

GENERAL NOTES

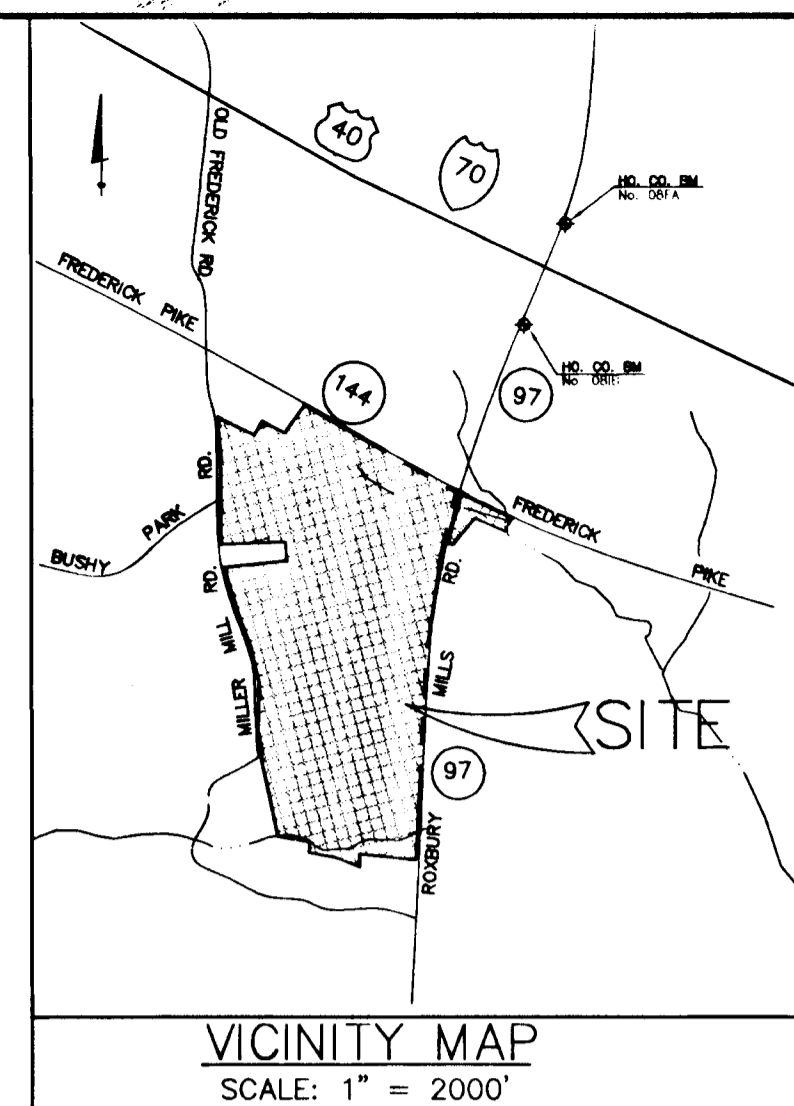
- All construction shall be in accordance with the latest standards and specifications of Howard County, plus MSHA standards and specifications, if applicable.
- The contractor shall notify the Department of Public Works Construction Inspection Division at (410) 313-1880 at least (five) 5 working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Project Background:
Location: Tax Maps 8 & 14 - Parcel 96
Zoning: RC
Total Tract Area: 183.43± Ac.
Number of Proposed Lots: 42 Cluster, 7 Preservation.
Date Sketch Plan Approved: 11/7/1995.
DPZ Reference #: S-95-15
Date Preliminary Plan Approved: May 2, 1996
DPZ Reference #: P-96-20
Date waiver petition approved: April 9, 1996; WP-96-82.
- Traffic control devices, markings and signing shall be in accordance with the most current edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- The contours shown hereon have been interpolated from field elevations taken on the septic area percolation test holes, dated Jan. 1996, and do not represent a field run topographic survey.
- Howard County monuments 08FA and 081B were used for horizontal datum and 3633003 was used for vertical datum.
- Water and Sewer for this subdivision is private. **SEWER FOR LOTS 1-4 SHALL BE SERVICED BY A SHARED SEPTIC SYSTEM WHICH WILL BE PUBLIC AND MAINTAINED BY HO. CO.**
- Stormwater Management for this subdivision is provided by extended detention facilities for water quality control and quantity control by detention.
- Floodplain Study was provided by TSA GROUP, INC. for this project and approved under the preliminary plan P-96-20.
- Forest Stand Delineation was performed by MA DIRKS & CO. INC. dated September 1994 and approved 11/7/95.
- Traffic Study compiled by Lee Cunningham & Associates, Inc. September 1994. Revised April 1995 and approved under S-95-15 dated 11/7/95.
- Geotechnical Report compiled by Hillis Carnes Engineering Associates.
- Existing utilities were located by record drawings and field locations.
- Unless noted as "private" all easements are public.
- The Forest Conservation Easement has been established to fulfill the requirements of Section 16.1200 of the Howard County Code; Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation easement; Forest management practices as defined in the deed of Forest Conservation easement are allowed.
- The preservation parcels for the stormwater facility will be owned and maintained by the H.O.A. Howard County will be the easement holder.
- Waiver Petition (WP-96-82) was approved by the Howard County Planning Director on April 9, 1996 from section 16.119 (1)(1 and 2) to allow access to an arterial road by a minor collector or lesser classified road and to allow direct access to an arterial road by a residential driveway.
- Pursuant to the sketch plan approval dated 11/7/95, the lot area meets the stormwater management exemption criteria, but quantity and quality must be provided for roadway surfaces. The drainage area which flows under Route 97 has been managed in swm pond #1 and #3. The 100 year storm has also been managed in ponds 1 & 3 to allow for no increase in runoff from the site and no increase in the 100 year floodplain limit.
- The proposed noise abatement wall SHALL be owned and maintained by the OWNERS OF LOT 1.
- CONTRACTOR SHALL REMOVE ALL EXISTING STRUCTURES AND FOUNDATIONS ON LOTS 1, 2, PARCELS B' AND D'.**

RIGGS MEADOW

4th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

ROADS, STORMWATER MANAGEMENT AND STORM DRAINAGE CONSTRUCTION PLANS



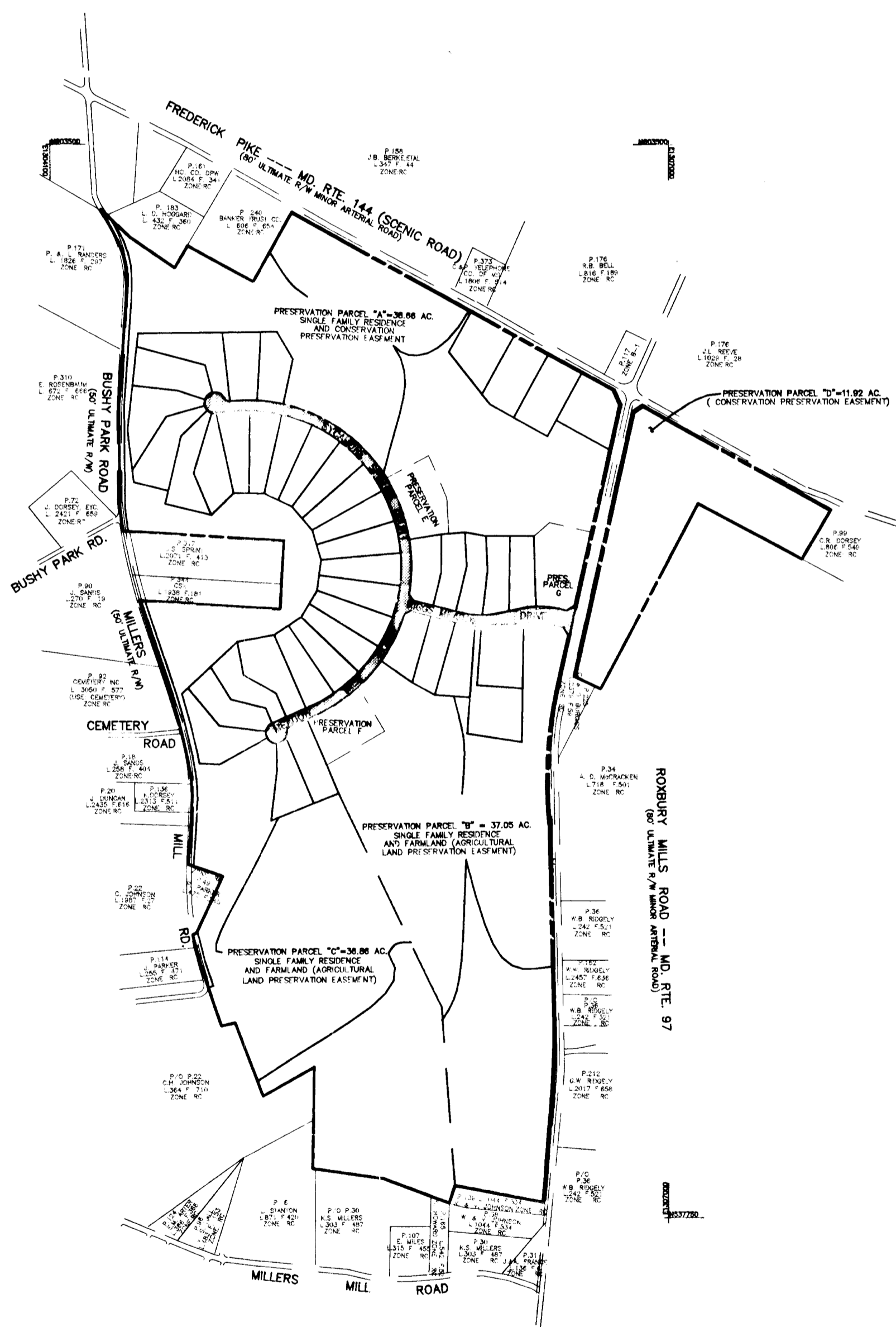
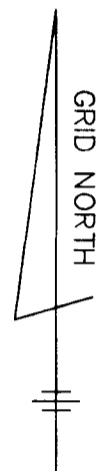
BENCH MARKS (NAD83) HORIZONTAL

HO. CO. BM No. 08FA
N 607,113.698 E 1,311,061.325
STAMPED BRASS DISC SET ON
TOP OF CONCRETE BASE

HO. CO. BM No. 081B
N 604,721.750 E 1,310,194.124
STAMPED BRASS DISC SET ON
TOP OF CONCRETE BASE

BENCH MARKS (NAD29) VERTICAL

HO. CO. BM No. 3633003 ELEV. = 617.44'
N 541,955.702 E 793,731.821
CONCRETE MONUMENT 0.9' BELOW SURFACE



LOCATION MAP
SCALE: 1"=500'

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2-4	ROAD PLAN
5-7	ROAD PROFILE
8-10	GRADING PLAN
11	STORM DRAIN PROFILES
12	PUBLIC SEWERAGE SYSTEM FOR LOTS 1-4
13-17	SWM FACILITY DETAILS & SECTIONS
18	STORM DRAIN DRAINAGE AREA MAP
19-22	SEDIMENT & EROSION CONTROL PLAN/NOTES AND DETAILS
23-24	LANDSCAPE PLAN
25	TRAFFIC CONTROL & STRIPING PLAN

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
planning • architecture • engineering • surveying
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 486-6106



OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20) LOCATION: TAX MAPS 8 & 14, PARCEL 96 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: TITLE SHEET DATE: AUGUST 1996 NOVEMBER 1996 PROJECT NO. 0533 SCALE: AS SHOWN DRAWING <u>1</u> OF <u>25</u>
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DESIGN: YSL DRAFT: YSL/JMC CHECK: CAM

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Craucher 4-14-97
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Candy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

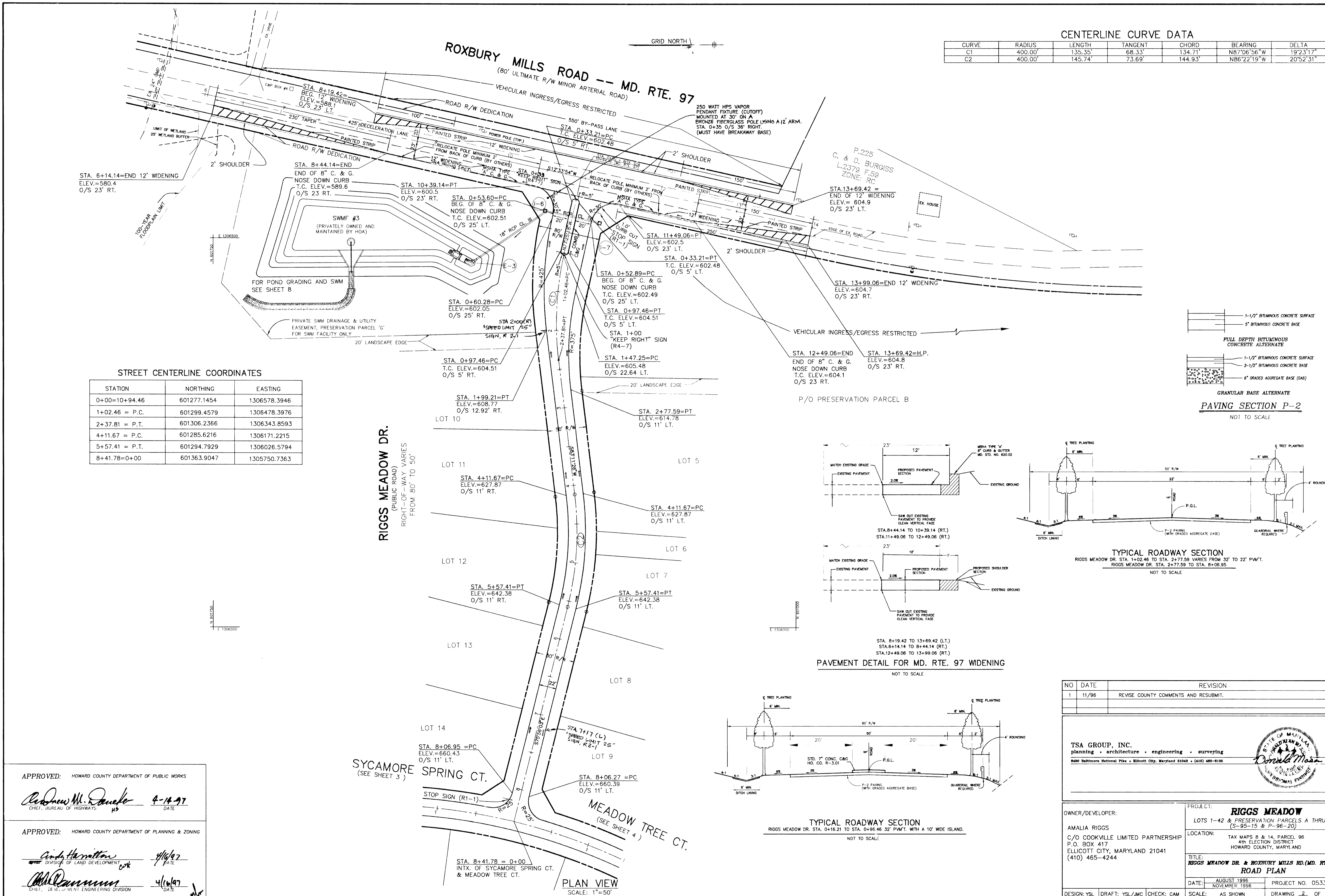
Michael J. ... 4/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1782

4-9-97

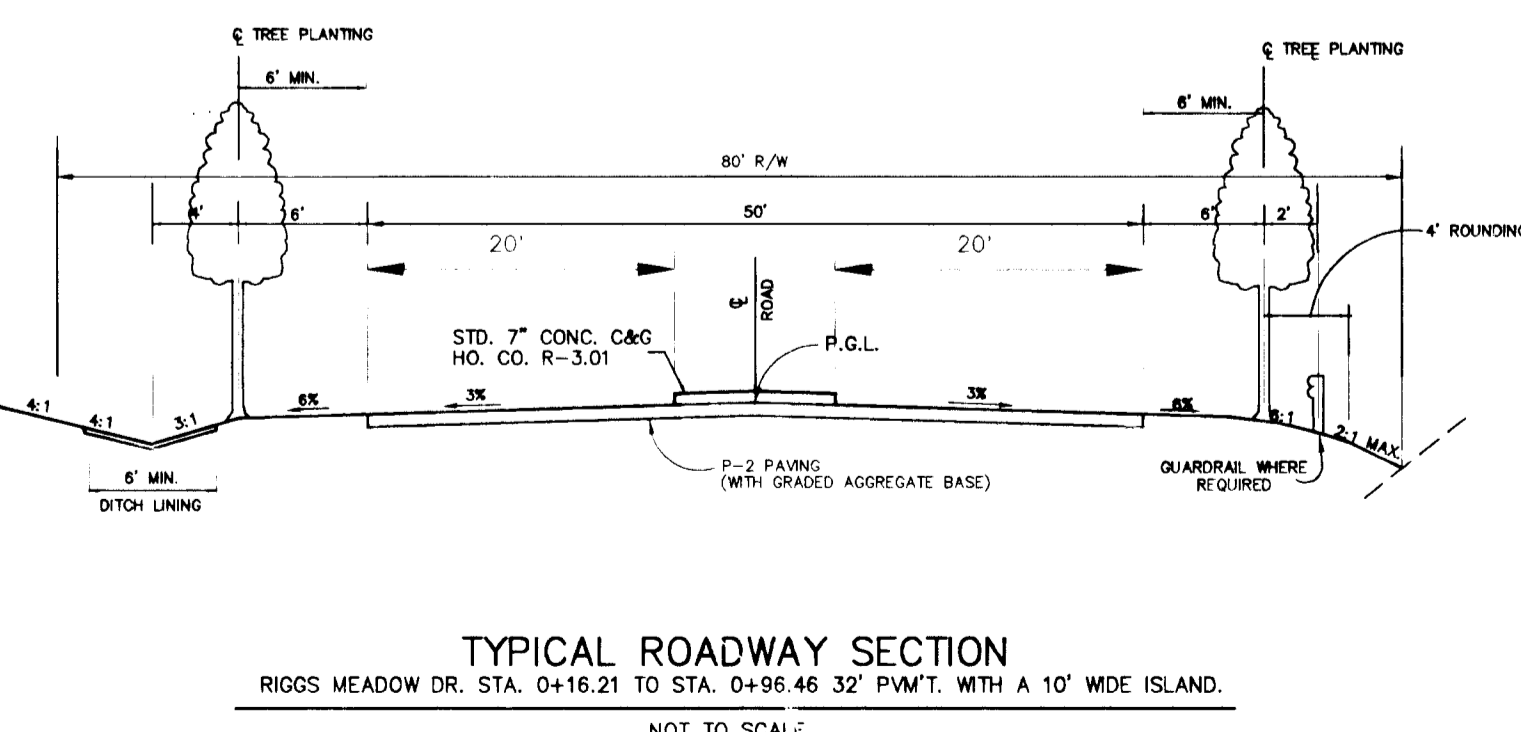
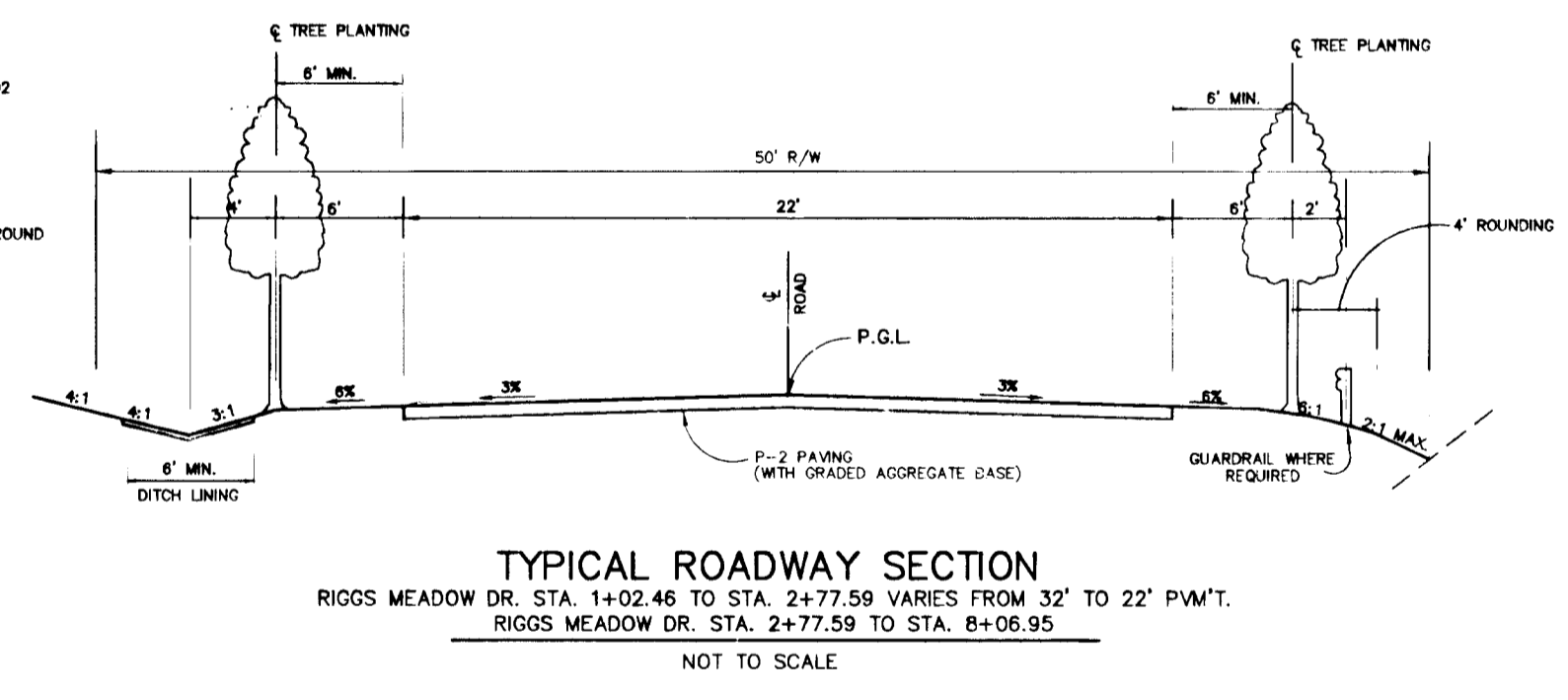
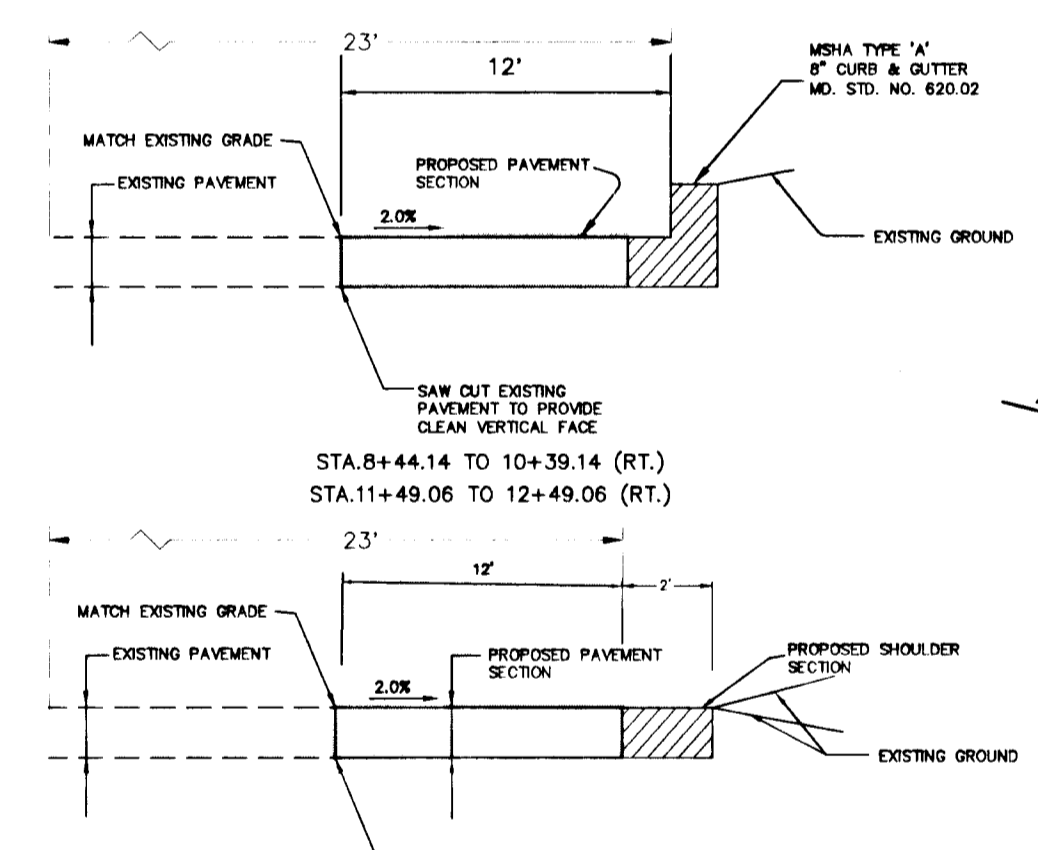
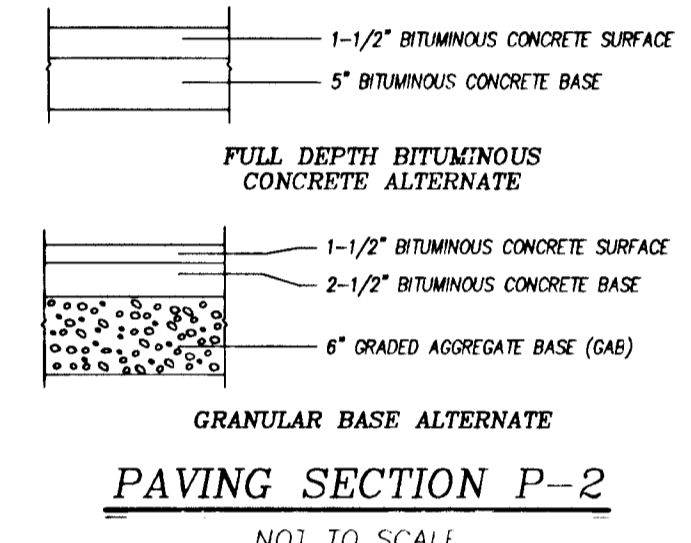
CENTERLINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	400.00'	135.35'	68.33'	134.71'	N87°06'56"W	19°23'17"
C2	400.00'	145.74'	73.69'	144.93'	N86°22'19"W	20°52'31"



STREET CENTERLINE COORDINATES

STATION	NORTHING	EASTING
0+00=10+94.46	601277.1454	1306578.3946
1+02.46 = P.C.	601299.4579	1306478.3976
2+37.81 = P.T.	601306.2366	1306343.8593
4+11.67 = P.C.	601285.6216	1306171.2215
5+57.41 = P.T.	601294.7929	1306026.5794
8+41.78=0+00	601363.9047	1305750.7363



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danek 4-14-97
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 4/16/97
 DIVISION OF LAND DEVELOPMENT

John R. ... 4/16/97
 CHIEF, DEPARTMENT ENGINEERING DIVISION

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

PROJECT: **RIGGS MEADOW**
 LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)

LOCATION: TAX MAPS B & 14, PARCEL 96
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: **RIGGS MEADOW DR. & ROXBURY MILLS RD. (MD. RTE. 97) ROAD PLAN**

OWNER/DEVELOPER: AMALIA RIGGS
 C/O COOKVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 (410) 465-4244

DATE: AUGUST 1996
 NOVEMBER 1996

DESIGN: YSL DRAFT: YSL/JMC CHECK: CAM SCALE: AS SHOWN PROJECT NO. 0533 DRAWING 2 OF 25



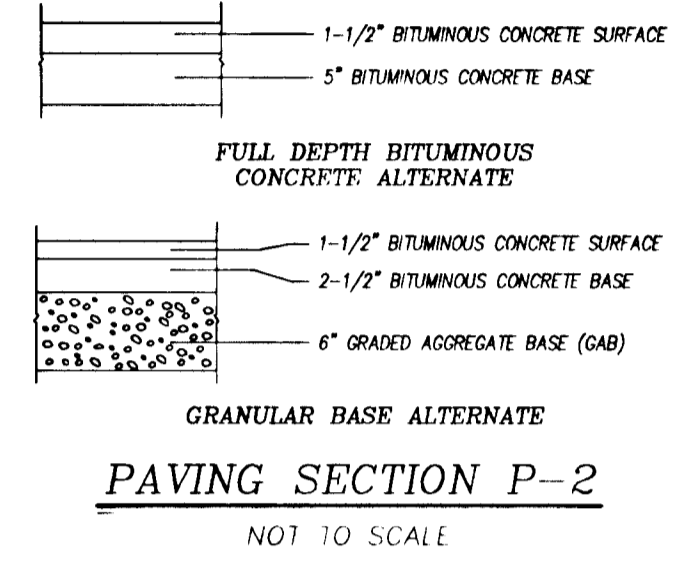
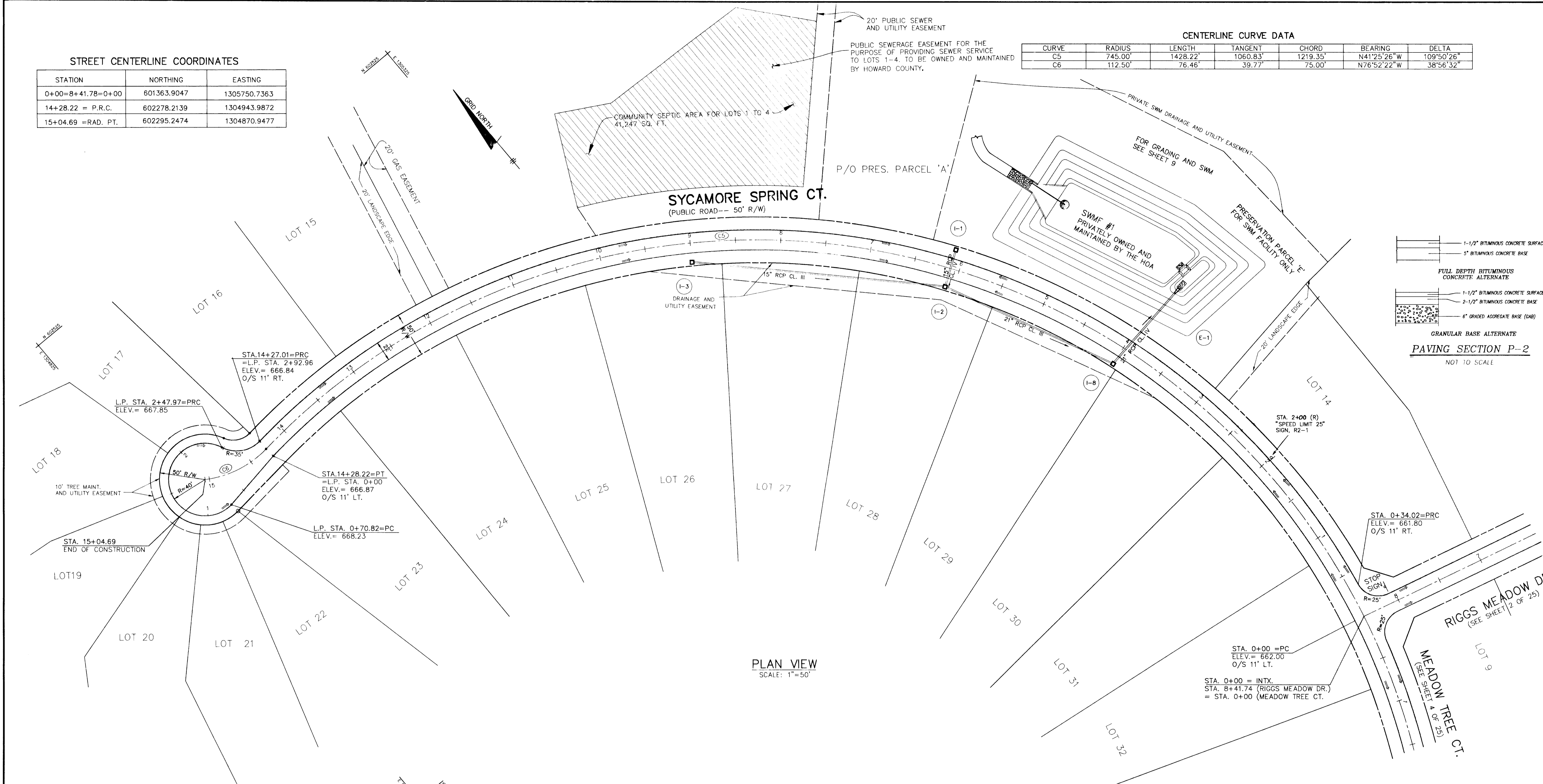
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STREET CENTERLINE COORDINATES

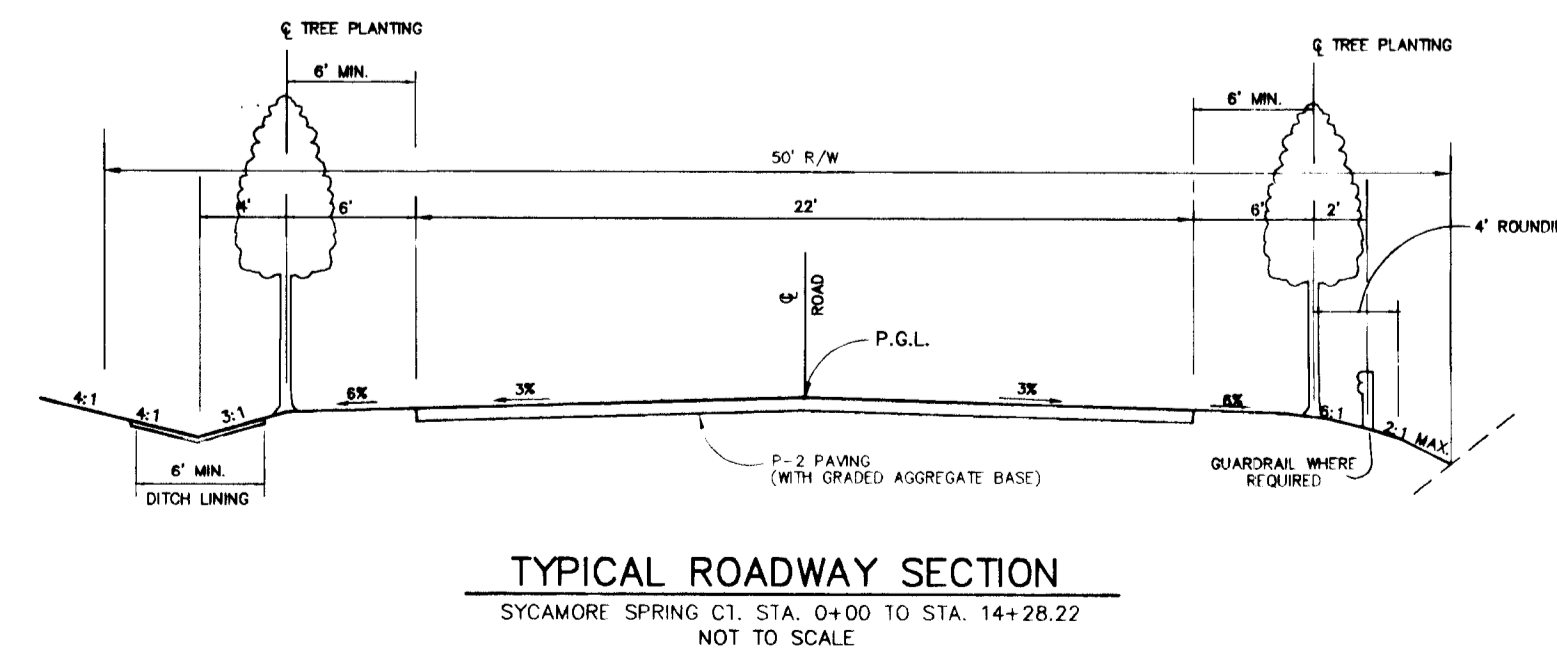
STATION	NORTHING	EASTING
0+00=8+41.78=0+00	601363.9047	1305750.7363
14+28.22 = P.R.C.	602278.2139	1304943.9872
15+04.69 =RAD. PT.	602295.2474	1304870.9477

CENTERLINE CURVE DATA

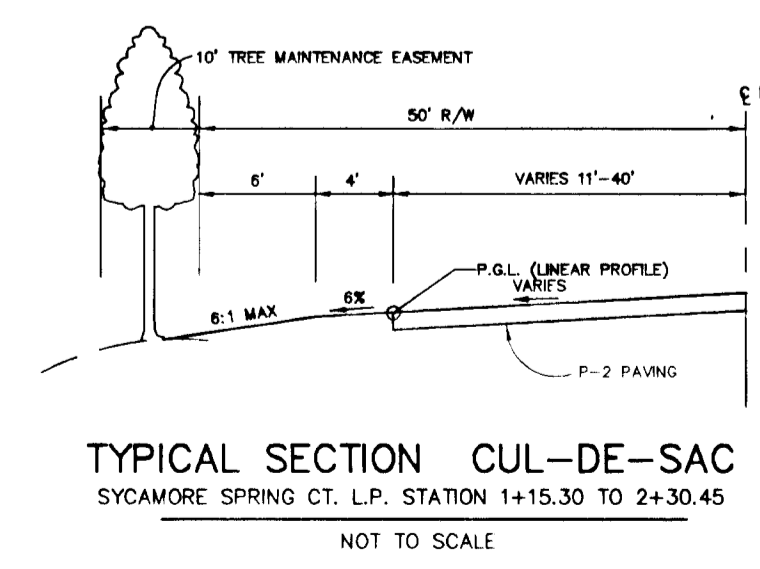
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C5	745.00'	1428.22'	1060.83'	1219.35'	N41°25'26"W	109°50'26"
C6	112.50'	76.46'	39.77'	75.00'	N76°52'22"W	38°56'32"



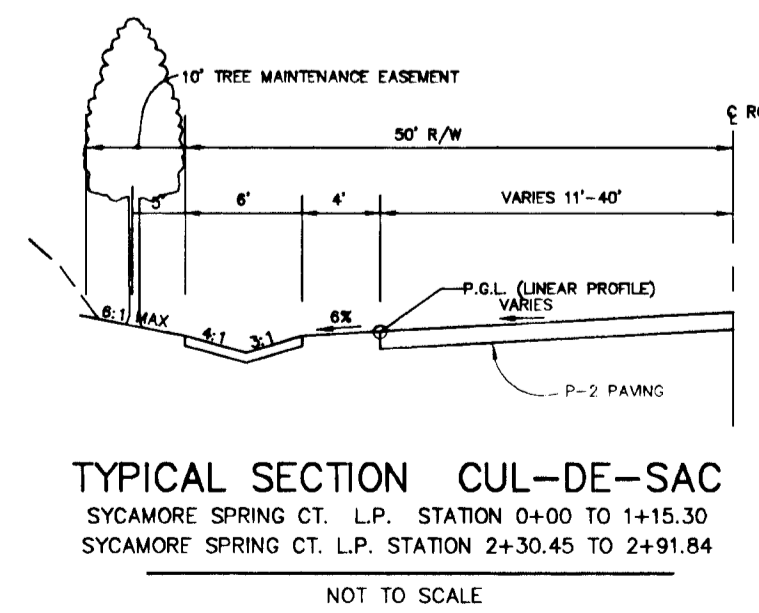
PLAN VIEW
SCALE: 1"=50'



TYPICAL ROADWAY SECTION
SYCAMORE SPRING CT. STA. 0+00 TO STA. 14+28.22
NOT TO SCALE



TYPICAL SECTION CUL-DE-SAC
SYCAMORE SPRING CT. L.P. STATION 1+15.30 TO 2+30.45
NOT TO SCALE



TYPICAL SECTION CUL-DE-SAC
SYCAMORE SPRING CT. L.P. STATION 0+00 TO 1+15.30
SYCAMORE SPRING CT. L.P. STATION 2+30.45 TO 2+91.84
NOT TO SCALE

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
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OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-13 & P-96-20)
LOCATION: TAX MAPS 8 & 14, PARCEL 96 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: SYCAMORE SPRING CT. ROAD PLAN
DATE: AUGUST 1996 NOVEMBER 1996	PROJECT NO. 0533
DESIGN: CAM/YSL DRAFT: YSL/JMC CHECK: CAM	SCALE: AS SHOWN DRAWING 3 OF 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels 4-14-97
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Linda Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. ... 4/16/97
CHIEF, DIVISION OF PLANNING & ENGINEERING DATE

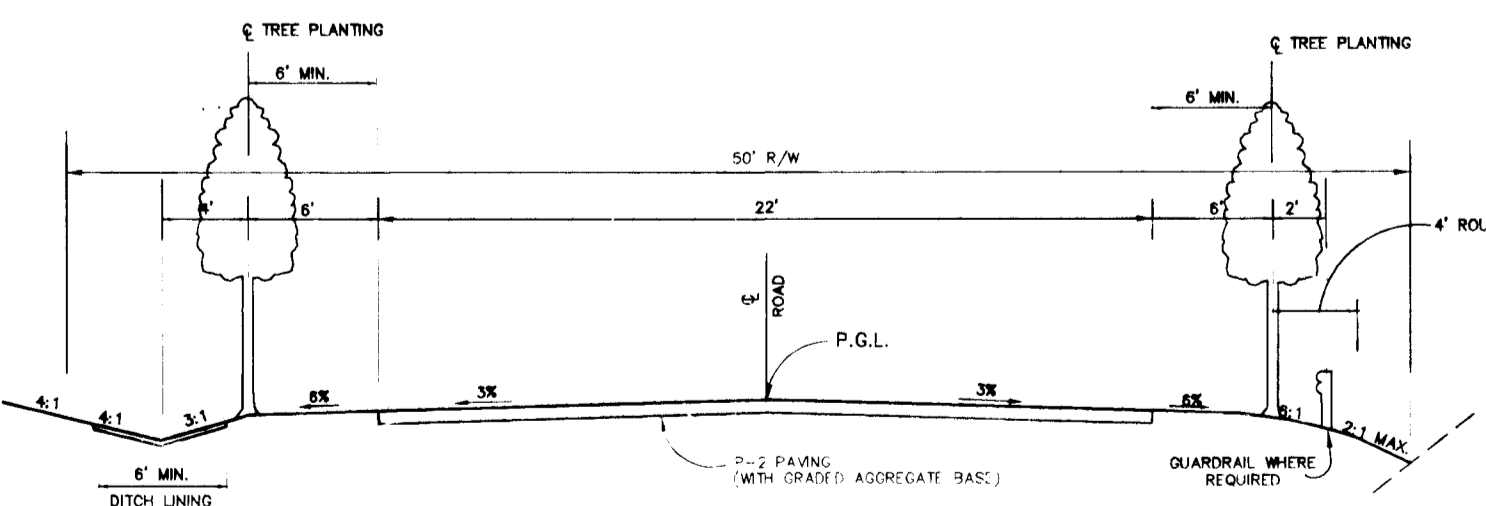
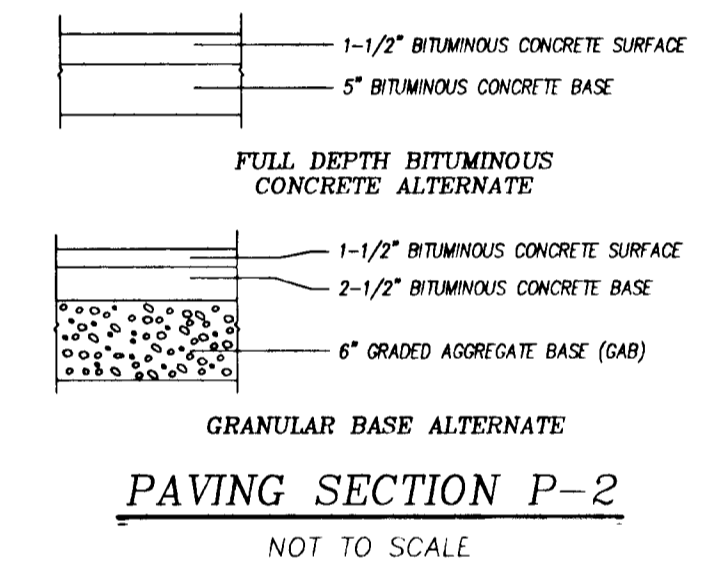
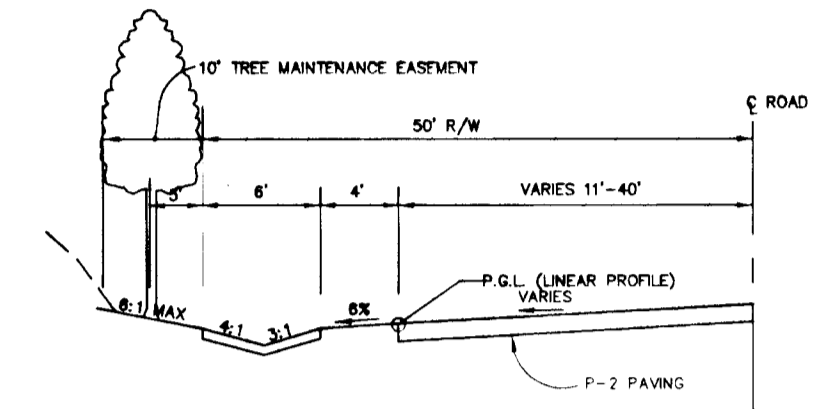
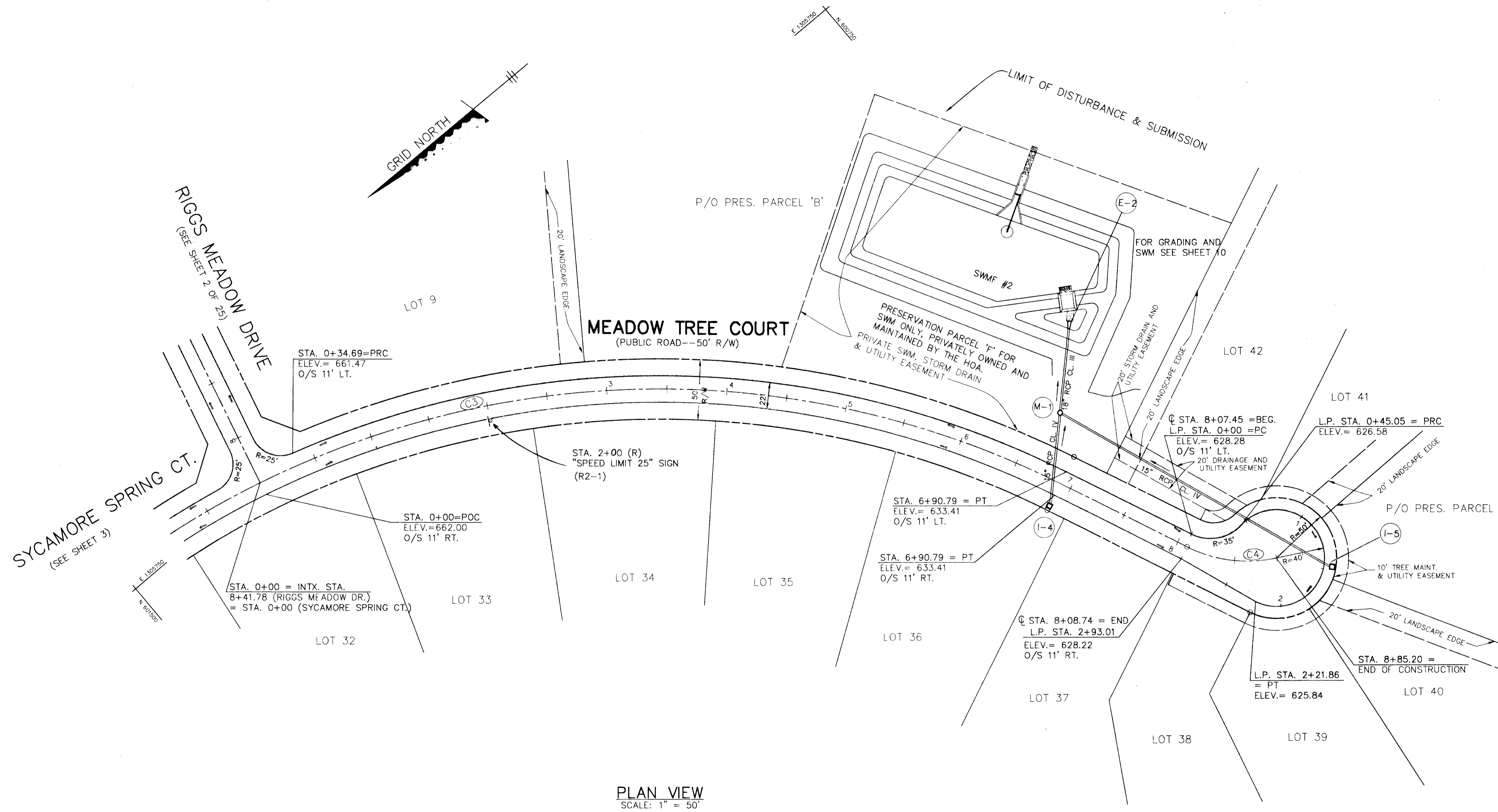
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STREET CENTERLINE COORDINATES

STATION	NORTHING	EASTING
0+00=8+41.78=0+00	601363.9047	1305750.7363
6+90.79=P.T.	600853.9307	1305321.9114
8+08.74=P.C.	600807.1314	1305213.6457
8+85.20=RAD. PT.	600756.1269	1305158.6590

CENTERLINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C3	745.00'	690.79'	372.47'	666.31'	S40°03'35" W	53°07'35"
C4	112.50'	76.46'	39.17'	75.00'	N47°09'06" E	38°56'33"



NO	DATE	REVISION
1	11/96	REVISE PER COMMENTS.
2	01/97	REVISE PER COMMENTS.

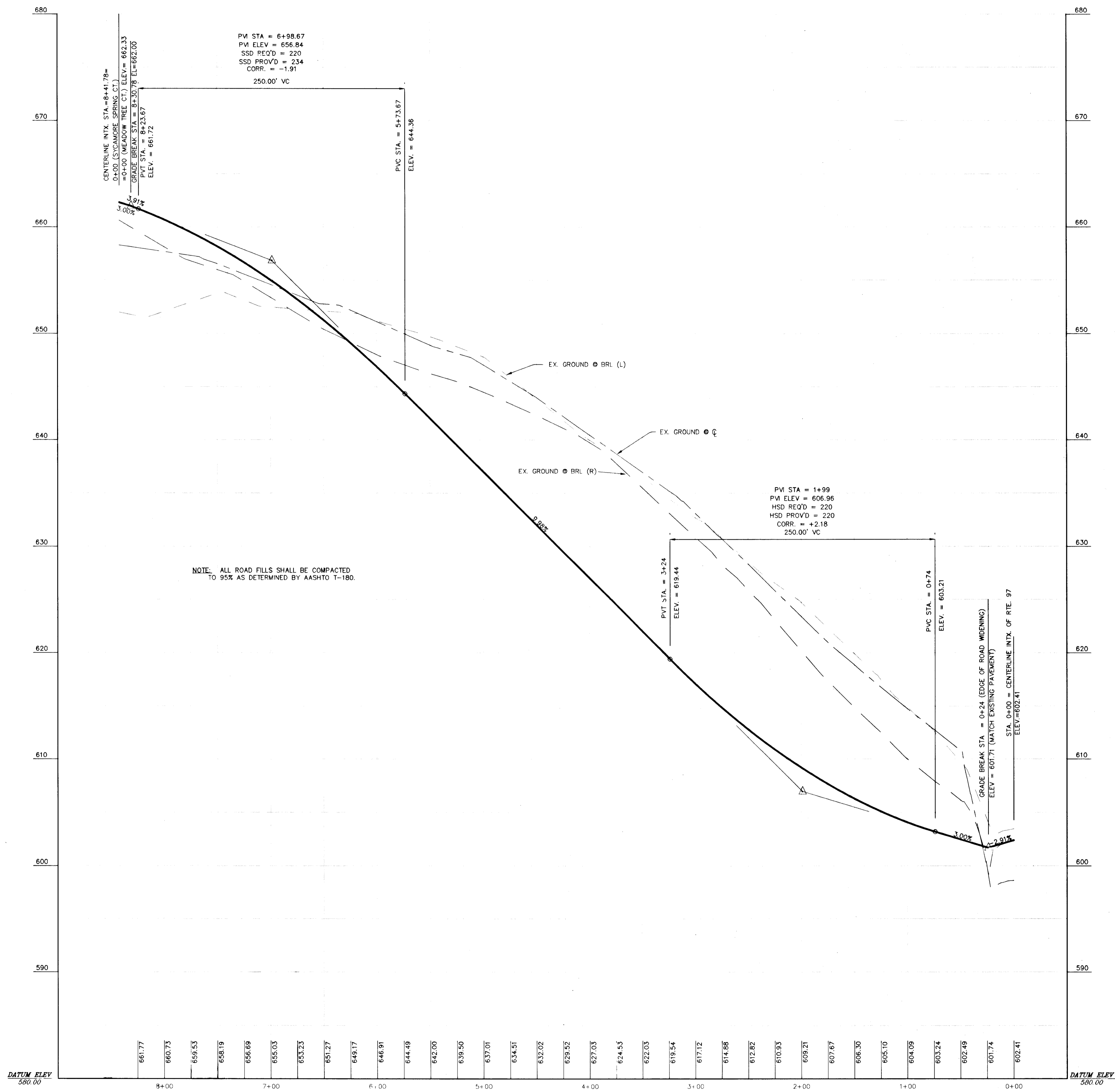
TSA GROUP, INC.
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8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 485-8100
Donald Mason

OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20) LOCATION: TAX MAPS 8 & 14, PARCEL 96 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: MEADOW TREE COURT ROAD PLAN DATE: AUGUST 1996 NOVEMBER 1996 PROJECT NO. 0533 SCALE: AS SHOWN
DESIGN: YSL DRAFT: YSL/JMC CHECK: CAM	PROJECT NO. 0533 DRAWING 4 OF 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Conner 4-14-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Andy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT
William 4/16/97
CHIEF, DIVISION OF ENGINEERING DIVISION

1782



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Richard M. Donohue
 CHIEF, BUREAU OF HIGHWAYS H2
 4-14-97
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton
 CHIEF, DIVISION OF LAND DEVELOPMENT cat
 4/16/97
 DATE

Chris Pennington
 CHIEF, DIVISION OF ENGINEERING DIVISION
 4/16/97
 DATE

RIGGS MEADOW DR.

DESIGN SPEED: 30 MPH

SCALE: HORIZ.: 1" = 50'
 VERT.: 1" = 5'

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

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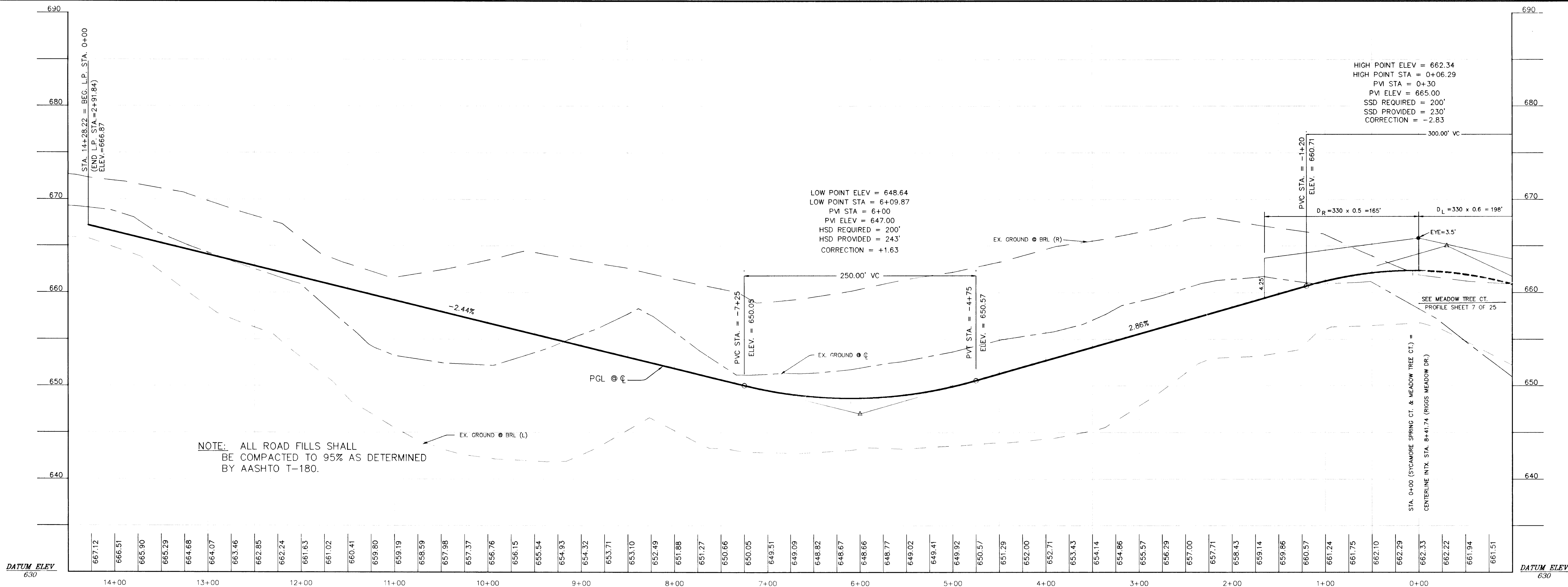


OWNER/DEVELOPER:
 AMALIA RIGGS
 C/O COOKVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 (410) 465-4244

PROJECT: **RIGGS MEADOW**
 LOTS 1-42 & PRESERVATION PARCELS A THRU G
 (S-95-15 & P-96-20)
 LOCATION: TAX MAPS 8 & 14, PARCEL 96
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 TITLE: **RIGGS MEADOW DR.**
ROAD PROFILE

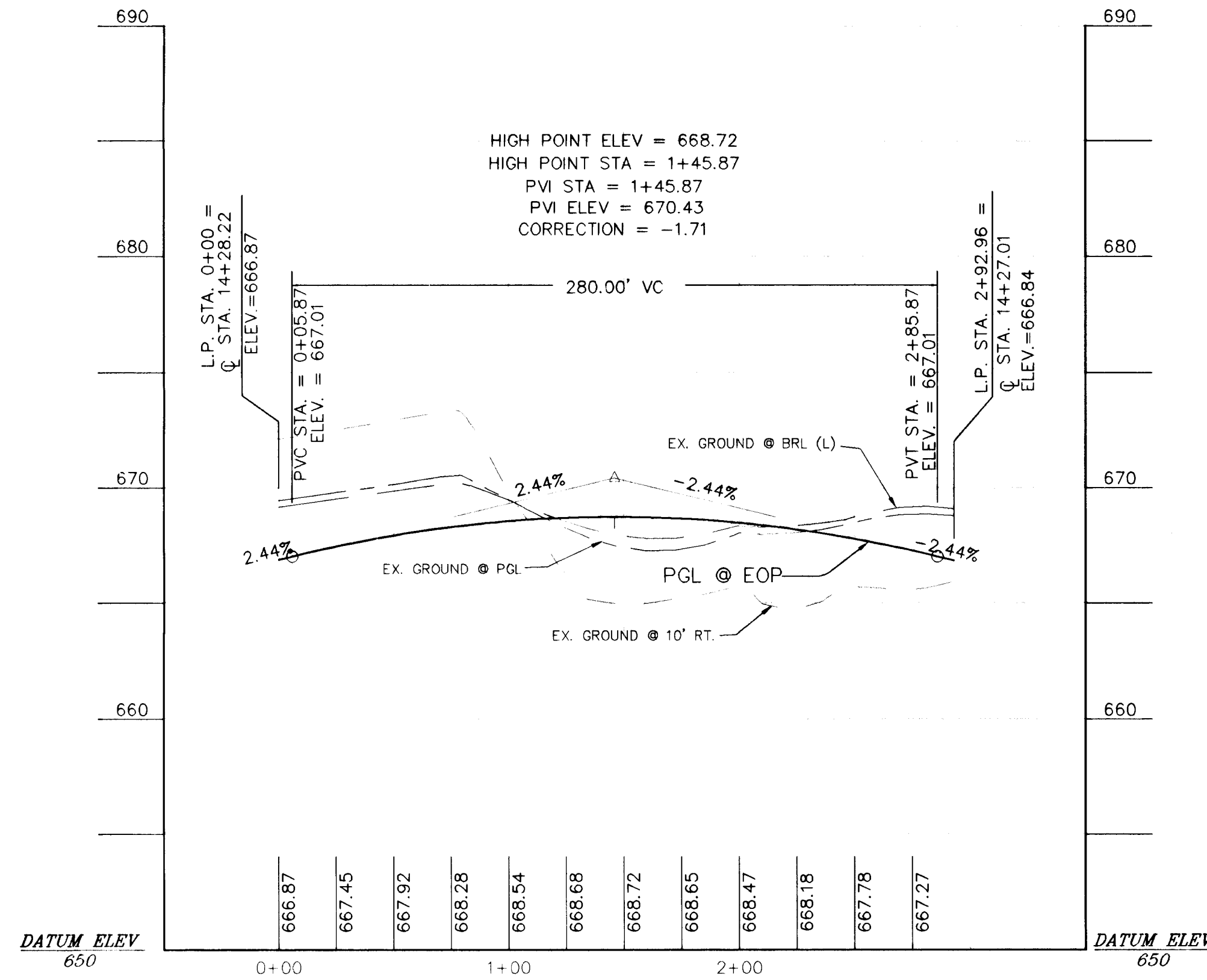
DESIGN: YSL	DRAFT: YSL	CHECK: CAM	SCALE: AS SHOWN	PROJECT NO. 0533
			DATE: AUGUST 1996 NOVEMBER 1996	DRAWING 5 OF 25

1782



SYCAMORE SPRING CT.

DESIGN SPEED: 30MPH
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



SYCAMORE SPRING CT.: LINEAR PROFILE

SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

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OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20) LOCATION: TAX MAPS 8 & 14, PARCEL 96 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: SYCAMORE SPRING CT. ROAD PROFILE	DATE: AUGUST 1996 NOVEMBER 1996
DESIGN: YSL DRAFT: YSL CHECK: CAM	PROJECT NO. 0533 SCALE: AS SHOWN DRAWING 6 OF 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

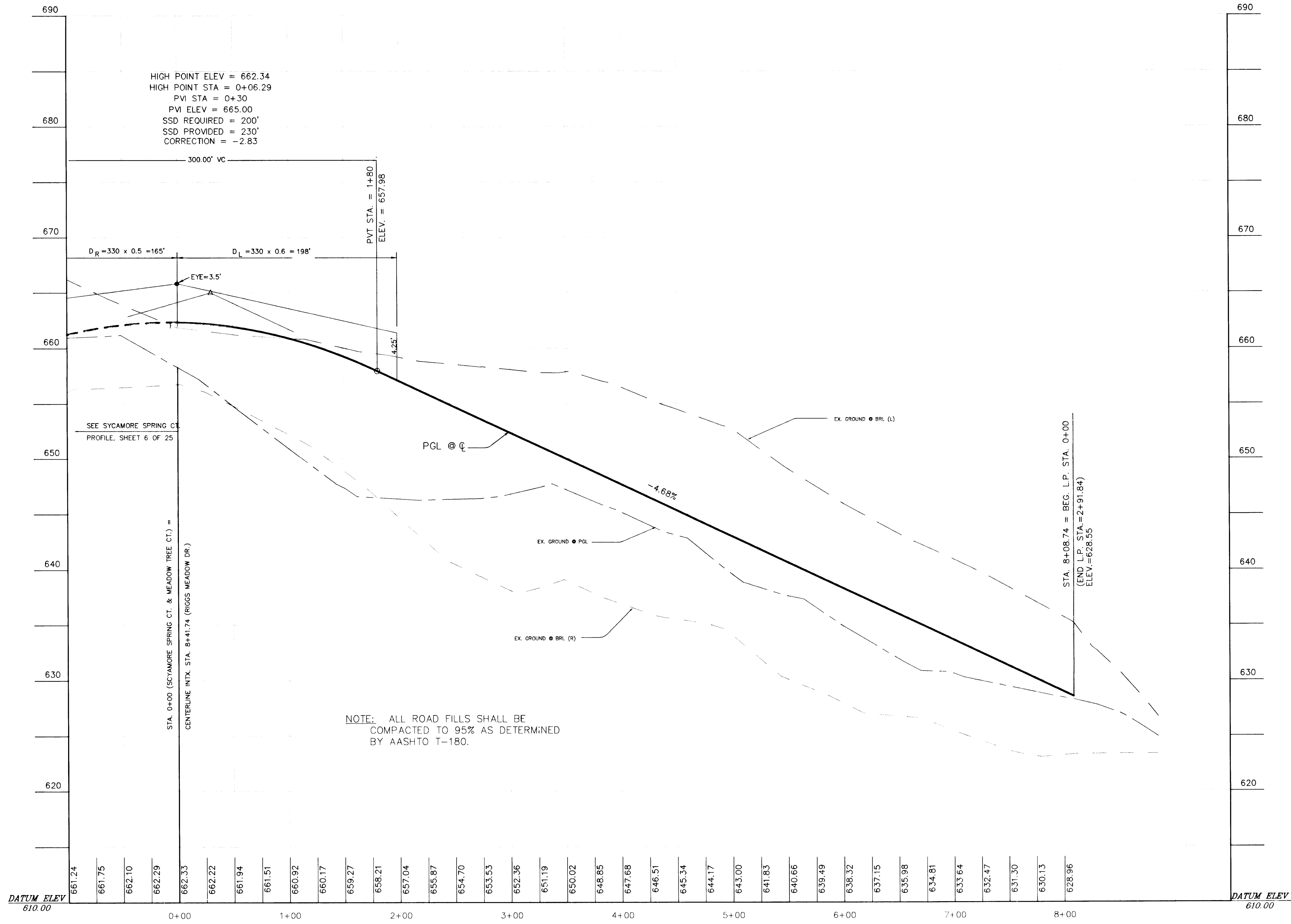
Andrew M. Daniels 4/14/97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT

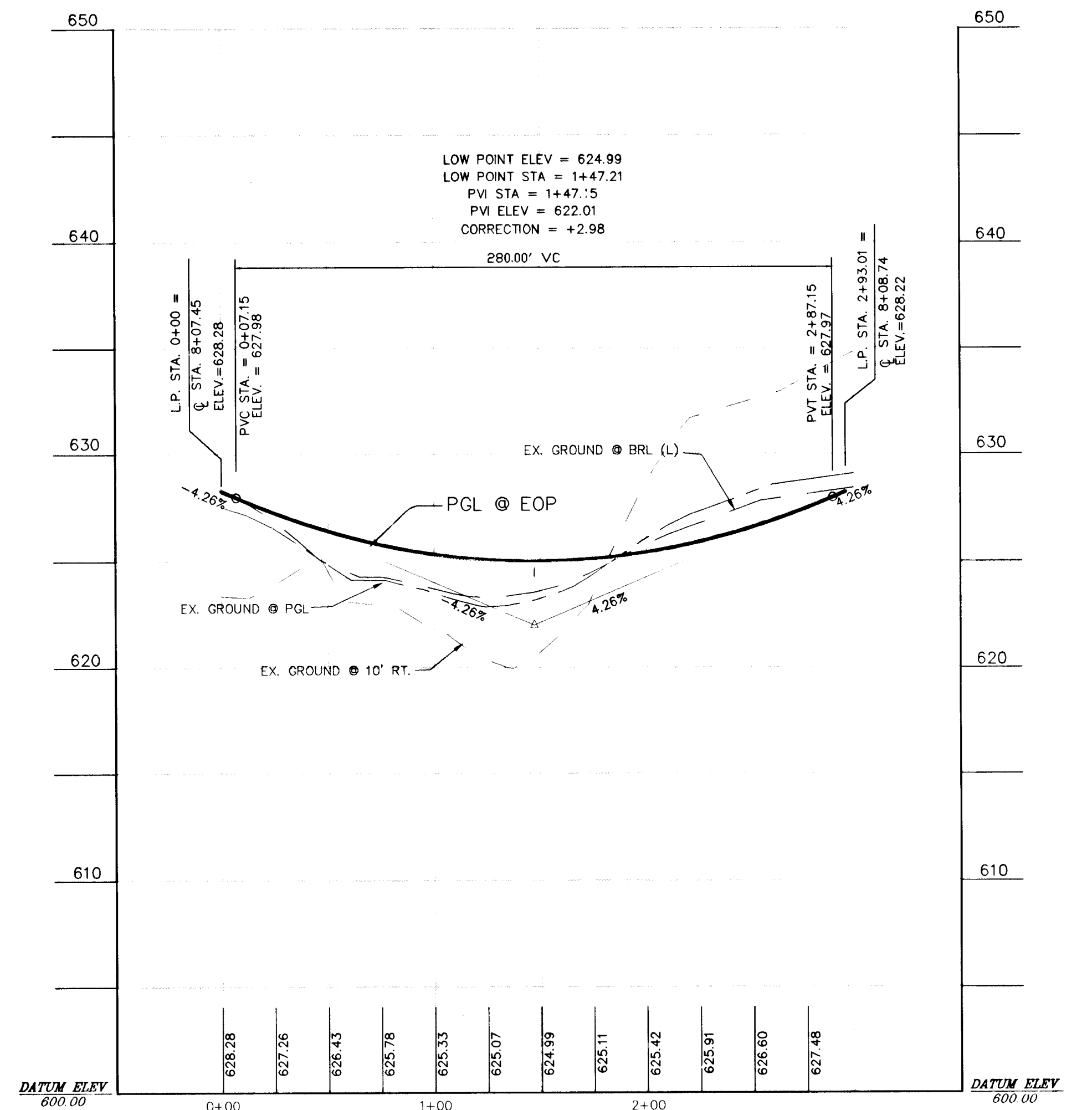
William J. ... 4/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

1782



MEADOW TREE COURT

DESIGN SPEED: 30 MPH
 SCALE: HORIZ.: 1" = 50'
 VERT.: 1" = 5'



MEADOW TREE CT.: LINEAR PROFILE

SCALE: HORIZ.: 1" = 50'
 VERT.: 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels 4-18-97
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cinda Hamilton 4/18/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Michael D. ... 4/16/97
 CHIEF, CIVIL & MECHANICAL ENGINEERING DIVISION DATE

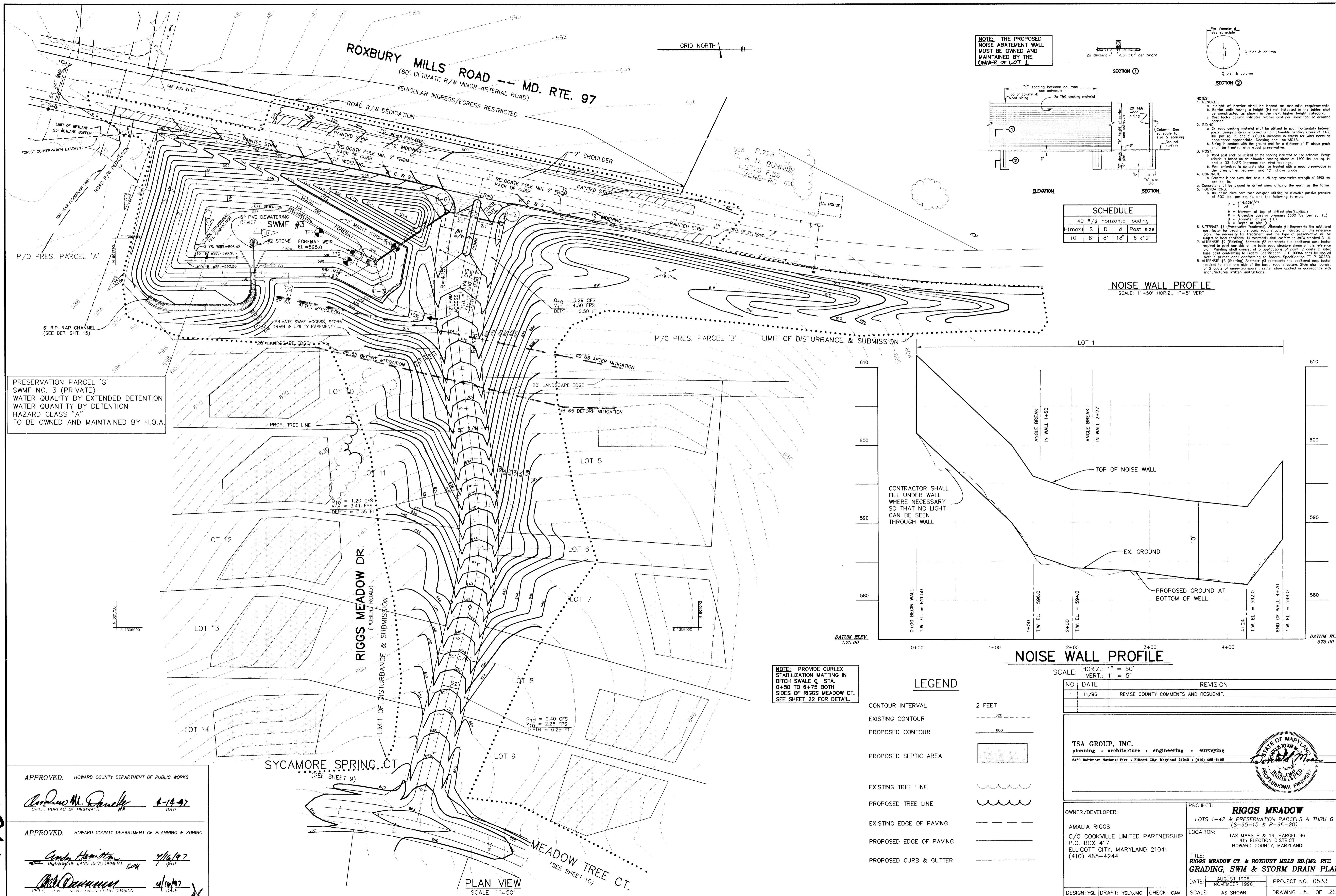
NO	DATE	REVISION
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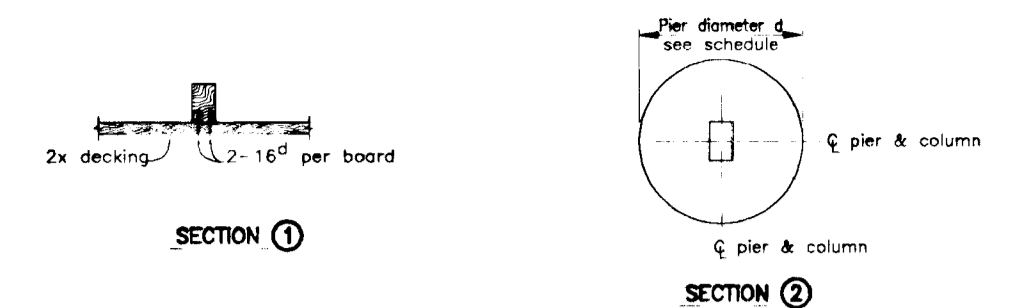


OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)
LOCATION: TAX MAPS 8 & 14, PARCEL 96 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: MEADOW TREE COURT ROAD PROFILE
DATE: AUGUST 1996 NOVEMBER 1996	PROJECT NO. 0533
DESIGN: YSL DRAFT: YSL CHECK: CAM	SCALE: AS SHOWN DRAWING 7 OF 25

1782



NOTE: THE PROPOSED NOISE ABATEMENT WALL MUST BE OWNED AND MAINTAINED BY THE OWNER OF LOT 1



- NOTES:
- GENERAL
 - Height of barrier shall be based on acoustic requirements.
 - Barrier walls having a height (H) not indicated in the notes shall be constructed as shown in the next higher height category.
 - Cost factor column indicates relative cost per linear foot of acoustic barrier.
 - SECTORS
 - 2x wood decking material shall be utilized to span horizontally between posts. Design criteria is based on an allowable bending stress of 1400 lbs. per sq. in. and a 33 1/3% increase in stress for wind loads as considered appropriate. Decking shall be MC15.
 - Siding in contact with the ground and for a distance of 6' above grade shall be treated with wood preservative.
 - POSTS
 - Wood post shall be drilled at the spacing indicated on the schedule. Design criteria is based on an allowable bending stress of 1400 lbs. per sq. in. and a 33 1/3% increase for wind loading.
 - Post embedded in concrete shall be treated with a wood preservative in the area of embedment and 12' above grade.
 - CONCRETE
 - Concrete in the piers shall have a 28 day compressive strength of 2500 lbs. per sq. in.
 - Concrete shall be placed in drilled piers utilizing the earth as the forms.
 - FOUNDATIONS
 - The drilled piers have been designed utilizing an allowable positive pressure of 300 lbs. per sq. ft. and the following formulae:

$$D = (16.5M)^{1/3}$$

$$M = \text{Moment at top of drilled pier (ft./lbs.)}$$

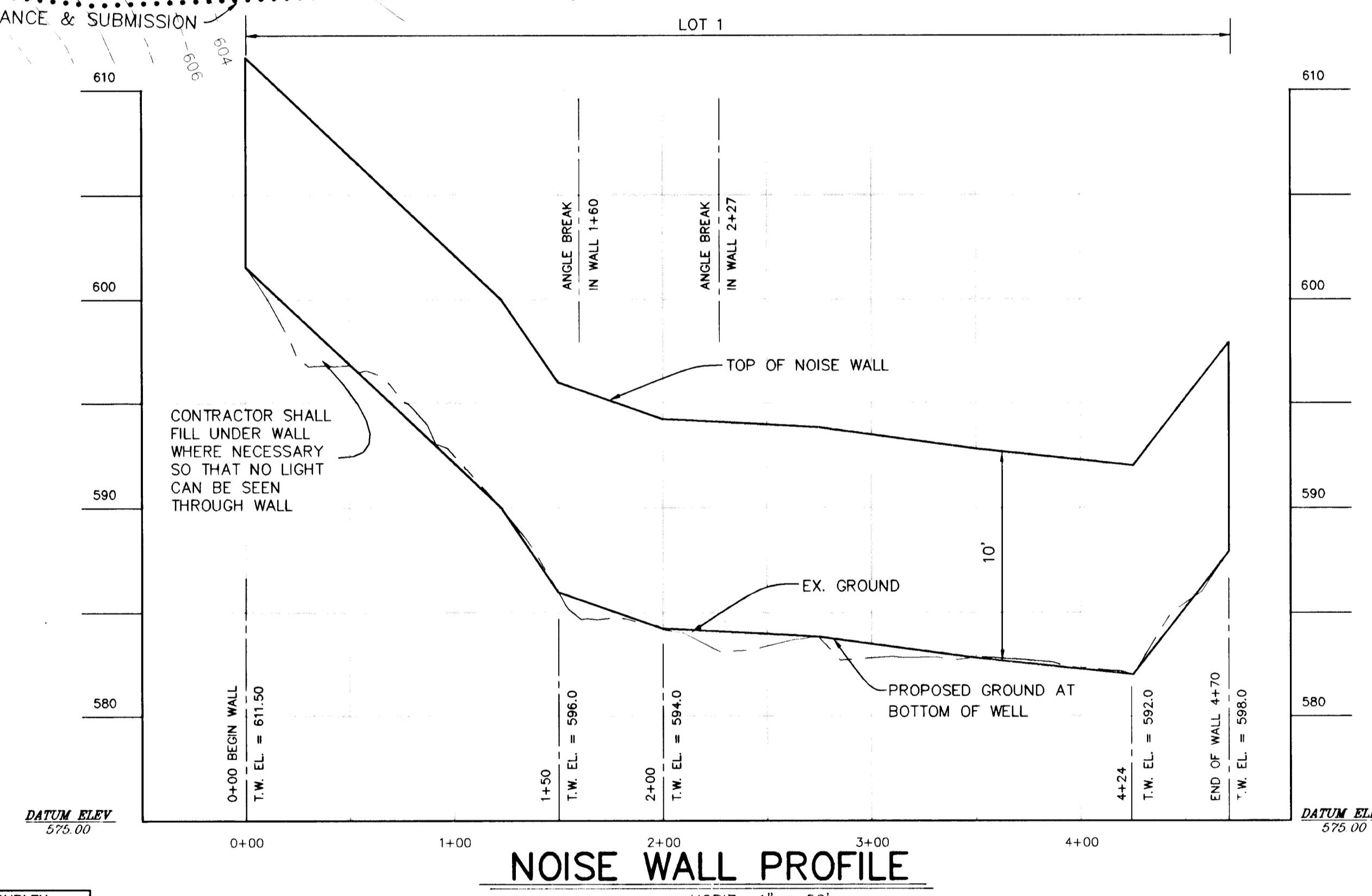
$$P = \text{Allowable positive pressure (300 lbs. per sq. ft.)}$$

$$d = \text{Diameter of pier (ft.)}$$

$$D = \text{Depth of pier (ft.)}$$
 - ALTERNATE #1 (Preservative Treatment) Alternate #1 Represents the additional cost factor for treating the basic wood structure indicated on this reference plan. The necessity for treatment and the type of preservative will be subject to local conditions. All treatments shall conform to EPA standard C-14.
 - ALTERNATE #2 (Painting) Alternate #2 represents the additional cost factor required to paint one side of the basic wood structure shown on this reference plan. Painting shall consist of 3 applications of paint, 2 coats of latex base paint conforming to Federal Specification TT-P-00946 shall be applied over a primer coat conforming to Federal Specification TT-P-02250.
 - ALTERNATE #3 (Staining) Alternate #3 represents the additional cost factor required to stain one side of the basic wood structure. Stain shall consist of 2 coats of semi-transparent stain applied in accordance with manufacturer's written instructions.

SCHEDULE				
40 #/y horizontal loading				
H(max)	S	D	d	Post size
10'	8'	8'	18"	6"x12"

NOISE WALL PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.



NOISE WALL PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'

NOTE: PROVIDE CURLEX STABILIZATION MATTING IN DITCH SWALE @ STA. 0+50 TO 6+75 BOTH SIDES OF RIGGS MEADOW CT. SEE SHEET 22 FOR DETAIL.

LEGEND	
CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	
PROPOSED CONTOUR	
PROPOSED SEPTIC AREA	
EXISTING TREE LINE	
PROPOSED TREE LINE	
EXISTING EDGE OF PAVING	
PROPOSED EDGE OF PAVING	
PROPOSED CURB & GUTTER	

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

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

OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)	LOCATION: TAX MAPS 8 & 14, PARCEL 96 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: RIGGS MEADOW CT. & ROXBURY MILLS RD. (MD. RTE. 97) GRADING, SWM & STORM DRAIN PLAN
DATE: AUGUST 1996 NOVEMBER 1996	PROJECT NO.: 0533	SCALE: AS SHOWN	DRAWING NO. OF 25

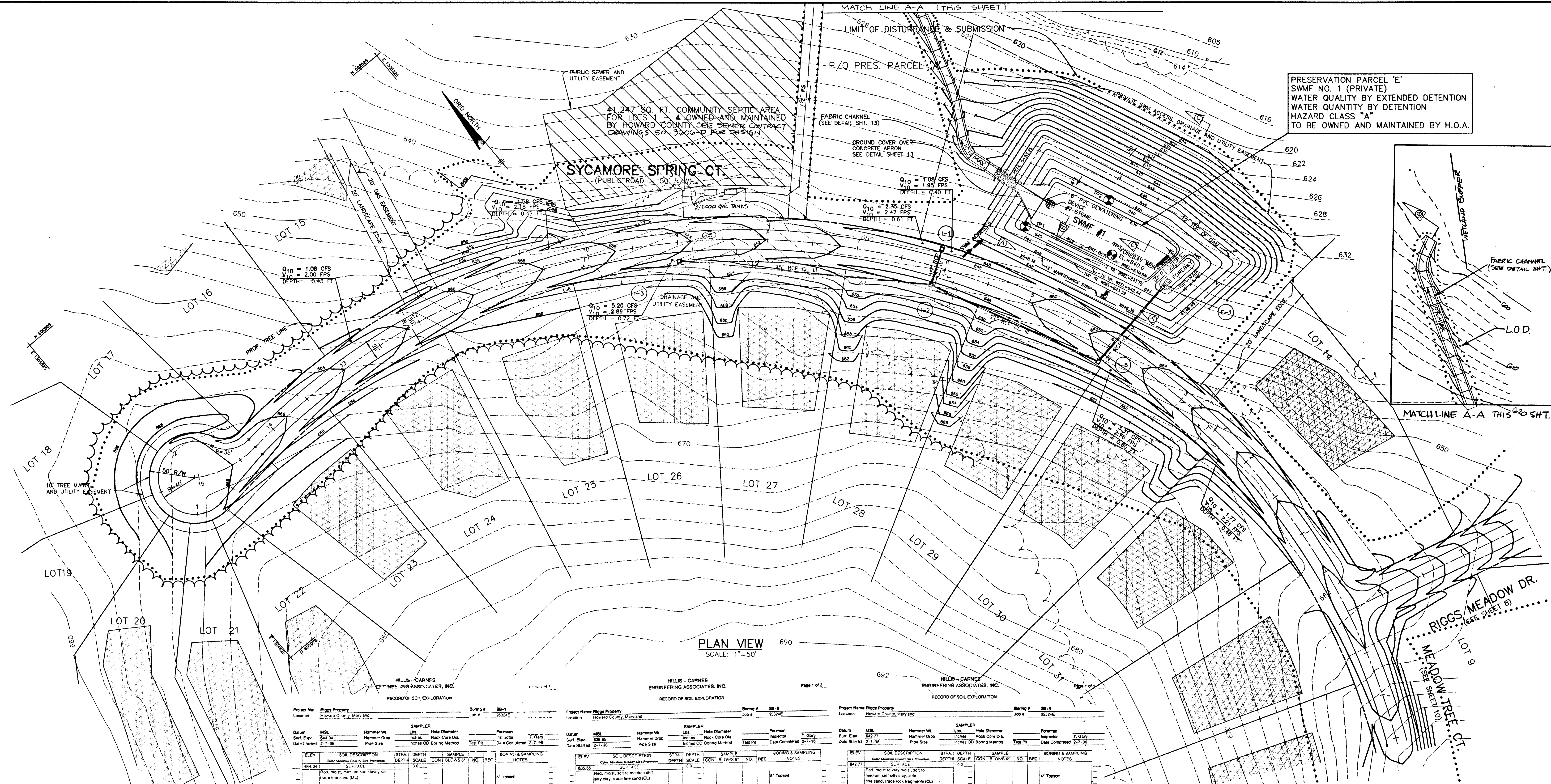
PRESERVATION PARCEL 'G'
SWMF NO. 3 (PRIVATE)
WATER QUALITY BY EXTENDED DETENTION
WATER QUANTITY BY DETENTION
HAZARD CLASS "A"
TO BE OWNED AND MAINTAINED BY H.O.A.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard M. Danek 4-14-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 3/16/97
DIVISION OF LAND DEVELOPMENT

Bill Dammann 4/10/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

17821



PRESERVATION PARCEL 'E'
 SWMF NO. 1 (PRIVATE)
 WATER QUALITY BY EXTENDED DETENTION
 WATER QUANTITY BY DETENTION
 HAZARD CLASS "A"
 TO BE OWNED AND MAINTAINED BY H.O.A.

PLAN VIEW
 SCALE: 1"=50'

Project Name: Riggs Property
 Location: Howard County, Maryland
 Date: 2-7-96

DATE	REVISION
11/96	REVISE COUNTY COMMENTS AND RESUBMIT.
1/97	REVISE POND OUTFALL PER SCS COMMENTS

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.
2	1/97	REVISE POND OUTFALL PER SCS COMMENTS

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 8490 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8106

OWNER/DEVELOPER:
 AMALIA RIGGS
 C/O COOKVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELICOTT CITY, MARYLAND 21041
 (410) 465-4244

PROJECT:
RIGGS MEADOW
 LOTS 1-42 & PRESERVATION PARCELS A THRU G
 (S-95-15 & P-95-20)

LOCATION:
 TAX MAPS 8 & 14, PARCEL 96
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
SYCAMORE SPRING CT.
GRADING, SWM & STORM DRAIN PLAN

DATE: AUGUST 1996
 NOVEMBER 1996

PROJECT NO. 0533

DESIGN: CAM/YSL DRAFT: YSL/JMC CHECK: CAM SCALE: AS SHOWN DRAWING 9 OF 25

DATE	REVISION
11/96	REVISE COUNTY COMMENTS AND RESUBMIT.
1/97	REVISE POND OUTFALL PER SCS COMMENTS

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OWNER/DEVELOPER:
 AMALIA RIGGS
 C/O COOKVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELICOTT CITY, MARYLAND 21041
 (410) 465-4244

PROJECT:
RIGGS MEADOW
 LOTS 1-42 & PRESERVATION PARCELS A THRU G
 (S-95-15 & P-95-20)

LOCATION:
 TAX MAPS 8 & 14, PARCEL 96
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
SYCAMORE SPRING CT.
GRADING, SWM & STORM DRAIN PLAN

DATE: AUGUST 1996
 NOVEMBER 1996

PROJECT NO. 0533

DESIGN: CAM/YSL DRAFT: YSL/JMC CHECK: CAM SCALE: AS SHOWN DRAWING 9 OF 25

DATE	REVISION
11/96	REVISE COUNTY COMMENTS AND RESUBMIT.
1/97	REVISE POND OUTFALL PER SCS COMMENTS

TSA GROUP, INC.
 planning • architecture • engineering • surveying
 8490 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8106

OWNER/DEVELOPER:
 AMALIA RIGGS
 C/O COOKVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELICOTT CITY, MARYLAND 21041
 (410) 465-4244

PROJECT:
RIGGS MEADOW
 LOTS 1-42 & PRESERVATION PARCELS A THRU G
 (S-95-15 & P-95-20)

LOCATION:
 TAX MAPS 8 & 14, PARCEL 96
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
SYCAMORE SPRING CT.
GRADING, SWM & STORM DRAIN PLAN

DATE: AUGUST 1996
 NOVEMBER 1996

PROJECT NO. 0533

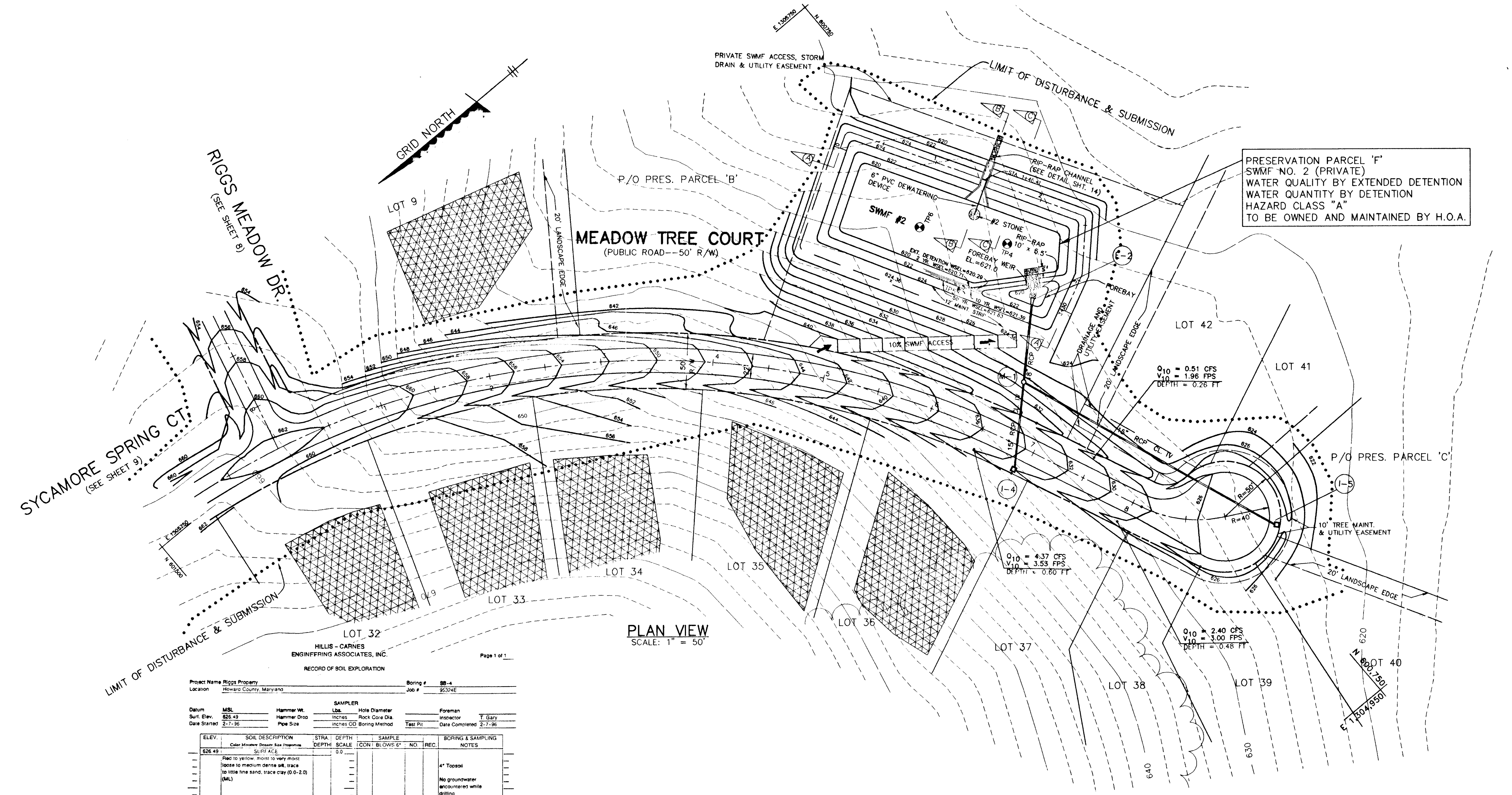
DESIGN: CAM/YSL DRAFT: YSL/JMC CHECK: CAM SCALE: AS SHOWN DRAWING 9 OF 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Dancke 4-14-97
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cinda Hamilton 4/16/97
 DIVISION OF LAND DEVELOPMENT

John Dancke 4/16/97
 DIVISION OF PLANNING

1782



PRESERVATION PARCEL 'F' SWMF NO. 2 (PRIVATE) WATER QUALITY BY EXTENDED DETENTION WATER QUANTITY BY DETENTION HAZARD CLASS 'A' TO BE OWNED AND MAINTAINED BY H.O.A.

Project Name: Riggs Property
Location: Howard County, Maryland
Boring #: SB-8
Job #: 95324E

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	SAMPLE NO.	NO. BLOWS	NO. REC.	BORING & SAMPLING NOTES
609.78	Color Moisture Debris Soil Present	0.0					4" Topsoil
608.3	Red-brown, moist, medium dense silty clayey silt, little fine sand (ML)	1.5					No groundwater encountered while drilling
608.3	Red-brown to brown, moist, loose to medium dense, silty and fine sand; trace rock fragments (ML)	5					Backfilled after 4 hrs.
608.3		11.5					Bottom of Hole at 11.5'

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: UNDISTURBED
GROUND WATER DEPTH: AT COMPLETION Dry at 11.5' FT
BORING METHOD: HSA-HOLLOW STEM AUGERS

Project Name: Riggs Property
Location: Howard County, Maryland
Boring #: TP-8
Job #: 95324E

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	SAMPLE NO.	NO. BLOWS	NO. REC.	BORING & SAMPLING NOTES
615.5	Color Moisture Debris Soil Present	0.0					4" Topsoil
615.5	Red-brown, moist, clayey silt, little fine sand (ML)	1.5					No groundwater encountered while drilling
615.5	Brown moist fine sandy silty fine sand, trace rock fragments (ML,SM)	5					Bag sample taken at 12.0'
615.5		15.0					Backfilled at completion
615.5		11.0					Bottom of Hole at 11.0'

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: UNDISTURBED
GROUND WATER DEPTH: AT COMPLETION Dry at 11.5' FT
BORING METHOD: HSA-HOLLOW STEM AUGERS

Project Name: Riggs Property
Location: Howard County, Maryland
Boring #: SB-4
Job #: 95324E

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	SAMPLE NO.	NO. BLOWS	NO. REC.	BORING & SAMPLING NOTES
626.49	Color Moisture Debris Soil Present	0.0					4" Topsoil
626.49	Red to yellow, moist to very moist loose to medium dense silty clay (0.5-2.0) (ML)	5					No groundwater encountered while drilling
626.49		11.0					Backfilled after 4 hrs.
626.49		11.0					Bottom of Hole at 11.0'

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: UNDISTURBED
GROUND WATER DEPTH: AT COMPLETION Dry at 11.0' FT
BORING METHOD: HSA-HOLLOW STEM AUGERS

Project Name: Riggs Property
Location: Howard County, Maryland
Boring #: SB-5
Job #: 95324E

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	SAMPLE NO.	NO. BLOWS	NO. REC.	BORING & SAMPLING NOTES
627.46	Color Moisture Debris Soil Present	0.0					4" Topsoil
627.46	Red trace yellow, moist, loose to medium dense silty clay to some fine sand (ML)	5					No groundwater encountered while drilling
627.46		12.5					Backfilled after 8 hrs.
627.46		12.5					Bottom of Hole at 12.5'

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: UNDISTURBED
GROUND WATER DEPTH: AT COMPLETION Dry at 12.5' FT
BORING METHOD: HSA-HOLLOW STEM AUGERS

Project Name: Riggs Property
Location: Howard County, Maryland
Boring #: SB-6
Job #: 95324E

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	SAMPLE NO.	NO. BLOWS	NO. REC.	BORING & SAMPLING NOTES
628.92	Color Moisture Debris Soil Present	0.0					4" Topsoil
628.92	Red trace yellow, moist, loose to medium dense silty clay to some fine sand (ML)	5					No groundwater encountered while drilling
628.92		12.0					Backfilled after 4 hrs.
628.92		12.0					Bottom of Hole at 12.0'

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: UNDISTURBED
GROUND WATER DEPTH: AT COMPLETION Dry at 12.0' FT
BORING METHOD: HSA-HOLLOW STEM AUGERS

Project Name: Riggs Property
Location: Howard County, Maryland
Boring #: SB-7
Job #: 95324E

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	SAMPLE NO.	NO. BLOWS	NO. REC.	BORING & SAMPLING NOTES
628.50	Color Moisture Debris Soil Present	0.0					4" Topsoil
628.50	Red-brown, moist to very moist, loose to medium silty clay and fine sand (ML)	5					No groundwater encountered while drilling
628.50		10.5					Backfilled after 4 hrs.
628.50		10.5					Bottom of Hole at 10.5'

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: UNDISTURBED
GROUND WATER DEPTH: AT COMPLETION Dry at 10.5' FT
BORING METHOD: HSA-HOLLOW STEM AUGERS

NO.	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
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8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 466-8100
Donald Mason

OWNER/DEVELOPER: AMALIA RIGGS
C/O COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: **RIGGS MEADOW**
LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)

LOCATION: TAX MAPS 8 & 14, PARCEL 96
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **MEADOW TREE COURT**
GRADING, SWM & STORM DRAIN PLAN

DATE: AUGUST 1996
NOVEMBER 1996

PROJECT NO. 0533

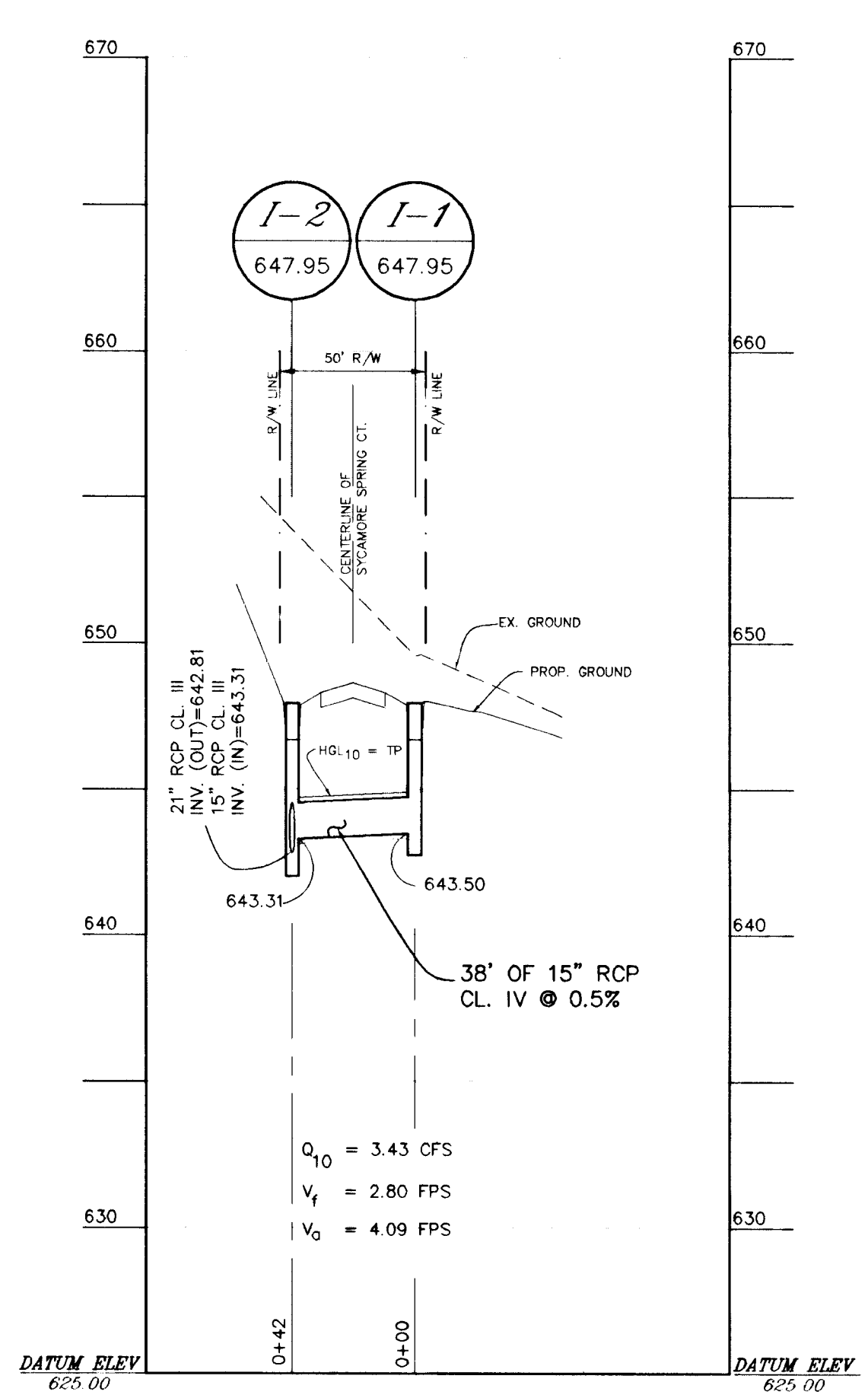
DESIGN: YSL DRAFT: YSL/JMC CHECK: CAM SCALE: AS SHOWN DRAWING 10 OF 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danek 4-14-97
CHIEF, BUREAU OF HIGHWAYS

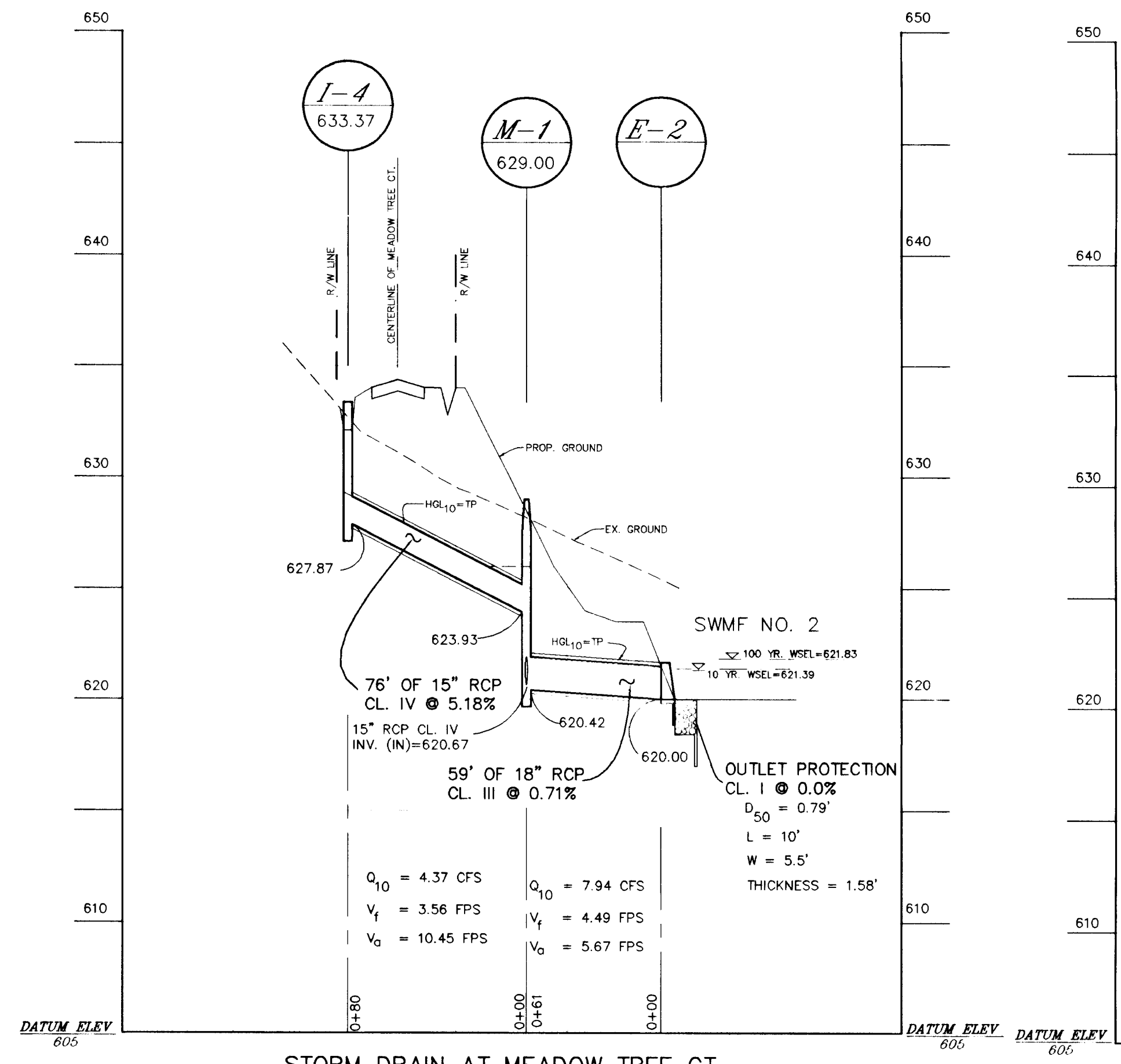
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT

Chris Domonius 4/16/97
CHIEF, DIVISION OF PLANNING & ZONING

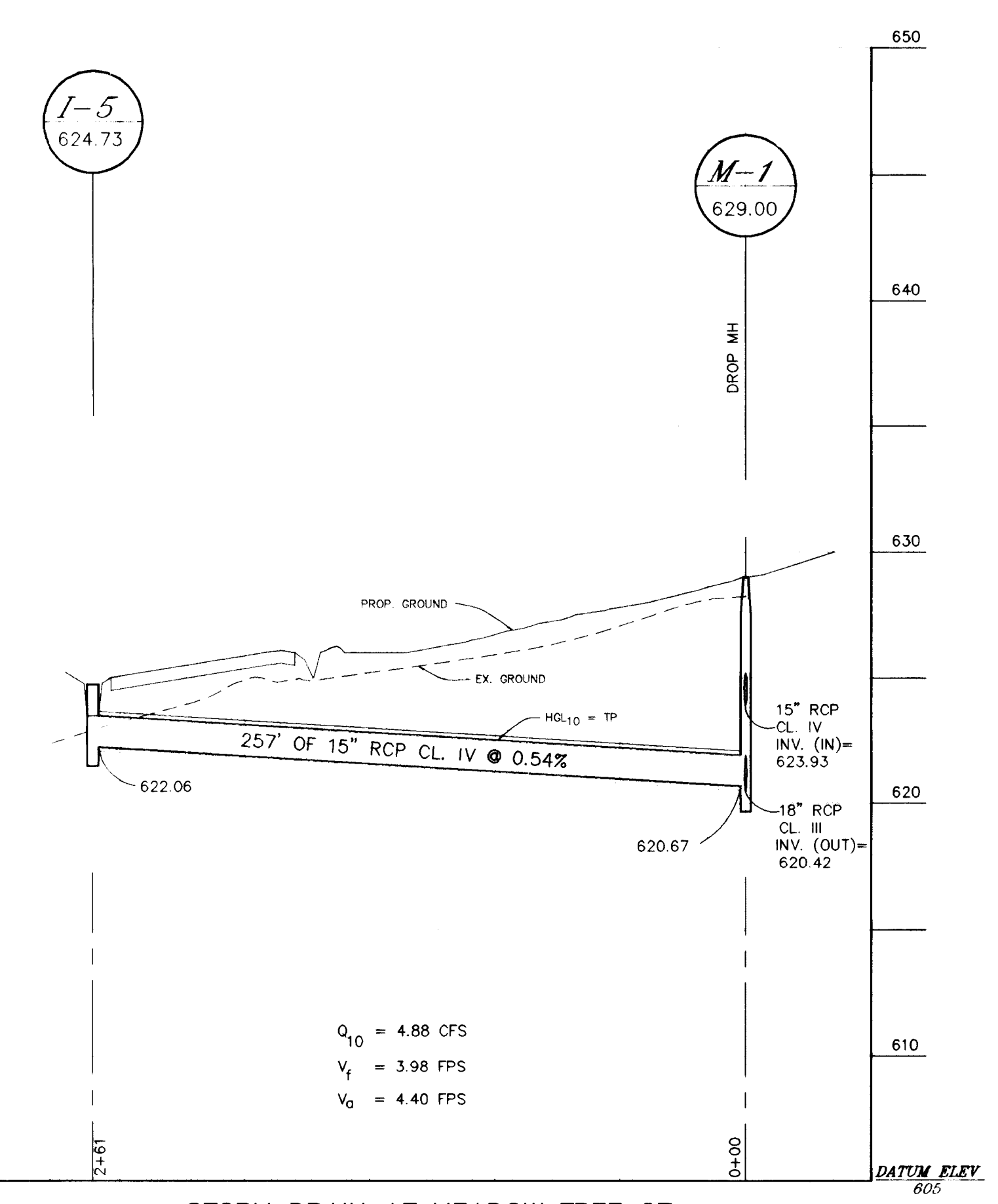
1782



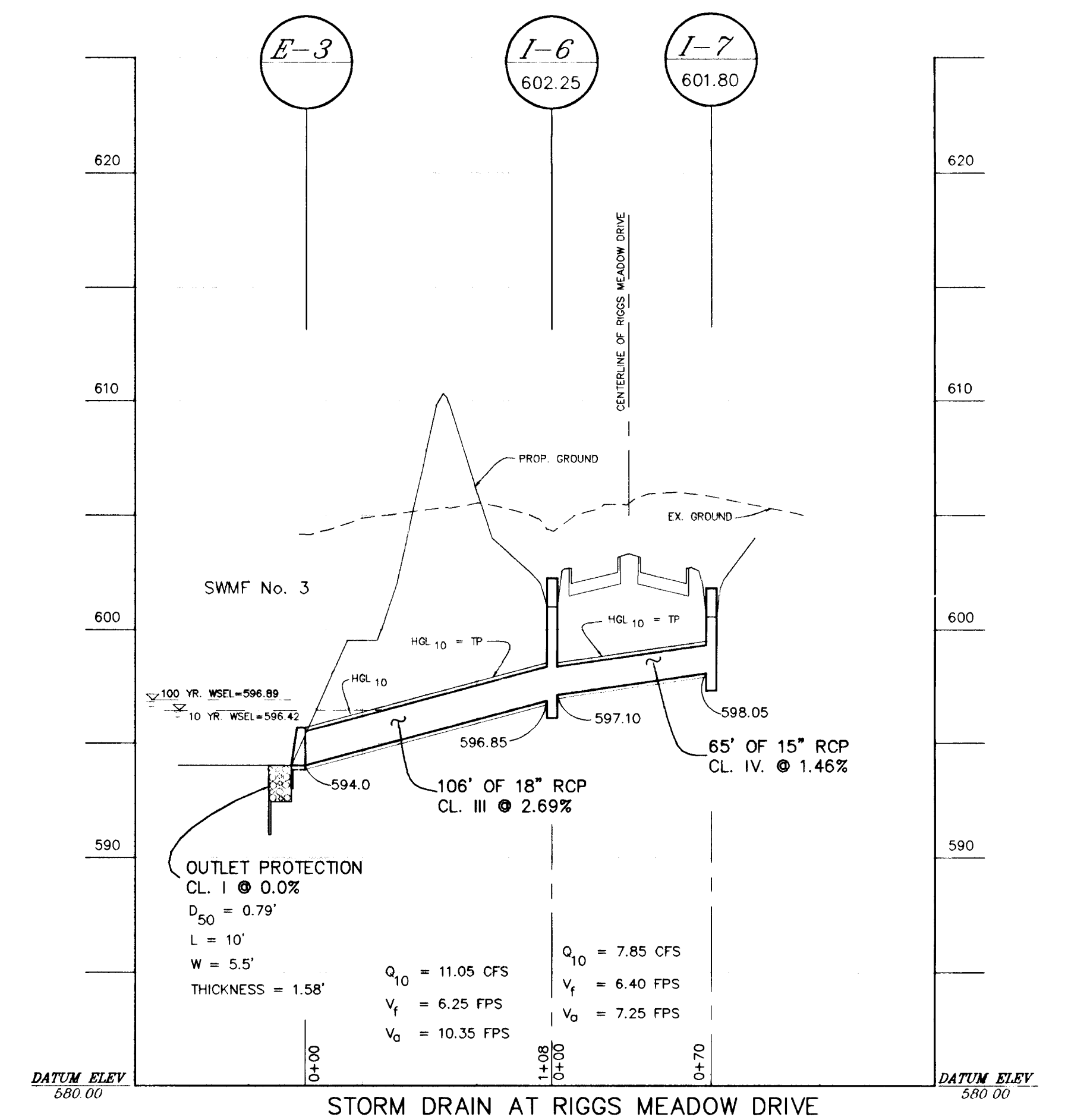
STORM DRAIN AT SYCAMORE SPRING CT.



STORM DRAIN AT MEADOW TREE CT.

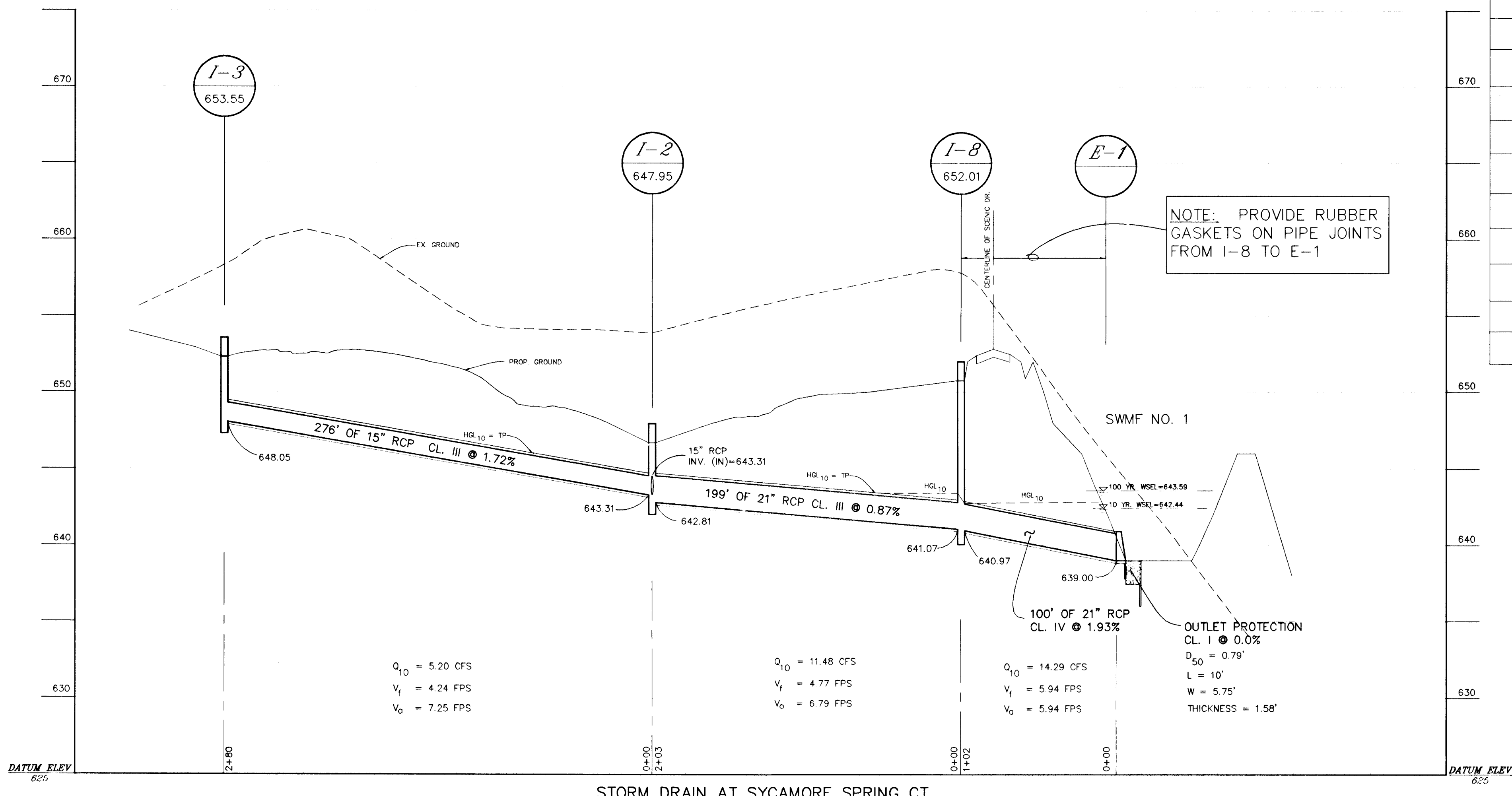


STORM DRAIN AT MEADOW TREE CT.



STORM DRAIN AT RIGGS MEADOW DRIVE

SCALE: HOR.: 1" = 50'
VERT.: 1" = 5'



STORM DRAIN AT SYCAMORE SPRING CT.

STR. NO.	TYPE	INVERT IN	INVERT IN	INVERT OUT	TOP ELEV.	LOCATION
I-1	"K" INLET H.C. SD. 4.12	---	---	643.50 (15")	647.95	C. STA. 6+09.87 O/S 21' R AT SYCAMORE SPRING CT.
I-2	"K" INLET H.C. SD. 4.12	643.31 (15")	643.31 (15")	642.81 (21")	647.95	C. STA. 6+09.87 O/S 21' L AT SYCAMORE SPRING CT.
I-3	"K" INLET H.C. SD. 4.12	---	---	648.05 (15")	653.55	C. STA. 9+00 O/S 21' L AT SYCAMORE SPRING CT.
I-4	"K" INLET H.C. SD. 4.12	---	---	627.87 (15")	633.37	C. STA. 6+90.79 O/S 21' R AT MEADOW TREE CT.
I-5	"K" INLET H.C. SD. 4.12	---	---	622.06 (15")	624.73	L.P. STA. 1+47.09 O/S 7' L AT MEADOW TREE CT.
I-6	"K" INLET H.C. SD. 4.12	597.10 (15")	---	596.85 (18")	602.25	C. STA. 0+52.06 O/S 35.82 L AT RIGGS MEADOW DR.
I-7	"K" INLET H.C. SD. 4.12	---	---	598.05 (15")	601.80	C. STA. 0+52.06 O/S 36.02' L AT RIGGS MEADOW DR.
I-8	"K" INLET H.C. SD. 4.12	641.07 (21")	---	640.97 (21")	652.01	C. STA. 4+00 O/S 21' L AT SYCAMORE SPRING CT.
M-1	MANHOLE	623.93 (15")	620.67 (15")	640.42 (18")	629.00	N 600814.8208 E 1305368.4440
E-1	END SECTION H.C. SD. 5.52	---	---	639.00 (21")	---	N 601769.0009 E 1305820.0295
E-2	END SECTION H.C. SD. 5.52	---	---	620.00 (18")	---	N 600765.7297 E 1305415.9082
E-3	END SECTION H.C. SD. 5.52	---	---	594.00 (18")	---	N 601411.3976 E 1306473.2032

NOTES: * DENOTE ELEVATION IS AT THE TOP OF MANHOLE OR STRUCTURE
** DENOTES STATION AT THE CENTERLINE OF MANHOLE OR STRUCTURE

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

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OWNER/DEVELOPER: AMALIA RIGGS
C/O COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: RIGGS MEADOW
LOTS 1-42 & PRESERVATION PARCELS A THRU G
(S-95-15 & P-95-20)

LOCATION: TAX MAPS 8 & 14, PARCEL 96
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES

DATE: AUGUST 1996
NOVEMBER 1996
PROJECT NO. 0533

DESIGN: YSL DRAFT: YSL CHECK: CAM SCALE: AS SHOWN DRAWING 11 OF 25

1782

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 4-14-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT

John D. ... 4/16/97
CHIEF, DIVISION OF PLANNING



FREDERICK PIKE --- MD. RTE. 144 (SCENIC ROAD)
(80' ULTIMATE R/W MINOR ARTERIAL ROAD)

P.176
R.B. BELL
L.B.16 F.188
ZONE RC

P/O PRESERVATION PARCEL "A"-38.66 AC.
SINGLE FAMILY RESIDENCE
AND CONSERVATION
PRESERVATION EASEMENT

NOTE: CONSTRUCTION OF PRESSURE
SEWER SHALL BE PERFORMED UNDER
A SEPARATE DEVELOPERS AGREEMENT
AND SHALL NOT BE REQUIRED FOR
DEDICATION UNDER THE ROAD
DRAWINGS (F-97-41).

NOTE: FOR FINAL DESIGN OF
GRINDER PUMP & PRESSURE
SEWER SYSTEM SEE SEWER
CONTRACT DRAWINGS
No. 50-3606-D

PUBLIC SEWER MAINTENANCE AND UTILITY
EASEMENT TO BE OWNED AND MAINTAINED
BY HOWARD COUNTY.

COMMUNITY SEPTIC AREA FOR LOTS 1 TO 4
41,247 SQ. FT.

TYP. TERMINAL END
W/ PVC ELBOW
& CAP. (1' ABOVE GROUND)

20' DEEP OBSERVATION
WELL WITH CAP & LOCK

30'x70' ASPHALT
PARKING

3-2000 GAL TANKS W/
WT. FRAME & COVER

15' WIDE ACCESS GATE W/ POST

TYP. TERMINAL END
W/ PVC ELBOW
& CAP. (1' ABOVE GROUND)

SYCAMORE SPRING CT.

LOT 25

LOT 4

LOT 3

LOT 2

LOT 1

PLAN VIEW
SCALE: 1" = 50'

THIS PLAN IS FOR IDENTIFYING THE
SEWAGE ALIGNMENT AND NOISE
WALL ONLY. NOT TO BE USED
FOR CONSTRUCTION OF POND
OR SHARED SEPTIC SYSTEM.
SEE SEPARATE CONTRACT
DRAWING FOR SEPTIC DESIGN.

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
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Donald Mean

OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)
LOCATION: TAX MAPS 8 & 14, PARCEL 96 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: SEWERAGE SYSTEM SCHEMATIC FOR LOTS 1 TO 4 AND NOISE WALL
DATE: AUGUST 1996 NOVEMBER 1996	PROJECT NO. 0533
DESIGN: YSL DRAFT: YSL CHECK: CAM	SCALE: 1" = 50' DRAWING 12 OF 25

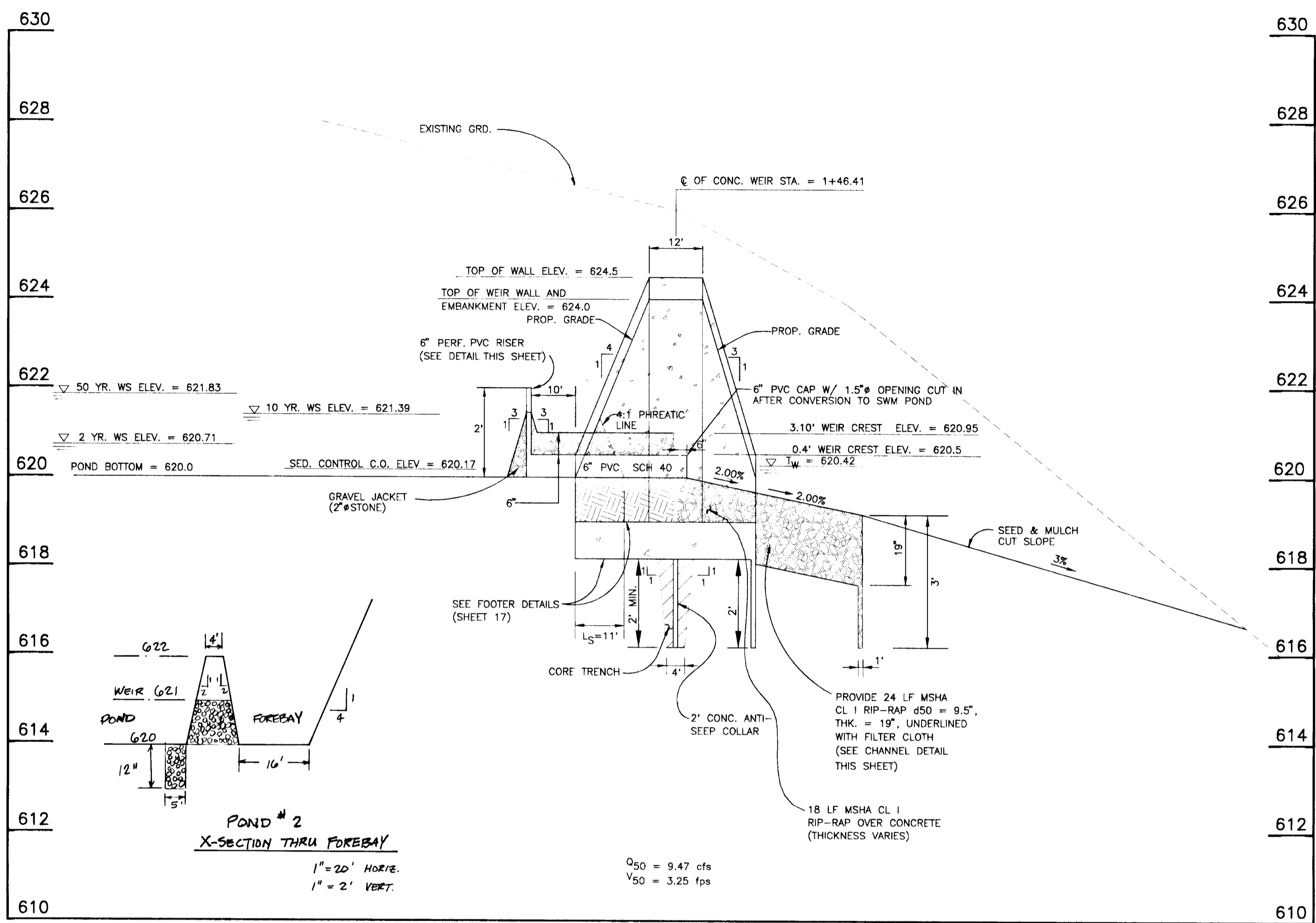
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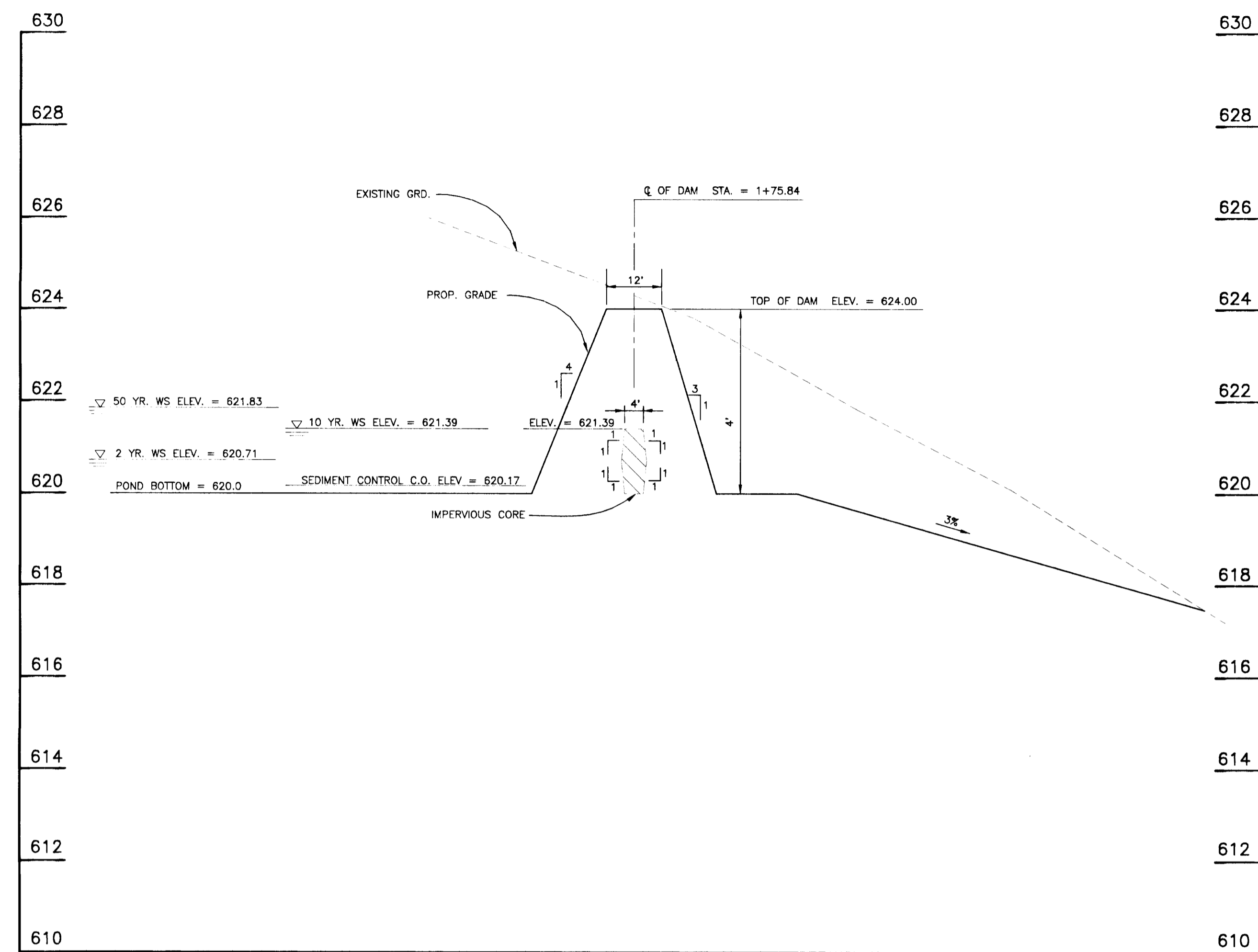
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Smalls 4-19-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hemmick 4/16/97
DIVISION OF LAND DEVELOPMENT

William J. Patterson 4/16/97
CHIEF, DEPARTMENT OF ENGINEERING DIVISION



SECTION B-B
POND #2 X-SECTION THRU WEIR WALL
SCALE: 1"=20' HORIZ.
1"=2' VERT.



SECTION C-C
POND #2 PROFILE THRU DAM
SCALE: 1"=20' HORIZ.
1"=2' VERT.

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.

Clayton A. Mason 3/20/97
Natural Resource Conservation Service Date

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

Robert J. Zilber 3/20/97
Howard Soil Conservation District Date

By the Engineer:
I hereby certify that the facility shown on this plan was constructed as shown on the "AS-BUILT" plans and meets the approved plans and specifications.

DONALD A. MASON P.E.# 21443 Date
ENGINEER:

Certify means to state or declare a professional opinion based upon onsite inspections and materials tests which are conducted during construction. The onsite inspections and materials tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the Engineer nor does an Engineer's certification relieve any other party from meeting requirements imposed by contract, employment or other means, including meeting commonly accepted industry practices.

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

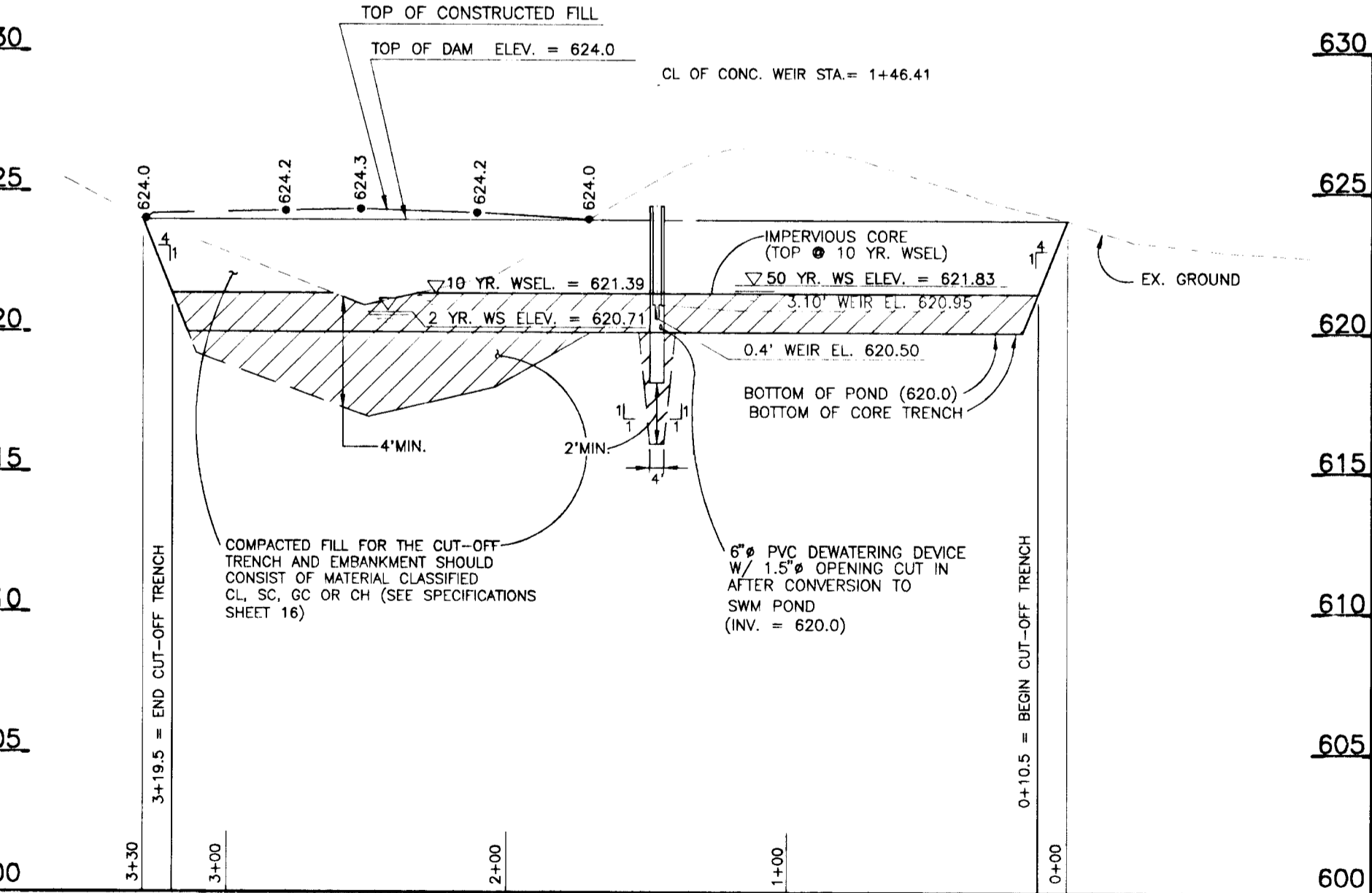
James K. Malachuk 3/19/97 Date
COOKSVILLE LTD. PARTNERSHIP

By the Engineer:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

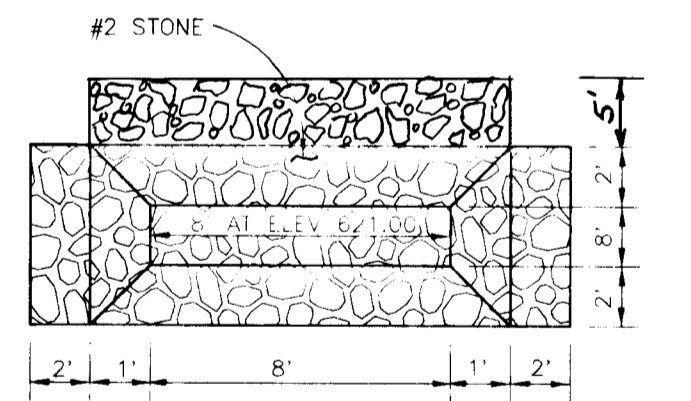
Donald A. Mason 3-21-97 Date
DONALD A. MASON P.E.# 21443
ENGINEER:

OPERATION, MAINTENANCE AND INSPECTION

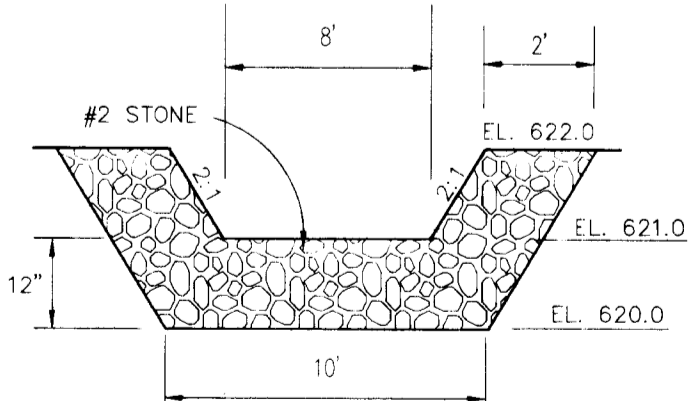
INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.



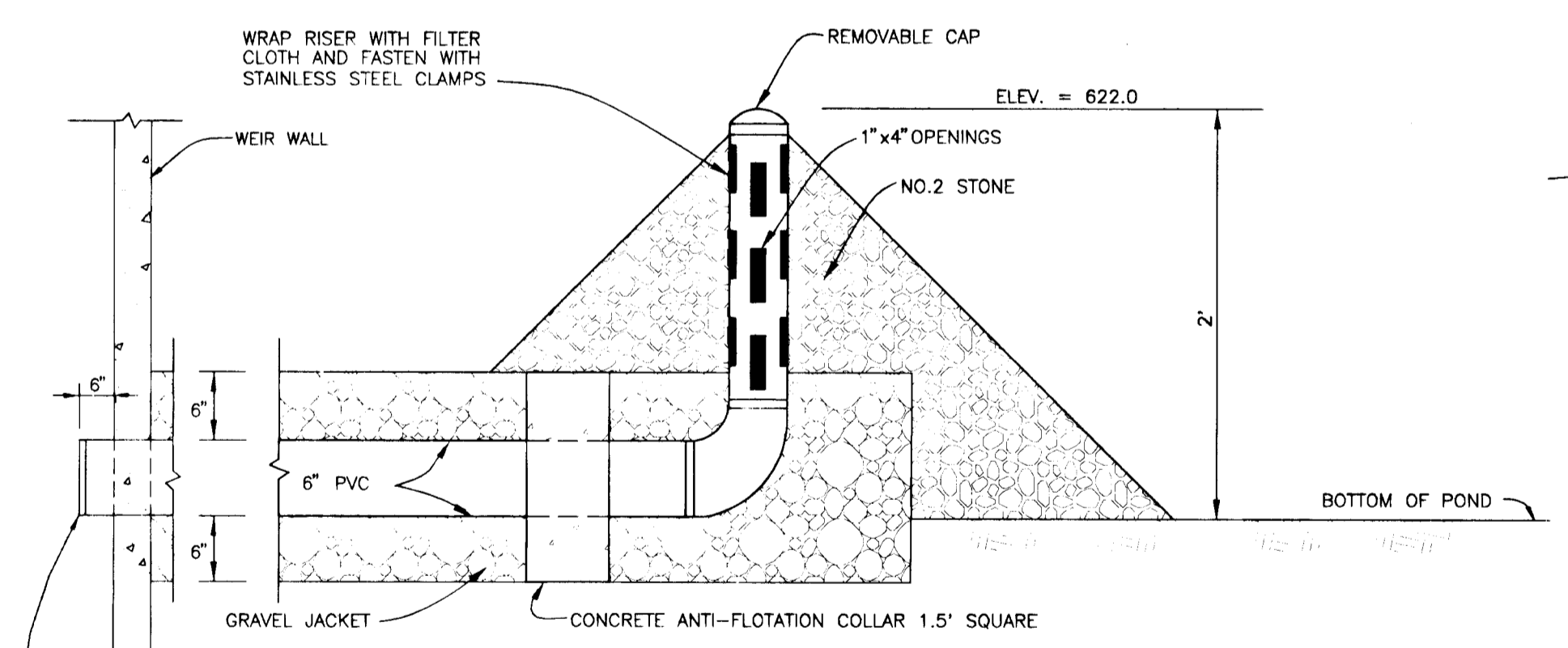
SECTION A-A
POND #2 PROFILE ALONG CL OF DAM
SCALE: 1"=50' HORIZ.
1"=5' VERT.



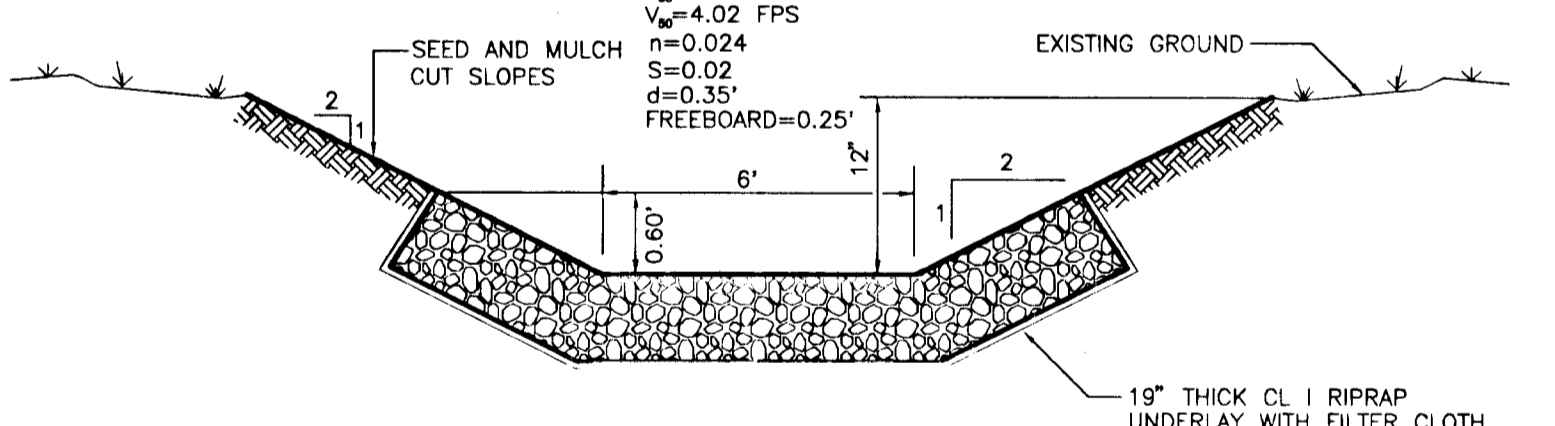
POND #2 FOREBAY WEIR PLAN



POND #2 FOREBAY WEIR SECTION



POND #2 DEWATERING PIPE DETAIL
NOT TO SCALE



POND #2 RIP-RAP TRAPEZOIDAL CHANNEL DETAIL
N.T.S.

NO.	DATE	REVISION
1	11/96	REVISE PER COMMENTS.
2	01/97	REVISE PER SCD COMMENTS.

TSA GROUP, INC.
planning • architecture • engineering • surveying
9480 Baltimore National Pike • Millersville City, Maryland 21104 • (410) 468-6108
Donald Mason

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Danzger
CHIEF, BUREAU OF HIGHWAYS 3/23/97 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Candy Hamilton
DIVISION OF LAND DEVELOPMENT 4/16/97 DATE

APPROVED: DONALD A. MASON
CHIEF, DEVELOPMENT ENGINEERING DIVISION 4/16/97 DATE

OWNER/DEVELOPER:
AMALIA RIGGS
C/O COOKSVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLIOTT CITY, MARYLAND 21041
(410)465-4244

PROJECT:
RIGGS MEADOW
LOTS 1-42 & PRESERVATION PARCELS A THRU G
(S-95-15 & P-96-20)

LOCATION: PARCEL 96
TAX MAP 8 & 14
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

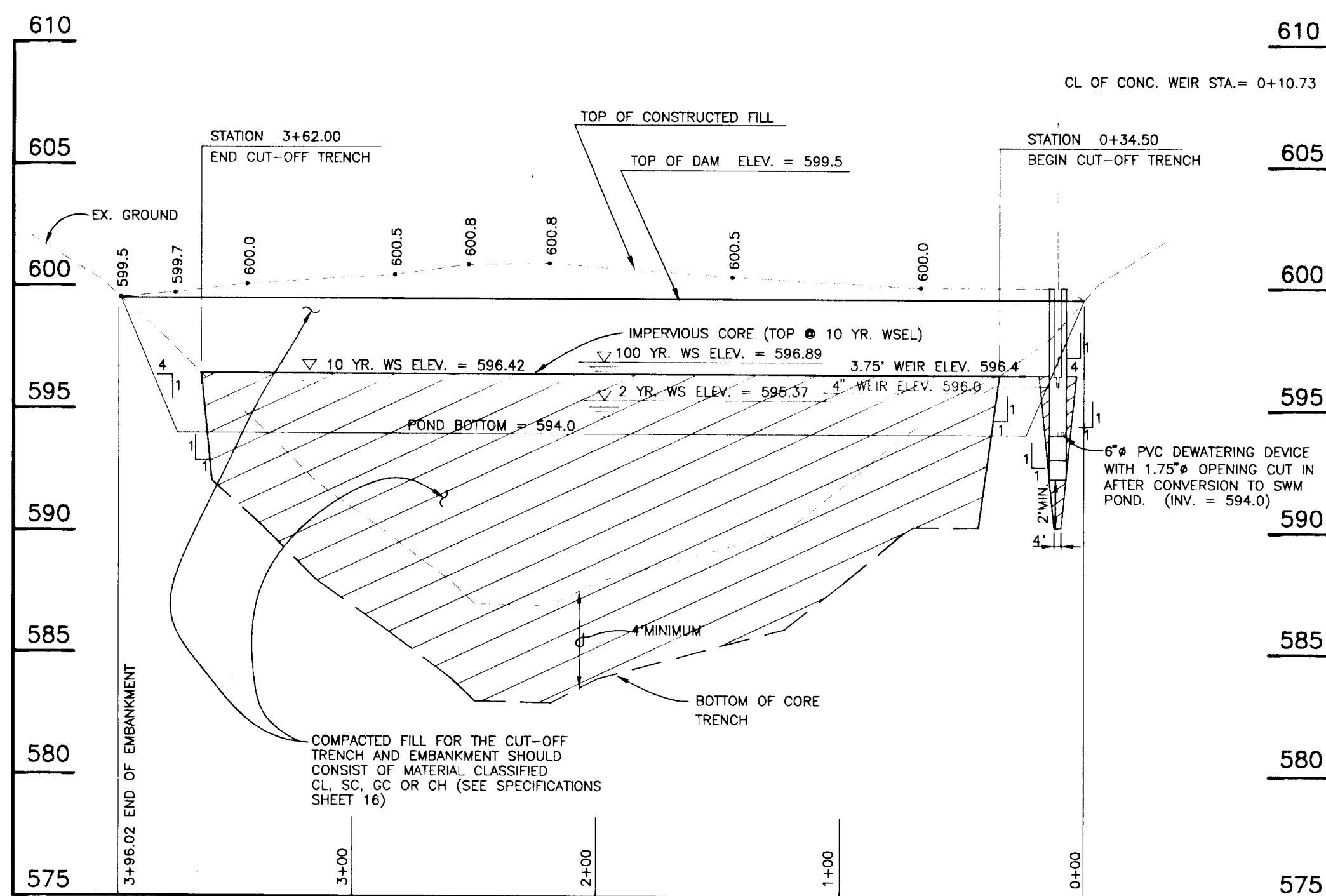
TITLE:
**STORM WATER MANAGEMENT
POND NO. 2 DETAILS**

DATE: AUGUST 1996
NOVEMBER 1996

PROJECT NO. 0533

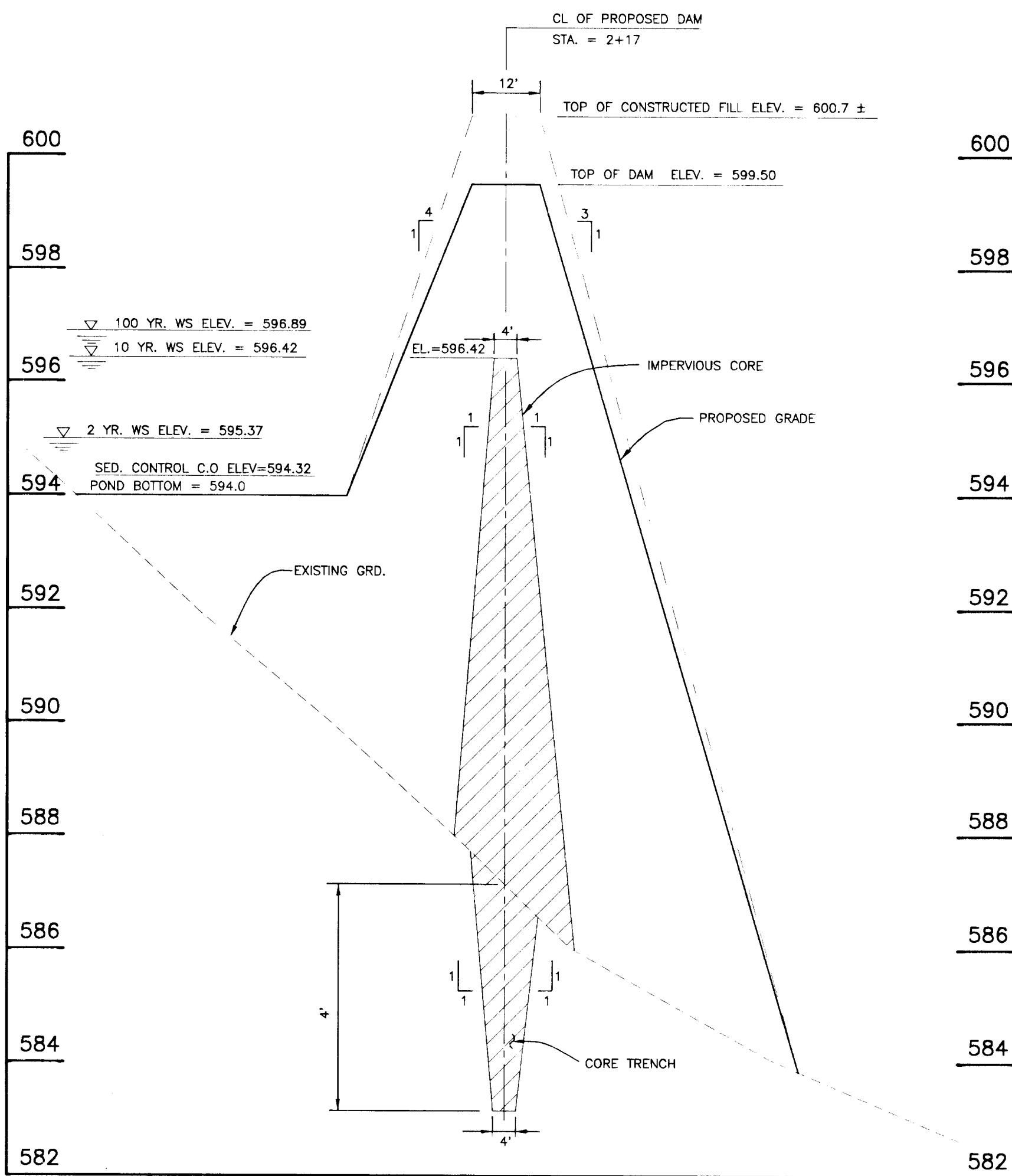
DES: MLV
CHK: CAM
DRN: ISW
SCALE: AS SHOWN
DRAWING 14 OF 25

1782



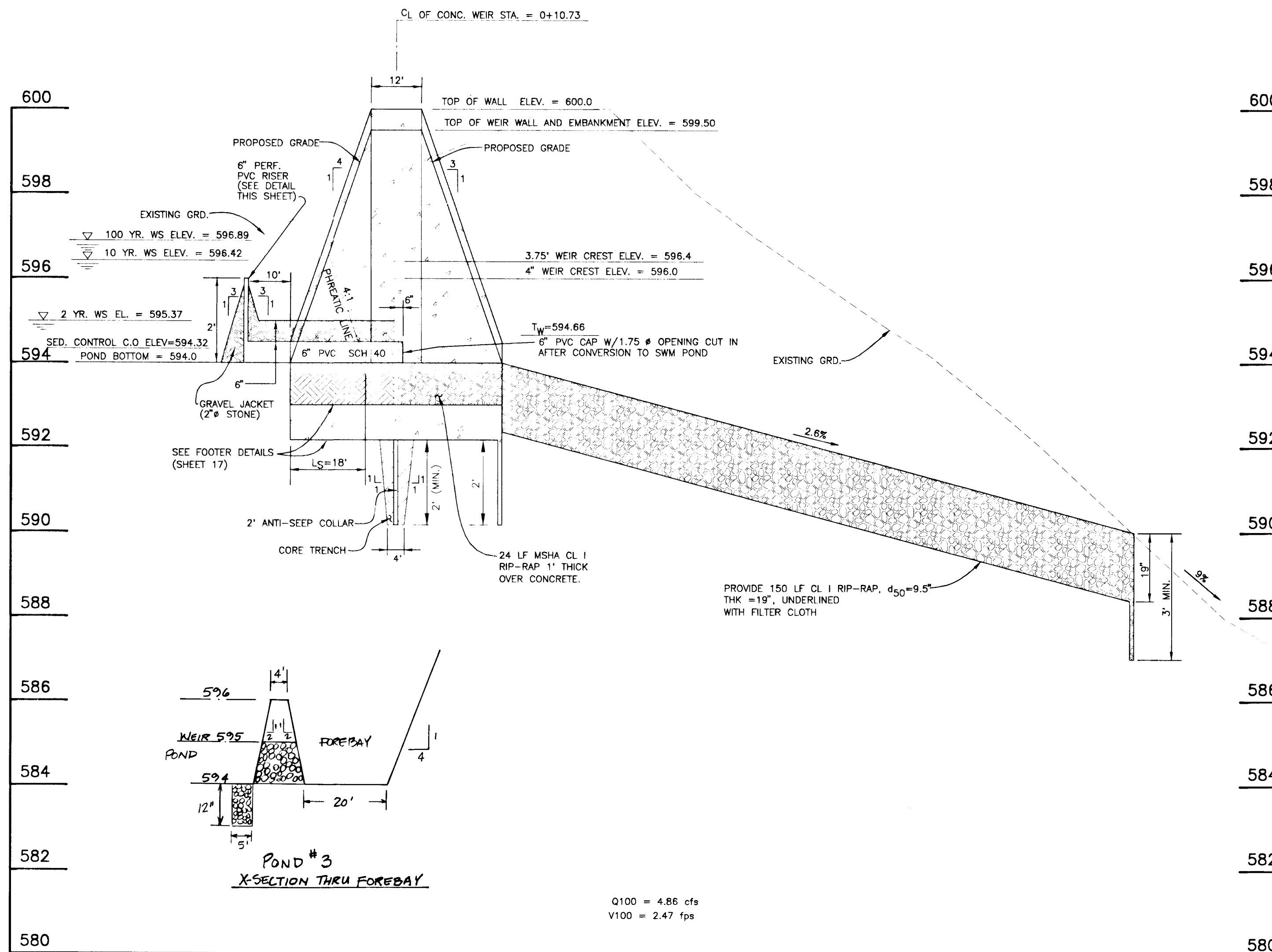
SECTION A-A
POND #3 PROFILE ALONG CL OF DAM

SCALE: 1"=50' HORIZ.
1"=5' VERT.



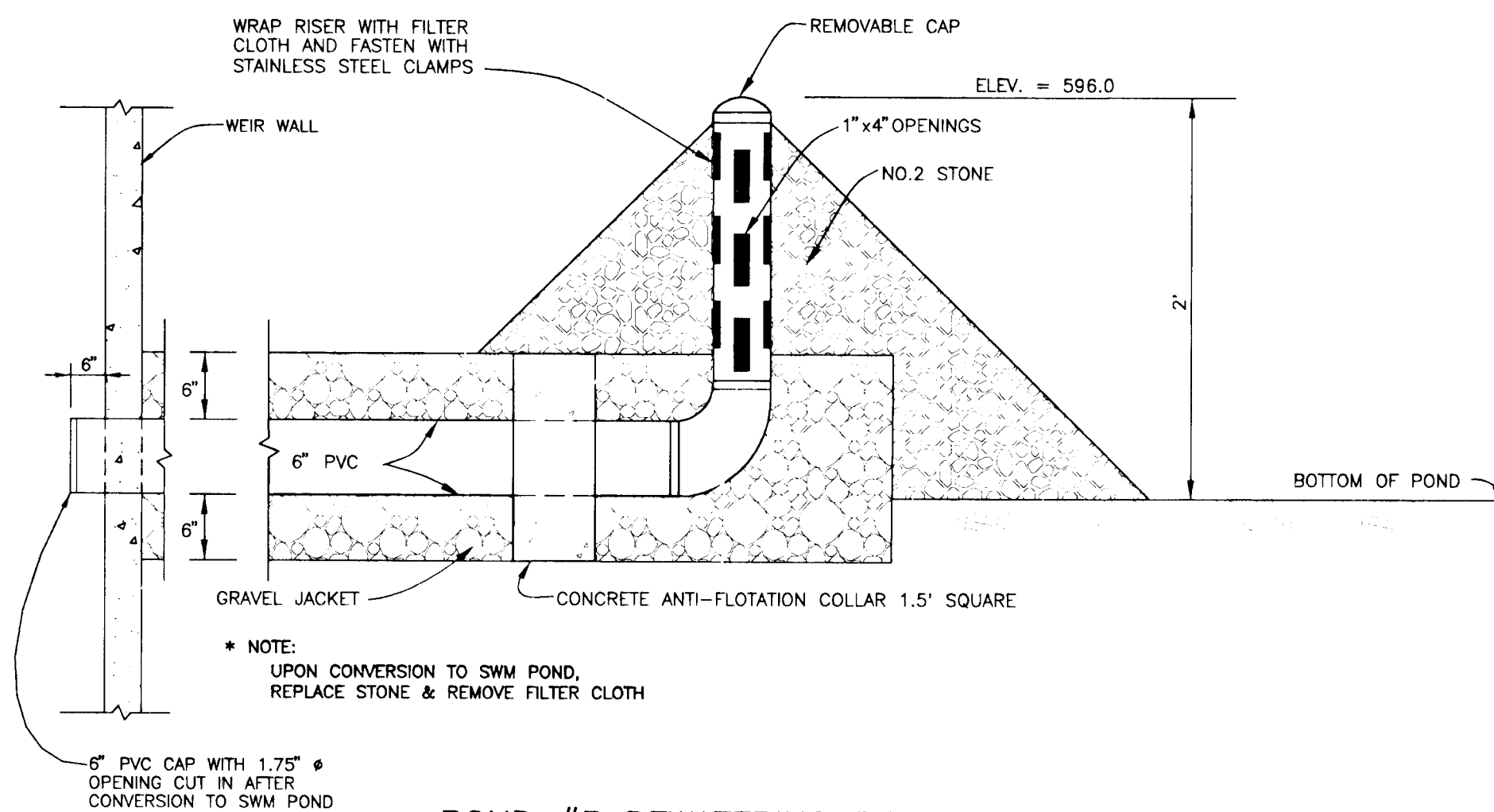
SECTION C-C
POND #3 PROFILE THRU DAM

SCALE: 1"=20' HORIZ.
1"=2' VERT.

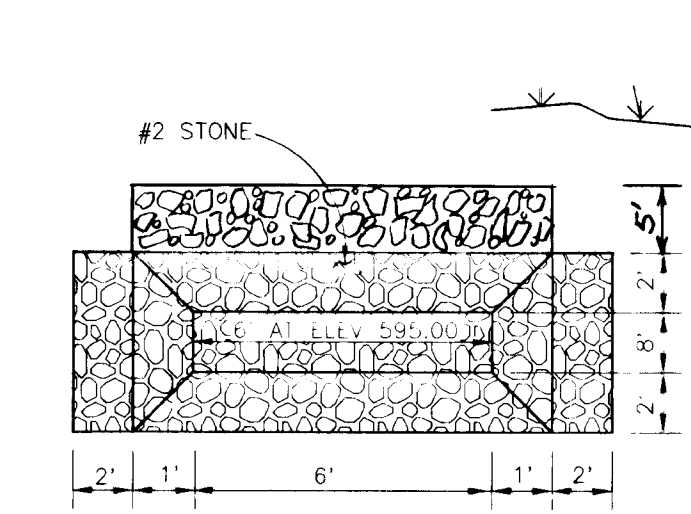


SECTION B-B
POND #3 X-SECTION THRU WEIR WALL

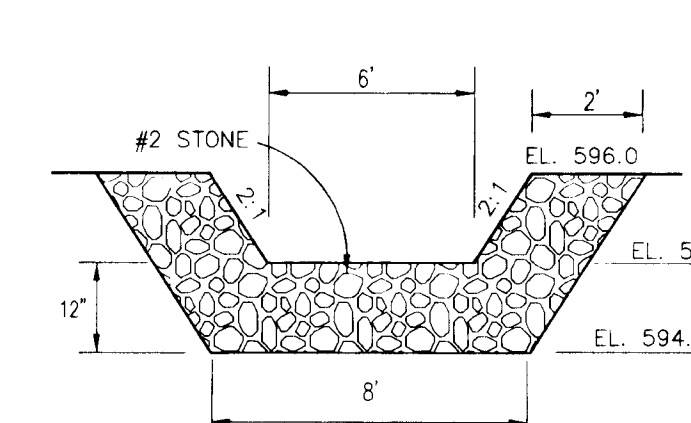
SCALE: 1"=20' HORIZ.
1"=2' VERT.



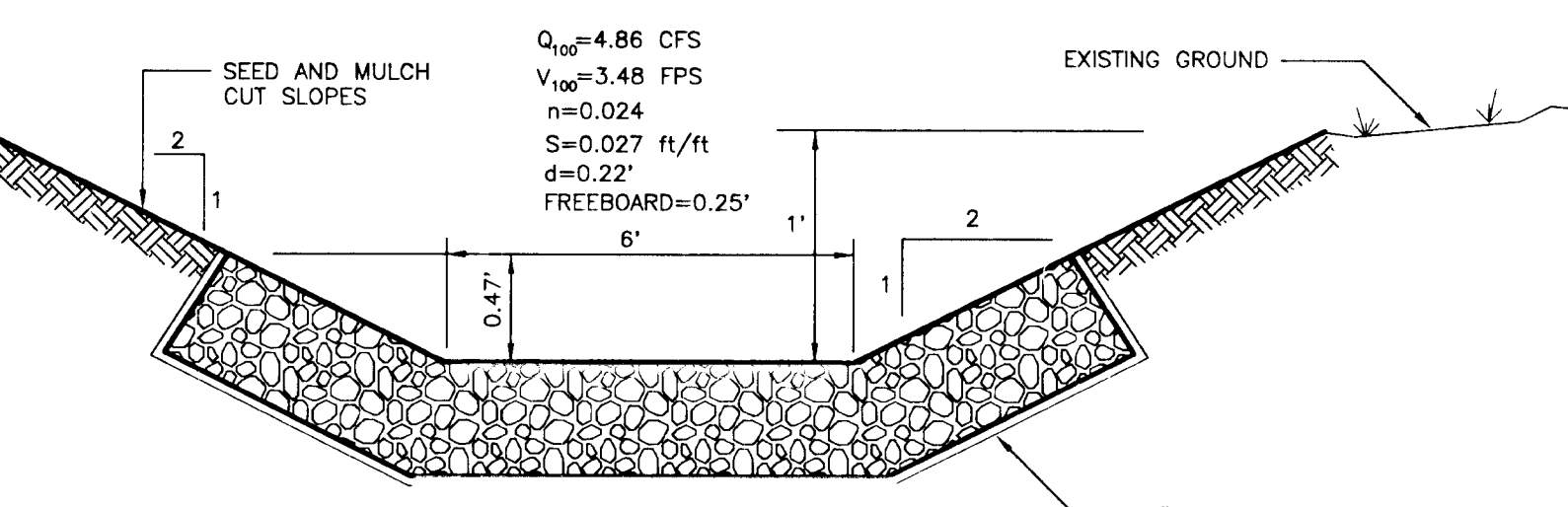
POND #3 DEWATERING PIPE DETAIL
NOT TO SCALE



POND #3 FOREBAY WEIR PLAN



POND #3 FOREBAY WEIR SECTION



POND #3 RIP-RAP TRAPEZOIDAL CHANNEL DETAIL
N.T.S.

OPERATION, MAINTENANCE AND INSPECTION
INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS 'STANDARDS AND SPECIFICATIONS FOR PONDS' (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

NO.	DATE	REVISION
1	11/96	REVISE PER COMMENTS.
2	01/97	REVISE PER SCD COMMENTS.

TSA GROUP, INC.
planning • architecture • engineering • surveying
8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6100
Donald Mason

By the Engineer:
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Donald Mason 2-1-97
DONALD A. MASON P.E. # 21443 Date

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

James R. Miley 2/4/97
COOKSVILLE LTD. PARTNERSHIP Date

By the Engineer:
"I hereby certify that the facility shown on this plan was constructed as shown on the "AS-BUILT" plans and meets the approved plans and specifications."
DONALD A. MASON P.E. # 21443 Date
ENGINEER:

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.
Stanley J. ... 3/20/97
Natural Resource Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Patricia J. ... 3/20/97
Howard Soil Conservation District Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. ... 4-12-97
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad ... 4/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER: AMALIA RIGGS C/O COOKSVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)
LOCATION: PARCEL 96 TAX MAP 8 & 14 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: STORM WATER MANAGEMENT POND NO. 3 DETAILS
DATE: AUGUST 1996 NOVEMBER 1996	PROJECT NO. 0533
DES: MLV CHK: CAM DRN: ISW/JR	SCALE: AS SHOWN DRAWING 15 OF 25

1782

Site Preparation

Areas designated for borrow areas, embankment, and structural work shall be cleared, grubbed and stockpiled. Topsoil, all trees, vegetation, roots and other objectionable material shall be removed. Channel banks and shorelines shall be sloped to no steeper than 1:1.

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 topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil 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 +/- 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 1-99.

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, rammers, or hand tampers to assure maximum density and minimum permeability.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, 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.

Pipe Conduits

All pipes shall be circular in cross section.

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

- 1. Materials - (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 polymer 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, Plastin-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 aluminum 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-190 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- 2. Coupling bands, anti-seep collars, and 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.

- 3. 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 beveled an adequate number of corrugations to accommodate the band width. The following pipe 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 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugging 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". Helicorr corrugated pipe shall have either continuously welded seams or have lock seams.

- 4. 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.

- 5. Backfilling shall conform to "Structure Backfill."
- 6. 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-301. An approved equivalent is AWWA Specification C-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 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 drawings.

- 3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 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 drawings.

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. Backfilling shall conform to "Structure Backfill."
- 5. 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. 3.

Rock Riprap

All rock shall be dense, sound, and free from cracks, seams, and other defects conducive 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:

- 1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
- 2. Absorption not more than three percent.
- 3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

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 shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, 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 pumps 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 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 removal of water 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 slightly condition. All exposed surfaces of the embankment, spillway, soil 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

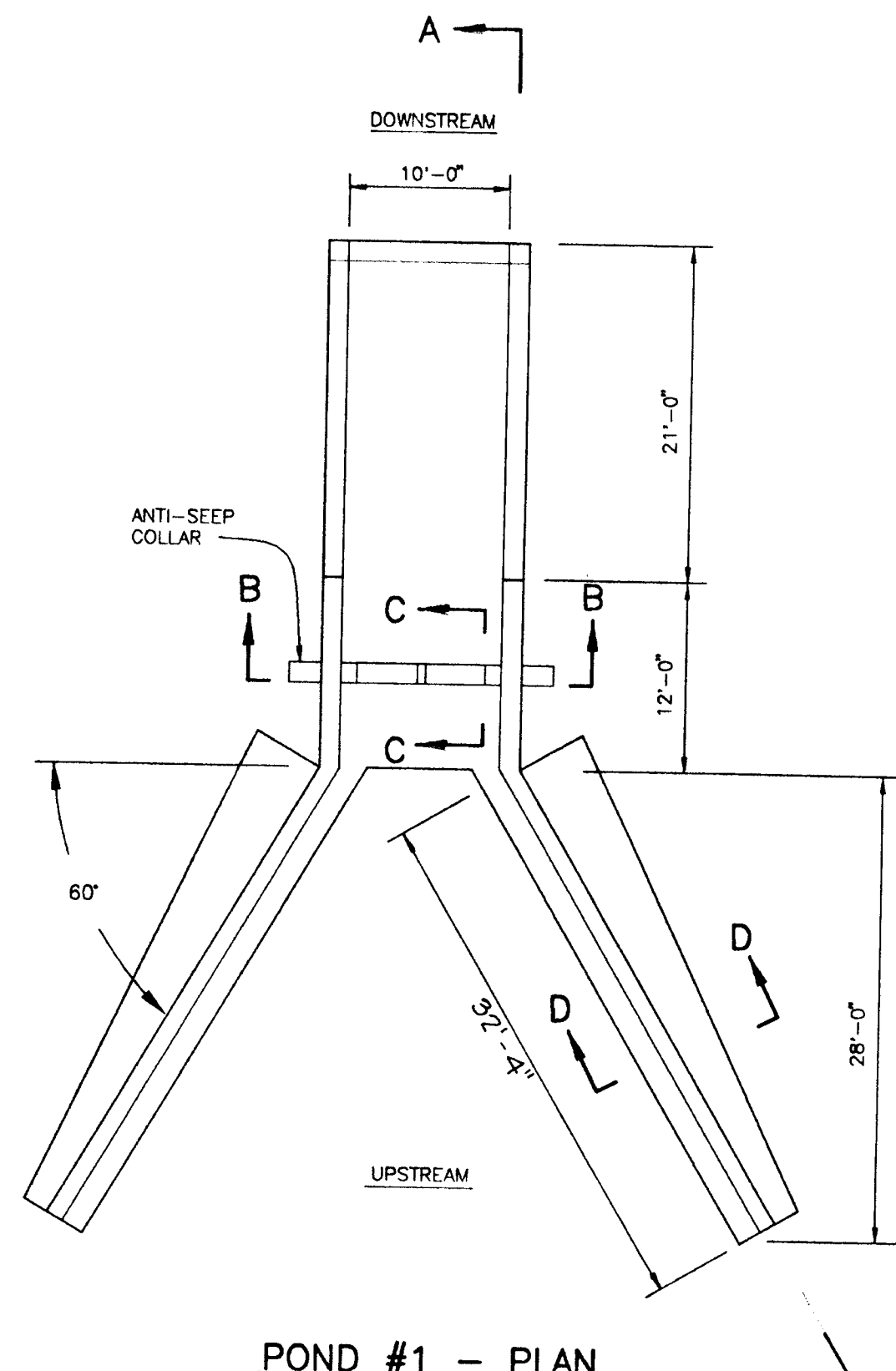
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning erosion prevention will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION

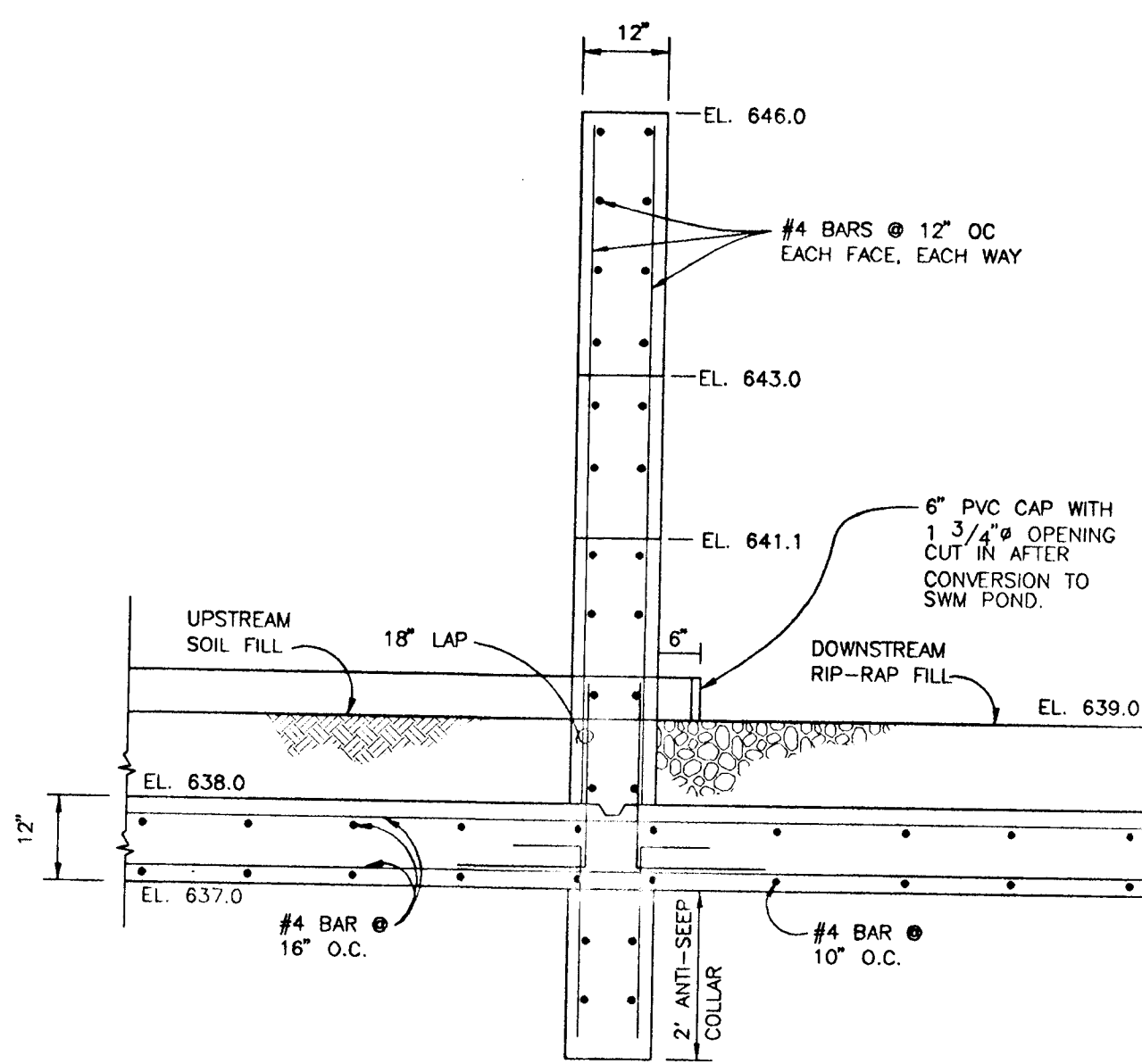
The site shall be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed substrate material shall be profiled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials shall be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by prodding or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the Geotechnical Engineer should be present to monitor placement and comparison of fill for the embankment and cut off trench in accordance with Maryland Soil Conservation Specification 378 soils considered suitable for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CL, or CH. Per SC5 378 considerations may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

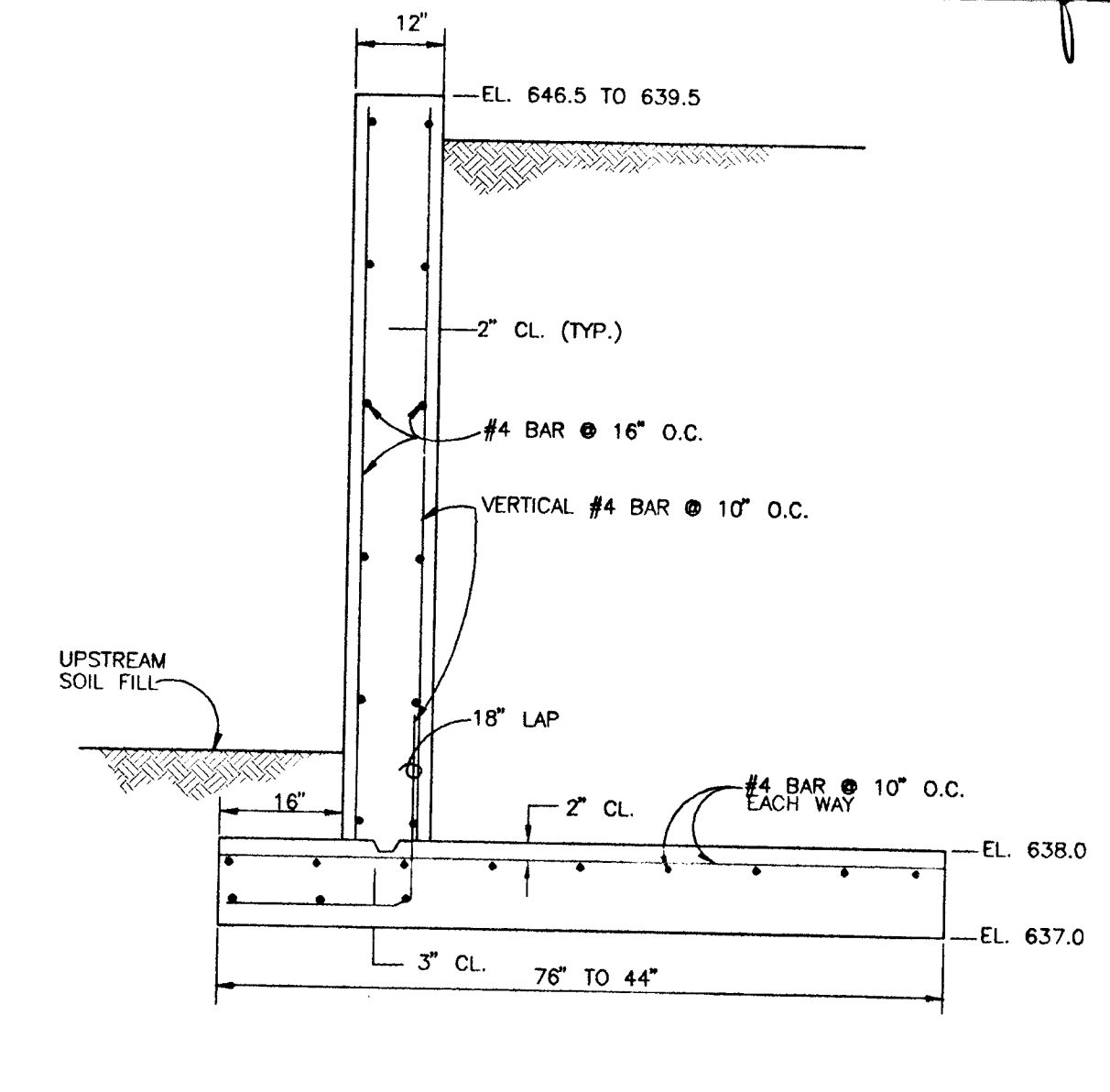
If a professional opinion that in addition to the soil materials described above a fine grained soil including Silt (ML) with a plasticity index of 10 or more can be used for the center of the embankment and cut off trench. Exploration with additional test pits and laboratory testing can be conducted prior to construction to identify and quantify potential borrow areas. All fill materials must be placed and compacted in accordance with MD 378 specifications.



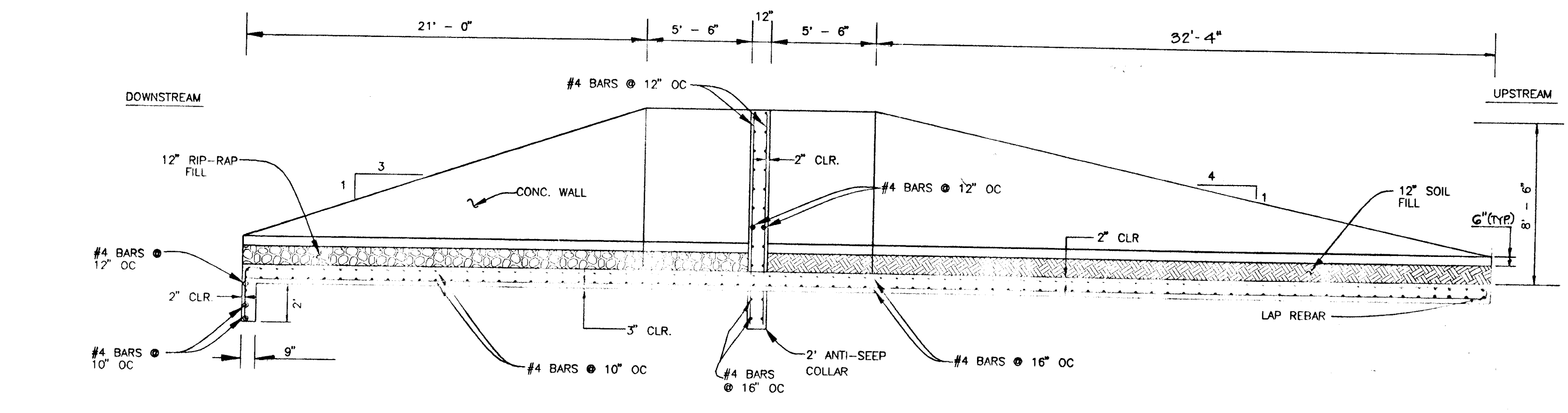
POND #1 - PLAN



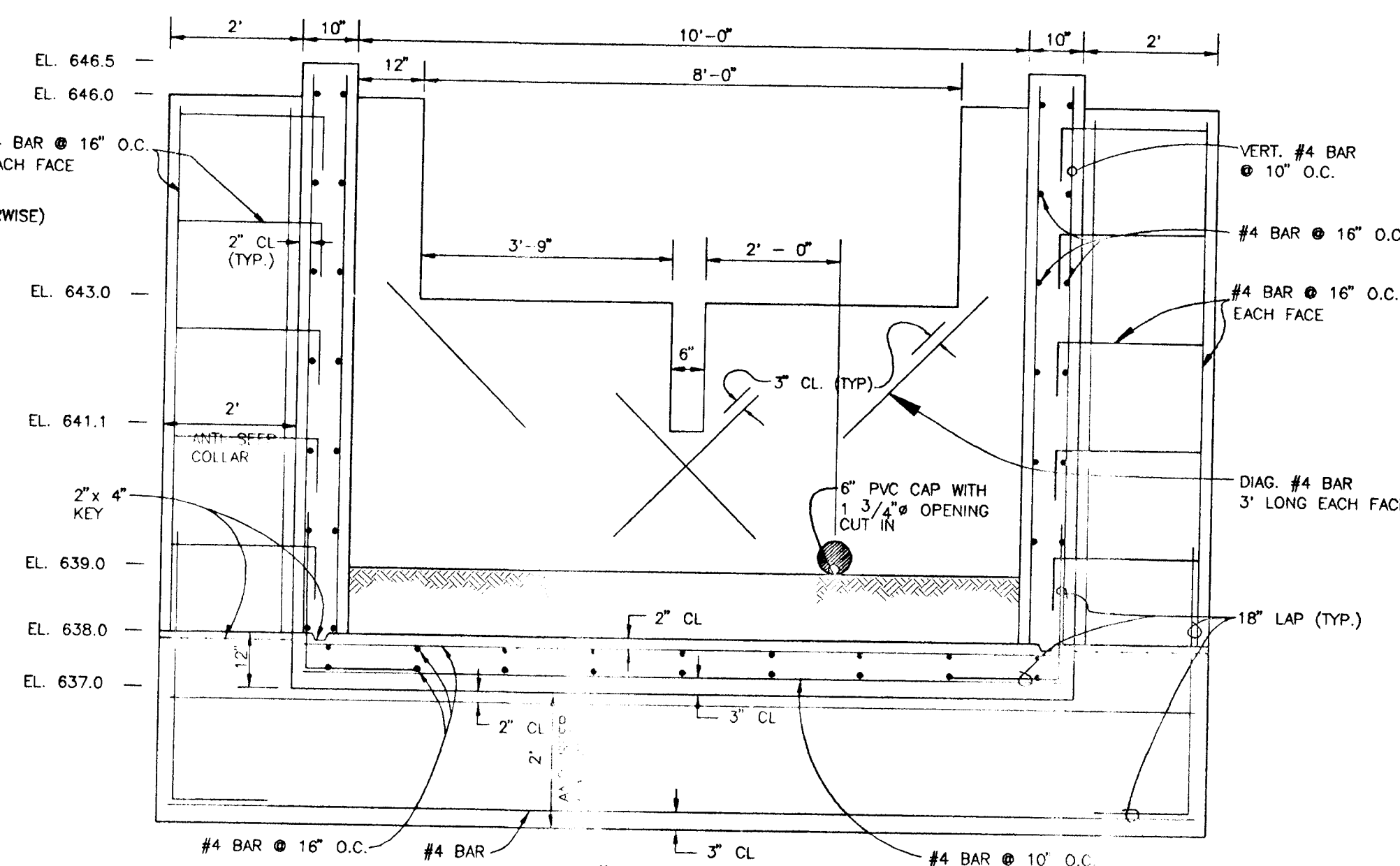
POND #1 - SECTION C-C



POND #1 - SECTION D-D



POND #1 - SECTION A-A



POND #1 - SECTION B-B

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daneker, CHIEF, BUREAU OF HIGHWAYS

4-19-97 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hamitta, CHIEF, DIVISION OF DEVELOPMENT

4/16/97 DATE

Old Daneman, CHIEF, DEVELOPMENT AND PERMITTING DIVISION

4/16/97 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.

Donald M. Mason, P.E. #21443, Date 3/24/97

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

Robert J. Zick, P.E. #120197, Date 3/24/97

By the Engineer: I hereby certify that the facility shown on this plan was constructed as shown on the "AS-BUILT" plans and meets the approved plans and specifications.

Donald A. Mason, P.E. #21443, Date 3/14/97. 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/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

By the Developer: I 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

By the Engineer: I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Donald Mason, P.E. #21443, Date 3/14/97

By the Engineer: I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Donald Mason, P.E. #21443, Date 3/14/97

Table with columns: NO., DATE, REVISION. Row 1: 1, 11/96, REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC. planning • architecture • engineering • surveying. 6480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 464-4105

OWNER/DEVELOPER: AMALIA RIGGS, C/O COOKSVILLE LIMITED PARTNERSHIP, P.O. BOX 417, ELICOTT CITY, MARYLAND 21041 (410)465-4244. PROJECT: BIGGS MEADOW, LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20). LOCATION: PARCEL 96, TAX MAPS 8 & 14, 41E ELECTION DISTRICT, HOWARD COUNTY, MARYLAND.

TITLE: STORM WATER MANAGEMENT NOTES AND POND NO. 1 DETAILS. DATE: AUGUST 1996, NOVEMBER 1997. PROJECT NO. 05.33. SCALE: AS SHOWN. DRAWING 16 OF 25. Design: RWS, Draft: ISW.

1781

Andrew M. Daneker
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4-14-97

Cindy Hamitta
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/16/97

Alan Danvers
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4/16/97

4-14-97
 DATE

4/16/97
 DATE

4/16/97
 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.

Clayton Dimmock 5/20/97
 Natural Resource Conservation District

Robert J. Zilber 5/20/97
 Howard Soil Conservation District

By the Engineer:
 I hereby certify that the facility shown on this plan was constructed as shown on the "AS-BUILT" plans and meets the approved plans and specifications.

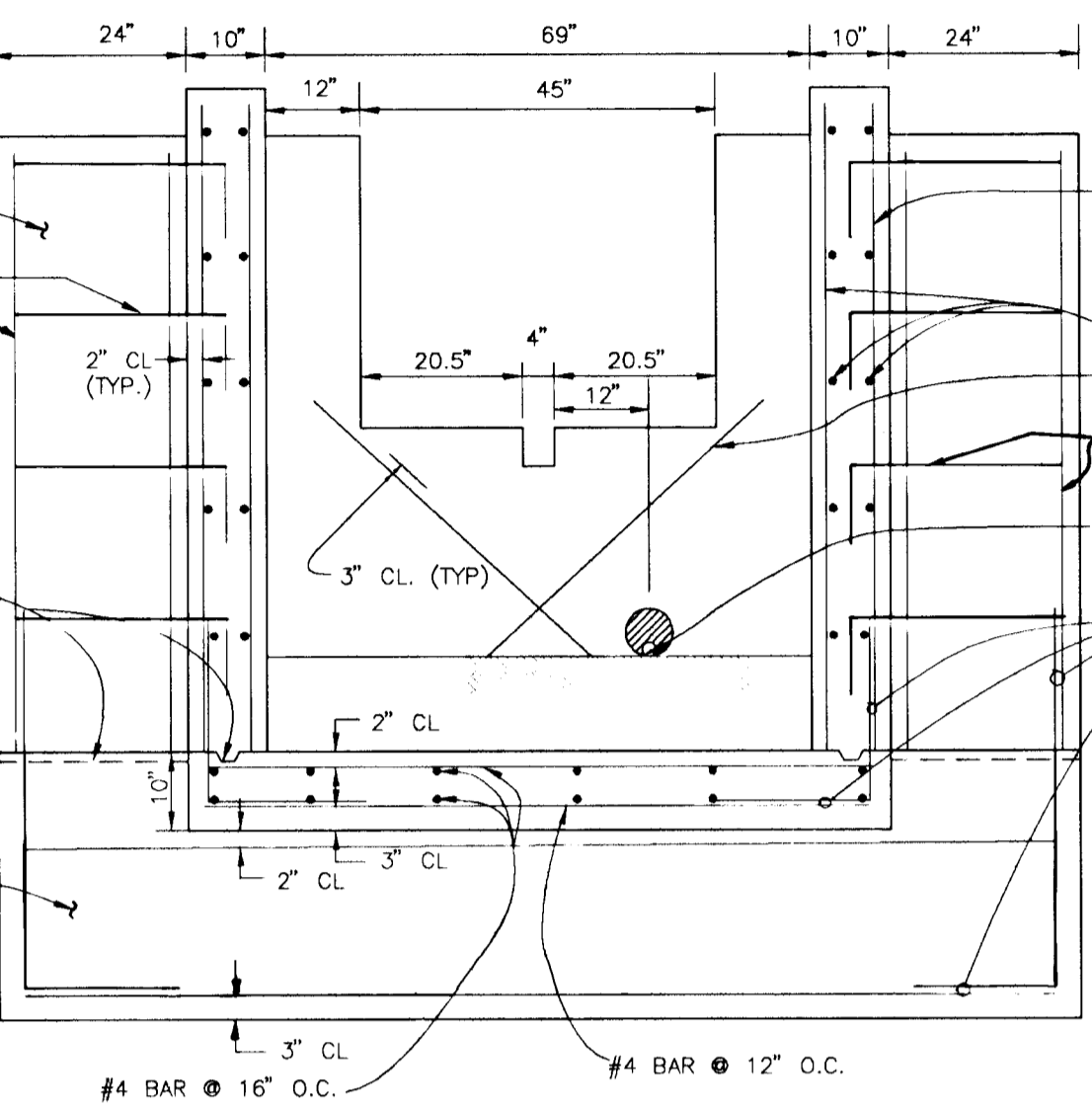
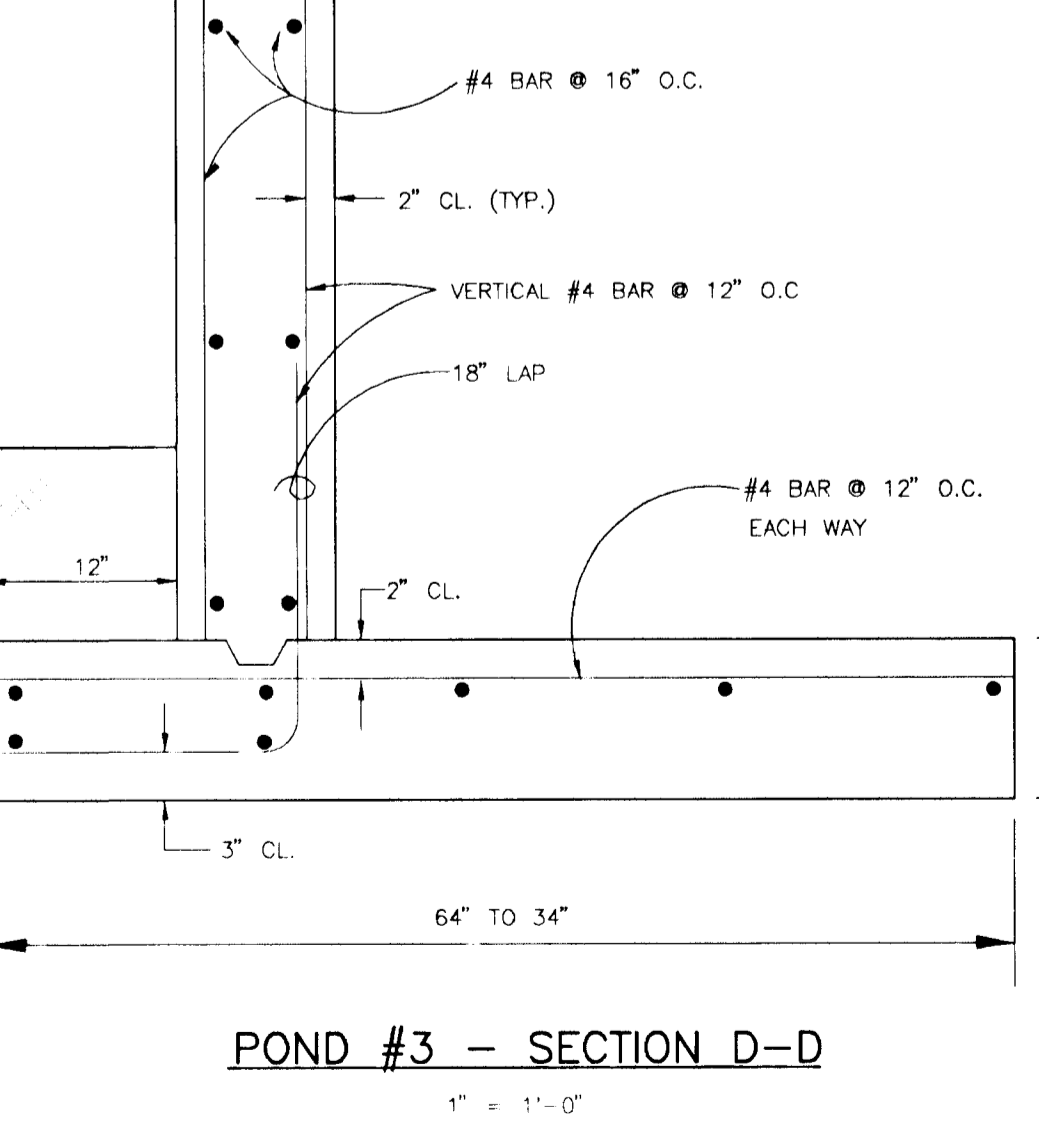
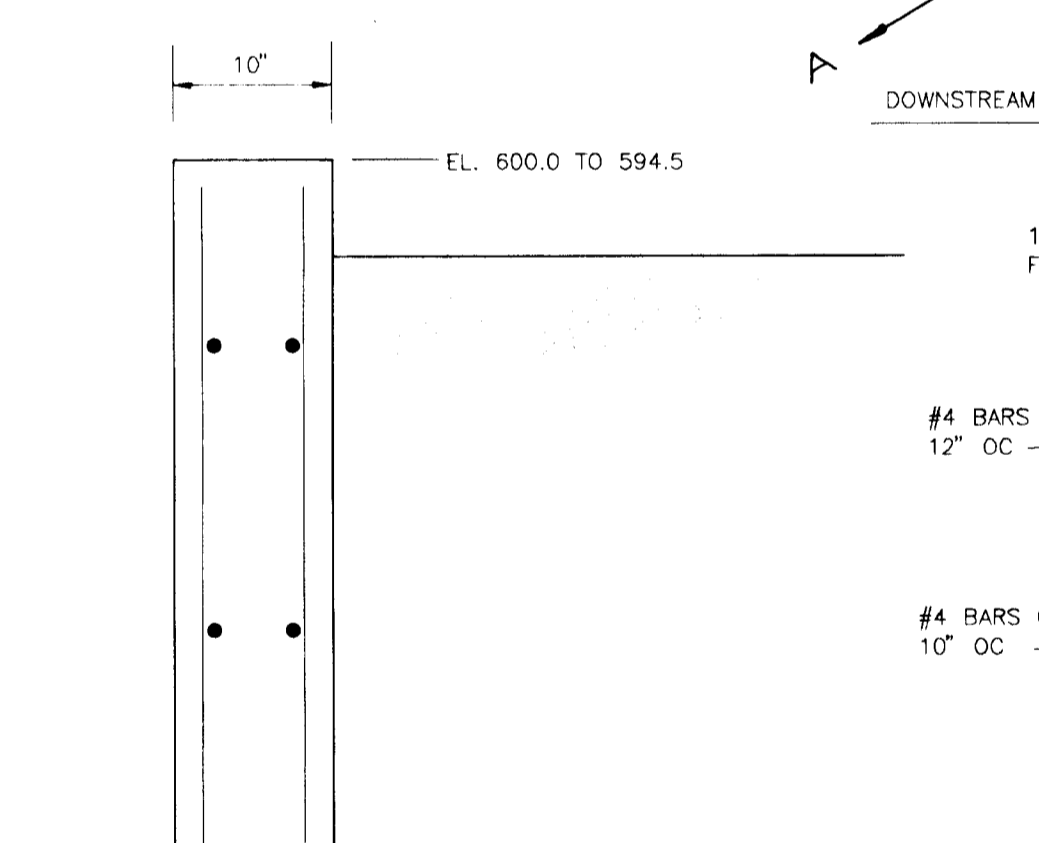
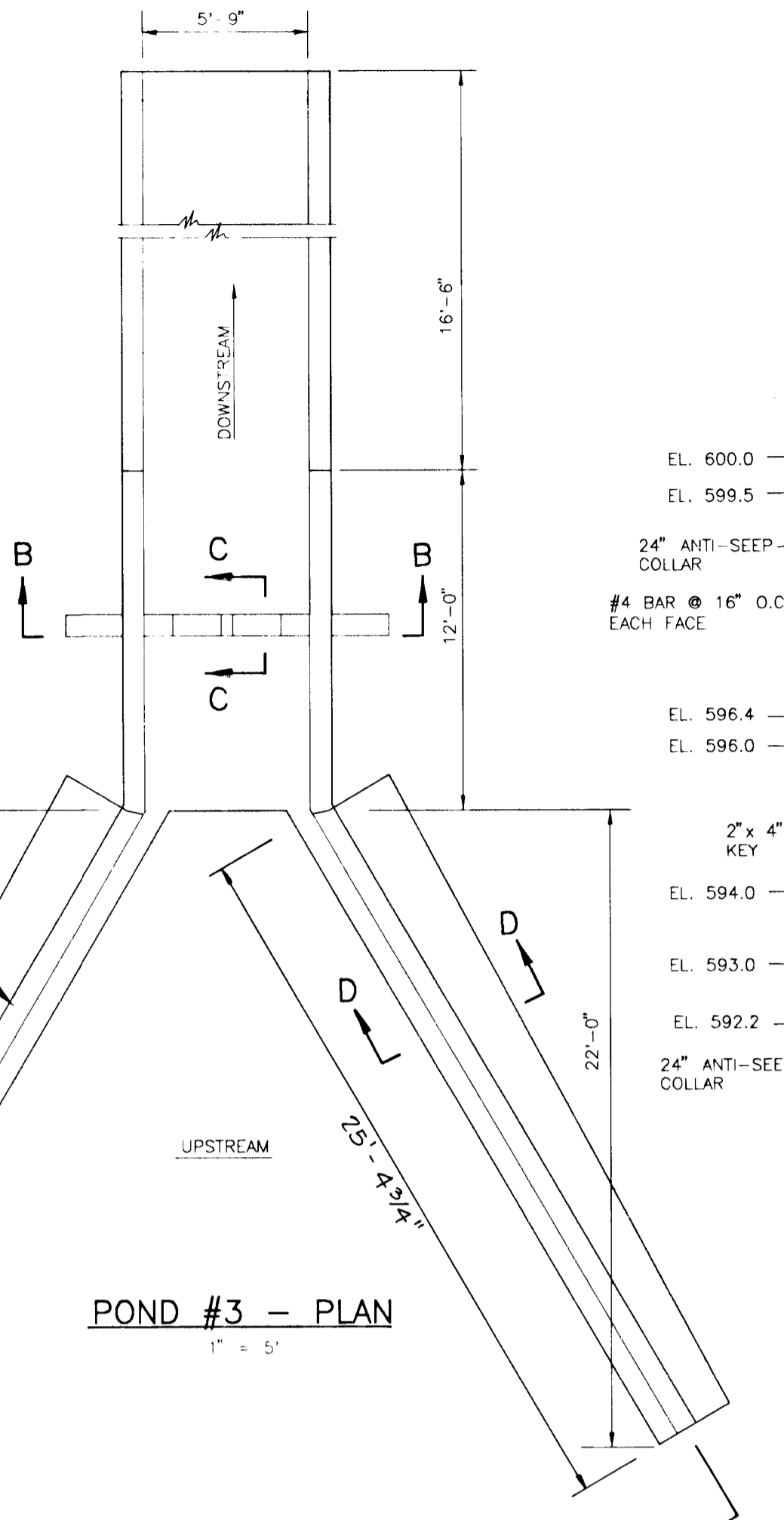
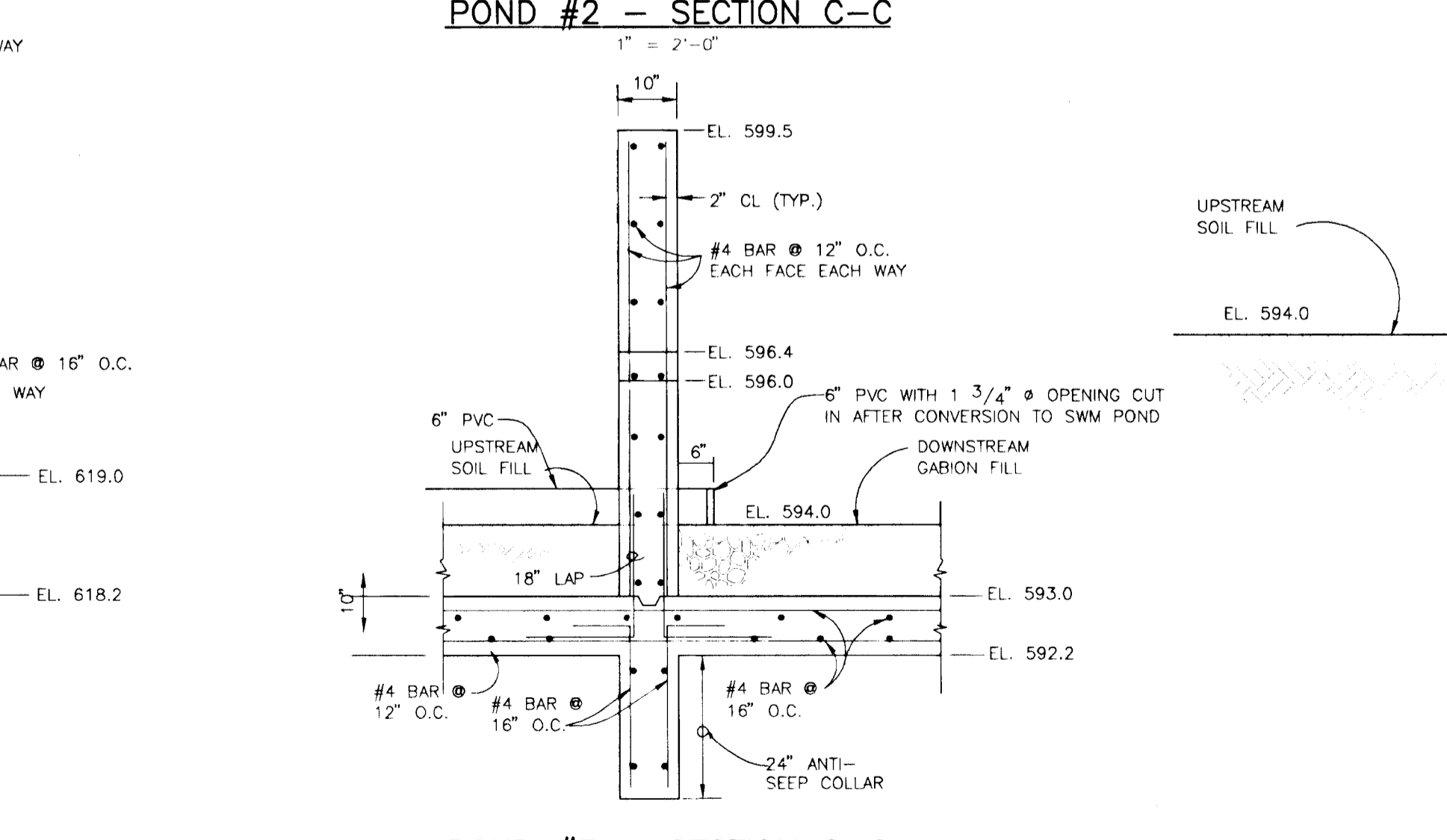
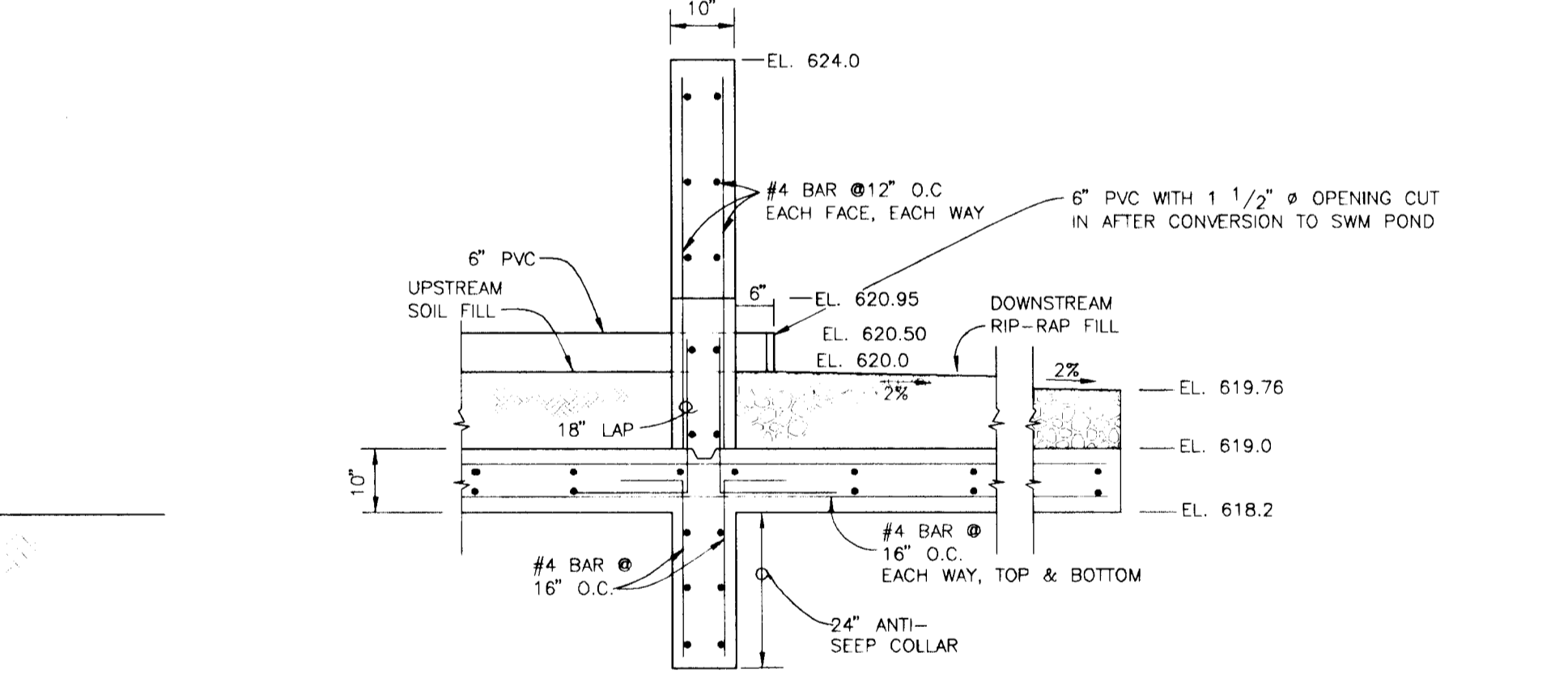
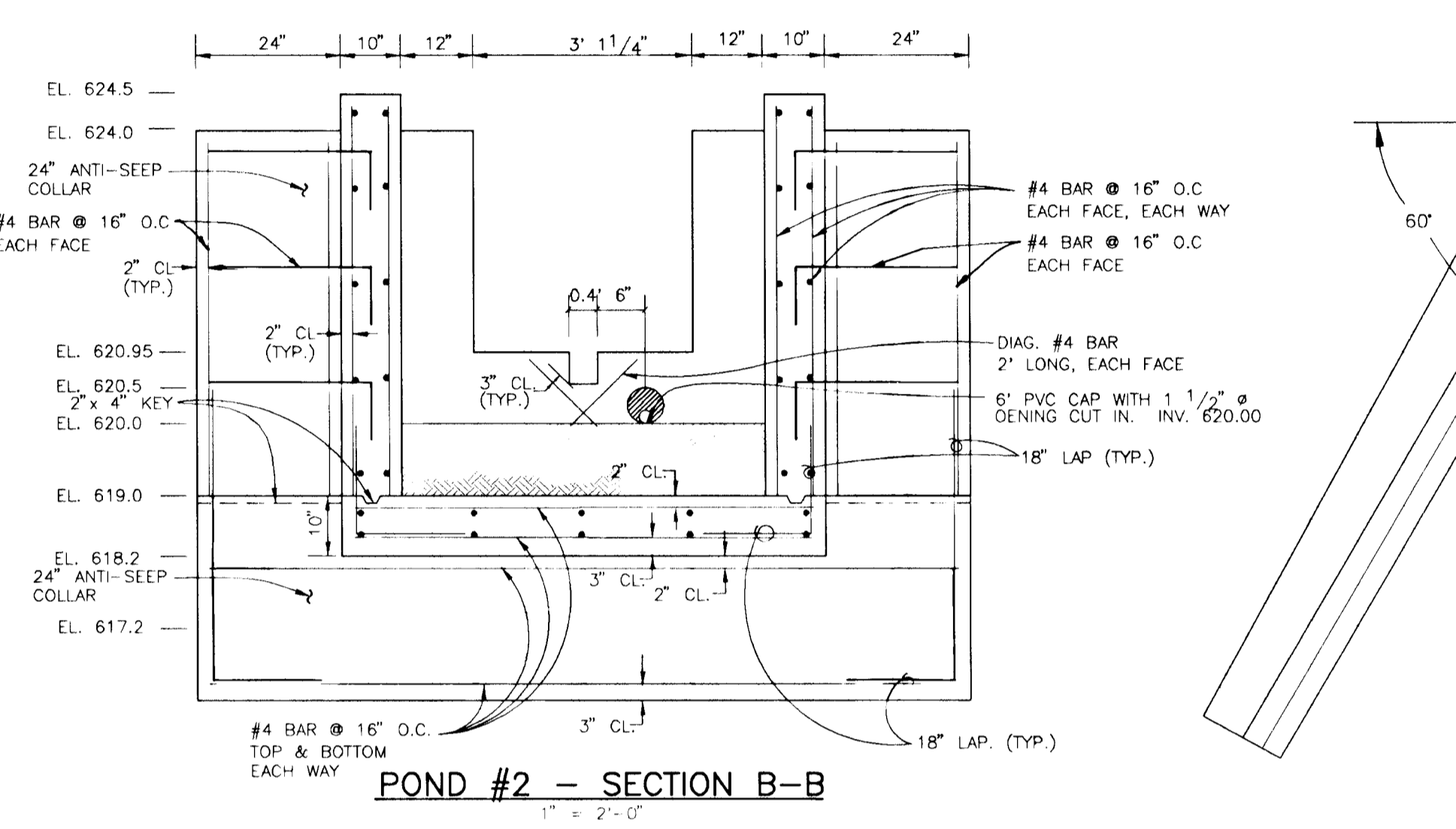
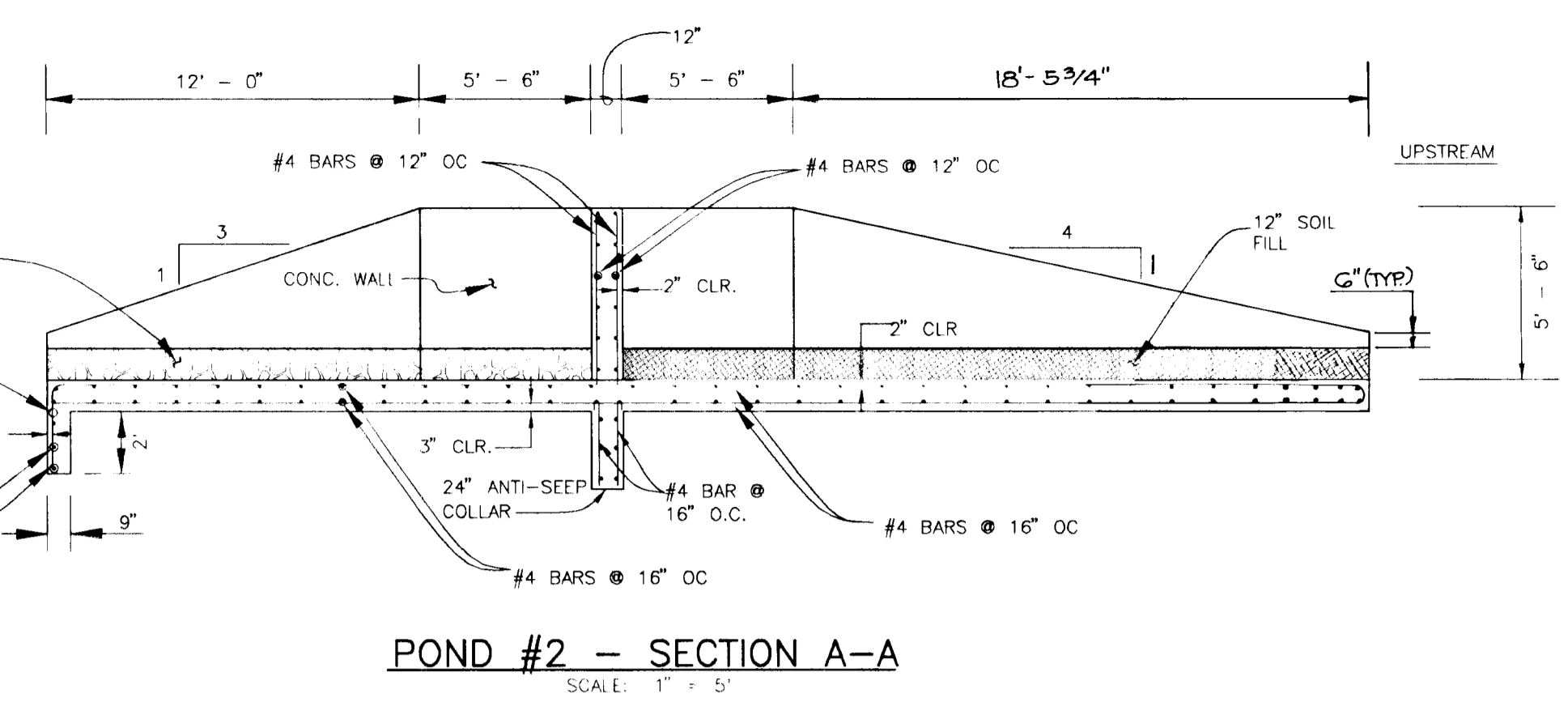
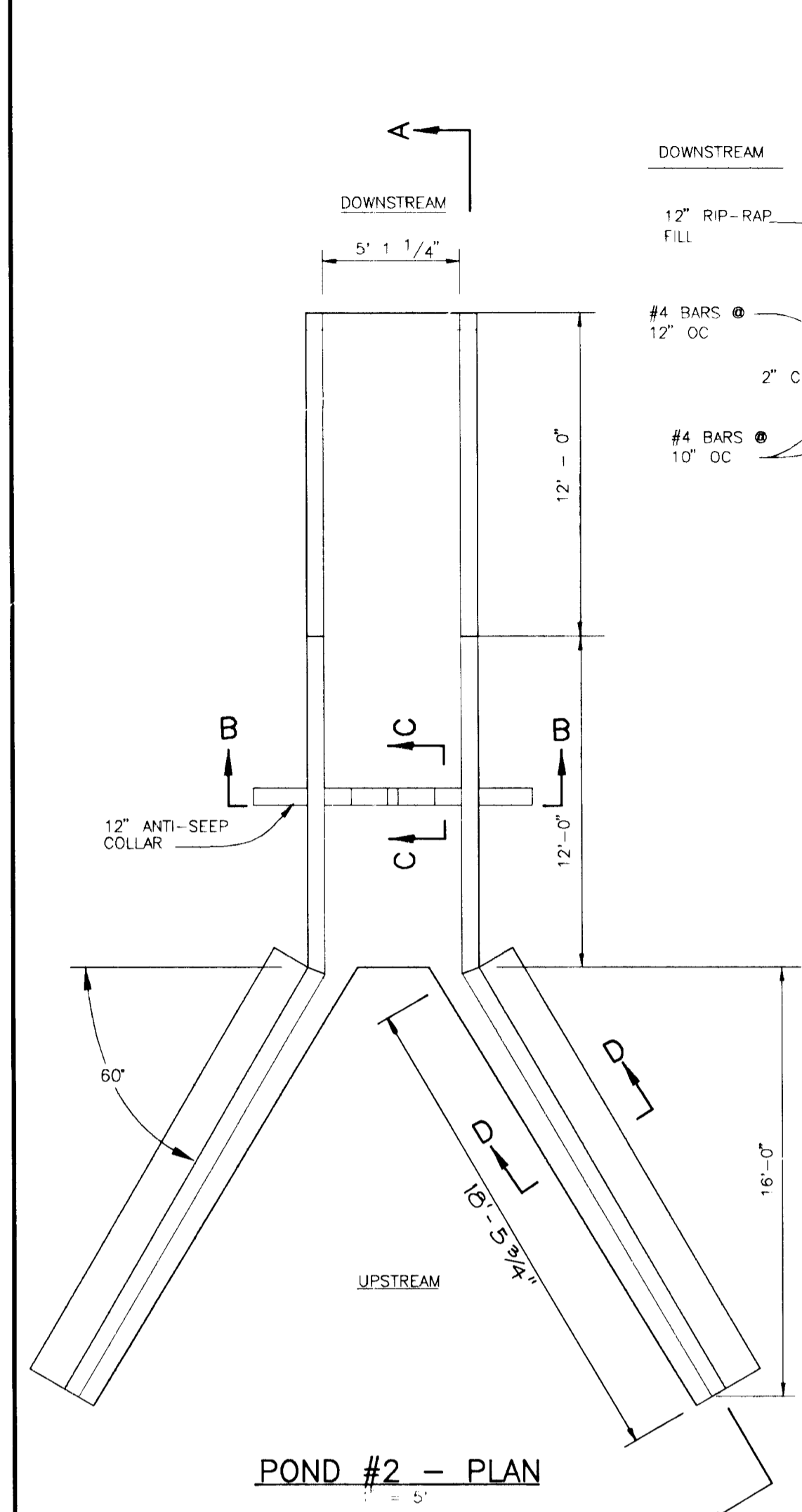
DONALD A. MASON P.E. # 21443 Date
 ENGINEER:
 Certify means to state or declare a professional opinion based upon onsite inspections and materials tests which are conducted during construction. The onsite inspections and materials tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the Engineer nor does an Engineer's certification relieve any other party from meeting requirements imposed by contract, employment or other means, including meeting commonly accepted industry practices.

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

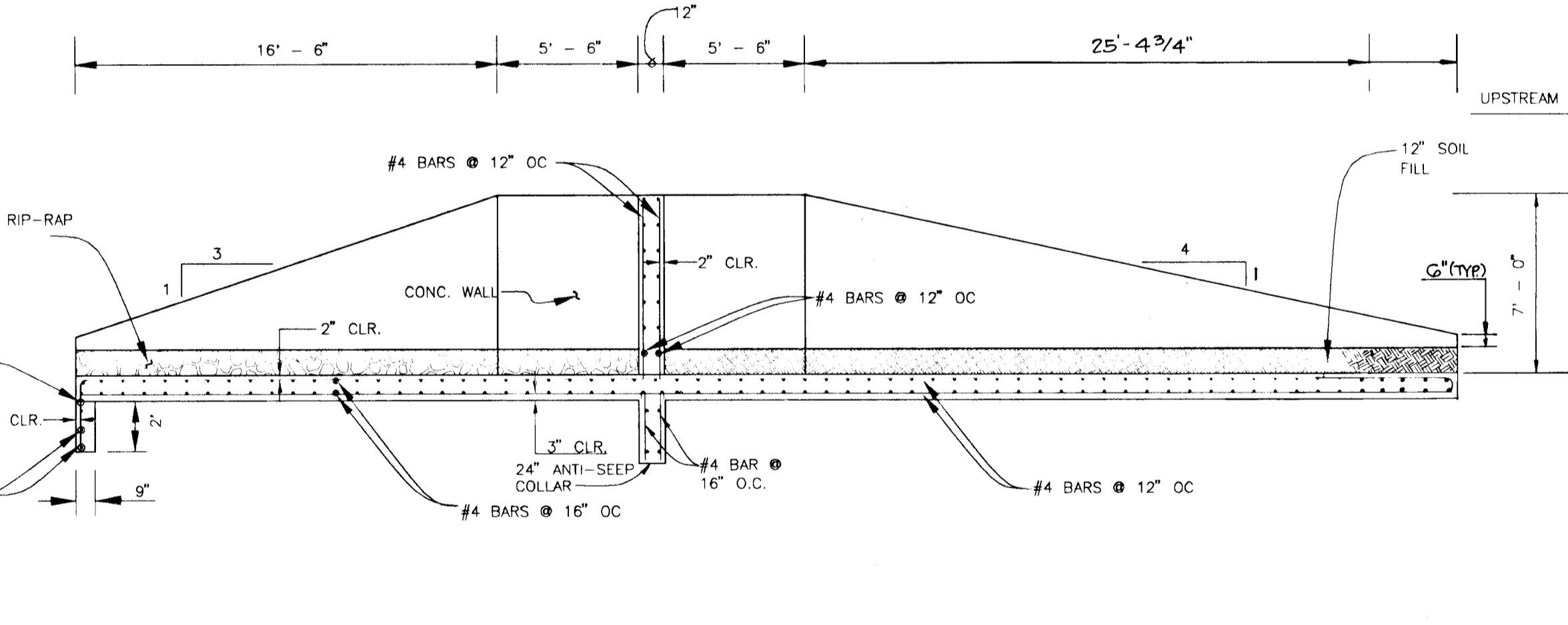
Donald A. Mason 11/26/96
 DONALD A. MASON P.E. # 21443 Date
 ENGINEER:

By the Engineer:
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Donald A. Mason 11/26/96
 DONALD A. MASON P.E. # 21443 Date
 ENGINEER:



POND #3 - SECTION B-B
 SCALE: 1" = 2'-0"



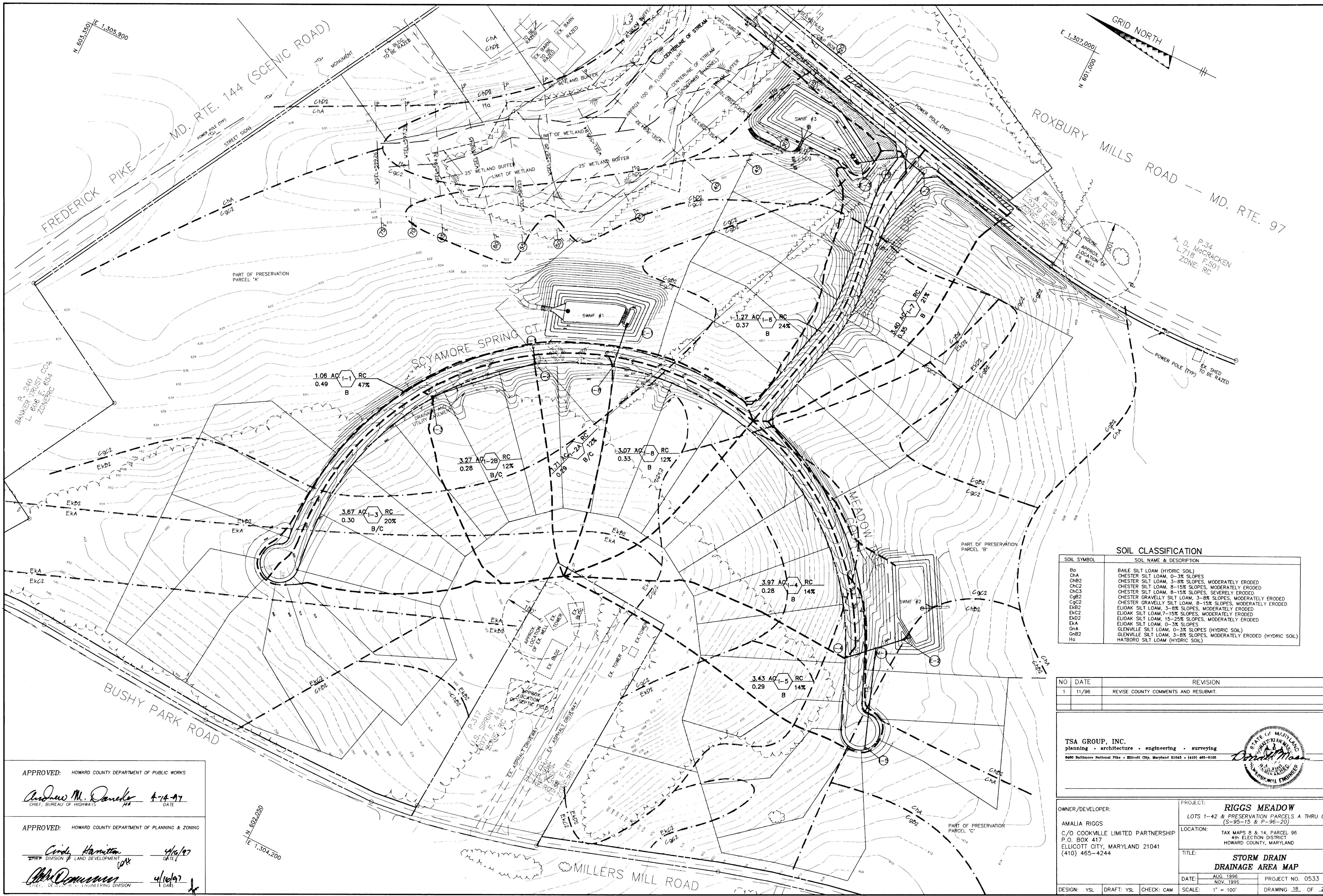
POND #3 - SECTION A-A
 SCALE: 1" = 5"

NO.	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
 planning • architecture • engineering • surveying
 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6100

OWNER/DEVELOPER: AMALIA RIGGS C/O COOKSVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410)465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)
LOCATION: PARCEL 96 TAX MAPS 8 & 14 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: STORM WATER MANAGEMENT POND NO. 2 & 3 DETAILS
DATE: AUGUST 1996 NOVEMBER 1996	PROJECT NO. 0533
Design: RWS	Draft: ISW
SCALE: AS SHOWN	DRAWING 17 OF 25

1782.1



SOIL SYMBOL	SOIL NAME & DESCRIPTION
Bd	BAILE SILT LOAM (HYDRIC SOIL)
GnA	CHESTER SILT LOAM, 0-3% SLOPES
ChB2	CHESTER SILT LOAM, 3-8% SLOPES, MODERATELY ERODED
ChC2	CHESTER SILT LOAM, 8-15% SLOPES, MODERATELY ERODED
ChC3	CHESTER SILT LOAM, 15-25% SLOPES, SEVERELY ERODED
CgB2	CHESTER GRAVELLY SILT LOAM, 3-8% SLOPES, MODERATELY ERODED
CgC2	CHESTER GRAVELLY SILT LOAM, 8-15% SLOPES, MODERATELY ERODED
EKb2	ELOAK SILT LOAM, 3-8% SLOPES, MODERATELY ERODED
EKc2	ELOAK SILT LOAM, 7-15% SLOPES, MODERATELY ERODED
EKd2	ELOAK SILT LOAM, 15-25% SLOPES, MODERATELY ERODED
EKA	ELOAK SILT LOAM, 0-3% SLOPES
GnA	GLENVILLE SILT LOAM, 0-3% SLOPES (HYDRIC SOIL)
GnB2	GLENVILLE SILT LOAM, 3-8% SLOPES, MODERATELY ERODED (HYDRIC SOIL)
Ho	HATBORO SILT LOAM (HYDRIC SOIL)

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
 planning • architecture • engineering • surveying
 8400 Baltimore National Pike • Millersville, Maryland 21045 • (410) 465-8105

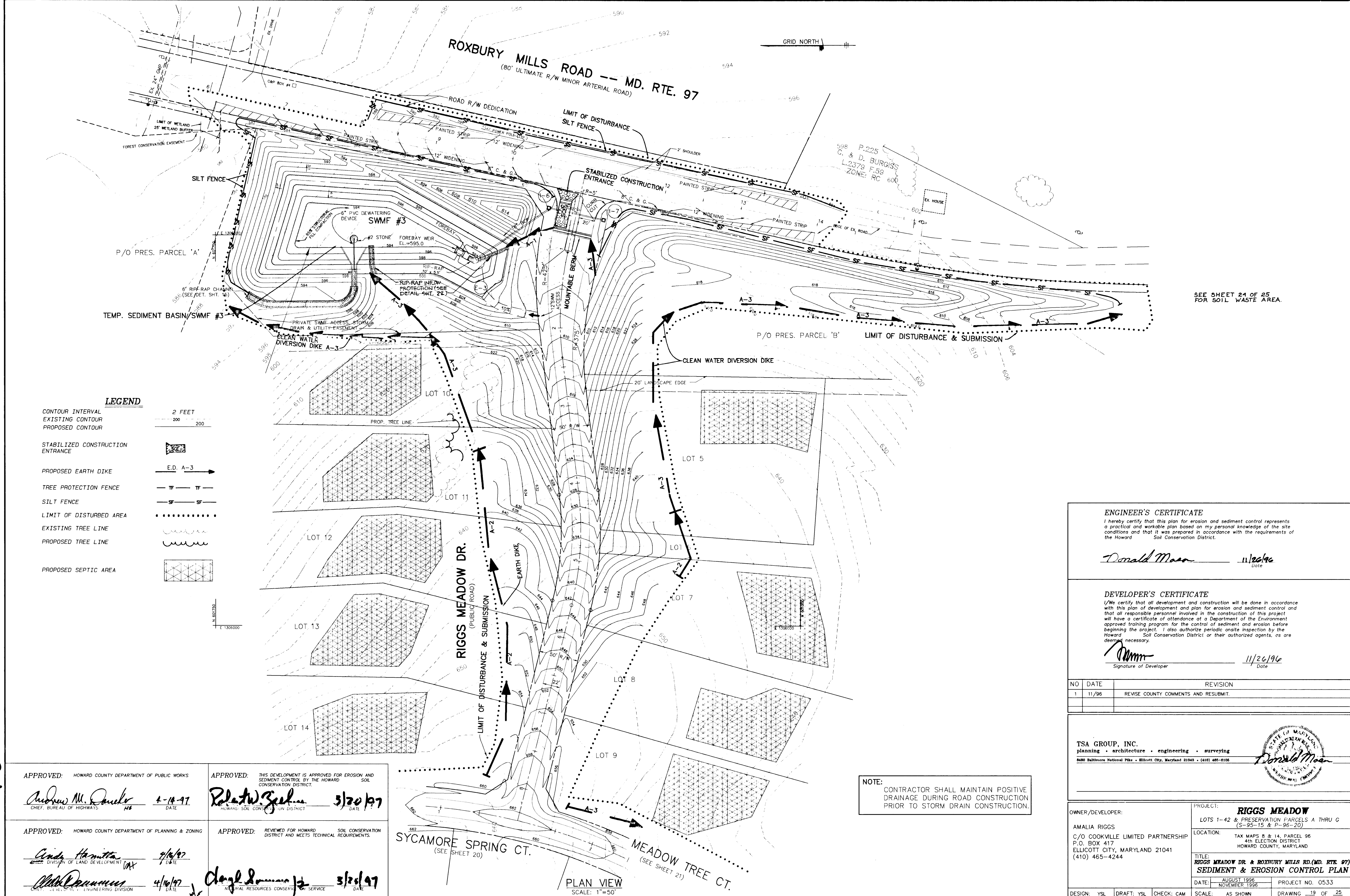


OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20) LOCATION: TAX MAPS 8 & 14, PARCEL 96 P.O. BOX 417 ELLCOTT CITY, MARYLAND HOWARD COUNTY, MARYLAND TITLE: STORM DRAIN DRAINAGE AREA MAP DATE: AUG. 1996 NOV. 1996 PROJECT NO. 0533 DESIGN: YSL DRAFT: YSL CHECK: CAM SCALE: 1" = 100' DRAWING 18 OF 25
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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 4-14-97
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 4/16/97
 DIVISION OF LAND DEVELOPMENT
John Domanian 4/16/97
 CHIEF, DEPARTMENT OF ENGINEERING DIVISION

1782



SEE SHEET 24 OF 25 FOR SOIL WASTE AREA.

LEGEND

- CONTOUR INTERVAL 2 FEET
- EXISTING CONTOUR 200
- PROPOSED CONTOUR 200
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED EARTH DIKE E.D. A-3
- TREE PROTECTION FENCE TF
- SILT FENCE SF
- LIMIT OF DISTURBED AREA
- EXISTING TREE LINE
- PROPOSED TREE LINE
- PROPOSED SEPTIC AREA

ENGINEER'S CERTIFICATE
I hereby 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.

Donald Mason 11/26/96
Date

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 or their authorized agents, as are deemed necessary.

Amalia Riggs 11/26/96
Signature of Developer Date

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
planning • architecture • engineering • surveying
8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6100



NOTE:
CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING ROAD CONSTRUCTION PRIOR TO STORM DRAIN CONSTRUCTION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Paulk 4-14-97
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Seelman 3/20/97
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Andy Hamstra 4/6/97
DIVISION OF LAND DEVELOPMENT DATE

APPROVED: REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Clayton L. ... 3/25/97
NATURAL RESOURCES CONSERVATION SERVICE DATE

OWNER/DEVELOPER:
AMALIA RIGGS
C/O COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT:
RIGGS MEADOW
LOTS 1-42 & PRESERVATION PARCELS A THRU G
(S-95-15 & P-96-20)

LOCATION:
TAX MAPS 8 & 14, PARCEL 96
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
RIGGS MEADOW DR. & ROXBURY MILLS RD. (MD. RTE. 97)
SEDIMENT & EROSION CONTROL PLAN

DATE: AUGUST 1996
NOVEMBER 1996

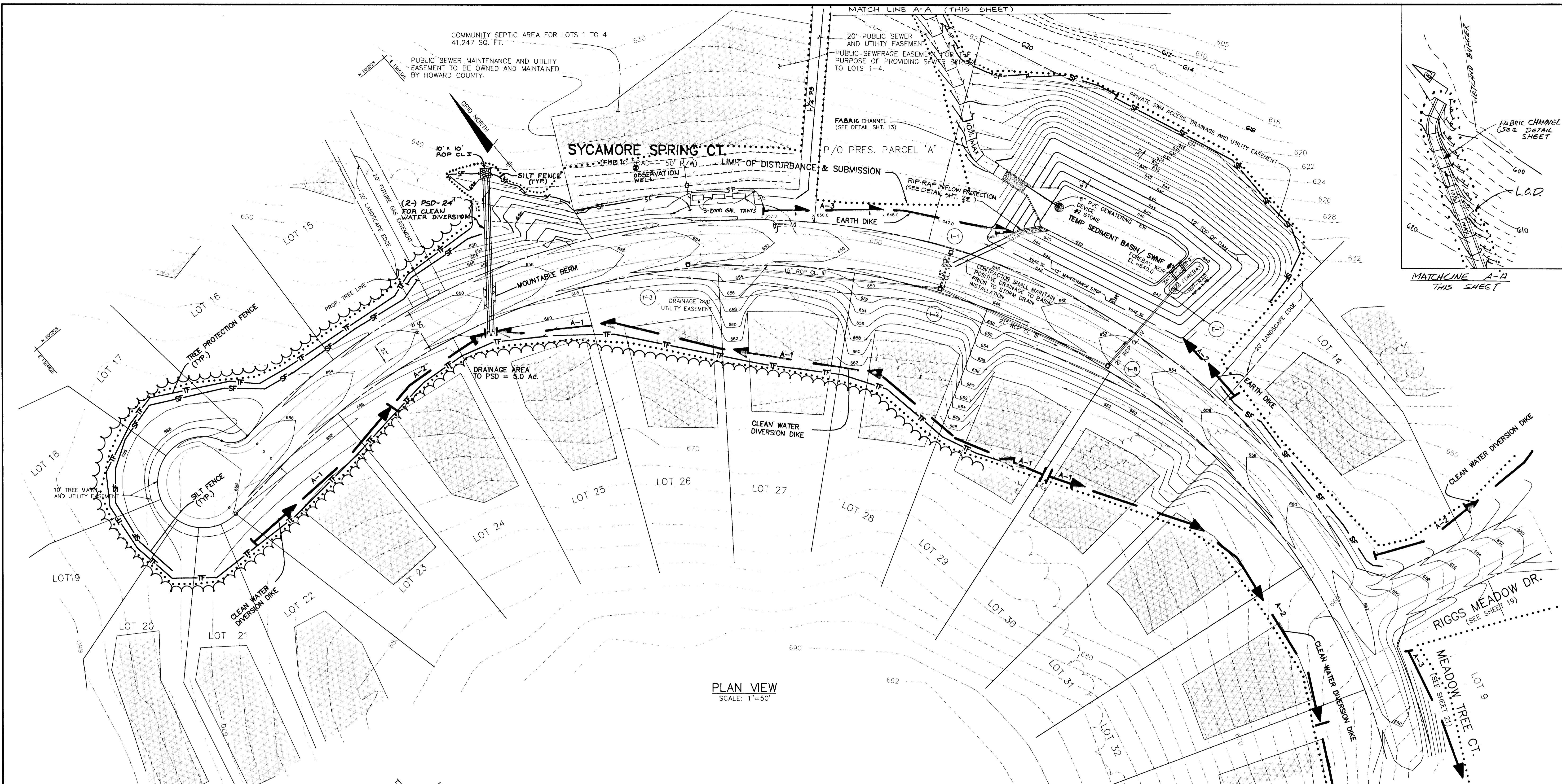
PROJECT NO. 0533

DESIGN: YSL DRAFT: YSL CHECK: CAM SCALE: AS SHOWN DRAWING 19 OF 25

PLAN VIEW
SCALE: 1"=50'

1782

F97-41



NOTE:
CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING ROAD CONSTRUCTION PRIOR TO STORM DRAIN CONSTRUCTION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Queler 4/14/97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Andy Hammit 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Zielin 3/26/97
HOWARD SOIL CONSERVATION DISTRICT

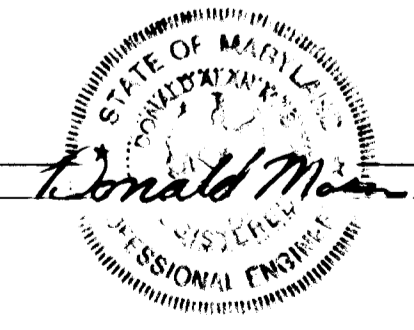
APPROVED: REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Clayton J. ... 3/20/97
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEER'S CERTIFICATE
I hereby 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.
Donald Mason 11/26/96
Date

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.
AMM 11/26/96
Signature of Developer Date

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
planning - architecture - engineering - surveying
6600 Baltimore National Pike - Ellicott City, Maryland 21043 - (410) 465-6105



OWNER/DEVELOPER:
AMALIA RIGGS
C/O COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT:
RIGGS MEADOW
LOTS 1-42 & PRESERVATION PARCELS A THRU G
(S-95-15 & P-96-20)

LOCATION:
TAX MAPS 8 & 14, PARCEL 96
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

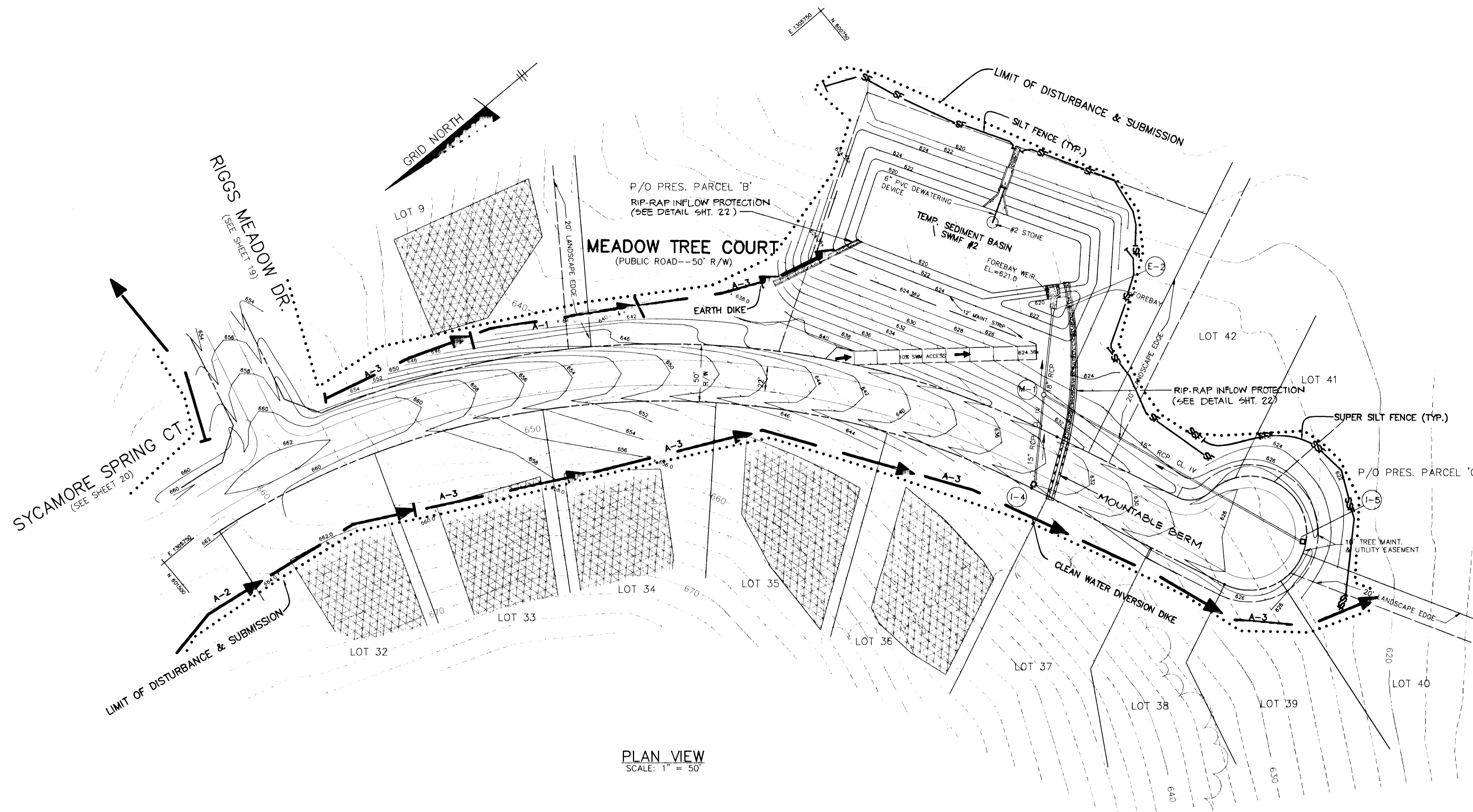
TITLE:
**SYCAMORE SPRING CT.
SEDIMENT & EROSION CONTROL PLAN**

DATE: AUGUST 1996
NOVEMBER 1996

PROJECT NO. 0533

DESIGN: CAM/YSL DRAFT: YSL CHECK: CAM SCALE: AS SHOWN DRAWING 20 OF 25

1782
17871



PLAN VIEW
SCALE: 1" = 50'

NOTE:
CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING ROAD CONSTRUCTION PRIOR TO STORM DRAIN CONSTRUCTION.

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
planning • architecture • engineering • surveying
8400 Baltimore National Pike • Ellicott City, Maryland 21045 • (410) 460-8100



ENGINEER'S CERTIFICATE
I hereby 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.

Donald Moore 11/26/96
Date

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

AMM 11/26/96
Signature of Developer Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 4/14/97
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert Ziehm 3/30/97
NATURAL SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Andy Hamilton 4/16/97
DIVISION OF LAND DEVELOPMENT DATE

APPROVED: REVIEWED FOR HOWARD DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Clayton Simmons 3/30/97
NATURAL RESOURCES CONSERVATION DISTRICT DATE

OWNER/DEVELOPER:
AMALIA RIGGS
C/O COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: **RIGGS MEADOW**
LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)
LOCATION: TAX MAPS 8 & 14, PARCEL 96
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TITLE: **MEADOW TREE COURT**
SEDIMENT & EROSION CONTROL PLAN
DATE: AUGUST 1996 PROJECT NO. 0533
NOVEMBER 1996
DESIGN: YSL DRAFT: YSL CHECK: CAM SCALE: AS SHOWN DRAWING 21 OF 25

1782

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (D13-1850).
- 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 SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAP/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDINGS (SEC. 51) SOO (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	183.4 ACRES
AREA TO BE RESTORED OR PAVED	19.65 ACRES
AREA TO BE VEGETATIVELY STABILIZED	8.00 ACRES
TOTAL CUT	57968 CY VDS
TOTAL FILL	27657 CY VDS
OFFSITE WASTE/BORROW AREA LOCATION	SEE SHEET D14 OF 28

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS FINAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING PREPARATION

- SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING 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. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0-0 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. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

- SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (14 LBS./1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS./1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH 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 SOO. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.
- MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ FT) OF UNROTTED SMALL GRASS 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 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ FT) FOR ANCHORING.
- MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

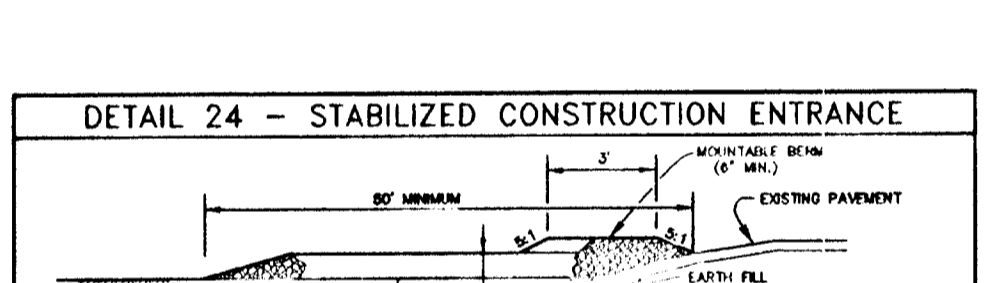
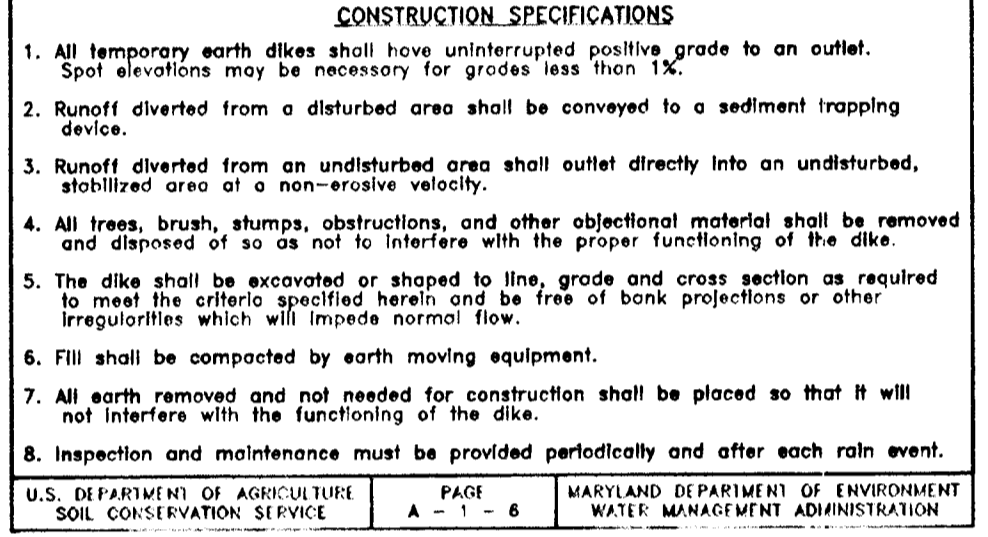
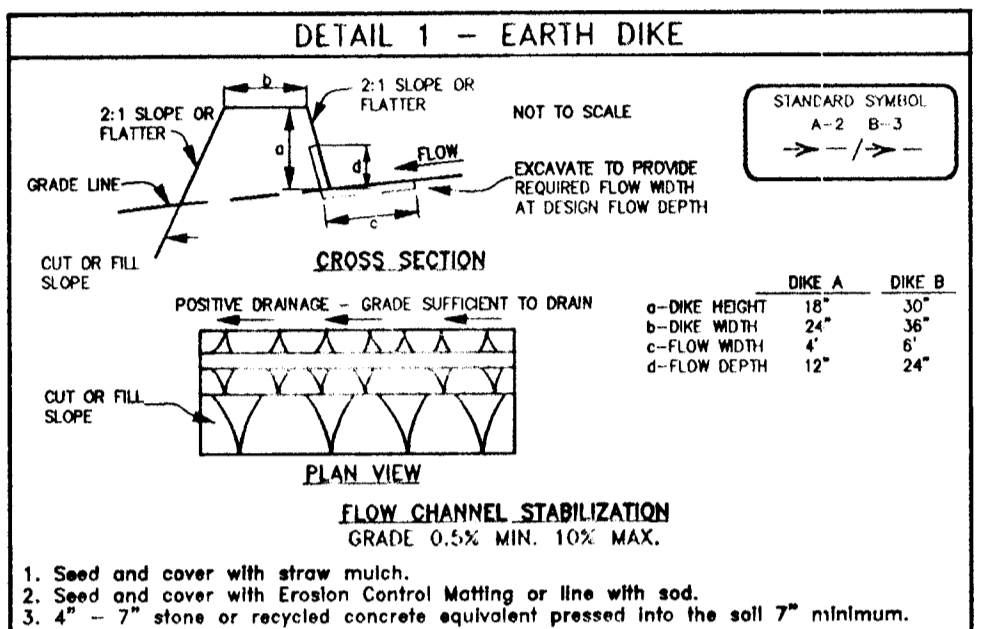
TEMPORARY SEEDING PREPARATION

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING 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 PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.7 LBS./1000 SQ FT) FOR THE PERIOD NOVEMBER 16 THROUGH 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 SOO.
- MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ FT) OF UNROTTED SMALL GRASS 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 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ FT) FOR ANCHORING.
- REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR RATE AND METHODS NOT COVERED.

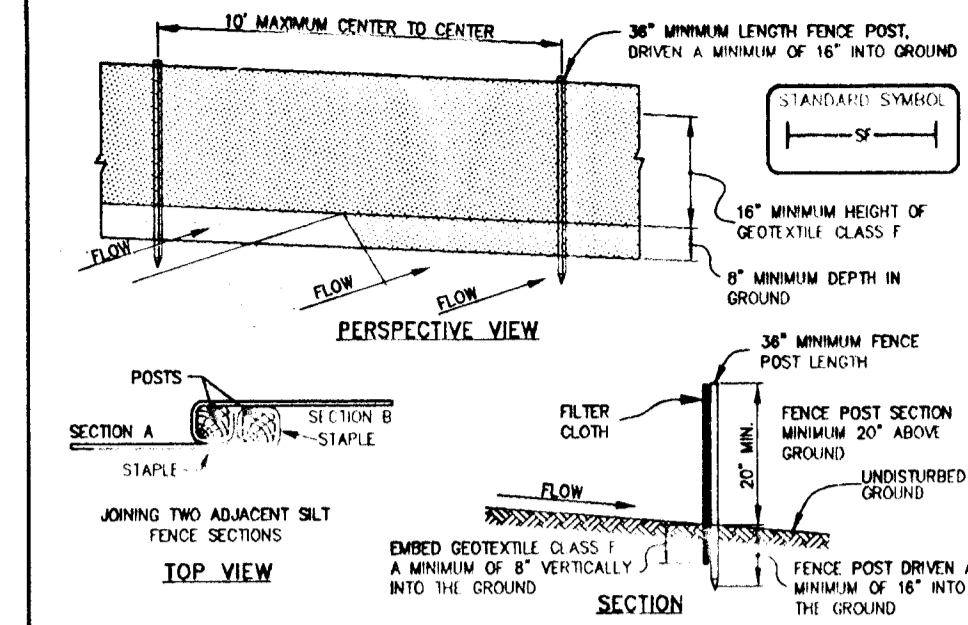
SEQUENCE OF CONSTRUCTION

- DAY 1 OBTAIN GRADING PERMIT.
- DAY 2-20 INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, INSTALL SEDIMENT BASINS, WEIR WALLS, LOW FLOW DEVICES, AND EARTH DIKES. INSTALL PIPE SLOPE DRAINS TO PASS CLEAN WATER. DO NOT PUT CAP ON THE END OF LOW FLOW PIPE (DOWNSTREAM END OF BASIN). *
- DAY 21-40 COMMENCE ROAD AND SITE GRADING.
- DAY 41-51 CONSTRUCT STORM DRAIN SYSTEM TO HELP IN CONVEYING RUNOFF TO TEMPORARY SEDIMENT BASINS.
- DAY 52-57 CONSTRUCT PAVING.
- DAY 58-62 FINAL GRADE SITE AND PERMANENTLY STABILIZE.
- DAY 63-68 UPGRADE TEMPORARY SEDIMENT BASINS TO PERMANENT SWM PONDS. WHEN POND IS CONVERTED TO PERMANENT SWM DRILL 1.5" Ø HOLE IN CAP AND INSTALL CAP ON THE DOWNSTREAM END OF 6" Ø PVC.
- DAY 69-72 CONSTRUCT FOREBAYS AND REMOVE/REPLACE No. 2 STONE AND FILTER CLOTH ON LOW FLOW DEVICE.
- DAY 73-90 INSTALL REQUIRED LANDSCAPING.
- DAY 91-93 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. PERMANENTLY STABILIZE AS REQUESTED.

* CONTRACTOR TO INSTALL PIPE SLOPE DRAIN PER SPECIFICATIONS (THIS SHEET) TO CONVEY WATER FROM CLEAN WATER DIVERSION ACROSS THE ROAD.



DETAIL 22 - SILT FENCE



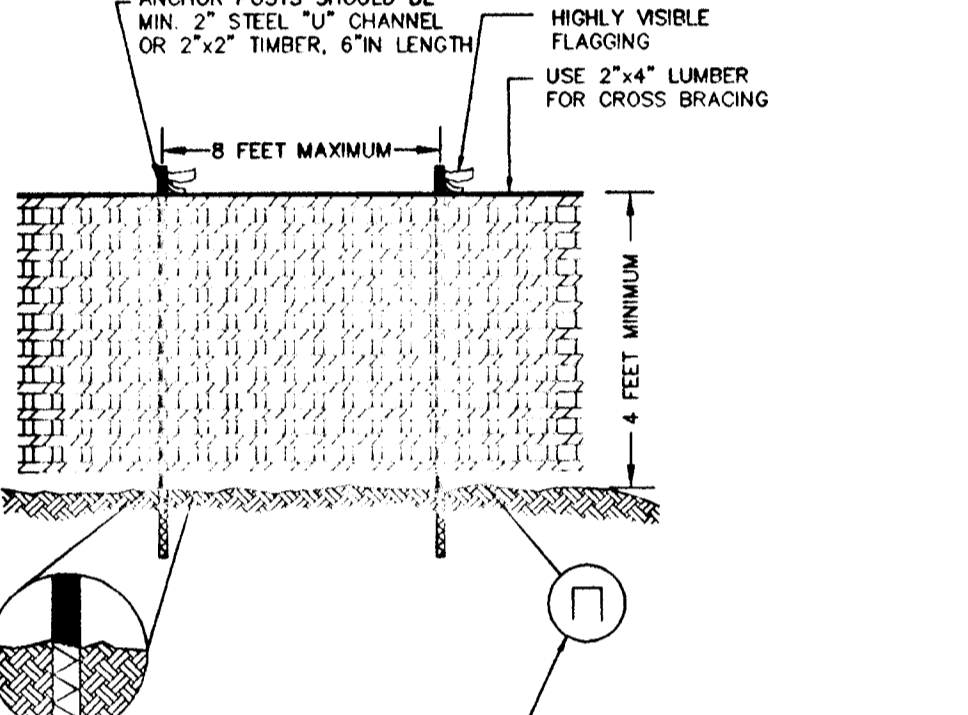
Property	Requirement	Test Method
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	30 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft / minute (max.)	Test: MSMT 322
Filtration Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

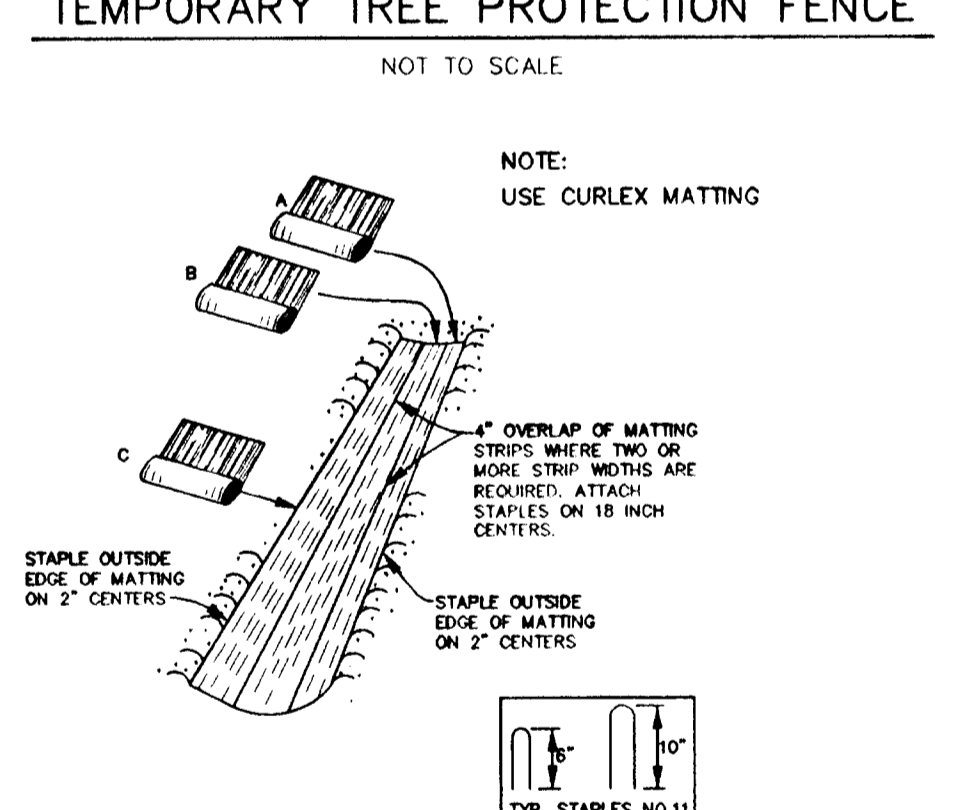
BLAZE ORANGE PLASTIC MESH



NOTES:

- FOREST PROTECTION DEVICE ONLY.
- RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
- BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
- AVOID ROOT DAMAGE WHEN PLACING ANCHOR POSTS.
- DEVICES SHOULD BE PROPERLY MAINTAINED DURING CONSTRUCTION.
- PROTECTIVE SIGNAGE IS ALSO REQUIRED.

TEMPORARY TREE PROTECTION FENCE



CONSTRUCTION SPECIFICATIONS

- KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
- STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
- BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
- STAPLES SHALL BE PLACED 2" APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
- WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4". OVERLAP FASHION REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.
- THE DISCHARGE END OF THE MATTING LAYER SHOULD BE SIMILARLY SECURED WITH WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEPT-IN.

SOIL STABILIZATION MATTING



OUTLET PROTECTION DETAIL

STRUCTURE	D-50	LENGTH (L)	WIDTH (W)	THICKNESS (T)	SHA CLASS
E-1	9.5'	10'	5.75'	19"	I
E-2	9.5'	10'	5.5'	19"	I
E-3	9.5'	10'	5.5'	19"	I

SILT FENCE

SILT FENCE DESIGN CRITERIA

Slope Steepness	(Maximum) Slope Length	(Minimum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	80 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a roll fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 4 - PIPE SLOPE DRAIN

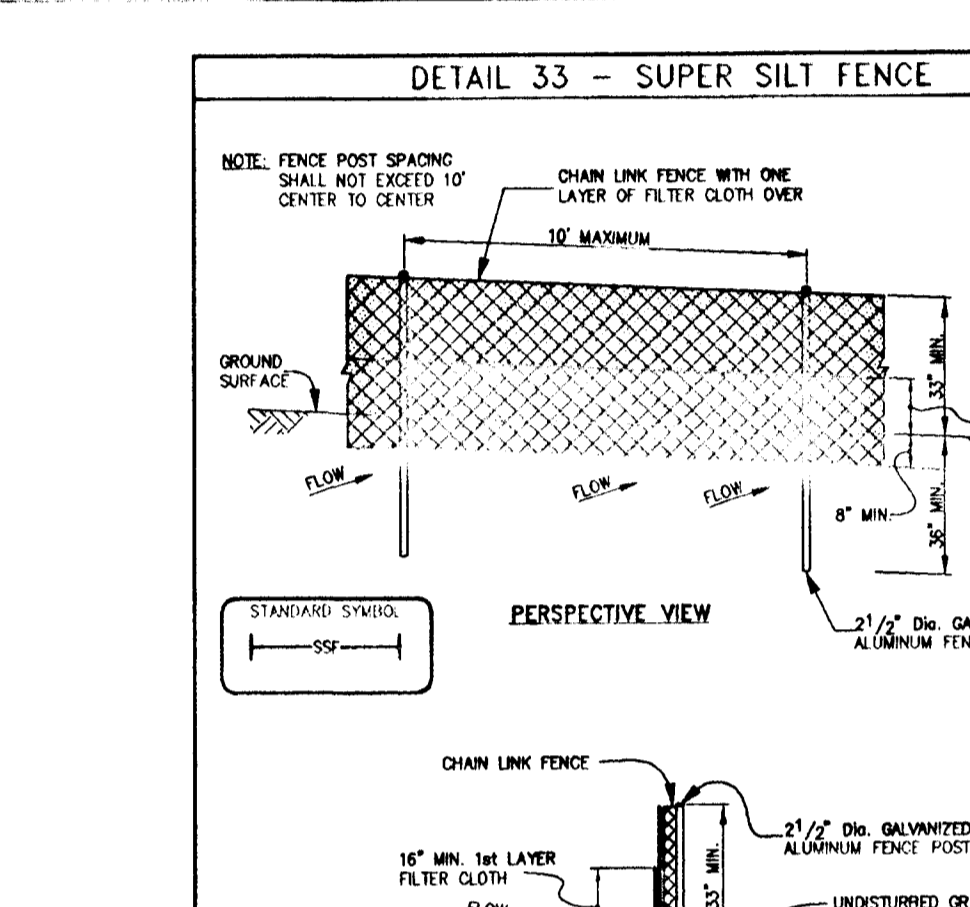
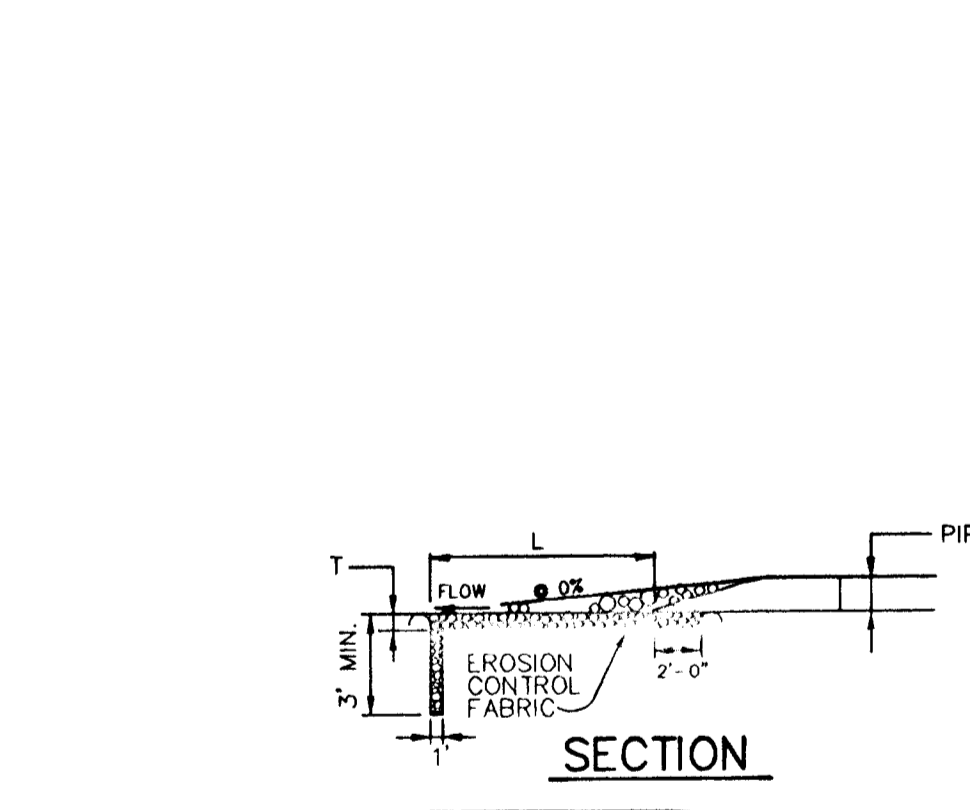


Table 8. Design Criteria for Pipe Slope Drain

Flow Rating	Minimum Discharge Area (Acres)
PSD-12	0.5
PSD-18	1.5
PSD-24	2.5
PSD-30	3.5
PSD-36	5.0

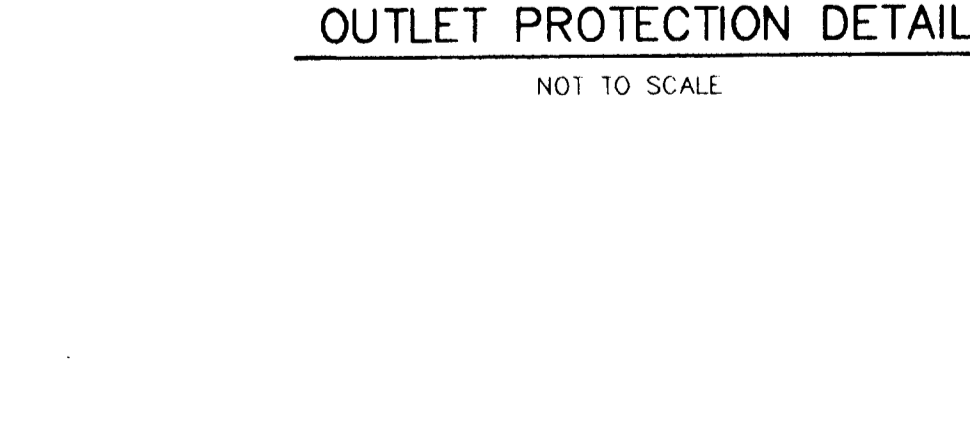
DETAIL 33 - SUPER SILT FENCE



SUPER SILT FENCE DESIGN CRITERIA

Slope	Slope Steepness	Slope Length (Equivalent)	Silt Fence Length (Equivalent)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,000 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	800 feet
50% +	2:1 +	50 feet	250 feet

DETAIL 5 - RIP-RAP INFLOW PROTECTION

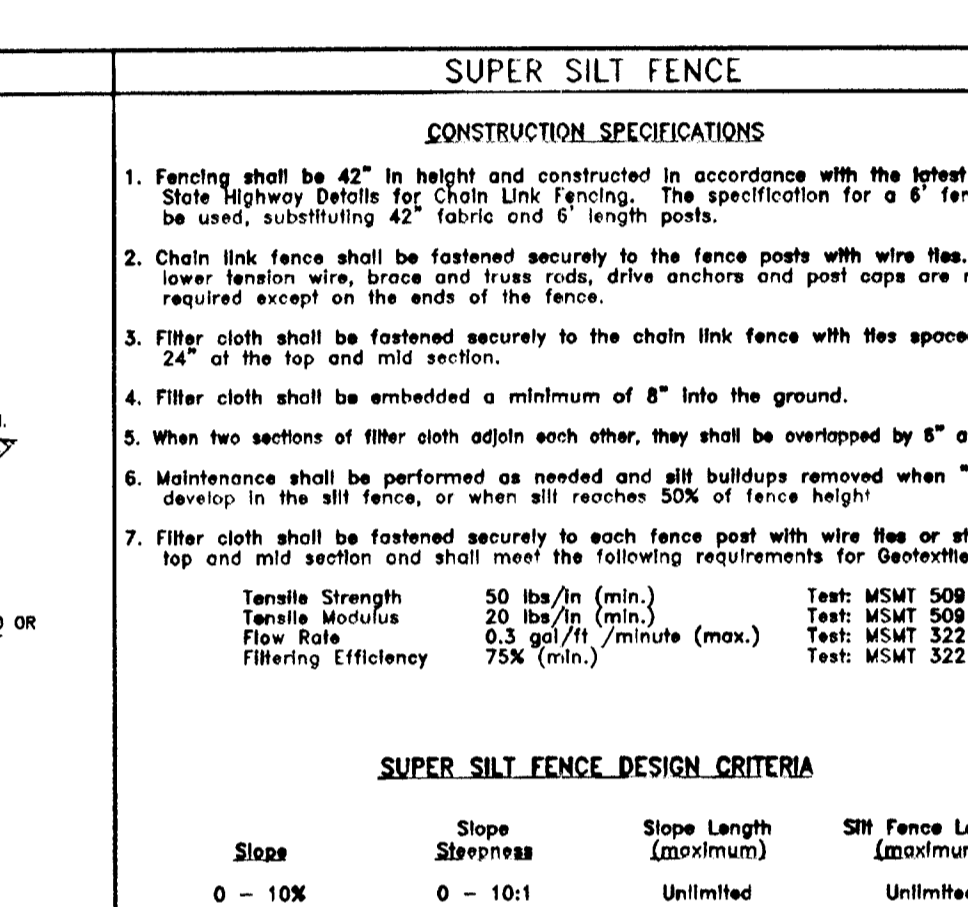


PIPE SLOPE DRAIN

Construction Specifications - Pipe Slope Drain

- The Pipe Slope Drain (PSD) shall have a slope of 3 percent minimum.
- The top of the earth fill over the silt pipe shall be at least 2 times the pipe diameter measured at the crest of the pipe.
- Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.
- A formal section shall be attached to the bid and end of pipe with a watertight connection. The drainage shall be placed under the crest of the silt pipe and shall extend to the outlet. The flow shall be directed to the outlet.
- The Pipe Slope Drain shall be securely anchored to the slope by staking at the points provided. Spacing for stakes shall be as provided by manufacturer's specifications. In no case shall stake flow back (S) occurs be provided. Stakes shall extend the length of the pipe. These stakes should be provided by pipe supplier.
- The roll around under the pipe and section shall be hand lapped in 4 inch lifts to the top of the earth fill.
- All pipe connections shall be watertight.
- Whenever possible where a PSD enters an undisturbed area, it shall extend into a sediment trap or basin. If this is not possible then the silt pipe shall discharge into a stone catchment basin with a sediment trap and shall discharge into a top or basin on the PSD shall discharge at the end of the silt pipe. The discharge shall be directed to the outlet.
- When the drainage basin is installed, the PSD shall discharge into a sediment trap of a non-erosive velocity.
- Inspection and any required maintenance shall be performed periodically and after each rain event.
- The best mat shall be kept open at all times.

DETAIL 5 - RIP-RAP INFLOW PROTECTION



CONSTRUCTION SPECIFICATIONS

- Rip-rap inflow protection shall be 1' in depth, have a trapezoidal cross section with 2:1 or steeper side slopes and 2' high bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be embedded in Class C.
- Entrances and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Section Inflow Protection may be used in lieu of rip-rap inflow protection.
- Rip-rap inflow protection shall be used upon the slope to between 2:1 and 10:1, for slopes steeper than 10:1 use Form B16 or temporary slope lining or fabric.

DETAIL 5 - RIP-RAP INFLOW PROTECTION

ENGINEER'S CERTIFICATE

I hereby 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.

Donald Mason 3/1/97
Date

DEVELOPER'S CERTIFICATE

I/we certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard Soil Conservation District or its authorized agents, as are deemed necessary.

Donald Mason 3/1/97
Signature of Developer Date

NO	DATE	REVISION
1	11/96	REVISE COUNTY COMMENTS AND RESUBMIT.

TSA GROUP, INC.
planning • architecture • engineering • surveying
8600 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8100

OWNER/DEVELOPER: RIGGS MEADOW
LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)

LOCATION: TAX MAPS 8 & 14, PARCEL 96
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL NOTES AND DETAILS

DATE: AUGUST 1996 PROJECT NO. 0533
NOVEMBER 1996

SCALE: NO SCALE DRAWING 22 OF 25

DESIGN: YSL **DRAFT:** YSL **CHECK:** CAM

OWNER/DEVELOPER: AMALIA RIGGS
C/O COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: RIGGS MEADOW
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LOCATION: TAX MAPS 8 & 14, PARCEL 96
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL NOTES AND DETAILS

ROXBURY MILLS ROAD -- MD. RTE. 97
(80' ULTIMATE R/W MINOR ARTERIAL ROAD)

E 1,306,550

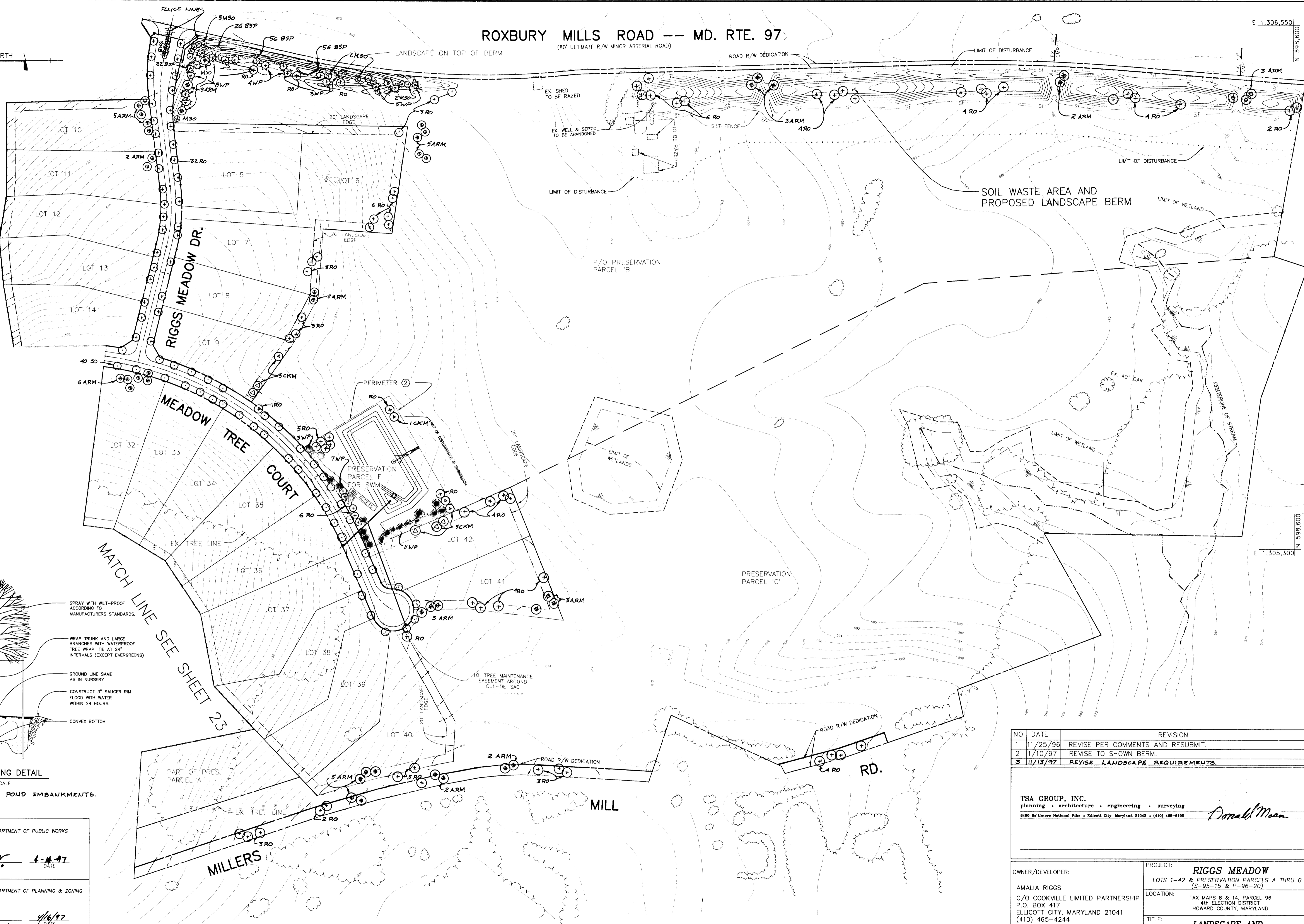
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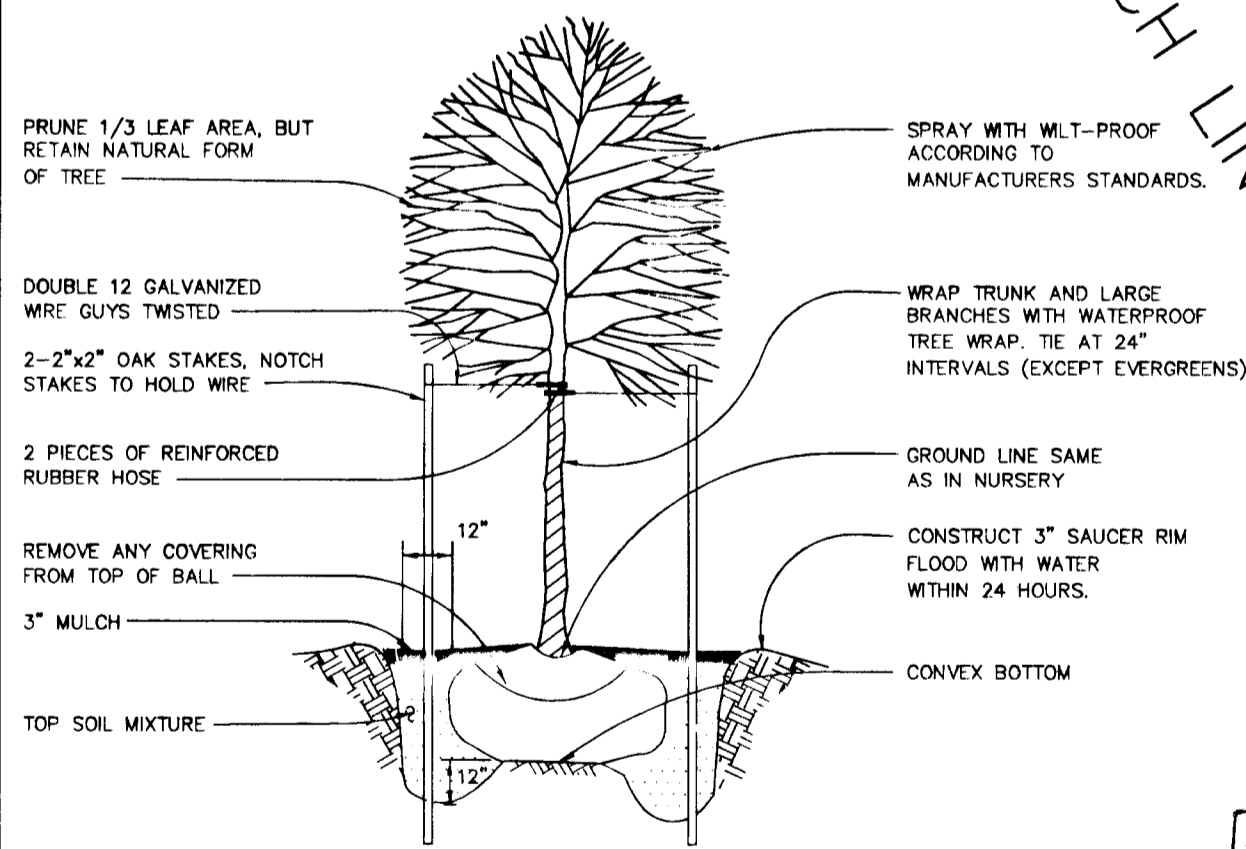
N 598,600



MATCH LINE SEE SHEET 23



N 601,850
E 1,305,300



TREE PLANTING DETAIL
NOT TO SCALE

NOTE: NO PLANTING ON POND EMBANKMENTS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels 1-11-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Andy Hamilton 4/16/97
CHIEF, DIVISION OF LAND DEVELOPMENT

Mark Pannunzi 4/16/97
CHIEF, DIVISION OF ENGINEERING

NO	DATE	REVISION
1	11/25/96	REVISE PER COMMENTS AND RESUBMIT.
2	1/10/97	REVISE TO SHOWN BERM.
3	11/13/97	REVISE LANDSCAPE REQUIREMENTS.

TSA GROUP, INC.
planning • architecture • engineering • surveying
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 486-6100
Donald Mean

OWNER/DEVELOPER: AMALIA RIGGS C/O COOKVILLE LIMITED PARTNERSHIP P.O. BOX 417 ELICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: RIGGS MEADOW LOTS 1-42 & PRESERVATION PARCELS A THRU G (S-95-15 & P-96-20)
LOCATION: TAX MAPS 8 & 14, PARCEL 96 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: LANDSCAPE AND SOIL WASTE AREA PLAN
DATE: JANUARY 1997	PROJECT NO. 0533
DESIGN: JMC	DRAFT: JMC
CHECK: CAM	SCALE: 1" = 100'
DRAWING 24 OF 25	

1787

F97-21

