

### MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

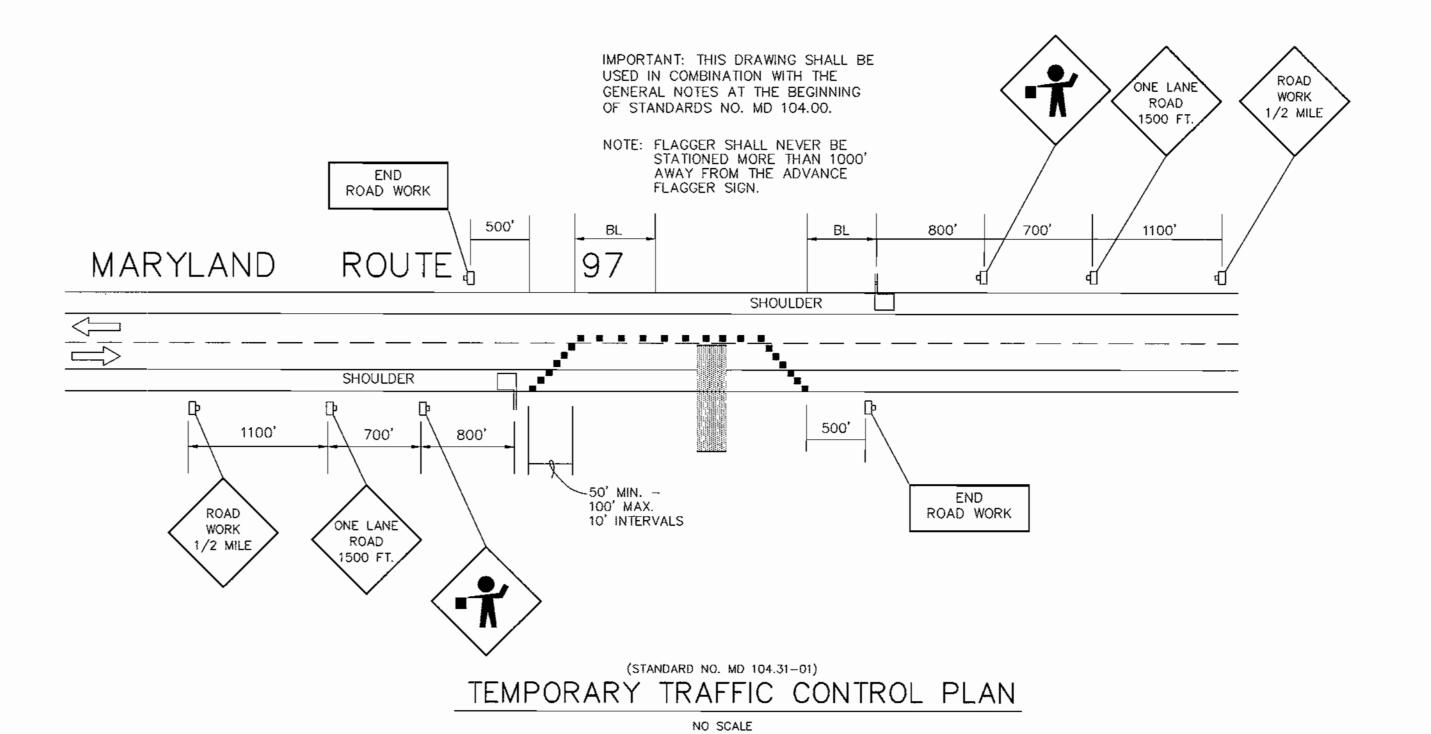
### **GENERAL**

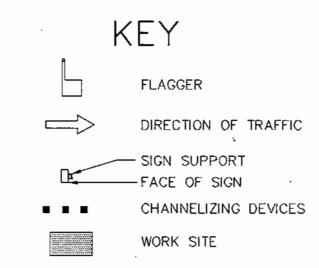
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- 2. PROPERTY TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
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- NOT PERMITTED.

  8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.

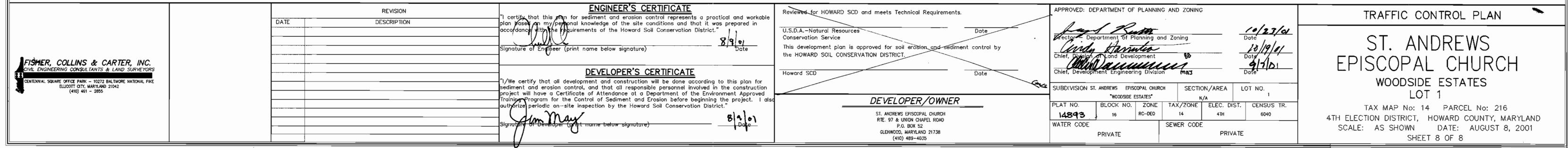
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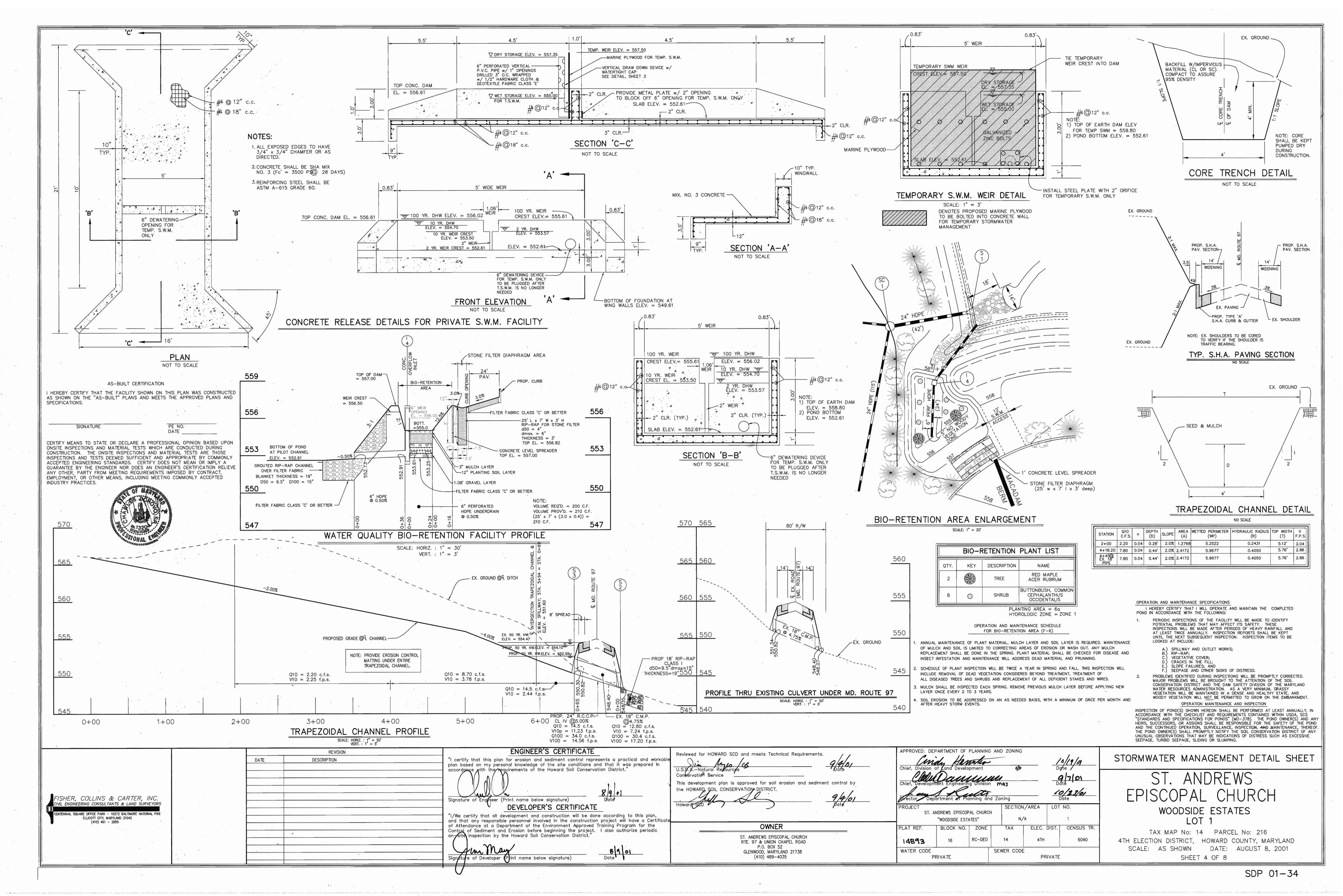
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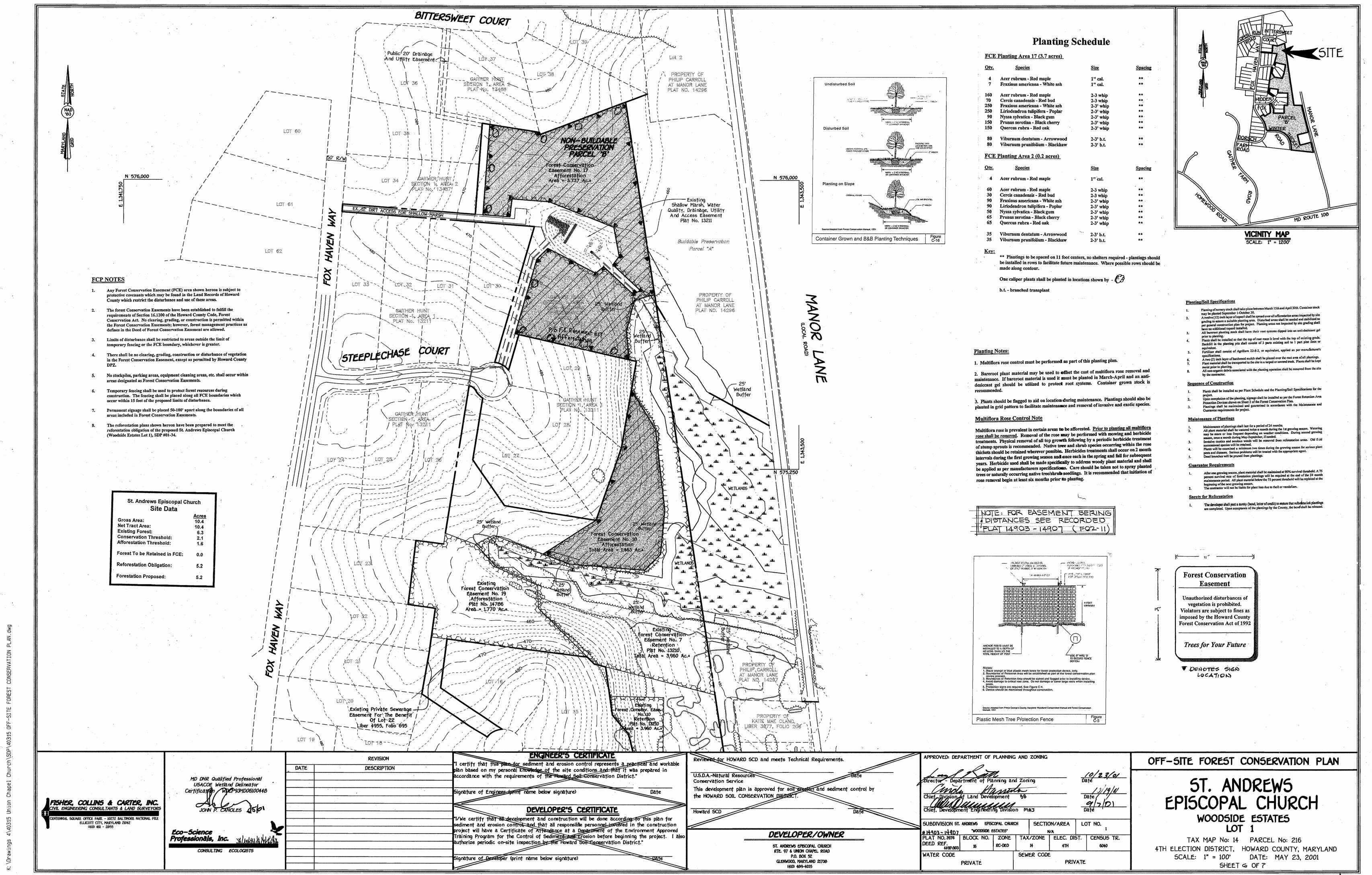












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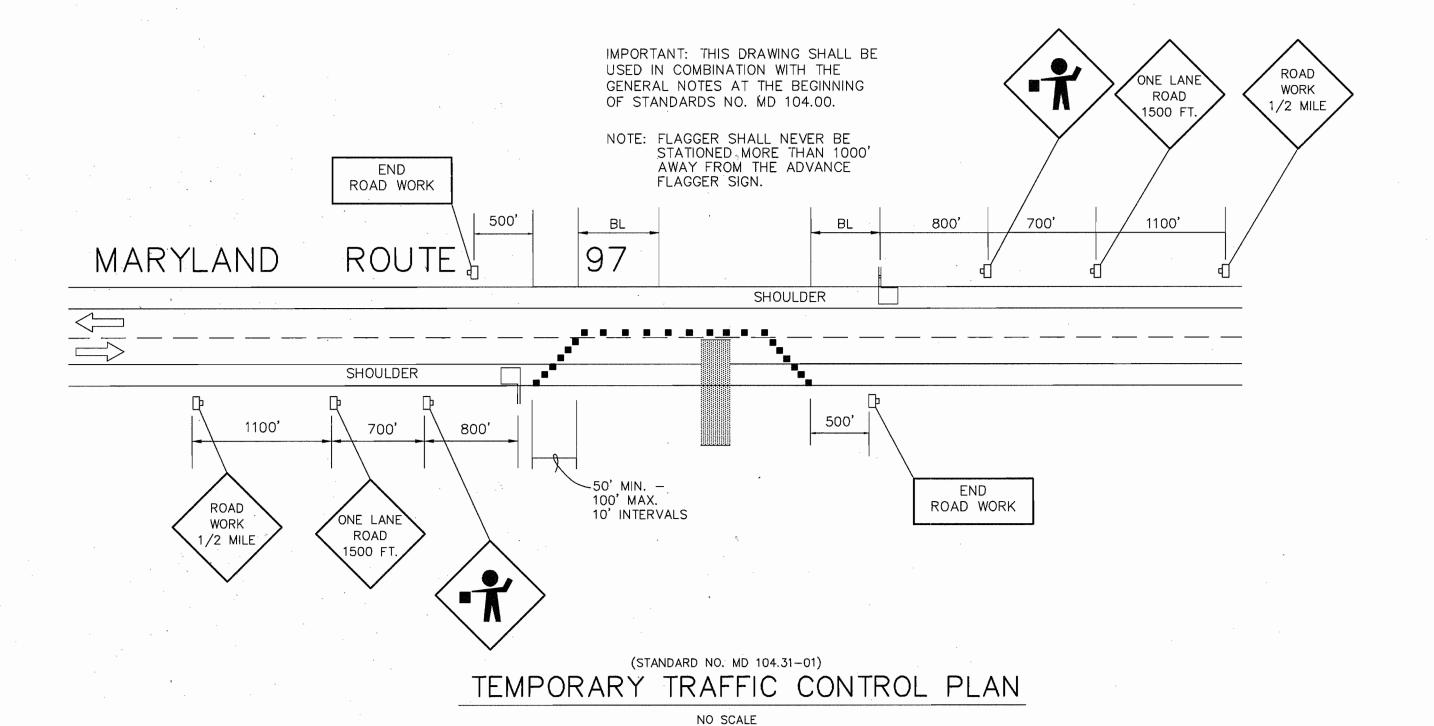
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KEY

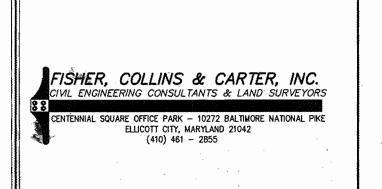
FLAGGER

DIRECTION OF TRAFFIC

SIGN SUPPORT
FACE OF SIGN
CHANNELIZING DEVICES

WORK SITE





	I/C AIDIOIA	"I certify that this often for sediment and erosion control represents a practical and workable
DATE	DESCRIPTION	plan based on my/personal knowledge of the site conditions and that it was prepared in
		accordance with the requirements of the Howard Soil Conservation District."
		8/9/01
		Signature of Engineer (print name below signature) Date
		4 ° ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '
		DEVELOPER'S CERTIFICATE
	,	"I/We certify that all development and construction will be done according to this plan for
		sediment and erosion control, and that all responsible personnel involved in the construction
		project will have a Certificate of Attendance at a Department of the Environment Approved
		Training Program for the Control of Sediment and Erosion before beginning the project.   also
		authorize periodic on—site inspection by the Howard Soil Conservation District."
		alalas
<i>a</i> .	•	Signature of Developer (print name below signature) Date
		1 signature

REVISION

·	
Reviewed for HOWARD SCD and meets Technical Requirements.	A
U.S.D.A.—Natural Resources Conservation Service	B
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.	c
Howard SCD Date	c
9,	Sl Sl
DEVELOPER/OWNER	PL
ST. ANDREWS EPISCOPAL CHURCH RTE. 97 & UNION CHAPEL ROAD	.`
P.O. BOX 52  GLENWOOD, MARYLAND 21738  (410) 480 4075	W/

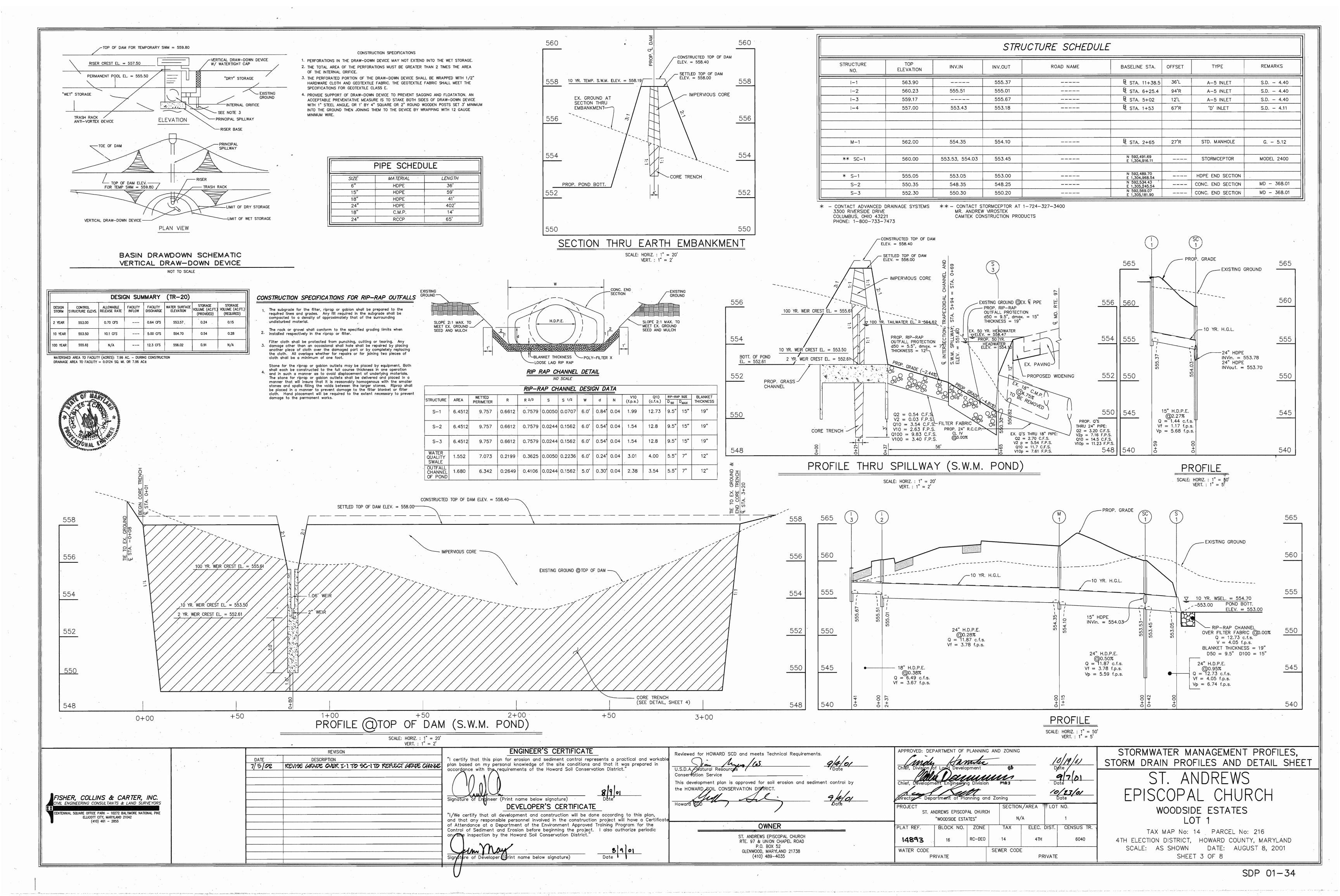
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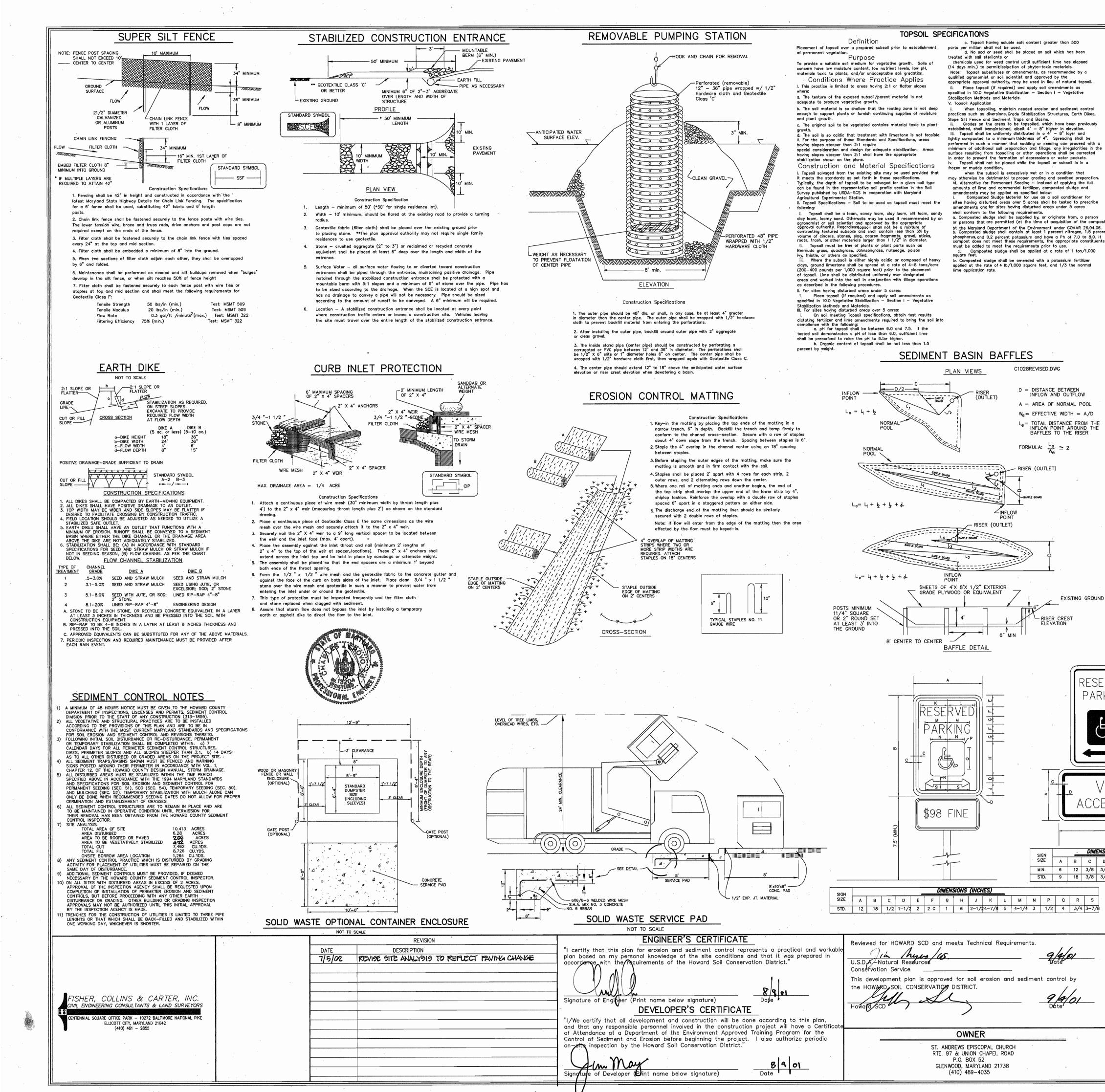
TRAFFIC CONTROL PLAN

## ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 8 OF 8





## 20.0 STANDARDS AND SPECIFICATIONS VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from forces that cause erasion PURPOSE

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

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

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, Infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters. Site Preparation SECTION 1 ~ VEGETATIVE STABILIZATION METHODS AND MATERIALS

Install erosion and sediment control structures (either temporary of permanent) such as diversions,

Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 Perform all grading operations at right angles to the slope. Final grading and shoping is not usually necessary for temporary seeding.
 Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
 Soil Amendments (Fertilizer and Lime Specifications)
 Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Moryland or a recognized commercial laboratory. Soil samples taken for engineering purpases may also be used for chemical analyses.
 Fertilizers shall be uniform in composition, free flowing and sultable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all bear the name, trade name or trademark and warrantee of the producer.

of the producer.

III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sleve and 98-100% will pass through a #20 bt the Maryland Department of the Environment under COMAR 26.04.06. b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percen phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents mesh sieve.
Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means. must be added to meet the requirements prior to use. c. Camposted sludge shall be applied at a rate of 1 ton/1,000 square feet.

C1028REVISED.DWG

D = DISTANCE BETWEEN INFLOW AND OUTFLOW

FORMULA:  $\frac{Le}{W} \geq 2$ 

- RISER (OUTLET)

A = AREA OF NORMAL POOL

We = EFFECTIVE WIDTH = A/D

L<sub>e</sub>= TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

EXISTING GROUND

RESERVE[

PARKING

DIMENSIONS (INCHES)

MIN. 6 12 3/8 3/8 1-1/21-1/2 1D 1/2 1-1/2

STD. 9 18 3/8 3/8 1-1/22-1/41-1/20 1 2D

A B C D E F G H J

COLORS

BACKGROUND - BLUE

DIRECTIONAL

REGULATORY

LEGEND - WHITE

Animum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0.

Minimum soil conditions required for permanent vegetative establishment:
1. Soil ph shall be between 5.0 and 7.0.
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay, but enough fine grained moterial (>30% slit plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% slit plus clay) would be acceptable.</li>
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain 1.5% minimum organic matter by weight.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" ta permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil sliding down a slope.

to the surface area and to create norizontal erosion check slots to prevent topsoil from silding down a slope.

Apply soil amendments as per soil test or as included on the plans.

Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and reody the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by draggling with a heavy chain or ather equipment to raughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed greas.

i. All seed must meet the requirements of the Maryland State Seed Low. All seed shall be subject to re-testing by a recagnized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made ovailable to the inspector to verify type and rate of seed used. Inoculant — The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen—fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Nate: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80°F. can weaken bacteria and make the inoculant less effective.

until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effect Methods of Seeding

i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitragen; maximum of 100 lbs, per acre total of soluble nitragen; P205 (phosphorous); 200 lbs/ac; K20 (potasphorous); 200 lbs/ac; Applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

c. Seed and retrilizer shall be introduced by without interruption.

ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

g. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to sail contact.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction. Apply not the seeding rate in each direction.

iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to pravide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

Apply half the seeding rate in each direction.

Apply half the seeding rate in each direction.

Mulch Specifications (In order of preference)

Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

Word Shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.

b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread sturry.

c. WCFM, including dye, shall contain no germination or growth inhibiting factors.

d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will bend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold gross seed in contact with the sail without inhibiting the growth of the gross seedlings.

e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.

f. WCFM must conform to the following physical requirements; fiber length to concentration levels that will be phytol-toxic. will be phytol—toxic.

f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range at 4.0 to 8.5, ash content of 1.6% maximum and water holding capocity of 90% minimum. See the content of 1.6% maximum and water holding capocity of 90% minimum. See the content of 1.6% maximum and water holding capocity of 90% minimum. See the content of 1.6% maximum and water holding capocity of 90% minimum. See the content of 1.6% maximum and seeding seeds of grass is desired. See the content of 1.6% maximum and seeding seeding seeding seeding seeding seeding seeding can be performed in accordance with these specifications.

accordance with these specifications.

ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tans/acre. Mulch shall be applied to a uniform loase depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.

Iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulase fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

TOPSOIL MIXTURE .

PLANTING SPECIFICATIONS

Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:

A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safety. If used on sloping land, this practice should be used on the contour if possible. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wooder. of water.

Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders — such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra To: II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

Incremental Stobilization — Cut Slopes

i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15°.

ii. Construction sequence (Refer to Figure 3 below):

manufacturer to ancnor muich.

Lightweight plostic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.

Perform Phase 1 excavation, dress, and stabilize.

Perform Phose 2 excavation, dress and stabilize.

Overseed Phase 1 areas as necessary. Perform final phase excavation, dress and stabilize. Overseed previously seeded

Note: Once excovation has begun the aperotion should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the opplication of temporary stabilization.

out of the seeding season will necessitate the opplication of temporary stabilization.

J. Incremental Stabilization of Embankments — Fill Stopes

i. Embankments shall be constructed in lifts as prescribed on the plans.

ii. Stopes shall be stabilized immediately when the vertical height of the multiple lifts reaches

15, or when the grading operation ceases as prescribed in the plans.

III. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.

iv. Construction sequence: Refer to Figure 4 (below).

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope slit fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.

b. Place Phase 1 embankment, dress and stabilize.

c. Place Phase 2 embankment, dress and stabilize.

d. Place final phase embankment, dress and stabilize.

Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING Vegetation — annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

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

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

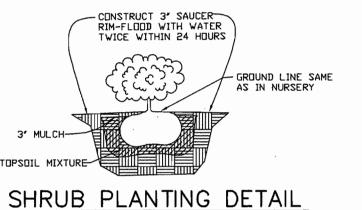
s	eed Mixture (Hardiness Zone From Toble 26	Fertilizer Rate	Lime Rate			
No.	Species	Application Rote (lb/ac	Seeding Dates	Seeding Depths	(10-10-10)	
1	RYE	140	3/15 - 5/3 8/1 - 10/3	1" - 2	600 lb/ac	2 tons/ac (100 lb/1000sf)
2	BARLEY OR RYE PLUS FOXTAIL MILLOT	150	6/1 - 7/31	1"	(15 lb/1000sf)	

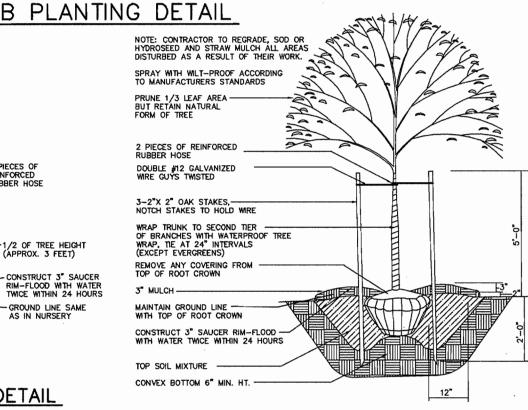
SECTION 3 - PERMANENT SEEDING Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance. A. Seed mixtures - Permonent Seeding

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

 For sites having disturbed area over 5 areas, the rates shawn on this table shall be deleted and the rates recommended by the soil testing agency shall be written in. iii). For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the abave soil omendments shown in the table below, to be performed at the time of seeding.

	Seed Mixture (Hardiness Zone _ From Table 25		Lime Rate					
No.	Speci <del>es</del>	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (85%) KENTUCKY BLUEGRASS (5%) PERENNIAL RYEGRASS (10%)	125 15 10	3/15 - 6/1 8/1 - 10/1	1" – 2	(2.0 lb/	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000st)	2 tons/ac (100 lb/ 1000sf)
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/15 - 6/1 8/1 - 10/1	1" - 2"	(le0001	100091)	100091)	100081)





### TREE PLANTING DETAIL

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigarous roat system, and shall conform to the species, size, root and shape shawn on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest egg borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed—in plants from cold storage will be accepted. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore—Washington Metropolitan Areas", (hereinafter andscape Guidelines") approved by the Landscape Contractars Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda Contractor shall be required to quarontee oil plant material for a period of one year after date af acceptance in accordance with the apprapriate section af the Landscape Guidelines Controctor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material. Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 haurs prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor

-GROUND LINE SAME AS IN NURSERY

EVERGREEN PLANTING DETAIL

Protectian of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line. Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be base on actual site conditions. Na extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications Plant quantities are provided for the convenience of the cantractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Pasitive drainage shall be maintained in planting beds 2 percent slope). Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yord of planting mix. Evergreen Plants - two parts topsoli, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yord of planting mix. Topsoli shall conform to the Landscape Guidelines.

Weed Control: Incarporate a pre—emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded

LEGEND - GREEN OR BLACK This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc. BACKGROUND - WHITE APPROVED: DEPARTMENT OF PLANNING AND ZONING /6//1/0/ Date 10/23/01 Planning and Zoning ECTION/AREA LOT NO. ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES" CENSUS T BLOCK NO. ZONE ELEC. DIST. 14893 RC-DEO 4TH 6040 WATER CODE SEWER CODE PRIVATE PRIVATE

# ST. ANDREWS EPISCOPAL CHURCH

NOTES AND DETAILS

WOODSIDE ESTATES LOT 1 TAX MAP No: 14 PARCEL No: 216 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND DATE: AUGUST 8, 2001 SCALE: AS SHOWN

SHEET 5 OF 8

