

 ω

ELEVATION

 STRUCTURE
 d-50
 LENGTH
 WIDTH
 THICKNESS

 E-1
 0.50'
 13'
 15'
 1.0'

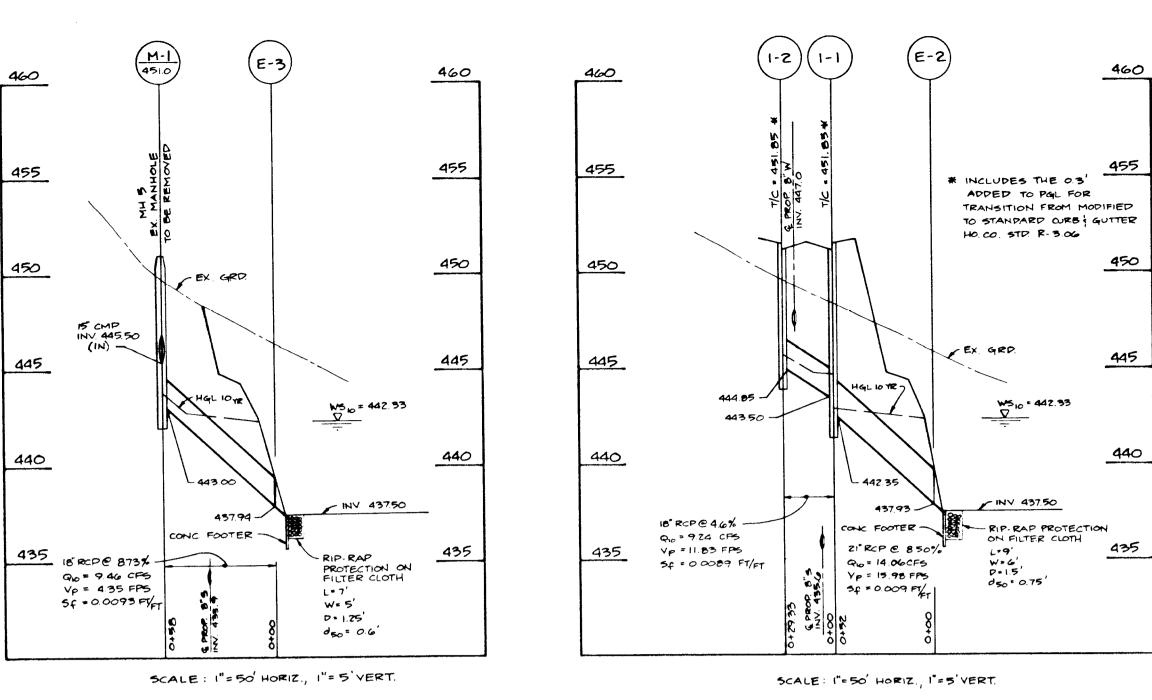
 E-2
 0.75'
 9'
 G'
 1.5'

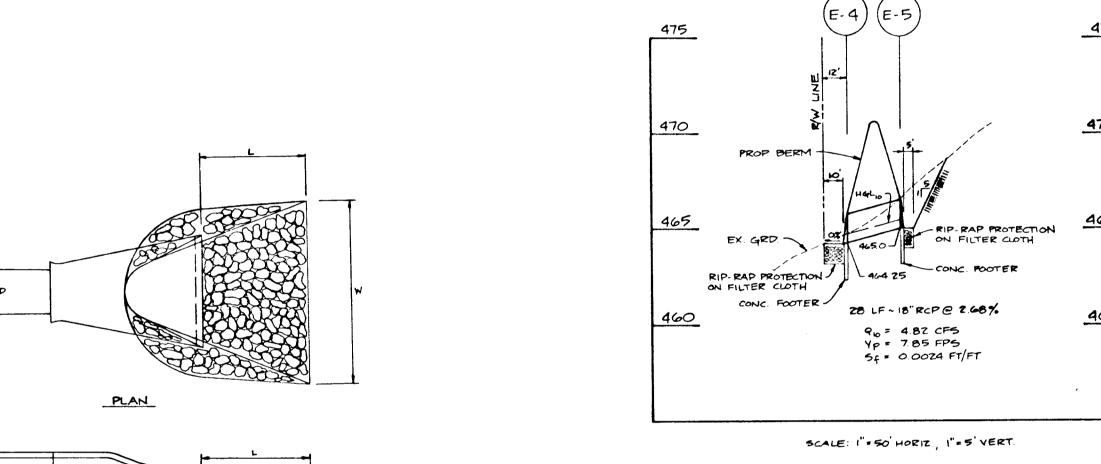
 E-3
 0.60'
 7'
 5'
 1.25'

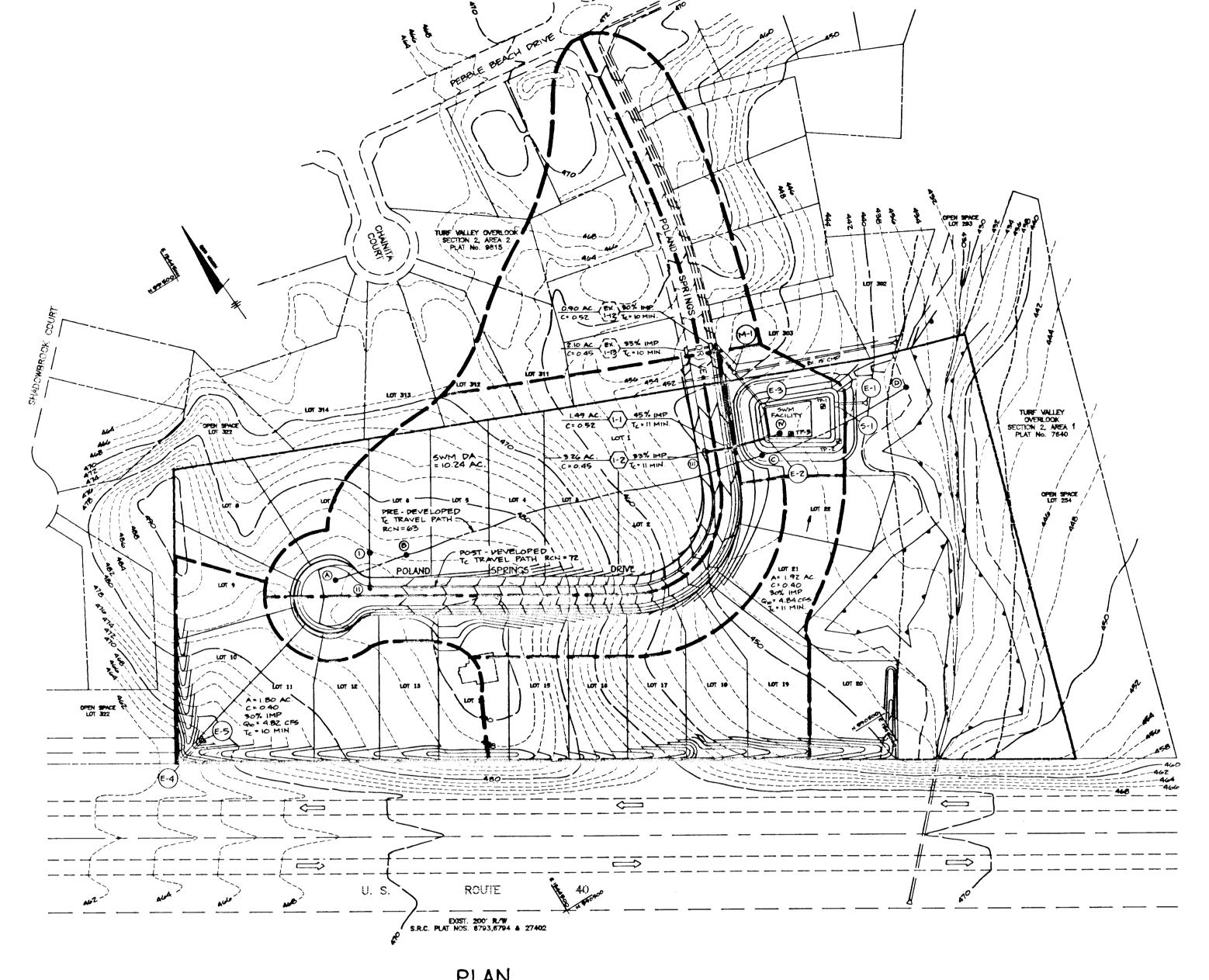
 E-4
 0.50'
 10'
 11.5'
 1.0'

 E-5
 0.50'
 5'
 6.5'
 1.0'

NOT TO SCALE







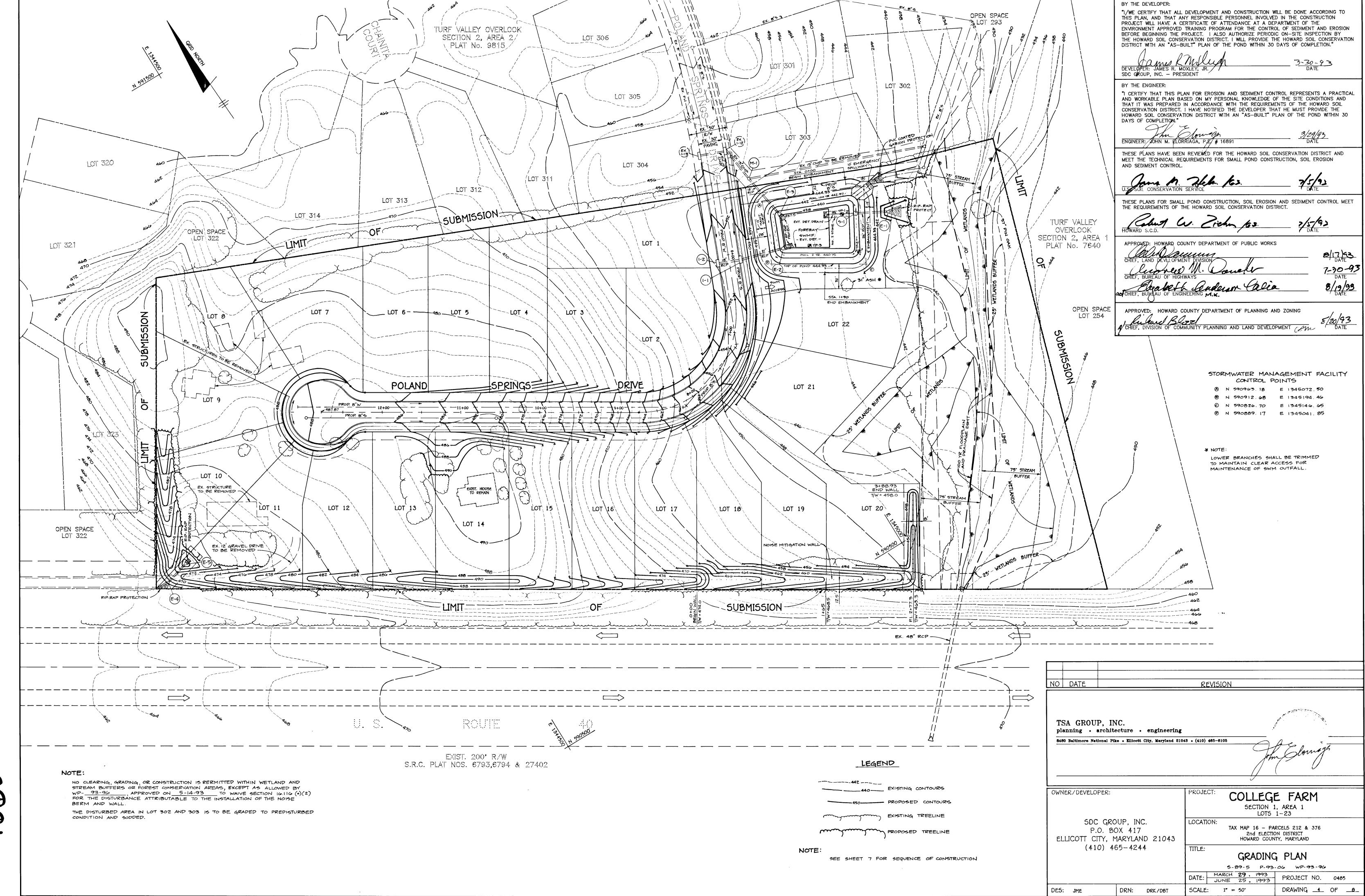
	_		1 N	
5CALE	:	1"	=	100'

GE		L AND MAT	ERIALS ENGINEERS SUBSURF	RECORD OF ACE EXPLORATION
CLIENT LOCATI	T: College TSA Grou ON: Howa TOR: E. S	mp, Inc. ard County,		
	SAM	PLES		
DEPTH (FEET)	•	DEPTH (FEET)	DESCRIPTION OF MATERIALS	REMARKS
1	1	1.0	Dark brown, moist, Silty CLAY (CL)	Topsoil: 6"
2 2	2	2.0	Sandy Clay Loam Light brown, light grey to orange brown, moist, Silty and Sandy CLAY (CL).	
3 - - 4 - - 5	3	4.0	Sandy Clay Loam	
6	4 5*	6.0 6.5	Grey, moist, Silty and Sandy CLAY (CL), trace mica.(Sandy Clay Loam	In-Situ Infiltration Test @ 6.5
7 			Orange and orange-bro⊎n, moist to very moist, micaceous Sandy SILT (MLs-SM), trace Clay	
8 9				<pre>* taken from botto of test hole</pre>
	6	10.0	Sandy Loam	Water at 9± ft
11			Terminated @ 10± ft	
12				
13				

ATEC A			ERIALS ENGINEERS	RECORD OF FACE EXPLORATION	
PROJECT: College Farm/ SWM CLIENT: TSA Group, Inc. LOCATION: Howard County, MD INSPECTOR: E. Saba		, MD JOE NO: . DATE: 7-	NO: TP- 2 JOE NO: 30-03-92-0011 DATE: 7-26-92 ELEVATION:		
DEPTH (FEET)	SAY #	DEPTH (FEET)	DESCRIPTION OF MATERIALS	REMARKS	
			Dark brown and dark grey, moist, Silty and Sandy CLAY (CL).	Topsoil: 6"	
1 2	1	1.5	Sandy Clay Loam		
3	2	3.0	Light brown nd grey, moist, Silty and Sandy CLAY (CL), trace mica.		
_ 4	3	4.0	Sandy Clay Loam		
- 5 - 6	4*	5.5	Olive grey, moist, Silty and Sandy CLAY (CL), trace mica.	In-Situ Infiltratio Test @5.5± ft Below Ground Surface	
7			Sandy Loem/Sandy Clay Loem	Cave in at 7± ft	
8 			Multicolored, moist to very moist, micaceous Silty SAND (SM)	Water at 8± ft # taken from bottom of test hole	
9 10 =	5	10.0	Sandy Loem		
11			Terminated @ 10± ft		
12					
13					

– -	Associa DTECHNICA		ERIALS ENGINEERS SUBSURF	RECORD OF ACE EXPLORATION
CLIENT: LOCATIO	TSA Gro	ard County,		0-03-92 -00 11 25-92
	SAM	PLES		
DEPTH (FEET)	-	DEPTH (FEET)	DESCRIPTION OF MATERIALS	REMARKS
1	1	1.0	Dark grey, moist, Silty CLAY (CL) little sand. Sandy Loam	Topsoil: 6"
2 3	2	3.0	Brown to tan, moist, micaceous Sandy SILT (MLs), little Clay. Sandy Loam	·
5	3	5.0	Orange-brown to grey, moist, Silty CLAY (CL), trace to little mica and sand.	In-Situ Infiltration
6 7	•	0.0	Sandy Clay Loam	Test @ 6 ± ft Below Ground Surface Water at 8: ft * taken from bottom of test hole
8 9	5	10.0	Orange-brown, moist, Silty SAND (SM), trace to little mica and Clay. Sandy Loam	
10 =111212	3	10.0	Terminated @ 10± ft	
13			·	

CHIEF, LAND DEVELOR CHIEF, BUREAU OF H CHIEF, BUREAU OF E	Guderson Ca	PUBLIC WORKS	2/17/93 DATE 7-30-93 DATE 8/19/93
, Reiland Be	COUNTY DEPARTMENT	OF PLANNING AND ZONI	NG 8/20/93 DATE
NO DATE		REVISION	
TO A COATIO TH			
	NC. ecture • engineering ke • Ellicott City, Maryland 2104	8 • (410) 465-6106	John Sawage
planning • archit	ecture • engineering	PROJECT: COLI	EGE FARM TION 1, AREA 1 LOTS 1-23
Planning • archite 8480 Beltimore Netional Pi OWNER/DEVELOPER: 5DC GRO P.O. B ELLICOTT CITY, I	DUP, INC. OX 417 MARYLAND 21043	PROJECT: COLI SEC LOCATION: TAX MAP 2nd HOWA	•
Planning • archite 8480 Beltimore Netional Pi OWNER/DEVELOPER: 5DC GRO P.O. B ELLICOTT CITY, I	OUP, INC.	PROJECT: COLI SEC LOCATION: TAX MAP 2nd HOWAL	TION 1, AREA 1 LOTS 1-23 16 - PARCELS 212 & 376 H ELECTION DISTRICT RD COUNTY, MARYLAND AGE AREA MAP, PROFILES AND DETAILS P-93-06 W1-93-96 1993 PROJECT NO 0495



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 50 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 topsoff will be stockpilled in a sultable location for use on the embankment and other designated areas.

Material — The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soll Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that If formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within \pm 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cut Off Trench — The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Structure Bockfill

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 four feet, measured hortzontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated inetal pipe:

Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials — (Aluminum Coated Pipe) — This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any gluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized boits may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded 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. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be rerolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock

- 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."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

- 1. Materials Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA
- 2. Bedding All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the
- 3. Laying pipe Beil 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 2 feet from the riser.
- 4. Backfilling shall conform to "Structure Backfill".
- 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawinas.

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

- 2. Joints and connections to anti-seep collars shall be completely watertight.
- 3. Bedding The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- 4. Bockfilling shall conform to "Structure Backfill."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No.

Rock Riprop

All rock shall be dense, sound, and free from cracks, seams, and other defects conductive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one third the greatest dimension of the fragment.

The rock shall have the following properties:

- Bulk specific gravity (saturated surface—dry basis) not less
- 2. Absorption not more than three percent.
- Soundness: Weight loss in five cycles not more than 20 percent

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and hall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Mcterials, Section 919.12.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-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 to be employed during the construction process.

SEDINERT CONTROL BOTES

- 1. A MINIMUM OF 48 HOURS MOTICE MUST BE GIVEN TO THE HOWARD COUNTY PARTMENT OF INSPECTIONS, LICENSES, AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1850)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND
- POLLOWING 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
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED BOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR FERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52) PEMPOBARY STARTLIZATION WITH MULCH ALONE CAN GELY BE DOKE WHEE RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND
- 6. ALL SEDIHENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE AINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL IMSPECTOR.
- 7. SITE AWALYSIS: | 12.7 | ACRES | 3.9 | ACRES | 1.0 | ACRES | 2.9 | ACRES | 5800 | CU YDS | N/A | TOTAL AREA OF SITE AREA TO BE ROOFED OR PAVED OFFSITE WASTE/BORROW AREA LOCATION
- 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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY
- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE IMSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIHETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION

THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN JNE WORKING DAY, WHICHEVER IS SHORTER.

APPROVALS MAY BOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL HY THE

PERMANENT SEEDBED PREPARATION

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BE RAKING, DISCING OR OTHER ACCEPTABLE HEARS BEFORE SEEDING, IF NOT PREVIOUSLY

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES.

- 1) PREFERRED APPLY 2 TOWS PER ACRE DOLONIC LIMESTONE (92 LBS/1000 SQ PT) AND 600 LBS PER ACRE 10-10-10 PERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 40 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER
- 2) ACCEPTABLE APPLY 2 TOWS PER ACRE DOLONIC LIMESTONE (92 LBS/1000 SQ PT) AND 1000 LBS PER ACRE 10-10-10 PERTILIZER (23 LBS/100 SQ PT) BEFORE SEEDING. HARRON

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 80 FT) OF KERTUCKY 31 TALL FESCUE. FOR PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS OF KENTUCKY 31 TALL PESCUE PER ACRE AND 2 LBS PER ACRE 1.05 LBS/1000 SW FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY. OPTION (1) 2 TOWN PER ACRE OF WELL ANCHORED STRAW HULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE BOD. OPTION (3) SEED WITH 60 LB PER ACRE OF KENTUCKY 31 PESCUE AND MULCH WITH 2 TORS PER ACRE O

HULCHING: APPLY 1-1/2 TO 2 TORS PER ACRE (70 TO 90 LBS/1000 BQ PT) OF UNROTTED SHALL GRAIN STRAW INHEDIATELY AFTER SEEDING. ANCHOR MULCH INHEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ PT) OF EMULSIFIED ASPHALT OR PLAT AREAS. ON SLOPE: 8 PEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ PT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, CEMERTS AND RESSEDINGS.

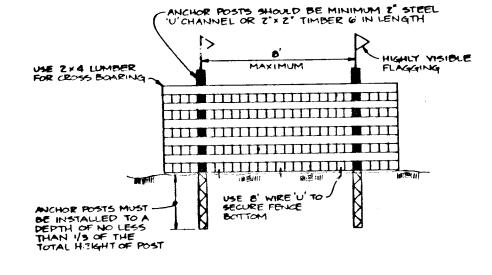
TEMPORARY SEEDBED PREPARATION APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS MEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAXING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 PERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THRU APRIL 36 AND FROM AUGUST 15 THE BOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PBR ACRE OF WEEPING LOVECRASS (.07 LBS/1000 SQ PT). FOR THE PERIOD MOVEMBER 16 THRU FEBRUA: Y 28, PROTECT SITE BY APPLICING 2 TORS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS

HULCHING: APPLY 1-1/2 TO TORS PER ACRE (70 TO 90 LBS/1000 SQ PT) UNROTTED SHALL GRAIN STRAW INHEDIATELY AFTER SEEDING. ANCHOL MULCH INHEDIATELY AFTER APPLICATION USIN; MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT OR HIGHER, USE 348 GALLONS PER ACRE

REFER TO THE 1983 NARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



SEQUENCE OF CONSTRUCTION

INSTALL STABILIZED CONSTRUCTION ENTRANCE, TREE PROTECTION

CONSTRUCT STORMWATER MANAGEMENT FACILITY/TEMPORARY SEDIMENT

BASIN, RISER AND OUTFALL. PLACE TEMPORARY 10 INCH WEIR IN

GRADE ROADWAY TO SUBGRADE. CONSTRUCT NOISE MITIGATION BERM CULVERT.

CONSTRUCT SEWER, WATER AND STORM DRAIN SYSTEMS REMOVE EXISTING IS CMP AND ENDWALL AS SHOWN ON PLANS. THE DISTURBED AREA IN LOT 302 AND 303 IS TO BE GRAPED TO PREDISTURBED CONDITION AND SODDED. STABILIZE ALL OTHER DISTURBED AREAS. CONSTRUCT CURE AND GUTTER AND PAVING.

STABILIZE ALL DISTURBED AREAS. NOISE BERM TO BE CONSTRUCTED AND IMMEDIATELY STABILIZED IN 100' LENGTHS.

RISER USING TIMBERS SECURELY ATTACHED TO PREVENT MOVEMENT

STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERHAMENT

10. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR,

11. CONVERT SEDIMELE BASIN TO PERMANENT STORMWATER MANAGEMENT

INSTALL CONTROL ORIFICE FOR EXTENDED DETENTION DRAIN AND

REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE

DREDGE BASIN TO REMOVE ALL SEDIMENT

PUMP OUT IMPOUNDED WATER

RETURN POND TO PLAN SHAPE.

REPLACE NO. 7 AS NEEDED.

PERMANENTLY STABILIZE.

CONSTRUCT EXTENDED DETENTION DRAIN WITHOUT CONTROL ORIFICE.

DEMOLISH AND REMOVE EXISTING STRUCTURES.

1. OBTAIN GRADING PERMIT

STABILIZE BASIN.

FACILITY AS FOLLOWS:

12. LANDSCAPE.

4. INSTALL EARTH DIKES.

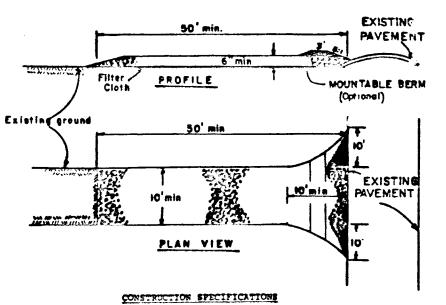
FENCE AND SILT FENCE.

- I FOREST PROTECTION PEVICE ONLY. E RETENTION AREA WILL BE LIT AS PART OF THE REVIEW PROCESS. 3 BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLATION
- 4. ROOT DAMAGE SHOULD BE AVOIDED 5. PROTECTIVE SIGNAGE MAY ALSO BE USELY & DEVICE SHOULD BE MAINTAINED THROUGHI UT CONSTRUCTION

TREE PROTECTION FENCE

POSTS: Steel Either T on U

PREFABRICATED UNIT: GEOFAB, ENVIROPENCE, OR APPROVED



1. Stone Size - Use 2° stone, or reclaimed or recycled concrete equivalent. Langth - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).

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. 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 howard 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

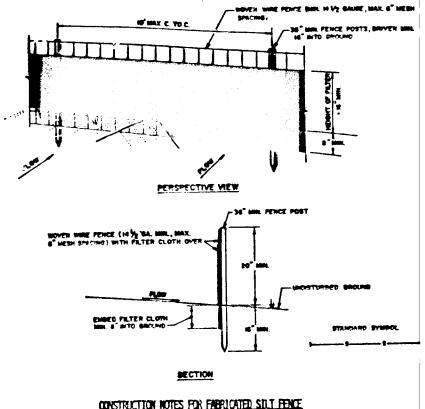
mediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately. 8. Mashing - Wheels shall be cleaned to remove sediment prior to entrance ont public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping

9. Periodic inspection and needed maintenance shall be provided after each rain.

require periodic top dressing with additional stone as conditions demand

and repair and/or cleanout of any measures used to trap sediment. All

STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



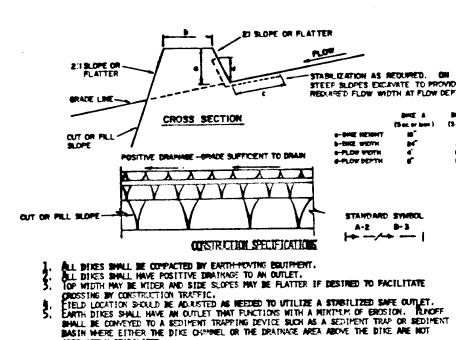
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. Noven wine fence to be fastened securely to fence posts with hire ties or staples. 2. FILTER CLOTH TO BE FASTENED SECURELY TO MOVEN WIRE FENCE MITH TIES SPACED ENLAY 24" AT TOP AND MID SECTION.

FENCE: Moven wire, 1% 64. FILTER CLUTH: FILTER L MIRAFI JULK, STABI-LINKA IJAUN OR APPROVED J. Men the sections of filter cloth adjoin each other they shall be over-lapped by SIX inches and folded.

4. MAINTERANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

SILT FENCE NOT TO SCALE



ADEQUATELY STABILIZED.

STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRUM MALCH OR STRUM MALCH OF NOT IN SEEDING SEASON, (B) FLOM CHANNEL AS PER BLOW CHENTEL STABILIZATION

DINE A

SEED AND STRAW PLUCH

.5-3.0K

SEED USING JUTT, OR EXCELSION; SOD; 2" STONE SEED MED STRAM POOLIN LINED RIP-RUP 4-8" 5.1-8.08 SEED WITH JUTE, OR SOD; 8.1-200 LINED RIP-RAP 4-8" ENGINEERING DESIGN A. STONE TO BE 2 INCH STONE, OR NECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICORESS AND PRESSED INTO THE SOIL.

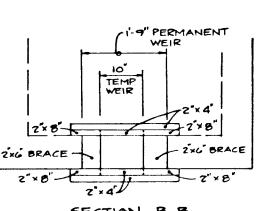
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

THE B

SEED AND STRAN PLACH

EARTH DIKE NOT TO SCALE



CONTRACTOR TO USE 2x TIMBERS SECURELY FASTENED IN PLACE TO PREVENT MOVEMENT. THIS IS A SUGGESTED DESIGN. ANY PRACTICAL DEVIATION IS ACCEPTABLE AS LONG AS THE 10" TEMPORARY WEIR AT ELEV. 440.5 15 MAINTAINED AND SECURED.

SECTION B-B

OPENING

ELEVATION

12,4

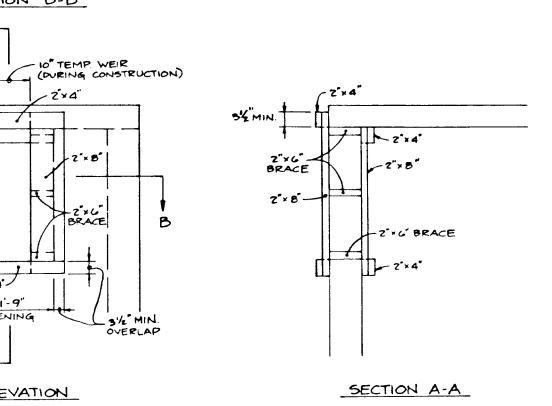
NO DATE

DES:

(410) 465-4244

DRN:

- 10" TEMP WEIR



CONTROL WEIR TEMPORARY SWM

BY THE DEVELOPER: "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN. 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." James K. Moller DEVELOPER: JAMES R. MOXLEY, JR. SDC GROUP, INC. - PRESIDENT BY THE ENGINEER: "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. 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." the floures ENGINEER: JOHN M, ELORRIAGA, P.E. # 16891 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 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. Robert Co. Zrohm 165 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 17/43 DATE

TSA GROUP. INC. planning · architecture · engineering 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

REVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

PLANNING AND LAND DEVELOPMENT JULY

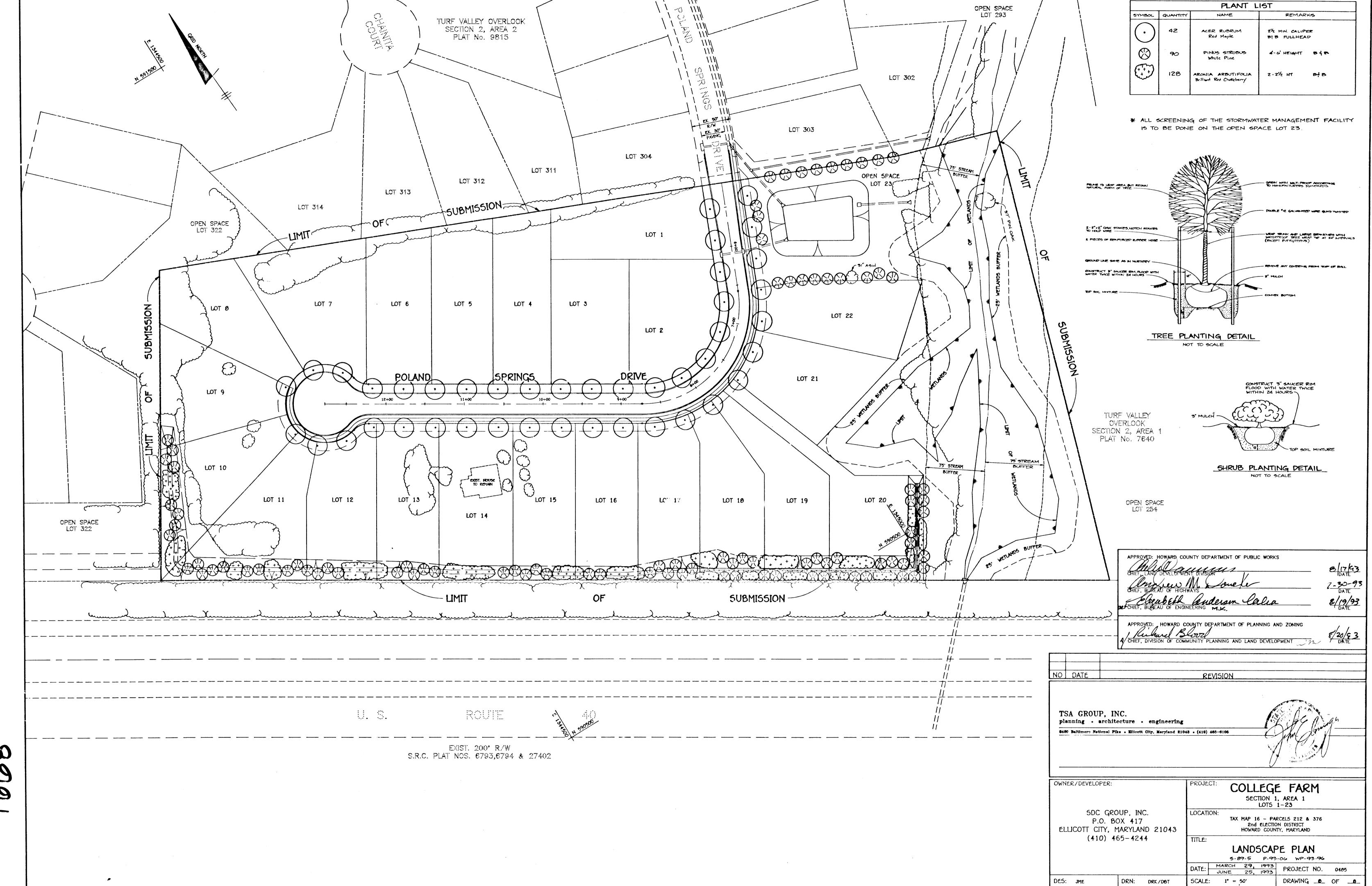
OWNER/DEVELOPER: COLLEGE FARM SECTION 1. AREA 1 LOTS 1-23 LOCATION: 5DC GROUP, INC. TAX MAP 16 - PARCELS 212 & 376 2nd ELECTION DISTRICT P.O. BOX 417 HOWARD COUNTY, MARYLAND ELLICOTT CITY, MARYLAND 21043

SCALE: AS SHOWN

STORMWATER MANAGEMENT NOTES AND SEDIMENT CONTROL DETAILS 5-89-5 P-93-06 WP-93-96 MARCH 29, 1993 PROJECT NO. 0485

JUNE 25, 1993 DRAWING 7 OF U F-93-104

8/19/93 .



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