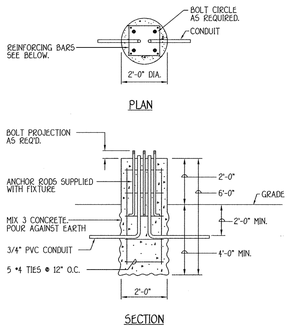
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SHEET 6 OF 24 SDP 04-118

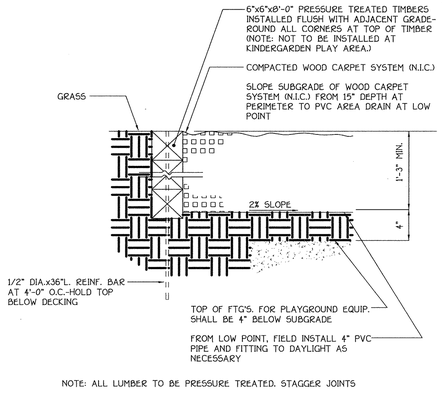


TILT FLAGPOLE DETAIL 1/7



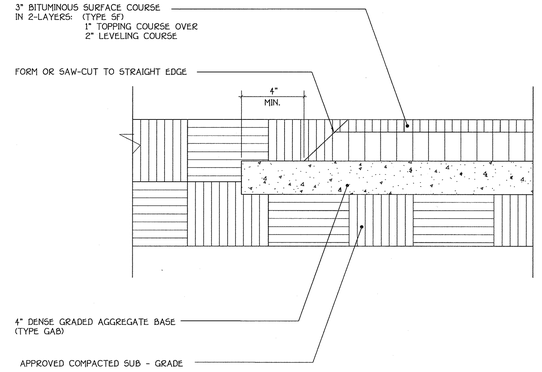
CONCRETE POLE BASE 2/7

NOT TO SCALE



PLAY AREA SURFACE/DRAINAGE DETAIL 4/7

SCALE: 1"=1'-0"



PAVED PLAY AREA PAVEMENT DETAIL 5/7

NOT TO SCALE

FEATURES

HOUSING — Rugged, .063" thick, aluminum rectilinear housing. Continuously seam welded for weather-tight seal and integrity. Standard finish is dark bronze (DDB) polyester powder. Other powder architectural colors available.

DOOR FRAME — Naturally anodized, extruded, aluminum door frame with mitered corners is retained with (two) .188" diameter hinge pins and secured with (one) quarter-turn, quick release fastener. Weatherproof seal between housing and door frame is accomplished with an integrally designed, extruded silicone gasket that snaps into door frame.

LENS — .125" thick, impact-resistant, tempered glass with thermally-applied, silk screened power door shield.

MOUNTING — Extruded, 12" aluminum arm for pole or wall mounting. Shipped in fixture carton. Optional mountings available.

OPTICS — Reflectors are anodized, hydroformed and segmented for consistent quality, performance and lamp life. Three cutoff distributions available: Type III (Asymmetric), Type IV (Forward Throw), Type V (Square Symmetrical).

ELECTRICAL SYSTEM — Constant-wattage autotransformer is 100% copper wound and factory tested. Removable power door and positive locking disconnect plug.

SOCKET — Porcelain, horizontally-oriented, mogul-base socket with copper alloy, nickel-plated screw shell and center contact. UL listed 1500W- 600V. 4KV pulse rated.

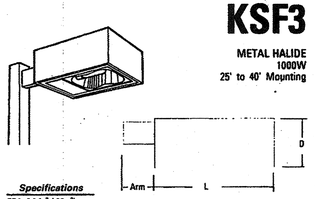
LISTING — UL listed for wet locations. Listed and labeled to comply with Canadian Standards (see Options).

Catalog Number	Type

Arm-Mounted Rectilinear Cutoff Lighting

KSF3

METAL HALIDE
1000W
25' to 40' Mounting



All dimensions are inches (centimeters) unless otherwise specified.

Specifications

EPA: 3.0 ft.² (.28m²) (includes arm)
Length: 30 -5/16 (77.0)
Width: 24-5/16 (61.8)
Depth: 10-1/2 (26.7)
Weight: 80 lbs (36.3kg)
Arm: 12 (30.5)

Mounting Option	Drilling Template[4]
SPxx,RPxx,DA12P	5
WBxx,DA12WB	6
WWxx	7

ORDERING INFORMATION

Example: **KSF3 1000M R3 120 SP12 SF DDB**

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

KSF3 1000M

Series
KSF3 1000M

Distribution
R3 IES Type III Asymmetric
R4 IES Type IV Forward Throw
RSS IES Type V Square [1]

Voltage
120
208[2]
240[2]
277
347
480[2]
TB[3]

Mounting[6]
SP12 Square pole (12" arm)
RP12 Round pole (12" arm)
WW12 Wood pole or wall (12" arm)
WB12 Wall bracket (12" arm)

OPTIONAL MOUNTING (shipped separately)
DA12P Degree arm (pole)
DA12WB Degree arm (wall)
KMA Mast arm adapter
KTMB Twin mounting bar

Options

Shipped Installed In Fixture
SF Single fuse (120, 277, 347V, n/a TB)
DF Double fuse (208, 240, 480V, n/a TB)
PER NEMA twist-lock receptacle only (no photocontrol)
QRS Quartz restrike system (250W max; lamp not included, 120V only)
EC Emergency circuit
CR Corrosion-resistant finish
LS Lamp support
CSA Listed and labeled to comply with Canadian Standards

Shipped separately[4]
PE1 NEMA twist-lock PE (120, 208, 240V)
PE3 NEMA twist-lock PE (347V)
PE4 NEMA twist-lock PE (480V)
PE7 NEMA twist-lock PE (277V)
SC Shorting cap for PER option
KSF3HS House side shield (R3 and R4)

Architectural Colors (powder finish)[5]
Standard Colors
DDB Dark bronze (standard)
DWH White
DBL Black
Classic Colors
DMB Medium bronze
DNA Natural aluminum
DSS Sandstone
DGC Charcoal gray
DTG Tennis green
DBR Bright red
DSB Steel blue

Accessories: Tenon Mounting Slipfitter

Order as separate catalog number.

Number of fixtures

Tenon O.D.	One	Two@180°	Two@90°	Three@120°	Three@90°	Four@90°
2-3/8"	T20-190	T20-280	T20-290	T20-320	T20-390	T20-490
2-7/8"	T25-190	T25-280	T25-290	T25-320	T25-390	T25-490
4"	T35-190	T35-280	T35-290	T35-320	T35-390	T35-490

NOTES:
1 Type V Square uses BT37 lamp only.
2 Consult factory for availability in Canada.
3 Optional, multi-tap ballast (120, 208, 240, 277V). (120, 277, 347V in Canada).
4 May be ordered as accessory.
5 Additional architectural colors available; see Architectural Colors brochure.
6 Refer to technical data section in the Outdoor binder for drilling template.

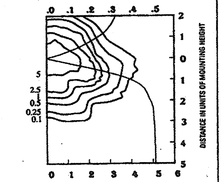
LIGHT POLE DETAIL 3/7

NOT TO SCALE

KSF3 1000M Arm-Mounted Rectilinear Cutoff Lighting

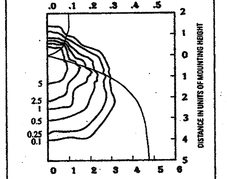
Coefficient of Utilization
Initial Footcandles

KSF3 R3 Test no. 93031002



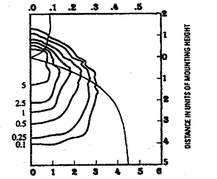
1000W metal halide lamp 107,800 rated lumens. Footcandle values based on 35' mounting height, distribution Type III, cutoff.

KSF3 R4 Test no. 93030801



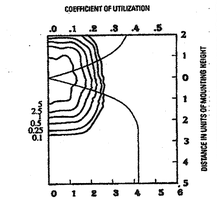
1000W metal halide lamp 107,800 rated lumens. Footcandle values based on 35' mounting height, distribution Type IV, cutoff.

KSF3 R4-HS Test no. 93031102



1000W metal halide lamp 107,800 rated lumens. Footcandle values based on 35' mounting height, distribution Type IV, cutoff.

KSF3 R5S Test no. 93022601



1000W metal halide lamp 107,800 rated lumens. Footcandle values based on 35' mounting height, distribution Type V, cutoff.

NOTES:
1. Photometric data for other distributions can be accessed from the Lithonia Lighting website. (www. Lithonia.com)
2. For electrical characteristics, consult technical data tab.
3. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change.

Mounting Height Correction Factor
(Multiply the fc level by the correction factor)
30 ft.= 1.35
38 ft.= .85
40 ft.= .77

Existing Mounting Height[3] / New Mounting Height[3] = Correction Factor

LITHONIA LIGHTING
ARCHITECTURAL OUTDOOR LIGHTING
P.O. BOX A, CONYERS, GEORGIA 30012, TELEPHONE 770-922-9000, FAX 770-483-2535
IN CANADA: 1100 60TH AVE., LACHINE, QUEBEC H8T 2V3, A UNIT OF R.S.I. HOLDINGS, INC.

605-KSF3

605KSF3.P65

SCHEMATIC BUILDING PROFILE

SCALE: 1" = 20'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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 Condition, And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — Date: 6-17-04

DEVELOPER'S CERTIFICATE

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Signature Of Developer — Date: 6.18.04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date: 7/2/04

Chief, Division of Land Development — Date: 7/6/04

Chief, Development Engineering Division — Date: 6/24/04

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT	SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS	N/A	115

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02

WATER CODE	SEWER CODE
E20	7695000

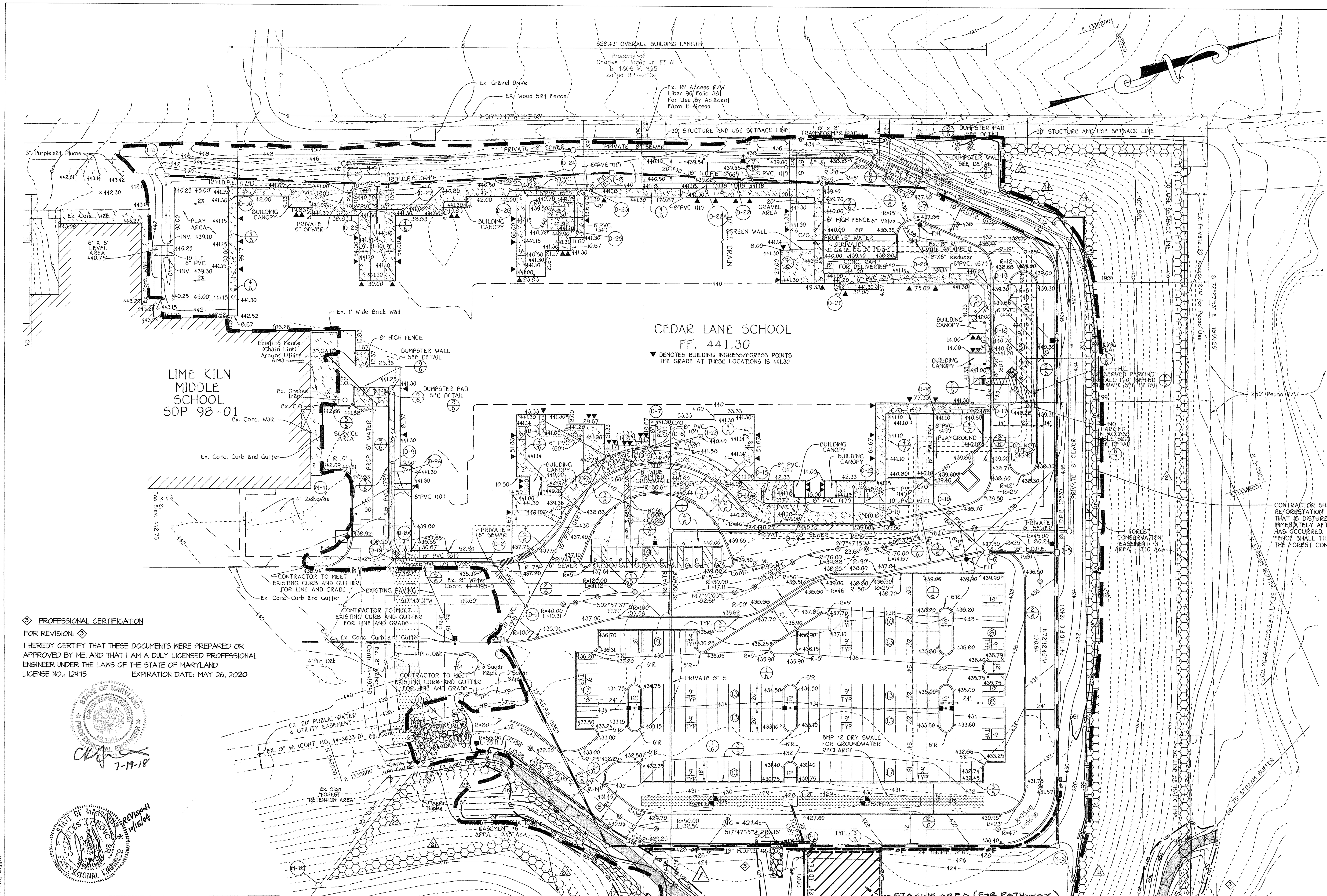
DETAIL SHEET

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SHEET 7 OF 24 SDP 04-118



MATCHLINE SEE SHEET 9

PLAN
SCALE: 1" = 40'

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 24 HOURS BEFORE STARTING WORK.
3. INSTALL ALL TREE PROTECTION FENCE FOR TREES TO BE UNDISTURBED, SILT FENCE AND SUPER SILT FENCE FOR TREES TO BE UNDISTURBED AS INDICATED ON THE PLANS. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (2 DAYS)
4. INSTALL SEDIMENT BASIN/SWM POND AND REMAINING SILT FENCE AND SUPER SILT FENCE AS INDICATED ON THE PLANS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF SEDIMENT BASIN/SWM POND EMBANKMENT. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY. (2 WEEKS)
5. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. INSTALL REMAINING SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS. (1 WEEK)
6. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. GRADE SITE TO SUBGRADE (2 WEEKS). STABILIZE ALL SLOPES IMMEDIATELY UPON COMPLETION OF GRADING.
7. INSTALL STORM DRAIN SYSTEM. INSTALL INLET PROTECTION AT EX. I-13 (2 WEEKS).
8. CONSTRUCT THE SCHOOL BUILDING, SITE UTILITIES, CONCRETE CURB, BASE PAVING AND SIDEWALKS (12 MONTHS)
9. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICES MAY BE REMOVED AND/OR BACKFILLED AND THE REMAINING AREAS BROUGHT TO FINAL DESIGN GRADE. STABILIZE ALL REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)
10. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT. INCLUDED WITH THIS SHALL BE AN "AS-BUILT" OF THE SWM POND TO HO. CO. AND HSCD.

◇3 SEQUENCE OF CONSTRUCTION FOR PATHWAY CONSTRUCTION

1. OBTAIN GRADING PERMIT AND ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR. (1 DAY)
2. INSTALL THE CURB INLET PROTECTION, STABILIZED CONSTRUCTION ENTRANCE, AND SILT FENCE AS SHOWN ON THESE PLANS. (1 WEEK)
3. ONCE PERMISSION HAS BEEN OBTAINED FROM THE SEDIMENT CONTROL INSPECTOR, BEGIN GRADING. (1 WEEK)
4. CONSTRUCT ASPHALT PATH. (1 WEEK)
5. STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1 DAY)
6. WHEN ALL OF THE CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICES MAY BE REMOVED. THE CONTRACTOR IS TO STABILIZE ANY AREAS THAT HAVE BEEN DISTURBED AS A RESULT OF THE DEVICES BEING REMOVED. (1 WEEK)

NOTE:

THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON. AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE POND WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TAPPING DEVICE.

LEGEND

—— OF ——	ORANGE FENCE
— TP — TP — TP —	TREE PROTECTION FENCE
—SSF—SSF—SSF—	SUPER-SILT FENCE
— SF — SF — SF —	SILT FENCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
L.O.D.	LIMIT OF DISTURBANCE
(shaded)	EROSION CONTROL MATTING

◇3 PROFESSIONAL CERTIFICATION

FOR REVISION: ◇3

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND
LICENSE NO.: 12975 EXPIRATION DATE: MAY 26, 2020

(Seal: STATE OF MARYLAND, CARLTON KENNETH GUTSCHICK, PROFESSIONAL ENGINEER) 7-19-18

(Seal: STATE OF MARYLAND, CHARLES J. CROVO SR., PROFESSIONAL ENGINEER) REVISION 1 10/15/04

No.	Revision	Date
1	Relocated Sewer MH 510	10.15.04

DATE	REVISION	BY
2017-06-06	◇3 ADDED 8' WIDE ASPHALT PATH, GRADING, SEDIMENT CONTROL DEVICES & EXISTING FEATURES. ALSO ADDED SEQUENCE OF CONSTRUCTION FOR PATH CONSTRUCTION AND THE PROFESSIONAL CERTIFICATION.	DEV

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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(410) 461 - 2855

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Signature Of Engineer — 6-17-04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 6/28/04 Date

DEVELOPER'S CERTIFICATE

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Signature Of Developer — 6/10/19, 6.18.04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District. 6/6/19

District Howard Soil Conservation Dist. — 6/28/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA		PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A		115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

SEDIMENT AND EROSION CONTROL PLAN

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

③ PROFESSIONAL CERTIFICATION

FOR REVISION: ③

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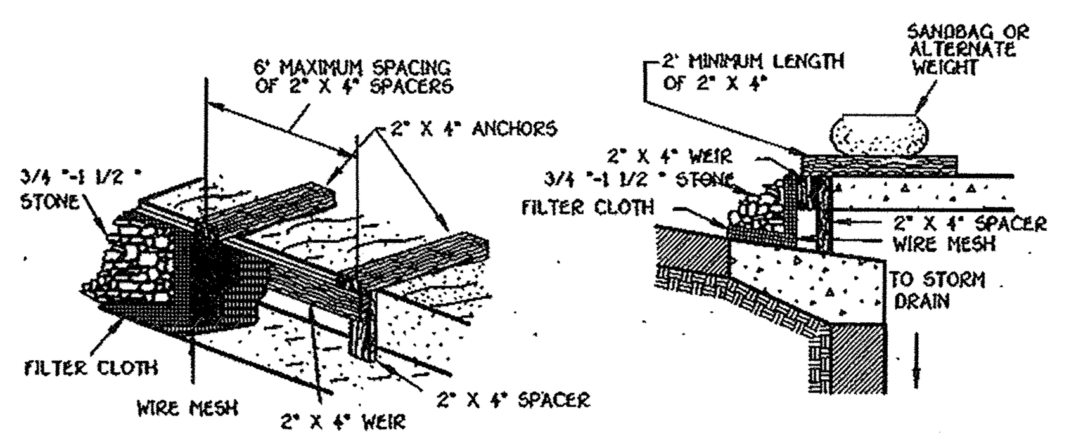
7-19-18

CURB INLET PROTECTION (COG OR COS INLETS)



MAX. DRAINAGE AREA = 1/4 ACRE

STANDARD SYMBOL CIP

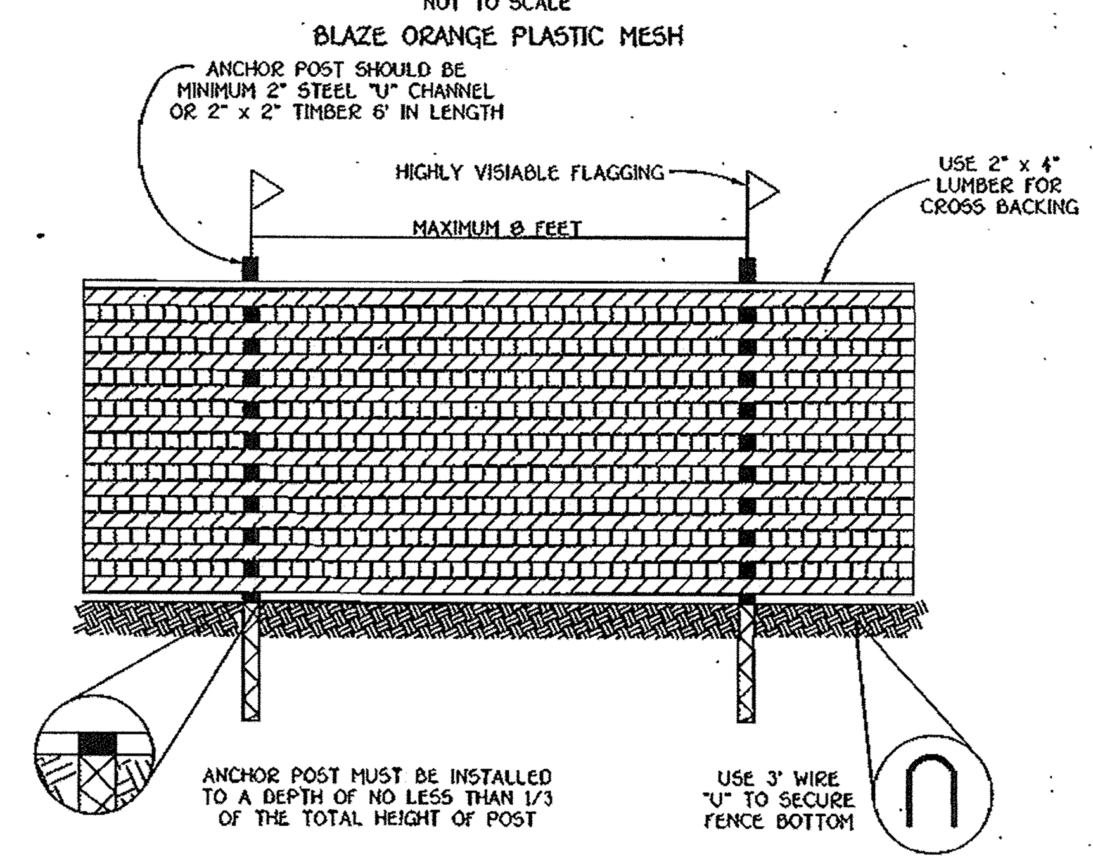
Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

TREE PROTECTION DETAIL

NOT TO SCALE

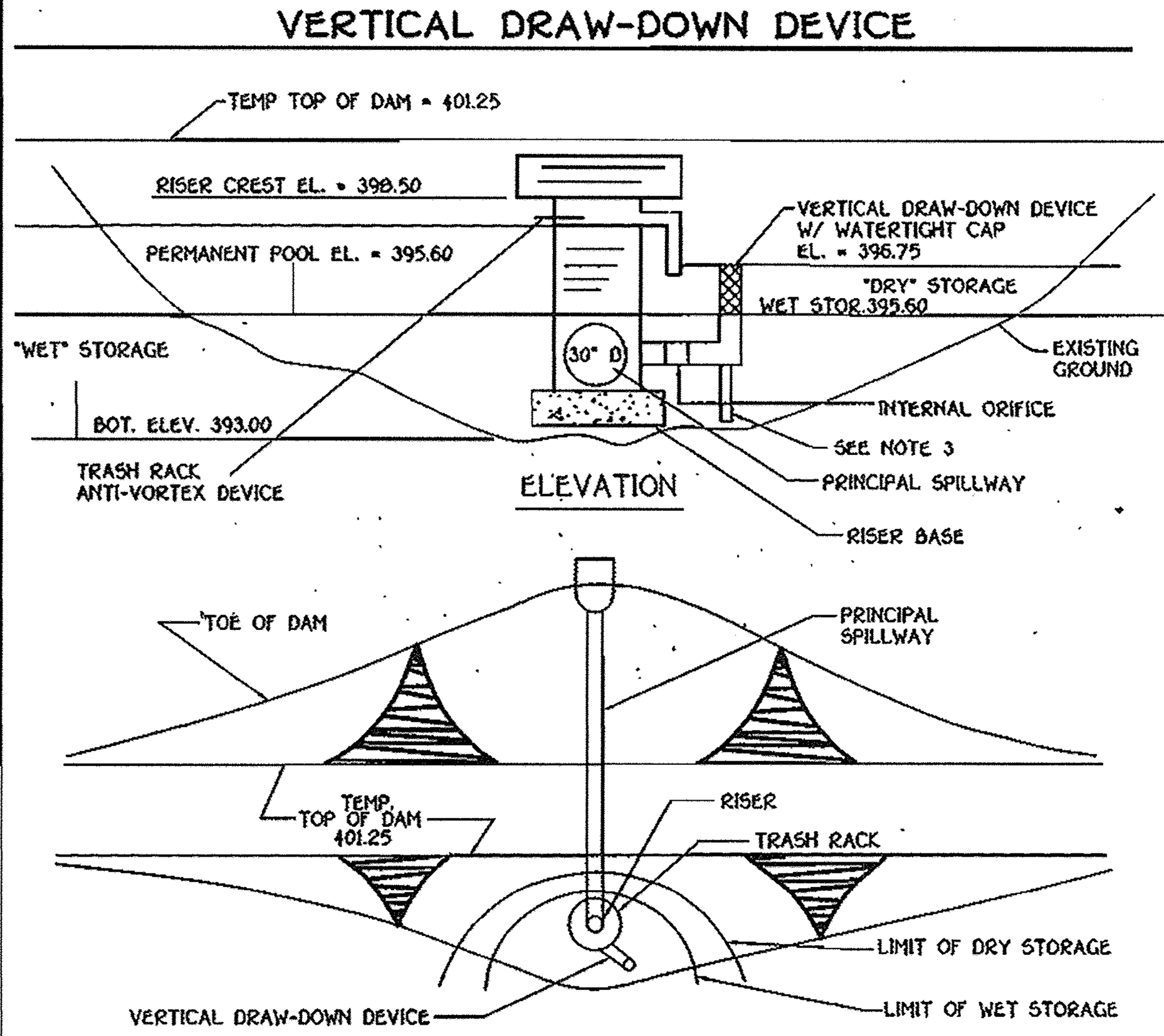
BLAZE ORANGE PLASTIC MESH



NOTES:

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

VERTICAL DRAW-DOWN DEVICE

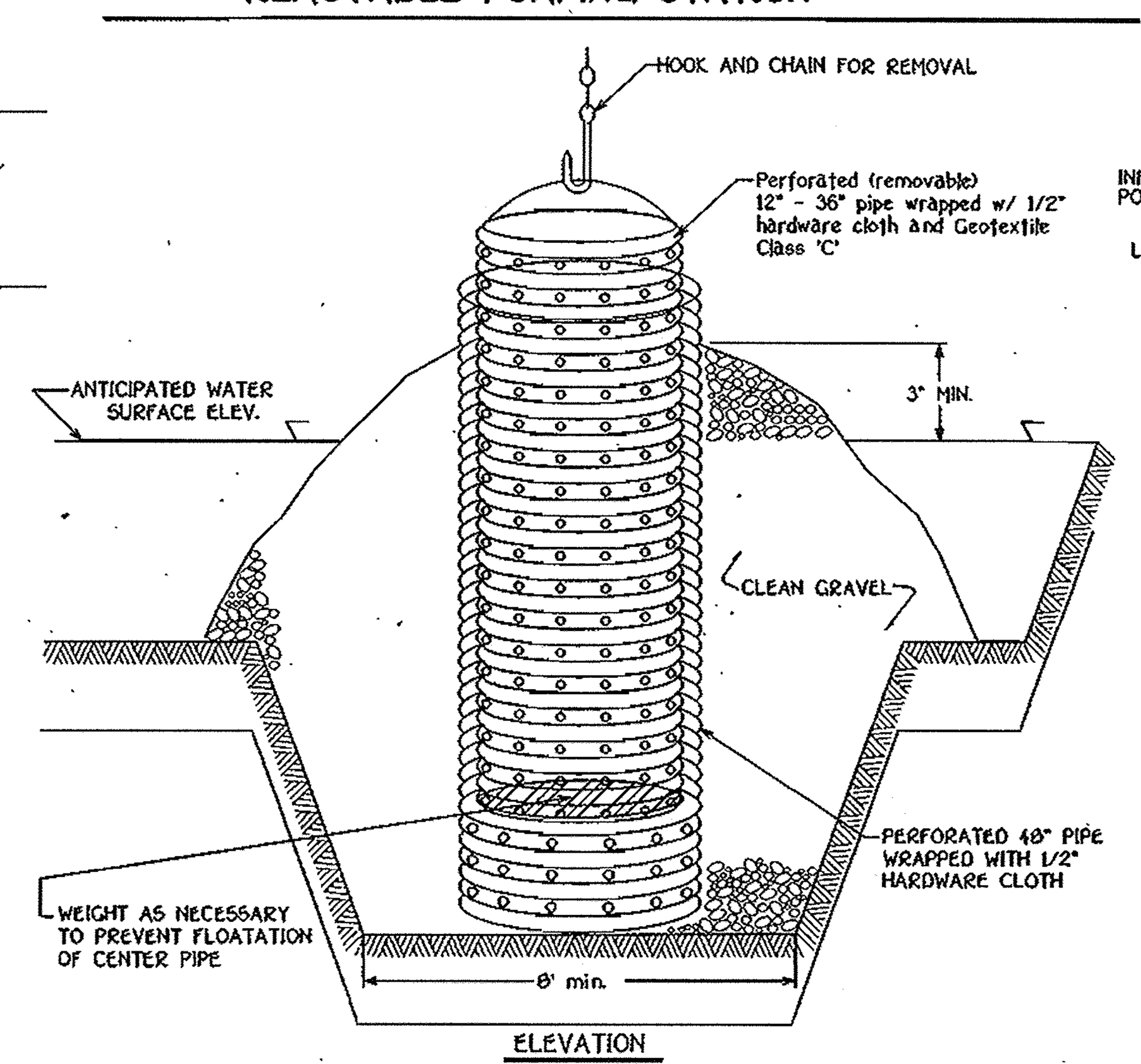


PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE.
3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1' BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

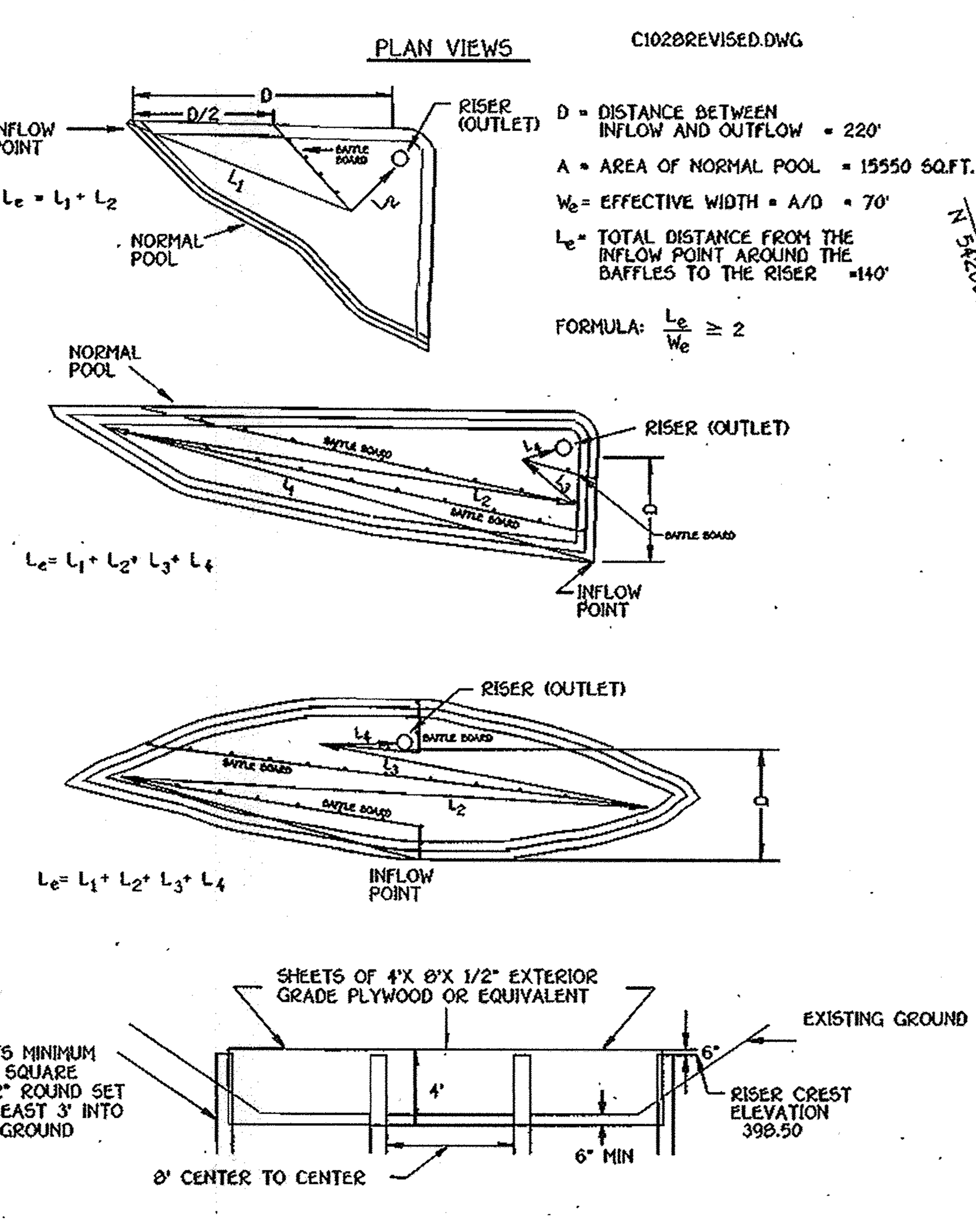
1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

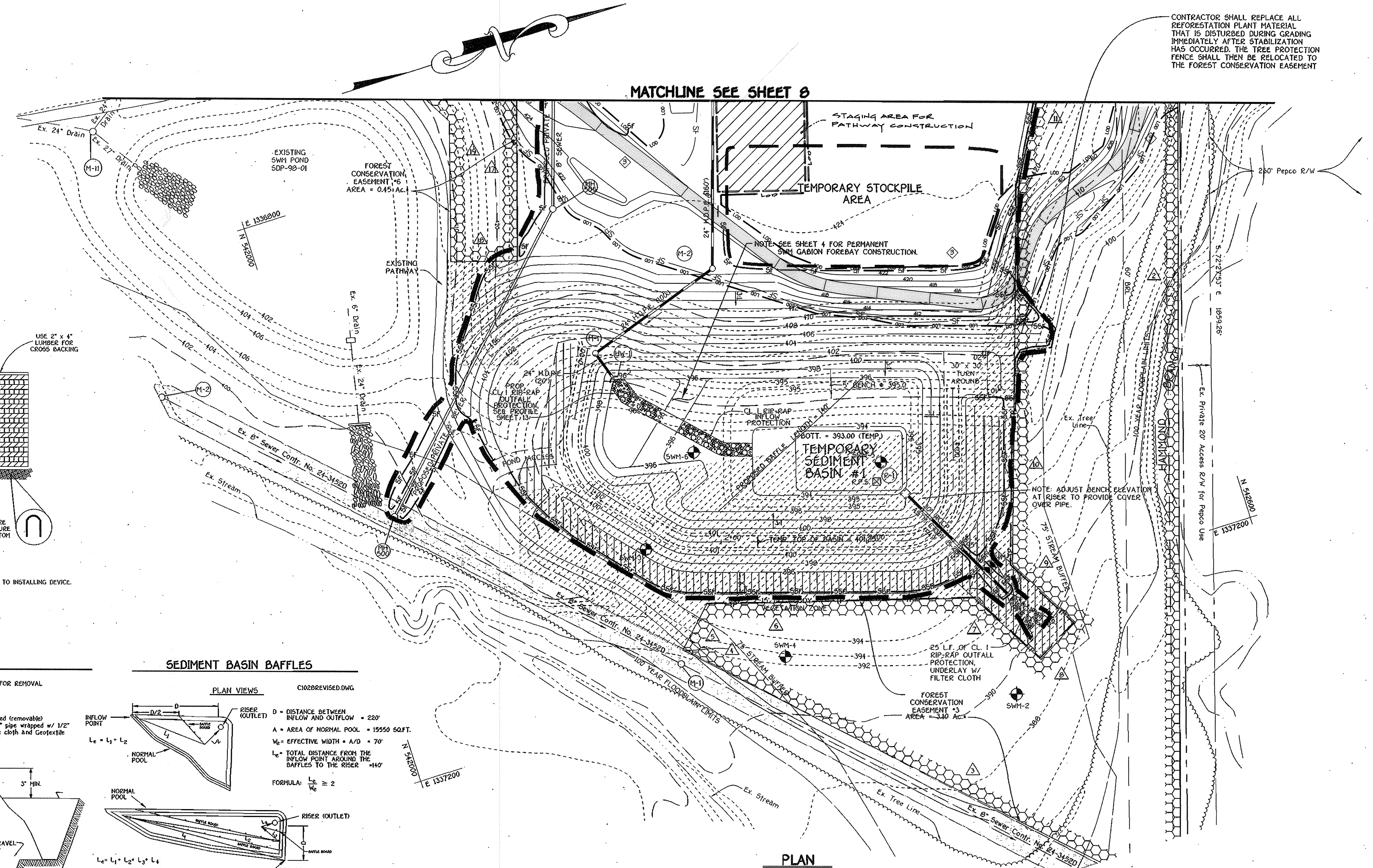
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

SEDIMENT BASIN BAFFLES



BAFFLE DETAIL



PLAN

SCALE: 1" = 40'

SEDIMENT BASIN DATA

INITIAL D.A. = 5.53 AC.±
FINAL D.A. = 11.25 AC.±
STORAGE REQUIRED: (for 11.25 AC.)
WET = 20,250 CU.FT.
DRY = 20,250 CU.FT.
STORAGE PROVIDED:
WET = 20,250 CU.FT @ EL. 395.60
DRY = 21,118 CU.FT. @ EL. 396.75
BOTTOM ELEV. = 393.00
TEMP. TOP OF EMBANKMENT ELEV. = 401.25 (10.5' WIDE FOR BASIN USE ONLY)
CLEAN-OUT ELEV. = 394.75
RISER CREST ELEV. = 398.50
Q2ex. = 1.9 C.F.S.
Q2prop. = 1.5 C.F.S.

SEDIMENT BASIN DESIGN DATA	
WATER SURFACE ELEVATION	ELEV.
10 YR BASIN ELEV.	399.25
2 YR. BASIN ELEV.	398.30
WET STORAGE ELEV.	395.60

③

DATE	REVISION	BY
2017-06-06	③ ADDED 8' WIDE ASPHALT PATH, GRADING, SEDIMENT CONTROL DEVICES & PROFESSIONAL CERTIFICATION.	DEV

NOTE:

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Signature Of Developer 6/10/19 6-18-04 Date

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District Howard Soil Conservation Dist. 8/6/19 6/28/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning 7/2/04 Date

Chief, Division of Land Development 7/2/04 Date

Chief, Development Engineering Division 6/30/04 Date

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SEDIMENT AND EROSION CONTROL PLAN

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

20.0 STANDARDS AND SPECIFICATIONS
FOR
VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration O(up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
  i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
  i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
  iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a •100 mesh sieve and 98-100% will pass through a •20 mesh sieve.
  iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation
  i. Temporary Seeding
    a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" 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 should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
    b. Apply fertilizer and lime as prescribed on the plans.
    c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
  ii. Permanent Seeding
    a. Minimum soil conditions required for permanent vegetative establishment:
      1. Soil pH shall be between 6.0 and 7.0.
      2. Soluble salts shall be less than 500 parts per million (ppm).
      3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
      4. Soil shall contain 1.5% minimum organic matter by weight.
      5. Soil must contain sufficient pore space to permit adequate root penetration.
      6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
    b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
    c. Apply soil amendments as per soil test or as included on the plans.
    d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
  i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
  Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
  ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on 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°-80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
  i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
    a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.
    b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
  ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
    b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
  iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
    a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
    b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
F. Mulch Specifications (In order of preference)
  i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  ii. Wood Cellulose Fiber Mulch (WCFM)
    a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
    c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
    d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
    e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
    f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm. , diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
  Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
  i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
  iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
  i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
  ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
  iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
I. Incremental Stabilization - Cut Slopes
  i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
  ii. Construction sequence (Refer to Figure 3 below):
    a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
    b. Perform Phase 1 excavation, dress, and stabilize.
    c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
    d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments - Fill Slopes
  i. Embankments shall be constructed in lifts as prescribed on the plans.
  ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
  iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
  iv. Construction sequence: Refer to Figure 4 (below).
    a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
    b. Place Phase 1 embankment, dress and stabilize.
    c. Place Phase 2 embankment, dress and stabilize.
    d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone ___6b___) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	BARLEY OATS RYE	122 96 140	3/1 - 5/15, 8/15 - 10/15	1" - 2" 1" - 2" 1" - 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding

i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.

ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone ___6b___) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (85%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	2 tons/ac (100 lb/ 1000sf)
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"				

NOTE: THESE SEEDING SPECIFICATIONS ARE THE MINIMUM REQUIRED FOR SEDIMENT CONTROL. REFER TO PROJECT SPECIFICATIONS FOR SEEDING REQUIREMENTS FOR OTHER AREAS OF THE SITE.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
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 MOST CURRENT 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 SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	99.83	ACRES
AREA DISTURBED	11.46	ACRES
AREA TO BE ROOFED OR PAVED	6.50	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.96	ACRES
TOTAL CUT	47000	CU.YDS.
TOTAL FILL	47000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	0	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

LEGEND

— TP— TP— TP—	TREE PROTECTION FENCE
—SSF—SSF—SSF—	SUPER-SILT FENCE
— SF — SF — SF —	SILT FENCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
L.O.D.	LIMIT OF DISTURBANCE
	EROSION CONTROL MATTING

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

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.

Conditions Where Practice Applies

I. This practice 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 continuing 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.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that 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-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
  i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2" in diameter.
  ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.
  iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having, disturbed areas under 5 acres:
  i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

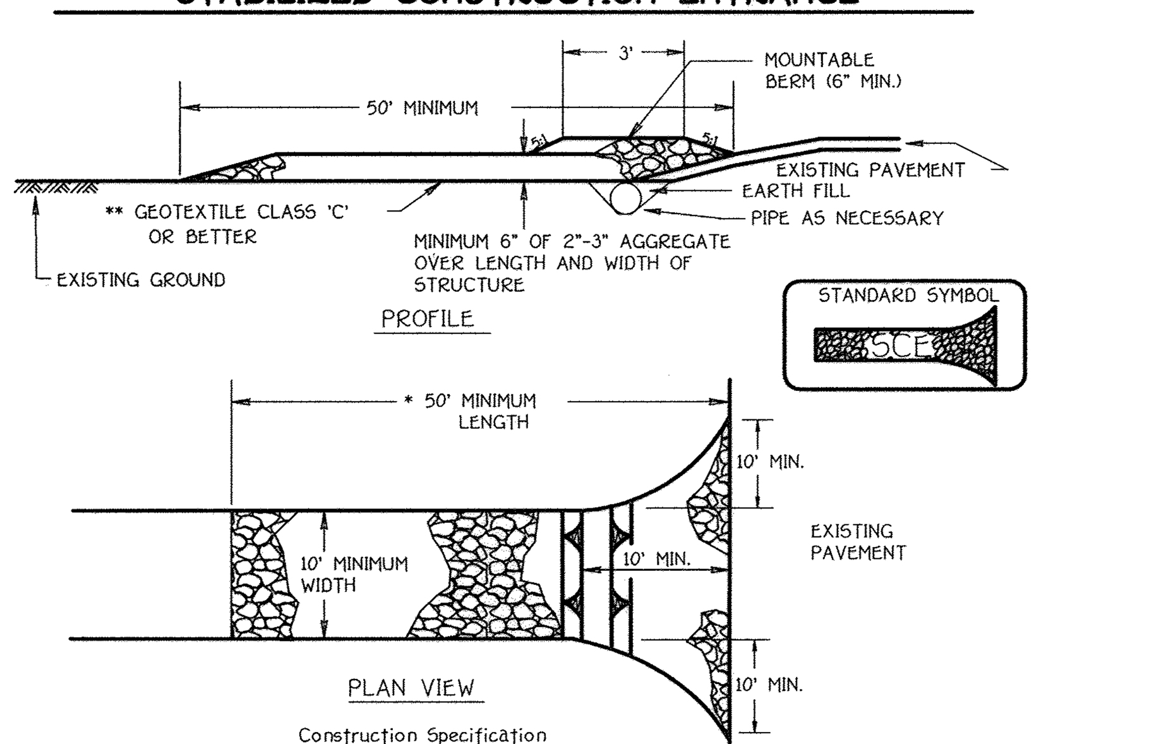
III For sites having disturbed areas over 5 acres:
  i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
    b. Organic content of topsoil shall be not less than 1.5 percent by weight.
    c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
    d. No sod or seed shall 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 phyto-toxic materials.
  Note: 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.
  ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application
  i. When top soiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  ii. Grades on the areas to be top soiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
  iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall 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 top soiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  iv. Topsoil shall not be placed while 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 and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
  i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
    a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
    b. Composted sludge shall contain at least I percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
    c. Composted sludge shall be applied at a rate of I ton/1,000 square feet.
  iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding,. MD-VA, Pub. •I, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

STABILIZED CONSTRUCTION ENTRANCE

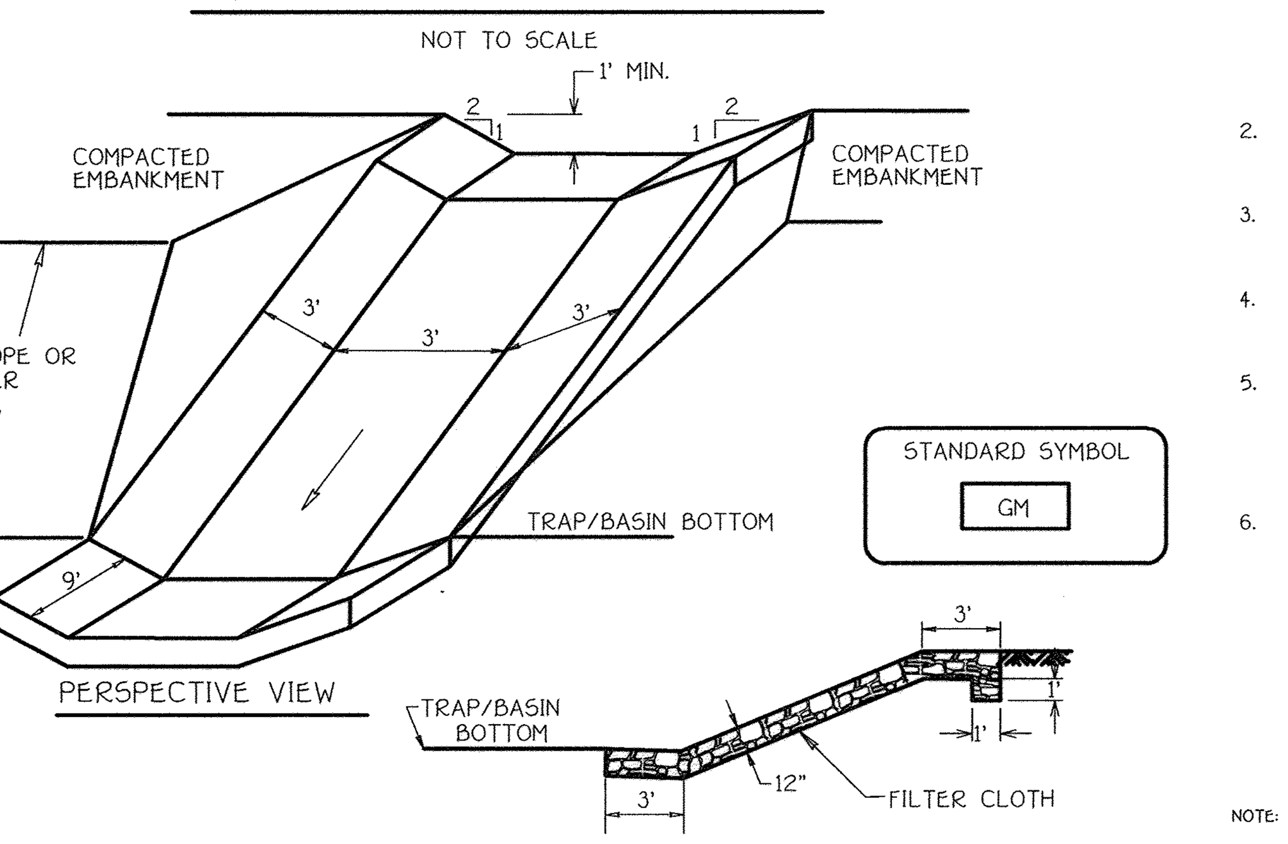


Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

GABION INFLOW PROTECTION

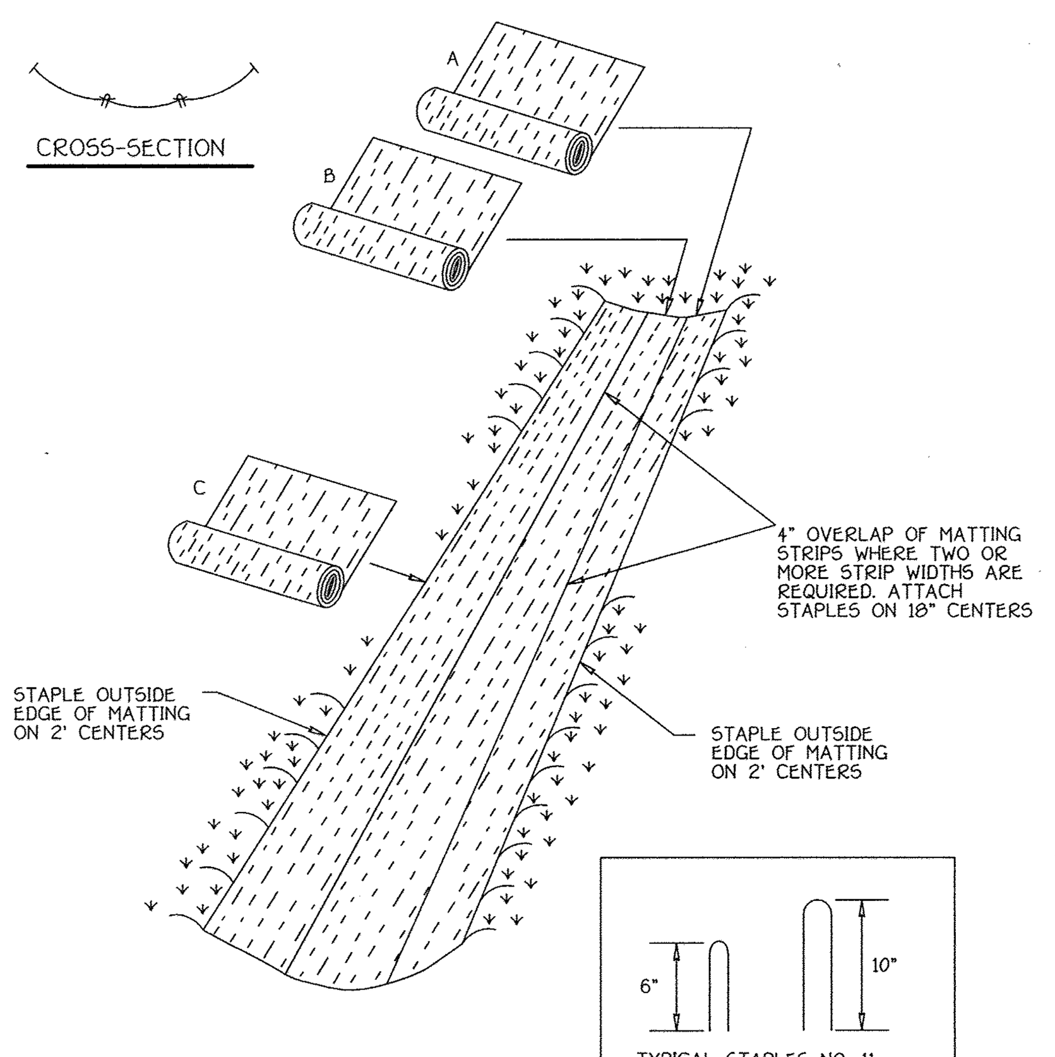
NOT TO SCALE



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" - 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

EROSION CONTROL MATTING



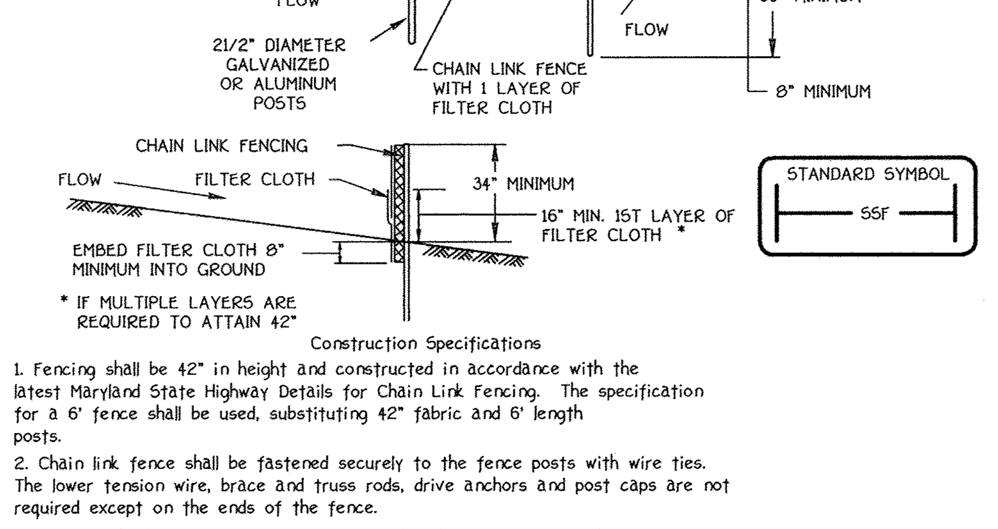
EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

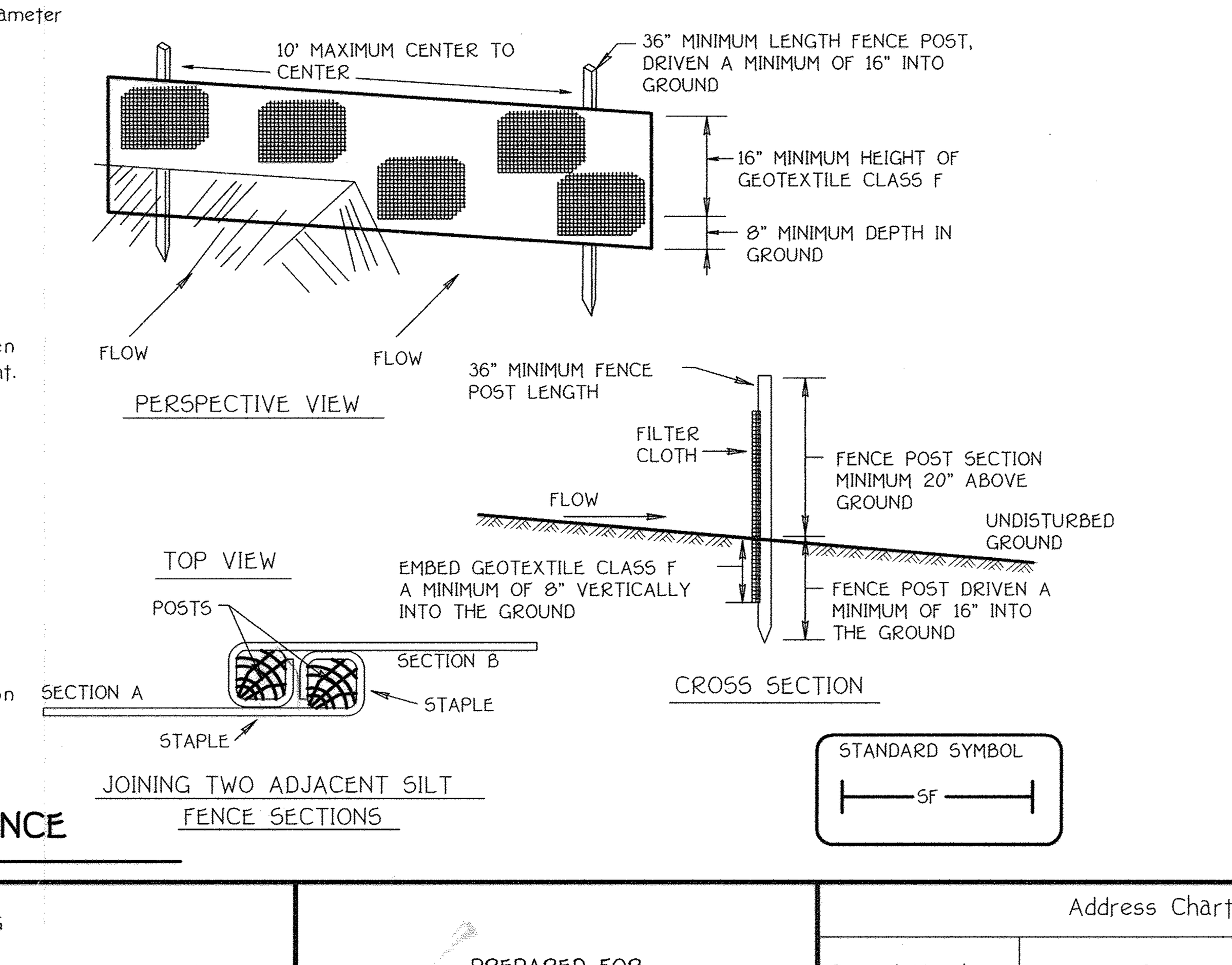
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)²	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



SILT FENCE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 6-17-04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 6/28/04 Date

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 — 6/10/19, 6.18.04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District. 6/6/19

District Howard Soil Conservation Dist. — 6/28/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

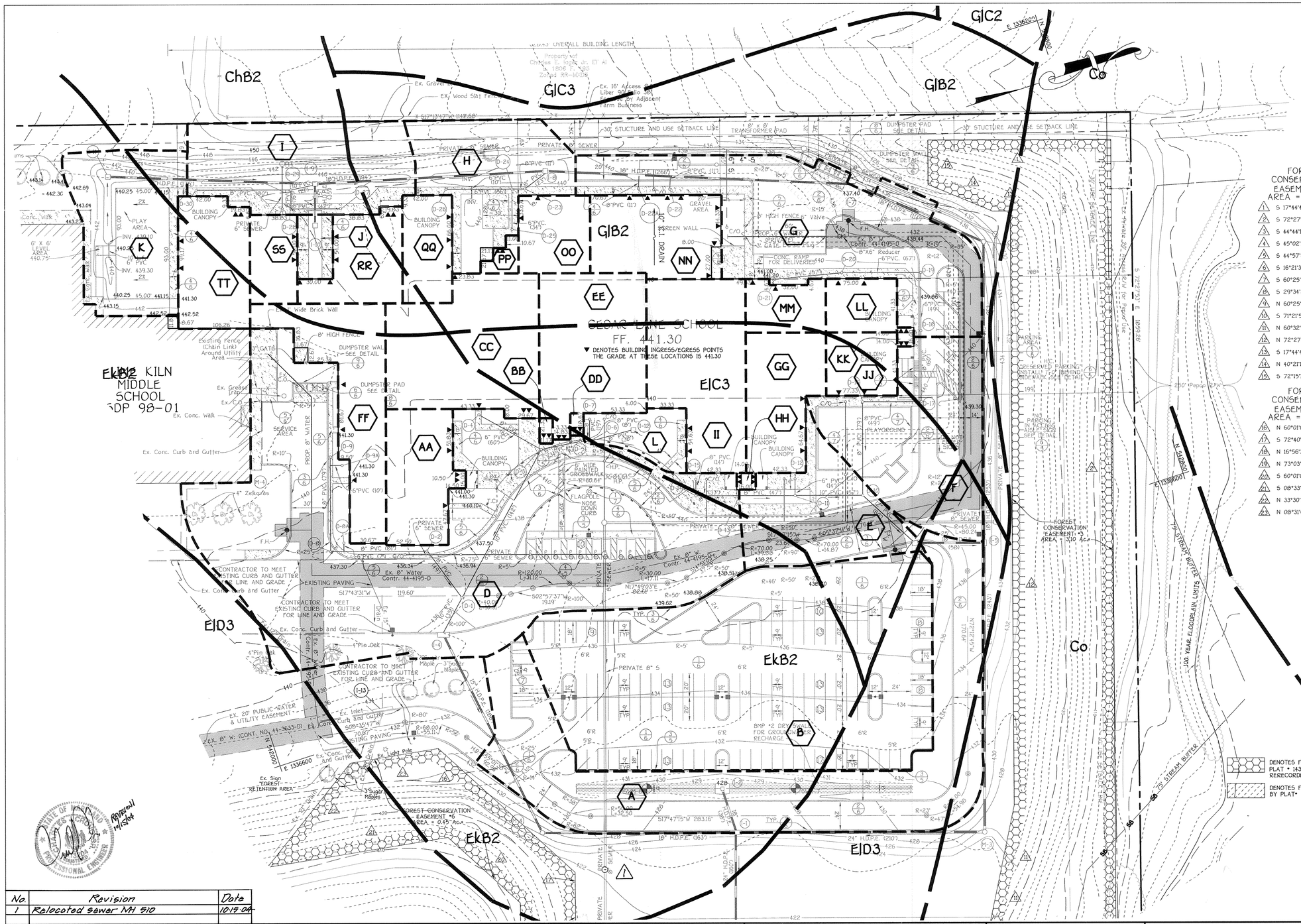
PROJECT			SECTION/AREA		PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A		115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004



DRAINAGE AREA DATA

INLET No.	ZONING	SUBAREA	AREA	"C" FACTOR	% IMPERVIOUS
I-1	RR-MXD-3	A	0.64	0.66	68
I-2	RR-MXD-3	B	1.17	0.81	91
I-4	RR-MXD-3	D	1.56	0.68	71
I-5	RR-MXD-3	E	0.25	0.69	72
I-6	RR-MXD-3	F	0.37	0.71	76
I-7	RR-MXD-3	G	0.57	0.70	74
I-8	RR-MXD-3	H	0.26	0.42	32
I-9	RR-MXD-3	I	0.34	0.35	21
I-10	RR-MXD-3	J	0.04	0.56	53
I-11	RR-MXD-3	K	0.27	0.53	49
I-12	RR-MXD-3	L	0.07	0.27	10
D-2	RR-MXD-3	AA	0.14	0.87	100
D-3	RR-MXD-3	BB	0.01	0.87	100
D-4	RR-MXD-3	CC	0.31	0.87	100
D-5	RR-MXD-3	DD	0.01	0.87	100
D-7	RR-MXD-3	EE	0.24	0.87	100
D-9	RR-MXD-3	FF	0.21	0.87	100
D-12	RR-MXD-3	GG	0.15	0.87	100
D-13	RR-MXD-3	HH	0.01	0.87	100
D-15	RR-MXD-3	II	0.27	0.87	100
D-16	RR-MXD-3	JJ	0.07	0.87	100
D-18	RR-MXD-3	KK	0.01	0.87	100
D-20	RR-MXD-3	LL	0.06	0.87	100
D-21	RR-MXD-3	MM	0.06	0.87	100
D-22	RR-MXD-3	NN	0.20	0.87	100
D-23	RR-MXD-3	OO	0.10	0.87	100
D-25	RR-MXD-3	PP	0.02	0.87	100
D-26	RR-MXD-3	QQ	0.07	0.87	100
D-27	RR-MXD-3	RR	0.13	0.87	100
D-28	RR-MXD-3	SS	0.05	0.87	100
D-30	RR-MXD-3	TT	0.16	0.87	100

FOREST CONSERVATION EASEMENT #3 AREA = 3.11 Ac.±

1	S	17°44'48" W	154.13'
2	S	72°27'53" E	1180.33'
3	S	44°44'16" W	381.47'
4	S	45°02'16" W	2.99'
5	S	44°57'44" E	35.79'
6	S	16°21'37" W	183.86'
7	S	60°25'30" W	62.74'
8	S	29°34'30" E	35.00'
9	N	60°25'30" E	58.78'
10	S	71°21'55" E	261.49'
11	N	60°32'54" W	127.72'
12	N	72°27'53" W	499.99'
13	S	17°44'48" W	15.04'
14	N	40°21'17" E	58.82'
15	S	72°15'12" E	37.38'

FOREST CONSERVATION EASEMENT #6 AREA = 0.45 Ac.±

16	N	60°01'05" E	155.57'
17	S	72°40'13" E	121.94'
18	N	16°56'33" E	45.82'
19	N	73°03'27" W	97.10'
20	S	60°01'05" W	82.13'
21	S	08°33'52" W	154.46'
22	N	33°30'18" W	112.17'
23	N	08°31'07" E	75.19'

SOILS LEGEND

SOIL	NAME	CLASS
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
* Co	Codorus silt loam	C
EkB2	Elioak silt loam, 3 to 8 percent slopes, moderately eroded	B
ElC3	Elioak silty clay loam, 8 to 15 percent slopes, moderately eroded	B
ElD3	Elioak silty clay loam, 15 to 25 percent slopes, severely eroded	B
GlB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GlC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GlC3	Glenelg loam, 8 to 15 percent slopes, severely eroded	B
* GnA	Glenville silt loam, 0 to 3 percent slopes	C

No.	Revision	Date
1	Relocated sewer MH 510	10.19.04

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WATER CODE		SEWER CODE			
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STORM DRAIN DRAINAGE AREA AND SOILS MAP

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

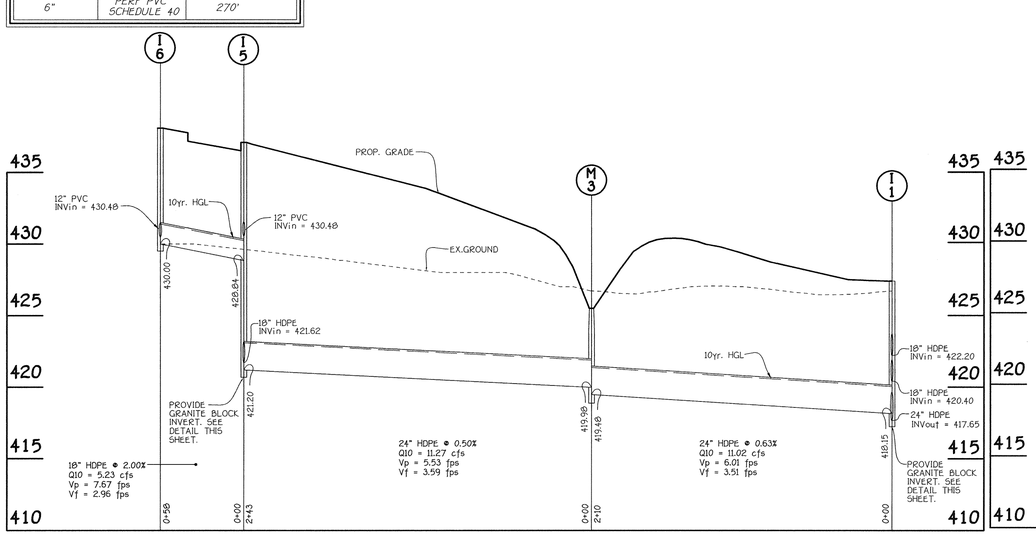
TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	NORTH	EAST	W	TYPE	REMARKS
I-1	427.40	422.20,420.40,418.15	417.65	N 542348.3250	E 1336771.5858	2.5	A-10	S.D. - 4.41
I-2	427.75	424.65, 424.67	424.10	N 542349.0751	E 1336733.0964	3'-3-1/8"	TYPE 'S' INLET	S.D. - 4.22
I-4	436.12	431.75	431.22	N 542165.2177	E 1336537.5094	2.5	A-10	S.D. - 4.41
I-5	437.08	430.48,428.84,421.62	421.20	N 542622.5103	E 1336604.0166	2.5	A-5	S.D. - 4.40
I-6	438.10	430.48	430.00	N 542567.0052	E 1336586.2091	2.5	A-5	S.D. - 4.40
I-7	437.90	427.32	426.82	N 542615.3387	E 1336286.6604	2.5	A-10	S.D. - 4.41
I-8	438.00	436.04, 431.95	431.45	N 542366.8106	E 1336192.5766	3'-3-1/8"	SINGLE WR INLET	(SEE DETAIL THIS SHEET)
I-9	438.00	436.12,434.00,434.00	433.50	N 542178.7599	E 1336142.952	3'-3-1/8"	SINGLE WR INLET	(SEE DETAIL THIS SHEET)
I-10	440.00	-----	435.00	N 542168.093	E 1336176.2869	3'-3-1/8"	SINGLE WR INLET	SD 4.37 AND 4.93
I-11	438.00	-----	434.88	N 542014.3333	E 1336083.5607	3'-3-1/8"	SINGLE WR INLET	SD 4.37 AND 4.93
I-12	440.40	-----	438.00	N 542370.4212	E 1336422.8859	3'-3-1/8"	SINGLE WR INLET	SD 4.27 AND 4.93
M-1	401.50	397.00	396.90	N 542204.6827	E 1336955.1059	4'	PRECAST MANHOLE	G. - 5.12
M-2	420.10	414.13	409.13	N 542299.4467	E 1336923.9371	4'	PRECAST MANHOLE	G. - 5.12
M-3	425.50	419.98	419.48	N 542548.1747	E 1336835.6976	4'	PRECAST MANHOLE	G. - 5.12
M-4	426.50	423.64	423.14	N 542193.1593	E 1336721.8089	4'	PRECAST MANHOLE	G. - 5.12
M-5	435.00	425.91	425.41	N 542699.8849	E 1336362.8439	4'	PRECAST MANHOLE	G. - 5.12
HW-1	400.00	396.50	-----	N 542210.9355	E 1336974.1033		TYPE 'A' HEADWALL	S.D. - 5.11
R-1	401.00	-----	392.00	N 542378.6589	E 1337112.0791		PRECAST CONC. RISER	-----
S-1	393.18	390.68	-----	N 542424.8532	E 1337200.3921		30" RCCP END SECTION	S.D. - 5.51

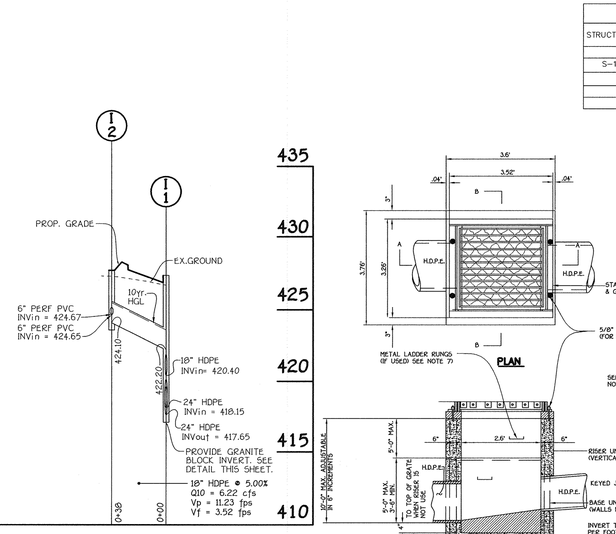
PIPE SCHEDULE

SIZE	CLASS	LENGTH
12"	HDPE	175'
15"	HDPE	221'
18"	HDPE	1086'
24"	HDPE	733'
30"	RCCP, CL. IV	94'
6"	PVC	304'
8"	PVC	750'
10"	PVC	255'
12"	PVC	60'
6"	PERF PVC SCHEDULE 40	270'



PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



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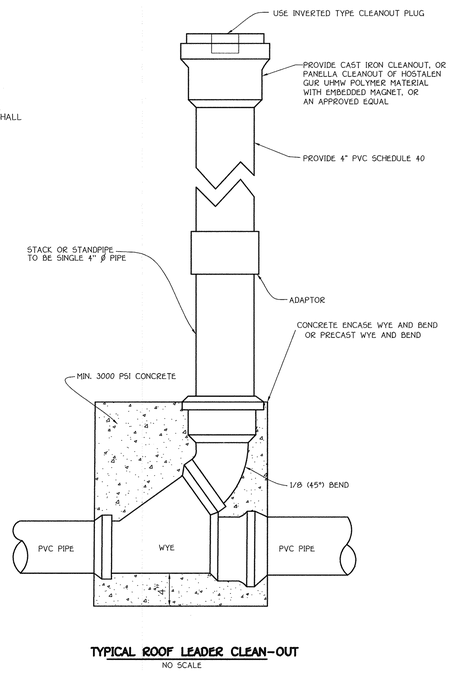


GRANITE BLOCK DETAIL

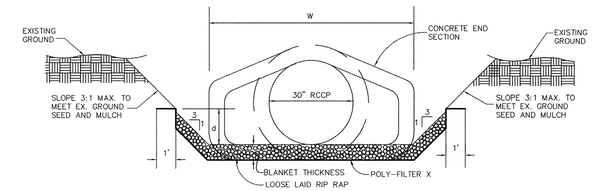
NOT TO SCALE

TYPICAL ROOF LEADER CLEAN-OUT

NO SCALE

CLEAN-OUT SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INVERT IN	INVERT OUT	LOCATION NORTH	LOCATION EAST	TYPE	REMARKS
D-1	436.2	433.15, 433.15	433.15	N 542189.6012	E 1336512.6920	10" CLEAN OUT	SEE DETAIL
D-2	437.2	434.62	434.62	N 542173.4982	E 1336466.1409	8" CLEAN OUT	THIS SHEET
D-3	441.2	436.60, 436.60	436.60	N 542291.4410	E 1336414.4479	10" CLEAN OUT	
D-4	441.2	-----	438.00	N 542250.4153	E 1336370.5469	8" CLEAN OUT	
D-5	441.2	437.46	437.46	N 542324.9055	E 1336418.1467	8" CLEAN OUT	
D-6	441.2	437.62, 437.62	437.62	N 542332.3143	E 1336420.5148	8" CLEAN OUT	
D-7	441.2	-----	438.00	N 542337.9577	E 1336402.8584	8" CLEAN OUT	
D-8	437.8	435.43	435.43	N 542096.2104	E 1336441.4377	8" CLEAN OUT	
D-8A	438.45	-----	435.45	N 542109.0023	E 1336438.1774	6" CLEAN OUT	
D-9	441.2	-----	437.60	N 542120.3179	E 1336365.7062	8" CLEAN OUT	
D-9A	441.25	-----	437.50	N 542127.5709	E 1336375.5362	6" CLEAN OUT	
D-10	439.6	434.37, 431.25	431.25	N 542537.4878	E 1336534.3751	12" CLEAN OUT	
D-11	440.3	435.37, 437.88	435.37	N 542483.2050	E 1336517.0249	10" CLEAN OUT	
D-12	441.1	-----	438.05	N 542487.4864	E 1336503.699	6" CLEAN OUT	
D-13	441.1	436.48	436.48	N 542438.4473	E 1336502.7197	8" CLEAN OUT	
D-14	440.9	437.22	437.22	N 542403.5433	E 1336491.5629	8" CLEAN OUT	
D-15	441.0	-----	437.45	N 542407.8248	E 1336478.237	8" CLEAN OUT	
D-16	441.2	432.04	432.04	N 542561.5453	E 1336459.4963	8" CLEAN OUT	
D-17	439.8	432.53	432.53	N 542608.5864	E 1336474.5318	8" CLEAN OUT	
D-18	440.6	433.30	433.30	N 542626.7205	E 1336417.7964	8" CLEAN OUT	
D-19	438.8	435.82	435.82	N 542641.6533	E 1336371.0456	6" CLEAN OUT	
D-20	441.2	437.16	437.16	N 542578.2715	E 1336350.7839	6" CLEAN OUT	
D-21	441.2	-----	438.05	N 542522.8354	E 1336338.6629	6" CLEAN OUT	
D-22	441.2	-----	436.70	N 542461.9561	E 1336239.4349	8" CLEAN OUT	
D-22A	441.2	-----	436.70	N 542437.1444	E 1336230.3956	8" CLEAN OUT	
D-23	441.2	436.96	436.96	N 542345.6609	E 1336201.5641	8" CLEAN OUT	
D-24	441.2	437.18, 437.18	437.18	N 542335.4546	E 1336198.3019	8" CLEAN OUT	
D-25	441.2	-----	438.05	N 542325.1050	E 1336230.6802	6" CLEAN OUT	
D-26	440.9	-----	438.05	N 542282.4912	E 1336181.3734	6" CLEAN OUT	
D-27	441.1	-----	438.05	N 542192.8384	E 1336169.5256	8" CLEAN OUT	
D-28	441.1	437.46	437.46	N 542153.0045	E 1336156.7796	8" CLEAN OUT	
D-29	439.9	436.81, 436.81	436.81	N 542157.8748	E 1336141.5427	10" CLEAN OUT	
D-30	441.1	-----	437.95	N 542081.7128	E 1336117.1993	8" CLEAN OUT	

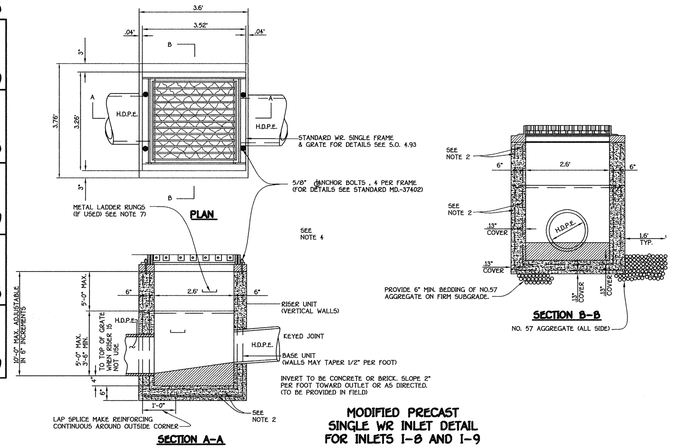


RIP RAP CHANNEL DETAIL

NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (F.P.S.)	Q100 (C.F.S.)	10 YR WSEL	RIP-RAP SIZE CLASS	d_{50}	d_{MAX}	BLANKET THICKNESS	PIPE DIA.
S-1	18.76 SF	16.40'	1.1439	1.0938	0.0050	0.0707	5.0'	1.80'	0.04	2.87	53.90	392.40	I	9.5"	15"	19"	30"



MODIFIED PRECAST SINGLE WR INLET DETAIL FOR INLETS I-8 AND I-9

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shallow hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

GENERAL NOTES

1. CONCRETE TO BE MIX NO. 6 (4500PSI).
2. REINFORCING - 2 LAYERS OF 6x6 - W 4.0 x W 4.0 WELDED WIRE FABRIC.
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRADE AND SLOPE ADJUSTMENTS COMPLETED IN FIELD USING CONCRETE MIX NO. 6 OR BRICK AND MORTAR.
5. PIPE OPENING TO BE PROVIDED AS REQUIRED, FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
6. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
7. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD. - 383.91 AS SHOWN, OR AS DIRECTED BY THE ENGINEER.
8. MINIMUM DEPTH PAYMENT PER LINEAR FOOT INCLUDES DEPTHS IN EXCESS OF 3' - 6".
9. A 6" PERFORATED CIRCULAR PIPE, FOR EROSION AND SEDIMENT CONTROL, SHALL BE PLACED IN THE INLET WALL AT ALL INLET SEDIMENT TRAPS AS SHOWN ON THE PLANS.

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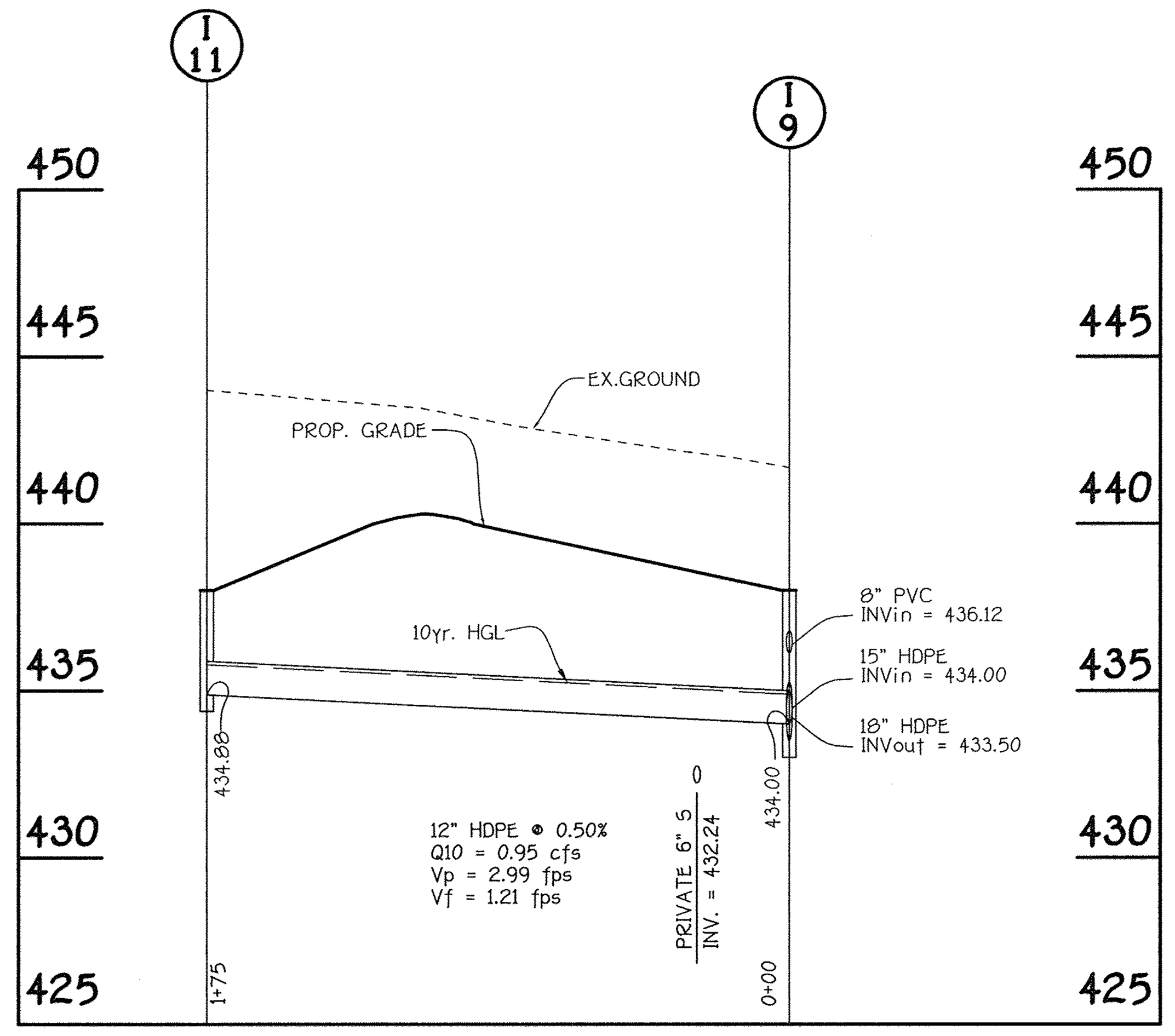

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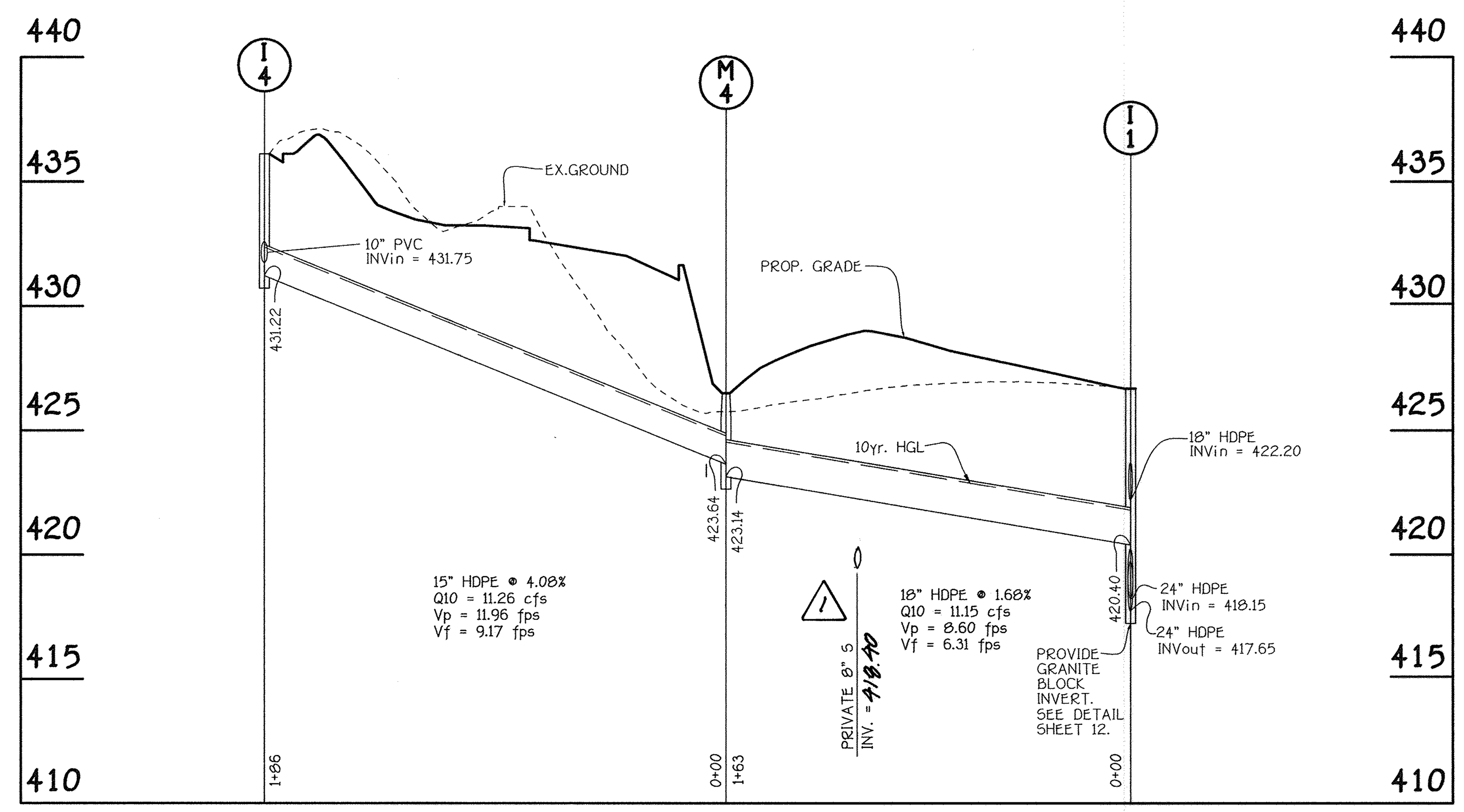
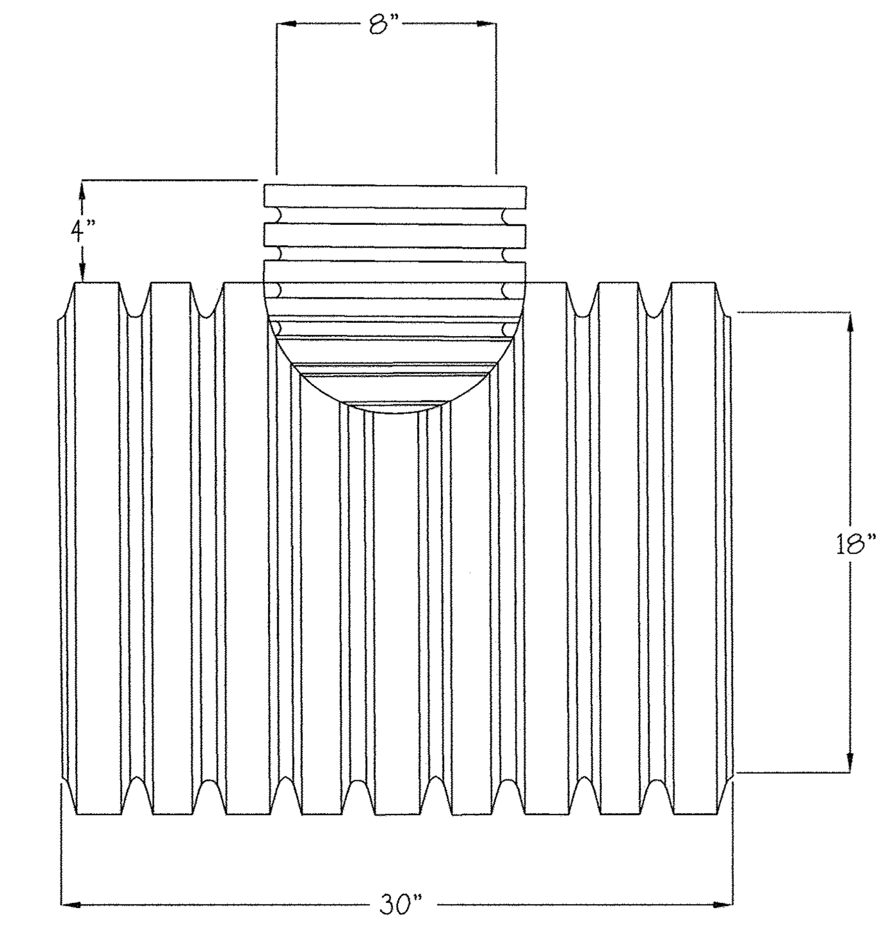


PROFILE

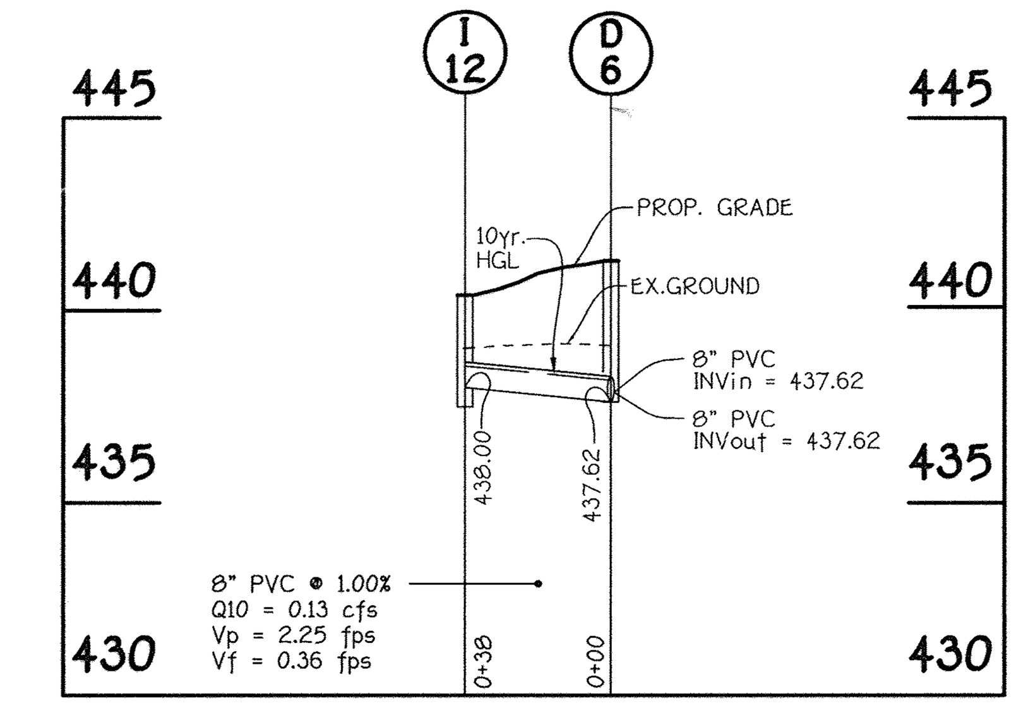
SCALE: HORIZ. : 1" = 50' VERT. : 1" = 5'



HDPE PIPE CONFORMS WITH AASHTO M252 & M294. (LANE ENTERPRISES, INC.)

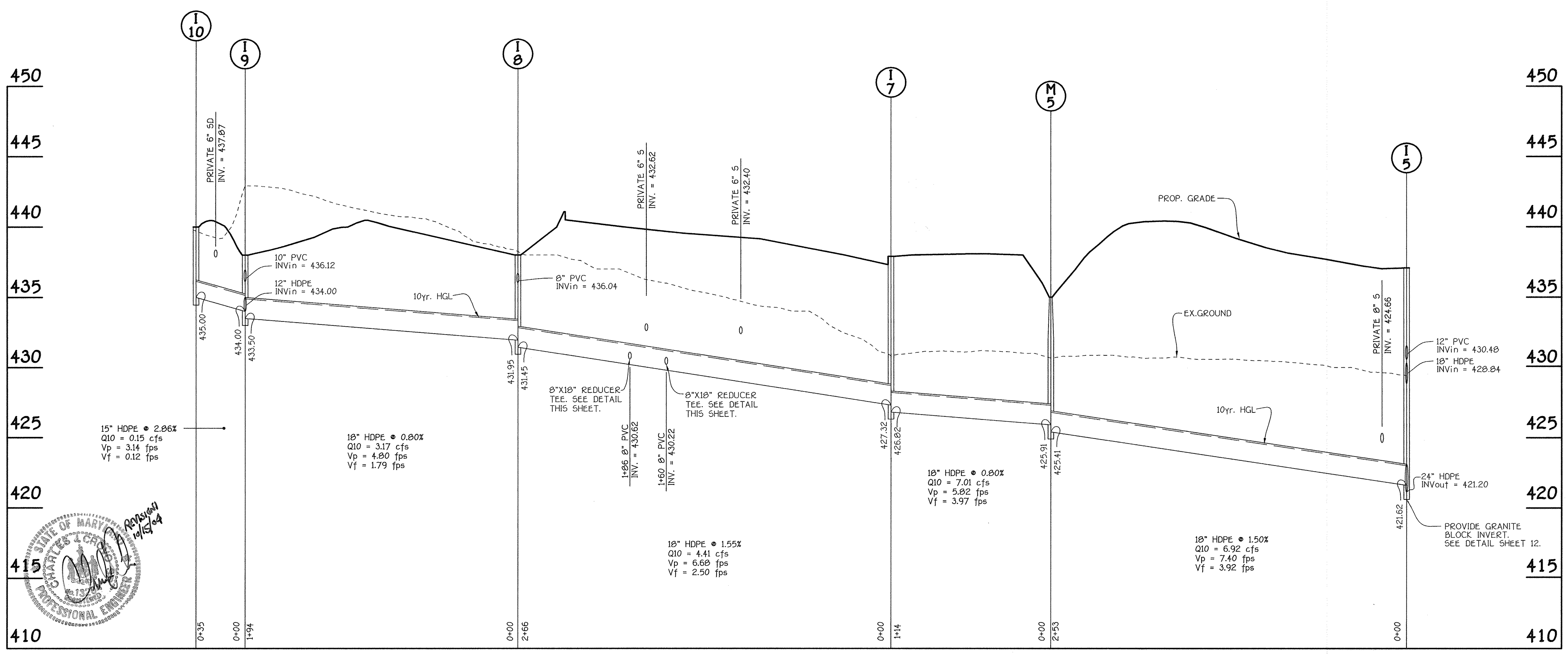
8"X18" REDUCER TEE DETAIL

NO SCALE



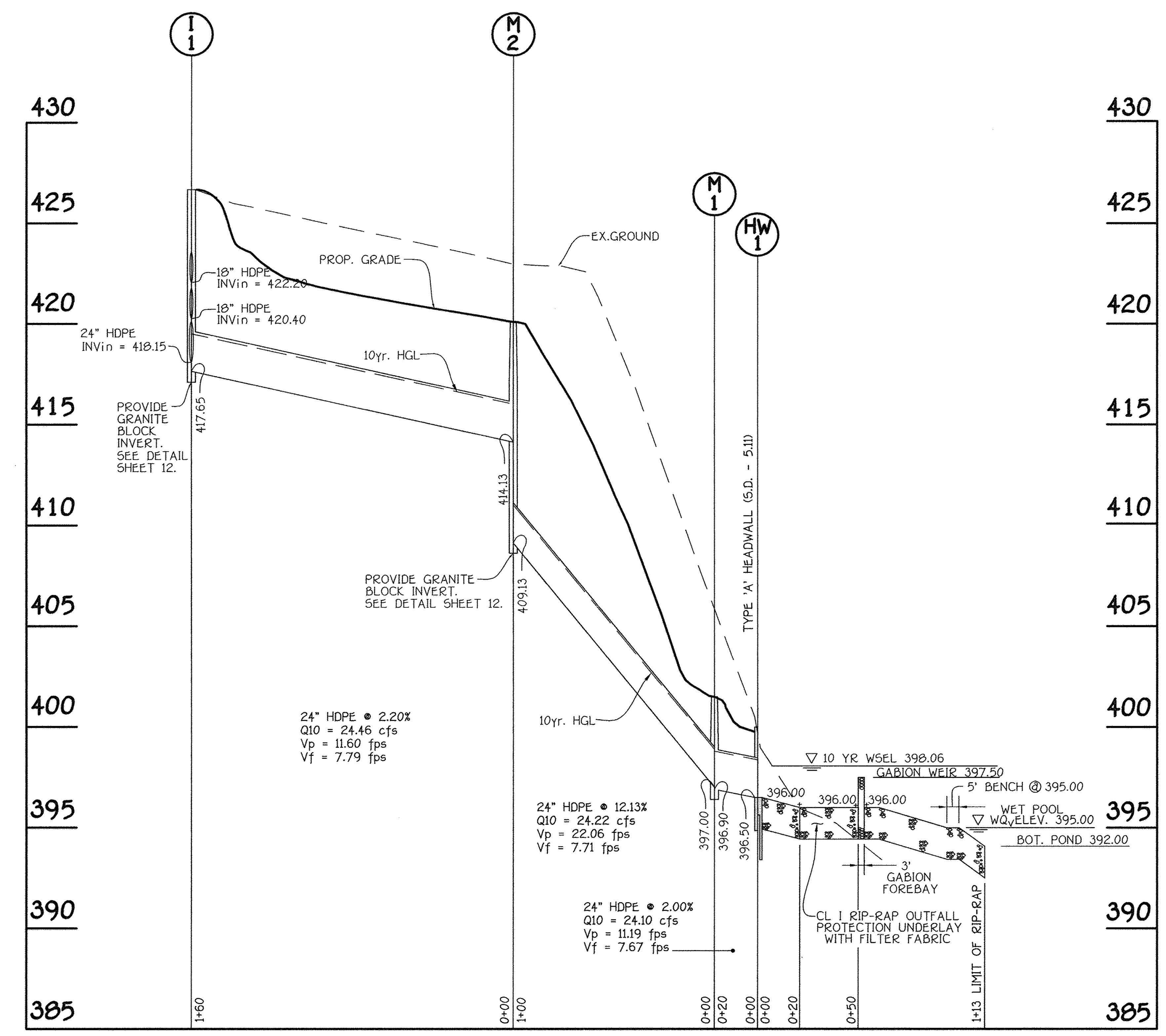
PROFILE

SCALE: HORIZ. : 1" = 50' VERT. : 1" = 5'



PROFILE

SCALE: HORIZ. : 1" = 50' VERT. : 1" = 5'



PROFILE

SCALE: HORIZ. : 1" = 50' VERT. : 1" = 5'

No.	Revision	Date
1	Lowered 8" W Xing between I-1 & M-4	10.15.04

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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.

Signature Of Engineer — 6.17.04 Date

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 — 6.18.04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT		SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS		N/A	115

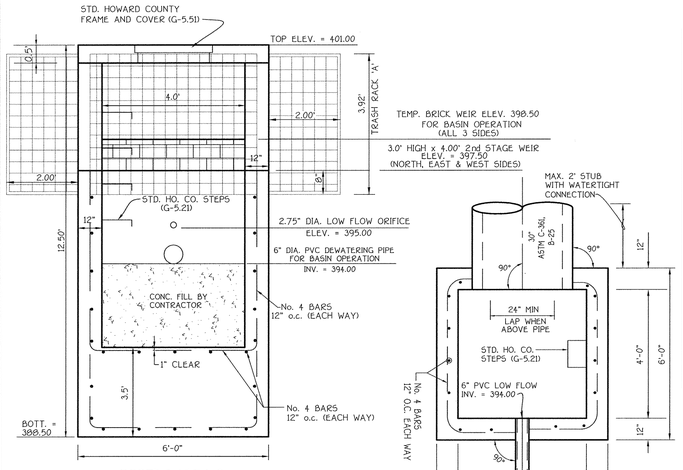
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02

WATER CODE	SEWER CODE
E20	7695000

STORM DRAIN PROFILES

CEDAR LANE PROGRAM AT THE FULTON CAMPUS
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004



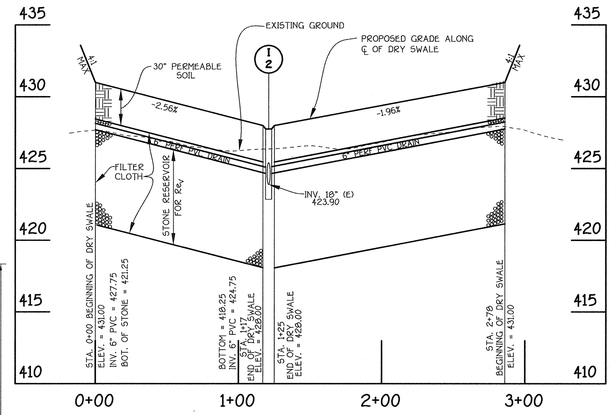
PROFILE VIEW B

R 1 **CONCRETE RISER DETAIL**

SCALE : 1" = 2'

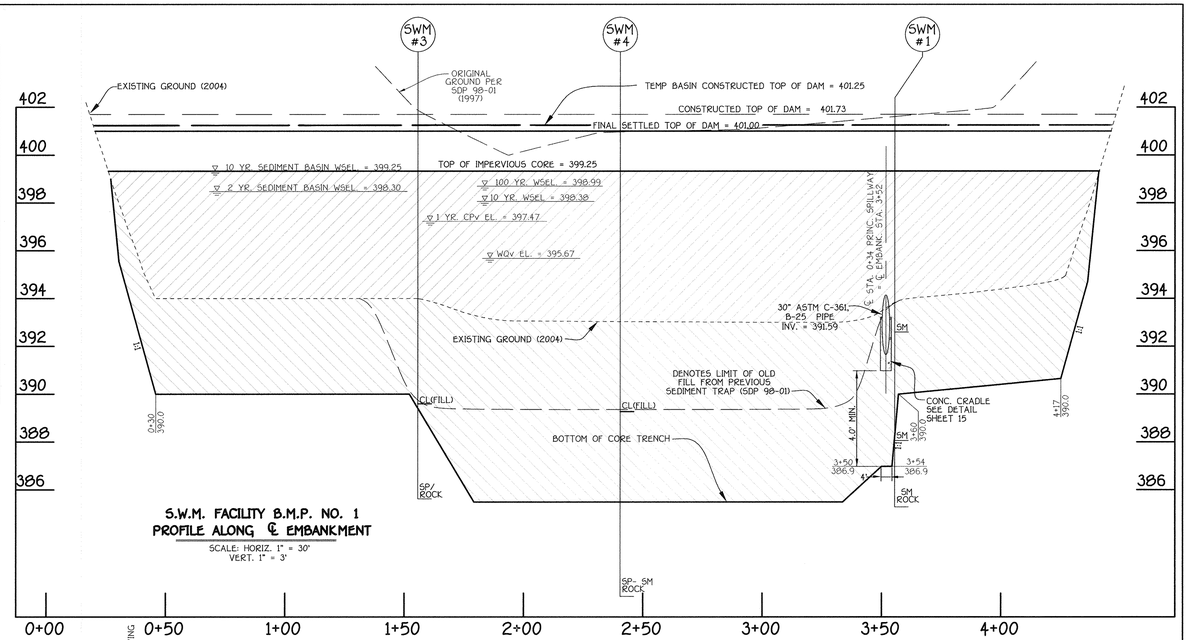
RISER PLAN VIEW

NO SCALE



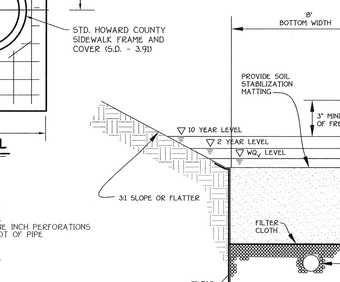
BMP FACILITY NO. 2 – DRY SWALE PROFILE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5



S.W.M. FACILITY B.M.P. NO. 1
PROFILE ALONG ℄ EMBANKMENT

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'

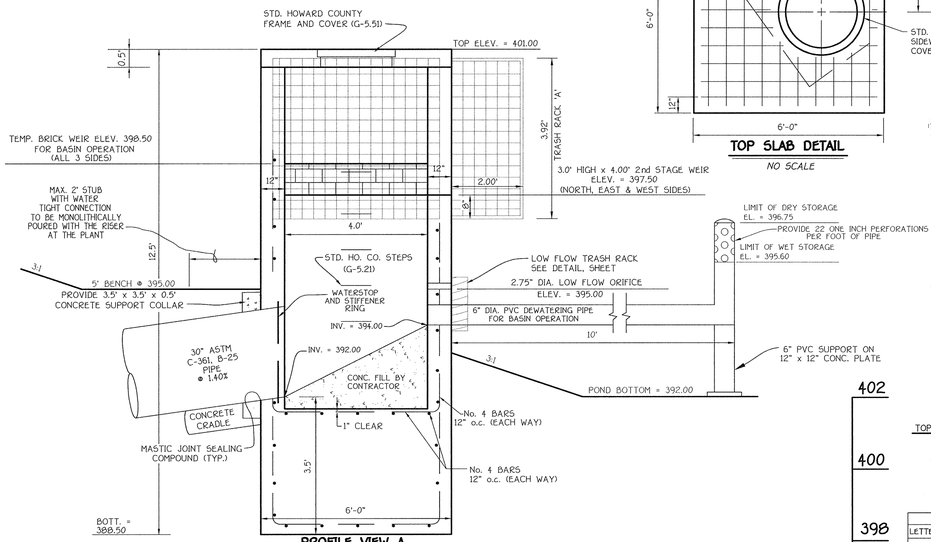


TOP SLAB DETAIL

NO SCALE

DRY SWALE CROSS SECTION

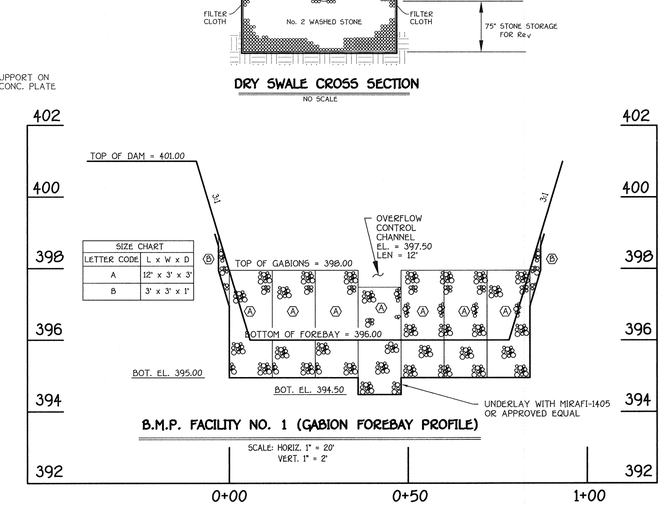
NO SCALE



PROFILE VIEW A

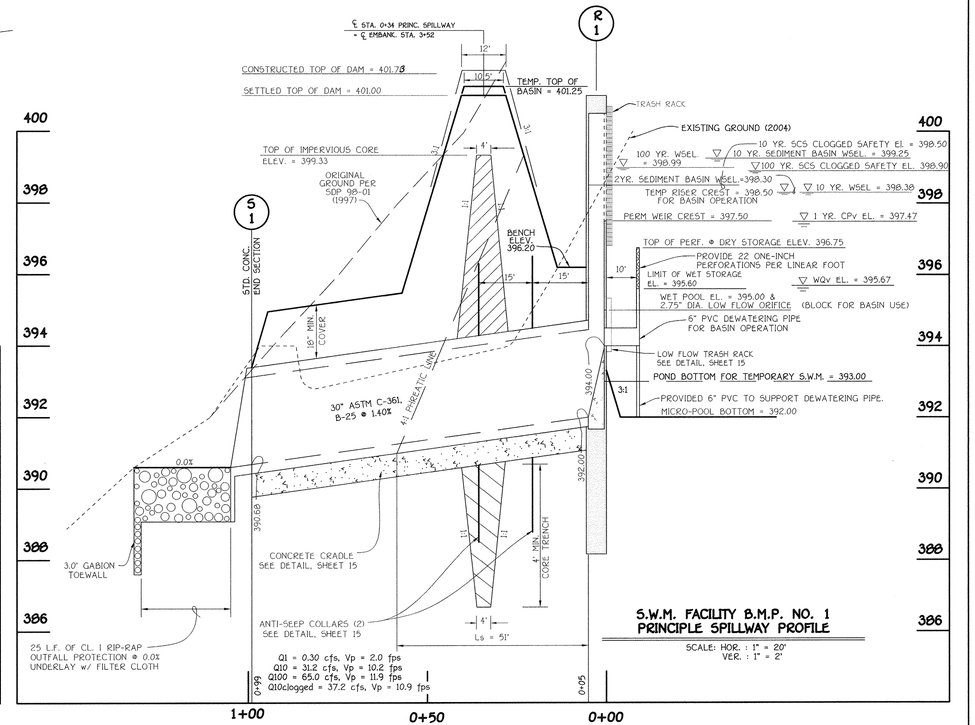
R 1 **CONCRETE RISER DETAIL**

SCALE : 1" = 2'



B.M.P. FACILITY NO. 1 (GABION FOREBAY PROFILE)

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



S.W.M. FACILITY B.M.P. NO. 1
PRINCIPLE SPILLWAY PROFILE

SCALE: HOR. : 1" = 20'
VER. : 1" = 2'

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature _____ P.E. No. _____

Date: _____

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans And That Any 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 Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer _____ Date 6.18.04

DaWanna Brown
Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Owner That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

Signature Of Engineer _____ Date 6.17.04

Alpa Patel
Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

USDA-Natural Resources Conservation Service _____ Date 6/28/04

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District _____ Date 6/28/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning _____ Date 7/6/04

Chief, Division of Land Development _____ Date 7/2/04

Chief, Development Engineering Division _____ Date 6/30/04

PREPARED FOR
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10910 Maryland Route 108
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Address Chart

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DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE	
E20			7695000	

STORMWATER MANAGEMENT DETAILS

CEDAR LANE PROGRAM AT THE FULTON CAMPUS
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SHEET 14 OF 24 SDP 04-118

STORM WATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Stel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling banks or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections- All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24-inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2-inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill".

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Stucture Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (Anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe

The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirement of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirement of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

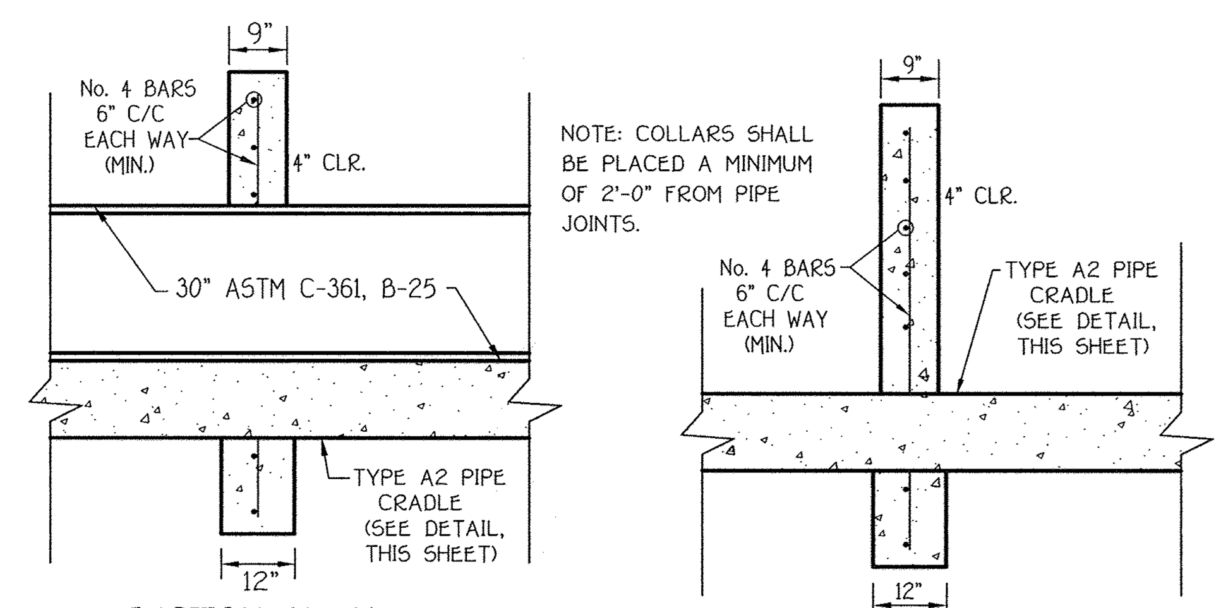
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

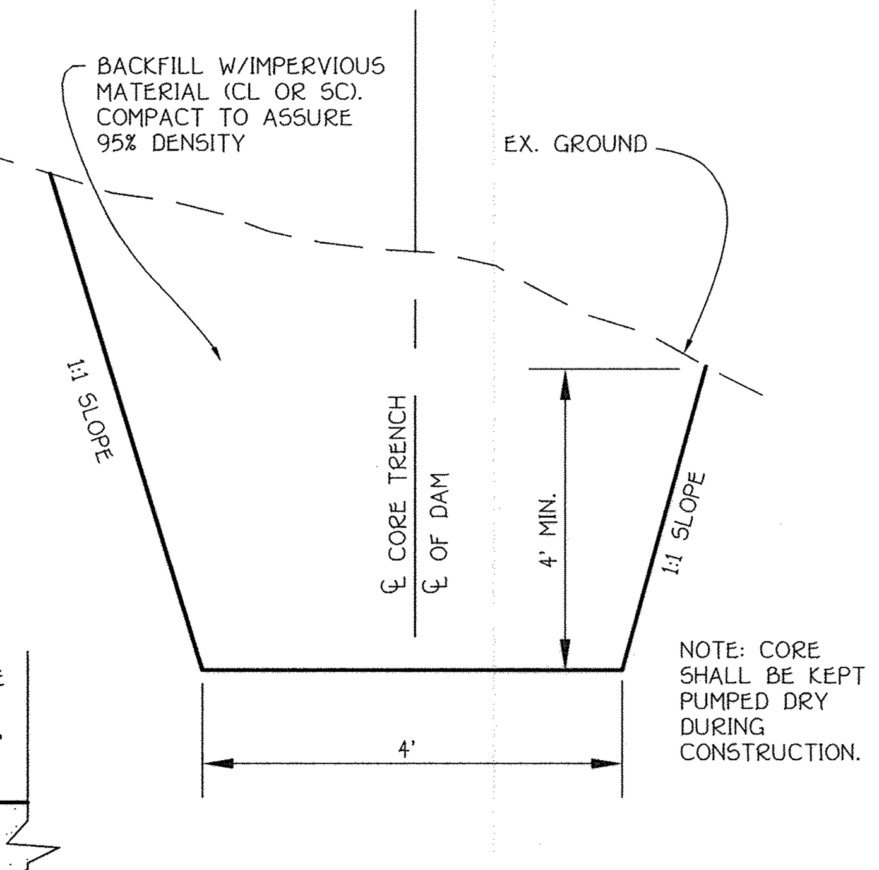


SECTION 'A-A'

SECTION 'B-B'

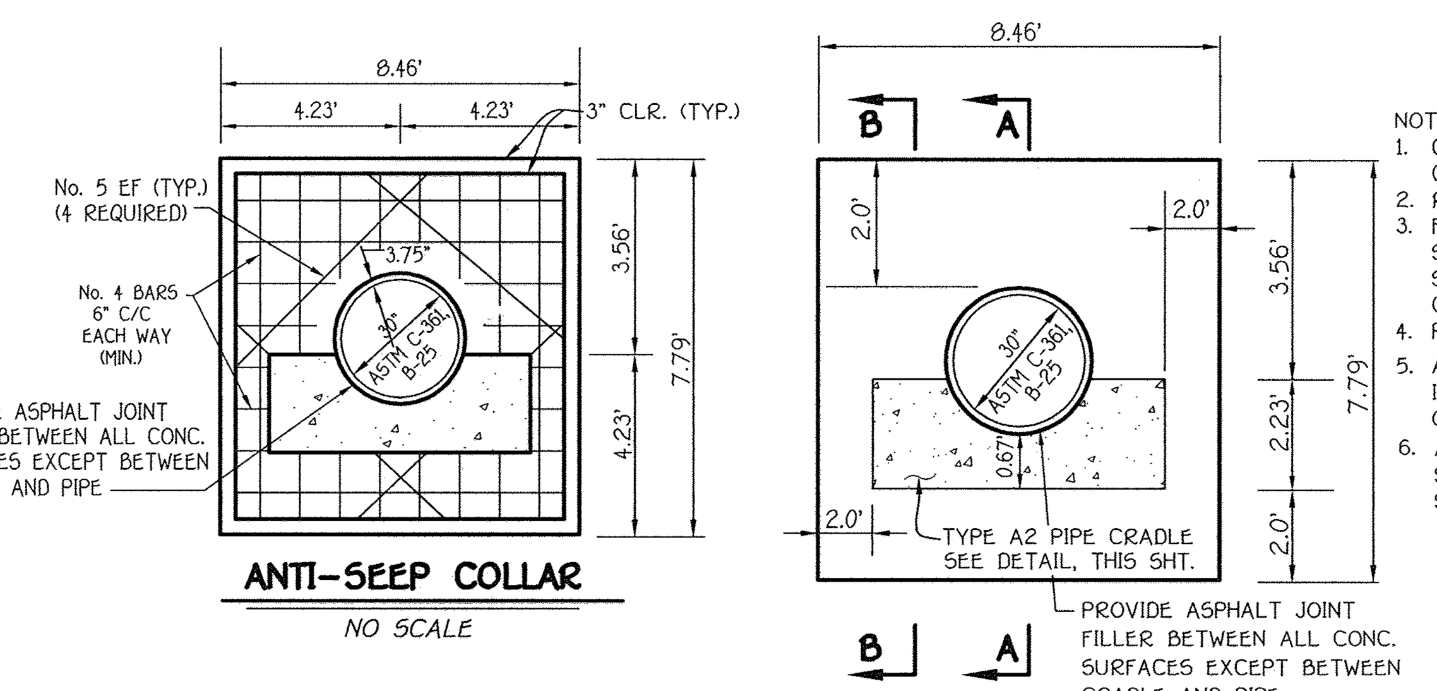
TYPICAL SECTION THROUGH BARREL, CRADLE AND ANTI-SEEP COLLAR

NO SCALE



CORE TRENCH DETAIL

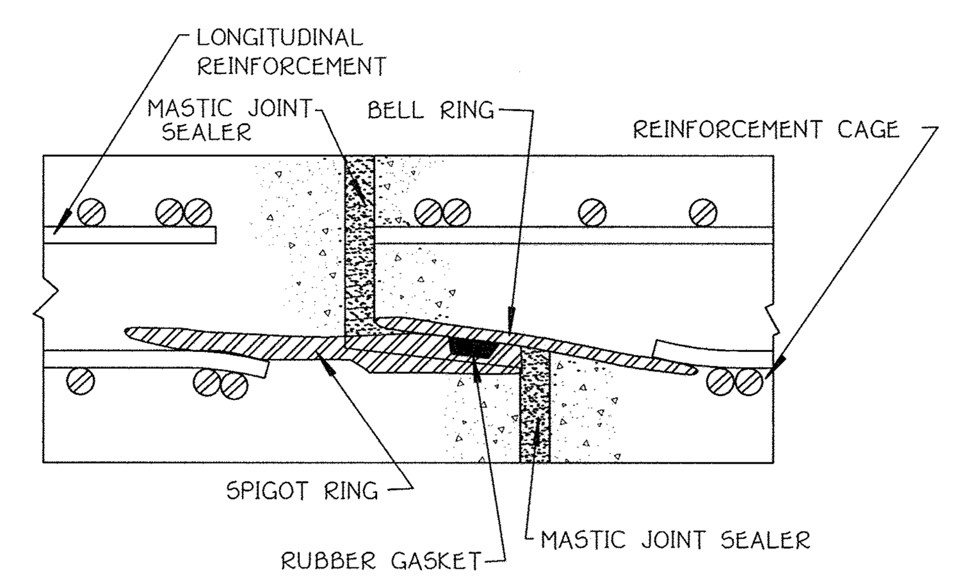
NOT TO SCALE



ANTI-SEEP COLLAR

NO SCALE

NOTES:
1. CONCRETE SHALL BE MSHA MIX No. 3 (FC > 3,500 P.S.I.)
2. REINFORCING STEEL: GRADE 60
3. FOR WALLS OF STRUCTURE SHALL UTILIZE L.M. SCOFIELD CO. T-9055 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE ROUGH BROOM FINISH.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.

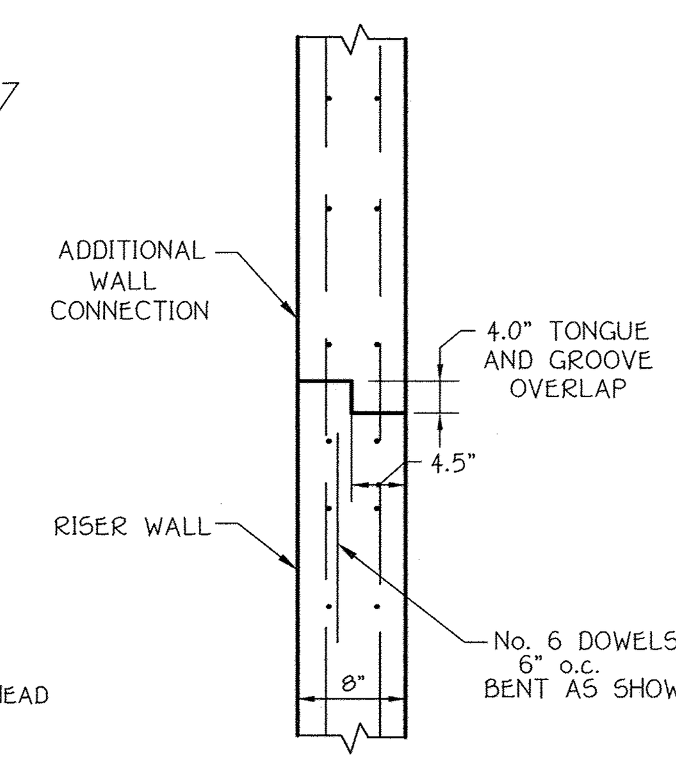


NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND

ASTM DESIGNATION C361
DIAMETERS 12 THRU 168 INCH
PRESSURES TO 125 FEET OF HEAD

CONCRETE PIPE JOINT DETAIL

(NO SCALE)



KEYED JOINT DETAIL
WALL SECTION TO WALL SECTION

(NO SCALE)

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature

P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

A. SITE PREPARATION

Prior to the placement of fill in any SWM embankment or slope areas, all vegetation, organic matter and/or excessively organic material, and any existing surficial soils which are excessively soft, wet or frozen should be removed and wasted. Organic materials may be stockpiled and used exclusively as the final fill layer in landscaping and recreational field areas. Otherwise, any excess organic materials should be wasted. The stripping operations should be monitored by an P & B soils technicians or Geotechnical Engineer to verify the depths of stripping.

After stripping has been completed, the exposed subgrade in areas to be filled should be examined by P & B soil technicians or Geotechnical Engineer. The technician should require the exposed materials be proofrolled utilizing a heavily-loaded dump truck or other pneumatic-tired vehicle of similar size and weight to detect any excessively soft or yielding soils conditions. Relatively soft surficial materials may be improved for the adequate support newly placed structural fill by deeply discing or scarifying, aerating, and recompacting to the project specifications; alternately, excessively soft soils may be undercut and replaced with controlled fill.

Depending upon weather condition, and due to the presence of moisture-sensitive materials, surficial undercutting of wet, excessively soft, or yielding materials may be required. If the on-site soils exhibit high moisture contents during construction, traffic of heavy equipment, including heavy compaction equipment, will create pumping and a general deterioration of these materials. A further significant increase in moisture content and/or deterioration of these moisture-sensitive soils during construction will likely require their removal and replacement with suitable (less moisture-sensitive) material. If possible, the grading operations should be conducted during dry and warm weather (preferably late spring through early fall). This should minimize potential subgrade problems, although they may not be eliminated. If such problems arise, the P & B Geotechnical Engineer should be consulted for an evaluation of the site conditions.

If infiltration practices are to be utilized, the thin layer of previously placed fine grained fill at SWM 4 must be removed and replaced with on site sandy materials.

B. Embankment Fill Placement

The boring and laboratory data indicate that the on-site soils are generally suitable for use as controlled, compacted fill: however, the presence of moisture-sensitive fine grain materials (i.e. Micaceous Silty Sands, and Sandy Silts) will require special attention to moisture contents. Consequently, the on-site soils may require discing, aeration and/or manipulation to achieve efficient compaction. Any regions exhibiting poor drainage characteristics, and low lying areas, must be expected to display moisture contents excessively high for fill placement without drying.

It should be noted that the moisture descriptions shown on the boring logs are visual only, and such descriptions (moist, very moist) are related to wet-dry conditions and do not reflect moistures relative to optimum moisture contents. The use of the on-site soils for controlled, compacted fill will depend on the time of year that construction is accomplished and whether the construction schedule and space permit manipulation and/or aeration of the soils to ensure adequate compaction. As previously discussed above, due to the moisture-sensitivity of the on-site materials, it would be prudent to accomplish the earthwork operations during the warmer and drier seasons, i.e. late spring through early fall.

Controlled fill should be placed in relatively level lifts, eight to ten inches to loose thickness, and compacted to 95 percent of the Standard Proctor maximum dry density as established by ASTM D-698 specifications.

A sufficient number of in-place density tests should be performed by an P&B engineering technician to verify that the proper degree of compaction is being obtained on all fill soils. As a minimum, each lift shall be tested and one test per 2500 square feet shall be performed.

C. Slope Recommendations

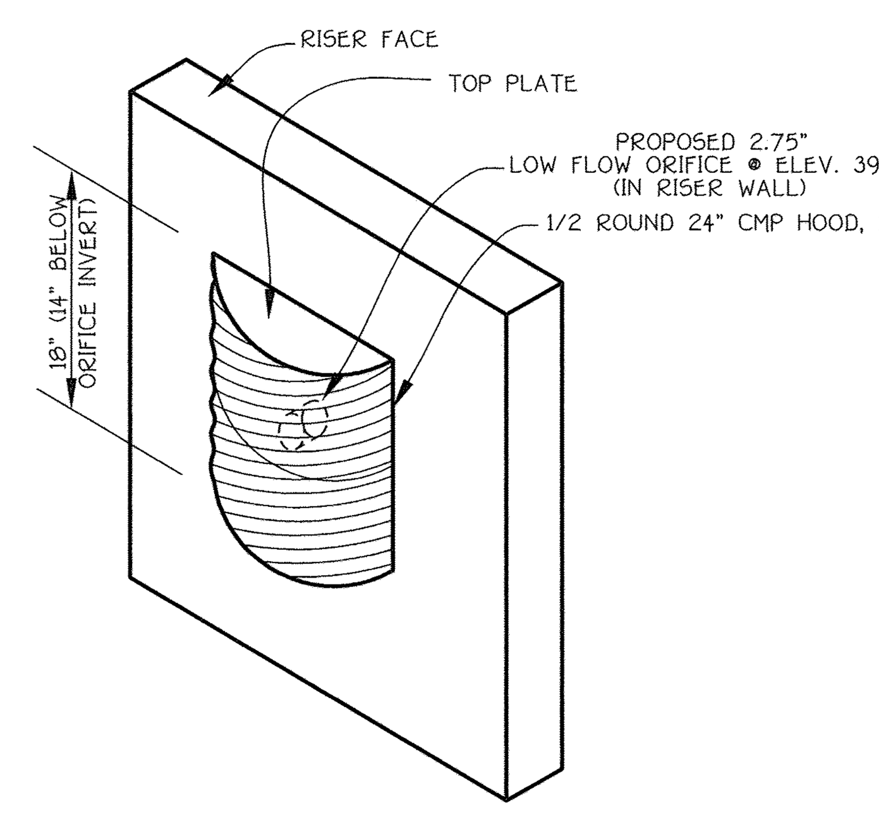
The subsoils encountered by the borings generally appear acceptable to support new sloped embankment fill depending upon location and depth. Accordingly a slope flatter than, 3H:1V gradient, constructed of properly classified and compacted engineered fills will typically be stable. An in-depth slope stability analysis is not typically performed in this situation unless elevated ground water, unsuitable materials or excess loadings have been identified. Slopes designed steeper than, 3H:1V should have slope stability analysis performed.

Where fills are placed on hillsides or slopes, the slopes of the original ground upon which the fill is to be placed shall be plowed or scarified deeply, and where the slope of the existing ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched in order to prevent the formation of any slip surfaces and to facilitate the placement of fill in horizontal layers. Additionally, a keyway should be installed at the base of the slope prior to any benched fill installation.

It is recommended that any fill required to achieve required slope subgrade be constructed as controlled embankment placed in accordance with the previously provided requirements for fill placement. The compaction should be a minimum 95% of the ASTM D98 maximum dry density performed under the direction of a Geotechnical Engineer.

D. Embankment Seepage

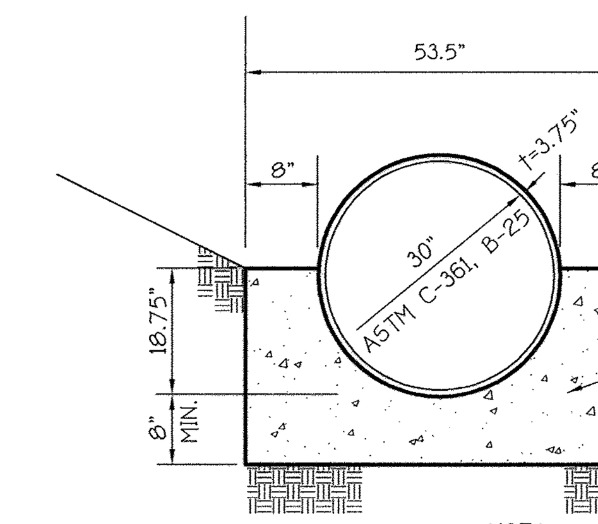
Ponds that are designed as retention ponds will require an impervious core constructed of materials classified as CL, CH, SC or GL compacted 95% of the Standard Proctor at or above optimum moisture content. It is not anticipated that sufficient qualities of CL material will be available in the soils excavated from the SWM area. It should be anticipated that import clays will be required.



(FOR PROTECTION OF LOW FLOW ORIFICE)

HALF ROUND CMP PIPE-HOOD

NOT TO SCALE



NOTE:
CONC. CRADLE TO BE POURED DIRECTLY AGAINST EARTH BANKS. IF BOTTOM OF TRENCH IS WIDER THAN THE CRADLE, SLOPING SIDES (FRAMED) SHALL BE USED.

A2 CRADLE

NO SCALE

Embankment and Cut-off Trench Construction

THE AREA OF THE PROPOSED SWM POND SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOFROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFOLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.

A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL.

IT IS OUR PROFESSIONAL OPINION THAT IN ADDITION TO THE SOIL MATERIALS DESCRIBED ABOVE A FINE GRAINED SOIL, INCLUDING SILT (ML) WITH A PLASTICITY INDEX OF 10 OR MORE CAN BE UTILIZED FOR THE CENTER OF THE EMBANKMENT AND CORE TRENCH. BASED ON OUR VISUAL CLASSIFICATIONS IT APPEARS THAT SOME OF THE ON-SITE SOILS, ESPECIALLY THE NEAR SURFACE SOILS, WILL BE SUITABLE FOR USE AS CORE TRENCH MATERIAL. IT IS RECOMMENDED THAT ADDITIONAL EXPLORATION AND LABORATORY TESTING BE PERFORMED PRIOR TO POND CONSTRUCTION TO IDENTIFY AND QUANTIFY POTENTIAL BORROW AREAS FOR CORE TRENCH MATERIAL ALL FILL MATERIALS MUST BE PLACED AND COMPACTED WITH MD SCS 378 SPECIFICATIONS.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT PONDS

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections shall be preformed during wet weather to determine if the pond is functioning properly.
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes and maintenance access should be mowed as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repairer as soon as it is noticed.

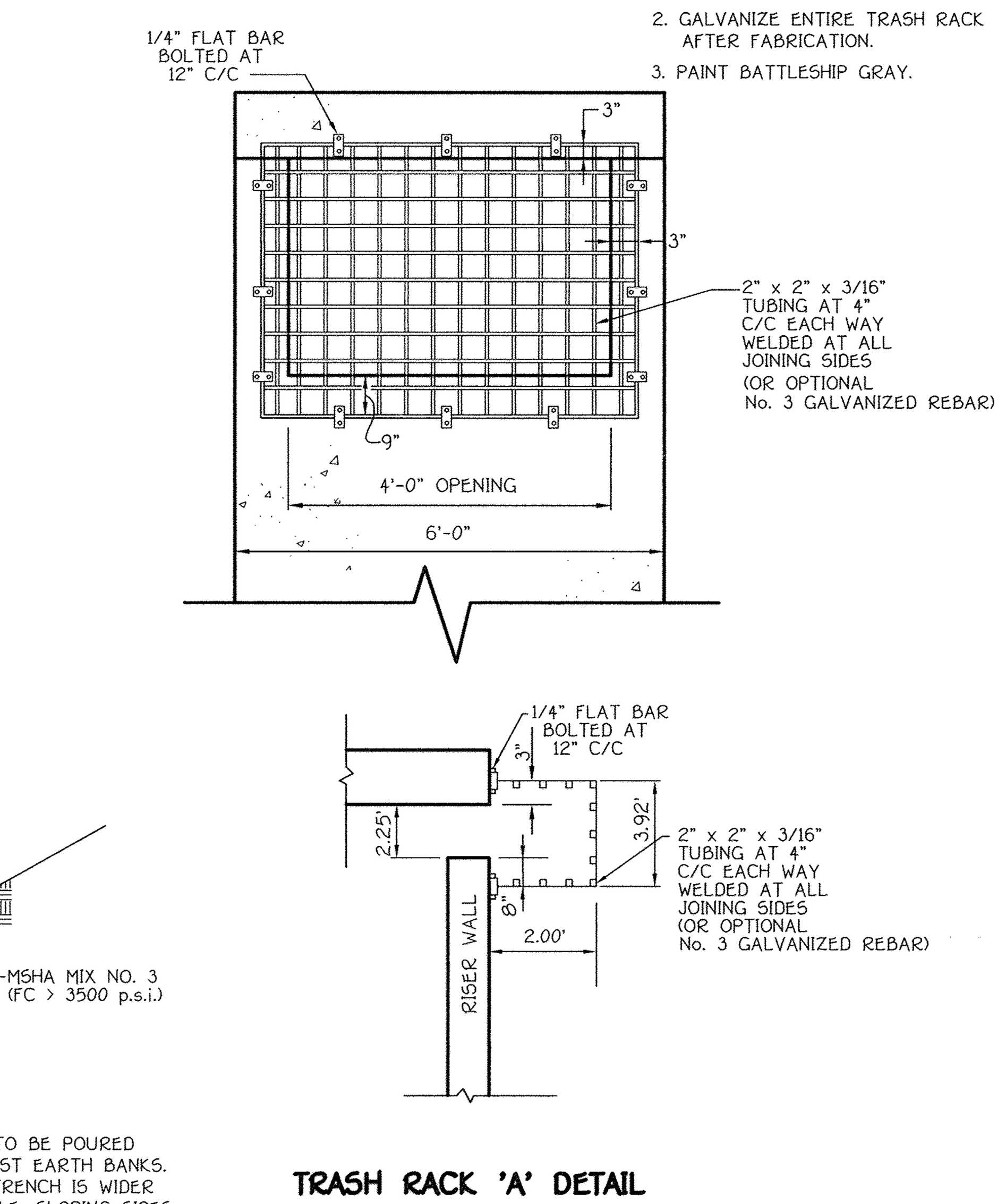
NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS

A. The open channel system shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
B. The open channel shall be mowed a minimum of as needed during the growing season to maintain a maximum grass height of less than 6 inches.
C. Debris and litter shall be removed during regular mowing operations and as needed.
D. Visible signs of erosion in the open channel system shall be repaired as soon as it is noticed.
E. Remove silt in the open channel system when it exceeds 25% of the original WQv.

NOTES:
1. FIELD MEASURE THE STRUCTURE DIMENSIONS TO INSURE EXACT FIT OF TRASH RACK.
2. GALVANIZE ENTIRE TRASH RACK AFTER FABRICATION.
3. PAINT BATTLESHIP GRAY.



TRASH RACK 'A' DETAIL

(NO SCALE)

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans And That Any 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 Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

[signature] 6.18.04
Signature Of Developer — Date

Dr. William Brown
Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

[signature] 6.17.04
Signature Of Engineer — Date

Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

[signature] 6/28/04
USDA-Natural Resources Conservation Service — Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

[signature] 6/28/04
Howard Soil Conservation District — Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 7/2/04
Director - Department of Planning and Zoning — Date

[signature] 7/2/04
Chief, Division of Land Development — Date

[signature] 6/30/04
Chief, Development Engineering Division — Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA		PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A		115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

STORMWATER MANAGEMENT NOTES & DETAILS

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SHEET 15 OF 24 SDP 04-118

LOG OF BORING No. SWM1

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT POND — ELEVATION: 392.6
DRILLER: EBA — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 1-7-04
DEPTH TO - WATER> INITIAL: DRY — AFTER 24 HOURS: DRY — CAVING> 5.5

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.42	TOPSOIL - 5 INCHES				
.42–3	REDDISH BROWN MOIST SILTY SAND; MEDIUM DENSE; UCSC CLASSIFICATION - SM; USDA TEXTURE - SANDY LOAM; INFILTRATION RATE - 1.02 IN/HR	1	5 10 15	28.4	
		2	10 15 22		
3–8	LIGHT BROWN MOIST COARSE SAND WITH TRACE SILT; DENSE TO VERY DENSE; USCS CLASSIFICATION - SM; USDA TEXTURE - LOAMY SAND; INFILTRATION RATE - 2.41 IN/HR; AUGER REFUSAL @ 8 FEET	3	24 50 100/4		150 →

Boring terminated at 8 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM2

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT POND — ELEVATION: 389.3
DRILLER: EBA — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 1-7-04
DEPTH TO - WATER> INITIAL: 12.4 — AFTER 24 HOURS: 6.7 — CAVING> 12.2

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.42	TOPSOIL - 5 INCHES				
.42–16.5	BROWN MOIST SILTY SAND, TRACE ROCK FRAGS; MEDIUM DENSE; UCSC CLASSIFICATION - SM; USDA TEXTURE - SANDY LOAM; INFILTRATION RATE - 1.02 IN/HR	1	4 8 15		
		2	8 9 9	26.3	
		3	8 8 9		
	DENSE @ 8.5 FEET	4	8 15 23		
	VERY DENSE @ 13 FEET	5	100 100/5		100 →
	AUGER REFUSAL @ 16.5 FEET	6	100 100/1		100 →

Boring terminated at 16.6 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM3

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT POND — ELEVATION: 394.3
DRILLER: EBA — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 1-7-04
DEPTH TO - WATER> INITIAL: 6.5 — AFTER 24 HOURS: 6.5 — CAVING> 6.5

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.42	TOPSOIL - 5 INCHES				
.42–3	REDDISH BROWN MOIST SANDY CLAY (FILL); STIFF; UCSC CLASSIFICATION - CL; USDA TEXTURE - SILTY CLAY LOAM; INFILTRATION RATE - 0.06 IN/HR	1	4 4 7		
		2	10 3 3	2.8	
3–6.6	DARK GRAY MOIST SAND, WITH ROCK FRAGS; VERY DENSE @ 5 FEET; USCS CLASSIFICATION - SP; USDA TEXTURE - SAND; INFILTRATION RATE - 8.27 IN/HR; AUGER REFUSAL @ 6.6 FEET	3	100 100/3		100 →

Boring terminated at 6.6 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM4

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT POND — ELEVATION: 392.2
DRILLER: EBA — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 1-7-04
DEPTH TO - WATER> INITIAL: DRY — AFTER 24 HOURS: 5.5 — CAVING> 9.9

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.33	TOPSOIL - 4 INCHES				
.33–2.5	BROWN MOIST SILTY CLAY (FILL); SOFT; UCSC CLASSIFICATION - CL; USDA TEXTURE - SILTY CLAY LOAM; INFILTRATION RATE - 0.06 IN/HR	1	3 2 3	35.3	
2.5–12	YELLOW TO GRAY MOIST SAND; DENSE TO VERY DENSE; USCS CLASSIFICATION - SP-SM; USDA TEXTURE - SAND; INFILTRATION RATE 8.27 IN/HR	2	8 16 25	7.7	
		3	12 20 32		
		4	100 100/4		100 →
	AUGER REFUSAL @ 12 FEET	5	100 100/1		100 →

Boring terminated at 12.1 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM5

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT POND BMP1 — ELEVATION: 399.32
DRILLER: PGS — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 4-24-04
DEPTH TO - WATER> INITIAL: DRY — AFTER 24 HOURS: DRY — CAVING> 6.9

Depth (feet)	Description	Sample No.	Blow Counts	% < #200
0–.2	Topsoil - 2 inches			
.2–2	Brown and reddish brown, moist, micaceous cf SAND, little silt; FILL; Very loose; UCSC Classification - SM; USDA Classification - Sandy Loam; Infiltration rate - 1.02 In/Hr	1	2 2 2	
		2	6 5 7	
2–8	Brown and gray, moist, micaceous cf SAND, little to trace silt; Medium dense; USCS Classification - SM; USDA Classification - Loamy Sand; Infiltration rate - 2.41 In/Hr	3	8 9 9	

Boring terminated at 8 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM6

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT POND BMP1 — ELEVATION: 402.31
DRILLER: PGS — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 4-24-04
DEPTH TO - WATER> INITIAL: DRY — AFTER 24 HOURS: DRY — CAVING> 6.4

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.3	Topsoil - 3 inches				
.3–2	Brown, reddish brown and gray, moist, micaceous cf SAND, some silt; FILL; Medium dense; UCSC Classification - SM; USDA Classification - Sandy Loam; Infiltration rate - 1.02 In/Hr	1	8 9 8		
		2	20 50/3	12.8	
2–8	Brown and gray, moist, micaceous cf SAND, little to trace silt (weathered rock); Very dense; USCS Classification - SM; USDA Classification - Loamy Sand; Infiltration rate - 2.41 In/Hr	3	67 72 50/3		122 →

Boring terminated at 8 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM7

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT SAND FILTER — ELEVATION: 427.02
DRILLER: PGS — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 4-24-04
DEPTH TO - WATER> INITIAL: DRY — AFTER 24 HOURS: DRY — CAVING> 7.4

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.42	Topsoil - 4 inches				
.42–	Reddish brown, moist, micaceous cf SAND, little silt; Medium dense; UCSC Classification - SM; USDA Classification - Loamy Sand	1	8 9 6		
–8	Brown and pinkish brown, moist, micaceous cf SAND, little to trace silt (weathered rock); Very dense; USCS Classification - SM; USDA Classification - Loamy Sand	2	7 27 50		77 →
		3	14 26 19		

Boring terminated at 8 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

LOG OF BORING No. SWM8

PROJECT: CEDAR LANE SCHOOL — PROJECT NO.: 04-40-0008
CLIENT: HOWARD COUNTY PUBLIC SCHOOLS
PROJECT LOCATION: RTE 216 & CEDAR LANE, SCAGGSVILLE,MD
LOCATION: STORM WATER MANAGEMENT SAND FILTER — ELEVATION: 427.14
DRILLER: PGS — LOGGED BY: TCS
DRILLING METHOD: HSA — DATE: 4-24-04
DEPTH TO - WATER> INITIAL: DRY — AFTER 24 HOURS: DRY — CAVING> 7.2

Depth (feet)	Description	Sample No.	Blow Counts	% < #200	Test Results (Penetration)
0–.42	Topsoil - 4 inches				
.42–	Reddish brown and tan, moist, micaceous cf SAND, little silt; Very dense; UCSC Classification - SM; USDA Classification - Loamy Sand	1	18 35 32		67 →
–8	Brown and reddish brown, moist, micaceous cf SAND, little to trace silt (weathered rock); Very dense; USCS Classification - SM; USDA Classification - Loamy Sand	2	40 45 50/6		95 →
		3	19 57 100/5		157 →

Boring terminated at 8 ft.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PENNIMAN & BROWNE, INC.
6252 FALLS ROAD
BALTIMORE, MD. 21209

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

STATE OF MARYLAND — ALDO MICHAEL VITIELLO — REGISTERED PROFESSIONAL ENGINEER

[signature] — Signature Of Engineer — 6-17-04 Date

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] — Signature Of Developer — 6-18-04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] — Director - Department of Planning and Zoning — 7/2/04 Date

[signature] — Chief, Division of Land Development — 7/2/04 Date

[signature] — Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA		PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A		115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

BORING LOGS SHEET

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

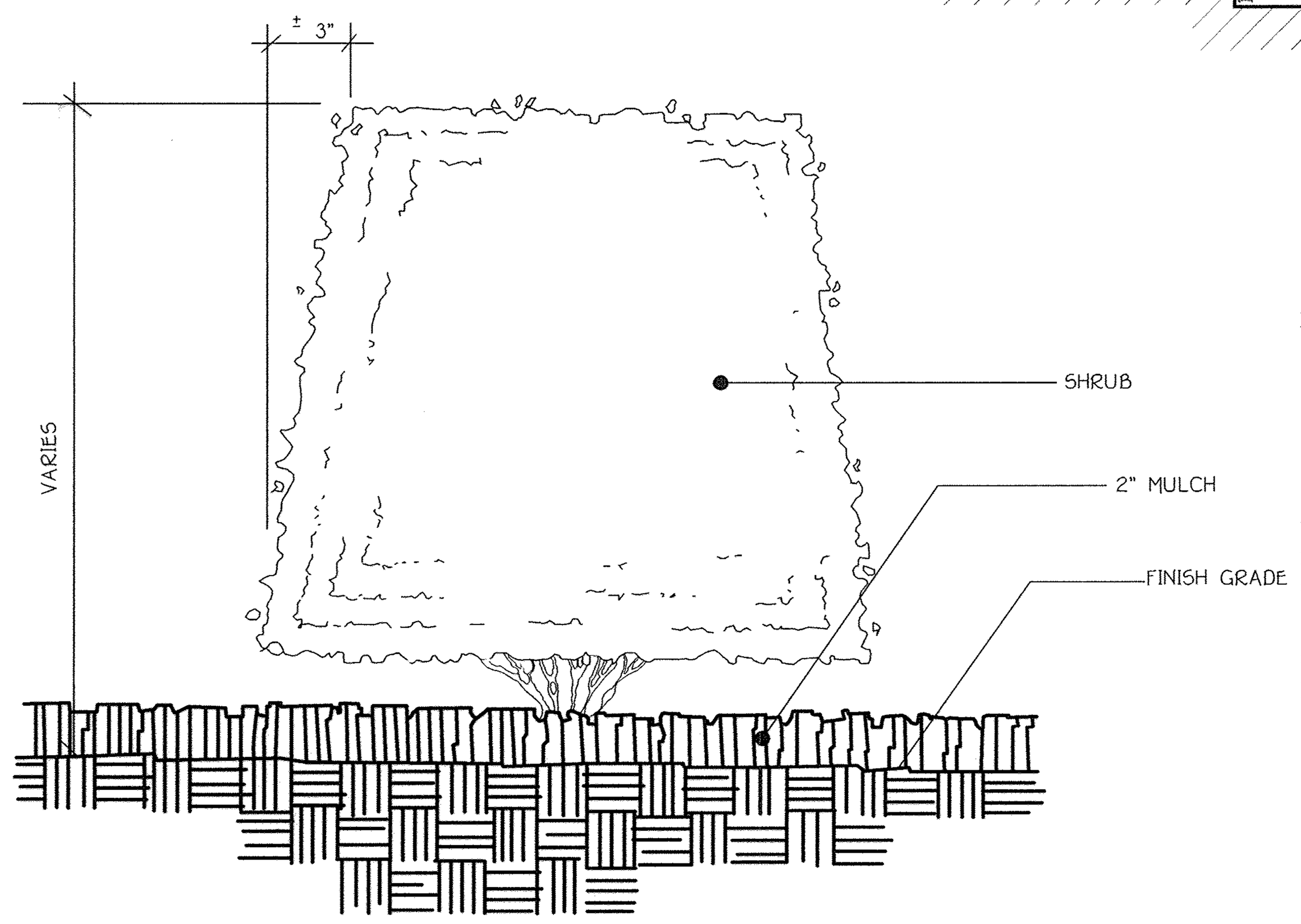
TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL".

LANDSCAPE CERTIFICATION

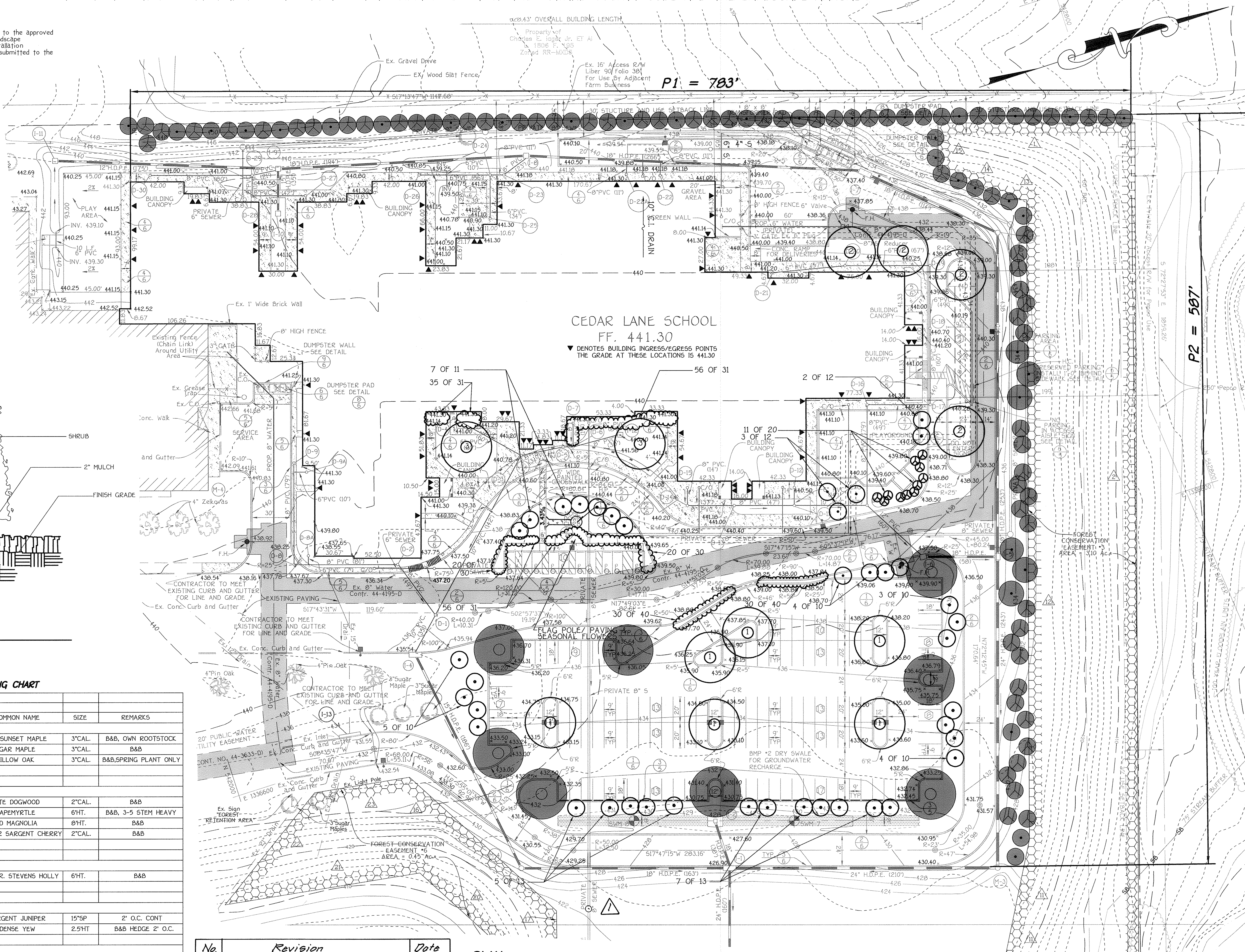
I/We certify that the landscaping shown on this plan will be done according to the approved plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Wm. B — WILLIAM BROWN, PhD. 6-18-04 Date



HEDGE SHEARING

NOT TO SCALE



ADDITIONAL LANDSCAPING CHART

REVISED 2/18/97					
NO.	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
DECIDUOUS TREES					
1	6	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	3"CAL.	B&B, OWN ROOTSTOCK
2	4	ACER SACCHARUM 'GREEN MOUNTAIN'	SUGAR MAPLE	3"CAL.	B&B
3	2	QUERCUS PHELLOS	WILLOW OAK	3"CAL.	B&B,SPRING PLANT ONLY
ORNAMENTAL TREES					
10	16	CORNUS X RUTGERS 'AURORA', P.P. 7205	WHITE DOGWOOD	2"CAL.	B&B
11	7	LAGERSTROMEMIA INDICA 'MUSKOGEE'	CRAPEMYRTLE	6'HT.	B&B, 3-5 STEM HEAVY
12	5	MAGNOLIA X SOULANGIANA 'RUSTICA' RUBRA	RED MAGNOLIA	8'HT.	B&B
13	12	PRUNUS SARGENTI 'COLUMNARIS'	COLUMNAR SARGENT CHERRY	2"CAL.	B&B
EVERGREEN TREES					
20	11	IIEX 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	6'HT.	B&B
SHUBS					
30	40	JUNIPERUS CHINENSIS SARGENTII	SARGENT JUNIPER	15"SP	2' O.C. CONT
31	147	TAXUS X MEDIA 'DENSIFORMIS'	DENSE YEW	2.5'HT	B&B HEDGE 2' O.C.
ORNAMENTAL GRASSES					
40	60	PENNISETUM ALOPECUROIDES	FOUNTAIN GRASS	3 GAL.	2' O.C. CONT

No.	Revision	Date
1	Relocoted sewer MH 510	10.15.04

PLAN
SCALE: 1" = 40'

NOTE: SEE SHEET 18 FOR THE REQUIRED LANDSCAPING CHARTS.

DENOTES FOREST CONSERVATION EASEMENT PLAT # 14303 RERECORDED PLAT # 16741 - 42

DENOTES FOREST CONSERVATION EASEMENT ABANDONED BY PLAT# 16741 - 42

REVISION 10/15/04

THIS PLAN IS FOR PLANTING PURPOSES ONLY

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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.

Signature Of Engineer — 6-17-04 Date

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."

Wm. B — Signature Of Developer — 6-18-04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA		PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A		115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

LANDSCAPE PLAN

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
17		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" - 3" CALIPER FULL CROWN, B&B
21		PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.
8		ZELKOVA SERRATA 'GREEN VASE' GREEN VASE ZELKOVA	3" CAL. B&B
35		ACER SACCHARUM 'GREEN MOUNTAIN' SUGAR MAPLE	2 1/2" - 3" CALIPER FULL CROWN, B&B
60		PICEA ABIES NORWAY SPRUCE	8' HT. B&B

LANDSCAPE CERTIFICATION

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WILLIAM BROWN, PhD. — Date: 6-18-04

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

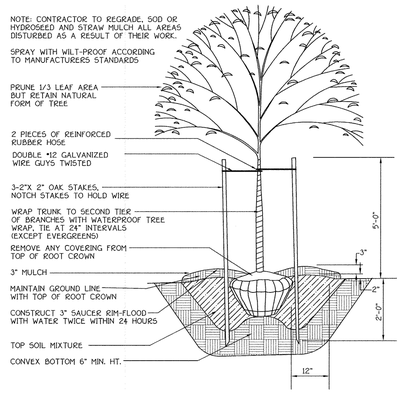
NUMBER OF PARKING SPACES	152
NUMBER OF TREES REQUIRED (1 TREE : 20 SPACES)	7.6
NUMBER OF TREES PROVIDED: SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	0 -

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

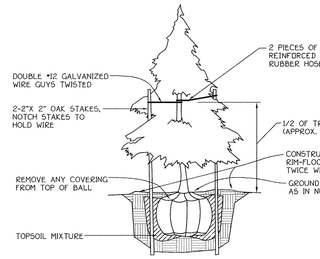
LINEAR FEET OF PERIMETER	D-1 : 844'
NUMBER OF TREES REQUIRED: SHADE TREES (1:50) EVERGREEN TREES (1:40)	16.9 21.1
CREDIT FOR EXISTING VEGETATION (NO, YES AND #)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND #)	NO
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	17 21

SCHEDULE A - PERIMETER LANDSCAPE EDGE

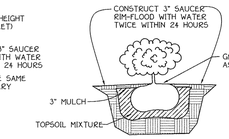
PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF PERIMETER	CREDIT FOR EXISTING VEGETATION	REMAINING	NUMBER OF PLANTS REQUIRED: SHADE TREES	EVERGREEN TREES	TOTAL TREES	NUMBER OF PLANTS PROVIDED: SHADE TREES	EVERGREEN TREES	TOTAL TREES
P-1	NON. RES. TO NON. RES.	C	783'	NO	783'	20	39	59	20	39	59
P-2	NON. RES. TO NON. RES.	C	587'	NO	587'	15	29	44	15	29	44



TREE PLANTING DETAIL



EVERGREEN PLANTING DETAIL



SHRUB PLANTING DETAIL

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug, no healed-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agends.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

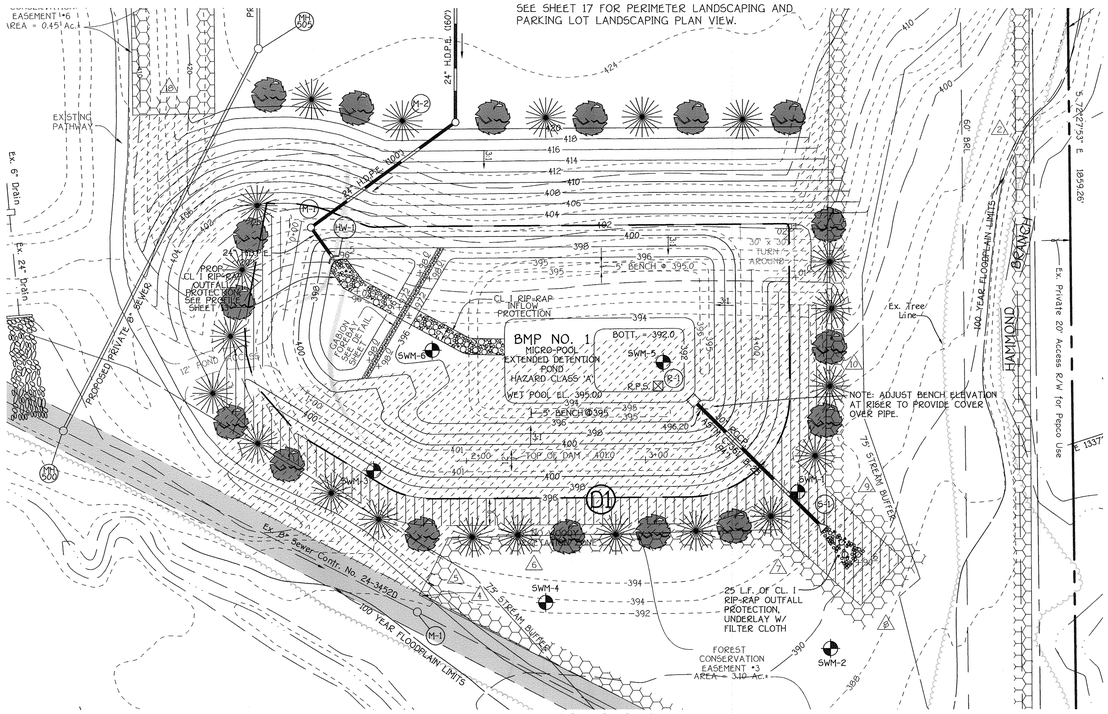
Positive drainage shall be maintained in planting beds 2 percent slope).

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.



S.W.M. LANDSCAPING PLAN

SCALE: 1" = 40'

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL".

FISHER COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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.

Signature Of Engineer — 6-17-04 Date

DEVELOPER'S CERTIFICATE

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Signature Of Developer — 6-8-04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/13/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart	
Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA		PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A		115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE		SEWER CODE			
E20		7695000			

S.W.M. LANDSCAPE PLAN & LANDSCAPE DETAILS

CEDAR LANE PROGRAM AT THE FULTON CAMPUS
"PUBLIC SCHOOL"

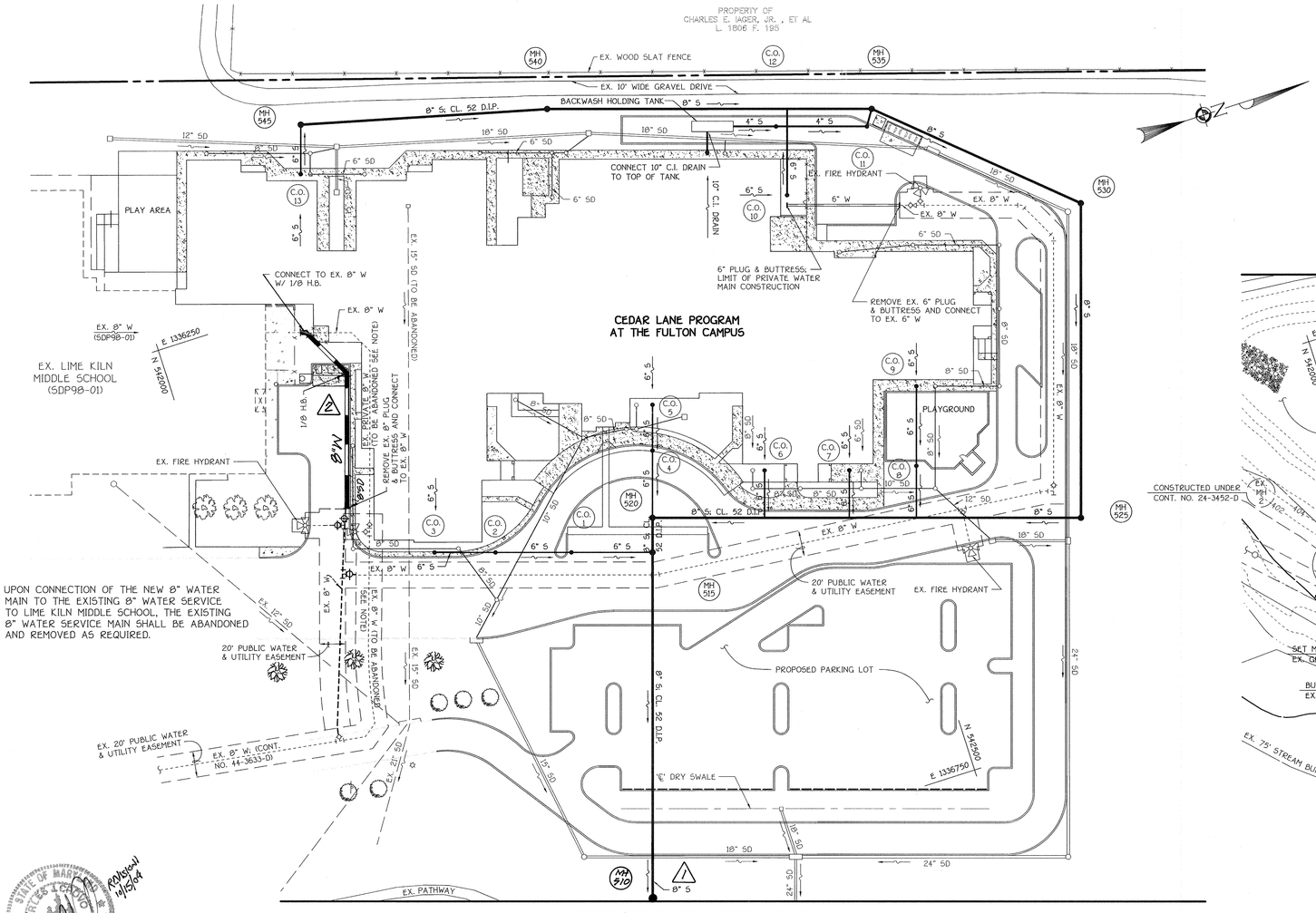
TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

SHEET 18 OF 24 SDP 04-118

SEE SHEETS 20 & 21 OF 23 FOR PROFILES OF 8" SEWER MAIN EXTENSIONS

SEE SHEET 22 OF 23 FOR PROFILES OF 4" & 6" SEWER MAIN EXTENSIONS

SEE SHEETS 20 OF 23 FOR PROFILES OF 8" & 6" WATER MAIN EXTENSIONS

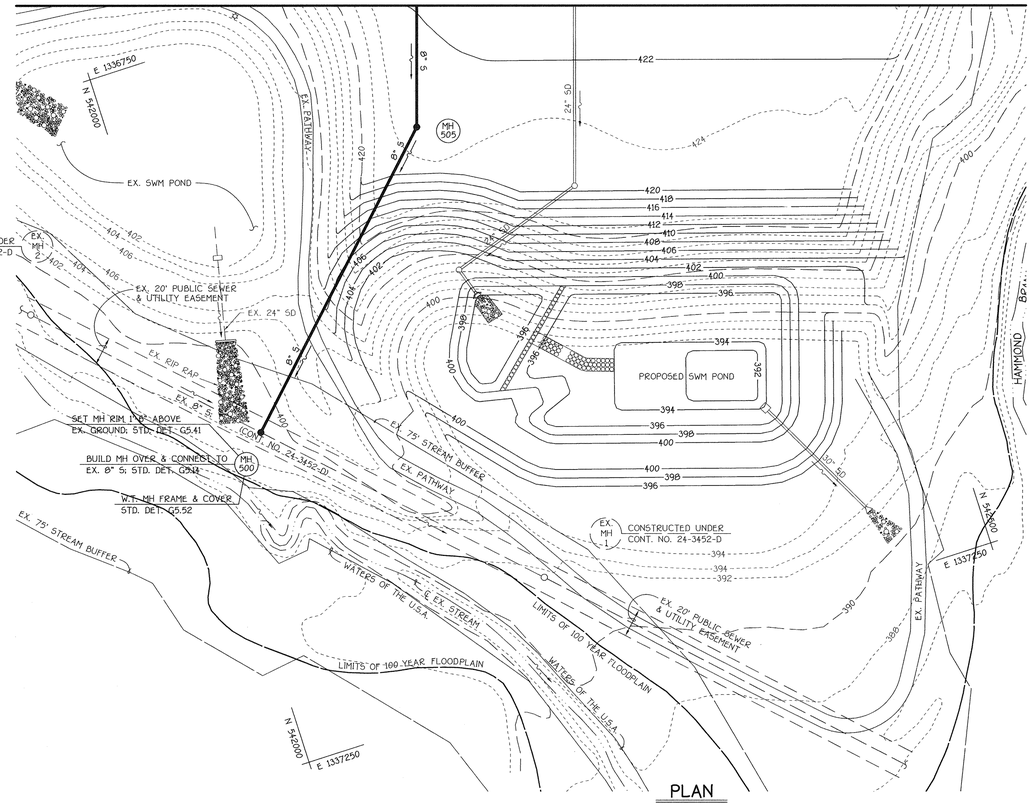


NOTE: UPON CONNECTION OF THE NEW 8" WATER MAIN TO THE EXISTING 8" WATER SERVICE TO LIME KILN MIDDLE SCHOOL, THE EXISTING 8" WATER SERVICE MAIN SHALL BE ABANDONED AND REMOVED AS REQUIRED.

MATCH LINE: SEE THIS SHEET

PLAN
SCALE: 1" = 50'

MATCH LINE: SEE THIS SHEET



PLAN
SCALE: 1" = 50'

No.	Revision	Date	No.	Revision	Date
1	Relocated sewer MH 510	10.15.04	2	Revised location of 8" water main to avoid conflict with existing underground electric cable	12.17.04

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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(410) 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.

Signature Of Engineer — 6-17-04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 6/28/04 Date

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 — 6.18.04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — 6/28/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/23/04 Date

Chief, Division of Land Development — 7/6/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6790

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
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ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A	115
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE	
E20			7695000	

WATER & SEWER MAINS: PLAN

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

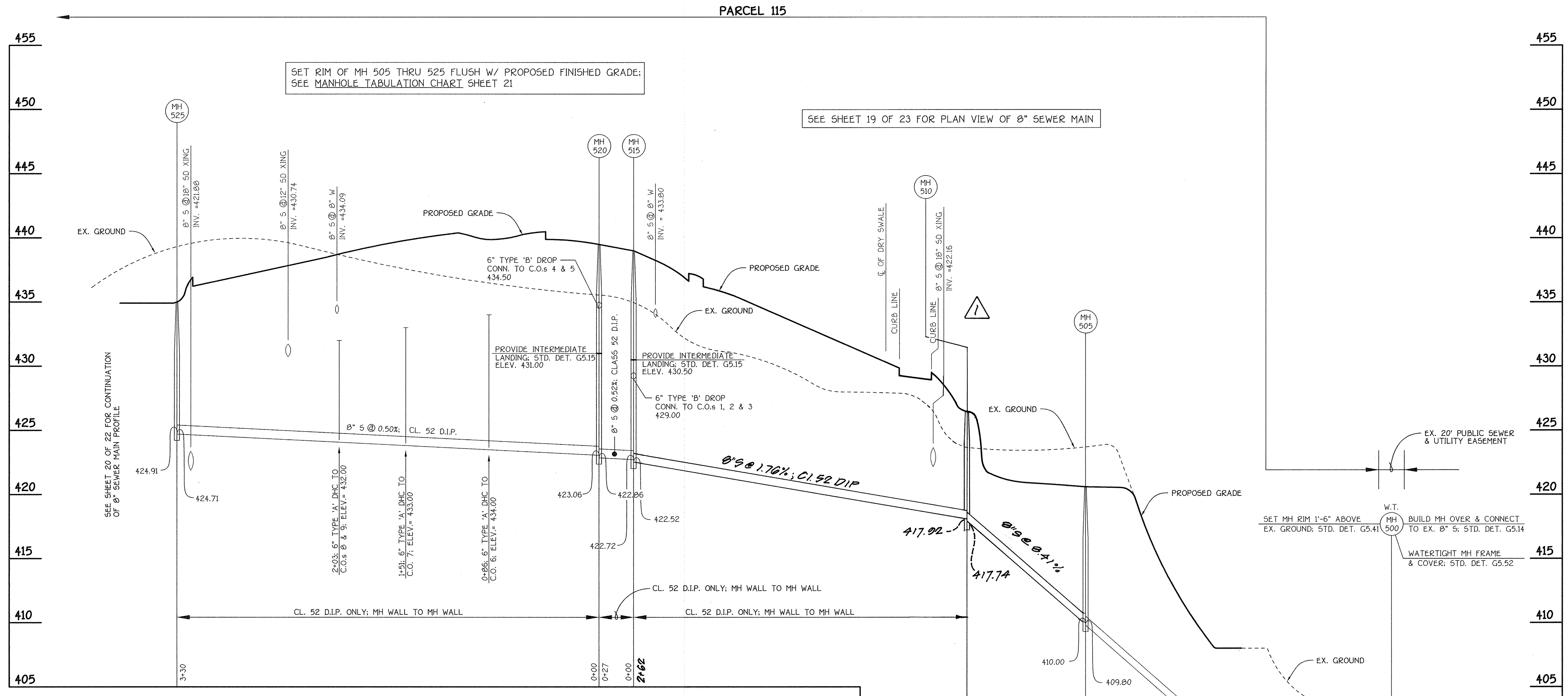
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY, 2004

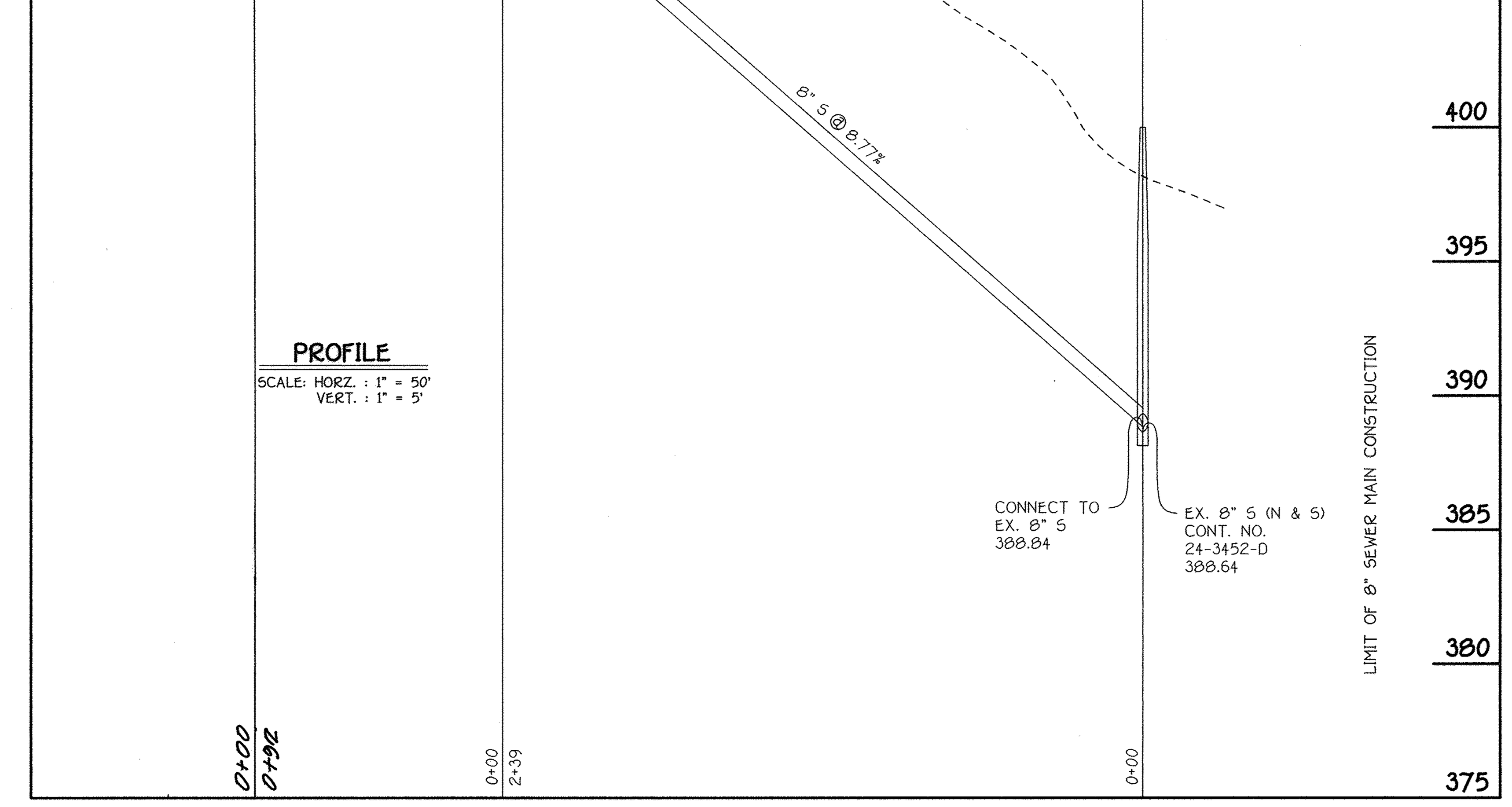
 SDP 04-118

WATER MAIN TABULATION CHART

W.M. STATION	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN			
0+00.00	CONNECT TO EX. 8" W	542090.55	1336407.02
0+99.04	1/8 H.B.	542120.70	1336312.67
1+50.57	CONNECT TO EX. 8" W W/ 1/8 H.B.	542097.09	1336266.87
6" WATER MAIN			
0+00.00	CONNECT TO EX. 6" W	542577.95	1336318.51
0+86.58	6" PLUG & BUTTRESS	542495.50	1336292.06

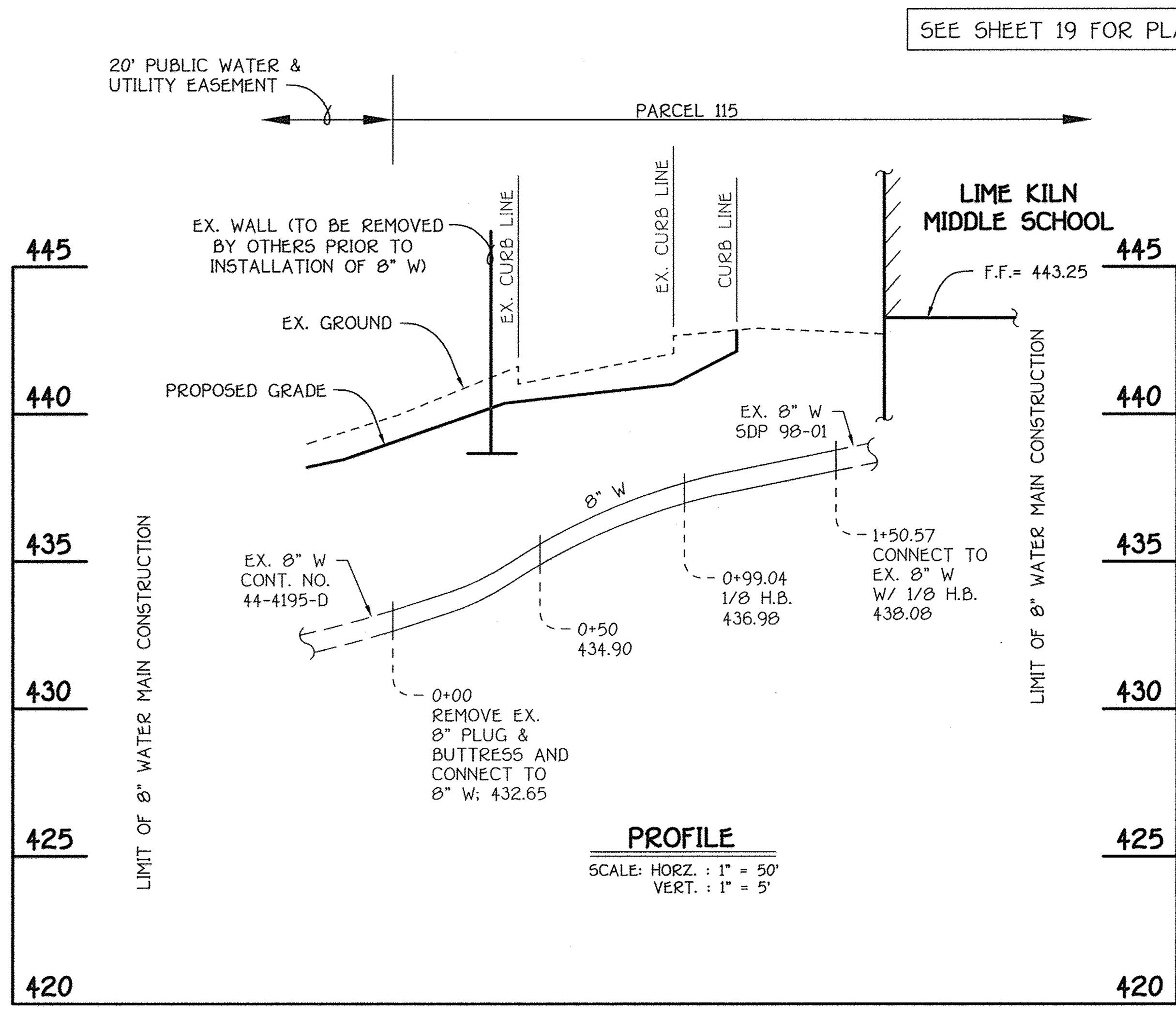


PARCEL 115
SET RIM OF MH 505 THRU 525 FLUSH W/ PROPOSED FINISHED GRADE; SEE MANHOLE TABULATION CHART SHEET 21
SEE SHEET 19 OF 23 FOR PLAN VIEW OF 8" SEWER MAIN
MH 525
MH 520
MH 515
MH 510
MH 505
EX. GROUND
PROPOSED GRADE
6" TYPE 'B' DROP CONN. TO C.O.s 4 & 5 434.50
PROVIDE INTERMEDIATE LANDING; STD. DET. G5.15 ELEV. 431.00
PROVIDE INTERMEDIATE LANDING; STD. DET. G5.15 ELEV. 430.50
6" TYPE 'B' DROP CONN. TO C.O.s 1, 2 & 3 429.00
8" S @ 0.50%; CL. 52 D.I.P.
8" S @ 1.76%; CL. 52 DIP
8" S @ 8.77%
CL. 52 D.I.P. ONLY; MH WALL TO MH WALL
SEE SHEET 20 OF 22 FOR CONTINUATION OF 8" SEWER MAIN PROFILE
EX. 20' PUBLIC SEWER & UTILITY EASEMENT
SET MH RIM 1'-6" ABOVE EX. GROUND; STD. DET. G5.41
BUILD MH OVER & CONNECT TO EX. 8" S; STD. DET. G5.14
WATERTIGHT MH FRAME & COVER; STD. DET. G5.52
CONNECT TO EX. 8" S 388.84
EX. 8" S (N & S) CONT. NO. 24-3452-D 388.64
LIMIT OF 8" SEWER MAIN CONSTRUCTION
PROFILE
SCALE: HORZ. : 1" = 50' VERT. : 1" = 5'



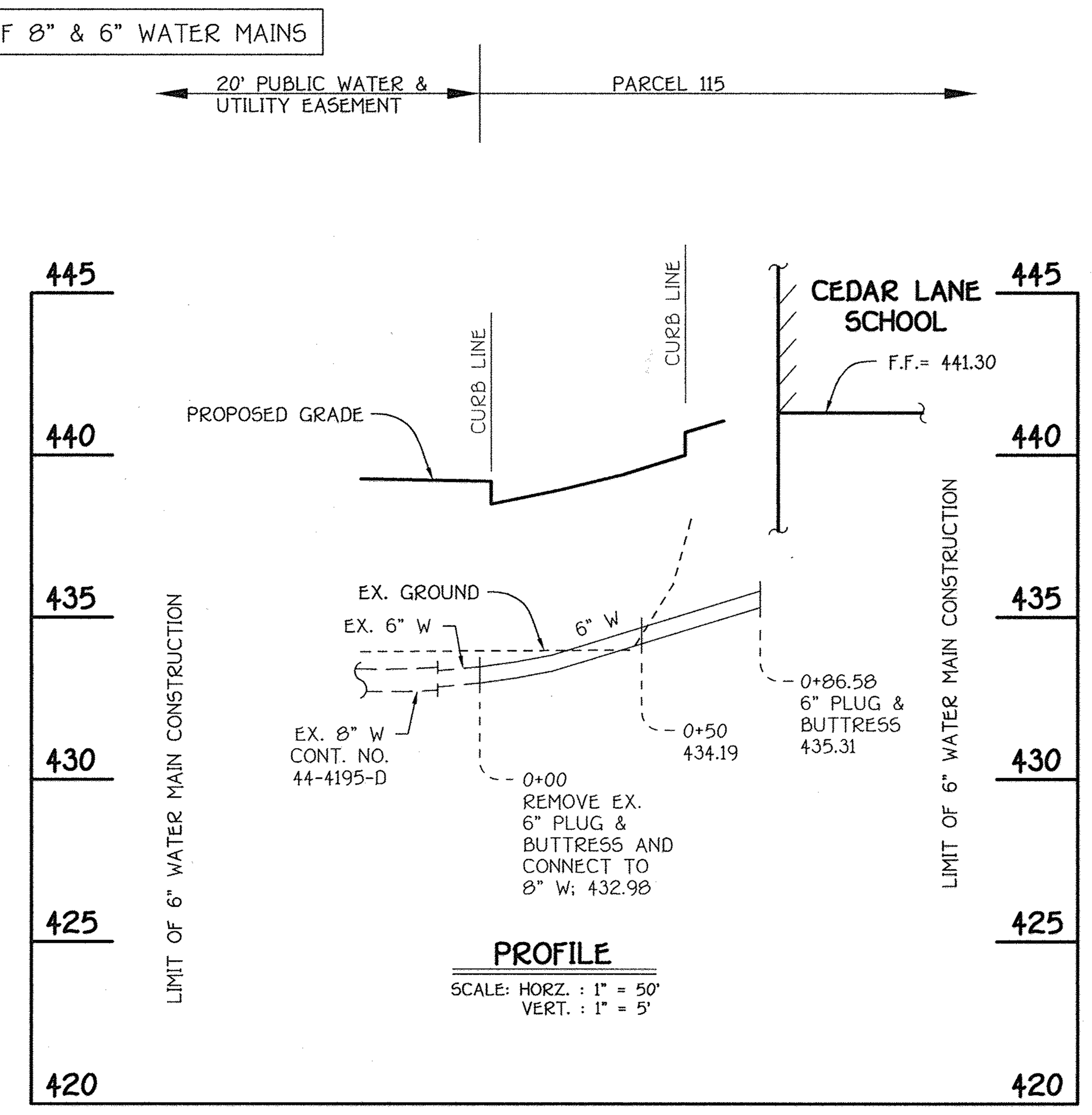
8" SEWER MAIN EXTENSION

SEE SHEET 19 FOR PLAN VIEW OF 8" & 6" WATER MAINS



20' PUBLIC WATER & UTILITY EASEMENT
PARCEL 115
LIME KILN MIDDLE SCHOOL
F.F.= 443.25
EX. WALL (TO BE REMOVED BY OTHERS PRIOR TO INSTALLATION OF 8" W)
EX. GROUND
PROPOSED GRADE
EX. 8" W SDP 98-01
EX. 8" W CONT. NO. 44-4195-D
0+00 REMOVE EX. 8" PLUG & BUTTRESS AND CONNECT TO 8" W; 432.65
0+50 434.90
0+99.04 1/8 H.B. 436.98
1+50.57 CONNECT TO EX. 8" W W/ 1/8 H.B. 438.08
LIMIT OF 8" WATER MAIN CONSTRUCTION
PROFILE
SCALE: HORZ. : 1" = 50' VERT. : 1" = 5'

8" WATER MAIN



20' PUBLIC WATER & UTILITY EASEMENT
PARCEL 115
CEDAR LANE SCHOOL
F.F.= 441.30
PROPOSED GRADE
EX. GROUND
EX. 6" W
EX. 8" W CONT. NO. 44-4195-D
0+00 REMOVE EX. 6" PLUG & BUTTRESS AND CONNECT TO 8" W; 432.98
0+50 434.19
0+86.58 6" PLUG & BUTTRESS 435.31
LIMIT OF 6" WATER MAIN CONSTRUCTION
PROFILE
SCALE: HORZ. : 1" = 50' VERT. : 1" = 5'

6" WATER MAIN

No.	Revision	Date
1	Relocate Sewer MH 510	10-15-04

FISHER, COLLINS & CARTER, INC.
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Signature Of Engineer — 6-17-04 Date

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Signature Of Developer — 6-18-04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
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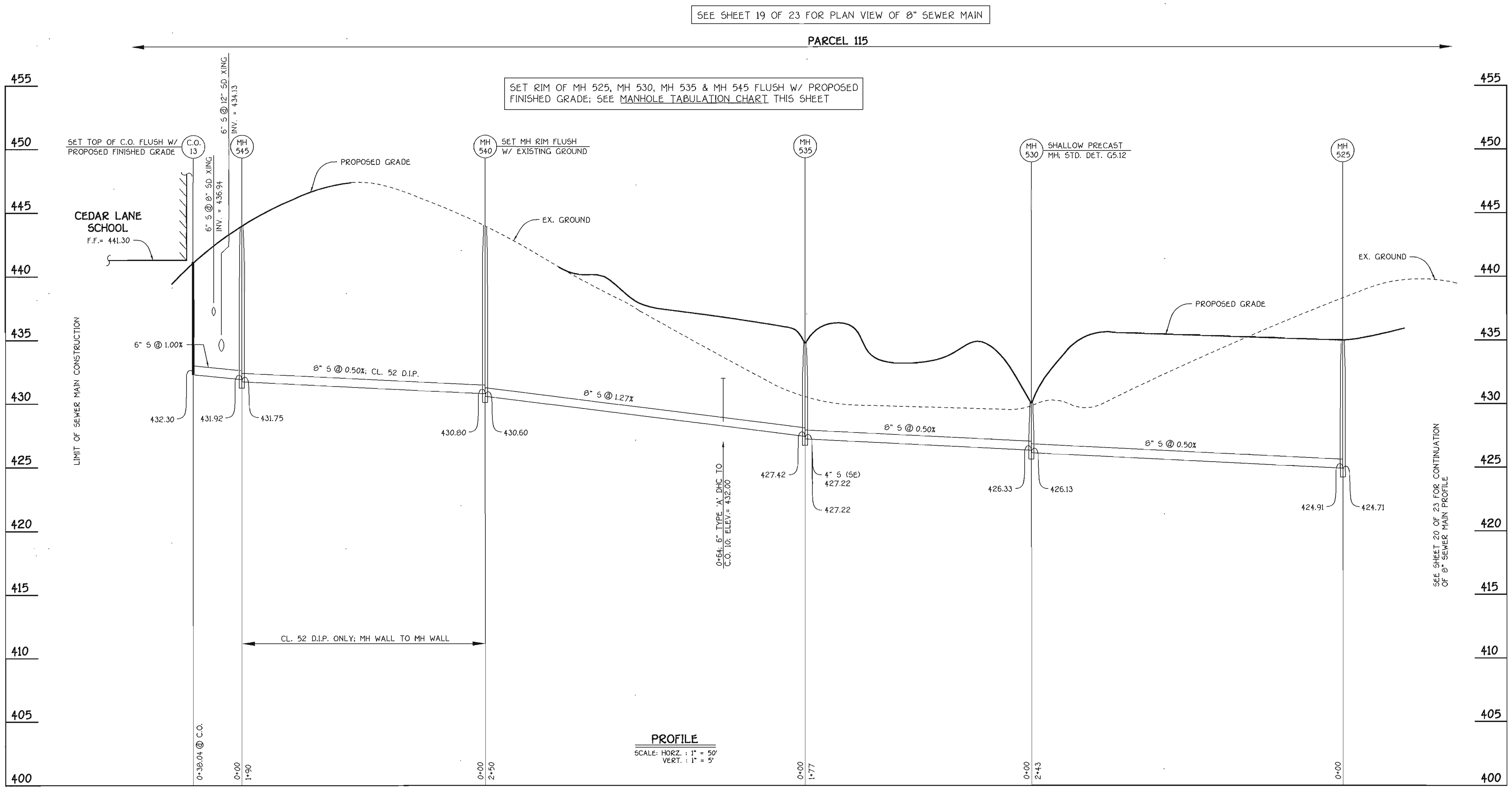
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

8" SEWER MAIN: PROFILE, 6" AND 8" WATER MAINS: PROFILE

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY, 2004



8" PRIVATE SEWER MAIN EXTENSION

MANHOLE TABULATION CHART

NO.	NORTHING	EASTING	RIM ELEVATION
500	542038.35	1337020.75	400.00*
505	542208.10	1336851.75	420.60***
510	542233.17	1336703.33	426.21 ***
515	542315.04	1336514.80	439.00***
520	542323.21	1336489.38	439.50***
525	542637.40	1336590.31	435.00***
530	542711.38	1336359.74	430.00***
535	542580.13	1336241.48	434.75***
540	542342.08	1336165.10	444.00**
545	542161.27	1336107.09	444.00***

* SET MH RIM 1'-6" ABOVE EXISTING GROUND; STD. DET. G5.41
** SET MH RIM FLUSH W/ EXISTING GROUND
*** SET MH RIMS FLUSH W/ PROPOSED FINISHED GRADE

REVISION 1
10/15/04

No.	Revision	Date
1	Revised coordinate data for MH 510 in MH Tabulation Chart.	10.15.04

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 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.

Signature Of Engineer — 6-17-04 Date

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 — 6.18.04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

SMOLEN, EMR AND ASSOCIATES
ARCHITECTS
11820 PARKLAWN DRIVE
ROCKVILLE, MARYLAND 20852
(301) 770-0177

Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT	SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS	N/A	115

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02

WATER CODE	SEWER CODE
E20	7695000

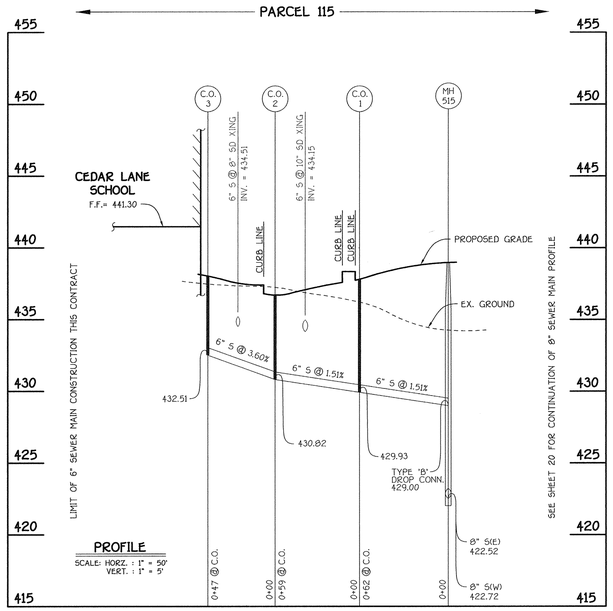
8" SEWER MAIN: PROFILE

CEDAR LANE PROGRAM AT THE FULTON CAMPUS

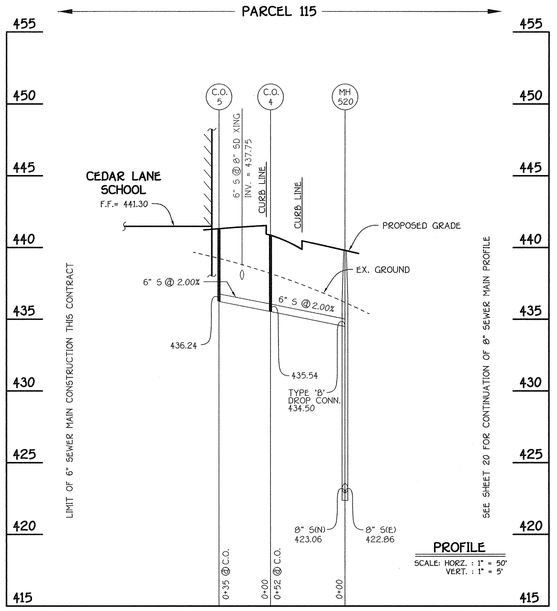
"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY, 2004

SHEET 21 OF 23 SDP 04-118



6" SEWER MAIN EXTENSION



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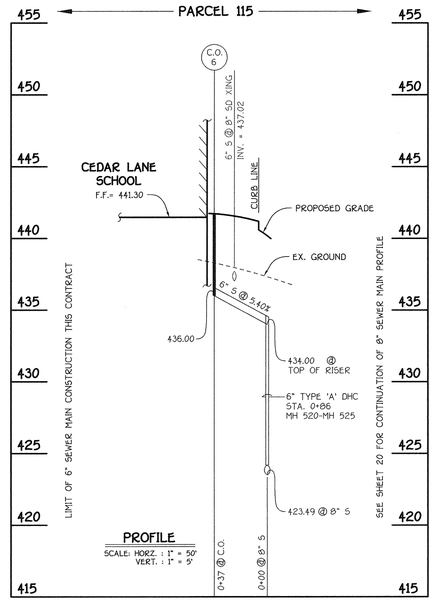

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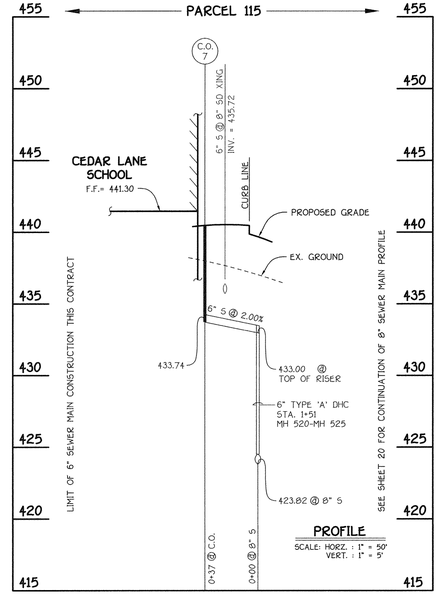

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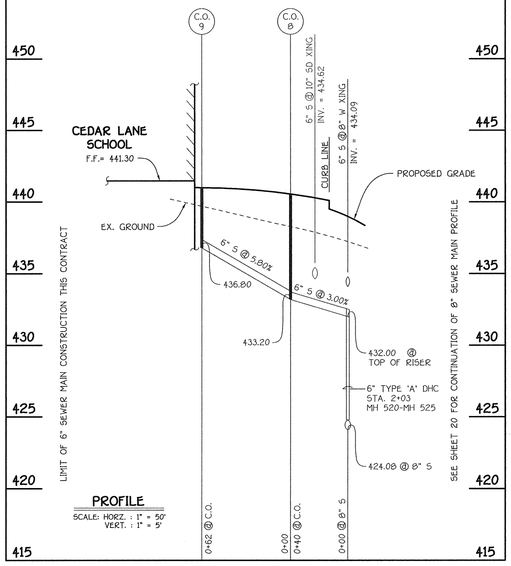

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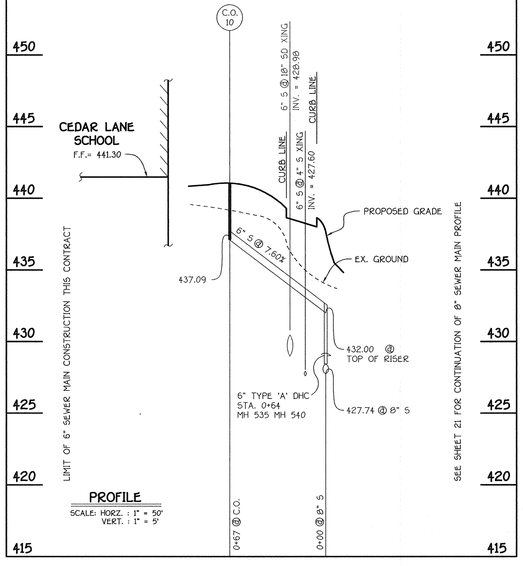

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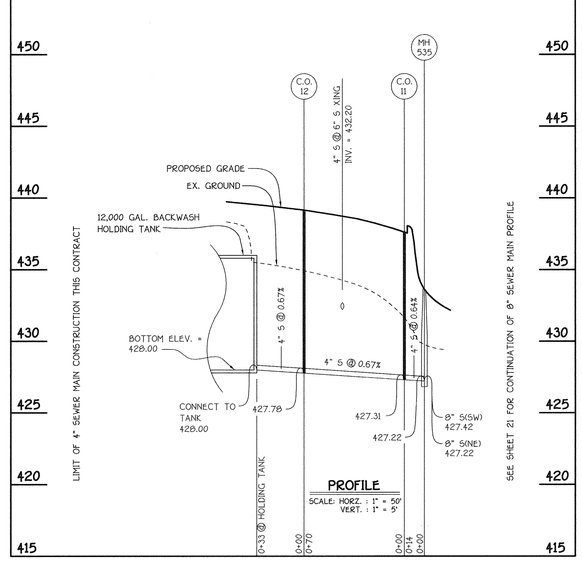

4" SEWER MAIN EXTENSION: MH 535 TO BACKWASH HOLDING TANK

NOTE: THE TOPS OF ALL CLEAN- OUTS SHALL BE SET FLUSH WITH PROPOSED FINISHED GRADE

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ENGINEER'S CERTIFICATE

I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Workable 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 Of Engineer — 6-17-04 Date

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 — 6.18.04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/1/04 Date

Chief, Division of Land Development — 7/2/04 Date

Chief, Development Engineering Division — 6/30/04 Date

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Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT	SECTION/AREA	PARCEL
CEDAR LANE PROGRAM AT THE FULTON CAMPUS	N/A	115

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02

WATER CODE	SEWER CODE
E20	7695000

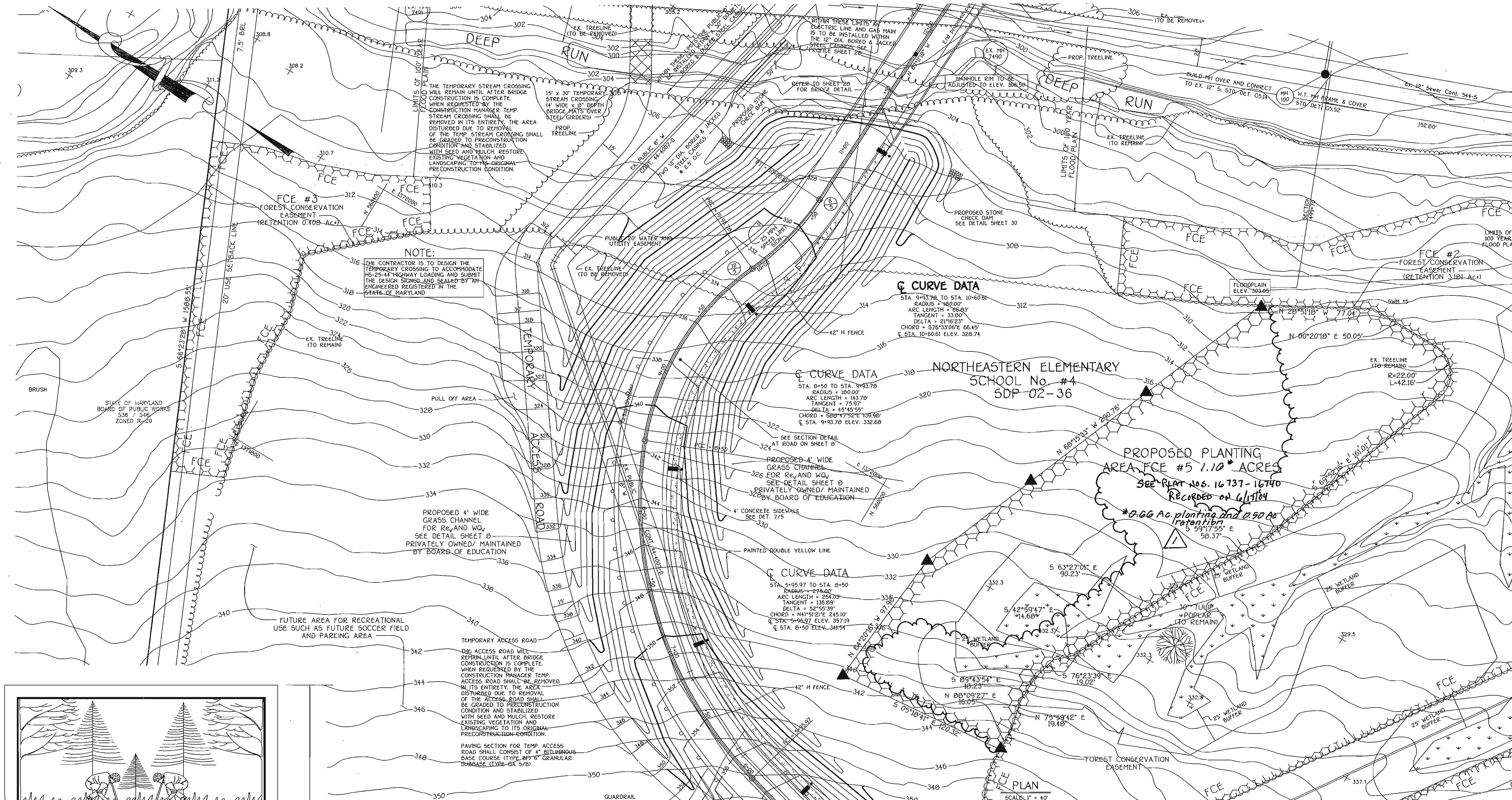
4" & 6" SEWER MAINS: PROFILES

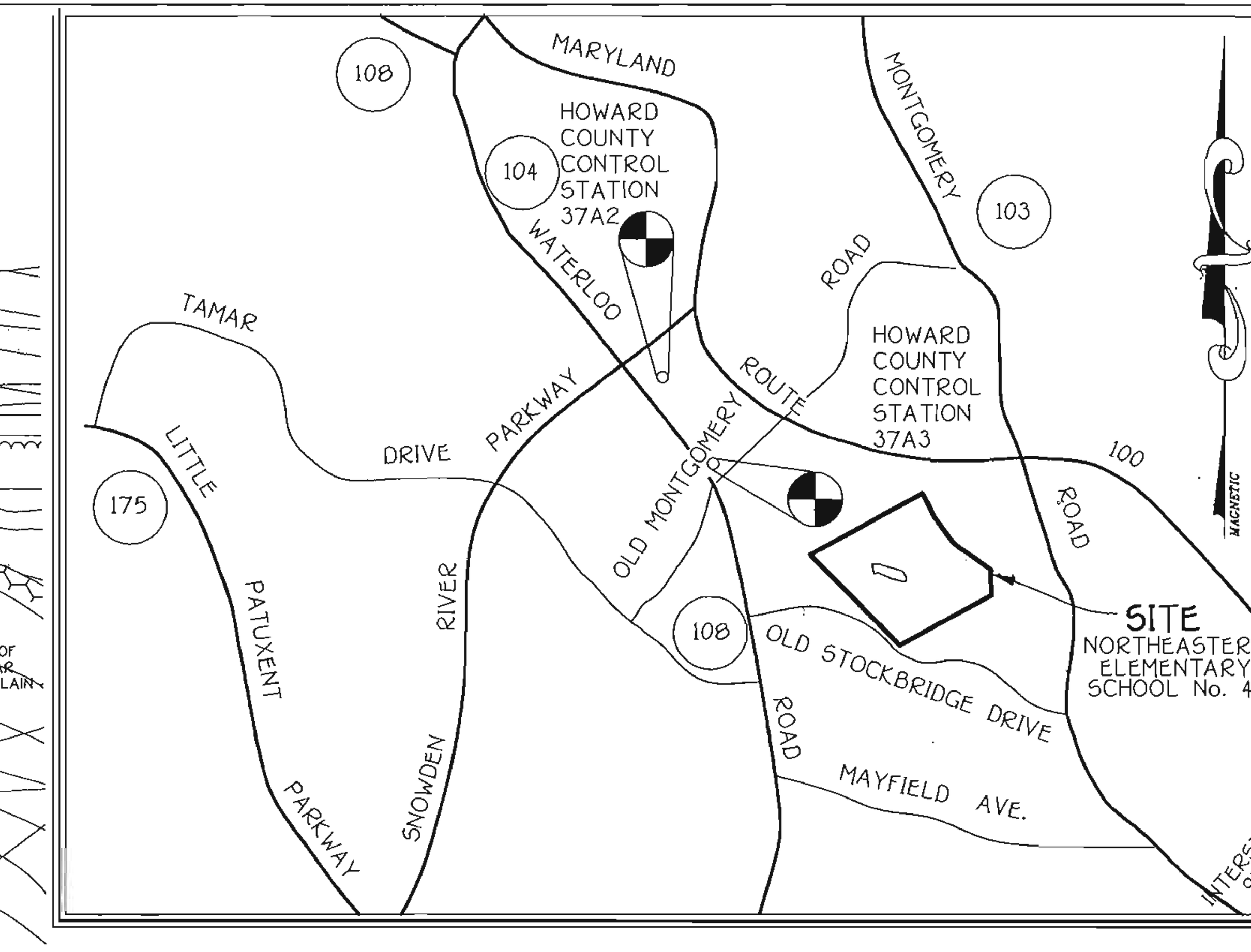
CEDAR LANE PROGRAM AT THE FULTON CAMPUS

"PUBLIC SCHOOL"

TAX MAP No.: 41/46 GRID 21 AND 3 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY, 2004

SHEET 22 OF 24 SDP 04-118





VICINITY MAP

SCALE: 1" = 2000'

Planting/Soil Specifications

1. Planting of nursery stock shall take place between March 15th and April 30th or September 15th - November 15th .
2. A twelve (12) inch layer of topsoil shall be spread over all forestation areas impacted by site grading to assure a suitable planting area. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. All bareroot planting stock shall have their root systems dipped into an anti-desiccant gel prior to planting.
4. Plants shall be installed so that the top of root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
5. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
6. A two (2) inch layer of hardwood mulch shall be placed over the root area of all plantings.
7. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
8. All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

1. Sediment control and tree protection devices shall be installed in accordance with general construction plan for site. Site shall be graded in accordance with general construction plans.
2. Proposed forestation areas impacted by site grading shall be topsoiled and stabilized as per •2 of Planting/Soil Specifications for project.
3. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
4. Upon completion of the planting, signage shall be installed as per the Forest Protection Devices shown on the Forest Conservation Plan.
5. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of 24 months.
2. All plant material shall be watered twice a month during the 1st growing season. Watering may be more or less frequent depending on weather conditions. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed from forestation areas. Old field successional species will be retained.
4. Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

Guarantee Requirements

1. A 75 percent survival rate of forestation plantings will be required at the end of the 24 month maintenance period. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season.

Multiflora Rose Control Note

Multiflora rose is prevalent in certain areas to be afforested. Prior to planting all multiflora rose shall be removed. Removal of the rose may be performed with mowing and herbicide treatments. Physical removal of all top growth following by a periodic herbicide treatment of stump sprouts is recommended. Native tree and shrub species occurring within the rose thickets should be retained wherever possible. Herbicides treatments shall occur on 2 month intervals during the first growing season and once each in the spring and fall for subsequent years. Herbicide used shall be made specifically to address woody plant material and shall be applied as per manufacturers specifications. Care should be taken not to spray planted trees or naturally occurring native tree/shrub seedlings. It is recommended that initiation of rose removal begin at least six months prior to planting.

Reforestation Project

Caution!
This Area Contains
New Trees.
Please Help Us Protect
And Care For This
Young Forest.

Trees For Your Future.

15" MIN.

11" MIN

REFORESTATION SIGN

Shown in plan view as thus ▲

OFFSITE REFORESTATION CEDAR LANE PROGRAM AT THE FULTON CAMPUS - 1.16 acres

Planting units required: 460

Qty	Species	Size	Spacing	Total Units
4	Acer rubrum - Red maple	2"cal.	20' o.c.	
4	Liriodendron tulipifera	2"cal.	20' o.c.	
4	Quercus alba - White oak	2"cal.	20' o.c.	
4	Quercus rubra - Red oak	2"cal.	20' o.c.	
16	Total 2" caliper trees	FCA unit credit		112
40	Acer rubrum - Red maple	2-3" whip	11' o.c.	
10	Cornus florida - Flowering dogwood	2-3" whip	11' o.c. °	
7	Diospyros virginiana - Persimmon	2-3" whip	11' o.c. °	
45	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c. °	
25	Platanus occidentalis - Sycamore	2-3" whip	11' o.c.	
15	Prunus serotina - Black cherry	2-3" whip	11' o.c. °	
10	Quercus alba - White oak	2-3" whip	11' o.c. °	
10	Quercus rubra - Red oak	2-3" whip	11' o.c. °	
15	Viburnum prunifolium - Blackhaw	2-3" whip	11' o.c. °	
177	Total whip plantings	FCA unit credit		354
			Total Unit Credit	460

△1

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification • WDCP93MD0610044B

JOHN P. CANOLES

10/15/04 REVISION #1

Planting Comments:

° - These species should not be planted within the wetland limits.

2" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The tree should be no closer that 20 foot spacing.

Planting shall be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance

Multiflora rose removal/control may be required prior to installation of planting.

△1

NOTE: THE 0.66 acres of forest planting and 0.50 AC. OF retention AT NORTHEASTERN ELEMENTARY SCHOOL •4 SDP 02-36 IS TO SATISFY THE REQUIRED FOREST PLANTING THAT WAS REMOVED FROM THE RESERVOIR HIGH SCHOOL SDP 00-86, DUE TO CONSTRUCTION OF THE CEDAR LANE PROGRAM AT THE FULTON CAMPUS.

THIS PLAN IS FOR FOREST PLANTING ONLY

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

6-17-04

No.	Revision	Date
1	Revised number of planting units in Planting Chart; clarified acreages for Forest planting & retention in FCE #5.	10.15.04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 2/4/04

Chief, Division of Land Development — Date 7/2/04

Chief, Development Engineering Division — Date 6/30/04

PREPARED FOR
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10910 Maryland Route 108
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Address Chart

Parcel Number	Street Address
P. 115	11630 SCAGGSVILLE ROAD

PROJECT			SECTION/AREA	PARCEL	
CEDAR LANE PROGRAM AT THE FULTON CAMPUS			N/A	115	
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.3218/F.618	21/3	RR-MXD3	41/46	FIFTH	6051.02
WATER CODE			SEWER CODE		
E20			7695000		

OFF-SITE FOREST PLANTING PLAN AT NORTHEASTERN ELEMENTARY SCHOOL-SDP-02-36

CEDAR LANE PROGRAM AT THE FULTON CAMPUS PUBLIC SCHOOL

TAX MAP No.: 41/46 PARCEL No.: 115
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2004

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 LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

   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, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
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 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).
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 : 0.90 Acres ±
   Acres Area Disturbed : 0.90 Acres ±
   Area to be roofed or paved : 0.14± Acres
   Areas to be vegetatively stabilized : 0.76 Acres ±
   Total Cut: 130 Cu. Yds.
   Total Fill: 130 Cu. Yds.
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 CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. 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 ONTO 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 IP MARCH 1 - JUNE 15
   - USE III AND IIIP 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 ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

ENGINEER'S CERTIFICATE

"I HEREBY 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] 7/19/18
ENGINEER'S SIGNATURE — DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION, CONTROL, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIORNMENT 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] 6/10/19
SIGNATURE OF DEVELOPER/BUILDER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 6-19-19
Director — Date

[signature] 6-13-19
Chief, Division of Land Development NH — Date

[signature] 6.17.19
Chief, Development Engineering Division — Date

STANDARD AND SPECIFICATIONS FOR TOPSOIL DEFINITION
CONSTRUCTION AND MATERIAL SPECIFICATIONS CON'T

B. TOPSOIL MUST BE FREE OF PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED. C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE IF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

1. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
3. TOPSOIL HAVING SOLUBLE SALT GREATER THAN 500 PARTS PER MILL SHALL NOT BE USED.
4. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHOTO-TOXIC MATERIALS.

NOTE: 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.

B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

A. WHEN TOPSOILLING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
C. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" -8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL 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 TOPSOILLING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER
D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

A. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
2. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE PRIOR TO USE.
3. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET. B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT A RATE OF 4LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA PUB. #1 , COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

STANDARD AND SPECIFICATIONS FOR TOPSOIL DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE
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.

CONDITIONS WHERE PRACTICE APPLIES
I. THIS PRACTICE 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 CONTINUING SUPPLIED 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.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS
I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT 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 RESPECTIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY A AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.MATERIALS.

DUST CONTROL

DEFINITION
CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSES 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 MOVEMENTS 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 SPACES 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, 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.

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[signature] 6/6/19
Howard S.C.D. — Date

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. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR 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 RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
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 LOVEGRASS 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.
D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED 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. SEEDBED 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 CONTINUING 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 1½ 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 AND SEEDBED 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 ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND 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 VEGETATIVE 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 ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA
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. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND 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 PHYTO-TOXIC 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, PERMANENT 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. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

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

I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. **NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.**
B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. **USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.**
IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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

PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

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

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

TEMPORARY SEEDING SUMMARY

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.1):					Fertilizer Rate (10-20-20)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	ANNUAL RYEGRASS	40 lb/ac	Mar.1 to May 15, Aug. 1 to Oct. 15	0.5 inches	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
2	PEARL MILLET	20 lb/ac	MAY 16 to JULY 31	0.5 inches		

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

SOIL AMENDMENTS
APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING
FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING
APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

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

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

CRITERIA
A. SEED MIXTURES
1. GENERAL USE
A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

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

I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 ½ TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:
SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION CON'T

D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 ½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.3): #9 (Tall Fescue/ Kentucky Bluegrass)					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
9	*CERTIFIED TALL FESCUE BLEND (95% BY WEIGHT: FALCON IV, PENN 1901 & REBEL EXEDA) AND CERTIFIED KENTUCKY BLUEGRASS BLEND (5% BY WEIGHT: COURTYARD, RAVEN & YANKEE)	6-8 LB/10,00SF	Mar. 1 to May15. Aug. 15 to Oct. 15	¼ - ½ in ¼ - ½ in ¼ - ½ in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)

* OTHER CULTIVARS LISTED AS "PROVEN" IN THE MOST CURRENT UMD TT-77 MAY ALSO BE USED.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
1. GENERAL SPECIFICATIONS
A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

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

3. SOD MAINTENANCE
A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ? OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

SOIL AMENDMENTS
IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES

1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQUARE FEET) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT).

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING
FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING
APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE
INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

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.

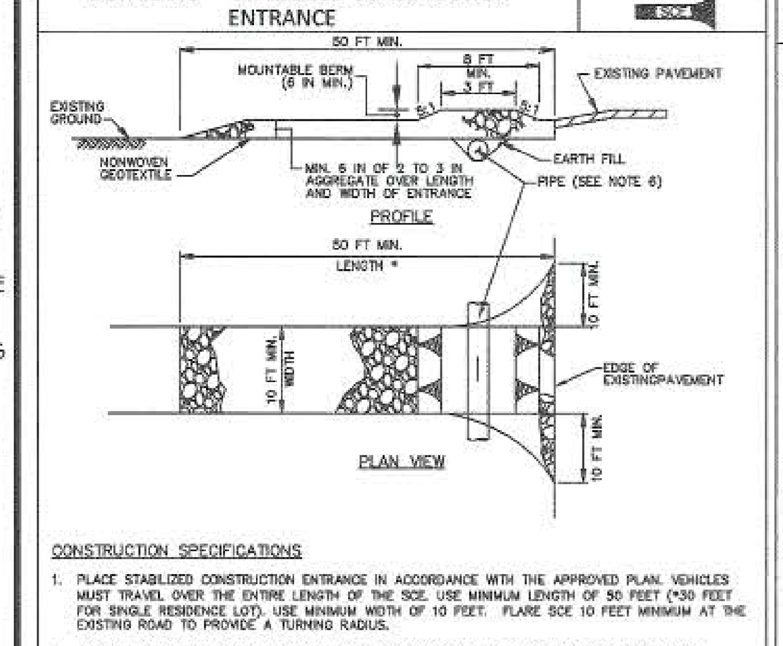
CONDITIONS WHERE PRACTICE APPLIES
STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA
1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. 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.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. 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.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
8. 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.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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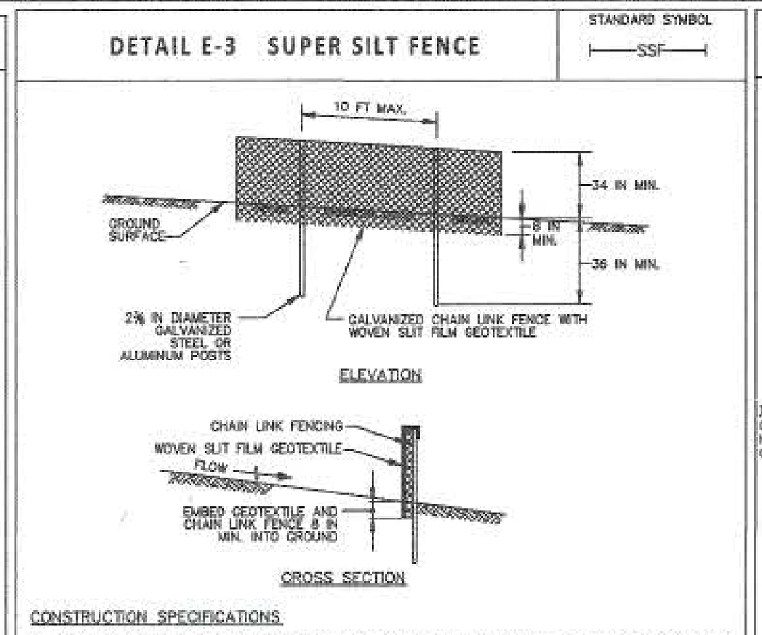
DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ 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.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT 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.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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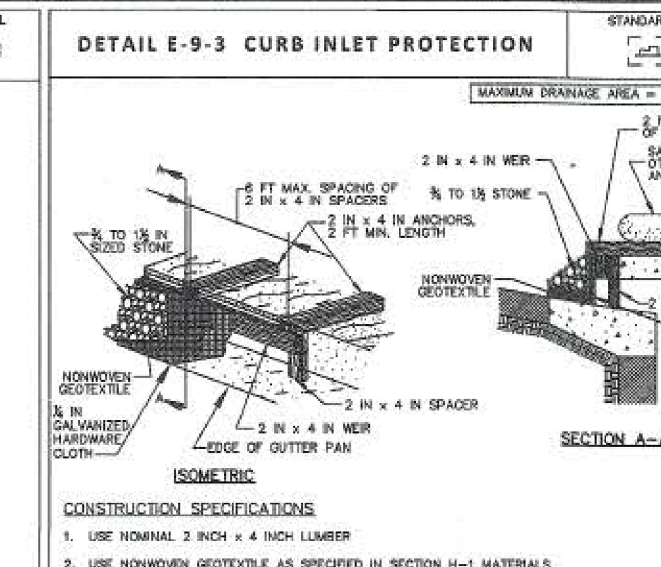
DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ½ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. 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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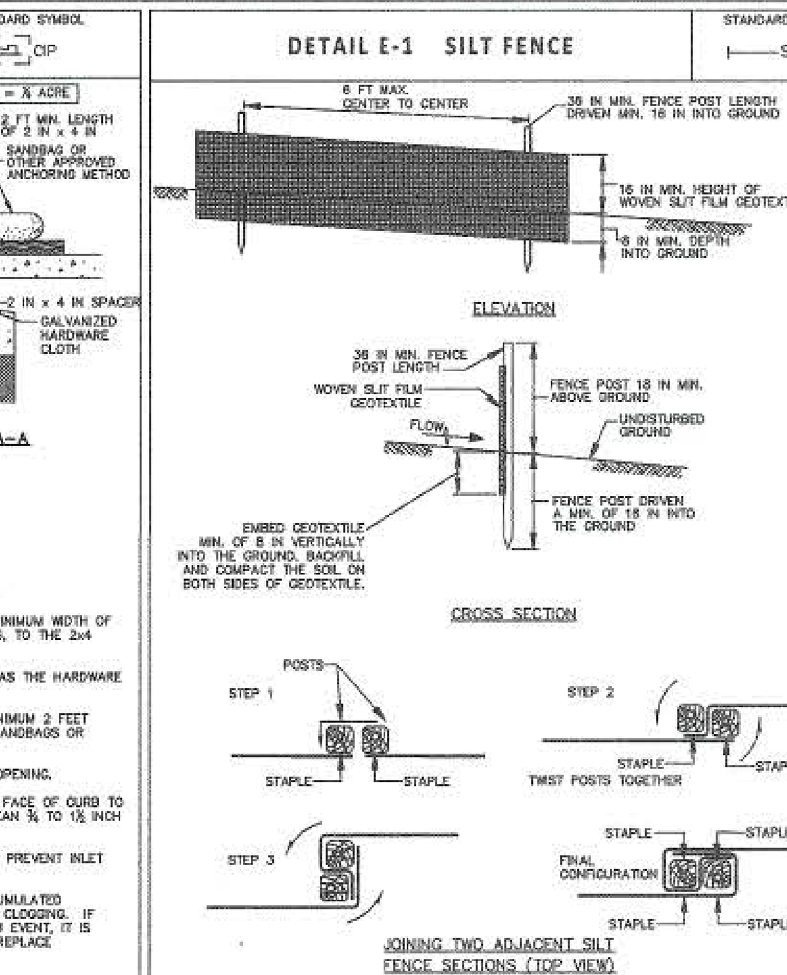
DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅟₁₆ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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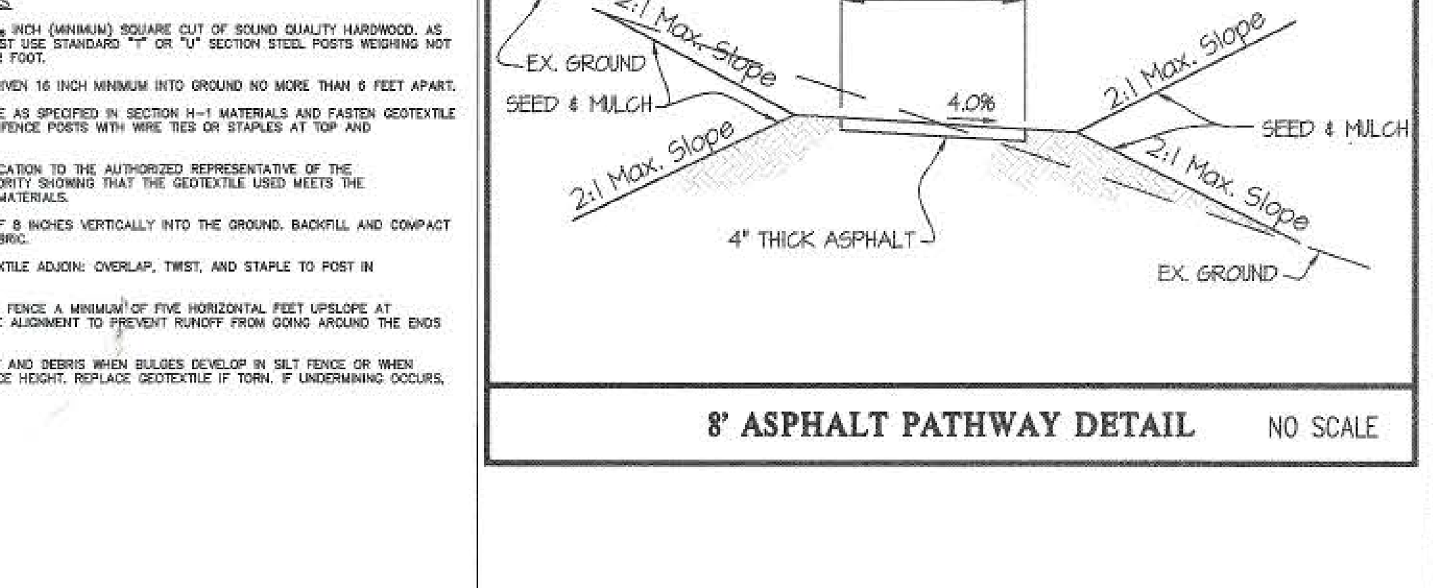

8' ASPHALT PATHWAY DETAIL NO SCALE

THE PURPOSE OF THIS PLAN IS TO PROVIDE THE SPECIFICATIONS AND DETAILS TO BE IMPLEMENTED BY THE CONTRACTOR FOR THE CONSTRUCTION OF THE ASPHALT PATH (ITEMS INDICATED AS REVISION 3).

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\REDLINE\SCHOOL PATHWAY\SDP REDLINE_SC DET.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.
7-2018	ASPHALT PATHWAY DETAILS		

PREPARED FOR:
HOWARD CO. PUBLIC SCHOOL SYSTEM
10910 MARYLAND ROUTE 108
ELLICOTT CITY, MARYLAND 21042
ATTN.: MR. BRUCE GIST
410-313-6798

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2020
7/19/18

STATE OF MARYLAND CARLTON KENNETH GUTSCHICK NO. 12975 PROFESSIONAL ENGINEER

REVISED SEDIMENT CONTROL NOTES and DETAILS
CEDAR LANE PROGRAM AT THE FULTON CAMPUS
"PUBLIC SCHOOL"

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
JULY, 2018	41-21/46-3	24 OF 24

SDP 04-118