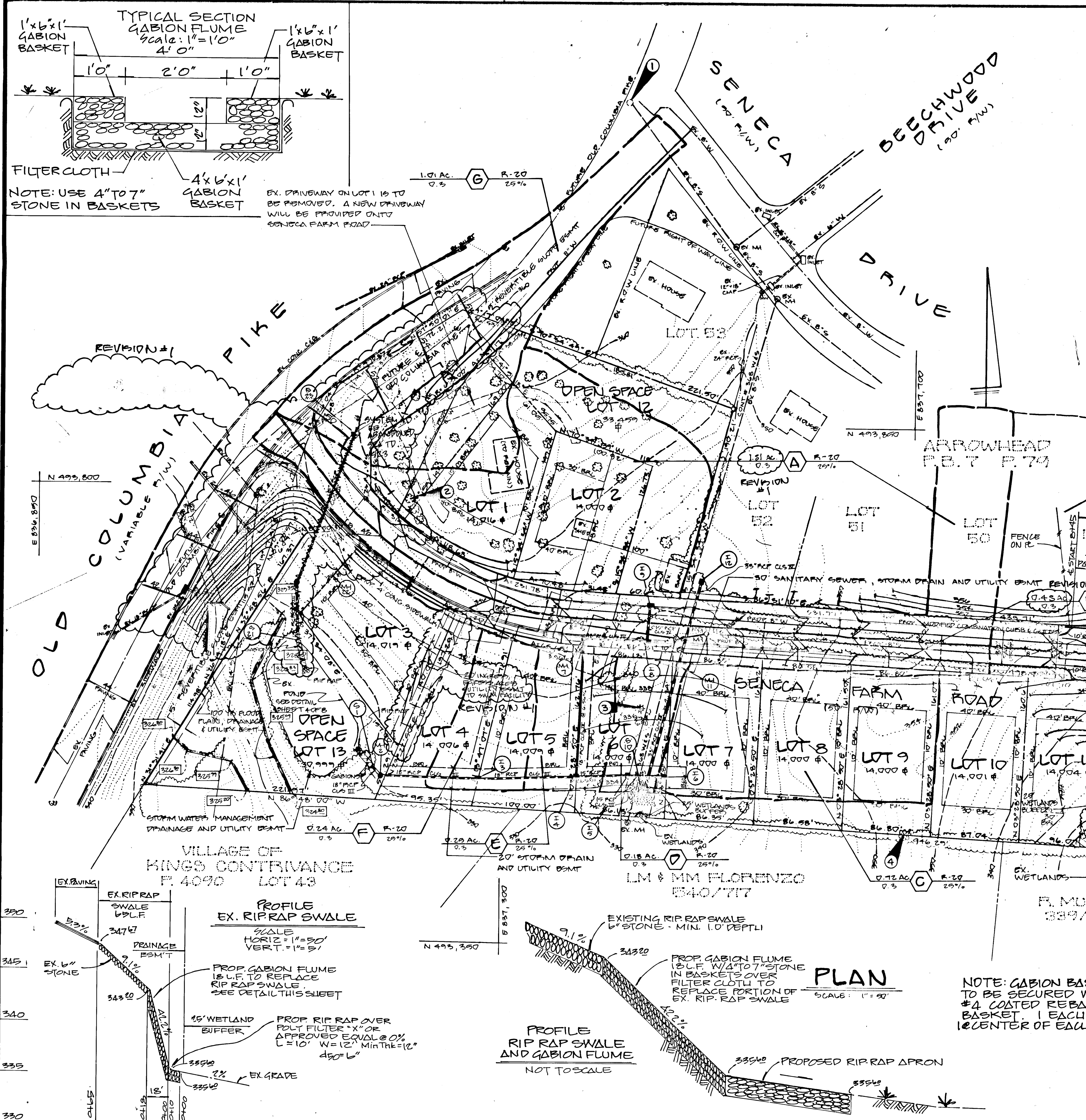
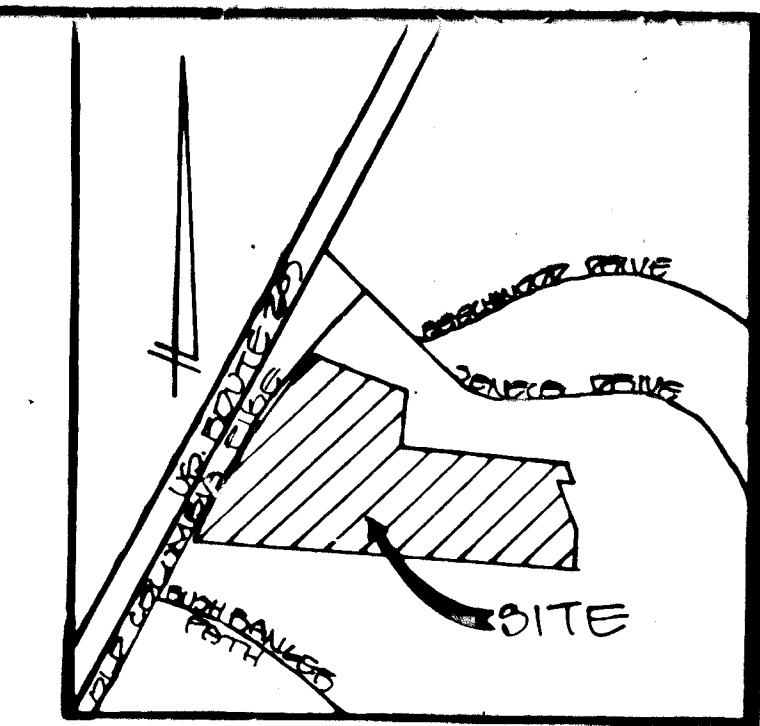


NOTE: USE 4" TO 7" STONE IN BASKETS

EX. DRIVEWAY ON LOT 1 IS TO BE REMOVED. A NEW DRIVEWAY WILL BE PROVIDED ONTO SENECA FARM ROAD

- GENERAL NOTES**
- Total Area: 276,577 Sq. ft. or 6.3493 Acres.
 - Area Zoned: R-20.
 - Public Water and Sewer disposal systems to be utilized.
 - Soils Map: #29.
 - Deed Reference: Liber 1989, Folio 414
 - Area of Dedication: 58,064 sq. ft. or 1.3330 acres.
 - Total area of lots: 218,513 sq. ft. or 5.0163 acres.
 - Number of Buildable lots: 11
 - Total Area of Buildable lots: 144,055 sq. ft. or 3.3363 acres.
 - Number of Open Space lots: 2
 - Area of open space lots: 6,458 sq. ft. or 1.4745 acres.
 - A "Tree Maintenance Easement" ten (10) feet wide, running along the edge of the public road right of way as shown on this plat of subdivision is reserved upon all lots fronting the said public road right of way. This easement allows Howard County the right to access the property, when necessary, for the specific purposes of installation, repair and maintenance of County-owned trees located within the boundaries of private lots. No building or structure of any kind shall be located on or over the said easement area.
 - Boundary Survey by: Loria, Sedghi & Associates, LTD. Ellicott City, Maryland, 1988
 - Topographic Survey & Flood Plain Study by: Development Consultants Group, Inc. 17904 Georgia Avenue, Suite 102 Olney, MD, 20832, 1989
 - All existing barns and sheds are to be removed. Only the existing dwelling on Lot 1 is to remain.
 - The coordinates shown hereon are based on the Maryland State Grid System and derived from the following geodetic control stations: 2340010 and 2440008.
 - No clearing, grading or construction is permitted within Wetland or Stream Buffers.



BARRICADE PER HOWARD COUNTY STD R-7.12 TYPE "C" 34.3 L.F. INSTALLED INSIDE COUNTY R/W. 36" FROM TOP OF BEAM TO EXISTING GRADE.

SEE SHEET 2 OF 3 FOR SPOT ELEVATIONS AND BARRICADES.

FOLLOWING INITIAL SOIL DETURBANCE OR EROSION CONTROL MEASURES SHALL BE INSTALLED WITHIN 10 DAYS OF COMMENCEMENT OF CONSTRUCTION. THESE MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT THE END OF CONSTRUCTION.

NOTE: THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION (SWAYE DIVISION) 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT THIS SITE.

DEVELOPER'S CERTIFICATE:
I HEREBY 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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.
R. M. Keville DATE

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR SOIL 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 COUNTY CONSERVATION DISTRICT.
William S. ... DATE

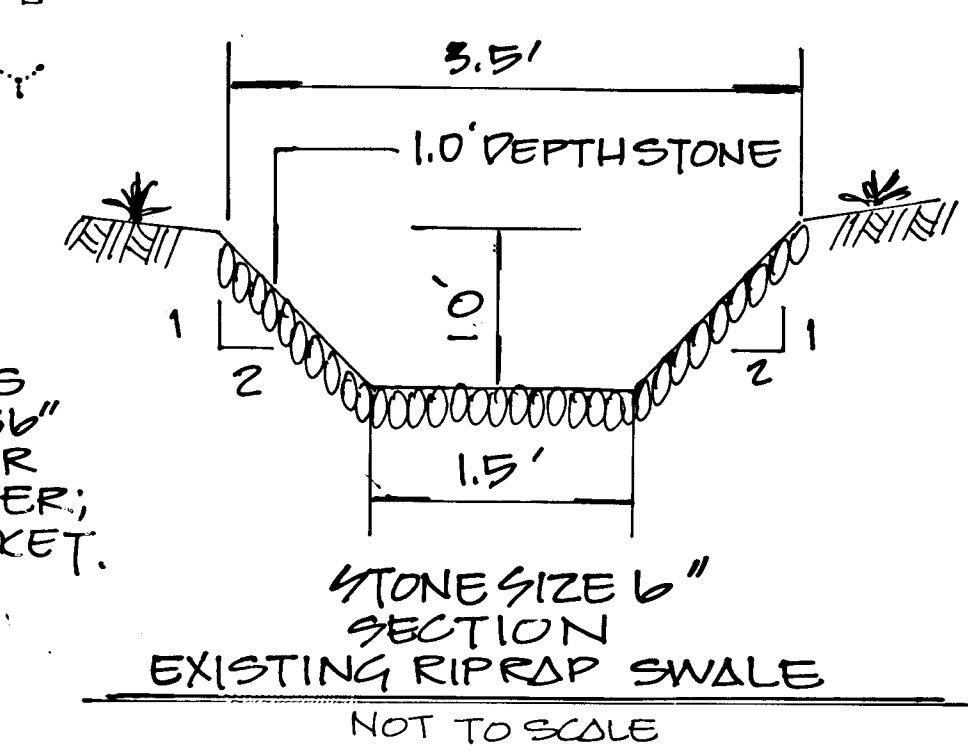
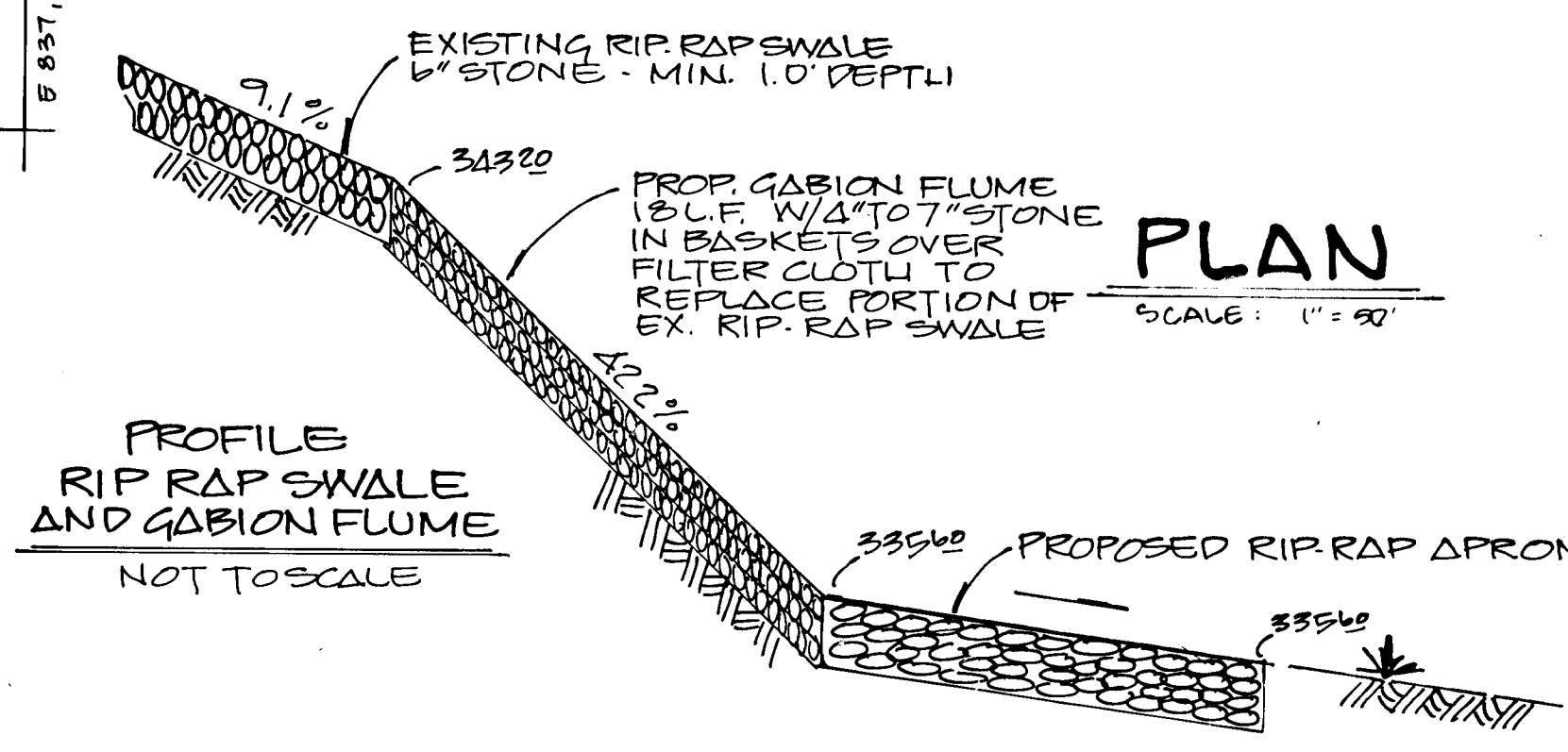
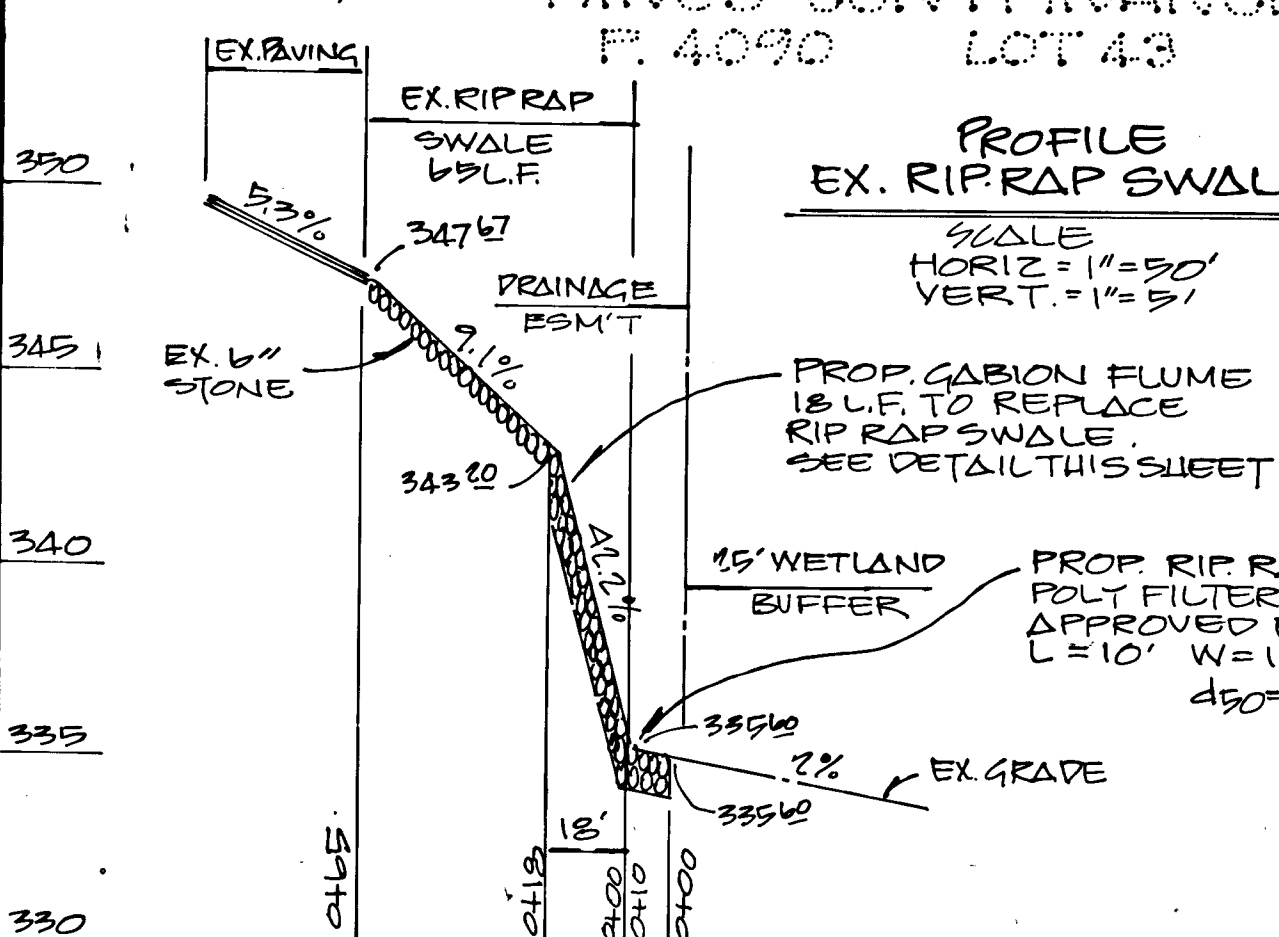
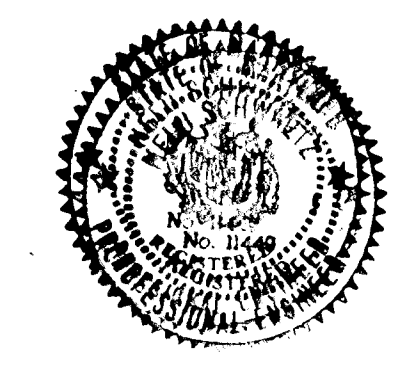
APPROVED: HOWARD COUNTY DEPARTMENT OF CONSERVATION DISTRICT & MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL.
James J. ... DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF CONSERVATION DISTRICT & MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL.
James J. ... DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF CONSERVATION DISTRICT & MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL.
James J. ... DATE

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James J. ... DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF CONSERVATION DISTRICT & MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL.
James J. ... DATE



NOTE: GABION BASKETS TO BE SECURED W/ 5-36" #4 COATED REBAR PER BASKET. 1 EACH CORNER; 1@ CENTER OF EACH BASKET.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- LIMITS OF DRAINABLE AREAS

BENCH MARKS

BM # 1	ELEV: 338.97
1" x 1" CHISELED ON END OF 4" x 4" POST	
BM # 2	ELEV: 339.96
CUT NAIL IN 10" LOGSPT TREE	
BM # 3	ELEV: 335.87
CUT NAIL IN 12" CEDAR TREE	
BM # 4	ELEV: 338.46
CUT NAIL IN TWIN 14" LOGSPT TREE	

Owner/ Developer:
TOPAFARM REAL ESTATE DEVELOPMENT, LTD.
6255 CARDINAL LANE
COLUMBIA, MARYLAND 21044
(301) 730-2618

NO.	REVISIONS	DATE
1	REVISE & REGRAB TO STAT. 2+30	10/21-91 ACH
2	SHOW STORM DRAIN SYSTEM 421 TO 523 TO BE ABANDONED	10/21-91 ACH
3	SHOW NEW ACCESS EASEMENT TO SUM AREA	10/21-91 ACH
4	REVISE DRAINAGE AREAS "A" & "B"	10/21-91 ACH
5	ELIMINATE DRAINAGE AREAS "H" & "I"	10/21-91 ACH

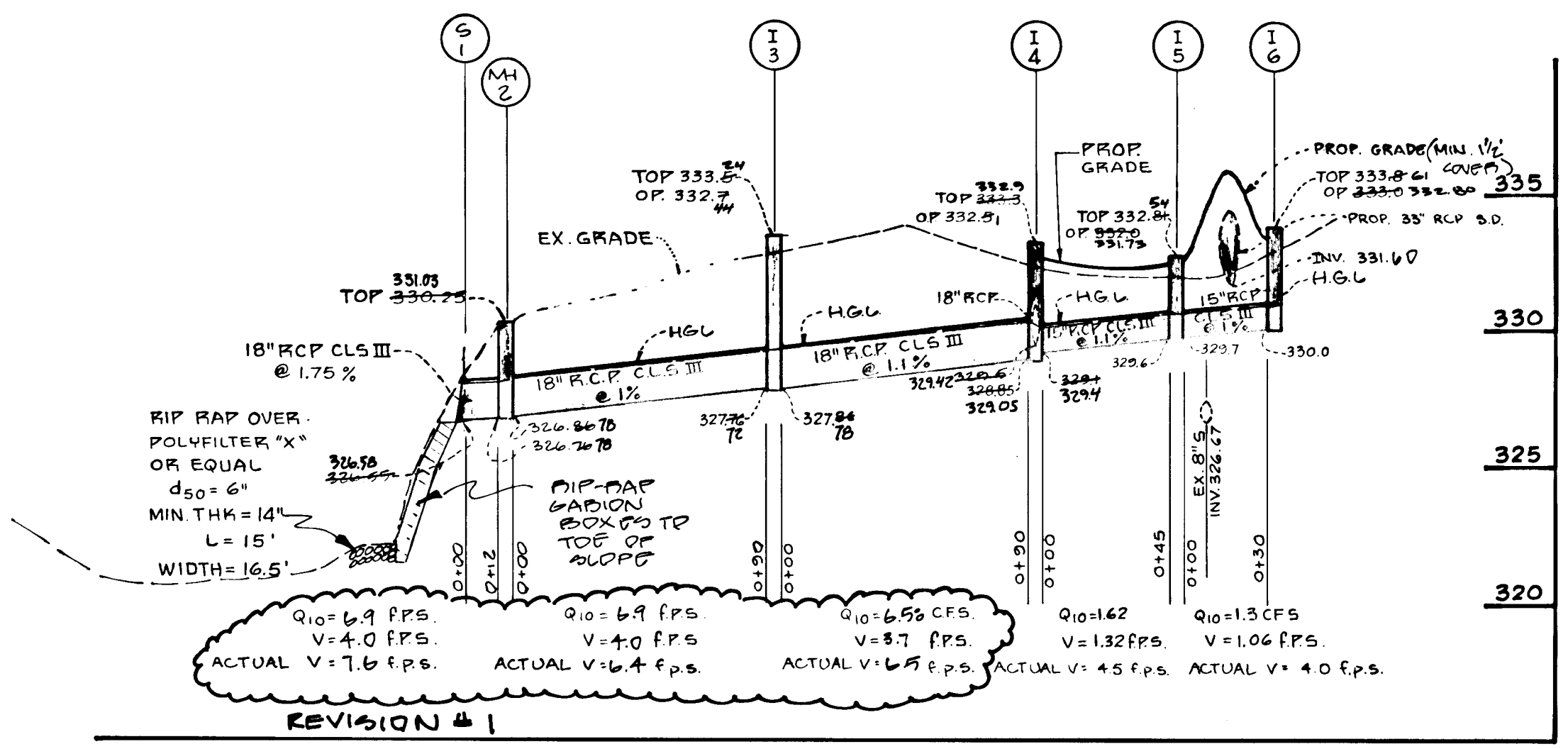


DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

ROAD GRADING & STORM DRAIN PLAN
LOTS 1-13
SENECA FARMS
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 36 PARCEL 60

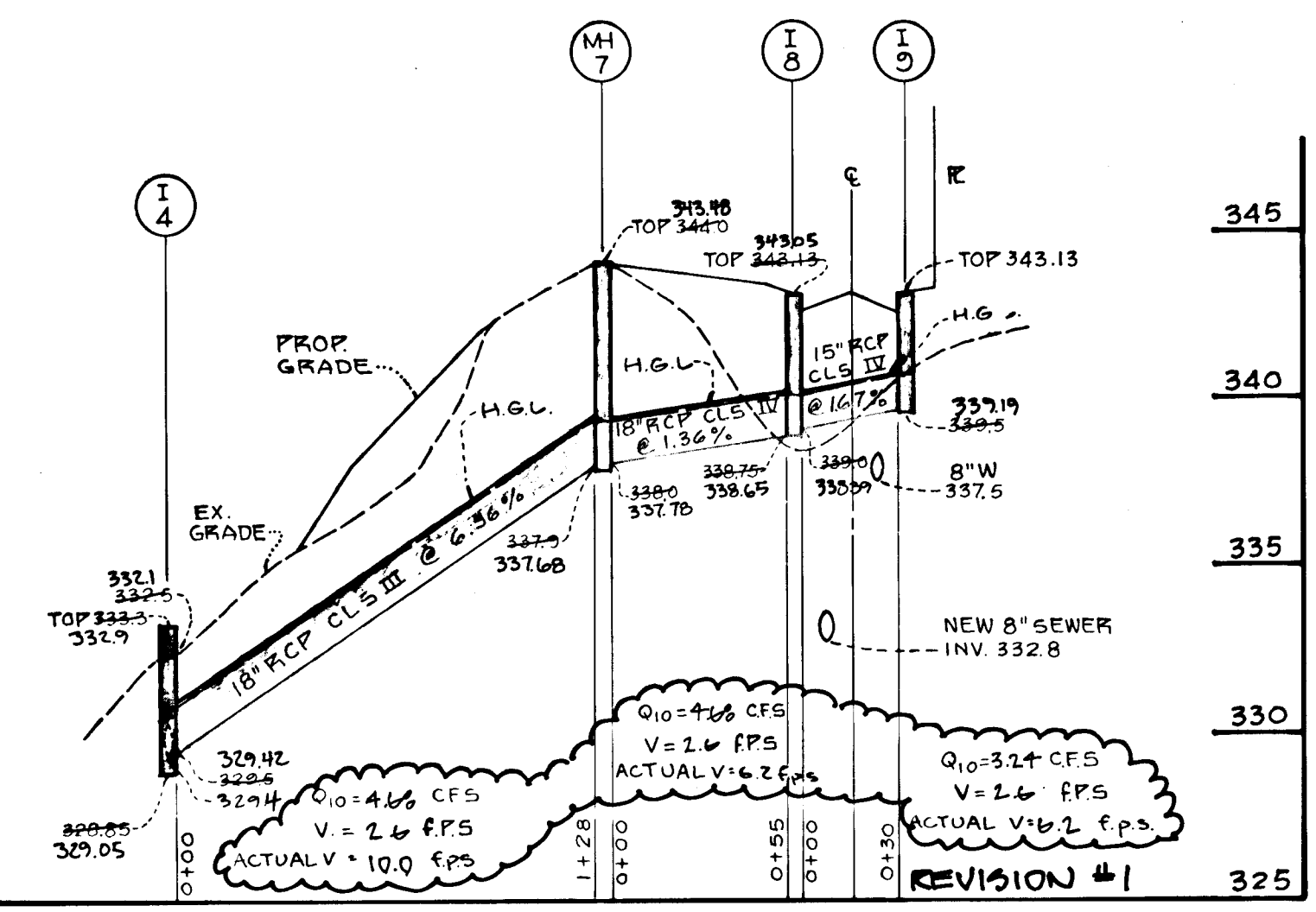
DATE: JUNE, 1990
DRAWN: ELP
CHECKED: NS
SCALE: 1"=50'
Sheet 1 of 3
PROJECT NO. 224-05

1579

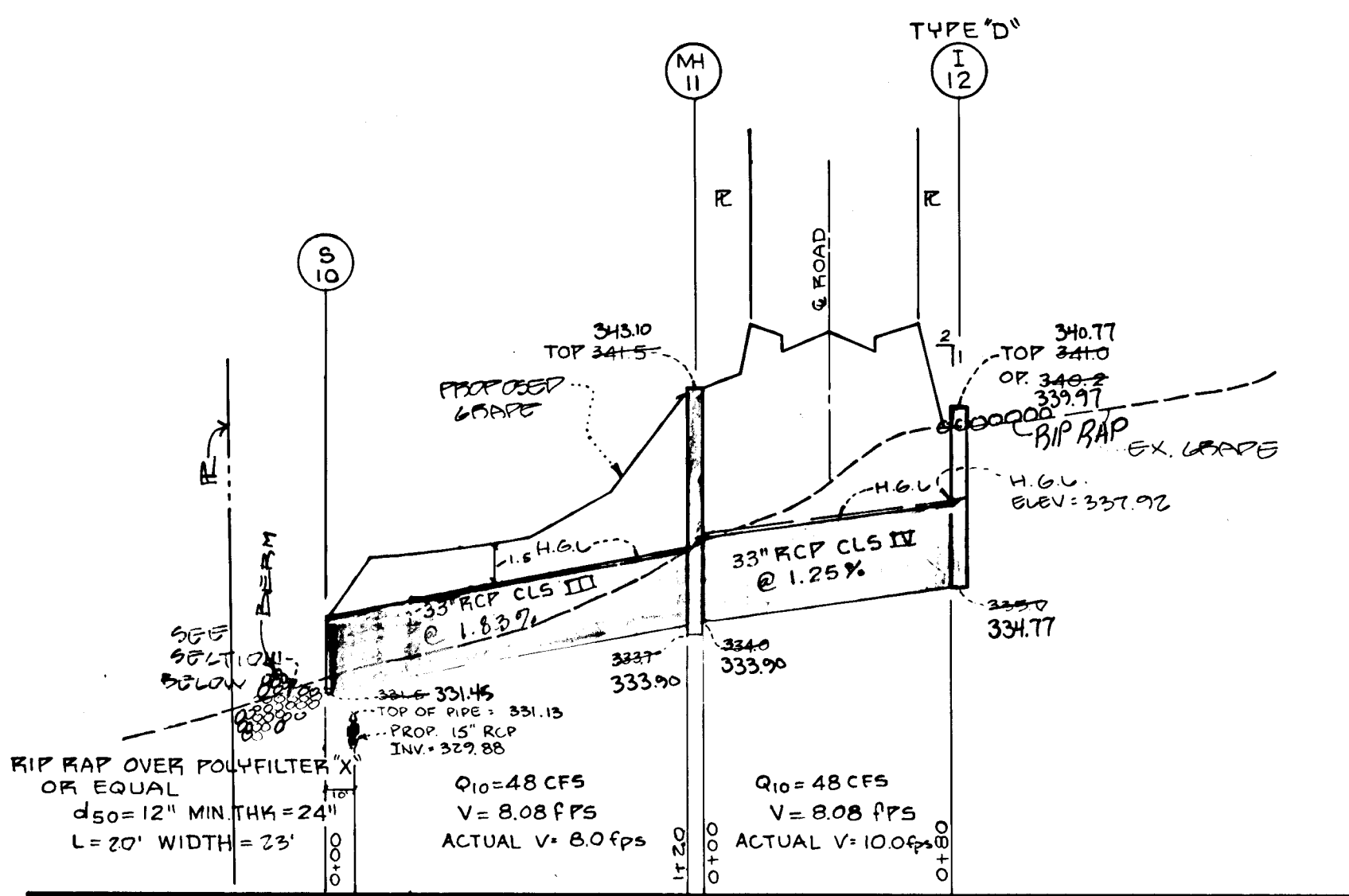


PROFILE
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

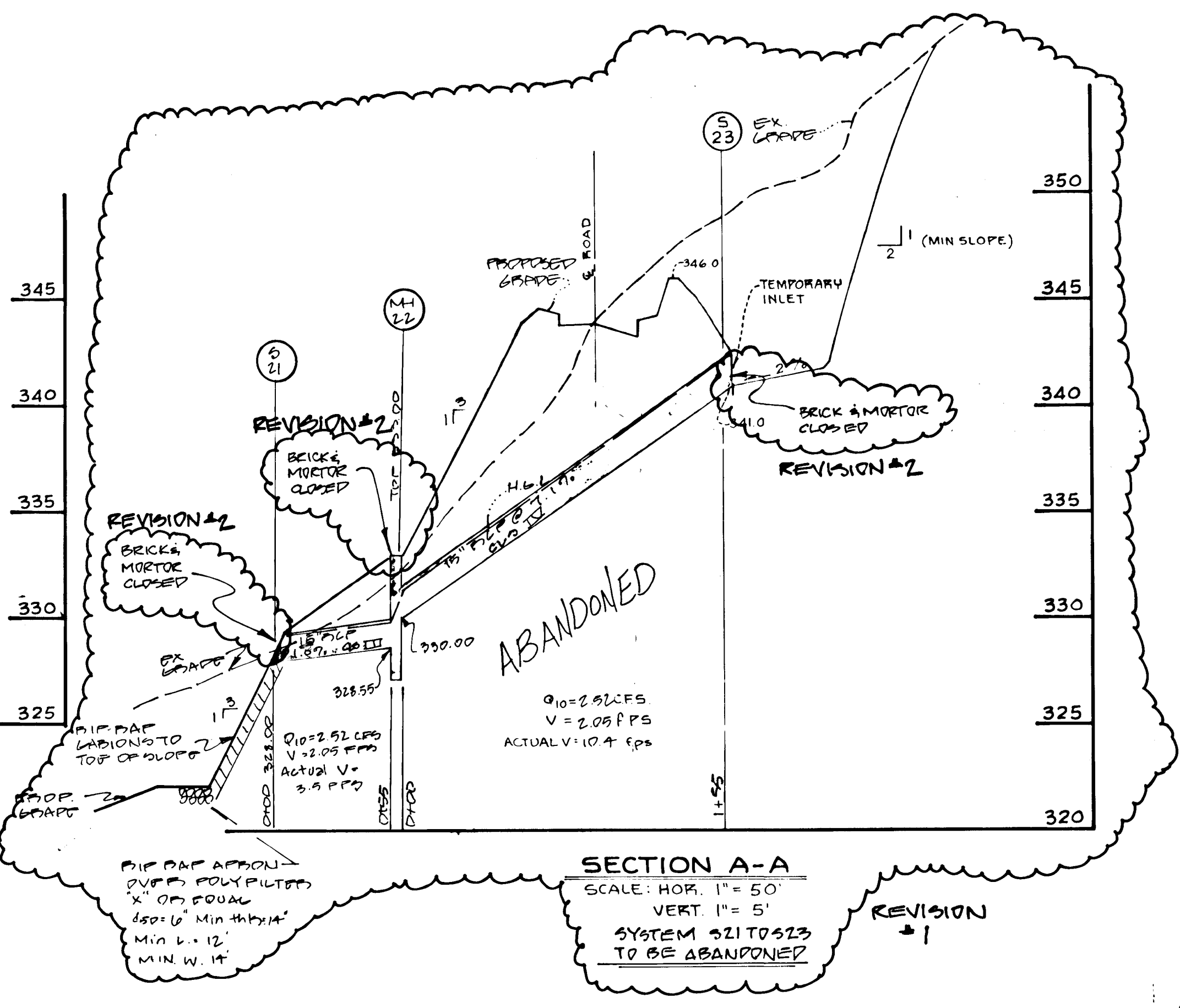
NOTE: INSTALL PIPE BETWEEN I4 AND I5 PRIOR TO INSTALLATION OF 33\"/>



PROFILE
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'



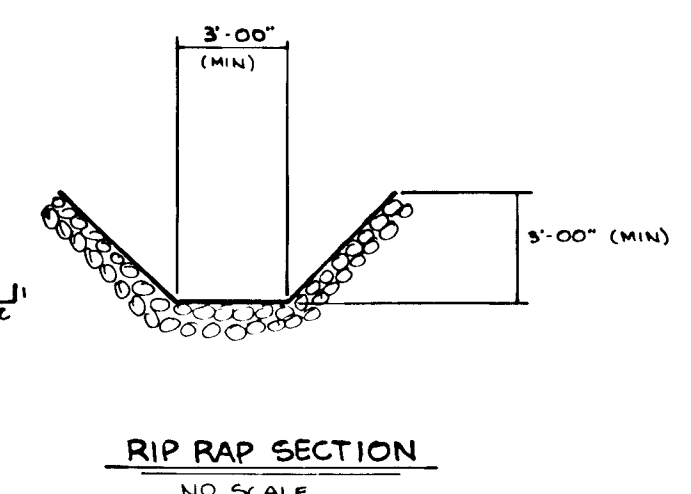
PROFILE
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'



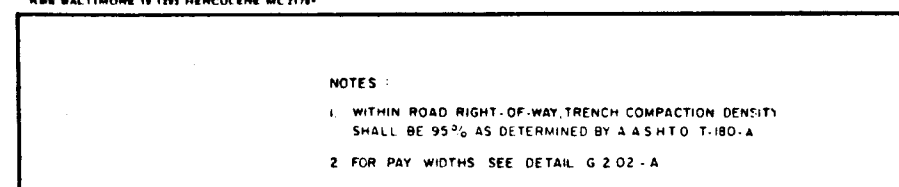
SECTION A-A
SCALE: HOR. 1"=50'
VERT. 1"=5'
SYSTEM 521 TO 523 TO BE ABANDONED

STRUCTURE SCHEDULE			
NO.	TYPE	TOP ELEVATION	INV. ELEVATION
S1	ENDWALL		320.0
MH 2	MANHOLE	333.0	326.0
I 3	TYPE 'D' INLET GRATE	333.0	327.0
I 4	TYPE 'D' INLET GRATE	332.0	327.0
I 5	TYPE 'D' INLET GRATE	332.0	327.0
I 6	TYPE 'D' INLET GRATE	333.0	327.0
MH 7	MANHOLE	344.0	337.0
I 8	TYPE 'A-5' INLET (SUMP)	343.0	342.0
I 9	TYPE 'A-5' INLET (SUMP)	343.0	342.0
S 10	ENDWALL		321.0
MH 11	MANHOLE	341.0	333.0
I 12	TYPE 'D' INLET GRATE	341.0	333.0
S 21	ENDWALL		322.0
MH 22	MANHOLE	322.0	322.0
S 23	ENDWALL		321.0

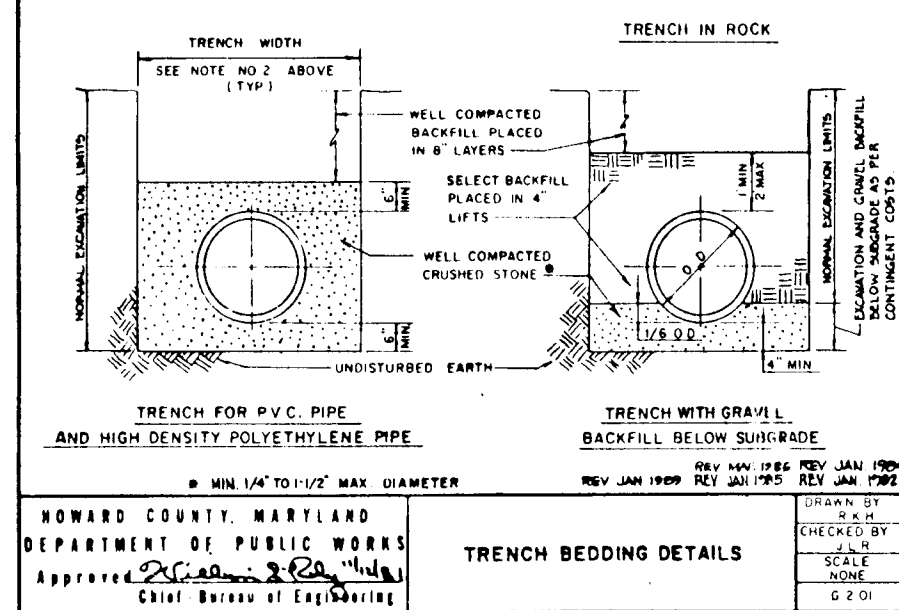
PIPE SCHEDULE			
TYPE	SIZE	LENGTH	REMARKS
RCP CUS III	18"	130 L.F.	
RCP CUS III	18"	185 L.F.	
RCP CUS III	18"	320 L.F.	
RCP CUS IV	18"	55 L.F.	
RCP CUS III	33"	120 L.F.	
RCP CUS IV	33"	80 L.F.	



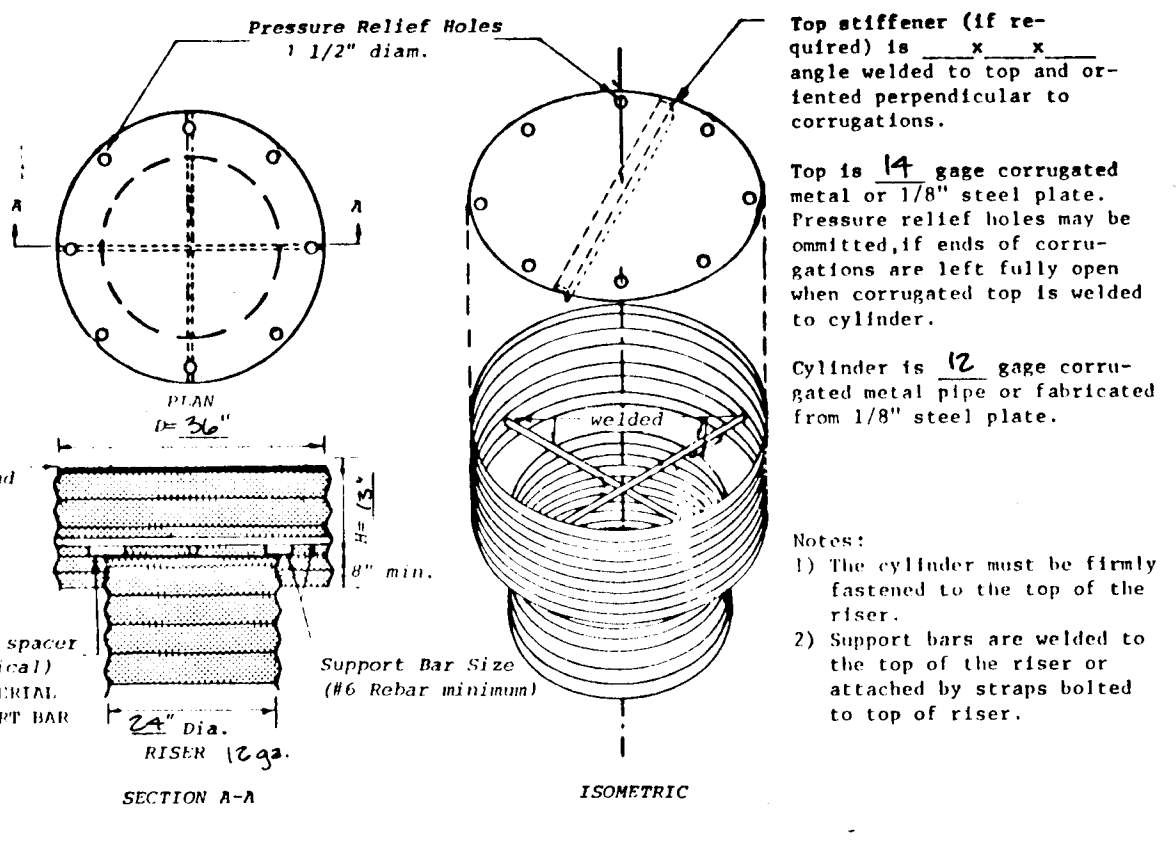
RIP RAP SECTION
NO SCALE



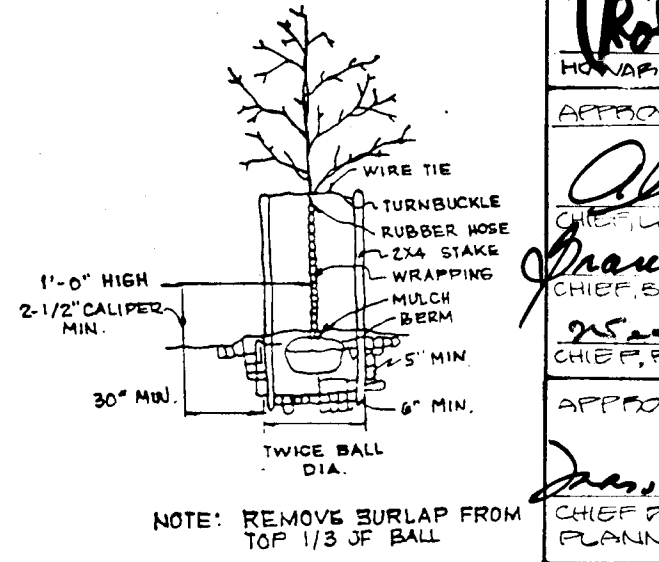
TRENCH BEDDING DETAILS



TRENCH BEDDING DETAILS



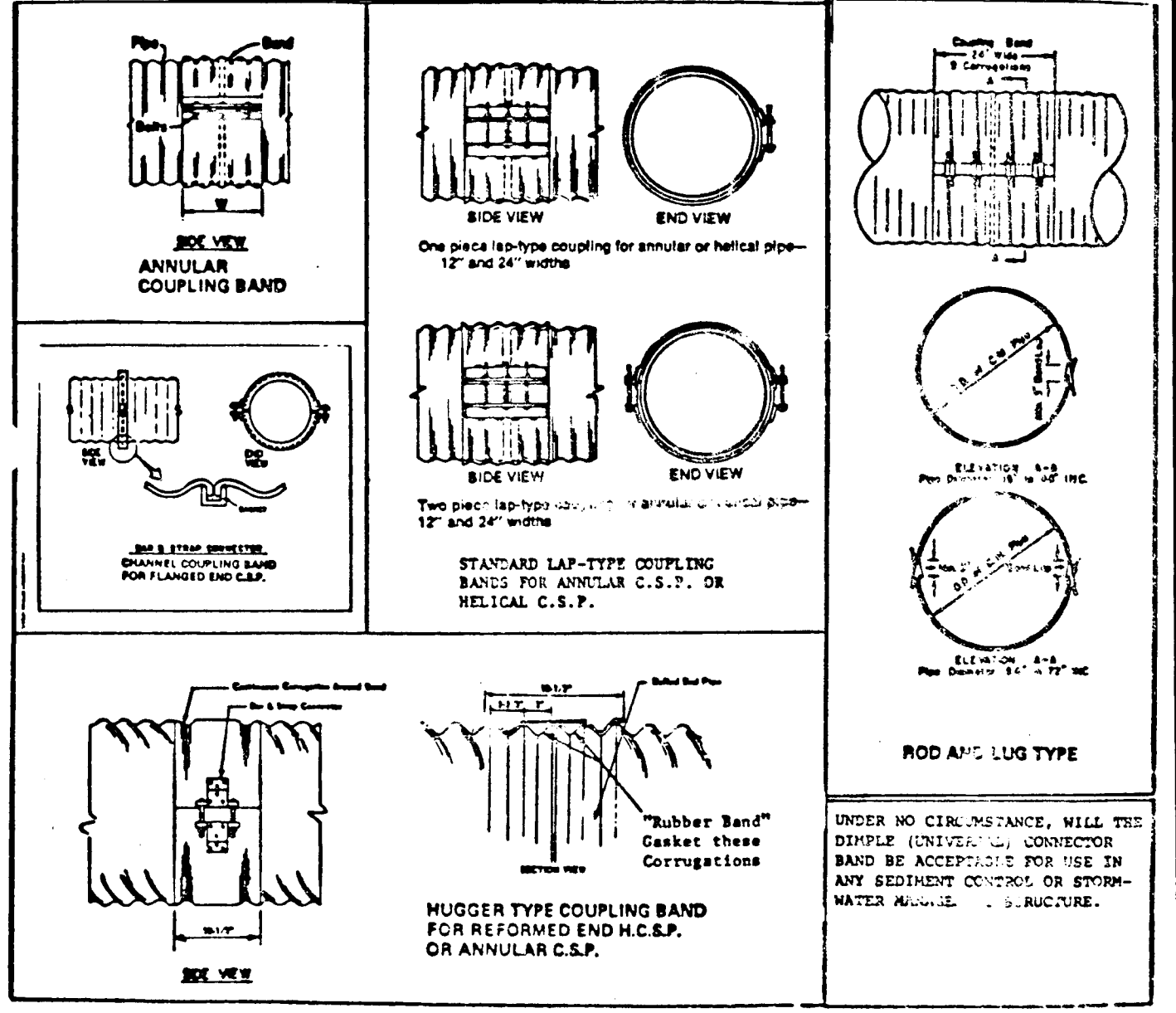
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)



TREE PLANTING

QTY	COMMON NAME	SIZE
52	THORNLESS HONEY LOCUST	8-10 HT

PLANT LIST



TYPES OF COUPLERS FOR CORRUGATED STEEL PIPE
(All connector bands require neoprene gaskets)

THE FOLLOWING INFORMATION IS FOR THE INFORMATION OF THE CONTRACTOR AND DEVELOPER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR AND DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION (CIVIL ENGINEERING) 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT 702-1272.

DEVELOPER'S CERTIFICATE:
I HEREBY 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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.
L. M. Riddle 6/14/90

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR SOIL 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 COUNTY CONSERVATION DISTRICT.
John H. Hines 6/14/90

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY CONSERVATION DISTRICT TO MEET THE TECHNICAL REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL.
John H. Hines 6/29/90

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Dr. J. J. Hines 7/1/90



Owner/Developer:
TERRAFIRM REAL ESTATE DEVELOPMENT, LTD.
6258 CARDINAL LANE
COLUMBIA, MARYLAND 21044
301-730-2618

NO.	REVISIONS	DATE
1	REVISE COMMON STORM DRAIN SYSTEM 51 TO 54 AND STORM DRAIN SYSTEM 521 TO 525 TO BE ABANDONED	10/21-91 ACH
2	ADD ABANDONMENT NOTES TO STORM DRAIN SYSTEM 521 TO 525	10/21-91 ACH



DEVELOPMENT CONSULTANTS GROUP, INC.

17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

STORM DRAIN PROFILE & DETAILS
LOTS 1-13
SENECA FARMS
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 36 PARCEL 60

DATE: JUNE, 1990	SHEET: 3 of 8
DRAWN: E.M.	PROJECT NO.: 224-05
CHECKED: N.S.	
SCALE: AS SHOWN	

1579

**SOIL CONSERVATION SERVICE
MARYLAND
CONSTRUCTION SPECIFICATIONS
POND**

These specifications are appropriate for ponds within the scope of the Standard Practice 312.

I. SITE PREPARATION

Areas under the borrow area, embankment, and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, rocks or other objectionable material. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. Areas covered by the pond or reservoir will be cleared of all trees, brush, logs, stumps, and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. All cleared and grubbed material shall be disposed of outside the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. EARTH FILL

Material
The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, over-size stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement
Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 6-inch to 8-inch thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of 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 covered by not less than one 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 can be obtained with the equipment used.

Cutoff Trench
Where specified, a cutoff trench shall be excavated 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 or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL

Backfill material 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 tamper or other 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 horizontally, to any part of a structure. Under no circumstances shall the contractor drive equipment over any part of a concrete structure or pipe unless there is a compact fill of twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS

A. Corrugated Metal Pipe
1. **Materials** - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated as shall conform to the requirements of ASTM Specification A-130. Type A with watertight coupling bands. Any bituminous 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 ASTM Specification B-221. This pipe shall have watertight coupling bands. Coupling bands, anti-seep collars, and sections, etc. must be composed of the same material as the pipe. Means must be provided from dissimilar materials with use of rubber or plastic insulating materials at least 1/4 inch in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

Electrically corrugated pipe in addition to the requirements above shall have a hot continuously welded seam or have lock seams which are caulked, during fabrication, with a neoprene bead.

2. **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. Watertight coupling bands shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.

3. **Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, springy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. **Laying pipe** - The pipe shall be placed with inside circumferential lap pointing downstream and with the longitudinal lap at the side.

5. **Backfilling** shall conform to structural backfill as shown above.

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

B. Reinforced Concrete Pipe

1. **Materials** - reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-301. Approved equivalents are ASTM Specification C-309, 301, and 302.
2. **Bedding** - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high strength concrete placed under the pipe and up the side of the pipe at least 10% of the diameter with a minimum thickness of 3", or as shown on the drawings.
3. **Laying pipe** - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendation of the manufacturer of the material. After the joints are sealed for the entire length, 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.
4. **Backfilling** shall conform to structural backfill as shown above.
5. **Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.
6. **For pipes of other materials**, specific specifications shall be shown on the drawings.

C. CONCRETE

- a. **Concrete** - Normal Portland cement shall conform to the latest ASTM Specification C-150.
- b. **Water** - The water used in concrete shall be clean, free from oil, acid, alkali, salts, organic matter or other objectionable substances.
- c. **Sand** - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-inch square sieve. Limestone sand shall not be used.
- d. **Coarse Aggregate** - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt; it shall be well graded with a maximum size of one and one-half (1-1/2) inches.
- e. **Reinforcing Steel** - The reinforcing steel shall be deformed bars of intermediate grade unless steel or rail steel conforming to ASTM Specification A-615.

2. **Design Mix** - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5/12 to 6/12. The proportion of materials for the trial mix shall be 1:1.3:1.2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.
3. **Mixing** - The concrete ingredients shall be mixed in batches until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one overall minute after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixing operation. Excessive overwatering requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications herein.
4. **Form** - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

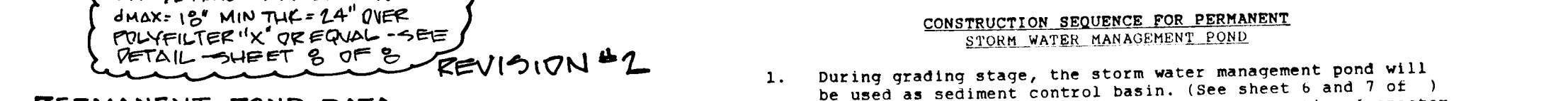
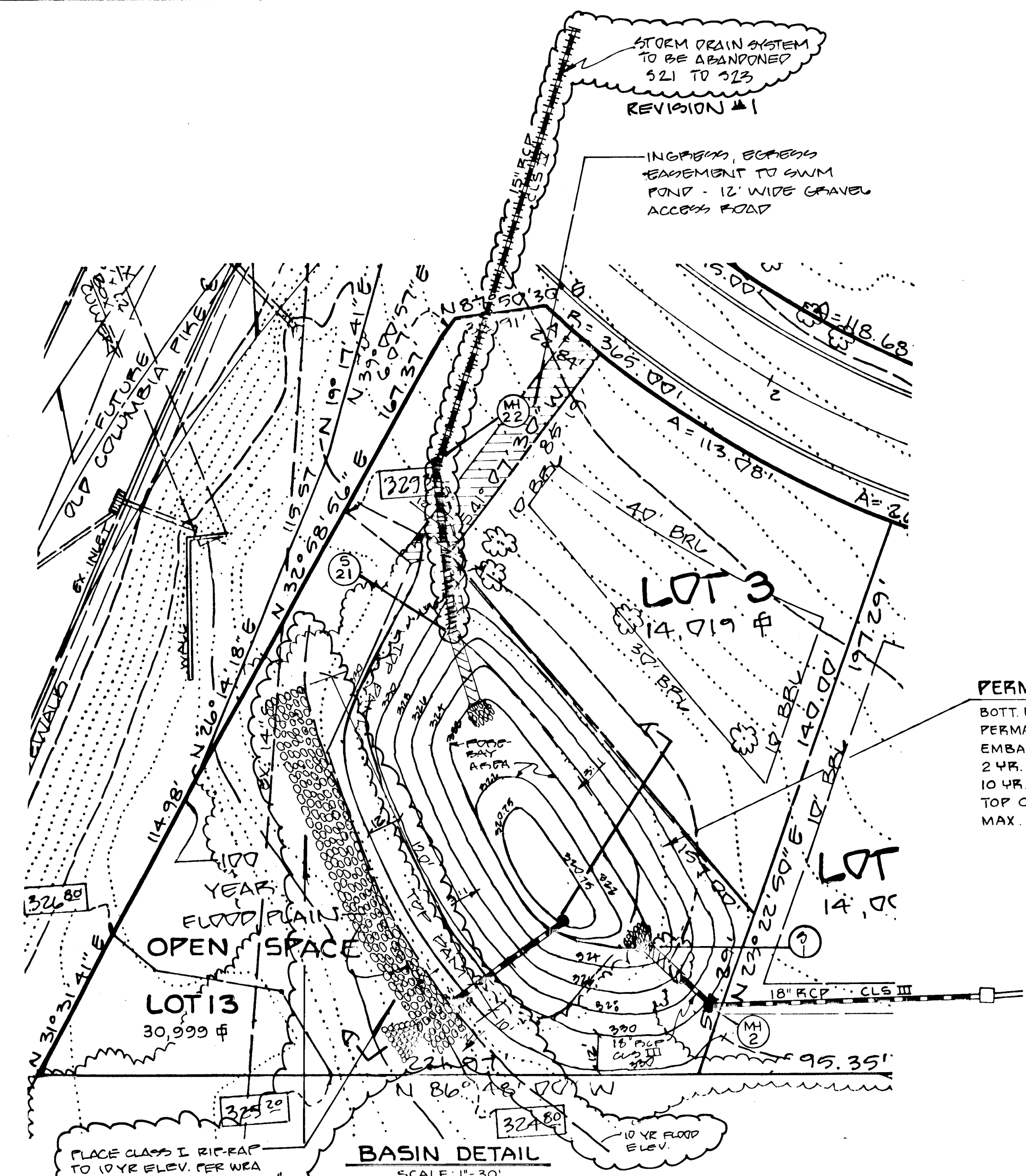
The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

5. **Reinforcing Steel** - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coating. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.
6. **Consolidating** - Concrete shall be consolidated with internal type mechanical vibrator. Vibration shall be supplemented by rodding and hand tamping when necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.
7. **Finishing** - Defective concrete, honeycombed areas, voids left by the removal of the rods, edges on all concrete surfaces, improperly exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be tamped and completely filled with dry-patching mortar.
8. **Protection and Curing** - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.

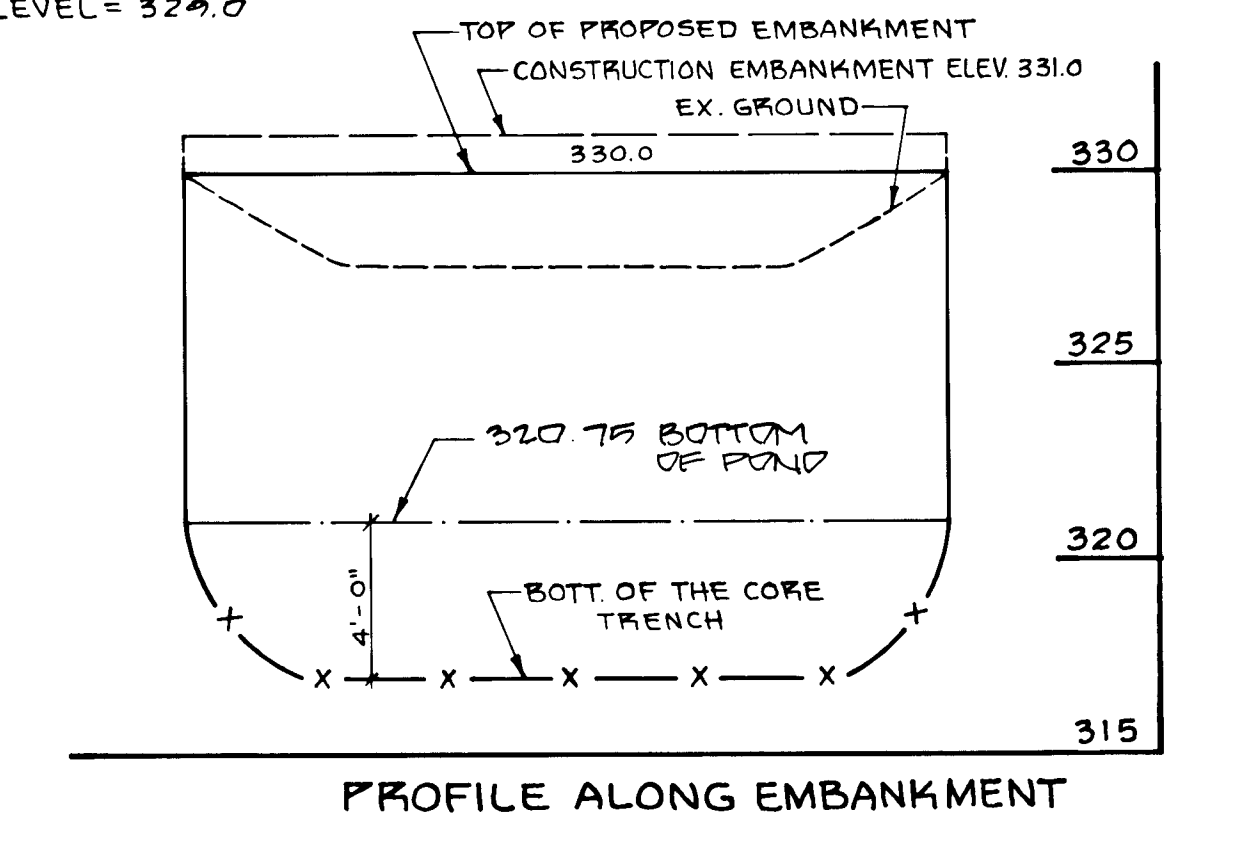
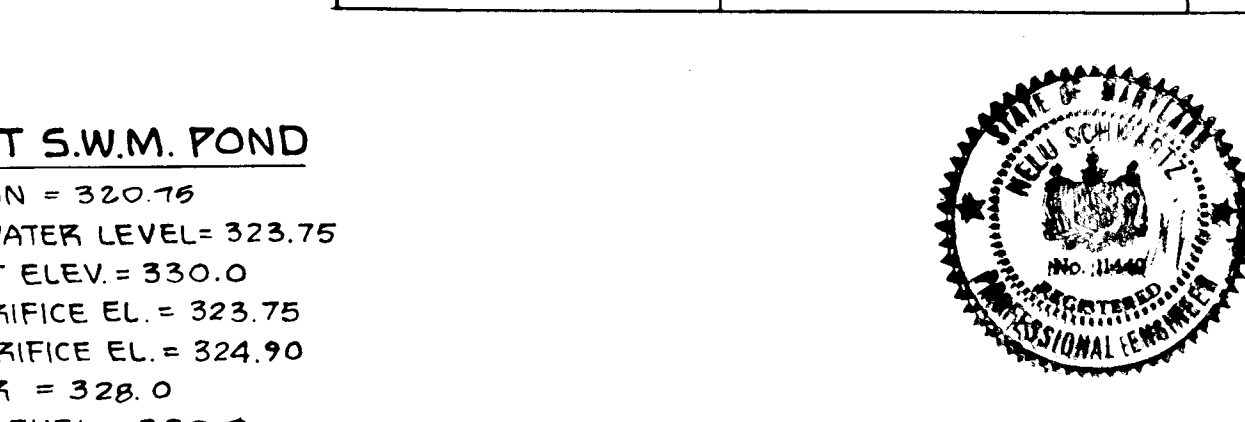
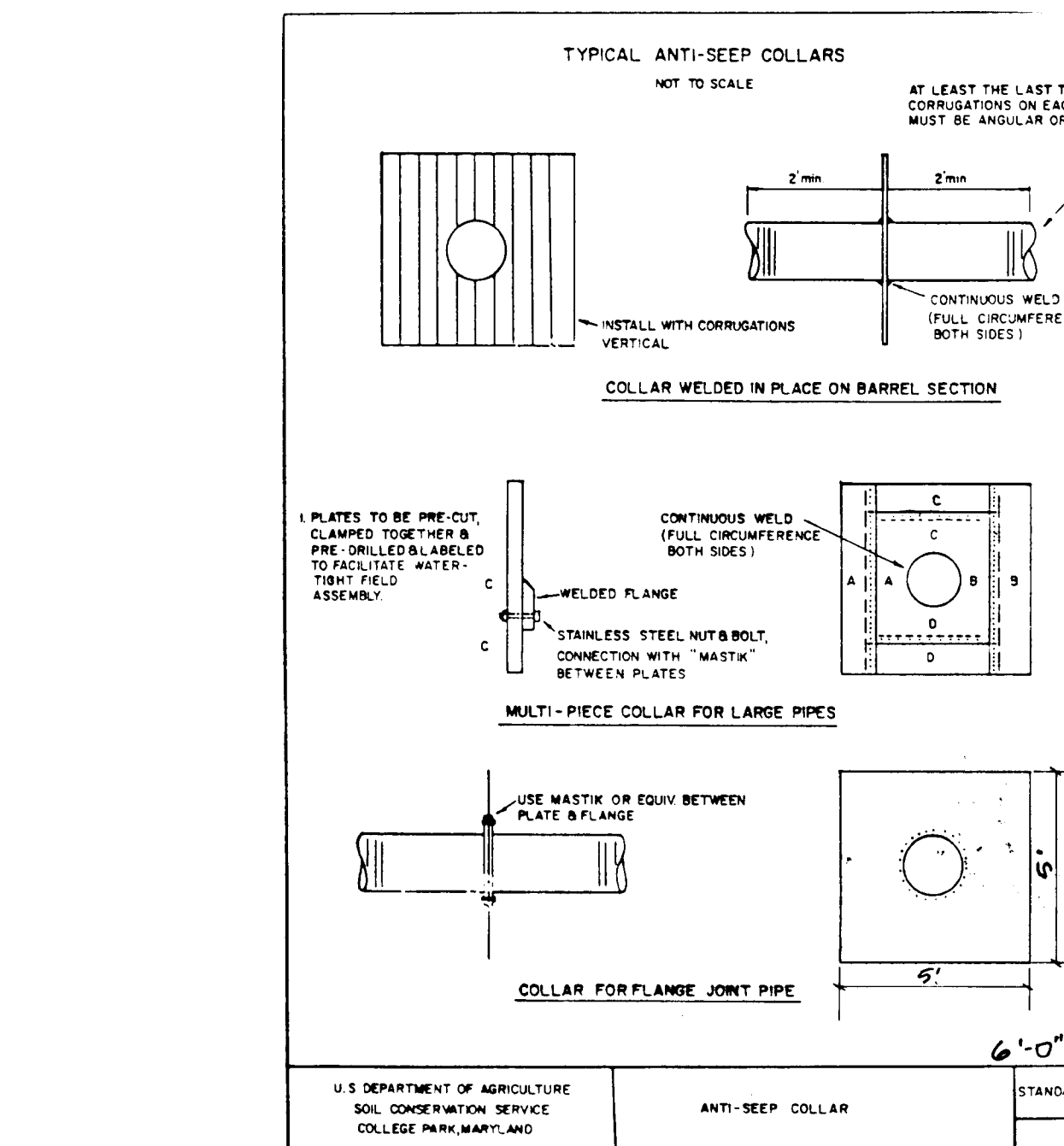
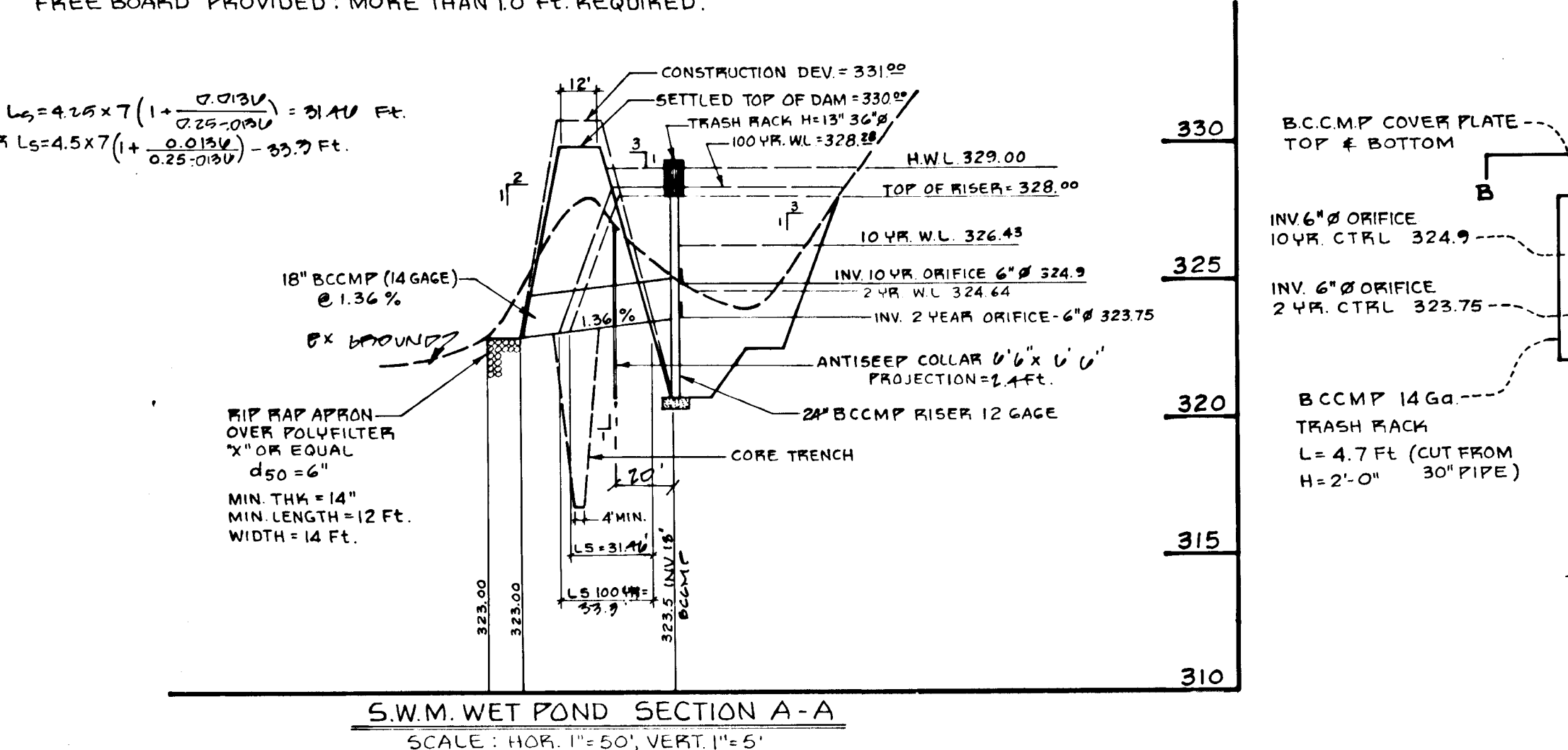
V. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spill and borrow areas, and borrow shall be stabilized by seeding, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.

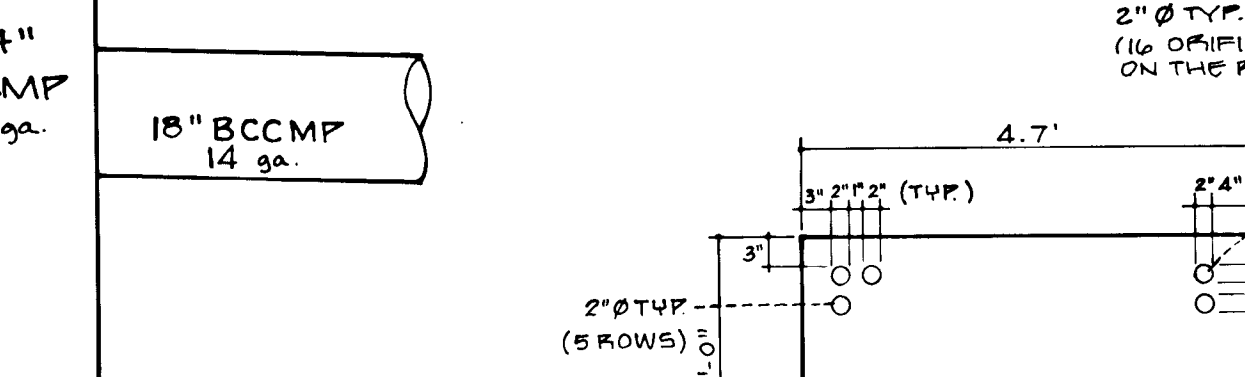
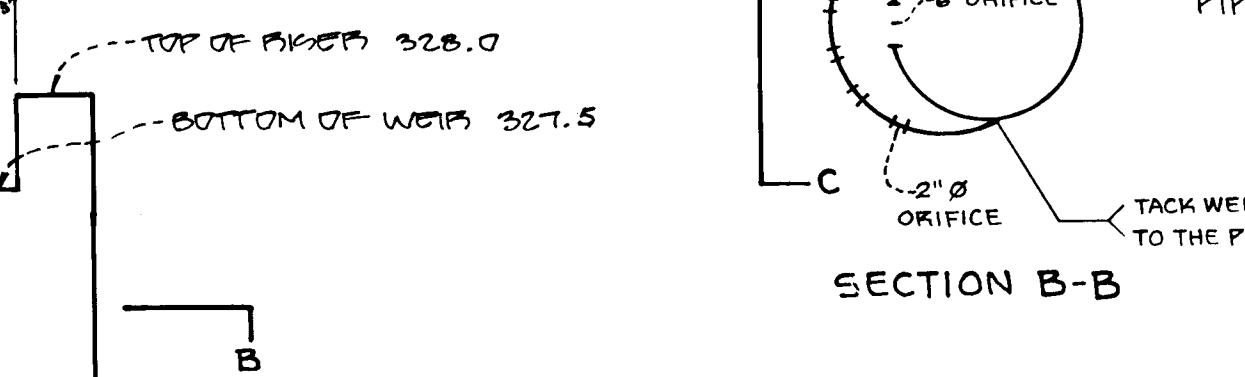
NOTE: CONSIDER THIS POND TO BE CLASS "A" BECAUSE FAILURE OF THE DAM WILL NOT RESULT IN LOSS OF LIFE OR DAMAGE OF HOMES, COMMERCIAL OR INDUSTRIAL BUILDINGS. THE DISCHARGE WILL BE INTO AN EXISTING WELL ESTABLISHED STREAM; "BEAVER RUN" WITH A 100 YEAR FLOOD STUDY. THE CLOSEST HOUSE TO THE DAM IS AT A DISTANCE HIGHER THAN 250 FT.



PERMANENT POND DATA
STRUCTURE CLASS "A" RURAL (SEE NOTE)
STORAGE HEIGHT PRODUCT LESS THAN 3000 AC.
WATER SHED AREA LESS THAN 100 AC.
HEIGHT TO ES. LESS THAN 15 FT.
NORMAL STORAGE AREA LESS THAN 12 AC.
HYDROLOGIC CRITERIA:
PRINCIPAL SPILLWAY TO CARRY 10% OF 25 YR STORM
ACTUAL DESIGN TO CARRY 2 YR, 10 YR, AND 100 YR STORM
FREE BOARD PROVIDED: MORE THAN 1.0 FT. REQUIRED.



NOTES:
1. The concrete base shall be poured in such a manner to ensure that the concrete fills the bottom of the riser to the invert of the outlet pipe to prevent the riser from breaking away from the base.
2. With aluminum or galvanized pipe, the embedded section must be painted with zinc chromate or equivalent.
3. Riser base may be sized as computed using flotation with a factor of safety of 1.2.



CONCRETE BASE FLUATION CALCULATIONS
24" PIPES
H = 7.25'
ELEVATION FORCE =
7.25' x 11" x 25" = 62.4 x 5" x 1.5 x 4
(150 - 62.4) = 4706 lbs.
WEIGHT OF CONCRETE BASE =
92' x 1.5' x 150' = 5625 lbs.
SAFETY FACTOR = 5625 / 4706 = 1.2 O.K.

DESIGNER'S CERTIFICATE:
I HEREBY CERTIFY THAT ALL PROVISIONS AND CONDITIONS OF THESE SPECIFICATIONS HAVE BEEN FULLY COMPLIED WITH AND THAT THE CONSTRUCTION PROJECT WILL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTROL OF EROSION AND SEDIMENTATION ACT AND THE CONTROL OF POLLUTION ACT.
DATE: 6/19/90
SIGNATURE: [Signature]

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR SOIL EROSION AND SEDIMENTATION CONTROL IS A PRACTICAL AND WORKABLE PLAN AND THAT I WAS PRESENT AT THE SITE AT THE TIME IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTROL OF EROSION AND SEDIMENTATION ACT AND THE CONTROL OF POLLUTION ACT.
DATE: 6/19/90
SIGNATURE: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 7/16/90
SIGNATURE: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 7/16/90
SIGNATURE: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 7/16/90
SIGNATURE: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
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SIGNATURE: [Signature]

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DATE: 7/16/90
SIGNATURE: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 7/16/90
SIGNATURE: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 7/16/90
SIGNATURE: [Signature]

NO.	REVISIONS	DATE
1	REMOVE STEM DRAIN SYSTEM 321 TO 323 TO BE ABANDONED	10/21-91 ACJ
2	ADD RIP-RAP TO WEST SIDE SLOPE OF POND	10/30-91 ACJ

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

STORM WATER MANAGEMENT POND
LOTS 1-13
SENECA FARMS
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP: 36 - PARCEL: 60

S = 89-15
F = 89-47
F = 89-184

JUNE 1990
DRAWN E.M.
CHECKED N.S.
SCALE AS SHOWN

Sheet 4 of 8
PROJECT NO. 224-05

1579

FOLLOWING INITIAL SOIL DETENTION CONTROL MEASURES, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (1) SEVENTY (70) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, PITS, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 1:2 FOR TEN (10) DAYS FOR ALL OTHERS. RETURNED OR GRASSY AREAS ON PROJECT SITE.

NOTE: THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION (SURVEY DIVISION) 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT 10:15-10:30.

DEVELOPER'S CERTIFICATE:
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION SHALL BE DONE ACCORDING TO THE PLAN 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.

Ben Keadle 6/14/90
 DATE

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

John M. Johnson 6/14/90
 DATE

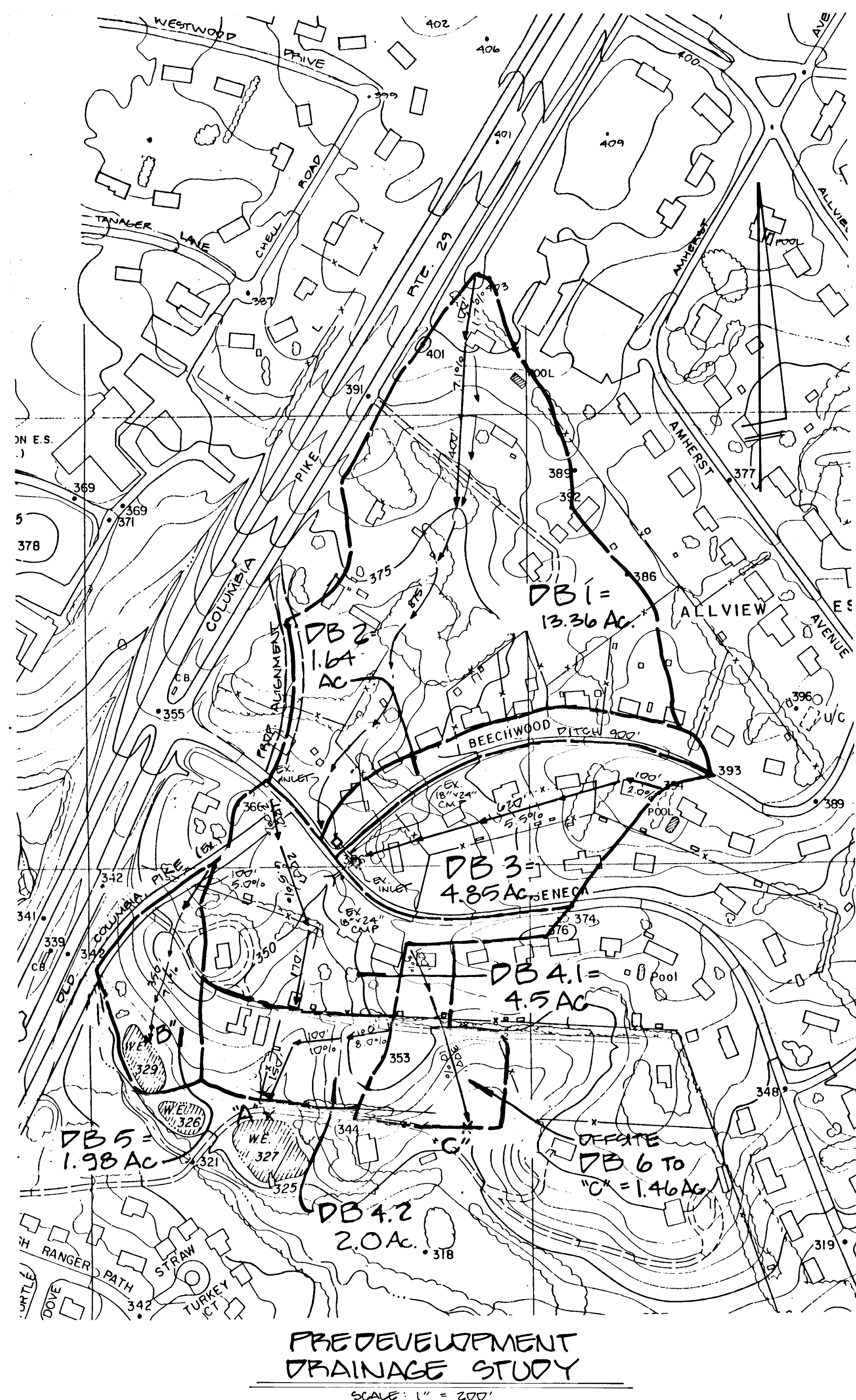
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY CONSERVATION DISTRICT & MET THE TECHNICAL REQUIREMENTS OF THE SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL MEASURES OF THE HOWARD COUNTY CONSERVATION DISTRICT.

John M. Johnson 6/14/90
 DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING:

Franklin W. Weiland 7/1/90
 DATE

Paul J. ... 7/1/90
 DATE

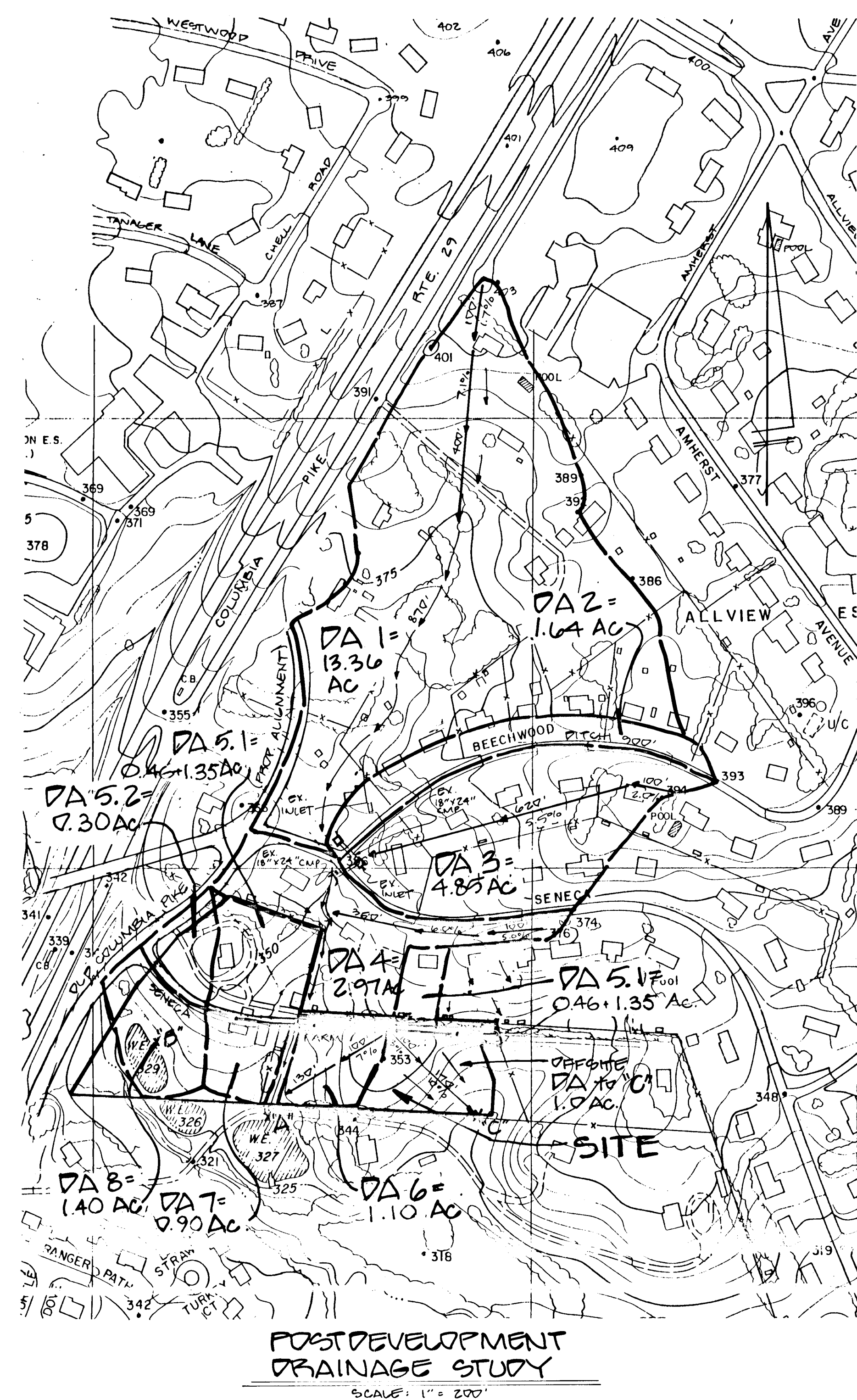


BEFORE DEVELOPMENT

TOTAL D.A. AT "A" = 26.55 AC. (DB 1, DB 2, DB 3, DB 4.1, & DB 4.2)
 $Q_2 = 20$ c.f.g.
 $Q_{10} = 57$ c.f.g.
 $Q_{100} = 107$ c.f.g.

TOTAL D.A. AT "B" = 1.98 AC. (DB 5)
 $Q_2 = 1$ c.f.g.
 $Q_{10} = 4$ c.f.g.
 $Q_{100} = 8$ c.f.g.

TOTAL D.A. AT "C" = 1.46 AC. (DB 6)



AFTER DEVELOPMENT

TOTAL D.A. AT "A" = 22.8 AC. (DA 1, DA 2, DA 3, & DA 4)
 $Q_2 = 22$ c.f.g.
 $Q_{10} = 59$ c.f.g.
 $Q_{100} = 107$ c.f.g.

TOTAL D.A. AT "B" = 5.51 AC. (DA 5.1, DA 5.2, DA 6, DA 7, & DA 8)
 $Q_2 = 6$ c.f.g.
 $Q_{10} = 19$ c.f.g.
 $Q_{100} = 35$ c.f.g.

TOTAL D.A. AT "C" (OPPOSITE) = 1.0 AC. (DB 6)

1579

Owner/Developer: TERRAFIRM REAL ESTATE DEVELOPMENT, LTD. 6258 CARDINAL LANE COLUMBIA, MARYLAND 21044 (301) 730-2618	NO.	REVISIONS	DATE



DEVELOPMENT CONSULTANTS GROUP, INC.
 17904 GEORGIA AVENUE # 102
 OLNEY, MARYLAND 20832
 301-924-4570

STORM WATER MANAGEMENT DRAINAGE STUDY
 LOTS 1-3
SENECA FARMS
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 TAX MAP 36 PARCEL 60

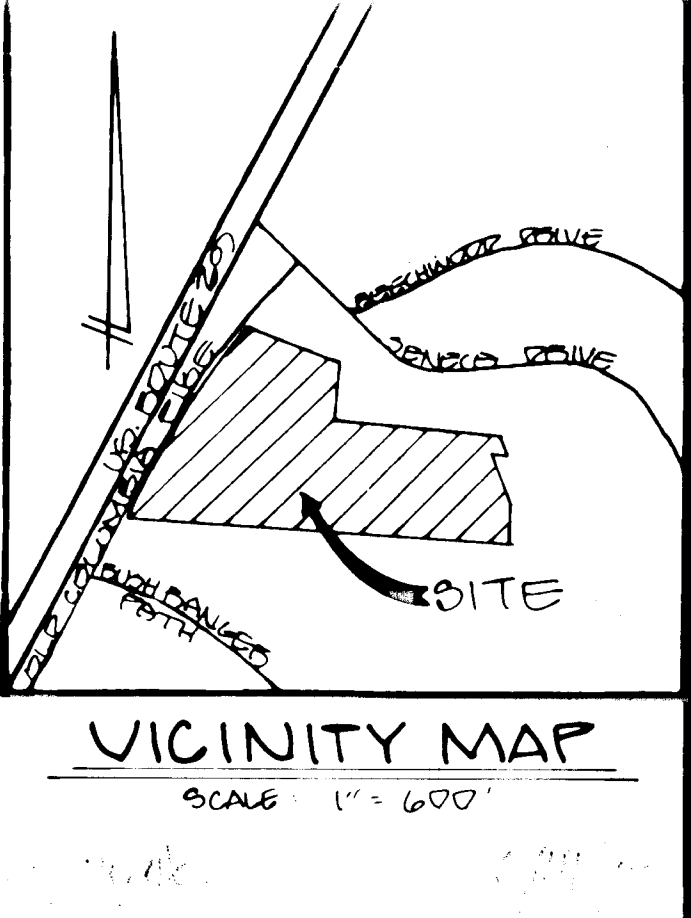
DATE JUNE, 1990	Sheet 5
DRAWN ELF	of 8
CHECKED NG	PROJECT NO. 224-05
SCALE 1" = 200'	

Harford Drilling and Testing, Inc.
Bel Air, Maryland

Project Name: Seneca Farm GTA Job No. 89552.C
Date Started: 10-25-89 Date Completed: 10-25-89 Boring #: B-1
Boring Location: Ground Water @ 0 Hrs. 2.8' caved 7.7'
Elevation: (Topo) 329' Total Depth: 10.0' Ground Water @ 24 Hrs.: 2.6' caved 6.4'
Drilled by: Dale Price Equipment: B-24

Strata Depth	Sample Depth	SAMPLE			DESCRIPTION (Color, Moisture, Proportions, etc.)
		No.	Blows/6"	Rec/Att	
1.5	0.0 - 1.5'	1	1	2	Brown, moist, loose, sandy silt
	3.5 - 5.0'	2	2	2	Brown, very moist, silty sand with trace clay
10.0	8.5 - 10.0'	3	10	8/18	Gray-tan, wet, very dense, medium sand with little silt
			50	50/0	Refusal at 10.0'

Standard Penetration Test: Driving 2-inch O.D. Sampler with 140-pound hammer freely falling 30 inches.



Harford Drilling and Testing, Inc.
Bel Air, Maryland

Project Name: Seneca Farm GTA Job No. 89552.C
Date Started: 10-25-89 Date Completed: 10-25-89 Boring #: B-2
Boring Location: Ground Water @ 0 Hrs. 6.5' caved 8.8'
Elevation: (Topo) 329' Total Depth: 10.0' Ground Water @ 24 Hrs.: 3.1' caved 6.7'
Drilled by: Dale Price Equipment: B-24

Strata Depth	Sample Depth	SAMPLE			DESCRIPTION (Color, Moisture, Proportions, etc.)
		No.	Blows/6"	Rec/Att	
1.5	0.0 - 1.5'	1	4	3	Greenish brown, moist, loose, fine sand with some silt
	3.5 - 5.0'	2	2	1	Greenish brown, wet, very loose, sandy silt with some clay
10.0	8.5 - 10.0'	3	10	10/18	Gray-tan, wet, very dense, medium sand with some medium gravel, with little silt
			50/4		Refusal at 9.5 - 10.0'

Standard Penetration Test: Driving 2-inch O.D. Sampler with 140-pound hammer freely falling 30 inches.

Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dikes, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment 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."

Dale Price 6/14/90
Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "As Built" plan of the pond within 30 days of completion."

Nelu Schwartz 6/14/90
Date

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

James M. Nelson 6/20/90
Soil Conservation Service Date

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

Robert W. Ziehm 6/20/90
Howard Soil Conservation District Date

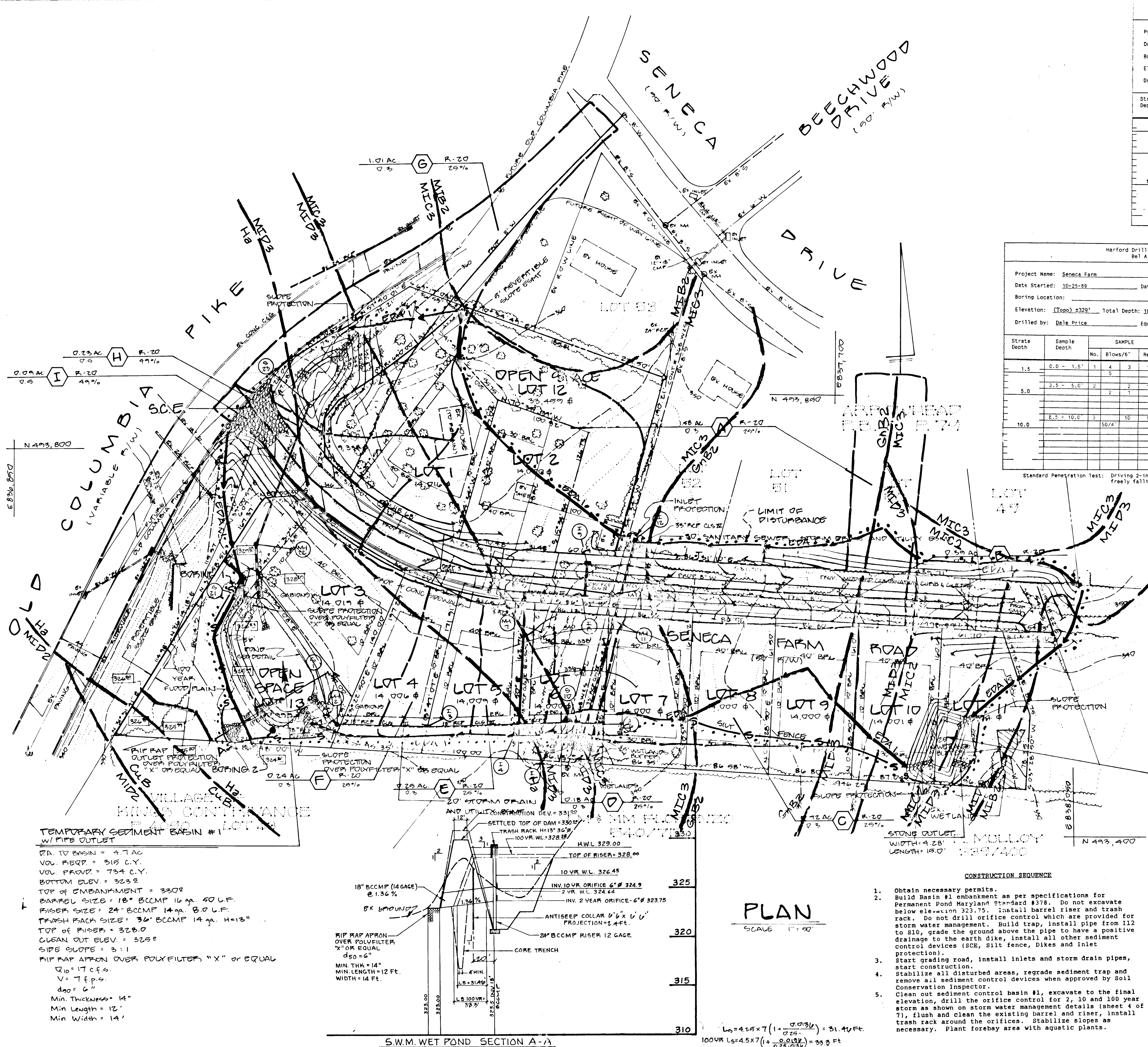
Approved: Howard County Department of Public Works

Oliver M. Seaman 7/16/90
Chief, Land Development Division Date

James W. McKeand 7/16/90
Chief, Bureau of Highway Date

Approved: Howard County Department of Planning and Zoning

David J. Dingle 7/16/90
Chief, Division of Community Planning and Land Development Date

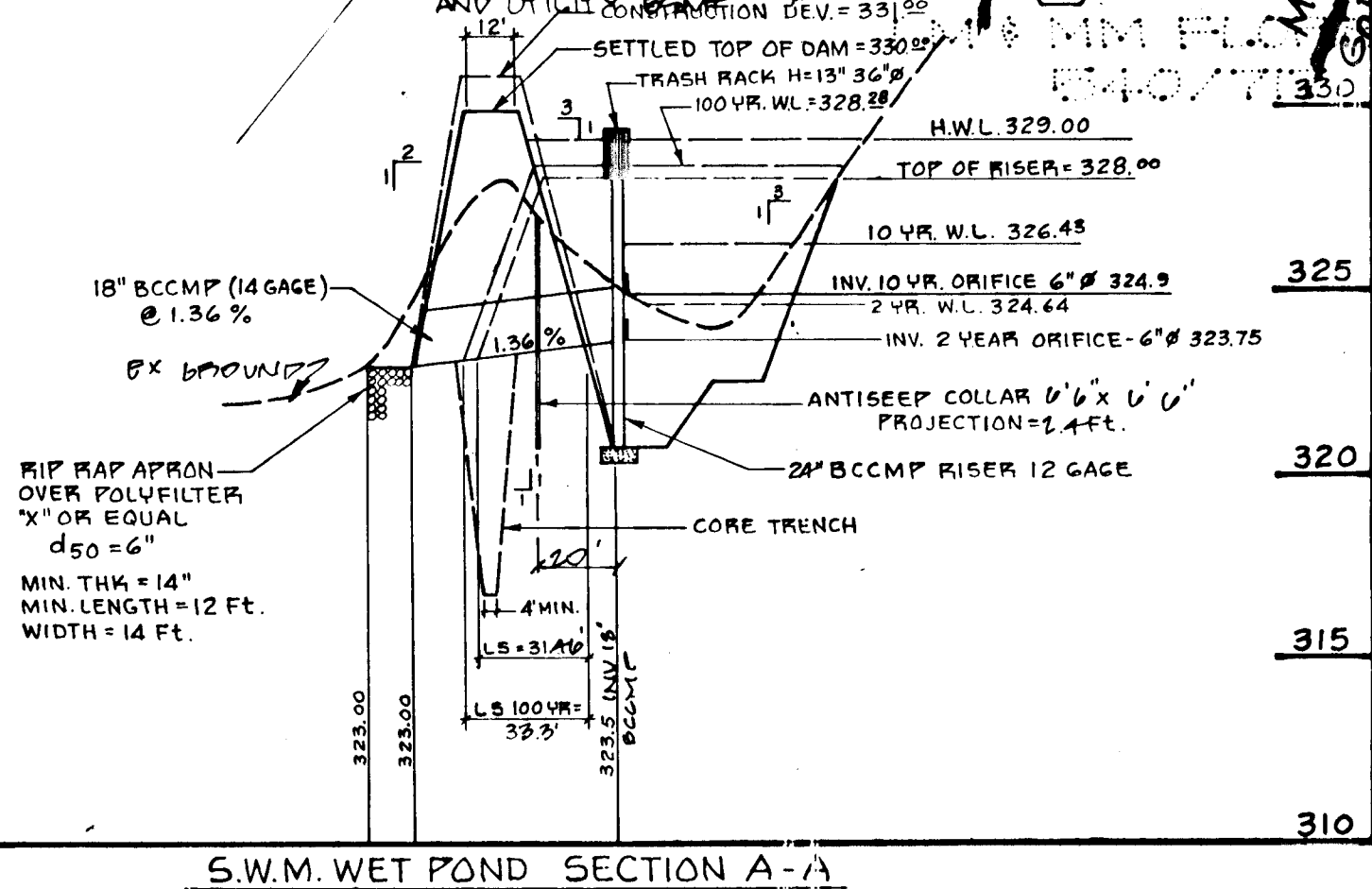


TEMPORARY SEDIMENT TRAP #1
STONE OUTLET SEDIMENT TRAP ST-5

P.A. TO BASIN = 1.07 AC.
STORAGE REQUIRED = 71 CY.
STORAGE PROVIDED = 85 CY.
BOTTOM DIMENSIONS = 50' x 20'
BOTTOM ELEV. = 330.8
STORAGE ELEV. = 332.2
CREST ELEV. = 333.2
TOP ELEV. = 334.2
SIDE SLOPE = 1:1

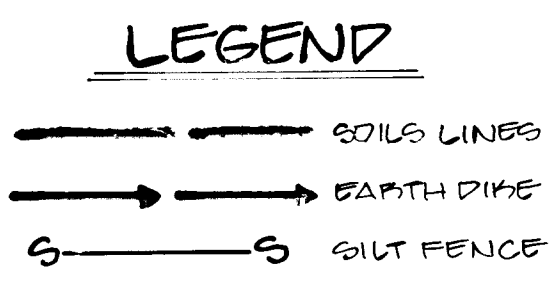
TEMPORARY SEDIMENT BASIN #1
W/ PIPE OUTLET

P.A. TO BASIN = 4.7 AC.
VOL. REQ'D = 315 C.Y.
VOL. PROVIDED = 734 C.Y.
BOTTOM ELEV. = 323.2
TOP OF EMBANKMENT = 330.2
BARREL SIZE = 18" BCCMP 16 ga. 50 L.F.
RISER SIZE = 24" BCCMP 14 ga. 80 L.F.
TRASH RACK SIZE = 36" BCCMP 14 ga. H=13"
TOP OF RISER = 328.0
CLEAN OUT ELEV. = 325.5
SIDE SLOPE = 3:1
RIP RAP APRON OVER POLYFILTER "X" OR EQUAL
Q₁₀ = 17 cfs.
V = 7 f.p.s.
d₅₀ = 6"
Min. Thickness = 14"
Min. Length = 12'
Min. Width = 14'



PLAN
SCALE 1" = 50'

- CONSTRUCTION SEQUENCE**
- Obtain necessary permits.
 - Build Basin #1 embankment as per specifications for Permanent Pond Maryland Standard 3378. Do not excavate below elevation 323.75. Install barrel riser and trash rack. Do not drill orifice control which are provided for storm water management. Build trap, install pipe from 112 to S10, grade the ground above the pipe to have a positive drainage to the earth dike, install all other sediment control devices (SCE, silt fence, dikes and inlet protection).
 - Start grading road, install inlets and storm drain pipes, start construction.
 - Stabilize all disturbed areas, regrade sediment trap and remove all sediment control devices when approved by Soil Conservation Inspector.
 - Install sediment control basin #1, excavate to the final elevation, drill the orifice control for 2, 10 and 100 year storm as shown on storm water management details (sheet 4 of 7), flush and clean the existing barrel and riser, install trash rack around the orifices. Stabilize slopes as necessary. Plant forage area with aquatic plants.



1579

Owner/Developer:
TERAFARM REAL ESTATE DEVELOPMENT, LTD
4255 CARDINAL LANE
COLUMBIA, MARYLAND 21044
(301) 730-2618

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.

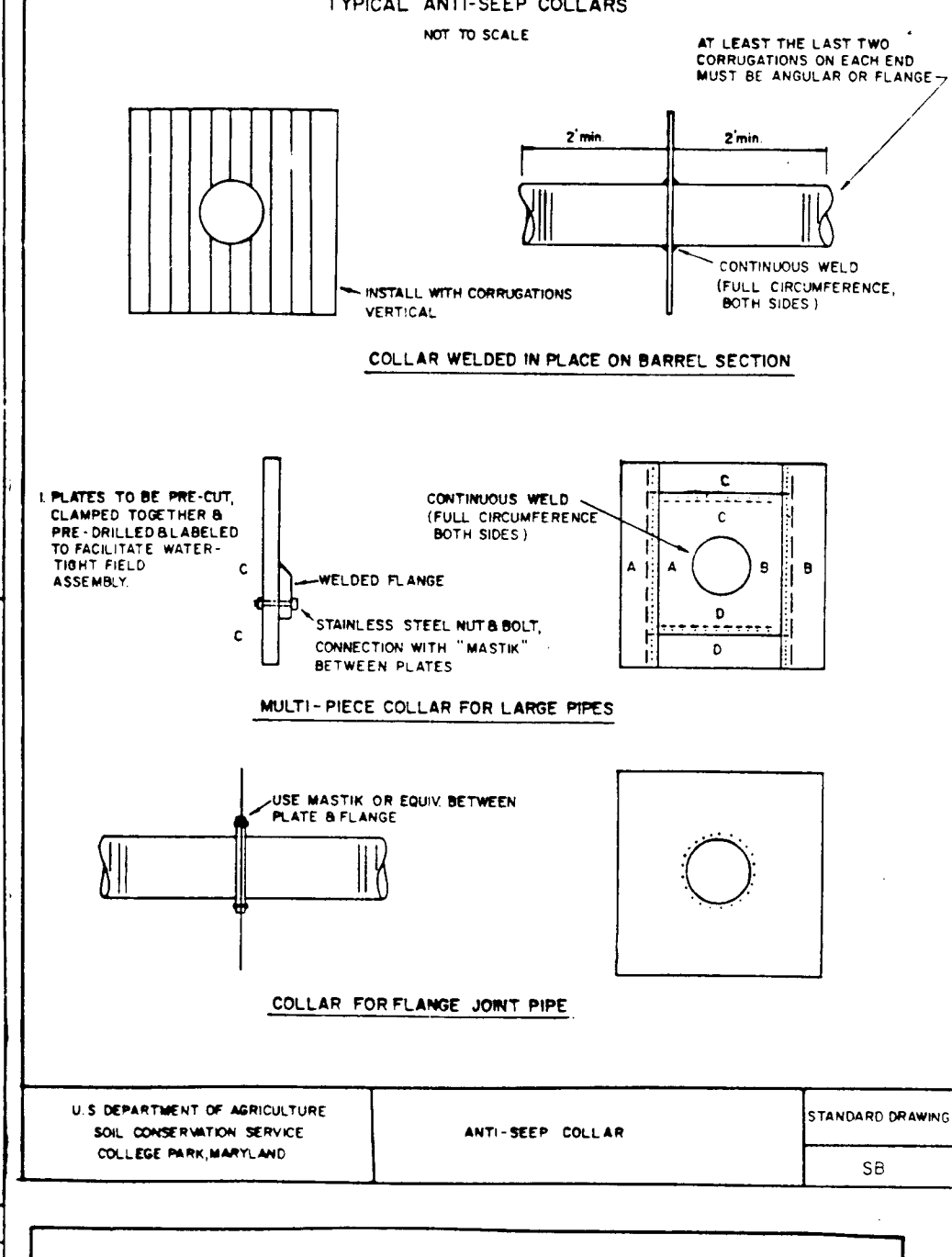
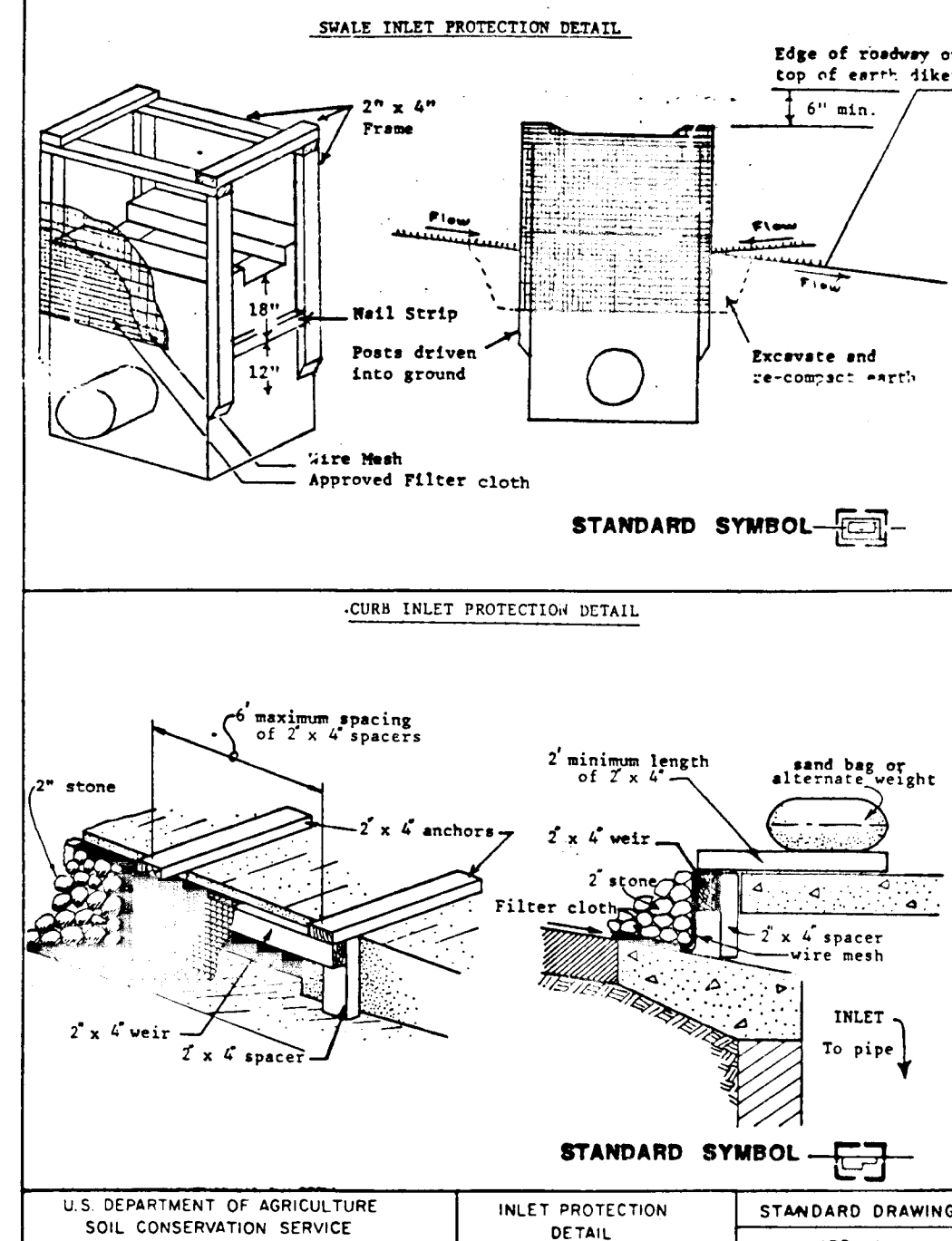
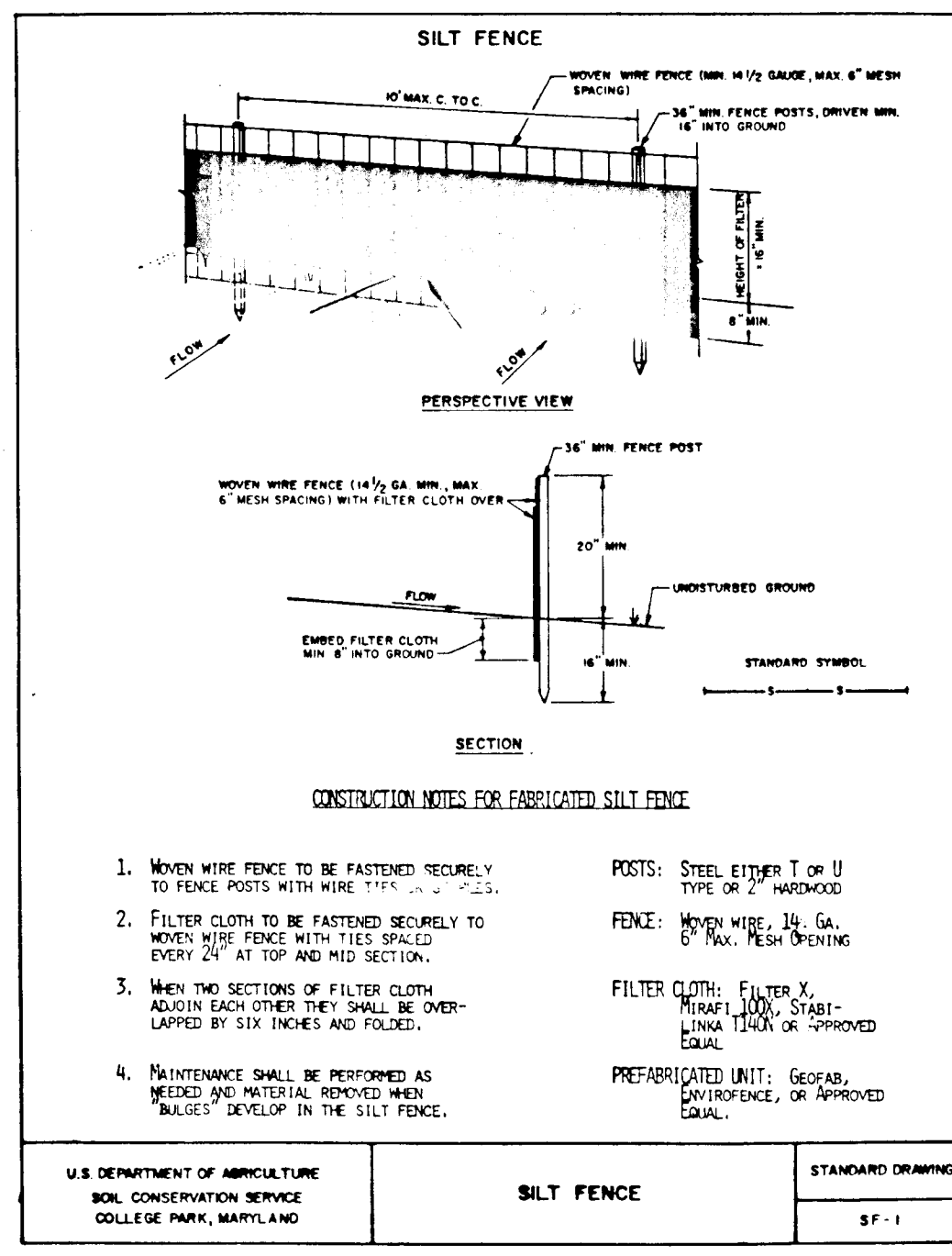
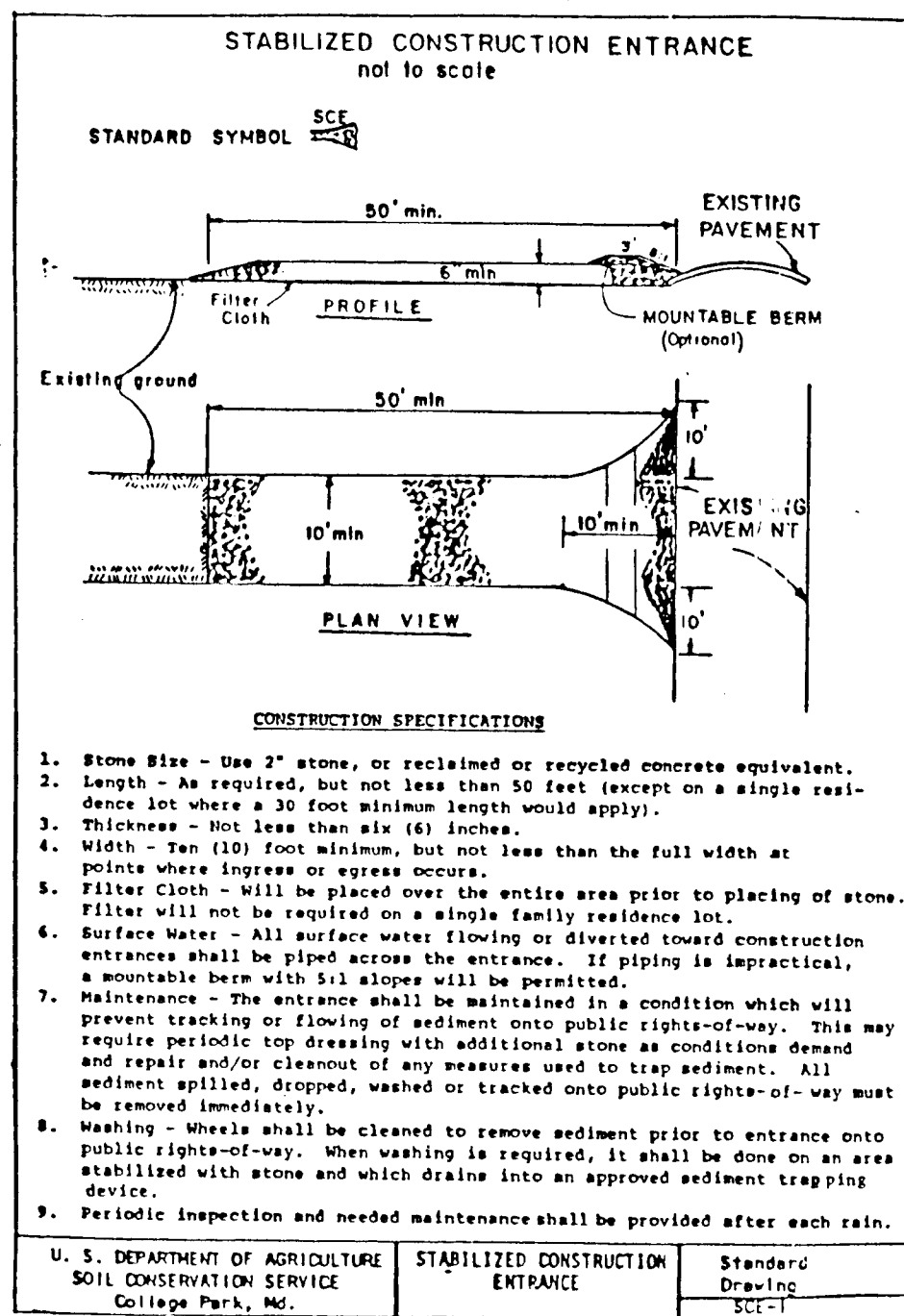
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

SEDIMENT CONTROL PLAN
LOTS 1-13
SENECA FARMS
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 36 PARCEL 60

DATE: JUNE, 1990
DRAWN: EUB
CHECKED: NS
SCALE: 1" = 50'
PROJECT NO.: 224-06

Sheet 6 of 8

AS-BUILT 6/15/92
F-89-184



SEDIMENT CONTROL NOTES

- 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. (892-2437)
- 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.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, swales, ditches, perimeter slopes and all slopes greater than 3:1; b) 14 days for all other disturbed or graded areas on project site.
- All sediment traps/basins shown must be fenced and warning signs posted around the perimeter in accordance with VOL. 1, CHAPTER 12, of the HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 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, EROSION MULCHING (Sec. 52). Temporary stabilization with mulch alone can only be used on areas where the soil is not to be disturbed and where the mulch is to be maintained 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.
- Site Analysis: Total Area of Site 10.5 Acres. Area to be paved 0.02 Acres. Area to be vegetatively stabilized 0.02 Acres. Total Fill 0.04 Acres. Total Cut 0.04 Acres. Offsite waste/borrow area location - activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of installation of practices shall be requested upon completion of the grading inspection and sediment controls, but before proceeding with any other earth disturbance or grading, other building initial approval by the inspection agency is made.

PERMANENT SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

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

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Narrow 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).
- 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. Narrow 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. For the period August 15, seed with 100 lbs per acre (2.3 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 unrotted 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 reseedings.

TEMPORARY SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: Apply 600 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 25 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 unrotted 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 rates and methods not covered.

Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dikes, swales, ditches, perimeter slopes and all slopes greater than 3:1; 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment 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."

Re-m. Reale
Date 6/19/90

ENGINEER'S CERTIFICATE:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "As Built" plan of the pond within 30 days of completion."

Neh. Schwartz
Date 6/19/90

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 6/20/90

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

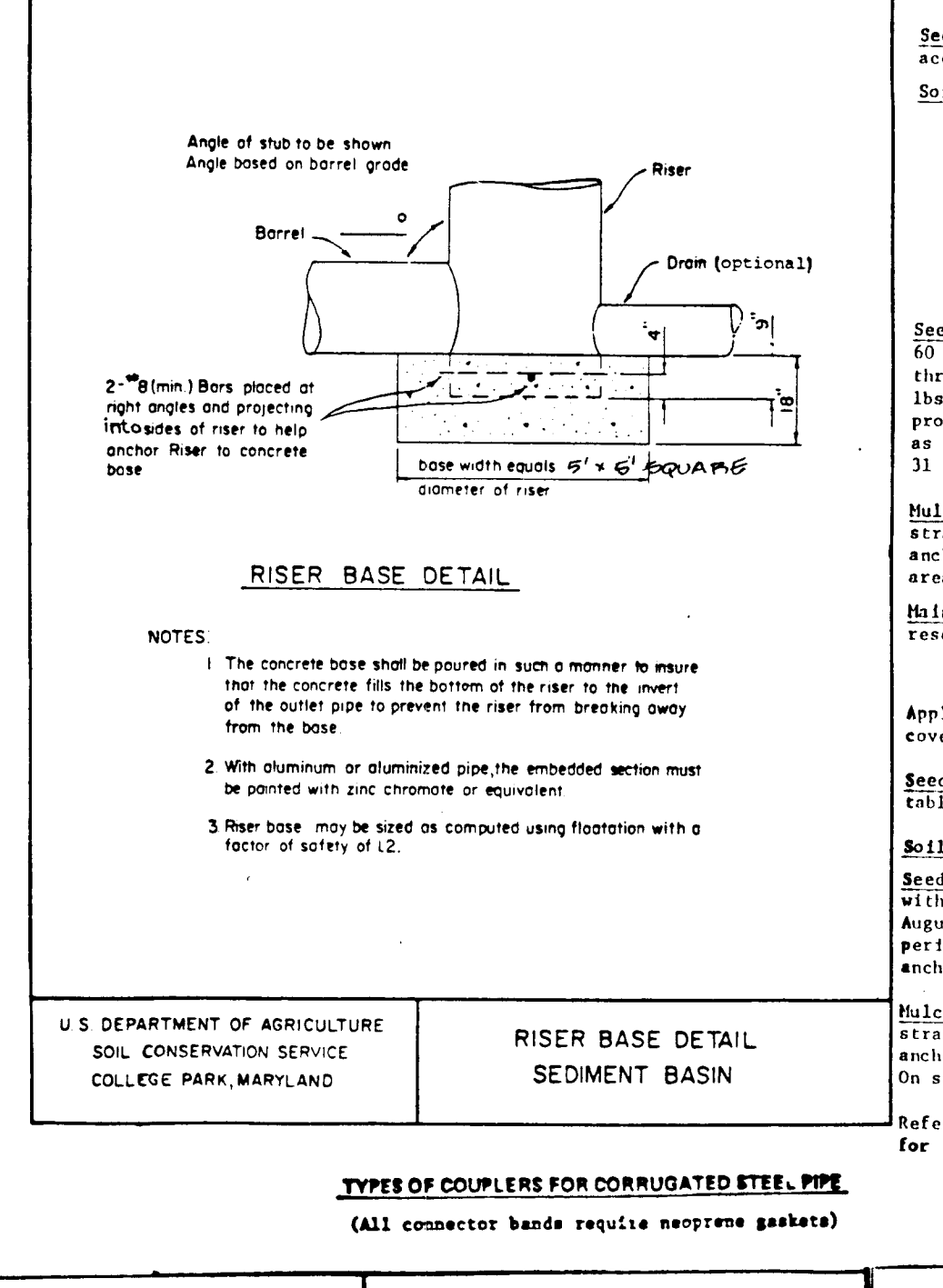
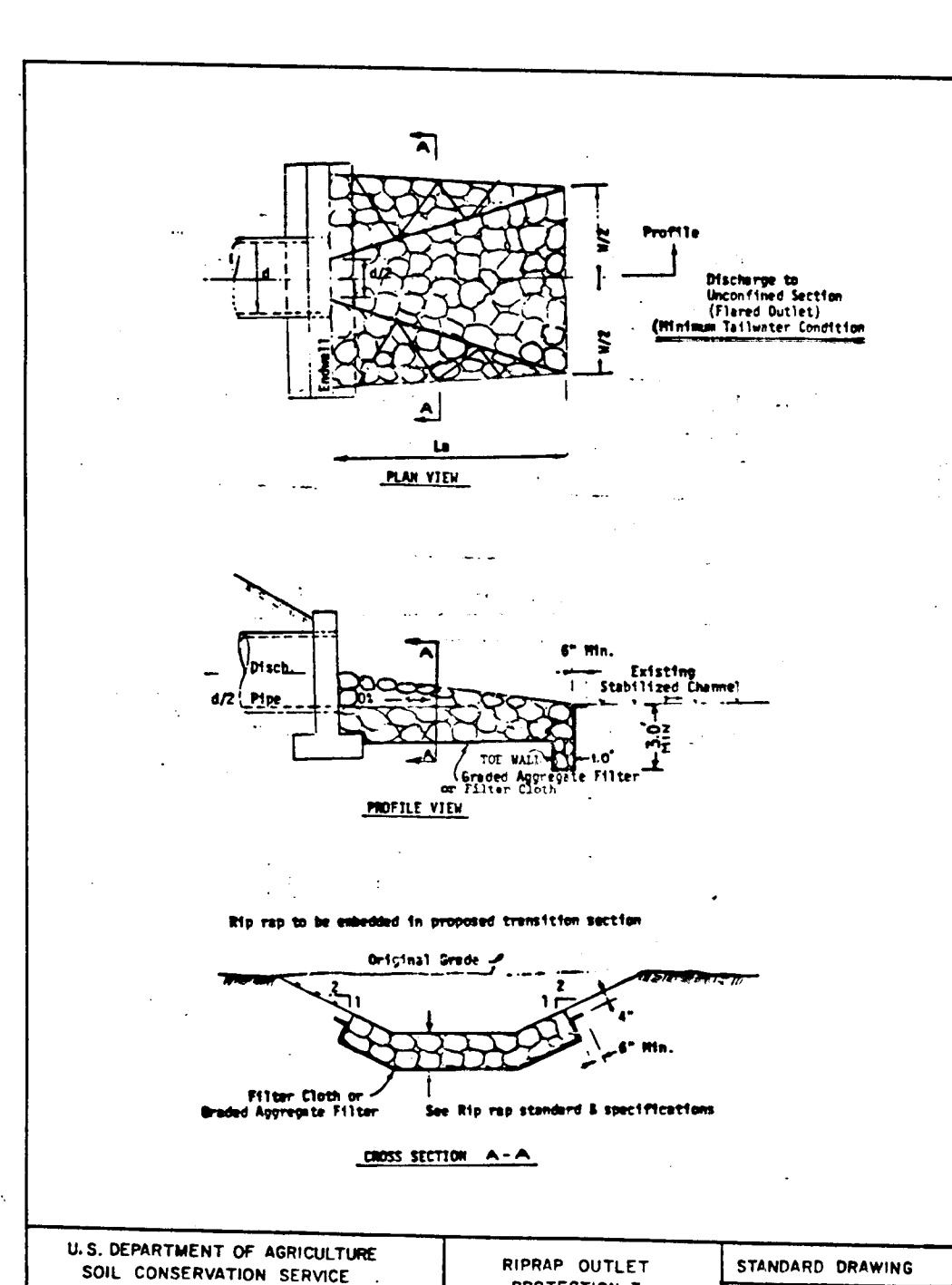
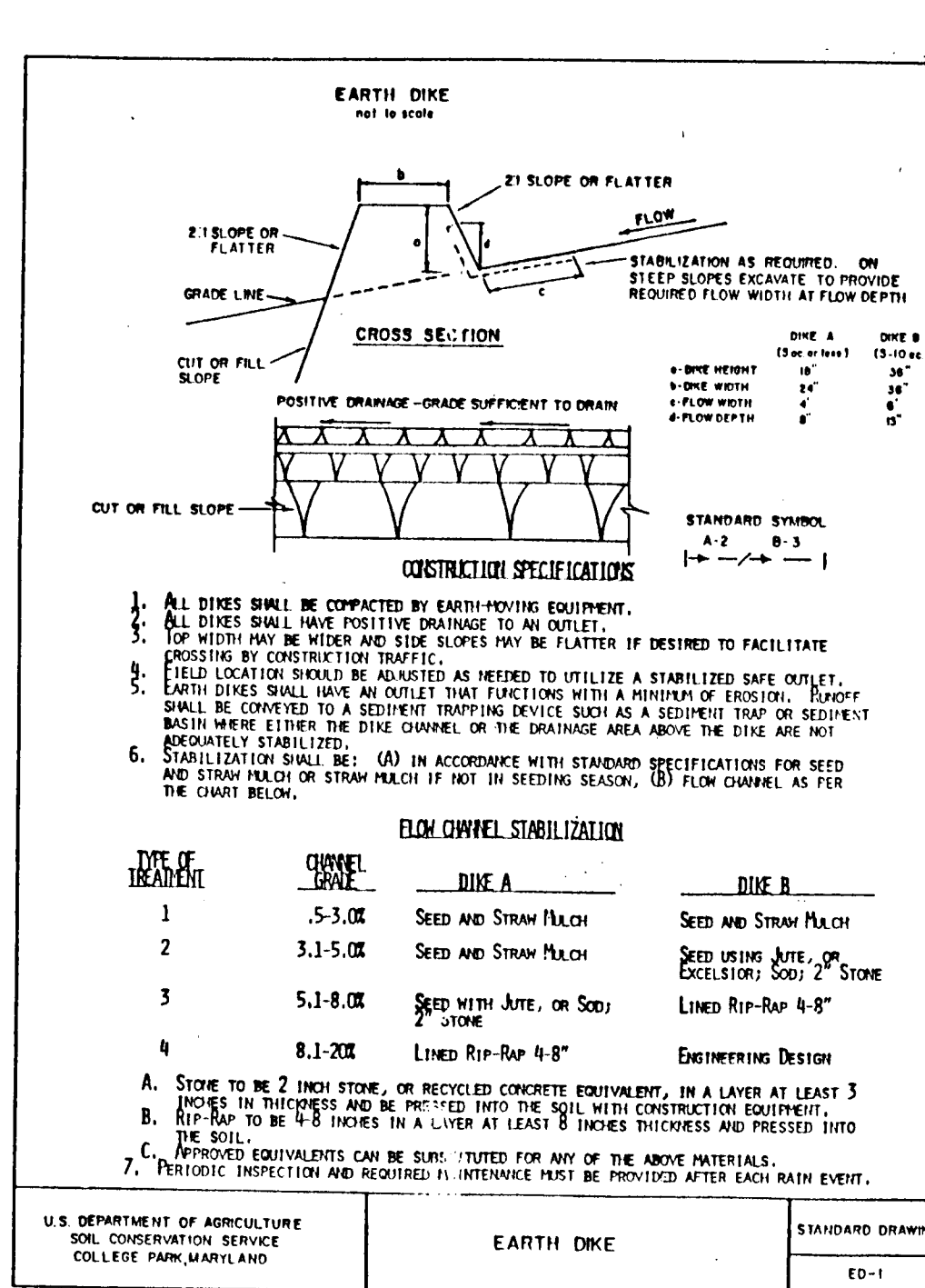
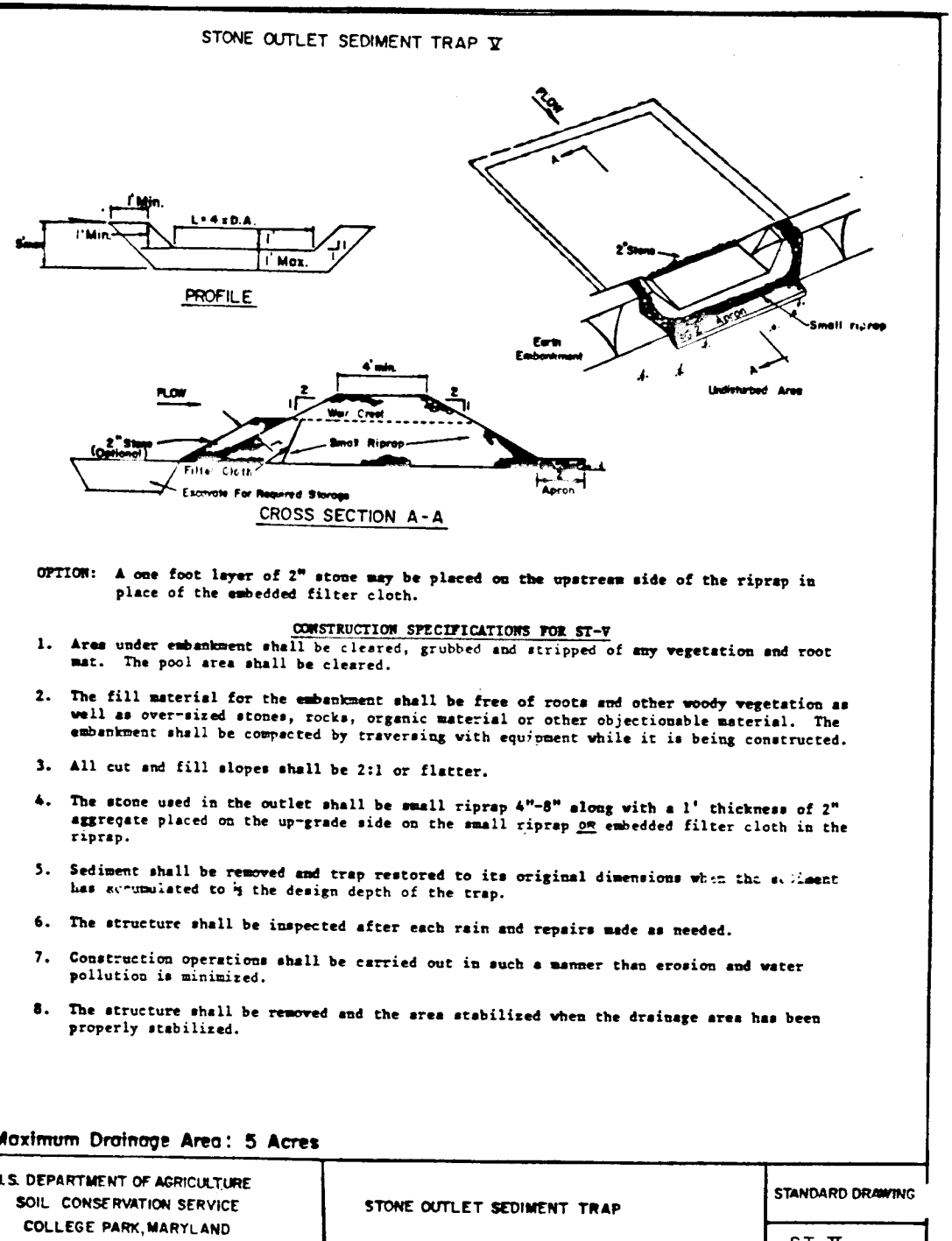
Robert W. Ziehm
Howard Soil Conservation District Date 6/20/90

Approved: Howard County Department of Public Works
Date 7/14/90

Chief, Land Development Division

Approved: Howard County Department of Planning and Zoning
Date 7/14/90

Chief, Division of Community Planning and Land Development



SEDIMENT CONTROL NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

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

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Narrow 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).
- 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. Narrow 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. For the period August 15, seed with 100 lbs per acre (2.3 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 unrotted 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 reseedings.

TEMPORARY SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: Apply 600 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 25 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 unrotted 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 rates and methods not covered.

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 6/20/90

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

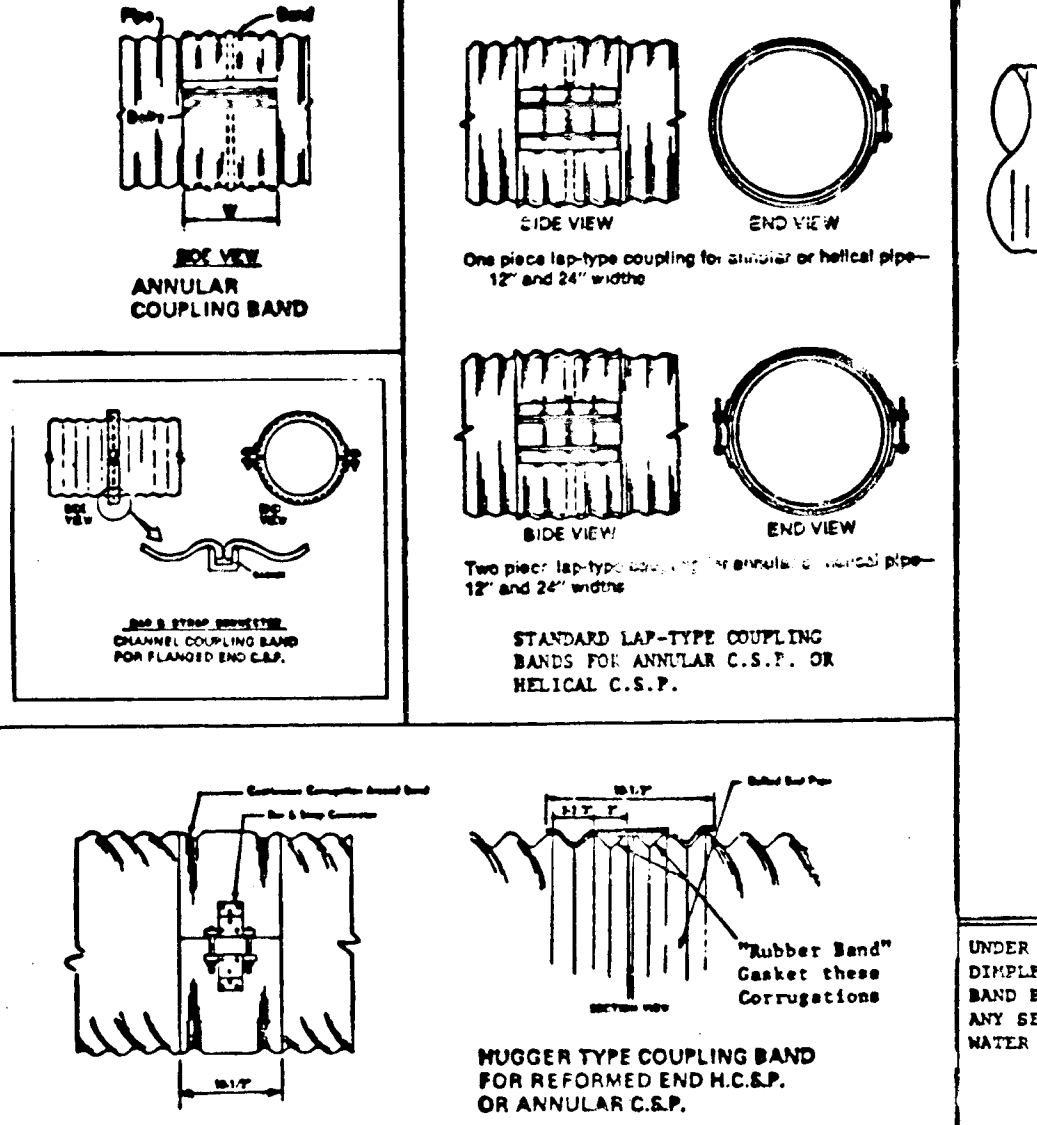
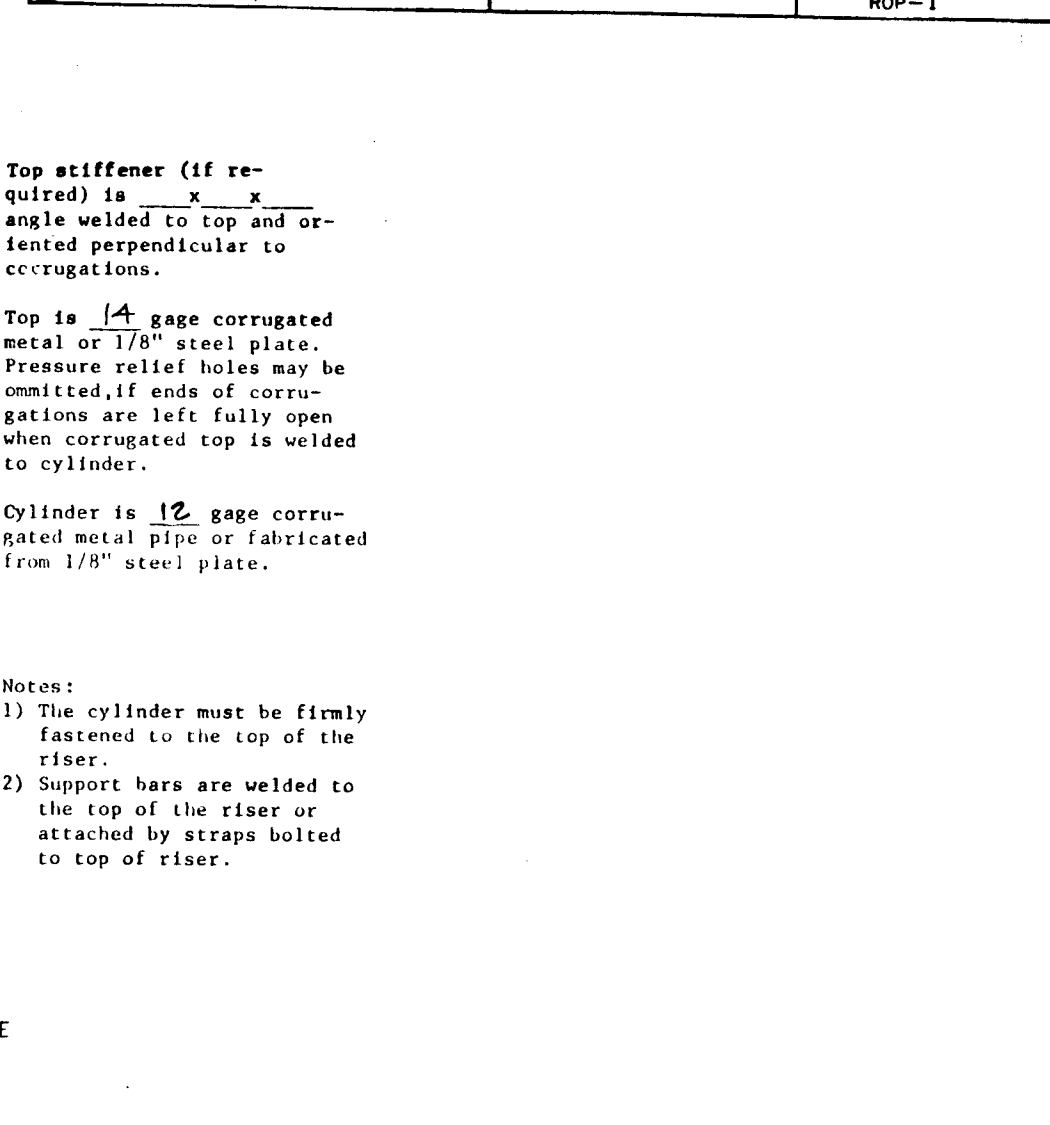
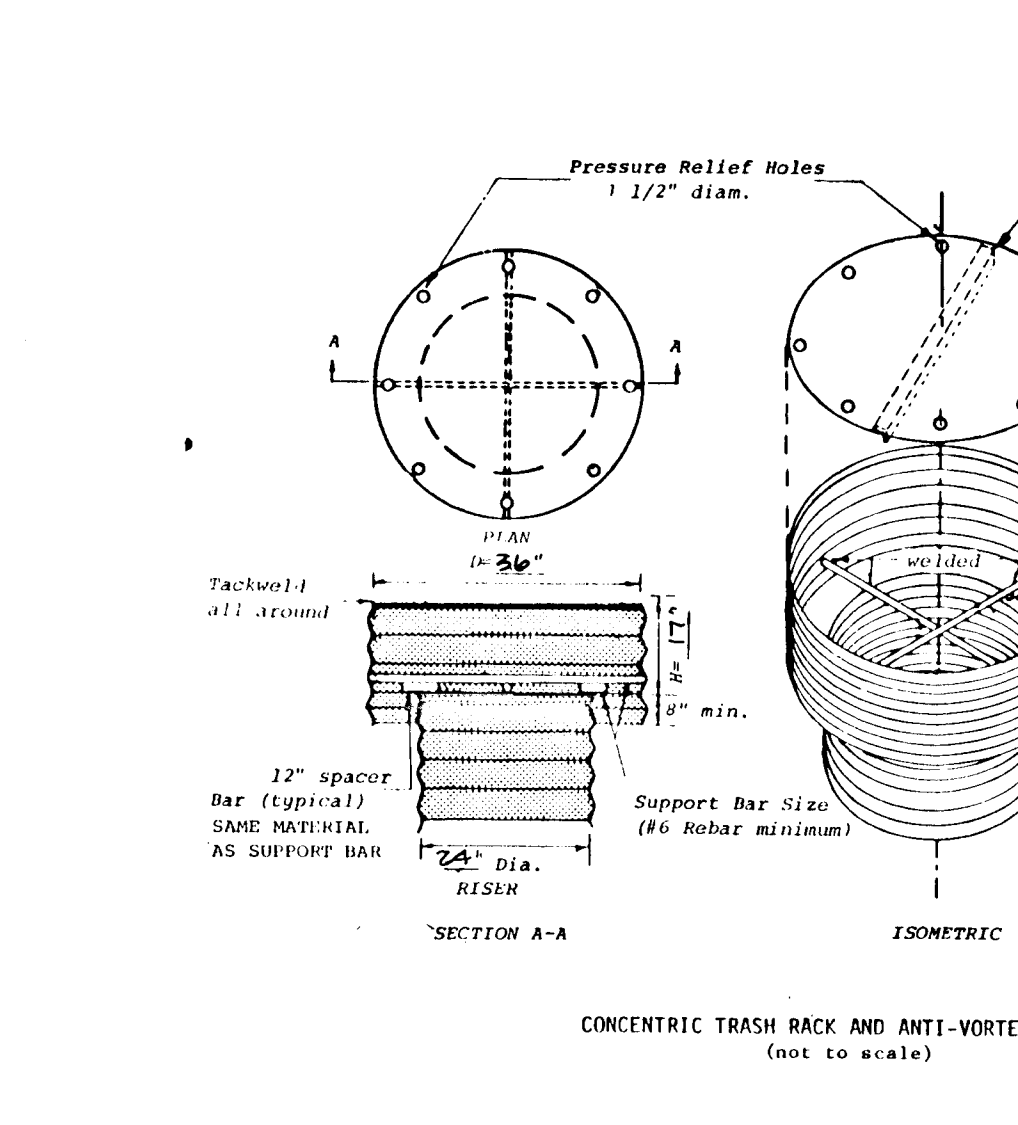
Robert W. Ziehm
Howard Soil Conservation District Date 6/20/90

Approved: Howard County Department of Public Works
Date 7/14/90

Chief, Land Development Division

Approved: Howard County Department of Planning and Zoning
Date 7/14/90

Chief, Division of Community Planning and Land Development



SEDIMENT CONTROL NOTES & DETAILS

LOTS 1-13

SENeca FARMs
6TH ELECTION DISTRICT
TAX MAP: 36
TAX PARCEL: 60

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

OPTIONAL SEDIMENT BASIN DEWATERING DEVICES
STANDARD DRAWING
SB

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

OPTIONAL SEDIMENT BASIN DEWATERING DEVICES
STANDARD DRAWING
SB

1579

Owner/Developer:
TERRAFIRM REAL ESTATE
DEVELOPMENT, L.P.
6288 CARDINAL LANE
COLUMBIA, MARYLAND 21044
(301) 730-2618

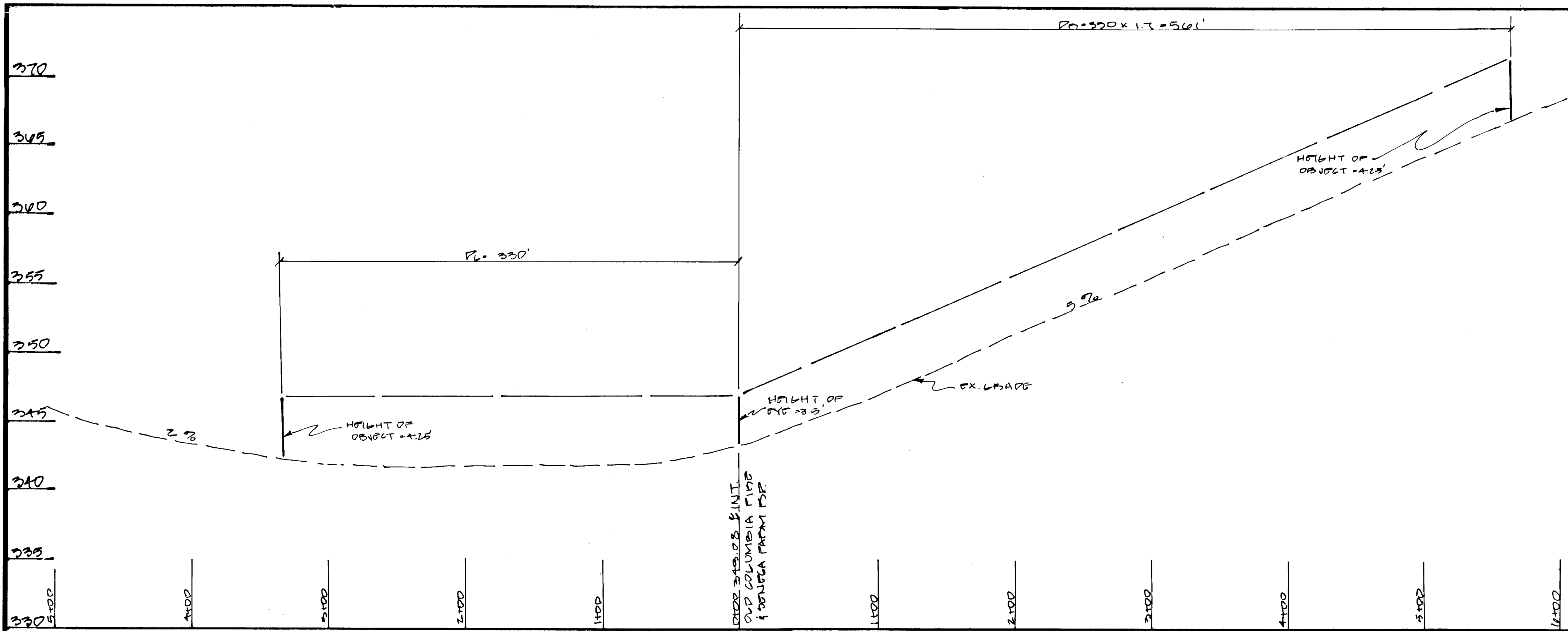
NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.

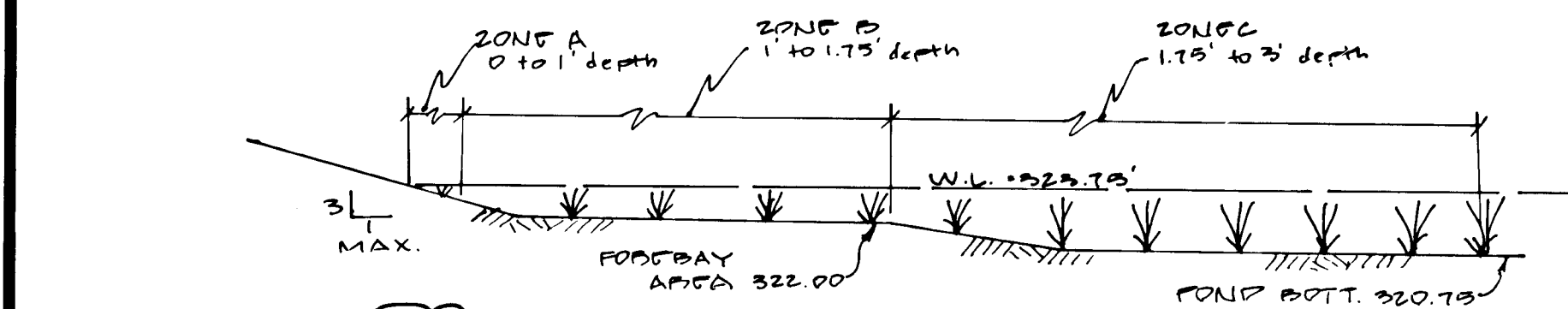
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

SEDIMENT CONTROL NOTES & DETAILS
LOTS 1-13
SENeca FARMs
6TH ELECTION DISTRICT
TAX MAP: 36
TAX PARCEL: 60

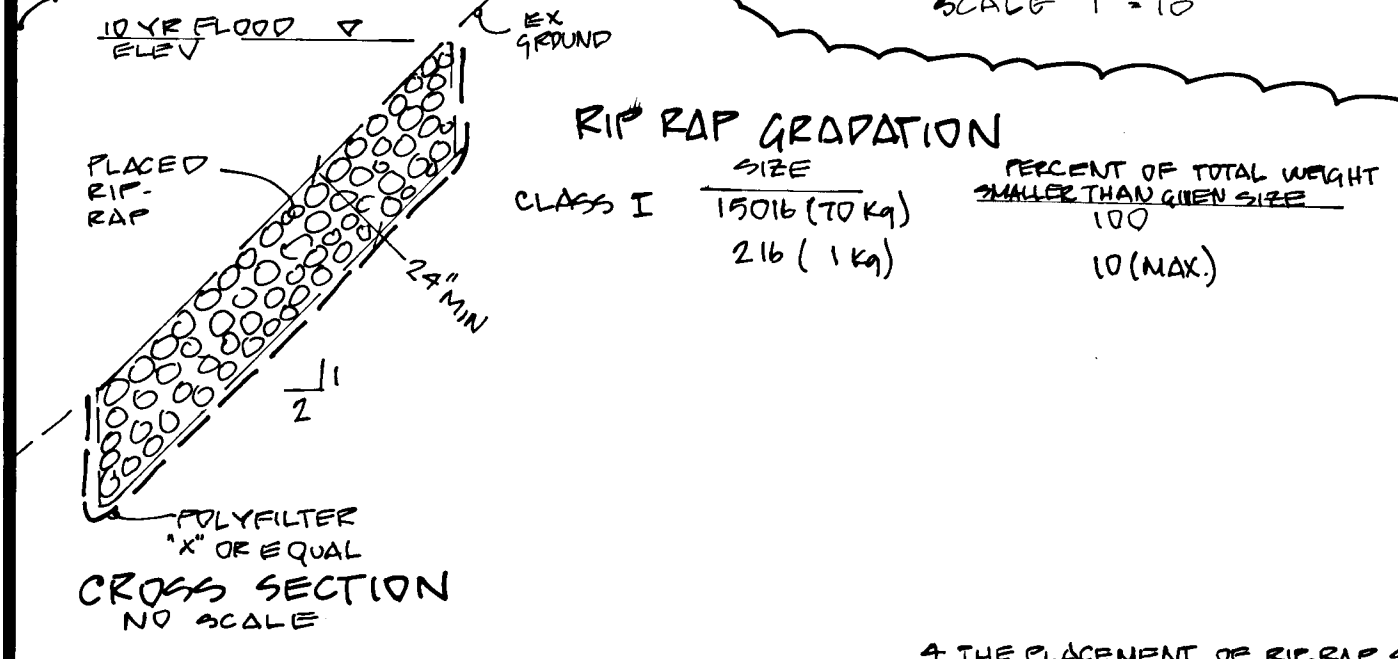
DATE: JUNE, 1990	SHEET: 7
DRAWN: G.W.	OF: 8
CHECKED: A.S.	PROJECT NO: 22A-05
SCALE: 1" = 50'	



SIGHT DISTANCE PROFILE
OLD COLUMBIA PIKE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



PLANTING DETAIL
SCALE: 1"=10'



RIP-RAP GRADATION

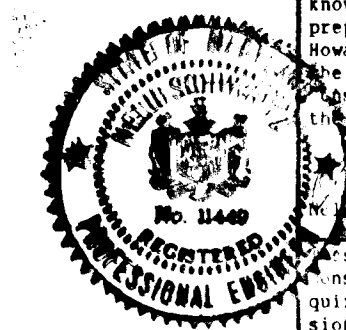
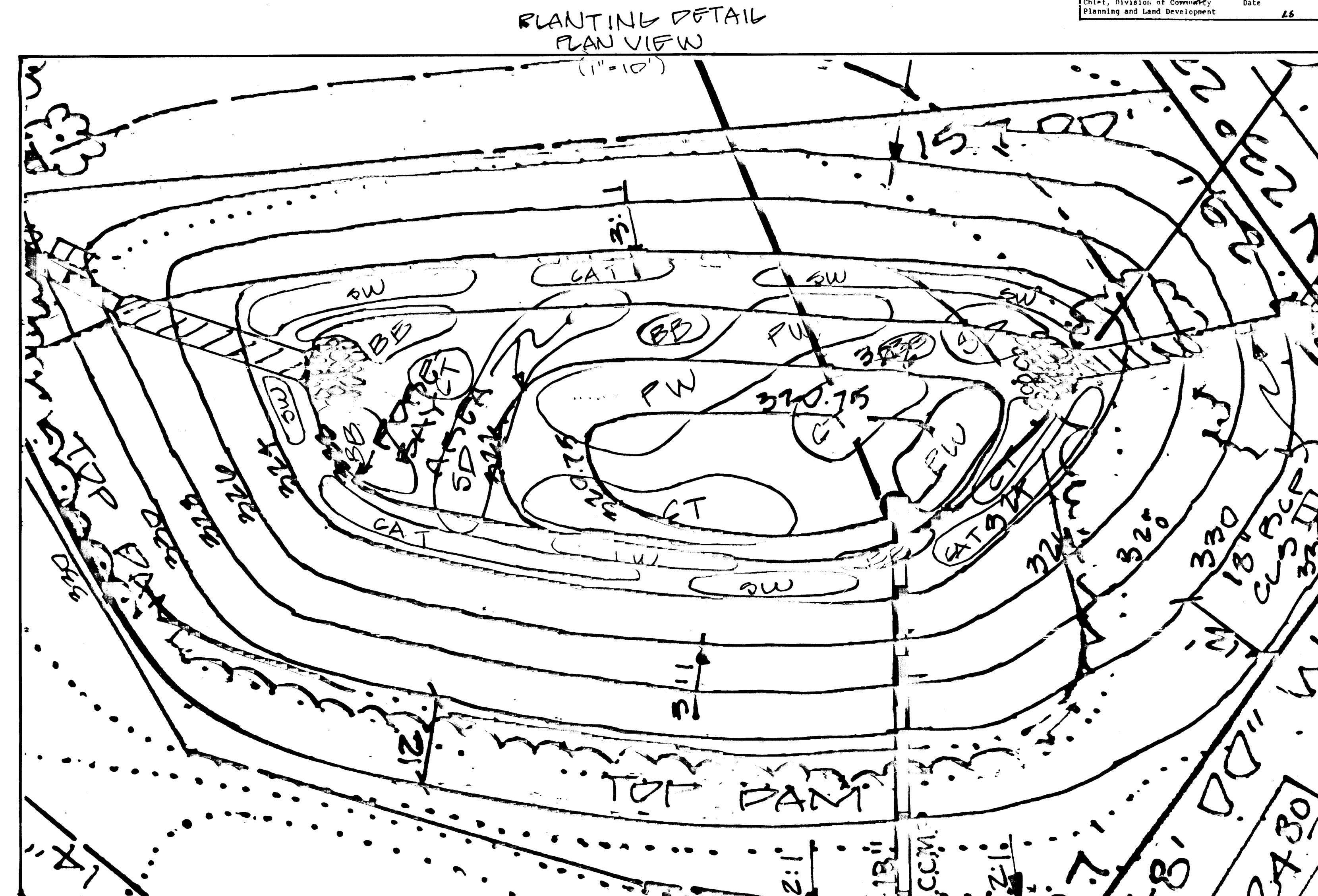
CLASS	PERCENT OF TOTAL WEIGHT	PERCENT OF TOTAL WEIGHT
CLASS I	150 (10%)	2 (1%)
	216 (14%)	10 (MAX)

- MATERIAL SPECIFICATIONS:**
- BEDDING:**
- 1. GEOTEXTILE FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:
 - TENSILE STRENGTH 200 lbs
 - BURST STRENGTH 350 lbs
 - PUNCTURE STRENGTH 70 lbs
 - PERMEABILITY 102 CM/SEC
 - ELONGATION AT FAILURE 30%
 - MIN. LOG LENGTH 24"
- RIP-RAP:**
- 1. CLASS I RIP-RAP 450# 1 1/2" DIA MAX = 1 1/2" MIN. THK = 2 1/4"
- CONSTRUCTION REQUIREMENTS:**
1. THE CONTRACTOR SHALL INSTALL ALL SEDIMENT CONTROL DEVICES AS A FIRST ORDER OF BUSINESS.
 2. EXCAVATION FOR RIP-RAP SHALL BE MADE IN REASONABLY CLOSE CONFORMITY WITH THE EXISTING ORIGINAL GRADE.
 3. A FILTER BEDDING IS REQUIRED UNDER ALL RIP-RAP BEDDING MATERIAL SHALL BE GEOTEXTILE FILTER MEETING REQUIREMENTS ABOVE.
- WETLANDS PLANTS:**
4. THE PLACEMENT OF RIP-RAP SHALL BEGIN WITH THE TOP THE LARGEST STONES SHALL BE PLACED IN THE TOP AND ALONG THE OUTSIDE EDGES OF THE LIMITS OF THE SLOPE AND CHANNEL PROTECTION. THE RIP-RAP SHALL BE PLACED WITH SUITABLE EQUIPMENT IN SUCH A MANNER AS TO PRODUCE A REASONABLY GRADED MASS OF STONES WITH ZERO DROP HEIGHT. THE PLACEMENT OF STONES THAT CAUSE EXTENSIVE SEGREGATION IS NOT ALLOWED.
 5. ANY EXCAVATION VOIRS EXISTING ALONG THE EDGES OF THE PLACED RIP-RAP SHALL BE BACKFILLED.
 6. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH APPROVED SEDIMENT AND EROSION CONTROL PLAN.

WETLANDS PLANTS
As recommended in the "Controlling Urban Runoff" by Thomas R. Schueler

SYMBOL	PLANT NAME (Latin)	ZONE	WILDLIFE VALUE
SW	Smart Weed (Polygonum Spp.)	A	High
CAT	Cattail (Typha Spp.)	A	Low
BB	Button Bush (Cephalanthus Occidentalis)	B	High
SD	Spatter Dock (Nuphar luteum)	B	Moderate
CT	Coontail (Ceratophyllum Demersum)	B/C	Low
PW	Pond Weed (Potamogeton)	B/C	High

ZONE A = Cattail, Smart Weed
ZONE B = Button Bush, Spatter Dock, Coontail, Pond Weed
ZONE C = Pondweed, Coontail



Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dikes, swales, ditches, perimeter slopes and all slopes greater than 3:1; 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection bureau division 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:
I hereby 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 the Environment 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.

Robert J. Schuster 6/14/90
Date

ENGINEER'S CERTIFICATE:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "As Built" plan of the pond within 30 days of completion.

Robert J. Schuster 6/13/90
Date

Approved: Howard County Department of Public Works
Chief, Land Development Division Date
Granville W. Wehner 7/1/90
Date
Chief, Bureau of Highway
Approved: Howard County Department of Planning and Zoning
Chief, Division of Community Planning and Land Development Date

1579

NO.	REVISIONS	DATE
2	ADD RIP-RAP DETAIL W/RA STD W/PS.1	10/30-91 OCH



DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

PROJECT NO. 88-184	DATE JUN 10 90	Sheet 8
DRAWN ACH	CHECKED JCV	of 8
SCALE AS SHOWN	PROJECT NO. 22-05	