SITE DEVELOPMENT PLAN

ADDITION TO ST. MICHAEL'S ROMAN CATHOLIC CHURCH

HOWARD COUNTY, MD. SDP-02-047

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE OR AS SPECIFIED.
2. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE BASED SOLELY ON AVAILABLE RECORDS. CONTRACTOR SHALL VERIFY THE LOCATION OF ANY UTILITIES WHICH MAY BE IMPACTED BY THE WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTORS OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TO VERIFY THEIR LOCATION AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF UTILITIES IS OTHER THAN SHOWN.
4. THE CONTRACTOR SHALL NOTIFY 'MISS UTILITY' AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE, AND 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.
5. ANY DAMAGE CAUSED BY THE CONTRACTOR TO EXISTING PUBLIC RIGHT-OF-WAY, EXISTING PAVING, EXISTING CURB AND GUTTER, EXISTING UTILITIES, ETC. SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
6. TOPOGRAPHY TAKEN FROM FIELD RUN SURVEY BY O'CONNELL & LAWRENCE, INC. 1/81 BASED ON HOWARD COUNTY CONTROL VIA ELECTRONIC TRANSFER IN JANUARY, 2000.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT 07AB AND NGS STA. PAULA 2 WERE USED FOR THIS PROJECT.
8. PRIVATE WATER AND SEWER ON SITE.
9. ALL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED AND VERIFIED IN ACCORDANCE WITH AASHTO T-180.
10. STORMWATER MANAGEMENT AND WATER QUALITY ARE PROVIDED IN A RETENTION FACILITY LOCATED ON SITE PER SDP-02-47.
11. THIS SITE IS SUBJECT TO THE ESTABLISHED FOREST CONSERVATION REQUIREMENTS. THE FCA OBLIGATION FOR THE PROJECT WAS BASED ON THE LOD. THE FCA REQUIREMENTS INCLUDES 0.10 AC OF AFFORESTATION SATISFIED ONSITE WITH THE RECORDATION OF EASEMENT ON A FOREST CONSERVATION PLAT (PLAT NO. 26169).
12. OPERATING EXISTING VALVES, SWITCHES, SERVICES OR START UP OF NEW SERVICES SHALL BE COORDINATED WITH THE OWNERS REPRESENTATIVE.
13. THE BUILDING WILL BE PROVIDED WITH A SPRINKLER SYSTEM.
14. TRENCH COMPACTION FOR STORM DRAINS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL IV, STD. NO. G-2.01.
15. UNLESS OTHERWISE NOTED, DIMENSIONS FROM CURB ARE MEASURED AT FACE OF CURB.
16. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.
17. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL WATER, SEWER, AND DRAIN HOUSE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
18. THE CONTRACTOR SHALL MAINTAIN 2.0 FEET MINIMUM COVER OVER ALL UTILITIES DURING CONSTRUCTION.
19. UNLESS OTHERWISE NOTED, ALL UTILITY CONNECTIONS SHALL BE CAPPED OR PLUGGED FIVE FEET FROM BUILDINGS.
20. ELECTRIC, TELEPHONE, GAS, CABLE, LIGHTING, AND RETAINING WALLS TO BE DESIGNED BY OTHERS. WHERE THOSE FACILITIES ARE SHOWN, THEY ARE FOR COORDINATION PURPOSES ONLY.
21. ALL CURB RADII 5' UNLESS OTHERWISE NOTED.
22. THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE. HOWEVER, UPON DISCOVERY OF ANY EVIDENCE OF BURIAL OR GRAVES, THE DEVELOPER WILL BE SUBJECT TO SECTION 16.1305 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
23. ALL EXTERIOR LIGHTING FIXTURES SHALL BE INSTALLED IN COMPLIANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
24. BUILDING ADDITION TO HAVE AN AUTOMATIC SPRINKLER SYSTEM.
25. NO CLEARING, GRADING OR CONSTRUCTION IS ALLOWED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS.
26. AS A CONSEQUENCE OF ITS SUBMISSION ON NOVEMBER 6, 2001, THIS SDP IS GRANDFATHERED TO THE FOURTH EDITION OF THE SUBDIVISION REGULATIONS.
27. TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
28. THERE IS NO FLOODPLAIN ON THIS SITE.
29. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY DMW, DATED 4/7/01, AND WAS APPROVED ON 9/01.
30. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
31. BOARD OF APPEALS CASE NO. BA-00-23E APPROVED A CONDITIONAL USE PETITION FOR ENLARGEMENT OF AN EXISTING RELIGIOUS FACILITY SUBJECT TO THE FOLLOWING: 1. SITE SHALL BE USED ONLY PER THE AMENDED CONDITIONAL USE PLANS DATED 10/11/00; 2. PARKING LOT LIGHTING SHALL CONFORM TO SECTION 134 OF THE ZONING REGULATIONS; 3. IMPROVEMENTS SHALL BE PHASED, WITH THE FINAL PHASE COMMENCING BY 11/2007; AND 4. PETITIONER TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY REGULATIONS. APPROVED 11/16/2000.
32. GROUNDWATER APPROPRIATIONS PERMIT NO. HO 756-AP003 (REVISED) HAS BEEN APPLIED FOR.
33. THE SEWAGE DISPOSAL AREA SHOWN ON THIS SDP IS FOR SAND MOUND ONLY AND IS ~75,000 S.F. THERE IS TO BE NO OTHER BUILDING ON THIS AREA. THIS AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER.
34. (2) THE EXISTING TOPOGRAPHY FOR THE NEW IMPROVEMENTS SHOWN IS TAKEN FROM A FIELD RUN SURVEY, AND SUPPLEMENTED WITH HOWARD COUNTY DIGITAL GIS REFLECTING TWO FOOT CONTOUR INTERVALS. PREPARED BY DAFT MCCUNE WALKER DATED FEBRUARY 2016.
35. (2) STORMWATER MANAGEMENT ESD TO THE (MEP) MAXIMUM EXTENT PRACTICAL SHALL CONSIST OF (M-5) DRY WELLS AND (N-2) NON-ROOFTOP DISCONNECT, GRASS CHANNEL. THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY ST. MICHAEL'S ROMAN CATHOLIC CHURCH.
36. (2) EXISTING UTILITIES ARE BASED ON A FIELD RUN SURVEY PREPARED BY DAFT MCCUNE WALKER AND SUPPLEMENTED WITH EXISTING APPROVED SDP-02-47 PLANS.
37. BOARD OF APPEALS CASE NO. BA-19-016C APPROVED THE CONDITIONAL USE PETITION DATED NOVEMBER 18, 2019 FOR AN EXPANSION OF CONDITIONAL USES FOR A RELIGIOUS FACILITY, STRUCTURES AND LAND USED PRIMARILY FOR RELIGIOUS ACTIVITY AND A CHILD DAY CARE CENTER/NURSERY SCHOOL IN AN RC-DEO (RURAL CONSERVATION: DENSITY EXCHANGE OPTION OVERLAY) ZONING DISTRICT IS GRANTED, SUBJECT TO THE FOLLOWING CONDITION:
    1. THE CONDITIONAL USE SHALL BE CONDUCTED IN CONFORMANCE WITH AND SHALL APPLY ONLY TO THE CONDITIONAL USE FOR RELIGIOUS FACILITY, STRUCTURES AND LAND USED PRIMARILY FOR RELIGIOUS ACTIVITY AND A CHILD DAY CARE CENTER/ NURSERY SCHOOL AS DESCRIBED IN THE PETITION AND AS DEPICTED ON THE CONDITIONAL USE PLAN DATED MAY 21, 2019, AND NOT TO ANY OTHER ACTIVITIES, USES, OR STRUCTURES ON THE PROPERTY.
    2. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.
38. (3) DESIGN AND INSTALLATION DETAILS OF SEWAGE DISPOSAL SYSTEM FLOW EQUALIZATION COMPONENTS SHOWN ON THIS PLAN ARE PROVIDED IN A SUPPLEMENTAL PLAN ON FILE AT THE HOWARD COUNTY HEALTH DEPARTMENT. DETAILS IN THAT PLAN MUST BE APPROVED PRIOR TO HEALTH ISSUANCE OF A SEPTIC PERMIT OR BUILDING PERMIT.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

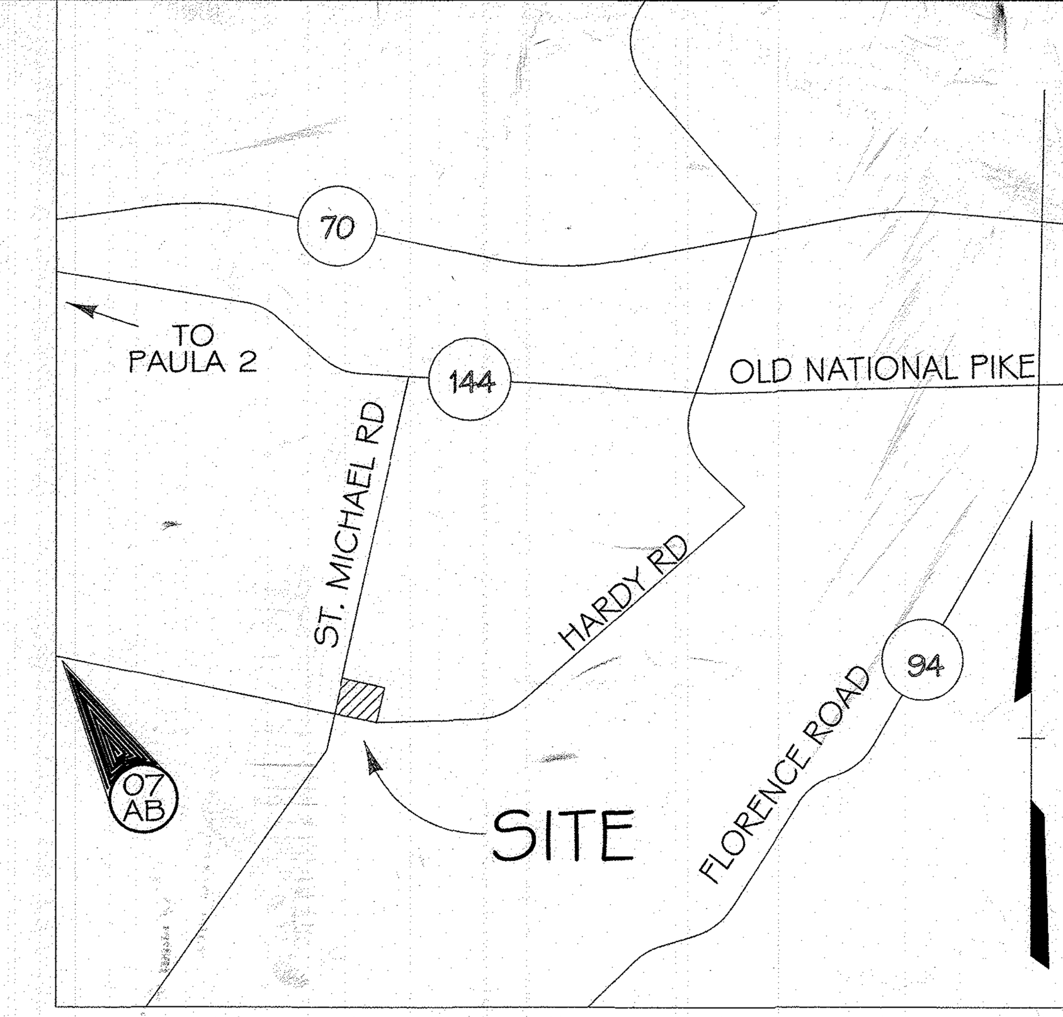
[signature] 2.16.21
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] 5/11/23
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

Mary A Kendall 5/15/23
DIRECTOR — DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

[signature] 5/11/22
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT — DATE



VICINITY MAP

SCALE: 1"=2000'

BENCHMARK

DESCRIPTION

HOWARD COUNTY GEODETIC SURVEY CONTROL STA. 07AB

NORTH	EAST	ELEV.
609,818.999	1,279,420.084	715.950

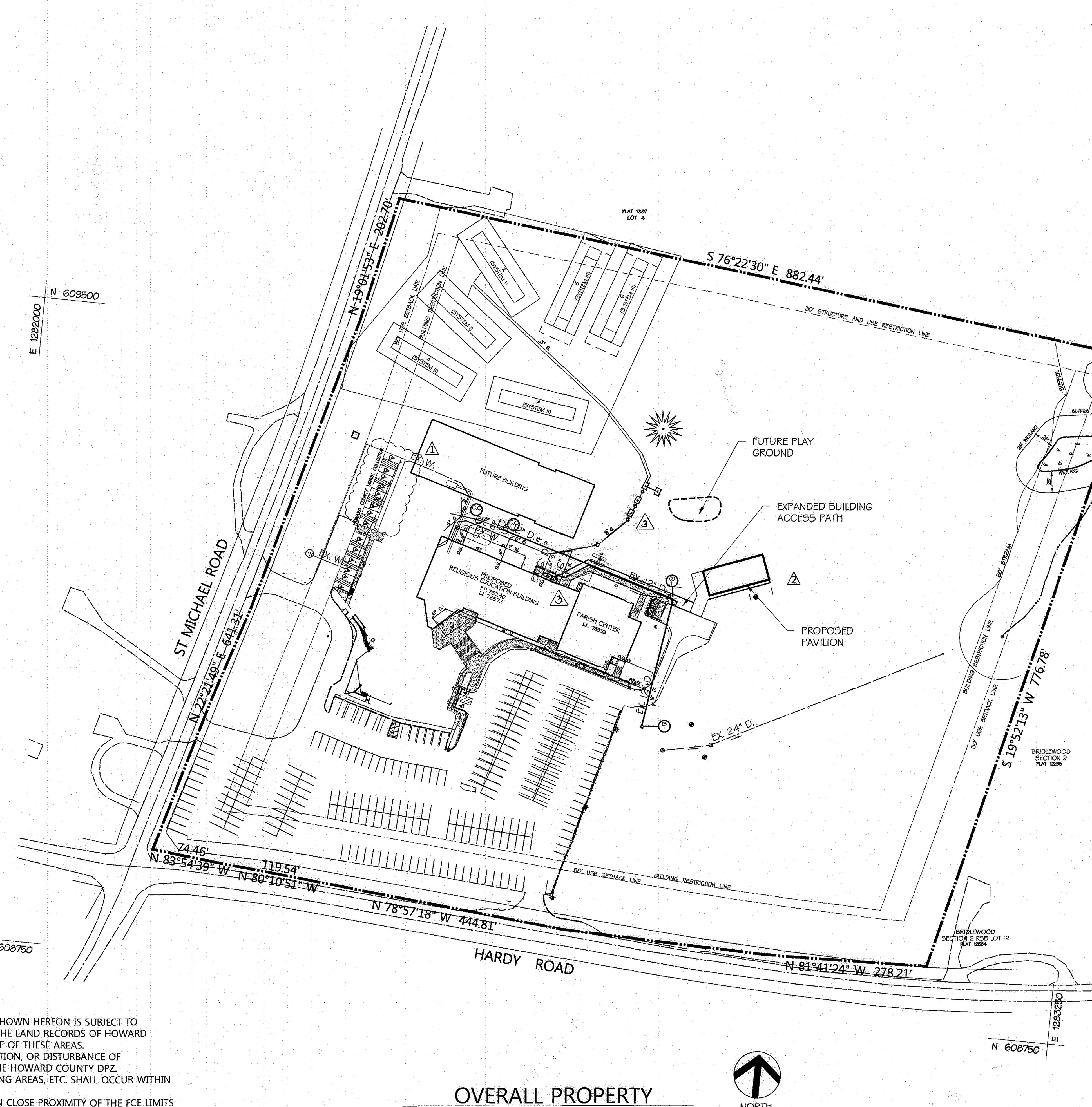
NGS STA. PAULA 2

NORTH	EAST	ELEV.
614,195.37	1,275,318.39	796.700

LOCAL BENCH MARK:
ELEVATIONS SHOWN HEREON ARE BASED ON THE FIRST FLOOR ELEVATION OF THE EXISTING CHURCH BUILDING. ELEV. - 753.40

(2) PURPOSE STATEMENT: REDLINE REVISION #2

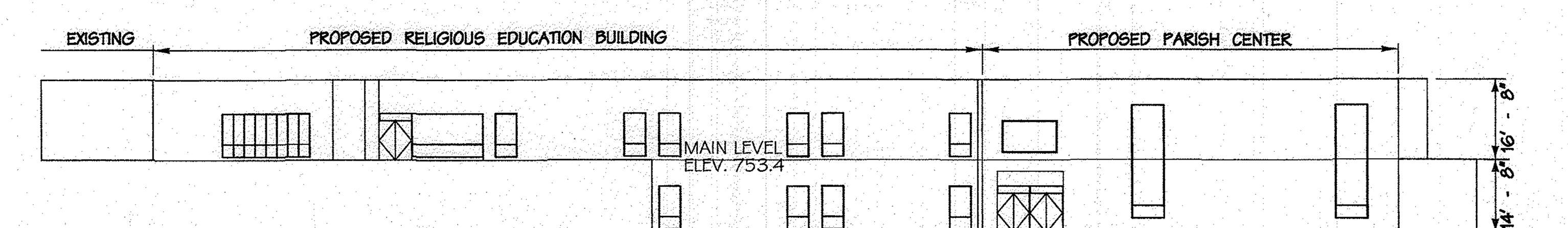
THE PURPOSE OF THIS REDLINE REVISION IS TO PROVIDE SITE PLANS OF CONSTRUCTION FOR A NEW DETACHED PAVILION STRUCTURE, A NEW ADA COMPLIANT WALK SYSTEM CONNECTING PAVILION TO CHURCH AND ASSOCIATED GRADING, SEDIMENT & EROSION CONTROL, DRAINAGE AND STORMWATER MANAGEMENT.



OVERALL PROPERTY

SCALE 1" = 100'

NORTH



SCHEMATIC BUILDING ELEVATION

SCALE: 1" = 30'

(2) FOREST CONSERVATION NOTES:

1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
2. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, OR DISTURBANCE OF VEGETATION IN THE FCE, EXCEPT AS PERMITTED BY THE HOWARD COUNTY DPZ.
3. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS A FCE.
4. THE PROPOSED LOD FOR THE PROJECT IS NOT WITHIN CLOSE PROXIMITY OF THE FCE LIMITS AND THEREFORE NO TEMPORARY FENCING SHALL BE REQUIRED AT THIS TIME.
5. PERMANENT PROTECTIVE SIGNAGE WILL BE POSTED AT 50-100 FOOT INTERVALS ALONG ALL FCE LIMITS AS SHOWN ON THIS PLAN.
6. THE FCA OBLIGATION IS BASED ON THE PROPOSED LOD FOR THIS PROJECT AND NOT THE ENTIRE PROPERTY. THE FCA REQUIREMENTS FOR THIS PROJECT INCLUDES 0.10 AC OF AFFORESTATION THAT WILL BE SATISFIED WITHIN THE FCE AS DETAILED ON THIS PLAN.

1. GENERAL SITE DATA

a. PRESENT ZONING: RC-DEO
b. APPLICABLE DPZ FILE REFERENCES: BA-00-23E, BA-81-18E
SDP-82-69
c. PROPOSED USE OF SITE STRUCTURE(S): RELIGIOUS EDUCATION BUILDING & PARISH CENTER
d. PROPOSED WATER AND SEWER SYSTEMS: PUBLIC ____ PRIVATE X
e. ANY OTHER INFORMATION WHICH MAY BE RELEVANT: N/A

2. AREA TABULATION

a. TOTAL PROJECT AREA: 16.5± ACRES.
b. NET AREA OF SITE: 16.5± ACRES.
c. AREA OF THIS PLAN SUBMISSION: 16.5± ACRES.
d. LIMIT OF DISTURBED AREA: 7.55± ACRES.
e. BUILDING COVERAGE OF SITE: 0.86± ACRES AND 5.2% OF GROSS AREA (PROPOSED)

3. PARKING SPACE DATA

a. FLOOR SPACE ON EACH LEVEL PER BUILDING(S) PER USE:

EXISTING CHURCH		10,182 SF
EXISTING MEETING HALL & CLASSROOMS		8,450 SF
PROPOSED PARISH CENTER		6000 SF
PROPOSED RELIGIONS EDUCATION BUILDING	(FIRST FLOOR)	11,600 SF
	(LOWER LEVEL)	3,600 SF
	TOTAL	39,832 SF

b. MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON-SITE PER USE: N/A
c. NUMBER OF PARKING SPACES REQUIRED BY ZONING REGULATIONS AND CRITERIA: 187
560 Seats / 3 = 187
d. TOTAL NUMBER OF PARKING SPACES PROVIDED ON-SITE: 264
e. NUMBER OF HANDICAPPED PARKING SPACES PROVIDED: 14
f. PROPOSED BUILDING IS TWO-STORIES.

SHEET INDEX

	SHEET	DESCRIPTION
(2)	1	COVER SHEET
(2)	2	SITE AND GRADING PLAN
(2)	3	SEDIMENT & EROSION CONTROL PLAN AND DRAINAGE AREA MAP
(2)	4	SEDIMENT & EROSION DETAILS
(2)	5	SEDIMENT & EROSION DETAILS AND SPECIFICATIONS
(2)	6	SEPTIC SYSTEM & STORM DRAIN PROFILE
(2)	7	LANDSCAPE PLAN
(2)	8	LANDSCAPE & CONSTRUCTION DETAILS
(2)	9	DRAINAGE AREA MAP
(2)	10	STORMWATER MANAGEMENT GRADING
(2)	11	STORMWATER MANAGEMENT PROFILE & DETAIL
(2)	12	BORING LOGS
(2)	13	MD-378 SPECIFICATIONS
(2)	14	SITE AND GRADING PLAN
(2)	15	SEDIMENT & EROSION CONTROL PLAN
(2)	16	SEDIMENT & EROSION CONTROL DRAINAGE AREA MAPS PLAN
(2)	17	2011 SEDIMENT & EROSION CONTROL DETAILS
(2)	18	2011 SEDIMENT & EROSION CONTROL DETAILS, NOTES * SEQUENCE OF CONSTRUCTION PLAN
(2)	19	2011 SEDIMENT & EROSION CONTROL SPECIFICATION PLAN
(2)	20	STORMWATER MANAGEMENT PLAN
(2)	21	FOREST CONSERVATION PLAN
(2)	22	FOREST CONSERVATION PLAN

Date	No.	Revision Description
3/15/2022	(3)	ADD SEPTIC TANK AND GREASE INTERCEPTOR & GN 38.
3/9/2017	(2)	ADD NEW PAVILION, SIDEWALK & DIVERSION SWALE
7/18/2013	(1)	ADD HANDICAP PARKING SPACES

DATA SOURCES
1. Boundary and topography provided hereon by O'Connell & Lawrence, Inc. via electronic transfer on January 7, 2000. DMW converted this topographic information to NAD 83.
2. Approximate head of stream and wetland locations per DMW, Inc.

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 2177

DMW
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

PROFESSIONAL CERTIFICATION
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. 16928, EXPIRATION DATE: 05-13-22.

STATE OF MARYLAND — PAUL M. SILL — No. 32025 — PROFESSIONAL ENGINEER
FOR REVISION #3 ONLY

12/9/20
DATE
STATE OF MARYLAND — ELVIN CHARLES — 16928 — PROFESSIONAL ENGINEER

PROFESSIONAL ENGR. NO. 16928

TITLE
REVISED SITE DEVELOPMENT PLAN (2)
COVER SHEET

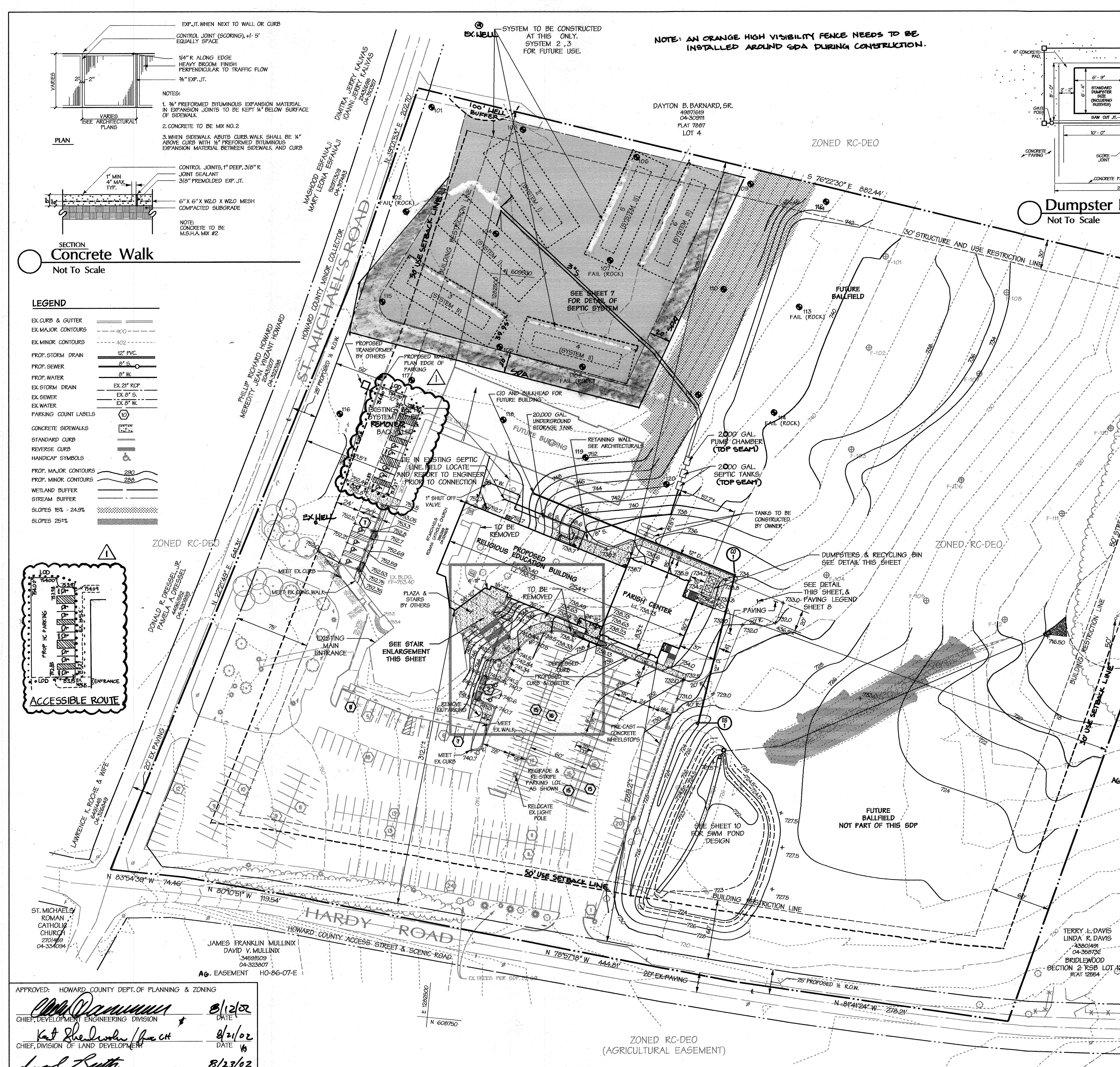
SUBDIVISION NAME				SECT./AREA	LOT/PARCEL #
NA				NA	260
PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01
WATER CODE	???? ****		SEWER CODE	??????? *******	

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED:	GDT	SCALE:	AS SHOWN	PROJECT NO:	99143.E0
DRAWN:	GMO	DATE:	3/9/17		
CHECKED:	MCB	APPROVED:	PGC	1 of 22	

SDP-02-47



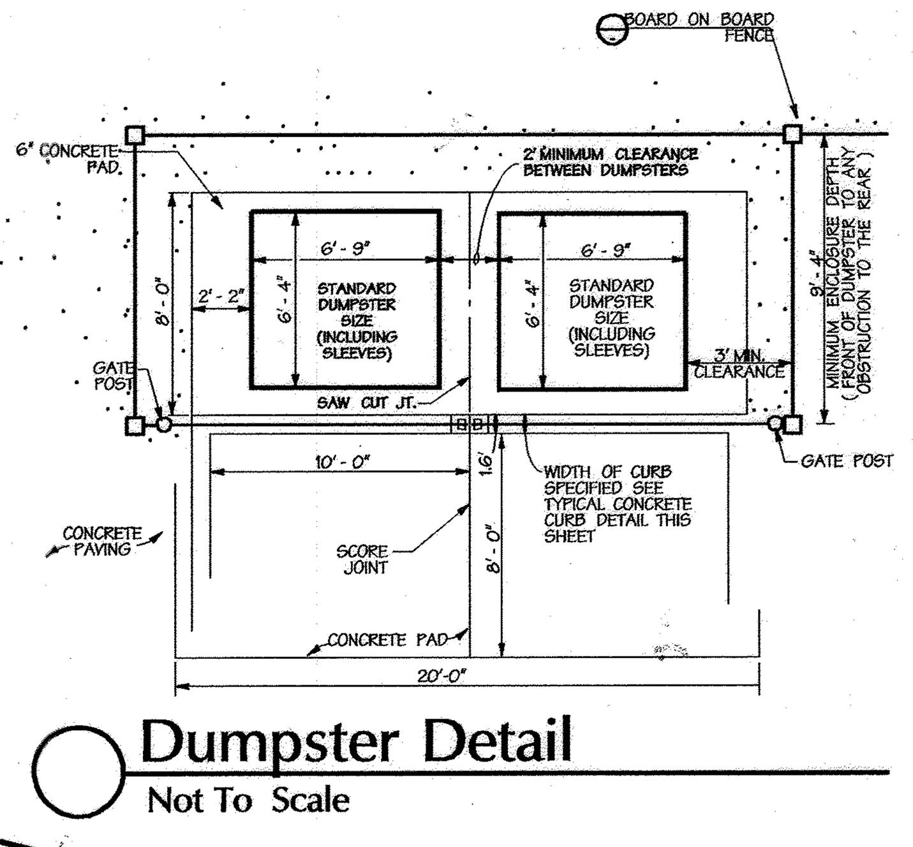
NOTES:
1. 3⁄8" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT ¼" BELOW SURFACE OF SIDEWALK
2. CONCRETE TO BE MIX NO.2
3. WHEN SIDEWALK ABUTS CURB, WALK SHALL BE ¼" ABOVE CURB WITH ½" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB

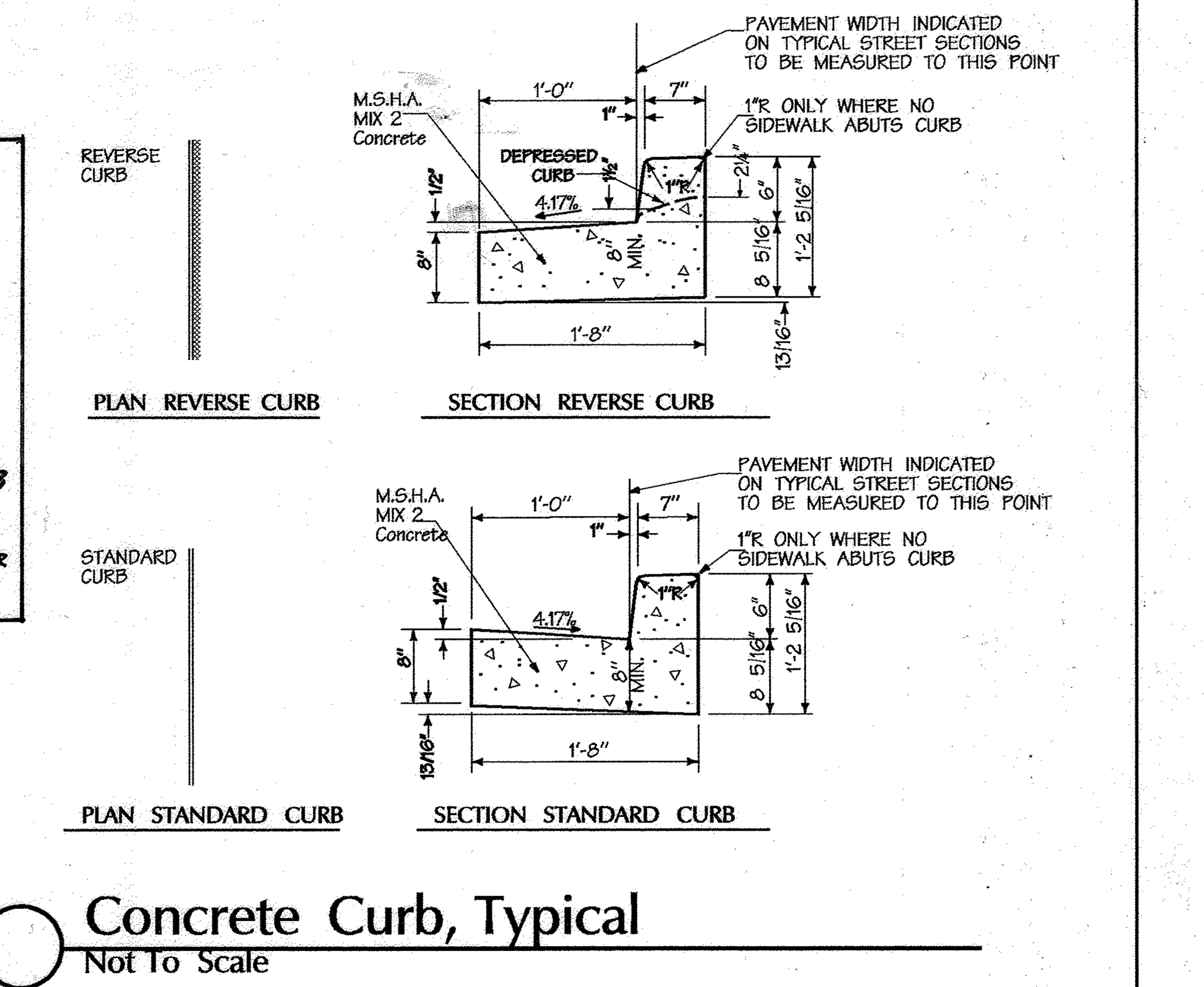
NOTE: CONCRETE TO BE M.S.H.A. MIX #2

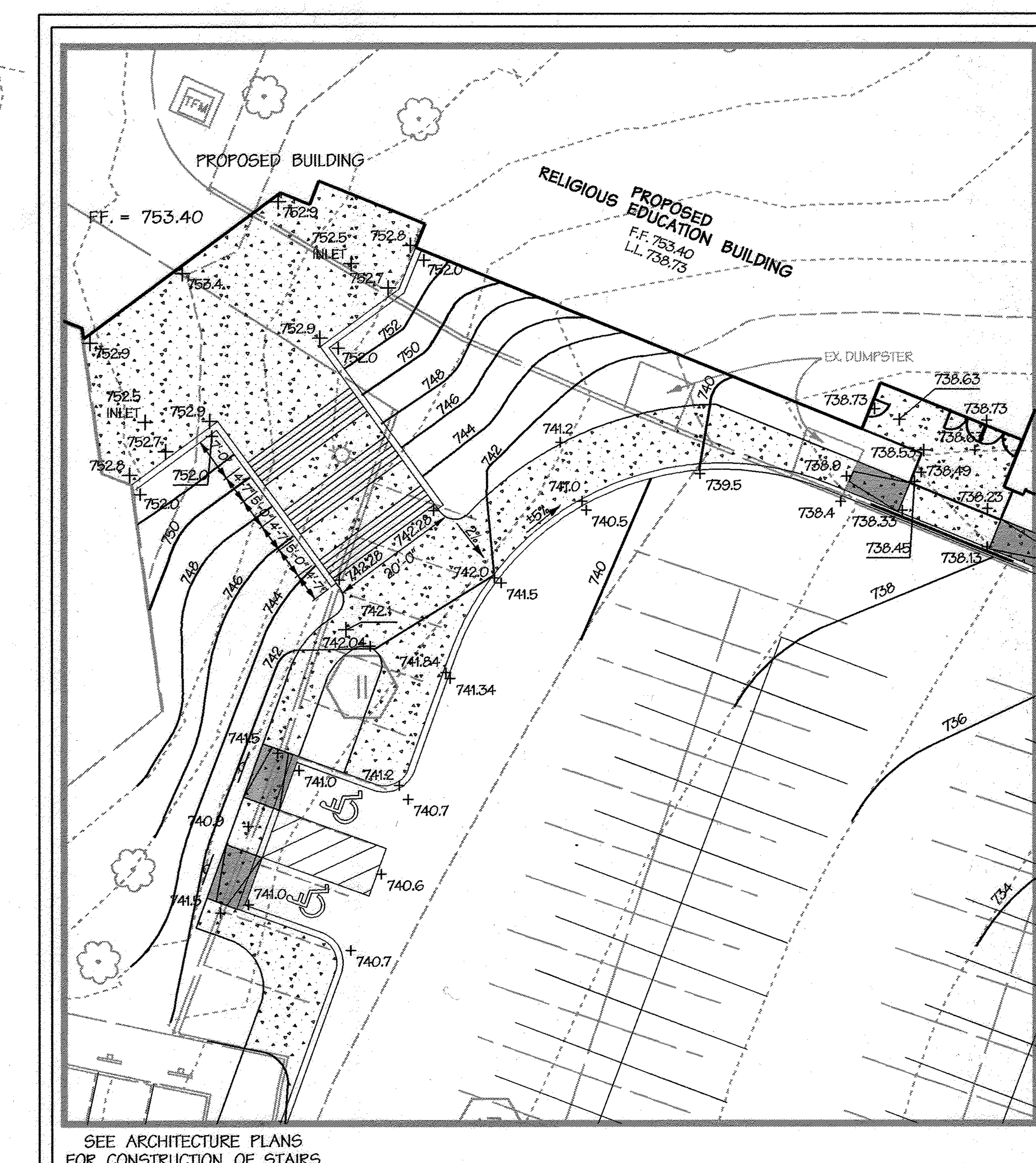
LEGEND

EX.CURB & GUTTER	
EX.MAJOR CONTOURS	400
EX.MINOR CONTOURS	402
PROP. STORM DRAIN	12" PVC
PROP. SEWER	8" S.
PROP. WATER	8" W.
EX.STORM DRAIN	EX. 21" RCP
EX.SEWER	EX. 8" S.
EX.WATER	EX. 8" W.
PARKING COUNT LABELS	10
CONCRETE SIDEWALKS	
STANDARD CURB	
REVERSE CURB	
HANDICAP SYMBOLS	
PROP. MAJOR CONTOURS	290
PROP. MINOR CONTOURS	288
WETLAND BUFFER	
STREAM BUFFER	
SLOPES 15% - 24.9%	
SLOPES 25+%	

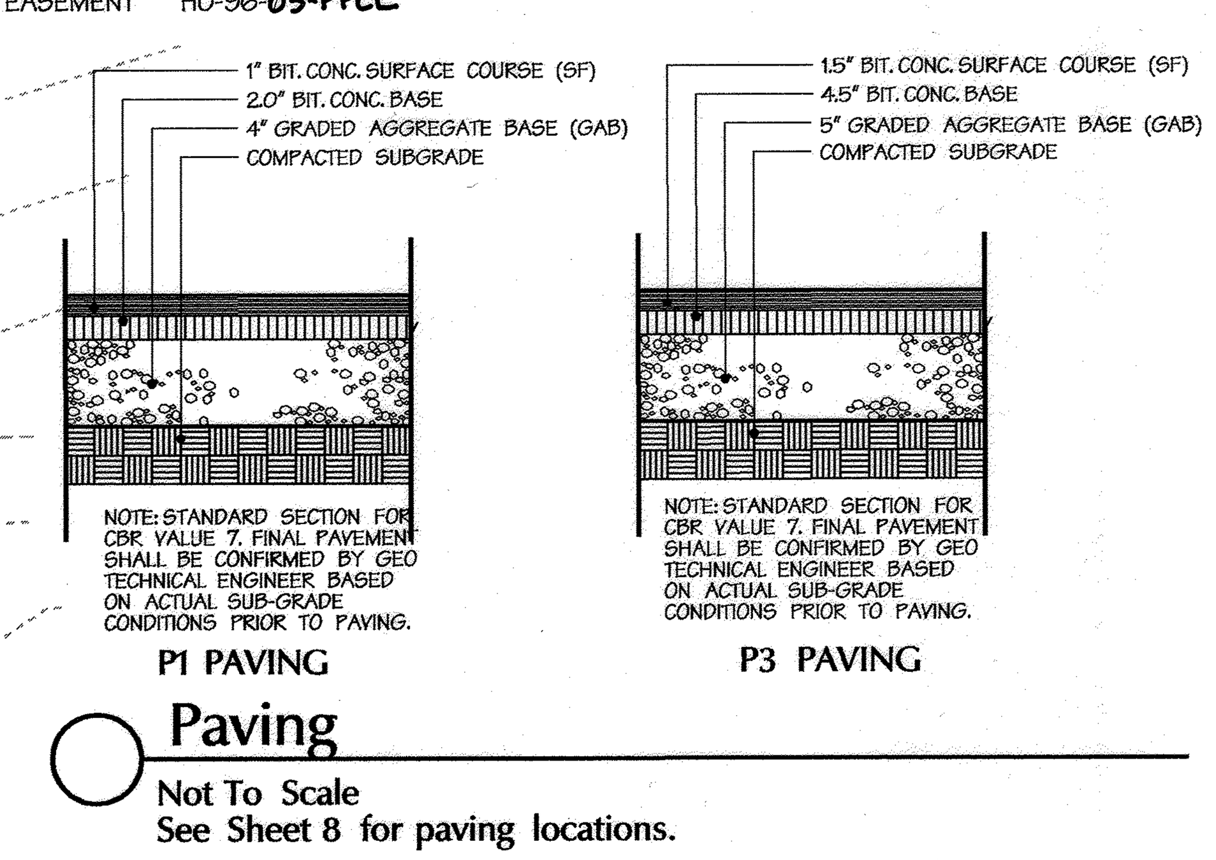
NOTE: AN ORANGE HIGH VISIBILITY FENCE NEEDS TO BE INSTALLED AROUND SDA DURING CONSTRUCTION.







STAIR DETAIL
SCALE: 1" = 20'



NORTH

THIS SEAL IS FOR REVISION 1 BY SITE RESOURCES, INC. ONLY

PROFESSIONAL CERTIFICATION
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. 16144, EXPIRATION DATE: 08/13/14.

Date	No.	Revision Description
3/3/2017	2	REVISE TOTAL SHEET NUMBERS
7/18/13	1	ADD HANDICAP PARKING SPACES

ST. Michael's Roman Catholic Church
Phase I – Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME	SECTION AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE: ---- SEWER CODE: ----

TITLE: SITE AND GRADING PLAN

Drn By:	Scale: 1" = 50'	Proj. No. 99143.B0
Des By:	Date: 7/12/02	
Chk By:	Approved:	2 of 22

7.12.02
Date
Prof. Engineer No. 21998

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/12/02
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/21/02
DIRECTOR — DATE 8/23/02

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
COUNTY HEALTH OFFICER — DATE 8-21-02
HOWARD COUNTY HEALTH DEPARTMENT

EXTERIOR LIGHTING WILL BE IN CONFORMANCE WITH SECTION 134, ZONING REGULATIONS

SDP-02-47

LEGEND

	EX. MAJOR CONTOUR	— SFD —	SUPER FENCE DIVERSION
	EX. MINOR CONTOUR	CIP	INLET PROTECTION
	EX. WATER	SIP	INLET PROTECTION
	EX. SANITARY SEWER	SCE	STABILIZED CONSTRUCTION ENT.
	EX. STORM DRAIN		MOUNTABLE BERM
	EX. GAS		TEMPORARY SWALE
	EX. EDGE OF ROAD	A-2 ED	EARTH DIKE
	PROP. UTILITIES		LIMIT OF DISTURBANCE
	PROP. EDGE OF ROAD		TEMP DIKE/ SWALE
— SF —	SILT FENCE		PROPOSED CONTOUR
— SSF —	SUPER SILT FENCE	×360.70	SPOT ELEVATION

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) Date July 12, 2002

DEVELOPER'S CERTIFICATE

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

Rev. Michael J. Ruane, Pastor
Signature of Developer (print name below signature) Date June 17, 2002
Rev. Michael J. Ruane

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS
7/18/13	1	ADD HANDICAP PARKING SPACES

ST. Michael's Roman Catholic Church

Phase I - Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue, Towson, Maryland 21286, 410 296 3333, Fax 296 4705

SUBDIVISION NAME	SECTION/ AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

TITLE

SEDIMENT & EROSION CONTROL PLAN

Drn By:	Scale: 1" = 50'	Proj. No. 99143.B0
Des By:	Date: 7/12/02	3 of 22
Chk By:	Approved:	

NORTH

7-12-02
Date

STATE OF MARYLAND · RICHARD DEMARIO · NO. 21898 · REGISTERED PROFESSIONAL ENGINEER

THIS SEAL IS FOR REVISION 1 ONLY

PROFESSIONAL CERTIFICATION
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. 16146, EXPIRATION DATE: 08/19/14.
8-26-2013

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 8/12/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/24/02
DIRECTOR	DATE 8/23/02

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 8-21-02
HOWARD COUNTY HEALTH DEPARTMENT

Reviewed for Howard SCD and meets Technical Requirements
USDA - Natural Resources Conservation Service — Date 8/8/02
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Howard SCD — Date 8/8/02

SDP-02-47

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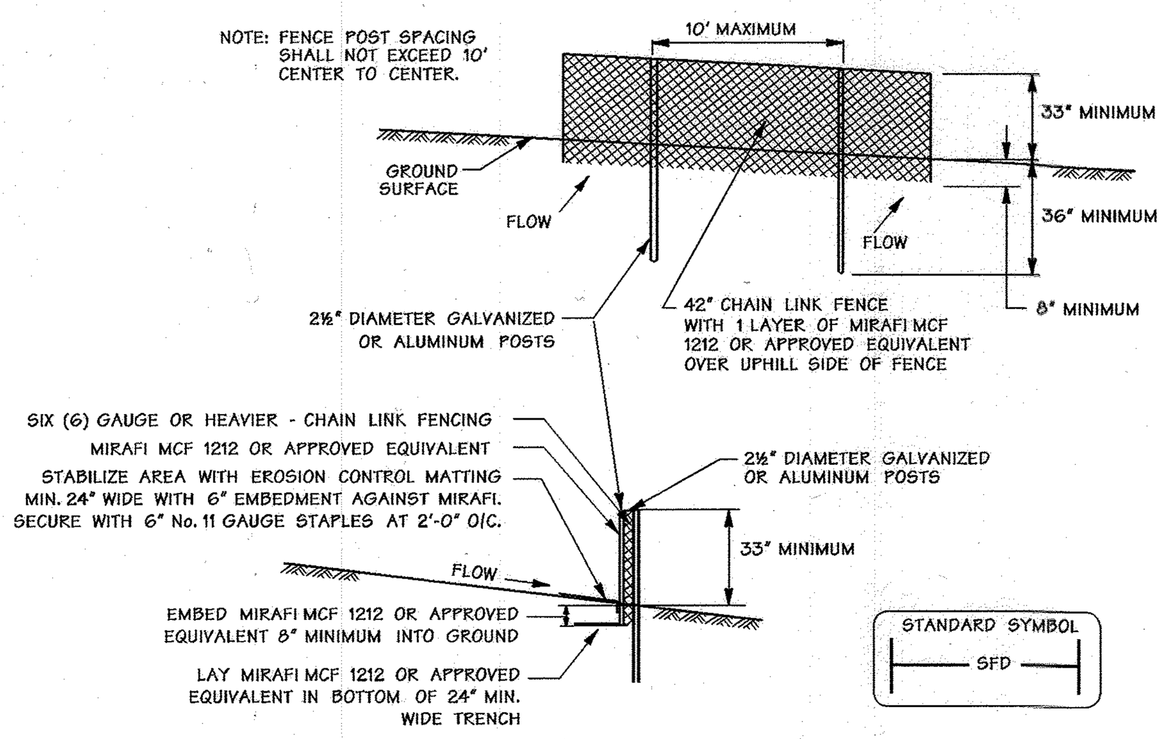


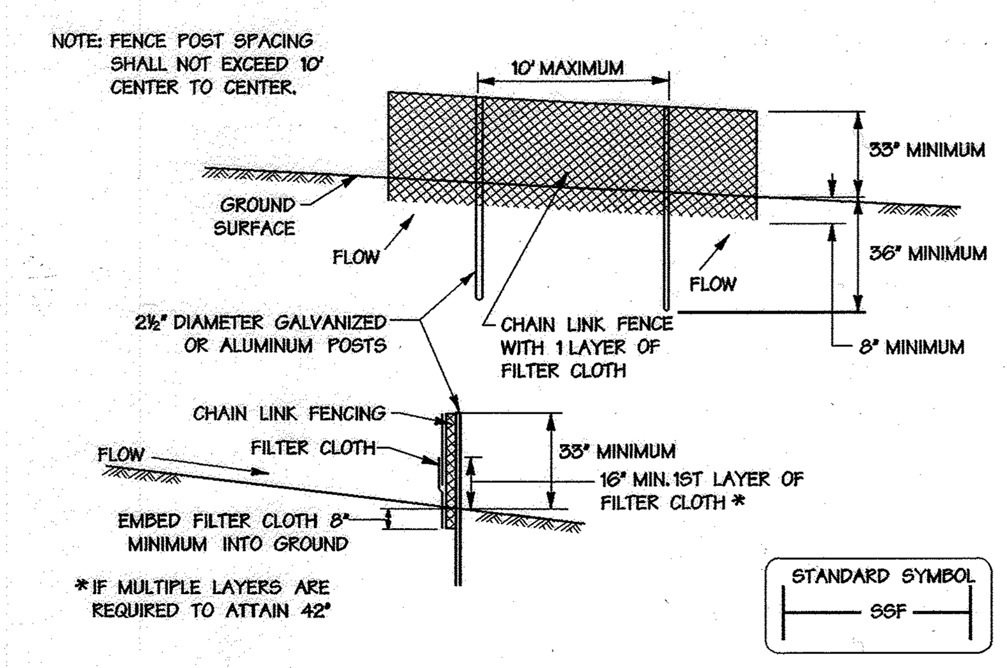
CONSTRUCTION SPECIFICATIONS

1. FENCING SHALL BE 42 INCHES IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY (SHA) DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
2. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE OR TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE. THE CHAIN LINK FENCING SHALL BE SIX (6) GAUGE OR HEAVIER.
4. MIRAFI MCF 1212 OR APPROVED EQUIVALENT SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
5. MIRAFI MCF 1212 OR APPROVED EQUIVALENT SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
6. WHEN TWO SECTIONS OF MIRAFI MCF 1212 OR APPROVED EQUIVALENT ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED.
8. MAXIMUM FLOW SLOPE 10.0%.
9. MAXIMUM DRAINAGE AREA 5 ACRES.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — H - 26 - 4 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Super Fence Diversion

Not To Scale



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4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
5. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
6. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
7. 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — H - 26 - 3 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Super Silt Fence

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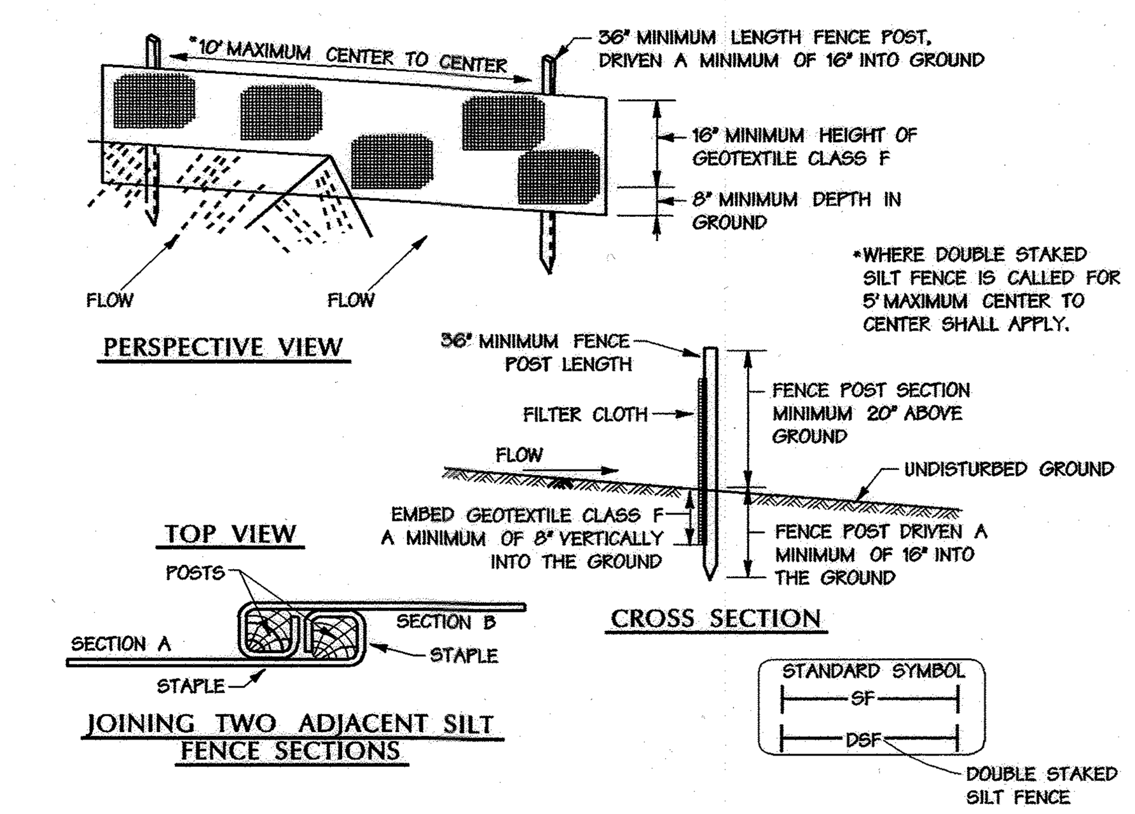

CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1½" x 1½" SQUARE (MINIMUM) CUT, OR 1¾" 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 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 FT/MIN (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 REACHED 50% OF THE FABRIC HEIGHT.

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

Silt Fence

Not To Scale

SILT FENCE DESIGN CRITERIA

SLOPE STEEPNESS	(MAXIMUM) SLOPE LENGTH	(MAXIMUM) SILT FENCE LENGTH
FLATTER THAN 50:1 (2%)	UNLIMITED	UNLIMITED
50:1 TO 10:1 (2-10%)	125 FEET	1,000 FEET
10:1 TO 5:1 (10-20%)	100 FEET	750 FEET
5:1 TO 3:1 (20-33%)	60 FEET	500 FEET
3:1 TO 2:1 (33-50%)	40 FEET	250 FEET
2:1 AND STEEPER (* 50%)	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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — E - 15 - 3A — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Silt Fence

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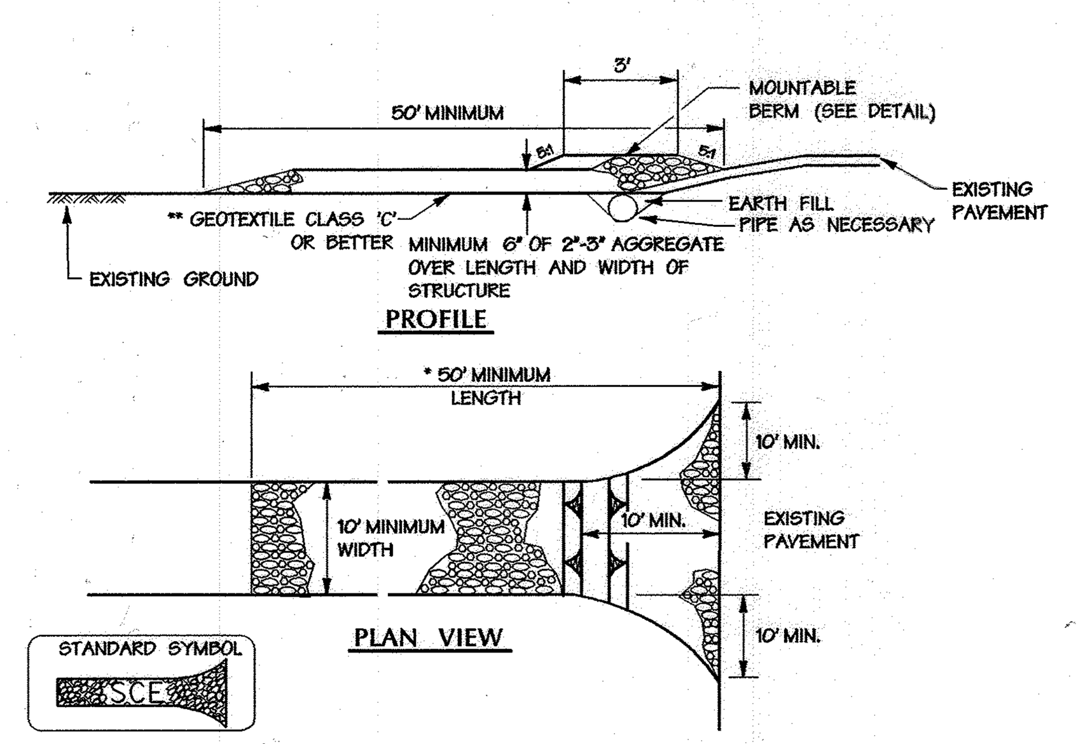


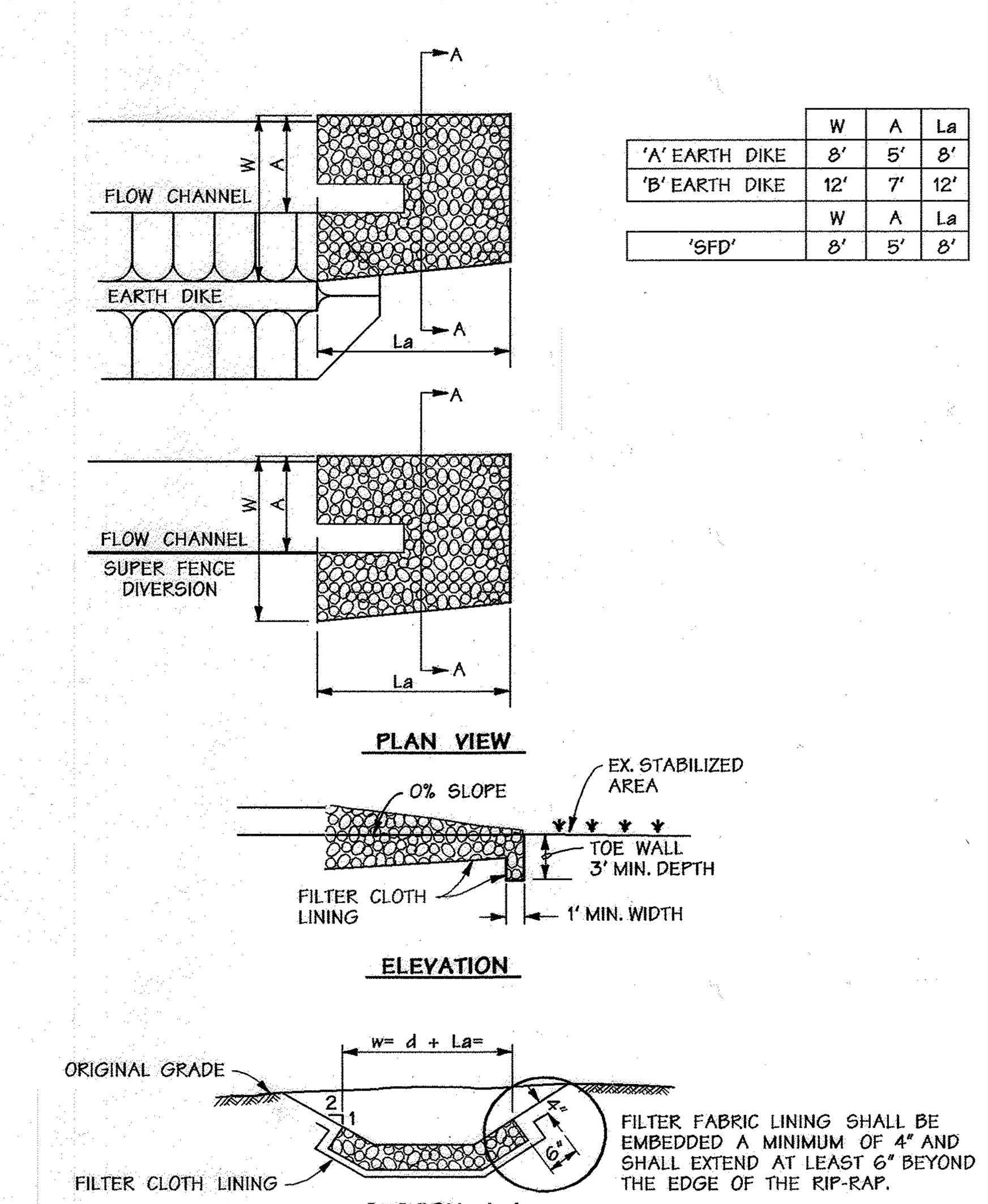
CONSTRUCTION SPECIFICATIONS

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 CLASS C (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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — F - 17 - 3 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Stabilized Construction Entrance

Not To Scale

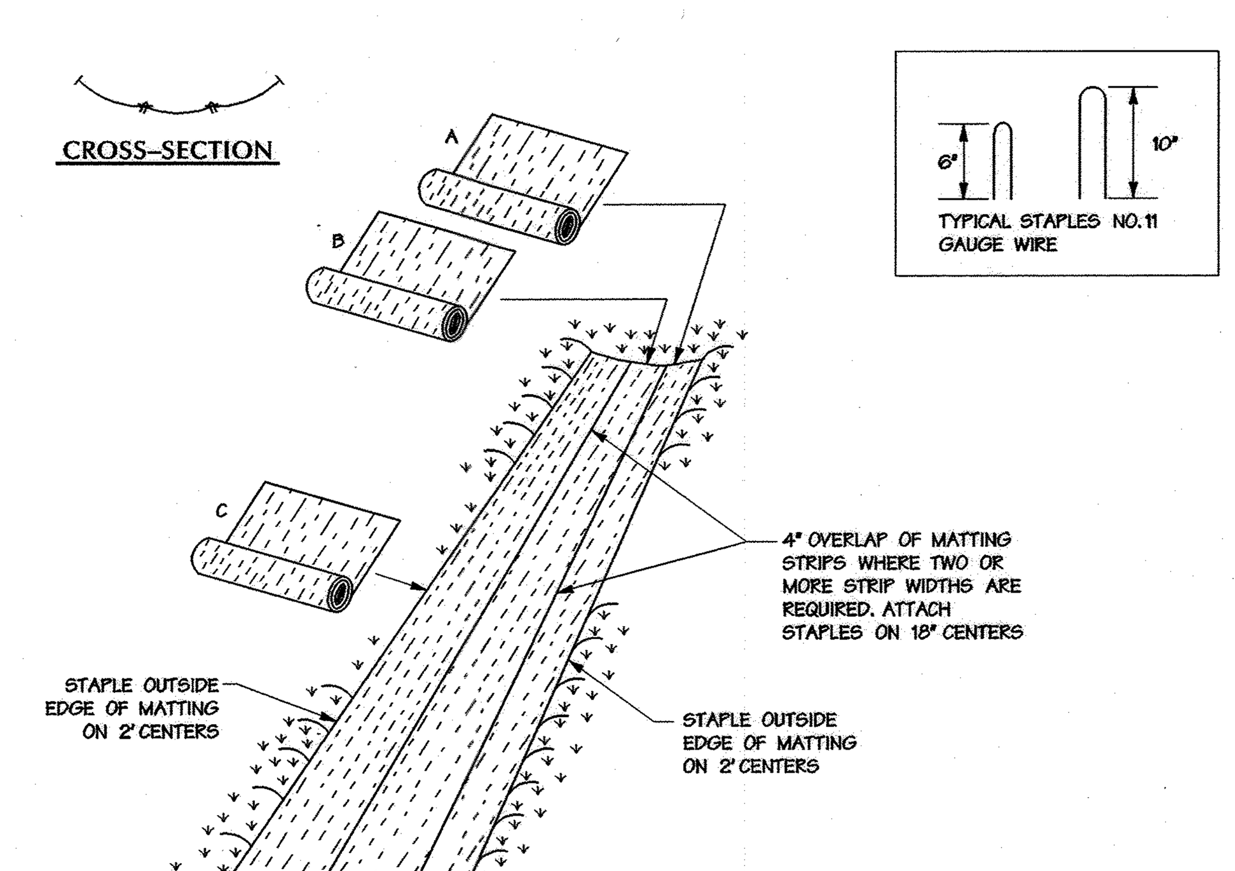


	W	A	La
'A' EARTH DIKE	8'	5'	8'
'B' EARTH DIKE	12'	7'	12'
	W	A	La
'SFD'	8'	5'	8'

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — F - 18 - 10 (MODIFIED) — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Rock Outlet Protection III

Not To Scale



CONSTRUCTION SPECIFICATIONS

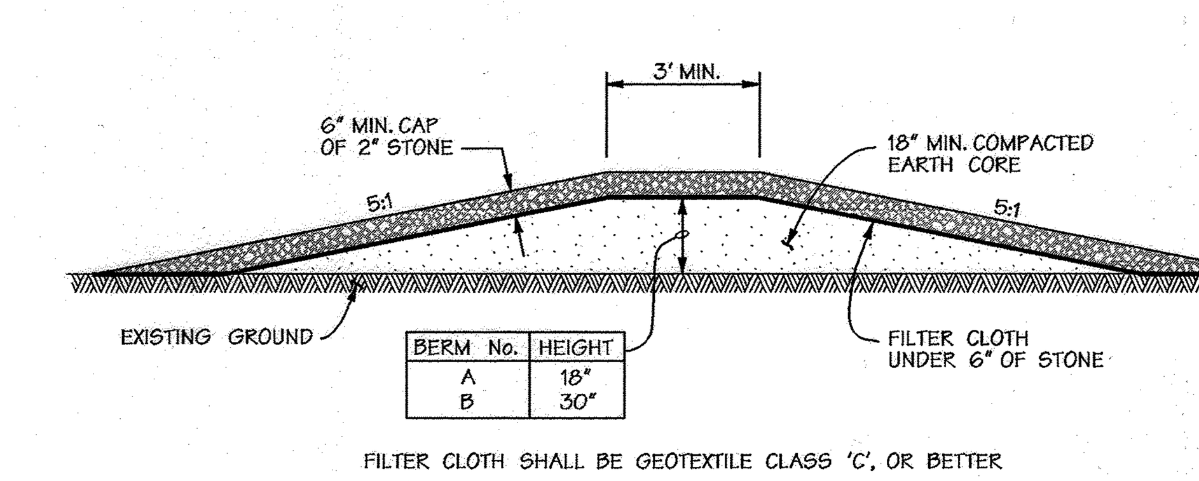
1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH, 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IN 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — G - 22 - 2 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Erosion Control Matting

Not To Scale



BERM No.	HEIGHT
A	18"
B	30"

FILTER CLOTH SHALL BE GEOTEXTILE CLASS 'C' OR BETTER

Mountable Berm Detail

NOT TO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 8/12/02 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 8/21/02 DATE

DIRECTOR — 8/23/02 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — 8-21-02 DATE

HOWARD COUNTY HEALTH DEPARTMENT

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, 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 RIP-RAP OR FILTER.

3. GEOTEXTILE CLASS C SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.

4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL 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 RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.

5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — F-18-8A, 9A, 10A — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Rock Outlet Protection Specifications

Reviewed for Howard SCD and meets Technical Requirements — 8/8/02 Date

USDA - Natural Resources Conservation Service

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT. — 8/8/02 Date

Howard SCD

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) — Date: 7-12-02

DEVELOPER'S CERTIFICATE

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

Rev. Michael J. Ruane, Pastor

Signature of Developer (print name below signature) — Date: June 17, 2002

Rev. Michael J. Ruane

7-12-02

Date

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS

ST. Michael's Roman Catholic Church

Phase I – Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW

Daft · McCune · Walker, Inc.

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue, Towson, Maryland 21286, 410 296 3333, Fax 296 4705

SUBDIVISION NAME	SECTION/ AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

TITLE

SEDIMENT & EROSION CONTROL DETAILS

Drn By: WDE	Scale:	Proj. No. 99143.B0
Des By:	Date: 10-15-01	4 of 22
Chk By:	Approved:	

SDP-02-47

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Section I - Vegetative Stabilization Methods and Materials

A. Site Preparation

i. Install erosion and sediment control structures (either temporary or 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 test 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 test 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 counter of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate 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 lespedeza 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 the 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 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 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 seeder, 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

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 25 or 26. The seeded area shall then be rolled with a weighed roller to provide good seed 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, reasonably 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 seedings.

e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-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 much should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas where one species of grass is desired.

i. If grading is completed outside of the seeding season, mulch alone 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 in 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 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 or on crest of banks. The remainder of area should 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.

Section II - 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.

SEED MIXTURE (HARDINESS ZONE) FROM TABLE 26					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
					600 LB/AC (15 LB/1000 SF)	2 TONS/AC (100 LB/1000 SF)

Section III - Permanent Seeding

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

SEED MIXTURE (HARDINESS ZONE) FROM TABLE 26					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
1	ANNUAL RYEGRASS	50		¼" - ½"	600 LB/AC (15 LB/1000 SF)	2 TONS/AC (100 LB/1000 SF)
2	WEEPING LOVEGRASS	4		¼" - ½"		

Section IV - Sod - To provide quick cover on disturbed areas (2:1 grade or flatter).

A. General Specifications

i. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.

ii. Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.

iii. Standard size sections of sod shall 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.

iv. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

v. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

B. Sod Installation

i. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.

ii. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered 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.

iii. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.

iv. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance

i. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.

ii. After the first week, sod watering is required as necessary to maintain adequate moisture content.

iii. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section V - Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1½ inches in diameter shall be removed. The resulting seedbed

A. Turfgrass Mixtures

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/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the 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/1000 square feet. A minimum of 3 Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the 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 - 100%, certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate: 5 to 8 lb/1000 sf. 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 30-40% and certified Fine Fescue and 60-70%. Seeding rate: 1 1/2 - 3 lbs/1000 square feet. A minimum of 3 Kentucky Bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo #77, "Turfgrass Cultivar Recommendations for Maryland".

B. Ideal times of seeding

Western MD: March 15 - June 1, August 1 - October 1 (Hardiness Zones - 5b, 6a)

Central MD: March 1 - May 15, August 15 - October 15 (Hardiness Zone - 6b)

Southern MD, Eastern Shore: March 1 - May 15, August 15 - October 15 (Hardiness Zones - 7a, 7b)

C. Irrigation

If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made lat in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance

Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.

i. Once the vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.

ii. If the stand provides less than 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

iii. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.

iv. Maintenance fertilizer rates for permanent seedings are shown in Table 24. For lawns and other medium high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in Maryland" Bulletin No. 171.

Soil test must be performed to determine the exact ratios and

G - 20 - 1A

VEGETATIVE STABILIZATION

Reviewed for Howard SCD and meets Technical Requirements

Jim Myers — 8/8/02
USDA - Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John R Robertson — 8/8/02
Howard SCD — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[signature] — 7-12-02
Signature of Engineer (print name below signature) — Date

DEVELOPER'S CERTIFICATE

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

Rev. Michael J. Ruane, Pastor — June 17, 2002
Signature of Developer (print name below signature) — Date
Rev. Michael J. Ruane

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[signature] — 8/12/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] — 8/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] — 8/23/02
DIRECTOR — DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

[signature] — 8-21-02
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

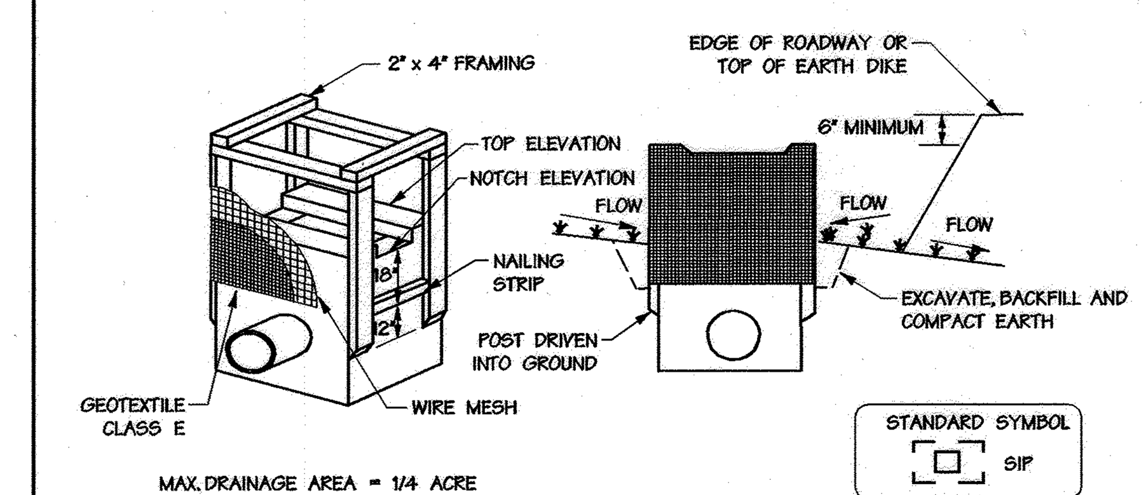
DUST CONTROL SPECIFICATIONS

TEMPORARY METHODS:
1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES 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 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 THE RUNOFF BEGINS TO FLOW.
5. BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE AFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE - APPLY AT A RATE 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — H - 30 - 1 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Dust Control Specifications — Not To Scale



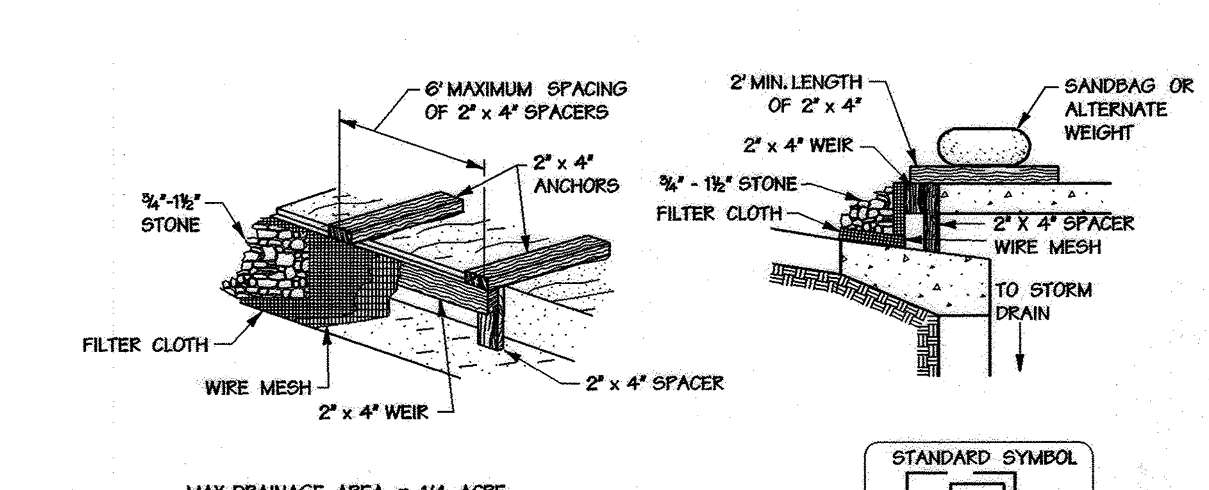
MAX. DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

1. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18" BELOW THE NOTCH ELEVATION.
2. DRIVE THE 2" x 4" CONSTRUCTION GRADE LUMBER POSTS 1' INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2" x 4" FRAME USING THE OVERLAP JOINT SHOWN ON DETAIL. THE TOP OF THE FRAME (WEIR) MUST BE 6" BELOW ADJACENT ROADWAYS WHERE FLOODING AND SAFETY ISSUES MAY ARISE.
3. STRETCH THE ½" x ½" WIRE MESH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. THE ENDS MUST MEET AND OVERLAP AT A POST.
4. STRETCH THE GEOTEXTILE CLASS E TIGHTLY OVER THE WIRE MESH WITH THE GEOTEXTILE EXTENDING FROM THE TOP OF THE FRAME TO 18" BELOW THE INLET NOTCH ELEVATION. FASTEN THE GEOTEXTILE FIRMLY TO THE FRAME. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED DOWN.
5. BACKFILL AROUND THE INLET IN COMPACTED 6" LAYERS UNTIL THE LAYER OF EARTH IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
6. IF THE INLET IS NOT IN A SUMP, CONSTRUCT A COMPACTED EARTH DIKE ACROSS THE DITCH LINE DIRECTLY BELOW IT. THE TOP OF THE EARTH DIKE SHOULD BE AT LEAST 6" HIGHER THAN THE TOP OF THE FRAME.
7. THE STRUCTURE MUST BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND THE GEOTEXTILE REPLACED WHEN IT BECOMES CLOGGED.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — E - 16 - 5 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Standard Inlet Protection — Not To Scale



MAX. DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

1. ATTACH A CONTINUOUS PIECE OF ½" x ½" 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 ½" x ½" 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 ¾" X 1½" 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 OF THE INLET.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — E - 16 - 5B — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Curb Inlet Protection (COG or COS Inlets) — Not To Scale

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, 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. SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
   B. FOURTEEN DAYS AS TO ALL OTHER DISTURBED OF GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASING 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 SEEDINGS (SEC. 51), SODS (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 OR SITE	16.5± ACRES
AREA DISTURBED	7.45± ACRES
AREA TO BE ROOFED OR PAVED	2.25 ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.19 ACRES
TOTAL CUT	3970 CUBIC YARDS
TOTAL FILL	4110 CUBIC YARDS
OFF-SITE WASTE/BORROW AREA LOCATION WASTE =	

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.

Sediment Control General Notes — Not To Scale

SEQUENCE OF CONSTRUCTION

SEQUENCE	NUMBER OF DAYS
1. OBTAIN A GRADING PERMIT.	7
2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES.	7
3. ROUGH GRADE SITE.	14
4 CONSTRUCT WATER, SEWER AND STORM DRAIN AND INSTALL INLET PROTECTION.	30
5. BEGIN BUILDING CONSTRUCTION.	180
6. FINE GRADE SITE.	5
7. INSTALL CURB & GUTTER, PAVING AND SIDE WALKS.	7
8. STABILIZE ALL AREAS IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS.	30
9. UPON APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTION REMOVE ALL EROSION CONTROL MEASURES AND STABILIZE.	10

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS

7-12-02
Date

ST. Michael's Roman Catholic Church
Phase I - Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME	SECTION/ AREA		LOT/PARCEL #
NA	NA		260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

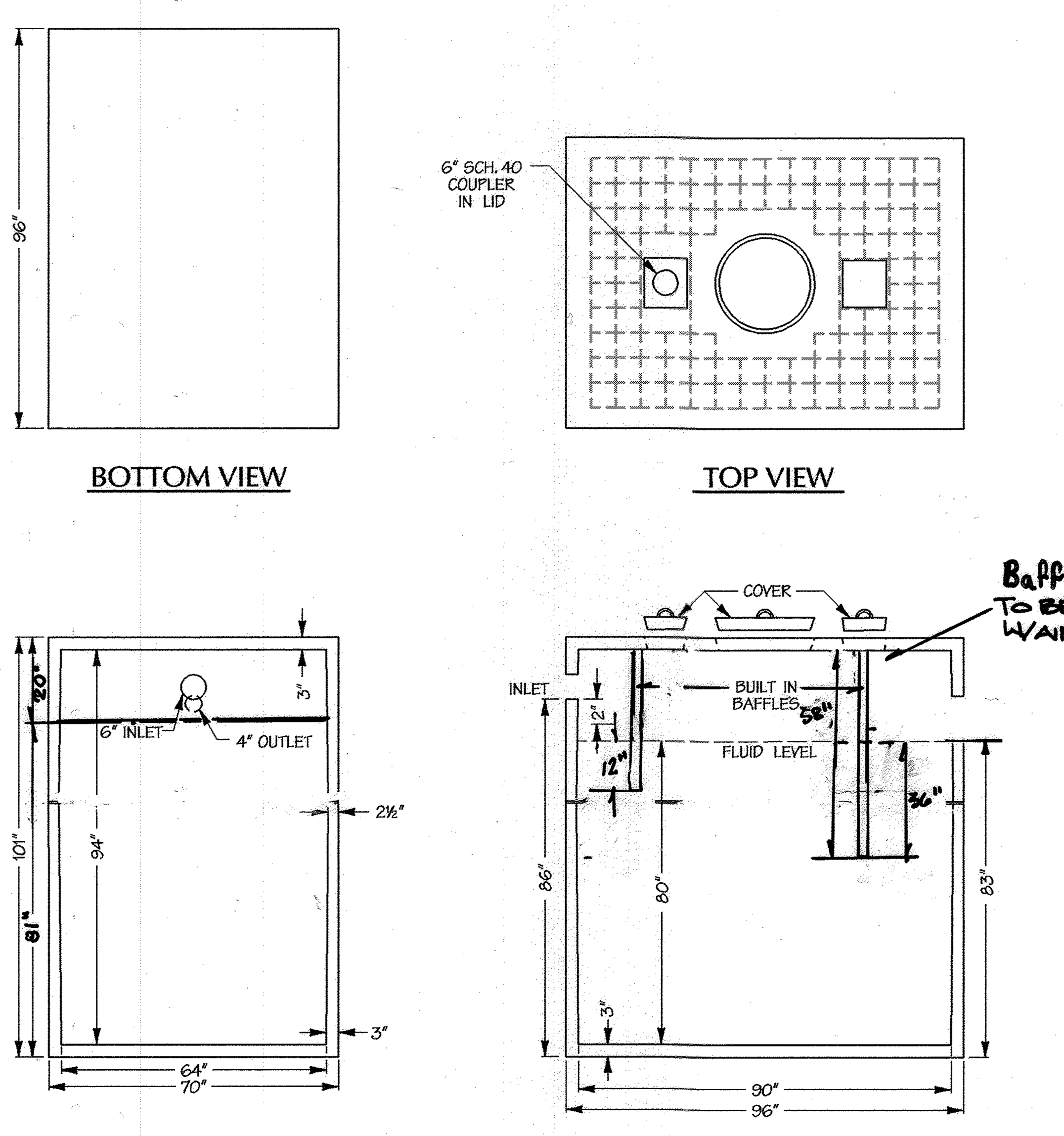
TITLE

SEDIMENT & EROSION CONTROL DETAILS

Drn By: ADL	Scale:	Proj. No. 99143.B0
Des By:	Date: 10-15-01	5 of 22
Chk By:	Approved:	

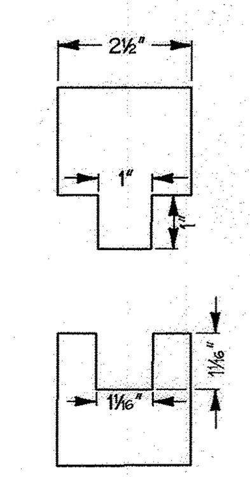
SDP-02-47

Wed Jun 12 08:07:31 2002 n:\99143\99143.sc4



INSPECTION & CLEANOUT OPENINGS
1 - ROUND 24" TO 22"
1 - RECTANGULAR INLET 12" X 4" TO 10⅛" X 9"
1 - RECTANGULAR OUTLET 11⅝" X 9⅜" TO 10⅛" X 8⅛"
1 - 6" SCH 40 COUPLER IN INLET LID

NOTES:
⅜" REBAR USED IN TOP
BAFFLES ARE PRECAST
TONGUE & GROVE JOINT BUTYL TANK SEAL USED IN JOINT
4" X 4" - 10 GA.WIRE USED IN TANK BODY & BOTTOM



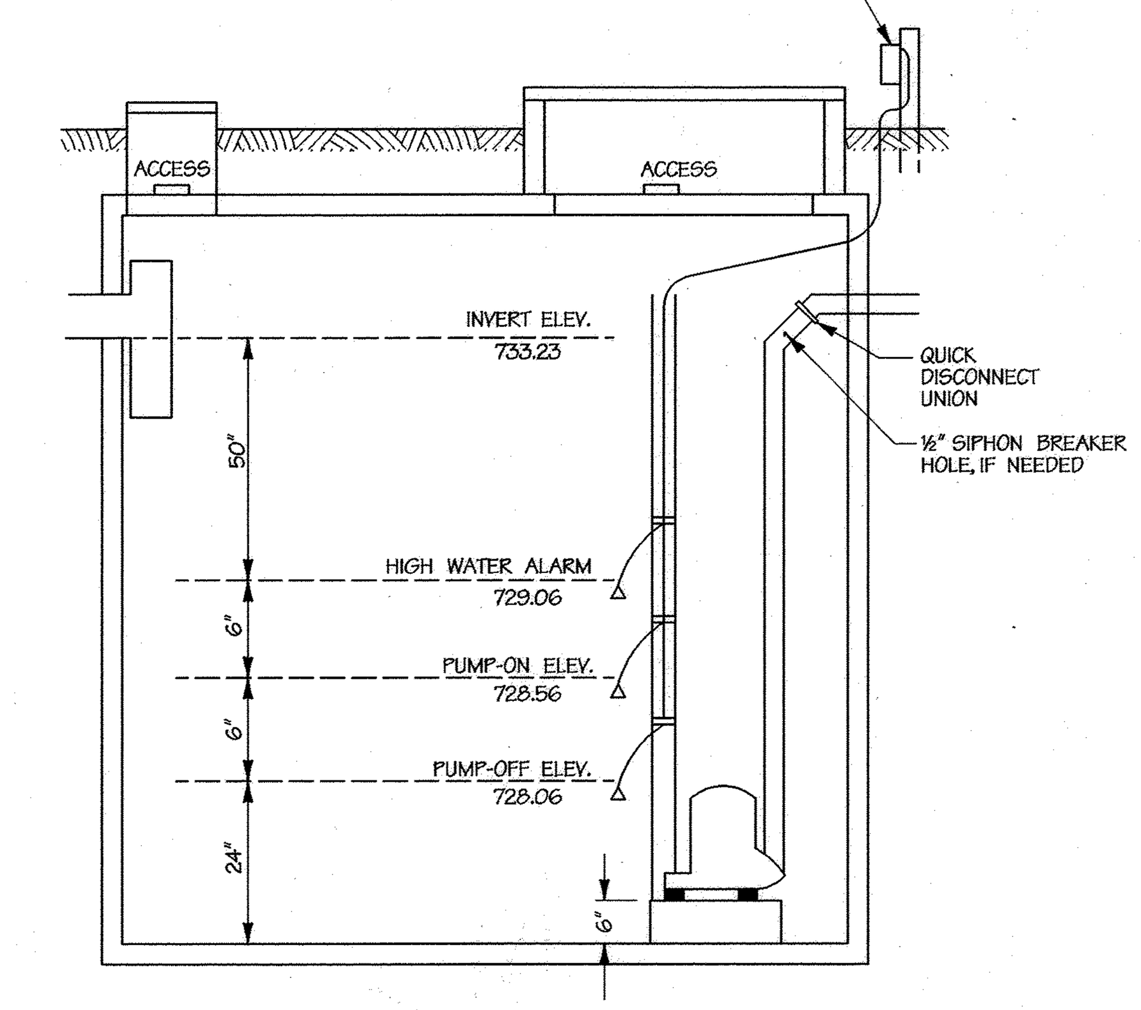
TONGUE & GROOVE JOINT DETAIL

SHOP DRAWING PROVIDED BY BABYLON VAULT COMPANY
* TOP SEAM TANK TO BE UTILIZED

SEPTIC TANK

NOT TO SCALE
2000 GALLON.

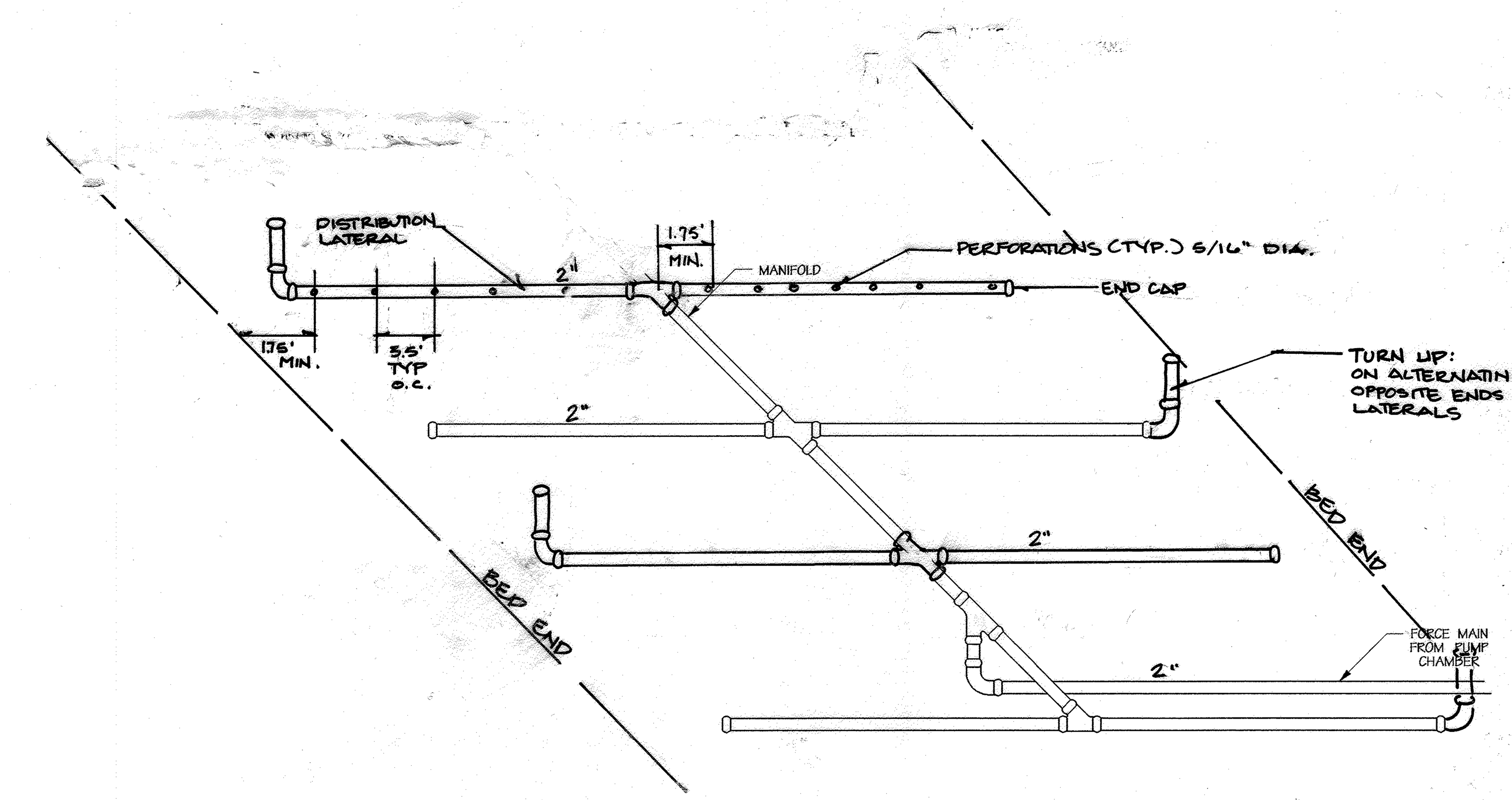
ALARM TO BE ON SEPARATE CIRCUIT.
DUAL PUMPS TO BE UTILIZED
CONTROL BOX WITH ALARM WITH EVENT COUNTER AND ELAPSED PUMP RUN METERS (MAY BE LOCATED INSIDE THE CHURCH.



PUMP CHAMBER DETAIL

NOT TO SCALE

- 2000 GALLON TOP SEAM PUMP CHAMBER IS TO BE UTILIZED
- FINAL SPACING OF FLOATS TO BE SUBMITTED TO HOWARD COUNTY HEALTH DEPT. PRIOR TO SEPTIC PERMIT ISSUE. SPACING OF FLOATS IS SUBJECT TO CHANGE.

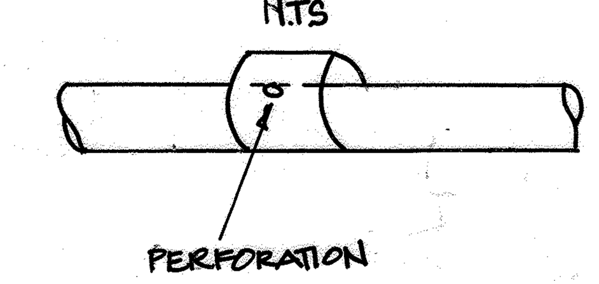


MODIFIED FROM EPA DESIGN MANUAL

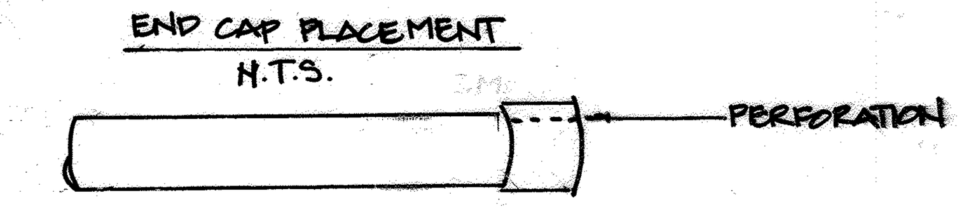
CENTRAL MANIFOLD DISTRIBUTION NETWORK

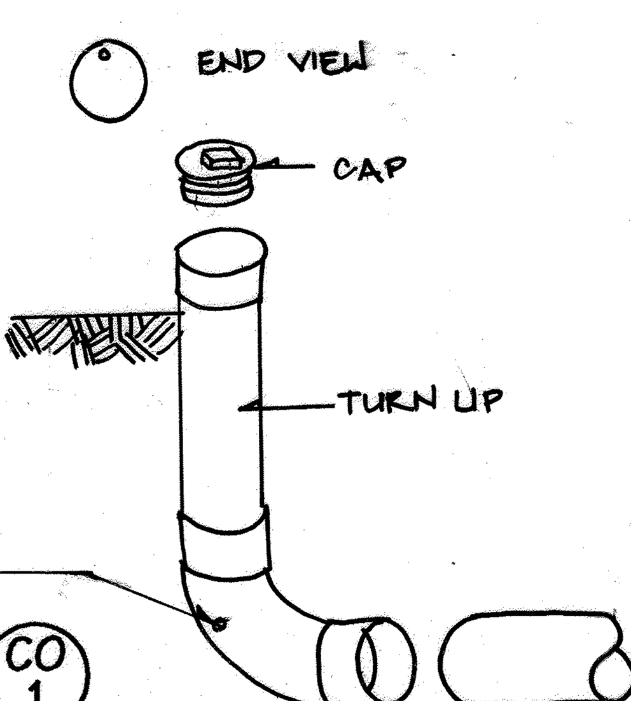
NOT TO SCALE

SHIELDED PLACEMENT
N.T.S

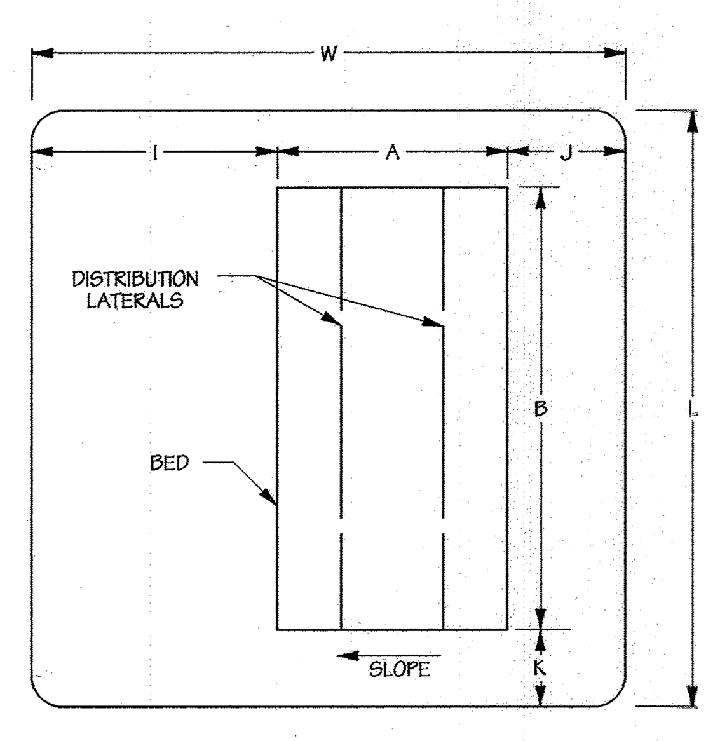


END CAP PLACEMENT
N.T.S.





TURN UP PLACEMENT
N.T.S.

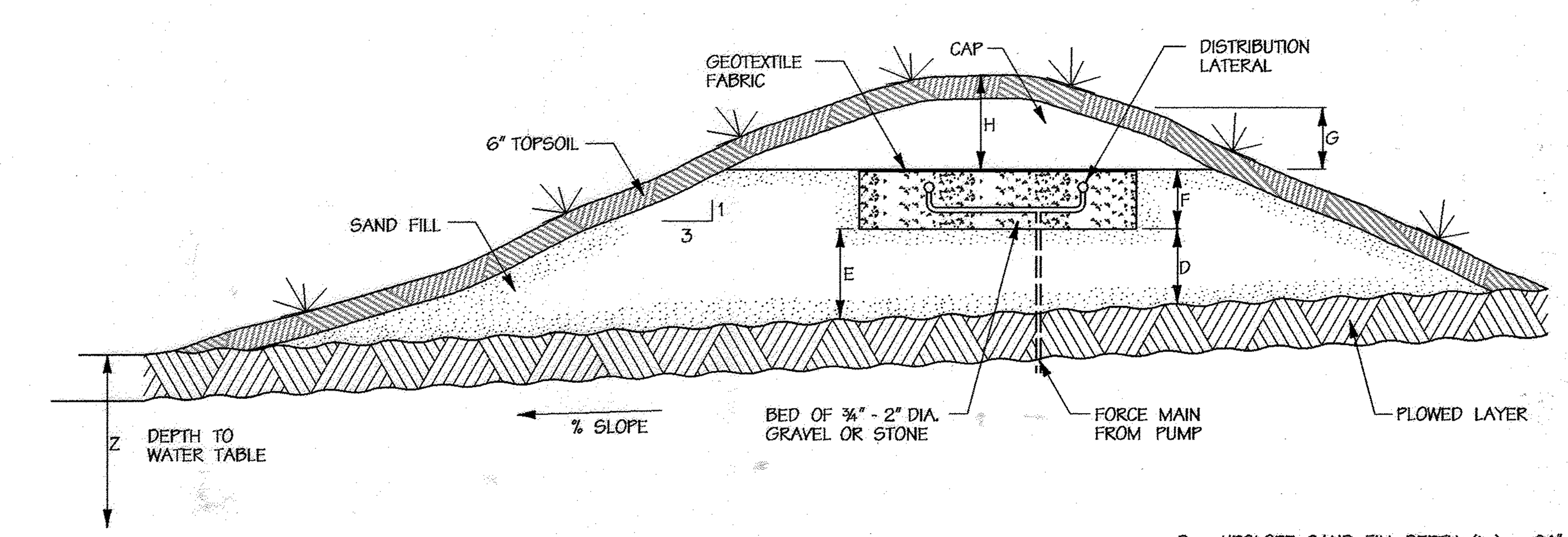


A = BED WIDTH = 15'
B = BED LENGTH = 90'
K = SIDESLOPE SETBACK = 13'-9"
J = UPSLOPE SETBACK = 10'-6"
I = DOWNSLOPE SETBACK = 14'-4"
W = TOTAL WIDTH OF MOUND = 39'-9"
L = TOTAL LENGTH OF MOUND = 117'-5"

PLAN VIEW

SAND MOUND

NOT TO SCALE



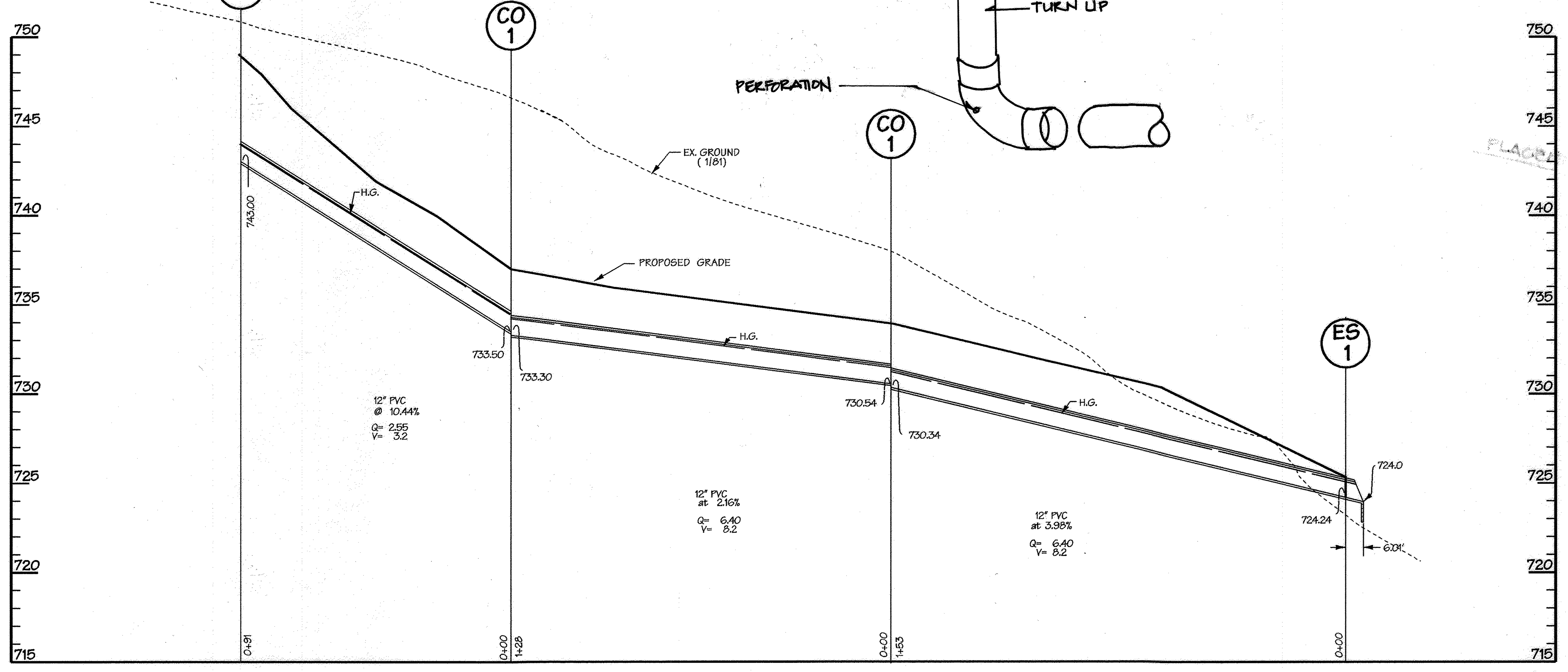
D = UPSLOPE SAND FILL DEPTH (in.) = 24"
E = DOWNSLOPE SAND FILL DEPTH (in.) = 30"
F = BED DEPTH (in.) = 10"
G = CAP & TOPSOIL HEIGHT AT BED EDGES (in.) = 12"
H = CAP & TOPSOIL HEIGHT AT BED CENTER (in.) = 18"
Z= DEPTH TO WATER TABLE (in.) = NA

CROSS SECTION

SAND MOUND

NOT TO SCALE

- THE DESIGN FLOW= 3240 GALLONS/DAY
- GENERAL NOTES FOR CONSTRUCTION OF SAND MOUND ARE TO BE PROVIDED TO CONTRACTOR PRIOR TO CONSTRUCTION
- THIS SYSTEM WILL HAVE DUAL PUMPS W/ SWITCH CONTROLS
- TANKS WILL BE TESTED FOR WATER TIGHTNESS.



Storm Drain Profiles
Scale: HOR.: 1" = 30'
VER.: 1" = 5'

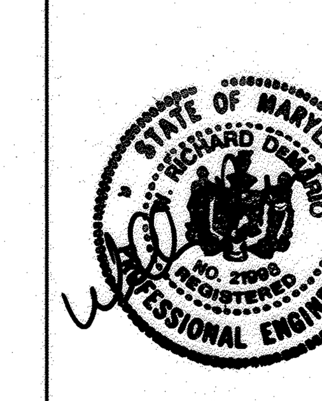
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	8/12/02 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	8/21/02 DATE
DIRECTOR	8/23/02 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	8-21-02 DATE

7-12-02
Date



Date	No.	Revision Description
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395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

TITLE
SEPTIC SYSTEM AND STORMDRAIN PROFILE

Drn By:	Scale:	Proj. No. 99143.B0
Des By: MRT/LLI	Date:	
Chk By:	Approved:	6 of 22

SDP-02-47

Fri Jul 12 11:30:13 2002 n:\99143\99143.upf

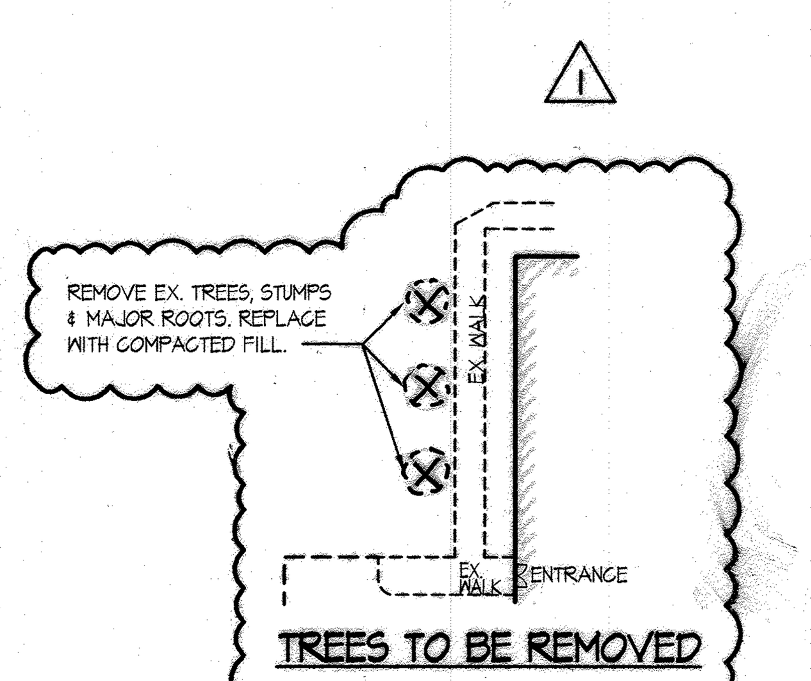
PLANT LIST

QTY	SYM	BOTANICAL NAME/ COMMON NAME	SIZE	REMARKS
LARGE TREES				
8	AR	ACER RUBRUM 'OCTOBER GLORY' October Glory Red Maple	2 1/2" - 3" CAL. 12' - 14' HT.	B & B FULL HEAD
22	QP	QUERCUS PALUSTRIS Pin Oak	2 1/2" - 3" CAL. 12' - 14' HT.	B & B FULL HEAD
FLOWERING TREES				
2	MS	MAGNOLIA STELLATA Star Magnolia	5'- 6' HT.	B & B
4	PY	PRUNUS YEDOENSIS Yoshino Cherry	1½" - 2" CAL.	B & B
EVERGREEN TREES				
49	PS	PINUS STROBUS Eastern White Pine	6' - 8' HT.	B & B
SHRUBS				
23	AG	ABELIA X.'EDWARD GOUCHER' Abelia 'Edward Goucher'	30" - 36" HT.	CONT.
8	CA	CORNUS ALBA 'ARGENTEO -MARGINATA ELEGANTISSIMA'	24" - 30" HT.	CONT. 6' O.C.
9	TB	TAXUS MEDIA 'DENSFORMIS' Dense Yew	30" - 36" SP.	CONT. 4' O.C.
69	CS	COTON. SALICIFOLIA 'REPANDENS' Willowleaf Cotoneaster	24" - 30" SP.	CONT. 6' O.C.

LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. UTILITIES
- PROP. EDGE OF ROAD
- × 360.70 SPOT ELEVATION
- PROPOSED SHADE TREE
- PROPOSED FLOWERING TREE
- PROPOSED EVERGREEN
- PROPOSED SHRUBS
- PROPOSED ADDITION

NOTE: SEE SHEET 8 FOR LANDSCAPE NOTES AND DETAILS.



THIS SEAL IS FOR REVISION 1 BY SITE RESOURCES, INC. ONLY.

8-26-2013

PROFESSIONAL CERTIFICATION
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. 16144, EXPIRATION DATE: 05/19/14.

DATA SOURCES

Boundary and topography provided hereon by O'Connell & Lawrence, Inc. via electronic transfer on January 7, 2000.
Approximate head of stream and wetland locations per DMW, Inc.

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS
7/18/13	1	ADD HANDICAP PARKING SPACES

ST. Michael's Roman Catholic Church
Phase I – Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue, Towson, Maryland 21286, 410 296 3333, Fax 296 4705

SUBDIVISION NAME	SECTION/ AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

TITLE

LANDSCAPE PLAN

Drn By: AJS	Scale: 1" = 50'	Proj. No. 99143.B0
Des By:	Date: 7/12/02	7 of 22
Chk By:	Approved:	

7.16.02
Date
STATE OF MARYLAND MELANIE MOSER No. 551 REGISTERED LANDSCAPE ARCHITECT

Landscape Architect No.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/12/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/21/02

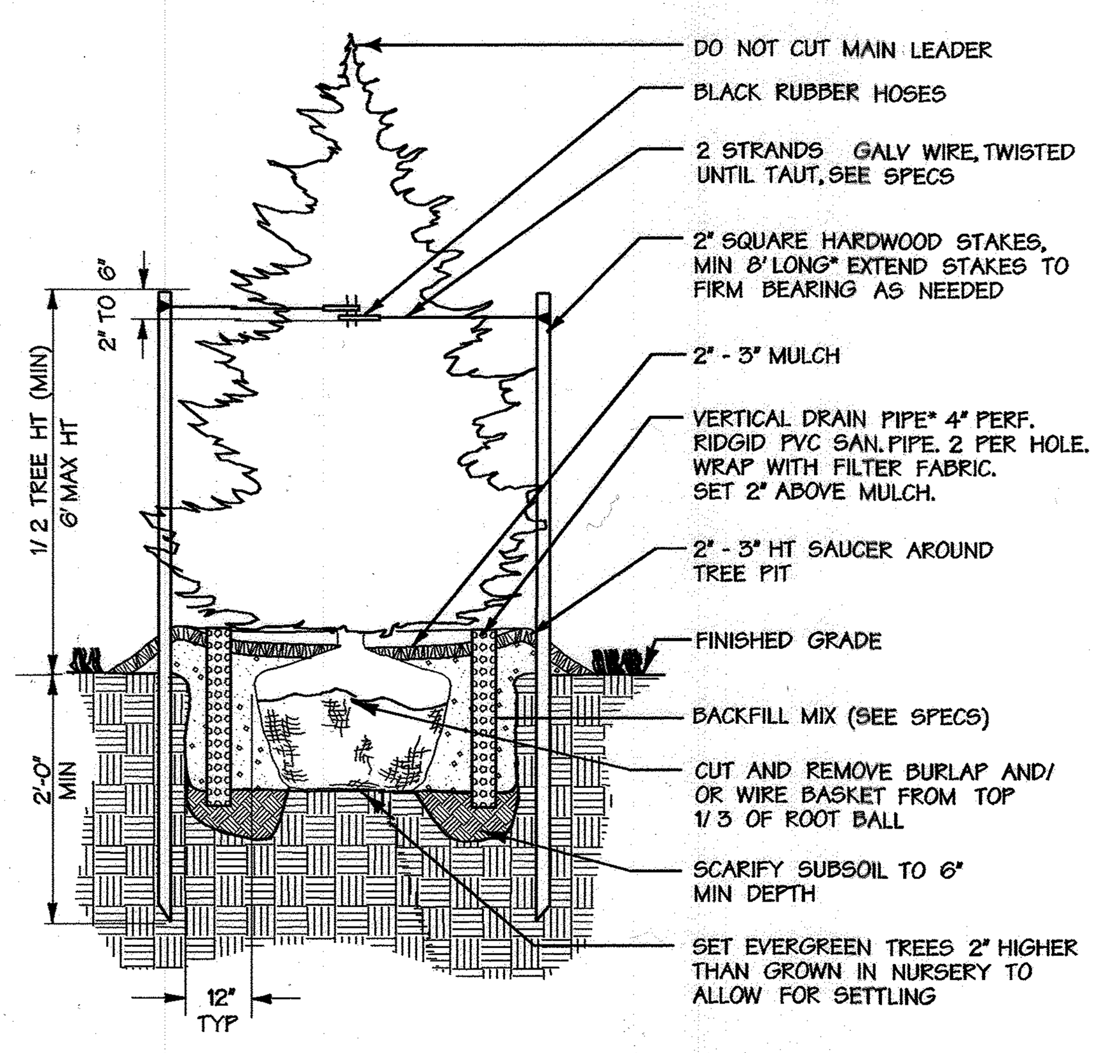
DIRECTOR — DATE 8/23/02

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

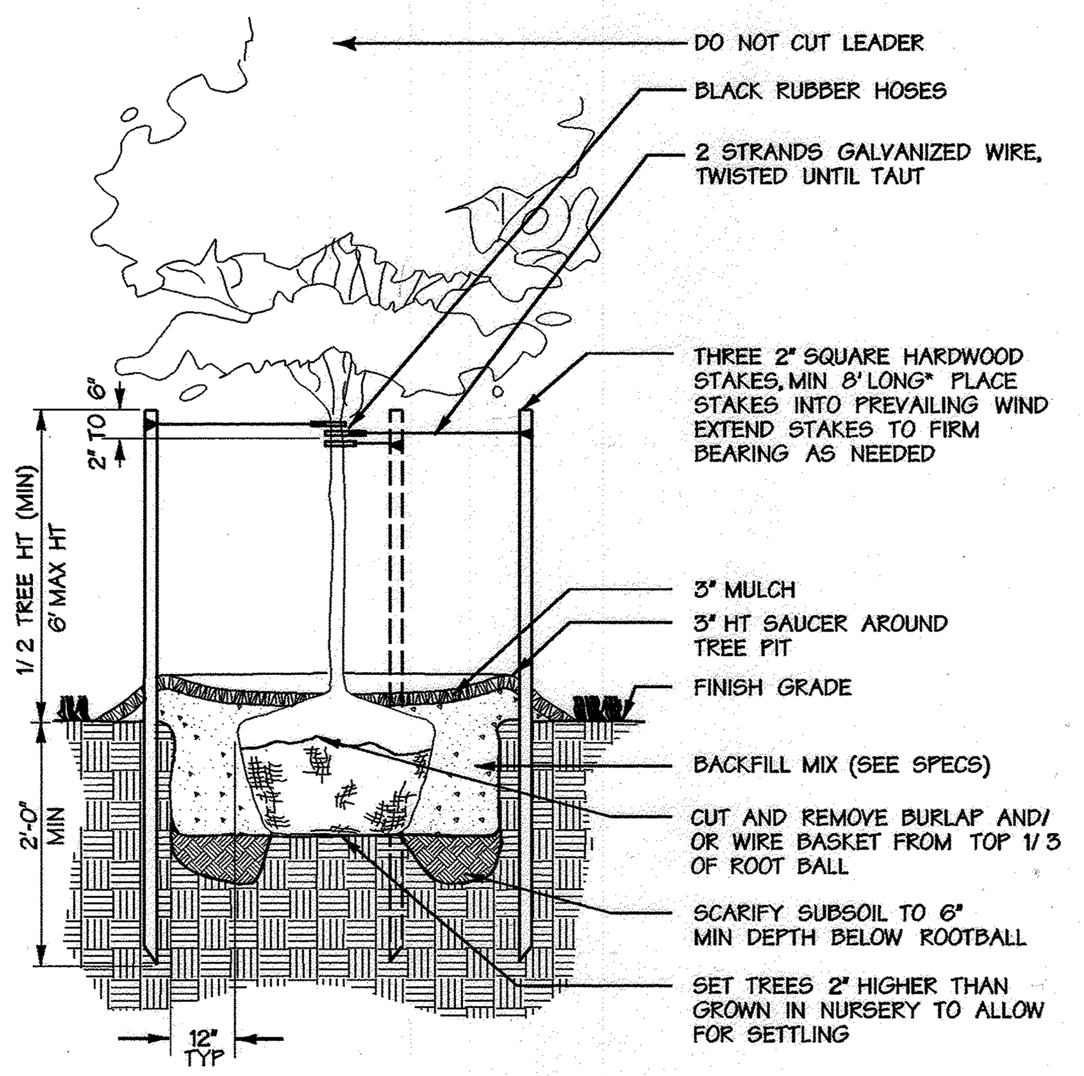
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT — DATE 8-21-02

SDP-02-47

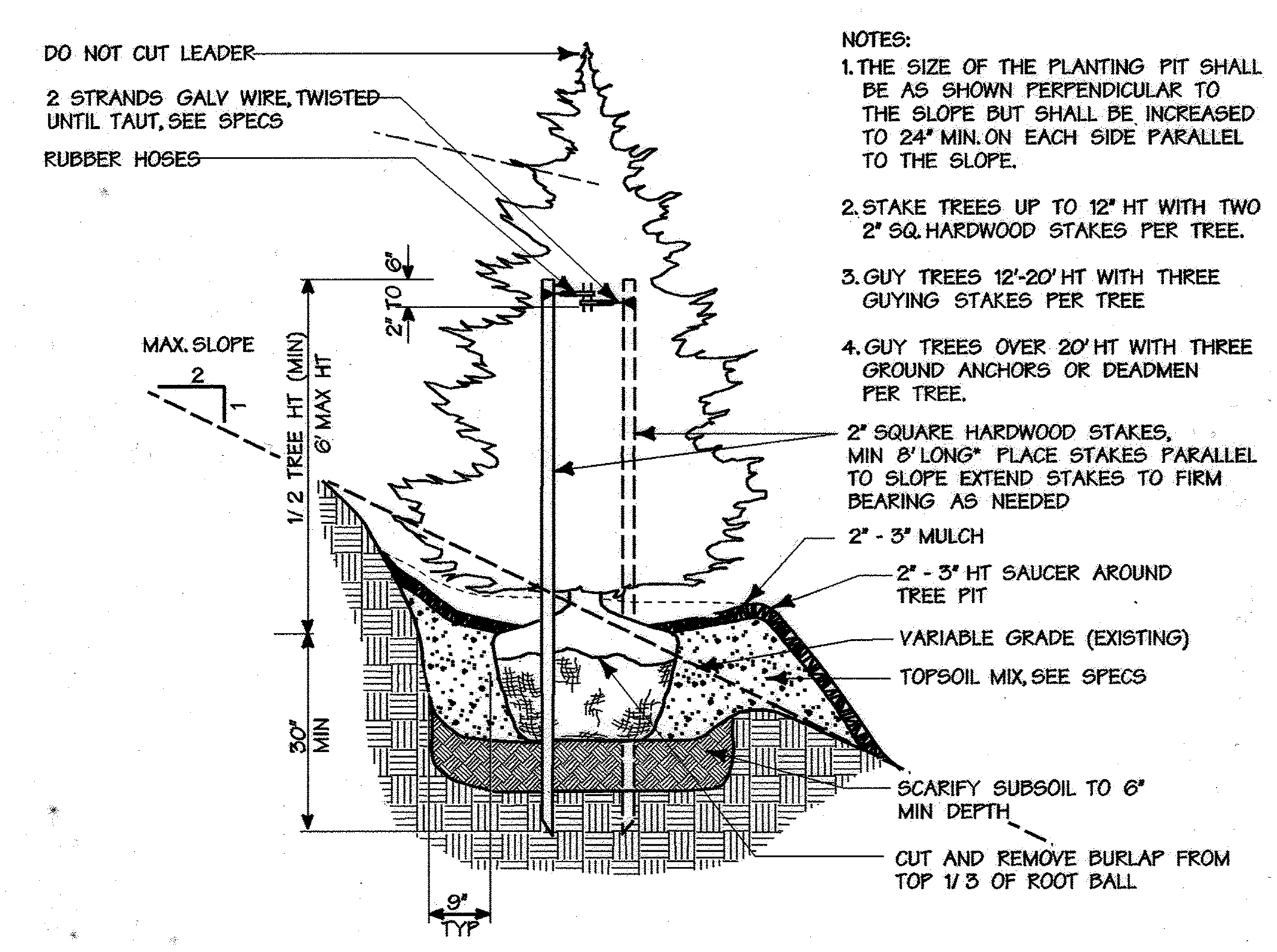
Fri Jul 12 11:32:26 2002 n:\99143\99143.lp1



EVERGREEN TREE PLANTING
NOT TO SCALE



TREE PLANTING 2½- 3" CALIPER
NOT TO SCALE



NOTES:
1. THE SIZE OF THE PLANTING PIT SHALL BE AS SHOWN PERPENDICULAR TO THE SLOPE BUT SHALL BE INCREASED TO 24" MIN. ON EACH SIDE PARALLEL TO THE SLOPE.
2. STAKE TREES UP TO 12" HT WITH TWO 2" SQ. HARDWOOD STAKES PER TREE.
3. GUY TREES 12'-20' HT WITH THREE GUYING STAKES PER TREE
4. GUY TREES OVER 20' HT WITH THREE GROUND ANCHORS OR DEADMEN PER TREE.

EVERGREEN TREE PLANTING ON SLOPE
NOT TO SCALE

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT to ROADWAYS			ADJACENT to PERIMETER PROPERTIES		
LANDSCAPE TYPE "A"						
LINEAR FEET OF PERIMETER						
LANDSCAPE TYPE "B"	P 3	P 4				
LINEAR FEET OF PERIMETER	232 LF.	165 LF.				
LANDSCAPE TYPE "C"				P 1	P 2	
LINEAR FEET OF PERIMETER				257 LF.	266 LF.	
LANDSCAPE TYPE "E"			P 5			
LINEAR FEET OF PERIMETER			91 LF.			
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)	N/A	165 LF	N/A	N/A	N/A	
CREDIT FOR BERM (DESCRIBE BELOW IF NEEDED)	N/A		N/A	N/A	N/A	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 5 6 0		 2 0 23	 6 13 0	 7 13 0	
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2 :1 SUBSTITUTION) SHRUBS (10 :1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	 5 6 0		 2 0 23	 6 13 0	 7 13 0	

NOTE: PERIMETER 4 CREDIT FOR EXISTING HEDGEROW AND LANDSCAPING PER SDP 82-69.

SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

STORMWATER MANAGEMENT AREA	
LANDSCAPE TYPE "B" (LINEAR FT OF PERIMETER)	691 LF
NUMBER OF TREES REQUIRED SHADE TREES @ 1/50 L.F. EVERGREEN TREES @ 1/40 L.F.	 14 17
CREDIT FOR EXISTING VEGETATION	0 LF
CREDIT FOR OTHER LANDSCAPING	N/A
NUMBER OF TREES PROVIDED SHADE TREES FLOWERING TREES EVERGREEN TREES	 12* 4 17

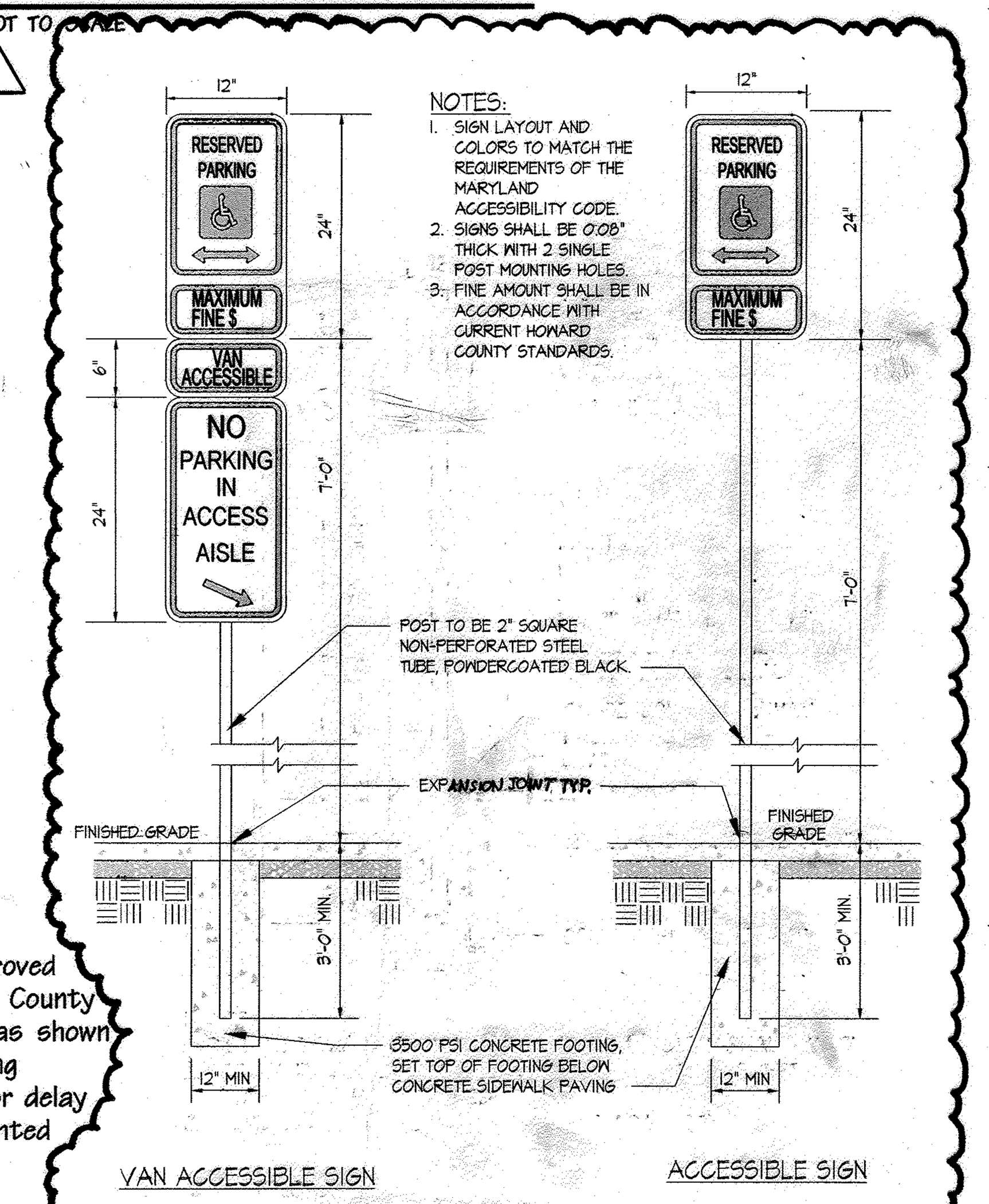
*4 FLOWERING TREES SUBSTITUTED FOR 2 SHADE TREES.

General Planting Notes

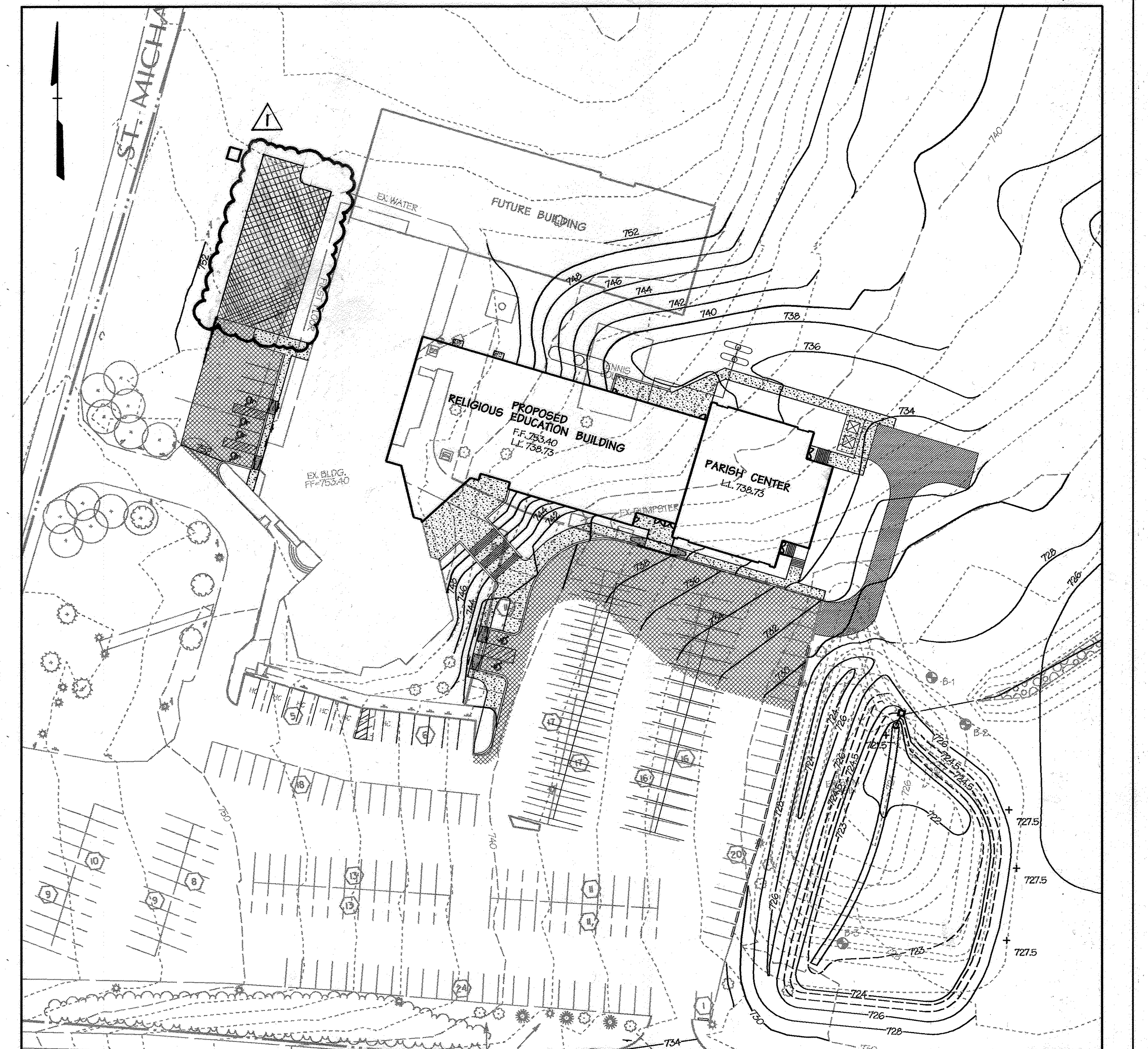
1. All plant material to meet A.A.N. Standards.
2. Landscape Contractor to follow landscape specification guidelines for Baltimore Washington Metro area approved by LCAMW.
3. No substitutions to be made without consent of Landscape Architect or Owner.
4. All beds to be topped with three inches of hardwood mulch.
5. Landscape Contractor to verify location of utilities with Owner before planting.
6. Landscape Architect/Owner shall select, verify and/or approve all plant material. At Owner's discretion, specimen and other plant material will be selected.
7. Landscape Contractor shall coordinate plant bed filling operations and plant material installation with General Contractor and Utilities Contractor. At the time of final inspection with acceptance, all electric, water, drainage, and fountain utilities, as well as all plant materials, shall remain undamaged. Likewise, Landscape Contractor and Utilities Contractor shall coordinate efforts to ensure that surface utilities are at the proper elevation relative to final grades.
8. Contractor shall notify Miss Utility 72 hours prior to construction.
9. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
10. This plan has been prepared in accordance with the provisions of Section 16.124 of the Ho. Co. code. Financial surety for the required landscaping in the amount of $18,240.00 must be posted as part of the Developers Agreement. (34 shade, 49 evergreen, 23 shrubs).
11. At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of proper height requirements in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocation of required plantings as shown on this plan may be made without pripor approval from the Department of Planning and Zoning. Any deviation from this approved Landscap Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.
12. Developer's/Builder's Certificate

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

Rev. Michael J. Ruane, PASTOR — JUNE 17, 2002
NAME: Rev. Michael J. Ruane — DATE
ST. MICHAELS ROMAN CATHOLIC CHURCH



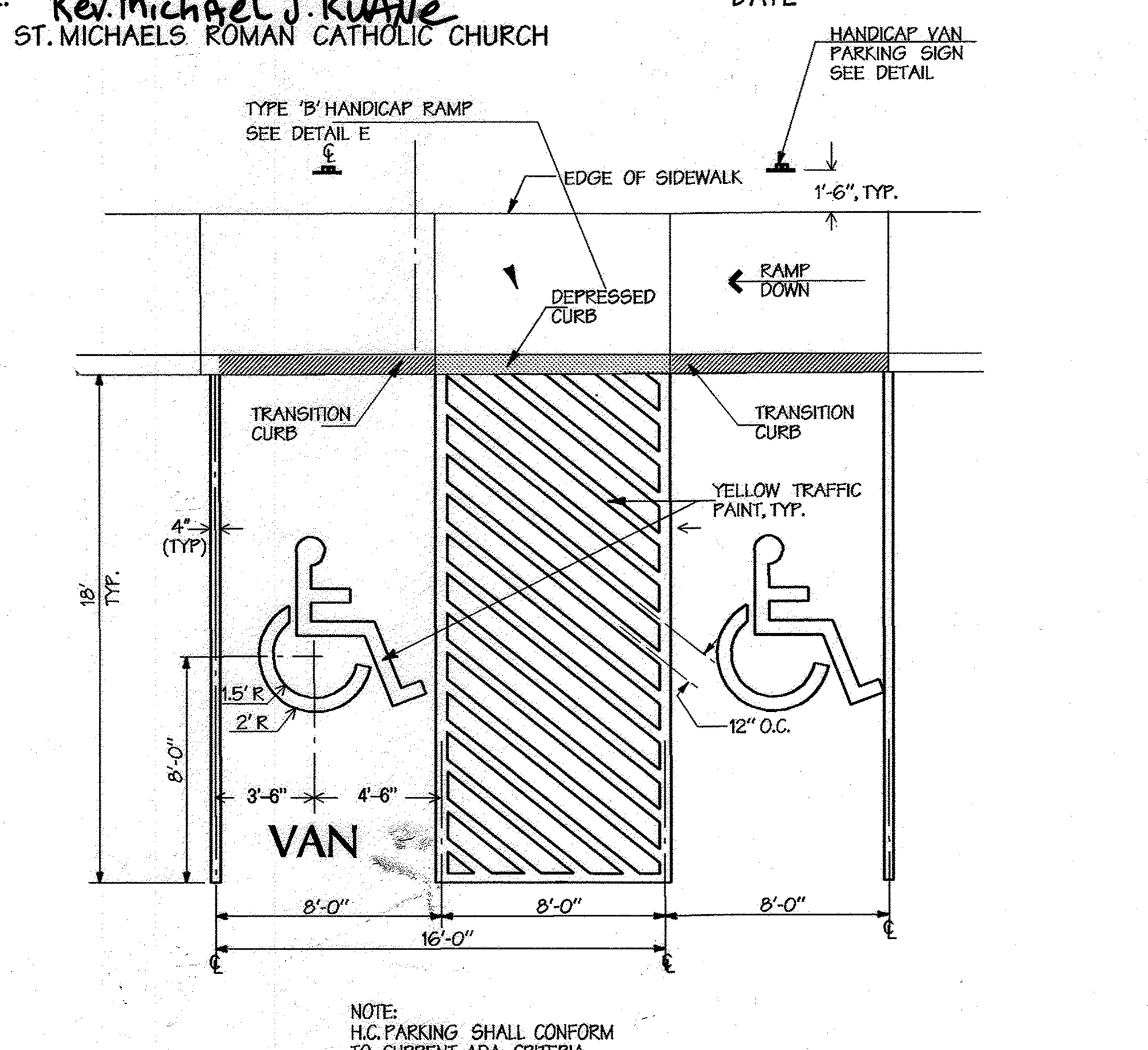
Handicap Parking Sign
Lasite.cel/HC71
Not To Scale



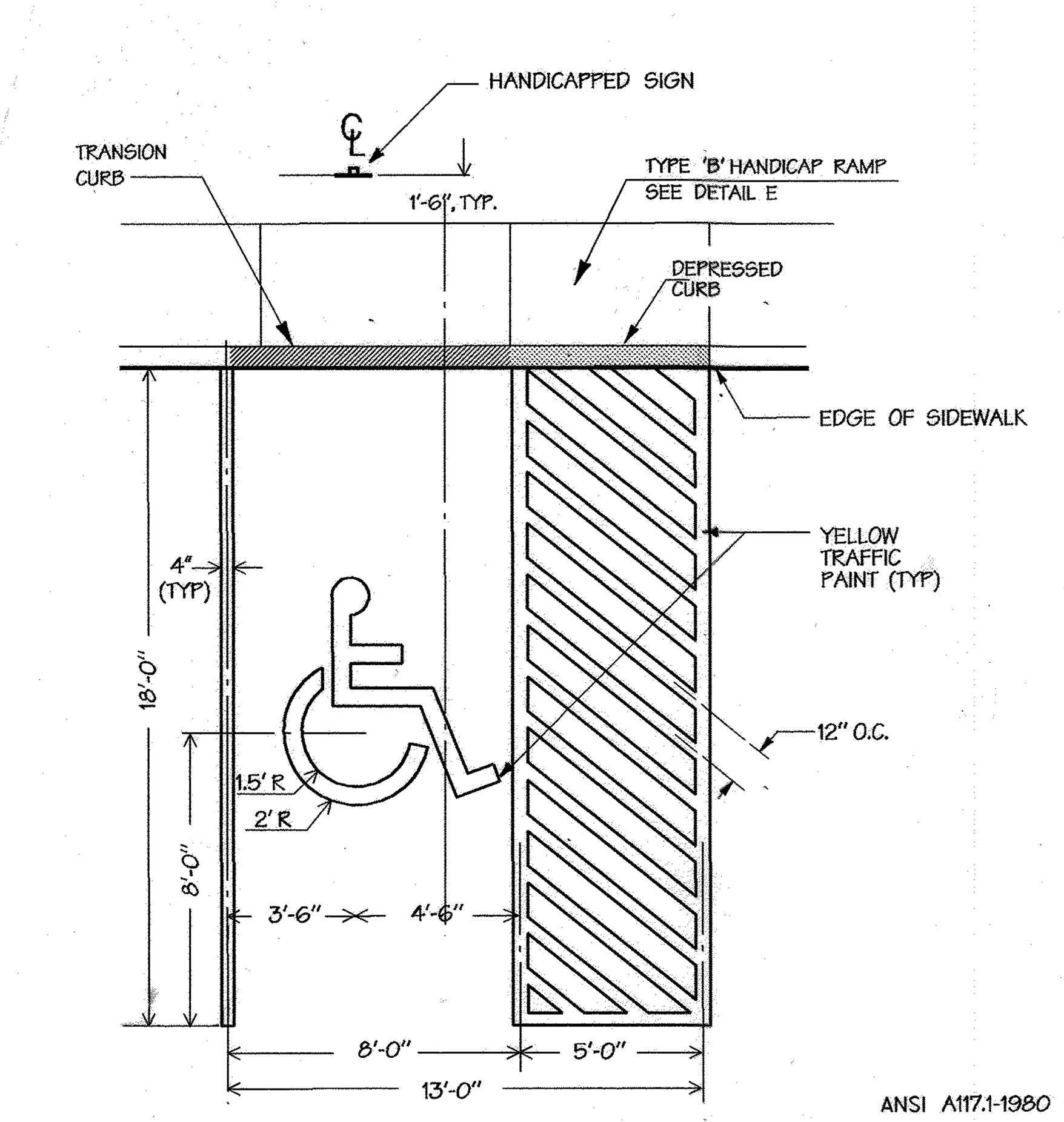
PAVING LEGEND
SCALE: 1"=50'

P1 PAVING | P3 PAVING | CONCRETE

NOTE: SEE SHEET 2 FOR PAVING SECTION (DETAIL).



Handicap Parking: Van & Standard
Not To Scale



Handicap Parking Space
Not To Scale

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	8/12/02 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	8/21/02 DATE
DIRECTOR	8/23/02 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	8-21-02 DATE

THIS SEAL IS FOR REVISION 1 BY SITE RESOURCES, INC. ONLY.

STATE OF MARYLAND ALBERT F. EDWARDS 16144 PROFESSIONAL ENGINEER

8-26-2013

PROFESSIONAL CERTIFICATION
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. 16144, EXPIRATION DATE: 08/19/14.

7.16.02
Date

STATE OF MARYLAND MELANIE MOSER No. 551 REGISTERED LANDSCAPE ARCHITECT

Landscape Architect No.

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS
7/18/13	1	ADD HANDICAP PARKING SPACES

ST. Michael's Roman Catholic Church
Phase I - Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue, Towson, Maryland 21286, 410 296 3333, Fax 296 4705

SUBDIVISION NAME	SECTION/ AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

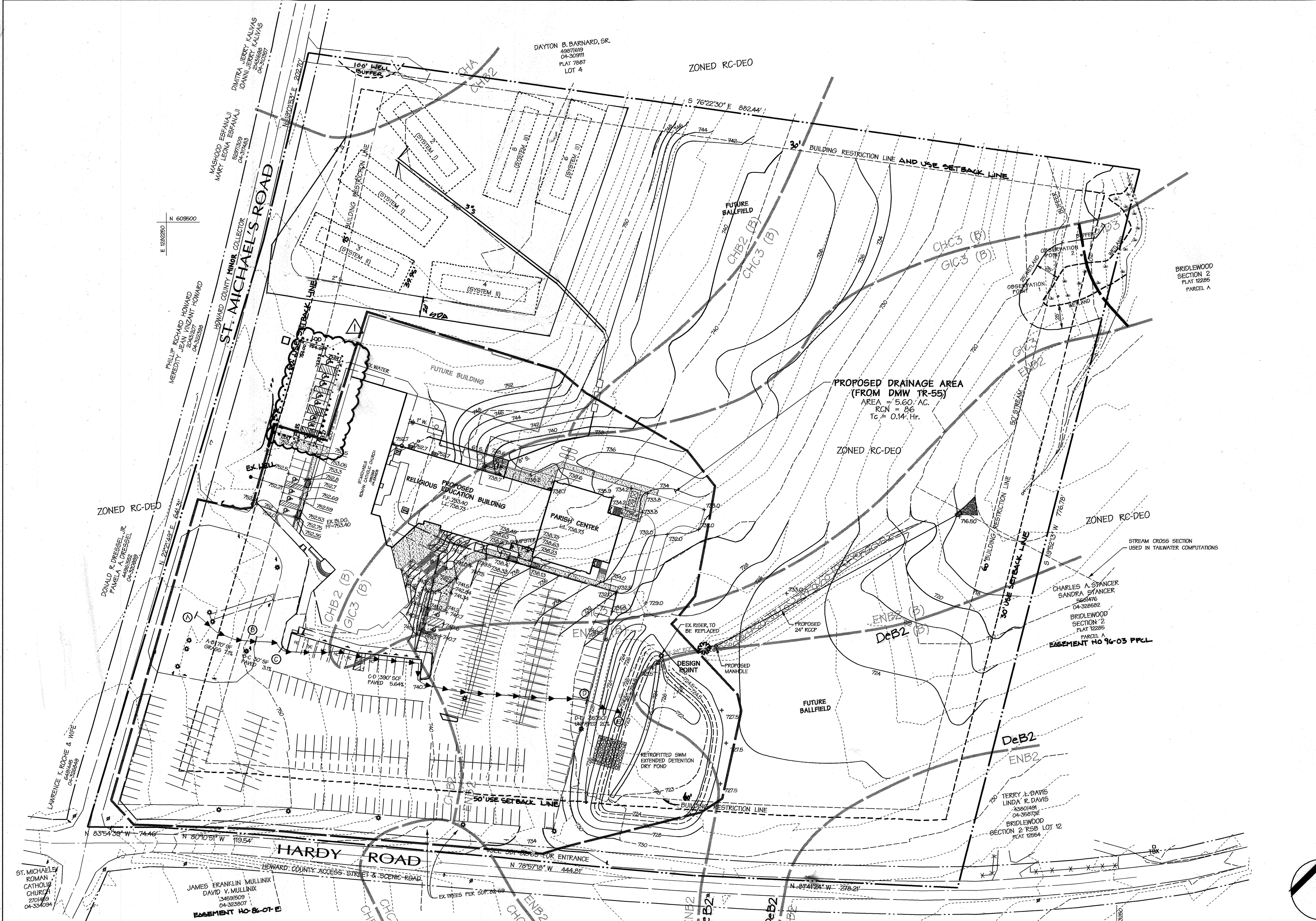
WATER CODE	SEWER CODE
****	*******

TITLE
LANDSCAPE & CONSTRUCTION DETAILS

Drn By: AJS	Scale: AS SHOWN	Proj. No. 99143.BO
Des By:	Date: 7/12/02	8 of 22
Chk By:	Approved:	

SDP-02-47

Wed Jun 12 08:11:46 2002 n:\99143\99143.lp2



LEGEND

- - - - -	EX. MAJOR CONTOUR
- - - - -	EX. MINOR CONTOUR
———	EX. WATER
———	EX. SANITARY SEWER
———	EX. STORM DRAIN
———	EX. GAS
———	EX. EDGE OF ROAD
━━━	PROP. UTILITIES
———	PROP. EDGE OF ROAD
¦¦¦▓¦¦¦▓	LIMIT OF DISTURBANCE
———	PROPOSED CONTOUR
× 360.70	SPOT ELEVATION
ENB2	SOILS TYPE BOUNDARIES
━━ ━	PROP. DRAIN. DIVIDE

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) — Date: 7-12-02

DEVELOPER'S CERTIFICATE

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

Rev. Michael J. Ruane, Pastor — Signature of Developer (print name below signature) — Date: June 17, 2002

Rev. Michael J. Ruane

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS
7/18/13	1	ADD HANDICAP PARKING SPACES

ST. Michael's Roman Catholic Church

Phase I - Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

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SUBDIVISION NAME	SECTION/ AREA		LOT/PARCEL #
NA	NA		260

PLAT # OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

TITLE

SWM DRAINAGE AREA MAP

Drn By: ADL	Scale: 1"=50'	Proj. No. 99143.BO
Des By: MRT	Date: 7/12/02	9 of 22
Chk By: WRD	Approved:	

NORTH

THIS SEAL IS FOR REVISION 1 BY SITE RESOURCES INC. ONLY. (1)

8-26-2013

PROFESSIONAL CERTIFICATION
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. 16144, EXPIRATION DATE: 08/19/14.

STATE OF MARYLAND — W. RICHARD DEMARIO — NO. 21998 — REGISTERED PROFESSIONAL ENGINEER

7.12.02
Date

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	8/12/02 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	8/21/02 DATE
DIRECTOR	8/23/02 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	8-21-02 DATE

~~Reviewed for Howard SCD and meets Technical Requirements~~

~~USDA - Natural Resources Conservation Service — Date~~

~~This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.~~

~~Howard SCD — Date~~

Wed Jun 12 08:29:36 2002 n:\99143\99143.da1

LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. UTILITIES
- PROP. EDGE OF ROAD
- STABILIZED CONSTRUCTION ENT.
- LIMIT OF DISTURBANCE
- PROPOSED CONTOUR
- ×360.70 SPOT ELEVATION

NOTES:

1. THIS SWM POND SHALL BE OWNED AND MAINTAINED BY THE ST.MICHAEL'S POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION.

2. THE SEDIMENT FOREBAY SHALL BE ACCESSED FOR MAINTENANCE FROM THE PARKING LOT.

THIS SEAL IS FOR REVISION 1 BY SITE RESOURCES, INC. ONLY. 1.

STATE OF MARYLAND — WILLIAM R. DEMARIO — No. 16144 — REGISTERED PROFESSIONAL ENGINEER

7-26-2002

PROFESSIONAL CERTIFICATION. 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. 16144, EXPIRATION DATE: 08/15/14.

THIS POND WILL HAVE A FLOOD HAZARD CLASSIFICATION OF 'A'

SWM POND DESIGN FLOW SUMMARY PROPOSED CONDITIONS

	2-YEAR	10 YEAR	100 YEAR
Existing D.P. (cfs) – Allowable Release *	6.36	15.36	N/A
Developed Outflow D.P. (cfs) *	1.34	10.79	20.45
Developed Inflow (cfs)	13.94	26.31	40.03
Developed Outflow D.P. (cfs)	1.10	10.87	24.23
Water Surface Elevation	724.2	724.9	725.43
Water Quality Storage (ac. ft.)	0.487	0.487	N/A
Total Storage (ac. ft.)	0.550	0.800	1.020
Storage Height Product	4.65	4.65	4.65

Structure Type	EXTENDED DETENTION
Water Quality Type	DRY POND
Structure Classification	'A'
Watershed Area to Facility	0.00092 SQ. MILES
Level of Management Required	2, 10
Level of Management Provided	2, 10
Minimum Top Width Provided	12'
Maximum Height of Fill	0.0' (at embankment)
Freeboard Required	2.0'
Freeboard Provided	2.07'
1-Year Ext. Det. Discharge (cfs) *	0.22
1-Year Ext. Det. Discharge (cfs)	0.19
1-Year Ext. Det. Controld Offset (Hrs)	22.19

* These values taked from O'Connel & Lawrence Inc.(OLI) SWM report

NOTES:
Design point is the SWM pond outfall and only considers flow that drains to the pond. There are no bypass areas.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQ'S.

USDA - Natural Resources Conservation Service

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

Howard SCD — DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 8/12/02 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 8/21/02 DATE

DIRECTOR — 8/23/02 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT — 8-21-02 DATE

DEVELOPERS CERTIFICATE:

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 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.

Rev. Michael J. Ruane, Pastor — June 17, 2002
SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE
Rev. Michael J. Ruane

ENGINEERS CERTIFICATE:

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.

W. Richard DeMario — 7/18/02
SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE
W. Richard DeMario

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SWM POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — DATE

PLAN NUMBER

7-12-02
Date

STATE OF MARYLAND — WILLIAM R. DEMARIO — No. 16144 — PROFESSIONAL ENGINEER

NORTH

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

W. DeMario — 7-12-02
Signature of Engineer (print name below signature) — Date

DEVELOPER'S CERTIFICATE

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

Rev. Michael J. Ruane, Pastor — June 17, 2002
Signature of Developer (print name below signature) — Date
Rev. Michael J. Ruane

Date	No.	Revision Description
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7/18/13	1	ADD HANDICAP PARKING SPACES

ST. Michael's Roman Catholic Church

Phase I - Education Building Addition and Parish Center

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PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

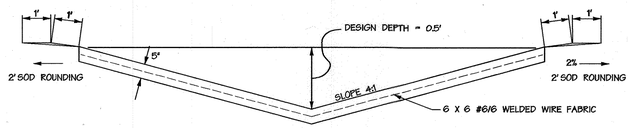
WATER CODE ***** SEWER CODE *******

TITLE: STORMWATER MANAGEMENT GRADING PLAN

Drn By: ADL	Scale: 1"=50'	Proj. No. 99143.B0
Des By: MRT	Date: 7/12/02	
Chk By: WRD	Approved:	10 of 22

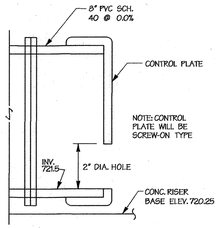
SDP-02-47

Wed Jun 12 08:17:41 2002 n:\99143\99143.mt



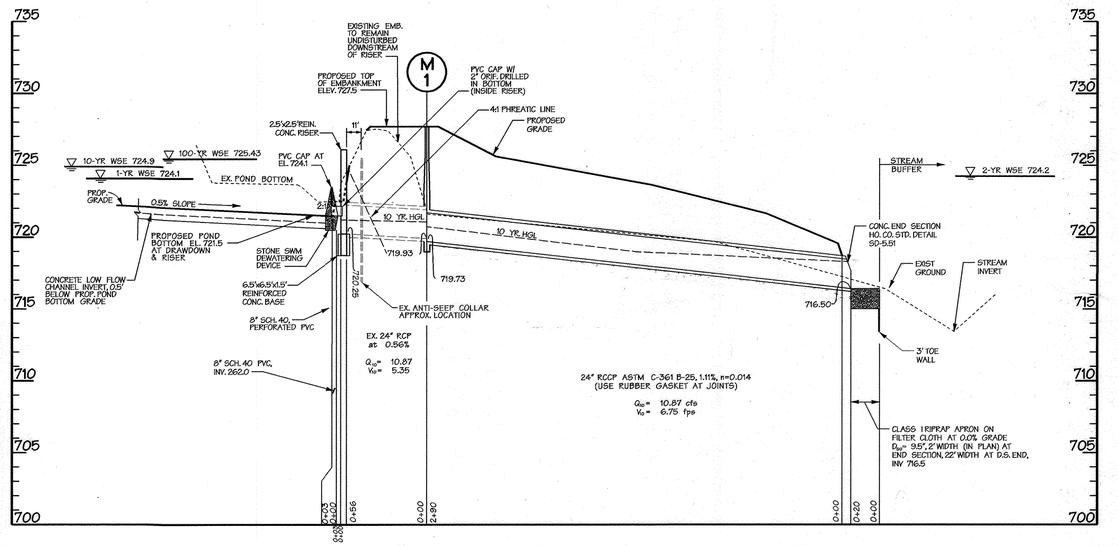
CONCRETE TRIANGULAR SECTION

HOWARD COUNTY S.D. 6.11
NOT TO SCALE



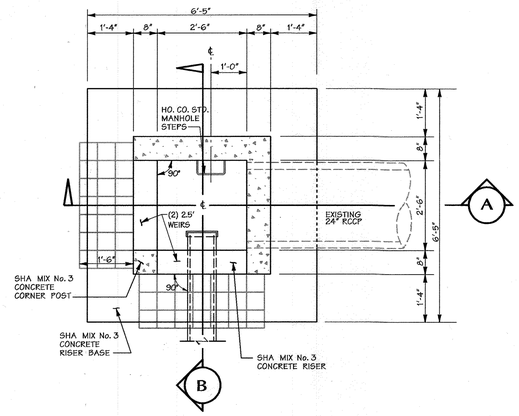
SWM LOW FLOW CONTROL PLATE DETAIL

NTS



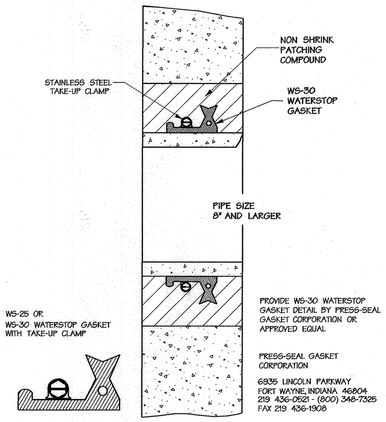
RISER / BARREL PROFILE

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



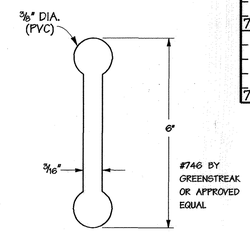
RISER PLAN (TOP SLAB REMOVED) - SWM POND

Scale: ½" = 1'-0"
CAST IN PLACE



PIPE WATER STOP DETAIL

NOT TO SCALE



6" WATERSTOP

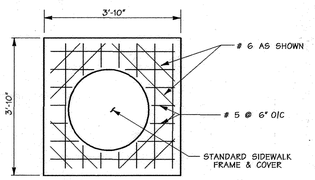
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/12/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/21/02

DIRECTOR — DATE 8/23/02

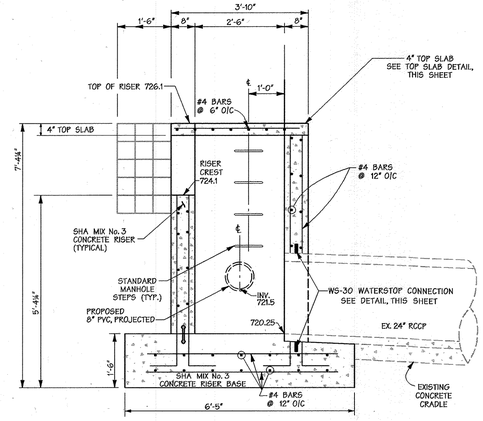


NOTES:

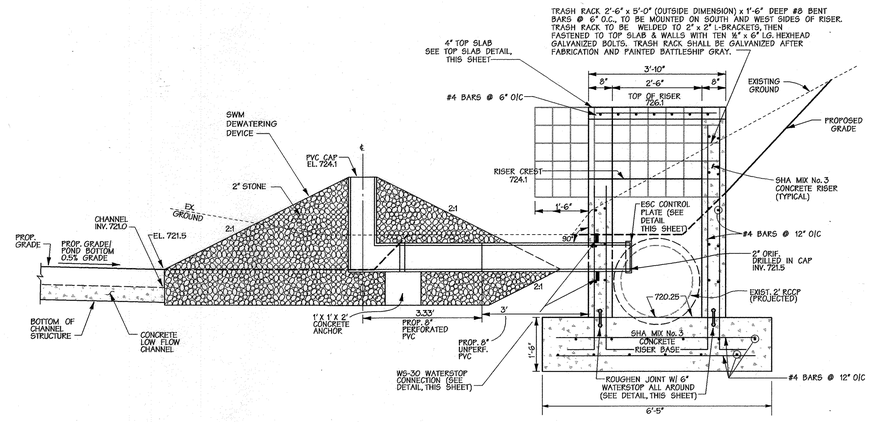
1. BOLT TOP SLAB TO RISER WITH (4) ½" x 6" LG. HEX. HEAD GALVANIZED BOLTS.
2. THE SIDE AND THE SLAB CLOSEST TO THE FRAME AND COVER WILL LINE UP WITH THE SIDE OF THE RISER WITH STANDARD MANHOLE STEPS.

TOP SLAB

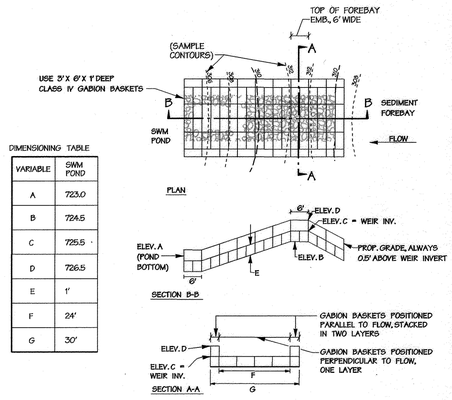
Scale: ½" = 1'-0"
CAST IN PLACE



SECTION A



SECTION B



DIMENSIONING TABLE

VARIABLE	SWM POND
A	723.0
B	724.5
C	725.5
D	726.5
E	1'
F	24'
G	30'

SWM FOREBAY EMBANKMENT ARMORING DETAIL

NOT TO SCALE

RISER DETAIL FOR SWM POND

Scale: 1/2" = 1'-0"
CAST IN PLACE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 8-21-02
HOWARD COUNTY HEALTH DEPARTMENT.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQ'S.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD SCD — DATE

DEVELOPERS CERTIFICATE:

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 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.

Rev. Michael J. Ruane, Pastor — June 17, 2002

SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE
Rev. Michael J. Ruane

ENGINEERS CERTIFICATE:

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.

W. Richard DeMatteo — 7-12-02

SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE
W. Richard DeMatteo

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.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — DATE

PLAN NUMBER

7-12-02
Date

STATE OF MARYLAND — W. RICHARD DEMATTEO — 21666 — PROFESSIONAL ENGINEER

Date	No.	Revision Description
1-7-03		REMOVE CONCRETE CRADLE
3/9/2007	4	REVISE TOTAL SHEET NUMBERS

ST. Michael's Roman Catholic Church

Phase I - Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1129 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME: NA	SECTION/ AREA: NA		LOT/PARCEL #: 260
PLAT# OR L/F: 39520	BLOCK #: 8,9	ZONE: RC-DEO	TAX/ZONE MAP: 7
ELECT. DISTRICT: 4th	CENSUS TRACT: 6040.01		
WATER CODE: *****	SEWER CODE: *******		

TITLE
STORMWATER MANAGEMENT PROFILE & DETAILS

Drn By: ADL	Scale: AS SHOWN	Proj. No. 98143.80
Des By: MRT	Date: 7/12/02	11 of 22
Chk By: WRD	Approved:	

SDP-02-47

Wed Jun 12 08:20:24 2002 n:\98143\98143.m2

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: St. Michael's SWM — Boring Number: B-1
Location: Carroll County, Maryland — Job #: 01152C

SAMPLER
Datum: ___ Hammer Wt.: 140 Lbs. Hole Diameter: ___ Foreman: Tim Celmer
Surf. Elev.: ___ Hammer Drop: 30 Inches Rock Core Dia.: ___ Inspector: ___
Date Started: 04-18-02 Pipe Size: 2.0 Inches OD Boring Method: HSA Completed: 04-18-02

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					4" Topsoil
	Orange-brown, moist, loose, fine sandy silt, trace rocks (ML) FILL	2.0		D	3-4-4-4	1	12"	
	Orange-brown and brown, moist, very loose, sandy silt, trace gravel (ML) FILL	4.0		D	2-2-3-4	2	3"	No groundwater encountered while drilling
	Orange-brown, brown and black, moist, medium dense to very loose, micaceous sandy silt (ML)			D	5-6-7-6	3	16"	
				D	3-3-3-2	4	12"	
				D	2-3-3-5	5	8"	
								Caved in at 11.0' at Completion
		15.0		D	1-1-2	6	3"	
	Bottom of Hole at 15.0'		20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER ___ FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: St. Michael's SWM — Boring Number: B-3
Location: Carroll County, Maryland — Job #: 01152C

SAMPLER
Datum: ___ Hammer Wt.: 140 Lbs. Hole Diameter: ___ Foreman: Tim Celmer
Surf. Elev.: ___ Hammer Drop: 30 Inches Rock Core Dia.: ___ Inspector: ___
Date Started: 04-18-02 Pipe Size: 2.0 Inches OD Boring Method: HSA Completed: 04-18-02

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					4" Topsoil
	Light red-brown, moist, very loose, sandy silt, trace gravel (ML)	2.0		D	2-3-2-2	1	18"	
	Orange-brown, moist, very loose, silt, trace fine sand (ML)	4.0		D	2-2-3-4	2	13"	No groundwater encountered while drilling
	Orange-brown, moist, loose to medium dense, sandy silt (ML)			D	2-3-3-5	3	17"	
				D	6-7-7-8	4	20"	
			10.0	D	5-6-6-7	5	21"	
								Caved in at 11.0' at Completion
		15.0	15.0	D	5-5-6	6	18"	
	Bottom of Hole at 15.0'		20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER ___ FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: St. Michael's SWM — Boring Number: B-2
Location: Carroll County, Maryland — Job #: 01152C

SAMPLER
Datum: ___ Hammer Wt.: 140 Lbs. Hole Diameter: ___ Foreman: Tim Celmer
Surf. Elev.: ___ Hammer Drop: 30 Inches Rock Core Dia.: ___ Inspector: ___
Date Started: 04-18-02 Pipe Size: 2.0 Inches OD Boring Method: HSA Completed: 04-18-02

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					4" Topsoil
	Brown, moist, loose, fine sandy silt (ML) FILL	2.0		D	3-4-4-4	1	17"	
	Brown, moist, very loose, silt, trace fine sand (ML) FILL	4.0		D	2-2-3-2	2	19"	No groundwater encountered while drilling
	Yellow-brown, moist, very loose to loose, sandy silt (ML)			I	2-2-2-3	3	16"	
		8.0		D	2-2-5-8	4	24"	
	Reddish brown, moist, loose, sandy silt (ML)		10.0	D	2-3-5-6	5	24"	
		12.0						Caved-in at 11.6'
	Brown and black, moist, medium dense, sandy silt (ML)	15.0	15.0	D	6-6-6	6		
	Bottom of Hole at 15.0'		20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER ___ FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: St Michael's Catholic Church - SWM — Boring No.: B-100
Location: 1125 St Michael's Catholic Church — Job #: 16120A

SAMPLER
Datum: MSL Hammer Wt.: 140 lbs. Hole Diameter: 6 in. Foreman: Tyler Fisher
Surf. Elev.: 733.1 Ft. Hammer Drop: 30 in. Rock Core Diameter: NA Inspector: Robel Gibbe
Date Started: 08/11/2020 Pipe Size: 2 O.D. in. Boring Method: HSA-SPT Date Completed: 08/11/2020

ELEVATION/ DEPTH	Description	Boring and Sampling Notes	Rec.	NM	SPT	N
733.1 / 0	sandy SILT with trace of rock fragments, moist, loose, (Probable FILL as ML)	4" topsoil	11		3-3-4-5	7
	Reddish brown sandy SILT, moist, loose, (ML-Natural)		20		2-3-3-4	6
	- red with yellowish brown, medium dense		18		3-4-7-5	11
	Red and yellowish brown silty SAND with rock fragments, moist, medium dense, (SM) <SANDY LOAM>	Infiltration Rate=1.16 in/hr	14		8-8-10-11	18
	Red and very light brown disintegrated ROCK, moist, very dense		12		13-20-50/4"	70/10"
			5		50/5"	50/5"
12		End of boring at 12 feet below grade.				

SPT Blows/Foot CURVE: 10 30 50 (70/10")

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	Dry ft.	5.5 ft.
AFTER 24 HRS.	Dry ft.	5.5 ft.
AFTER ___ HRS.	___ ft.	___ ft.

BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS.

2

ROUTINE MAINTENANCE

1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF POND IS FUNCTIONING PROPERLY.

2. TOP AND SIDE SLOPES OF EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, BOTTOM OF POND AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.

3. DEBRIS AND LITTER NEXT TO OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

4. VISIBLE SIGNS OF EROSION IN POND AS WELL AS RIPRAP OUTLET SHALL BE REPAIRED AS SOON AS NOTICED.

NON-ROUTINE MAINTENANCE

1. STRUCTURAL COMPONENTS OF POND SUCH AS DAM, RISER AND PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.

2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH FUNCTIONING OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY HOWARD CO. DEPT. OF PUBLIC WORKS.

PROFESSIONAL CERTIFICATION
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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE

STATE OF MARYLAND — ELVIN CHARLES B... — 16928 — PROFESSIONAL ENGINEER

PROFESSIONAL ENGR. NO. 16928

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature	Date
CHIEF, DEVELOPMENT ENGINEERING DIVISION	2.16.21
CHIEF, DIVISION OF LAND DEVELOPMENT	5/11/23
DIRECTOR	5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/2017	2	REVISE TOTAL SHEET NUMBERS & ADD BORING LOG FOR PROPOSED DRY WELLS.

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: **REVISED SITE DEVELOPMENT PLAN** 2
SOIL BORING LOGS AND NOTES

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE: **** SEWER CODE: *******

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED:	GDT	SCALE:	AS SHOWN	PROJECT NO: 99143.E0
DRAWN:	GMO	DATE:	3/9/17	
CHECKED:	MCB	APPROVED:	PGC	12 OF 22

SDP-02-47

STORMWATER MANAGEMENT POND
GENERAL CONSTRUCTION SPECIFICATIONS

1. GENERAL

ALL STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY'S "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1985)" AND THE N.R.C.S. MARYLAND "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378, 2000).

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

2. 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.

3. 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 THE 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 THE MAXIMUM DRY DENSITY WITH A MOISTER 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 EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET SHALL GOVERN THE BOTTOM WIDTH OF THE TRENCH. THE DEPTH SHALL BE AT LEAST 4 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.

4. 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 4 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 4 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, SECTION313 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 FUR 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 4 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 THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

5. REMOVAL AND REPLACEMENT OF DEFECTIVE FILL

FILL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REWORKED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE FILL. THE BOTTOMS OF SUCH EXCAVATIONS SHALL BE FINISHED FLAT OR GENTLY CURVING AND AT THE SIDES OF SUCH EXCAVATIONS THE ADJACENT SOUND FILL SHALL BE TRIMMED TO A SLOPE NOT STEEPER THAN 3 FEET HORIZONTALLY TO 1 FOOT VERTICALLY EXTENDING FROM THE BOTTOM OF THE EXCAVATION TO THE FILL SURFACE.

6. PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. ALL PERFORATED PIPES SHALL HAVE A MINIMUM OF 3.31 SQUARE INCHES OF OPENING PER SQUARE FOOT OF PIPE SURFACE (EX. 30 3/8-INCH HOLES PER SQUARE FOOT). PERFORATIONS ARE TO BE UNIFORMLY SPACED AROUND THE FULL PERIPHERY OF THE PIPE. ANY HOLES BLOCKED OR PARTIALLY BLOCKED BY BITUMINOUS COATING SHALL BE OPENED PRIOR TO INSTALLATION.

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 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 PERCENT OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE 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. CONNECTIONS - ALL CONNECTIONS (TO ANTI-SEEP COLLARS, RISER, ETC.) SHALL BE WATERTIGHT.
6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - ALL OF 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), COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING; 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" SHALL MEET THE REQUIREMENTS 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.

7. CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3

CAST-IN-PLACE CONCRETE STRUCTURES

1. SPECIFICATIONS: MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST EDITION.

   AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LATEST EDITION, FOR DESIGN. CONCRETE DESIGN BY THE "SERVICE LOAD DESIGN METHOD".
2. CONCRETE: SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414 AND 902, MIX NO. 3.
3. CONTRACTOR MAY ADD COLOR MIX AT PLANT IN ACCORDANCE WITH MANUFACTURES RECOMMENDATION "C-12 MESA BEIGE" AS MANUFACTURED BY L. M. SCOFIELD COMPANY (213) 723-5285.

   CONTRACTOR SHALL SUPPLY MIX DESIGN FOR APPROVAL PRIOR TO APPLICATION. LOAD AND MIX TICKETS SHALL BE SUPPLIED FOR EACH TRUCK DELIVERY. NO PARTIAL FIELD MIXES SHALL BE ALLOWED.

   ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS. DESIGN FC = 1,200 PSI.

   ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" X 3/4". ALL CONSTRUCTION KEYS ARE SHOWN NOMINAL SIZE.
4. REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. WHERE NOT INDICATED, BAR LAP SPLICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. THE MINIMUM CONCRETE COVER SHALL BE 2 INCHES UNLESS OTHERWISE NOTED. DESIGN FS = 24,000 PSI.
5. FOUNDATION: PRESUMED SOIL BEARING CAPACITY = 2,500 PSF. THE ENGINEER MUST APPROVE ALL FOUNDATIONS PRIOR TO CONCRETE PLACEMENT. IF UNSUITABLE MATERIAL IS ENCOUNTERED, THE MATERIAL SHALL BE UNDERCUT AND BACKFILLED WITH STRUCTURAL BACKFILL.
6. STRUCTURAL BACKFILL: CAST-IN-PLACE CONCRETE STRUCTURES AND PIPE SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL MEETING THE REQUIREMENTS OF SHA GRADED AGGREGATE-SUBBASE. STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS OF APPROXIMATELY 6 INCHES, AND COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO T=180. THE STATIC WEIGHT OF EQUIPMENT USED ADJACENT TO WALLS SHALL NOT EXCEED 3,000 POUNDS. NO BACKFILL SHALL BE PLACED AGAINST THE CAST-IN-PLACE WALLS UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED 28 DAY STRENGTH.

PRE-CAST CONCRETE STRUCTURES

SHOP DRAWINGS FOR PRE-CAST STRUCTURES WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER) MEETING ASTM REQUIREMENTS FOR PRE-CAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY (BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENT PROTECTION AND RESOURCE MANAGEMENT) FOR APPROVAL PRIOR TO FABRICATION.

8. ROCK RIP-RAP

ROCK RIP-RAP SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIP-RAP AND SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

THE RIP-RAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIP-RAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS.

9. 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 THE 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 OF 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 TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

10. 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.

11. 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 TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

ALL DISTURBED AREAS SHALL BE CONTROLLED BY AN EROSION AND SEDIMENT CONTROL PLAN WHICH HAS BEEN APPROVED BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT (B. C. S. C. D.).

12. SEEDING

SEEDING, FERTILIZING AND MULCHING SHALL BE AS FOLLOWS:

SEED MIX: 50% KENBLUE KENTUCKY BLUEGRASS
40% PENNLAWN CREEPING RED FESCUE
10% STREAKER REDTOP
APPLIED AT A RATE OF 150 LBS. PER ACRE.
(OR)
REBEL II TALL FESCUE (125 LBS. PER ACRE)
PENNFINE PERENNIAL RYEGRASS (15 LBS. PER ACRE)
KENBLUE KENTUCKY BLUEGRASS (10 LBS. PER ACRE)
(OR)
PENNLAWN CREEPING RED FESCUE (70 LBS. PER ACRE)
AURORA HARD FESCUE (50 LBS. PER ACRE)
COMMON WHITE CLOVER (6 LBS. PER ACRE)
WINTER RYE (45 LBS. PER ACRE)
(OR)
70% FORAGER TALL FESCUE
30% CHEMUNG CROWNVETCH, INOCULATED
APPLIED AT A RATE OF 55 LBS. PER ACRE
OPTIMUM SEEDING DATES: MARCH 1 TO APRIL 30.

LIME: 2 TONS/ACRE DOLOMITIC LIMESTONE.

FERTILIZER: 600 LBS./ACRE 10-10-10 FERTILIZER BEFORE SEEDING,
400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER AT TIME OF SEEDING.

MULCH: STRAW AT 4,000 LBS. PER ACRE.

ANCHORING: MULCHING TOOL OR WOO CELLULOSE FIBER BINDER AT A NET DRY BINDER RATE OF 750 POUNDS PER 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 OR AT RATES RECOMMENDED BY THE MANUFACTURER.

13. FILTER CLOTH

ALL FILTER CLOTH SHALL CONFORM TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, OR THE LATEST EDITION.

14. GABIONS

ALL GABIONS SHALL BE PVC COATED WOVEN WIRE BASKETS. STONE SIZE SHALL BE 4 INCHES TO 7 INCHES. (CLASS IV GABIONS).

15. CONSTRUCTION INSPECTION BY DESIGNATED ENGINEERS

THE CONSTRUCTION OF THE POND AND EMBANKMENT, AND CERTIFICATION THAT THE POND AND EMBANKMENT HAVE BEEN BUILT IN ACCORDANCE WITH THE PLANS SHALL BE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. THE ENGINEER SHALL BE NOTIFIED SUFFICIENTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT ARRANGEMENTS CAN BE MADE FOR (1) INSPECTION OF PIPE TRENCH AND BEDDING, (2) INSPECTION OF RISER AND ANTI-SEEP COLLARS AND (3) SUPERVISION OF EMBANKMENT CONSTRUCTION AND COMPACTION TESTING. THE ENGINEER SHALL DIRECT THE HANDLING OF WATER DURING CONSTRUCTION, MINOR CHANGES NOT AFFECTING THE INTEGRITY OF THE DAM IN ORDER TO COMPENSATE FOR UNUSUAL SOIL CONDITIONS, AND THE REMOVAL AND REPLACEMENT OF DEFECTIVE FILL.

16. INSPECTION SCHEDULE

1. PRIOR NOTIFICATION SHALL BE GIVEN TO THE ENGINEER SO THAT INSPECTIONS MAY BE MADE AT THE FOLLOWING STAGES:

   (1) UPON COMPLETION OF EXCAVATION TO SUBFOUNDATION AND WHERE REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NOT LIMITED TO:
   - (I) CORE TRENCHES FOR STRUCTURAL EMBANKMENTS.
   - (II) INLET-OUTLET STRUCTURES AND ANTI-SEEP STRUCTURES, WATERTIGHT CONNECTORS ON PIPES AND
   - (III) TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES.

   (2) DURING PLACEMENT OF STRUCTURAL FILL, REINFORCING AND CONCRETE, AND INSTALLATION OF PIPING AND CATCH BASINS
   (3) DURING BACKFILL OF FOUNDATIONS AND TRENCHES
   (4) DURING EMBANKMENT CONSTRUCTION AND
   (5) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

   NO WORK SHALL PROCEED UNTIL THE ENGINEER INSPECTS AND APPROVES THE WORK PREVIOUSLY COMPLETED.
2. GEOTECHNICAL COMPACTION TESTING OF THE FACILITY EMBANKMENT IS REQUIRED. CERTIFICATION MUST BE PROVIDED TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILT.
3. A COPY OF ALL MATERIAL SUPPLY TICKETS MUST BE GIVEN TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILT.

17. OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCA "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 MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

18. UTILITIES

NO UTILITIES MAY BE CONSTRUCTED WITHIN/ALONG ANY MD-378 EMBANKMENT.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQ'S.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD SCD — DATE

DEVELOPERS CERTIFICATE:

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 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.

Rev. Michael J. Ruane, Pastor — June 17, 2002
SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE
Rev. Michael J. Ruane

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

[signature] — 8-21-02
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

ENGINEERS CERTIFICATE:

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] — 7-12-02
SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE
W. Richard DeMario

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[signature] — 8/12/02
CHIEF, DEVELOPMENT ENGINEERING. DIV. — DATE

[signature] /for CH — 8/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] — 8/23/02
DIRECTOR — 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.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — DATE

PLAN NUMBER

7-12-02
Date

STATE OF MARYLAND — RICHARD DeMARIO — NO. 21996 — REGISTERED PROFESSIONAL ENGINEER

Date	No.	Revision Description
3/9/2017	2	REVISE TOTAL SHEET NUMBERS

ST. Michael's
Roman Catholic Church
Phase I - Education Building Addition and Parish Center

OWNER:
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MARYLAND 21201

DEVELOPER:
ST. MICHAEL'S, POPLAR SPRINGS ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD. 21771

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue, Towson, Maryland 21286, 410 296 3333, Fax 296 4705

SUBDIVISION NAME	SECTION/ AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
395/26	8,9	RC-DEO	7	4th	6040.01

WATER CODE	SEWER CODE
****	*******

TITLE
STORMWATER MANAGEMENT
MD-378 SPECIFICATIONS

Drn By: KDE	Scale: AS SHOWN	Proj. No. 99143.B0
Des By: MRT	Date: 3/11/02	13 of 22
Chk By: WRD	Approved:	

SDP-02-47


SAINT MICHAELS ROAD
(HOWARD COUNTY MINOR COLLECTOR)
HARDY ROAD
(HOWARD COUNTY ACCESS STREET & SCENIC ROAD)
30' STRUCTURE AND USE RESTRICTION LINE
50' USE SETBACK LINE
BUILDING RESTRICTION LINE
30' USE SETBACK LINE
EXISTING SEPTIC MOUNDS SYSTEM
ST. MICHAELS POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION INC
TAX MAP: 07 GRID: 03 PARCEL: 260
ACCOUNT NUMBER: 334205
DEED: 12249/170
USE: EXEMPT
ACREAGE: 16.529
EX. CHURCH, EDUCATIONAL BUILDING AND PARISH
2 STORY BRICK BUILDING
(39,832 SF.)
EX. 2,000 GAL PUMP CHAMBER
PROP. 2,000 GAL STORAGE TANK
PROPOSED PERMANENT GRASS DIVERSION CHANNEL
EX. 2,000 GAL. SEPTIC TANK
FUTURE PLAY GROUND 5,000± SF
EX. 1,500 GALLON GREASE INTERCEPTOR
EX. DUMPSTER ENCLOSURE
EX. STORAGE SHEDS
(TO BE RELOCATED)
EX. MACADAM DRIVEWAY
EX. CLOTHING BINS
(TO BE RELOCATED)
PROP. PAVILION
(OPEN ALL SIDES)
EX. STORMWATER MANAGEMENT POND
GABION BASKET
LIMIT OF DISTURBANCE SEE SHEET 16 FOR AREA
DRY WELL (M-5)
5% MAX SLOPE
MASHHOOD ESFANAJI
MARY LEONA ESFANAJI
DONALD R. DRESSEL JR
PAMELA A. DRESSEL
CHARLES A. STANCER
SANDRA STANCER
TAX MAP: 07 GRID: 03 PARCE
ACCOUNT NUMBER: 3285
DEED: 568/476
USE: AGRICULTURAL
ACREAGE: 35.49
LAWRENCE A. JOHNSON TR
JANICE M. JOHNSON TR
N81°41'24"W 278.21'
N78°57'18"W 444.81'

APRIL 2024	4	REVISE PAVILION TO 76'x30'
3/15/2022	3	ADD EX. SEPTIC, EX. GREASE INTERCEPTOR, AND PROP. 2,000 GALLON STORAGE TANK TO EX. SEPTIC

LIMIT OF DISTURBANCE: 20,000 SF / 0.459 AC±

STATE OF MARYLAND PAUL M. SILL No. 32025 PROFESSIONAL ENGINEER
FOR REVISION #3 ONLY

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.16.21

for CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

for Mary A Kendall, DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	ADD NEW PAVILION, SIDEWALK, GRADING & SWM IMPROVEMENTS

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE REVISED SITE DEVELOPMENT PLAN 2
SITE AND GRADING PLAN

SUBDIVISION NAME				SECT./AREA	LOT/PARCEL #
NA				NA	260
PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01
WATER CODE ****			SEWER CODE *******		

ADDRESS CHART

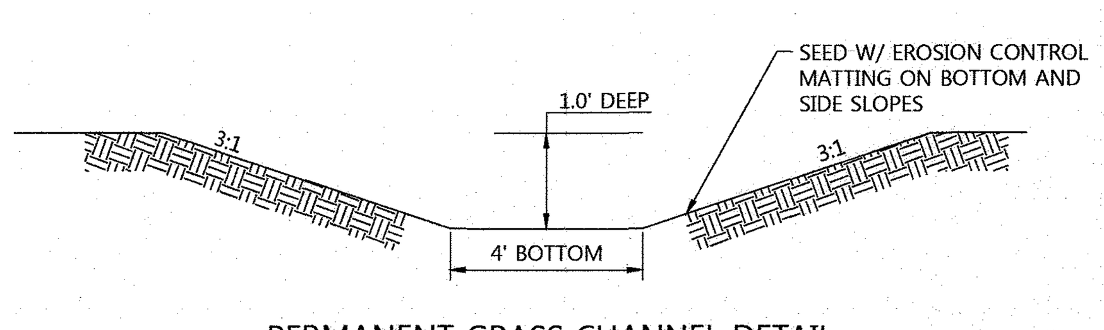
LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED: GDT	SCALE: AS SHOWN	PROJECT NO: 99143.E0
DRAWN: GMO	DATE: 3/9/17	
CHECKED: MCB	APPROVED: PGC	14 OF 22

PROFESSIONAL CERTIFICATION
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. 16928, EXPIRATION DATE: 05-13-22.

12/9/23
DATE

PROFESSIONAL ENGR. NO. 16928



PERMANENT GRASS CHANNEL DETAIL
NOT TO SCALE

LEGEND
- PROPERTY LINE
- EX. CONTOURS
- EX. BUILDING
- EX. ROAD
- EX. TREELINE
- LIMIT OF DISTURBANCE
- PROP. CONTOURS
- PROP. SIDEWALK
- PROP. RECREATION
- PROP. STORM DRAIN
- SOIL BORING
- ACCESSIBLE ROUTE

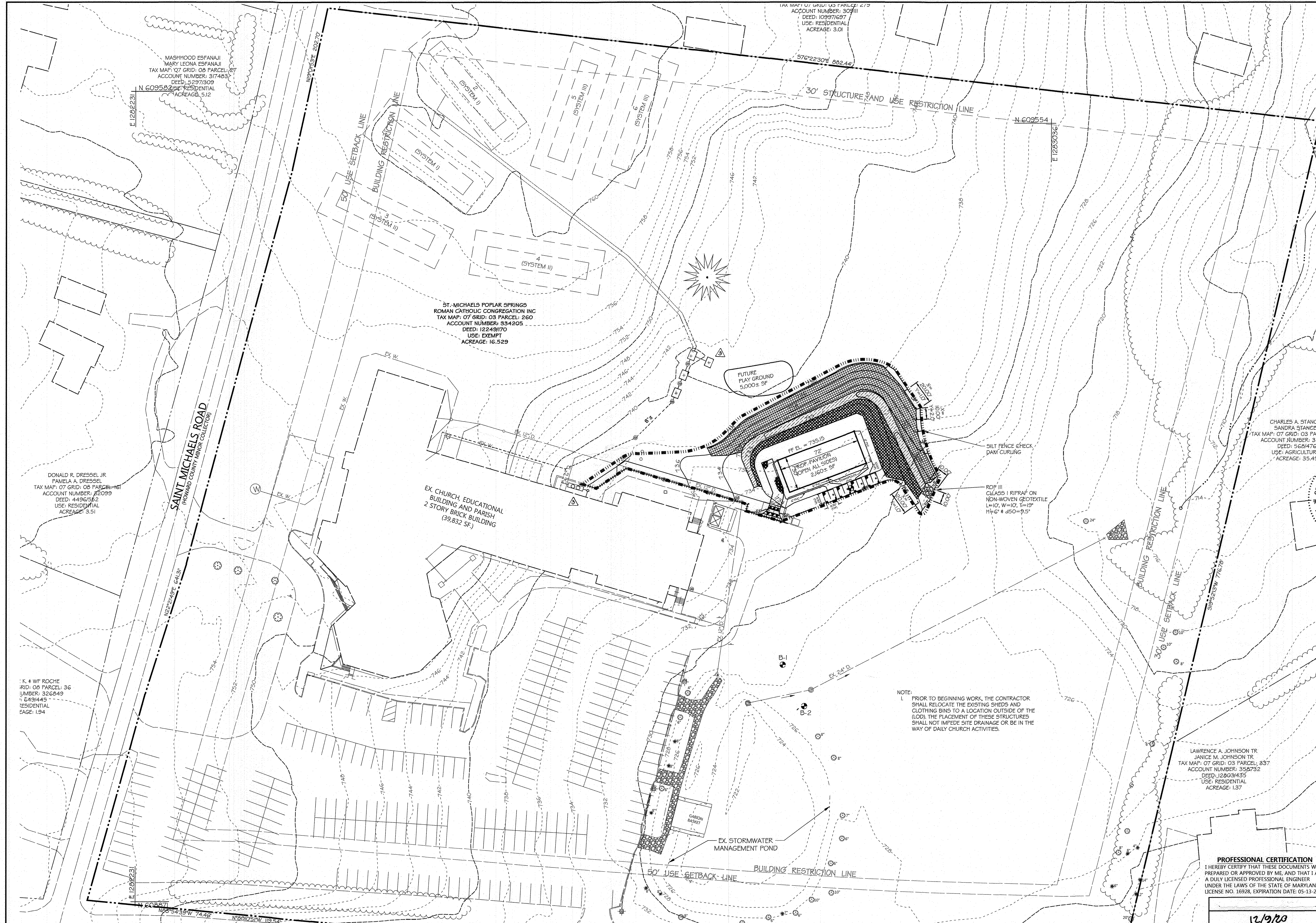
PLAN VIEW
SCALE: 1"=40'

SCALE: 1" = 40'

STORMWATER MANAGEMENT INFORMATION (NEW IMPROVEMENTS)						
LOT/PARCEL NUMBER	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	HOA MAINTAINS	MISC.
260	SWM ESD #1, #2, #3 & #4	(M-5) DRY WELLS		✔	OWNER	
260	SWM ESD #5	(M-8) GRASS SWALE		✔	OWNER	
260	SWM ESD #6	(N-2) NON-ROOFTOP RUNOFF		✔	OWNER	

Rev #4 ONLY

SDP-02-47



NOTE:
1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL RELOCATE THE EXISTING SHEDS AND CLOTHING BINS TO A LOCATION OUTSIDE OF THE (LOD). THE PLACEMENT OF THESE STRUCTURES SHALL NOT IMPEDE SITE DRAINAGE OR BE IN THE WAY OF DAILY CHURCH ACTIVITIES.

LEGEND

3/15/2022	3	ADD EX. SEPTIC, EX. GREASE INTERCEPTOR, AND PROP. 2,000 GALLON STORAGE TANK TO EX. SEPTIC

LIMIT OF DISTURBANCE: 20,000 SF / 0.459 AC±

SEDIMENT & EROSION CONTROL PLAN

SCALE: 1" = 40'

OWNER/DEVELOPER CERTIFICATION

"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

Rev. Michael J. Ruane — December 16, 2020
OWNERS/DEVELOPERS SIGNATURE — DATE

Rev. Michael J. Ruane Pastor
PRINT NAME & TITLE

DESIGN CERTIFICATION

"I HEREBY certify that this plan HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT 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.

DESIGNERS SIGNATURE — DATE 12/9/20

Melvin C. Beall, Jr — 16928
PRINTED NAME — MD REGISTRATION NO.
P.E., R.L.S., OR R.L.A. (CIRCLE ONE)

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

Alexander Bratchie — 01/06/2021
HOWARD SOIL CONSERVATION DISTRICT — DATE

PROFESSIONAL CERTIFICATION

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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE

STATE OF MARYLAND — MELVIN CHARLES BEALL — 16928 — PROFESSIONAL ENGINEER

PROFESSIONAL ENGR. NO. 16928

STATE OF MARYLAND — PAUL S. SILL — No. 32025 — PROFESSIONAL ENGINEER
For Revisions #3 ONLY

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.16.21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

For Mary A Kendall — DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	ADD NEW PAVILION, SIDEWALK, GRADING & ASSOCIATED SEC

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: REVISED SITE DEVELOPMENT PLAN 2
SEDIMENT & EROSION CONTROL PLAN

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE	SEWER CODE
****	*******

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED:	GDT	SCALE:	AS SHOWN	PROJECT NO: 99143.E0
DRAWN:	GMO	DATE:	3/9/17	
CHECKED:	MCB	APPROVED:	PGC	15 OF 22

SDP-02-47

EXISTING CONDITIONS PLAN

SCALE: 1"=100'

100 0 100 200

SCALE: 1" = 100'

PROPOSED CONDITIONS PLAN

SCALE: 1"=100'

100 0 100 200

SCALE: 1" = 100'

HYDROLOGIC SOIL GROUP - SUMMARY BY MAP UNIT - HOWARD COUNTY, MARYLAND			
MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC GROUP	K VALUE (Kw)
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	0.28
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.28
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.28
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.43
GnB	BLENVILLE - BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43

USDA NATURAL RESOURCES CONSERVATION SERVICE — WEB SOIL SURVEY 2.0 NATIONAL COOPERATIVE SOIL SURVEY — 11/26/2007 HOWARD COUNTY SOIL MAP #2

LEGEND

- PROPERTY LINE
- EX. CONTOURS
- EX. BUILDING
- EX. ROAD
- EX. TREELINE
- LIMIT OF DISTURBANCE
- PROP. CONTOURS
- PROP. SIDEWALK
- PROP. RECREATION
- PROP. STORM DRAIN
- DRAINAGE AREA LINE
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- SFD — SILT FENCE DIVERSION
- SIP — INLET PROTECTION
- TAB — TEMPORARY ASPHALT BERM
- ROP III — ROCK OUTLET PROTECTION
- TEMPORARY CHANNEL MATTING
- PERMANENT CHANNEL MATTING
- SLOPE STABILIZATION
- SCE — STABILIZED CONSTRUCTION ENTRANCE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.14.21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

DIRECTOR — DATE 5/25/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	1	ADD NEW PAVILION, SIDEWALK, SEC DRAINAGE AREA

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
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DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

PROFESSIONAL CERTIFICATION
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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE

STATE OF MARYLAND — CHARLES P. GUTSCHICK — 16928 — PROFESSIONAL ENGINEER

PROFESSIONAL ENGR. NO. 16928

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 01/06/2021

TITLE: REVISED SITE DEVELOPMENT PLAN
SEDIMENT & EROSION CONTROL
DRAINAGE AREA MAPS

SUBDIVISION NAME			SECT./AREA	LOT/PARCEL #
NA			NA	260
PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01
WATER CODE	....	SEWER CODE	.....		

ADDRESS CHART

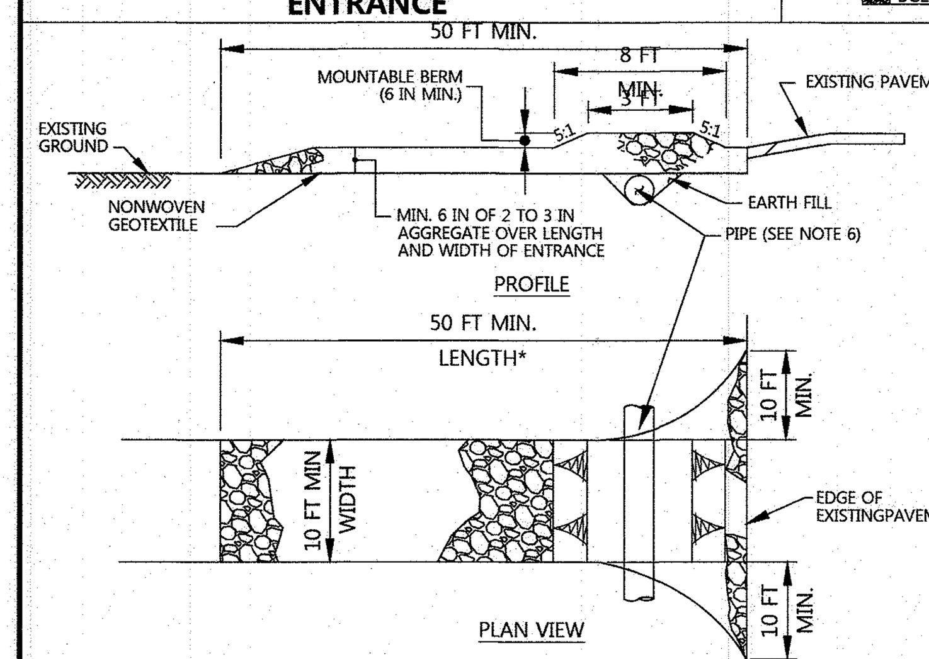
LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED:	GDT	SCALE: AS SHOWN	PROJECT NO: 99143.E0
DRAWN:	GMO	DATE: 3/9/17	
CHECKED:	MCB	APPROVED: PGC	16 OF 22

SDP-02-47

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

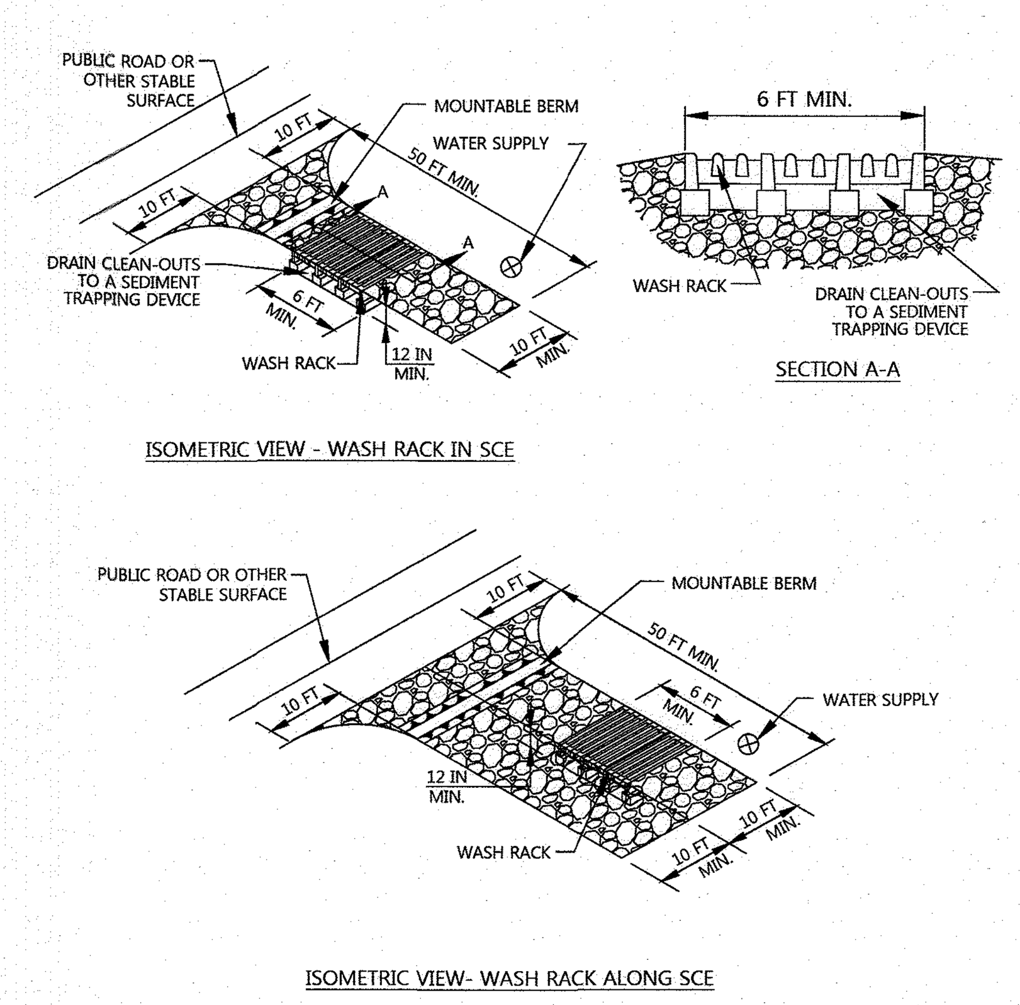
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING 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

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-2 WASH RACK OPTION

STANDARD SYMBOL: WR



CONSTRUCTION SPECIFICATIONS

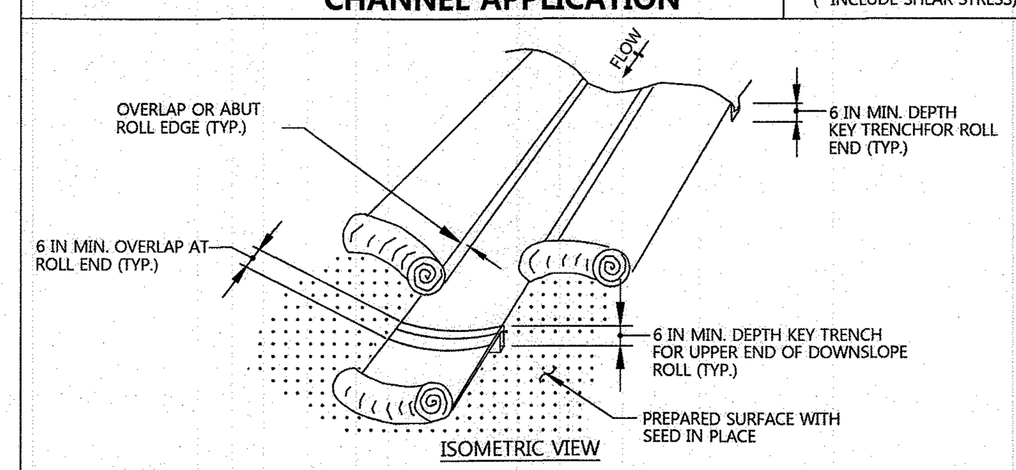
1. USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE. USE MINIMUM DIMENSION OF 6 FEET x 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL.
2. INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE SCE.
3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
4. KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH RACK.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: TSSMC - * 2.25 lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

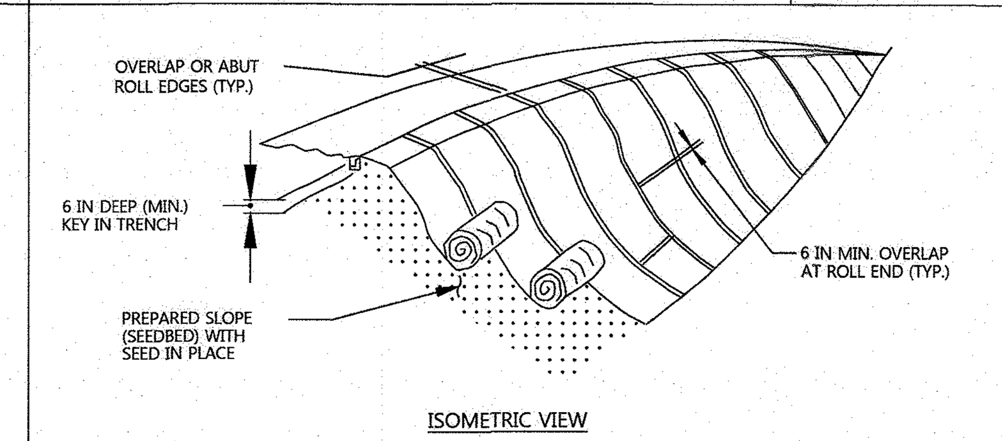
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

STANDARD SYMBOL: TSSMS - * 2.25 lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

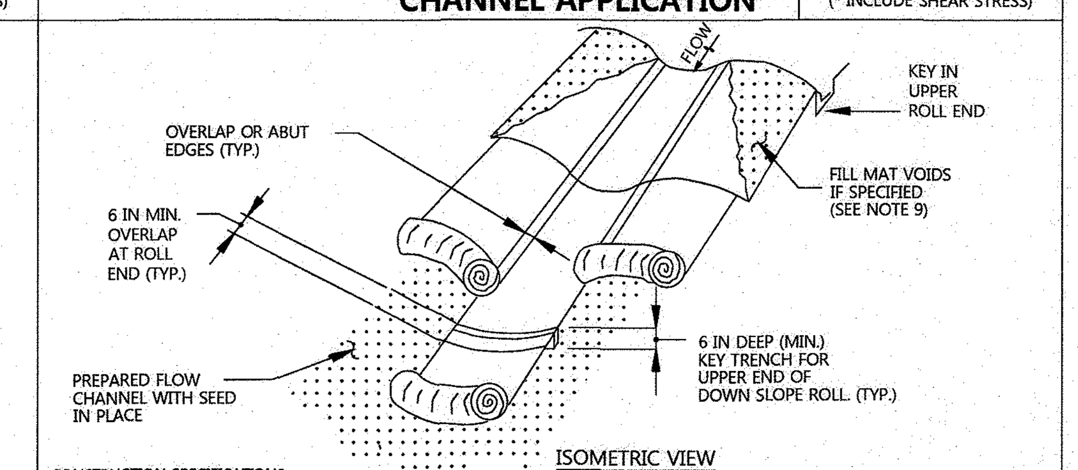
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

STANDARD SYMBOL: PSSMC - * 2.25 lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

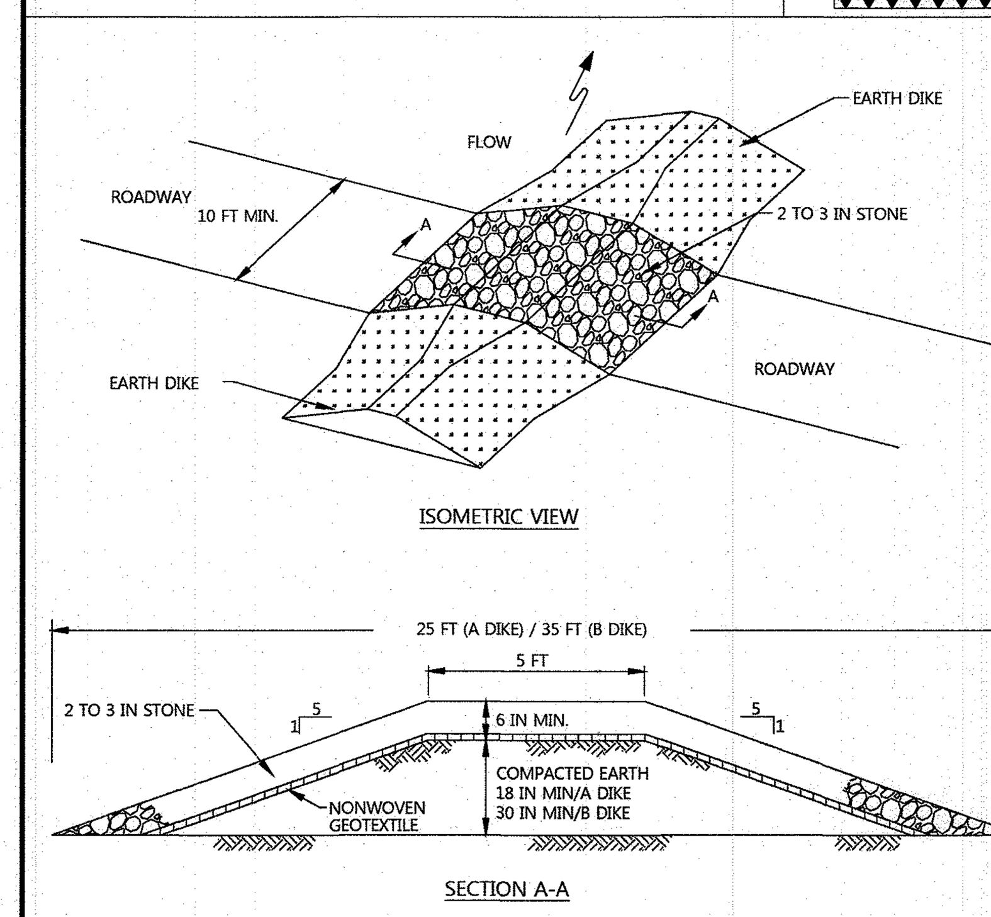
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL: MB



CONSTRUCTION SPECIFICATIONS

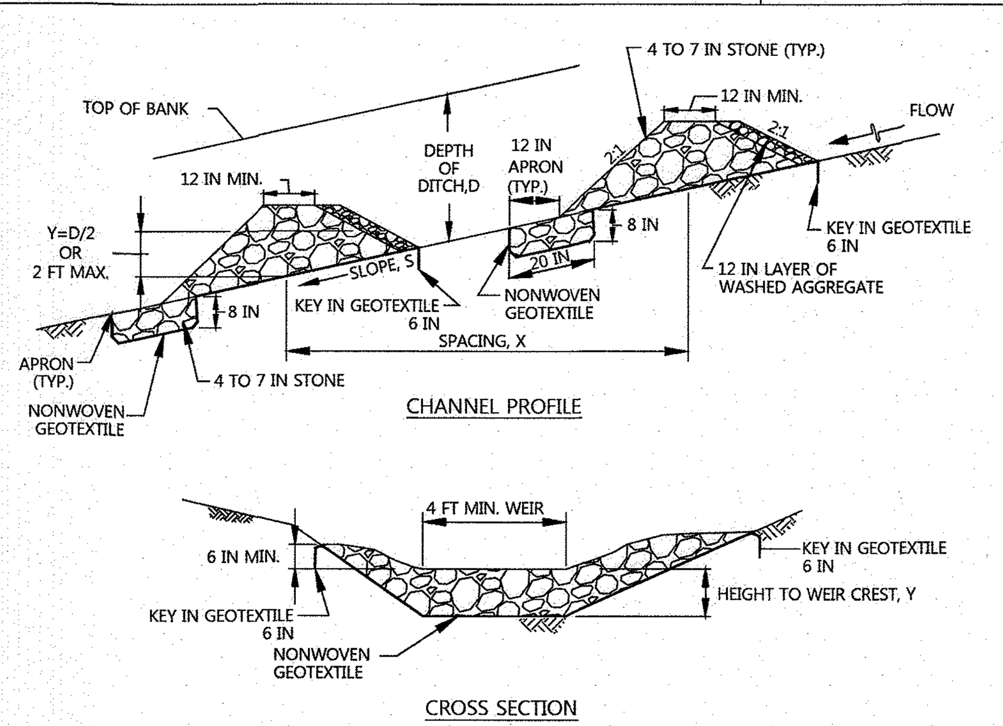
1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

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 D-2 STONE CHECK DAM

STANDARD SYMBOL: CD



CONSTRUCTION SPECIFICATIONS

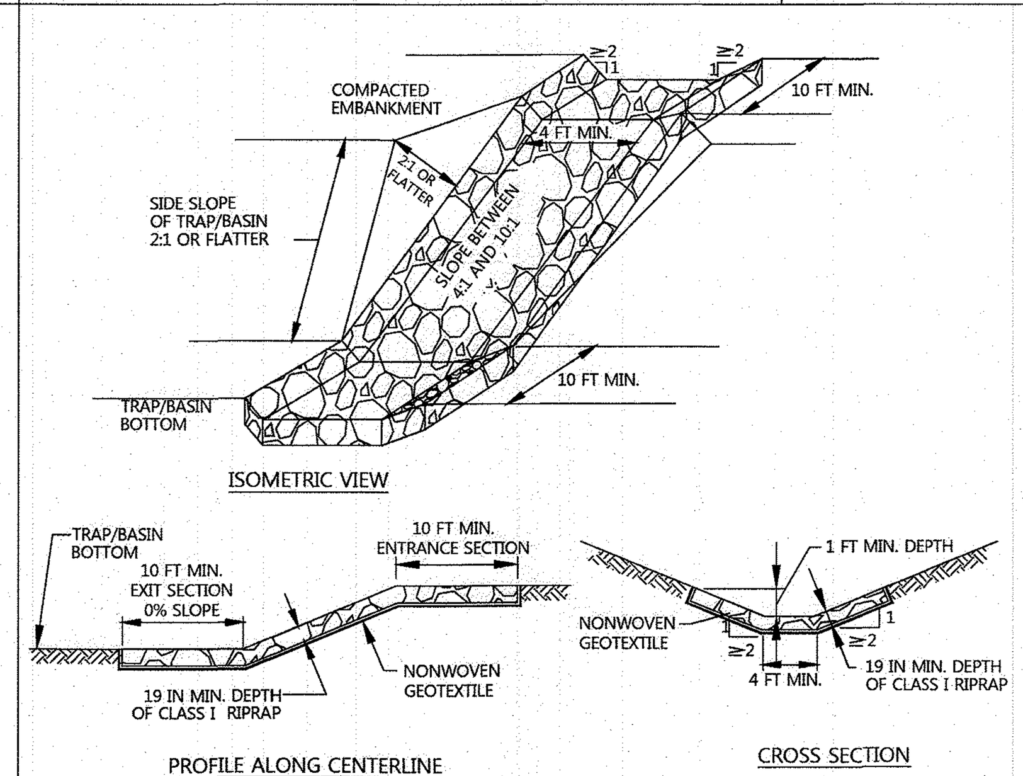
1. PREPARE SWALES IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS DESCRIBED IN SECTION C-2, STANDARDS AND SPECIFICATIONS FOR TEMPORARY SWALE, OR AS SPECIFIED ON PLAN.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE. CONSTRUCT THE CHECK DAM WITH WASHED 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) WITH SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM TOP WIDTH OF 12 INCHES. PLACE THE STONE SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL AND CHANNEL BANKS. FORM THE WEIR SO THAT TOP OF THE OUTLET CREST IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTER EDGES. LINE THE UPSTREAM FACE OF THE DAM WITH A 1 FOOT THICK LAYER OF WASHED AGGREGATE (¾ TO 1½ INCH).
3. SET THE HEIGHT FOR THE WEIR CREST EQUAL TO ONE-HALF THE DEPTH OF THE CHANNEL OR DITCH. TO AVOID SCOUR THE MAXIMUM HEIGHT OF THE WEIR CREST MUST NOT EXCEED 2.0 FEET.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-HALF OF THE HEIGHT OF THE WEIR CREST. MAINTAIN LINE, GRADE, AND CROSS SECTION.

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 D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

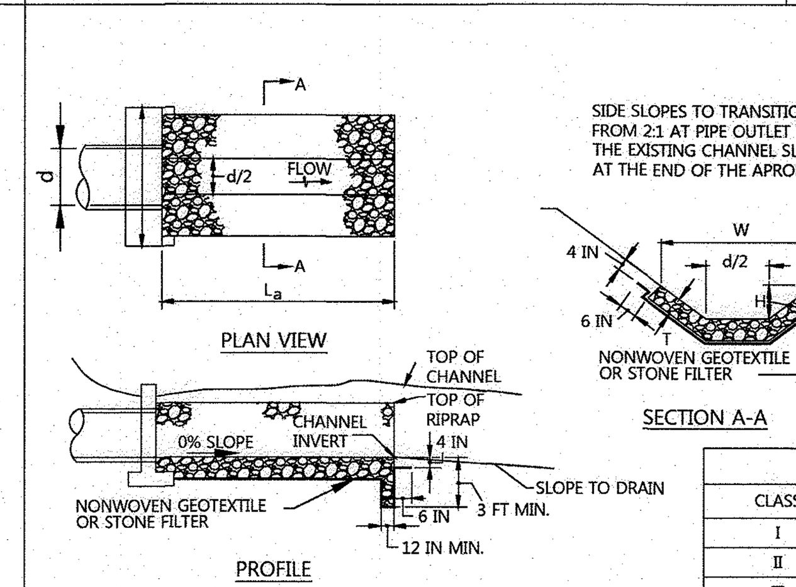
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-B ROCK OUTLET PROTECTION II

STANDARD SYMBOL: ROPII

DISCHARGE TO CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

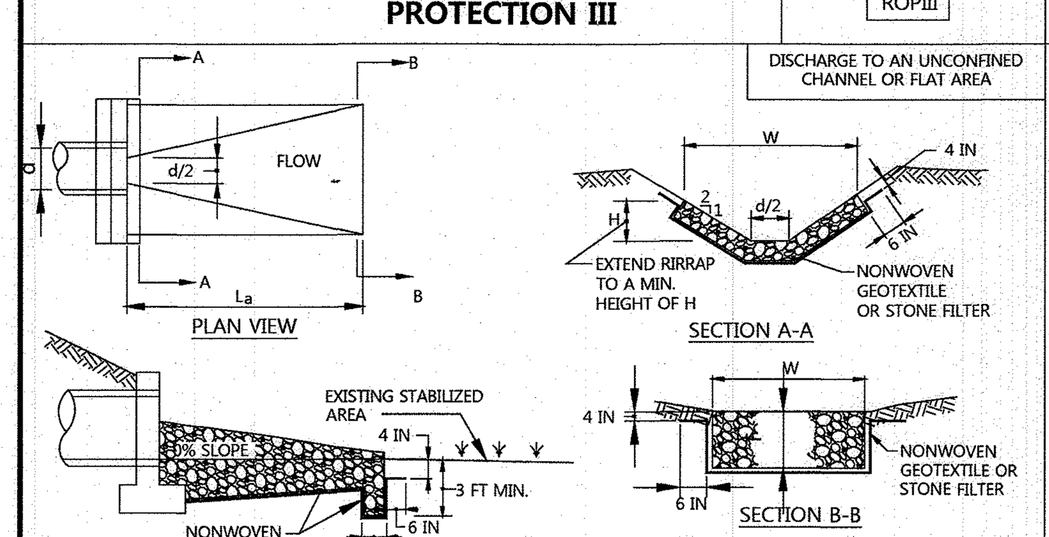
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-C ROCK OUTLET PROTECTION III

STANDARD SYMBOL: ROPIII

DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

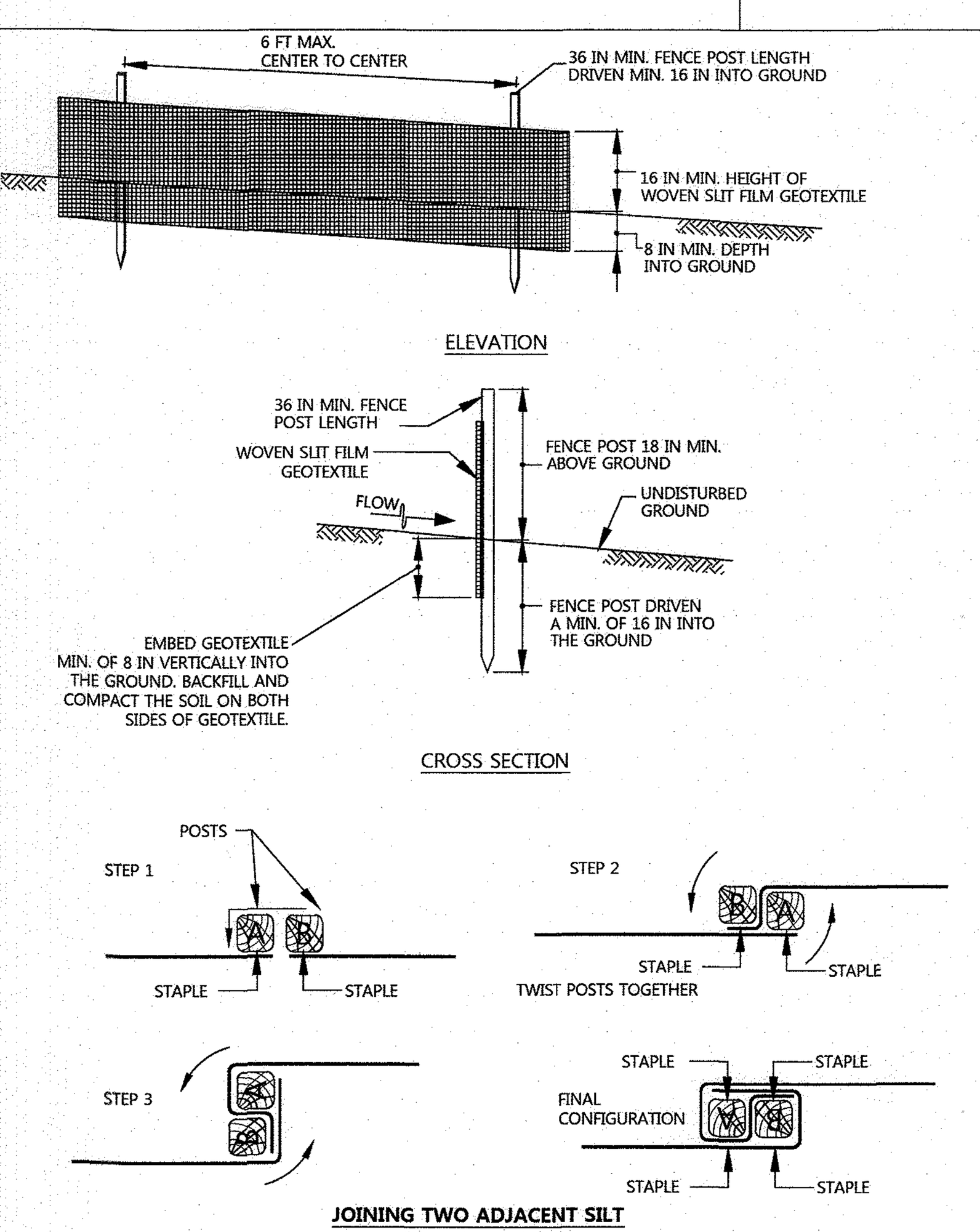
1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

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

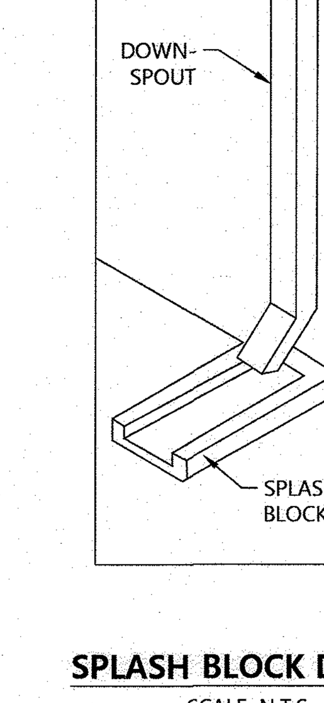
CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 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.

2 OF 2

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



SPLASH BLOCK DETAIL

SCALE: N.T.S

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

Alexander Bratchie 01/06/2021

HOWARD SOIL CONSERVATION DISTRICT DATE

PROFESSIONAL CERTIFICATION

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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE

PROFESSIONAL ENGR. NO. 16928

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.16.21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

for Mary A Kendall — DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	SEDIMENT & EROSION CONTROL MD 2011 DETAILS

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: REVISED SITE DEVELOPMENT PLAN (2)
SEDIMENT & EROSION CONTROL DETAILS

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE	SEWER CODE
****	*******

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED:	GDT	SCALE:	AS SHOWN	PROJECT NO:	99143.EO
DRAWN:	GMO	DATE:	3/9/17		
CHECKED:	MCB	APPROVED:	PGC	17 OF 22	

SDP-02-47

A:\99143\99143.E0\ENGR\CAD FILES\SHEET FILES\SDP-02-047 RR2 CADD PLANS\SUPPLEMENTAL CADD SHEETS\SDP-02-047 RR2 SHEET 17 - SUP.DWG 12/9/2020 10:47 AM

HOWARD COUNTY SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

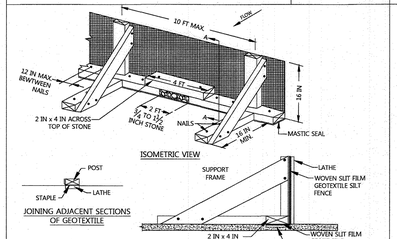
1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
   a. PRIOR TO THE START F 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 GREATER 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 FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15 FT. 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	16.529 ACRES
AREA DISTURBED:	0.49 ACRES
AREA TO BE ROOFED OR PAVED	0.10 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.39 ACRES
TOTAL CUT	1,329.00 CU. YDS.
TOTAL FILL	33.00 CU. YDS.
OFFSITE WASTE/BORROW ARE LOCATION	TO BE DETERMINED

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 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 HCSD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HCSD 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 HSCD. 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 FT. MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2 FT. 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.

DETAIL E-2 SILT FENCE ON PAVEMENT — STANDARD SYMBOL: SFOP



CONSTRUCTION SPECIFICATIONS

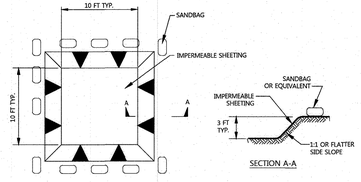
1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

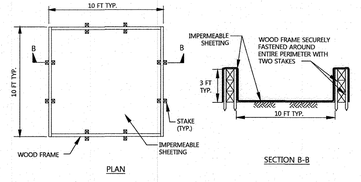
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

1 OF 2

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE — STANDARD SYMBOL: CWS

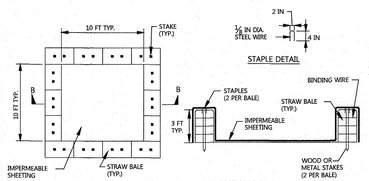




MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE — STANDARD SYMBOL: CWS



NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL. AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

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

2 OF 2

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT FOR PROPOSED WORK. NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES (DILP) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. (2 DAYS)
2. CLEAR AND GRUB FOR AND INSTALL THE STABILIZED CONSTRUCTION ENTRANCE (SCE) AND SILT FENCE. (3 DAYS)
3. ONCE PERIMETER CONTROLS HAVE BEEN INSTALLED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, BEGIN GRADING OPERATIONS. (5 DAYS)
4. ONCE GRADING OPERATIONS HAVE BEEN COMPLETED, INSTALL TEMPORARY SLOPE AND CHANNEL MATTING AS SHOWN ON THE SEDIMENT CONTROL PLAN SHEET, SILT FENCE CHECK DAM CURLING, AS WELL AS, INSTALLATION OF ROCK OUTLET PROTECTION (ROP III). (5 DAYS)
5. BEGIN PAVILION CONSTRUCTION. PRIOR TO BRING PAVILION "UNDER ROOF", INSTALL ALL DRY WELL CONVEYANCE PIPES, AND DRY WELLS. TEMPORARILY BLOCK ALL INFLOWS UNTIL THE SITE'S LIMIT OF DISTURBANCE HAS ESTABLISHED VEGETATION (GRASS) AND AT LEAST THE FIRST MOWING CYCLE HAS BEEN COMPLETED. (10 DAYS)
6. ONCE THE PAVILION IS UNDER ROOF AND GUTTERS AND DOWNSPOUTS HAVE BEEN INSTALLED, PROVIDE TEMPORARY SPLASH BLOCKS AT ALL DOWNSPOUT LOCATIONS. (1 DAY)
7. INSTALL CONCRETE WALKS. (5 DAYS)
8. UPON STABILIZATION OF THE SITE'S LIMIT OF DISTURBANCE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TEMPORARY SPLASH BLOCKS AND CONNECT DOWNSPOUTS TO UNDERGROUND DRY WELL CONVEYANCE SYSTEM. (2 DAYS)
9. MAKE STORMWATER MANAGEMENT FACILITIES ACTIVE. (1 DAY)
10. UPON STABILIZATION OF THE SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS. (3 DAYS)

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

Alexander Brotchie 01/06/2021
HOWARD SOIL CONSERVATION DISTRICT — DATE

PROFESSIONAL CERTIFICATION

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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE

STATE OF MARYLAND · CHARLES · BAKER · 16928 · PROFESSIONAL ENGINEER

PROFESSIONAL ENGR. NO. 16928

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.16.21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	ADD HCSCD SEDIMENT & EROSION CONTROL NOTES AND MD 2011 DETAILS

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: REVISED SITE DEVELOPMENT PLAN
SEDIMENT & EROSION CONTROL DETAILS

SUBDIVISION NAME			SECT./AREA	LOT/PARCEL #
NA			NA	260
PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01
WATER CODE	••••	SEWER CODE	•••••••		

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED:	GDT	SCALE:	AS SHOWN	PROJECT NO:	99143.E0
DRAWN:	GMO	DATE:	3/9/17		
CHECKED:	MCB	APPROVED:	PGC		18 OF 22

SDP-02-47

A:\99\143\99143 ENGR\ROAD FILES\SHEET FILES\SDP-02-047 PR02 CADD PLANS\SUPPLEMENTAL CADD SHEETS\SDP-02-047 PR02 SHEET 18 - SUP.DWG 12/9/2020 10:48 AM

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

(B-4-1) SECTION 1 - INCREMENTAL STABILIZATION

A. INCREMENTAL STABILIZATION - CUT SLOPES

1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.

2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):

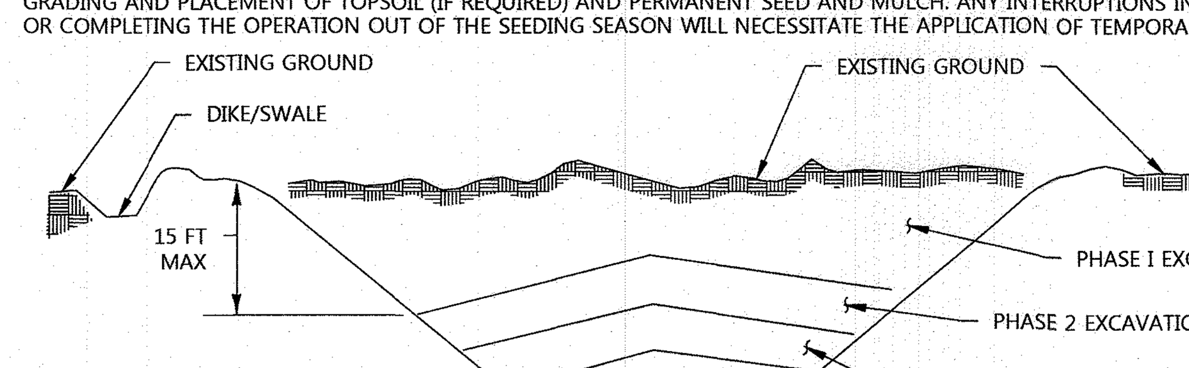
   a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.

   b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.

   c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.

   d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, 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 IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.



B. INCREMENTAL STABILIZATION - FILL SLOPES

1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.

2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.

3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.

4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):

   a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.

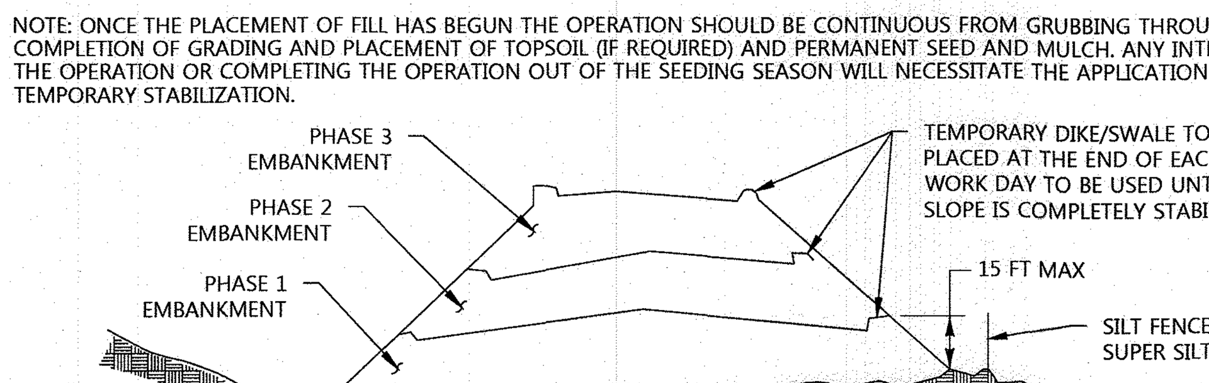
   b. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.

   c. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.

   d. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.

   e. PLACE FINAL PHASE FILL, PREPARE SEEDBED, 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.



(B-4-2) SECTION 2 - SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

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 1 1/2 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 ADMENMENTS (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) SECTION 3 - SEEDING AND MULCHING

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) SECTION 4 - TEMPORARY STABILIZATION

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.

Seed Mixture (Hardiness Zone 7A)					Fertilizer Rate (10-20-20)	Lime Rate
Season	Species	Application[1] Rate (Lb./Ac.)	Seeding[2] Dates	Seeding[3] Depths		
Cool	Annual Ryegrass	40	2/15-4/30 8/15-11/30	1/2"	436 Lbs./Ac. (10 Lbs./ 1000 Sq.Ft.)	2 Tons/Ac. (90 Lbs./ 1000 Sq.Ft.)
Warm	Foxtail Millet	30	5/1-8/14	1/2"		

1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.

SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.

OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

(B-4-5) SECTION 5 - PERMANENT STABILIZATION

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

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 1/2 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 1/2 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)

   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 1/2 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 (1/2 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.

Seed Mixture No. 9 (Hardiness Zone 7A)					** Fertilizer Rate (10-20-20)			**Lime Rate
No.	Species	Application Rate (Lb./Ac.)	Seeding Dates***	Seeding Depths	N	P_2O_5	K_2O	
9	*Tall Fescue	60	2/15 - 4/30 8/15 - 10/31	¼"-½"	45 Lb./Ac. (1 Lb./ 1000 Sq.Ft.)	90 Lb./Ac. (2 Lb./ 1000 Sq.Ft.)	90 Lb./Ac. (2 Lb./ 1000 Sq.Ft.)	2 Tons/Ac. (90 Lb./ 1000 Sq.Ft.)
	*Kentucky Bluegrass	40						
	Pennfine Perennial Ryegrass	20						

* BLEND 3 CULTIVARS OF ANY CULTIVAR LISTED ON PAGE B.32 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

** AT TIME OF FINE GRADING, FERTILIZER AND LIME RATES WILL BE BASED ON SOIL TEST RESULTS; (SEE SECTION 2.C). COPY OF RECOMMENDED RATES TO BE SUPPLIED TO THE SEDIMENT CONTROL INSPECTOR.

*** FOR SEEDING DATES 5/1-8/14 ADD 6 LB/AC OF EITHER FOXTAIL MILLET OR PEARL MILLET TO PERMANENT SEED MIXTURE #9 ABOVE.

NOTE: ALL SEED MUST COMPLY WITH THE MARYLAND STATE SEED LAW. SEED MUST BE FREE OF PROHIBITED OR RESTRICTED NOXIOUS WEEDS, AS CURRENTLY LISTED BY THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION.

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 3/4 INCH, PLUS OR MINUS 1/4 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 1/3 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.

(H-1) STANDARDS AND SPECIFICATIONS FOR MATERIALS

TABLE H.1: GEOTEXTILE FABRICS

		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE[1]					
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size[2]	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec -1		0.28 sec -1		1.1 sec -1	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

1. ALL NUMERIC VALUES EXCEPT APPARENT OPENING SIZE (AOS) REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV). MARV IS CALCULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS. MD IS MACHINE DIRECTION; CD IS CROSS DIRECTION.

2. VALUES FOR AOS REPRESENT THE AVERAGE MAXIMUM OPENING.

GEOTEXTILES MUST BE EVALUATED BY THE NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPEP) AND CONFORM TO THE VALUES IN TABLE H.1.

THE GEOTEXTILE MUST BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS AND MUST BE ROT AND MILDEW RESISTANT. THE GEOTEXTILE MUST BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS AND COMPOSED OF A MINIMUM OF 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS, AND FORMED INTO A STABLE NETWORK SO THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.

WHEN MORE THAN ONE SECTION OF GEOTEXTILE IS NECESSARY, OVERLAP THE SECTIONS BY AT LEAST ONE FOOT. THE GEOTEXTILE MUST BE PULLED TAUT OVER THE APPLIED SURFACE. EQUIPMENT MUST NOT RUN OVER EXPOSED FABRIC. WHEN PLACING RIPRAP ON GEOTEXTILE, DO NOT EXCEED A ONE FOOT DROP HEIGHT.

TABLE H.2: STONE SIZES

	SIZE RANGE	d50	d100	AASHTO	MIDSIZE WEIGHT[3]
NUMBER 57[1]	⅜ to 1½ in	½ in	1½ in	M-43	N/A
NUMBER 1	2 to 3 in	2½ in	3 in	M-43	N/A
RIPRAP[2] (CLASS 0)	4 to 7 in	5½ in	7 in	N/A	N/A
CLASS I	N/A	9½ in	15 in	N/A	40 lb
CLASS II	N/A	16 in	24 in	N/A	200 lb
CLASS III	N/A	23 in	34 in	N/A	600 lb

1. THIS CLASSIFICATION IS TO BE USED ON THE UPSTREAM FACE OF STONE OUTLETS AND CHECK DAMS.

2. THIS CLASSIFICATION IS TO BE USED FOR GABIONS.

3. OPTIMUM GRADATION IS 50 PERCENT OF THE STONE BEING ABOVE AND 50 PERCENT BELOW THE MIDSIZE.

STONE MUST BE COMPOSED OF A WELL GRADED MIXTURE OF STONE SIZED SO THAT FIFTY (50) PERCENT OF THE PIECES BY WEIGHT ARE LARGER THAN THE SIZE DETERMINED BY USING THE CHARTS. A WELL GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE IN SUCH A MIXTURE MUST NOT EXCEED THE RESPECTIVE D100 SELECTED FROM TABLE H.2. THE D50 REFERS TO THE MEDIAN DIAMETER OF THE STONE. THIS IS THE SIZE FOR WHICH 50 PERCENT, BY WEIGHT, WILL BE SMALLER AND 50 PERCENT WILL BE LARGER.

NOTE: RECYCLED CONCRETE EQUIVALENT MAY BE SUBSTITUTED FOR ALL STONE CLASSIFICATIONS FOR TEMPORARY CONTROL MEASURES ONLY. CONCRETE BROKEN INTO THE SIZES MEETING THE APPROPRIATE CLASSIFICATION, CONTAINING NO STEEL REINFORCEMENT, AND HAVING A MINIMUM DENSITY OF 150 POUNDS PER CUBIC FOOT MAY BE USED AS AN EQUIVALENT.

TABLE H.3: COMPOST

PARAMETERS[1]	ACCEPTABLE RANGE
pH	5.0 - 8.5
Moisture content	30% - 60%, wet weight basis
Organic matter content	25% - 65%, dry weight basis
Particle size	% passing a selected mesh size, dry weight basis 3 in (75 mm), 100% passing 1 in (25 mm), 90 - 100% passing 0.75 in (19 mm), 70 - 100% passing 0.25 in (6.4 mm), 30 - 60% passing 0.04 in (1 mm), 30% min. passing
Physical contaminants (manmade inerts)	<1% dry weight basis

ADAPTED FROM AASHTO STANDARDS SPECS FOR COMPOST FILTER SOCKS AND EPA EXAMPLE COMPOST FILTER PARAMETERS.

1. RECOMMENDED TEST METHODOLOGIES ARE PROVIDED IN TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST (TMEC, THE U.S COMPOSTING COUNCIL).

(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.

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
[signature] 01/06/2021
HOWARD SOIL CONSERVATION DISTRICT — DATE

PROFESSIONAL CERTIFICATION
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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE
STATE OF MARYLAND — CHARLES B... — 16928 — PROFESSIONAL ENGINEER
PROFESSIONAL ENGR. NO. 16928

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[signature] 2.16.21
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE
[signature] 5/11/23
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE
for Mary A Kendall 5/15/23
DIRECTOR — DATE

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	ADD MD 2011 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: REVISED SITE DEVELOPMENT PLAN (2)
SEDIMENT & EROSION CONTROL SPECIFICATIONS

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE	SEWER CODE
****	*******

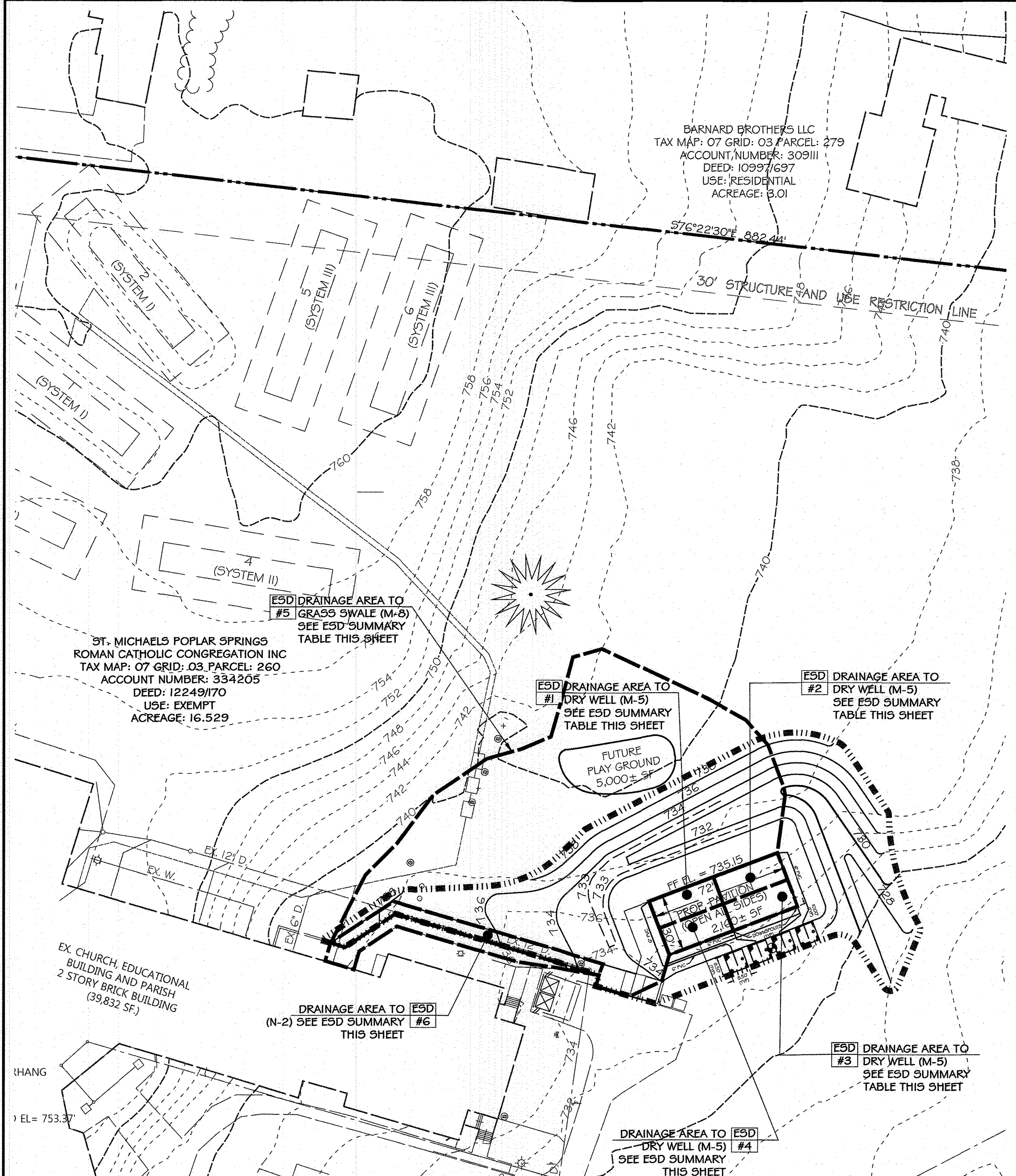
ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED: GDT	SCALE: AS SHOWN	PROJECT NO: 99143.E0		
DRAWN: GMO	DATE: 3/9/17			
CHECKED: MCB	APPROVED: PGC	19 OF 22		

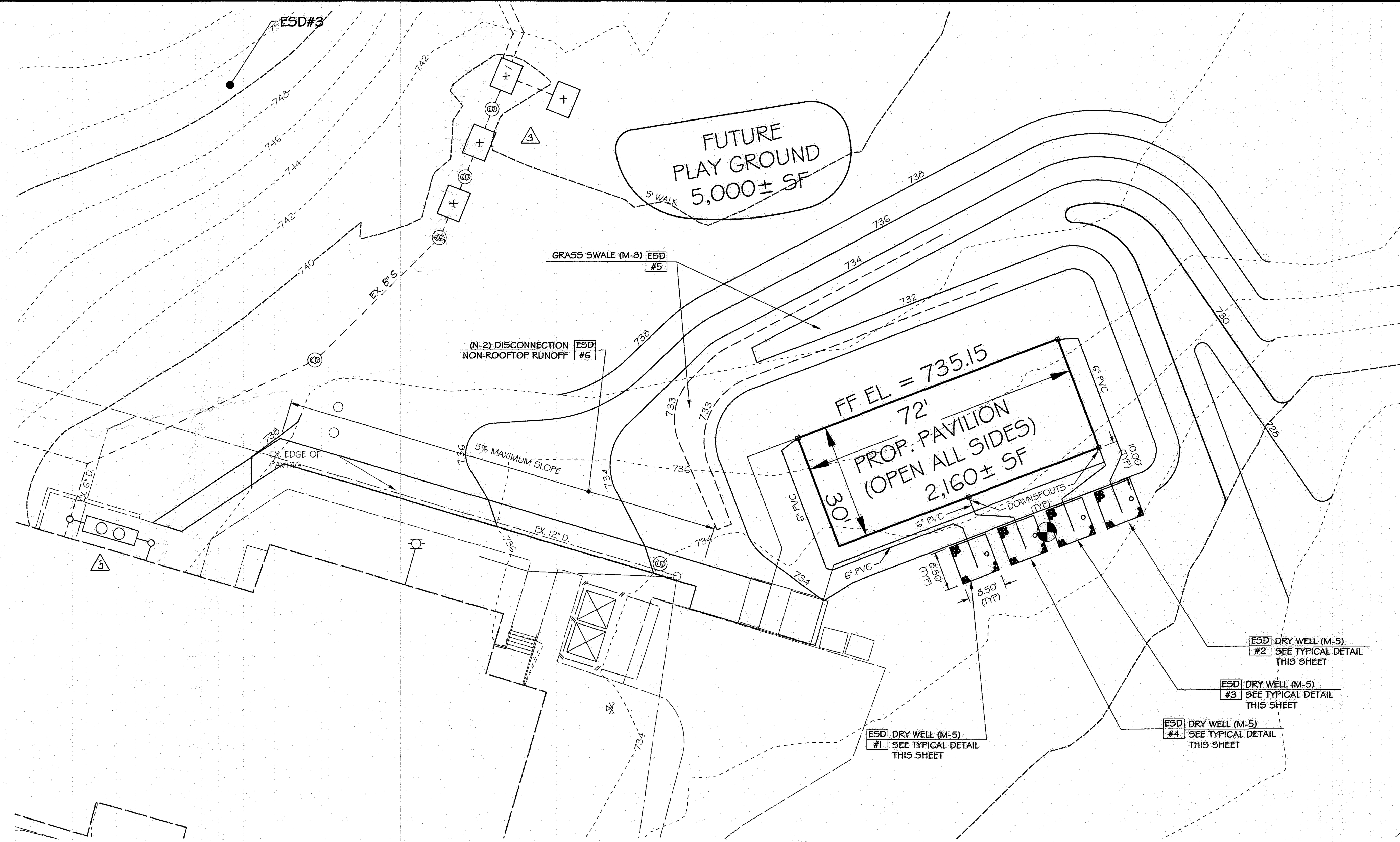
SDP-02-47

A:\99143\99143.E0\ENGR\CAD FILES\SHEET FILES\SDP-02-047 RR2 CADD SHEETS\SDP-02-047 RR2 SHEET 19 - SUP.DWG 12/9/2020 10:49 AM



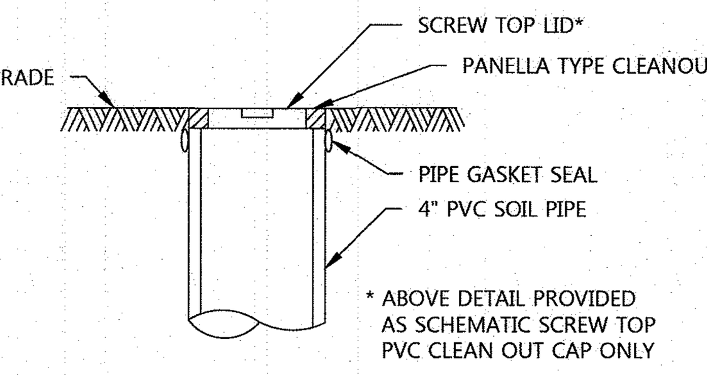
SWM DRAINAGE AREA MAP

SCALE: 1"=50'



ESD#1, 2, 3 & 4 (M-5) DRY WELLS, ESD#5 (M-8) GRASS SWALE & ESD#6 (N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF

SCALE: ######



* ABOVE DETAIL PROVIDED AS SCHEMATIC SCREW TOP PVC CLEAN OUT CAP ONLY

EACH CLEANOUT SHALL INCLUDE THE FOLLOWING:

1. FOR AN UNDERGROUND FLUSH MOUNTED CLEANOUT, PROVIDE A TUBE MADE OF NON-CORROSIVE MATERIAL, SCHEDULE 40 OR EQUAL, AT LEAST 3-FEET LONG WITH AN INSIDE DIAMETER OF AT LEAST 4-INCHES.
2. THE TUBE SHALL HAVE A FACTORY ATTACHED CAST IRON OR HIGH IMPACT PLASTIC COLLAR WITH RIBS TO PREVENT ROTATION WHEN REMOVING SCREW TOP LID. THE SCREW TOP LID SHALL BE CAST IRON OR HIGH IMPACT PLASTIC THAT WILL WITHSTAND ULTRA-VIOLET RAYS.

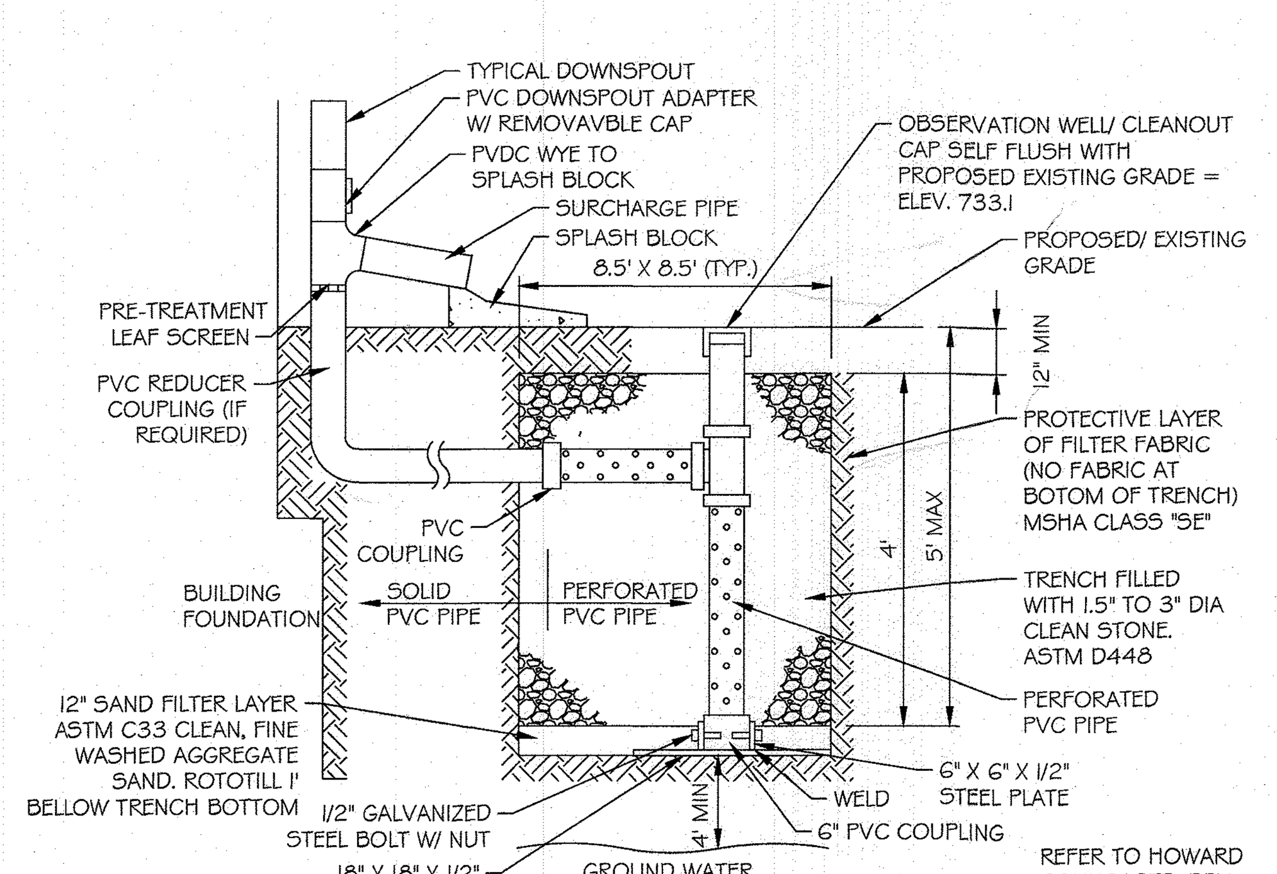
CLEAN OUT DETAIL

NOT TO SCALE

LEGEND

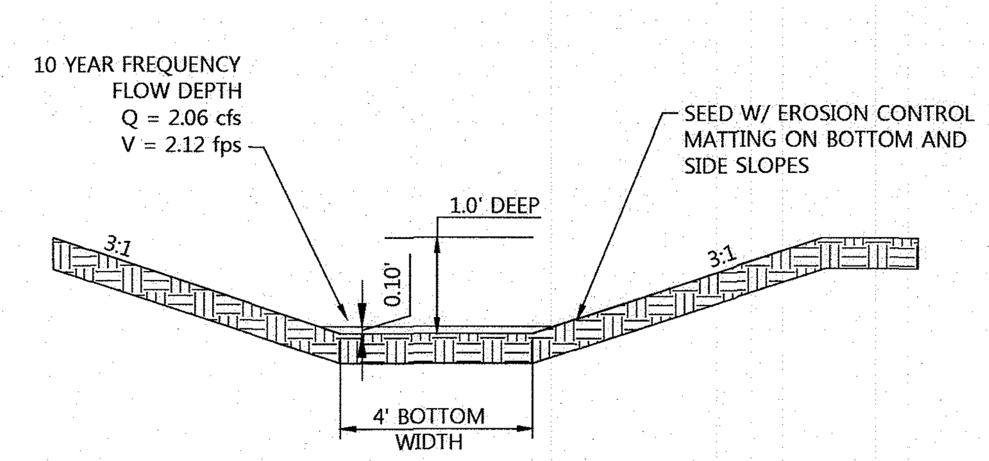
- PROPERTY LINE
- EX. CONTOURS
- EX. BUILDING
- EX. ROAD
- EX. TREELINE
- LIMIT OF DISTURBANCE
- PROP. CONTOURS
- PROP. SIDEWALK
- PROP. RECREATION
- PROP. STORM DRAIN
- DRAINAGE AREA LINE
- SOIL BORING

3/15/2022	3	ADD EX. SEPTIC, EX. GREASE INTERCEPTOR, AND PROP. 2,000 GALLON STORAGE TANK TO EX. SEPTIC



(M-5) DRY WELL TYPICAL SECTION

NOT TO SCALE



GRASS DIVERSION CHANNEL CROSS-SECTION

SCALE: N.T.S

OPERATION AND MAINTENANCE SCHEDULE FOR (M-5) DRY WELLS, (M-8) GRASS SWALE & (N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF

(M-5) DRY WELLS

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF DRY WELLS:

1. DRY WELLS SHALL BE CLEANED AND INSPECTED AND CLEANED ANNUALLY. THIS INCLUDES PIPES, GUTTERS, DOWNSPOUTS AND LEVEL SPREADERS.
2. PONDING, STANDING WATER, OR ALGAL GROWTH ON THE TOP OF A DRY WELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA. IF WATER PONDS FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN 6 INCHES OF SEDIMENT HAS ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND REPLACED.

(M-8)GRASS SWALES

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF GRASS CHANNELS:

1. REGULAR MOWING (AT LEAST BI-ANNUALLY) IS CRITICAL IN ORDER TO REDUCE COMPETITION FROM WEEDS AND IRRIGATION MAY BE NEEDED DURING DRY WEATHER TO ESTABLISH VEGETATION, SPARSELY VEGITATED AREAS NEED TO BE RE-SEEDED TO MAINTAIN DENSE COVERAGE.
2. IF WATER DOES NOT DRAIN WITHIN 24 HOURS, THE BOTTOM SOIL SHOULD BE TILLED AND REVEGETATED.
3. INSPECTIONS SHOULD BE PERFORMED ONCE A YEAR TO ASSESS SLOPE INTEGRITY, VEGETATED HEALTH, SOIL STABILITY, COMPACTION, EROSION, PONDING, AND SEDIMENTATION. PERIODIC REMOVAL OF SEDIMENT, LITTER, OR OBSTRUCTIONS SHOULD BE DONE AS NEEDED. ERODED SIDE SLOPES AND THE CHANNEL BOTTOM SHOULD BE REPAIRED AND STABILIZED WHEN NEEDED.

(N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF

MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPE AREAS. THE ARE RECEIVING RUNOFF SHALL BE PROTECTED FROM FUTURE COMPACTION. FOOT TRAFFIC SHALL BE DISCOURAGED.

ESD SUMMARY TABLE

PRACTICE	DRAINAGE AREA (SF)	IMP. AREA TREATED (SF)	VOLUME (ESDv) PROVIDED (CF)
ESD #1 (M-5) DRY WELL FACILITY NO. 1	540	540	111
ESD #2 (M-5) DRY WELL FACILITY NO. 2	540	540	111
ESD #3 (M-5) DRY WELL FACILITY NO. 3	540	540	111
ESD #4 (M-5) DRY WELL FACILITY NO. 4	540	540	111
ESD #5 (M-8) GRASS SWALE	23,466	1,183	187
ESD #6 (N-2) DISCONNECTION NON-ROOFTOP RUNOFF	1,000	1,000	79
		100% TOTAL ESDv REQUIRED	655
		100% TOTAL ESDv PROVIDED	710

UNIFIED STORMWATER SIZING CRITERIA

SIZING CRITERIA	REQUIRED	PROVIDED
WATER QUALITY (WQv) (cft)	ESDv 655 cf	ESDv 710 cf
RECHARGE VOLUME (Rev) (cft) = PROVIDED UNDER ESD #1		
CHANNEL PROTECTION VOLUME (Cpv) (cft)		
OVERBANK FLOOD PROTECTION (Qp) (cft)	NA	NA
EXTREME FLOOD VOLUME (Qf) (cfs)	NA	NA

FOR REVISION #3 ONLY

PROFESSIONAL CERTIFICATION

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. 16928, EXPIRATION DATE: 05-13-22.

12/9/20
DATE

PROFESSIONAL ENGR. NO. 16928

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.16.21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	PROP. SWM ASSOCIATED WITH NEW PAVILION & SIDEWALK

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER
ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: REVISED SITE DEVELOPMENT PLAN 2
STORMWATER MANAGEMENT PLAN

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE	SEWER CODE
****	*******

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED: GDT	SCALE: AS SHOWN	PROJECT NO: 99143.E0
DRAWN: GMO	DATE: 3/9/17	
CHECKED: MCB	APPROVED: PGC	20 OF 22

SDP-02-47

PLAN VIEW

SCALE: 1" = 50'

LEGEND

- PROPERTY LINE
- EX. CONTOURS
- EX. BUILDINGS
- EX. ROADS
- EX. SOILS (MdE / GhB)
- EX. TREELINE
- EX. NONTIDAL WETLAND AREA
- EX. NONTIDAL WETLAND LIMIT
- 25-FOOT WETLAND BUFFER
- EXISTING INTERMITTENT/PERENNIAL STREAM
- 50-FOOT STREAM BUFFER
- 75-FOOT FOREST CONSERVATION EASEMENT
- EX. FORESTED AREA (PLAT NO. 26169) ±42,165 SF / ±1.00 AC
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED LIMIT-OF-DISTURBANCE AREA ±20,000 SF / ±0.46 AC
- PROPOSED AFFORESTATION PLANTING AREA ±5,850 SF / ±0.13 AC (PLAT NO. 26169)
- FOREST CONSERVATION EASEMENT PROTECTIVE SIGNAGE (8 TOTAL)

FOREST CONSERVTION ACT COMPLIANCE NOTE

FOREST CONSERVATION ACT (FCA) IS BEING ADDRESSED BASED ON THE LIMIT-OF-DISTURBANCE (LOD) FOR THE PROPOSED PROJECT BASED ON THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING ***"FOREST CONSERVATION AND THE LIMIT OF DISTURBANCE"*** POLICY DATED SEPTEMBER 15, 2006. THIS POLICY ALLOWS FOR FCA COMPLIANCE TO BE LIMITED TO THE LOD WHERE IT IS DEPICTED ON THE SITE DEVELOPMENT PLAN AS LESS THAN 40,000 SQUARE FEET (SF). SUCH IS THE CASE FOR THE CURRENT PROPOSED IMPROVEMENTS ON THE ST. MICHAEL'S PROPERTY FOR A PAVILION TOTALING 20,000 SF OF LOD, WHICH IS WELL BELOW THE 40,000 SF MAXIMUM.

GOALS AND OBJECTIVES

The goals and objectives of this Forest Conservation Plan (FCP) are to detail how Forest Conservation Act (FCA) is being addressed based on the limit-of-disturbance (LOD) for the proposed project based on the Howard County Department of Planning and Zoning "***Forest Conservation and the Limit of Disturbance***" policy dated September 15, 2006. This policy allows for FCA compliance to be limited to the LOD where it is depicted on the Site Development Plan as less than 40,000 square feet (sf). Such is the case for the current proposed improvements on the St. Michael's property for a pavilion totaling 20,000 sf of LOD, which is well below the 40,000 sf maximum. The Forest Conservation Worksheet (FCW) based on the LOD resulted in a 0.10 acre afforestation requirement that is to be satisfied off-site (Outside the LOD) yet on the property and within the required 75-foot Forest Conservation Easement. This Forest Conservation Easement is expanded beyond the 75-foot minimum where the existing forest is located on the northeastern portion of the property. It will include all the existing forested areas on the property that are adjacent to the nontidal wetlands and 50-foot stream buffer.

FCP NOTES

1. THIS SITE WAS CONDITIONALLY EXEMPT FROM FOREST CONSERVATION ORDINANCE WITH THE FILING OF DECLARATION OF INTENT IN ACCORDANCE WITH SECTION 16.1202(B)(2)(I)(A), DEVELOPMENT OF AN EXISTING SINGLE LOT OF ANY SIZE IF THE TOTAL CUTTING, CLEARING OR GRADING IS LESS THAN 40,000 S.F. REFER TO SDP-02-047.
2. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
3. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, OR DISTURBANCE OF VEGETATION IN THE FCE, EXCEPT AS PERMITTED BY THE HOWARD COUNTY DPZ.
4. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS A FCE.
5. THE PROPOSED LOD FOR THE PROJECT IS NOT WITHIN CLOSE PROXIMITY OF THE FCE LIMITS AND THEREFORE NO TEMPORARY FENCING SHALL BE REQUIRED AT THIS TIME.
6. PERMANENT PROTECTIVE SIGNAGE WILL BE POSTED AT 50-100 FOOT INTERVALS ALONG ALL FCE LIMITS AS SHOWN ON THIS PLAN.
7. THE FCA OBLIGATION IS BASED ON THE PROPOSED LOD FOR THIS PROJECT AND NOT THE ENTIRE PROPERTY. THE FCA REQUIREMENTS FOR THIS PROJECT INCLUDES 0.10 AC OF AFFORESTATION THAT WILL BE SATISFIED WITHIN THE FCE AS DETAILED ON THIS PLAN.

DATA SOURCES

1. BOUNDARY AND TOPOGRAPHIC PROVIDED HEREON BY O'DONELL & LAWRENCE, INC. VIA ELECTRONIC TRANSFER ON JANUARY 7, 2000. DMW CONVERTED THIS TOPOGRAPHIC INFORMATION TO NAD 83.
2. NONTIDAL STREAM AND WETLAND LOCATIONS SHOWN HEREON ARE PER THE APPROVED DELINEATION BY DMW, INC. IN 2001 AND THE 2020 WETLAND VERIFICATION PROVIDED TO HOWARD COUNTY DPZ WITH THE SIMPLIFIED ECP SUBMITTAL.
3. SOIL SURVEY INFORMATION SHOWN HEREON IS BASED ON NRCS WEB SOIL SURVEY, VERSION 11, 9/20/2016.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2.16.21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	SHOW FOREST CONSERVATION ASSOC. W/ NEW PAVILION & WALK.

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER
CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
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DEVELOPER
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1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

THIS PLAN HAS BEEN PREPARED BY ERIC J. CHODNICKI, A QUALIFIED PROFESSIONAL WHO MEETS THE REQUIREMENTS OF COMAR 08.19.06.01.

12.10.2020
DATE

TITLE
REVISED SITE DEVELOPMENT PLAN 2
FOREST CONSERVATION PLAN

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE	SEWER CODE
****	*******

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

DESIGNED: GDT	SCALE: AS SHOWN	PROJECT NO: 99143.E0	
DRAWN: GMO	DATE: 3/9/17		
CHECKED: MCB	APPROVED: PGC	21 OF 22	

FOREST CONSERVATION WORKSHEET FOR ST. MICHAELS

Net Tract Area

A.	Total (Gross) Tract Area	A =	16.50
B.	Area within 100-year Floodplain	B =	0.00
C.	Other Deductions (Identify: AREA OUTSIDE THE LOD FOR THIS PROJECT)	C =	15.80
D.	Net Tract Area	D =	0.70

Land Use Category

Insert the number "1" under the appropriate land use (limit to only one entry)

Resid. Rural LD	Resid. Rural MD	Resid. Suburban	Inst./ Linear	Retail/Ind./ Office	Mixed Use/ PUD
1	0	0	0	0	0

E.	Afforestation Threshold	(Net Tract Area x 20%)	E =	0.10
F.	Reforestation Threshold	(Net Tract Area x 50%)	F =	0.40

Existing Forest Cover

G.	Existing Forest Cover within the Net Tract Area	G =	0.00
H.	Area of Forest above Afforestation Threshold	H =	0.00
I.	Area of Forest above Reforestation Threshold	I =	0.00

Break Even Point

J.	Break Even Point	J =	0.00
K.	Forest Clearing Permitted without Mitigation	K =	0.00

Proposed Forest Clearing

L.	Total Area of Forest to be Cleared	L =	0.00
M.	Total Area of Forest to be Retained	M =	0.00

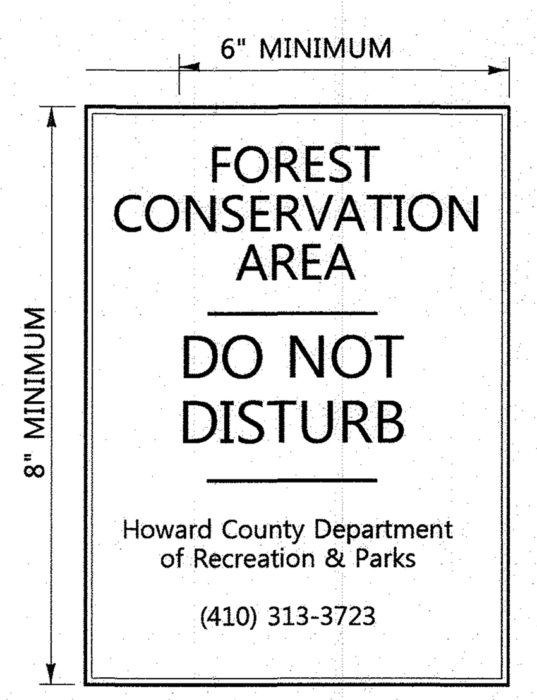
Planting Requirements Inside Watershed

N.	Reforestation for Clearing above the Reforestation Threshold	N =	0.00
P	Reforestation for Clearing below the Reforestation Threshold	P =	0.00
Q.	Credit for Retention above the Reforestation Threshold	Q =	0.00
R.	Total Reforestation Required	R =	0.00
S.	Total Afforestation Required	S =	0.10
T	Total Reforestation and Afforestation Requirement	T=	0.10
U	75% of Total Obligation (Retention + Planting)	U=	0.10
V	Planting Required Onsite to meet 75% Obligation	V=	0.10

Planting Requirements Outside Watershed

W.	Total Planting within Development Site Watershed	W=	0.00
X.	Total Afforestation Required	X=	0.10
Y.	Remaining Planting within Watershed for Reforestation Credit	Y=	0.00
Z.	Reforestation for Clearing above the Reforestation Threshold	Z=	0.00
AA.	Reforestation for Clearing below the Reforestation Threshold	AA=	0.00
BB.	Credit for Retention above the Reforestation Threshold	BB=	0.00
CC.	Total Reforestation Required	CC=	0.00
DD.	Total Afforestation and Reforestation Requirement	DD=	0.10

Date: 2020-04-28



SIGNS TO BE PLACED ON METAL POSTS 4-FEET ABOVE FINISH GRADE PRIOR TO PLANTING ALONG THE PERIMETER OF THE FOREST BUFFER EASEMENT (FBE/FCE). SIGNS SHALL BE 0.040 GA. ALUMINUM WITH CENTER HOLES AT TOP AND BOTTOM. AFFIX SIGNS TO POSTS WITH METAL BOLTS.

Not To Scale

FOREST CONSERVATION EASEMENT SIGNAGE (PERMANENT)

CONSTRUCTION PERIOD PRACTICES

ANY CHANGES TO THE PLAN DUE TO ON-SITE CONDITIONS MUST BE APPROVED BY THE HOWARD COUNTY. THERE WILL BE NO OPEN BURNING WITHIN 100 FEET OF WOODLANDS.

POST CONSTRUCTION MANAGEMENT/ MAINTENANCE BY CONTRACTOR

ALL DEAD TREES OR TREE LIMBS WHICH POSE AN IMMEDIATE SAFETY HAZARD WILL BE FELLED. ALL TEMPORARY FOREST PROTECTION STRUCTURES WILL BE REMOVED AFTER CONSTRUCTION.

THE CONTRACTOR'S MAINTENANCE OF NEW PLANTING SHALL CONSIST OF WATERING, CULTIVATING, WEEDING, AND MULCHING AS NECESSARY TO ENSURE SURVIVAL. CONTRACTOR SHALL PROTECT PLANTING AREAS AND PLANTS AT ALL TIMES AGAINST DAMAGE OF ALL KINDS FOR DURATION OF MAINTENANCE PERIOD. MAINTENANCE INCLUDES TEMPORARY PROTECTION BARRIERS AND SIGNS AS REQUIRED FOR PROTECTION. IF ANY PLANTS BECOME DAMAGED OR INJURED, BECAUSE SUFFICIENT PROTECTION WAS NOT PROVIDED, TREAT OR REPLACE AS DIRECTED BY LANDSCAPE ARCHITECT AT NO ADDITIONAL COST TO OWNER.

STANDARDS AND SPECIFICATIONS FOR PLANTING

1. PLANT MATERIAL SELECTION

   PLANTING STOCK LESS THAN 1" CALIPER SHOULD MEET THE FOLLOWING STANDARDS:
   SEEDLING/WHIPS:
   HARDWOODS - 1/4" TO 1/2" CALIPER WITH ROOTS NOT LESS THAN 8" LONG
   SHRUBS - 1/8" OR LARGER CALIPER WITH 8" ROOT SYSTEM.

2. PLANTING SITE PREPARATION

   SOILS SHALL NOT BE DISTURBED OUTSIDE THE AREA NECESSARY FOR PLANTING INDIVIDUAL SPECIMENS.

3. PLANTING PERIOD

   ALL MATERIAL SHALL BE PLANTED BETWEEN SEPTEMBER 15 AND MAY 31. MATERIAL SHALL NOT BE INSTALLED WHEN GROUND IS FROZEN.

4. PLANT MATERIAL STORAGE

   PLANTS SHOULD BE PLANTED WITHIN 24 HOURS OF DELIVERY IF POSSIBLE. PLANT MATERIAL WHICH ARE LEFT UNPLANTED FOR MORE THAN 24 HOURS SHALL BE PROTECTED FROM DIRECT SUN AND WEATHER AND KEPT MOIST. NURSERY STOCK SHOULD NOT BE LEFT UNPLANTED FOR MORE THAN TWO WEEKS.

5. ON-SITE INSPECTION

   PRIOR TO PLANTING, PLANTING STOCK SHALL BE INSPECTED BY THE LANDSCAPE ARCHITECT OR OTHER QUALIFIED PROFESSIONAL FAMILIAR WITH THIS PLAN. PLANT MATERIAL NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.

6. MULCH

   A. SHREDDED LONG FIBER HARDWOOD.
   B. MULCH SHALL HAVE BEEN SHREDDED WITHIN THE LAST SIX (6) MONTHS.

7. LAYOUT AND EXCAVATION OF PLANTING AREAS

   A. PLANTS SHALL BE PLACED IN EACH ZONE AT RANDOM LOCATIONS SHOWN AT SPACING AS INDICATED ON THE PLAN.
   B. THE LANDSCAPE ARCHITECT OR QUALIFIED PROFESSIONAL WILL CHECK LOCATION OF PLANTS IN THE FIELD AND SHALL ADJUST TO EXACT POSITION BEFORE PLANTING BEGINS.
   C. SUBSOIL SHALL NOT BE WORKED WHEN MOISTURE CONTENT IS SO GREAT THAT EXCESSIVE COMPACTION WILL OCCUR, NOR WHEN IT IS SO DRY THAT CLODS WILL NOT READILY BREAK. WATER SHALL BE APPLIED, IF NECESSARY, TO BRING SOIL TO AN OPTIMUM MOISTURE CONTENT BEFORE TILLING AND PLANTING.
   D. TREE PITS SHALL NOT BE EXCAVATED MORE THAN 24 HOURS IN ADVANCE OF PLANTING OPERATION. TREE PITS SHALL BE EXCAVATED TO THE FOLLOWING DIMENSIONS: EXCAVATION FOR CONTAINER TREES - WIDTH=CONTAINER PLUS 12-INCHES/DEPTH=CONTAINER PLUS 4-INCHES EXCAVATION FOR CONTAINER SHRUBS - WIDTH=CONTAINER PLUS 8-INCHES/DEPTH=CONTAINER PLUS 4-INCHES (CANNOT BE LESS THAN 12-INCHES).

8. PREPARING PLANT MATERIALS FOR PLANTING

   A. CONTAINER STOCK SHALL BE REMOVED CAREFULLY AFTER CANS HAVE BEEN CUT ON TWO SIDES WITH APPROVED CUTTER. DO NOT USE SPADE TO CUT CANS. DO NOT LIFT OR HANDLE CONTAINER PLANTS BY TOPS, STEMS OR TRUNKS AT ANY TIME.
   B. DO NOT BIND OR HANDLE ANY PLANT WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE BARK OR BREAK BRANCHES. LIFT AND HANDLE PLANTS ONLY FROM BOTTOM OF BALL.
   C. DO NOT FORCE ROOTS FOR BARE ROOTED TREES INTO EXCAVATED PITS - CUSTOM DIG PITS TO RECEIVE ROOTS WITHOUT DEFORMATION.

9. INSTALLATION OF CONTAINERIZED PLANT MATERIAL

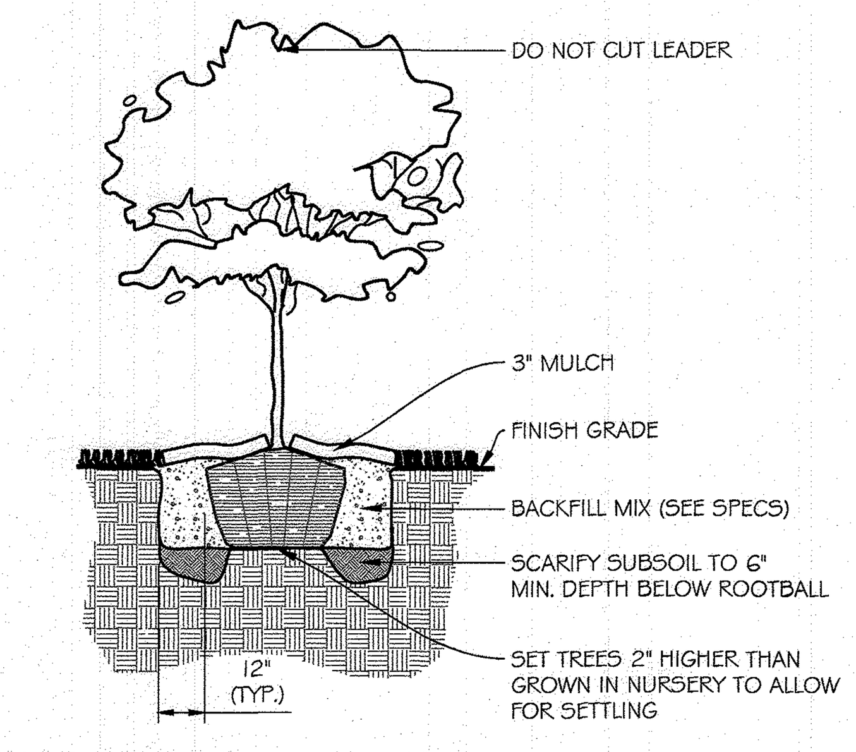
   A. SCARIFY THE WALLS AND BOTTOM OF ALL PLANT PITS IMMEDIATELY PRIOR TO THE PLACEMENT OF PLANT AND BACKFILL MIX. THE CONTRACTOR SHALL REMOVE ALL GLAZING OF SOIL CAUSED BY AN AUGER OR MECHANICAL HOLE DIGGER.
   B. WELLS AROUND TREES AND SHRUBS: AFTER PLANTING IS COMPLETE, FORM A SOIL WELL 3 INCHES HIGH AROUND EACH PLANT, EXTENDING TO THE OUTER LIMIT OF THE PLANT PIT IN ACCORDANCE WITH PLANTING DETAILS SHOWN ON THE DRAWINGS.
   C. SMOOTH PLANTED AREAS TO CONFORM TO SPECIFIED GRADES AFTER FULL SETTLEMENT HAS OCCURRED. CONTRACTOR SHALL BEAR FINAL RESPONSIBILITY FOR PROPER SURFACE DRAINAGE OF PLANTED AREAS. ANY DISCREPANCY IN THE DRAWINGS OR SPECIFICATIONS, OBSTRUCTIONS ON THE SITE, OR PRIOR WORK DONE BY ANOTHER PARTY, WHICH CONTRACTOR FEELS PRECLUDES ESTABLISHING PROPER DRAINAGE, SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT IN WRITING.
   D. WATER ALL PLANTS IMMEDIATELY AGAIN AFTER PLANTING.
   E. SPREAD MULCH IN REQUIRED AREAS TO THE COMPACTED DEPTH OF 2 INCHES.

PLANTING NOTES

1. PLANT MATERIAL SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT OR QUALIFIED PROFESSIONAL FAMILIAR WITH THIS PLAN.
2. PLANT MATERIAL SHALL BE TAGGED AT THE SOURCE BY THE LANDSCAPE ARCHITECT OR QUALIFIED PROFESSIONAL FAMILIAR WITH THIS PLAN, OR PICTURES PROVIDED WITH SCALE REFERENCE UNLESS THIS REQUIREMENT IS SPECIFICALLY WAIVED.
3. PLANT QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
4. ALL AREAS WITHIN THE CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTINGS AND MULCH SHALL BE FINE GRADED AND SEEDED IN ACCORDANCE WITH PLANTING AND CONSTRUCTION SPECIFICATIONS.
5. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (800-257-7777) A MINIMUM OF THREE WORKING DAYS PRIOR TO PLANTING AND CONSTRUCTION.
6. ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL CONFORM TO AMERICAN NURSERYMEN ASSOCIATION STANDARDS.
7. ALL PLANTING PROCEDURES SHALL CONFORM TO LANDSCAPE CONTRACTORS ASSOCIATION (LCA) SPECIFICATION GUIDELINES FOR BALTIMORE / WASHINGTON METROPOLITAN AREA (LATEST EDITION). LCA LANDSCAPE SPECIFICATION GUIDELINES (4TH ED.) SECTION 1.16, REPLACEMENT AND CONDITIONS, "ITEM F. PLANT LOSSES DUE TO ABNORMAL WEATHER" DOES NOT APPLY.

GENERAL NOTES

NO GRADING, EXCAVATION, UTILITY PLACEMENT AND EROSION CONTROL ACTIVITIES, OR VEHICULAR TRAFFIC WILL OCCUR WITHIN THE FOREST RETENTION AREAS. PERMANENT FOREST PROTECTION SIGNAGE WILL BE INSTALLED ALONG THE ENTIRE FOREST CONSERVATION EASEMENT AREA AS INDICATED ON THE PLAN. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.



PLANTING PROCEDURES FOR ALL CONTAINER GROWN TREES AND SHRUBS

1. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER.
2. GENTLY LOOSEN ROOTS FROM SOILS. ROOTS MAY NOT BE CUT OR TRIMMED ON SITE.
3. PLANT SHRUB OR TREE 1 TO 2 INCHES ABOVE THE EXISTING GRADE.
4. APPLY 2 TO 3 INCH THICK LAYER OF SHREDDED HARDWOOD MULCH.

TYPICAL TREE PLANTING (FOR CONTAINTER GROWN)

NOT TO SCALE

AFFORESTATION AREA PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	CONDITION	QUANTITY	SERAL STAGE	STRATUM	INDICATOR STATUS
	ACER RUBRUM	RED MAPLE	1" CAL.	15' X 15'	CONT. GROWN	10	EARLY-MID	TREE	FAC
	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1" CAL.	15' X 15'	CONT. GROWN	10	MID	TREE	FACW
	TOTAL:					20			

PLANTING CALCULATIONS:

TOTAL ACREAGE: ±0.10 AC/±5,850 SF

TOTAL PLANTING REQUIREMENT: ±0.10 AC x 200(STEMS/ACRE) = ±20 PLANTS

SOILS TABLE

SYMBOL	SOIL NAME	SLOPE	K FACTOR	COMMENTS
GgA	GLENELG LOAM	0-3%	0.24	NOT HYDRIC
GgB	GLENELG LOAM	3-8%	0.24	NOT HYDRIC
GgC	GLENELG LOAM	8-15%	0.24	NOT HYDRIC
GmB	GLENVILLE SILT LOAM	3-8%	0.37	1-32% HYDRIC COMPONENTS
GnB	GLENVILLE-BAILE SILT LOAM	0-8%	0.43	33-65% HYDRIC COMPONENTS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2·16·21

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/11/23

for Mary A Kendall, DIRECTOR — DATE 5/15/23

DATE	NO.	REVISION DESCRIPTION
3/9/17	2	FOREST CONSERVATION NOTES & DETAILS ASSOC. W/ NEW PAVILION & WALK

ST. MICHAEL'S ROMAN CATHOLIC CHURCH

OWNER

CARDINAL WILLIAM H. KEELER
THE ROMAN CATHOLIC
ARCHBISHOP OF BALTIMORE
A CORPORATE SOLE
320 CATHEDRAL STREET
BALTIMORE, MD 21201

DEVELOPER

ST. MICHAEL'S POPLAR SPRINGS
ROMAN CATHOLIC CONGREGATION
1125 ST. MICHAEL'S ROAD
POPLAR SPRINGS, MD 21771

DMW
DAFT McCUNE WALKER INC

501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

TITLE: REVISED SITE DEVELOPMENT PLAN (2)

FOREST CONSERVATION PLAN

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
NA	NA	260

PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
295/26	8, 9	RC-DEO	7	4TH	6040.01

WATER CODE	SEWER CODE
****	*******

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
260	1125 ST. MICHAELS ROAD, MT. AIRY, MD. 21797

THIS PLAN HAS BEEN PREPARED BY ERIC J. CHODNICKI, A QUALIFIED PROFESSIONAL WHO MEETS THE REQUIREMENTS OF COMAR 08.19.06.01.

SIGNATURE

12·10·2020
DATE

LANDSCAPE ARCHITECT 712 MARK ALLEN WILLARD STATE OF MARYLAND 5/11/2023

DESIGNED:	GDT	SCALE:	AS SHOWN	PROJECT NO: 99143.E0	
DRAWN:	GMO	DATE:	NTS 3/9/17		
CHECKED:	MCB	APPROVED:	PGC	22 OF 22	

SDP-02-47