

**VICINITY MAP**  
SCALE: 1" = 2000'

**GENERAL NOTES**

- TAX MAP 24, PARCEL 135
- EXISTING ZONING R-20 BA CASE NO 86-05E
- DEED REFERENCE LIBER 229 FOLIO 332
- AREA 5.647 ACRES 16,398 6.7%  
AREA OF EX. BUILDINGS 13,538 SF / 3.5%  
AREA OF PROP. BUILDINGS 2,850 SF / 0.2% 9,488 S.F. / 3.3%  
TOTAL BUILDING COVERAGE 16,388 SF / 6.7% 25,886 S.F. 10%
- AREA OF NEW PARKING LOT 36365 S.F. 107%  
AREA/PERCENTAGE OF LANDSCAPED ISLANDS 12,582 S.F. / 33%
- EXISTING SEATING CAPACITY: 240  
PROPOSED SEATING CAPACITY: 261  
TOTAL SEATING CAPACITY: 240 261
- PARKING REQUIREMENTS  
REQUIRED 1 SPACE PER 3 SEATS  
801 240 ÷ 3 = 80 SPACES  
EXISTING 180 X SPACES  
PROPOSED 261  
TOTAL PROVIDED 180 SPACES (INCL X HANDICAP SPACES)
- EXTERIOR LIGHTING TO BE CIRCUITED VIA TIME CLOCK IN SERIES WITH EXTERIOR MOUNTED (NORTH WALL) PHOTOCELL: NEW EMCO LIGHTING INFINISQUARE POLE SIDE MTD ON ONE ARM TYPE III DISTRIBUTION 150W HPS LAMP 208 VOLT BALLAST DARK BRONZE FINISH 1 1/2" POLE EMCO # SHD-III-150-HPS-208V-PC-DB-SSA-14-DB (TYPICAL FOR 6)  
EACH LIGHT TO INCLUDE A "GLARE SHIELD" AND TO BE DIRECTED DOWNWARD, TOWARD THE BUILDINGS.
- BOARD OF APPEALS ORDER BA 34-24E ON AUG. 16, 1994 AMENDED BA 86-05E AND GRANTED APPROVAL FOR CHANGES SHOWN ON "REVISED SPECIAL EXEMPTION PLAN (PHASE II)".

**HANDICAPPED PARKING SIGN DETAIL**  
NOT TO SCALE

**NOTE: ALL EXTERIOR LIGHTING MUST COMPLY WITH SECTION 134 OF THE ZONING REGULATIONS.**

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT  
HOWARD COUNTY, MARYLAND  
DATE 5-1-89

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

ADD LIGHTS TO LOWER LEVEL PARKING AREA OLD BUILDING  
**NOTE: STORMWATER MANAGEMENT FACILITY, LIMIT OF SUBMISSION AND PARKING AREA REVISED FROM SDP 87-183.**

REVISIONS

NO.	DATE	REVISIONS
1	5-8-95	BLDG. RESTRICTION LINE REVISION
2	10-21-94	SPOT ELEV., HANDICAPPED PARKING, AND DRAINS

ADDRESS CHART

PARCEL NO.	STREET ADDRESS	WATER CODE	SEWER CODE
135	3604 CHATHAM ROAD	F01	5753700

Subdivision Name: FIRST EVANGELICAL LUTHERAN CHURCH  
SECT./AREA: 10 R-20  
LOT/PARCEL #: 135  
PARCEL 135  
PLAT # ORL/F: L 229, F 332  
ZONE: 10 R-20  
TAX ZONE: 24  
ELECT. DIST.: 2  
CENSUS: 6023 01

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS AND LAND SURVEYORS  
1029 North Calvert Street  
Baltimore, Maryland 21202 (301)837-0194

**OWNER / APPLICANT:**  
EDWARD ZIEGLER, CHAIRMAN  
BUILDING COMMITTEE  
FIRST EVANGELICAL LUTHERAN CHURCH  
3604 CHATHAM ROAD  
ELLCOTT CITY, MD 21043

**PROFESSIONAL CERTIFICATION**  
EDWARD ZIEGLER  
REGISTERED PROFESSIONAL ENGINEER  
NO. 12270  
10/30/17

**DEVELOPER'S CERTIFICATION**  
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Edward J. Ziegler 2-8-89 DATE

**ENGINEER'S CERTIFICATION**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.





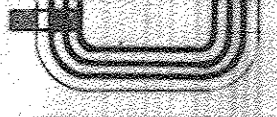

Richard H. Boudt 2-8-89 DATE

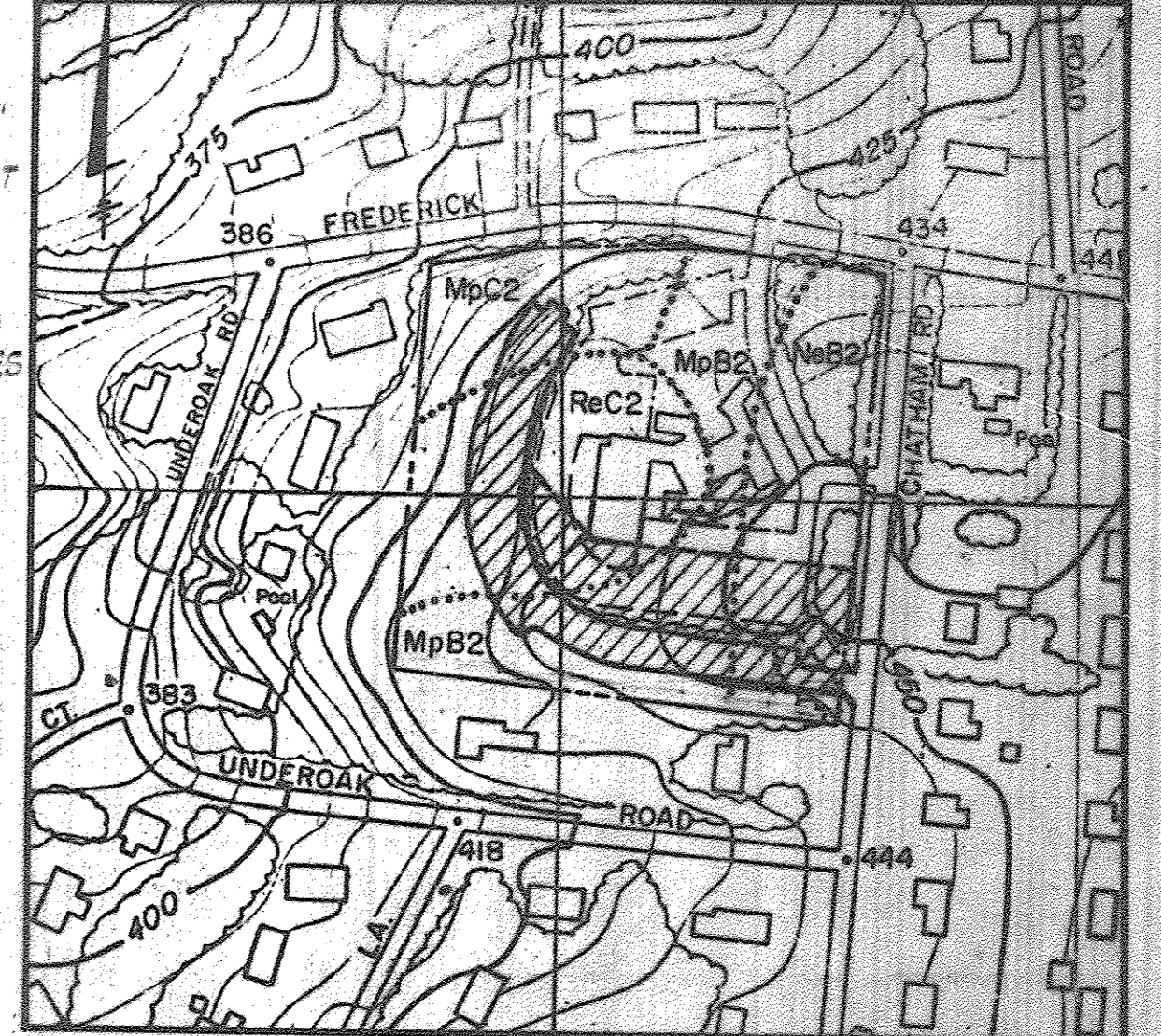
**PROFESSIONAL CERTIFICATION**  
STEPHEN L. GIBLIN  
REGISTERED PROFESSIONAL ENGINEER  
NO. 12270  
7/13/89

**FIRST EVANGELICAL LUTHERAN CHURCH OF ELLICOTT CITY**  
**SITE DEVELOPMENT PLAN**  
REVISIONS TO SDP-87-183  
2ND ELECTION DISTRICT HOWARD COUNTY, MD.  
TAX MAP NO 24 PARCEL 135  
DATE FEBRUARY 9, 1989 SCALE: 1" = 30'

NO.	DATE	REVISIONS
1	10-21-94	SPOT ELEV., HANDICAPPED PARKING, AND DRAINS
2	5-8-95	BLDG. RESTRICTION LINE REVISION
3	10-24-17	REDLINE REVISION - SAND FILTER ADDITION (SHEETS 1 & 2)

**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE 
- LIMIT OF DISTURBANCE 
- EARTH DIKE 
- SILT FENCE 
- SEDIMENT TRAP 
- DEWATERING DEVICE 



ALL SOILS ARE GROUP "B"  
 STORMWATER MGMT DRAINAGE AREA 2.043 ACRES  
 EX STNG DRAINAGE AREA (PROPERTY LINE) 5.6 ACRES

**APPROVED**  
 DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT  
 HOWARD COUNTY, MARYLAND  
 DATE 5-1-99

DRAINAGE AREA MAP  
 SCALE 1" = 200'

**By the Developer:**  
 "I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."  
 Edward J. Ziegler 2-8-89  
 Edward Ziegler, Chairman  
 Building Committee

**By the Engineer:**  
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
 Richard H. Berich 3/19/89  
 Richard H. Berich, P.E., Reg. No. 10959

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
 U.S. Soil 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

**SEDIMENT TRAP**  
 HOWARD COUNTY STY

DRAINAGE AREA	26 Ac ±
STORAGE REQUIRED	1680 cu. ft.
STORAGE PROVIDED	14,244 cu. ft.
STORAGE DEPTH	3.7 ft.
EMBANKMENT HEIGHT	424.0
CLEANOUT ELEVATION	421.0
BOTTOM ELEVATION	419.0
CREST ELEVATION	422.7

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER: [Signature] 7/18/88  
 DATE: 7/18/88

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
 DIRECTOR: [Signature] 7/24/89  
 DATE: 7/24/89

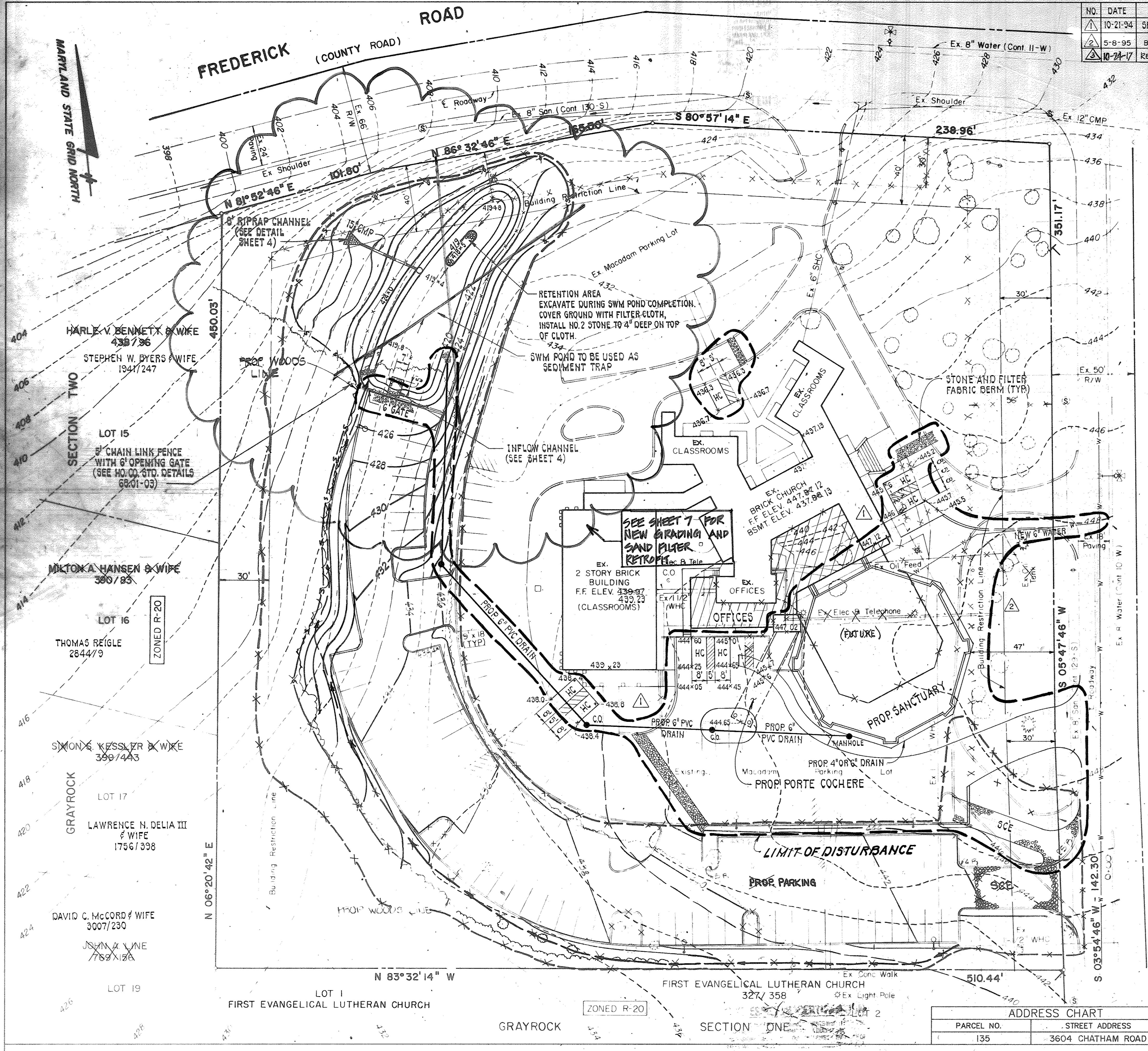
APPROVED: DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DIRECTOR: [Signature] 7/21/89  
 DATE: 7/21/89

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR: [Signature] 7/13/89  
 DATE: 7/13/89

Reviewed for Howard Soil Conservation District and meets technical requirements.  
 U.S. Soil Conservation Service  
 [Signature] 7/13/89  
 DATE: 7/13/89

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
 [Signature] 7/13/89  
 DATE: 7/13/89

ROAD (COUNTY ROAD)  
 CHATHAM



**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS	WATER CODE	SEWER CODE
135	3604 CHATHAM ROAD	F07	5758100

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
FIRST EVANGELICAL LUTHERAN CHURCH		PARCEL 135
PLAT # ORL/F	ZONE	TAX ZONE
L.229, F.332	R-20	24
		ELECT. DIST.
		2
		CENSUS
		60230

**PURDUM & JESCHKE**  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 1029 North Calvert Street  
 Baltimore, Maryland 21202 (301)837-0194

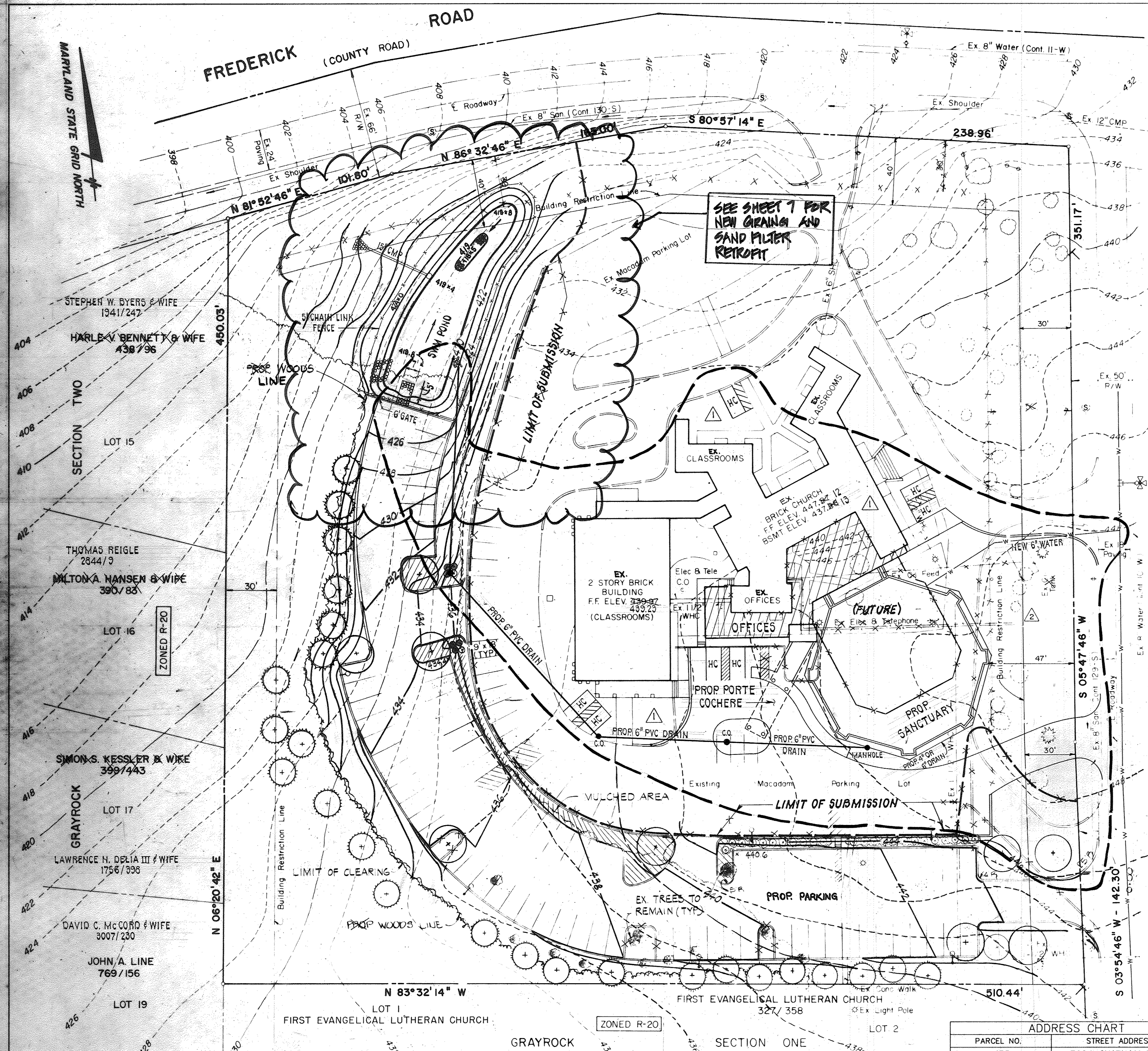
**OWNER / APPLICANT:**  
 EDWARD ZIEGLER, CHAIRMAN  
 BUILDING COMMITTEE  
 FIRST EVANGELICAL LUTHERAN CHURCH  
 3604 CHATHAM ROAD  
 ELLICOTT CITY, MD 21043

**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Edward J. Ziegler 2-8-89  
 DATE

**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Richard H. Berich 2-8-89  
 DATE

**FIRST EVANGELICAL LUTHERAN CHURCH OF ELLICOTT CITY**  
**SEDIMENT & EROSION CONTROL PLAN**  
 REVISIONS TO SDP-87-183  
 2ND ELECTION DISTRICT HOWARD COUNTY, MD  
 TAX MAP NO. 24 PARCEL 135  
 DATE: FEBRUARY 9, 1989 SCALE: 1" = 30'

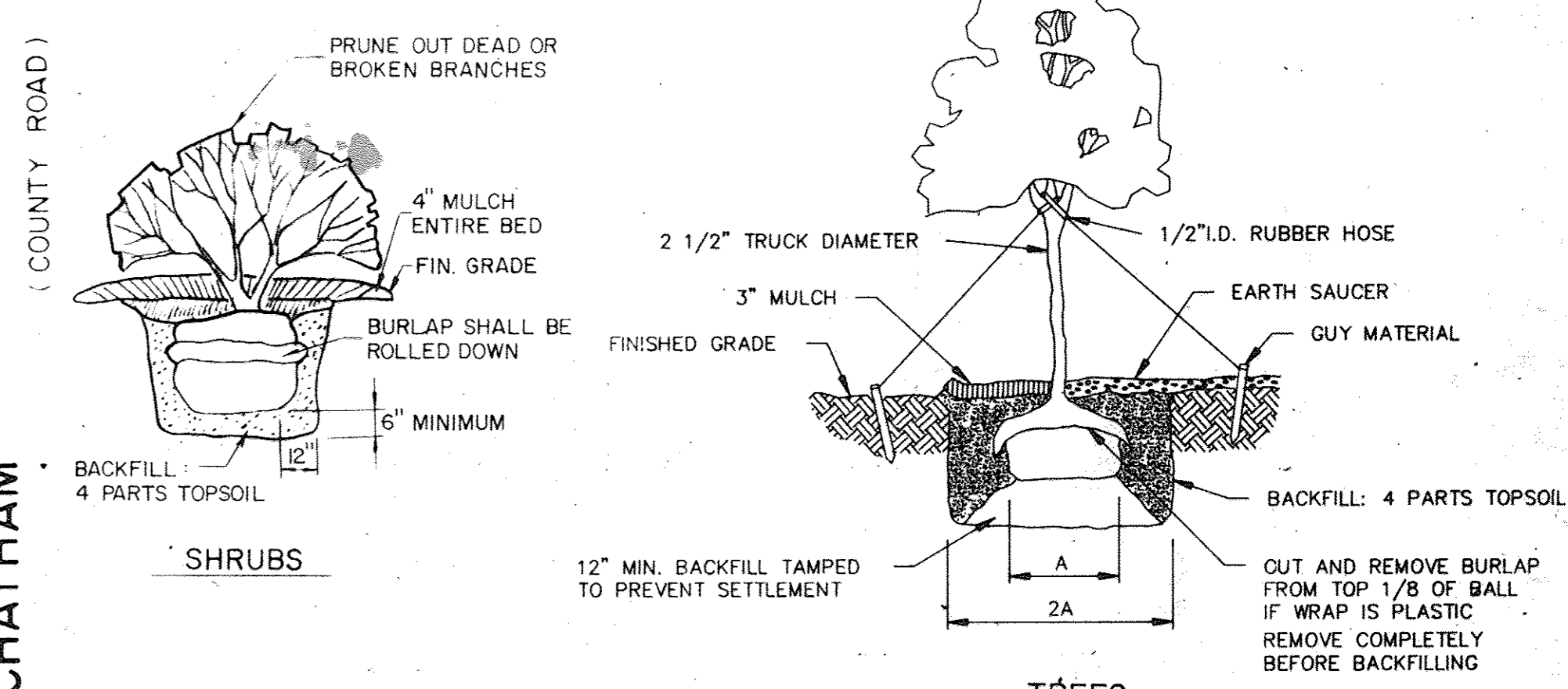
SHEET 2 OF 6-B  
 DES: PS  
 DRAWN: REC  
 CHK: RHB



**PLANTING SCHEDULE**

TREES:	QUAN	SYM.	NAME	SIZE	SPACING
	25	+	<i>Tsuga canadensis</i> Canadian Hemlock	5-6' B+B	As Shown
	1	+	<i>Ilex opaca</i> American Holly	6-7' B+B	As Shown
	2	+	<i>Quercus palustris</i> Pin Oak	2-2 1/2" cal B+B	As Shown
	7	+	<i>Tilia cordata</i> Little Leaf Linden	2-2 1/2" B+B	As Shown
<b>SHRUBS:</b>					
	24	⊗	<i>Cotoneaster dammeri</i> Bearberry cotoneaster	12-15" Cont	6' %
	6	⊗	<i>Ilex crenata</i> Japanese Holly	21-24" Cont.	As Shown
	2	⊗	<i>Rhododendron obtusum</i> "Hershey Red" Azalea "Delaware Valley" Azalea	18-21" Cont.	As Shown

ROAD  
CHATHAM



**PLANTING DETAILS**  
NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
DIRECTOR: [Signature] DATE: 7-24-89

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE  
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
DIRECTOR: [Signature] DATE: 7-15-89

APPROVED  
DIVISION OF  
COMMUNITY PLANNING  
& LAND DEVELOPMENT  
HOWARD COUNTY,  
MARYLAND  
DATE: 5-1-89

10-24-17	REDLINE REVISION-SHEETS 1 & 8 ADDED	
5-8-95	BLDG. RESTRICTION LINE REVISION	
10-21-84	SPOT ELEV, HANDICAPPED PARKING, AND DRAINS	
NO. DATE REVISIONS		
SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
PARCEL NO.	STREET ADDRESS	WATER CODE
135	3604 CHATHAM ROAD	F07
LOT/PARCEL #	PARCEL 135	SEWER CODE
PLAT # OR L/F	BLOCK	ZONE
L. 229, F. 332	10	R-20
TAX ZONE	ELECT. DIST.	CENSUS
24	2	6012 D
ADDRESS CHART		SEWER CODE
3604 CHATHAM ROAD		5753700

Reviewed for Howard Soil Conservation District and meets technical requirements.

[Signature] U.S. Soil Conservation Service DATE: 7-3-89

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

[Signature] Howard Soil Conservation District DATE: 7-3-89

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Edward J. Ziegler 2-8-89 DATE

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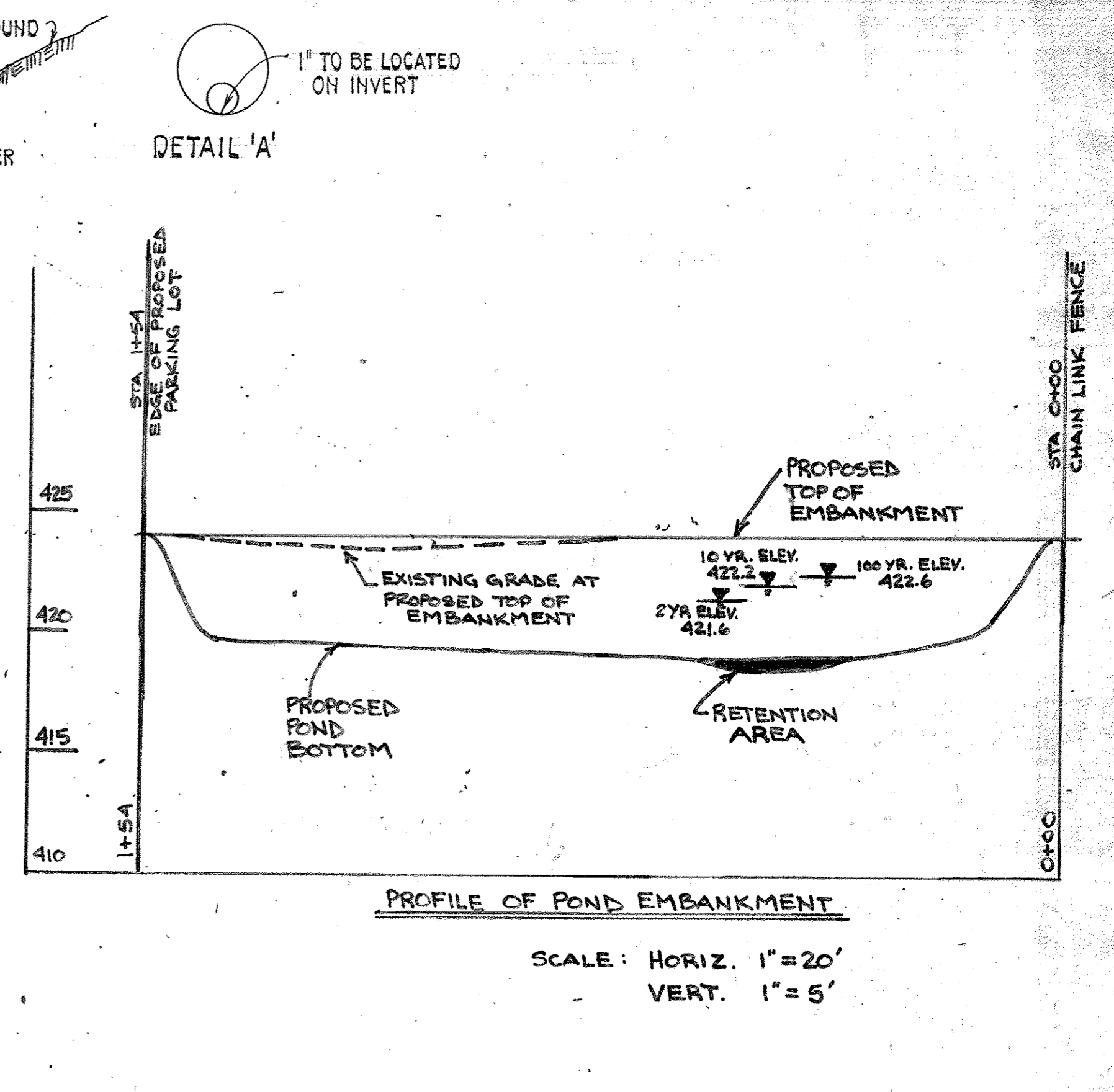
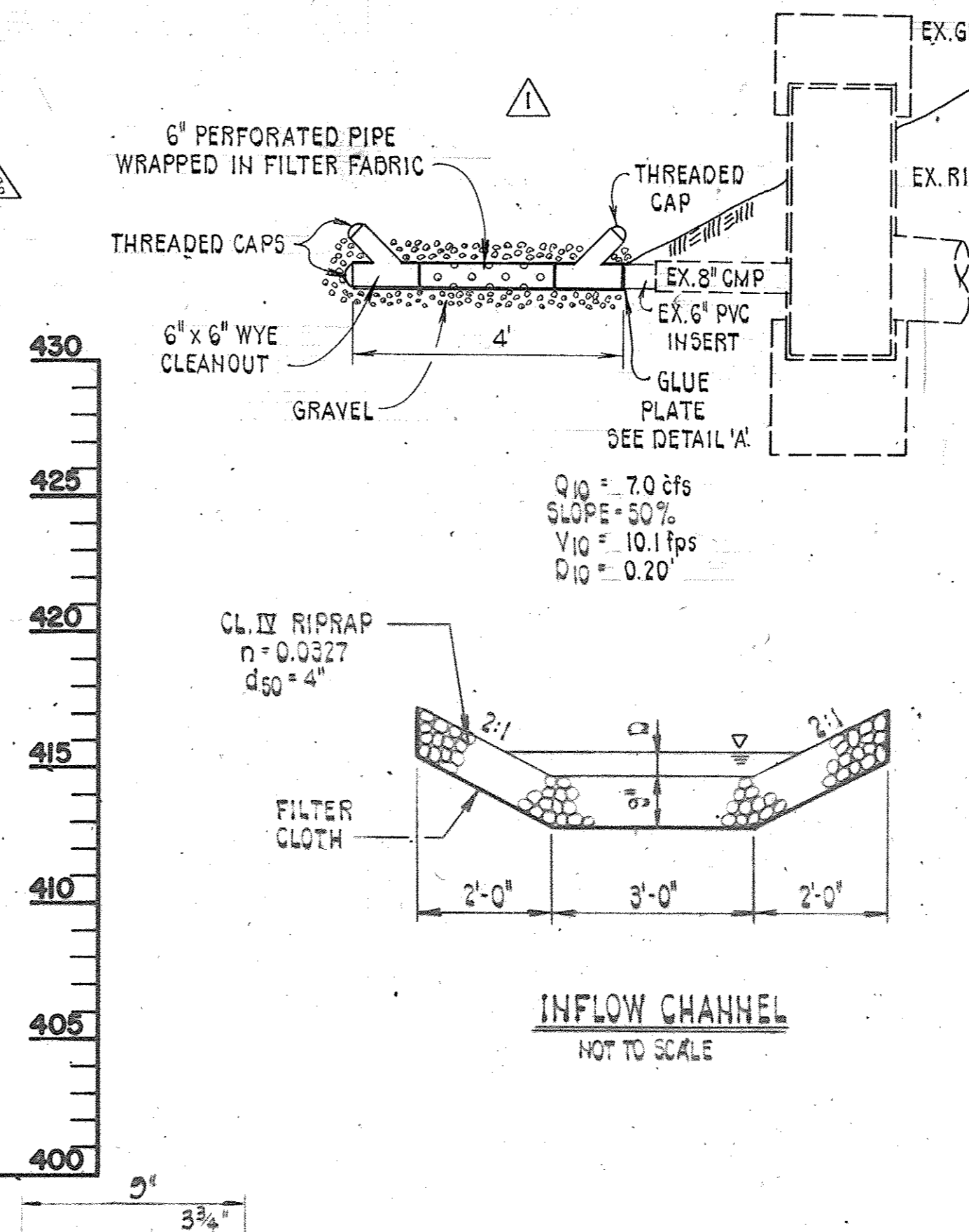
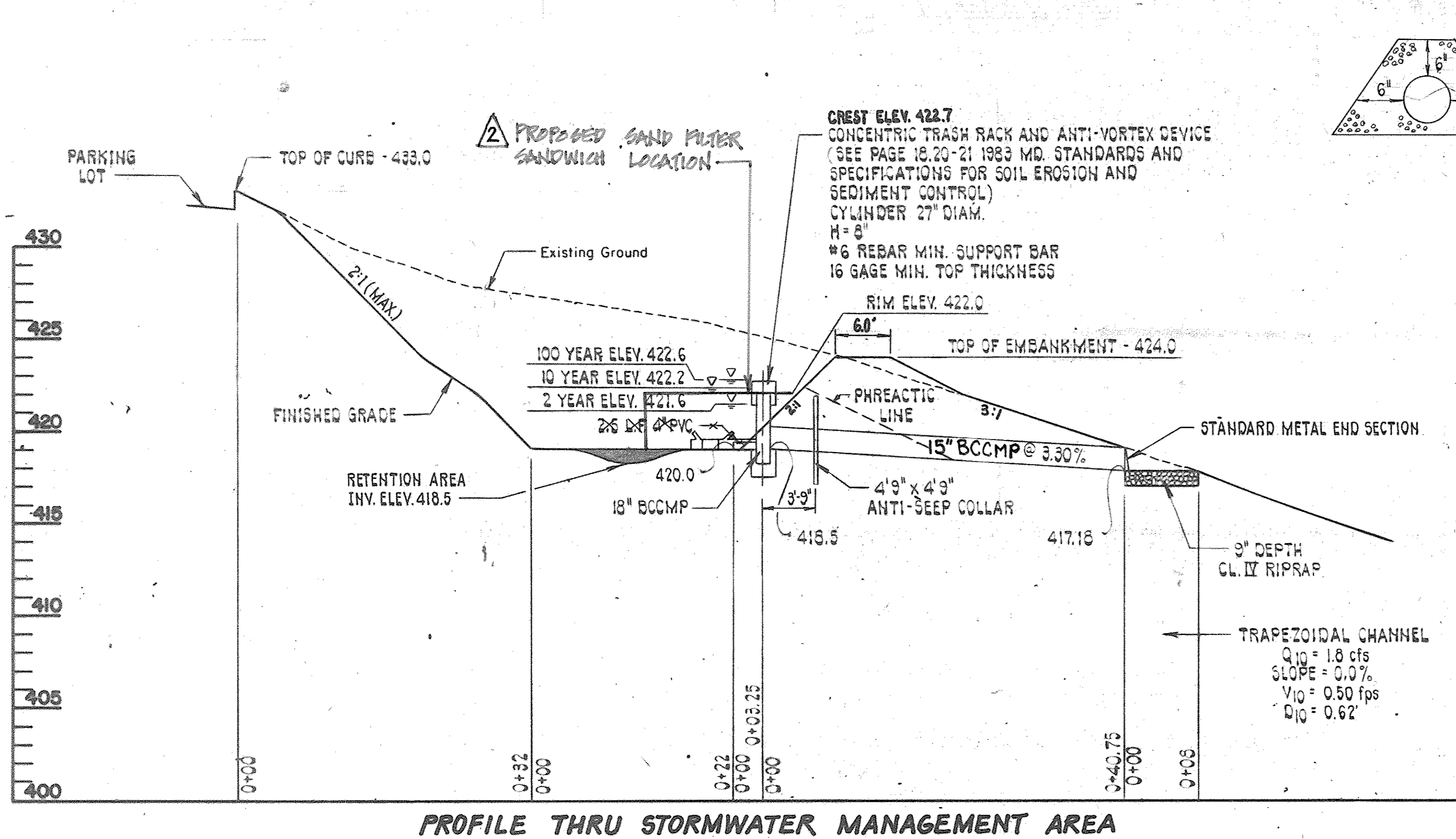
Richard H. Bevil 2-8-89 DATE

FIRST EVANGELICAL LUTHERAN CHURCH  
OF ELLICOTT CITY

**LANDSCAPING PLAN**  
REVISIONS TO SDP-87-183

2ND ELECTION DISTRICT HOWARD COUNTY, MD.  
TAX MAP NO. 24 PARCEL 135  
DATE: FEBRUARY 9, 1989 SCALE: 1" = 30'

SHEET 3 OF 68  
DES: PS  
DRAWN: REC  
CHK: RHB



**PROFILE THRU STORMWATER MANAGEMENT AREA**  
 SCALE: HORIZ. 1" = 10'  
 VERT. 1" = 5'

**STANDARD BITUMINOUS CURB**  
 NOT TO SCALE

**TYPICAL SECTION TRAPEZOIDAL CHANNEL**  
 NOT TO SCALE

**AUGER BORING LOG**  
 Project: First Lutheran Church of Ellicott City, Maryland  
 Boring No. B-1 Elevation Date January 20, 1987  
 Location See Plan

**AUGER BORING LOG**  
 Project: First Lutheran Church of Ellicott City, Maryland  
 Boring No. B-2 Elevation Date January 20, 1987  
 Location See Plan

Depth From	Depth To	U.S.D.A. Textural Classification	Elevation	In-Place Moisture Content
Surface	2.5	Clay Loam (Fill)		
2.5	8.0	Reddish Brown Clay Loam		26.2%
8.0	10.0	Brown Clay Loam with Rock Fragments		20.7%
10.0	15.0	Brown Clay Loam - Sandy Clay Loam		13.5%
Very Hard Drilling below 12 feet				
Note: Hole Collapsed at 7'8" upon withdrawal of auger				

Depth From	Depth To	U.S.D.A. Textural Classification	Elevation	In-Place Moisture Content
Surface	3.0	Clay Loam (Fill)		
3.0	7.5	Brown Clay Loam		22.7%
7.5	10.0	Light Brown Clay Loam		18.5%
10.0	15.0	Greenish Gray Clay Loam		13.6%
Very Hard Drilling below 10 feet				
Note: Hole Collapsed at 8 feet upon withdrawal of auger				

BORING INFORMATION SHOWN WAS PROVIDED BY MR. E.J. ZEIGLER DATED ON JANUARY 27, 1987 THE PURPOSE OF THESE BORINGS ARE TO AID THE ENGINEER IN THE DESIGN OF THE STORMWATER MANAGEMENT FACILITY. IF THE CONTRACTOR USES THIS INFORMATION TO MAKE JUDGEMENTS ON THE EXCAVATED MATERIALS HE DOES SO AT HIS OWN RISK.

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**TYPICAL BITUMINOUS PAVEMENT SECTION**  
 HOWARD COUNTY STD. SECTION NO. P-1  
 NOT TO SCALE

**TYPICAL SECTION TRAPEZOIDAL CHANNEL**  
 NOT TO SCALE

**PURDUM & JESCHKE**  
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**FIRST EVANGELICAL LUTHERAN CHURCH OF ELLICOTT CITY**  
 REVISIONS TO SDP-87-183  
 STORMWATER MANAGEMENT DETAILS  
 2ND ELECTION DISTRICT HOWARD COUNTY, MD.  
 TAX MAP NO. 24 PARCEL 135  
 DATE: FEBRUARY 9, 1989 SCALE: AS SHOWN

APPROVED  
 HOWARD COUNTY, MARYLAND  
 DATE 5-1-89

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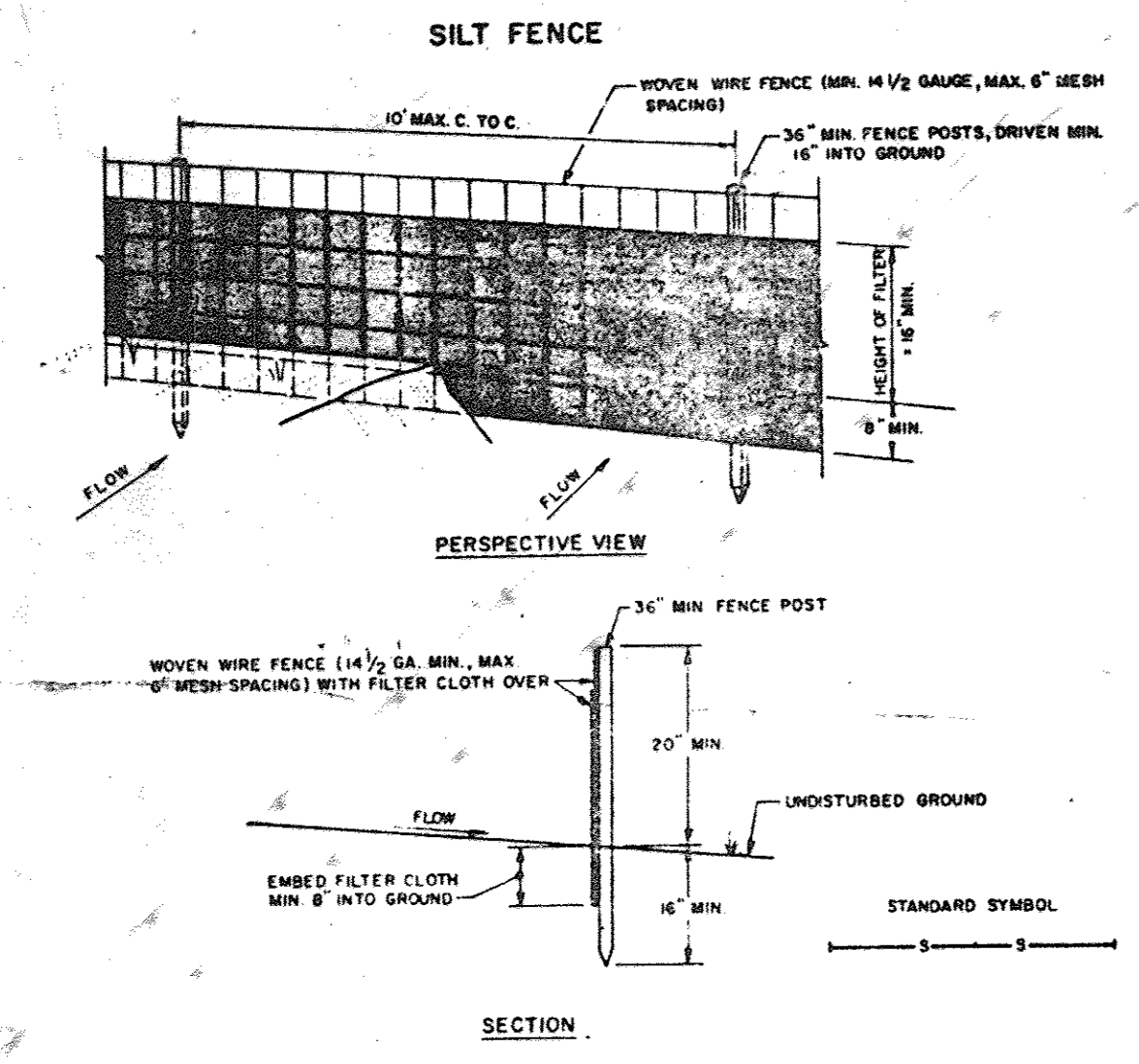
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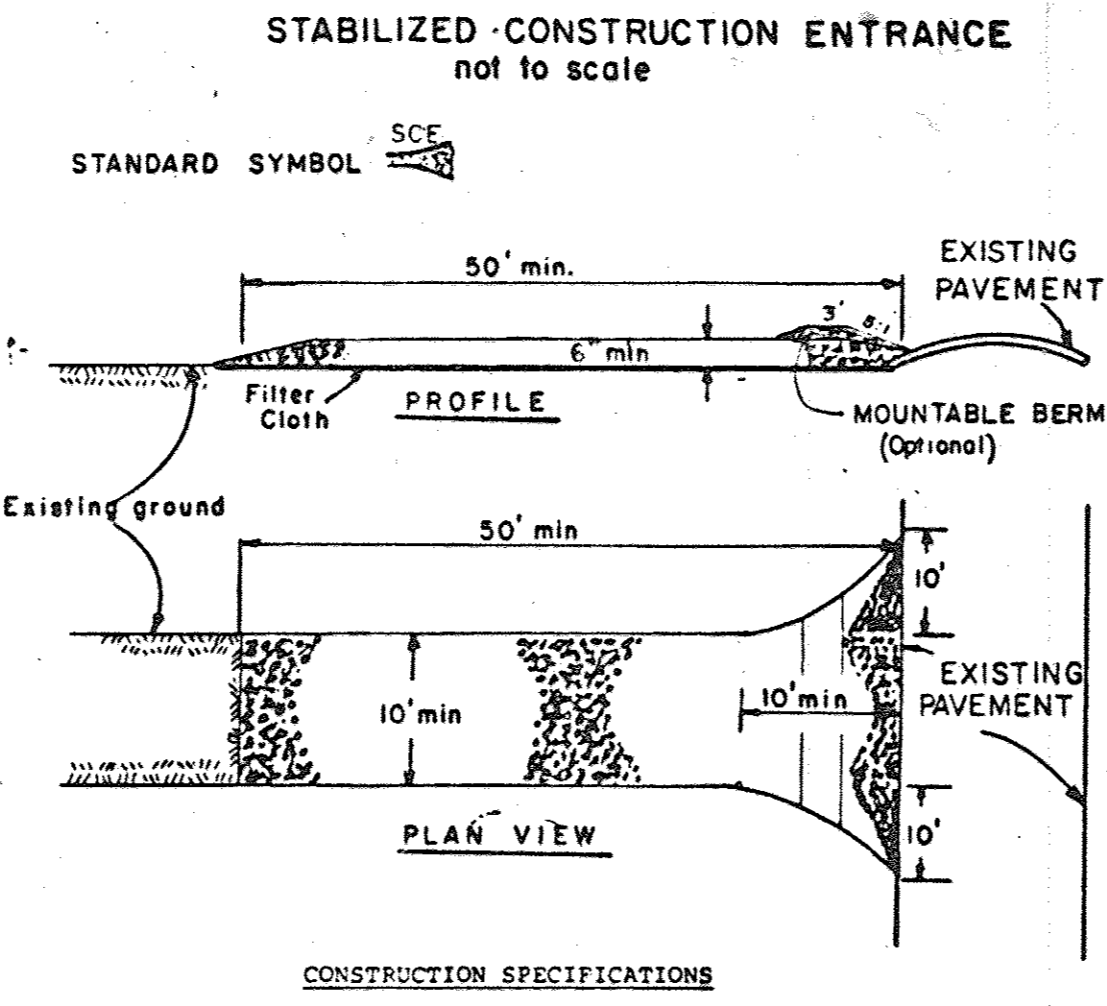
APPROVED  
 HOWARD COUNTY, MARYLAND  
 DATE 5-1-89



**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

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

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD  
 FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH SPACING  
 FILTER CLOTH: FILTER X, MURRAY 1000, STABILINKA 1100N OR APPROVED EQUAL  
 PREFABRICATED UNIT: GEOTAB, ENVIROFENCE, OR APPROVED EQUAL



**CONSTRUCTION SPECIFICATIONS**

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

**Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

**Soil Amendments:** In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

**Seeding -** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

**Mulching -** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

**Maintenance -** Inspect all seeded areas and make needed repairs, replacements and reseeding.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

**Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

**Soil Amendments:** Apply 60 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

**Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 24 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

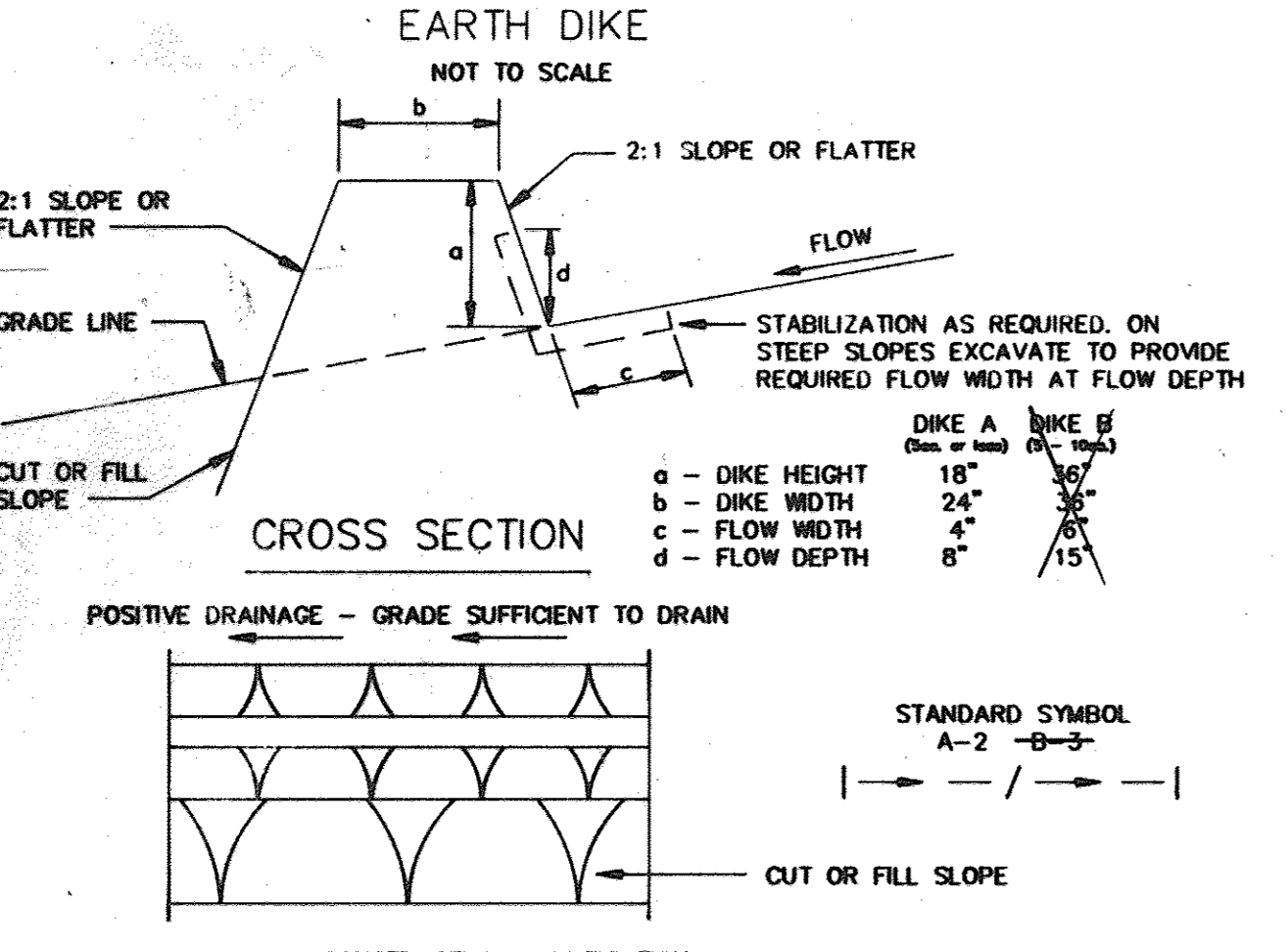
**Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

**SEDIMENT CONTROL NOTES**

- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- 7) Site Analysis:
 

Total Area of Site	5.647 Acres
Area Disturbed	1.40 Acres
Area to be roofed or paved	0.86 Acres
Area to be vegetatively stabilized	0.56 Acres
Total Cut	3070 Cu. yds
Total Fill	1865 Cu. yds
Offsite waste/borrow area location	UNDETERMINED
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- 10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

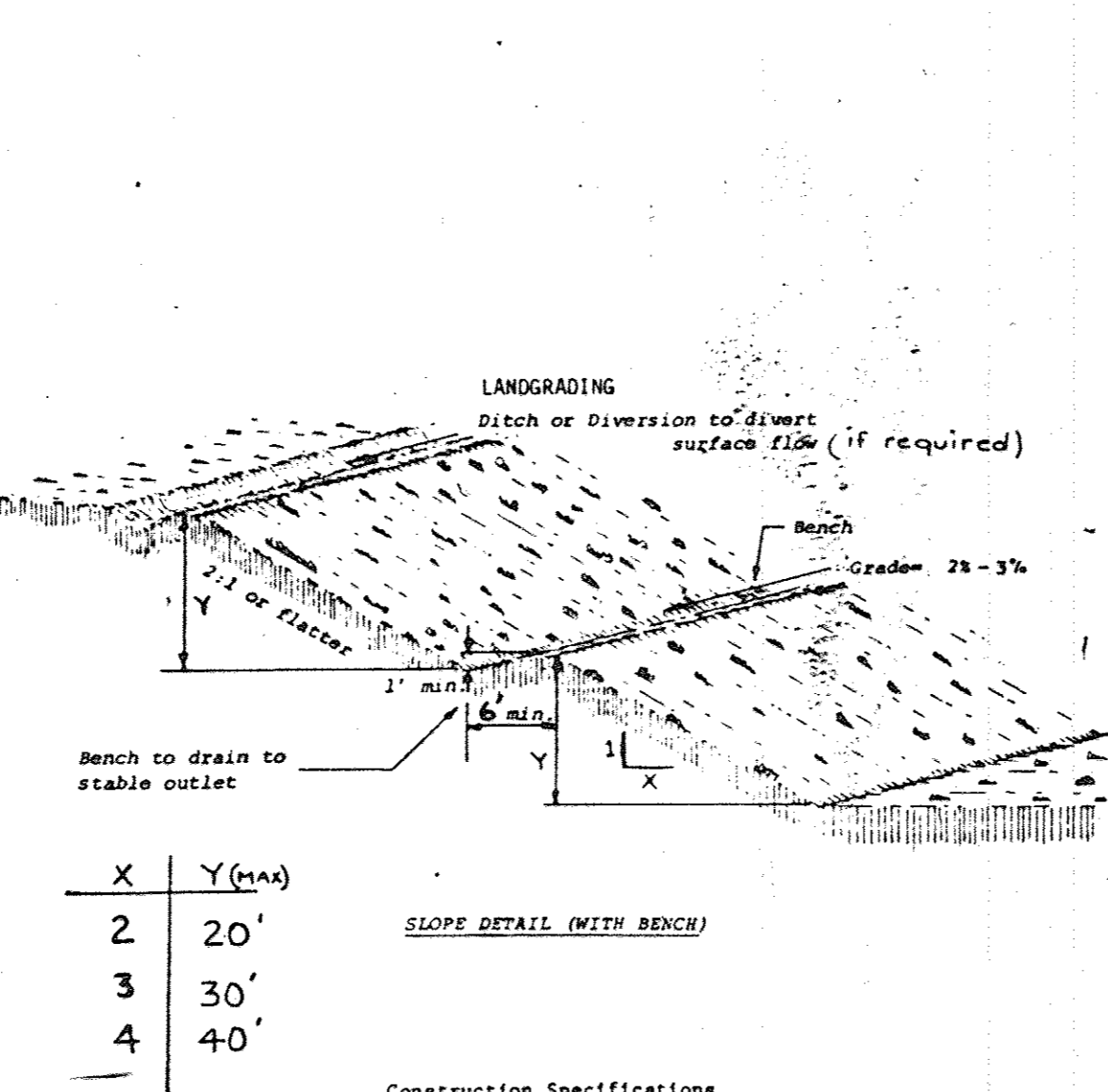


**CONSTRUCTION SPECIFICATION**

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION, RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATION FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

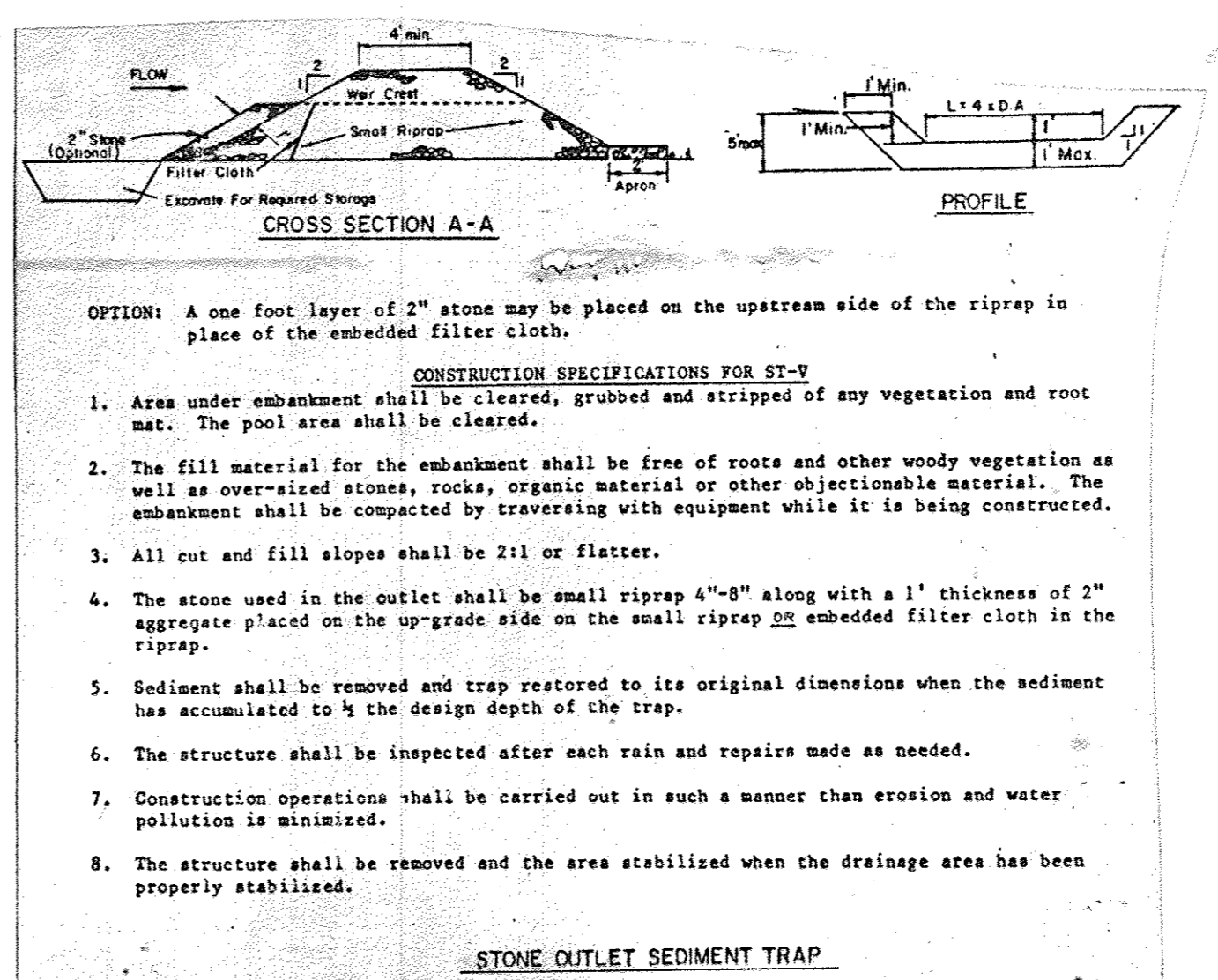
TYPE OF TREATMENT	FLOW CHANNEL STABILIZATION	
	CHANNEL GRADE	DIKE A
1	.5 - 3.0%	SEED AND STRAW MULCH
2	3.1 - 5.0%	SEED AND STRAW MULCH
3	5.1 - 8.0%	SEED WITH JUTE, OR SOD; 2" STONE
4	8.1 - 20%	LINED RIPRAP 4 - 8"

A. STONE TO BE 2 INCH STONE, OR RECYCLE CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.  
 B. RIPRAP TO BE 4 - 8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.  
 C. APPROVED EQUIVALENT CAN BE SUBSTITUTED FOR ANY OF THE MATERIALS.



**CONSTRUCTION SPECIFICATIONS**

1. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved sediment control plan until they are permanently stabilized.
2. All sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved sediment control plan and the "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas".
3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.
4. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable material.
5. Areas which are to be topsoiled shall be scarified to a minimum depth of three inches prior to placement of topsoil.
6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.
7. All fill to be placed and compacted in layers not to exceed 8 inches in thickness.
8. Except for approved landfills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
9. Frozen materials or soft, mucky or highly compressible materials shall not be incorporated into fills.
10. Fill shall not be placed on a frozen foundation.
11. All benches shall be kept free of sediment during all phases of development.
12. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specifications for Subsurface Drain or other approved method.
13. All graded areas shall be permanently stabilized immediately following finished grading.
14. Stockpiles, borrow areas and spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.



**OPTION:** A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

**CONSTRUCTION SPECIFICATIONS FOR ST-V**

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the upgrade side on the small riprap embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

**APPROVED**  
 DIVISION OF  
 COMMUNITY PLANNING  
 & LAND DEVELOPMENT  
 HOWARD COUNTY,  
 MARYLAND  
 DATE 5-1-89

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

U.S. Soil Conservation Service Date

Howard Soil Conservation District Date

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEM HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER DATE 7-15-89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
 DIRECTOR DATE 7-24-89

APPROVED: CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 CHIEF BUREAU OF ENGINEERING DATE 7-13-89

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR DATE 7-13-89

Reviewed for Howard Soil Conservation District and meets technical requirements.  
 Howard Soil Conservation District Date 7-3-89

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
 Howard Soil Conservation District Date 7-3-89

By the Developer:  
 "I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."  
 Edward J. Zeigler 2-8-89  
 Edward Zeigler, Chairman  
 Building Committee

By the Engineer:  
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
 Richard H. Berich 2-8-89  
 Richard H. Berich, P.E. Reg. No. 10959 Date

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #			
FIRST EVANGELICAL LUTHERAN CHURCH		PARCEL 135			
PLAT # ORL/F	BLOCK	ZONE	TAX ZONE	ELECT. DIST.	CENSUS
L. 229, F 332	10	R-20	24	2	6023.01
PARCEL NO.	STREET ADDRESS	WATER CODE	SEWER CODE		
		F07	5753700		

REVISIONS TO SDP-87-183

FIRST EVANGELICAL LUTHERAN CHURCH OF ELLICOTT CITY  
 SEDIMENT & EROSION CONTROL DETAILS

2ND ELECTION DISTRICT HOWARD COUNTY, MD.  
 TAX MAP NO. 24 PARCEL 135  
 DATE: FEBRUARY 9, 1989 NOT TO SCALE

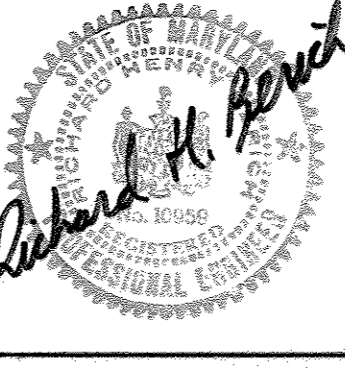
SHEET 5 OF 6  
 DES: PS  
 DRAWN: CAD  
 CHK: RHB

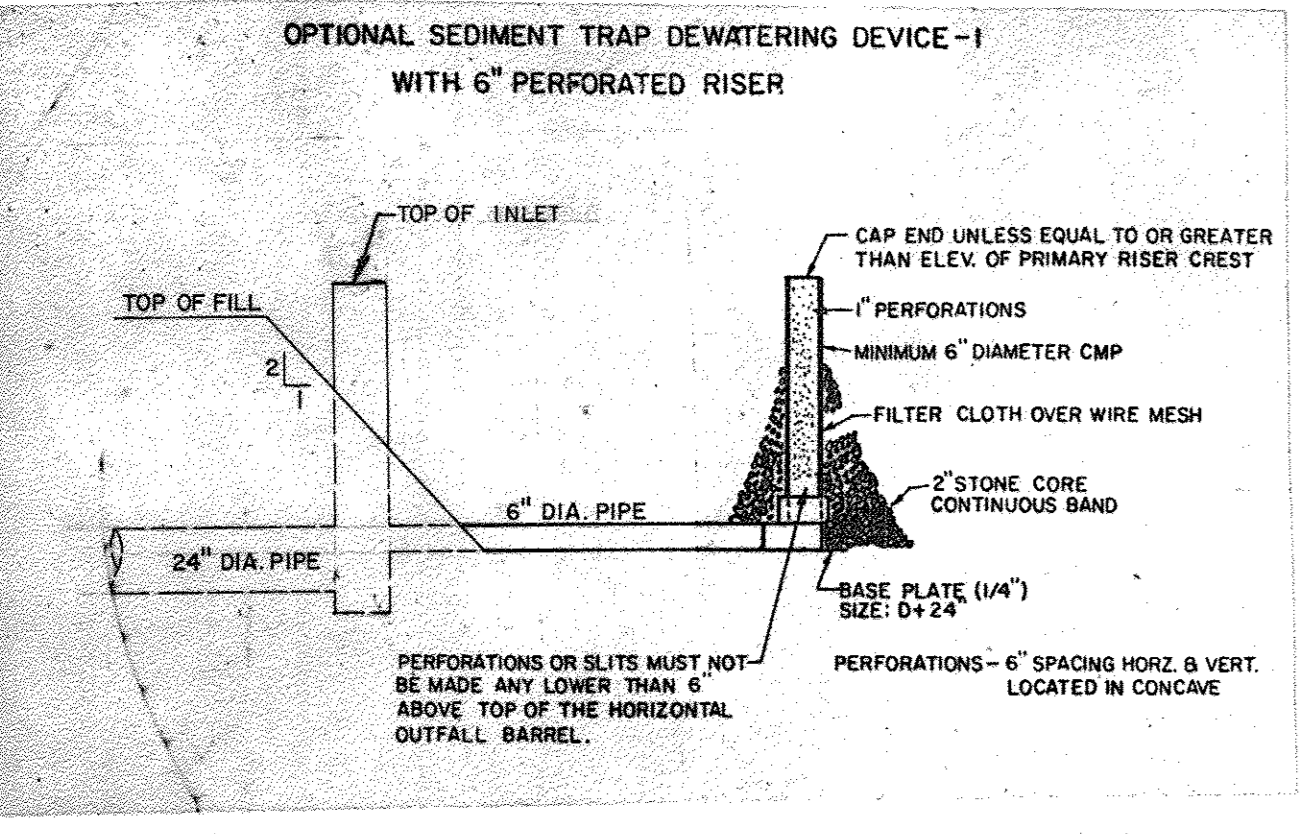
**PURDUM & JESCHKE**  
 CONSULTING ENGINEERS AND  
 LAND SURVEYORS  
 1029 North Calvert Street  
 Baltimore, Maryland 21202 (301)837-0194

**OWNER / APPLICANT**  
 EDWARD ZIEGLER, CHAIRMAN  
 BUILDING COMMITTEE  
 FIRST EVANGELICAL  
 LUTHERAN CHURCH  
 3604 CHATHAM ROAD  
 ELLICOTT CITY, MD 21043

**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PRACTICAL AND WORKABLE PLAN PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT.  
 Edward J. Zeigler 2-8-89  
 DATE

**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Richard H. Berich 2-8-89  
 DATE





**CONSTRUCTION SPECIFICATIONS FOR ST-VI**

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
- All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
- Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
- Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
- Stone used in the outlet channel shall be four (4) to eight (8) inches (riprap). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repaired as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
- Drainage area for this practice is limited to 15 acres or less.

**CONSTRUCTION SEQUENCE FOR PARKING AREA**

- OBTAIN GRADING PERMIT. 2 WEEKS
- CLEAR AND GRUB FOR THE INSTALLATION OF SEDIMENT TRAP AND PERIMETER CONTROLS. 3 DAYS
- INSTALL SILT FENCE, EARTH DIKE & CONSTR. ENTRANCE 2 DAYS
- EXCAVATE SEDIMENT TRAP TO 30'x44' SIZE AND CONSTRUCT SEDIMENT TRAP. EXCAVATE TO BOTTOM ELEVATION 420'. 2 WEEKS
- CONSTRUCT 1-1. INSTALL DEWATERING DEVICE AND RIPRAP APRON. ENLARGE SEDIMENT TRAP TO 44'x54'. ELIMINATE STONE OUTLET. 2 WEEKS
- BEGIN GRADING OF PARKING AREA & SUBGRADE. 3 WEEKS
- CONSTRUCT CURB & GUTTER AND INSTALL NON POROUS PAVEMENT (P-1). 2 WEEKS
- STABILIZE ALL DISTURBED AREAS - CONTRACTOR MAY BEGIN LANDSCAPING. 1 WEEK
- EXCAVATE STORMWATER MANAGEMENT DETENTION AREA - REMOVE THE DEWATERING DEVICE 2 DAYS
- COMPLETE THE STORMWATER MANAGEMENT FACILITY. EXCAVATE TO 419' DEPTH AS PER PLAN, INSTALL FILTER CLOTH COVERED BY NO. 2 STONE IN RETENTION AREA OF POND. 2 WEEKS
- COMPLETE CURB & GUTTER INSTALLATION 1 WEEK
- REMOVE REMAINING SEDIMENT CONTROL DEVICES (AS APPROVED BY INSPECTOR), FINE GRADE AND STABILIZE. COMPLETE LANDSCAPING. 1 WEEK

**POROUS ASPHALT PAVEMENT CONSTRUCTION SPECIFICATION**

- Subgrade Preparation**
- Alter and refine the grades as necessary to bring subgrade to required grades and sections as shown in the drawings.
  - The type of equipment used in subgrade preparation construction shall not cause undue subgrade compaction. (Use tracked equipment or oversized rubber tire equipment - DO NOT use standard rubber tired equipment.) Traffic over subgrade shall be kept at a minimum. Where fill is required, it shall be compacted to a density equal to the undisturbed subgrade, and inherent soft spots corrected.

**Aggregate Base Course**

- All stone used shall be clean, washed, crushed stone meeting MSHA Specifications.
- Aggregate shall be of two sizes: the reservoir base course shall be to a depth as noted on drawings of aggregate (maximum of 2", minimum of 1"), and a 2-inch deep top course of 1/2" aggregate (maximum of 5/8", minimum 3/8").
- Aggregate base course shall be laid over a dry subgrade covered with engineering filter fabric to a depth shown in drawings, in lifts to lay naturally compacted. The stone base course shall be compacted lightly. Keep the base course clean from debris, and sediment.

**Porous Asphalt Surface Course**

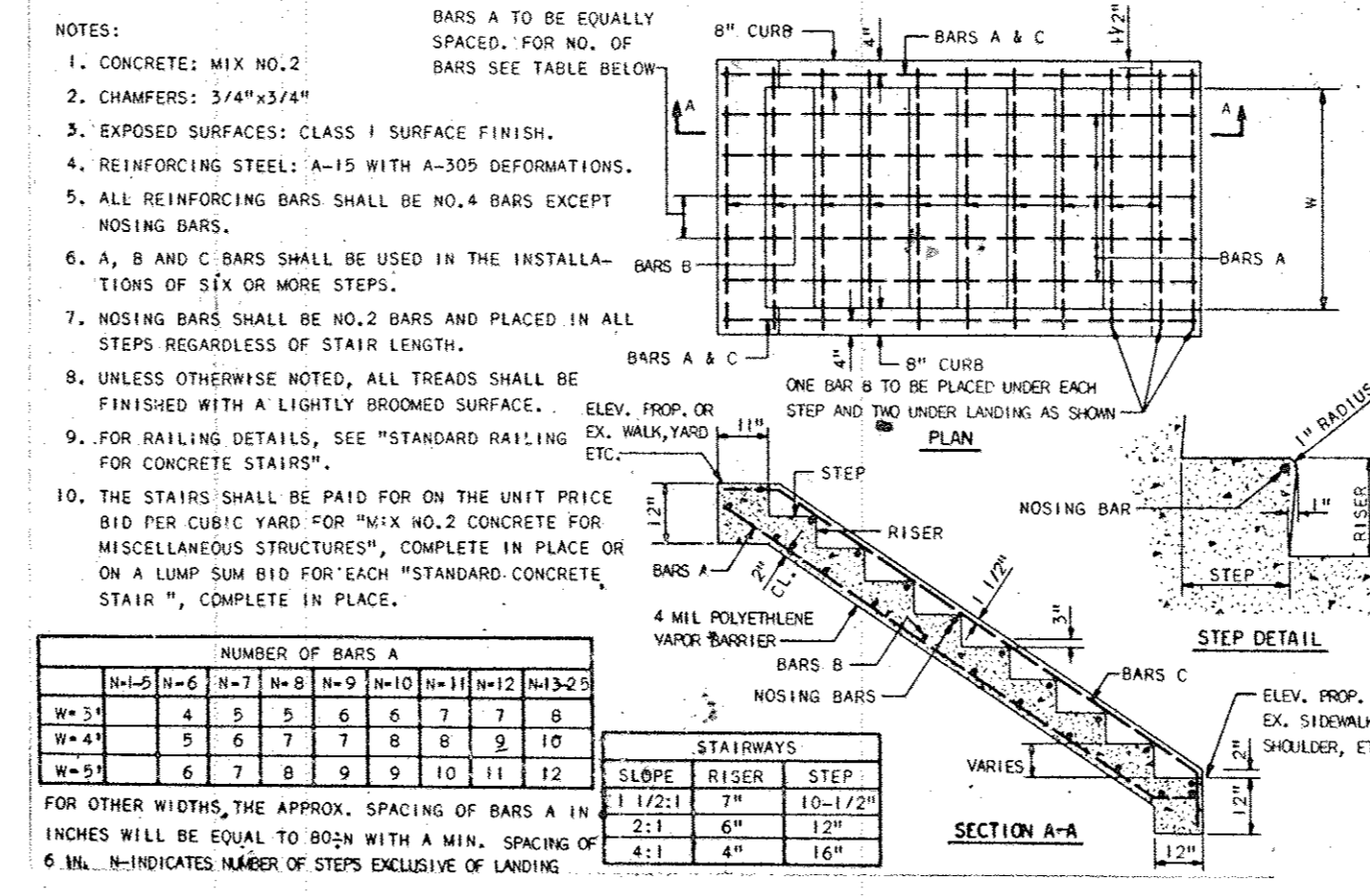
- The surface course shall be laid directly over the 1/2" aggregate base course and shall be laid in one lift.
- The laying temperature shall be between 230° and 260°, with minimum air temperature of 50°F, to make sure that the surface does not cool prior to compaction.
- Compaction of surface course shall be done while the surface is cool enough to resist a 10-ton roller. One or two passes by the roller is all that is required for proper compaction. More rolling could cause a reduction in the surface course porosity.
- Mixing plant shall certify the aggregate mix and abrasion loss factor and the asphalt content in the mix. The asphaltic mix shall be tested for its resistance to stripping by water using ASTM D 1664. If the estimated coating area is not above 95 percent, anti-stripping agents shall be added to the asphalt.

- Transporting of mix to site shall be in clean vehicle with smooth dump beds that have been sprayed with a non-petroleum release agent. The mix shall be covered during transportation to control cooling.
- Mix of asphalt shall be 5.5 to 6 percent of weight dry aggregate.
- Asphalt grade shall meet AASHTO Specification M-20 for 65 to 80 penetration road asphalt as a binder.
- Aggregate grading shall be as follows:

Sieve Sizes	Percent Passing by Weight
12.5 mm (1/2 in.)	97-100
9.5 mm (3/8 in.)	40-50
4.75 mm (No. 4)	25-35
2.36 mm (No. 8)	20-30
1.18 mm (No. 16)	2-10
0.075 mm (No. 200)	0-2

**Protection**  
After final rolling, no vehicular traffic of any kind shall be permitted on the pavement until cooling and hardening has taken place, and in no case less than 6 hours (preferably a day or two).

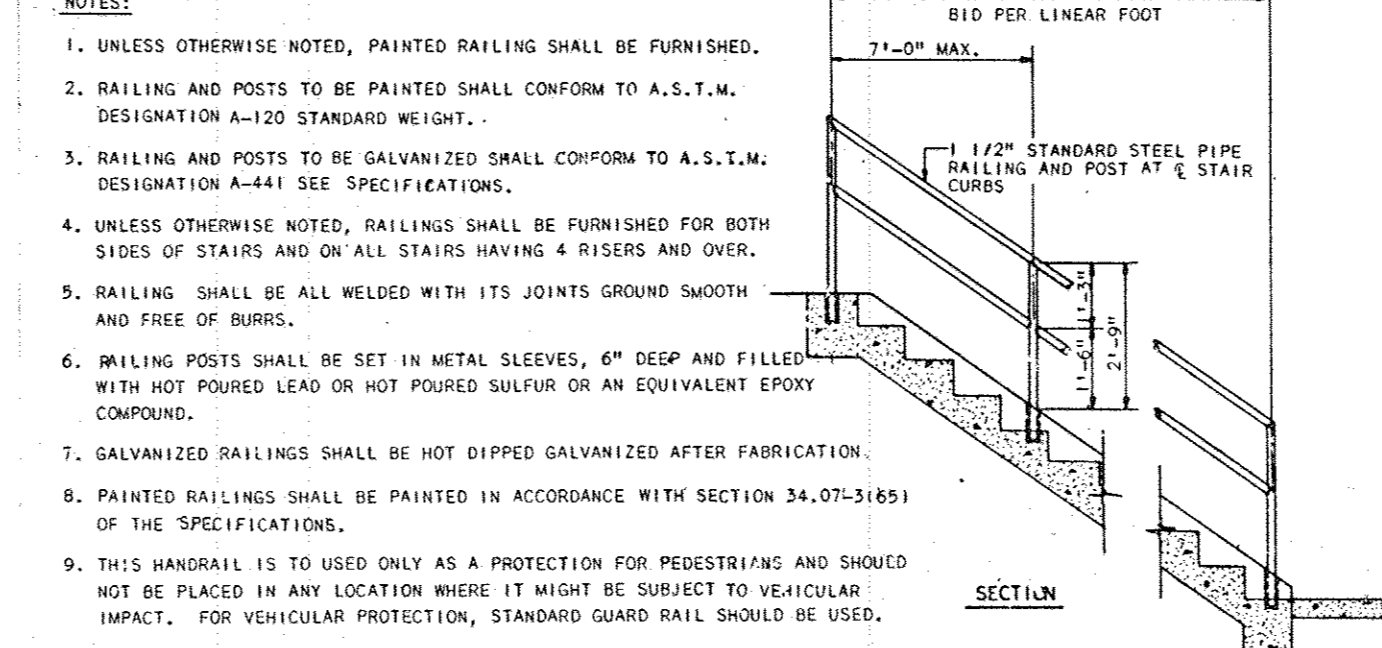
- Workmanship**
- Work shall be done expertly throughout and without staining or damage to other permanent work.
  - Make transition between existing and new paving work neat and flush.
  - Finished paving shall be even, without pockets, and graded to elevations shown.
  - Iron smoothly to grade, all minor surface projections and edges adjoining other materials.



**STANDARD CONCRETE STAIRS**  
HOWARD COUNTY STANDARD G.701

**NOTES:**

- CONCRETE: MIX NO. 2
- CHAMFERS: 3/4"x3/4"
- EXPOSED SURFACES: CLASS I SURFACE FINISH.
- REINFORCING STEEL: A-15 WITH A-305 DEFORMATIONS.
- ALL REINFORCING BARS SHALL BE NO. 4 BARS EXCEPT NOSING BARS.
- A, B AND C BARS SHALL BE USED IN THE INSTALLATIONS OF SIX OR MORE STEPS.
- NOSING BARS SHALL BE NO. 2 BARS PLACED IN ALL STEPS REGARDLESS OF STAIR LENGTH.
- UNLESS OTHERWISE NOTED, ALL TREADS SHALL BE FINISHED WITH A LIGHTLY BROOMED SURFACE.
- FOR RAILING DETAILS, SEE "STANDARD RAILING EX. WALKWAY, ETC."
- THE STAIRS SHALL BE PAID FOR ON THE UNIT PRICE BID PER CUBIC YARD FOR "MIX NO. 2 CONCRETE FOR MISCELLANEOUS STRUCTURES", COMPLETE IN PLACE OR ON A LUMP SUM BID FOR EACH "STANDARD CONCRETE STAIR", COMPLETE IN PLACE.



**STANDARD PIPE RAILING FOR CONCRETE STAIRS**  
HOWARD COUNTY STANDARD G.702

**NOTES:**

- UNLESS OTHERWISE NOTED, PAINTED RAILING SHALL BE FURNISHED.
- RAILING AND POSTS TO BE PAINTED SHALL CONFORM TO A.S.T.M. DESIGNATION A-120 STANDARD WEIGHT.
- RAILING AND POSTS TO BE GALVANIZED SHALL CONFORM TO A.S.T.M. DESIGNATION A-441 SEE SPECIFICATIONS.
- UNLESS OTHERWISE NOTED, RAILINGS SHALL BE FURNISHED FOR BOTH SIDES OF STAIRS AND ON ALL STAIRS HAVING 4 RISERS AND OVER.
- RAILING SHALL BE ALL WELDED WITH ITS JOINTS GROUND SMOOTH AND FREE OF BURRS.
- WELDED POSTS SHALL BE SET IN METAL SLEEVES, 6" DEEP AND FILLED WITH HOT POURED LEAD OR HOT POURED SULFUR OR AN EQUIVALENT EPOXY COMPOUND.
- GALVANIZED RAILINGS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- PAINTED RAILINGS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 24.07-5(65) OF THE SPECIFICATIONS.
- THIS HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PRECASTING AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO VEHICULAR IMPACT. FOR VEHICULAR PROTECTION, STANDARD GUARD RAIL SHOULD BE USED.
- THE RAILING SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT, MEASURED HORIZONTALLY, FOR "STANDARD PIPE RAILING FOR CONCRETE STAIRS" COMPLETE IN PLACE; OR ITS COST SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "STANDARD CONCRETE STAIRS", COMPLETE IN PLACE.

**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS

**CONSTRUCTION SPECIFICATIONS FOR ST-VI**

**NOTES:**

- CONCRETE: MIX NO. 2
- CHAMFERS: 3/4"x3/4"
- EXPOSED SURFACES: CLASS I SURFACE FINISH.
- REINFORCING STEEL: A-15 WITH A-305 DEFORMATIONS.
- ALL REINFORCING BARS SHALL BE NO. 4 BARS EXCEPT NOSING BARS.
- A, B AND C BARS SHALL BE USED IN THE INSTALLATIONS OF SIX OR MORE STEPS.
- NOSING BARS SHALL BE NO. 2 BARS PLACED IN ALL STEPS REGARDLESS OF STAIR LENGTH.
- UNLESS OTHERWISE NOTED, ALL TREADS SHALL BE FINISHED WITH A LIGHTLY BROOMED SURFACE.
- FOR RAILING DETAILS, SEE "STANDARD RAILING EX. WALKWAY, ETC."
- THE STAIRS SHALL BE PAID FOR ON THE UNIT PRICE BID PER CUBIC YARD FOR "MIX NO. 2 CONCRETE FOR MISCELLANEOUS STRUCTURES", COMPLETE IN PLACE OR ON A LUMP SUM BID FOR EACH "STANDARD CONCRETE STAIR", COMPLETE IN PLACE.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

*James M. Hahn* 7-3-89  
U.S. Soil Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*Stephen L. Hahn* 7-3-89  
Howard Soil Conservation District Date

By the Developer:

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

*Edward J. Ziegler* 2-8-89  
Edward Ziegler, Chairman  
Building Committee Date

SUBDIVISION NAME	SECT./AREA	LOT/PARCEL #
FIRST EVANGELICAL LUTHERAN CHURCH		PARCEL 135
PLAT # ORL/F	BLOCK	ZONE
L. 229, F. 332	10	R-20
		TAX ZONE
		24
		ELECT. DIST.
		2
		CENSUS
		6023.01
		WATER CODE
		FO7
		SEWER CODE
		5753700

**APPROVED**  
DIVISION OF  
COMMUNITY PLANNING  
& LAND DEVELOPMENT  
HOWARD COUNTY,  
MARYLAND  
DATE: 5-1-89

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*James M. Hahn* 7-13-89  
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*Stephen L. Hahn* 7-24-89  
DIRECTOR DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE  
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*James M. Hahn* 7-13-89  
DIRECTOR DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE  
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*James M. Hahn* 7-13-89  
DIRECTOR DATE

Reviewed for Howard Soil Conservation District and meets technical requirements.  
*James M. Hahn* 7-3-89  
Howard Soil Conservation District Date

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*Stephen L. Hahn* 7-3-89  
Howard Soil Conservation District Date

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS AND  
LAND SURVEYORS  
1029 North Calvert Street  
Baltimore, Maryland 21202 (301)837-0194

OWNER / APPLICANT  
**EDWARD ZIEGLER, CHAIRMAN**  
BUILDING COMMITTEE  
FIRST EVANGELICAL  
LUTHERAN CHURCH  
3604 CHATHAM ROAD  
ELICOTT CITY, MD 21043

DEVELOPER'S CERTIFICATION  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT.  
*Edward J. Ziegler* 2-8-89  
DATE

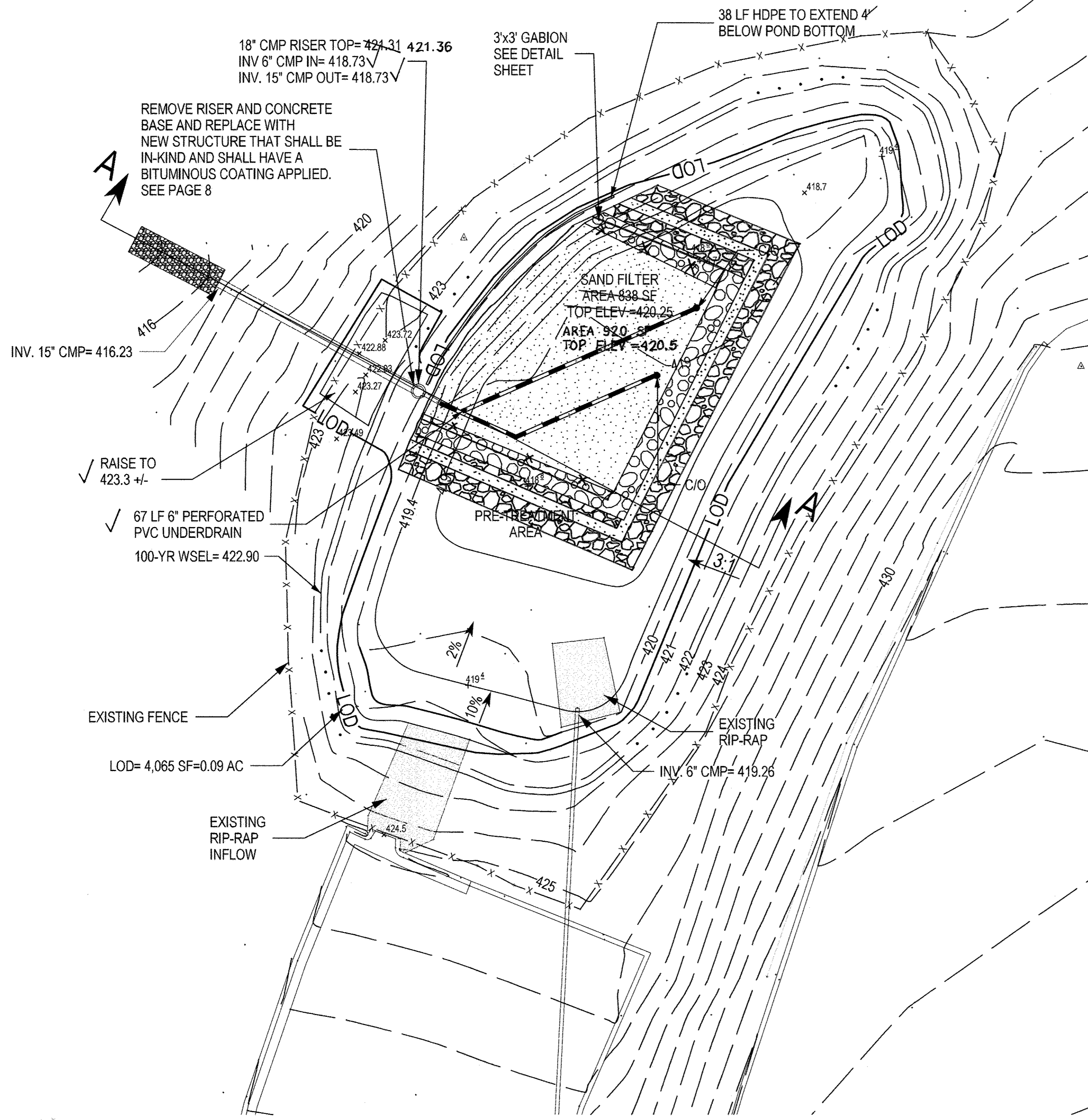
ENGINEER'S CERTIFICATION  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Richard H. Berich* 2-9-89  
DATE

ENGINEER'S CERTIFICATION  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Richard H. Berich* 2-9-89  
DATE

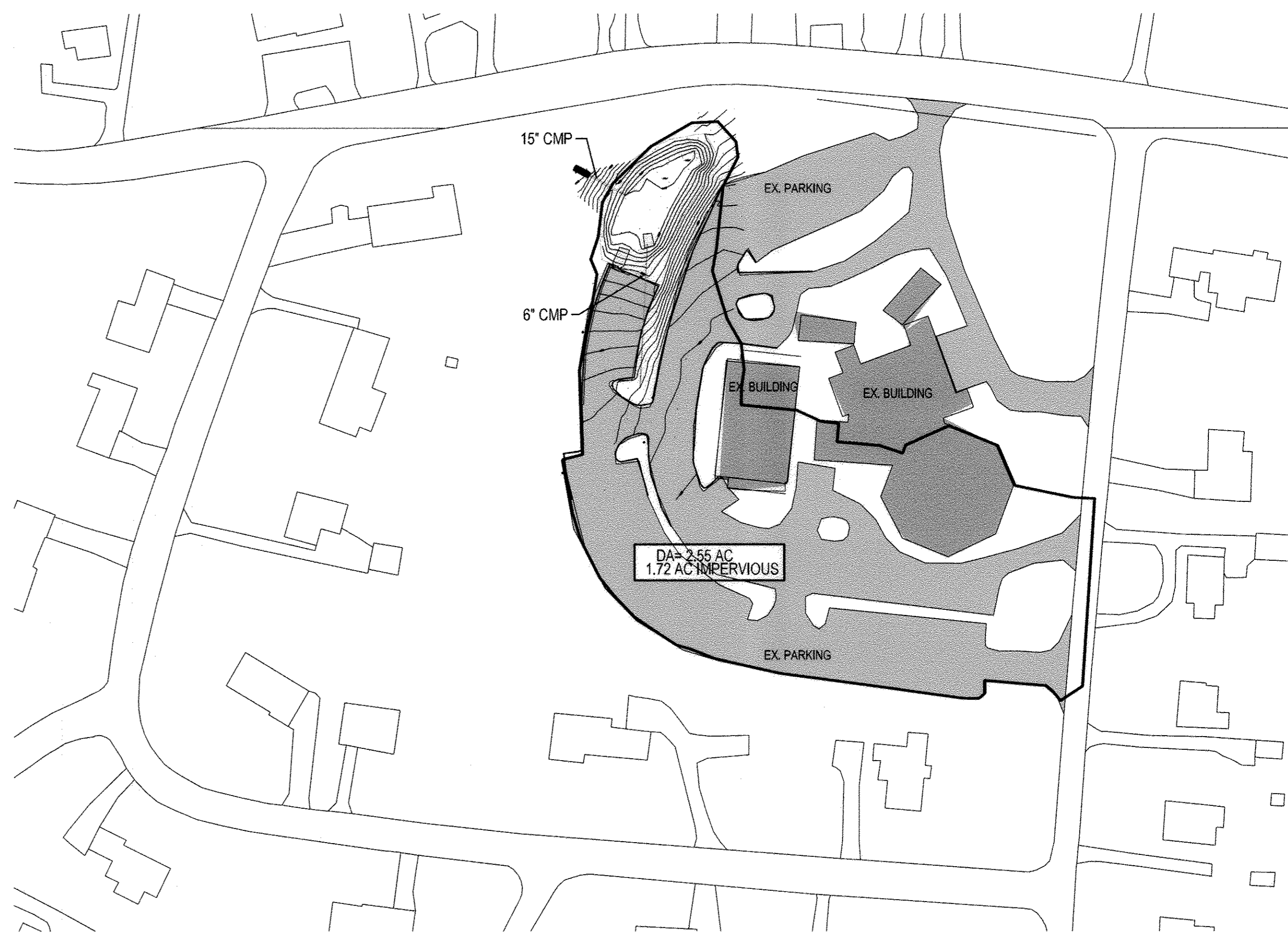
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*Richard H. Berich* 2-9-89  
DATE

FIRST EVANGELICAL LUTHERAN CHURCH  
OF ELICOTT CITY  
DETAILS AND SPECIFICATIONS  
REVISIONS TO SDP-87-183  
2ND ELECTION DISTRICT HOWARD COUNTY, MD.  
TAX MAP NO. 24 PARCEL 135  
DATE: FEBRUARY 9, 1989 NO SCALE

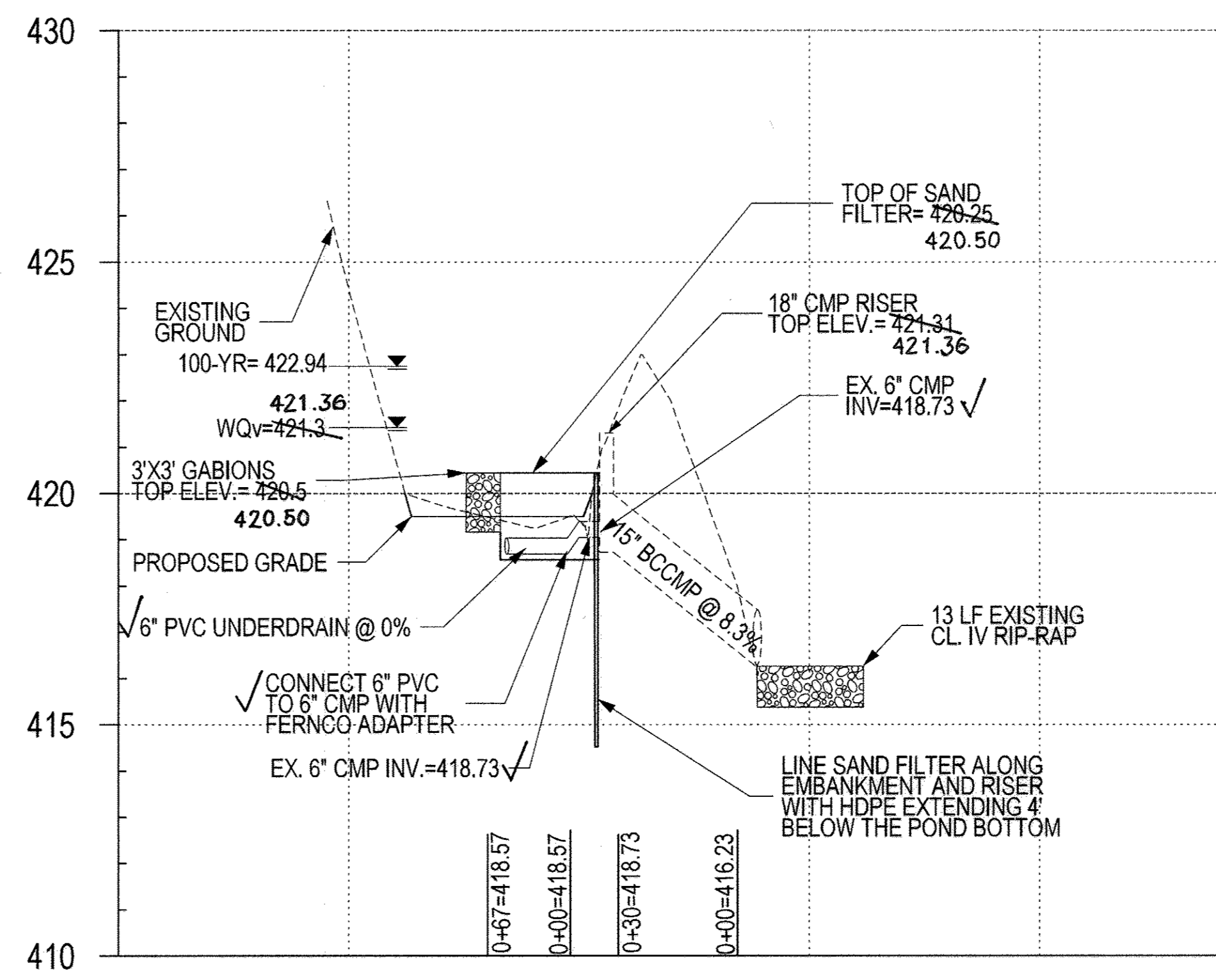
SHEET 6 OF 6  
DES: PS, MAH  
DRAWN: REC  
CHK: RHB  
SDP-89-165



POND SAND FILTER RETROFIT PLAN  
SCALE: 1"=10"

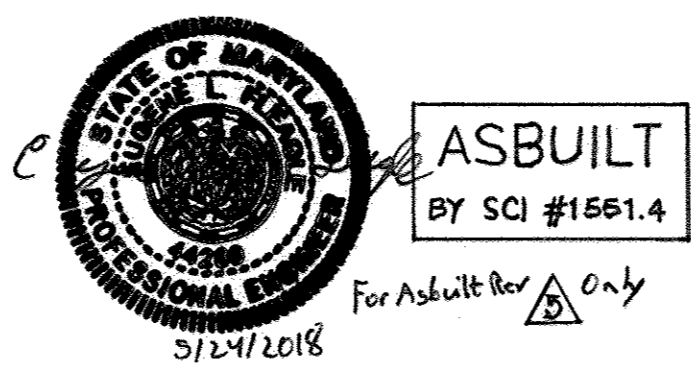


DRAINAGE AREA MAP  
SCALE: 1"=80"



SECTION A-A

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



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. 1561.4 EXPIRATION DATE: 5/24/2018

05/01/18 ASBUILT SAND FILTER RETROFIT  
APPROVED: Howard County Department of Planning & Zoning  
Director: *Walter J. J. J.* 11-30-17 Date  
Chief, Division of Land Development: *W. J. J.* 11-30-17 Date  
Chief, Development Engineering Division: *W. J. J.* 11-30-17 Date

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**SOLTESZ, LLC**  
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Lanham, MD 20706  
P. 301.794.7555 F. 301.794.7656  
www.solteszco.com

NO.	REVISIONS	BY	DATE
1	DESIGNED: MEW		SEPTEMBER 2017
2	TECHNICIAN: OCB		
3	CHECKED: MEW		

**MISS UTILITY NOTE**  
INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND UTILITY CROSSINGS BY DIGGING TEST PITS BY HAND, WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHOEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION. CLEARANCES LESS THAN NOTED MAY REQUIRE REVISIONS TO THIS PLAN.

**OWNER/DEVELOPER/APPLICANT**  
FIRST EVANGELICAL LUTHERAN CHURCH OF ELLICOTT CITY  
3604 CHATHAM ROAD  
ELLICOTT CITY, MARYLAND  
PHONE #: 410-465-2977

MAP GRID	
TAX MAP	24,10
ZONING CATEGORY:	R-20
SITE DATUM	
HORIZONTAL:	NAD83
VERTICAL:	NAVD88



**REVISD SITE DEVELOPMENT PLAN**

**FIRST EVANGELICAL LUTHERAN CHURCH**  
3604 CHATHAM RD, ELLICOTT CITY, MD 21042

NAME (XXXX) ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
SDP-89-1105

SHEET 7 OF 8  
PROJECT NO. 3637-00-00

Table B.3.1 Material Specifications for Sand Filters

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

**E&S NOTES:**  
REVIEW AND COMPLY WITH ALL NOTES PER STANDARD EROSION AND SEDIMENT CONTROL PLAN APPLICATION AND APPROVAL. ALL DETAIL REFERENCES PER MARYLAND E&S MANUAL 2011 AND OR MARYLAND WATERWAY CONSTRUCTION GUIDELINES.

- REMOVE EXISTING DEWATERING PIPE TO THIS POINT AND TEMPORARILY CAP. POND TO BE PUMPED PER NOTE 2.
- PROVIDE DEWATERING PER MDE DETAIL F-2, F-4 AND MGWC 1.2 AS NECESSARY. AS AN OPTION, CONTRACTOR MAY TEMPORARILY BLOCK OUTFALL PIPES (TO FACILITY) AT PRECEDING MANHOLE TO DIVERT BASE FLOWS TO RISER STRUCTURE. SAND BAGS IN MANHOLES TO BE REMOVED PRIOR TO RAINFALL EVENTS AND POND TO BE DEWATERED BY PUMPING IF STORM EVENT OCCURS DURING CONSTRUCTION. IF STORM EVENT OCCURS DURING PLACEMENT OF SAND SANDWICH OR SAND FILTER, COVER SAND AREA WITH WEIGHTED PLASTIC TO PROTECT INSTALLATION.

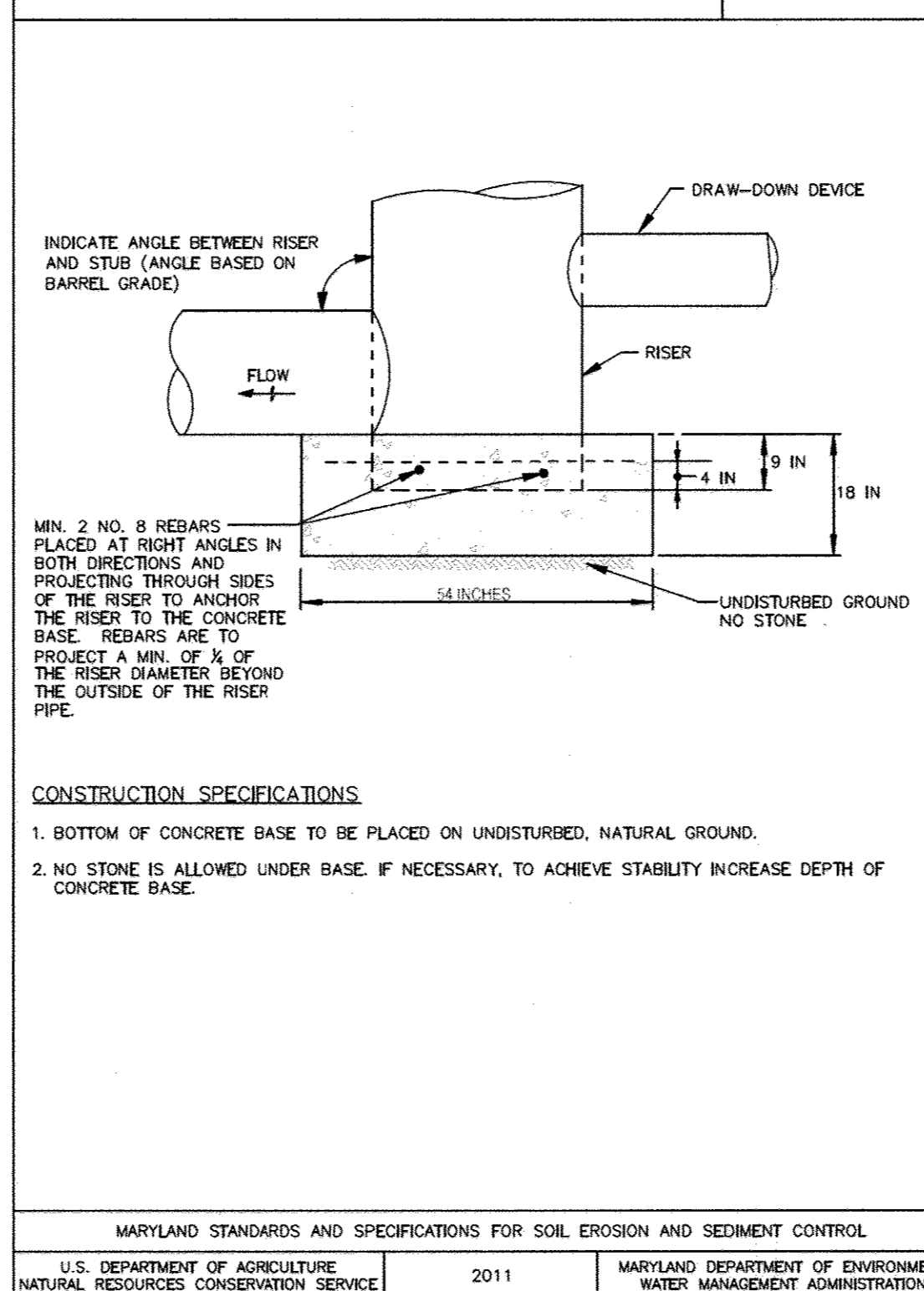
**PLAN NOTES:**  
NO CHANGES ARE PROPOSED TO THE DRAINAGE AREA OR STORMWATER FACILITY (INCLUDED BUT NOT LIMITED TO THE OUTLET STRUCTURE, STORAGE VOLUMES, OUTFALL CONDITIONS, ETC.) ASSOCIATED WITH 2 YEAR, 10 YEAR AND 100 YEAR STORM ROUTINGS, W.S.Es, FLOWRATES AND VELOCITIES AS PROVIDED ON THE 2006 CERTIFIED AS-BUILT; THEREFORE, NO HYDROLOGIC OR HYDRAULIC MODELING HAS BEEN PERFORMED. REFER TO SHEET 11 FOR 2006 ASBUILT VALUES.

- THE RETROFIT FOR THIS FACILITY IS BEING COMPLETED AS PART OF THE CLEAN HOWARD COUNTY RFP 19-2015.
- THE SAND FILTER AND THE EXISTING STORMWATER MANAGEMENT FACILITY ARE AND WILL BE PRIVATELY OWNED AND MAINTAINED.

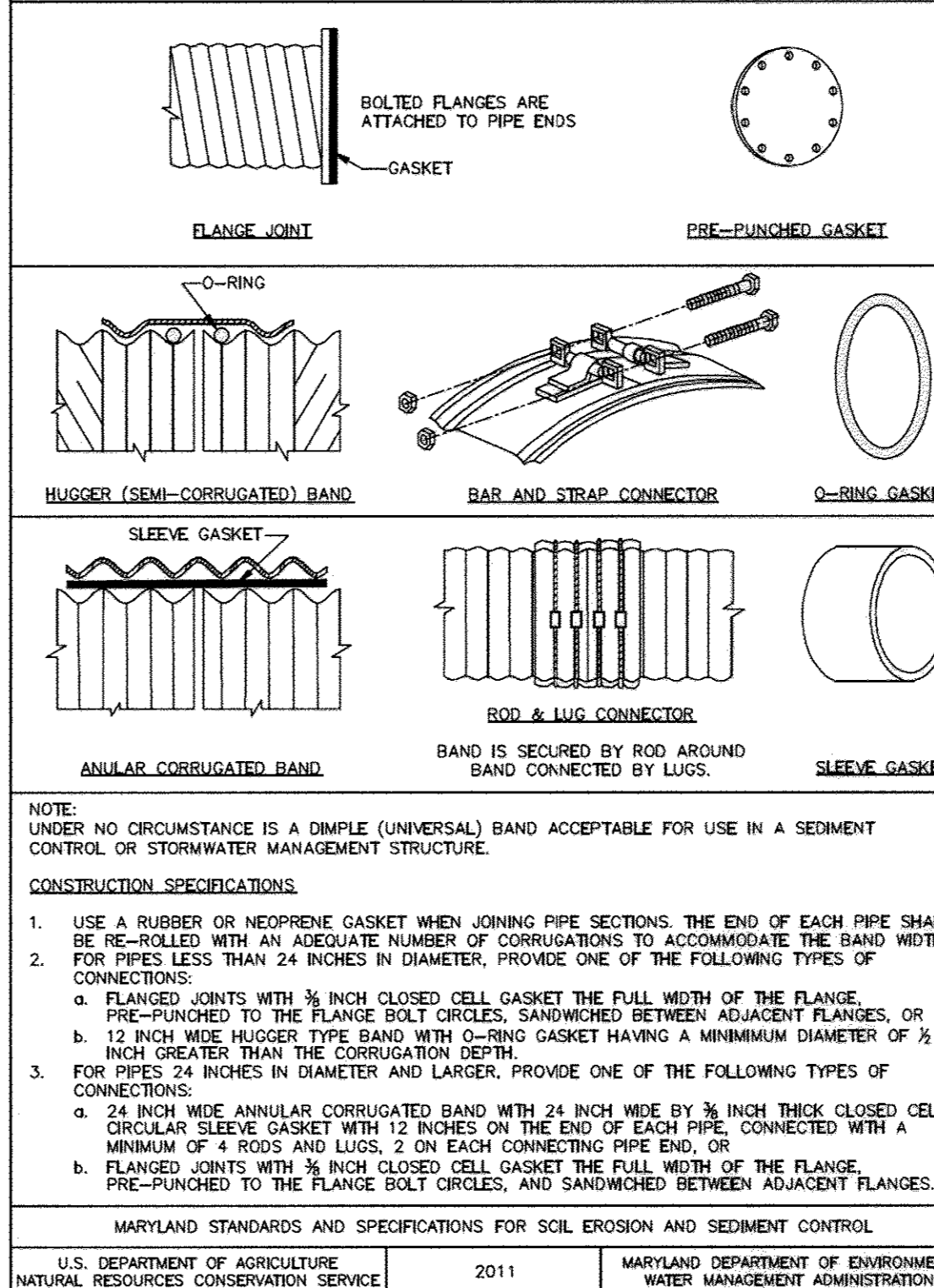
**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS**

- THE STORMWATER FACILITY SHALL BE INSPECTED ANNUALLY. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
- THE TOP/SIDE SLOPES OF THE EMBANKMENT AND AESTHETICALLY MAINTAINED PORTIONS OF THE FACILITY SHALL BE MOWED A MINIMUM OF TWICE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- REMOVE SILT WHEN IT EXCEEDS 12 INCHES DEEP IN THE FOREBAY.
- WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF GRAVEL AND GEOTEXTILE SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- RECORDS OF MAINTENANCE ACTIVITIES SHALL BE KEPT.
- THE MAINTENANCE RECORDS SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.

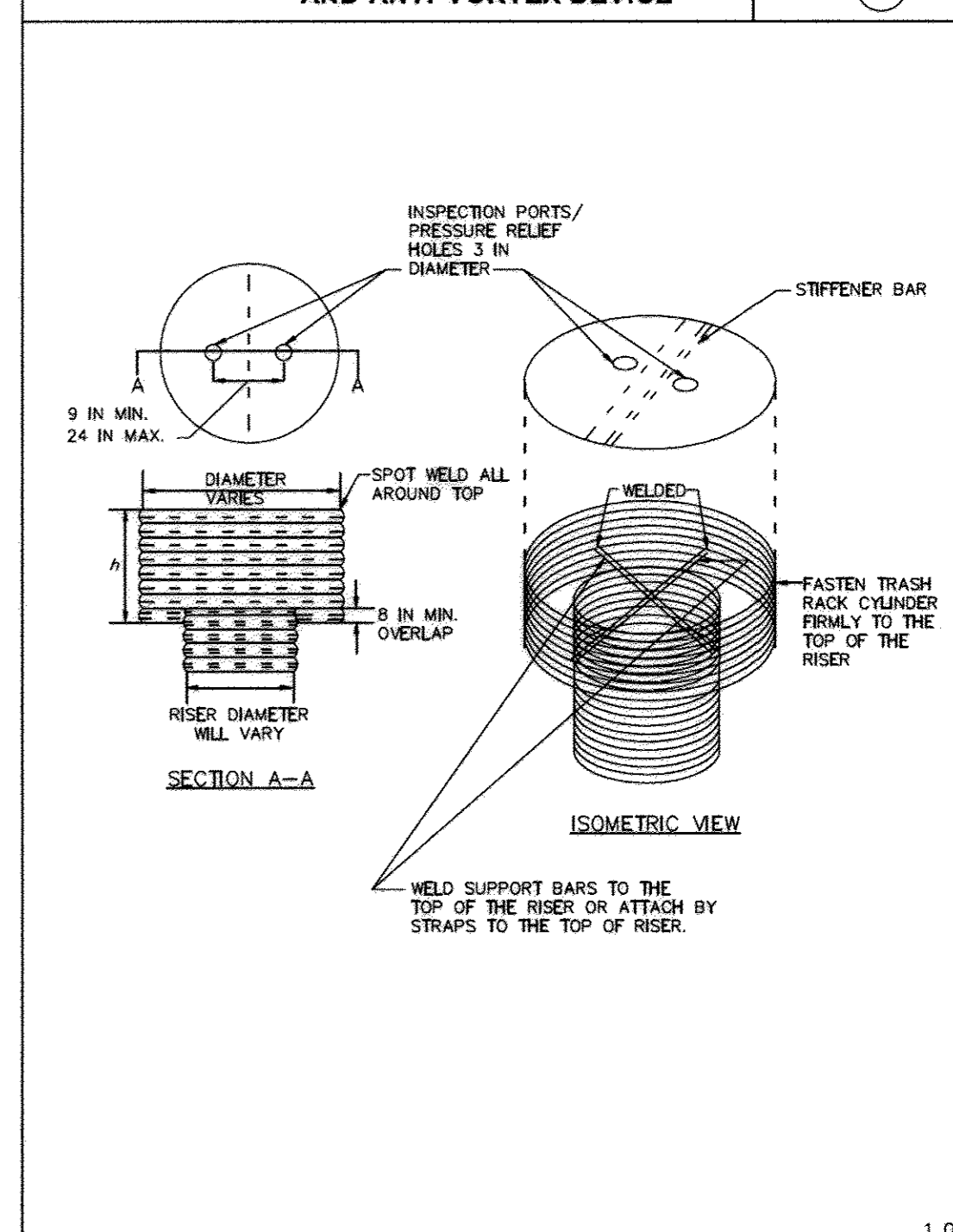
DETAIL G-2-2 CORRUGATED RISER BASE



DETAIL G-2-5 TYPES OF COUPLERS FOR CORRUGATED STEEL PIPE



DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE



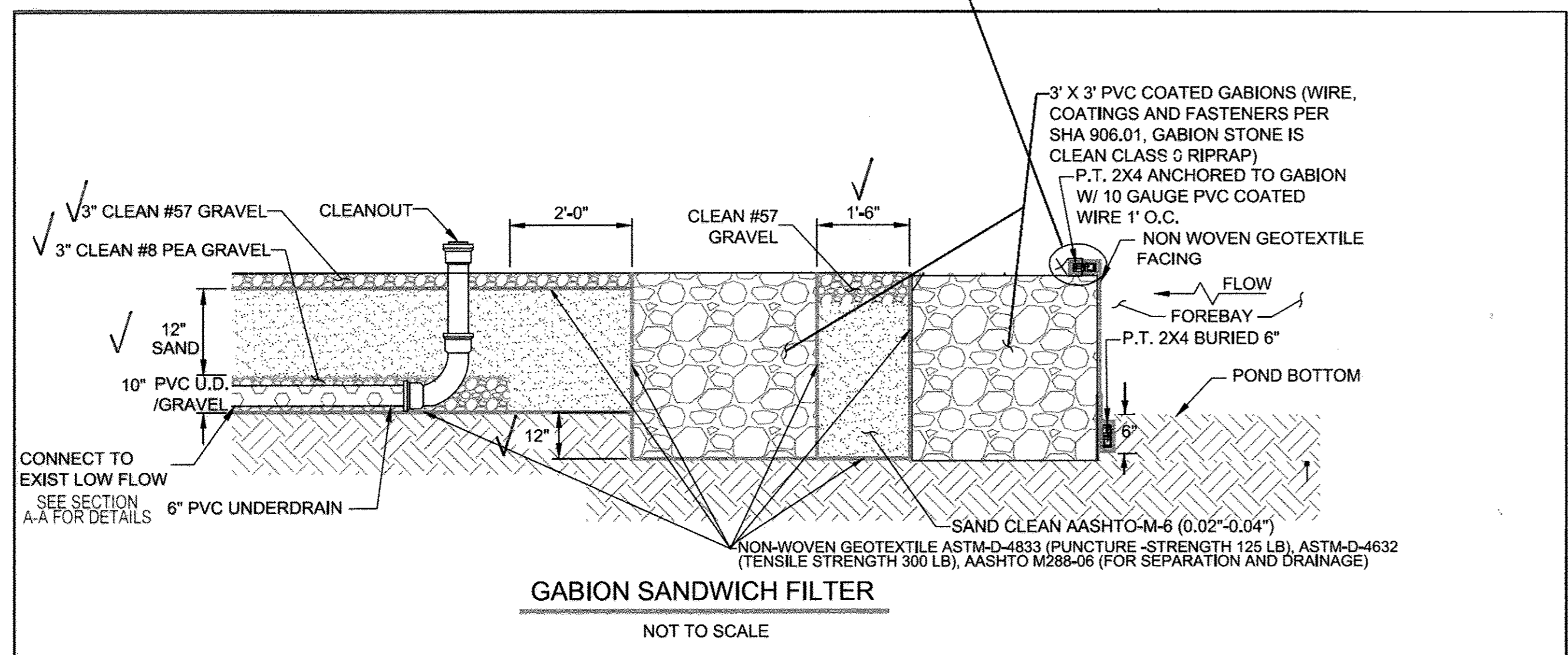
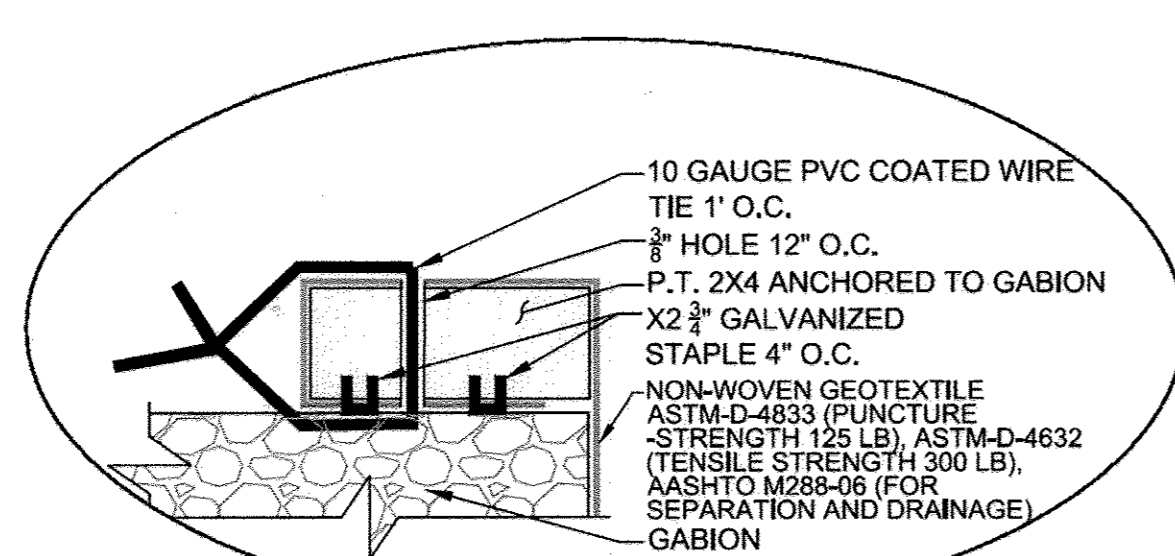
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

RISER DIAM. (IN)	TRASH RACK CHALLENGER DIAM. (IN)	THICKNESS (GAUGE)	h (IN)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP THICKNESS (GAUGE)	STIFFENER
12	18	16	14	#6 REBAR	16	N/A
15	21	16	15	#6 REBAR	16	N/A
18	27	16	16	#6 REBAR	16	N/A
21	30	16	19	#6 REBAR	16	N/A
24	36	16	21	#6 REBAR	14	N/A
27	42	16	21	#6 REBAR	14	N/A
36	54	14	25	#6 REBAR	12	N/A
42	60	14	27	#6 REBAR	12	N/A
48	72	12	29	1 1/2 IN PIPE OR 1 1/4 x 1/4 x 1/4 ANGLE	10	N/A
54	78	12	33	1 1/2 IN PIPE OR 1 1/4 x 1/4 x 1/4 ANGLE	10	N/A
60	90	12	37	1 1/2 IN PIPE OR 1 1/2 x 1/2 x 1/4 ANGLE	8	N/A
66	96	10	41	2 IN PIPE OR 2 x 2 x 3/4 ANGLE	8	2 x 2 x 3/4 ANGLE
72	102	10	44	2 IN PIPE OR 2 x 2 x 3/4 ANGLE	8	2 1/2 x 2 1/2 x 1/4 ANGLE
78	114	10	47	2 1/2 IN PIPE OR 2 x 2 x 3/4 ANGLE	8	2 1/2 x 2 1/2 x 1/4 ANGLE
84	120	10	50	2 1/2 IN PIPE OR 2 1/2 x 2 1/2 x 1/4 ANGLE	8	2 1/2 x 2 1/2 x 1/4 ANGLE

**NOTE:**  
THE ABOVE TRASH RACK AND ANTI-VORTEX DEVICE INFORMATION IS FOR CORRUGATED METAL PIPE ONLY. CONCRETE RISERS MUST MEET THE REQUIREMENTS OF MD 378.

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



APPROVED: Howard County Department of Planning & Zoning  
*Nalini Jolly* 11-30-17  
Director Date  
*Kurt Owe* 11-30-17  
Chief, Division of Land Development Date  
*John Johnson* 11-27-17  
Chief, Development Engineering Division Date

**ASBUILT**  
BY SCI #1551.4  
5/24/2018  
For Asbuilt Rev Only

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE No. \_\_\_\_\_ EXPIRATION DATE: 05/01/18

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LICENSE NO. 12770 - EXPIRATION DATE: 1/12/21

**REVISED SITE DEVELOPMENT PLAN**

**SOLTESZ, LLC**  
LANHAM OFFICE  
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Lanham, MD 20706  
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www.soltesz.com

NO.	REVISIONS	BY	DATE
DESIGNED	MEW	TECHNICIAN	OCB
DATE	SEPTEMBER 2017	S&D STANDARDS VERSION	V8 - NCS
CHECKED	MEW		

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FIRST EVANGELICAL LUTHERAN CHURCH OF ELLICOTT CITY  
3604 CHATHAM ROAD  
ELLICOTT CITY, MARYLAND  
PHONE # 410-465-2977

**MAP GRID**  
TAX MAP: 24.10  
ZONING CATEGORY: R-20  
SITE DATUM: HORIZONTAL: NAD83  
VERTICAL: NAVD83

**STATE OF MARYLAND**  
MICHAEL E. WAGNER  
No. 12270  
PROFESSIONAL ENGINEER  
10/25/17

**FIRST EVANGELICAL LUTHERAN CHURCH**  
3604 CHATHAM RD, ELLICOTT CITY, MD 21042  
NAME (XXXX) ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
SDP-89-105

SHEET 8 OF 8  
PROJECT NO. 3637-00-00

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