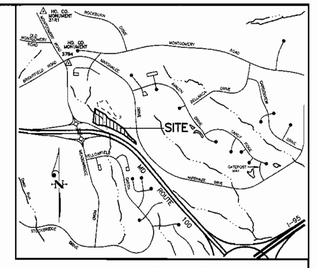
LYNDWOOD SQUARE
PARCEL E-1
SITE DEVELOPMENT PLAN
FOR MASS GRADING

SHEET INDEX	
SHEET	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	SEDIMENT AND EROSION CONTROL PLAN
4	DRAINAGE AREA MAP
5	SEDIMENT AND EROSION CONTROL DETAILS
6	STORMWATER MANAGEMENT DETAILS

STREET ADDRESS CHART	
PARCEL	ADDRESS
E-1	6064 MARSHALEE DRIVE

LOCATION MAP
Scale: 1" = 600'

BENCHMARKS
HOWARD COUNTY CONTROL STATION 31R1 ELEV. 401.748 3/4" REBAR
HOWARD COUNTY CONTROL STATION 37B4 ELEV. 402.115 METAL DISC



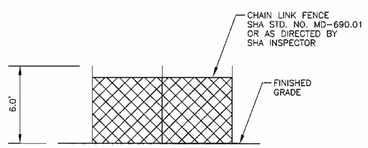
VICINITY MAP
Scale: 1" = 2000'

SITE ANALYSIS DATA CHART

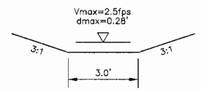
a. Total Project Area: 6.1896 acres or 269,619 square feet
b. Area of Plan Submission: 6.1896 acres
c. Limit of Disturbed Area: 2.21 acres
d. Present Zoning: PEC
e. Proposed Uses for Site and Structures: N/A
f. Gross Floor Area: N/A
i. Maximum number of Employees = 0
j. Required Parking: 0
k. Provided Parking: 0
l. Open Space for this project was provided as part of F-94-26 Green Space on site = 6.1896 acres or 100.00%
n. Building Coverage of Site: 0.00 acres, 0.00% of gross area
o. DPZ File References: S-91-11, S-93-02, P-93-11, F-94-26, F-96-115, F-97-95, F-02-29, SDP-96-92, WP-02-47, F-03-64

GENERAL NOTES:

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA Standards and Specifications, if applicable.
2. The contractor shall notify the Department of Public Works/Bureau of Engineering, Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. Total Disturbed Area: 2.21 Acres
5. Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
6. Topographic survey on site was field-run at 2' contour intervals by Clark, Finefrock & Sackett, Inc., 06/01.
7. Horizontal and vertical control based on Howard County Control Stations 31R1 and 37B4, NAD 83.
8. Public water and sewer are proposed.
   Contract #14-3531-D(Sewer), Contract #14-3531-D(Water)
   Patapsco Drainage Area
9. Stormwater Management in accordance with the current County Regulation shall be required with the next development stage.
10. Existing utilities and improvements shown are taken from available records.
11. Trench compaction for storm drains within the road or street rights of way limits shall be in accordance with Howard County Design Manual, Vol IV, Std. No. G-2.01
12. All compacted fill shall be in accordance with AASHTO T-180 requirements.
13. All fillet radii are 5' unless indicated otherwise.
14. Cleared area soils are assumed to be type "C". The cleared area was graded under plan SDP-96-92, and MD RTE 100 construction.
15. The limits of clearing shown on approved preliminary plan P-93-11, will be "grandfathered" for the purpose of State and Howard County Forest Conservation Program. If clearing or grading of forest resources on a site development plan for a PEC or B-2 zoned parcel exceeds the clearing shown on the approved Preliminary Plan by 40,000 square feet or more, the site plan will be subject to compliance with the requirements of the Howard County Forest Conservation Program. This plan proposes clearing 4,000 square beyond the limit shown on P-93-11 for this parcel (E-1).
16. The subject property is zoned PEC per ZB 877 R & M, May 1990.
17. All exterior lighting shall comply with Zoning Regulations Section 134.
18. Contractor shall maintain traffic on Marshalee Drive. See Sheet 5.
19. Waiver petition WP-02-47 was approved on 12/28/2001 Waiving Section 16.120(c)(1) to permit the required road frontage of 60 feet for a non-residental parcel (E-1) to be reduced to zero feet, subject to the following conditions:
    a) Access to Parcel E-1 shall be provided by a recorded vehicular access easement that is to be shown on final plat F-02-29.
    b) State Highway Administration will not be responsible for any noise mitigation.
20. No clearing, grading or construction is permitted within the required wetlands, stream, or their buffers and forest conservation easement areas.
21. No burial or cemetary sites exist on the property.
22. SHA permit # 7-HO-6286-DO to grade in SHA right-of-way on MD 100 granted 11/15/01, expiration date 11/15/02.
23. Man made slopes 15% and greater are not cross-hatched.
24. A landscape plan is not proposed because final site grades have not been established. A landscape plan is required for subsequent development of this site.



SHA FENCE ELEVATION
NOT TO SCALE



TYPICAL SECTION FOR SWALE
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/23/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/15/02
DIRECTOR	DATE 8/16/02

ENGINEER/SURVEYOR
CLARK, FINEFROCK & SACKETT, INC.
7135 MINSTREL WAY, SUITE 201
COLUMBIA, MARYLAND 21045
PHONE: 410-381-7500

No.	REVISION	DATE
1	ADDED DPZ FILE REFERENCES	1-02-05

6-7-02

OWNER
100 INVESTMENT LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200
COLUMBIA, MARYLAND 21045
PHONE: 410-997-7222

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PERMIT INFORMATION CHART					
SUBDIVISION NAME: LYNDWOOD SQUARE			SECTION/AREA	LOT/PARCEL: PARCEL E-1	
PLAT NO.: F-03-64	GRID NO.: 3 & 9	ZONING: PEC	TAX MAP NO.: 37	ELECTION DIST.: 1ST	CENSUS TRACT: 6011.01
WATER CODE: 004			SEWER CODE: 2153000		

CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED: TD	COVER SHEET LYNDWOOD SQUARE PARCEL E-1 MASS GRADING PLAN PLAT #12333 TAX MAP 37 GRID 11 FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE: 1" = 50'
DRAWN: TD/LAI/CRH2		DRAWING: 1 of 6
CHECKED: TD		JOB NO.: 00-034
DATE: 4/4/02	FOR : 100 INVESTMENT LIMITED PARTNERSHIP 9030 RED BRANCH ROAD COLUMBIA, MARYLAND 21045	FILE NO.: 00-034 X

SDP-02-83

WETLAND CHART

LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
W1	S 46°48'13" E	18.74'	W17	S 51°12'34" W	14.37'
W2	N 74°04'35" W	15.35'	W18	S 72°54'37" W	21.58'
W3	S 03°06'31" W	48.41'	W19	N 64°52'10" W	29.80'
W4	S 55°56'02" W	10.00'	W20	N 22°19'41" E	31.76'
W5	N 27°22'55" W	25.32'	W21	S 79°18'57" W	59.20'
W6	N 42°34'24" W	33.64'	W22	S 11°44'12" E	93.79'
W7	N 56°04'50" E	31.84'	W23	S 29°07'49" E	130.49'
W8	S 77°31'12" E	28.16'	W24	N 69°27'47" E	13.56'
W9	S 55°18'12" E	69.50'	W25	S 20°42'05" E	70.66'
W10	S 70°31'31" E	52.19'	W26	N 14°59'06" W	149.96'
W11	S 43°26'54" E	48.49'	W27	N 54°46'13" W	46.64'
W12	S 49°34'53" E	100.08'	W28	S 69°55'36" E	50.69'
W13	N 74°29'10" E	59.28'	W29	N 20°17'17" W	32.07'
W14	N 84°47'41" E	35.06'	W30	N 47°15'35" W	177.24'
W15	N 28°22'32" W	23.39'	W31	N 61°27'53" W	153.69'
W16	N 47°57'04" E	2.93'			

FLOODPLAIN CHART

LINE	BEARING	DISTANCE
F1	S 65°06'20" E	154.59'
F2	S 48°28'32" E	154.62'
F3	S 30°18'25" E	158.27'
F4	S 21°06'47" E	10.00'
F5	N 7°06'09" W	25.32'
F6	N 33°44'40" W	33.64'
F7	N 32°31'32" W	31.84'
F8	N 60°09'18" W	28.16'
F9	S 49°14'13" E	1.87'

LEGEND
SLOPES 15-25%
100-YEAR FLOODPLAIN ELEVATION
EX. RETAIL BUILDING
POCKET POND F-1 DATA
DRAINAGE AREA = 1.84 AC.
BOTTOM ELEVATION = 338.00
CPv ELEVATION = 343.50
CPv VOLUME REQ'D = 1328 CF
CPv VOLUME PROVIDED = 2392 CF
100-YEAR WSEL = 343.68
EMBANKMENT TOP ELEV. = 344.18
PARCEL A-6
LYNDWOOD SQUARE
PLAT 12332
ZONED PEC OPEN SPACE
3828/372
EXISTING
STORMWATER MANAGEMENT
FACILITY
SDP-93-105
EXISTING
PRIVATE STORMWATER MANAGEMENT,
DRAINAGE, ACCESS AND UTILITY EASEMENT
PLAT No. 12332
PRIVATE POND I
PUBLIC SEWER AND
UTILITY EASEMENT
MARSHALEE DRIVE
(80' R/W) PN 12331
HOWARD COUNTY, MARYLAND
TIMBERS AT TROY
PUBLIC GOLF COURSE
NAD 83
MD GRID NORTH
SAND
GREEN
PARCEL A-7
PLAT 12509
ZONED B-2 AND PEC
PARCEL A-8
LYNDWOOD SQUARE
EXXON CORPORATION
PLAT 12509
ZONED PEC
4158/660
PARCEL A-9
LYNDWOOD SQUARE
KINDERCARE REAL ESTATE CORP.
PLAT 12509
ZONED PEC
4100/637
PARCEL E-1
EX. WETLANDS
EXISTING WETLANDS
EX. PUBLIC 100 YEAR FLOODPLAIN,
DRAINAGE AND UTILITY EASEMENT
25' WETLAND BUFFER
50' STREAM BUFFER
EX. 20' PUBLIC
DRAINAGE AND UTILITY
EASEMENT
MEADOWRIDGE
PROPERTIES
3686/482
ZONED POR
VEHICULAR INGRESS AND EGRESS
IS RESTRICTED
30' STRUCTURE AND USE SETBACK
FENCING TO BE REPLACED SHALL
BE LOCATED ON THE PROPERTY
LINE, AND SHALL BE APPROVED BY
THE OWNER AND SHA INSPECTOR.
EX. 20'
PUBLIC SEWER &
UTILITY EASEMENT
P. No. 12331
EX. 30' PRIVATE INGRESS
AND EGRESS EASEMENT FOR
THE USE OF PARCELS A-6,
A-7 AND E-1 L.5948 F.619
EXISTING 20'
PUBLIC WATER &
UTILITY EASEMENT
S59°36'27"E
350.98'
S36°18'44"E
116.29'
S60°16'00"E
S54°47'20"E
316.19'
S36°59'10"E
275.52'
S49°20'38"E
234.20'
N52°02'29"W
381.92
S01°06'47"W
40.18
N32°33'55"W
88.46'
N63°40'35"W
381.48'
S85°03'18"W
214.57'
N56°26'37"W
349.25'
N07°16'23"E
MARYLAND ROUTE 100
SHA PLAT# 53943 & 53944
(R/W WIDTH VARIES)
CL
PARCEL J
CENTRE 8500
HOWARD COUNTY, MD
PLAT: 11022
ZONED PEC
E 1375250
N 561100
E 1374500
N 562000
EX. 90" CMP
EX. 7.9' CONC. BOX

OWNER: 100 INVESTMENT LIMITED PARTNERSHIP
9030 RED BRANCH ROAD SUITE 200
COLUMBIA, MARYLAND 21045

APPROVED: DEPARTMENT OF PLANNING & ZONING

[signature]	7/23/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
Cindy Hamilton	8/15/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
[signature]	8/16/02
DIRECTOR	DATE

No.	REVISION	DATE
1	GRADE CHANGE & REDELINEATION OF WETLAND BUFFER, MOVE SEDIMENT TRAP	12-30-02

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4-12-02

CLARK · FINEFROCK & SACKETT, INC.
ENGINEERS · PLANNERS · SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED TD	SITE DEVELOPMENT PLAN **LYNDWOOD SQUARE** PARCEL E-1 MASS GRADING PLAN PLAT #12333 TAX MAP 37 GRID 11 FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE 1" = 50'
DRAWN LAI/CRH2		DRAWING 2 OF 6
CHECKED TD		JOB NO. 00-034
DATE 4/9/02	FOR : 100 INVESTMENT LIMITED PARTNERSHIP 9030 RED BRANCH ROAD COLUMBIA, MARYLAND 21045	FILE NO. 00-034X

SDP-02-83

WETLAND CHART

LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
W1	S 46°48'13" E	18.74'	W17	S 51°12'34" W	14.37'
W2	N 74°04'35" W	15.35'	W18	S 72°54'37" W	21.58'
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W9	S 55°18'12" E	69.50'	W25	S 20°42'05" E	70.66'
W10	S 70°31'31" E	52.19'	W26	N 14°59'06" W	149.96'
W11	S 43°26'54" E	48.49'	W27	N 54°46'13" W	46.64'
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F8	N 60°09'18" W	28.16'
F9	S 49°14'13" E	1.87'

No.	REVISION	DATE
1	REDELINEATION OF WETLAND BUFFER, GRADE CHANGE, L.O.D. CHANGE & NEW SED. TRAP	12-31-02

EX. RETAIL BUILDING
PUBLIC SEWER AND UTILITY EASEMENT
PARCEL A-6 LYNDWOOD SQUARE PLAT 12332 ZONED PEC OPEN SPACE 3828/372
EXISTING STORMWATER MANAGEMENT FACILITY SDP-93-105
PRIVATE POND 1
PARCEL A-2 LYNDWOOD SQUARE LEEDS FEDERAL PLAT 12331 ZONED B-2 4525/87
100 INVESTMENT LIMITED PARTNERSHIP PARCEL A-7 PLAT 12509 ZONED B-2 AND PEC
MARSHALEE DRIVE
(80' R/W) PN 12331
HOWARD COUNTY, MARYLAND TIMBERS AT TROY PUBLIC GOLF COURSE
NAD 83 MD GRID NORTH
PARCEL A-8 LYNDWOOD SQUARE EXXON CORPORATION PLAT 12509 ZONED PEC 4158/660
PARCEL A-9 LYNDWOOD SQUARE KINDERCARE REAL ESTATE CORP. PLAT: 12509 ZONED PEC 4100/637
PARCEL E-1
MEADOWRIDGE PROPERTIES 3686/482 ZONED POR
EX. WETLANDS
EXISTING WETLANDS
50' STREAM BUFFER
25' WETLAND BUFFER
EX. PUBLIC 100 YEAR FLOODPLAIN DRAINAGE AND UTILITY EASEMENT
EX. 20' PUBLIC DRAINAGE AND UTILITY EASEMENT
TEMPORARY STOCKPILE
FENCING TO BE REPLACED SHALL BE LOCATED ON THE PROPERTY LINE, AND SHALL BE APPROVED BY THE OWNER AND SHA INSPECTOR
VEHICULAR INGRESS AND EGRESS IS RESTRICTED
30' STRUCTURE AND USE SETBACK
EX. 20' PUBLIC SEWER & UTILITY ESMT. P. No. 12331
EX. 30' PRIVATE INGRESS AND EGRESS EASEMENT FOR THE USE OF PARCELS A-6, A-7 AND E-1 L.5948 F.619
EXISTING 20' PUBLIC WATER & UTILITY EASEMENT (L.6321 F.407)
TEMPORARY TWIN 24" HDPE PIPES 30 LF EACH INV. IN=357.3 INV. OUT=357.2 W/ 24" OF COVER MIN.
PHASE 2 EARTH DIKE
MARYLAND ROUTE 100
SHA PLAT# 53943 & 53944
(R/W WIDTH VARIES)
PARCEL J CENTRE 9500 HOWARD COUNTY, MD PLAT 11822 ZONED PEC

TRAP NUMBER 1 TYPE ST-II

DRAINAGE AREA = 1.9 Ac.
WET STORAGE REQUIRED = 3420 cf
WET STORAGE PROVIDED = 3600 cf
WET STORAGE ELEVATION = 340.00
STONE OUTLET ELEVATION = 337.50
DRY STORAGE REQUIRED = 3420 cf
DRY STORAGE PROVIDED = 5100 cf
DRY STORAGE ELEVATION = 340.50
STONE CREST ELEVATION = 340.50
TOP OF DAM ELEVATION = 341.50
CREST LENGTH = 20'
BOTTOM ELEVATION = 335.00
BOTTOM DIMENSIONS = 18' x 48'
SIDE SLOPES = 2:1
CLEANOUT ELEVATION = 337.00
BAFFLE BOARDS = 2 @ 55' EACH

LEGEND

- CONTOUR INTERVAL — 2 FT.
- EXISTING CONTOUR — 348
- PROPOSED CONTOUR — 348
- DIRECTION OF DRAINAGE
- SPOT ELEVATION — +78 4
- STABILIZED CONSTRUCTION ENTRANCE — S.C.E.
- EROSION CONTROL MATTING — ECM
- SILT FENCE — SF
- SUPER FENCE — SSF
- SUPER DIVERSION FENCE — SDF
- GABION INFLOW PROTECTION — GM
- REMOVABLE PUMP STATION — RPS
- MOUNTABLE BERM — MB
- EARTH DIKE — ED
- PIPE SLOPE DRAIN — PSD
- SLOPES 15–25%
- 100-YEAR FLOODPLAIN ELEVATION — 342.32
- BAFFLE BOARD
- TREE PROTECTION FENCE — TPF
- LIMIT OF DISTURBED AREA* — LOD

*WHERE NOT CLEARLY INDICATED, THE LIMIT OF DISTURBANCE SHALL BE THE PROPERTY LINES OR BUFFER LIMITS.

- BAFFLE

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Jim Myers 7/19/02
Signature Date
U.S. Natural Resource Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R Robertson 7/19/02
HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

[signature] 7/23/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 8/15/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Marsha S. McLaughlin 8/16/02
DIRECTOR DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary".

100 Investment Limited Partnership
[signature] 6/13/02
NAME DATE

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.

G. Nelson Clark 4-13-02
G. NELSON CLARK DATE

OWNER: 100 INVESTMENT LIMITED PARTNERSHIP
9030 RED BRANCH ROAD SUITE 200
COLUMBIA, MARYLAND 21045

CLARK · FINEFROCK & SACKETT, INC.
ENGINEERS · PLANNERS · SURVEYORS
7135 MINSTREL WAY · COLUMBIA, MD 21045 · (410) 381-7500 BALT. · (301) 621-8100 WASH.

DESIGNED TD	SEDIMENT AND EROSION CONTROL PLAN	SCALE 1" = 50'
DRAWN LAI/CRH2	**LYNDWOOD SQUARE** PARCEL E-1 MASS GRADING PLAN	DRAWING 3 OF 6
CHECKED TD	PLAT #12333 TAX MAP 37 GRID 11 FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 00-034
DATE 4/9/02	FOR : 100 INVESTMENT LIMITED PARTNERSHIP 9030 RED BRANCH ROAD COLUMBIA, MARYLAND 21045	FILE NO. 00-034X

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SDP-02-83

SUMMARY TABLES

STORMWATER MANAGEMENT SYSTEM (PRIVATE)

REQUIREMENT	REQUIRED	PROVIDED	NOTES
WATER QUALITY VOLUME (WQv)	N/A	N/A	
RECHARGE VOLUME (Rev)	N/A	N/A	
CHANNEL PROTECTION VOLUME (Cpv)	1328 CU. FT.	2392 CU. FT.	SUPER SILT FENCE
OVERBANK FLOOD PROTECTION VOL. (Qp)	N/A	N/A	
EXTREME FLOOD VOLUME (Qf)	N/A	N/A	

SURFACE SAND FILTER

REQUIREMENT	REQUIRED	PROVIDED	NOTES
PRE-TREATMENT CRITERIA	518 CU. FT. 138 SQ. FT.	725 CU. FT. 725 SQ. FT.	25% OF WQv BOTTOM SURFACE AREA

SOILS LEGEND

SYMBOL	DESCRIPTION	TYPE
Ha	HATBORO SILT LOAM	D
IuB	LUKE SILT LOAM, 1-5% SLOPES	C
Md	MADE LAND	B
SIC2	SASSAFRAS LOAM, 5-10% SLOPES	B
SSe	SASSAFRAS SOILS, 15-40% SLOPES	B

LEGEND

SLOPES 15-25%

100-YEAR FLOODPLAIN ELEVATION

EX. RETAIL BUILDING
PUBLIC SEWER AND UTILITY EASEMENT
MARSHALEE DRIVE
(80' R/W) PN 12331
HOWARD COUNTY, MARYLAND
TIMBERS AT TROY
PUBLIC GOLF COURSE
SAND
GREEN
NAD 83
MD GRID NORTH
PARCEL A-6
LYNDWOOD SQUARE
PLAT 12332
ZONED PEC OPEN SPACE
3828/372
EXISTING
STORMWATER MANAGEMENT
FACILITY
SDP-93-105
ROCKET POND F-1 DATA
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BOTTOM ELEVATION = 338.00
CPv ELEVATION = 343.50
CPv VOLUME REQ'D = 1328 CF
CPv VOLUME PROVIDED = 2392 CF
100-YEAR WSEL = 343.68
EMBANKMENT TOP ELEV. = 344.18
PRIVATE POND I
PARCEL A-2
LYNDWOOD SQUARE
LEEDS FEDERAL
PLAT 12331
ZONED B-2
4525/87
PARCEL A-7
PLAT 12509
ZONED B-2 AND PEC
PARCEL A-8
LYNDWOOD SQUARE
EXXON CORPORATION
PLAT 12509
ZONED PEC
4158/660
PARCEL A-9
LYNDWOOD SQUARE
KINDERCARE REAL ESTATE CORP.
PLAT 12509
ZONED PEC
4100/637
EX. MH 41
EX. MH 42
EX. MH 43
EX. MH 40
EX. MH 36
EX. MH 3
EX. MH 37
EX. MH 38
EX. 20' PUBLIC DRAINAGE AND UTILITY EASEMENT
EX. 30' PRIVATE INGRESS AND EGRESS EASEMENT FOR THE USE OF PARCELS A-6, A-7 AND E-1 L.5948 F.619
EXISTING 20' PUBLIC WATER & UTILITY EASEMENT (L.6321 F.407)
1.84 AC. .16 BMP F-1 PEC 0%
PARCEL E-1
EX. WETLANDS
50' STREAM BUFFER
25' WETLAND BUFFER
EX. PUBLIC 100 YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
EXISTING WETLANDS
FENCING TO BE REPLACED SHALL BE LOCATED ON THE PROPERTY LINE, AND SHALL BE APPROVED BY THE OWNER AND SHA INSPECTOR
EX. 20' PUBLIC SEWER & UTILITY EASEMENT P. No. 12331
VEHICULAR INGRESS AND EGRESS IS RESTRICTED
30' STRUCTURE AND USE SETBACK
MEADOWRIDGE PROPERTIES
3686/482
ZONED POR
MARYLAND ROUTE 100
SHA PLAT# 53943 & 53944
(R/W WIDTH VARIES)
EX. 90" CMP
EX. 7.9' CONC. BOX
PARCEL J
CENTRE 8500
HOWARD COUNTY, MD
PLAT: 11622
ZONED PEC
S59°36'27"E 350.98'
S36°18'44"E 116.29'
S60°16'00"E 195.50'
S54°47'20"E 316.19'
S56°56'30"E 275.52'
S49°20'38"E 234.20'
S04°08'07"E 68.63'
N32°33'55"W 88.46'
S01°06'47"W 40.18'
N52°02'29"W 381.92'
N63°40'35"W 381.48'
S85°03'18"W 214.57'
N58°26'37"W 189.25'
N07°16'23"E 388.89'
N 562000
N 561100
E 1375250
E 1374500

OWNER: 100 INVESTMENT LIMITED PARTNERSHIP
9030 RED BRANCH ROAD SUITE 200
COLUMBIA, MARYLAND 21045

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/23/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/15/02
DIRECTOR	DATE 8/16/02

Nº	REVISIONS	DATE
2	CHANGE YEAR ON REVISION BLOCK DATE	2-21-03
1	GRADE CHANGE, SEDIMENT TRAPCHANGE, REDELINEATION OF WETLAND BUFFER	1-2-03

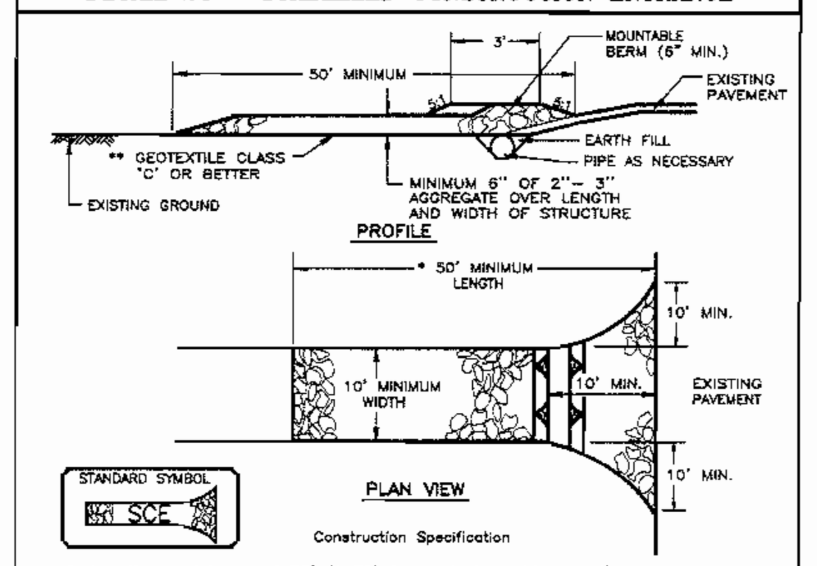
#10 C:\DRAWING FILES\00034\SDP\S04-DRAIN-MAP-BASE.DWG

CLARK · FINEFROCK & SACKETT, INC.
ENGINEERS · PLANNERS · SURVEYORS
7135 MINSTREL WAY · COLUMBIA, MD 21045 · (410) 381-7500 BALT. · (301) 621-8100 WASH.

DESIGNED TD	DRAINAGE AREA AND SOILS MAP **LYNDWOOD SQUARE** PARCEL E-1 MASS GRADING PLAN PLAT #12333 TAX MAP 37 GRID 11 FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE 1" = 50'
DRAWN LAI/CRH2		DRAWING 4 OF 6
CHECKED TD		JOB NO. 00-034
DATE 4/9/02	FOR : 100 INVESTMENT LIMITED PARTNERSHIP 9030 RED BRANCH ROAD COLUMBIA, MARYLAND 21045	FILE NO. 00-034X

SDP-02-83

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (* 30' for a 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.

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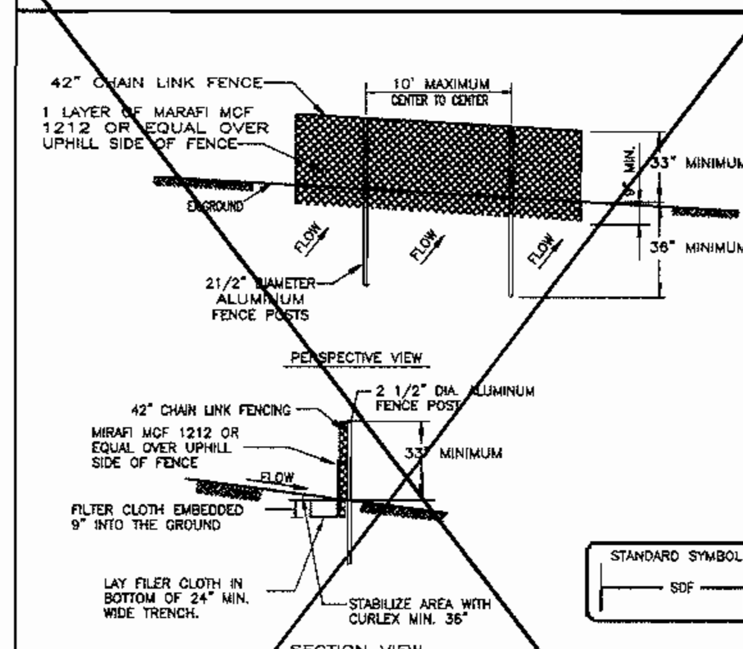
DETAIL – SUPER DIVERSION FENCE



FENCING:

FENCING SHALL BE 42" HIGH CHAIN LINK FENCE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 690.02 THE SPECIFICATIONS FOR A 6'– 0" FENCE SHALL BE USED, SUBSTITUTE 42" FABRIC & 76" POSTS. POSTS SHALL BE PLACED WITHOUT CONCRETE EMBEDMENT.

1. CHAIN LINK FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTAINENCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

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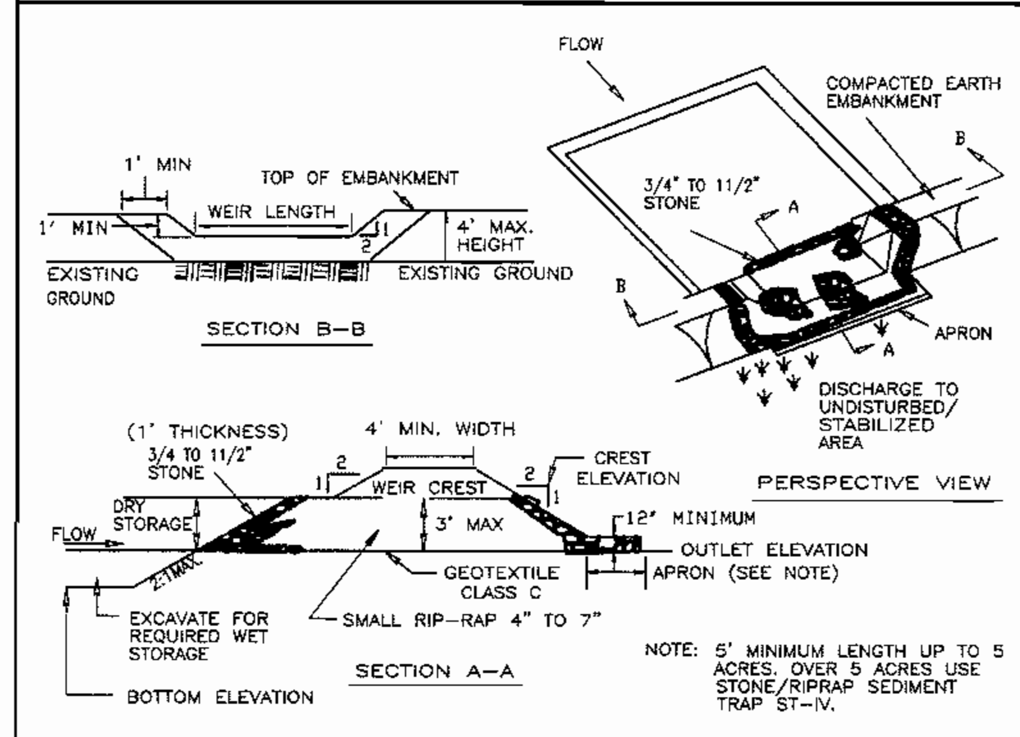
DETAIL 9 – STONE OUTLET SEDIMENT TRAP – ST II



Construction Specifications

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over–sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 10).

6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. Stone used in the outlet channel shall be 4" – 7" placed 18" thick.

8. Outlet – An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge end shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/4 of the wet storage depth of the trap (1350 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired as needed.

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

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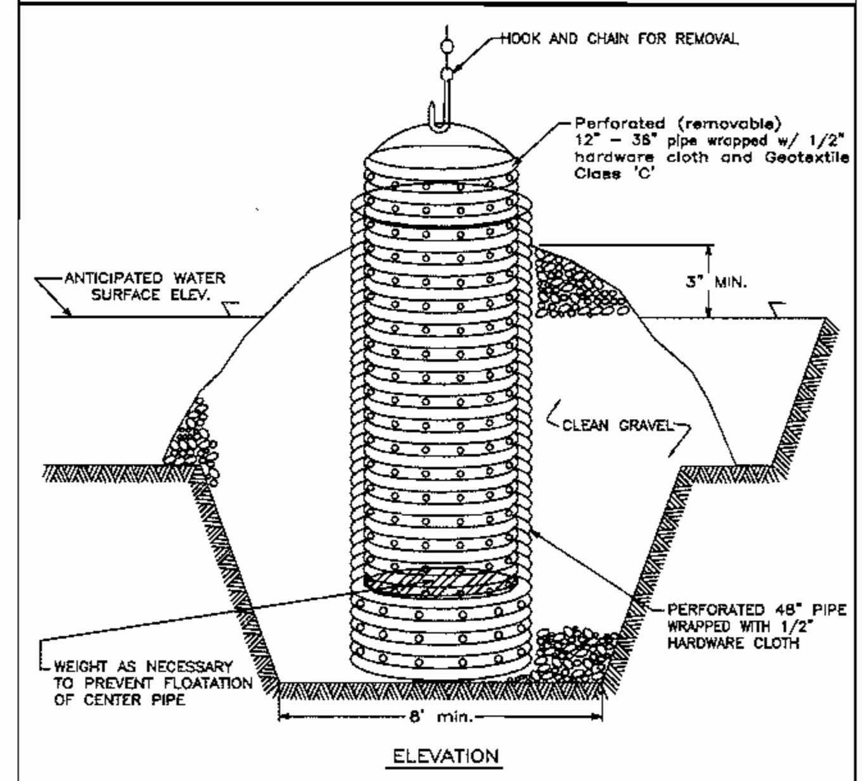
DETAIL 20A – REMOVABLE PUMPING STATION



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.

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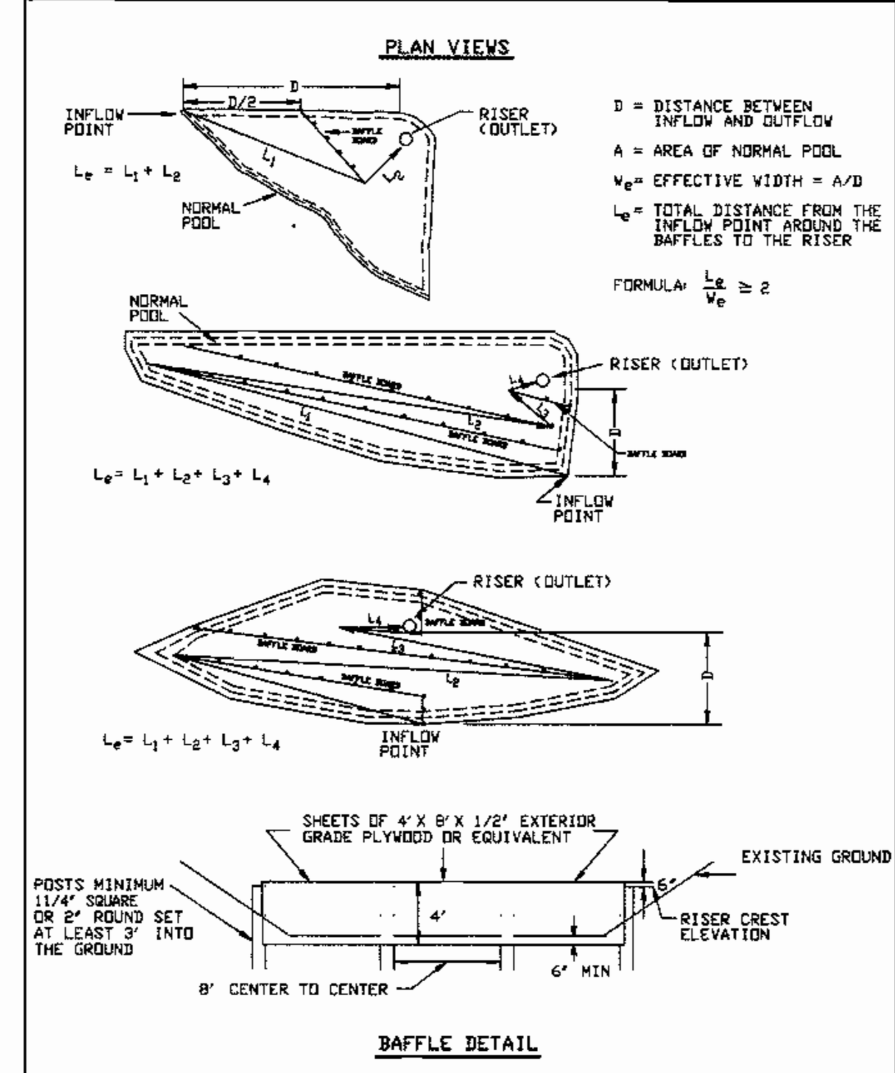
DETAIL 18 – SEDIMENT BASIN BAFFLES



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PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS 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, if not 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/ 100 sq.ft.) 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 the 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 dolomatic limestone (92 lbs/ 1000 sq.ft.) and apply 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 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.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not 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 1 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 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.

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

SEDIMENT AND EROSION CONTROL NOTES

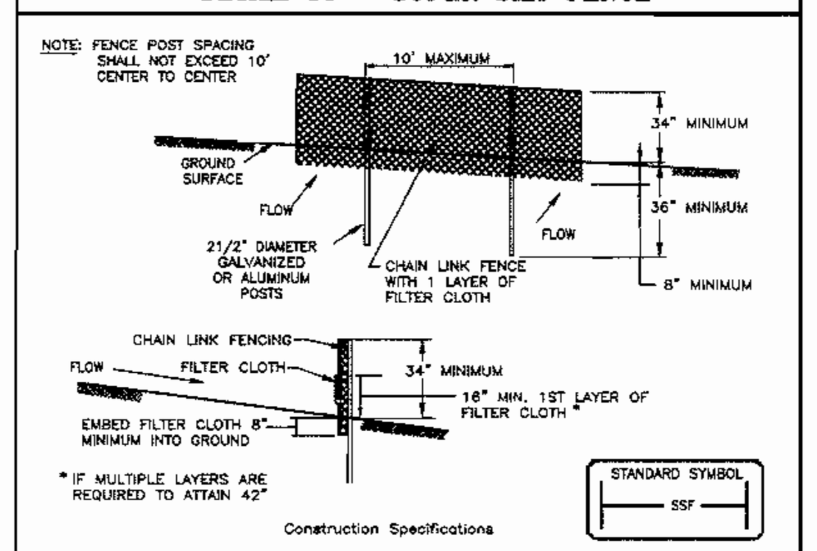
1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313–1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within:
   a) 7 calendar days for all perimeter sediment control stuctures, dikes, perimeter slopes and all slopes greater 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 perimeters in accordance with Vol.1, Chapter 7, 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 seedings, sod, temporary seeding and mulching (Sec G). 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:	6.19 Acres
Area Disturbed:	2.85 Acres
Area to be roofed or paved:	0 Acres
Area to be vegetatively stabilized:	2.85 Acres
Total Cut:	19914 CY
Total Fill:	9544 CY
Offsite Waste/Borrow Area Location:	*

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 control must be provided, if deemed necessary by the Howard County DPW 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 shall be backfilled and stabilized within one working day, or is limited to three pipe lengths.
12. The total amount of silt fence = 1140 LF
13. The total amount of super silt fence = 1400 LF
14. The total amount of earth dike= 700 LF

* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.

DETAIL 33 – 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/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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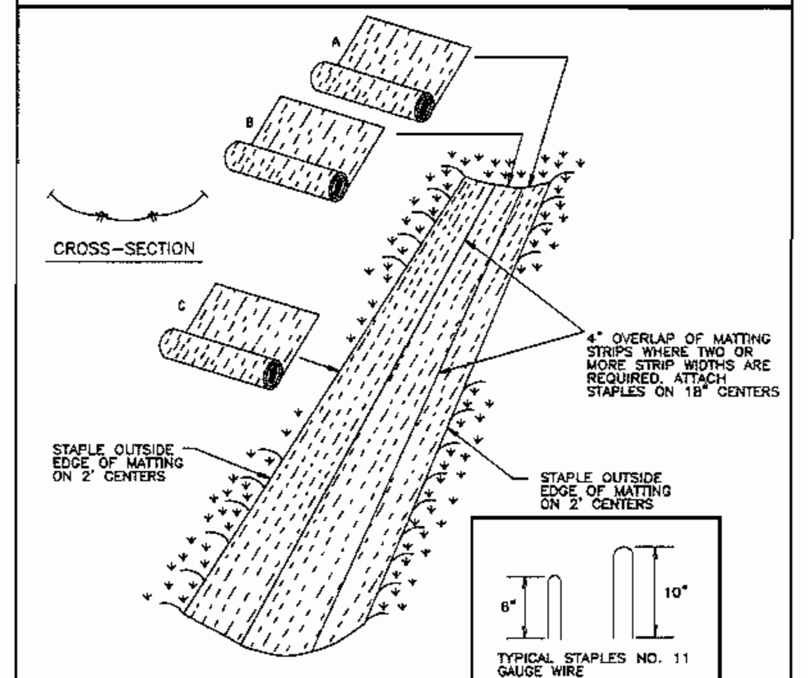
DETAIL 30 – EROSION CONTROL MATTING



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.

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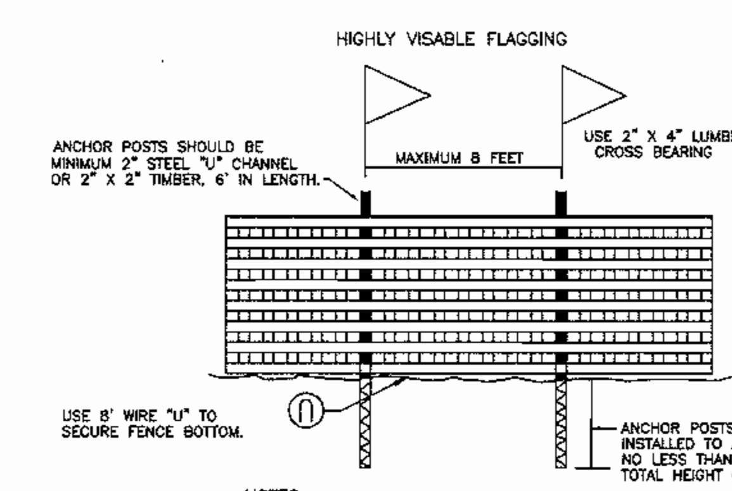
TYPICAL TREE PROTECTION FENCE DETAIL



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. Protection signage should be used.
6. Device should be maintained throughout construction.

BLAZE ORANGE PLASTIC MESH

TYPICAL TREE PROTECTION FENCE DETAIL

NO SCALE

21.0 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 vegetable 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 a 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.
   ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, 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.

III. 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.

IV. 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 specified in 20.0 Vegetative Stabilization–Section I– Vegetative Stabilization Methods and Materials.

V. Topsoil Application
   i. When topsoiling, 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 topsoiled, 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 topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
   iv. Topsoil shall not be place 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.

CONSTRUCTION SEQUENCE:

	NO. OF DAYS
1. Obtain grading permit. Meet onsite with SHA inspector.	7
2. Install tree protection fence.	7
3. Install sediment and erosion control devices and stabilize. With prior approval of Sediment Control Inspector proceed with sequence of construction. Contractor shall mark all existing manholes within the limit of disturbance with a minimum of three (3) 2"x 4"x 8' wooden guards, vertically buried 2' deep within 2' horizontally of the manhole rim. These guards shall be painted fluorescent orange on all sides. All equipment operators shall be informed that the manholes are not to be disturbed.	14
4. Grade phase one, excavating away from SHA fence at 2:1 slope. No grading in SHA R/W at this time. When top of fill is completed, install Phase 2 earth dikes and Pipe Slope Drain Outlet onto gabion mattress. Stabilize fill slope.	30
5. Grade Phase Two. SHA fence must be reinstalled at the end of each working day, contractor shall only remove as much of the existing fence as is required for one day's work. New fencing per SHA detail, shall be installed where property line is at finished grade. Old fencing shall be reused to tie new finished grade fencing to existing footers if fencing is to be removed within 72 hours. Brace at fencing as directed by SHA inspector.	60
6. Install 8" water main and fire hydrant, per Contract #14–3996–D. Private access road paving shall be cleanly saw cut for utility installation, and patched using equivalent paving section. Install sewer house connection per Contract #14–3996–D.	60
7. Upon completion of grading, obtain approval from sediment control inspector to stabilize balance of site. Convert sediment trap to final configuration as surface sand filter as shown.	7
8. Stabilize all remaining disturbed areas in accordance with standards and specifications.	25
9. Upon approval of the sediment control inspector, remove sediment and erosion control devices except Phase 2 earth dike, Pipe Slope drain, and Gabion Mattress.	7

DETAIL 4 – PIPE SLOPE DRAIN

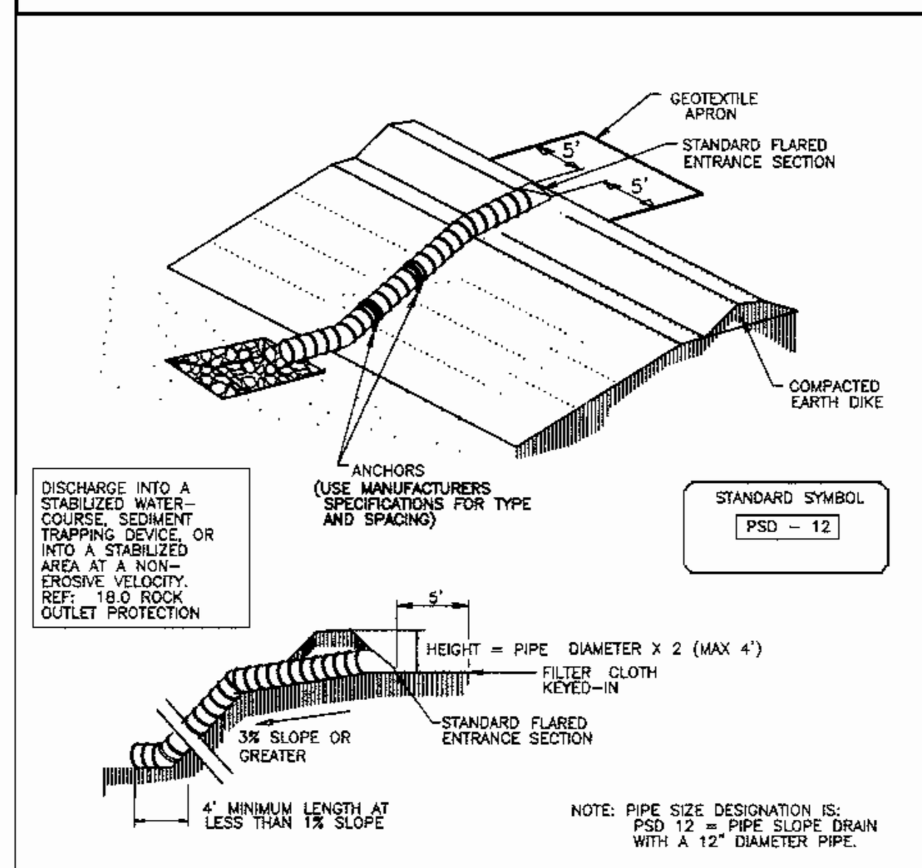


Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD–12	12	0.5
PSD–18	18	1.5
PSD–21	21	2.5
PSD–24	24	3.5
PSD–24 (2)	24	5.0

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PIPE SLOPE DRAIN

PIPE SLOPE DRAIN

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.

2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.
pipe.

3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.
pipe.

4. A flared end section shall be attached to the inlet end of pipe with a watertight connection. Filter cloth shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The filter cloth shall be "keyed in" on all sides.
pipe.

5. The Pipe Slope Drain shall be securely anchored to the slope by staking at the grommets provided. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of pipe. These details should be provided by pipe suppliers.
pipe.
pipe.

6. The soil around and under the pipe and end section shall be hand tamped in 4 inch lifts to the top of the earth dike.

7. All pipe connections shall be watertight.

8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.

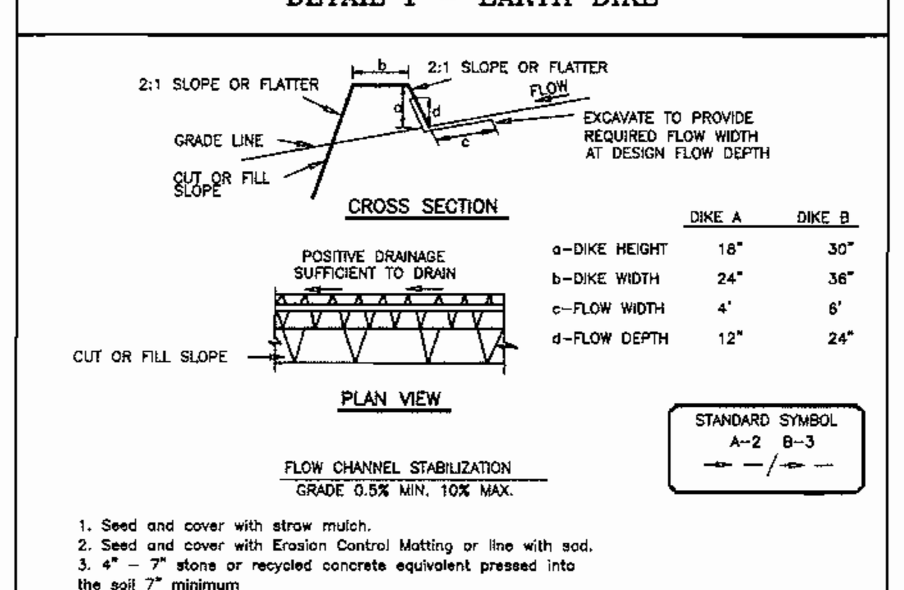
9. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non–erosive velocity.

10. Inspection and any required maintenance shall be performed periodically and after each rain event.

11. The inlet must be kept open at all times.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 5 – 4A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 – EARTH DIKE



	DIKE A	DIKE B
a–DIKE HEIGHT	18"	30"
b–DIKE WIDTH	24"	36"
c–FLOW WIDTH	4'	6'
d–FLOW DEPTH	12"	24"

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non–erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

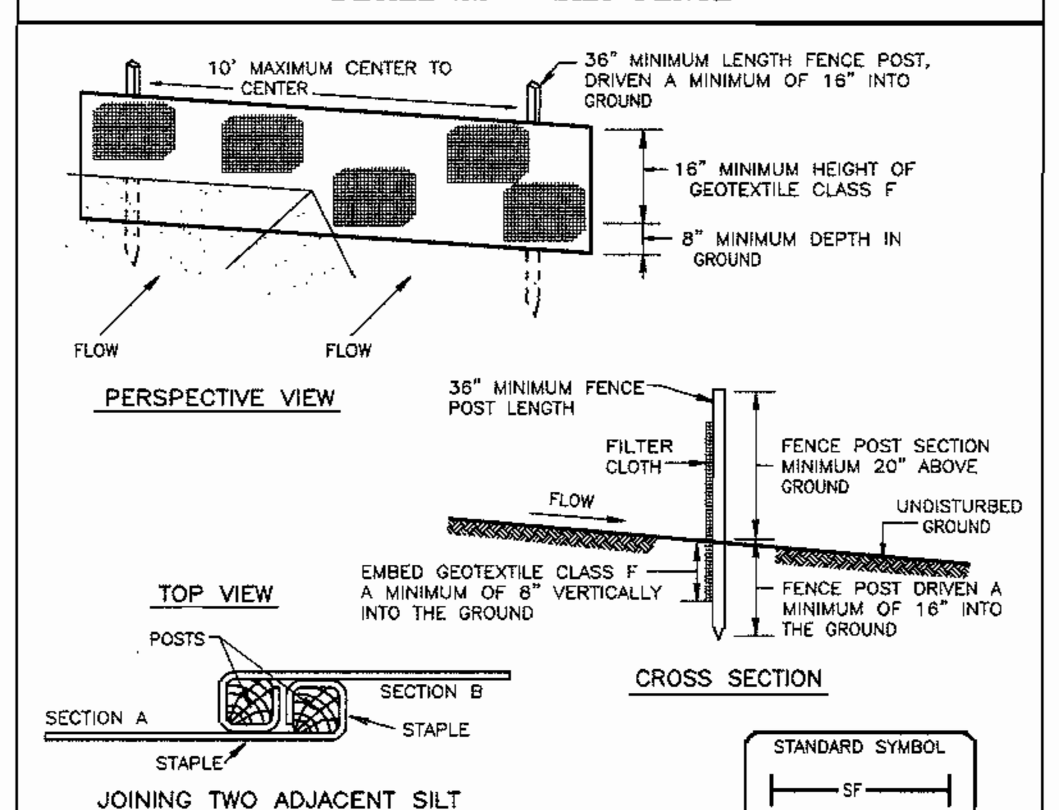
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A – 1 – 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 – SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long, driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound 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 ft²/minute (max.)	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 reaches 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 15 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Reviewed for HOWARD S.C.D. and meets Technical Requirements

Jim Myers 7/19/02

Signature Date

U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 7/19/02

HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

[signature] 7/23/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[signature] 8/15/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[signature] 8/16/02
DIRECTOR DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on–site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary".

100 Investments Limited Partnership by [signature]

NAME 6/13/02 DATE

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] 4-12-02
G. NELSON CLARK DATE

#10 C:\Drawing Files\00034\SDP\S05–SEC–DETS–BASE.DWG

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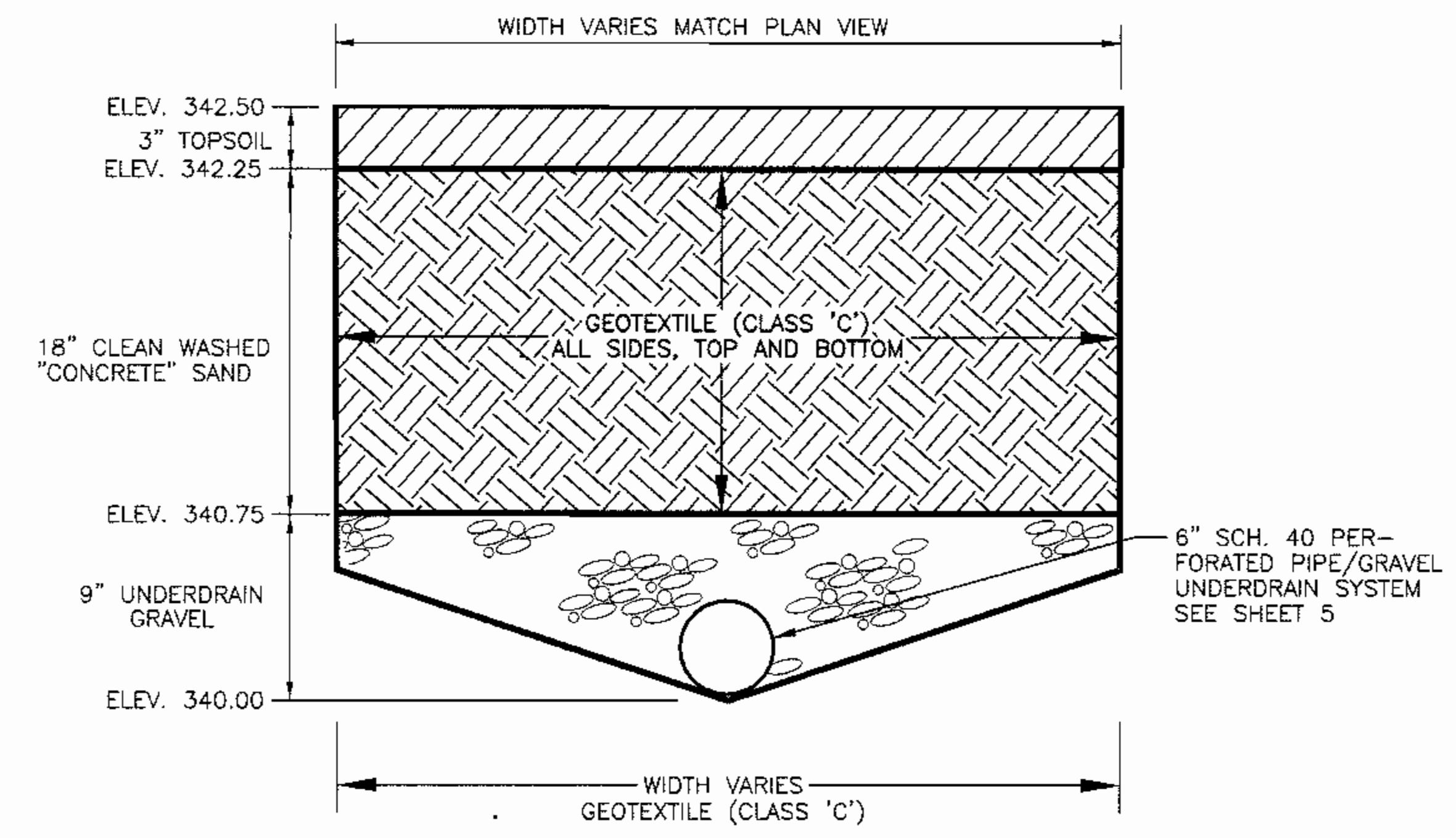
ENGINEERS · PLANNERS · SURVEYORS
7135 MINSTREL WAY · COLUMBIA, MD 21045 · (410) 381–7500 BALT. · (301) 621–8100 WASH.

DESIGNED TD	SEDIMENT CONTROL DETAILS	SCALE AS SHOWN
DRAWN TD/CRH2	LYNDWOOD SQUARE PARCEL E–1	DRAWING 5 of 6
CHECKED TD	PLAT # TAX MAP 37 GRID 11 FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 00–034
DATE 4/9/02	FOR : 100 INVESTMENT LIMITED PARTNERSHIP 9030 RED BRANCH ROAD COLUMBIA, MD 21045	FILE NO. 00–034SE

SDP–02– SDP-02-83

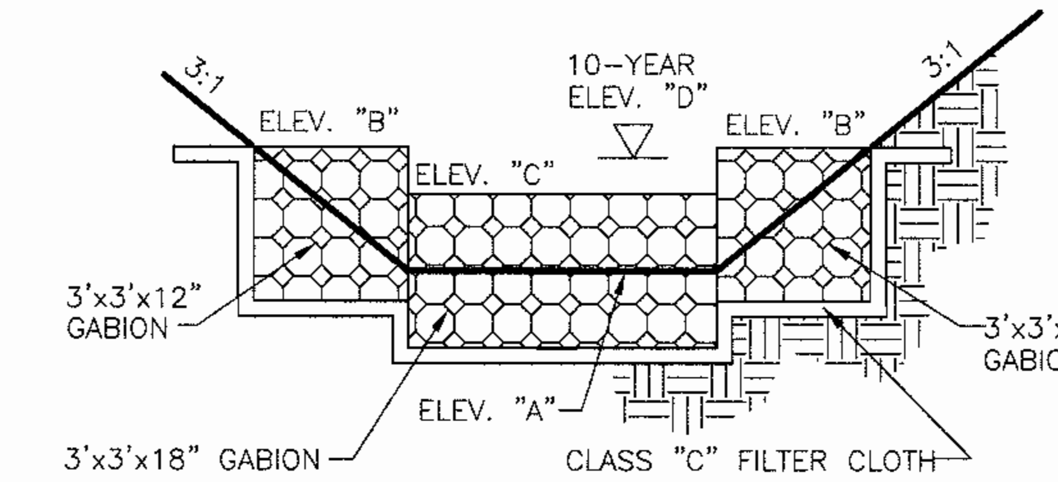


SAND FILTER DETAIL

NO SCALE

TABLE B.3.1 MATERIAL SPECIFICATIONS FOR SAND FILTERS

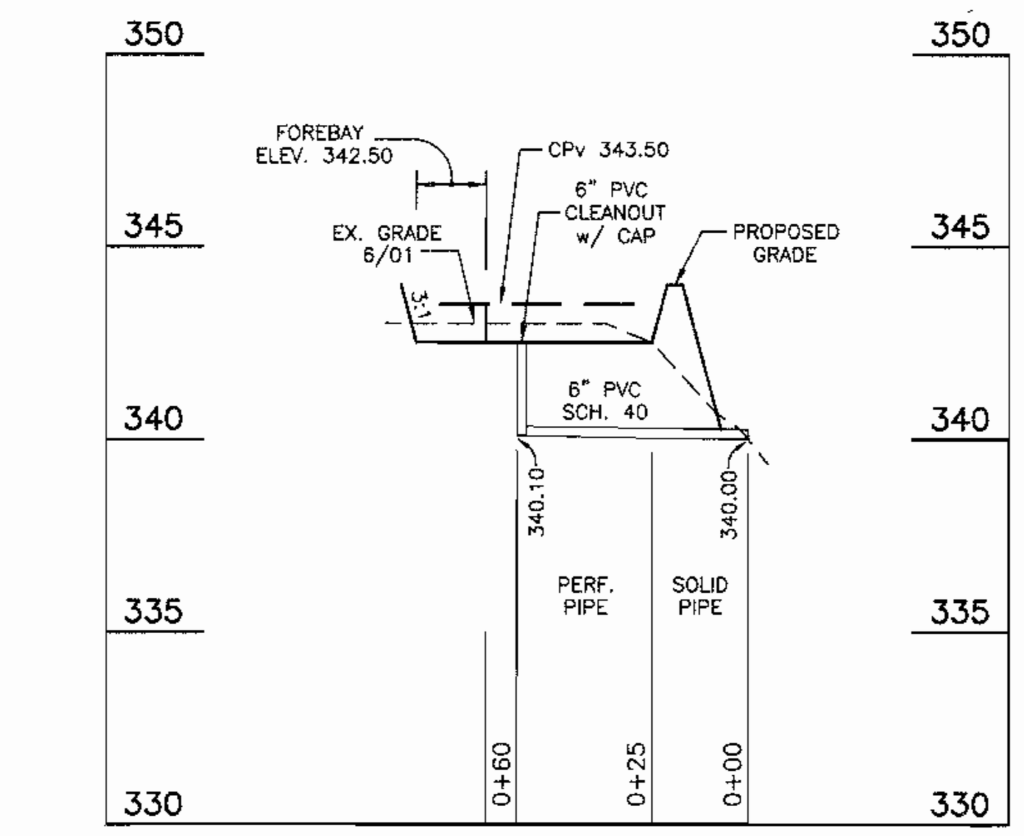
Material	Specification/Test Method	Size	Notes
sand	clean AASHTO–M–6 or ASTM–C–33 concrete sand	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
peat	ash content; < 15% pH range: 5.2 to 4.9 loose bulk density 0.12 to 0.15 g/cc	n/a	The material must be reed–sedge hemic peat, shredded, uncompacted, uniform and clean.
leaf compost		n/a	
underdrain gravel	AASHTO–M–43	0.375" to 0.75"	
geotextile fabric (if required)	ASTM–D–4833 (puncture strength–125 lb.) ASTM–D–4632 (Tensile Strength–300 lb.)	0.08" thick equivalent opening size of #80 sieve	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "sepater" sand filter layers.
impermeable liner (if required)	ASTM–D–4833 (thickness) ASTM–D–412 (tensile strength) 1,100 lb., elongation 200%) ASTM–D–624 (Tear resistence – 150 lb./in) ASTM–D–471 (water adsorption: +8 to –2% mass)	30 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.
underdrain piping	F 758, Type PS 28 or AASHTO–M–278	4' – 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" o.c., 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
concrete (cast–in–place)	MSHA Standards and Specs. Section 902, Mix No. 3, f'c =3500 psi, normal weight, air entrained; re–inforcing to meet ASTM–615–60	n/a	on–site testing of poured–in–place concrete required: 28 day strength and slump test; all concrete design (cast–in–place or pre–cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of maryland
concrete (pre–cast)	per pre–cast manufacturer	n/a	SEE ABOVE NOTE
non–rebar steel	ASTM A–36	n/a	structural steel to be hot–dipped galvanized ASTM–A–123



ELEV. "A"	ELEV. "B"	ELEV. "C"	ELEV. "D"	F	COMMENTS
342.50	344.25	343.50	343.86	12.00'	SAND FILTER

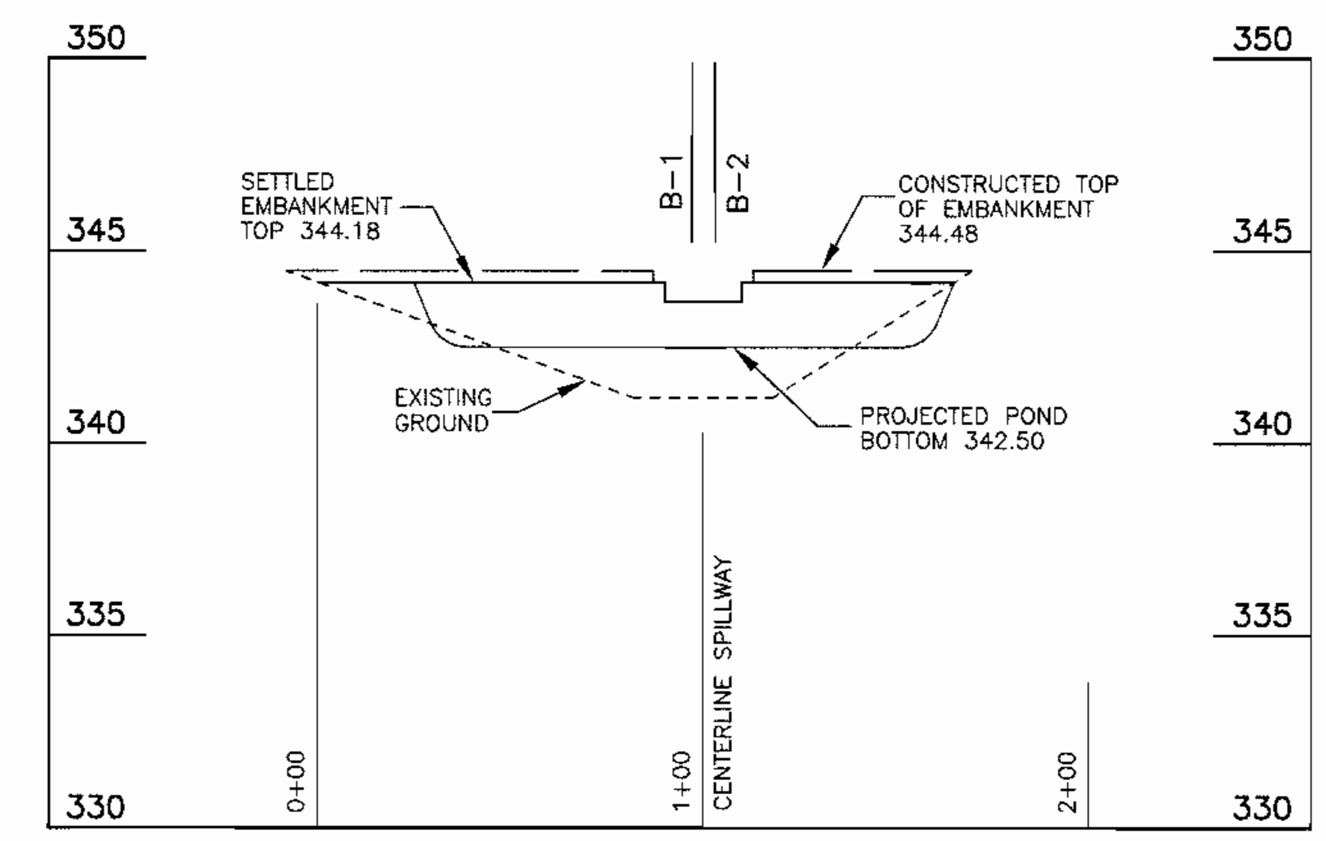
SECTION THROUGH GABION AT FOREBAY

NOT TO SCALE



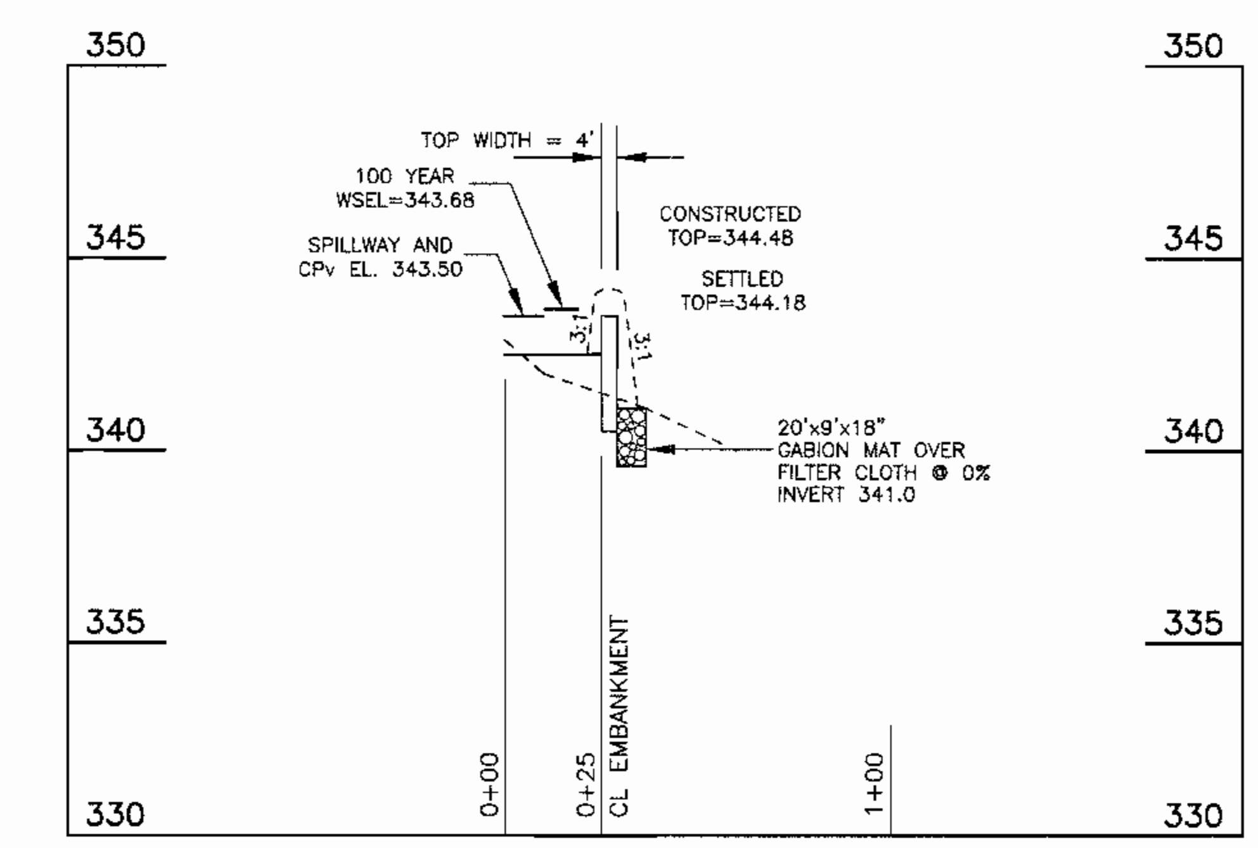
SURFACE SAND FILTER PVC PIPE PROFILE

SCALE: HOR. 1"=50' VER. 1'=5'



PROFILE ALONG CENTERLINE OF EMBANKMENT

SCALE: HOR. 1"=50' VER. 1'=5'



PROFILE THROUGH PRINCIPAL SPILLWAY

SCALE: HOR. 1"=50' VER. 1'=5'

MATERIAL SPECIFICATIONS FOR SAND FILTERS

THE ALLOWABLE MATERIALS FOR SAND FILTER CONSTRUCTION ARE DETAILED IN TABLE B.3.1

SAND FILTER TESTING SPECIFICATIONS

1. UNDERGROUND SAND FILTERS, FACILITIES WITHIN SENSITIVE GROUNDWATER AQUIFERS, AND FILTERS DESIGNED TO SERVE URBAN HOT SPOTS ARE TO BE TESTED FOR WATER TIGHTNESS PRIOR TO PLACEMENT OF FILTER MEDIA. ENTRANCES AND EXITS SHOULD BE PLUGGED AND THE SYSTEM COMPLETELY FILLED WITH WATER TO DEMONSTRATE WATER TIGHTNESS. WATER TIGHTNESS MEANS NO LEAKAGE FOR A PERIOD OF 8 HOURS.
2. ALL OVERFLOW WEIRS, MULTIPLE ORIFICES AND FLOW DISTRIBUTION SLOTS ARE TO BE FIELD TESTED TO VERIFY ADEQUATE DISTRIBUTION OF FLOWS.

SAND FILTER CONSTRUCTION SPECIFICATIONS

1. ABSOLUTELY NO RUNOFF IS TO ENTER THE FILTER UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. SURFACE OF FILTER BED IS TO BE LEVEL.
3. ALL UNDERGROUND SAND FILTERS SHOULD BE CLEARLY DELINEATED WITH SIGNS SO THAT THEY MAY BE LOCATED WHEN MAINTENANCE IS DUE.
4. SURFACE SAND FILTERS SHALL BE PLANTED WITH APPROPRIATE GRASSES.

OWNER'S ASSOCIATION FILTERING MAINTENANCE CRITERIA

1. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEED 36 HOURS. TRASH AND DEBRIS TO BE REMOVED AS NECESSARY.
2. SEDIMENT SHOULD BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN SIX INCHES. VEGETATION WITHIN THE SEDIMENTATION CHAMBER SHOULD BE LIMITED TO A HEIGHT OF 18 INCHES.
3. WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY (e.g., WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENTS SHOULD BE DISPOSED IN AN ACCEPTABLE MANNER (e.g., LANDFILL). SILT/SEDIMENT SHOULD BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS ONE INCH.
4. ORGANIC FILTERS (F–4) OR SURFACE SAND FILTERS (F–1) THAT HAVE A GRASS COVER SHOULD BE MOWED A MINIMUM OF 3 TIMES PER GROWING SEASON TO MAINTAIN MAXIMUM GRASS HEIGHTS LESS THAN 12 INCHES.
5. A DROP OF AT LEAST 6 INCHES SHALL BE PROVIDED AT THE INLET OF BIO–RETENTION FACILITIES (F–6) (STONE DIAPHRAGM). DEAD OR DISEASED PLANT MATERIAL SHALL BE REPLACED. AREAS DEVOID OF MULCH SHOULD BE RE–MULCHED ON AN ANNUAL BASIS.

OWNER'S ASSOCIATION MAINTENANCE SCHEDULE FOR SWM FACILITY

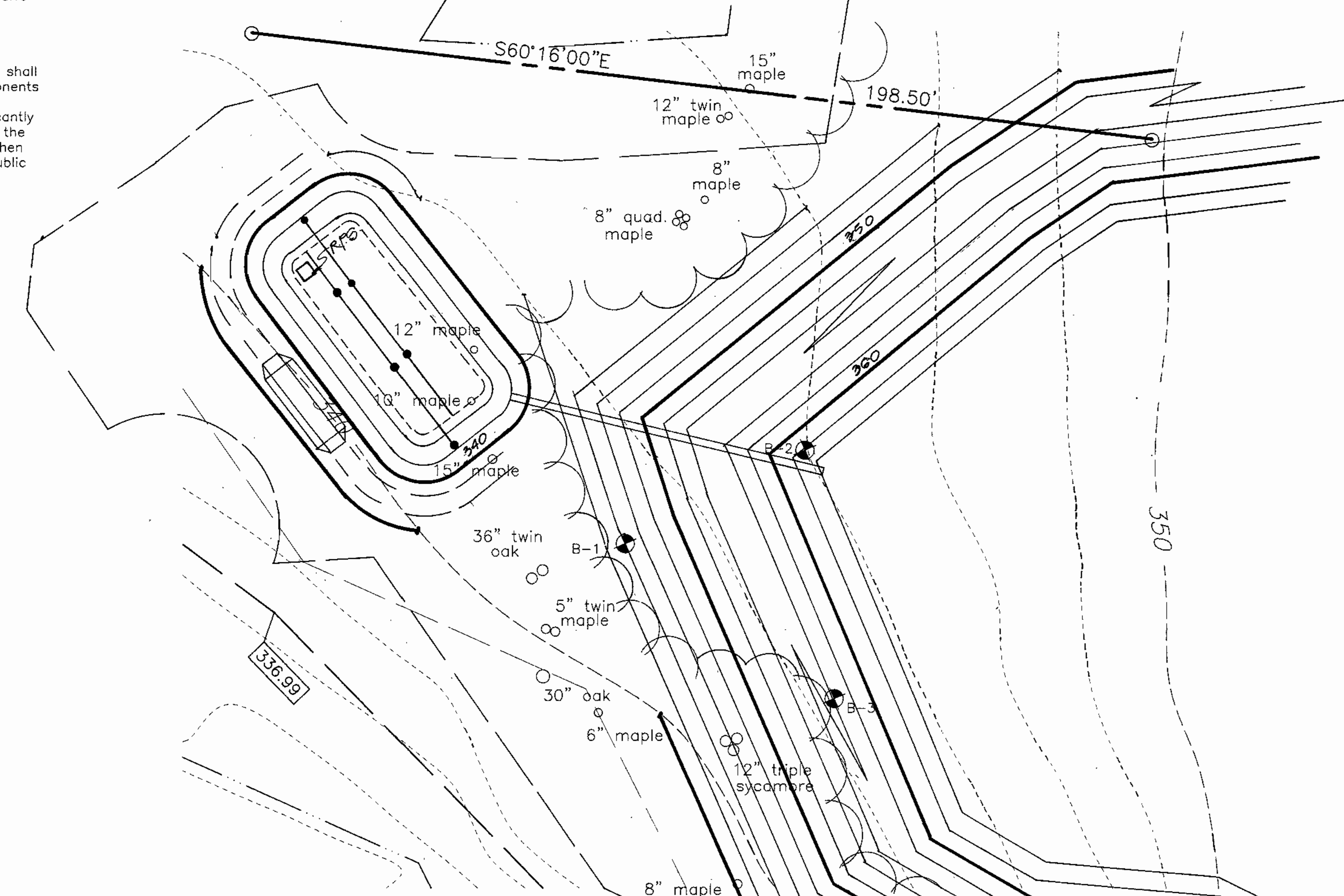
A. Forebay is to be inspected once after each major storm or every month. Trash to be removed as necessary.
B. Facility is to be inspected once a month and excessive growth cut or mowed as required. No growth above 18" allowed during growing season.
C. Pond slopes, top and bench are to be mowed once a month during growing season.
D. Trash to be removed after each major storm or every month, and during regular mowing operations.
E. An annual inspection of the pond is to be done.
F. Remove sediment from forebay area when depth exceeds 4".
G. Corrective maintenance is to be done as needed if the pond is found to be nonfunctional. Inspections should be performed during wet weather to determine if the pond is functioning properly.

OPERATION MAINTENANCE & INSPECTION

Inspection of the pond shown shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, SCS, "Standards and Specifications for Ponds" (MD–378). The pond owner(s) and any heirs, successors or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that my be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

NON–ROUTINE MAINTENANCE

A. Structural components of the pond, such as the weir wall, shall be repaired upon the detection of any damage. The components should be inspected during routine maintenance operations.
B. Sediment should be removed when its accumulation significantly reduces the design storage, interferes with the function of the orifice, when deemed necessary for aesthetic reasons or when deemed necessary by the Howard County Department of Public Works.



PLAN VIEW

SCALE: 1" = 20'

SUMMARY TABLES

STORMWATER MANAGEMENT SYSTEM (PRIVATE)

REQUIREMENT	REQUIRED	PROVIDED	NOTES
WATER QUALITY VOLUME (WQv)	N/A	N/A	
RECHARGE VOLUME (Rev)	N/A	N/A	
CHANNEL PROTECTION VOLUME (Cpv)	1328 CU. FT.	2392 CU. FT.	SUPER SILT FENCE
OVERBANK FLOOD PROTECTION VOL. (Qp)	N/A	N/A	
EXTREME FLOOD VOLUME (Qf)	N/A	N/A	

SURFACE SAND FILTER

REQUIREMENT	REQUIRED	PROVIDED	NOTES
PRE–TREATMENT CRITERIA	518 CU. FT. 138 SQ. FT.	725 CU. FT. 725 SQ. FT.	25% OF WQv BOTTOM SURFACE AREA

STATE OF MARYLAND — G. NELSON CLARK — PROFESSIONAL ENGINEER (seal)
4-12-02

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION (signed)	DATE 7/23/02
CHIEF, DIVISION OF LAND DEVELOPMENT (signed)	DATE 8/15/02
DIRECTOR (signed)	DATE 8/16/02

No.	REVISION	DATE
1	GRADE CHANGE OF PLAN VIEW AND WETLAND BUFFER REDELINEATION	1-02-03

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DESIGNED TD	STORM WATER MANAGEMENT DETAILS	SCALE AS SHOWN
DRAWN CRH2	**LYNDWOOD SQUARE** PARCEL E–1 MASS GRADING PLAN	DRAWING 6 of 6
CHECKED TD	PARCEL 61 TAX MAP 37 GRID 5 FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 00–034
DATE 4/10/02	FOR : 100 INVESTMENT LIMITED PARTNERSHIP 9030 RED BRANCH ROAD COLUMBIA, MD 21045	FILE NO. 00–034X

SDP–02–

SDP-02-83