

GENERAL NOTES

- Property is within the Metropolitan District.
- Public water and sewer will be used with this site.
- The Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work on these plans:
 - State Highway Administration 410.531.555
 - BGE (Contractor) 410.850.460
 - BGE (Underground Damage Control) 410.787.900
 - Miss Utility 1.800.257.7777
 - Colonial Pipeline Company 410.745.1800
 - Howard County Dept. of Public Works, Bureau of Utilities 410.313.1800
 - Howard County Health Department 410.313.2600
 - AT&T 1.800.252.1234
 - Verizon 1.800.743.0000 / 410.224.9210
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- The contractor shall notify the Department of Public Works/Bureau of Engineering Construction Inspection Division at (410) 313-1880 at least five (5) working days prior the start of work.
- The site shown hereon complies with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- This project is in conformance with the latest Howard County Standards unless waivers have been received.
- No clearing, grading or construction is permitted within wetlands, streams or their required buffers. Stream Disturbance at the Storm Water Management outfall approved under MDE tracking/permit number 200461672.
- This plan has been prepared in accordance with the provisions of section 16.124 of the Howard County Code and Landscape Manual. 2. Financial surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of \$49,050.00 (4% shade trees @ \$300.00 each, 30 ornamental trees @ \$150.00 each, and 105 evergreen trees @ \$150.00 each).
- All curb and gutter to be Howard County Standard R-3.01 Curb and Gutter unless otherwise noted. See Detail Sheet 6.
- All paving to be P-1 unless otherwise noted, see sheets 2-6 for limits and sheet 6 for details.
- All proposed spot elevations along curb and gutter are to the flowline unless otherwise noted.
- Project complies with the requirements of section 16.1200 of the Howard County Code for Forest Conservation by planting 4.07 acres of afforestation and 0.84 acres of retention within Forest Conservation Easement 1. Total easement area = 4.92ac., \$95,962.68 surety posted with the Developer's Agreement. See record plat #16724-16729.
- All construction shall be in accordance with the latest standards and specifications of Howard County in addition to MSHA standards and specifications if applicable.
- Contractor is responsible to construct all handicap ramps and handicap access in accordance with current ADA requirements. Handicap Ramps to conform to Howard County Standard Detail R-4.03 or Detail Sheet 6 (See plan for type). See sheet 6 for Handicap Parking Signs.
- Any damage to public right-of-ways, paving or existing utilities will be corrected at the contractor's expense.
- Existing utilities are located by use of any or all of the following: Road Construction Plans, Surveys, Public Records, Sewer Plans and other available record drawings. Approximate location of the existing utilities are shown for the contractor's information. Contractor shall locate existing utilities in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage to the contractor's operation shall be repaired immediately at the contractor's expense.
- All reinforced concrete for storm drain structures shall have a minimum of twenty-eight (28) day strength at 3,500 psi. Any RCP Storm Drain pipe bedding shall be Class 'C' 1/4" of crushed stone and ASTM 112 respectively.
- Soil compaction specifications, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test, prior to construction.
- All traffic control markings and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- Estimate of Earthwork quantities are provided solely for the purpose of calculation fees.
- The coordinates shown hereon are based on the Howard County Geodetic Control, which is based upon the Maryland State Plane Coordinate System. Howard County monument numbers 41 & 42 are used for this project.
- Lottery for Lots 1 & 2 taken from Record Plat #16724-16729. Two foot contours for Lot 1 are based on a field survey prepared by C.B. Miller and Associates, Inc. in November 2002. Two foot contours for Lot 2 are based on a field survey prepared by C.B. Miller and Associates, Inc. in December, 2001. Five foot contours for Lot 2 are based on Howard County 1993 Aerial Topographic Surveys.
- Geotechnical reports provided by Herbst/Benson & Associates and dated December 12, 2002, November 17, 2003 and December 18, 2003 are integrated with these plans and should be evaluated together with these plans for bid and construction purposes.
- Traffic study provided by The Traffic Group, Inc. on November 06, 2003.
- A noise study is not required for this project due to Non-Residential use.
- There are no known cemeteries or burial grounds located on this site.
- The proposed Stormwater Management facility will be privately owned and maintained.
- Stormwater Management is provided via a Wet Pond Extended Detention facility for both water quality and quantity. The SWM Facility is to be privately owned and maintained. The SWM Facility classification is Hazard Class 'A'.
- All exterior lighting fixtures shall be oriented to direct light inwards and downwards on site away from all adjoining residential properties and public roads in accordance with Section 134 of the Howard County Zoning Regulations. Parking lot lights shall be full cut off, 4000K per fixture, metal halide mounted on 25 foot tall dark bronze poles. Wall mounted lights to be metal halide or fluorescent downlights. See Architectural plans for more details.
- For bearings and distances of Forest Conservation Easements, see Record Plat #16724-16729 recorded in the Land Records of Howard County.
- This project is subject to the amended Fifth Edition of the Subdivision and Land Development Regulations.
- This Site Development Plan is for Phase I improvements only. Phase II and any other future improvements will require a Redline to this plan or a new SDP, to be determined by the Subdivision Review Committee.
- Stormwater Management is provided for all development under this contract, for the future parking and building expansions, and an additional impervious surface for currently information shown on the SWM report maps. If future development occurs beyond the future expansion shown, SWM based on requirements at time of submittal, will be provided.
- Contractor to store screened topsoil on site, and redistribute in a 4" layer over the redistribution area.
- MDE Tracking/permit number: 200461672
- Existing well and septic system to be properly abandoned per Health Department requirements prior to issuance of a house demolition permit.
- See Architectural Plans for stair and railing details. Contractor to provide sleeving in sidewalks for railings.
- Contractor to provide wheel stops for handicap parking at any locations that have depressed curb bordering the parking space.
- In accordance with Section 128.A.10 of the Howard County Zoning Regulations, setbacks to lot lines internal to a development are not required.
- See sheet 6 for sidewalk details.
- This Site Development Plan is subject to case #BA-03-078-C. On April 12th 2004 the hearing examiner ordered that the petition for Grace Community Church for a conditional use for a structure used primarily for religious services under an RR-DEO zoning be granted. Phase II of the development will be substantially completed by the end of 2015.
- Lot 2 is subject to the covenants set forth in Liber 559 Folio 341 stating that in the event of a future subdivision of Lot 2 that would place Building One and Building Two on two separate lots, Building Two will require independent water supply for a fire suppression system.
- Project subject to BA Case #BA-03-078-C to allow placement of shed, pavilion and light pole in the south-western portion of the property, approximately 300 ft. south of existing parking. Conditional use case approved by Board of Appeals Hearing Examiner on 9th day June 2004.
- Howard County Department of Public Works granted approval on (1) April 9, 2009 and (2) December 11, 2007 requesting a waiver from SECTION 5.495 of HOWARD COUNTY DESIGN MANUAL, VOLUME II WATER AND SEWER, to allow the minimum required horizontal clearance from 10-feet to 2-feet over or less between adjacent permanent structures, i.e. (1) the dumpster's masonry wall and (2) the corner of BUILDING ONE'S Storage Room Addition, and the edge of the utility easement, the 20-foot Public Water and Utility Easement. No improvements shall be constructed or placed within the Public Water and Utility Easement that will impede or hinder access to the Water Main. Improvements such as decks, fencing and trees shall not be placed within the easement.
- Per zoning letter dated 2-26-2008, the proposed improvements of Storage Area Addition and Porch with roof does not require a Conditional Use Hearing.
- The zoning division has allowed the existing barn on-site to remain.
- The building permit application deadline date for the red-line plan for the construction of the buildings proposed as part of Phase II is February 20, 2015 (1 year from DEP's letter approving the red-line).
- Landscaping for the 10 shade trees proposed with Phase II will be bonded with the builder's grading permit in the amount of \$4,800.00.

SITE DEVELOPMENT PLAN

GRACE COMMUNITY CHURCH

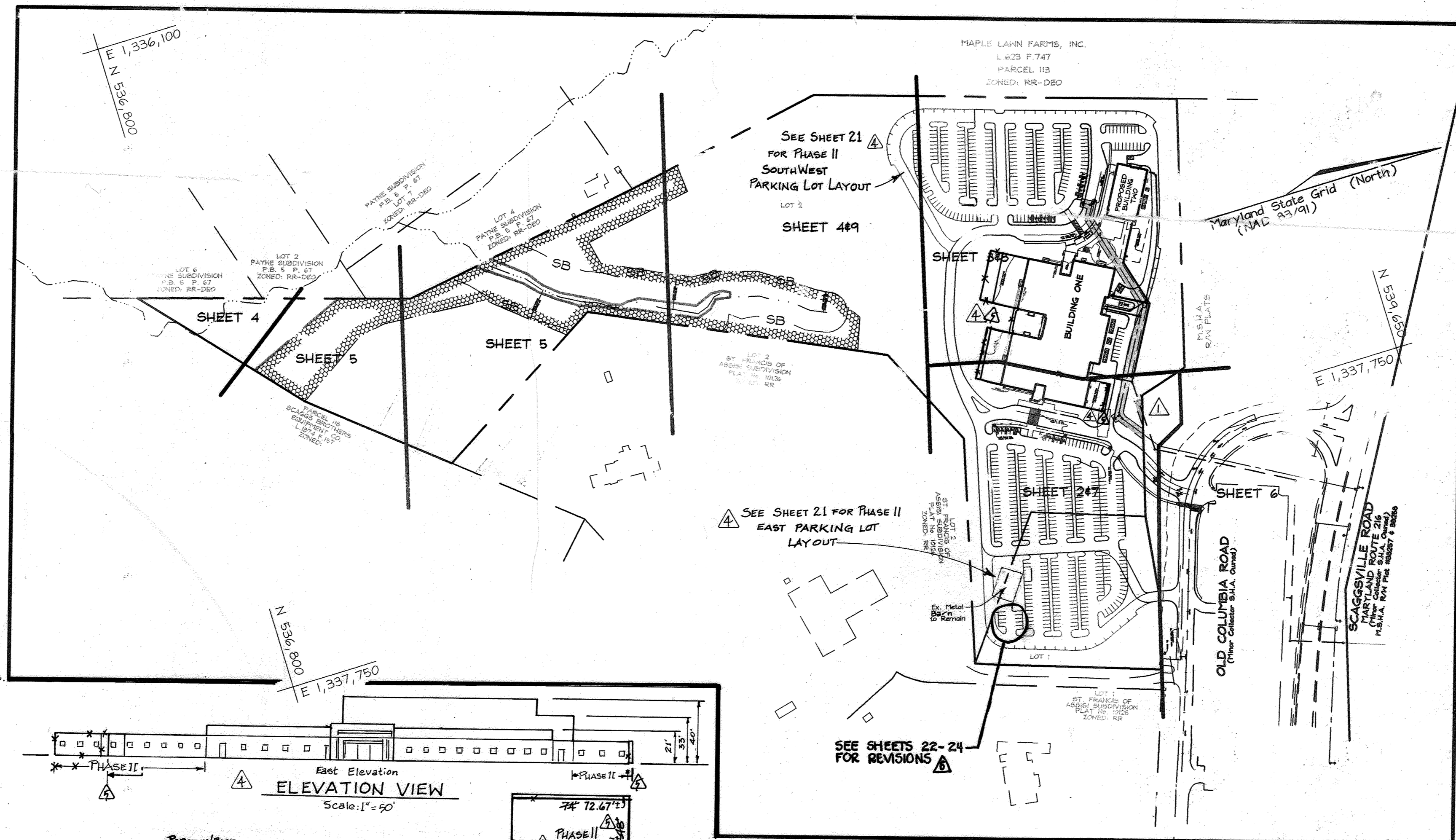
PHASE I & II

HOWARD COUNTY, MARYLAND

LEGEND

- Existing Contour
- Proposed Contour
- Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Light Fixtures
 - Overhead
 - Wall Mounted
 - Double (25')
 - Pole (12')
 - Accent
- P-2 Paving Section
- Existing Traffic Flow
- Proposed Traffic Flow
- Forest Conservation Easement
- Gutter slope direction
- Face of Curb

VICINITY MAP
Scale: 1" = 200'



BENCHMARKS
Howard County Monuments:

Sta. 41GA	N 165,018.7692 E 406,545.5671	E1: 141.0632 (meters)
(Concrete Monument 5.5' SW of paving edge, 42.8' NW of C&P Pole #36.)		
Sta. 46B2	N 164,588.5849 E 407,584.9942	E1: 144.8732 (meters)
(Concrete Monument 62.7' NE of G&E Pole, 34.2' N of nail in cedar stump.)		

SHEET INDEX

COVER SHEET	DESCRIPTION	SHEET No.
	Site Development and Grading Plan	1 of 2
	Site Development and Grading Plan	2 of 2
	Site Development and Grading Plan	3 of 2
	Site Development and Grading Plan	4 of 2
	Site Development and Grading Plan	5 of 2
	Old Columbia Road Improvements and Sediment and Erosion Control Plan	6 of 2
	Soils, Sediment and Erosion Control Plan	7 of 2
	Soils, Sediment and Erosion Control Plan	8 of 2
	Soils, Sediment and Erosion Control Plan	9 of 2
	Sediment and Erosion Control Details	10 of 2
	Landscape Plan	11 of 2
	Water & Sewer Profiles, Pond Planting Plan & Details and Sediment & Erosion Control Details	12 of 2
	Stormdrain Drainage Area Map	13 of 2
	Storm Drain Profiles	14 of 2
	Storm Drain Profiles	15 of 2
	Stormwater Management Details, and Profiles	16 of 2
	Stormwater Management Details and Profiles	17 of 2
	Forest Conservation Plan	18 of 2
	Forest Conservation Notes and Planting Details	19 of 2
	Existing Conditions Plan	20
	Phase II Parking Lot Plans and Storm Drain Profiles	21 of 21

ADDRESS CHART

LOT	STREET
2	8200 Old Columbia Road (Religious Facility)
	8204 Old Columbia Road (Ancillary Building)
1	8210 Old Columbia Road

SHEET INDEX CONTINUED

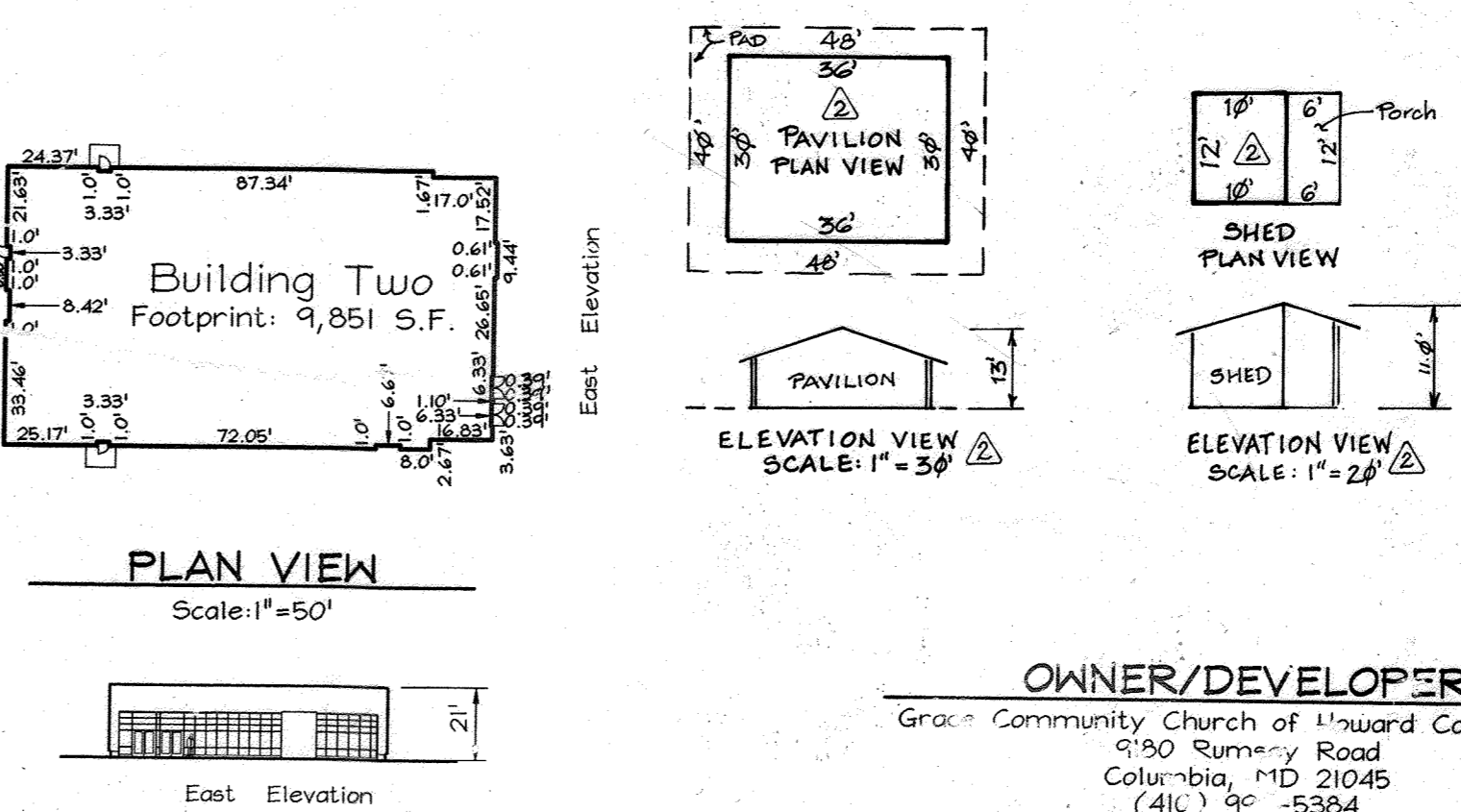
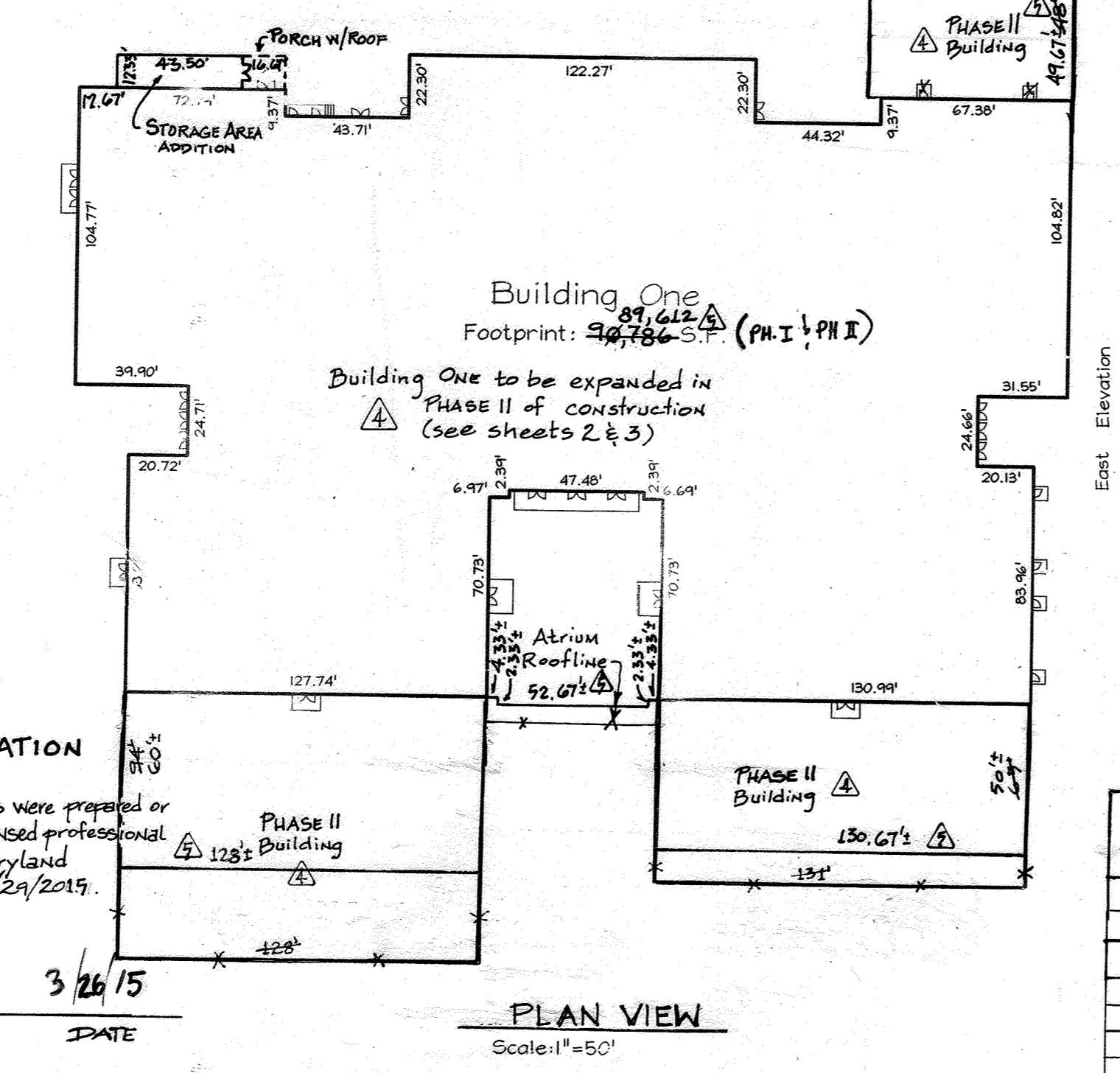
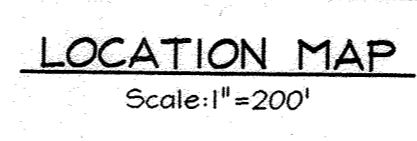
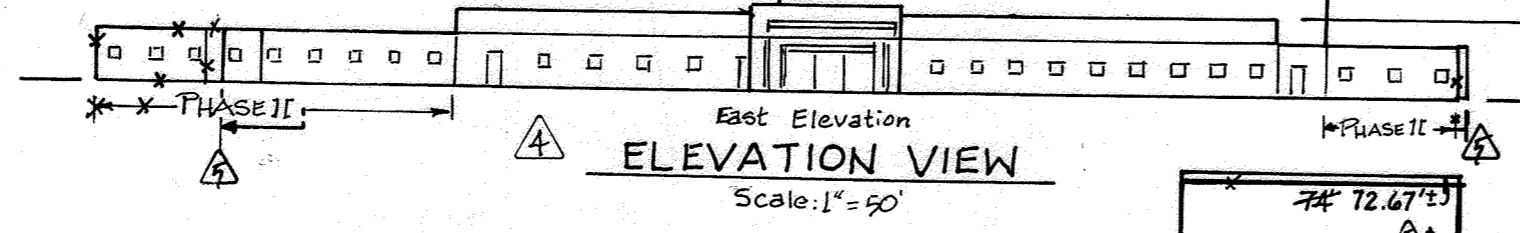
COMMUNICATION TOWER PLAN	22
GRADING, SEDIMENT & EROSION CONTROL PLAN	23
COMMUNICATION TOWER NOTES & DETAILS	24

SITE ANALYSIS DATA CHART

- Total project area: 34.06 Acres
- Area of plan submission: 34.06 Acres
- Limit of disturbed area: 23.66 Acres
- Present zoning: "RR-DEO" per 02/02/04 Comprehensive Zoning Plan.
- Proposed uses for site & structures: Religious facility
- Floor space on each level of building(s) per use: See building footprint sheet.
- Building coverage of site: 2.32 acres
- Maximum allowed for Religious facility per the Zoning Regulations: 25% of site or 8.52 acres
- Existing Buildings to remain: 0.04 acres
- Proposed Buildings: 1.76 acres
- Total: 1.85 acres or 5.4%
- DZ file references: Plat #4382, F-80-25 Conditional Use Case #BA-02-35-C and V, #BA-03-078-C, Plat #16724-16729 F-04-172
- Number of parking spaces required: 1 space for every 3 seats (1800 seats) = 600 spaces (see Parking Tabulation below).
- Total number of parking spaces provided: 727 (714)
- Total required Handicap parking spaces: 2 van accessible spaces
- Total provided Handicap parking spaces: 24 spaces; including 8 van accessible spaces

PHASE II Site Analysis Data:

- Limit of Disturbed area (Phase II): 4.562 Acres
- Floor space added to Building ONE: 2,328 sq ft
- Total building coverage of site (after Phase II): 2.32 acres or 7.0%



APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF DEVELOPMENT ENGINEER: 6 DIVISION MAR 13 2014

CHIEF DIVISION OF LAND DEVELOPMENT: 8/3/04

DIRECTOR: 8/2/04

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. 2241B, Expiration Date: 07/29/2015.

Zacharia Y. Fisch 3/26/15

FISH ASSOCIATES

REVISIONS

No.	Description	Date
1	Added Sheets 22-24 for Communication Tower Site	July 2013
2	Update Phase II building footprint	Mar 2015
3	Add Phase II references and update data chart.	Mar 2015
4	Add Notes #44 & 45 and Storage Addition to Building One Timeline	May 2009
5	Add Note #45, Planned Elevation for Handicap Shed	Sept. 2008
6	Revised Sewer Manholes and Easements	

PERMIT INFORMATION CHART

Subdivision Name:	Grace Community Church	Station/Area:	N/A	Lot/Parcel No.:	1, 2, 337
Plot #:	16724-16729	Grid:	3	Zoning:	RR-DEO
Water Code:	E20	Tax Map No.:	46	Elect. Dis.:	5th
		Census Tract:	605102		
		Number Code:	7690000		

COVER SHEET

GRACE COMMUNITY CHURCH

PHASE I & II

RELIGIOUS FACILITY

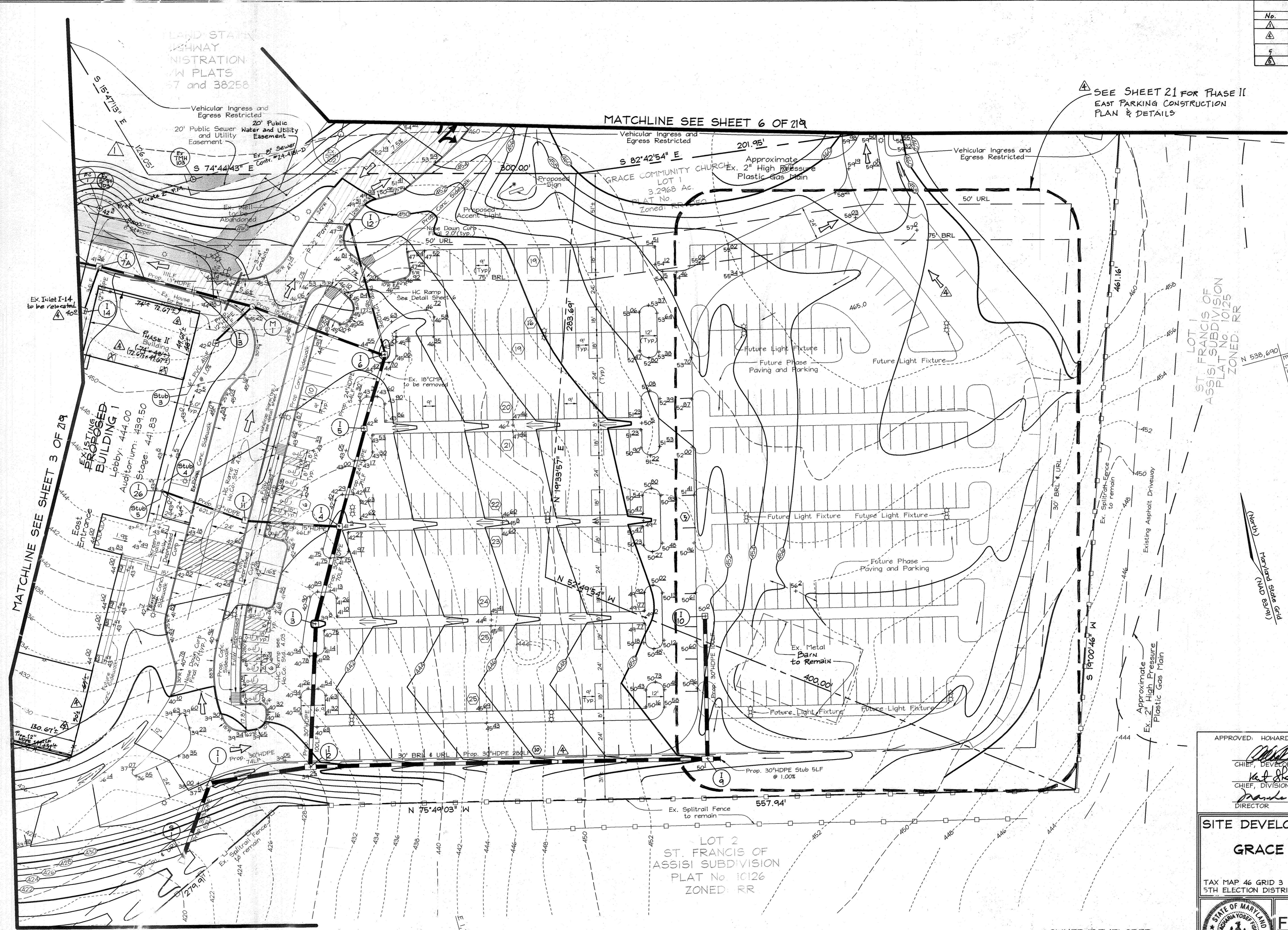
TAX MAP: 46 GRIP 3
5TH ELECTION DISTRICT

LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND

FSH Associates
57 WTS 049
3318 Forest Street, Ellicott City, MD 21120
Tel: 410-975-5384
Fax: 410-975-5384
www.fishassoc.com

DESIGN: 2
DRAWN BY: KES
CHECKED BY: ZYF
SCALE: As Shown
DATE: July 20, 2014
SHEET NO. 11 OF 21
SDP-04-079

REVISIONS		
No.	Description	Date
1	Revised Grades and Sewer Main sizes	11.09.04
2	Add Phase II references, traffic flow arrows and Phase II building site expansions	Mar. 2013
3	Update Phase II footprint and add reflow collection pipe	Mar. 2015
4	Revise Sheet Title	July 2023



SEE SHEET 21 FOR PHASE II EAST PARKING CONSTRUCTION PLAN & DETAILS

MATCHLINE SEE SHEET 3 OF 219

MATCHLINE SEE SHEET 6 OF 219

MATCHLINE SEE SHEET 4 OF 219

LOT 1 ST. FRANCIS OF ASSISI SUBDIVISION PLAT No. 10125 ZONED: RR

LOT 2 ST. FRANCIS OF ASSISI SUBDIVISION PLAT No. 10126 ZONED: RR

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard R. ... 7/30/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Neil ... 8/3/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

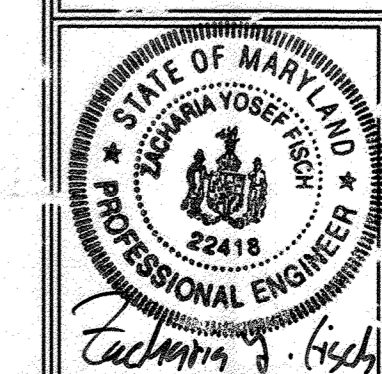
Frank ... 8/10/04
 DIRECTOR DATE

SITE DEVELOPMENT AND GRADING PLAN

GRACE COMMUNITY CHURCH
 PHASE I & II
 RELIGIOUS FACILITY

TAX MAP 46 GRID 3 LOTS 1 AND 2 PARCEL 337
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc.
 9180 Rumsey Road
 Columbia, MD 21045
 (410) 992-5384
 C/O Joe Hancock

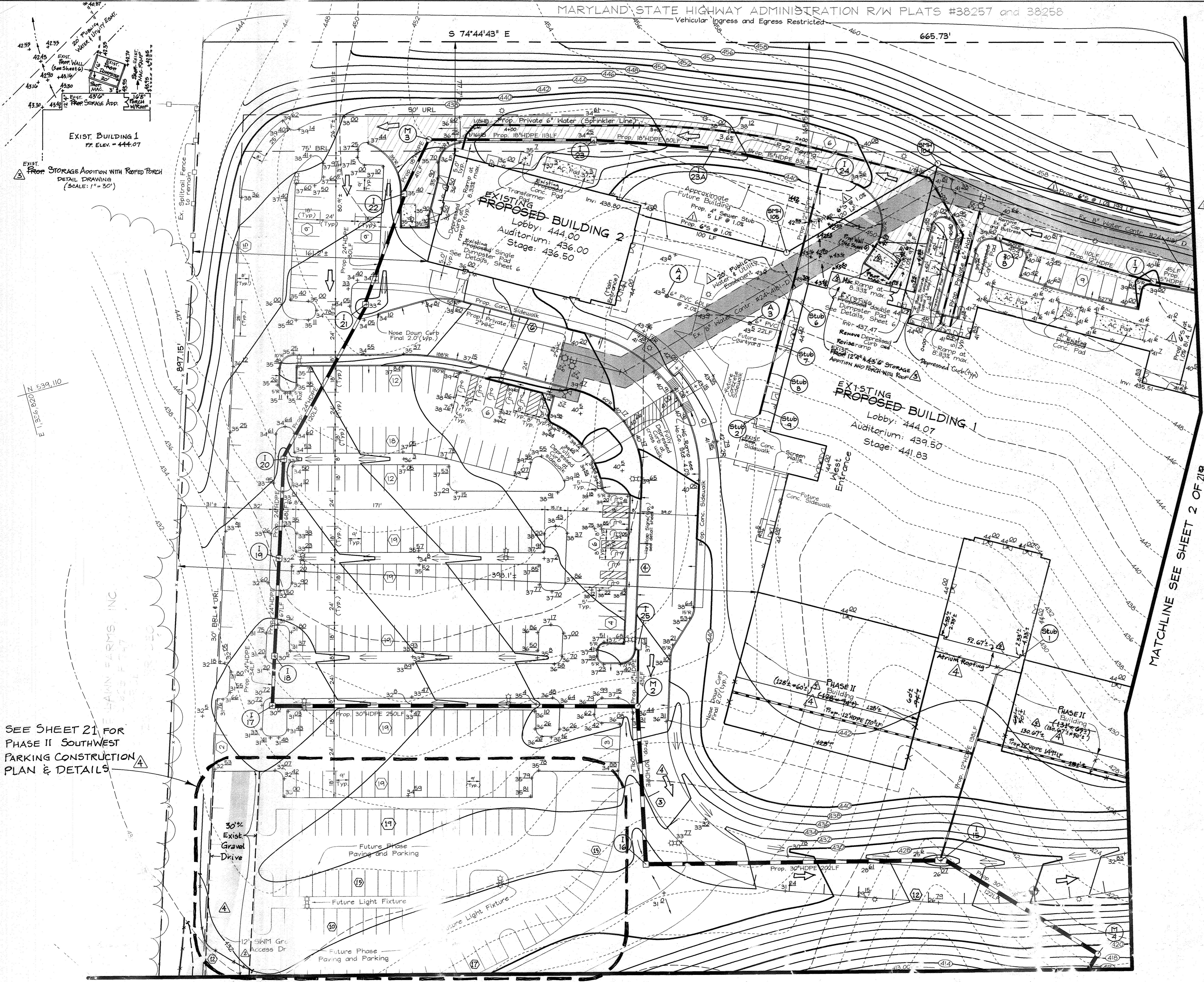


FSH Associates
 Engineers Planners Surveyors
 801 Forest Street, Easton, MD 21043
 (410) 321-2251 Fax: 410-50-7350
 E-mail: FSHAssociates@fsh.com

DESIGN BY: CS
 DRAWN BY: KSE
 CHECKED BY: ZYF
 SCALE: 1"=30'
 DATE: July 20, 2004
 P.O. No.: 3071
 SHEET No.: 2 OF 24

Vehicle Egress and Egress Restricted

REVISIONS		
No.	Description	Date
1	Revised Grades and Sewer Main sizes	11.04.04
2	REVISE GRADINGS	SEPT. 2008
3	ADD FRONT STORAGE ADDITION TO BUILDING 1, MOVE DUMPSTER PAD, ADD 3-SIDED WALL AROUND DUMPSTER AND DETAIL DRAWING: REVISE RAMP AND GRADING.	MAY 2009
4	ADD PHASE II REFERENCES, TRAFFIC FLOW ARROWS, AND PHASE II BUILDING EXPANSIONS.	MAR. 2013
5	Update Rubell footprint and add contain collection pipes	MAR 2014
6	Revise Sheet Total	July 2023



EXIST. BUILDING 1
RF. ELEV. = 444.07

EXIST. FRONT STORAGE ADDITION WITH ROOFED PORCH
DETAIL DRAWING
(SCALE: 1" = 30')

EXISTING PROPOSED BUILDING 2
Lobby: 444.00
Auditorium: 436.00
Stage: 436.50

EXISTING PROPOSED BUILDING 1
Lobby: 444.07
Auditorium: 439.50
Stage: 441.83

SEE SHEET 21 FOR
PHASE II SOUTHWEST
PARKING CONSTRUCTION
PLAN & DETAILS

MATCHLINE SEE SHEET 2 OF 219

MATCHLINE SEE SHEET 4 OF 219

PROFESSIONAL CERTIFICATION
FOR REVISIONS #1-9 ONLY
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 N^o 22418; Expiration Date: 07/29/2019.

Zacharia Y. Fisch 3/26/15
ZACHARIA Y. FISCH, P.E. #22418 DATE
FSH ASSOCIATES

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
(410) 492-5384
C/O Joe Hancock

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/20/24 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION MAJ DATE

[Signature] 8/3/24 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/2/24 DATE
DIRECTOR DATE

SITE DEVELOPMENT AND GRADING PLAN
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY

TAX MAP 46 GRID 3 LOTS 1 AND 2 PARCEL 337
TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
Engineers' Plan
6318 Forest Street, Suite 201
Columbia, MD 21045
Tel: (410) 751-2354 Fax: (410) 751-2354
E-mail: zshassociates@gmail.com

DESIGN BY: ZYF
DRAWN BY: EJS
CHECKED BY: ZYF
SCALE: 1" = 30'
DATE: July 20, 2024
P.L.O. No: 30714
SHEET No: 3 OF 21

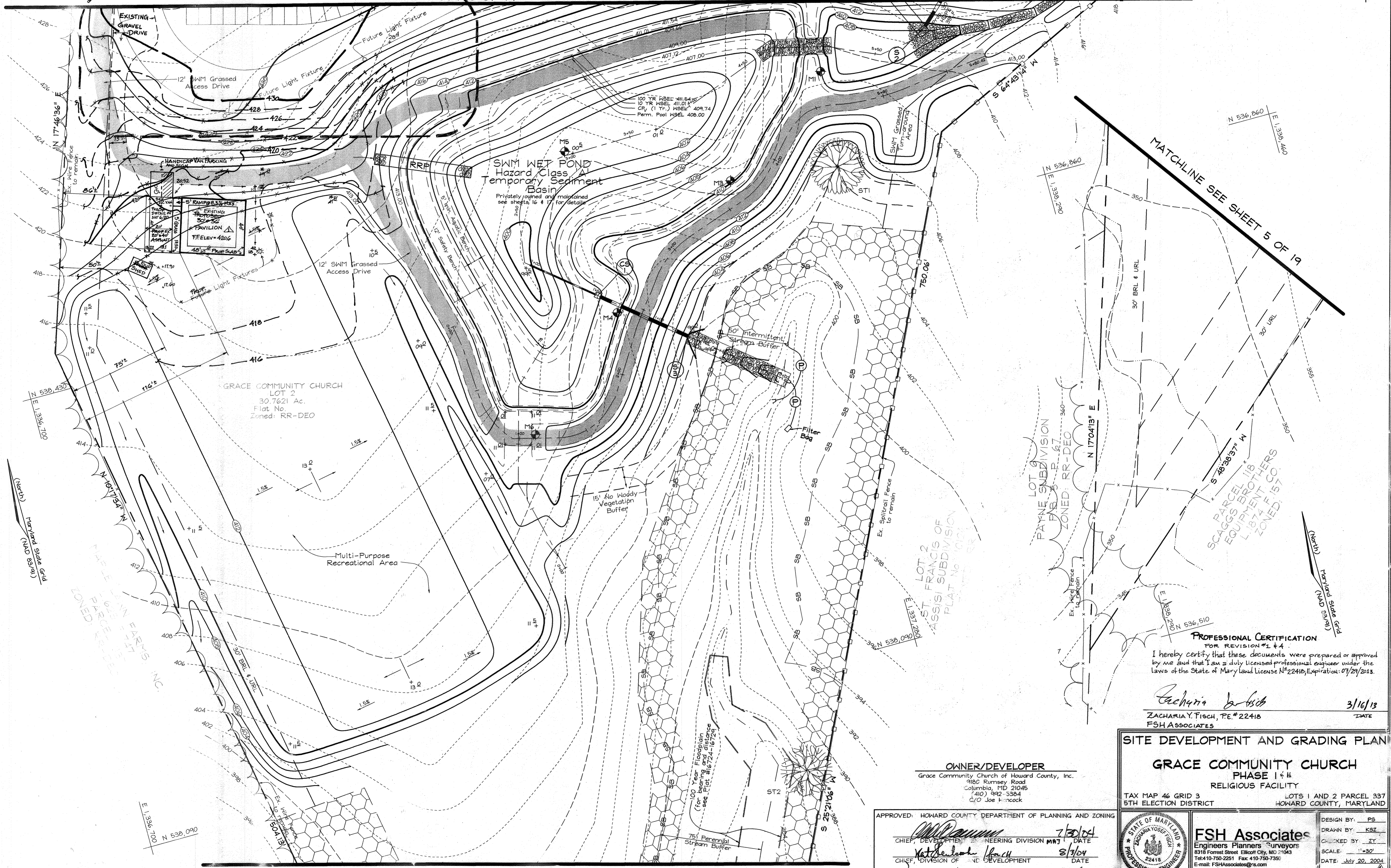
NO.	REVISIONS	DATE
1	REVISE GRADES, ADD PROPOSED PAVILION AND SHED	SEPT. 2008
2	ADD PHASE II (SHEET 21) REFERENCES.	MAR. 2013
3	REVISE SHEET TITL	JULY 2013

SEE SHEET 21 FOR PHASE II
SOUTHWEST PARKING, CONSTRUCTION
PLANS & DETAILS.

MATCHLINE SEE SHEET 2 OF 19

MATCHLINE SEE SHEET 3 OF 19

MATCHLINE SEE SHEET 5 OF 19



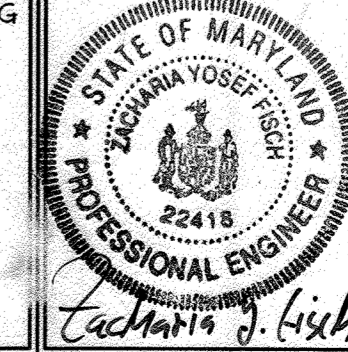
PROFESSIONAL CERTIFICATION
FOR REVISION #1 & 4
I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland License N# 22418, Expiration: 07/29/2013.

Zacharia Y. Fisch 3/16/13
ZACHARIA Y. FISCH, P.E. # 22418
FSH ASSOCIATES

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
(410) 992-3384
C/O Joe Hancock

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/31/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 8/15/07
DIRECTOR DATE

SITE DEVELOPMENT AND GRADING PLAN
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY
TAX MAP 46 GRID 3 5TH ELECTION DISTRICT
LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND

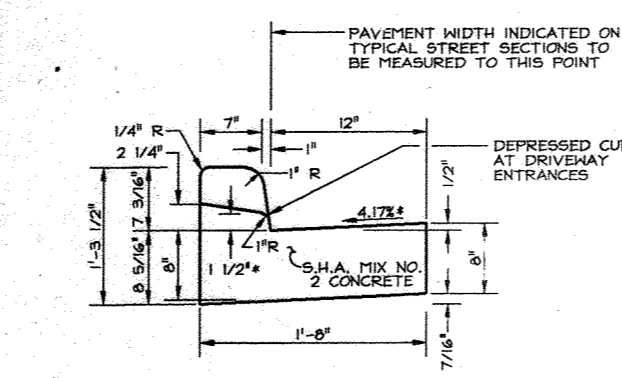


FSH Associates
Engineers Planners Surveyors
9318 Forrest Street, Elkton City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7356
E-mail: FSHAssociates@a.com

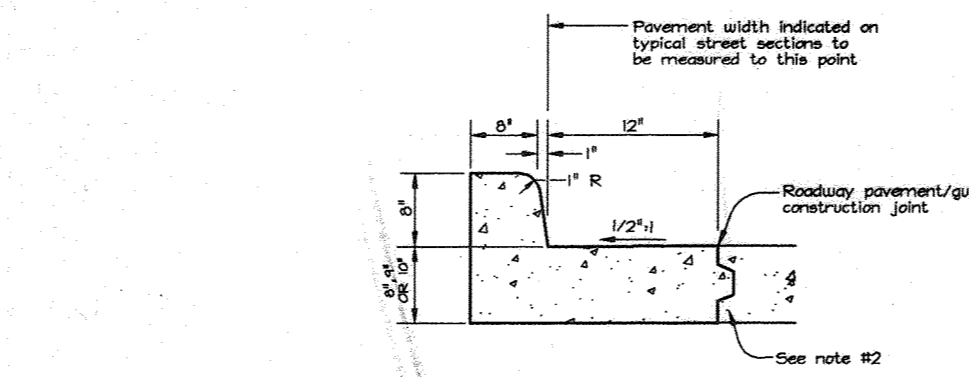
DESIGN BY: PS
DRAWN BY: K5Z
CHECKED BY: ZY
SCALE: 1"=30'
DATE: July 20, 2004
P.L.O. No.: 3071
SHEET No.: 4 OF 21

MATCHLINE SEE SHEET 5 OF 19

N [#]	REVISION	DATE
1	ADD PROP. TAVILION'S HC-VAN PARKING SPACE DETAIL	SEPT. 2008
2	REVISE TRASH ENCLOSURE PLAN TO REQUIRE 3-SIDED 6" MASONRY WALL WITH GATE AND 2 ADDITIONAL INTERNAL BOLLARDS (6")	MAY 2009
3	Total Number of sheets change to 21.	MAR. 2013
4	Revise Sheet Total	JULY 2013

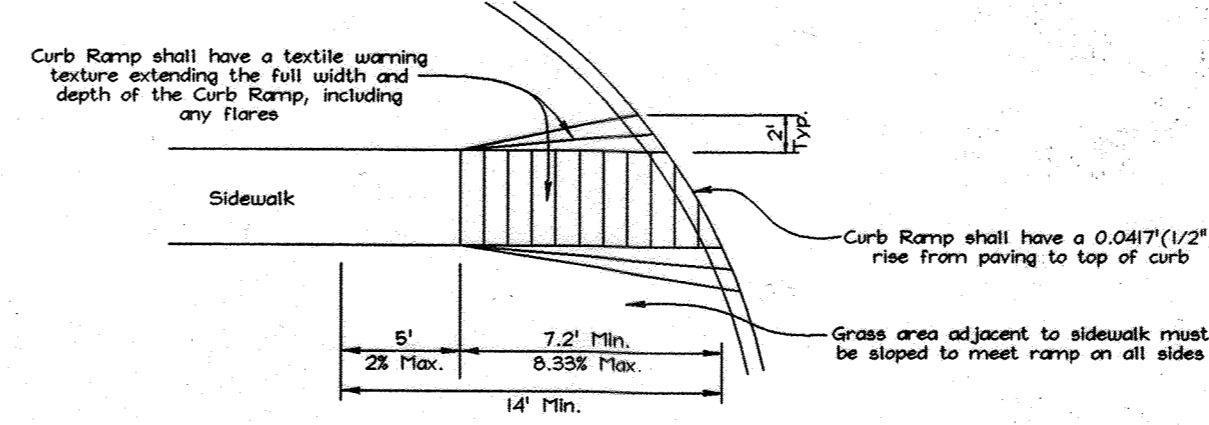


STANDARD COMBINATION CURB AND GUTTER
HOWARD COUNTY STANDARD R-3.01
NOT TO SCALE

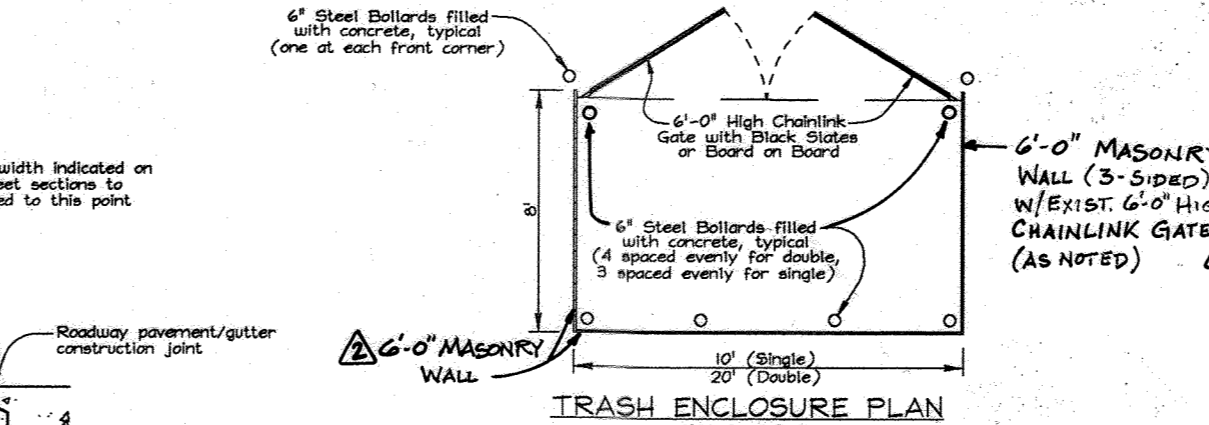


MSHA TYPE 'A' CONCRETE COMBINATION CURB AND GUTTER
MD. NO. 620.02
NOT TO SCALE

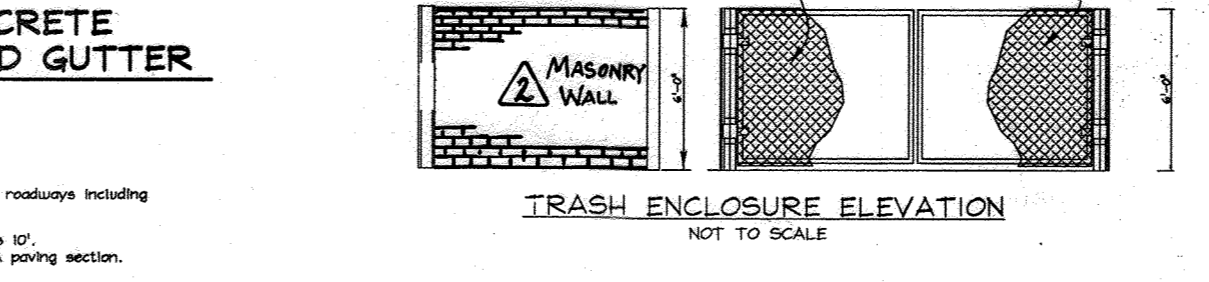
- NOTES:
- Slope gutter min 1/2" per foot toward flow line on all roadways including super-elevated sections. Guard-interchange ramps.
 - Provide key and longitudinal bar as required.
 - Reinforce joint spacing for concrete curb and gutter is 10'.
 - MSHA curb and gutter to be placed adjacent to MSHA paving section.



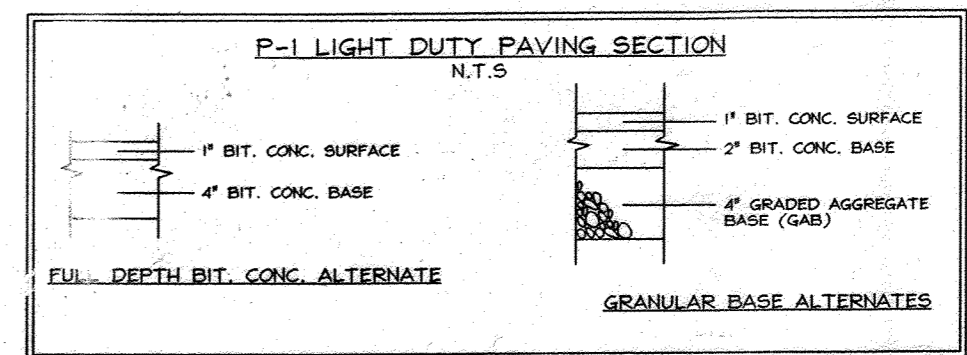
HANDICAP RAMP
NOT TO SCALE



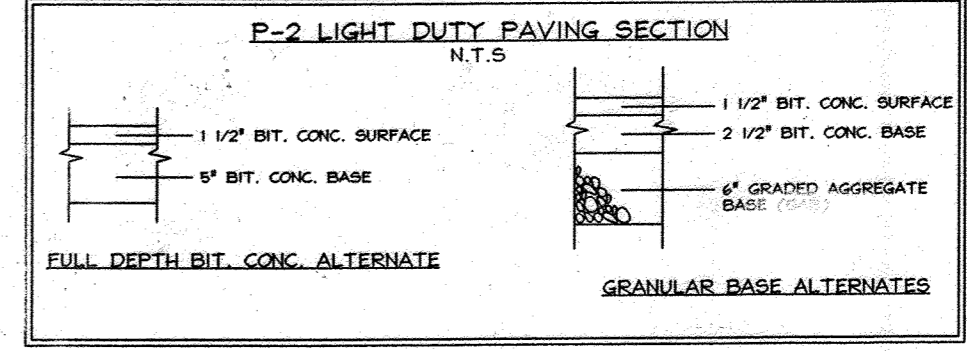
TRASH ENCLOSURE PLAN
NOT TO SCALE



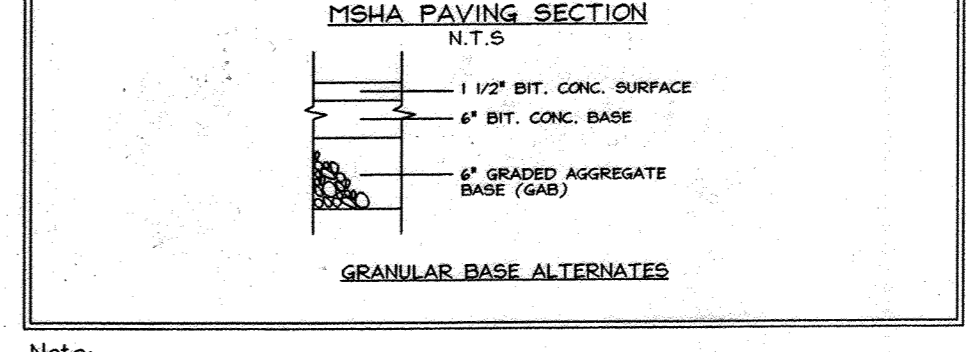
TRASH ENCLOSURE ELEVATION
NOT TO SCALE



P-1 LIGHT DUTY PAVING SECTION
N.T.S.

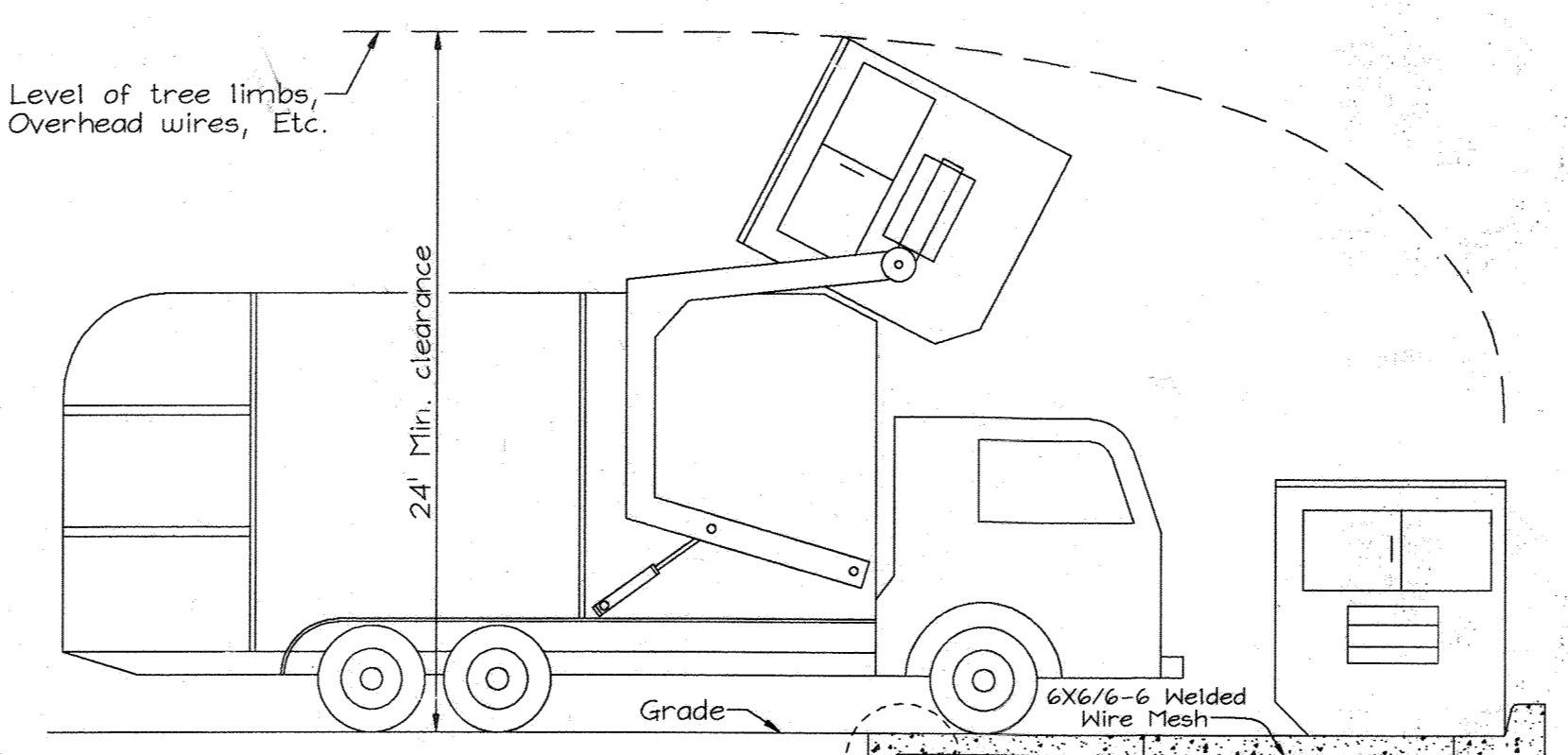
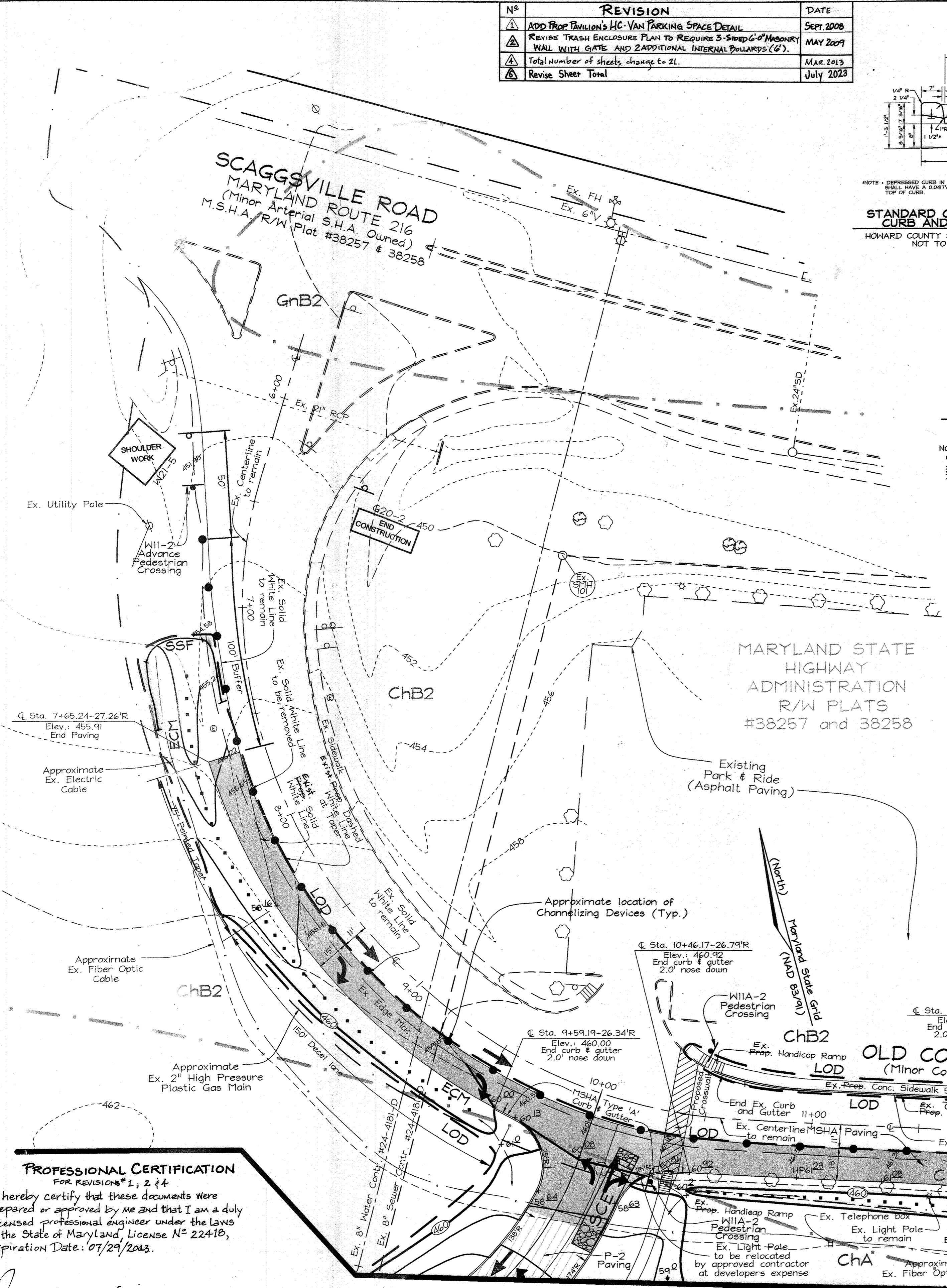


P-2 LIGHT DUTY PAVING SECTION
N.T.S.

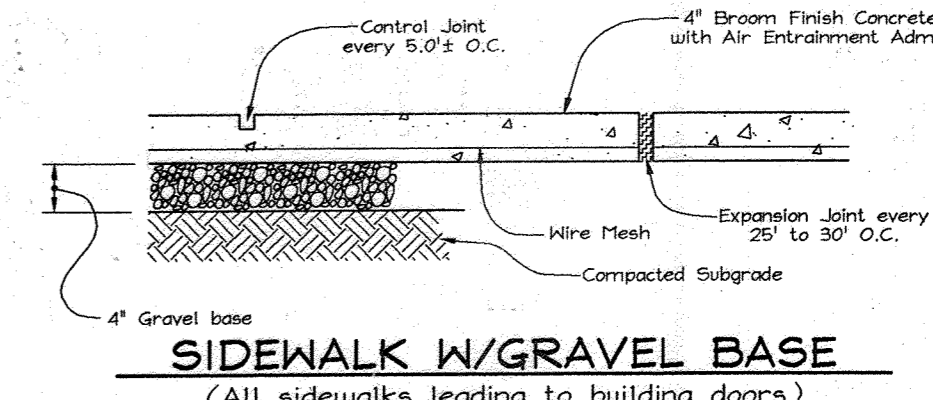


MSHA PAVING SECTION
N.T.S.

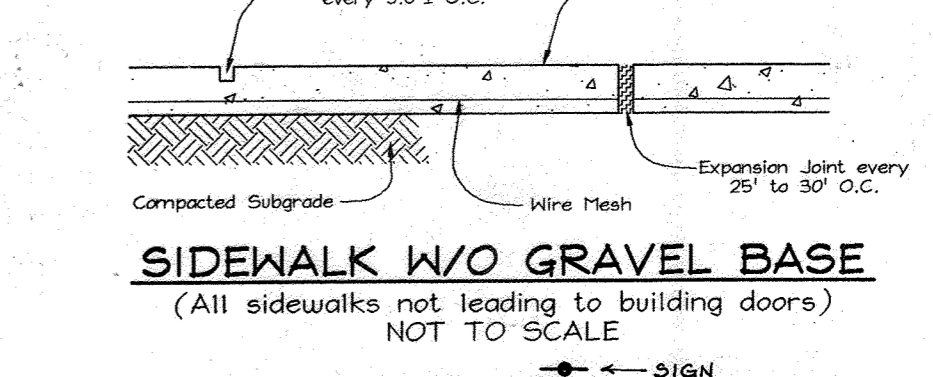
- LEGEND**
- Existing Contour
 - Proposed Contour
 - Spot Elevation
 - Direction of Flow
 - Existing Trees to Remain
 - Light Poles: Post Top, Overhead, Bollard
 - Stabilized Construction Entrance
 - Silt Fence
 - Super Silt Fence
 - Earth Dike
 - Limit of Disturbance
 - Erosion Control Matting (ECM)
 - ECM for Recharge Swales
 - Rip-Rap Inflow Protection
 - Removable Pumping Station
 - MSHA Paving (This Sheet Only)



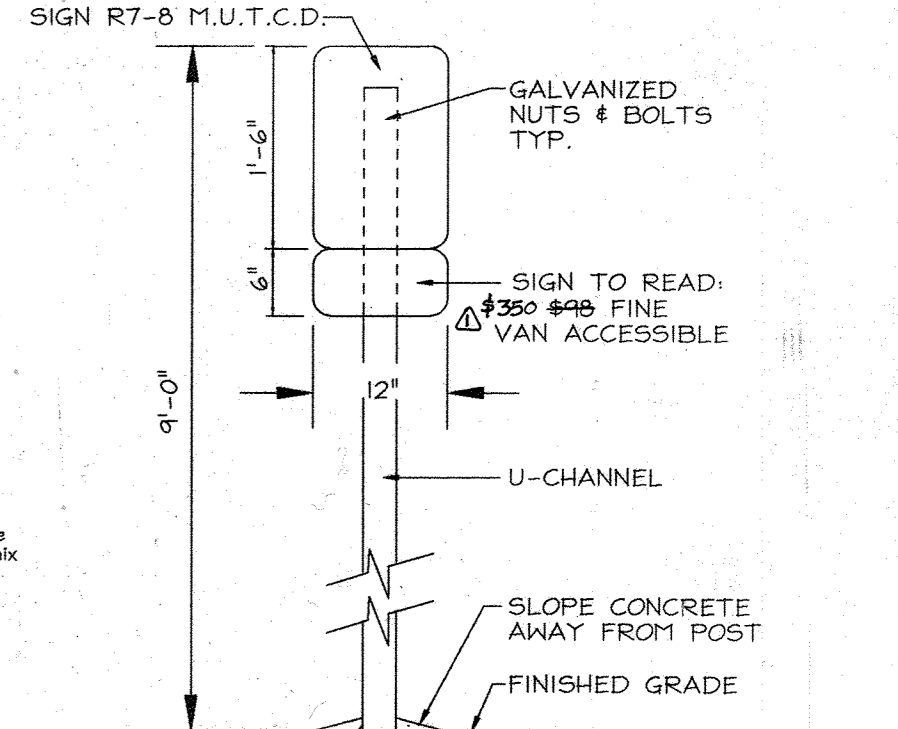
SOLID WASTE SERVICE PAD
NOT TO SCALE



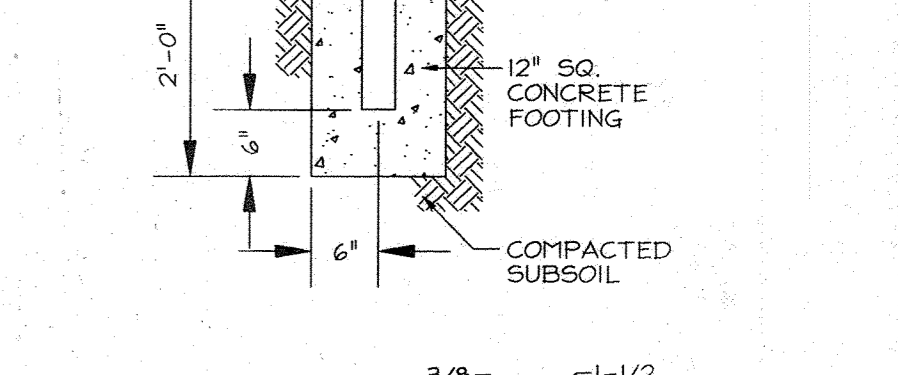
SIDEWALK W/ GRAVEL BASE
NOT TO SCALE



SIDEWALK W/O GRAVEL BASE
NOT TO SCALE



HANDICAP VAN PARKING SPACE
DETAIL AT PAVILION (N.T.S.)



HANDICAP PARKING SIGN
NOT TO SCALE

- NOTES:
- All van accessible parking space aisle shall have a "No Parking in Access Aisle" Sign.
 - Reduce spacing 50%.
 - See symbol 1B60 for symbol design (all dimensions for signs in inches).

- COLORS:
- LEGEND AND BORDER - GREEN
 - WHITE SYMBOL ON BLUE BACKGROUND
 - BACKGROUND - WHITE
- REFERENCE: STATE OF MARYLAND STANDARD HIGHWAY SIGNS BOOKLET MARYLAND DEPARTMENT OF TRANSPORTATION.

PROFESSIONAL CERTIFICATION
For Revisions 1, 2 & 4
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 N^o 22418, Expiration Date: 07/29/2013.

Zacharia Y. Fisch
ZACHARIA Y. FISCH P.E. #22418
FSH Associates

3/16/13
DATE

MATCHLINE SEE SHEET 2 OR 7 OF 19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
USDA-NATURAL RESOURCES CONSERVATION SERVICE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER'S CERTIFICATE
I HEREBY 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.

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
1100 Rumsey Road
Columbia, MD 21045
Tel: (410) 942-5384
C/O Joe Hancock



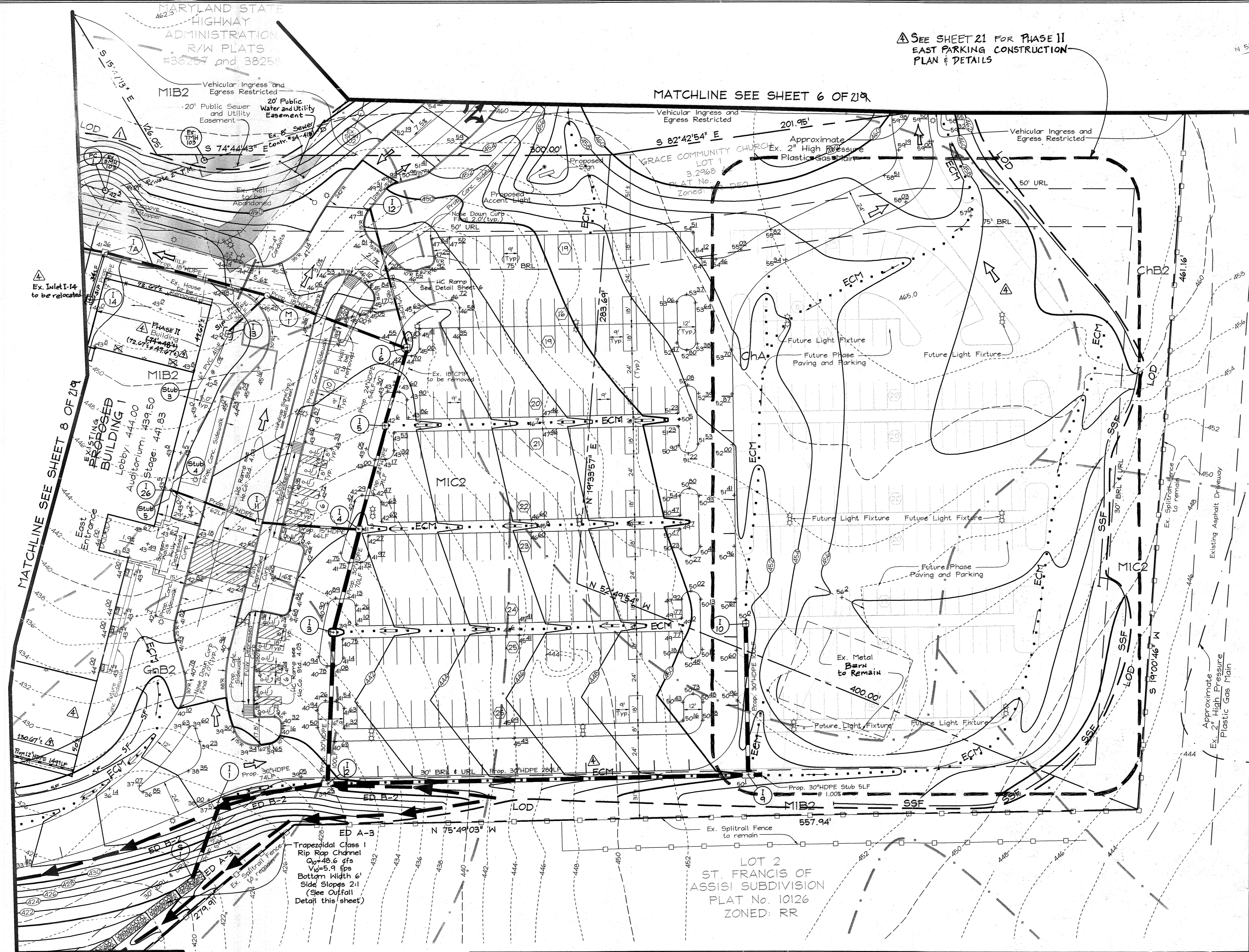
FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel: 410-750-2255 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

DESIGN BY: PS
DRAWN BY: PS
CHECKED BY: ZYF
SCALE: 1"=30'
DATE: July 20, 2004
SHEET No.: 3071A
W.O. No.: 6 OF 21

REVISIONS		
No.	Description	Date
1	Revised Grades, Sewer Manholes and Easements	11-04-04
2	Add PHASE II references, traffic flow arrows, and PHASE II building and expansions.	Mar. 2013
3	Update Phase II footprint and add certain collection pipe	Mar. 2019
4	Revise Sheet Title	July 2023

SEE SHEET 21 FOR PHASE II
EAST PARKING CONSTRUCTION
PLAN & DETAILS

MATCHLINE SEE SHEET 6 OF 219



LOT 1
ST. FRANCIS OF ASSISI SUBDIVISION
PLAT No. 10125
ZONED: RR

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
ChA	Chester silt loam, 0 to 3 percent slopes	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EkB2	Elkodi silt loam, 3 to 8 percent slopes, moderately eroded	B
EkC2	Elkodi silt loam, 8 to 15 percent slopes, moderately eroded	B
GIB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GIC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GIC3	Glenelg loam, 8 to 15 percent slopes, severely eroded	B
GID2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
GID3	Glenelg loam, 15 to 25 percent slopes, severely eroded	B
GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
MIB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B
MIC2	Manor loam, 8 to 15 percent slopes, moderately eroded	B
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B
MID3	Manor loam, 15 to 25 percent slopes, severely eroded	B
MIE	Manor loam, 25 to 45 percent slopes	B

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
Tel: (410) 992-5384
C/O Joe Hancock

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/29/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION (MD) DATE
[Signature] 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 8/3/04
DIRECTOR DATE

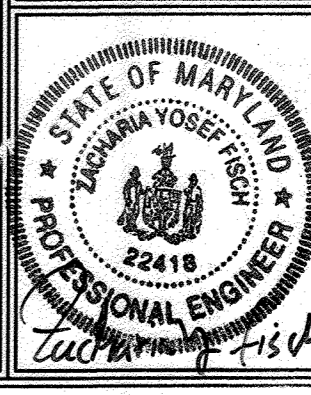
SOILS, SEDIMENT AND EROSION CONTROL PLAN
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY
TAX MAP 46 GRID 3 LOTS 1 AND 2 PARCEL 337
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

MATCHLINE SEE SHEET 9 OF 219

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
[Signature] 7/29/04
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 7/29/04
HOWARD SOIL CONSERVATION DISTRICT DATE

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE OBTAINED CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
[Signature] 7/21/04
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE
I HEREBY 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] 7/21/04
SIGNATURE OF ENGINEER DATE



FSH Associates
Engineers Planners Surveyors
8318 Forrest Street, Elliott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@fsh.com

DESIGN BY: FS
DRAWN BY: K3Z
CHECKED BY: ZTF
SCALE: 1"=30'
DATE: July 20, 2004
SHEET No.: 3071A
PROJECT No.: 7 OF 21

Vehicle Ingress and Egress Restricted

REVISIONS		
No.	Description	Date
1	Revised Grades, Sewer Manholes and Easements	11.09.04
2	REVISE GRADING	SEPT. 2008
3	ADD PROP STORAGE ADDITION TO BUILDING 1; MAINT DUMPSTER; REVISE POWER AND GRADES	MAY 2009
4	ADD PHASE II REFERENCES, TRAFFIC FLOW ARROWS, AND PHASE II BUILDING ONE EXPANSIONS	MAR. 2015
5	UPDATE RUSSELL FOOTPRINT AND ADD RAINFALL COLLECTION PIPES	MAR. 2019
6	Revise Sheet Title	July 2023

PROFESSIONAL CERTIFICATION
FOR REVISIONS #1-6 ONLY

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. 22418; Expiration Date: 07/29/2019.

Zacharia Y. Fisch 3/2/15
ZACHARIA Y. FISCH, FE #22418 DATE
FSH ASSOCIATES

OWNER/DEVELOPER

Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
Tel: (410) 992-5304
C/O Joe Hancock

ENGINEER'S CERTIFICATE

I HEREBY 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 NOTICED 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.

Zacharia Y. Fisch 7/21/24
SIGNATURE OF ENGINEER DATE
ZACHARIA Y. FISCH

DEVELOPER'S CERTIFICATE

I HAVE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Joseph R. Hancock 7/21/24
SIGNATURE OF DEVELOPER DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Joseph R. Hancock 7/29/24
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

William Damann 7/20/24
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Walter DeLoach 8/3/24
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David S. Cuyler 8/15/24
DIRECTOR DATE

SOILS, SEDIMENT AND EROSION CONTROL PLAN
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY

TAX MAP 46 GRID 3 LOTS 1 AND 2 PARCEL 337
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



FSH Associates
Engineers & Planners Surveyors
318 Forrest Street, Elkton City, MD 21921
Tel: 410-750-2251 Fax: 410-750-2252
E-mail: FSHAssociates@earthlink.net

DESIGN BY: PS
DRAWN BY: YZF
CHECKED BY: YZF
SCALE: =30'
DATE: July 20, 2024
W.O. No.: 3071
SHEET No.: 8 OF 21

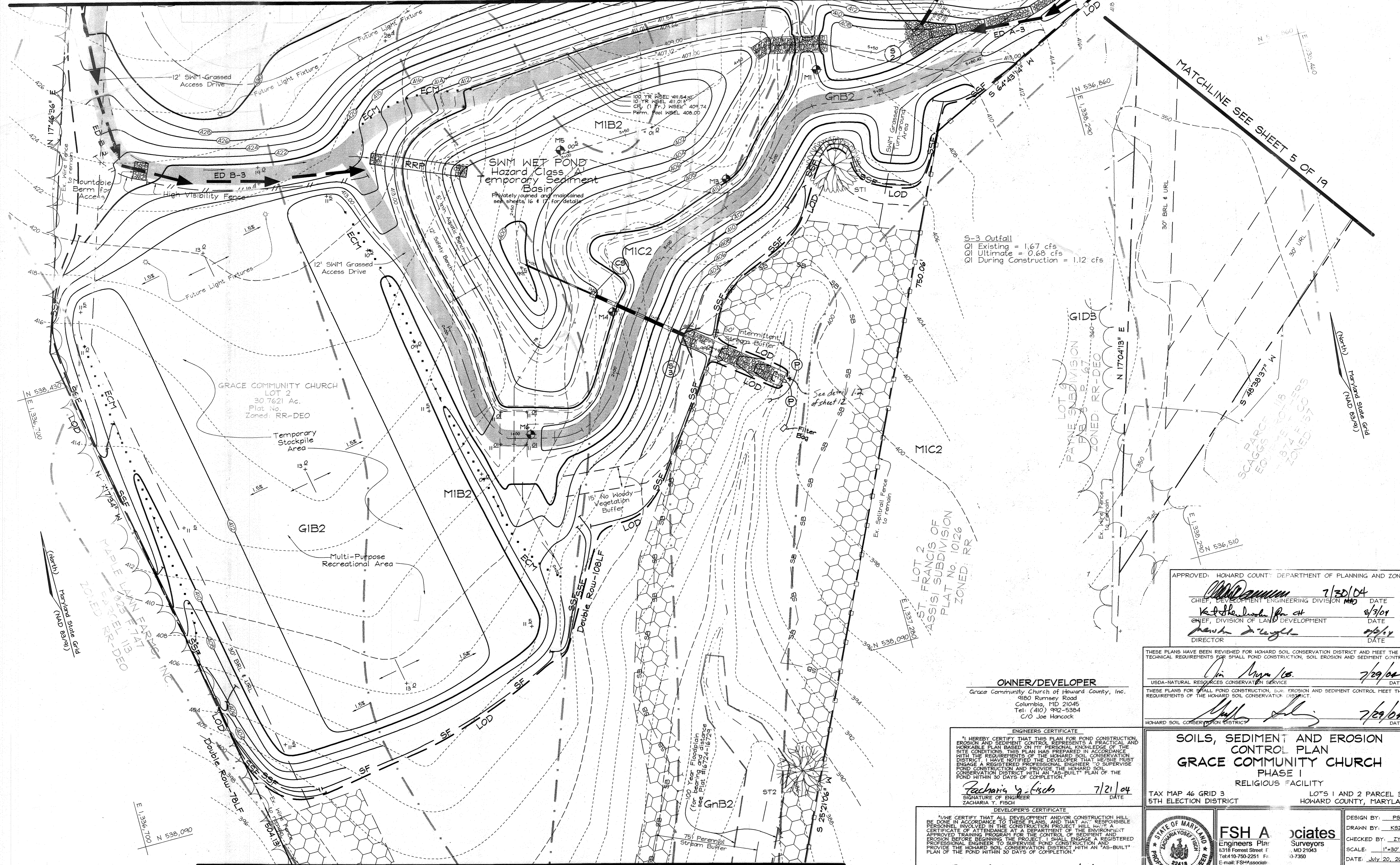


MAPLE LAWN FARMS, INC.
L-623 F.747
PARCEL 113
ZONED: RR-DEO

SEE SHEET 21 FOR PHASE II
SOUTHWEST PARKING CONSTRUCTION
PLAN & DETAILS

MATCHLINE SEE SHEET 9 OF 219

MATCHLINE SEE SHEET 7 OF 219



S-3 Outfall
 Q Existing = 1.67 cfs
 Q Ultimate = 0.68 cfs
 Q During Construction = 1.12 cfs

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 7/30/04 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 8/3/04 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 7/29/04 DATE
 DIRECTOR

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc.
 9180 Rumsey Road
 Columbia, MD 21045
 Tel: (410) 992-5384
 C/O Joe Hancock

ENGINEERS CERTIFICATE
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 [Signature] 7/21/04 DATE
 SIGNATURE OF ENGINEER
 ZACHARIA Y. FISCH

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 [Signature] 7/21/04 DATE
 SIGNATURE OF DEVELOPER

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 USDA-NATURAL RESOURCES CONSERVATION SERVICE 7/29/04 DATE
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 7/29/04 DATE
 HOWARD SOIL CONSERVATION DISTRICT

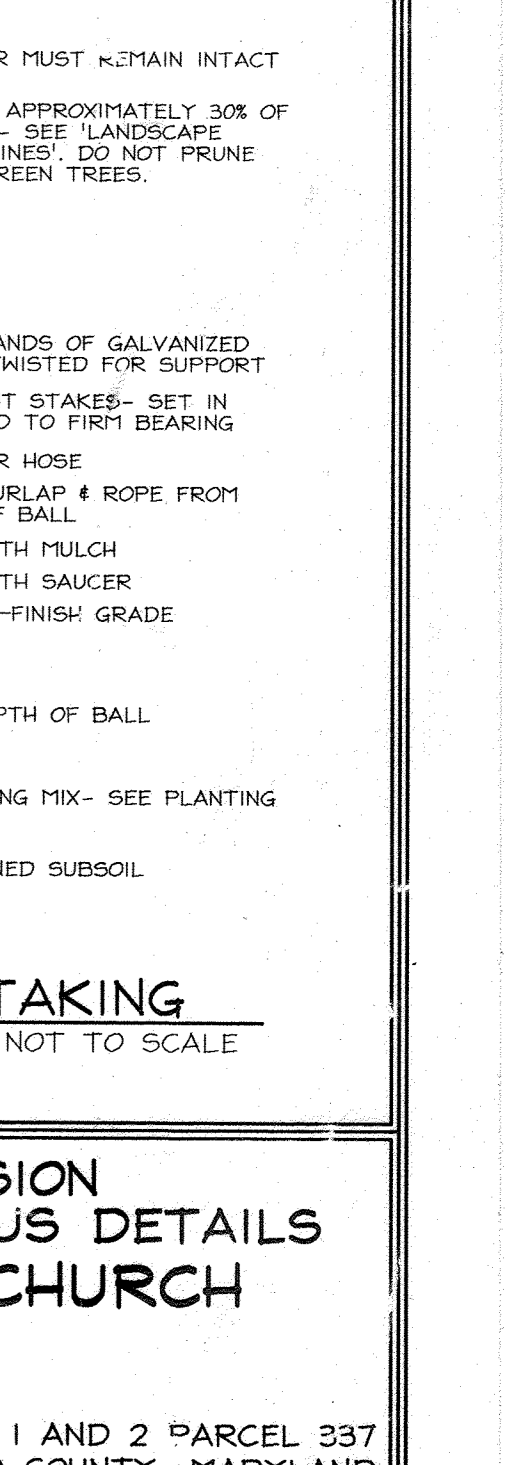
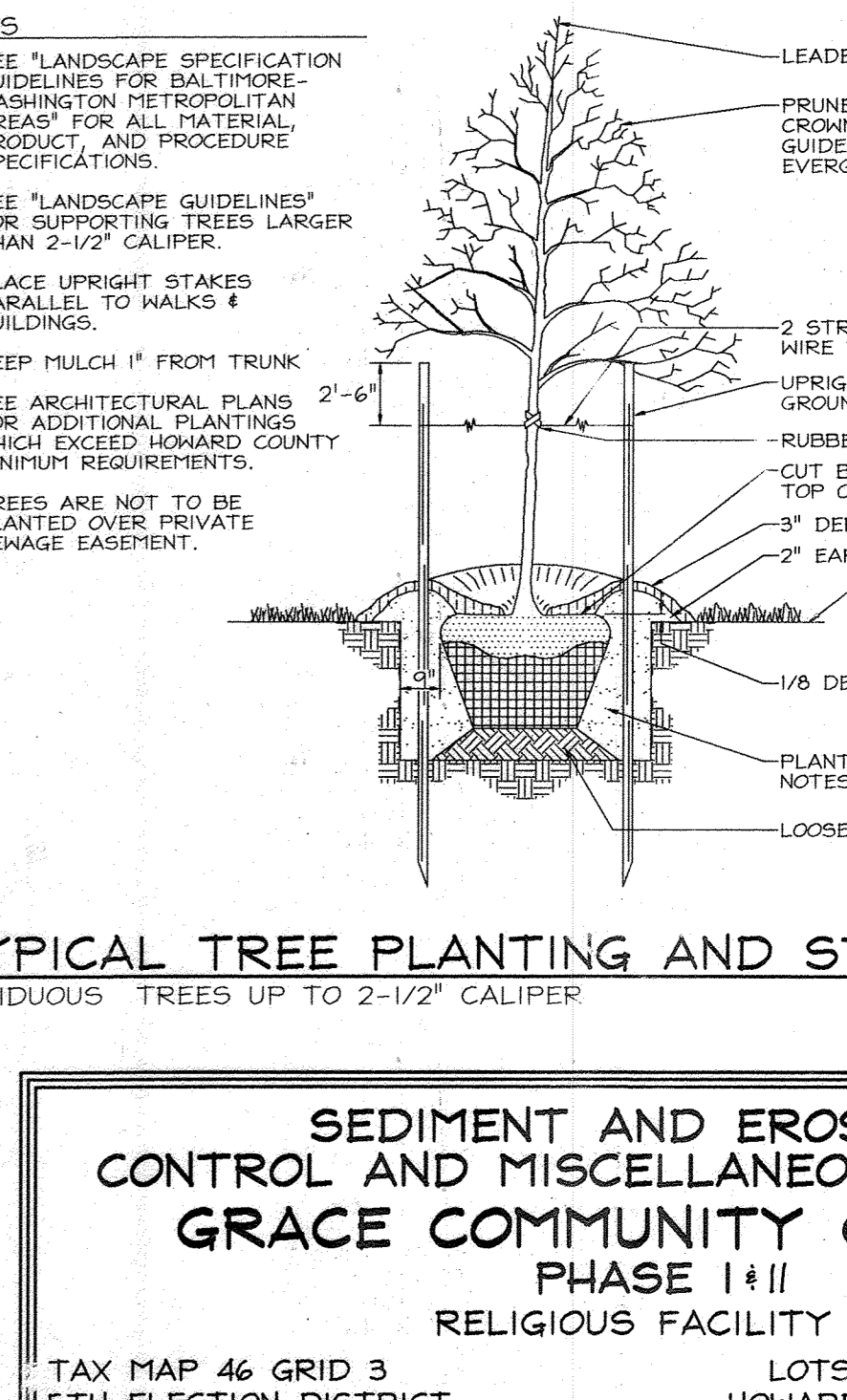
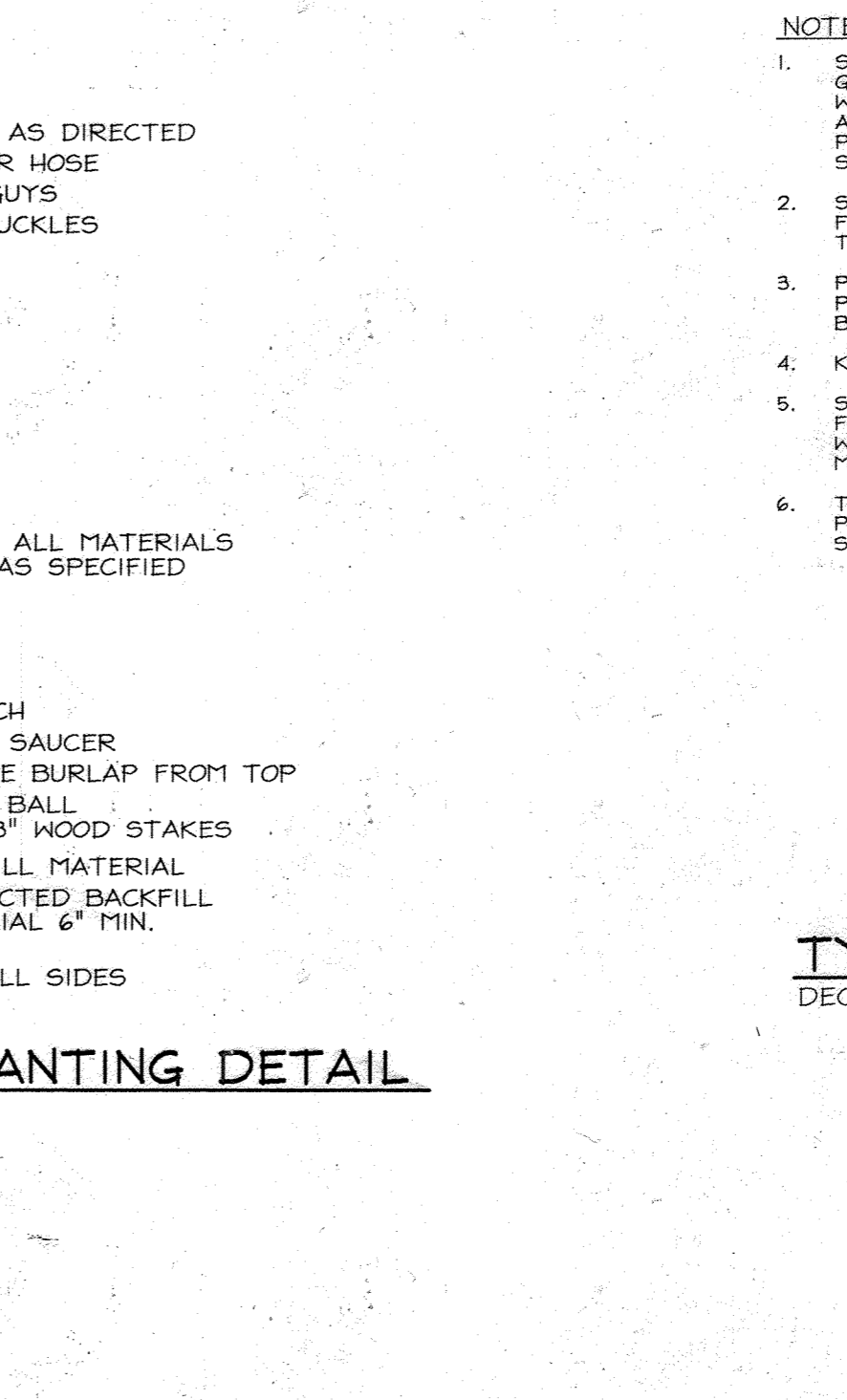
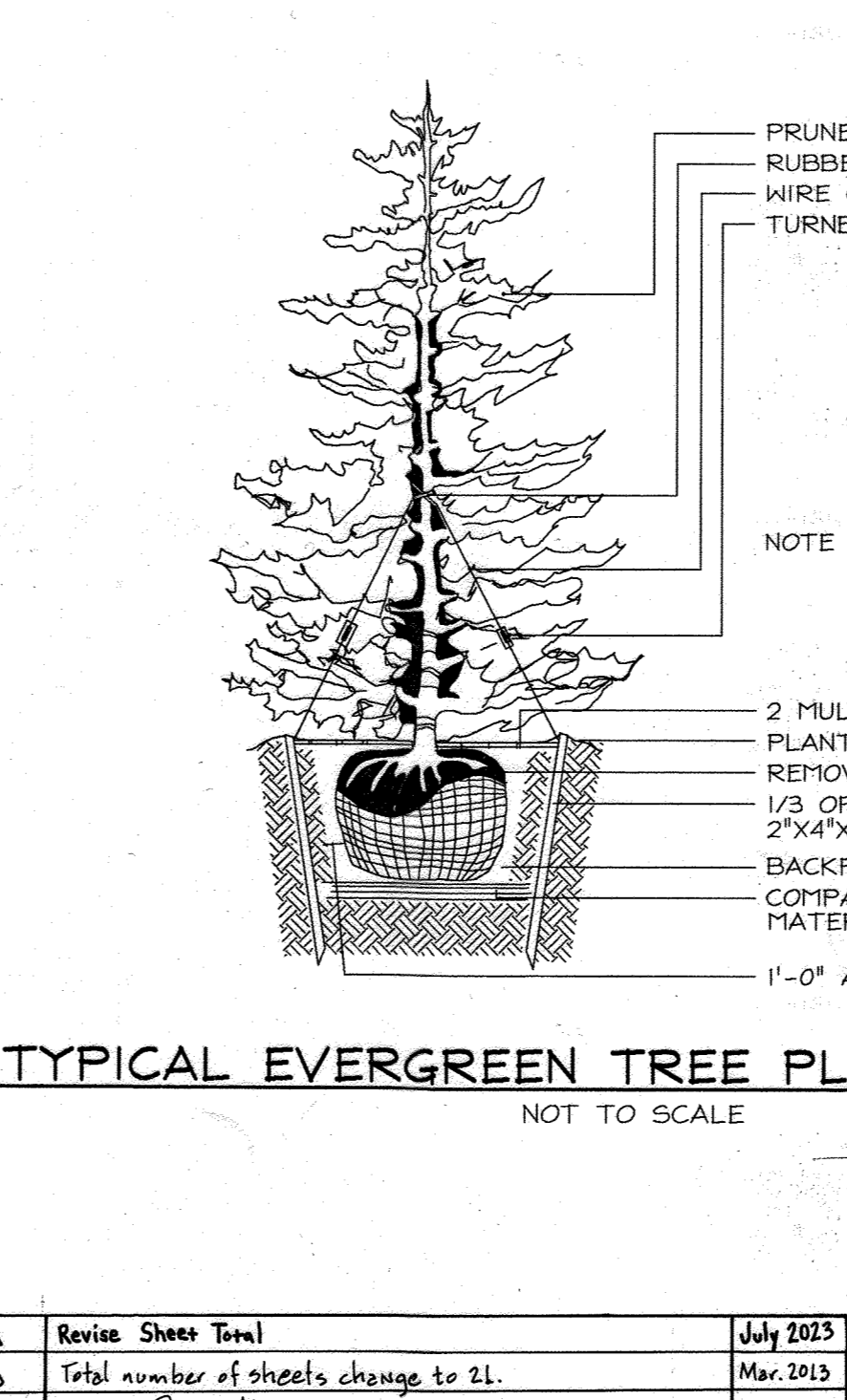
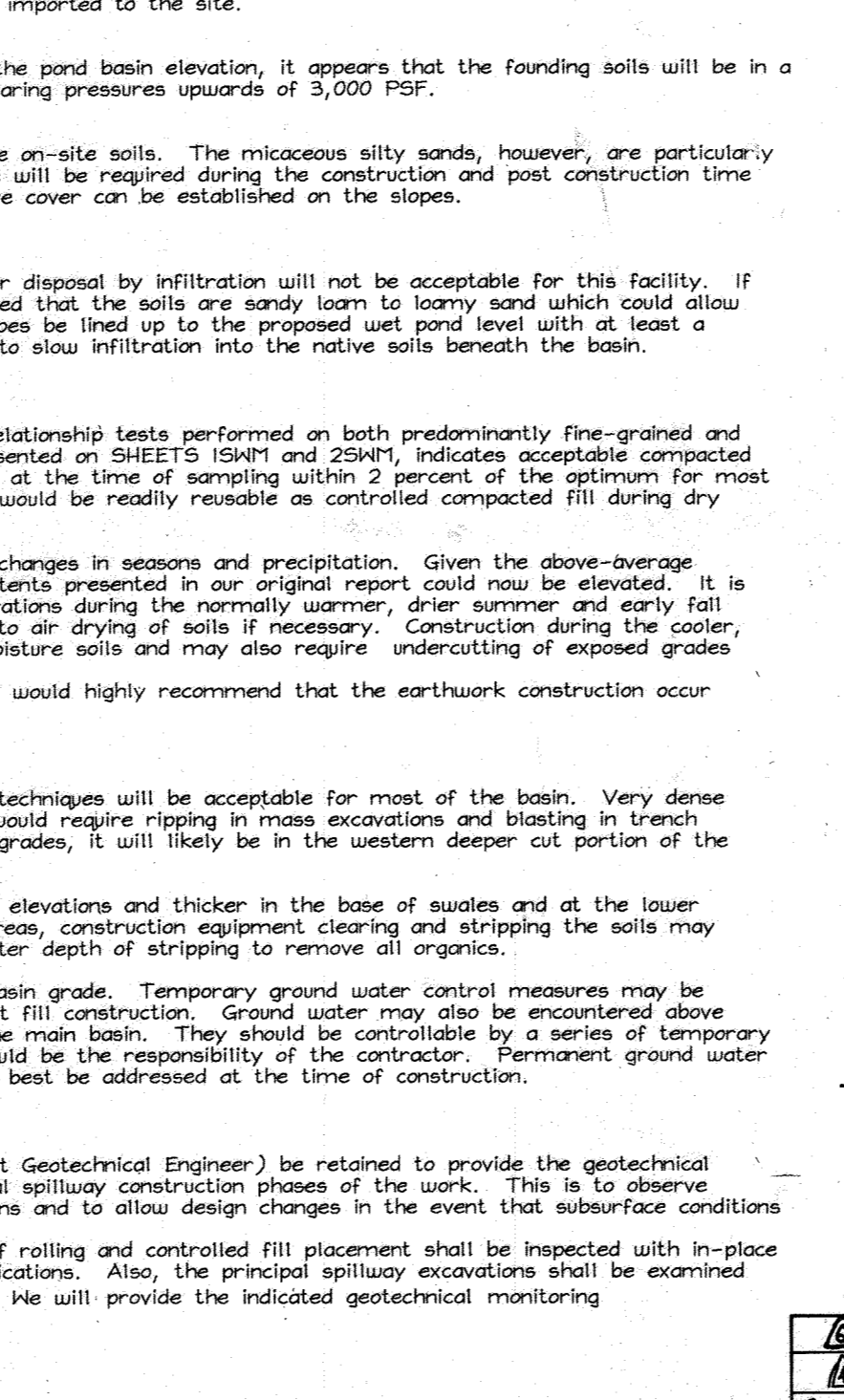
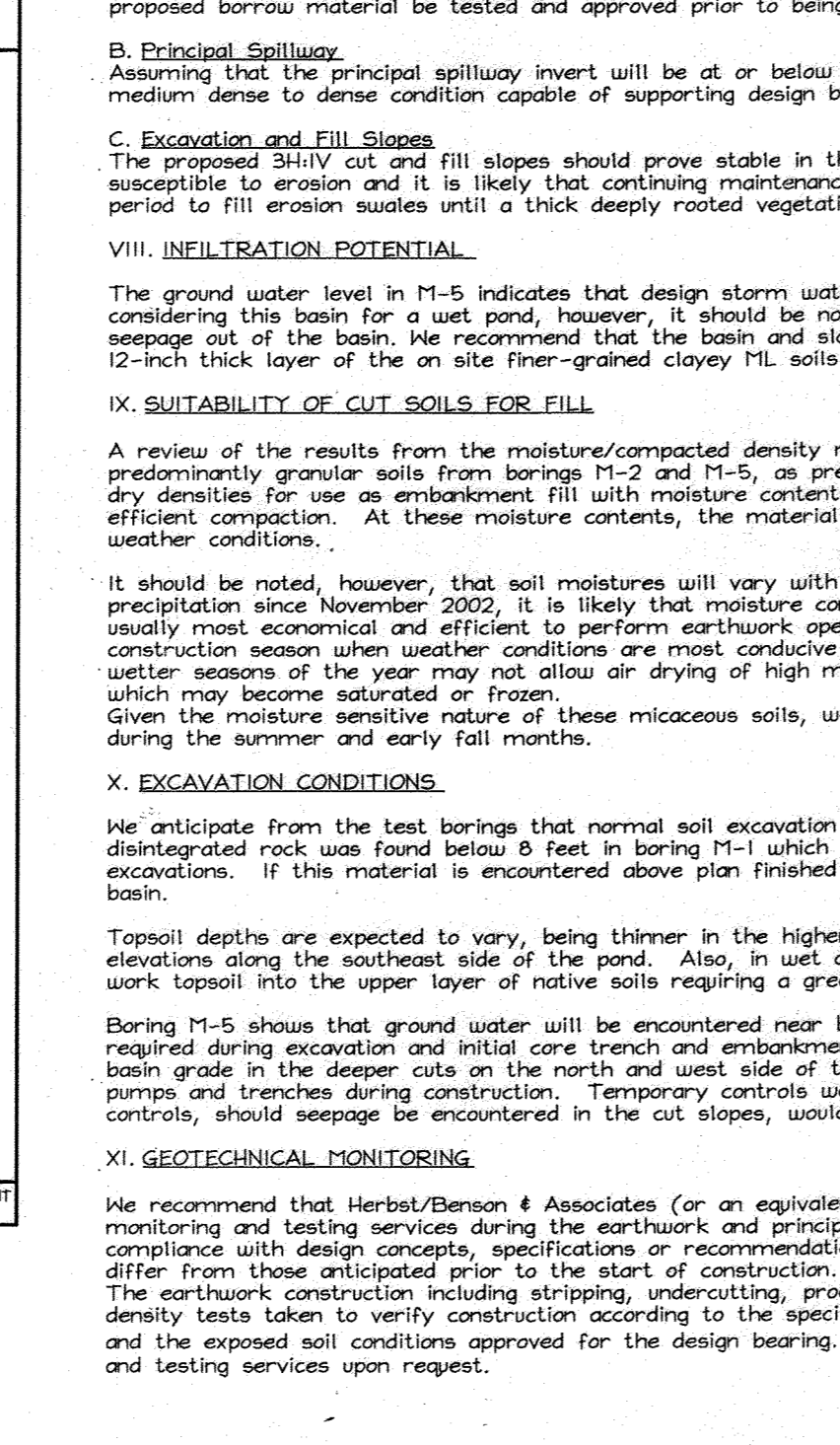
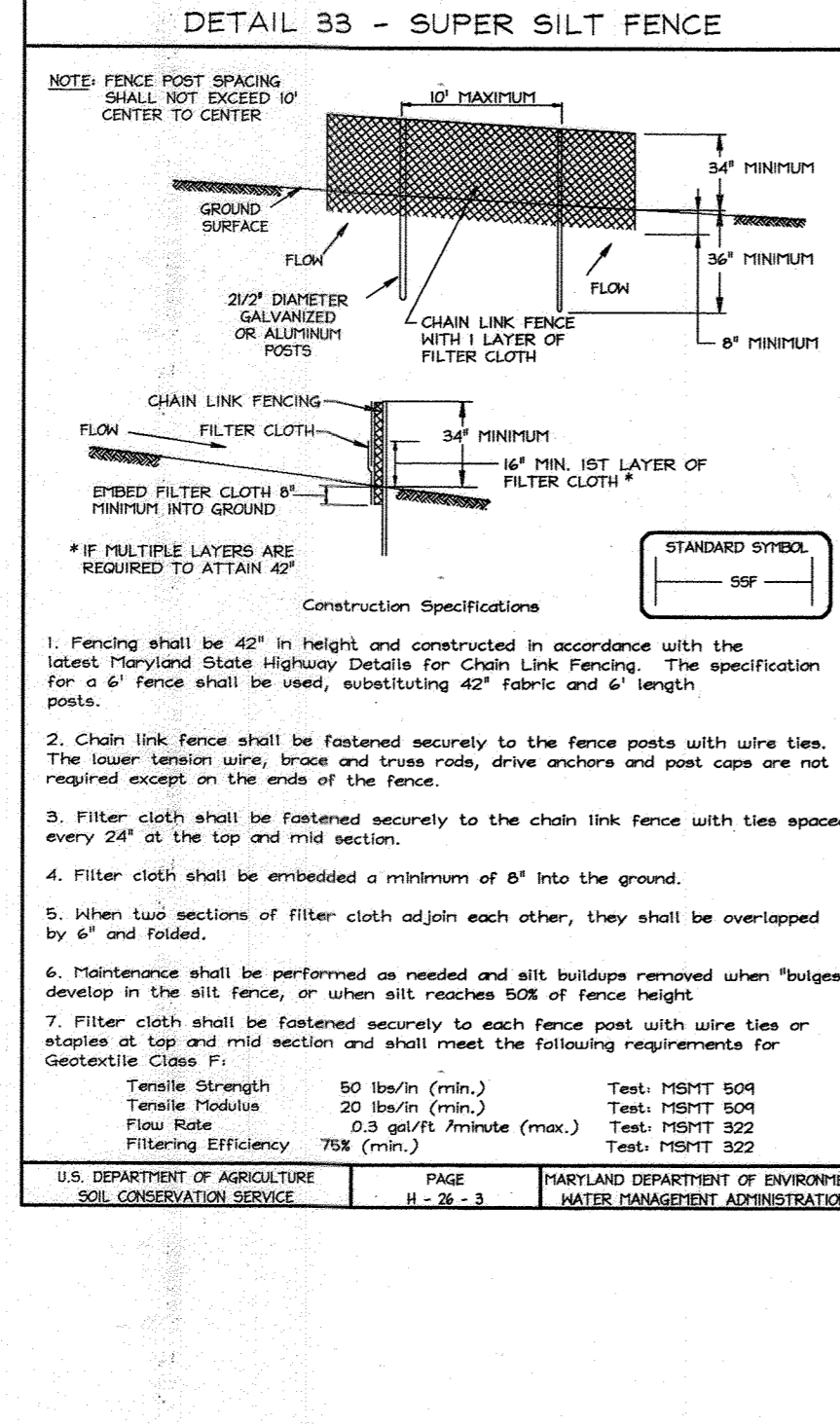
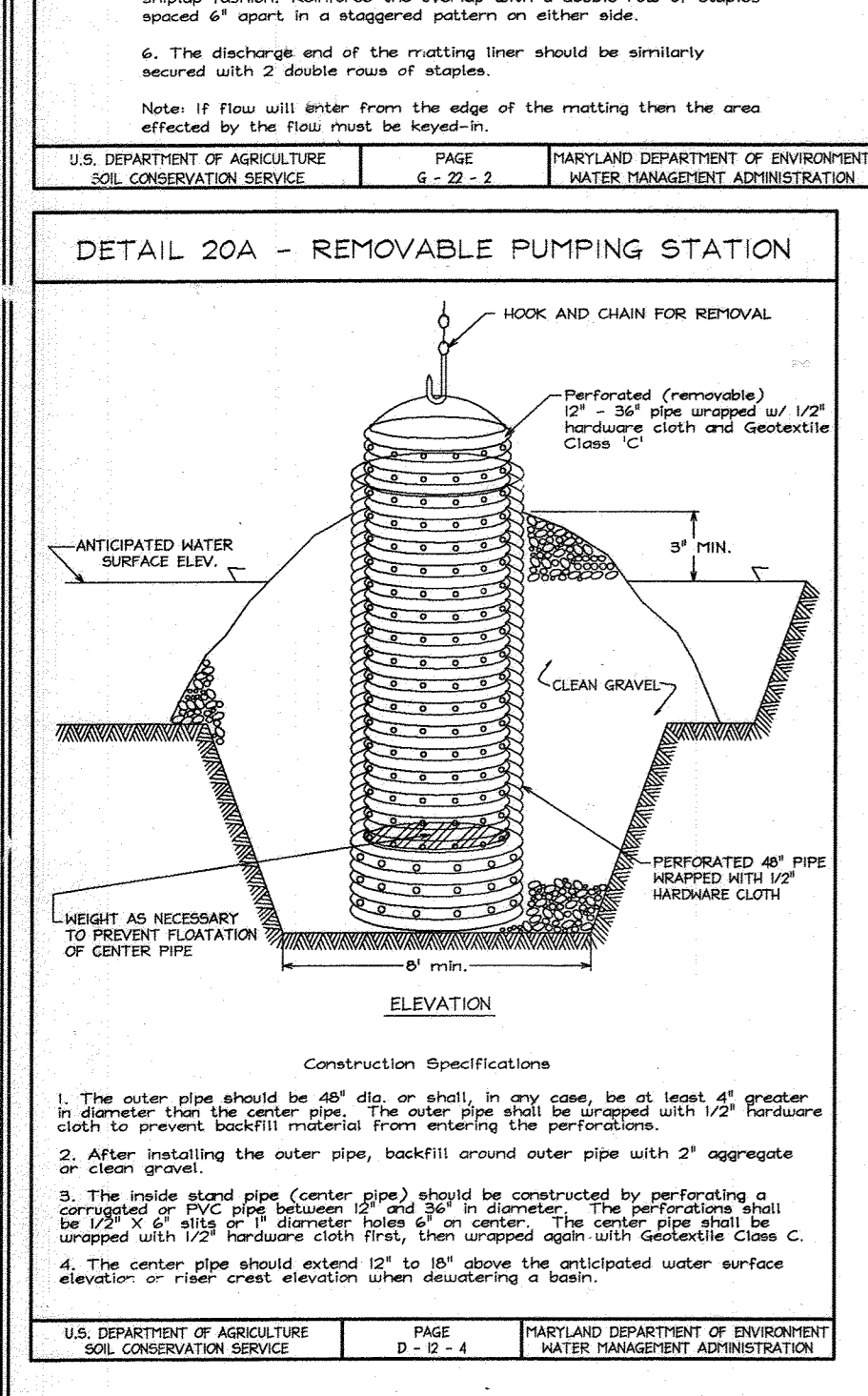
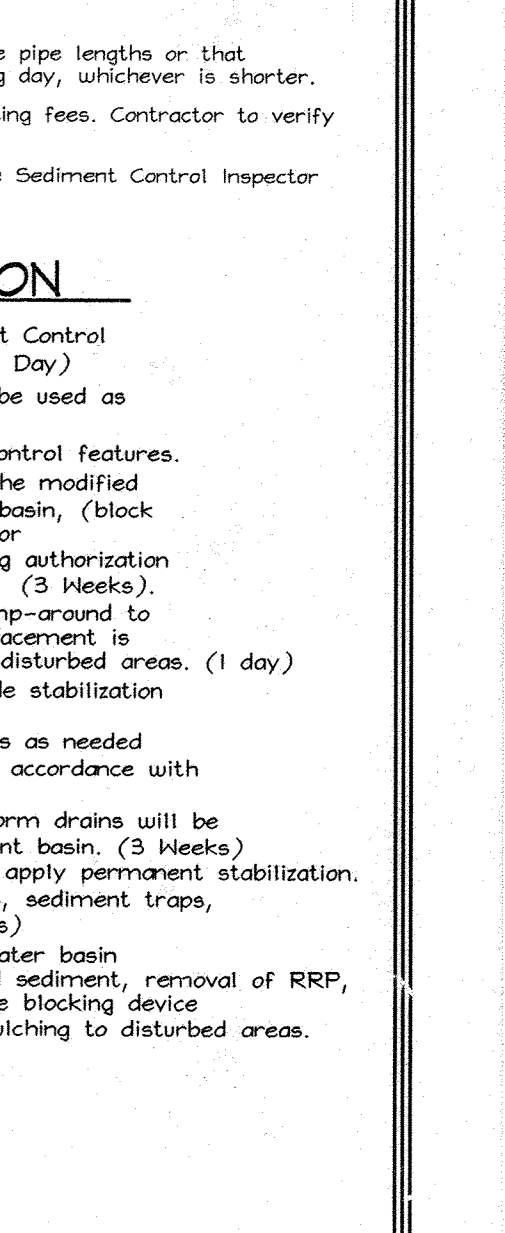
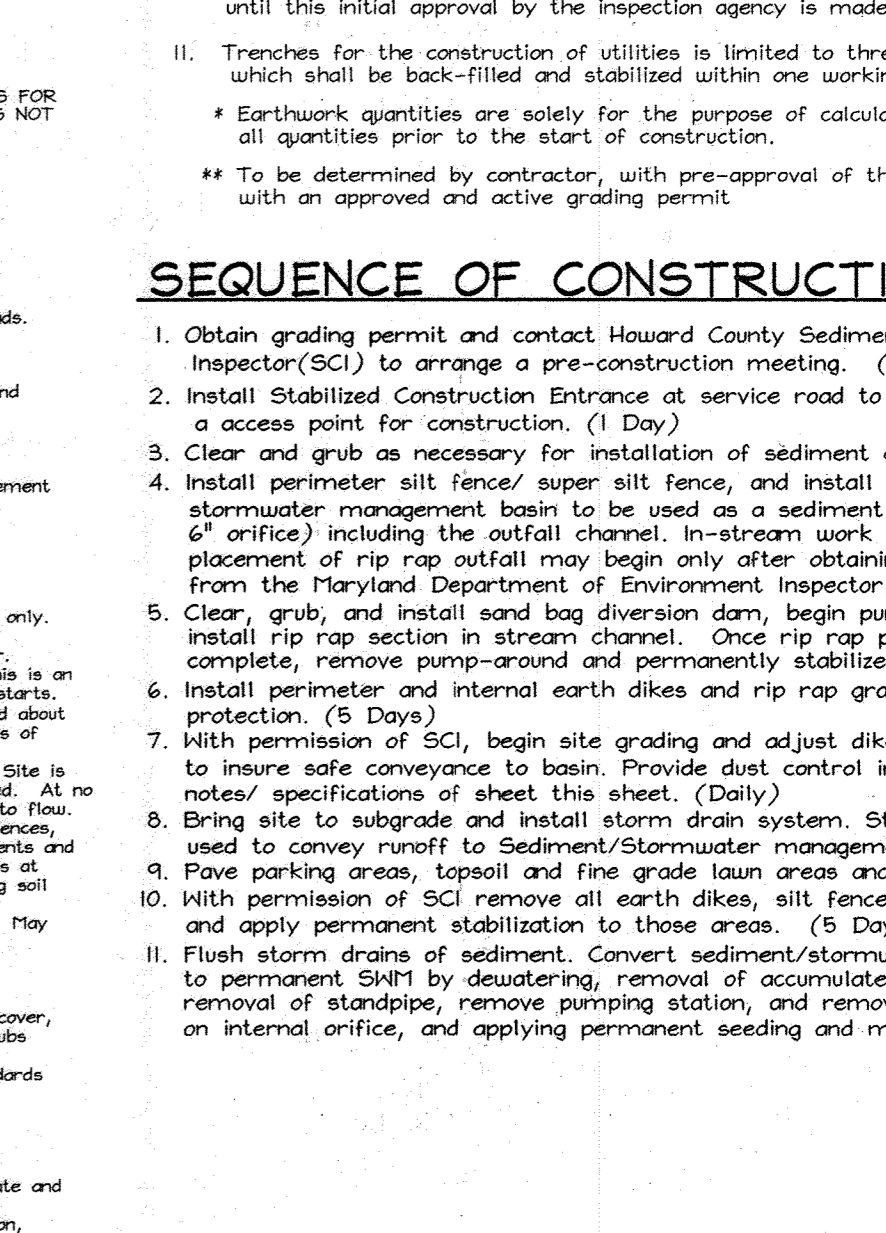
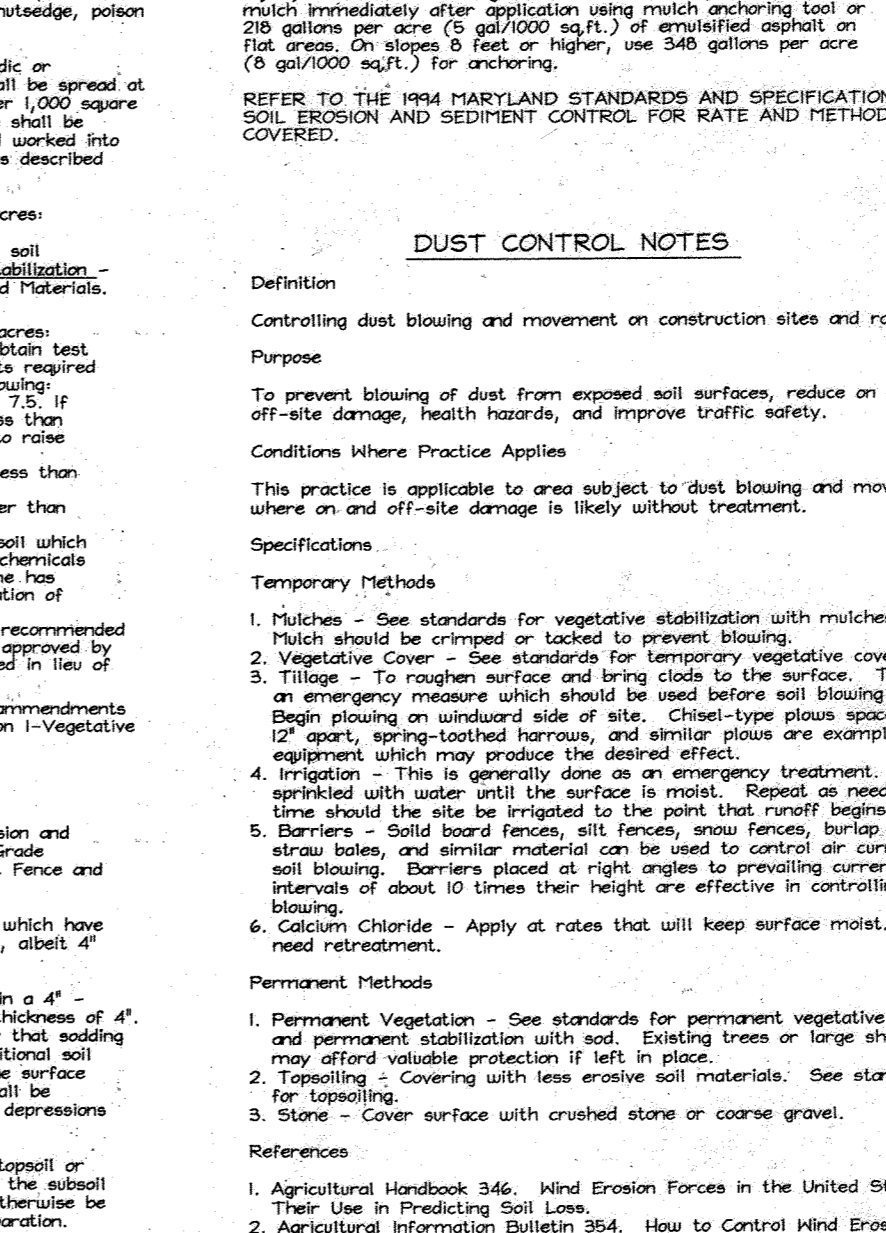
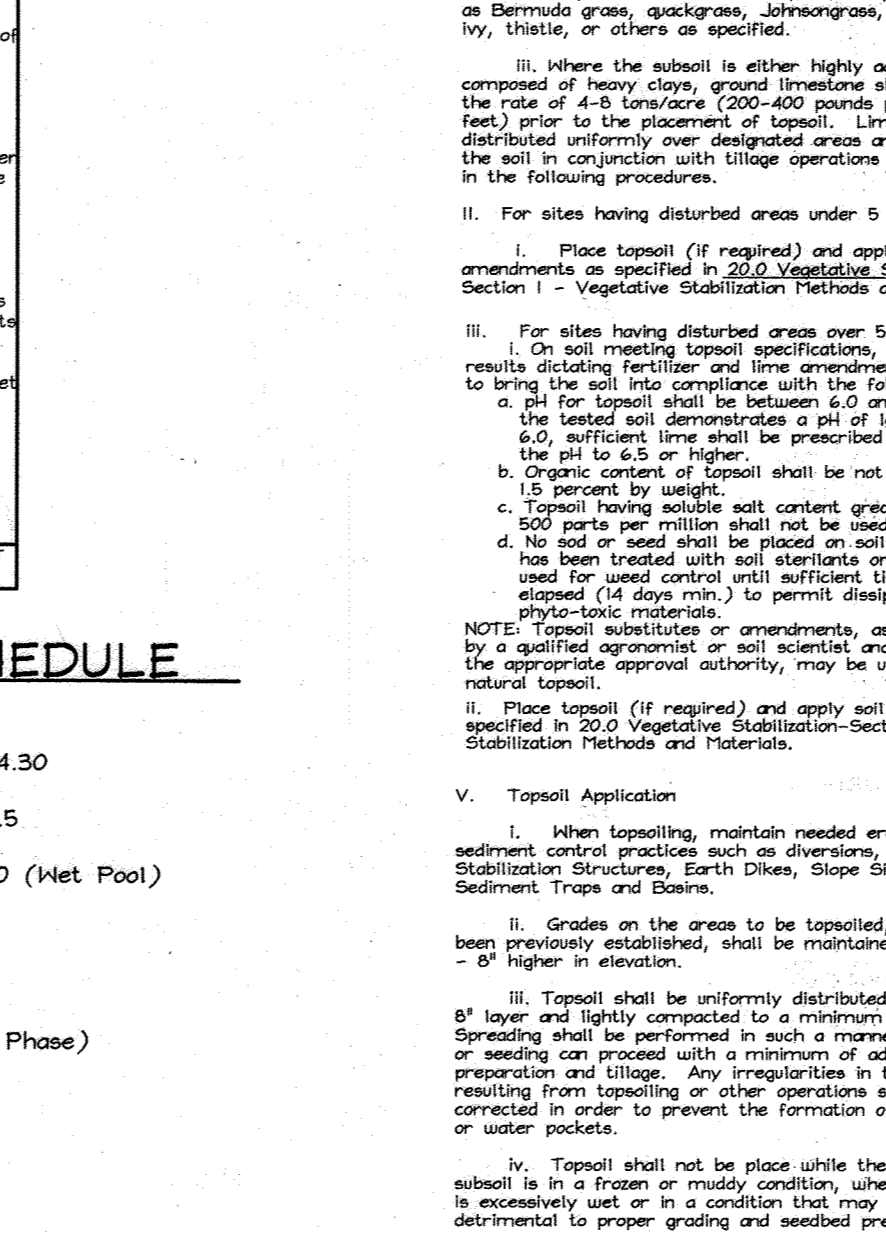
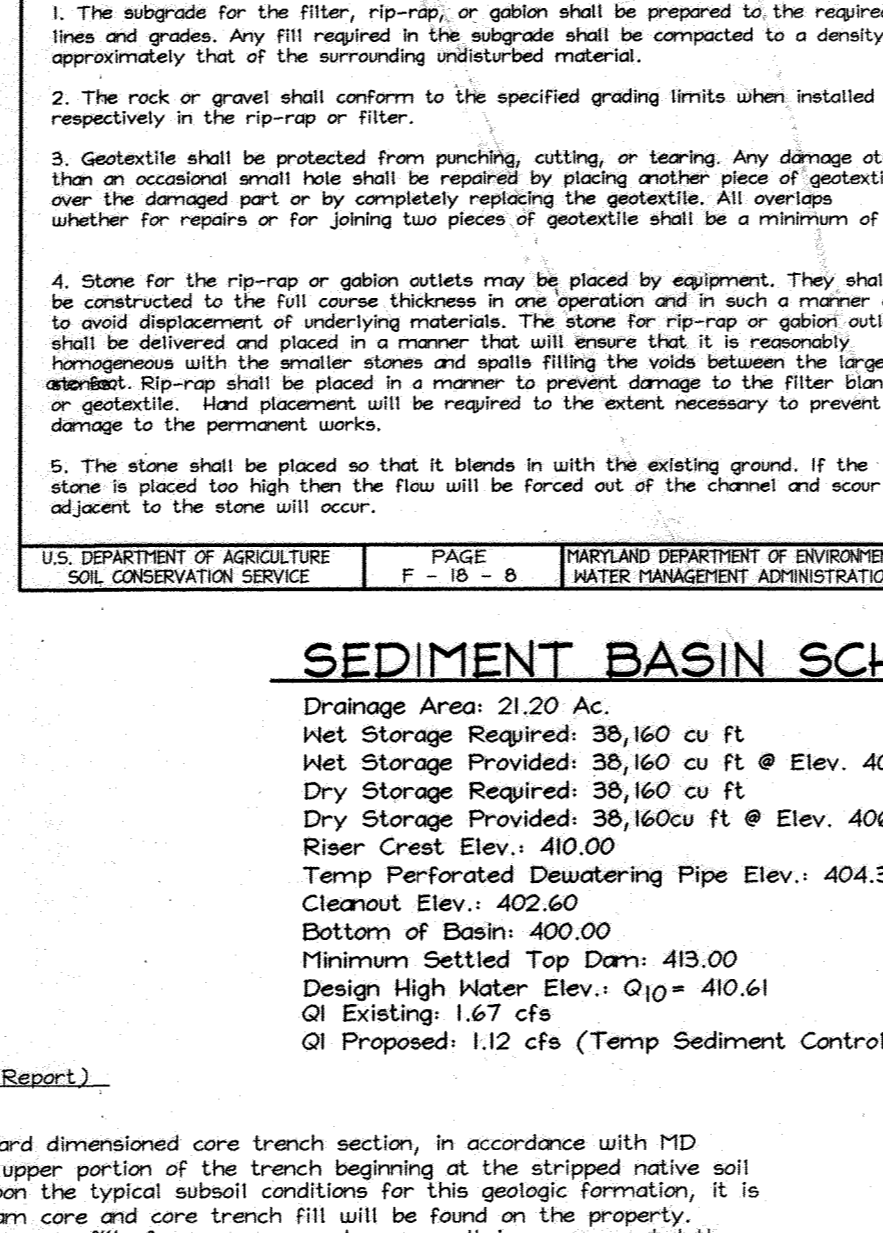
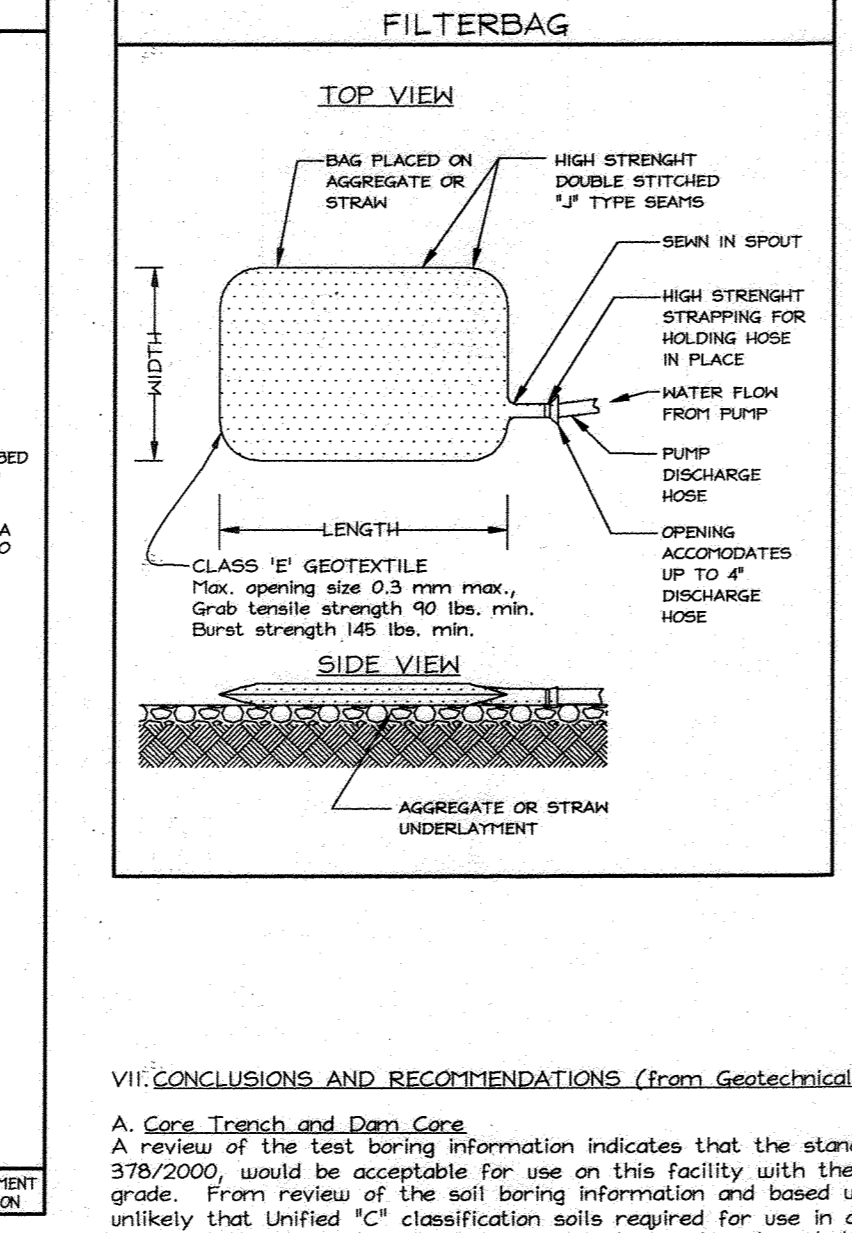
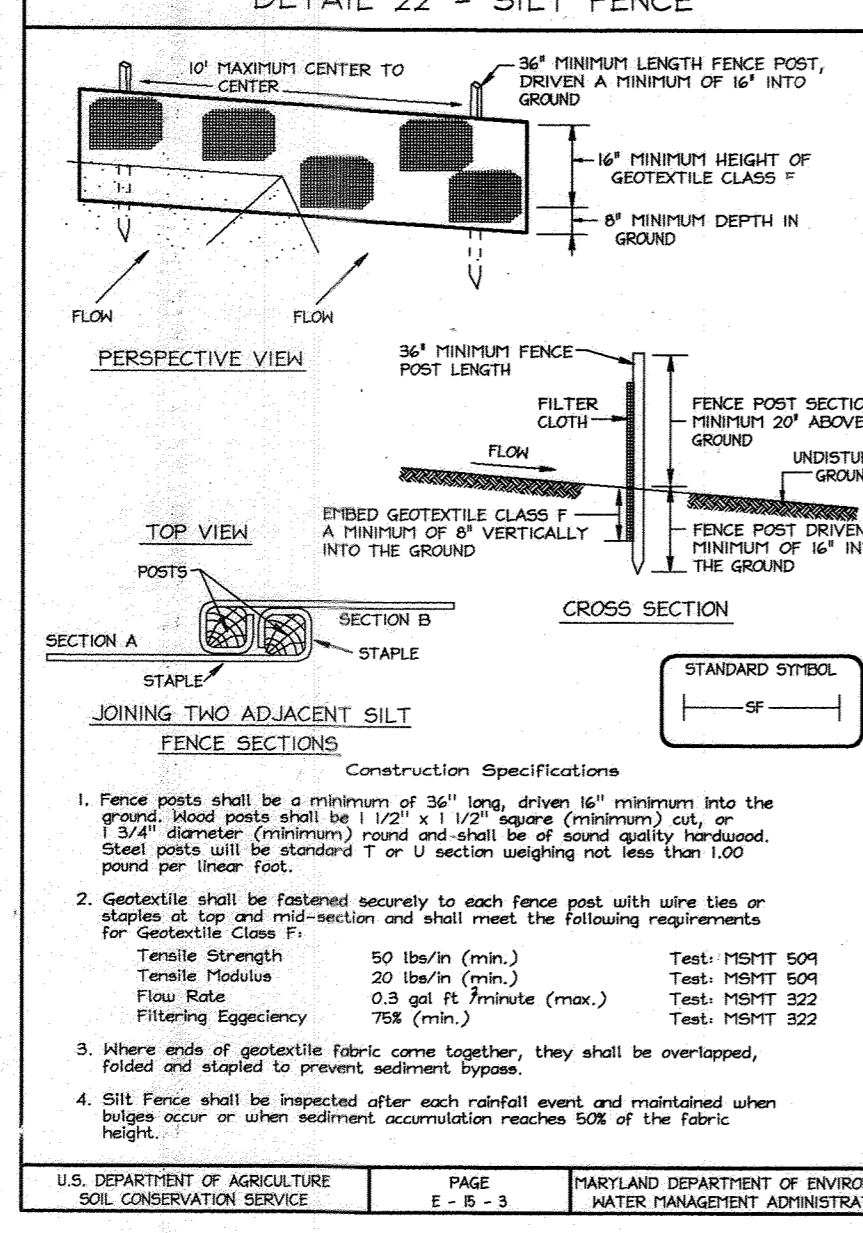
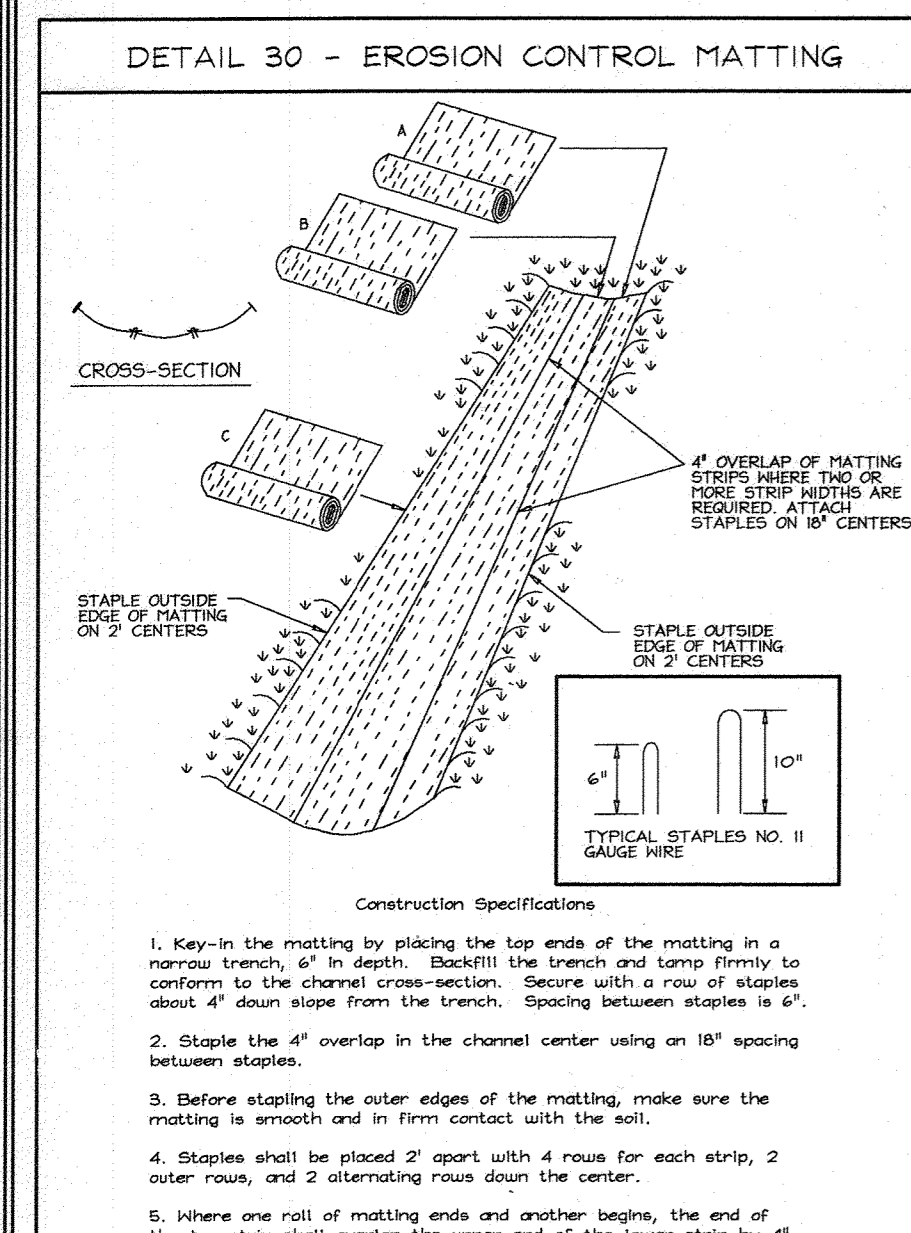
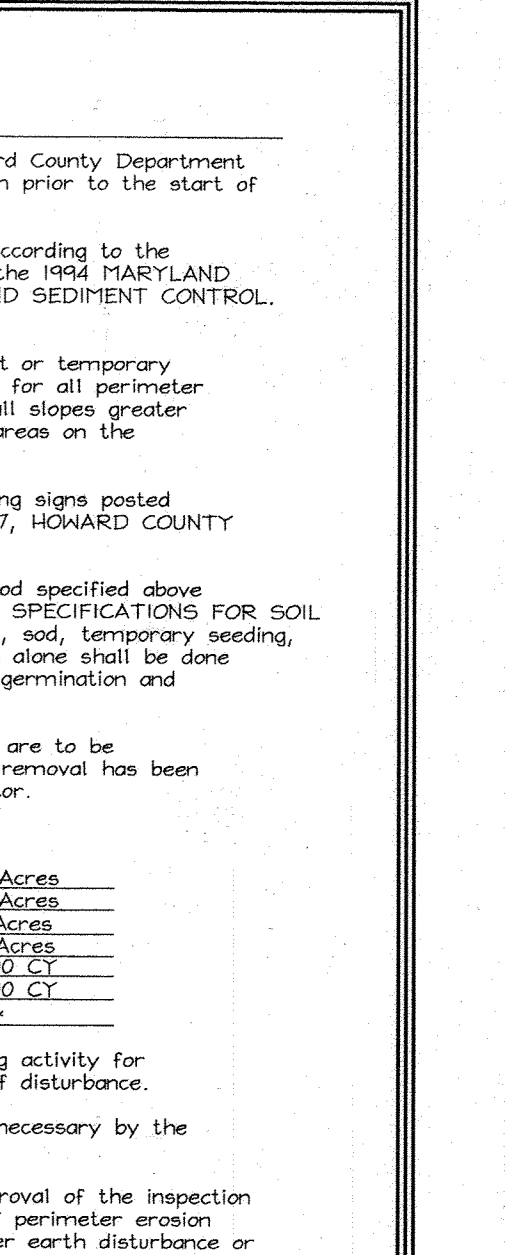
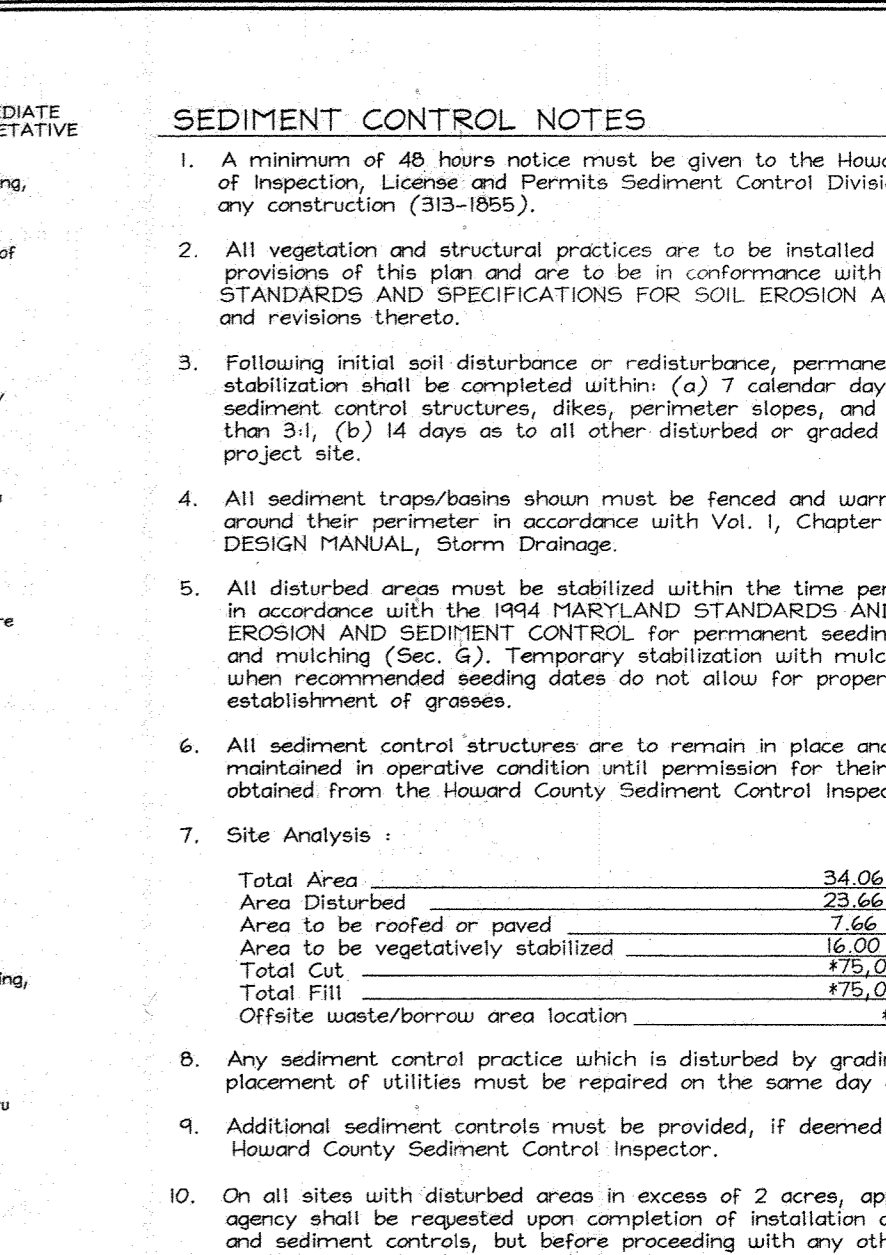
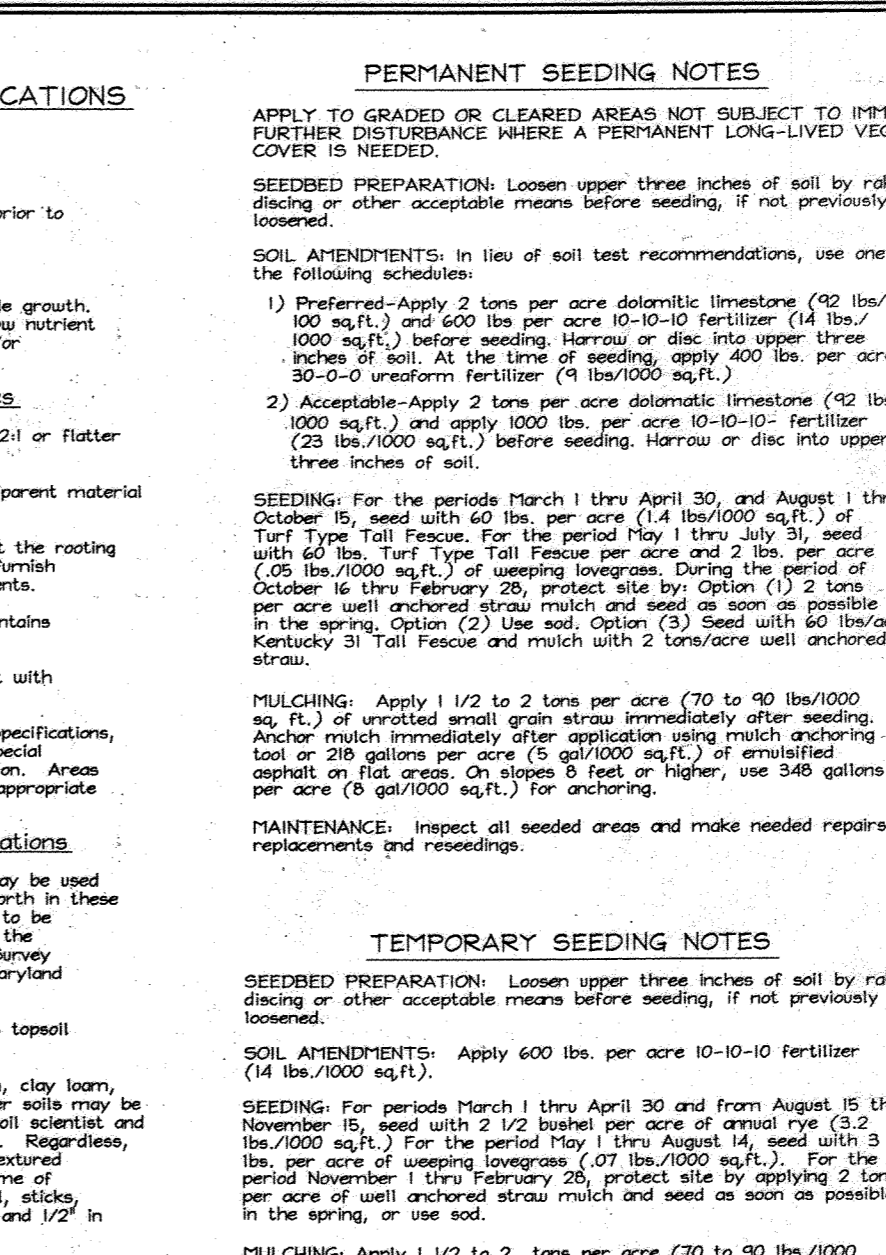
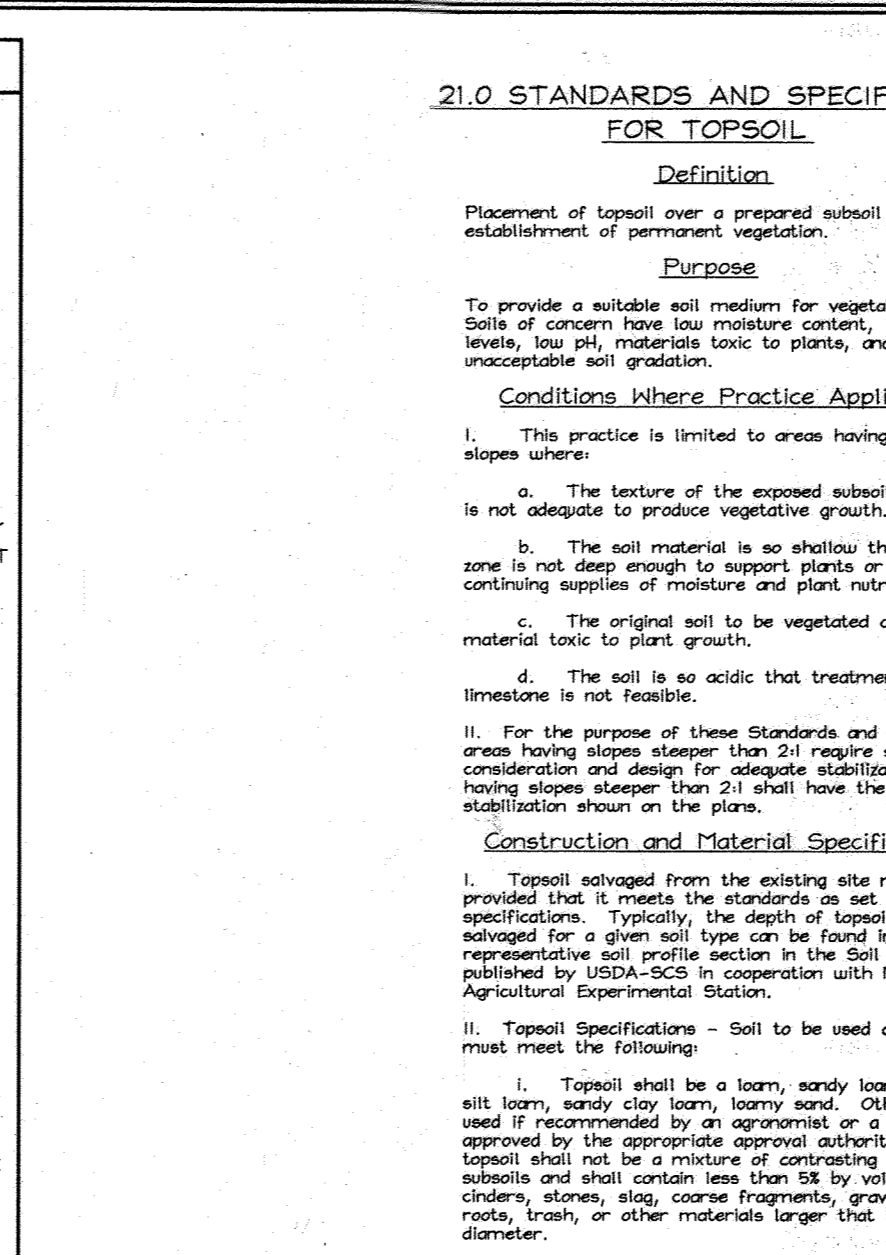
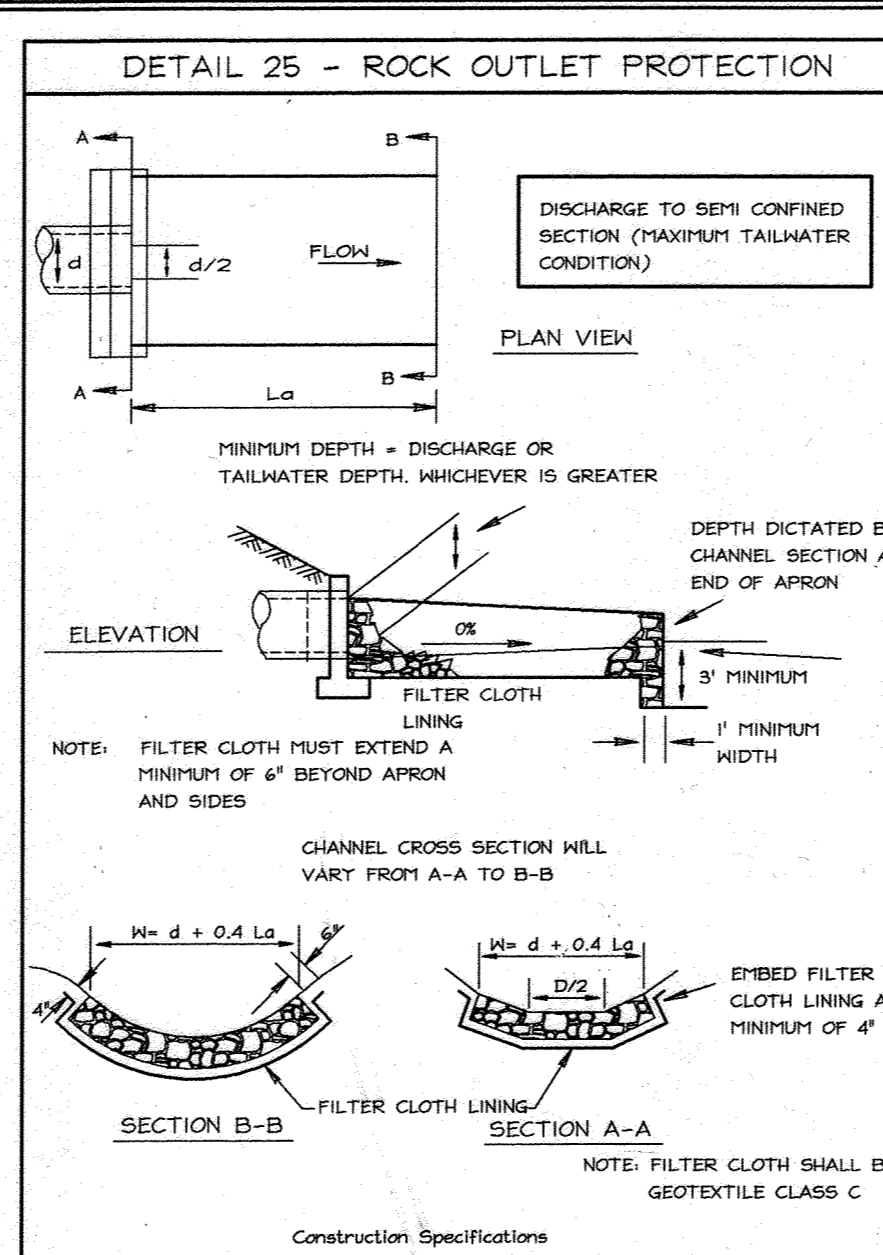
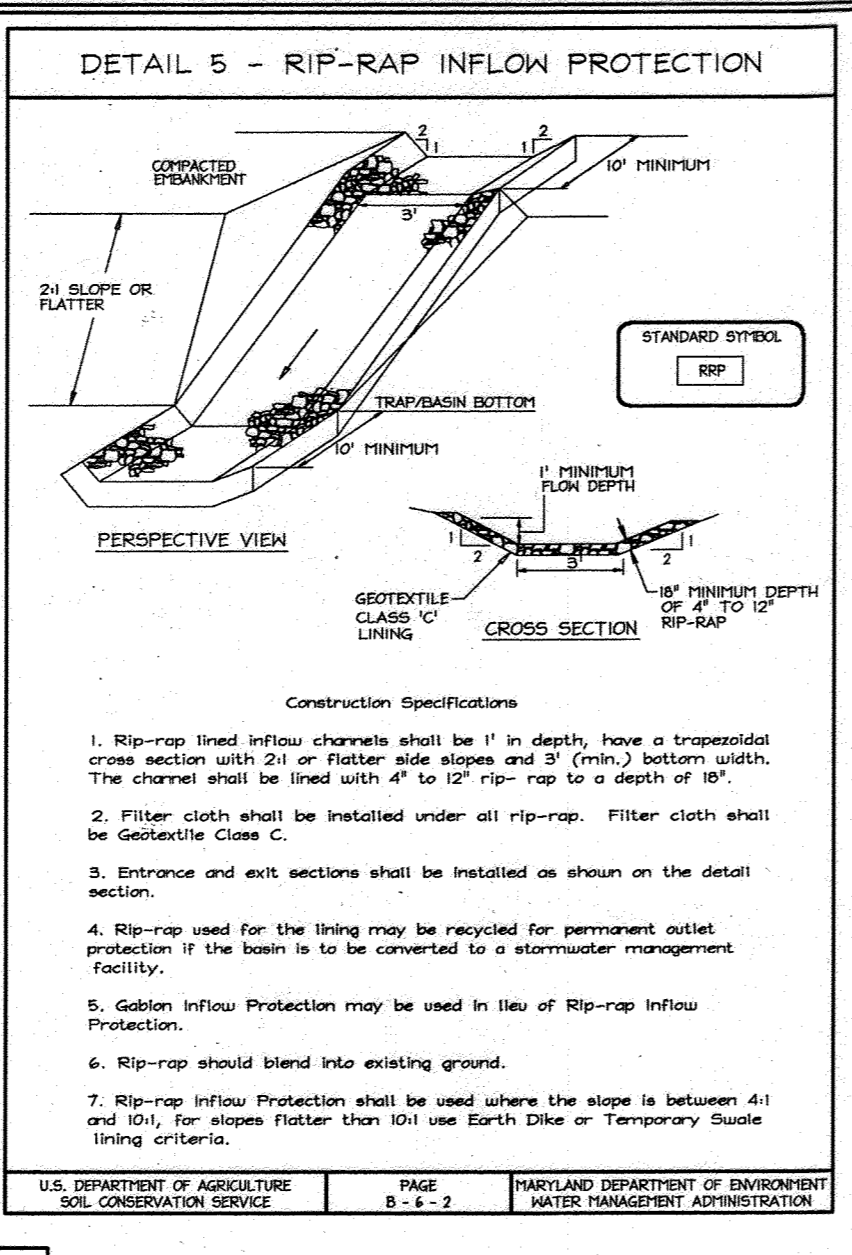
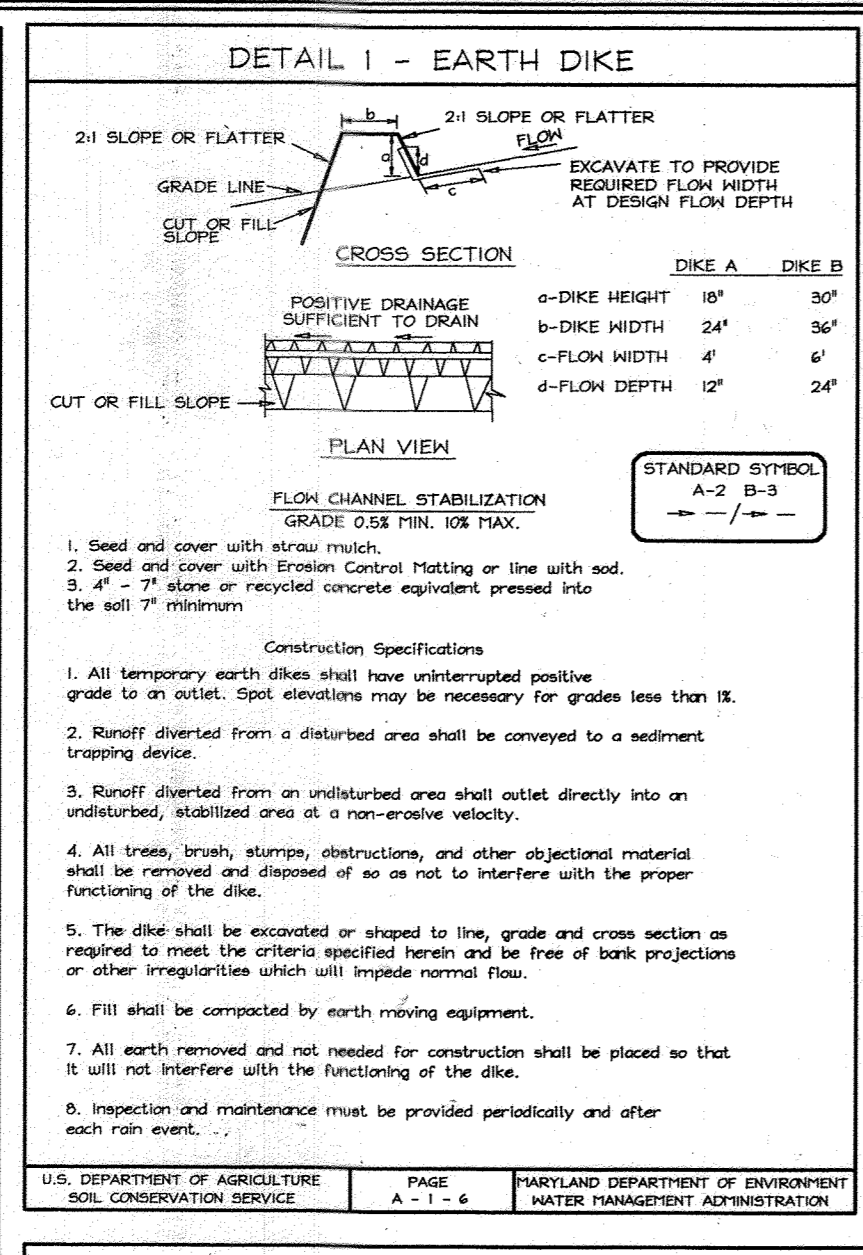
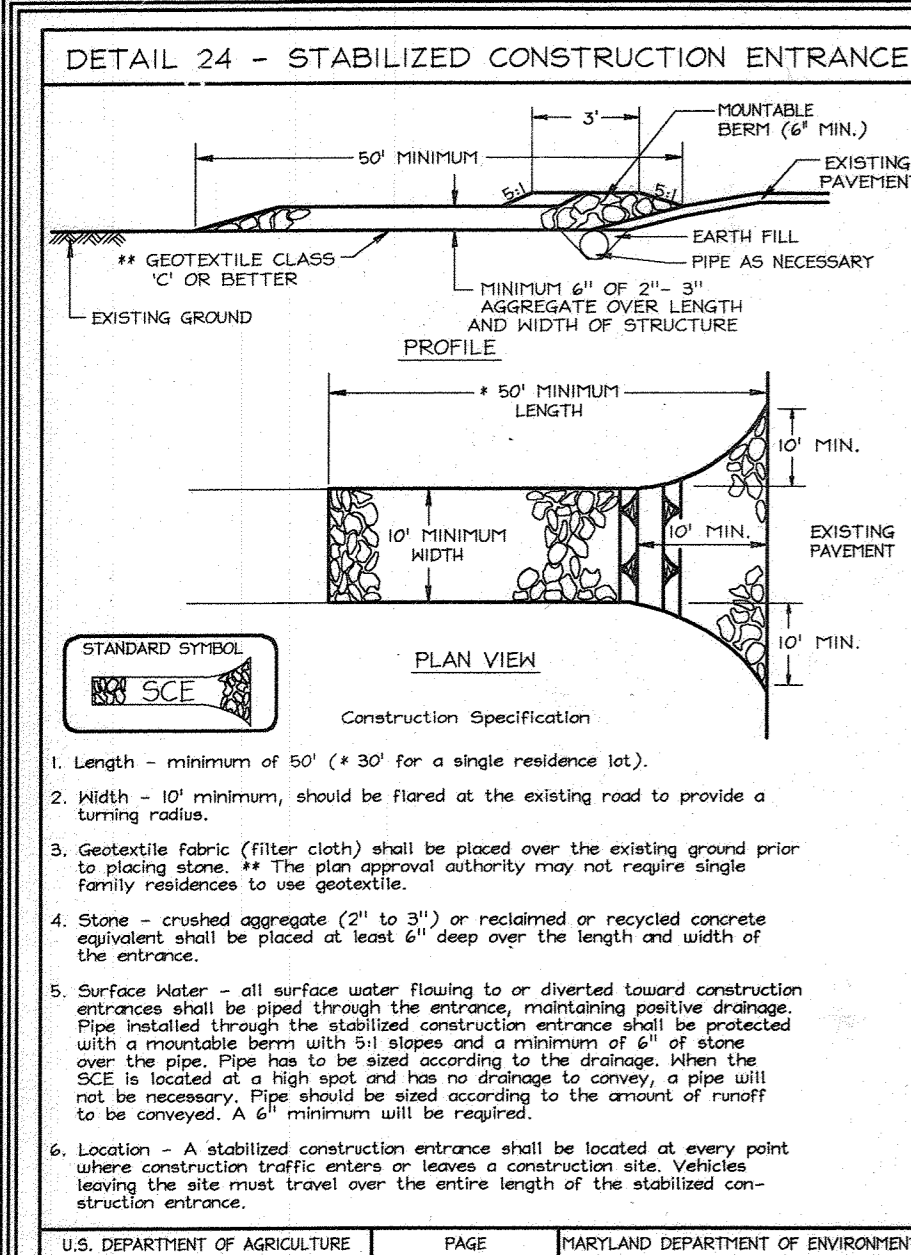
SOILS, SEDIMENT AND EROSION CONTROL PLAN
 GRACE COMMUNITY CHURCH
 PHASE I
 RELIGIOUS FACILITY

TAX MAP 46 GRID 3
 5TH ELECTION DISTRICT
 LOT'S 1 AND 2 PARCEL 337
 HOWARD COUNTY, MARYLAND



FSH Associates
 Engineers Planners
 6318 Forrest Street, F
 MD 21043
 Tel: 410-750-2251 F
 E-mail: FSH@associa

DESIGN BY: PS
 DRAWN BY: KSZ
 CHECKED BY: ZYF
 SCALE: 1"=30'
 DATE: July 20, 2004
 W.O. No.: 3071
 SHEET No.: 9 OF 29



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 7/30/04
 Chief, Division of Land Development
 Date: 8/3/04
 Director
 Date: 8/3/04

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 USDA-NATURAL RESOURCES CONSERVATION SERVICE
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT AND THAT I HAVE OBTAINED ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 Signature: Joseph R. Hancock
 Date: 7/29/04

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT AND THAT I HAVE OBTAINED ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 Signature: Zacharia Y. Fisch
 Date: 7/21/04

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc.
 3180 Rumsey Road
 Columbia, MD 21046
 Tel: (410) 992-5384
 c/o Joe Hancock

DESIGN BY: PS
 DRAWN BY: KSZ
 CHECKED BY: ZYF
 SCALE: 1"=30'
 DATE: July 20, 2004
 SHEET NO.: 3071
 WORK NO.: 10 OF 21

FSH Associates
 Engineers Planners Surveyors
 8318 Forest Street, Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHassociates@ps.com

TAX MAP 46 GRID 3
 5TH ELECTION DISTRICT
 LOTS 1 AND 2 PARCEL 337
 HOWARD COUNTY, MARYLAND

LANDSCAPE PLAN NARRA

The landscaping shown here complies with the Howard County Landscape Ordinance, Amended March 2, 1998. This plan will make use of the Alternate Compliance provisions of the Ordinance. Additionally, some landscape credit will be taken for Forest Conservation Plantings of material that is of sufficient size, and in appropriate locations.

Perimeter 1 has been augmented by movement of 11 evergreen trees from Perimeter 5. This is justified due to the proximity of the adjacent users on Perimeter 1 and due to the distance from adjacent users on Perimeter 5. Also, Perimeter 5 abuts a forested area with a stream located in such a way as to limit any future development.

Perimeters 3 and 4 are an average of 15', and a minimum of 10' below the adjacent roadway and property. For this reason we are taking full credit for shrub requirements in Perimeter 3 and evergreen requirements in Perimeter 4. Additional shrubs shown are for aesthetic purposes only.

Perimeters 5 and 7 have taken 100% buffer credit for portions of the Perimeter that are not facing any change in land use, nor have any change in land use visible. The areas for which credit is taken face each other across a field that will have some reforestation planting. Additionally there is a significant elevation difference between these areas and the developed area of the site. Dimensions from the existing adjacent development to the proposed building are shown.

Perimeter 6 has taken 100% buffer credit due to its being over 1000 feet distant and approximately 25' lower in elevation than the closest developed area. Also the perimeter does not face directly into the developed area, and the indirect line of sight crosses a proposed forest planting easement.

In addition, for Perimeters 5 and 6, there is existing vegetation, preserved in an easement and floodplain, for which full buffer credit may be taken. This area is broken out on the Landscape Perimeter Schedule A.

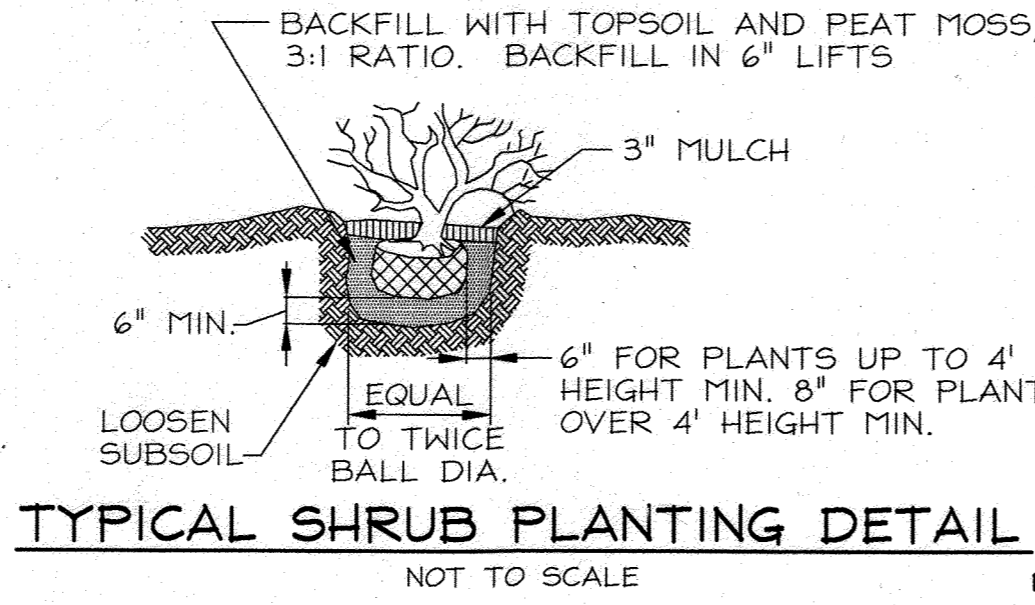
The 5NM Perimeter has been reduced along the area which borders Perimeter 7. Additionally credit for 100% of the evergreen requirement has been taken due to the average 14 foot elevation drop between the developed area and the pond. It should be noted that this pond is being intentionally developed as a site amenity and screening it from views runs counter to the wishes of the site owner. Plantings are being proposed to enhance the view of this asset.

Due to the large parking areas with numerous opportunities for landscaped islands, several shade trees were transferred to the parking areas. Two trees were moved from Perimeter 2 which is buffering only a road with numerous trees along it and a park-and-ride lot. Four trees were moved from Perimeter 5 which has a heavy buffer abutting a forested area with a stream located in such a way as to limit any future development. These two perimeters have adequate buffering without the transferred trees.

Landscaping for the 16 shade trees proposed with Phase II will be bonded with the builder's grading permit in the amount of \$4,800.00.

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
AR	2230	Acer rubrum October Glory Red Maple	2 1/2"-3" Cal.	B # B
BN	4	Betula nigra River Birch	10'-12' Ht.	B # B
LS	16	Liquidambar styraciflua Sweetgum	2 1/2"-3" Cal.	B # B
LT	13	Liriodendron tulipifera Tulip Poplar	2 1/2"-3" Cal.	B # B
QP	15	Quercus phellos Willow Oak	2 1/2"-3" Cal.	B # B
QR	2228	Quercus rubra Red Oak	2 1/2"-3" Cal.	B # B
SB	6	Salix babylonica Weeping Willow	1 1/2"-2" Cal.	B # B
AH	11	Ilex opaca American Holly	5'-6' Ht.	B # B
PS	44	Pinus strobus Eastern White Pine	6'-8' Ht.	B # B
PT	9	Pinus taeda Loblolly Pine	6'-8' Ht.	B # B
TO	41	Thuja occidentalis Eastern Arborvitae	6'-8' Ht.	B # B
AC	5	Amelanchier canadensis Shadblow Serviceberry	8'-10' Ht.	B # B
CC	5	Corpinus caroliniana American Hornbeam	1 1/2"-2" Cal.	B # B
RB	9	Cercis canadensis Redbud	1 1/2"-2" Cal.	B # B
CV	11	Chionanthus virginicus White Fringetree	1 1/2"-2" Cal.	B # B
AA	20	Aronia arbutifolia Red Chokeberry	18-24" - 3-5gal.	Cont.
RD	42	Cornus sericea Rustier Dogwood	18-24" - 3-5gal.	Cont.

NOTE: See Sheet 19 of 26 for all planting notes and details



TYPICAL SHRUB PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES

- At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape 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.
- Financial surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of \$49,050.00 (4% shade trees @ \$300.00 each, 30 ornamental trees @ \$150.00 each, and 105 evergreen trees @ \$150.00 each).
- Using the Alternative Compliance option outlined in the Howard County Landscaping Manual we are taking buffer credit and moving trees across buffers as described in the landscape narrative.



PLAN VIEW
SCALE: 1"=100'

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
Number of parking spaces	442
Number of trees required	22
Number of trees provided	22
Shade Trees	0
Other Trees (2:1 Substitution)	22

SCHEDULE A PERIMETER LANDSCAPE EDGE		
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
Perimeter/Frontage Designation	2 B 5 4	1 A 5 C
Linear Feet of Roadway Frontage/Perimeter	277' 187' 930'	461' 2667' 880' 2090'
Credit for Existing Vegetation (Yes, No, Linear Feet)	No No No	No Yes* Yes* No
Credit for Hill, Fence or Berm (Yes, No, Linear Feet)	No Yes 930'***	No Yes 1267'*** 390'*** 178'***
Number of Plants Required	150 6 140 5 140 23	160 0 140 21 160 0 140 23
Shade Trees	150 6 140 5 140 23	160 0 140 21 160 0 140 23
Evergreen Trees	150 6 140 5 140 23	160 0 140 21 160 0 140 23
Number of Plants Provided	488 5 15 0 1288 0 18	1288 0 18 48 1288 0 18
Shade Trees	488 5 15 0 1288 0 18	1288 0 18 48 1288 0 18
Evergreen Trees	488 5 15 0 1288 0 18	1288 0 18 48 1288 0 18
Other Trees (2:1 Substitution)	488 5 15 0 1288 0 18	1288 0 18 48 1288 0 18
Shrubs (10:1 Substitution)	488 5 15 0 1288 0 18	1288 0 18 48 1288 0 18
Describe Plant Substitution Credits Below if needed		

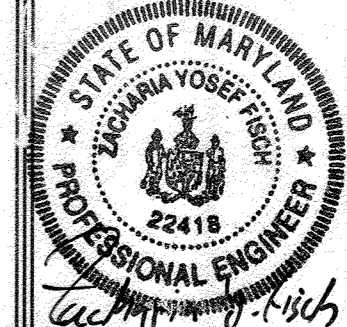
* Existing woods in southeastern corner of property to remain.
** Site is a minimum of 10' below the adjacent roadway; berm credit is taken for evergreen and shrub requirements.
*** Full credit was taken for areas along perimeters that do not have views into developed areas - see narrative.
12 Evergreens were transferred from Perimeter 5 to Perimeter 1 for additional screening near existing development - see narrative.
6 Shade Trees were transferred from Perimeters 2 and 5 to the Parking Lot Islands, see narrative.
- See sheet 10 for Typical Tree and Evergreen Tree Planting Details, see this sheet for Typical Shrub Planting Detail

No.	Revision	Description	Date
1	Revise Sheet Total		July 2023
2	Update Phase II footprint		MAR. 2019
3	Add Phase II (sheet 21) references.		Mar. 2013
4	Revised Grades, Sewer Manholes and Easements		11.09.04

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
Linear Feet of Perimeter	13351F
Credit for Existing Vegetation (No, Yes and Linear Feet)	N/A
Credit for other Landscaping (No, Yes and %)	Yes, 424' - shared buffering with Perimeter 7
Other Credit (No, Yes and %)	Yes, min 15' elevation difference for 100% evergreen credit
Number of Trees Required	1150 18 Shade Trees 140 23 Evergreen Trees
Number of Trees Provided	14 Shade Trees 0 Evergreen Trees 8 Ornamental Trees

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
Tel: (410) 992-5384
C/O Joe Hancock

LANDSCAPE PLAN
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY
TAX MAP 46 GF:D 3
5TH ELECTION DISTRICT
LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND

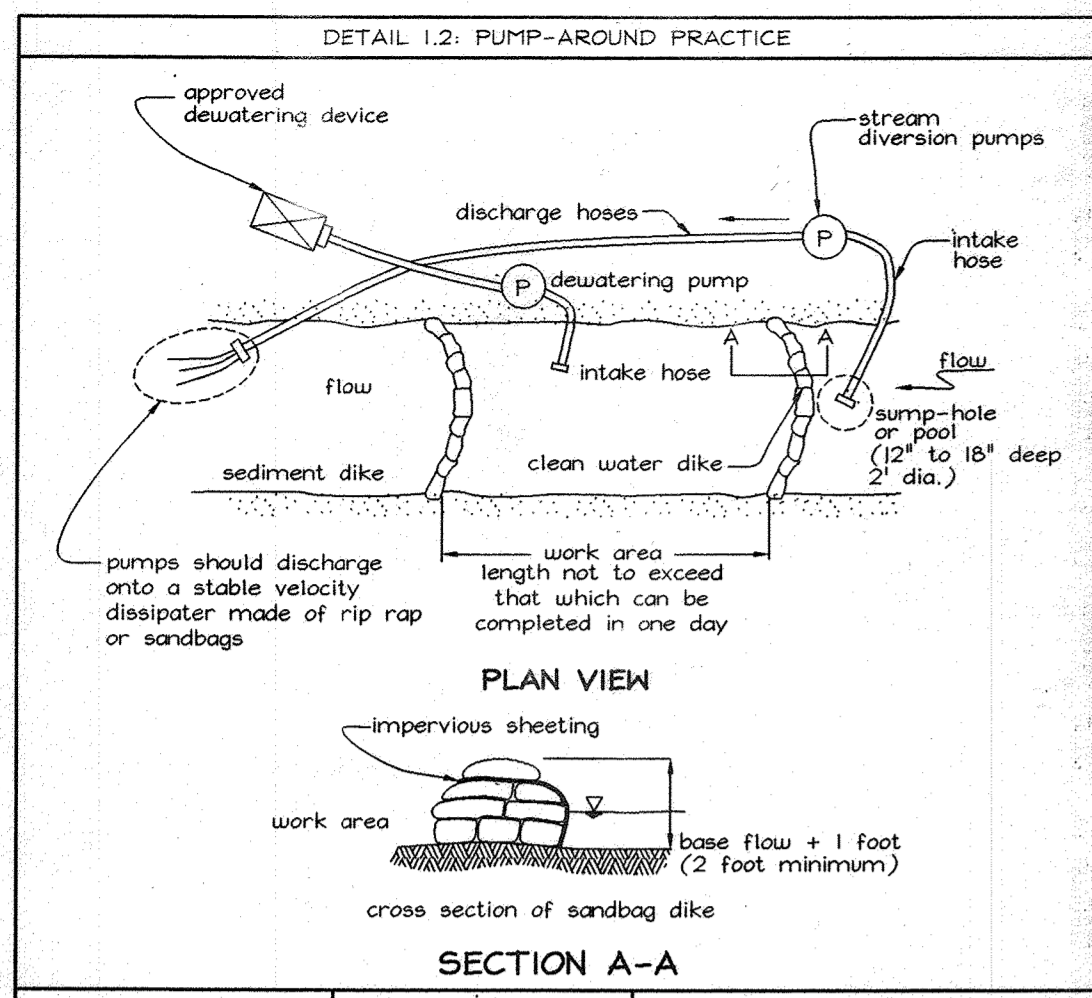


FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@comcast.net

DESIGN BY: PS
DRAWN BY: KSZ
CHECKED BY: ZYF
SCALE: As Shown
DATE: July 20, 2024
N.O. No.: 3071
SHEET No.: II OF 24

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 LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
Joseph R. Hancock
SIGNATURE OF DEVELOPER
7/21/04
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature]
DIRECTOR
7/30/04
DATE
8/9/04
DATE
8/10/04
DATE



Temporary Instream Construction Measure
 REVISOR NOVEMBER 2000
 PAGE 12 - 3
 Maryland Department of the Environment
 Water Management Administration

EMERGENT PLANTING
 (1340 S.F.) (112 PLANTINGS, 24" O.C. WITHIN 8' - 6" x 20'-40" PLOTS)

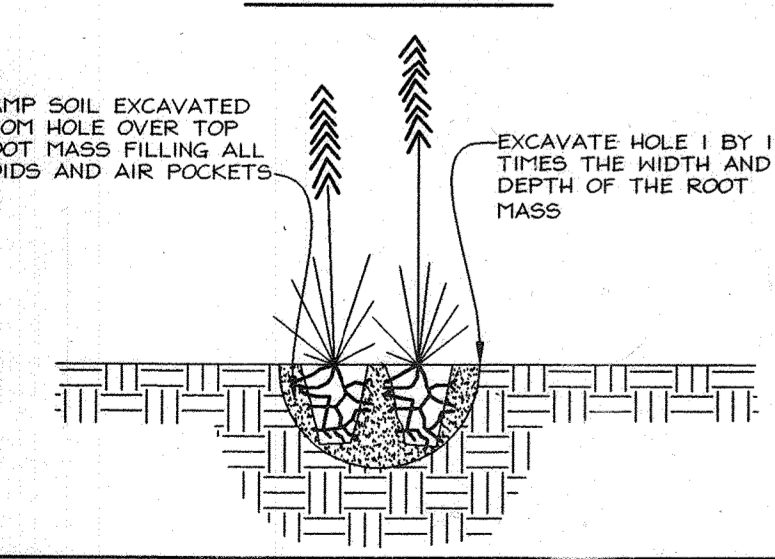
COMMON NAME	SCIENTIFIC NAME	INDICATOR	STOCK	QUANTITY
Pickering weed	<i>Pontederia cordata</i>	OBL	Bare root	28
Soft stem bullrush	<i>Scirpus validus</i>	OBL	Bare root	28
Wetland spikerush	<i>Scirpus americanus</i>	OBL	Bare root	28
Lizard tail	<i>Sagittaria arifolia</i>	OBL	Bare root	28

EMERGENT PLANTING NARRATIVE
 Vegetation establishment is expected though natural plant propagation and will be enhanced by supplemental planting of 35% of the area. Supplemental planting of pickering weed, *Pontederia cordata*, soft stem bullrush, *Scirpus validus*, Rice cutgrass, *Leersia oryzoides* and lizard tail, *Sagittaria arifolia* will be provided within 6' wide plots of varying length (20'-40', see plan) protected with goose exclusion fencing. Plant installation may be delayed one year after grading to allow the graded area to settle and hydrology to stabilize.

MGWC 2.: Pump-Around Practice

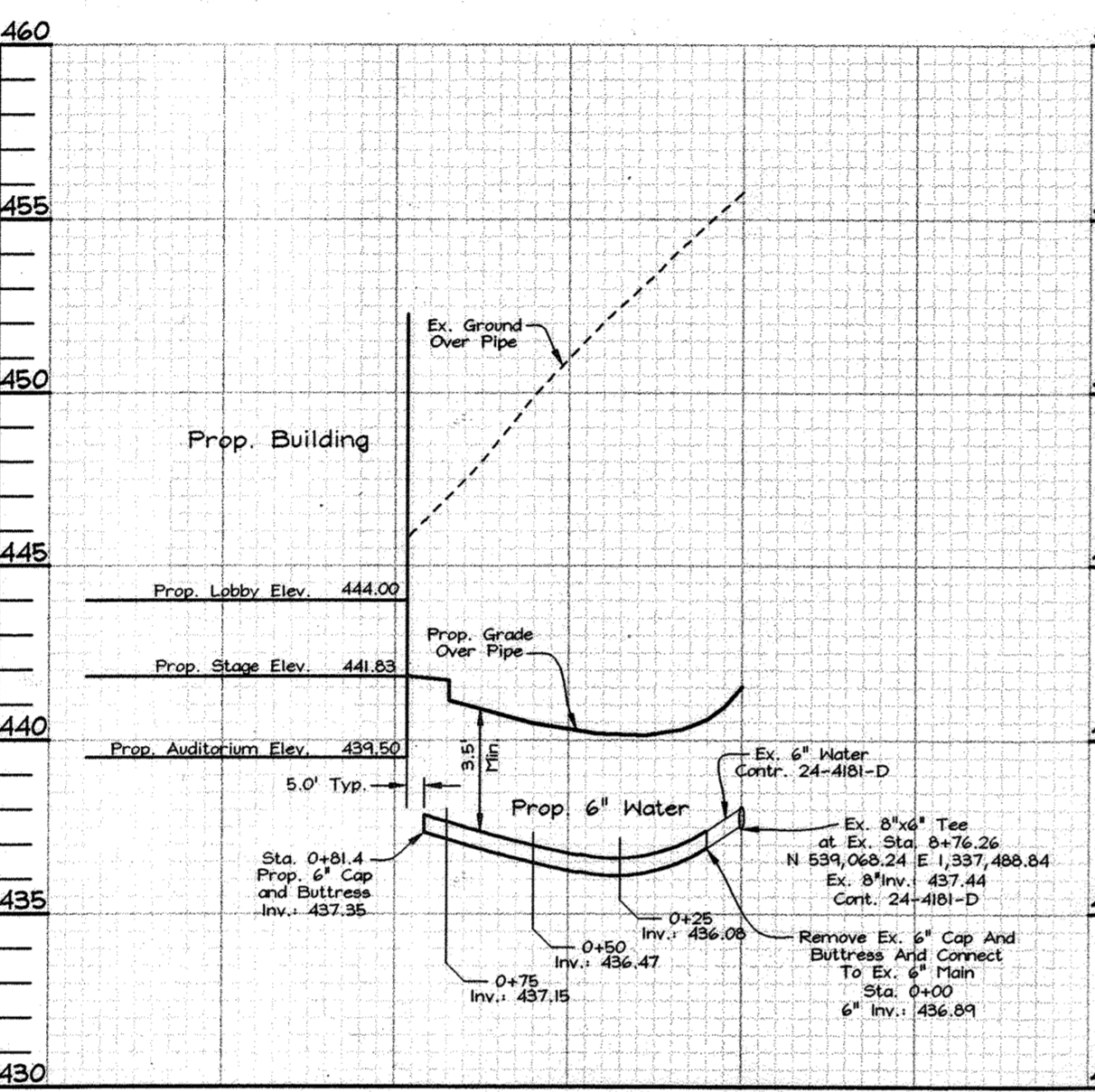
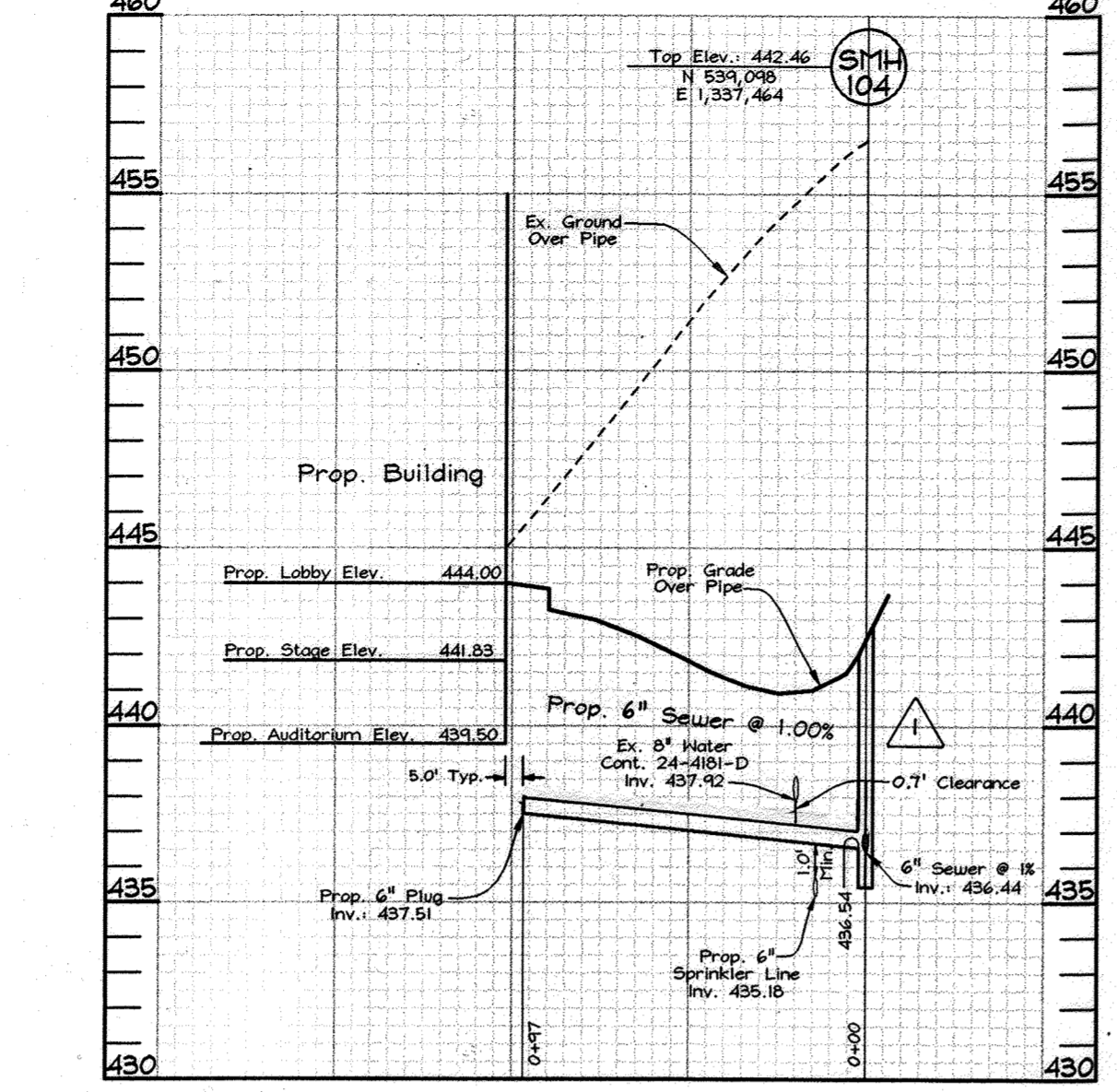
- Description:**
 The work shall consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.
- Implementation/Sequence:**
 Sediment control measures, pump arounds, and associated channel and bank construction shall be completed in the following sequence:
- Construction activities including the installation of erosion and sediment control measures shall not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities shall be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and shall repair the damage at his/her own expense to the county's satisfaction.
 - The contractor shall notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor shall inform the local environmental and resource management inspector and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
 - The contractor shall conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. (The contractor shall stake out all limits of disturbance prior to the pre-construction meeting.) The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees shall not be removed within the limit of disturbance without approval from the WMA or local authority.
 - Construction shall not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor shall stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
 - Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor shall begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor shall only begin work on an area which can be completed by the end of the day (including grading adjacent to the channel). At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work shall not be conducted in the channel during rain events.
 - Sandbag dikes shall be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow shall be pumped around the work area. The pump shall discharge onto a stable velocity dissipater made of riprap or sandbags.
 - Water from the work area shall be pumped to sediment filtering measure such as a sediment bag. The measure shall be located such that the water drains back into the channel below the downstream sandbag dike.
 - Traversing a channel reach with equipment where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures only shall be used to minimize disturbance to the channel. Temporary stream crossings shall be used only when necessary and only where noted on the plans or specified by the engineer.
 - All stream restoration measures shall be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross-sections. All grading must be permanently stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
 - After an area is completed and stabilized, sandbag diversions, the water pump, and sediment filtering measure shall be moved to the next work area. This shall be accomplished by first moving the downstream sandbag dike to the new upstream pump around location and then by relocating the upstream sandbag dike, velocity dissipater, and sediment filter to the new downstream location.
 - A pump around must be installed on any tributary or outfall which contributes base-flow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
 - If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, shall follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem shall resume. Water from the tributary shall continue to be pumped around the work area in the main stem.
 - The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approved their removal.
 - After construction, all disturbed areas shall be re-graded and revegetated as per the planting plan.

EMERGENT PLANTING NOT TO SCALE

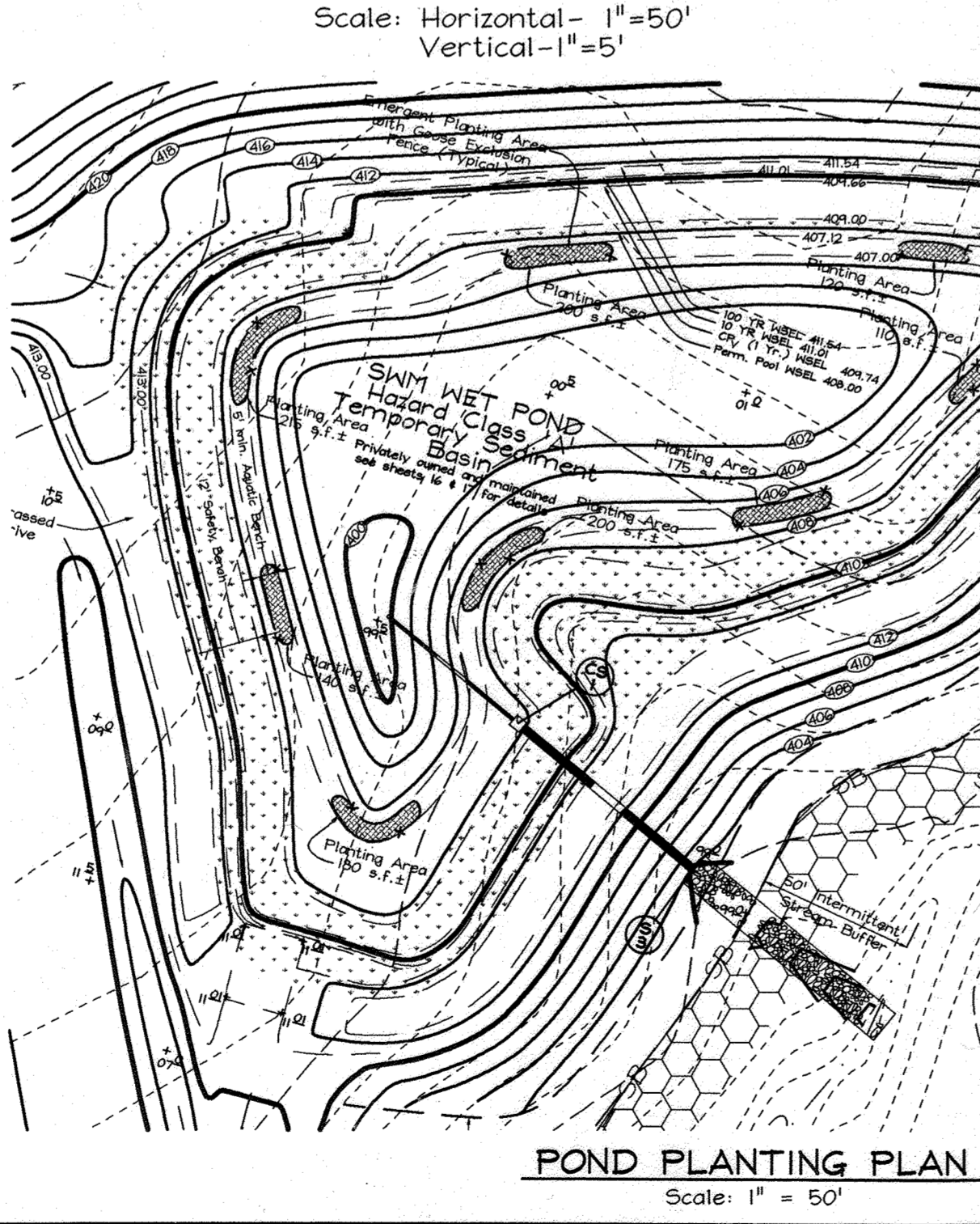


EMERGENT PLANTING SPECIFICATIONS

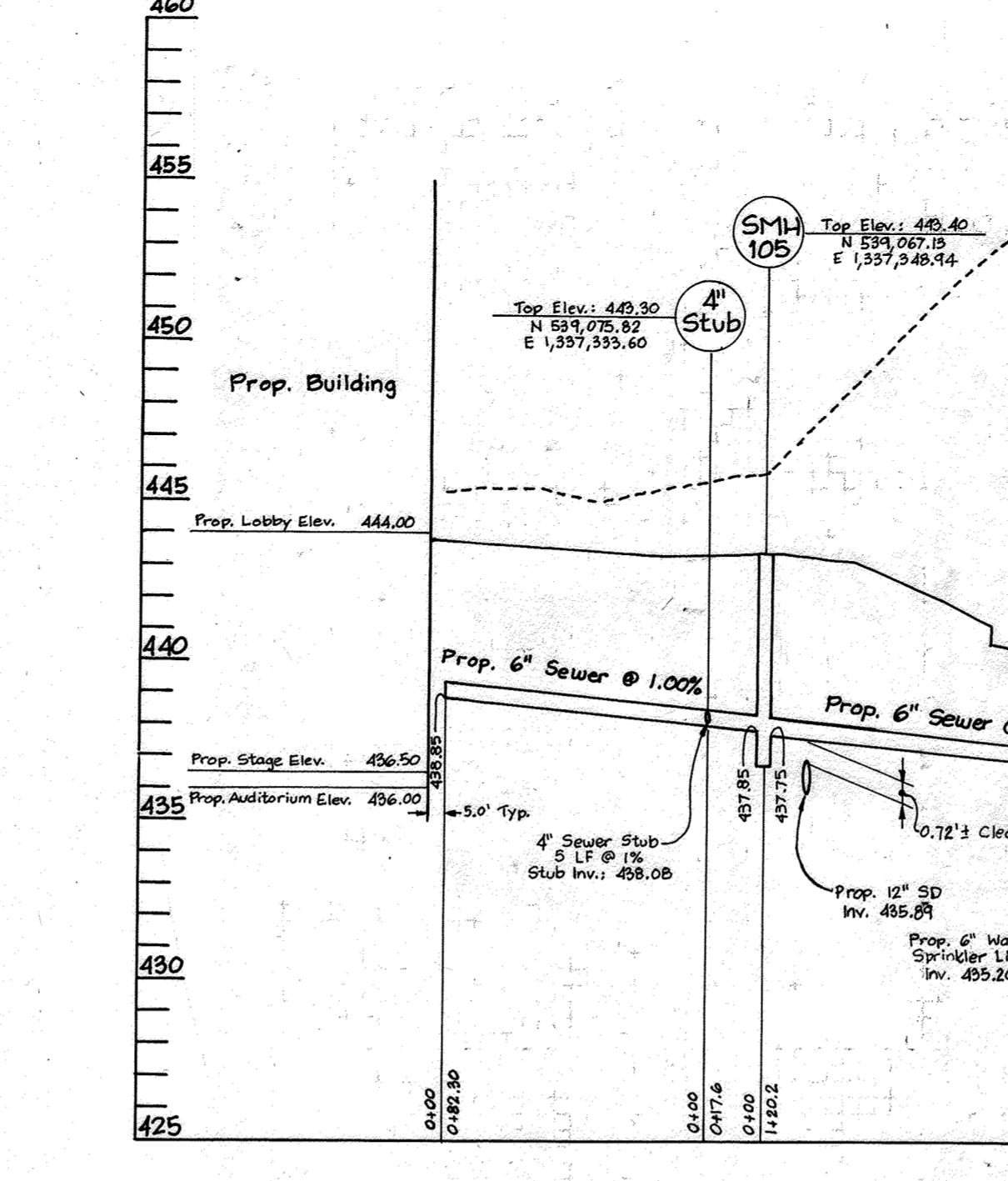
- Rooted herbaceous plants may be locally harvested and planted immediately following harvest.
- If not planted immediately after delivery to the job site, plants must be protected from direct exposure to the sun and roots must be kept moist at all times.
- All plants shall contain new roots, while in color.
- All plants must appear healthy, with no leaf spots, damage, wilting or evidence of insects or disease.
- Planting operations must be followed immediately by installation of wire barriers.



WATER & SEWER PROFILE
 Scale: Horizontal-1"=50'
 Vertical-1"=5'



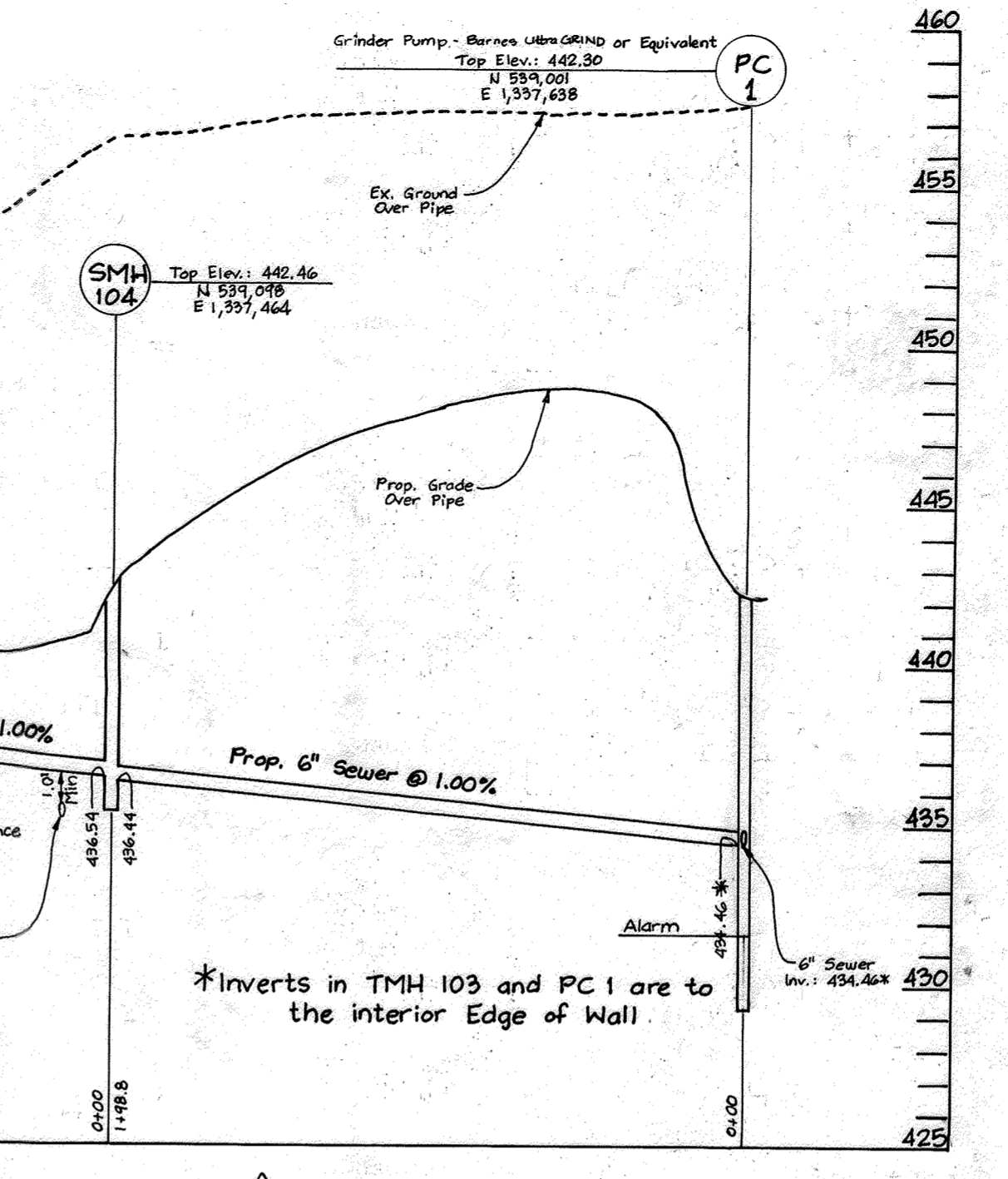
POND PLANTING PLAN
 Scale: 1" = 50'



SEWER PROFILE
 Scale: Horizontal-1"=50'
 Vertical-1"=5'

BEST MANAGEMENT PRACTICES

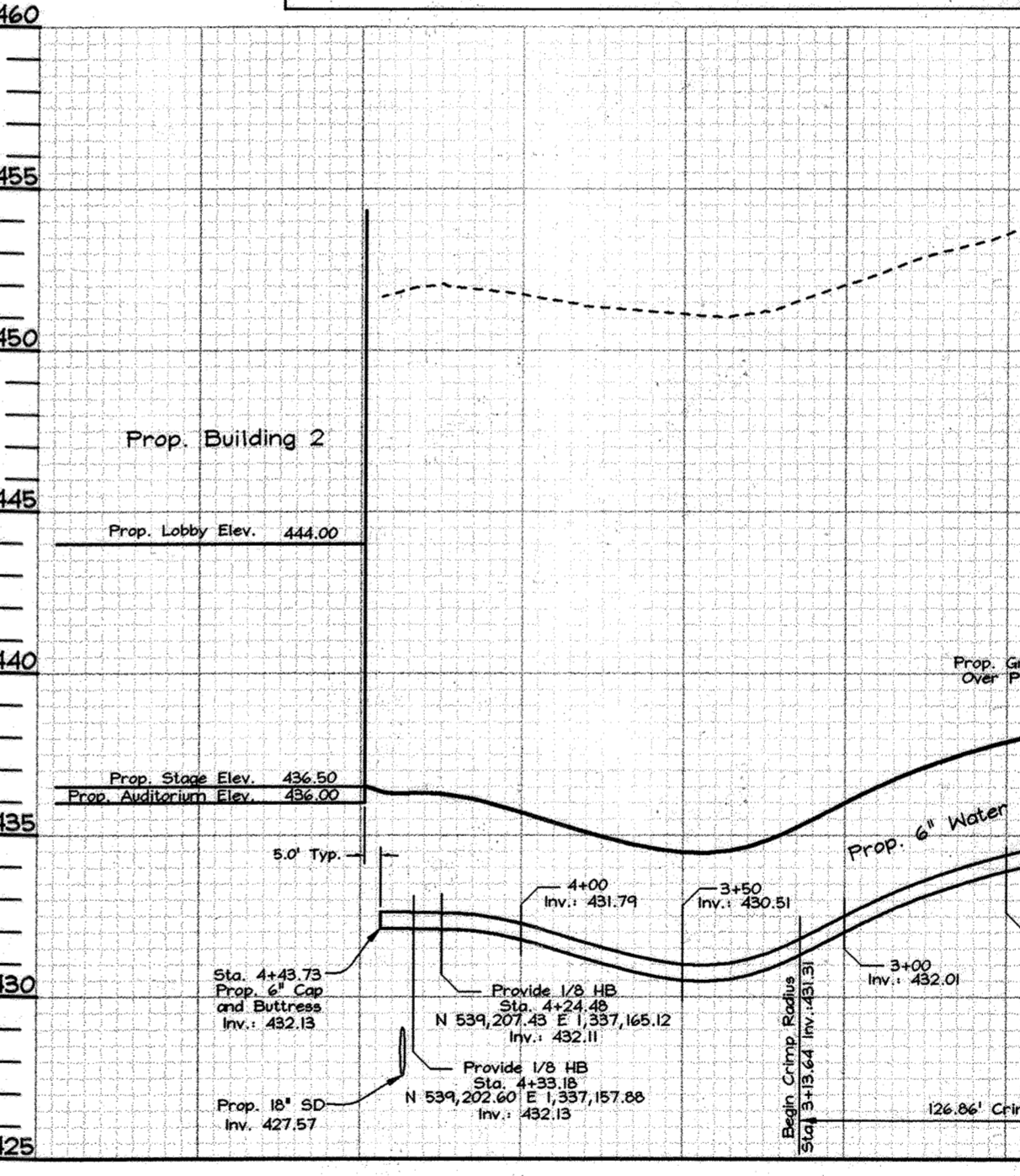
- For working in Nontidal Wetlands, Wetland Buffers, Waterways, and 100-Year Floodplains.
- No excavated fill, constructed material, or debris shall be stockpiled or stored in Nontidal Wetland buffers, Waterways, or 100-Year Floodplains.
 - Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of Nontidal Wetlands, Nontidal Wetland Buffers, Waterways, or the 100-Year Floodplain.
 - Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any deleterious substance.
 - Place heavy equipment on mats or suitably operate the equipment to prevent damage to Nontidal Wetlands, Nontidal Wetland Buffers, Waterways, or the 100-Year Floodplain.
 - Repair and maintain any serviceable structure or fill so there is no permanent loss of Nontidal Wetlands, Nontidal Wetland Buffers, Waterways, or permanent modification of the 100-Year Floodplain in excess of that lost under the original authorized structure or fill.
 - Rectify any Nontidal Wetlands, Wetland Buffers, Waterways, or 100-Year Floodplain temporarily impacted by construction.
 - All stabilization in the Nontidal Wetland and Nontidal Wetland Buffer shall consist of the following species:
 Millet (*Setaria Italica*)
 Oats (*Avena Sativa*)
 Rye (*Sectaria Cereale*)
 Annual Rye Grass (*Lolium Multiflorum*)
 These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. Kentucky 31 Fescue shall not be utilized in Wetland or Buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
 - After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporary impacted areas.
 - To protect Aquatic species, in-stream work is prohibited as determined by the classification of the stream.
 Use 1 waters: In-stream work shall be conducted during the period March 1 through June 15, inclusive, during any year.
 Seasonal runoff from impervious surfaces shall be controlled to prevent the washing of debris into the Waterway.
 Culverts shall be constructed and any RipRap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.



SEWER PROFILE
 Scale: Horizontal-1"=50'
 Vertical-1"=5'

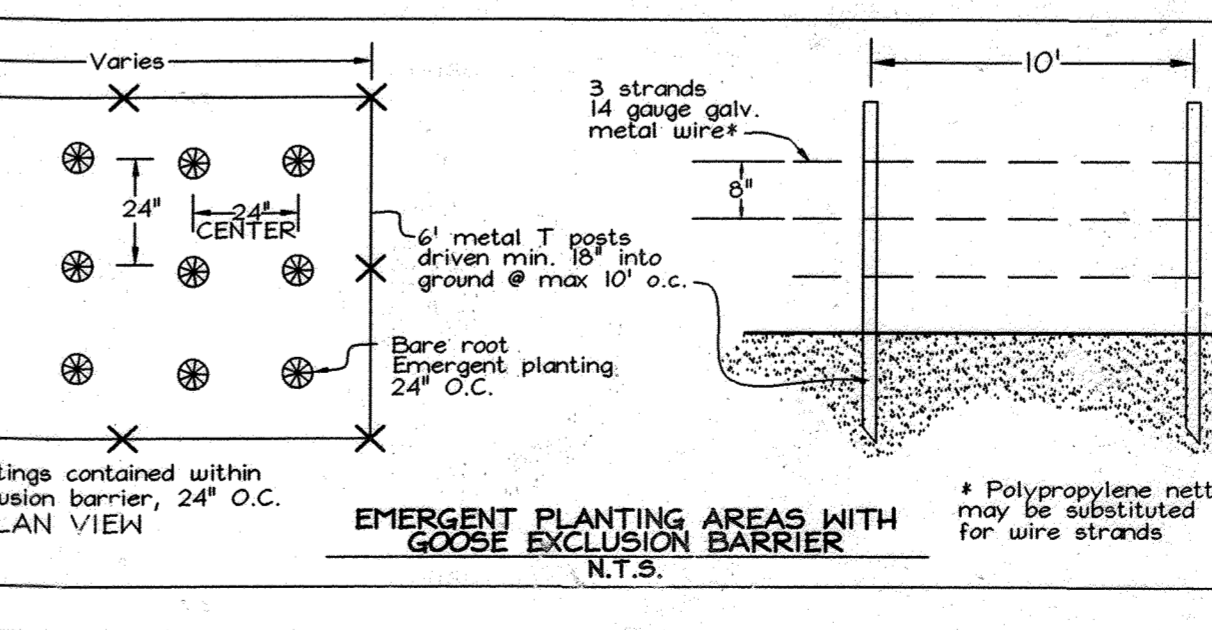
REVISIONS

No.	Description	Date
1	Total number of sheets change to 21.	Mar. 2013
2	Revised Sewer Manholes, Grades over pipes, and added Grinder Pump to profiles.	11.09.04

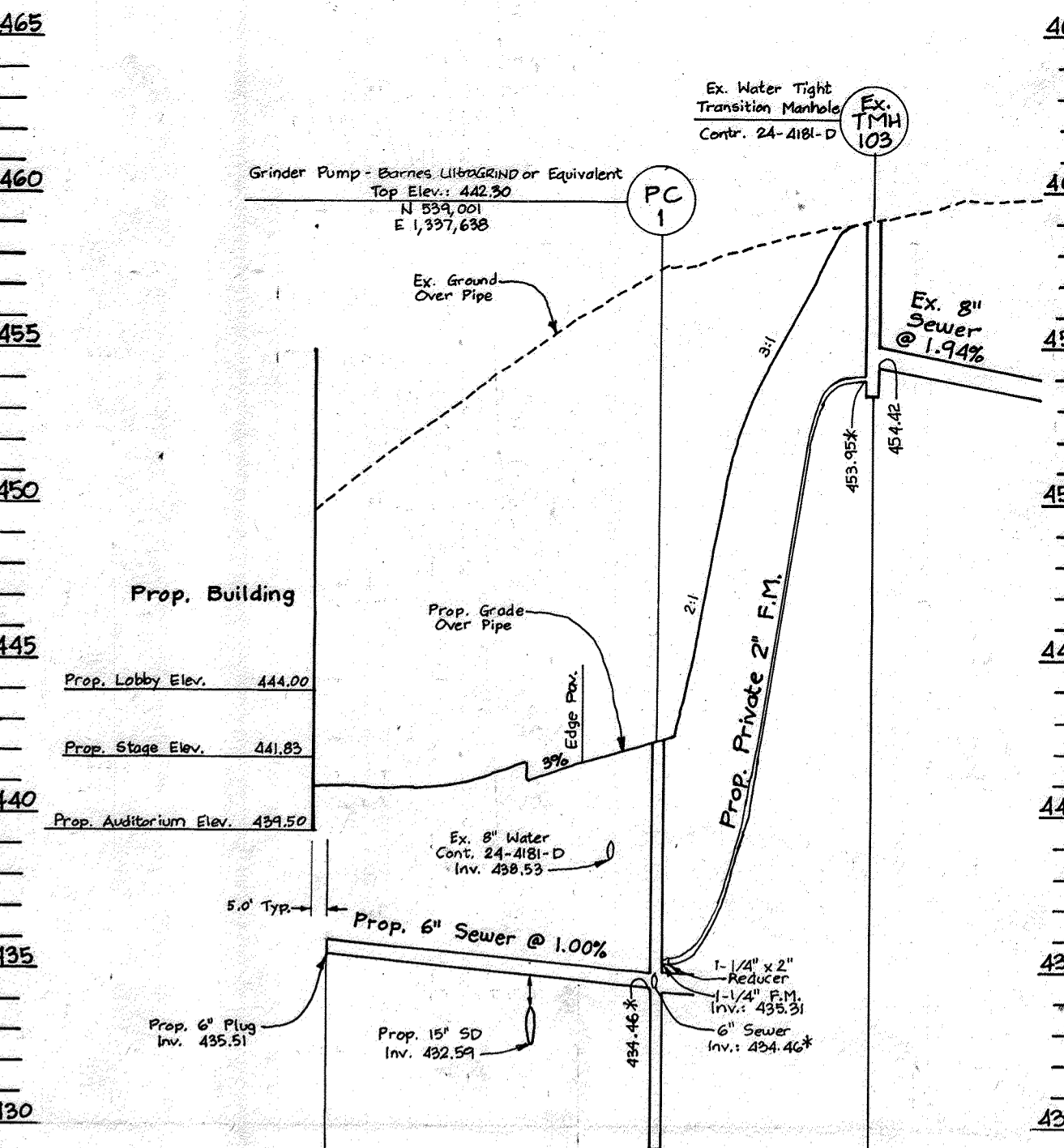


WATER SPRINKLER PROFILE
 Scale: Horizontal-1"=50'
 Vertical-1"=5'

EMERGENT PLANTING AREAS WITH GOOSE EXCLUSION BARRIER



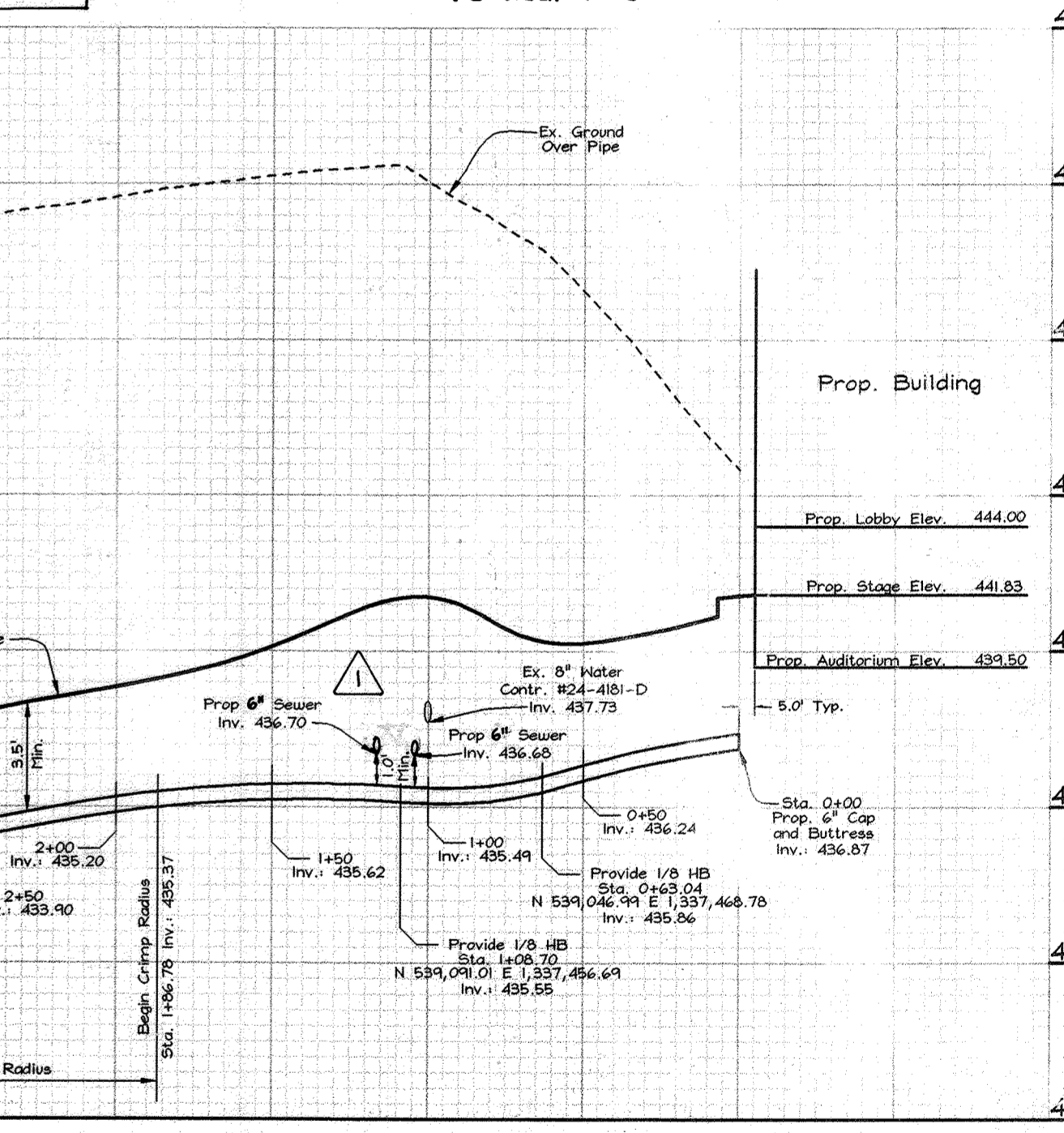
EMERGENT PLANTING AREAS WITH GOOSE EXCLUSION BARRIER
 N.T.S.



SEWER PROFILE
 Scale: Horizontal-1"=50'
 Vertical-1"=5'

REVISIONS

No.	Description	Date
1	Total number of sheets change to 21.	Mar. 2013
2	Revised Sewer Manholes, Grades over pipes, and added Grinder Pump to profiles.	11.09.04



WATER SPRINKLER PROFILE
 Scale: Horizontal-1"=50'
 Vertical-1"=5'

OWNER/DEVELOPER

Grace Community Church of Howard County, Inc.
 9180 Rumsey Road
 Columbia, MD 21045
 Tel: (410) 392-5384
 C/O Joe Hancock

WATER & SEWER PROFILES, POND PLANTING PLAN & DETAILS AND SEDIMENT & EROSION CONTROL DETAILS
GRACE COMMUNITY CHURCH
 PHASE I & II
 RELIGIOUS FACILITY
 TAX MAP 46 GRID 3
 5TH ELECTION DISTRICT
 LOTS 1 AND 2 PARCEL 337
 HOWARD COUNTY, MARYLAND

FSH Associates
 Engineers Planners Surveyors
 8318 Forbes Street Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHassociates@cs.com

DESIGN BY: FS
 DRAWN BY: DKM
 CHECKED BY: ZYF
 SCALE: As Shown
 DATE: July 20, 2004
 P.L.O. No.: 3071
 SHEET No.: 12 OF 24

APPROVED
 Howard County Department of Planning and Zoning
 Chief, Division of Land Development
 DATE: 8/30/04

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE
 DATE: 7/29/04

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

HOWARD SOIL CONSERVATION DISTRICT
 DATE: 7/29/04

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DISTRICT ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE ENGAGING THE PROJECT. I 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.

DATE: 7/21/04

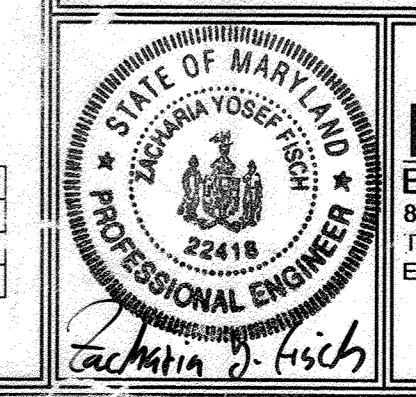
ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DISTRICT THAT THE ENGINEER 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.

DATE: 7/21/04

UPLAND SEED MIX SPECIFICATIONS - 27,900 S.F. ±

UPLAND SEED MIX TO BE APPLIED TO ALL DISTURBED AREAS WITHIN NON-WETLAND AREAS

COMMON NAME	APPLICATION RATE
TALL FESCUE (TURF TYPE)	120 lbs / Ac.
HARD FESCUE	30 lbs / Ac.

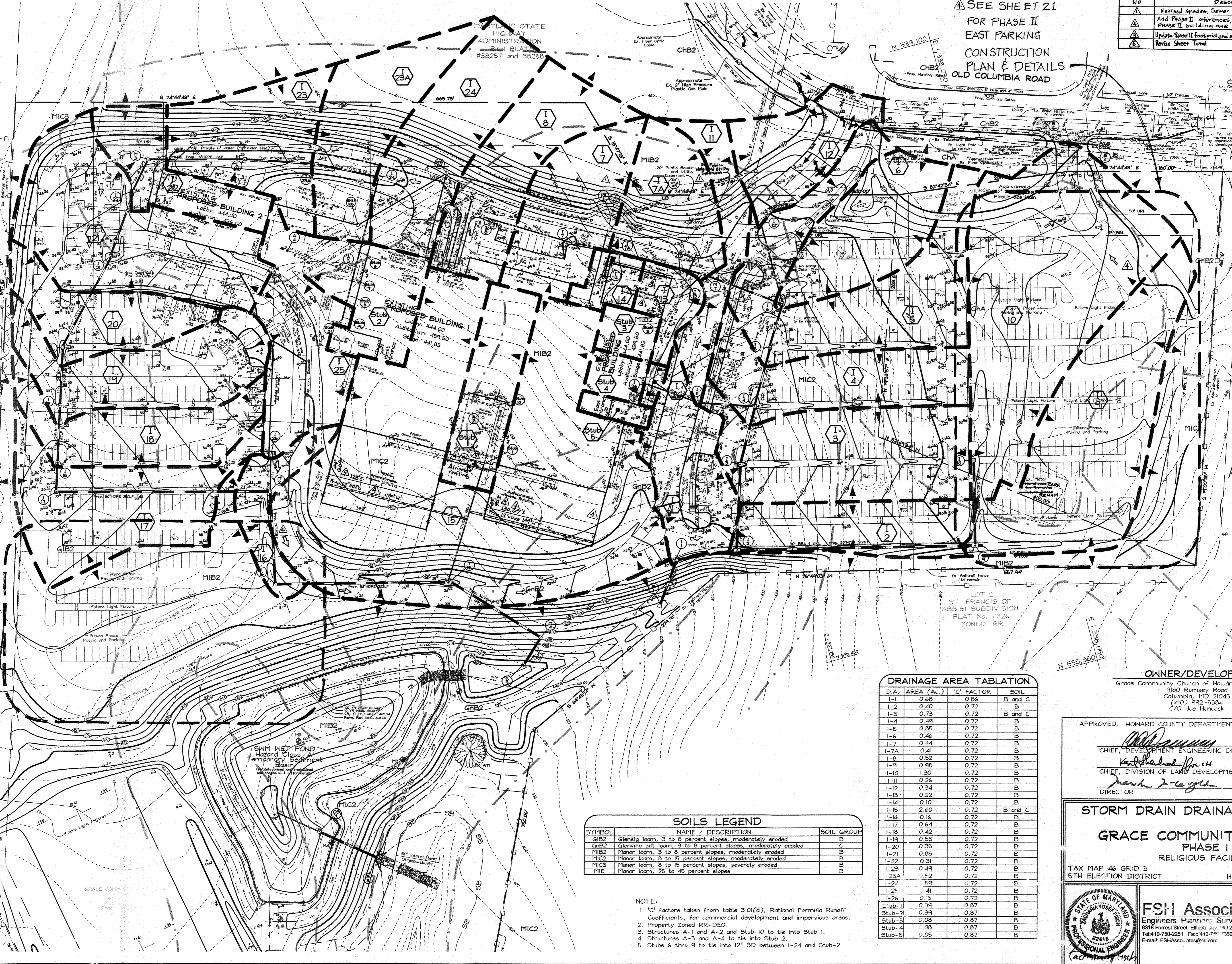


REVISIONS		
No.	Description	Date
1	Revised Grades, Sewer Manholes and Easements	11.09.04
2	Add Phase II references, traffic flow arrows, and Phase II building and expansion	Mar 2015
3	Update Phase II footprint and add roof drain collection pipes	Mar 2019
4	Revise Sheet Total	July 2023

SEE SHEET 21
FOR PHASE II
EAST PARKING
CONSTRUCTION
PLAN & DETAILS
OLD COLUMBIA ROAD

MIB2

SEE SHEET 21
FOR PHASE II
SOUTHWEST PARKING
CONSTRUCTION
PLAN & DETAILS



DRAINAGE AREA TABULATION			
D.A.	AREA (Ac.)	'C' FACTOR	SOIL
I-1	0.68	0.86	B and C
I-2	0.40	0.72	B
I-3	0.73	0.72	B and C
I-4	0.49	0.72	B
I-5	0.85	0.72	B
I-6	0.46	0.72	B
I-7	0.44	0.72	B
I-7A	0.41	0.72	B
I-8	0.52	0.72	B
I-9	0.98	0.72	B
I-10	1.30	0.72	B
I-11	0.26	0.72	B
I-12	0.34	0.72	B
I-13	0.22	0.72	B
I-14	0.10	0.72	B
I-15	2.60	0.72	B and C
I-16	0.16	0.72	B
I-17	0.64	0.72	B
I-18	0.42	0.72	B
I-19	0.53	0.72	B
I-20	0.35	0.72	B
I-21	0.85	0.72	B
I-22	0.31	0.72	B
I-23	0.49	0.72	B
I-23A	0.2	0.72	B
I-24	5.9	0.72	B
I-24'	4	0.72	B
I-24''	4	0.72	B
I-25	0.5	0.72	B
Stub-1	0.36	0.87	B
Stub-2	0.34	0.87	B
Stub-3	0.08	0.87	B
Stub-4	0.08	0.87	B
Stub-5	0.05	0.87	B

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GIB2	Glenn loam, 3 to 8 percent slopes, moderately eroded	B
GMB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
MIB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B
MIC2	Manor loam, 8 to 15 percent slopes, moderately eroded	B
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B
MIE	Manor loam, 25 to 45 percent slopes	B

- NOTE:
- 'C' factors taken from table 3.01(d), Rational Formula Runoff Coefficients, for commercial development and impervious areas.
 - Property Zoned RR-DEO.
 - Structures A-1 and A-2 and Stub-10 to tie into Stub 1.
 - Structures A-3 and A-4 to tie into Stub 2.
 - Stubs 6 thru 9 to tie into I-24 and Stub-2.

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
(410) 992-5334
C/O Joe Hancock

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/22/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION **MMJ** DATE

[Signature] 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 8/13/04
DIRECTOR DATE

STORM DRAIN DRAINAGE AREA MAP
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY

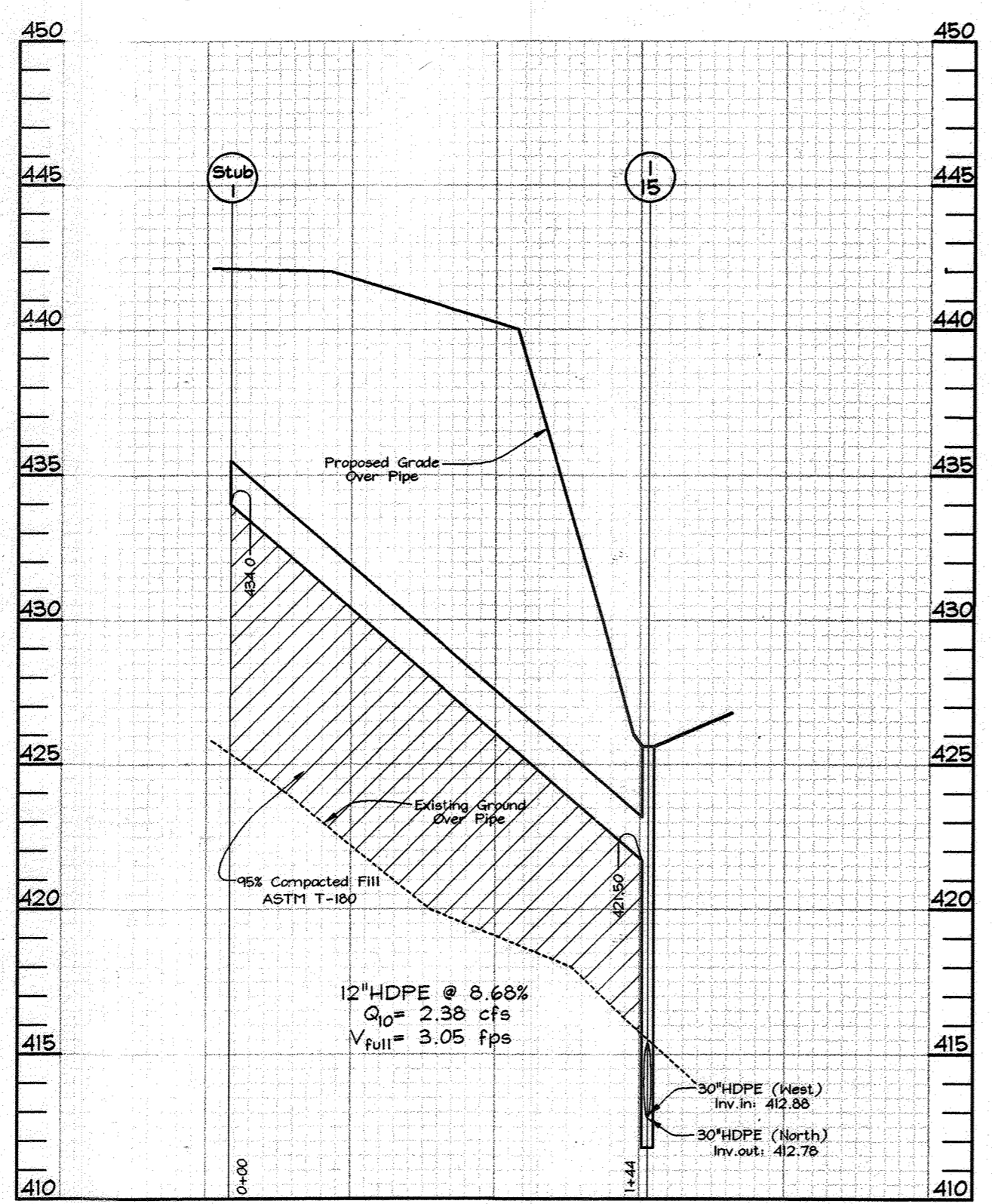
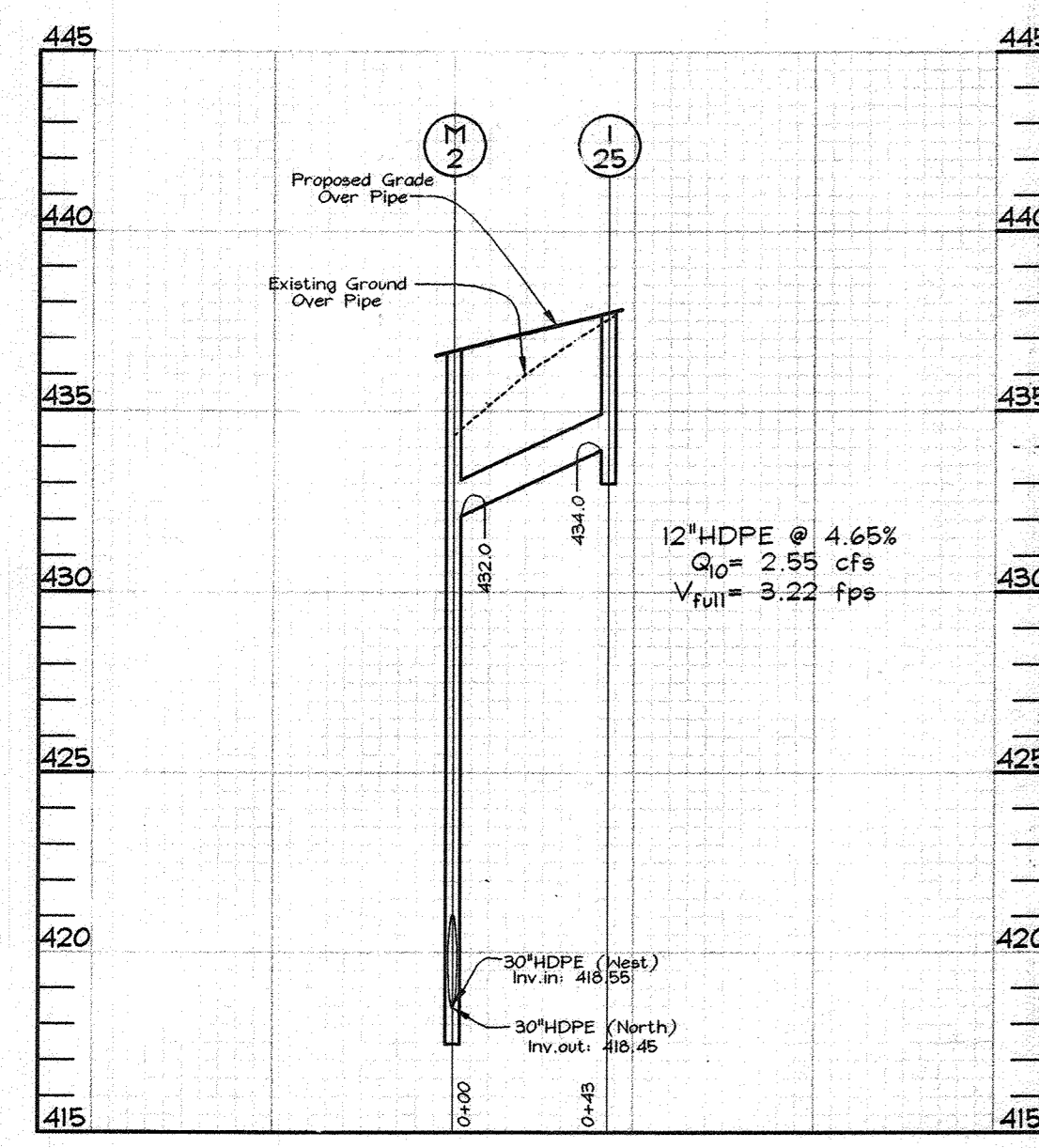
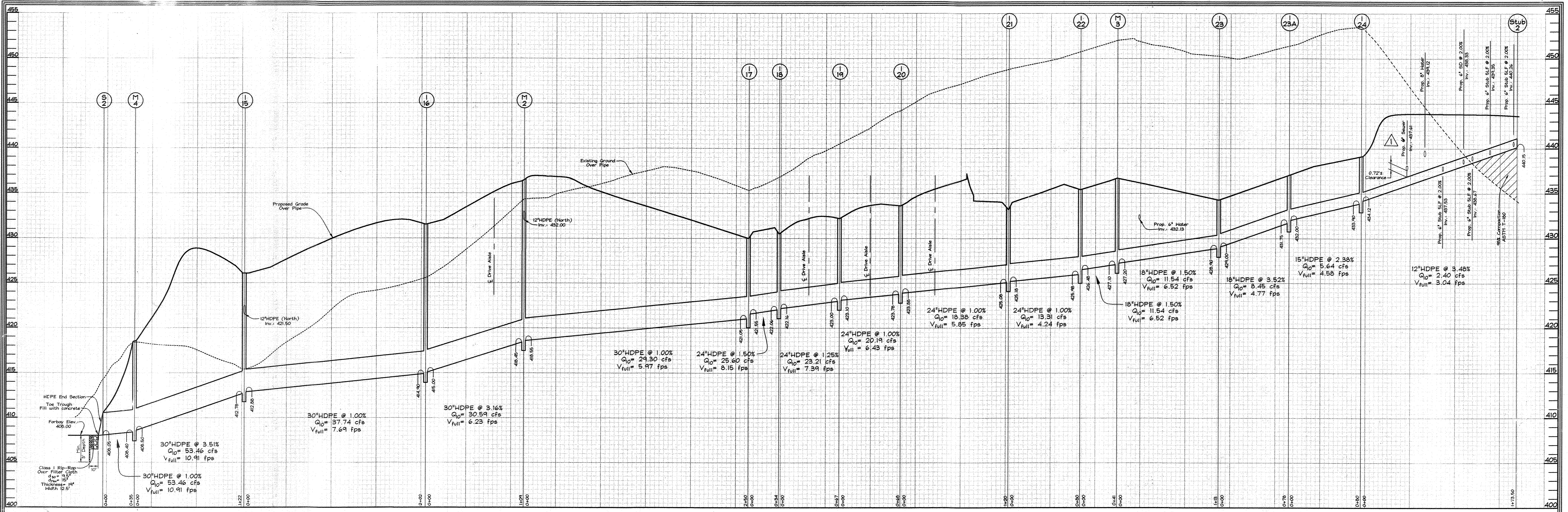
TAX MAP 46 GRID 5
5TH ELECTION DISTRICT

LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND



FSH Associates
Engineers, Planners, Surveyors
8318 Forest Street, Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-760-7350
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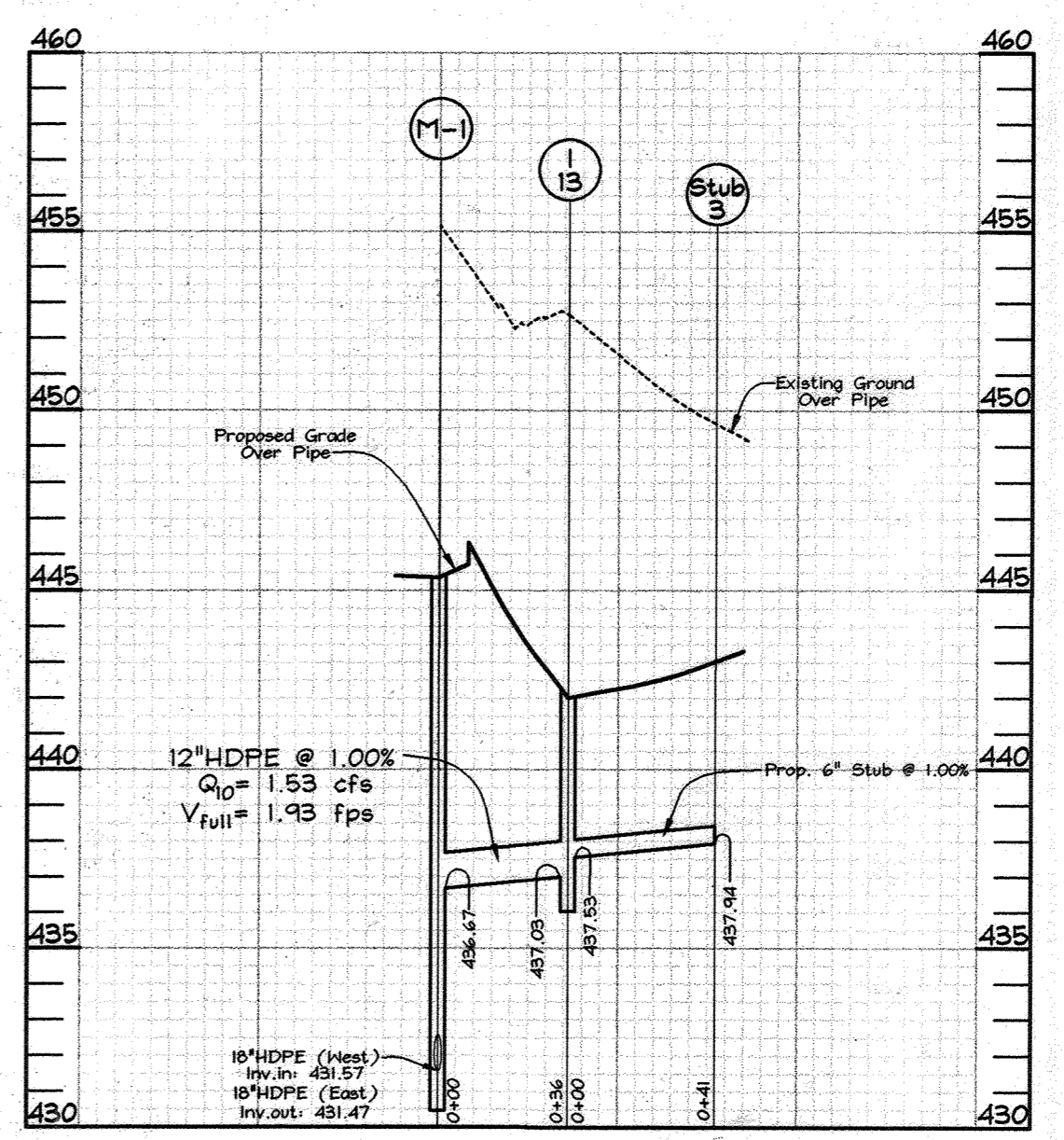
DESIGN BY: PS
DRAWN BY: KSY
CHECKED BY: ZYF
SCALE: 1"=50'
DATE: July 20, 2004
W.O. No.: 3071
SHEET No. 13 OF 21



STORM DRAIN PROFILE
Scale: Horizontal - 1"=50'
Vertical - 1"=5'

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
I-1	Double Type 'S' Inlet	N 538,591.25 E 1,337,604.13	437.50	425.30	425.20	SD 4.23
I-2	Double Type 'S' Inlet	N 538,584.50 E 1,337,677.41	439.25	426.33	426.23	SD 4.23
I-3	Single Type 'S' Inlet	N 538,680.07 E 1,337,707.07	439.80	427.43	427.33	SD 4.22
I-4	Single Type 'S' Inlet	N 538,741.48 E 1,337,741.27	441.30	428.47	428.13	SD 4.22
I-5	Single Type 'S' Inlet	N 538,803.03 E 1,337,775.90	442.60	429.44	429.34	SD 4.22
I-6	Single Type 'S' Inlet	N 538,849.27 E 1,337,803.25	443.80	429.50	429.98	SD 4.22
I-7	Single Type 'S' Inlet	N 538,981.54 E 1,337,586.33	439.80	433.19	432.94	SD 4.22
I-7A	Single Type 'S' Inlet	N 538,961.79 E 1,337,626.56	441.36	432.94	432.24	SD 4.22
I-8	Single Type 'S' Inlet	N 539,038.49 E 1,337,492.33	439.60	-	434.56	SD 4.22
I-9	Double Type 'S' Inlet	N 538,516.33 E 1,337,947.16	450.10	429.21	429.11	SD 4.23
I-10	Single Type 'S' Inlet	N 538,613.29 E 1,337,971.66	450.00	-	430.21	SD 4.22
I-11	Single Type 'S' Inlet	N 538,763.20 E 1,337,678.55	442.93	437.38	437.13	SD 4.22
I-12	Double Type 'S' Inlet	N 538,947.26 E 1,337,803.95	448.22	-	443.50	SD 4.23
I-13	Single Type 'S' Inlet	N 538,888.45 E 1,337,691.40	442.00	437.53	437.03	SD 4.22
I-14	Single Type 'S' Inlet	N 538,933.64 E 1,337,610.80	440.00	-	436.00	SD 4.22
I-15	Double Type 'S' Inlet	N 538,636.39 E 1,337,342.45	425.60	422.50	422.88	SD 4.23
I-16	Single Type 'S' Inlet	N 538,686.91 E 1,337,146.69	431.50	415.00	414.90	SD 4.22
I-17	Single Type 'S' Inlet	N 538,859.17 E 1,336,927.61	430.00	421.55	421.05	SD 4.22
I-18	Single Type 'S' Inlet	N 538,891.74 E 1,336,937.91	430.50	422.16	422.06	SD 4.22
I-19	Single Type 'S' Inlet	N 538,955.60 E 1,336,958.38	432.20	423.10	423.00	SD 4.22
I-20	Single Type 'S' Inlet	N 539,020.42 E 1,336,979.17	433.60	423.88	423.78	SD 4.22
I-21	Single Type 'S' Inlet	N 539,108.17 E 1,337,060.83	433.20	425.18	425.08	SD 4.22
I-22	Single Type 'S' Inlet	N 539,174.62 E 1,337,106.23	435.40	426.48	425.98	SD 4.22
I-23	Single Type 'S' Inlet	N 539,176.27 E 1,337,241.38	434.25	429.00	428.90	SD 4.22
I-23A	Single Type 'S' Inlet	N 539,149.35 E 1,337,319.30	437.10	432.00	431.75	SD 4.22
I-24	Double Type 'S' Inlet	N 539,115.15 E 1,337,387.28	439.10	434.12	433.90	SD 4.23
I-25	Double Type 'S' Inlet	N 538,834.37 E 1,337,180.98	437.70	-	434.00	SD 4.23
I-26	Yard Inlet	N 538,798.68 E 1,337,628.15	443.00	439.18	439.00	SD 4.14
M-1	Standard Precast Manhole (4')	N 538,906.38 E 1,337,722.78	445.30	436.47	431.47	G 5.12
M-2	Standard Precast Manhole (4')	N 538,793.20 E 1,337,169.18	436.50	432.60	418.45	G 5.13
M-3	Standard Precast Manhole (4')	N 539,206.01 E 1,337,132.32	436.69	427.20	427.10	G 5.12
M-4	Standard Precast Manhole (4')	N 538,546.25 E 1,337,429.76	418.50	408.50	408.40	G 5.13
S-1	30" HDPE End Section	N 538,546.94 E 1,337,574.65	-	421.39	-	Manhole or equivalent
S-2	30" HDPE End Section	N 538,522.10 E 1,337,404.06	-	408.05	-	Manhole or equivalent
S-3	Type 'C' Endwall	N 538,348.30 E 1,337,177.52	402.00	399.00	399.00	SD 5.21
S-4	15" RCP End Section	N 538,932.64 E 1,338,203.44	-	-	456.49	MD 368.02
S-5	15" RCP End Section	N 538,954.76 E 1,338,142.32	-	-	457.90	MD 368.02

NOTES: 1. Top elevations for Type 'S' Inlets along curb and gutters are to the center, edge of grate at the flow line. Top elevations for Type 'S' Inlets in grass areas are to the center top of grate.
2. Top elevations for Precast Manholes are to the center top of manhole cover.
3. Top slope of structures to conform to slope of paving or grading.
4. Area Drains A-1 thru A-4 to be Zurn Model Z587.



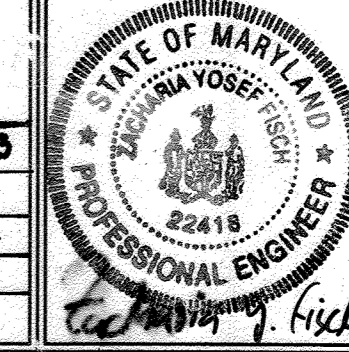
PIPE SCHEDULE		
SIZE	TYPE	LENGTH
6"	PVC	173 LF
8"	RCP	71 LF
15"	RCP	65 LF
12"	HDPE	735 LF
15"	HDPE	194 LF
18"	HDPE	478 LF
24"	HDPE	423 LF
30"	HDPE	1,543 LF

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STORM DRAIN PROFILES
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY

TAX MAP 46 GRID 3
5TH ELECTION DISTRICT

LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND



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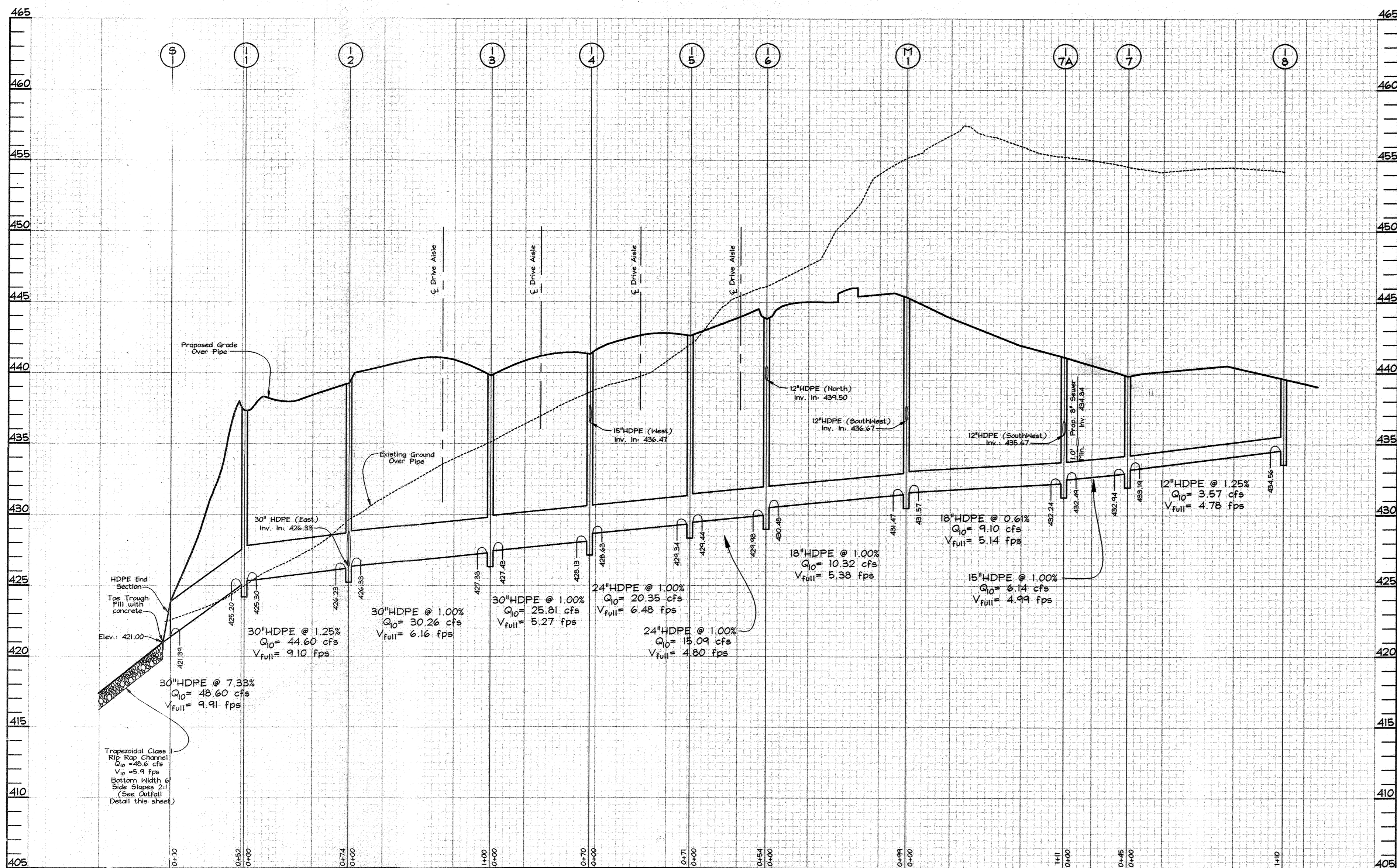
No.	Description	Date
1	Revise Sheet Title	July 2013
2	Relocated Inlet I-14 and Updated coordinates.	Mar. 2013
3	Revised Sewer Crossing Sizes	11.09.04

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

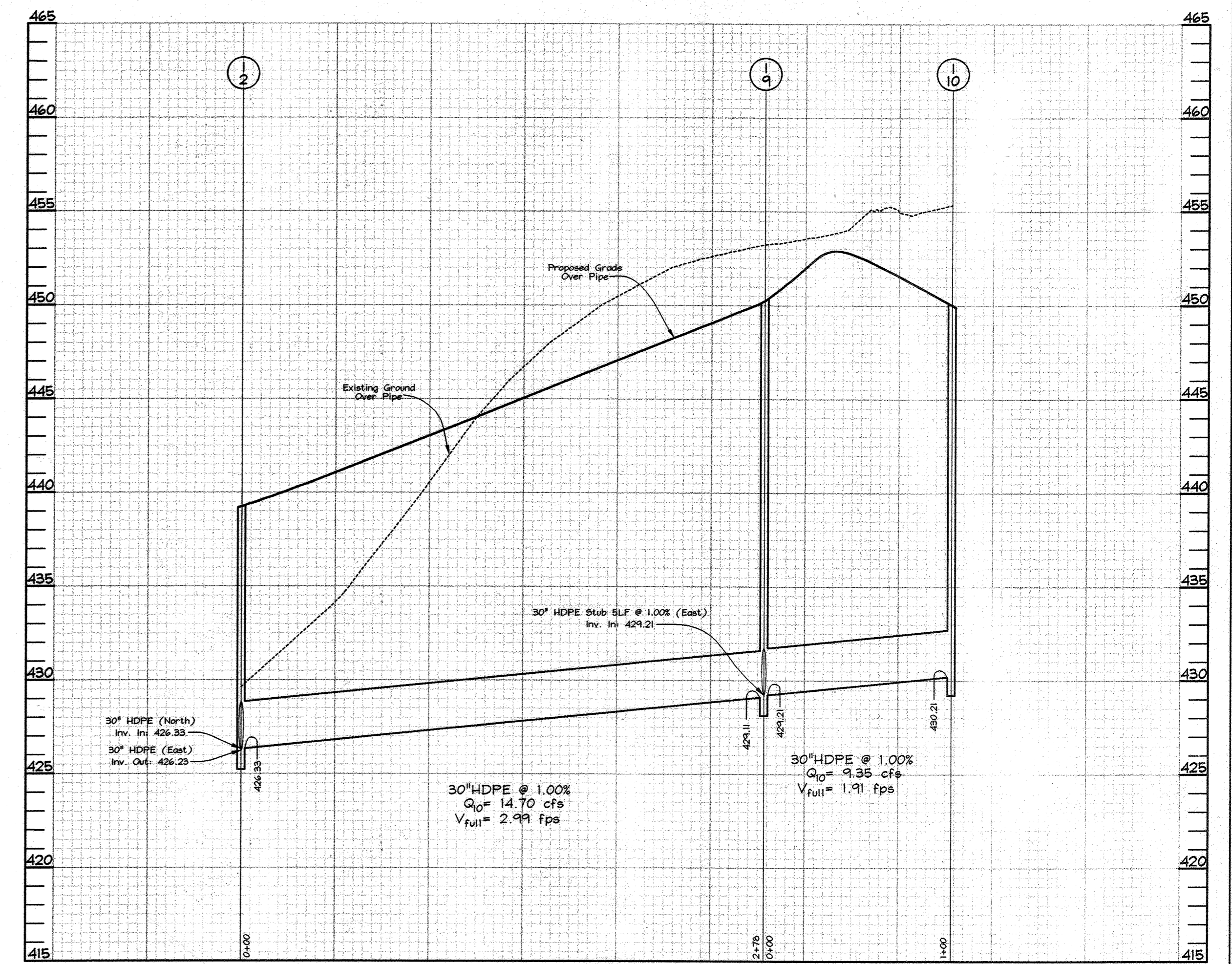
Kat Seal 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Frank A. Layton 8/2/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

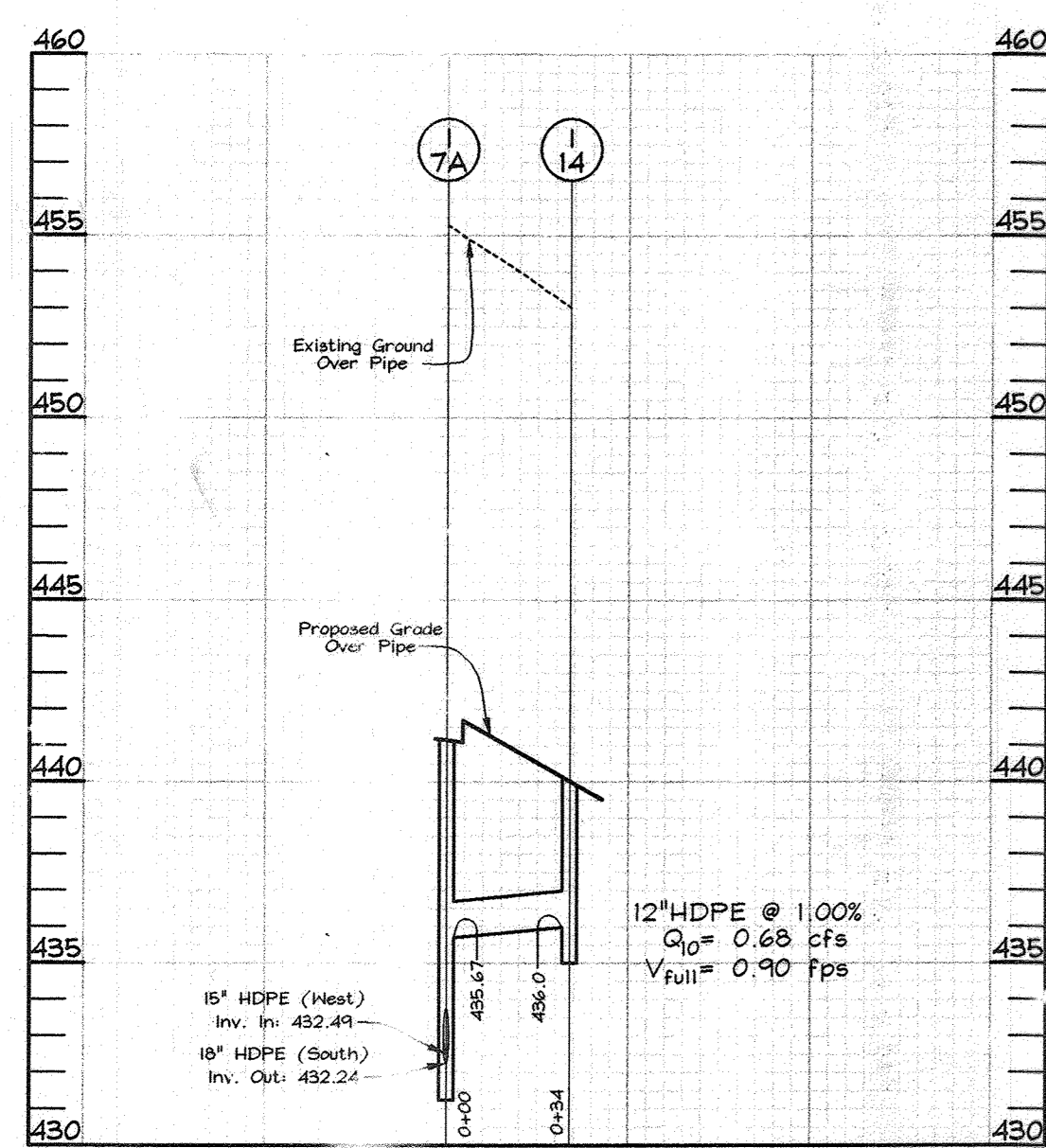
Frank A. Layton 8/2/04
DIRECTOR DATE



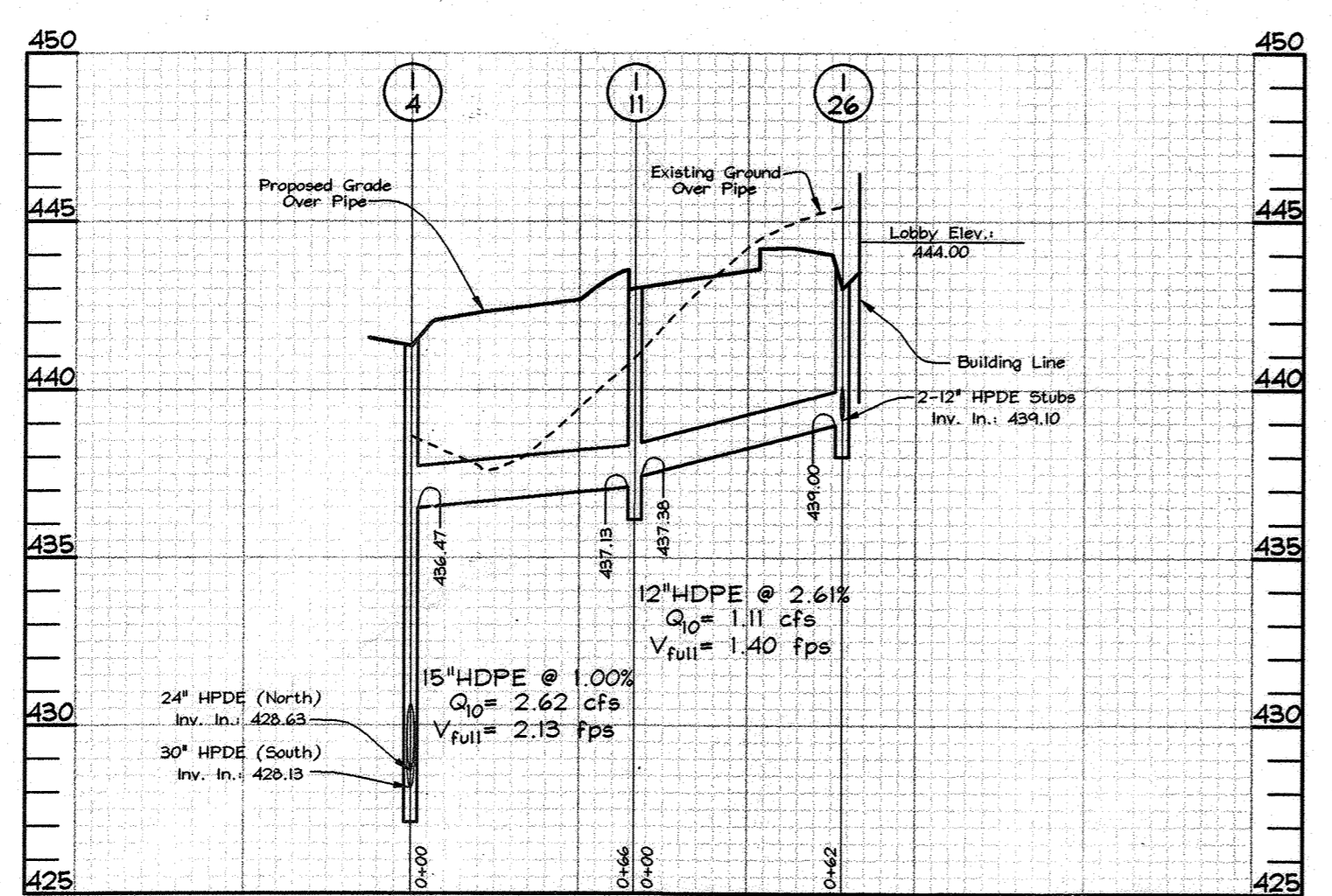
STORM DRAIN PROFILES
Scale: Horizontal-1"=50'
Vertical-1"=5'



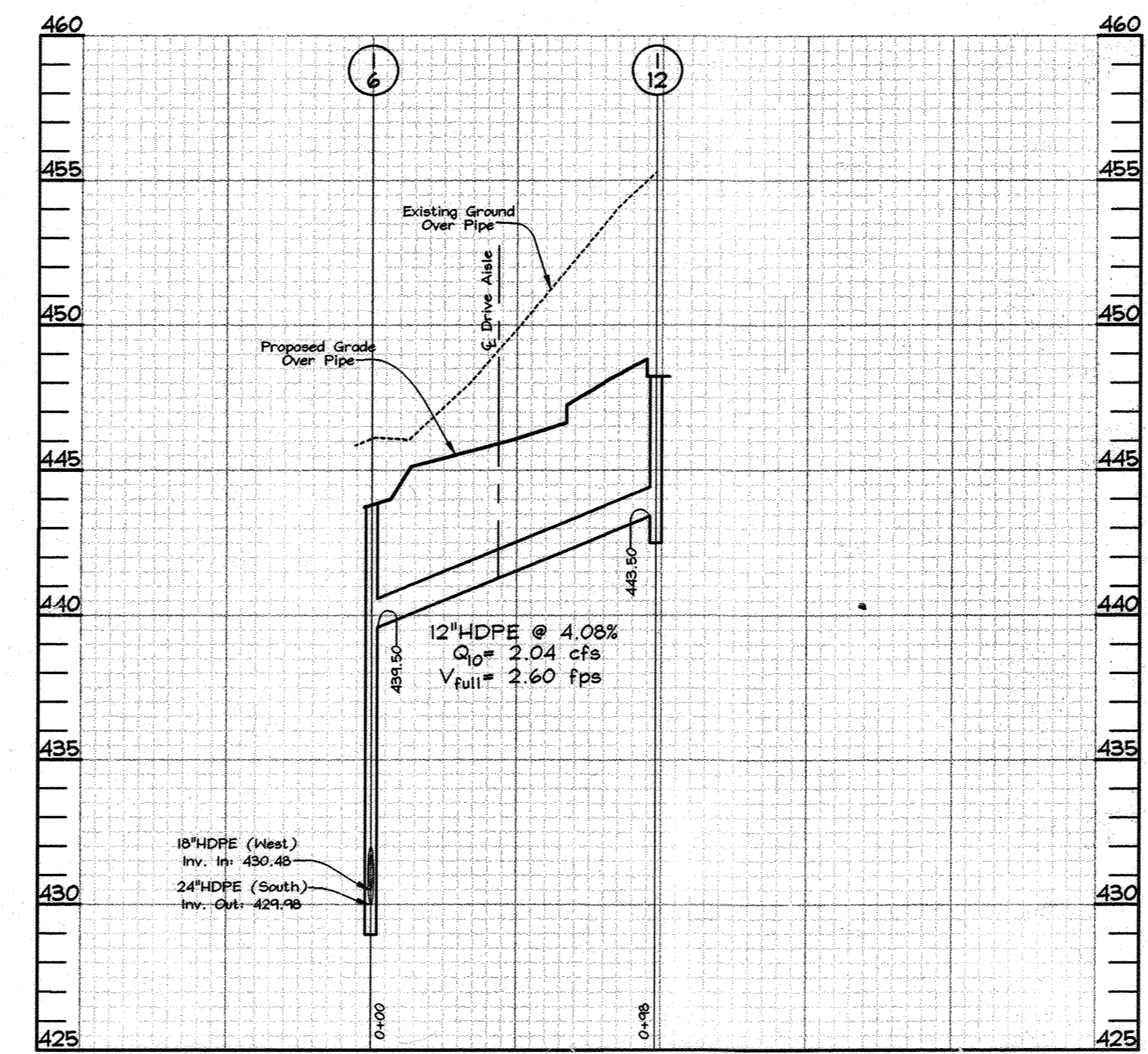
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Scale: Horizontal-1"=50'
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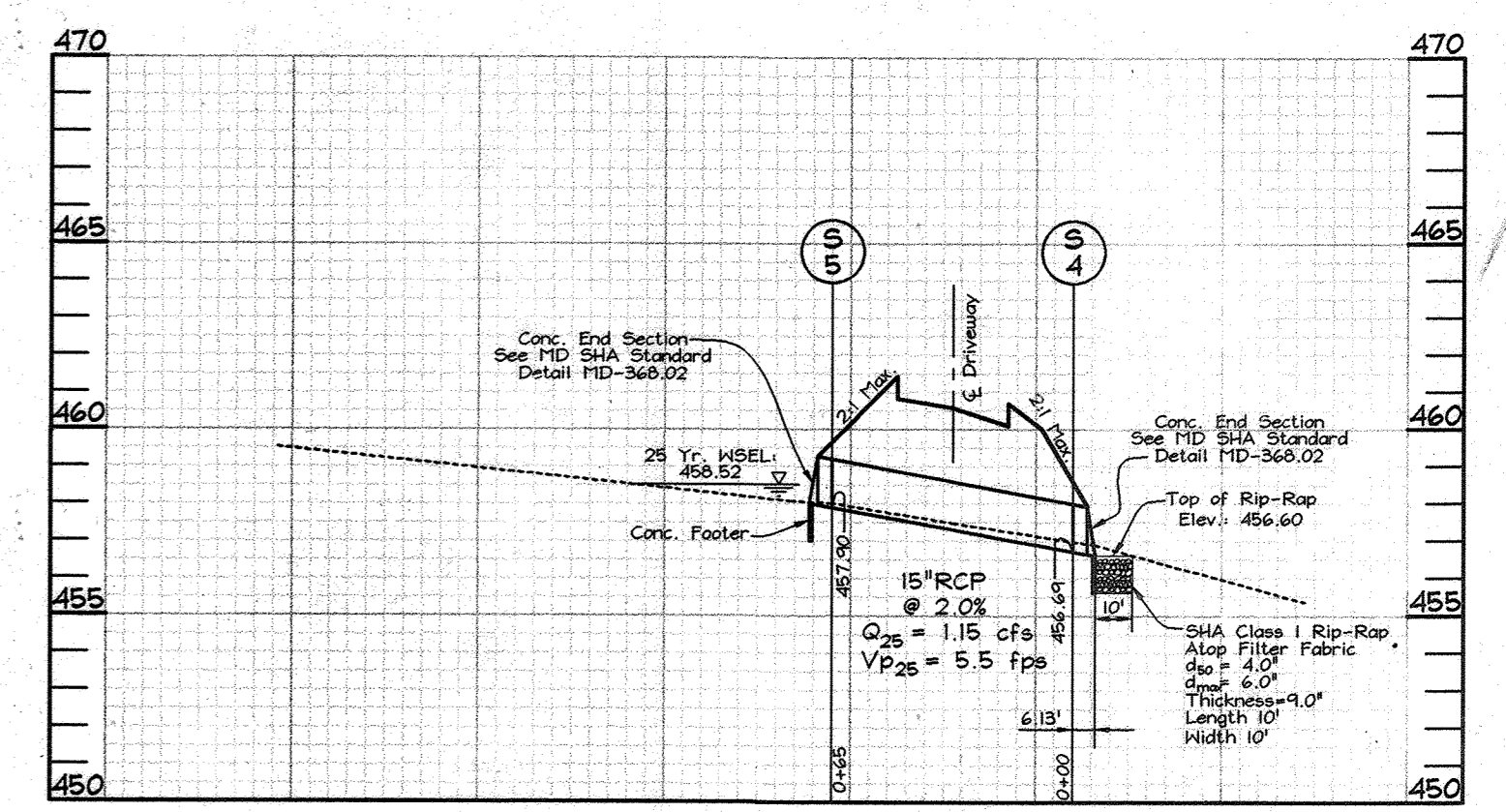
STORM DRAIN PROFILES
Scale: Horizontal-1"=50'
Vertical-1"=5'



STORM DRAIN PROFILES
Scale: Horizontal-1"=50'
Vertical-1"=5'



STORM DRAIN PROFILES
Scale: Horizontal-1"=50'
Vertical-1"=5'

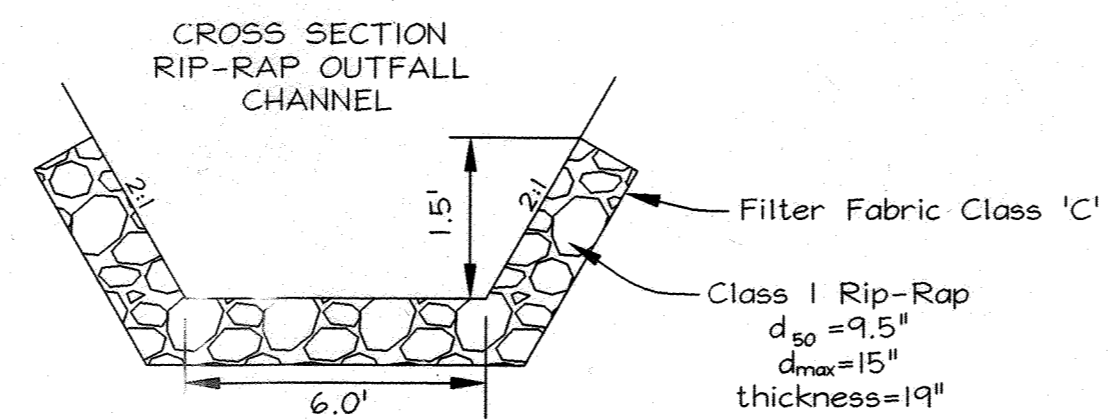


STORM DRAIN PROFILES
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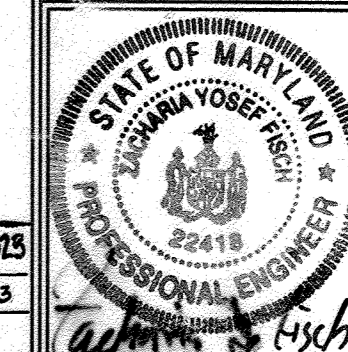
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C/O Joe Hancock

STORM DRAIN PROFILES
GRACE COMMUNITY CHURCH
PHASE 1 & 11
RELIGIOUS FACILITY
TAX MAP 46 GRID 3
5TH ELECTION DISTRICT
LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Karl Shelton 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE
Mark D. Coughlin 8/3/04
CHIEF, DEVELOPMENT ENGINEER
DATE
DIRECTOR

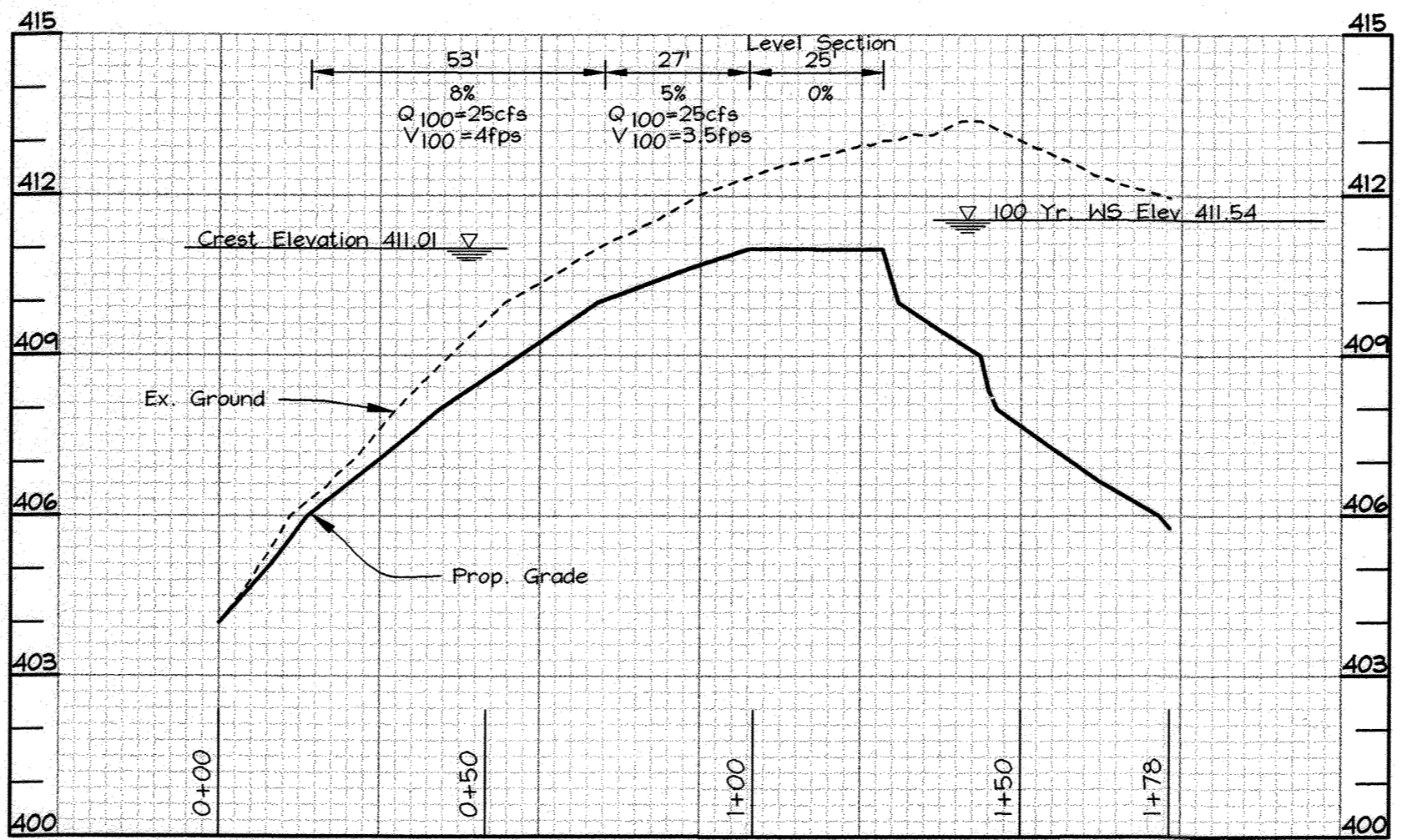


Revision	Description	Date
1	Revise Sheet Total	July 2013
2	Total number of sheets change to 21.	Mar. 2013

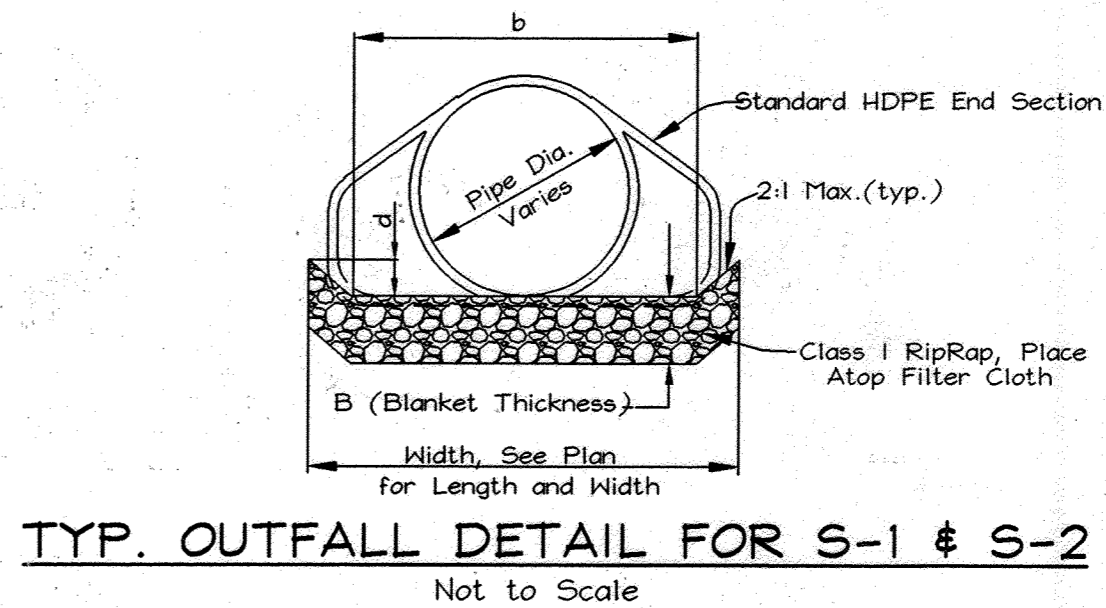


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DESIGN BY PS
DRAWN BY AT
CHECKED BY ZTF
SCALE: As Shown
DATE: July 20, 2004
W.O. No.: 3071
SHEET No. 15 OF 21



EMERGENCY SPILLWAY PROFILE
Scale: Hor. 1"=30'
Vert. 1"=3'

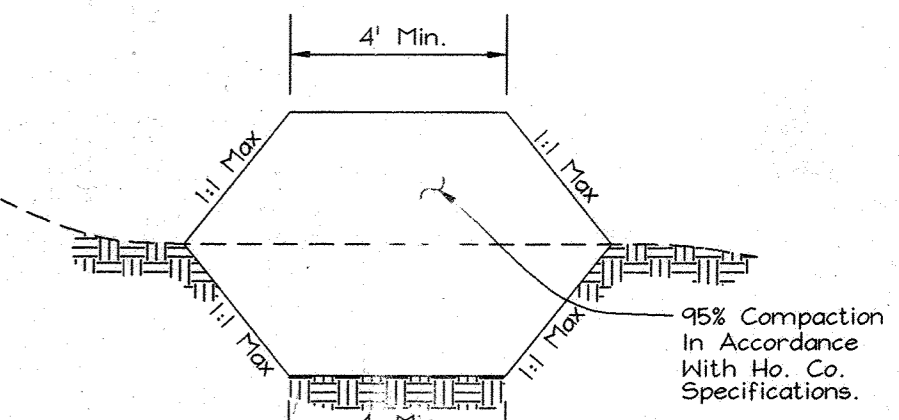
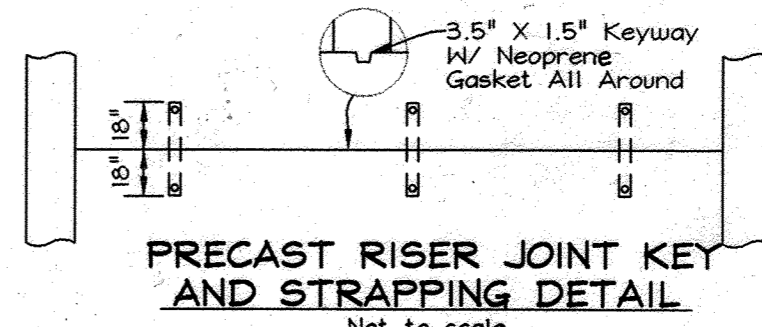


TYP. OUTFALL DETAIL FOR S-1 & S-2
Not to Scale

Structure	Q (c.f.s.)	S	n	b	d	d _{max}	d ₅₀	B (Blanket Thickness)
S-1	48.0 c.f.s.	8.0%	0.06	5.0'	1.0'	15"	9.5"	19"
S-2	53.46 c.f.s.	0.5%	0.06	5.0'	1.0'	15"	9.5"	19"

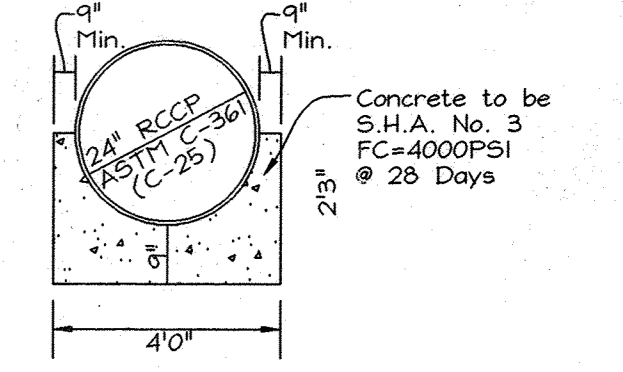
ROCK OUTFALL SCHEDULE
S-3

Structure	d	La	d ₅₀	d ₁₀₀	Thickness	Width
EN-1	24"	22'	16"	24"	32"	6'

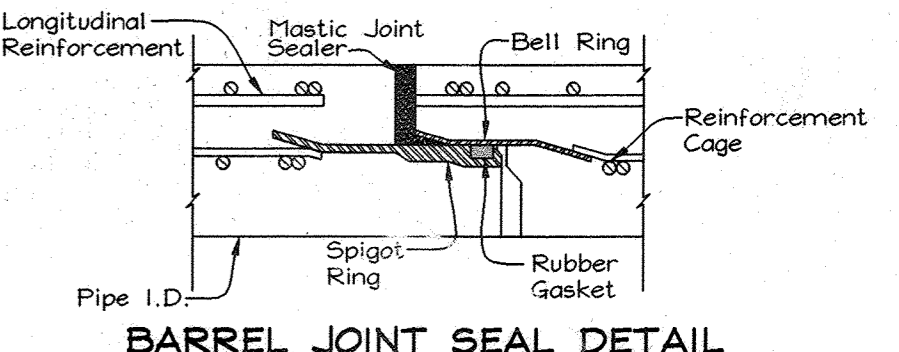


Notes:
1. Core Trench To Be 4' Below Existing Grade.
2. Core Trench Must Be Backfilled With Dry During Construction.
3. Core Trench Shall Contain Impermeable Material (CL, CH, GC or SC) As Specified By a Geotechnical Engineer Create And May Require Approval From An Offsite Location.

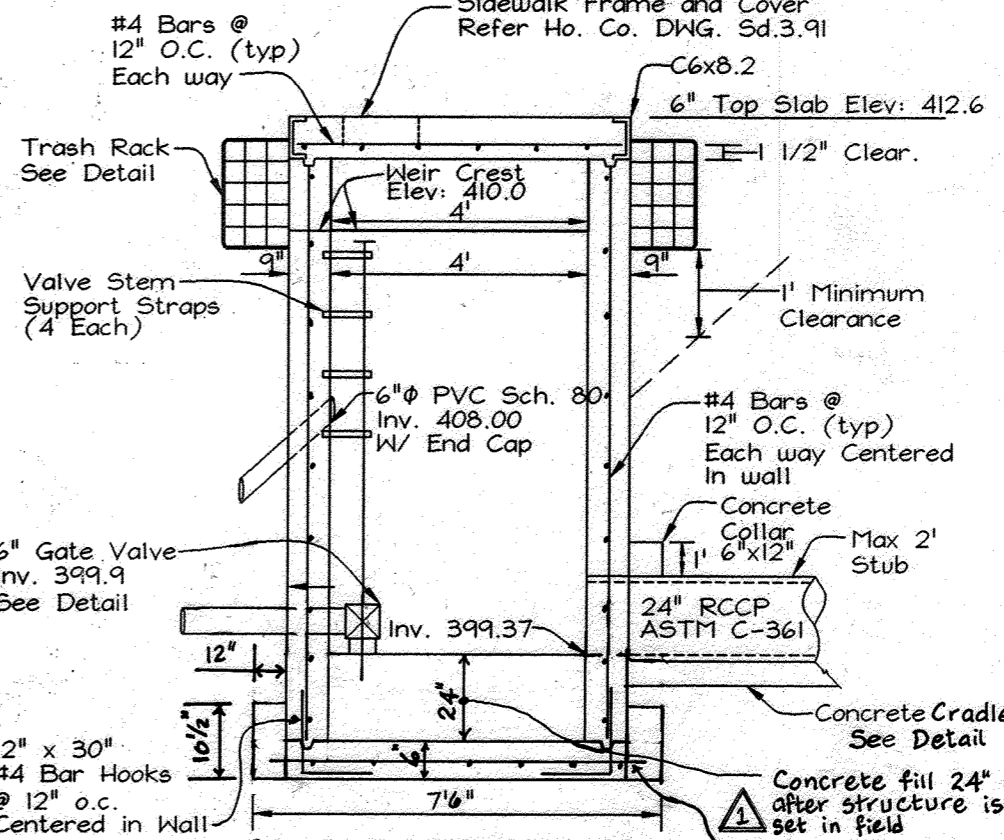
IMPERVIOUS CORE AND CORE TRENCH SECTION
Not to Scale



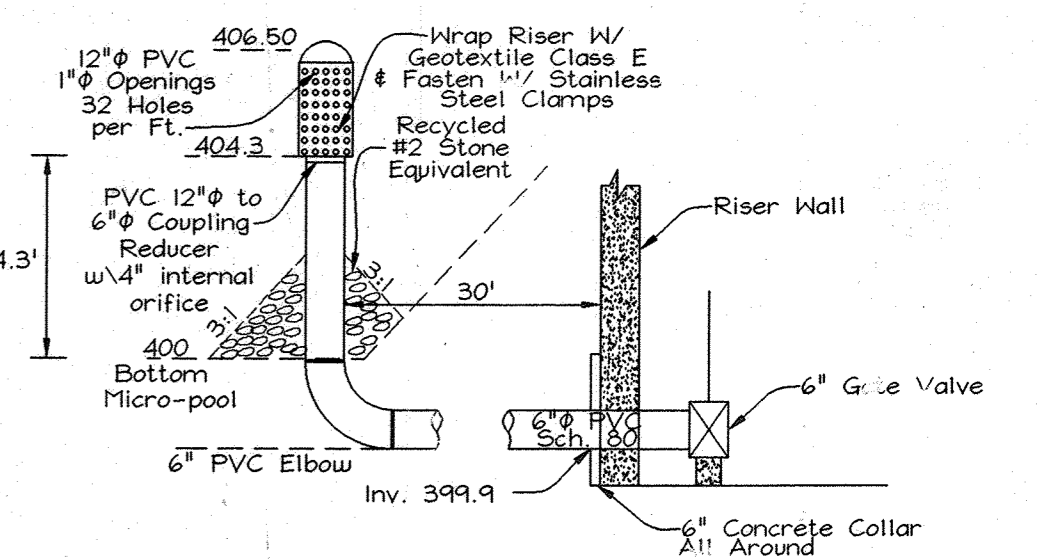
CONCRETE CRADLE DETAIL
SCS TR-46 A-2
Not to Scale



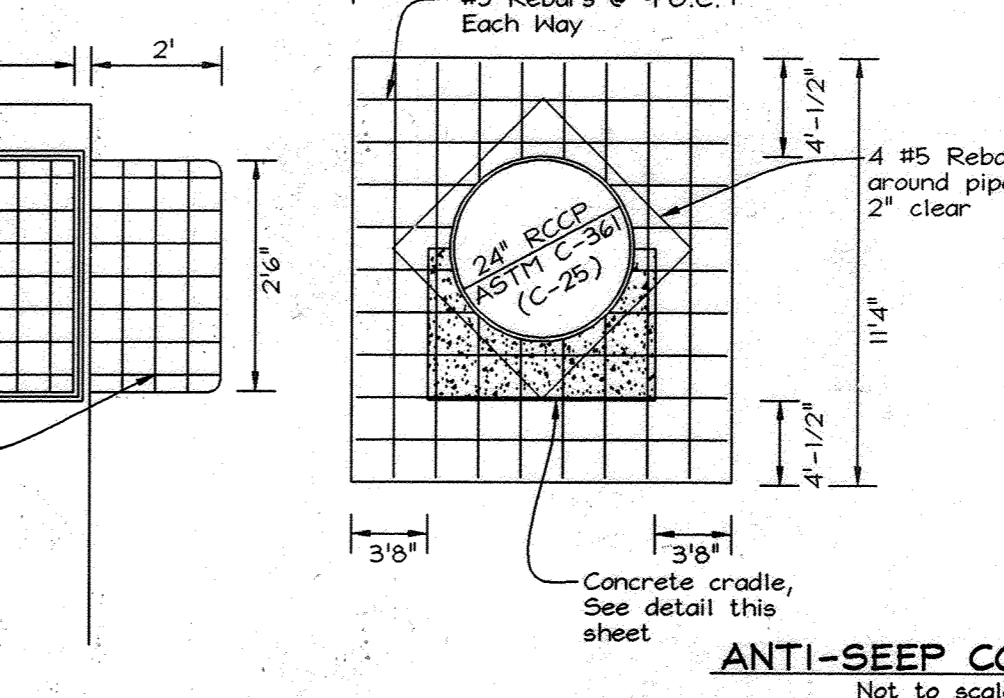
BARREL JOINT SEAL DETAIL
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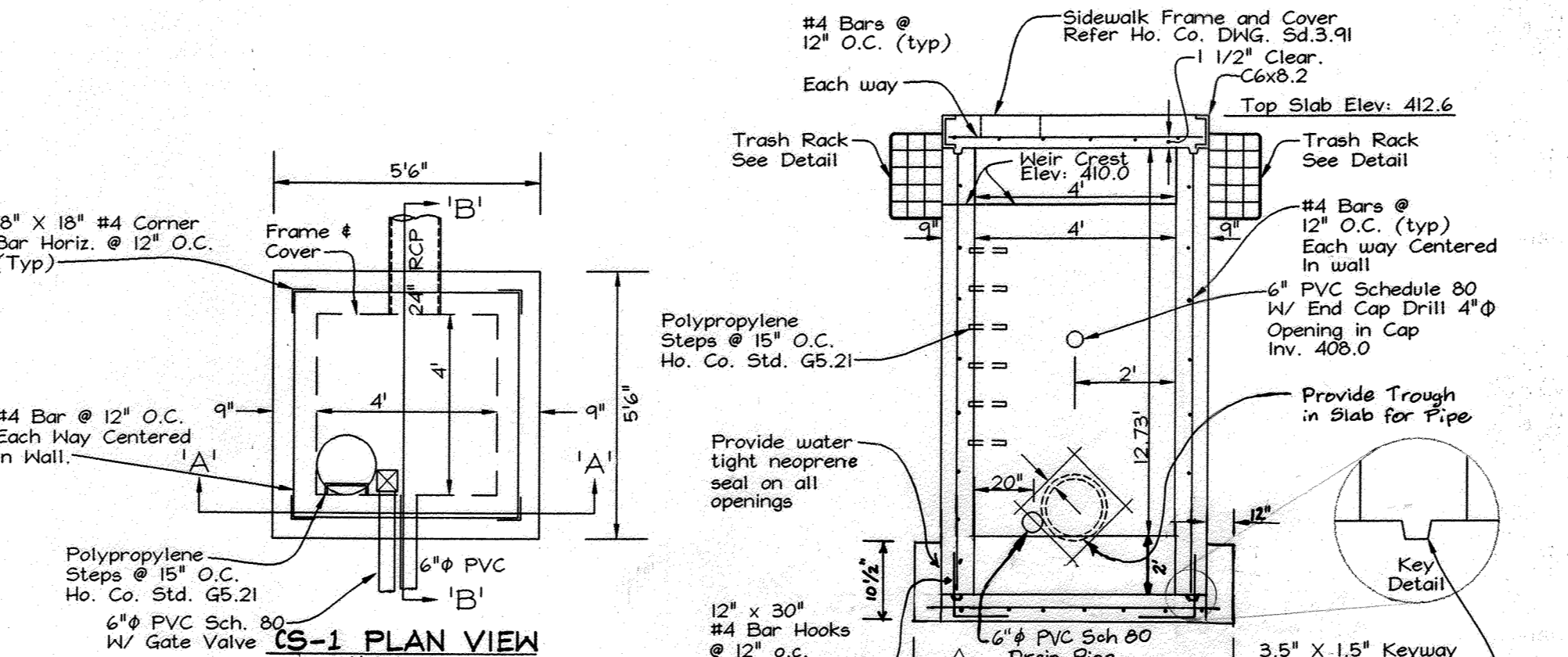
CS-1 SECTION B-B
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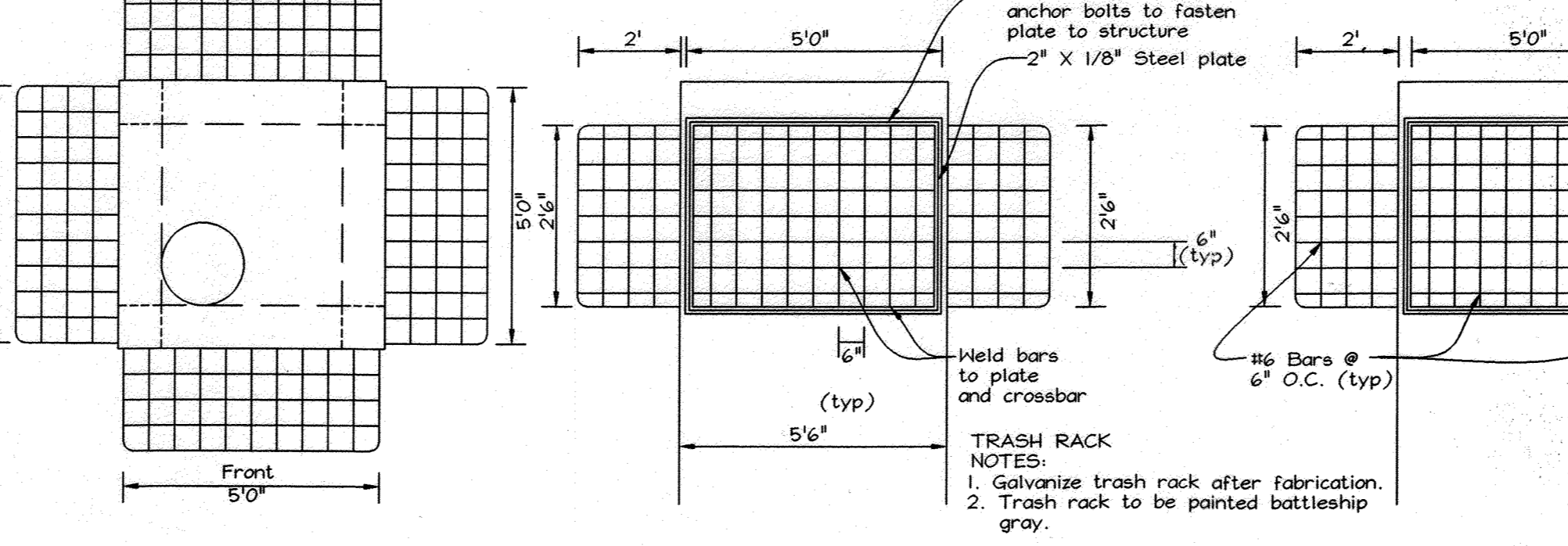
POND DRAIN PIPE AND VALVE DETAIL
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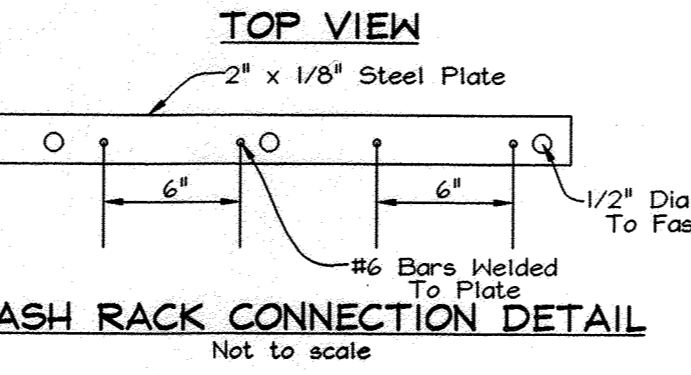
ANTI-SEEP COLLARS
Not to Scale



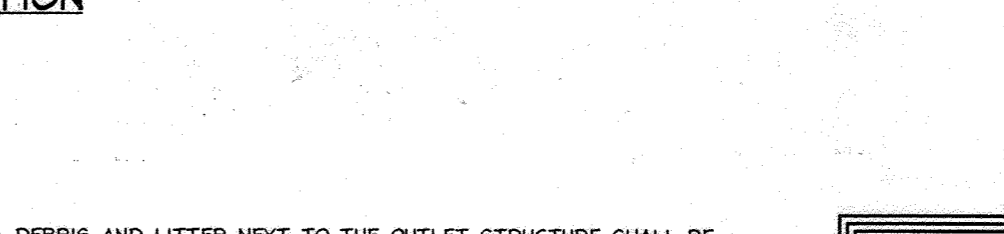
CS-1 PLAN VIEW
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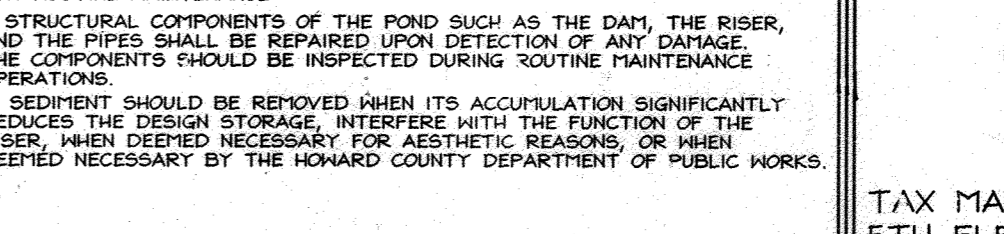
REMOVABLE TRASH RACK
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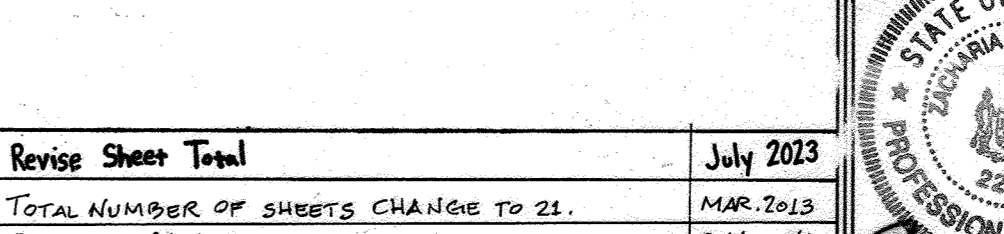
TRASH RACK CONNECTION DETAIL
Not to Scale



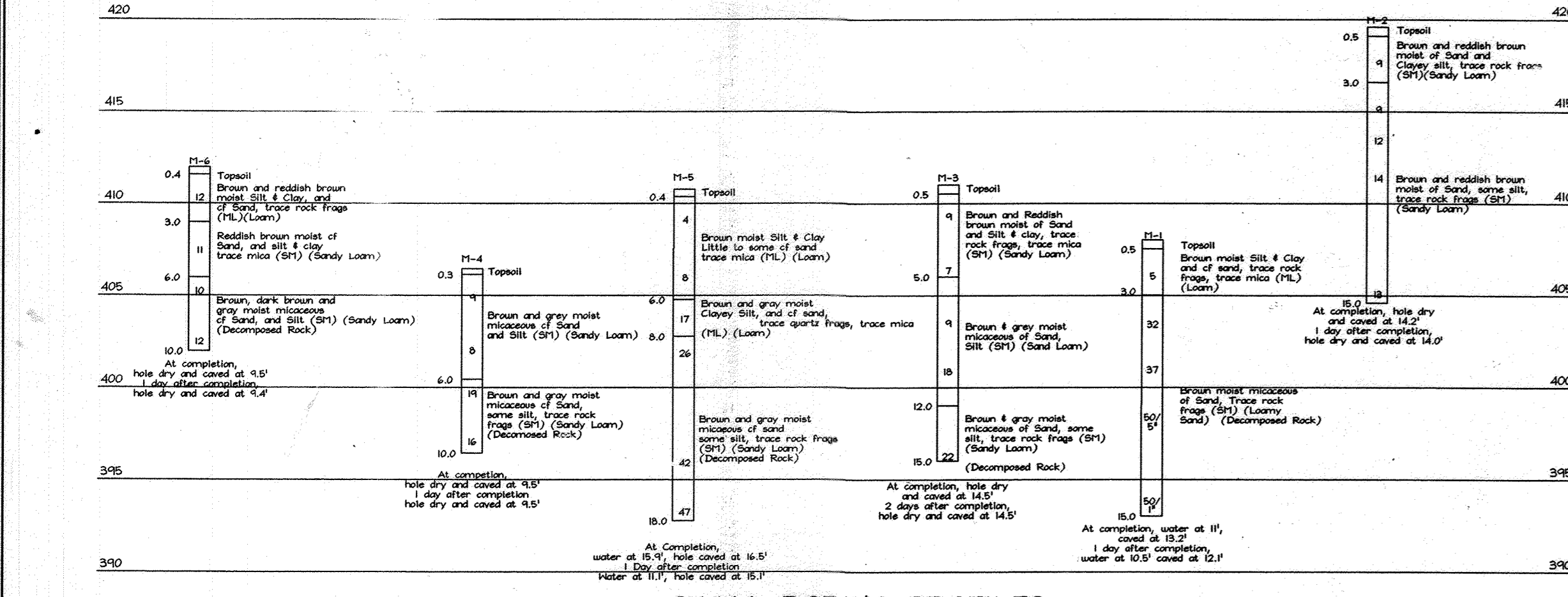
TOP VIEW
Not to Scale



FRONT ELEVATION
Not to Scale



SIDE ELEVATION
Not to Scale



S.W.M. BORING PROFILES
NOT TO SCALE

MARYLAND 378 STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

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

Site Preparation
Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the low 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 20-foot radius around the inlet structure shall be cleared.

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

Earth Fill
Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6\"/>

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, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

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

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

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.

Backfilling shall conform to "Structure Backfill".

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

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-31.
- Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 12 inches in diameter with a maximum thickness of 6 inches. Where a 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.
- 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.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2242. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 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 four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 7\"/>

Structure Backfill

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 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 75 mm of 6\"/>

Pipe Conduits

All pipes shall be circular in cross section.
Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:
1. Materials - (Polymer Coated steel pipe). Steel pipes with polymeric coating shall have a minimum coating thickness of 0.01 inch (0.1 mil) on both sides of the pipe. This pipe and its appearance shall conform to the requirements of AASHTO Specifications M-246 & M-246 with underlignit coating bands or flanges.

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

Materials - (Aluminum Pipe) - This pipe and its appearance shall conform to the requirements of AASHTO Specification M-196 or M-211 with underlignit coating bands or flanges. Aluminum pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 10.

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

Drainage Diagrams

When a drainage diagram is used, a registered professional engineer will supervise the design and construction process.

Concrete

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

Rock Riprap

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

Core 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 to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work 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 to maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water surps from their drainage shall be parped.

Stabilization

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

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

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN HAS BEEN 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."

Joseph R. Hancock 7/21/04
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THE 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 HAS BEEN 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."

Zacharia Y. Fisch 7/21/04
SIGNATURE OF ENGINEER DATE

OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT DETENTION FACILITY

ROUTINE MAINTENANCE (By Grace Community Church)
1. FACILITY MUST BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET HEATHER TO DETERMINE IF FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE
1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, RISER, AND THE 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. INTERFERS WITH THE FUNCTION OF THE RISER, WHEN DEEPER NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Ket Stalworth 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
William J. Coyne 8/3/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
William J. Coyne 8/3/04
DIRECTOR DATE

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
USDA-NATURAL RESOURCES CONSERVATION SERVICE 7/29/04 DATE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
William J. Coyne 7/29/04 DATE
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Ket Stalworth 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
William J. Coyne 8/3/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
William J. Coyne 8/3/04
DIRECTOR DATE

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Ket Stalworth 8/3/04
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William J. Coyne 8/3/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
William J. Coyne 8/3/04
DIRECTOR DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Ket Stalworth 8/3/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
William J. Coyne 8/3/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
William J. Coyne 8/3/04
DIRECTOR DATE

OWNER/DEVELOPER
Grace Community Church of Howard County, Inc.
4180 Runney Road
Columbia, MD 21045
Tel: (410) 992-5334
C/O Joe Hancock

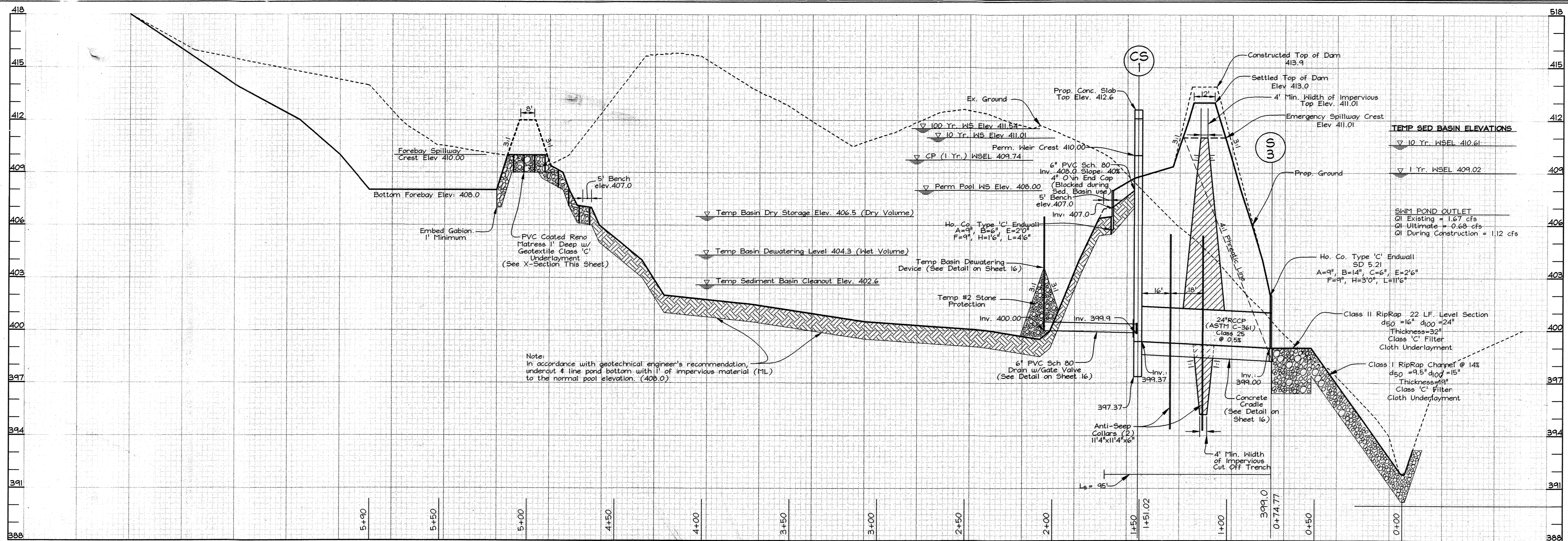
STORMWATER MANAGEMENT DETAILS AND PROFILES
GRACE COMMUNITY CHURCH
PHASE I & II
RELIGIOUS FACILITY

TAX MAP 46 GRID 3
5TH ELECTION DISTRICT

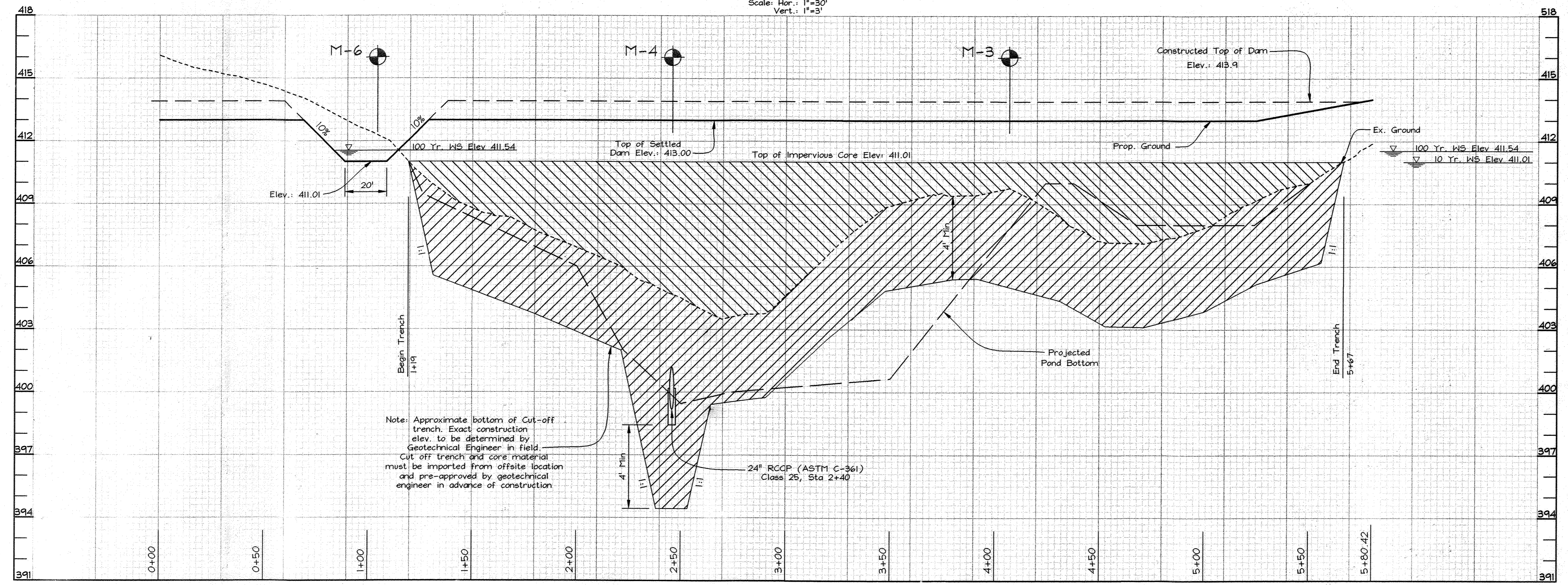
LOTS 1 AND 2 PARCEL 337
HOWARD COUNTY, MARYLAND

FSH Associates
Engineers Planners Surveyors
8318 Forest Street Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

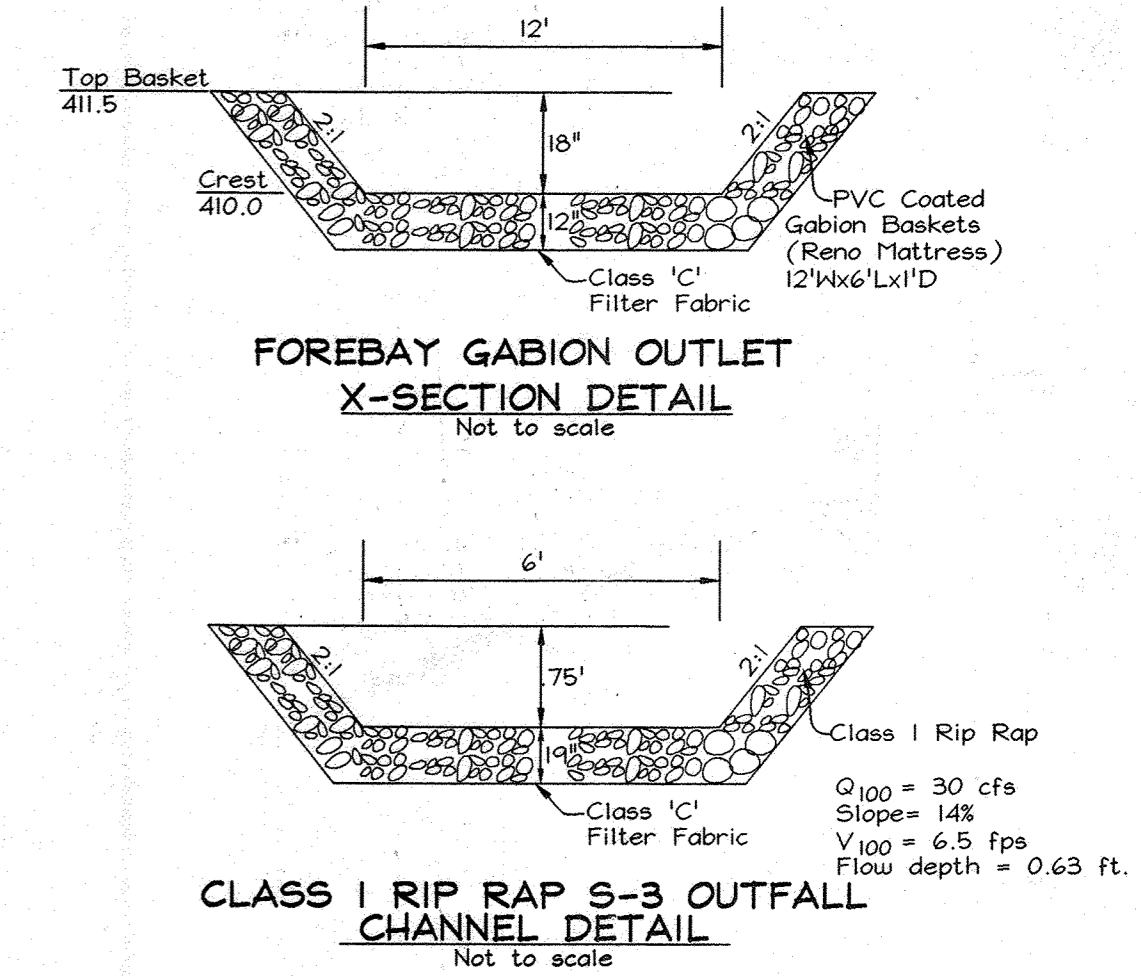
DESIGN BY: SLH
DRAWN BY: DSH
CHECKED BY: ZYF
SCALE: As Shown
DATE: July 20, 2004
P.L.O. No.: 3071
SHEET No.: 16 OF 24



SECTION 'A-A' THROUGH S.W.M. MICRO-POOL EXTENDED DETENTION FACILITY



SECTION 'B-B' THROUGH EMBANKMENT



EXCAVATION CONDITIONS
 Boring M-5 shows that ground water will be encountered near basin grade. Temporary ground water control measures may be required during excavation and initial core trench and embankment fill construction. Ground water may also be encountered above basin grade in the deeper cuts on the north and west side of the main basin. They should be controllable by a series of temporary pumps and trenches during construction. Temporary controls would be the responsibility of the contractor. Permanent ground water controls, should seepage be encountered in the cut slopes, would best be addressed at the time of construction.

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc.
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 Columbia, MD 21045
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 C/O Joe Hancock

STORMWATER MANAGEMENT PLAN, DETAILS AND PROFILES
 GRACE COMMUNITY CHURCH
 PHASE I & II
 RELIGIOUS FACILITY
 TAX MAP 46 GRID 3 5TH ELECTION DISTRICT LOTS 1 AND 2 PARCEL 337 HOWARD COUNTY, MARYLAND

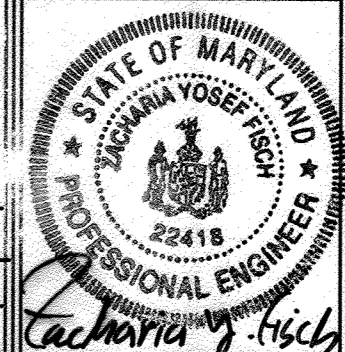
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 8/3/04
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 7/29/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 8/12/04
 DIRECTOR

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 [Signature] 7/29/04
 USDA-NATURAL RESOURCES CONSERVATION SERVICE
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 7/29/04
 HOWARD SOIL CONSERVATION DISTRICT

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 [Signature] 7/21/04
 SIGNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE
 I HEREBY 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] 7/21/04
 SIGNATURE OF ENGINEER
 ZACHARIA Y. FISCH

Revision	Description	Date
1	Revise Sheet Total	July 2003
2	Total number of sheets changed to 21.	Mar. 2013



FSH Associates
 Engineers Planners Surveyors
 8318 Forrest Street, Elkton City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHAssociates@cs.com

DESIGN BY: SLH
 DRAWN BY: DSH
 CHECKED BY: FYI
 SCALE: As Shown
 DATE: July 20, 2004
 P.O. No.: 3071
 SHEET No.: 17 OF 21

FOREST CONSERVATION WORKSHEET

Net Tract Area		Acres
A. Total Tract Area		34.05
B. Area Within 100 Year Floodplain		1.35
C. Other deductions		--
D. Net Tract Area		32.70
Zoning Use Category: Institutional		
Land Use Category		
E. Afforestation Minimum (15' x D)		4.91
F. Conservation Threshold (20' x D)		6.54
Existing Forest Cover		
G. Existing Forest on Net Tract Area		0.84
H. Forest Area Above Conservation Threshold		0
Breakeven Point		
I. Forest Retention Above Threshold with no Mitigation		NA
J. Clearing Permitted without Mitigation		0
Proposed Forest Clearing		
K. Forest Areas to be Cleared		0
L. Forest Areas to be Retained		0.84
Planting Requirements		
M. Reforestation for Clearing Above Threshold		0
N. Reforestation for Clearing Below the Threshold		0
P. Credit for Retention Above Conservation Threshold		0
Q. Total Reforestation Required		4.07
R. Total Afforestation Required		4.07
S. Total Reforestation and Afforestation Requirement		4.07

FOREST CONSERVATION NARRATIVE

This Forest Conservation Plan has been developed in accordance with the Howard County Forest Conservation Manual and the Forest Conservation Act of 1991.

The net tract area of the site consists of 32.70 acres. The site contains 0.84 acres of existing forest adjacent to floodplain, wetlands, streams and buffers. The forest area surrounding these sensitive areas has been preserved in Forest Conservation Easement I. Due to existing forest cover below the afforestation minimum, 4.07 acres of planting is required. The afforestation planting will also be located within FCE I. The planting will be located mainly in the stream buffer and floodplain area, and along the property line to connect the onsite forest with an adjacent stand on a neighboring property. There is 0.01 acres of non-credited area within the easement due to a 54ft outfall, for a total easement area of 4.92 acres.

Planting of containerized 2-3' whips will be planted at a rate of 350 trees per acre to fulfill 4.07 acres of required afforestation.

The total forest conservation obligation for the site is 4.91 acres, with a total forest conservation surety amount of \$45,922.68 (retention: .84 acres or 36,590 sq. ft. X \$ 20 = \$7,318.08 and afforestation: 4.07 acres or 177,284 sq. ft. X \$ 50 = \$88,644.60; 0.01 ac/626 sq. ft. non-credited area not bonded).

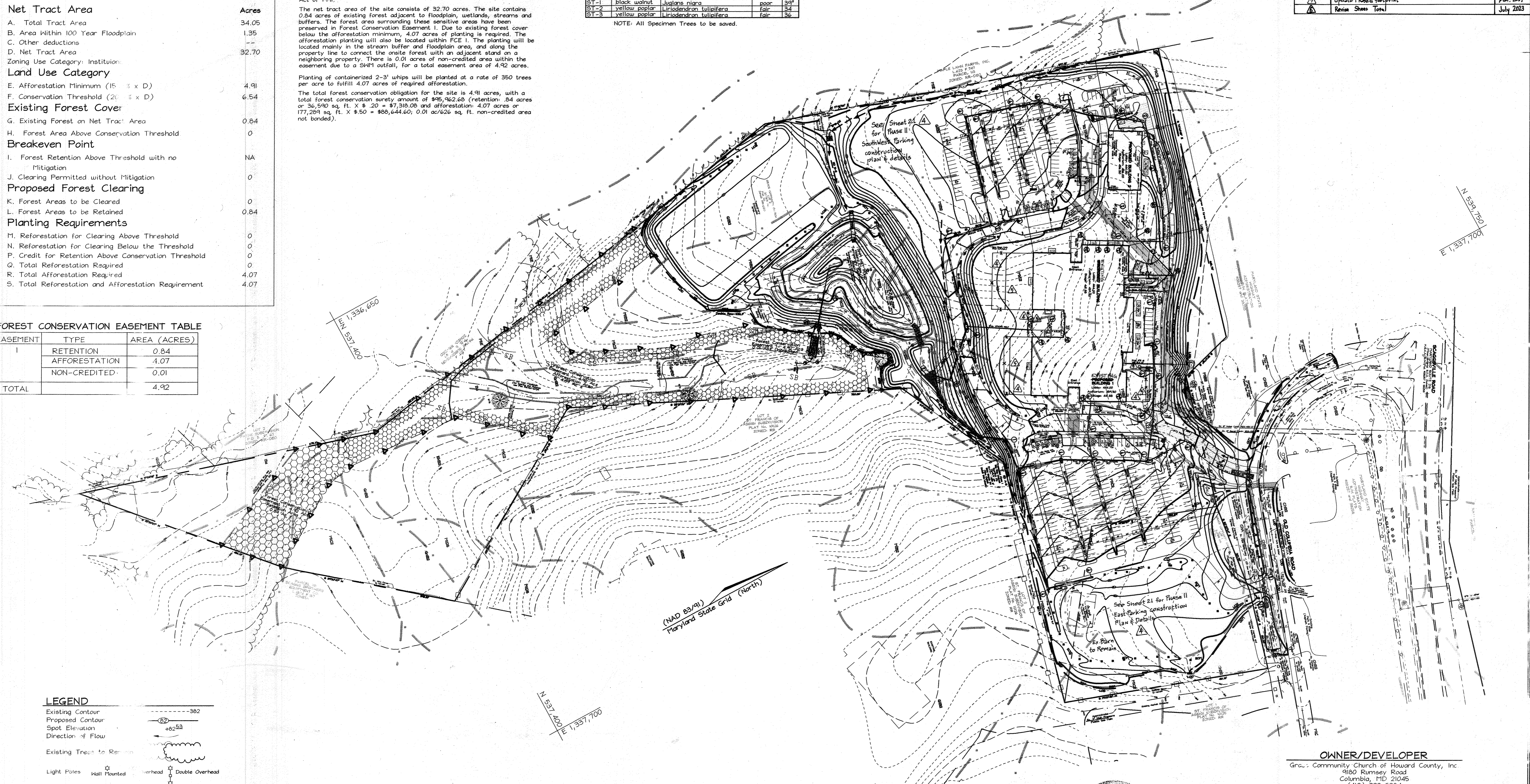
SPECIMEN TREE LIST

Number	Common name	Species	Condition	DBH
ST-1	black walnut	Juglans nigra	poor	39"
ST-2	yellow poplar	Liriodendron tulipifera	fair	34"
ST-3	yellow poplar	Liriodendron tulipifera	fair	36"

NOTE: All Specimen Trees to be saved.

FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)
1	RETENTION	0.84
	AFFORESTATION	4.07
	NON-CREDITED	0.01
TOTAL		4.92



LEGEND

- Existing Contour: ---382
- Proposed Contour: ---+02.5
- Spot Elevation: +02.5
- Direction of Flow: --->
- Existing Trees to Remain: [Symbol]
- Light Poles: Wall Mounted, Overhead, Double Overhead
- Forest Conservation Easement: [Symbol]
- Planting Area: [Symbol]
- Forest Conservation Easement Retention Area: [Symbol]
- Protection Fence: TPF
- Forest Conservation Easement: [Symbol]
- Temporary Specimen Tree: [Symbol]

AFFORESTATION AREA : 4.07 Ac. ±
 @ 350 TPA 2'-3' Whip planting = 1,425 trees

Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
1-3	Acer rubrum	Red Maple	WHIP 2-3'	11' o.c.	Gallon Container Grown
	Amelanchier canadensis	Service berry	WHIP 2-3'	11' o.c.	
	Liquidambar styraciflua	Sweetgum	WHIP 2-3'	11' o.c.	
	Liriodendron tulipifera	Tulip Poplar	WHIP 2-3'	11' o.c.	
	Pinus taeda	Loblolly Pine	WHIP 2-3'	11' o.c.	
	Prunus serotina	Black Cherry	WHIP 2-3'	11' o.c.	
	Quercus alba	White Oak	WHIP 2-3'	11' o.c.	

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
ChA	Chester silt loam, 0 to 3 percent slopes	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EkB2	Etoak silt loam, 3 to 8 percent slopes, moderately eroded	B
EkC2	Etoak silt loam, 8 to 15 percent slopes, moderately eroded	B
GlB2	Glenn silt loam, 3 to 8 percent slopes, moderately eroded	B
GlC2	Glenn silt loam, 8 to 15 percent slopes, moderately eroded	B
GlC3	Glenn silt loam, 8 to 15 percent slopes, severely eroded	B
GlD2	Glenn silt loam, 15 to 25 percent slopes, moderately eroded	B
GlD3	Glenn silt loam, 15 to 25 percent slopes, severely eroded	B
GnB2	Glennville silt loam, 3 to 8 percent slopes, moderately eroded	C
MIB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B
MIC2	Manor loam, 8 to 15 percent slopes, moderately eroded	B
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B
MID3	Manor loam, 15 to 25 percent slopes, severely eroded	B
MIE	Manor loam, 25 to 45 percent slopes	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF DEVELOPER: [Signature] DATE: 7/20/04

CHIEF DIVISION OF [Signature] DATE: 8/3/04

DIRECTOR: [Signature] DATE: 8/13/04



EXPLORATION RESEARCH, INC.
 ENVIRONMENTAL CONSULTANTS
 LANDSCAPE ARCHITECTS
 8813 F STREET
 BLOOMING GLEN, MARYLAND 21043
 TEL: (410) 750-1155 FAX: (410) 750-7350
 E-MAIL: INFO@EXPLORE-RES.COM

REVISIONS

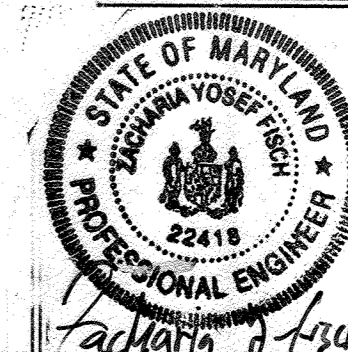
No.	Description	Date
1	Revised Grades, Sewer Manholes and Easements	11.09.04
2	Added Phase II (sheet 21) references.	12.2.2013
3	Update Phase II footprint	Jan. 2019
4	Revise Sheet Total	July 2023

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc.
 9180 Rumsey Road
 Columbia, MD 21045
 (410) 992-5384
 C/O Joe Hancock

FOREST CONSERVATION PLAN
GRACE COMMUNITY CHURCH
 PHASE I & II
 RELIGIOUS FACILITY

TAX MAP 46 GRID 3
 14 ELECTION DISTRICT

LOTS 1 AND 2 PARCEL
 HOWARD COUNTY, MARYLAND



FSH Associates
 Engineers Planners Surveyors
 8316 Forrest Street, Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHAssociates@cs.com

DESIGN BY: [Signature]
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 SCALE: 1" = 500'
 DATE: July 20, 2004
 P.L.C. No.: 8271
 SHEET No. 18 OF 21

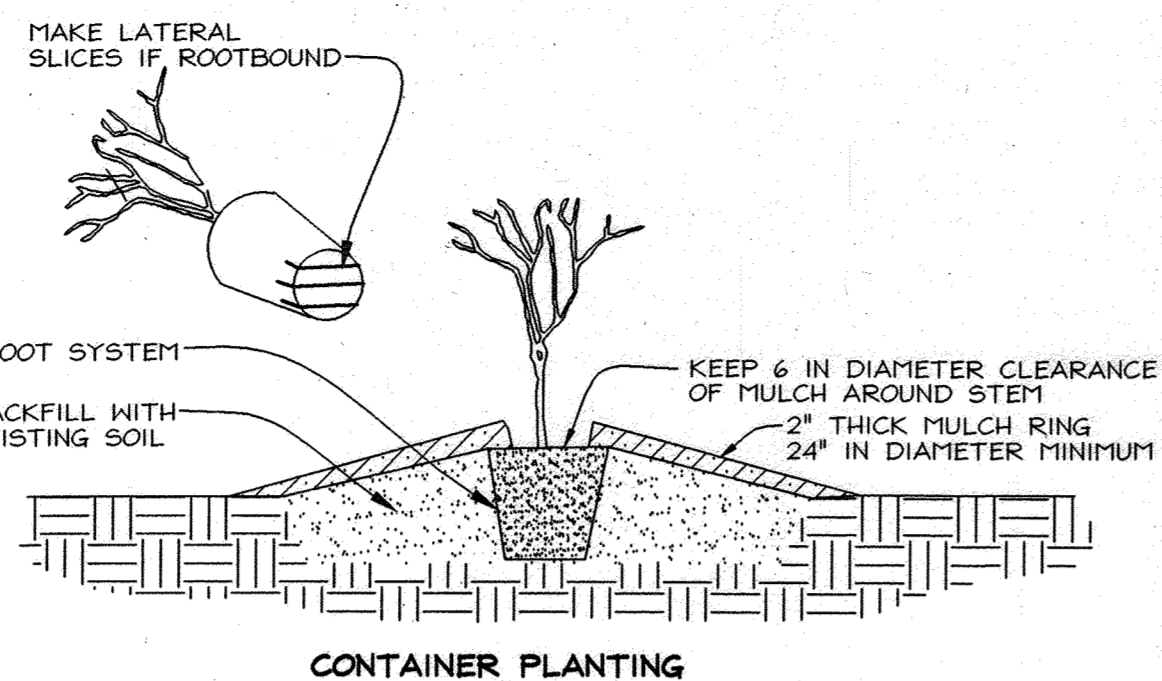
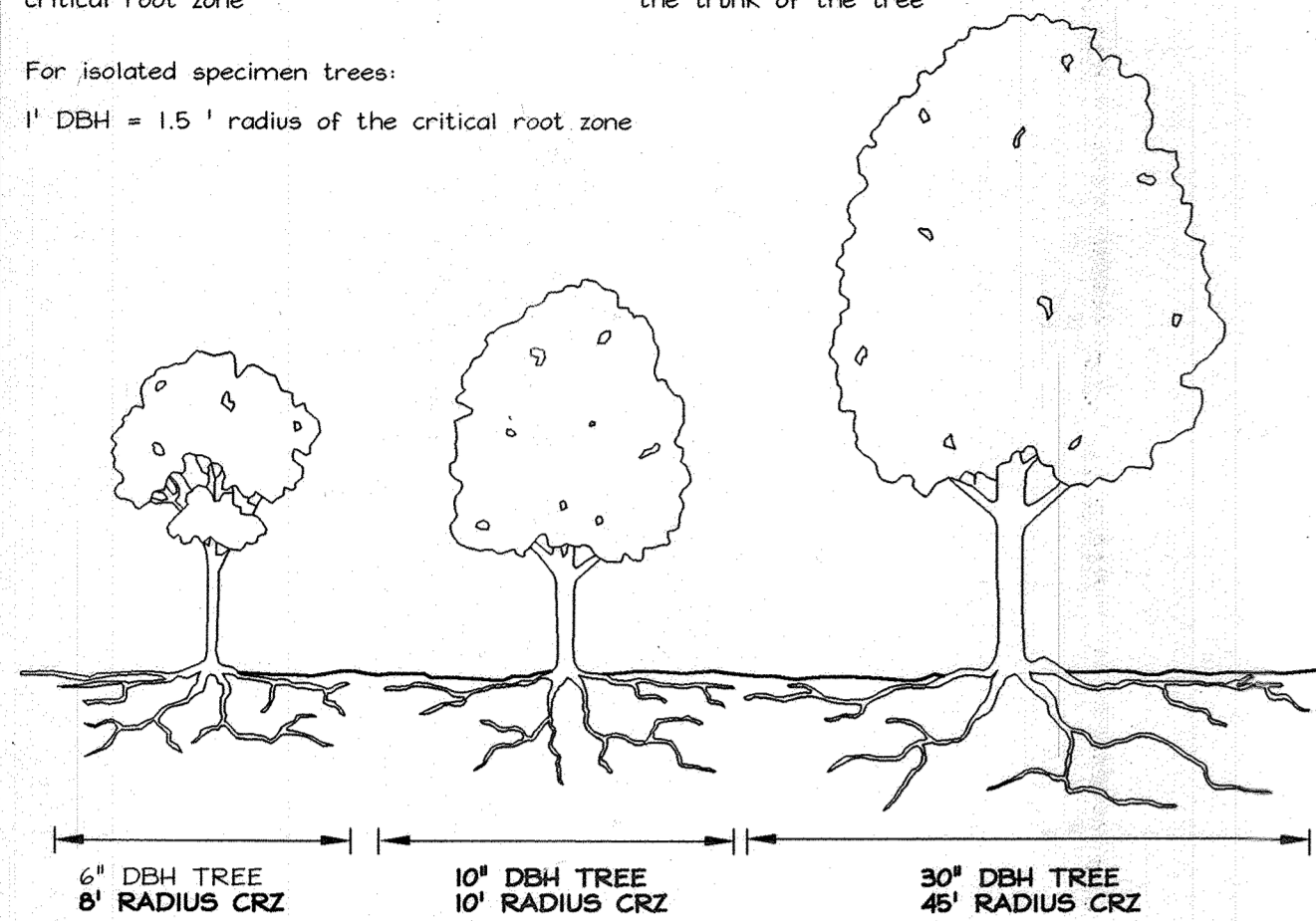
CRITICAL ROOT ZONE

For the edge of large areas, use the greater of the two choices below:

1" DBH of the tree = 1' radius of the or 8 ft radius circle around the trunk of the tree

For isolated specimen trees:

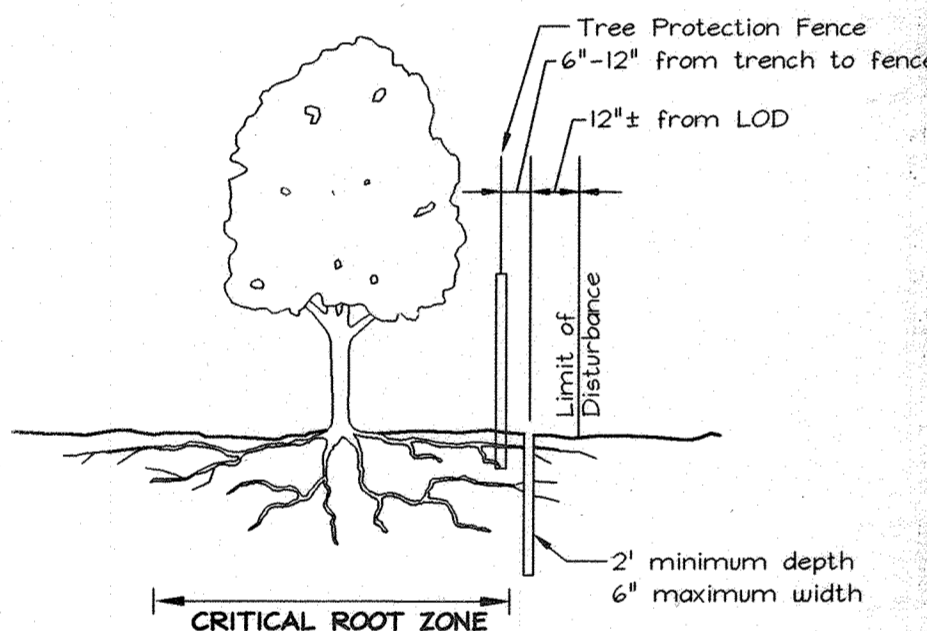
1" DBH = 1.5' radius of the critical root zone



- CONTAINER PLANTING NOT TO SCALE**
- PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS
1. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER
 2. USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL
 3. PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTING GRADE WHEN HIGH WATER TABLE CONDITIONS EXIST, OTHERWISE PLANT FLUSH WITH EXISTING GRADE
 4. PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CONTAINER
 5. INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER
 6. AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT
 7. APPLY MULCH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM

ROOT PRUNING

1. Retention areas shall be set prior to construction
2. Boundaries of retention areas shall be flagged, and location of trench shall be specified by ERI Qualified Professional
3. Roots shall be cut cleanly with root pruning equipment. Where roots > 1" are found, trenching shall be done by air spade or hand tools. Roots > 1" shall be cut with a hand saw
4. Trench shall be immediately backfilled with soil removed or high organic content soil
5. Any other techniques shall be approved by the ERI Qualified Professional before implementation



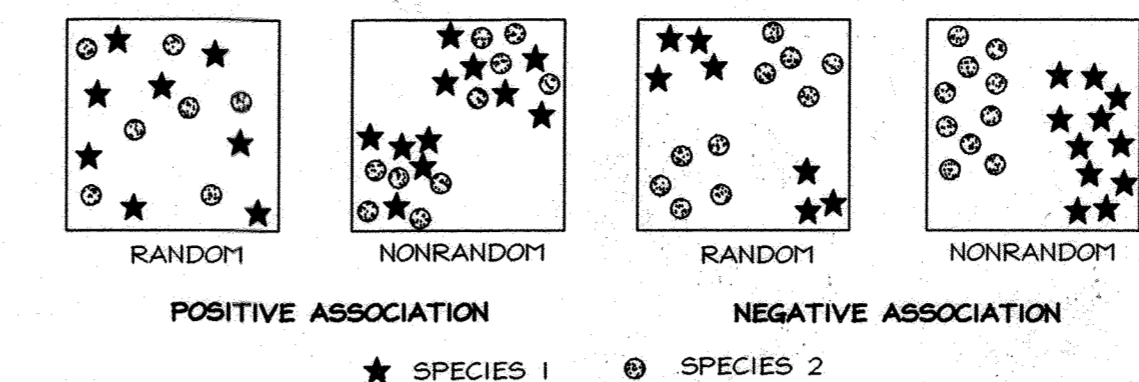
Soil Protection Zone Notes

1. The Soil Protection Zone shall include all areas contained inside the Limit of Disturbance
2. Where possible, the Soil Protection Zone shall extend to the drip line of specimen trees. For other groups of trees, the zone shall be the drip line or 40% of the height of the tree, whichever is greater
3. No construction activity is permitted within the Soil Protection Zone beyond the tree protection fence or limit of disturbance as shown on plan
4. If soil has been compacted or grading has taken place in the vicinity of the Soil Protection Zone, root pruning shall be implemented per Root Pruning detail, shown on this plan
5. Root pruning shall occur prior to the beginning of construction
6. Where the Soil Protection Zone must encroach inside the Critical Root Zone of a tree, soil disturbance shall be mitigated with vertical mulching, radial trenching, or another method approved by the ERI Forest Conservation Professional. This mitigation will not occur in areas graded for the SMI pond dam
7. Prior to construction, the Limits of Disturbance shall be marked and the ERI Professional shall determine which trees will need preventative treatment or removal
8. Tree maintenance and removal shall be undertaken by a qualified MD Tree Expert to ensure damage to surrounding trees is minimized
9. Brush and limbs removed for construction shall be chipped and spread at the edge of the Soil Protection Zone to a depth to exceed 6 inches. This shall occur outside the Soil Protection Zone where compaction could impact otherwise unprotected Critical Root Zone

Planting Notes - Afforestation Area and Landscaping

1. Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hours in advance of planting
2. Afforestation areas may be planted as soon as reasonable to do so. Late winter- early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as conditions warrant
3. Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-8 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Marks, P.O. Box 310 Hollis, N.Y. 11423 or approved equal
4. Plant materials shall be planted in accordance with the planting diagram, planting details, planting schedule, Landscape Plan, as appropriate
5. Plant stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement
6. Planting materials shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standards for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced
7. Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill materials
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol
9. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical auguring is preferred with scarification of the sides of each hole
10. All nursery stock to be sprayed with deer repellent containing Bitrex such as Repellex All nursery stock to be grown with deer repellent tablets in growing medium, such as Repellex Tablets

TYPICAL FOREST TREE DISTRIBUTION PATTERNS



NOTE: Naturally occurring populations of trees tend to be found in informal groupings. A cluster of trees is really a mosaic of different species groups. The objective of an afforestation/ reforestation plan is to select the appropriate species and distribution pattern for a chosen site that mimic natural patterns.

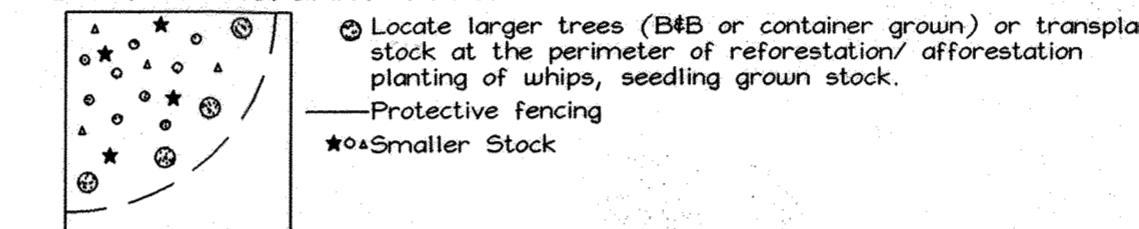
Source: Prince Georges County Woodland Conservation Manual

AGGREGATE DISTRIBUTION DRIFT



NOTE: When used, plant cluster type groupings that taper or feather out along the edges. Clusters often appear as elongated or tear drop shapes.

MIXING TRANSPLANT STOCK



Source: Adapted from Forest Conservation Manual, 1998

PLANTING DISTRIBUTION PATTERNS FIGURE 3.8.2

Forest Tree Protection and Management Notes

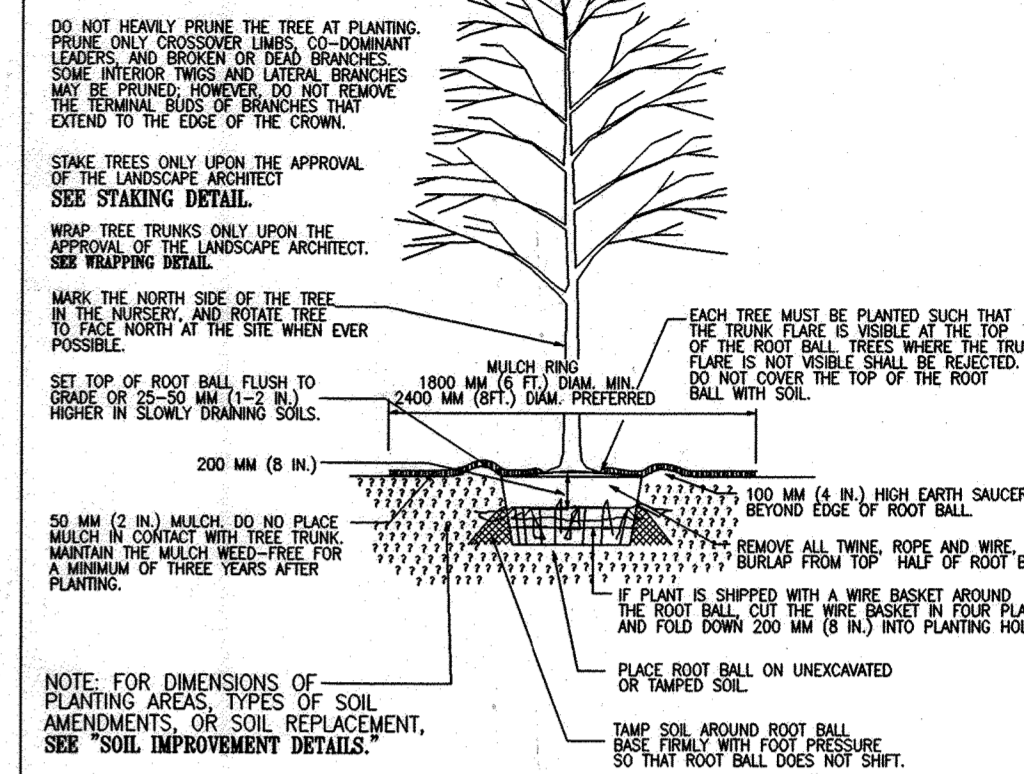
1. Tree protection devices shall be installed prior to any grading or land clearing
2. After the boundaries of the retention areas have been staked and flagged and before any disturbance has taken place a pre-construction meeting with the Howard County Inspector is required
3. Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project
4. Attachment of signs to tree protection devices to maintain their integrity throughout the duration of the project
5. Any significant changes made to the Forest Conservation Plan shall be made with the prior approval of the Howard County Dept Of Planning and Zoning
6. No burial of discarded material is permitted within the Forest Conservation and Planting areas
7. No open burning within 100 feet of wooded areas is permitted
8. Post construction phase
 - a. Inspect existing trees around the perimeter of the site for signs of root or trunk damage and excessive soil compaction
 - b. Remove dead or dying trees and evaluate for hazard tree removal
 - c. All temporary forest protection devices will be removed after construction
 - d. Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this Forest Conservation Plan

Afforestation Area Monitoring Notes

1. Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill
2. The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall
3. Survival will be determined by a stratified random sample of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled
4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement planting if required at that time

INTERNATIONAL SOCIETY OF ARBORICULTURE

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-5811
(217) 355-9516 FAX



NOTE: FOR DIMENSIONS OF PLANTING AREAS, TYPES OF SOIL AMENDMENTS, & SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS"

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL

TREE PLANTING DETAIL - B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY FRINGE OR GRADING

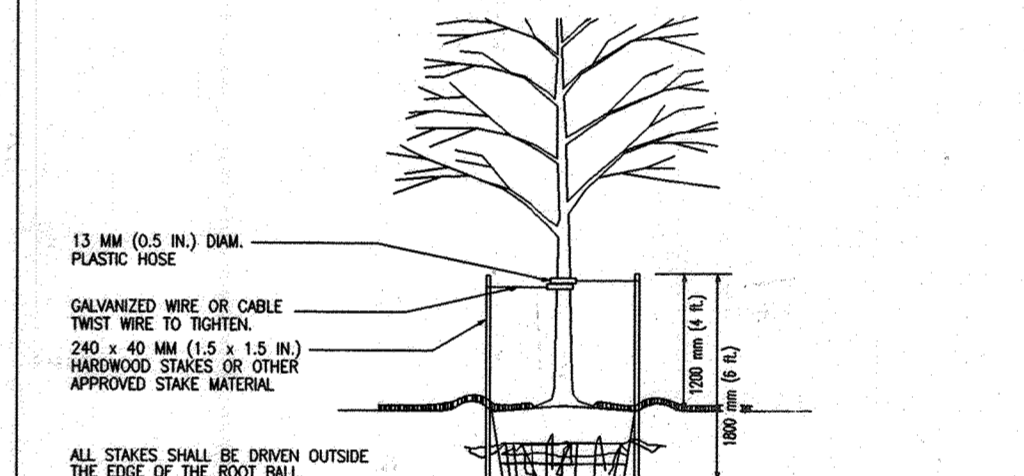
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WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES 40 TO 65 MM (1.5 IN) CALIPER - 14 GAUGE
TREES 65 MM (2.5 IN) TO 75 MM (3 IN) CALIPER - 12 GAUGE
TOWERED TREES OR CABLE OVERHEADS TO KEEP FROM SLIPPING, ALLOW FOR SOME TRUNK MOVEMENT, PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 30MM (1.5 IN) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.



ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF.

THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STAKED:

- o TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. SELECT RATHER THAN STAKE
- o TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN NEAR TRUNKS. SELECT RATHER THAN STAKE
- o PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL CORRECT THE PLANTING PROCEDURE
- o ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING
- o ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE
- o TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL

TREE STAKING DETAIL - TREES 75MM (3 IN.) CALIPER OR LESS

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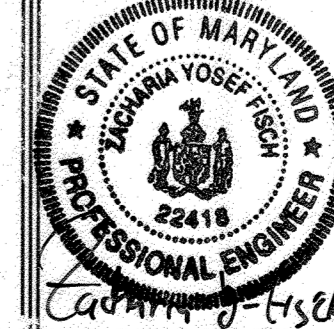
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OWNER/DEVELOPER

Grace Community Church of Howard County, Inc.
9180 Rumsey Road
Columbia, MD 21045
(410) 592-5534
C/O Joe Hancock

FOREST CONSERVATION NOTES AND PLANTING DETAILS
GRACE COMMUNITY CHURCH
PHASE I+II
RELIGIOUS FACILITY

TAX MAP 46 GRID 3 LOTS 1 AND 2 PARCEL 337
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



FSH Associates

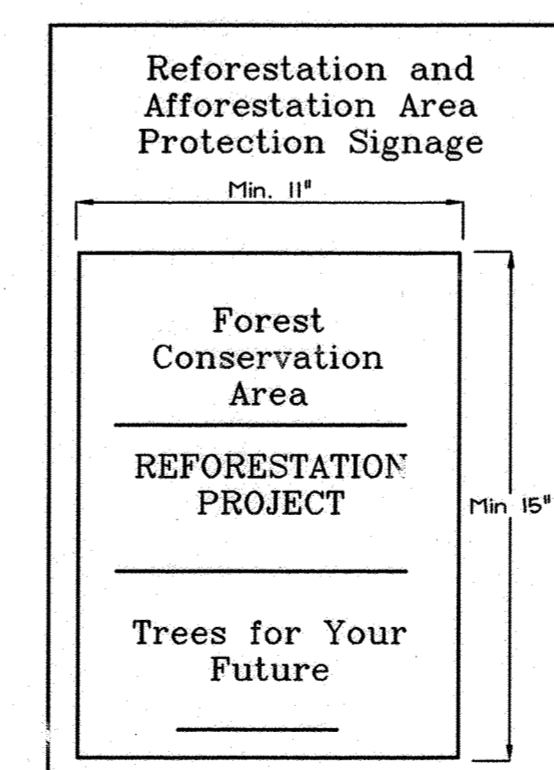
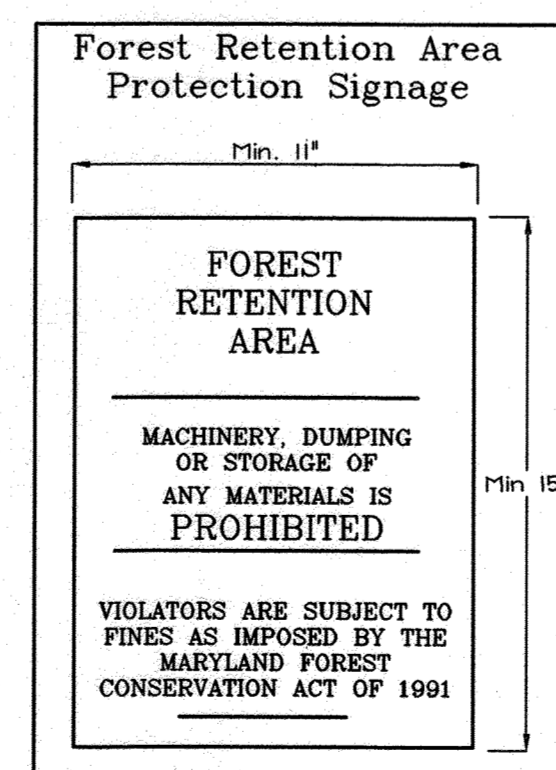
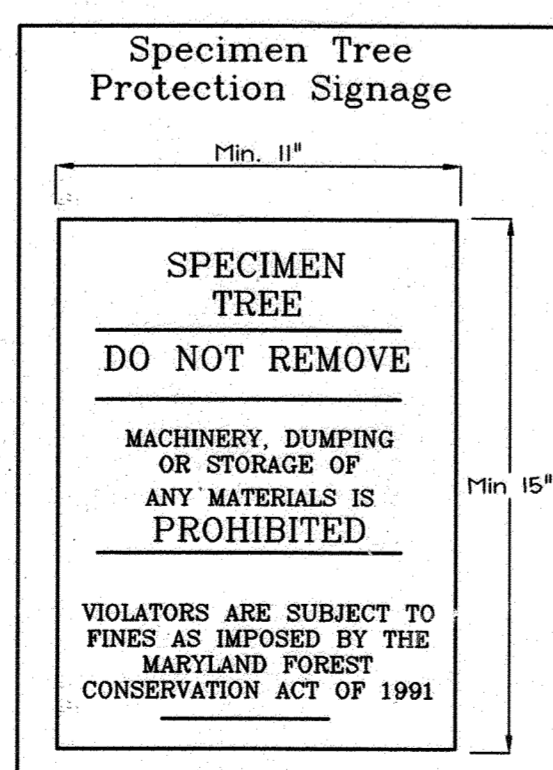
Engineers Planners Surveyors
6316 Forrest Street, Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

DESIGN BY: AB
DRAWN BY: AB
CHECKED BY: ZYF
SCALE: No Scale
DATE: July 20, 2004
P.L.O. No.: 3071
SHEET No.: 19 OF 21



EXPLORATION RESEARCH, INC.

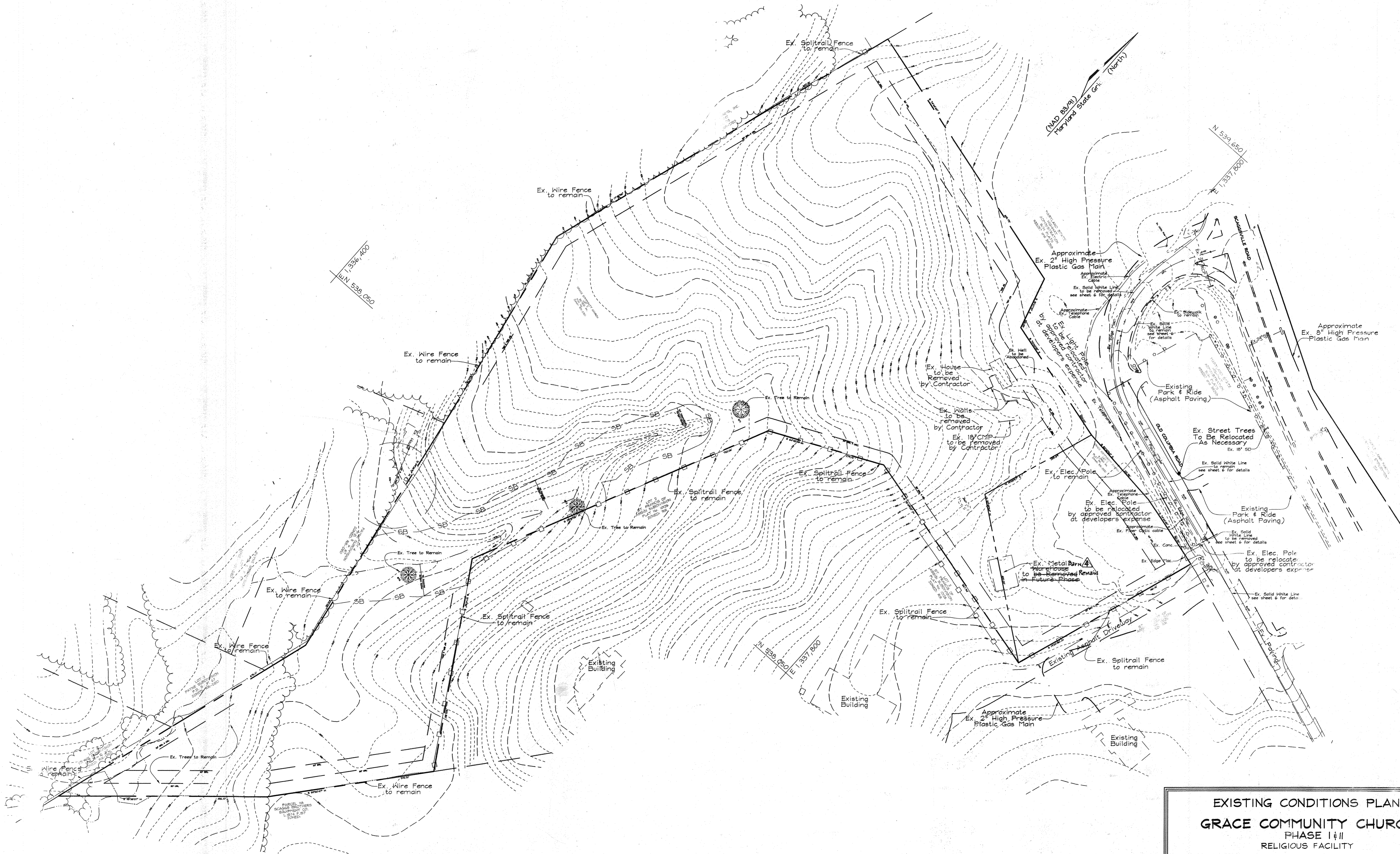
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8810 FOREST STREET
ELICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX: (410) 760-7350
EMAIL: EXPLORATION@EXRC.COM



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
Chief, Division of Land Development
Director

Revision	Description	Date
1	Revise Sheet Total	July 2003
2	Total number of sheets change to 21.	Mar. 2013
3		9/26



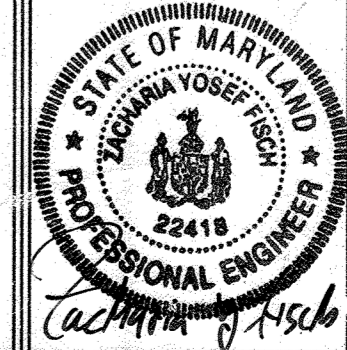
EXISTING CONDITIONS PLAN
GRACE COMMUNITY CHURCH
 PHASE I & II
 RELIGIOUS FACILITY

TAX MAP 46 GRID 3 LOTS 1 AND 2 PARCELS 337
 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND

APPROVED: _____ COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7/30/04
 DATE: 8/3/04
 DATE: 8/4/04

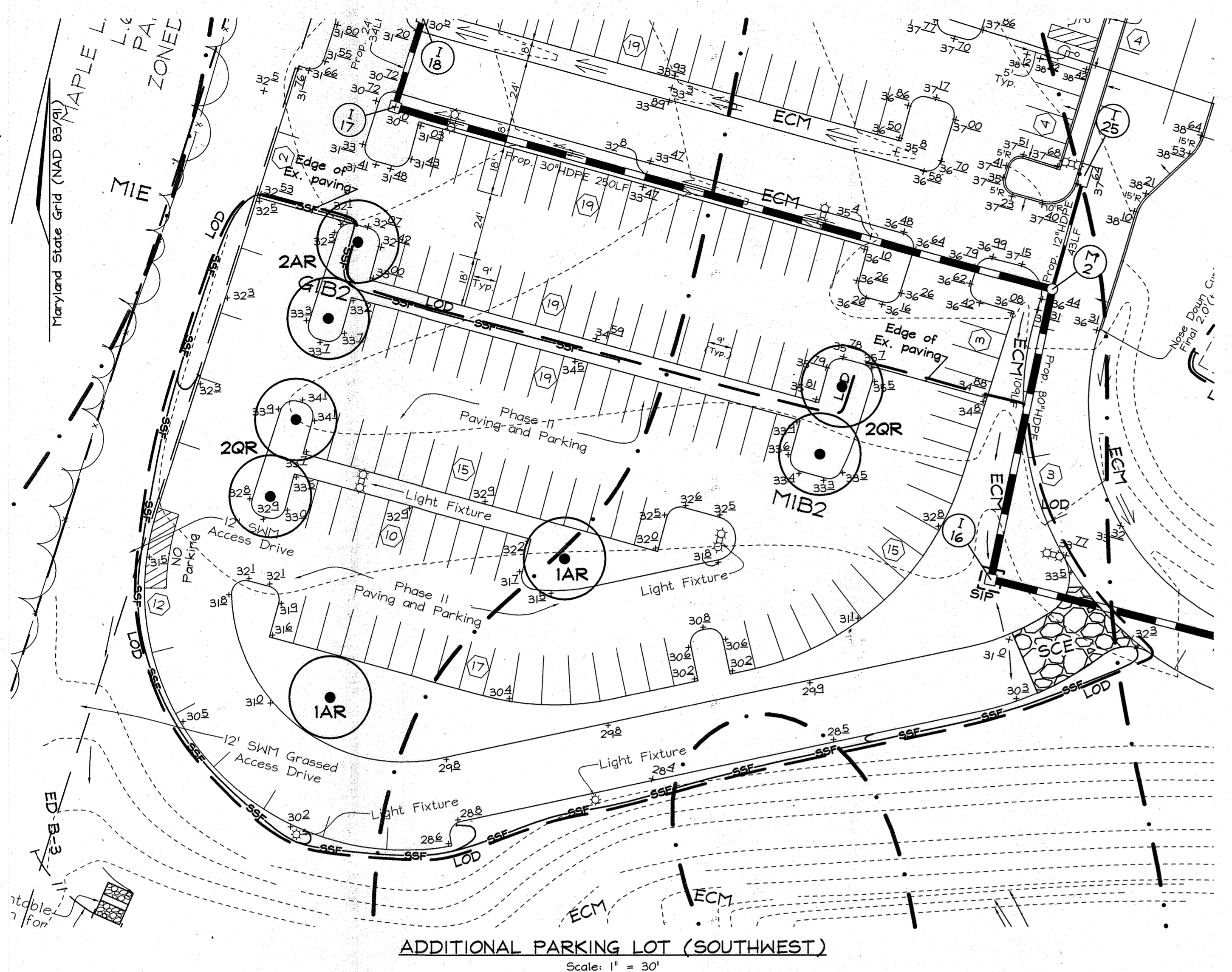
Revision	Description	Date
1	Revised Sheet Total	July 2023
2	Total number of sheets change to 21.	Mar. 2013

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc
 9180 Rumsey Road
 Columbia, MD 21045
 (410) 992-5384
 C/O Joe Hancock

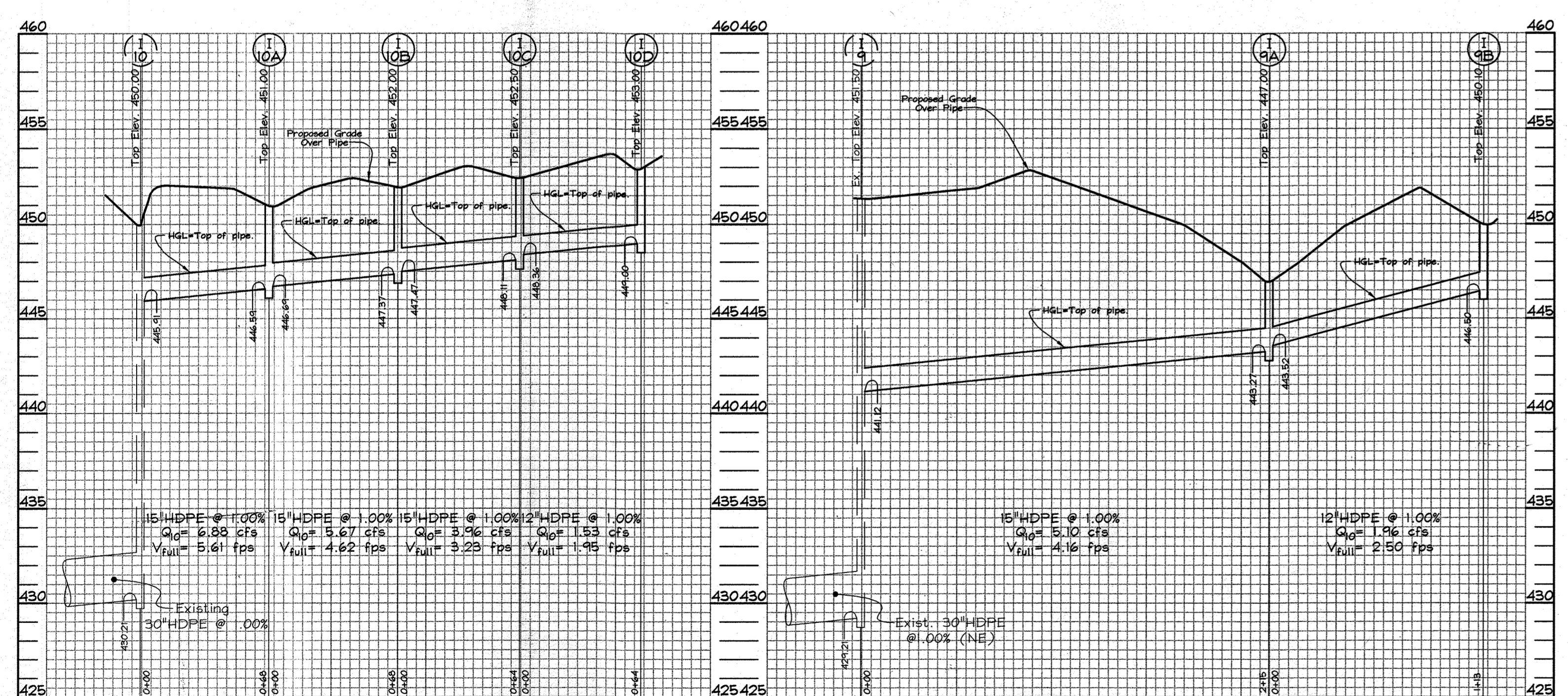


FSI
 Engineers
 8318 Fayers
 Tel: 410 750-
 Fax: 410 750-
 F. mail: FSI@fsi.com

ates
 DESIGN BY: S
 DRAWN BY: KSB
 CHECKED BY: ZYF
 SCALE: 1"=100'
 DATE: July 0, 2004
 W.O. No. 3071
 SHEET No. 20 OF 24



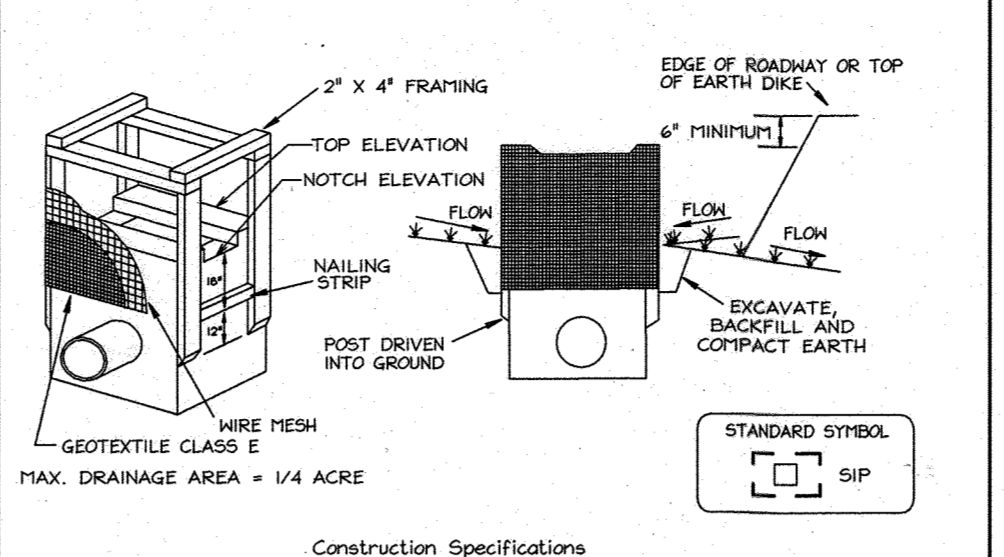
ADDITIONAL PARKING LOT (SOUTHWEST)
 Scale: 1" = 30'



EXTENDED STORM DRAIN PROFILE
 Hor. Scale: 1"=50', Vert. Scale: 1"=5'

EXTENDED STORM DRAIN PROFILE
 Hor. Scale: 1"=50', Vert. Scale: 1"=5'

DETAIL 23A - STANDARD INLET PROTECTION*



- Construction Specifications
- Excavate completely around the inlet to a depth of 18" below the notch elevation.
 - 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 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
 - Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
 - Stretch the Geotextile Class E lightly 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.
 - 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.
 - If the inlet is not in a sump, construct a compacted earth dike across the ditch directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
 - 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 PAGE 1 OF 5 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION
 * For inlets I-9A, I-9B, I-10C, and I-10D, utilize super silt fence standards.

Sequence of Construction

- Obtain grading permit & contact Howard County Sediment Control Inspector (SCI) to arrange a pre-construction meeting (15 days).
 - Install stabilized construction entrances. (1 day)
 - Install perimeter sediment controls. (2 days)
 - Install inlet protection at I-9 and I-10. (1 day)
 - Construct I-9A, I-9B, I-10A thru I-10D. (5 days)
 - Before connecting to I-10 and the stub at I-9, flush the system from any sediments. (1 day)
 - Block I-9 stub to I-9A.
 - Install Standard Inlet Protection at I-9, I-10, I-10A and I-10B, and Super Silt Fence Inlet Protection at I-9A, I-9B, I-10C and I-10D and connect to the existing system.
 - Install inlet protection at I-16.
 - Bring grade to sub-grade. (15 days)
 - Pave site. (10 days)
 - Stabilize site with permanent seeding. (5 days)
 - With permission of the Sediment Control Inspector, remove sediment controls.
 - Block I-9 to I-2 and flush the system from any sediments.
- * For Parking Lot East
 ** For Parking Lot Southwest

NOTE: Additional fencing is to be installed at the direction of the sediment control inspector.

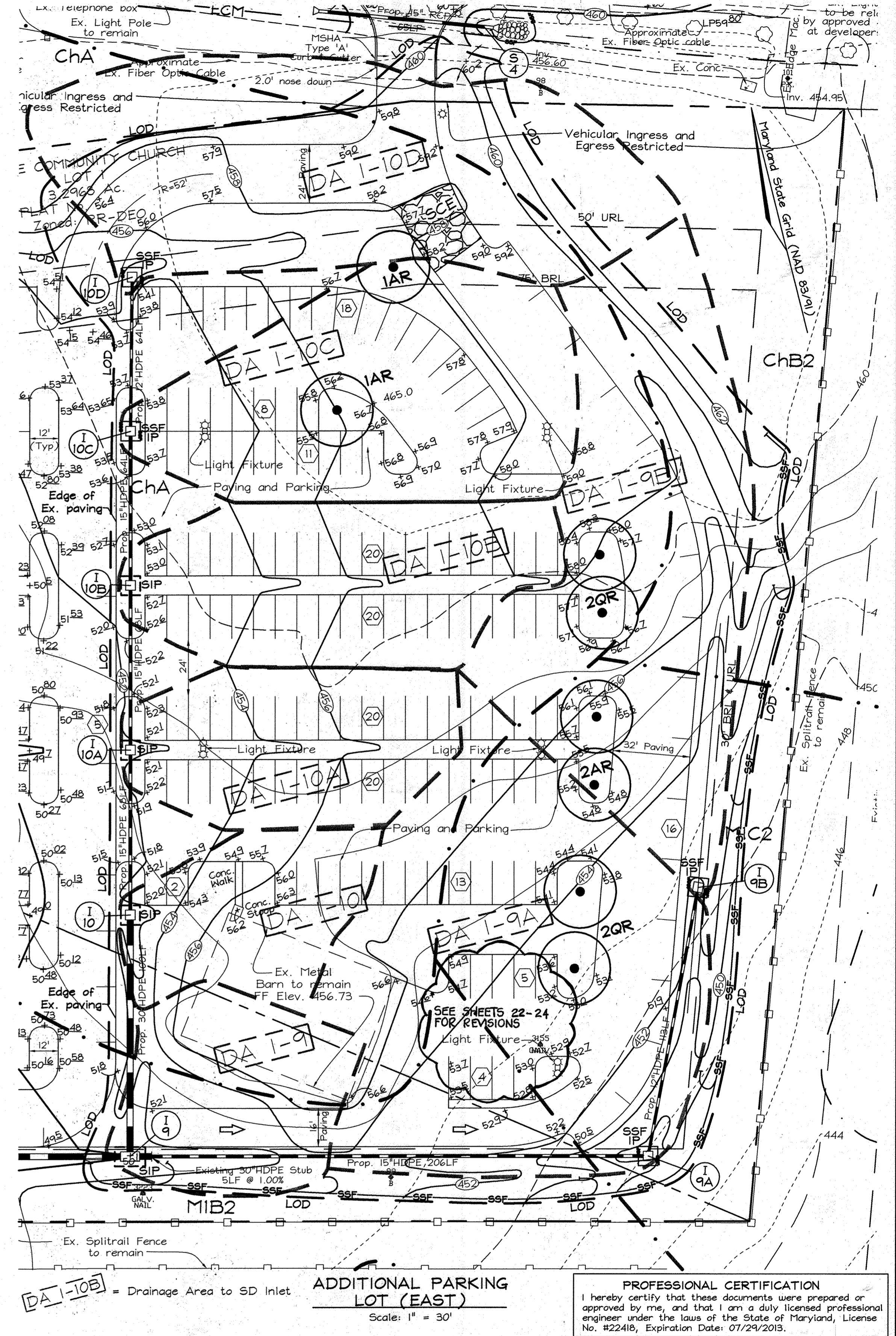
DA TABULATION

DA	AREA (Ac.)	"C" FACTOR	SOIL
I-9	0.17	0.52	B
I-9A	0.54	0.64	B
I-9B	0.45	0.51	B
I-10	0.14	0.45	B
I-10A	0.19	0.75	B
I-10B	0.25	0.75	B
I-10C	0.34	0.75	B
I-10D	0.45	0.36	B

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
I-9A	SINGLE TYPE "S" INLET	N 538,463.66 E 1,338,155.61	447.00	443.27	443.27	SD 4.22
I-9B	SINGLE TYPE "S" INLET	N 538,566.33 E 1,338,155.61	450.10	-	446.50	SD 4.22
I-10A	SINGLE TYPE "S" INLET	N 538,679.21 E 1,337,988.32	451.00	446.69	446.69	SD 4.22
I-10B	SINGLE TYPE "S" INLET	N 538,745.14 E 1,338,004.98	452.00	447.47	447.37	SD 4.22
I-10C	SINGLE TYPE "S" INLET	N 538,807.20 E 1,338,020.62	452.50	448.36	448.11	SD 4.22
I-10D	SINGLE TYPE "S" INLET	N 538,869.10 E 1,338,036.89	453.00	449.00	449.00	SD 4.22
I-14	SINGLE TYPE "S" INLET	N 538,935.13 E 1,337,608.39	440.00	-	436.00	SD 4.22

* Existing Inlet I-14 to be relocated using the information listed above.



ADDITIONAL PARKING LOT (EAST)
 Scale: 1" = 30'

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. #22418, Expiration Date: 07/29/2013.

PURPOSE NOTE:
 The purpose of this plan is to depict detailed parking expansion on the east and south-west sides of the existing parking lots, and expansion of the storm drain system on the east side of the existing parking lot.

REVISED SITE DEVELOPMENT PLAN
 PHASE II PARKING LOT PLANS
 & STORM DRAIN PROFILES
GRACE COMMUNITY CHURCH
 PHASE II
 RELIGIOUS FACILITY
 TAX MAP 46 GRID 3 5TH ELECTION DISTRICT LOTS 1 AND 2 PARCEL 337 HOWARD COUNTY, MARYLAND

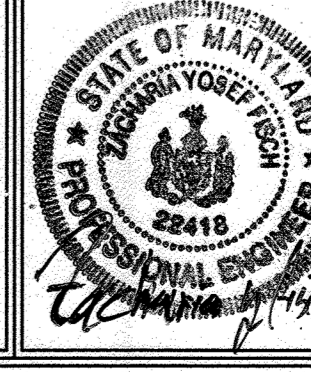
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3/12/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 [Signature] 3/12/13
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 [Signature] 3-12-13
 DIRECTOR DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 [Signature] 2/27/13
 HOWARD SCD DATE

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 [Signature] 2-20-13
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE PROJECT AND THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE ADVISED THE DEVELOPER THAT HE/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] 2/20/2013
 SIGNATURE OF ENGINEER ZACHARIA Y. FISCH DATE

OWNER/DEVELOPER
 Grace Community Church of Howard County, Inc.
 8200 Old Columbia Road
 Fulton, Maryland 20759
 (240) 553-1090
 C/O Joe Hancock



FSH Associates
 Engineers Planners Surveyors
 6339 Howard Lane, Elkridge, MD 21075
 Tel: 410-567-5200 Fax: 410-796-1562
 E-mail: info@fsh.net

DESIGN BY: MLT
 DRAWN BY: CRH2
 CHECKED BY: ZYF
 SCALE: As Shown
 DATE: Nov 2012
 P.L.O. No.: 3071
 SHEET No.: 21 OF 24

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

A. Soil Preparation

- Temporary Stabilization
 - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chain 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.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disk or other suitable means.
- Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 50 percent silt plus clay) to provide the capability to hold a moderate amount of moisture. An exception to this requirement will be granted when a sandy soil (less than 30 percent silt plus clay) will be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then seeded or otherwise treated to a depth of 3 to 5 inches into the soil.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
- Soil amendments into the top 3 to 5 inches of soil by disk or other suitable means. Rate lawn areas to provide the capability to hold a moderate amount of moisture. An exception to this requirement will be granted when a sandy soil (less than 30 percent silt plus clay) will be acceptable.
- Soil contains 1.5 percent minimum organic matter by weight.
- Soil contains sufficient pore space to permit adequate root penetration.

PERMANENT SEEDING NOTES (B-4-3)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected material, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - 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.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. 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.
- Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected material, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING (B-4-3)

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

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

Conditions Where Practice Applies

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

Criteria

- Seeding
 - Specifications
 - All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used on any project must be 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 lots must be available upon request to the inspector to verify type of seed and seeding rate.
 - Much seed may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding method must be applied when the ground thaws.
 - 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 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 inoculants as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculants as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Soil and seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Application
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Incorporate seed into the subsoil or the surface prepared on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - 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; P (phosphorus), 200 pounds per acre; K (potassium), 200 pounds per acre.
 - Lime: Use only natural 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.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydroseeding do not incorporate seed into the soil.
 - Mulching
 - Mulch Materials (in order of preference)
 - 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, coated, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical slurry.
 - 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.
 - WCFM, including dyed, must contain no germination or growth inhibiting factors.
 - 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 blatter-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.
 - WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - 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.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMITS. (2 WEEKS)
- NOTIFY "PSC" UTILITY AT LEAST 48 HOURS BEFORE ANY WORK AT 1-800-297-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-333-1870 AT LEAST 60 HOURS BEFORE STARTING ANY WORK.
- INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, PERIMETER SUPER-SILT FENCE AS SHOWN ON THE PLANS. CLEAR AND GRUB SITE. (2 DAYS)
- ONCE THE SOIL SEDIMENT CONTROL, INSPECTOR APPROVES THE SIZE AND SUPER-SILT FENCING, THE CONTRACTOR CAN START ON THE DREDGING OF THE EXISTING PARKING AREAS, INSTALL CURB AND GUTTER AND PAVEMENT. (1 WEEK)
- CONCURRENCE WITH GRADING, THE CONTRACTOR CAN INSTALL MONOPOLE & UTILITIES. (1 WEEK)
- THE CONTRACTOR SHALL INSTALL PERIMETER PAWING, FENCING, LANDSCAPING & TREES AS SHOWN IN PLAN. (3 WEEKS)
- STABILIZE ALL EXPOSING AREAS DISTURBED AREA ON-SITE WITH PERMANENT SEEDING OR OPTIONAL SOODING. (2 DAYS)
- AFTER SITE HAS BEEN STABILIZED AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, ALL SEDIMENT CONTROL DEVICES MAY BE REMOVED. (1 DAY)

NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR IN REGARDS TO THE REQUIREMENT THAT NO MORE THAN 20-ACRES OF "BARE" GROUND SHALL BE DISTURBED AT ANY GIVEN TIME, IF REQUIRED. THIS PLAN AND ASSOCIATED L.O.D. IS LESS THAN 20-ACRES IN SIZE.

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA (B-4-8)

Definition

The mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

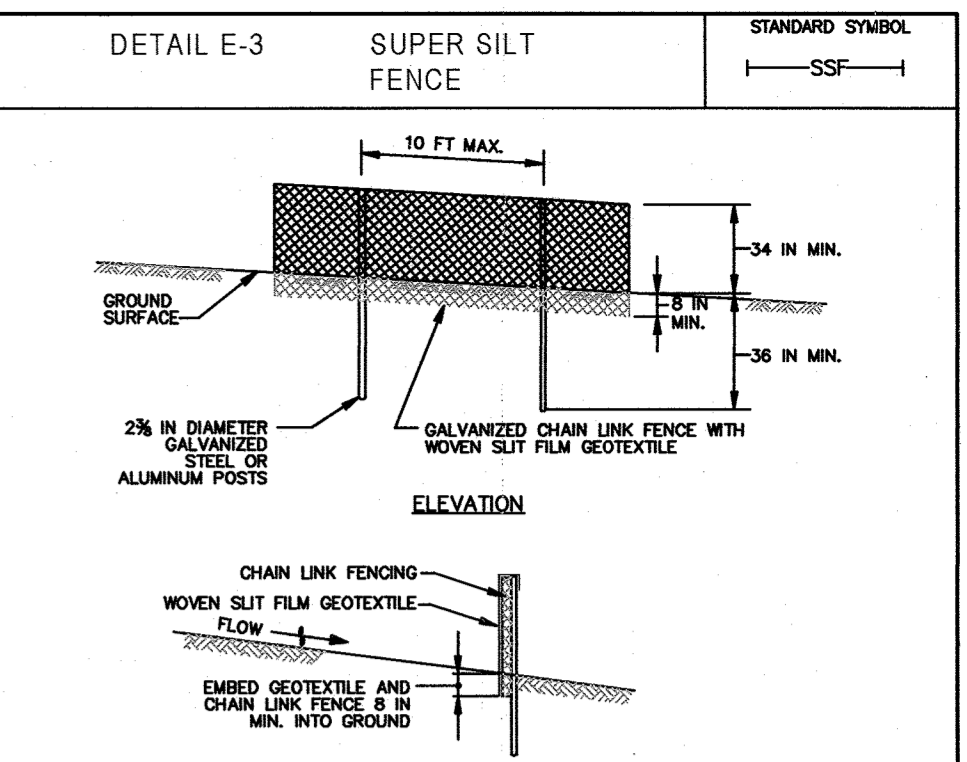
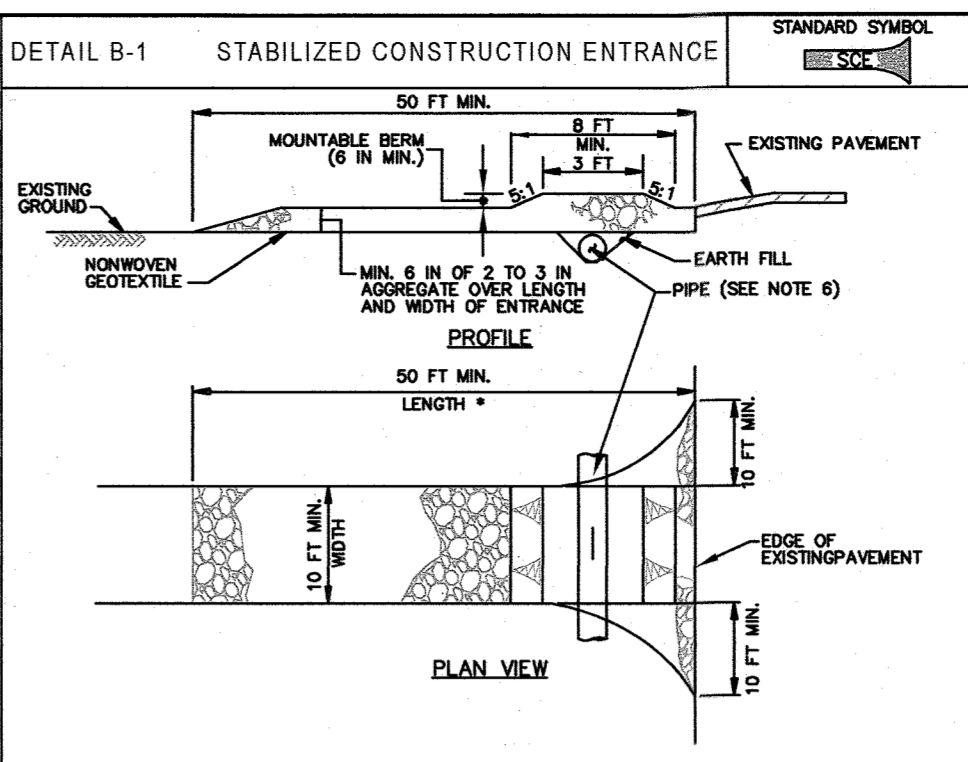
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
- Runoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the up-slope side.
- Clear runoff into the stockpile area must be minimized by use of a diversion device such as an earth dam, temporary levee or diversion fence. Provision must be made for discharging concentrated flow in a non-erosive manner.
- Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- Stockpile must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Section B-4-4 Temporary Stabilization.
- If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpile containing contaminated material must be covered with impermeable sheeting.



CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE ENTRANCE. USE MINIMUM LENGTH OF 50 FEET (50 FEET FOR SINGLE RESIDENCE LOT), USE MINIMUM WIDTH OF 10 FEET. FLARE SIDE 10 FEET MINIMUM TO THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE ENTRANCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SOIL WITH A MOUNTAINABLE 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 SIZE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTAINABLE BERM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 8 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADT STOPPED OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTAINABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCOURING, AND/OR SHEETING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE. UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.025 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOOK RINGS.
- FASTEN WOVEN SILT FILTER GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE POSTS. SIZE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASSES.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOUSE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BUILDS DEVELOP IN FENCE OR WHEN SEDIMENT ACCUMULATES ON THE FENCE. REMOVE EXCESS GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DICES, SWALES, DITCHES, FURROWS AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

B. Topsoiling

- Topsoil to be 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.
- 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 added for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish sufficient supplies of moisture and nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Topsoil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, all loam, silty 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 textures and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1/2 inches in diameter.
 - 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.
 - 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.
- Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 6 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 to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or overly moist condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

Permanent Seeding Summary

No.	Species	Application Rate (lb./ac)	Seeding Dates		Seeding Depth (in.)	Fertilizer Rate (10-20-20)			Lime Rate (2 tons/ac 1000 sf)
			Mar. 1-May 15	Aug. 1-Oct. 15		N	P ₂ O ₅	K ₂ O	
1	TALL FESCUE	100	1/4-1/2	1/4-1/2	1/4-1/2	45 lb./ac (10 lb./1000 sf)	90 lb./ac (20 lb./1000 sf)	90 lb./ac (20 lb./1000 sf)	2 tons/ac 1000 sf

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-333-1859 after the future L.O.D. and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following steps: 8. Prior to the start of earth disturbance.
- Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding, any other earth disturbance or grading.
- Prior to the start of another phase of construction or opening of another grading lot, 4. Prior to the removal or modification of sediment control practices.
- Other holding or grading inspection approvals may not be authorized until the initial approval by the inspection agency is made. Other related sites and related permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and related references.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days to the surface of all perimeter ditches, swales, ditches, furrows, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site under active grading.
- All disturbed areas must be stabilized within the time 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-4-3), temporary seeding (Sec. B-4-4), and mulching (Sec. B-4-8).
- Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates in the ground in areas. Permanent stabilization (Sec. B-4-3) specifications shall be approved in areas with >1% of cut/soil fill. Stockpiles (Sec. B-4-8) in excess of 20 ac. must be seeded with stable culter. All concentrated flow areas shall be stabilized at 8 gpm/ft min.
- 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.
- Site Analysis:

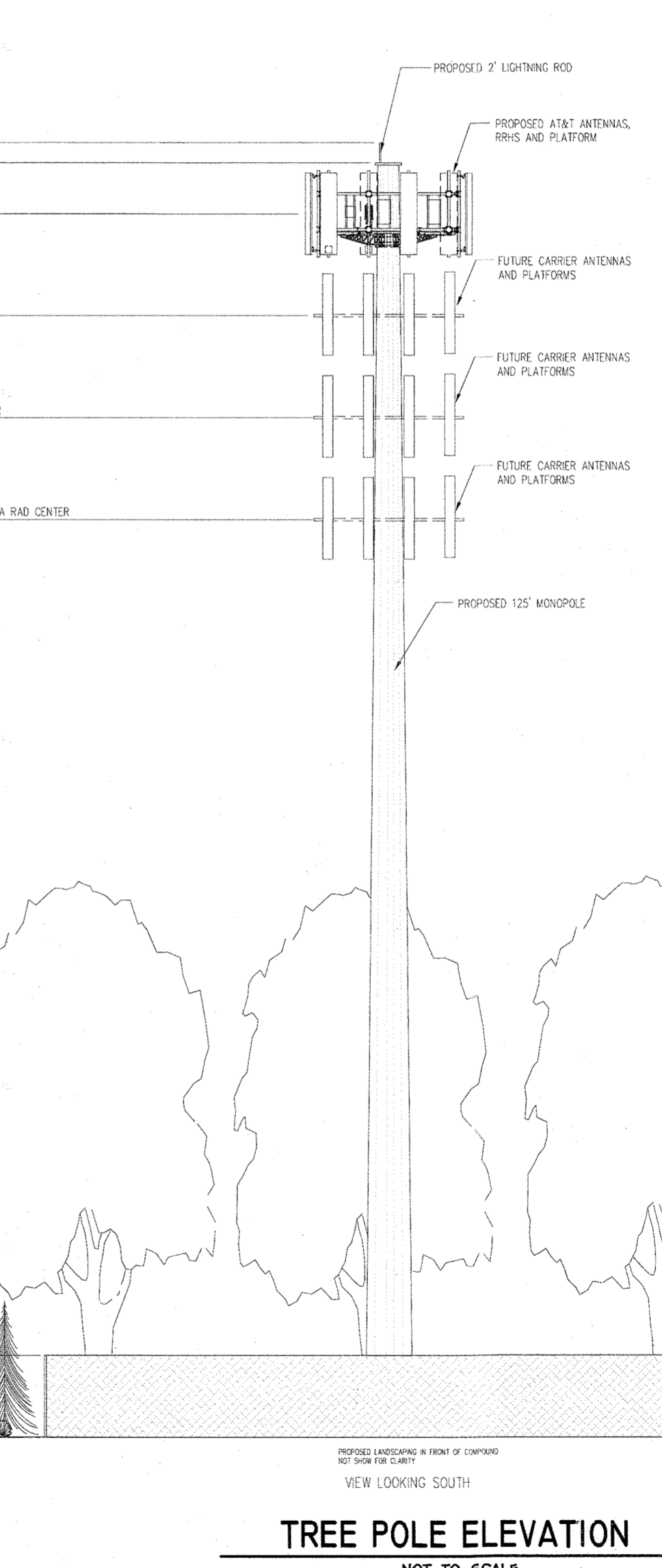
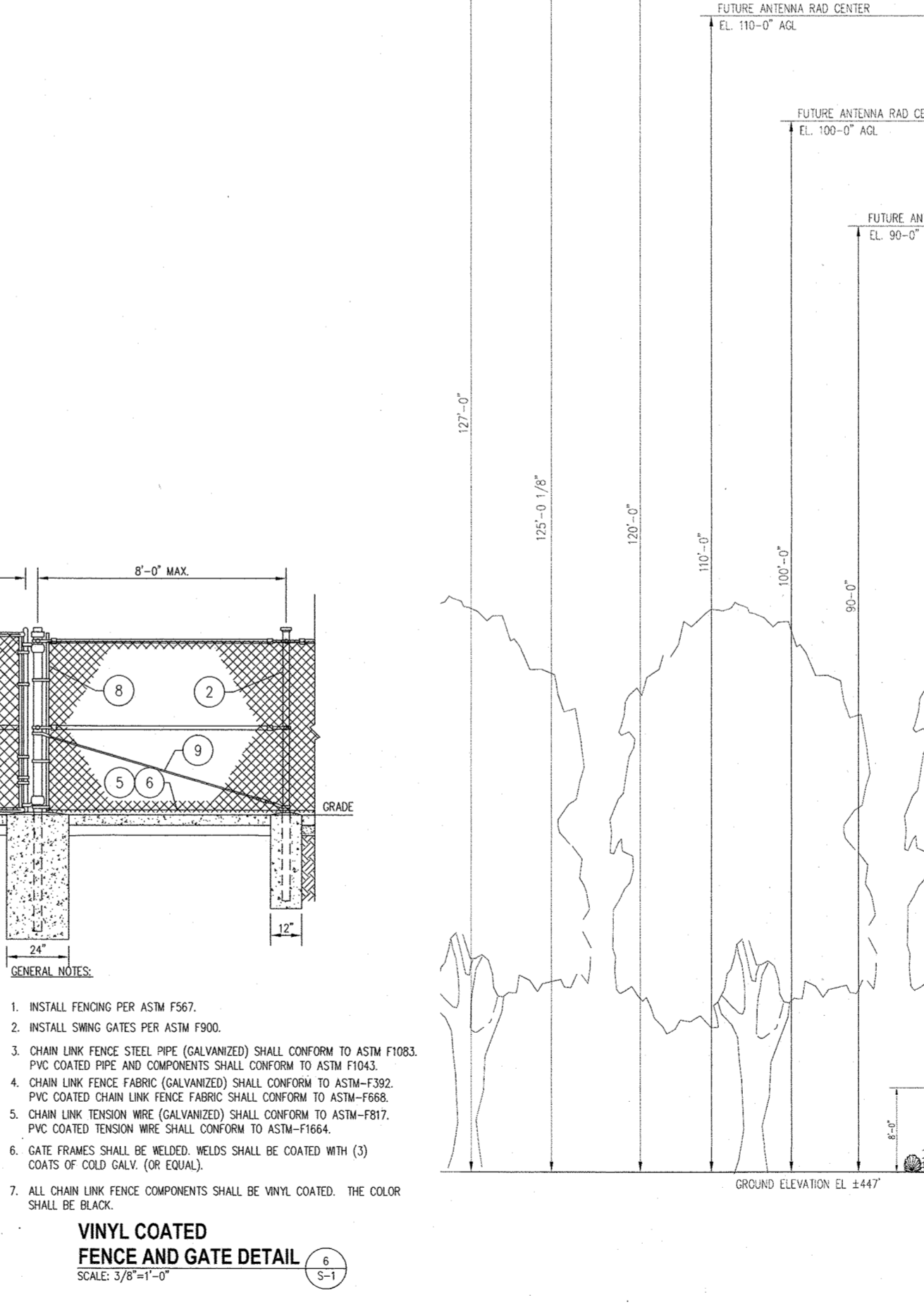
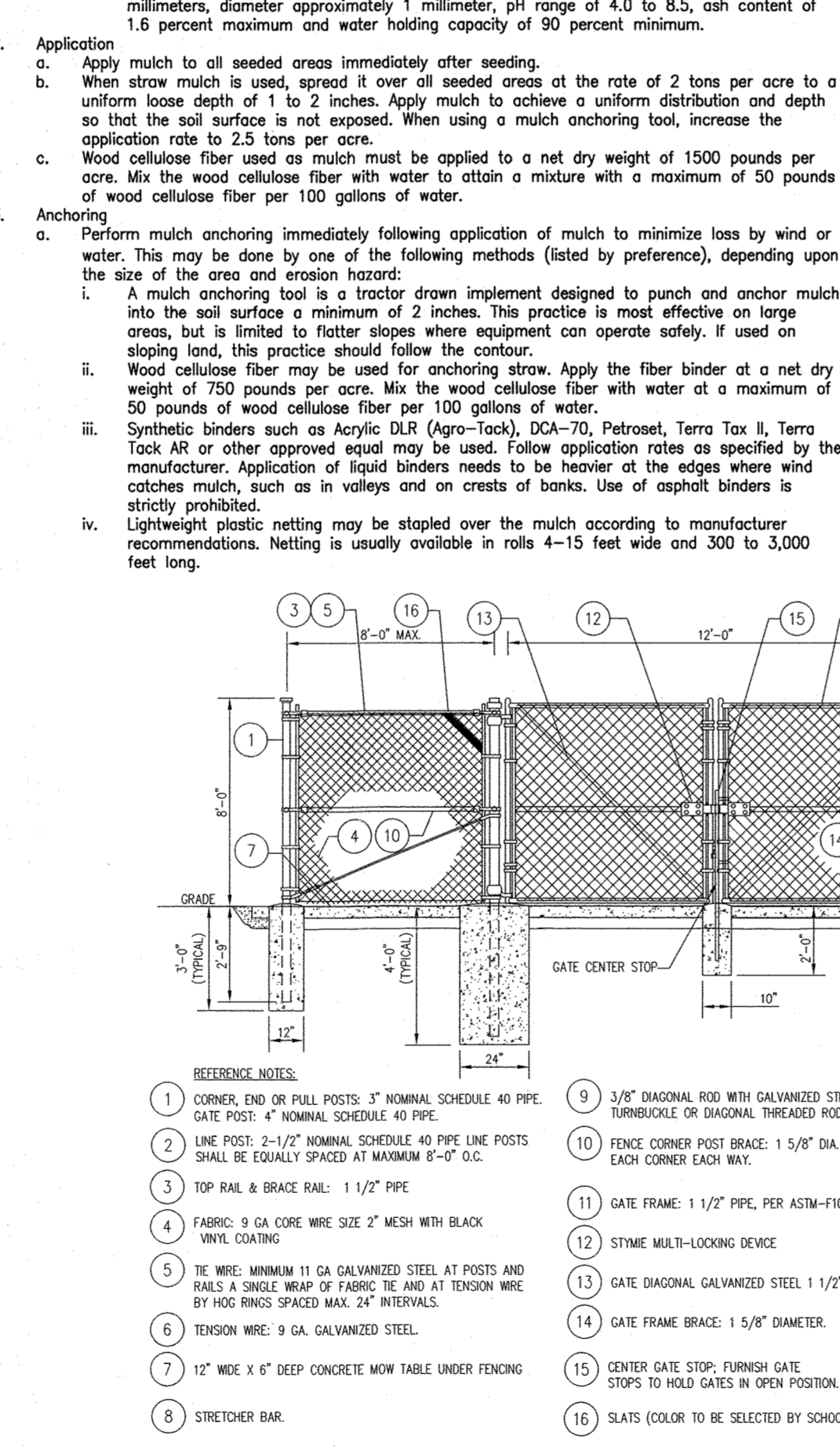
Total Area of Site:	3.38 Acres (LOT 1)
Area to be seeded or phased:	0.18 Acres
Area to be seeded or phased:	0.05 Acres
Area to be vegetatively stabilized:	0.07 Acres
Total Cut:	145 Cu. Yds.
Total Fill:	155 Cu. Yds.
water/Stormwater Area:	0.50 Acres
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 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 most dry time after each rain event. The inspection report by the contractor, made available upon request, is part of every inspection and should include:
 - Inspection Date
 - Inspection Time (include 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
 - Location of sediment discharge
 - Identification of silt deficiencies
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance with the requirements of construction and stabilization requirements
 - Monitoring/Abating
 - Hydroponic/irrigation corrective action performed
 - Other Inspection Items as required by the General Permit for Stormwater Associated with Construction Activities
- Trucks for the construction of utilities is limited to three axle lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- Any major change or addition to the site or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of approved changes.
- Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (minimum acreage of 20 ac. per grading unit) at a time. Work may proceed to a second grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been established and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres remaining may be disturbed at 8 gpm/ft min.
- Wash water from any equipment, vehicles, wheelbarrows, and other sources must be treated in a sediment basin or other approved washout structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution onto final grades.
- All cut and Super Slope Areas shall be placed on-the-spot, and be indicated at 2% minimum intervals, with lower ends curbed up by 2" in elevation.
- Stream channels must not be disturbed during the following restricted time periods (included):
 - Use 1 and 2 March 1 - June 15
 - Use 3 and 4 April 1 - April 30
 - Use 5 and 6 May 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

DESIGN CERTIFICATE

This plan has been designed in accordance with current Maryland control laws, regulations, and standards, that it represents a control plan which the designer will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control 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.

OWNER'S/DEVELOPER CERTIFICATE

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 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.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division *[Signature]* 9/6/23 Date

Chief, Division of Land Development *[Signature]* 9/18/23 Date

Director *[Signature]* 9/18/23 Date

OWNER'S/DEVELOPER CERTIFICATE

[Signature] 9/18/2023 Date

[Signature] 9/18/2023 Date

PAUL G. CAVANUGH Printed Name & Title

DESIGN CERTIFICATE

[Signature] 9/18/2023 Date

PAUL G. CAVANUGH Printed Name

MD Registration No. 21020
REL. or R.L.A. (circle one)

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

[Signature] 08/31/23 Date

OWNER: GRACE COMMUNITY CHURCH OF HOWARD COUNTY, 8200 OLD COLUMBIA ROAD, FULTON, MARYLAND 20759, Tel: 240-953-1090

DEVELOPER: MILESTONE TOWERS, 12110 SUNSET HILLS ROAD, SUITE 600, RESTON, VA 20190, Tel: 703-620-2555

COMMUNICATION TOWER NOTES & DETAILS

GRACE COMMUNITY CHURCH

RELIGIOUS FACILITY

LOTS 1 AND 2

TAX MAP No: 46 PARCEL: 337
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: 1" = 20' DATE: AUGUST, 2023
SHEET 24 OF 24

NO. SUBDIVISION GRACE COMMUNITY CHURCH

SECTION N/A

PARCEL/LOT Nos. 1, 2, 337

PLAT Nos. BLOCK NO. ZONE TAX/ZONE ELEC. DIST. CENSUS TR.

16724-16729 N/A RR-DEO 46 5th. 6051.02