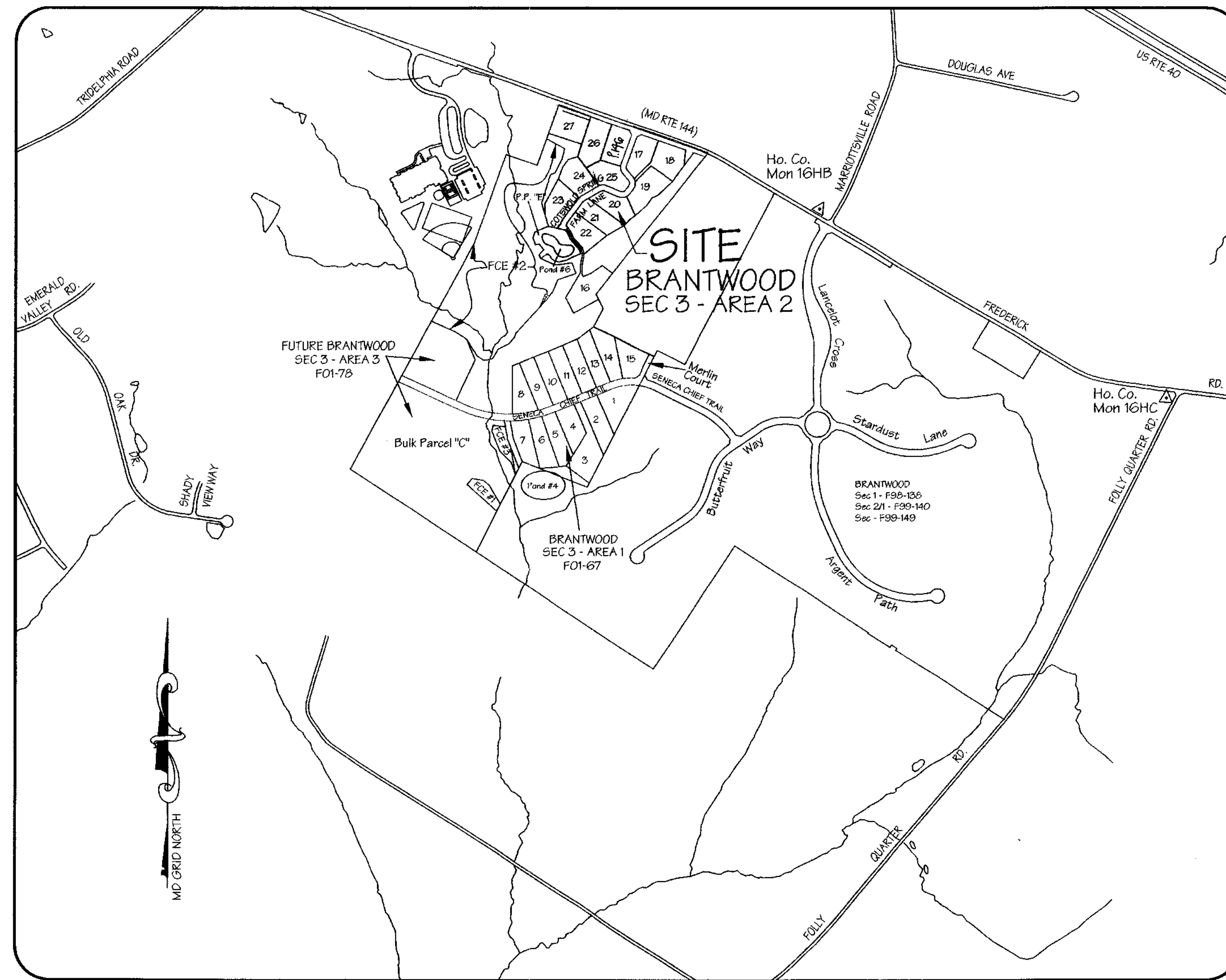


SHEET INDEX	
Sheet Number	Description
1	Cover Sheet
2	Plan & Profile - MD 144 (Frederick Road) 77+65 thru 81+20
3	Plan & Profile - Cotswold Spring Farm Lane 0+00 thru 11+27.03
4	Road Details & MD 144 Widening & Striping Plan Details
5	Storm Drain Profiles
6	Drainage Area Map
7	Drainage Area Map
8	Grading and Soil Erosion & Sediment Control Plan
9	Grading and Soil Erosion & Sediment Control Plan
10	Grading and Soil Erosion & Sediment Control Plan - Details
11	Grading and Soil Erosion & Sediment Control Plan - Details
12	Pond Construction Notes MD-378/ Soil Borings
13	Basin Pond #6 Construction Details
14	Ultimate Pond #6 - Plan View & Conversion Details
15	Landscape & Street Tree Planting Plan
16	Landscape & Street Tree Planting Plan
17	Landscape & Street Tree Planting Plan - Details & Notes



LOCATION MAP

Scale: 1" = 600'

ROAD & STORM DRAIN CONSTRUCTION PLANS

BRANTWOOD

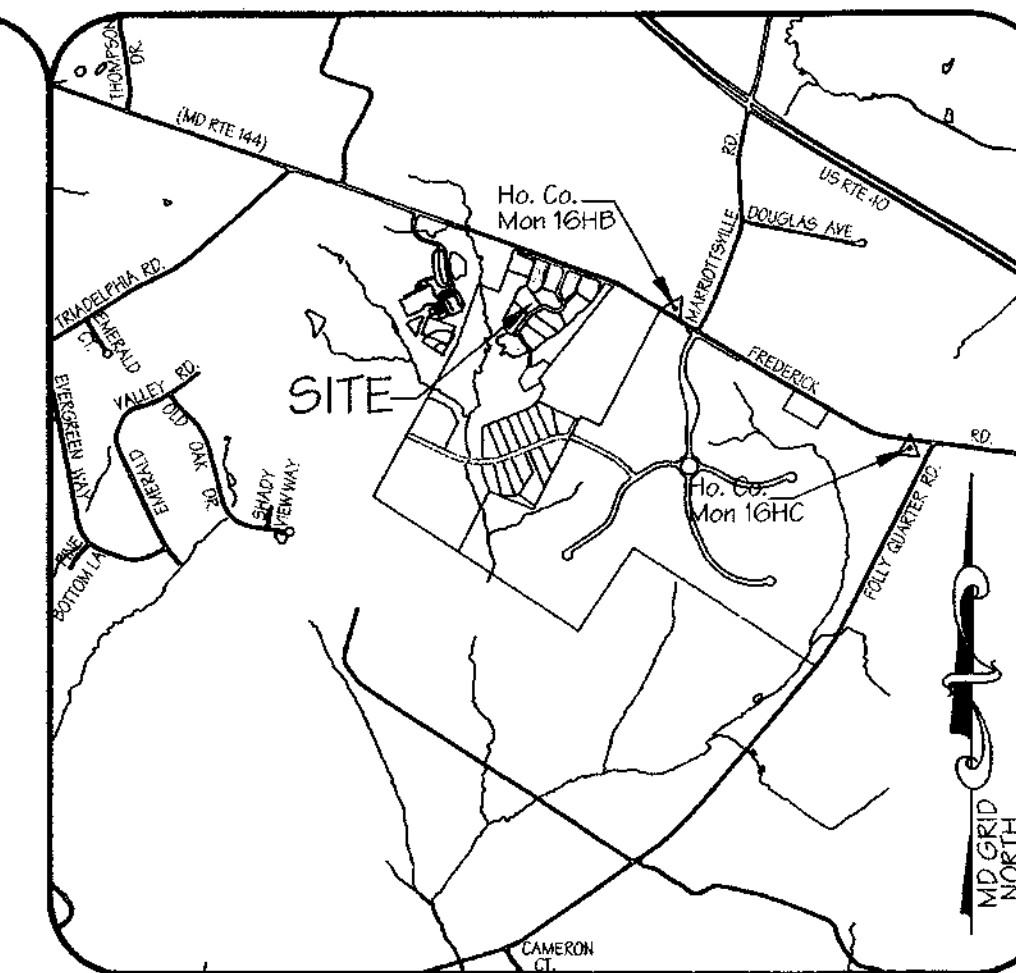
Section Three - Area Two

3rd Election District - Howard County, Maryland

BENCHMARKS

Howard County Monument # 16HC
Elevation: 449.451
Description: Concrete Monument 0.2' below surface. South side MD 144, 0.1 Mile West Folly Quarter Road

Howard County Monument # 16HB
Elevation: 540.658
Description: Concrete Monument flush with surface. 21.9' South of centerline MD 144, 147.5' West of Marriotsville Road



VICINITY MAP

Scale: 1" = 2000'

GENERAL NOTES

- All aspects of the project are in conformance with the latest standards and specifications of Howard County Design Manual Vol. IV and MSHA standards & specifications unless waivers have been approved.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection at (410) 315-1800 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 forty-eight (48) hours prior to any excavation work.
- Project Background:
 - Location: Ellicott City, Maryland
 - Tax Map: Map 16
 - Tax Map Parcels: 45, 172, & 205
 - Grid: 21
 - Zoning: RC - DEO (Rural Conservation - Density Exchange Option) per 10/16/95 Comprehensive Zoning Plan.
 - Election District: 3rd
 - Previous Submittals: WP 90-96, F 90-128, WP 99-55, S 99-03, F 99-140, WP 00-55, F 00-03, F 00-04, F 01-67
- Traffic control device, markings, and signing shall be in accordance with the latest 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.
- Any damage caused by the contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractor's expense.
- The existing utilities shown hereon are located from field surveys and construction drawings of record. The approximate location of existing utilities are shown for the contractor's information and convenience. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- The topography shown hereon is compiled from Howard County Aerial Photogrammetry & Aerial Photogrammetry by Harford Aerial Surveys, Inc. Sept. 2000.
- Horizontal and vertical datum's are related to the Maryland State Plane Coordinate System as projected from Howard County geodetic control station Nos. 16HC and 16HB (NAD 83).
- The property shown hereon is based on a field run boundary survey performed by LDE, Inc. dated February 1999.
- The proposed Water and Sewer systems to be private well and septic. The property is not located within the Metropolitan District.
- All private use-in-common driveways shall meet the following specifications:
 - 14 foot width.
 - 6" compacted crusher run base with "tar and chip" coating
 - Minimum turning radius of 45 feet.
 - Designed to support vehicles with a gross weight of 25 tons.
 - 12 feet of overhead clearance
 - Maintained for all weather use.
 - Maximum grade is 15%, with the durable and sustained grade of 8%.
 - Where one (1) driveway serves more than one (1) lot, a house number sign must be placed at each lot entrance and a range of street address house numbers sign where the common driveway intersects with the main road.
- All hydraulic data is for the 10-year storm unless otherwise noted.
- See sheet 9 for Construction Sequence. See Sheet 8 for State Highway "Road Improvement" Sequence of Construction.
- 95% compaction in all fill areas shall be determined by AASHTO T-190.
- The Noise Study was compiled by LDE, Inc. dated July 1999 approved under P00-03.
- The July 1999 Floodplain Study has been revised as part of the F 01-67 Final Plan submission as a result of the conditions of approval of the P00-03 Preliminary Plan. An Impact Study was completed for the section of stream common to the driveway culvert providing access to F01-67 Lot 16 & Preservation Parcel "C".
- The Wetland Delineation was completed by Dennis LaBarre, M.S., & Associates, 1999.
- The Traffic Studies titled "Transportation Analysis for Brantwood Sections 3 and 4" dated November 1998 & "Revised Transportation Analysis for Brantwood Sections 3 & 4, dated February 22, 1999 were approved under the 5 99-03 Sketch Plan submission.
- The Geotechnical Report was completed by Hills Games Engineering Associates, Inc. dated July 12, 1999 and approved under P00-03, refer to Drainage Report.
- Water Quality Stormwater management will be met in:
 - Pond #6 on Preservation Parcel "C" by Extended Detention. Water Quantity management will be met in Pond #6 above the Water Quality water surface level. Preservation Parcel "E" is owned by Brantwood Community Association Inc.
 - Private Pond #6 shall be maintained by the Brantwood Community Association, Inc. The responsibilities of the H.O.A. should be completed in accordance with the Operation & Maintenance Schedule on sheet 14.
- Street Light placement and the type of fixture and pole selected shall be in accordance with the Howard County Design Manual Volume III (1993) and as modified by "Guidelines for street lights in Residential Developments" (June 2003). A minimum spacing of 20' shall be maintained between any street light and any tree.
- This area designates a private easement of 10,000 sf as required by the Maryland State Department of the Environment for individual sewage disposal. Improvements of any nature in this area are restricted until public sewerage is available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewerage easement. Reclamation of a modified easement shall not be necessary.
- The contractor shall be responsible for maintaining full vehicular ingress and egress to the existing home on F 01-67 Preservation Parcel "C" and Lot 20 & 26. Upon completion of Cotswold Spring Farm Lane access to the existing dwellings on Preservation Parcel "C", Lots 20 & 26 shall be relocated to Cotswold Spring Farm Lane.
- Forest Conservation obligations for Brantwood - Sections 3/1, 3/2 and 3/3 (F 00-03 & P 00-04) have been met per the Retention Easements shown on the Brantwood 3/1 F 01-67 Final Plan submission.
- Per Section 104(F) of the Howard County, Maryland - Zoning Regulations; Cluster Subdivision consists of cluster lots & "Preserved" areas. When owned by the Homeowners Association "Preservation Parcel" take the place of typical "Open Space" Requirements.
- Financial Surety for the required landscaping has been posted as part of the Department of Public Works - Developer's Agreement in the amount of \$28,650
- Tree Protection Fence or Place Orange Fence shall be placed around the perimeter of the sewage disposal easement prior to any construction of road or lot improvements to insure that placement of fill material upon the easement area will not occur.

By	Date	No.	Description
			REVISIONS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/10/01
CHIEF, DEVELOPMENT ENGINEER'S DIVISION

[Signature] 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/2/01
Chief, Bureau of Highways

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.

[Signature] 6/23/01
NATIONAL RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/23/01
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE AND PROFESSIONAL JUDGMENT. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE CODES AND REGULATIONS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT THE PLAN IS SUBJECT TO THE SUPERVISORY CONTROL OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN TO BE SUBMITTED WITHIN 30 DAYS OF COMPLETION.

[Signature] 6/19/01
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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.

[Signature] 6/23/01
SIGNATURE OF DEVELOPER

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
[Signature] 6/19/01

OWNER:
Parcel 45 & 205
Richard B. Tulkoff, Trustee
9175 Galford Road, Suite 301
Columbia, Md. 21046

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Cover Sheet BRANTWOOD Section Three - Area Two Lots 17-27, Non-Buildable Preservation Parcel "E"	SCALE As Shown
DRAWN JLM		DRAWING 1 of 17
CHECKED BDB		JOB NO. 98-040.5
DATE 6/2001		DEVELOPER BRANTWOOD, LLC 8835 F Columbia 100 Parkway Columbia, Maryland 21045 (410) 730-0810

File Name: Projects\F20\BRANTWOOD\Section 3\Construction\2.dwg DATE SHEET

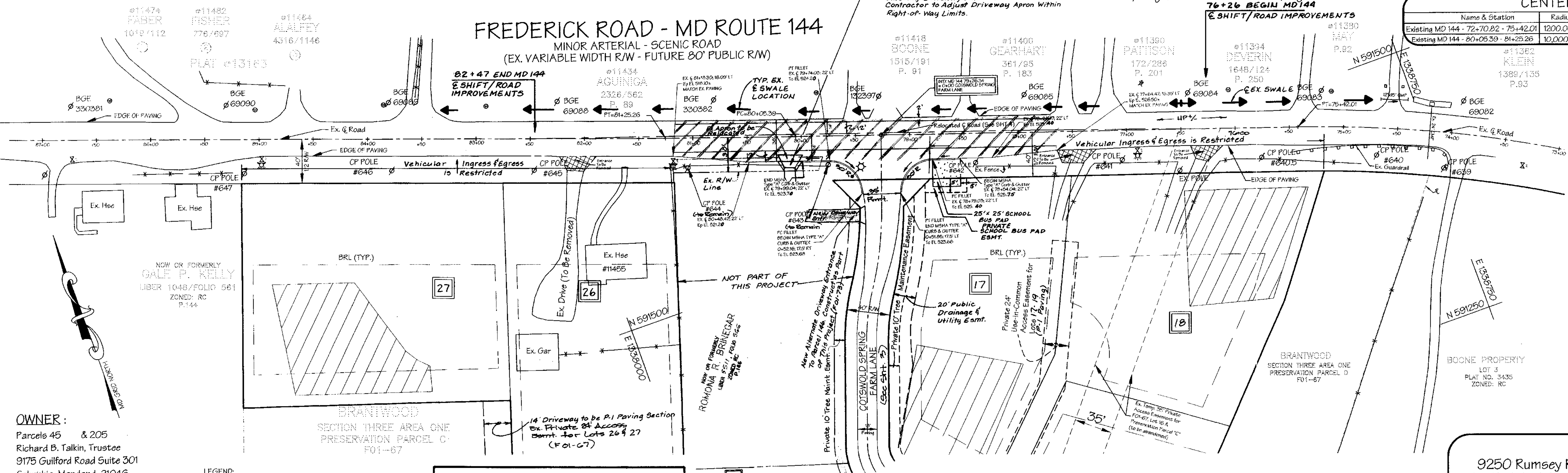
FREDERICK ROAD - MD ROUTE 144

MINOR ARTERIAL - SCENIC ROAD
(EX. VARIABLE WIDTH R/W - FUTURE 80' PUBLIC R/W)

CENTERLINE CURVE DATA

Name & Station	Radius	Delta	Length	Tangent	Chord Bearing & Dist.
Existing MD 144 - 72+70.82 - 75+42.01	12000.00'	12° 56' 53"	271.19'	136.17'	N64° 56' 08" W - 270.61'
Existing MD 144 - 80+05.39 - 81+25.26	10000.00'	00° 41' 12"	119.27'	59.94'	N70° 43' 58" W - 119.87'

Station	Northing	Easting
INTX 79+26.34	591590.6697	1335877.6966
PC 72+70.82	591350.1638	1335885.7068
PT 75+42.01	591466.2266	1335864.2514
PC 80+05.39	591616.5061	1335820.9143
PT 81+25.26	591656.0615	1335809.7594



APPROVED: Department of Planning & Zoning
Linda Hanna 7/19/01
Chief, Division of Land Development

APPROVED: Department of Public Works for Storm Drainage Systems and Roads
John DeWitt 7/10/01
Chief, Development Engineering Division

OWNER:
Parcels 45 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

- LEGEND:
- Proposed Sewage Disposal Area
 - Drainage Flow and Swale
 - Prop. Lot Nos.
 - BRL
 - Tree Maint. Easmt.
 - Proposed Storm Drain
 - MSHA Type "A" Curb & Gutter

SEE SHEET 4 FOR MD 144 WIDENING DETAILS

- NOTES:
- For street tree locations, see sheets 15 & 16.
 - All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
 - There shall be a minimum of 20 feet between street lights and street signs.
 - For storm drain profiles refer to sheet 5.
 - All future driveway crossings within the Public R/W shall be approved at the time of Building Permit.
 - For Traffic Control Sign Location Table, see sheet 4.
 - See sheet 4 for MD 144 widening & striping and Traffic Control Details.
 - See Sheet 8 for State Highway "Road Improvement" Sequence of Construction.

STREET LIGHT TABLE

Street Name	Symbol	Station	Offset	Lamp Type	Fixture Type	Pole Type
Cotswold Spring Farm Lane	☼	0+37	27' LT	250 W HPS VAPOR	FLUORESCENT (301 OFF)	307 BRONZE FIBERGLASS - 12' ARM

REVISIONS

By	Date	No.	Description
	6/01		

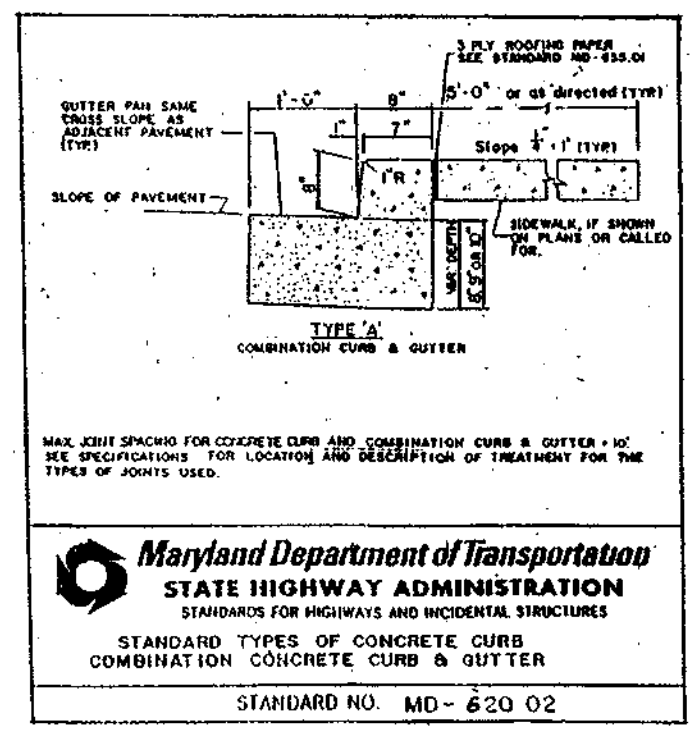
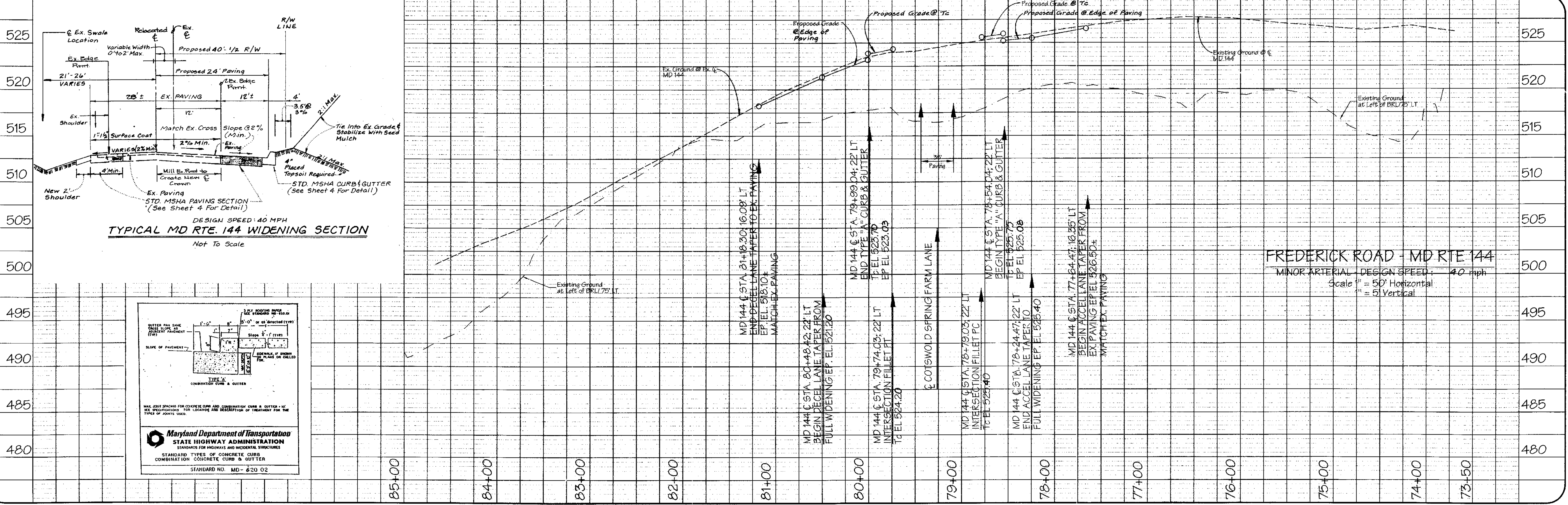
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS
DRAWN: JLM, KBW
CHECKED: BDB
DATE: 6/01

BRANTWOOD
Section Three - Area Two
Lots 17-27 & Preservation Parcel "E"
A Re subdivision of Brantwood - Section 3 Area 1
Subdivisible Bulk Parcel "A" & "B"
Tax Map No. 16 - Grid No. 21 - Parcels 45, & 205
3rd Election District - Howard County, Maryland
Previous Submittals: WP 80-86, F 50-128, WP 99-95, S 99-09, WP 00-55, P 00-03, P 00-04, F 01-07

BRANTWOOD, LLC
8835-F Columbia 100 Parkway
Columbia, Maryland 21045
(410) 730-0810

SCALE: A5
SHOWN: 2 of 17
JOB NO.: 98-040.5
FILE NO.: F01-73

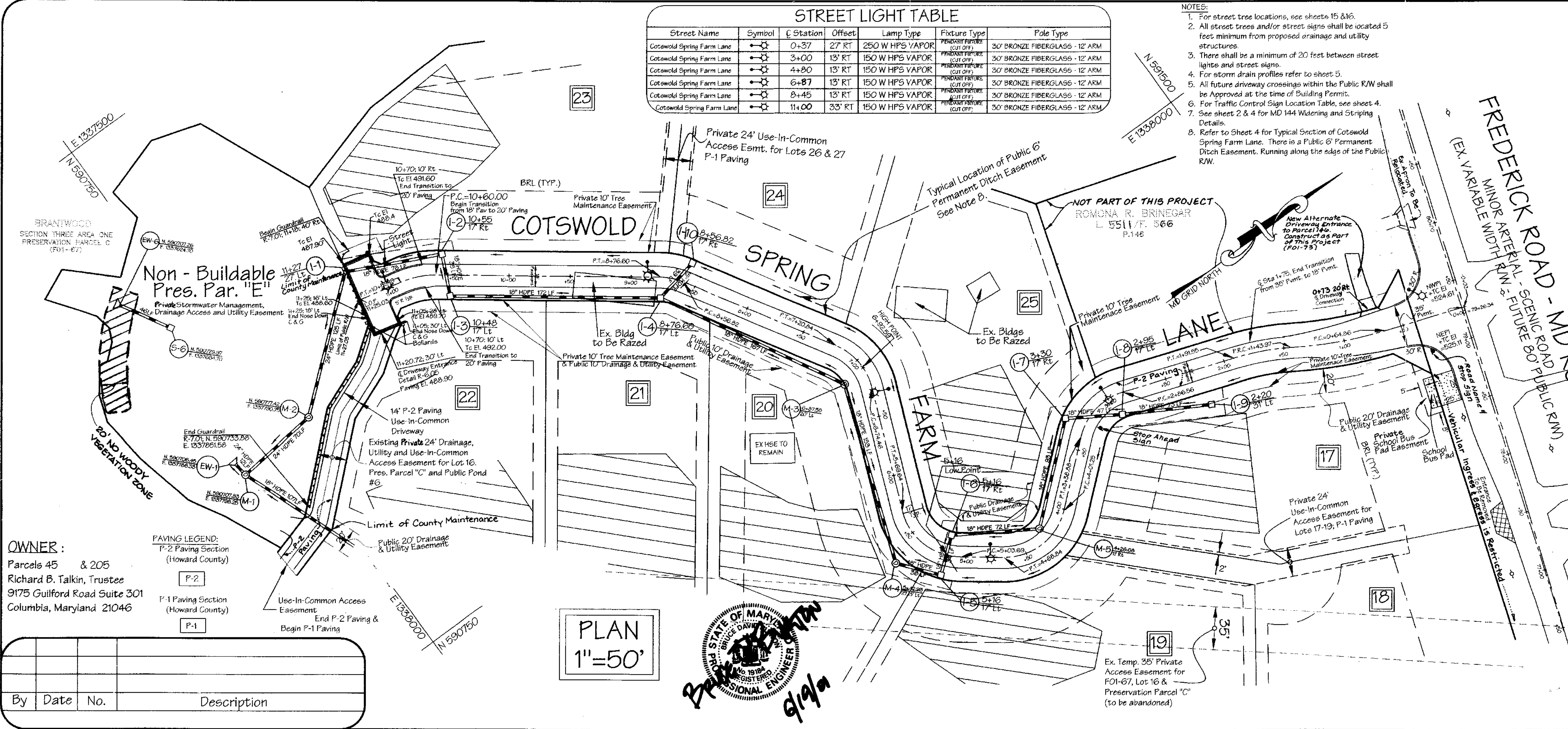


MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPES OF CONCRETE CURB & GUTTER
COMBINATION CURB & GUTTER
STANDARD NO. MD-620-02

Street Name	Symbol	Station	Offset	Lamp Type	Fixture Type	Pole Type
Cotswold Spring Farm Lane	↔	0+37	27' RT	250 W HPS VAPOR	FRONTIER	30' BRONZE FIBERGLASS - 12' ARM
Cotswold Spring Farm Lane	↔	3+00	13' RT	150 W HPS VAPOR	FRONTIER	30' BRONZE FIBERGLASS - 12' ARM
Cotswold Spring Farm Lane	↔	4+80	13' RT	150 W HPS VAPOR	FRONTIER	30' BRONZE FIBERGLASS - 12' ARM
Cotswold Spring Farm Lane	↔	6+87	13' RT	150 W HPS VAPOR	FRONTIER	30' BRONZE FIBERGLASS - 12' ARM
Cotswold Spring Farm Lane	↔	8+45	13' RT	150 W HPS VAPOR	FRONTIER	30' BRONZE FIBERGLASS - 12' ARM
Cotswold Spring Farm Lane	↔	11+00	33' RT	150 W HPS VAPOR	FRONTIER	30' BRONZE FIBERGLASS - 12' ARM

- NOTES:
- For street tree locations, see sheets 15 & 16.
 - All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
 - There shall be a minimum of 20 feet between street lights and street signs.
 - For storm drain profiles refer to sheet 5.
 - All future driveway crossings within the Public R/W shall be Approved at the time of Building Permit.
 - For Traffic Control Sign Location Table, see sheet 4.
 - See sheet 2 & 4 for MD 144 Widening and Striping Details.
 - Refer to Sheet 4 for Typical Section of Cotswold Spring Farm Lane. There is a Public 6' Permanent Ditch Easement. Running along the edge of the Public R/W.

CENTERLINE CURVE DATA					
Name & Station	Radius	Delta	Length	Tangent	Chord Bearing & Dist.
Cotswold Spring Farm Lane - 0+64.86 - 1+43.97	332.50'	13° 3' 53"	79.11'	39.74'	S26° 14' 37" W - 79.92'
Cotswold Spring Farm Lane - 1+43.97 - 1+91.55	200.00'	15° 3' 55"	47.58'	25.91'	S26° 14' 38" W - 47.47'
Cotswold Spring Farm Lane - 2+06.56 - 3+38.88	50.00'	53° 5' 12"	52.32'	28.84'	S10° 30' 36" E - 49.96'
Cotswold Spring Farm Lane - 4+01.25 - 4+68.84	50.00'	77° 27' 01"	67.99'	40.09'	S0° 47' 42" E - 62.56'
Cotswold Spring Farm Lane - 5+03.69 - 5+69.64	50.00'	78° 54' 06"	65.95'	38.76'	S7° 42' 52" W - 61.27'
Cotswold Spring Farm Lane - 6+74.46 - 7+20.84	50.00'	53° 08' 35"	46.38'	25.01'	S88° 55' 37" W - 44.73'
Cotswold Spring Farm Lane - 8+56.82 - 8+78.80	50.00'	22° 40' 04"	19.78'	10.02'	S49° 01' 15" W - 19.65'
Cotswold Spring Farm Lane - 10+60.00 - 10+89.39	70.00'	23° 53' 19"	29.19'	14.81'	S24° 44' 37" W - 29.97'



APPROVED: Department of Planning & Zoning
Cindy Hanuta 7/19/01
Chief, Division of Land Development, SA

APPROVED: Department of Public Works for Storm Drainage Systems and Roads
Bill Dammann 7/10/01
Chief, Development Engineering Division

APPROVED: Department of Public Works for Storm Drainage Systems and Roads
Samuel Hill 7/19/01
Chief, Bureau of Highways

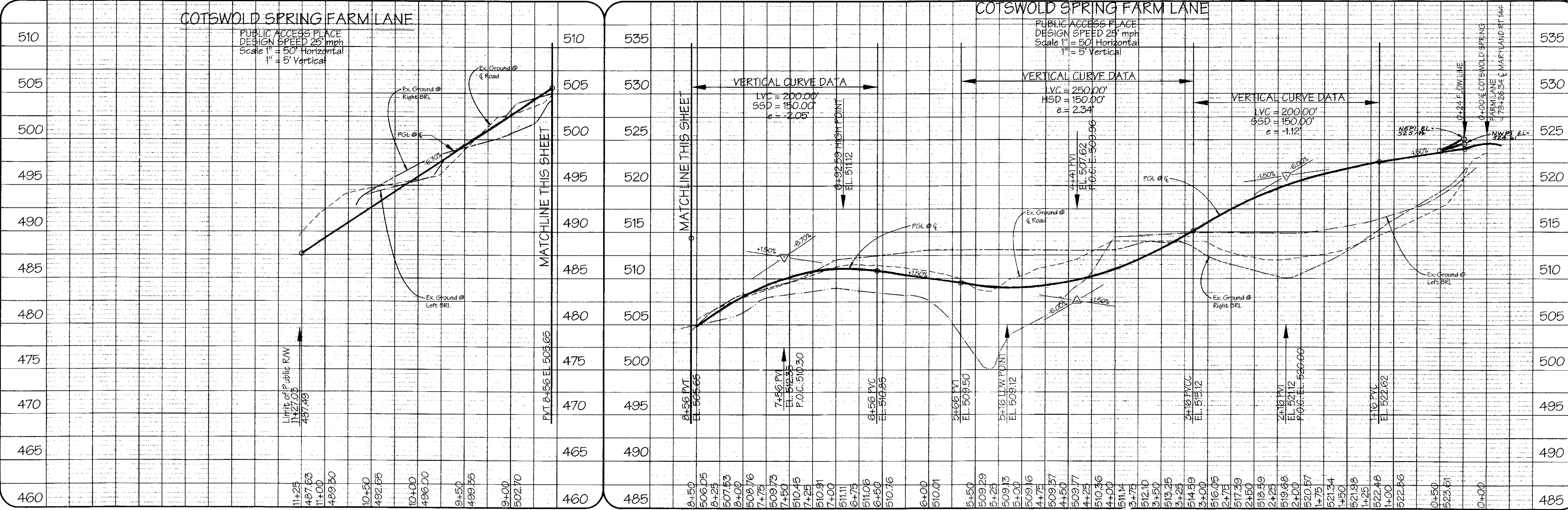
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

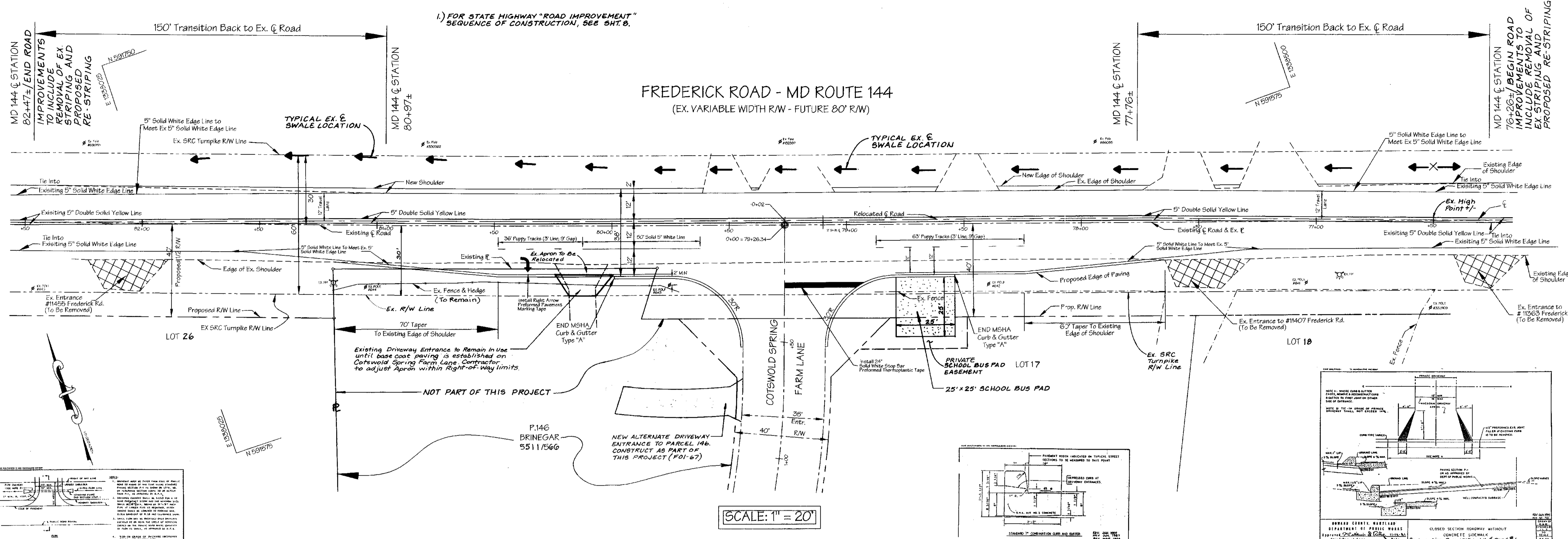
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SCALE: AS SHOWN

DRAWN: JLM
SECTION: BRANTWOOD Section Three - Area Two
3 of 17

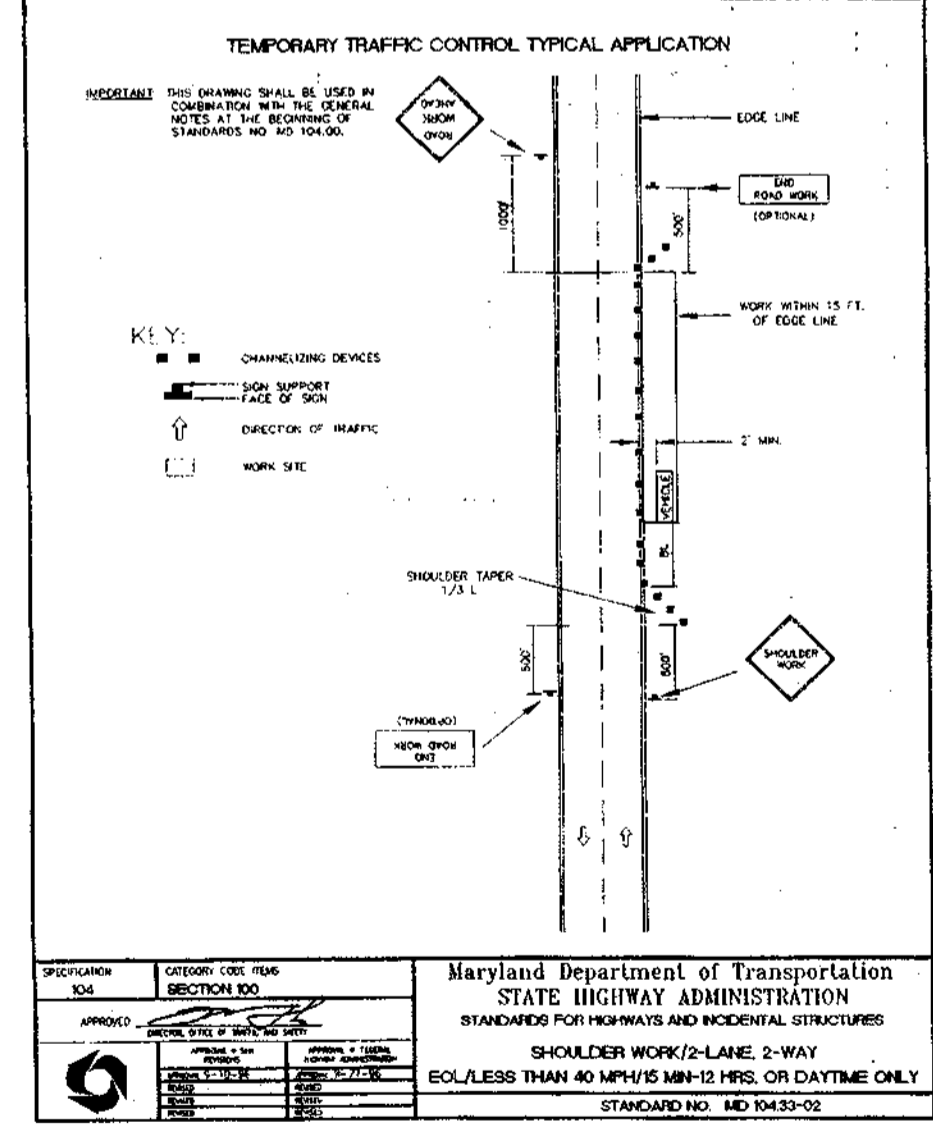
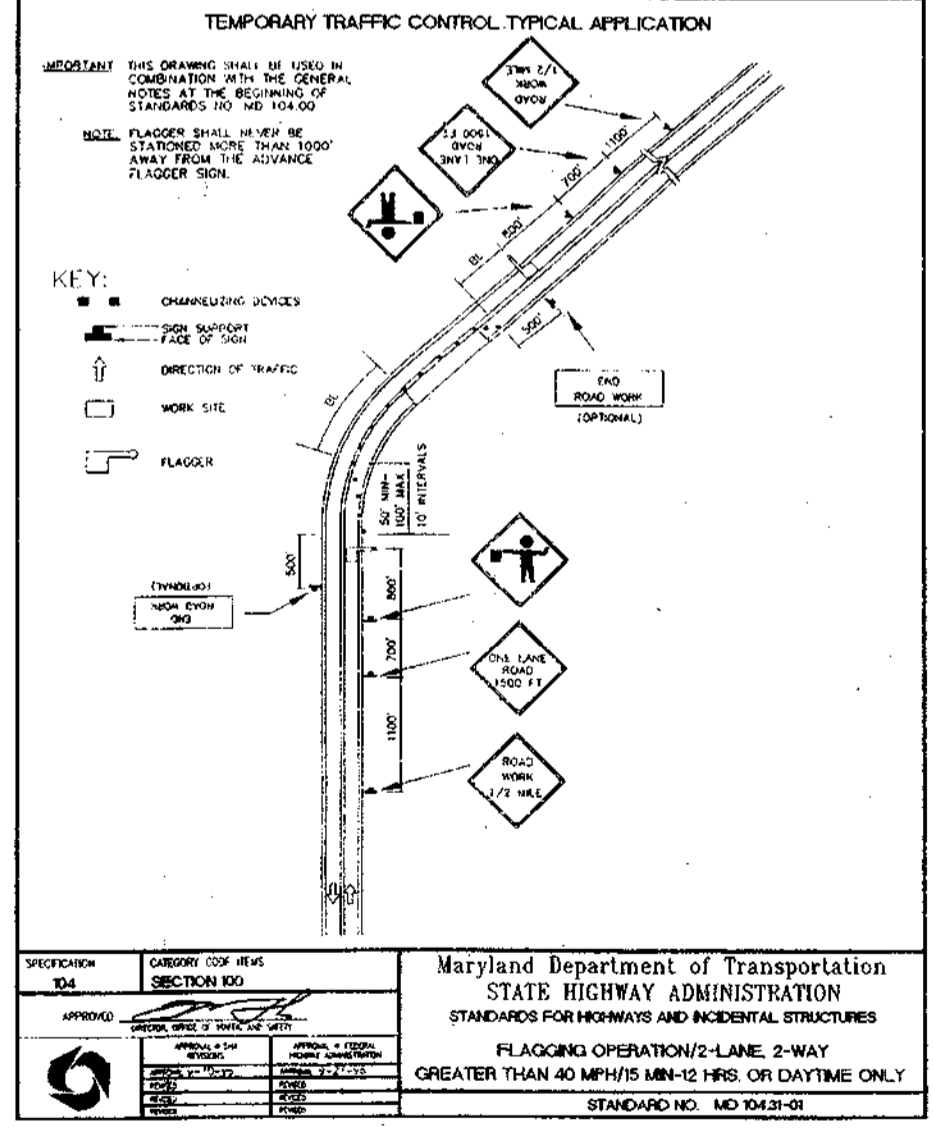
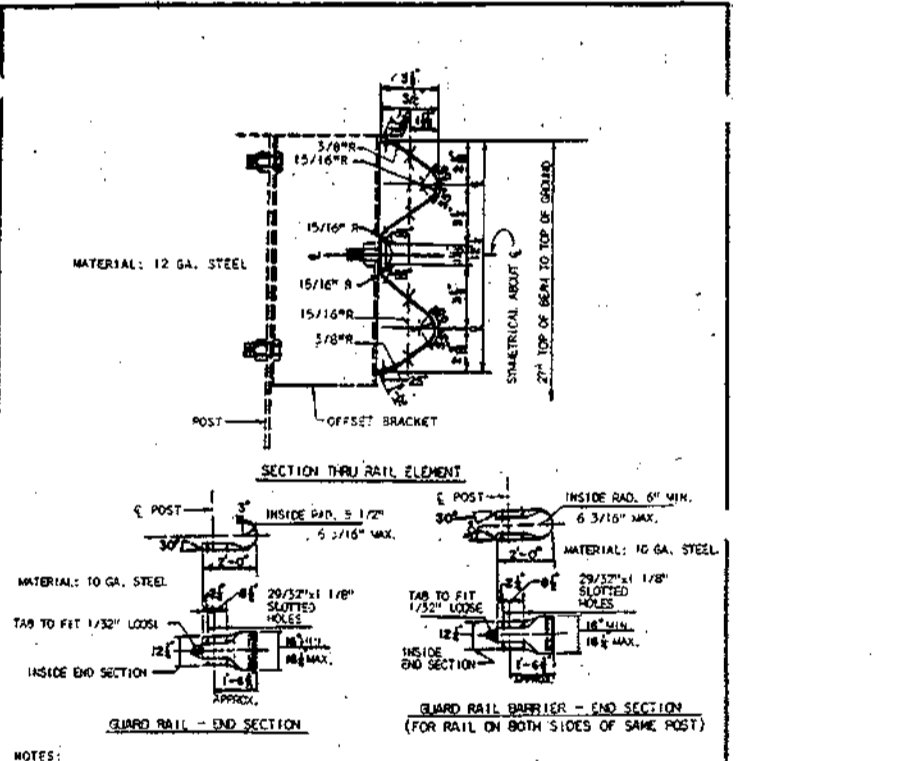
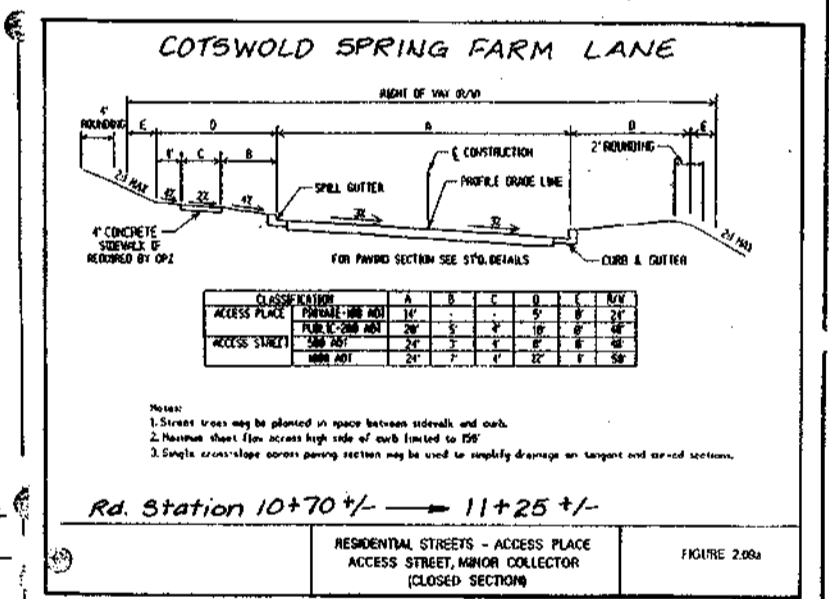
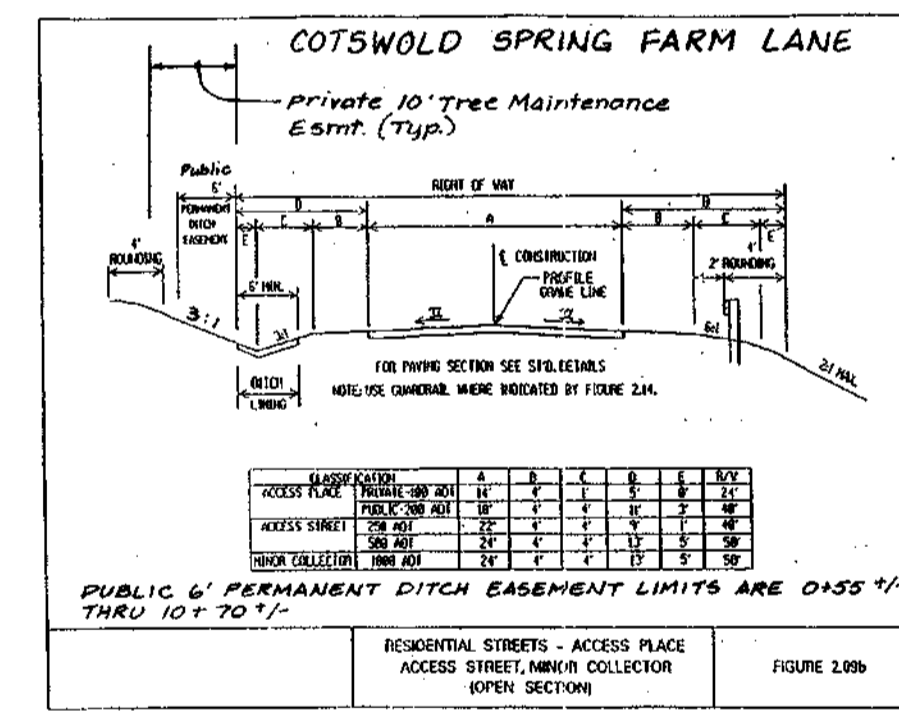
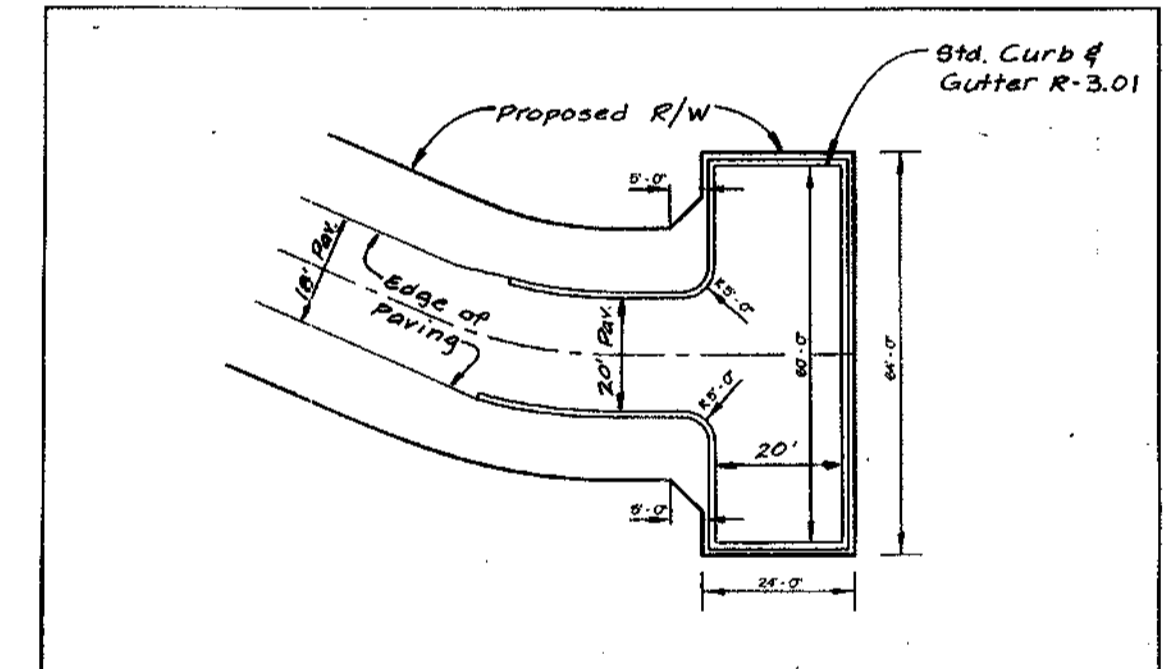
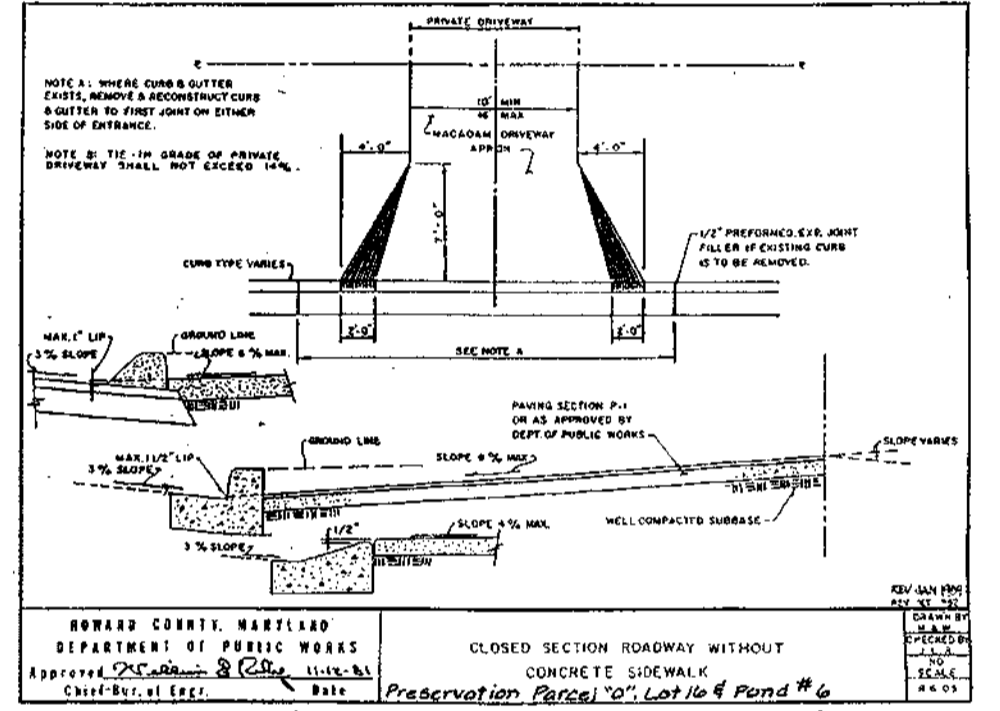
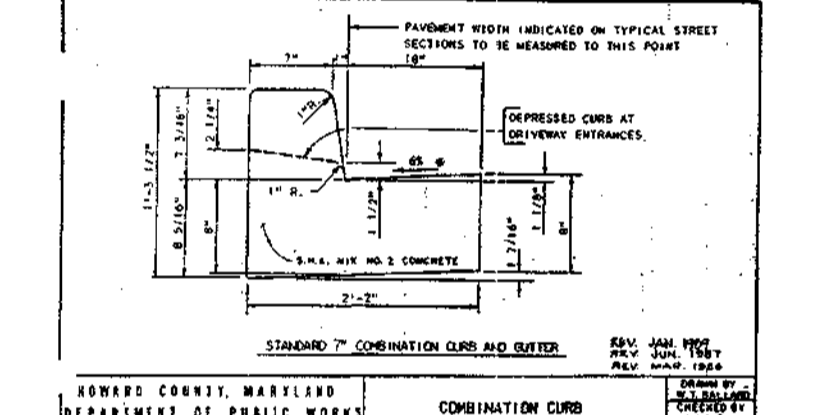
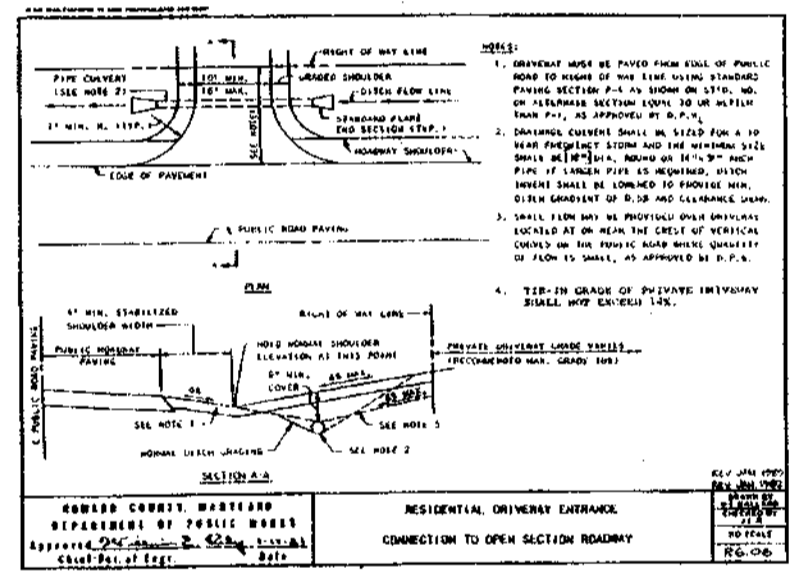
CHECKED: BDB
JOB NO: 98-040.5

DATE: 6/2001
FILE NO: F01-73





SCALE: 1" = 20'



Symbol	Street Name	Station	Offset	Type	WORK ORDER #
◻	Cotswold Spring Farm Lane	0+27	28' LT.	R1-1 "Stop Sign, 30"x30" Octagon w/ Street Name Sign	
◻	Cotswold Spring Farm Lane	3+25	13' LT.	R3-1A "Stop Ahead" Sign (Diagrammatic), 36"x36" Diamond	
◻	Cotswold Spring Farm Lane		13'	W1-5L "15 MPH" Sign	

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	FULL DEPTH BIT. CONC. ALTERNATE	PAVEMENT MATERIALS	GRANULAR BASE ALTERNATES
P-1	PARKING BAYS, APARTMENTS AND COMMERCIAL TRAVELWAYS FOR INDUSTRIAL AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE
P-2	RESIDENTIAL ZONES, LOCAL, COLLECTOR STS., ALLEYS AND PRIVATE HOUSING SERVING RESIDENTIAL TRAVELWAYS AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS PER DAY	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 7/10/01
 [Signature] 7/17/01
 APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/10/01

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.
 [Signature] 4/27/01
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 [Signature] 4/27/01

ENGINEER'S CERTIFICATE
 [Signature] 6/19/01
 DEVELOPER'S CERTIFICATE
 [Signature] 4/20/01

OWNER:
 Parcels 45, & 205
 Richard B. Talkin, Trustee
 9175 Guilford Road Suite 301
 Columbia, Maryland 21046

Road Name	Station to	Class	R/W	Design Speed	Paving Section
Cotswold Spring Farm Lane	0+00 to 11+27	Public	40	25	P-2

1 1/2" Hot Mix Asphalt Surface 5C PG 64-22
 6" Hot Mix Asphalt Base 2C (2" Lifts) PG 64-22
 6" Base Course / Graded Aggregate
 STATE HIGHWAY FULL DEPTH PAVEMENT SECTION

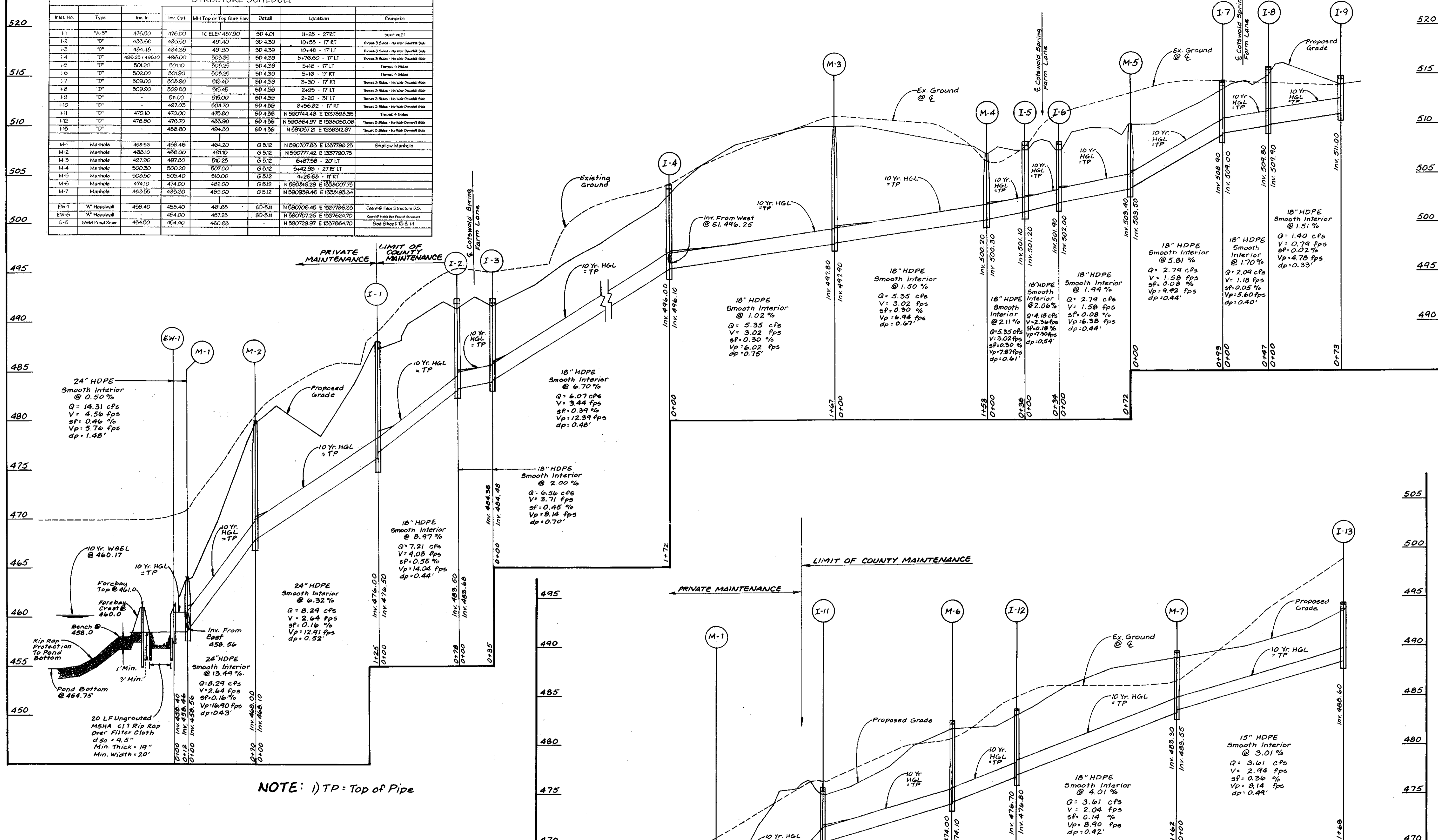
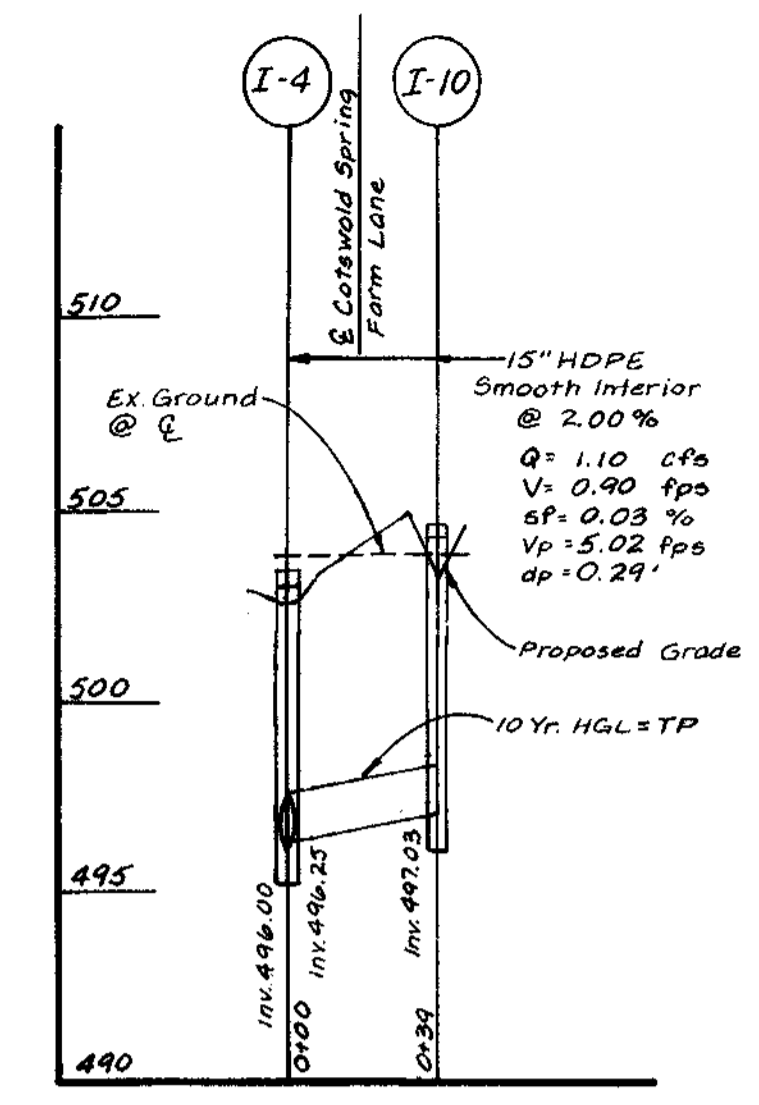
LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS
 DRAWN: JLM
 CHECKED: BDB
 DATE: 6/01

BRANTWOOD
 Section Three - Area Two
 Lots 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

SCALE: As Shown
 DRAWING: 4 of 17
 JOB NO.: 98-040.5
 FILE NO.: FO1-73

Inlet No.	Type	Inv. In	Inv. Out	M/H Top or Top Slab Elev	Detail	Location	Remarks
I-1	"A-B"	476.50	476.00	IC ELEV 487.90	SD 4.01	11+25 - 27 RT	SUMP INLET
I-2	"D"	483.68	483.50	491.40	SD 4.39	10+55 - 17 RT	Threat 3 Sides - No Water Overlaid Side
I-3	"D"	484.18	484.38	491.30	SD 4.39	10+45 - 17 LT	Threat 3 Sides - No Water Overlaid Side
I-4	"D"	496.25	496.10	503.35	SD 4.39	8+76.60 - 17 LT	Threat 3 Sides - No Water Overlaid Side
I-5	"D"	501.20	501.10	508.25	SD 4.38	5+16 - 17 LT	Threat 4 Sides
I-6	"D"	502.00	501.90	508.25	SD 4.39	5+16 - 17 RT	Threat 4 Sides
I-7	"D"	509.00	508.80	515.40	SD 4.39	3+30 - 17 RT	Threat 3 Sides - No Water Overlaid Side
I-8	"D"	509.90	509.80	515.45	SD 4.39	2+95 - 17 LT	Threat 3 Sides - No Water Overlaid Side
I-9	"D"	-	511.00	515.00	SD 4.39	2+20 - 31 LT	Threat 3 Sides - No Water Overlaid Side
I-10	"D"	470.10	470.00	475.90	SD 4.39	8+46.82 - 17 RT	Threat 3 Sides - No Water Overlaid Side
I-11	"D"	476.80	476.70	483.90	SD 4.39	N 590744.48 E 1337968.36	Threat 3 Sides - No Water Overlaid Side
I-12	"D"	476.80	476.70	483.90	SD 4.39	N 590744.48 E 1337968.36	Threat 3 Sides - No Water Overlaid Side
I-13	"D"	-	486.60	494.80	SD 4.39	N 590567.21 E 1336892.67	Threat 3 Sides - No Water Overlaid Side
M-1	Manhole	458.56	458.46	464.20	G 5.12	N 590707.83 E 1337786.25	Shallow Manhole
M-2	Manhole	468.10	468.00	481.10	G 5.12	N 590777.42 E 1337780.75	Shallow Manhole
M-3	Manhole	487.80	487.80	503.25	G 5.12	6+87.58 - 20 LT	Shallow Manhole
M-4	Manhole	500.30	500.20	527.00	G 5.12	5+42.35 - 27 RT	Shallow Manhole
M-5	Manhole	500.50	500.40	510.00	G 5.12	4+28.66 - 11 RT	Shallow Manhole
M-6	Manhole	474.10	474.00	482.00	G 5.12	N 590918.29 E 1336007.75	Shallow Manhole
M-7	Manhole	483.55	483.30	488.00	G 5.12	N 590808.46 E 1336983.34	Shallow Manhole
EW-1	"A" Headwall	458.40	458.40	461.65	SD-5.11	N 590706.45 E 1337786.33	Coord @ Pave Structures P.S.
EW-6	"A" Headwall	454.00	454.00	467.25	SD-5.11	N 590707.28 E 1337804.70	Coord @ Pave Structures P.S.
S-6	SMW Pond Riser	454.50	454.40	460.63	-	N 590729.37 E 1337864.70	See Sheet 13 & 14



NOTE: 1) TP = Top of Pipe

OWNER:
Parcels 45 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/16/01
CHIEF, DEVELOPMENT AND PERMIT DIVISION

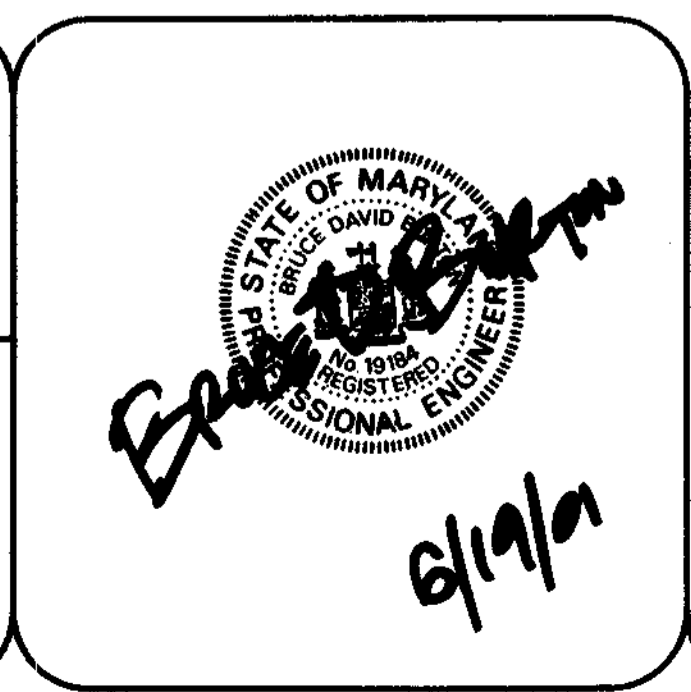
APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 7/17/01
CHIEF, BUREAU OF HIGHWAYS

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.
[Signature] 6/27/01
NATURAL RESOURCE CONSERVATION

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
[Signature] 6/27/01
HOWARD COUNTY SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL SURVEY OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE OR SHE IS RESPONSIBLE FOR OBTAINING THE NECESSARY PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND THE NECESSARY PERMITS FROM THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN WITHIN 30 DAYS OF COMPLETION.
[Signature] 6/19/01
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE
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 AS 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 COUNTY 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 COUNTY SOIL CONSERVATION DISTRICT.
[Signature] 6/19/01
SIGNATURE OF DEVELOPER



Size	Class	Total Length *
15"	HDPE Smooth Interior	207
18"	HDPE Smooth Interior	1427
24"	HDPE Smooth Interior	207

* The total length of pipe does not take into account the slope of the pipe. This total is for linear feet only.

By	Date	No.	Description

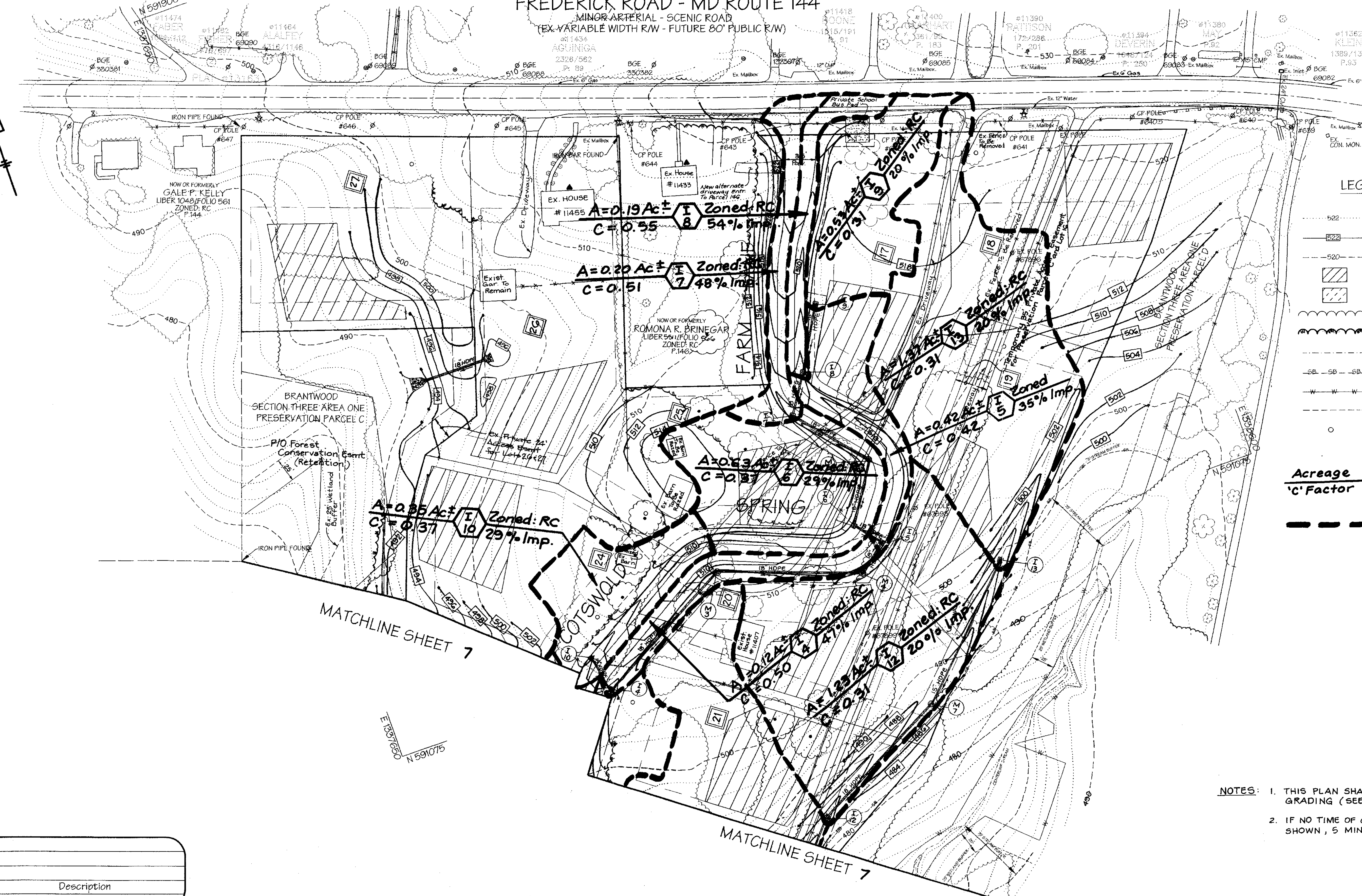
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS
DRAWN: JLM, STB
CHECKED: BDB
DATE: 6/01

Storm Drain Profiles
BRANTWOOD
Section Three - Area Two
Lots 17, 23, Preservation Parcel "E"
A Re subdivision of Brantwood - Section 3 Area 1
Subdivided into Parcels "A", "B", "C"
Fair Map No. 16-C-14 No. 21-Parcels 45 & 205
3rd Election District - Howard County, Maryland
Previous Subdivisions: WF 80-96, F 90-28, WF 99-55, S 99-08, WF 00-05, F 00-03, F 00-04, F 01-07

SCALE: As Shown
DRAWING: 5 of 17
JOB NO.: 98-040.5
FILE NO.: F01-73

FREDERICK ROAD - MD ROUTE 144
 MINOR ARTERIAL - SCENIC ROAD
 (EX. VARIABLE WIDTH R/W - FUTURE 80' PUBLIC R/W)



LEGEND

- 522 --- EX. 2FT. CONTOUR
- - - 522 - - - PROP. 2FT. CONTOUR
- 520 --- EX. 10FT. CONTOUR
- ▨ PROP. SEPTIC AREA
- ▨ EX. SEPTIC AREA
- ~ EX. TREES
- ~ EX. TREES TO REMAIN
- - - - - EX. C. STREAM
- 5L -5B -5B -5L 75' FT. STREAM BUFFER
- - - - - EX. NON-TIDAL WETLAND
- - - - - 25' FT. WETLAND BUFFER
- PROPOSED WELL

Acresage **INLET** Zoning
 'C' Factor No. % Impervious

--- Drainage Divide

- NOTES:
1. THIS PLAN SHALL NOT BE USED FOR GRADING (SEE SHEET 8).
 2. IF NO TIME OF CONCENTRATION (TC) IS SHOWN, 5 MIN. TC WAS USED.

By	Date	No.	Description

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/10/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/12/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/10/01
 CHIEF, Bureau of Highways

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.

[Signature] 6/27/01
 NATIONA RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/27/01
 HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, SOIL 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 REGULATIONS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE OR SHE IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND THE STATE OF MARYLAND.

[Signature] 6/19/01
 REGISTERED PROFESSIONAL ENGINEER

DEVELOPER'S CERTIFICATE

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 EMPLOY A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY 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.

[Signature] 6/19/01
 SIGNATURE OF DEVELOPER

STATE OF MARYLAND
 BRUCE D. BROWN
 REGISTERED PROFESSIONAL ENGINEER
 6/19/01

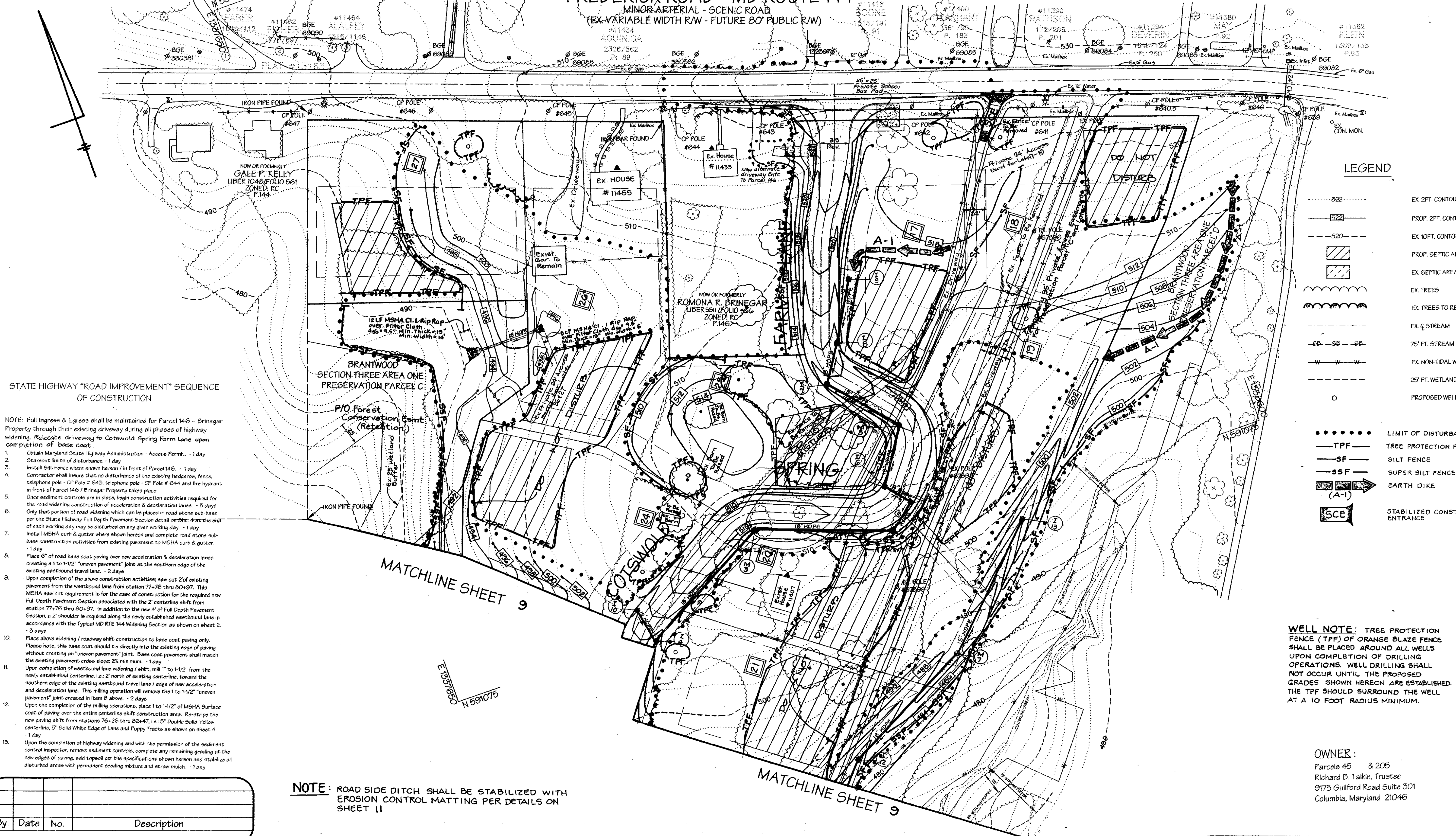
LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Drainage Area Map BRANTWOOD Section Three - Area Two A Subdivision of the Unincorporated Section 3 Area A Resubdivision of the Unincorporated Section 3 Area Duplicates Bulk Parcels "A" & "B" Tax Map No. 16 - Grid No. 21 - Parcels 45, & 205 244 Election District - Howard County, Maryland Precise Sub-Block: WP 30-26, F 30-128, WP 99-55, S 99-09, WP 00-35, P02-02, F 0-57	SCALE 1" = 50'
DRAWN JLM		DRAWINGS 6 of 17
CHECKED BDB		JOB NO. 98-040.5
DATE 6/2001		FILE NO. F01-73

OWNER:
 Parcels 45 & 205
 Richard B. Talkin, Trustee
 9175 Guilford Road Suite 301
 Columbia, Maryland 21046

DEVELOPER:
 BRANTWOOD, LLC
 8825 - P Columbia 100 Parkway
 Columbia, Maryland 21045
 (410) 730-0810

FREDERICK ROAD - MD ROUTE 144
MINOR ARTERIAL - SCENIC ROAD
(EX-VARIABLE WIDTH R/W - FUTURE 80' PUBLIC R/W)



- LEGEND**
- 522 EX. 2FT. CONTOUR
 - 522 ----- PROP. 2FT. CONTOUR
 - 520 ----- EX. 10FT. CONTOUR
 - 520 ----- PROP. SEPTIC AREA
 - 520 ----- EX. SEPTIC AREA
 - 520 ----- EX. TREES
 - 520 ----- EX. TREES TO REMAIN
 - 520 ----- EX. STREAM
 - 520 ----- 75' FT. STREAM BUFFER
 - 520 ----- EX. NON-TIDAL WETLAND
 - 520 ----- 25' FT. WETLAND BUFFER
 - PROPOSED WELL
 - LIMIT OF DISTURBANCE
 - TPF --- TREE PROTECTION FENCE
 - SF --- SILT FENCE
 - SSF --- SUPER SILT FENCE
 - (A-1) --- EARTH DIKE
 - SCE --- STABILIZED CONSTRUCTION ENTRANCE

STATE HIGHWAY "ROAD IMPROVEMENT" SEQUENCE OF CONSTRUCTION

NOTE: Full Ingress & Egress shall be maintained for Parcel 146 - Brinegar Property through their existing driveway during all phases of highway widening. Relocate driveway to Cotswold Spring Farm Lane upon completion of base coat.

1. Obtain Maryland State Highway Administration - Access Permit. - 1 day
2. Stake out limits of disturbance. - 1 day
3. Install Silt Fence where shown hereon / in front of Parcel 146. - 1 day
4. Contractor shall insure that no disturbance of the existing hedgerow, fence, telephone pole - CP Pole # 643, Telephone pole - CP Pole # 644 and fire hydrant in front of Parcel 146 / Brinegar Property takes place.
5. Once sediment controls are in place, begin construction activities required for the road widening construction of acceleration & deceleration lanes. - 5 days
6. Only that portion of road widening which can be placed in road stone sub-base per the State Highway Full Depth Pavement Section detail on sheet 4 at the end of each working day may be disturbed on any given working day. - 1 day
7. Install MSHA curb & gutter where shown hereon and complete road stone sub-base construction activities from existing pavement to MSHA curb & gutter. - 1 day
8. Place 6" of road base coat paving over new acceleration & deceleration lanes creating a 1 to 1-1/2" uneven pavement joint at the southern edge of the existing eastbound travel lane. - 2 days
9. Upon completion of the above construction activities; saw cut 2' of existing pavement from the westbound lane from station 77+76 thru 80+97. This MSHA saw cut requirement is for the ease of construction for the required new Full Depth Pavement Section associated with the 2' centerline shift from station 77+76 thru 80+97. In addition to the new 4' of Full Depth Pavement Section, a 2' shoulder is required along the newly established westbound lane in accordance with the Typical MD RTE 144 Widening Section as shown on sheet 2. - 3 days
10. Place above widening / roadway shift construction to base coat paving only. Please note, this base coat should tie directly into the existing edge of paving without creating an "uneven pavement" joint. Base coat paving shall match the existing pavement cross slope; 2% minimum. - 1 day
11. Upon completion of westbound lane widening / shift, mill 1" to 1-1/2" from the newly established centerline, i.e. 2' north of existing centerline, toward the southern edge of the existing eastbound travel lane / edge of new acceleration and deceleration lane. This milling operation will remove the 1 to 1-1/2" uneven pavement joint created in item 8 above. - 2 days
12. Upon the completion of the milling operations, place 1 to 1-1/2" of MSHA Surface coat of paving over the entire centerline shift construction area. Re-stripe the new paving shift from stations 76+26 thru 82+47, i.e. 5" Double Solid Yellow centerline, 5" Solid White Edge of Lane and PUPPY Tracks as shown on sheet 4. - 1 day
13. Upon the completion of highway widening and with the permission of the sediment control inspector, remove sediment controls, complete any remaining grading at the new edges of paving, add topsoil per the specifications shown hereon and stabilize all disturbed areas with permanent seeding mixture and straw mulch. - 1 day

NOTE: ROAD SIDE DITCH SHALL BE STABILIZED WITH EROSION CONTROL MATTING PER DETAILS ON SHEET 11

WELL NOTE: TREE PROTECTION FENCE (TPF) OF ORANGE BLAZE FENCE SHALL BE PLACED AROUND ALL WELLS UPON COMPLETION OF DRILLING OPERATIONS. WELL DRILLING SHALL NOT OCCUR UNTIL THE PROPOSED GRADES SHOWN HEREON ARE ESTABLISHED. THE TPF SHOULD SURROUND THE WELL AT A 10 FOOT RADIUS MINIMUM.

OWNER:
Parcels 45 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

By	Date	No.	Description

APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PUBLIC WORKS

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL.

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION, AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE AND EXPERIENCE. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT THESE PLANS MEET THE TECHNICAL REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT TO SUPERVISE POND CONSTRUCTION AND PREVENT EROSION AND SEDIMENTATION.

DEVELOPER'S CERTIFICATE

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 COUNTY 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 COUNTY SOIL CONSERVATION DISTRICT.

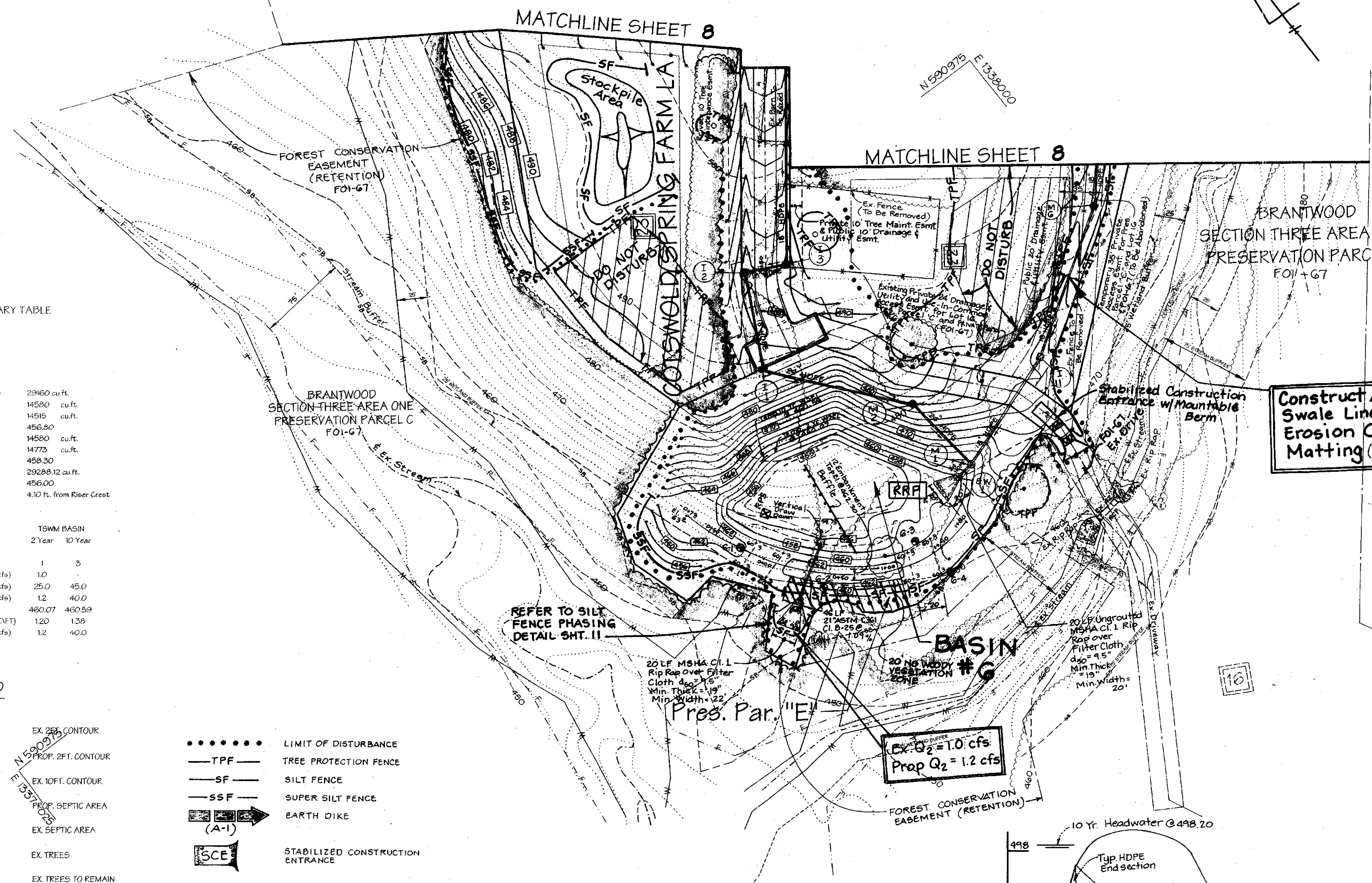
STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
BRUCE D. BURTON
6/19/01

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Grading and Soil Erosion & Sediment Control Plan	SCALE 1" = 50'
DRAWN JLM	BRANTWOOD Section Three - Area Two LOCAL 17-017 Preservation Parcel "E" A Resubdivision of Brantwood - Section 2 Area 1 Buildable Parcels "A" & "B"	DRAWINGS 8 of 17
CHECKED BDB	Task Map No. 16 - Grid No. 21 - Parcel 45, & 205 2nd Section District - Howard County, Maryland Previous Submittals: WF 90-96, F 90-120, WF 99-55, S 99-09, WF 00-55, P00-C3, P 00-04, F 01-67	JOB NO. 98-0405
DATE 6/1/2001	DEVELOPER BRANTWOOD, LLC 8835 - P Columbia 100 Parkway Columbia, Maryland 21045 (410) 730-0810	FILE NO. F01-73

NOTE: Full Ingress & Egress shall be maintained for Lot 16 & Preservation Parcel "C" (FO1-67) through the existing driveway within the 35' Temporary Access Easement as shown on Sheets 8 & 9.

1. Obtain Grading Permit. - 1 day
2. Install stabilized construction entrance. - 1 day
3. Stakeout limits of disturbance. - 3 days
4. Install Tree Protection Fence (TPF) where shown hereon. - 1 week
5. Install Silt Fence (SF) and Super Silt Fence (SSF) at the limit of disturbance where shown. - 2 days
6. Construct Basin # 6 per the MD 37B specifications, shown hereon. The riser shall be constructed per the Sediment Basin Details shown on sheets 13.
7. Obtain permission from the sediment control inspector to proceed. - 3 weeks
8. Grade site necessary for road & storm drain construction. - 3 weeks
9. Install Storm Drain system EW-1 through I-9 & M-1 to I-11. - 2 weeks
10. The accumulated sediment from the sediment & erosion control devices shall be placed up grade from the devices in such a manner as not to interfere with construction operations or cause erosion down grade from the devices. - 4 days
11. With permission of the sediment control inspector, clear, grub and grade site. Grading operations to include construction of use in common driveway and driveway culvert for Lots 26 & 27 per detail shown hereon, road grading and fill area grading operations. Stabilize disturbed areas with permanent seeding mixture and straw mulch. - 2 weeks
12. The sediment shall be removed from the Sediment Basin when the cleanout elevation has been reached. - 2 days
13. The contractor shall inspect and provide necessary maintenance on the sediment and erosion controls shown hereon after each rainfall and on a daily basis. - 1 day
14. The sediment basin shall be dewatered by pumping. The accumulated sediment from the basin shall be placed up grade from the structure in such a manner as not to interfere with construction operations or cause erosion down grade from the structure. - 2 days
15. Install final base, complete MSHA widening operations per the STATE HIGHWAY "ROAD IMPROVEMENT" SEQUENCE OF CONSTRUCTION SHOWN ON SHEET 8 and cut Cotswold Spring Farm Lane roadside swales. - 2 weeks
16. Complete grading for Use-in-Common driveway for Lot 16, Preservation Parcel "C" and Pond / Basin #6, place driveway to base for automobile traffic and relocate access from Temporary 35' Access Easement to the new driveway. 2 days
17. Install Storm Drain system I-11 through I-13. Construct "temporary swale" where shown on sheets 8 & 9. This "temporary swale" at rear of proposed Lots 19 - 22 shall remain as a permanent "Drainage & Utility" feature draining toward Pond #6, and should be constructed, protected with Erosion Control Matting per detail sheet 9 and stabilized as such. - 5 days
18. Construct Earth Dike as shown hereon to direct graded fill area into the "temporary swale". - 2 days
19. With permission of the sediment control inspector, complete any remaining grading, add topsoil per the specifications shown hereon, install base coat paving, line road side swales with erosion control matting and stabilize all disturbed areas with permanent seeding mixture and straw mulch. - 1 week
20. After all upgrade areas from Basin # 6 have been stabilized and permission has been given by Sediment Control Inspector, flush the storm drain system into the Basin # 6. - 1 day
21. After permission has been given by Sediment Control Inspector, remove earth dike, perimeter sediment controls & backfill Basin # 6 per the Ultimate Pond grades shown on sheet 14 and stabilize the disturbed areas with permanent seeding mixture and straw mulch. - 1 week
22. Complete conversion of Basin # 6 to POND # 6 per the details on sheet 14. The temporary riser components are to remain in place during the grading of the pond body. Full stabilization must be achieved prior to the removal of the temporary riser components. - 1 week
23. Convert riser (B-6) by removing vertical draw-down device, installing permanent low flow device, Ultimate Trash Racks and Riser Frame & Cover. - 1 week
24. Install 1-1/2" Surface coat of paving along Cotswold Spring Farm Lane. - 3 days
25. After permission has been given by Sediment Control Inspector, remove any remaining silt fence & super silt fence, and stabilize the disturbed areas from the aforementioned disturbances with permanent seeding mixture and straw mulch. - 1 week



SUMMARY TABLE

TEMPORARY BASIN # 6
Hazard Classification "A"
Drainage Area = 3.10 Acres
Top of Facility = 462.30
Invert of Facility = 454.75

Sediment Storage Volume Required =	29160 cu.ft.
Wet Storage Volume Required =	14580 cu.ft.
Wet Storage Volume Provided =	14515 cu.ft.
Wet Storage Elevation =	456.80
Dry Storage Volume Required =	14580 cu.ft.
Dry Storage Volume Provided =	14775 cu.ft.
Dry Storage Elevation =	458.30
Sediment Storage Volume Provided =	29288.12 cu.ft.
Cleanout Elevation =	456.00
Cleanout Elevation =	4.10 ft. from Riser Crest

TSWM BASIN

	2 Year	10 Year
Existing Flow	1	3
Acceptable Release (cfs)	1.0	3.0
Computed Inflow (cfs)	25.0	45.0
Facility Discharge (cfs)	1.2	40.0
Elevation at Discharge (ACFT)	460.07	460.59
Storage at Elevation	120	136
Temporary Flow (cfs)	1.2	40.0

LEGEND

- 522 --- EX. 25' CONTOUR
- 520 --- PROP. 2FT. CONTOUR
- 520 --- EX. 10FT. CONTOUR
- PROP. SEPTIC AREA
- EX. SEPTIC AREA
- EX. TREES
- EX. TREES TO REMAIN
- EX. STREAM
- 75' FT. STREAM BUFFER
- EX. NON-TIDAL WETLAND
- 25' FT. WETLAND BUFFER
- PROPOSED WELL
- LIMIT OF DISTURBANCE
- TPF TREE PROTECTION FENCE
- SF SILT FENCE
- SSF SUPER SILT FENCE
- (A-I) EARTH DIKE
- SCE STABILIZED CONSTRUCTION ENTRANCE

WELL NOTE: TREE PROTECTION FENCE (TPF) OF ORANGE BLAZE FENCE SHALL BE PLACED AROUND ALL WELLS UPON COMPLETION OF DRILLING OPERATIONS. WELL DRILLING SHALL NOT OCCUR UNTIL THE PROPOSED GRADES SHOWN HEREON ARE ESTABLISHED. THE TPF SHOULD SURROUND THE WELL AT A 10 FOOT RADIUS MINIMUM.

- Notes:
1. Road side ditch shall be stabilized with Erosion Control Matting. See detail SHT. 11.
 2. For Ultimate Pond #6 grades, refer to sht. 14.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/10/01
CHIEF, DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT

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.

[Signature] 4/27/01
NATIONAL RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 4/27/01
HOWARD COUNTY SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

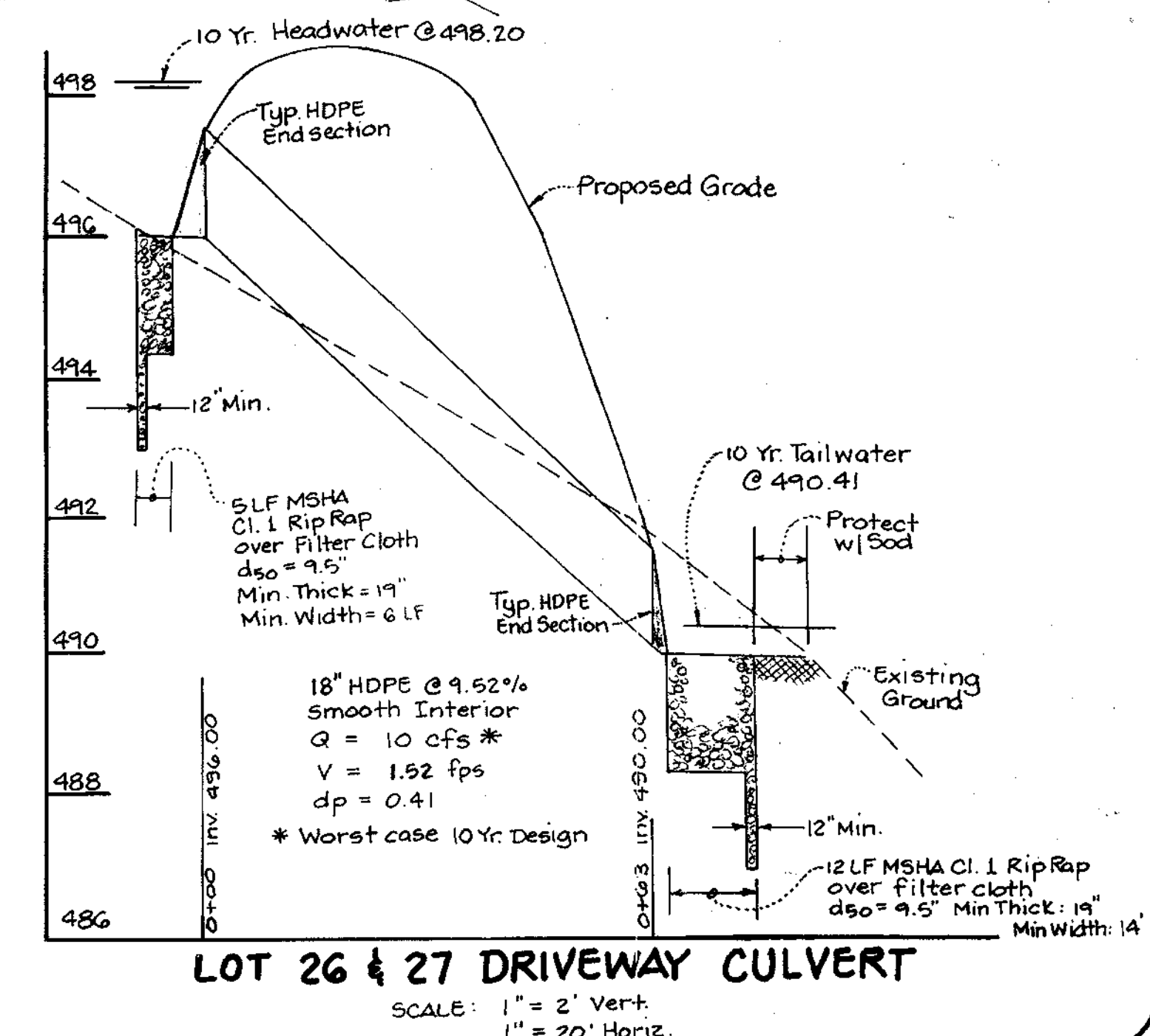
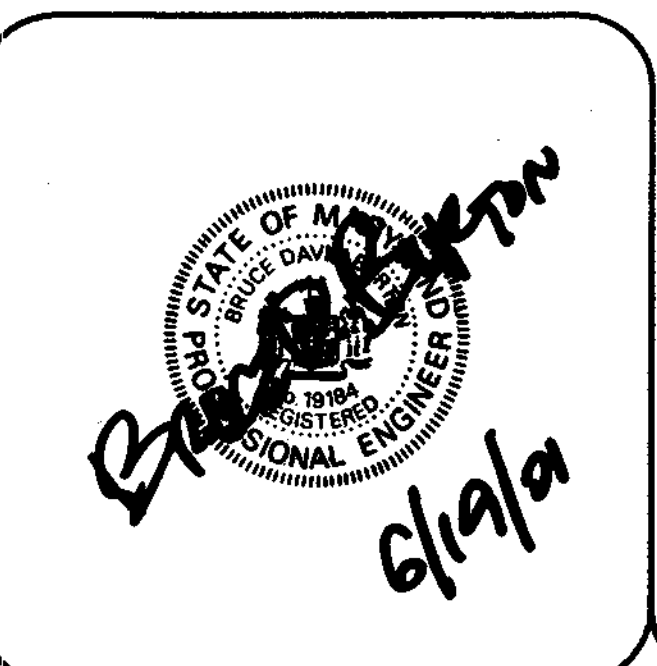
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[Signature] 6/19/01
REGISTERED PROFESSIONAL ENGINEER

DEVELOPER'S CERTIFICATE

I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY 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 COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/19/01
SIGNATURE OF DEVELOPER



OWNER:
Parcels 45 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

By	Date	No.	Description

LDE, INC.
9250 Rumsay Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Grading and Soil Erosion & Sediment Control Plan BRANTWOOD Section Three - Area Two Lots 17-21 Preservation Parcel "E" A Redevelopment of Brantwood Section 3 Area 1 Dullesville Park Parcels "A" & "B" Tax Map No. 18 - Cont. No. 21 - Parcels 45, & 205 3rd Section District - Howard County, Maryland Previous Submittals: HP 00-04, P 90-025, P 99-95, S 99-03, HP 00-05, P 00-04, P 01-07	SCALE 1" = 50'
DRAWN JLM		DRAWING 9 of 17
CHECKED BDB		JOB NO. 98-040.5
DATE 6/2001		FILE NO. FO1-73

DEVELOPER: BRANTWOOD, LLC
8825 - P Columbia 100 Parkway
Columbia, Maryland 21045
(410) 730-0810

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (303-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (Section G) for permanent seeding, sod, temporary seeding, and mulching. 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 permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	13.5 Acres +/-
Area Disturbed	8.5 Acres +/-
Area to be roofed or paved	0.5 Acres +/-
Area to be vegetatively stabilized	8.2 Acres +/-
Total Cut	12000 Cu. Yds.
Total Fill	12000 Cu. Yds.
- Off-site waste/borrow area location
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment 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 initial 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.

HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES

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

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

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

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

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

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

MAINTENANCE -- inspect all seeding areas and make needed repairs, replacements and reseedings.

HOWARD SOIL CONSERVATION DISTRICT TEMPORARY SEEDING NOTES

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

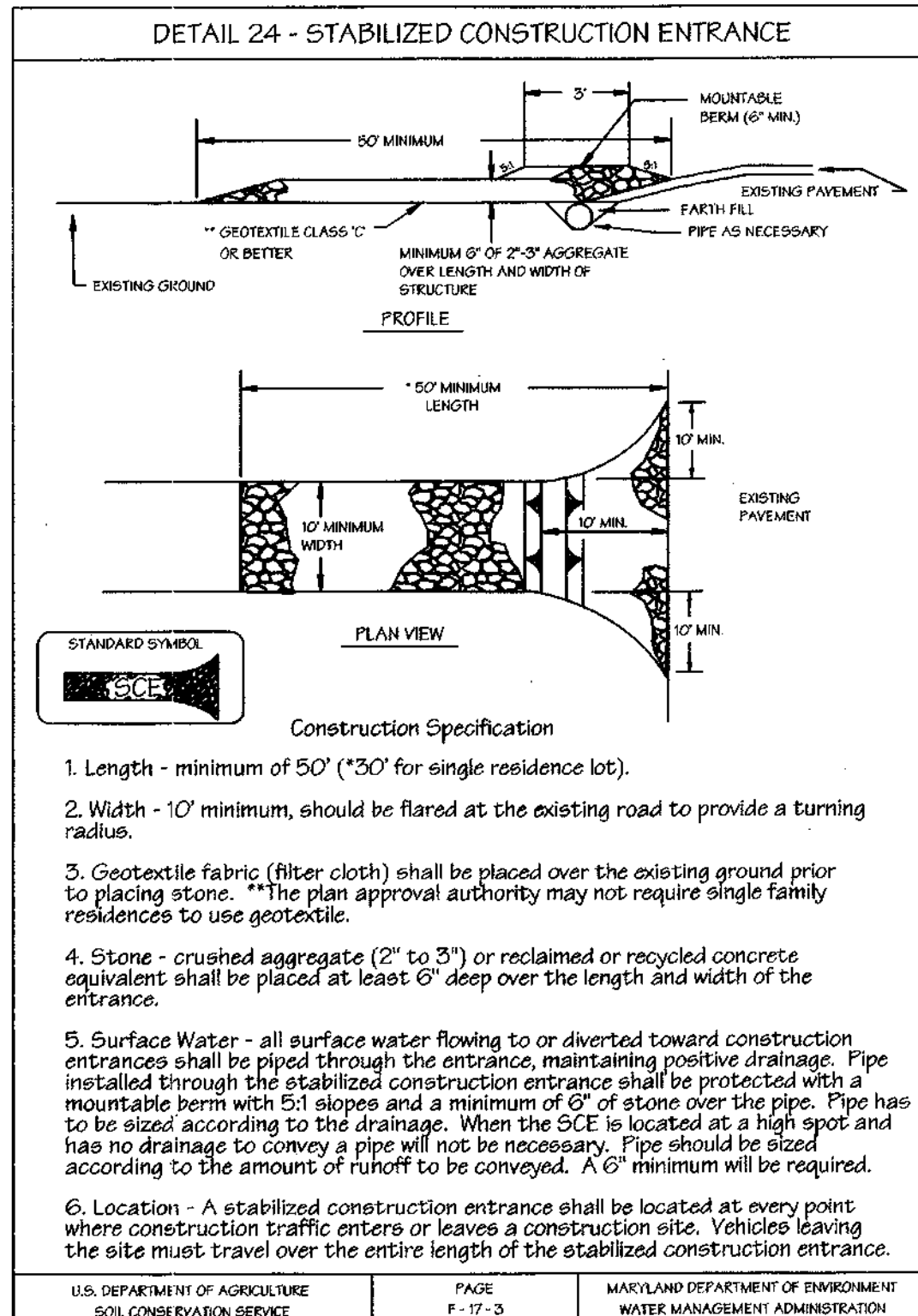
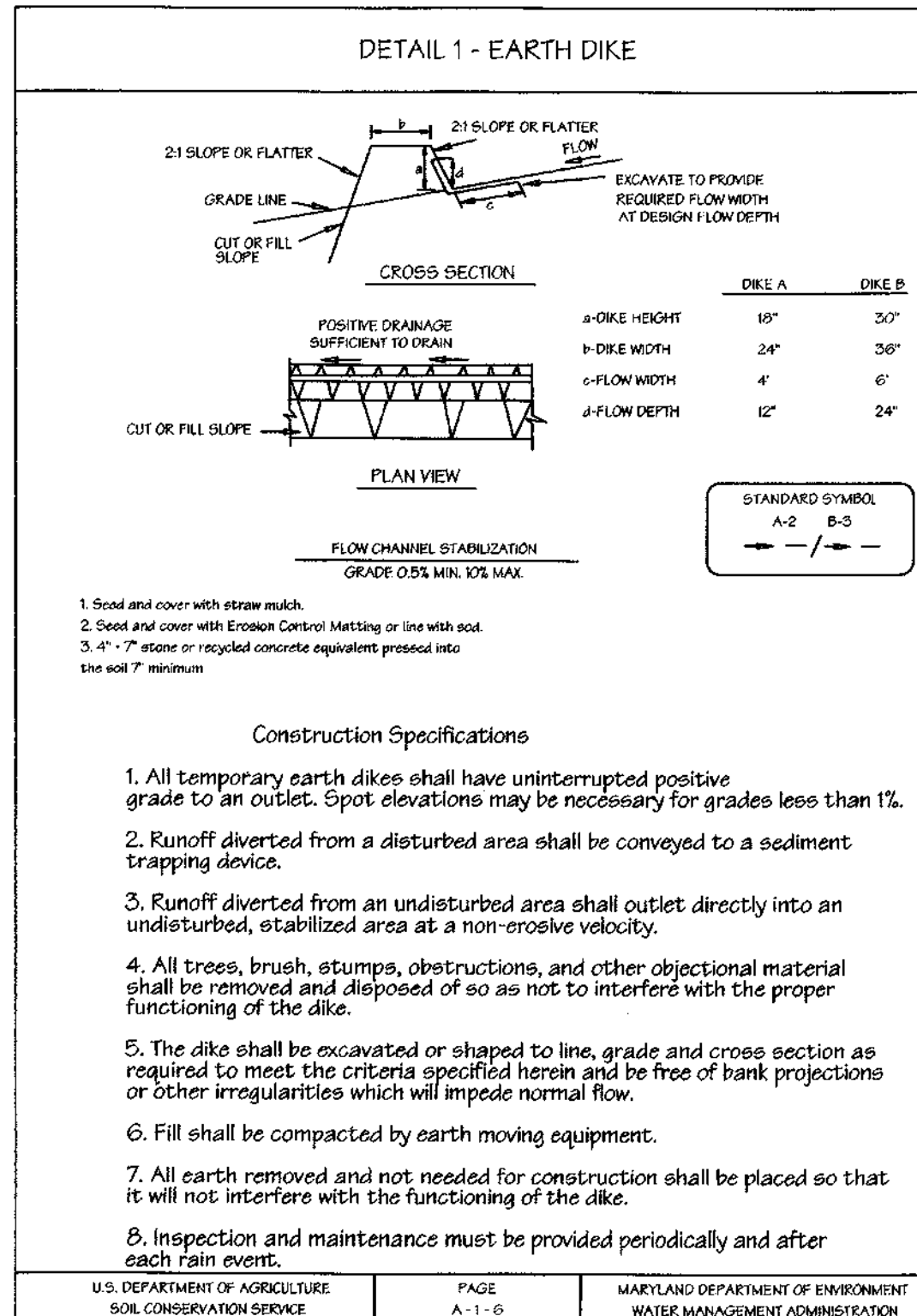
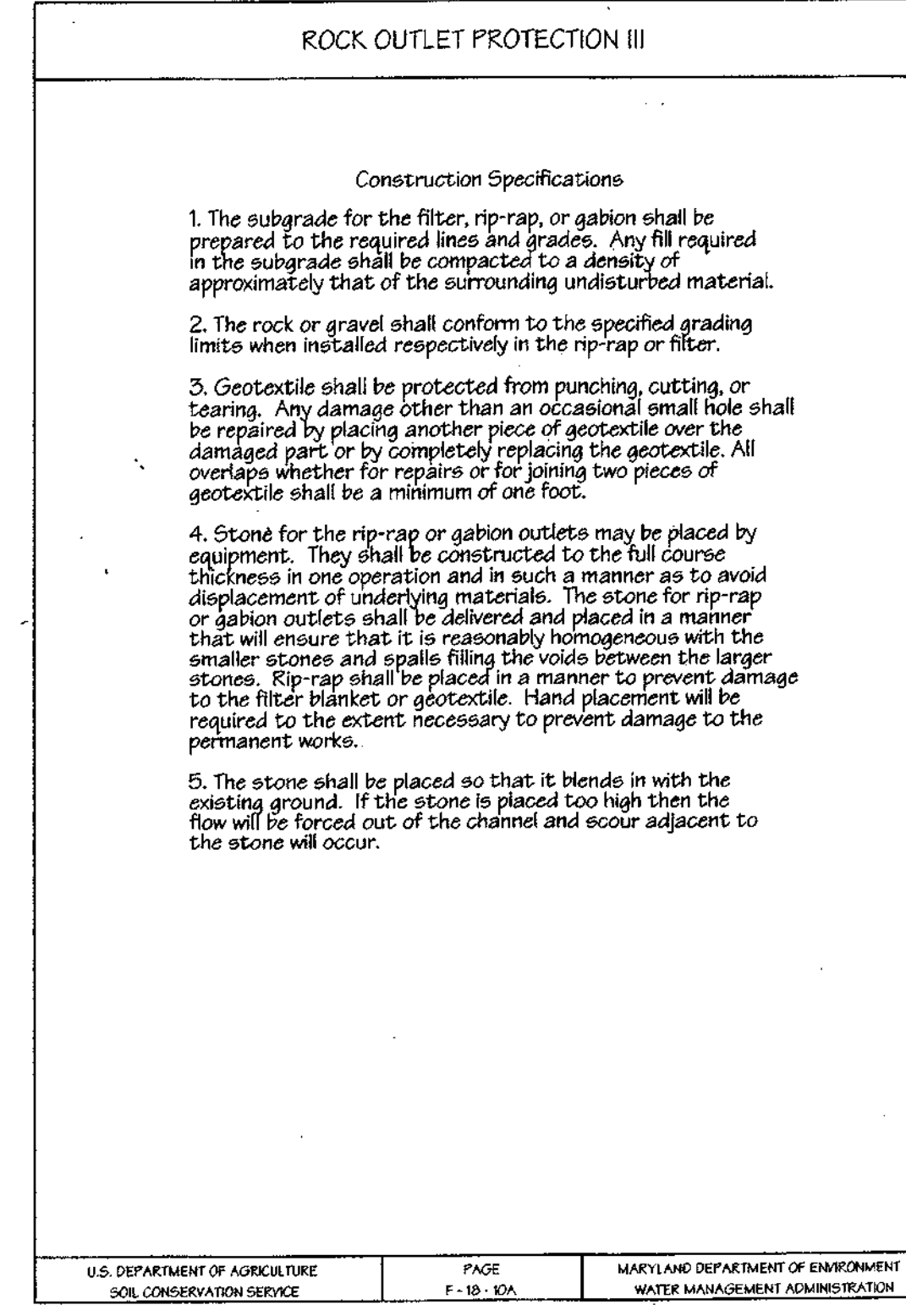
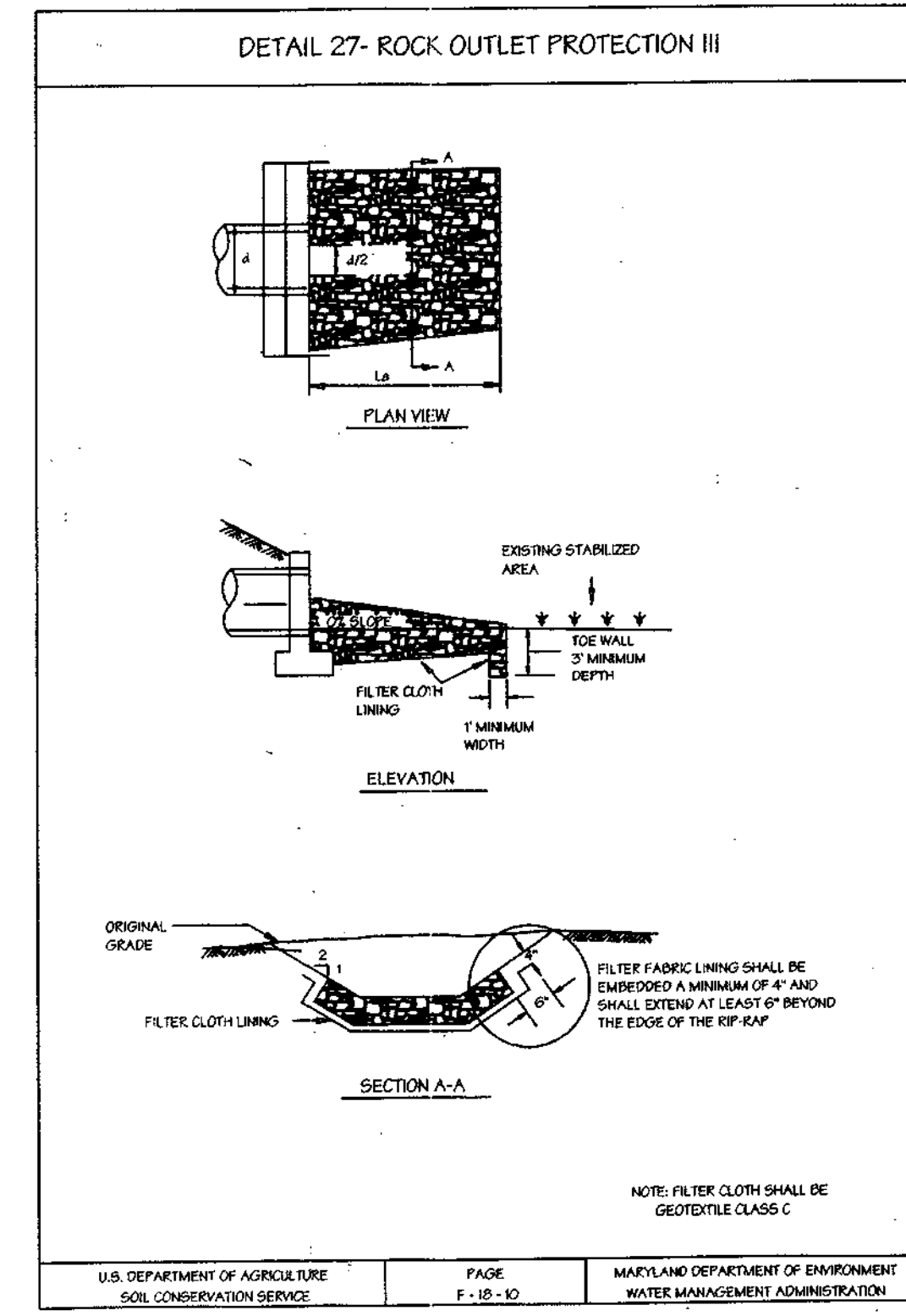
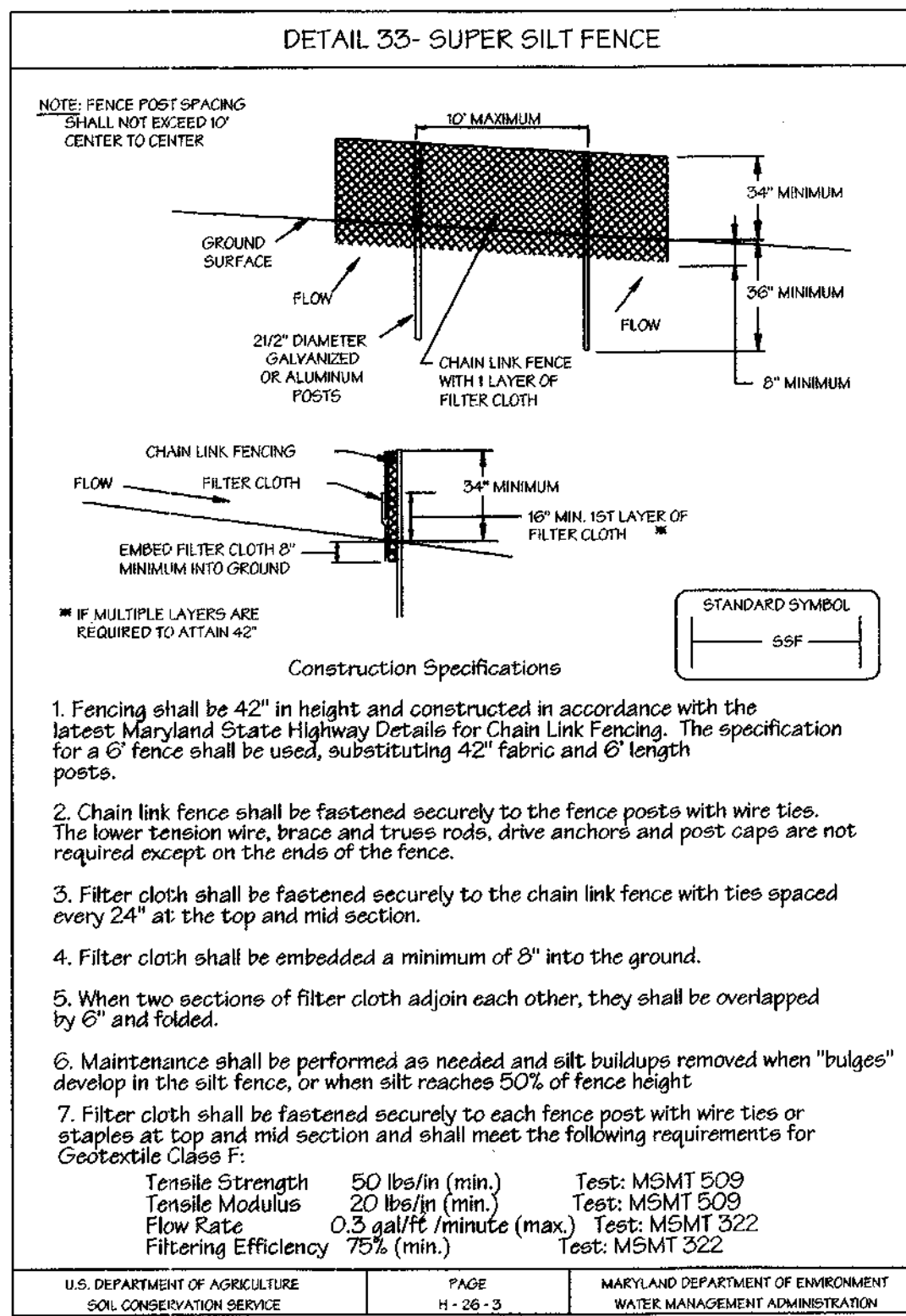
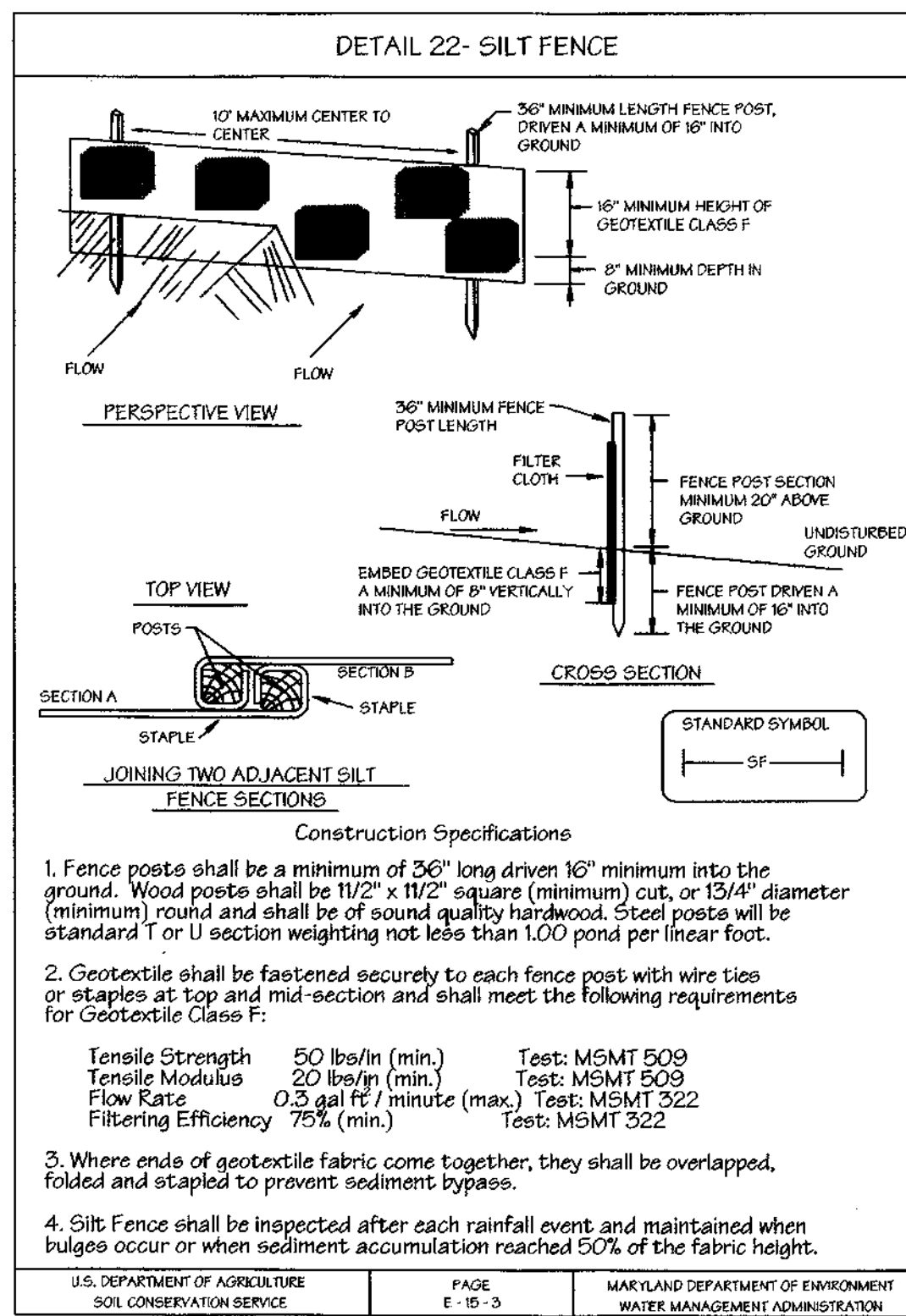
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: -- Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000sq. ft.).

SEEDING -- For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual ryegrass (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

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

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.



21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2\"/>

- For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4\"/>
- Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sowing. MD-YA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/18/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/18/01
CHIEF, DIVISION OF PLANNING AND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/18/01
CHIEF, Bureau of Highways

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.

[Signature] 6/27/01
NATURAL RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/27/01
HOWARD COUNTY SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE AND EXPERIENCE AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MARYLAND. I HAVE NOTIFIED THE DEVELOPER THAT THIS PLAN IS SUBJECT TO THE SUPERVISORY CONTROL OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY 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 COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/27/01
SIGNATURE OF ENGINEER

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[Signature] 6/27/01
SIGNATURE OF DEVELOPER

STATE OF MARYLAND

[Signature] 6/19/01
REGISTERED PROFESSIONAL ENGINEER

By Date No. Description

OWNER:

Parcels 45 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

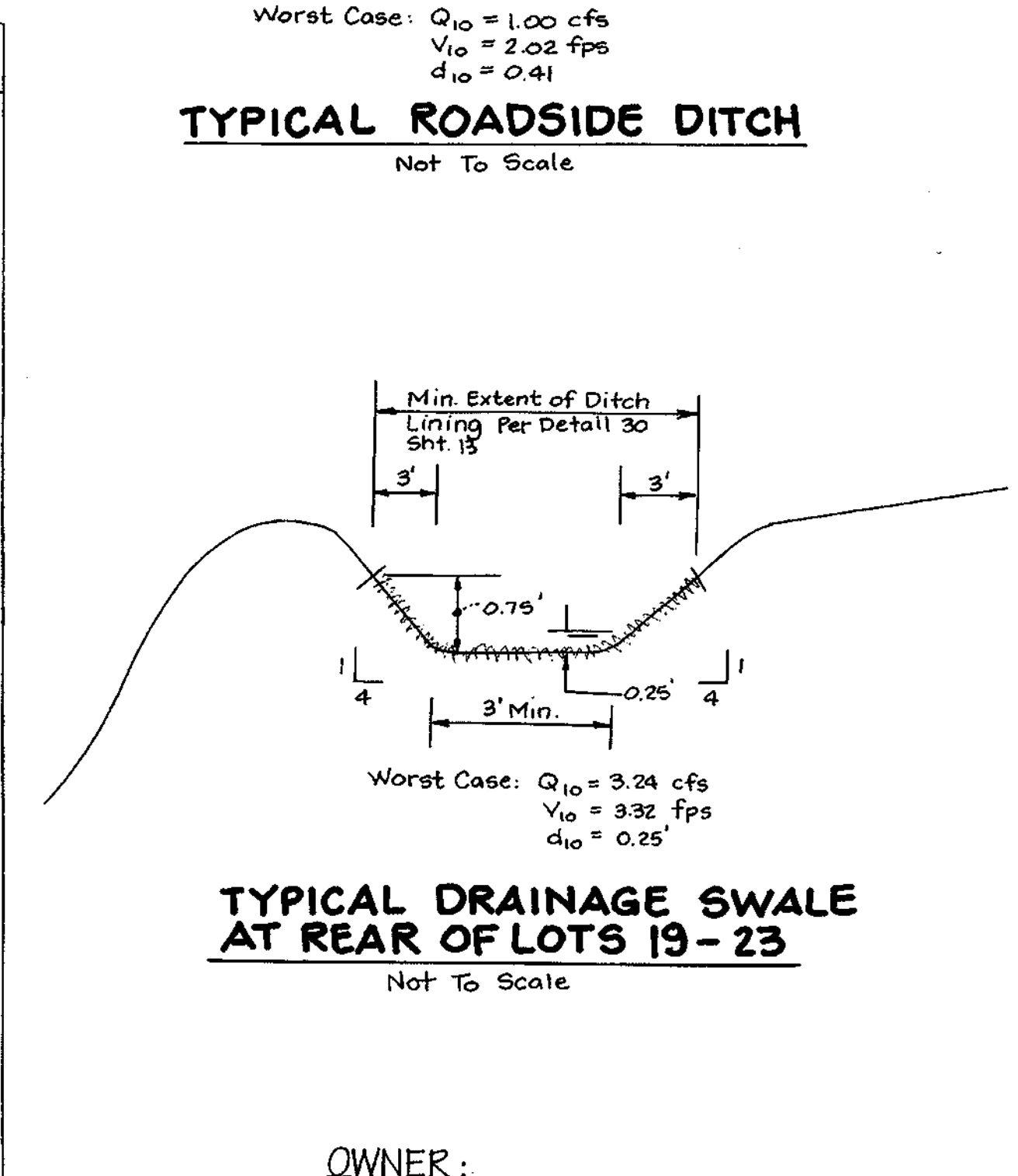
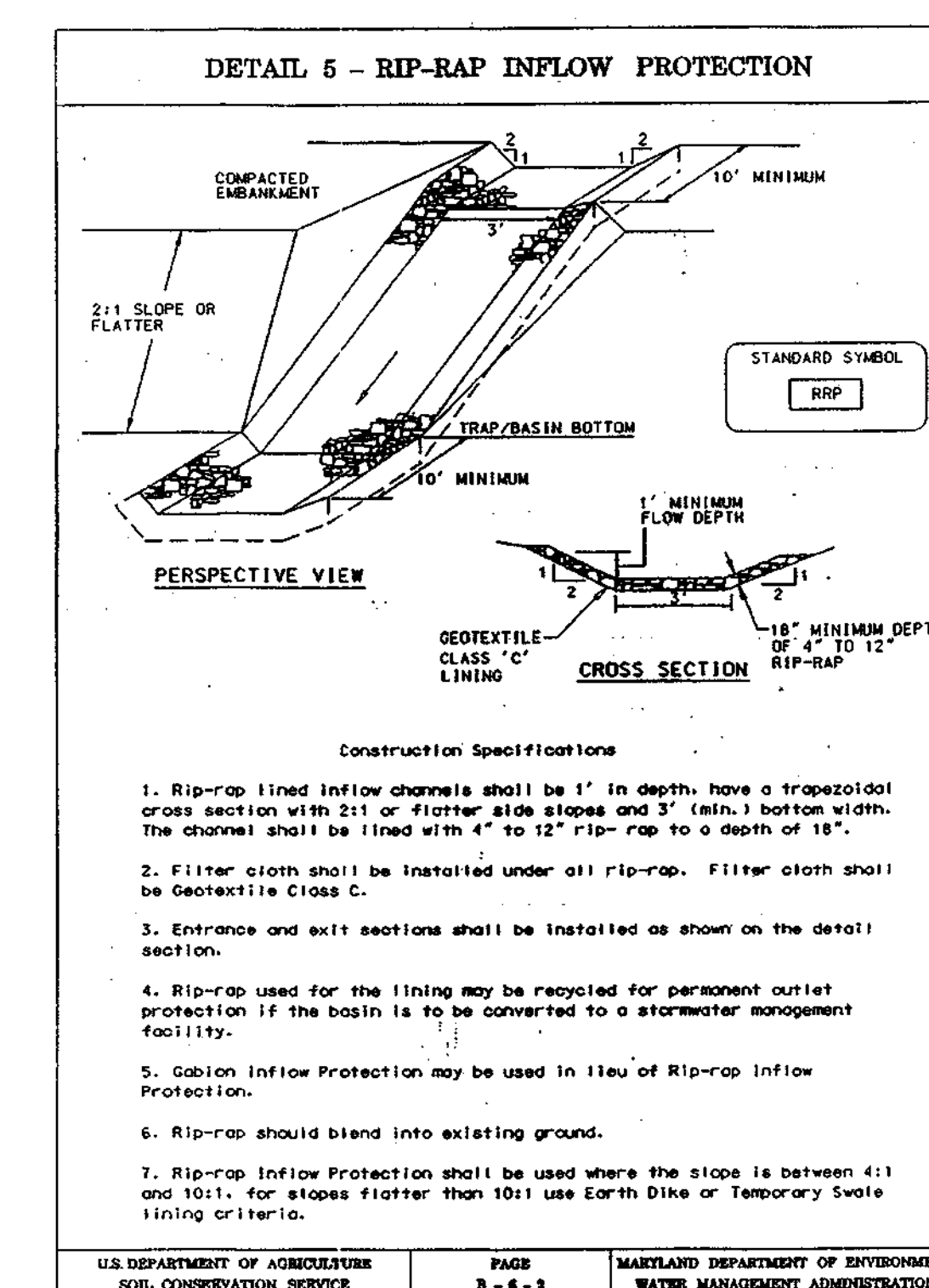
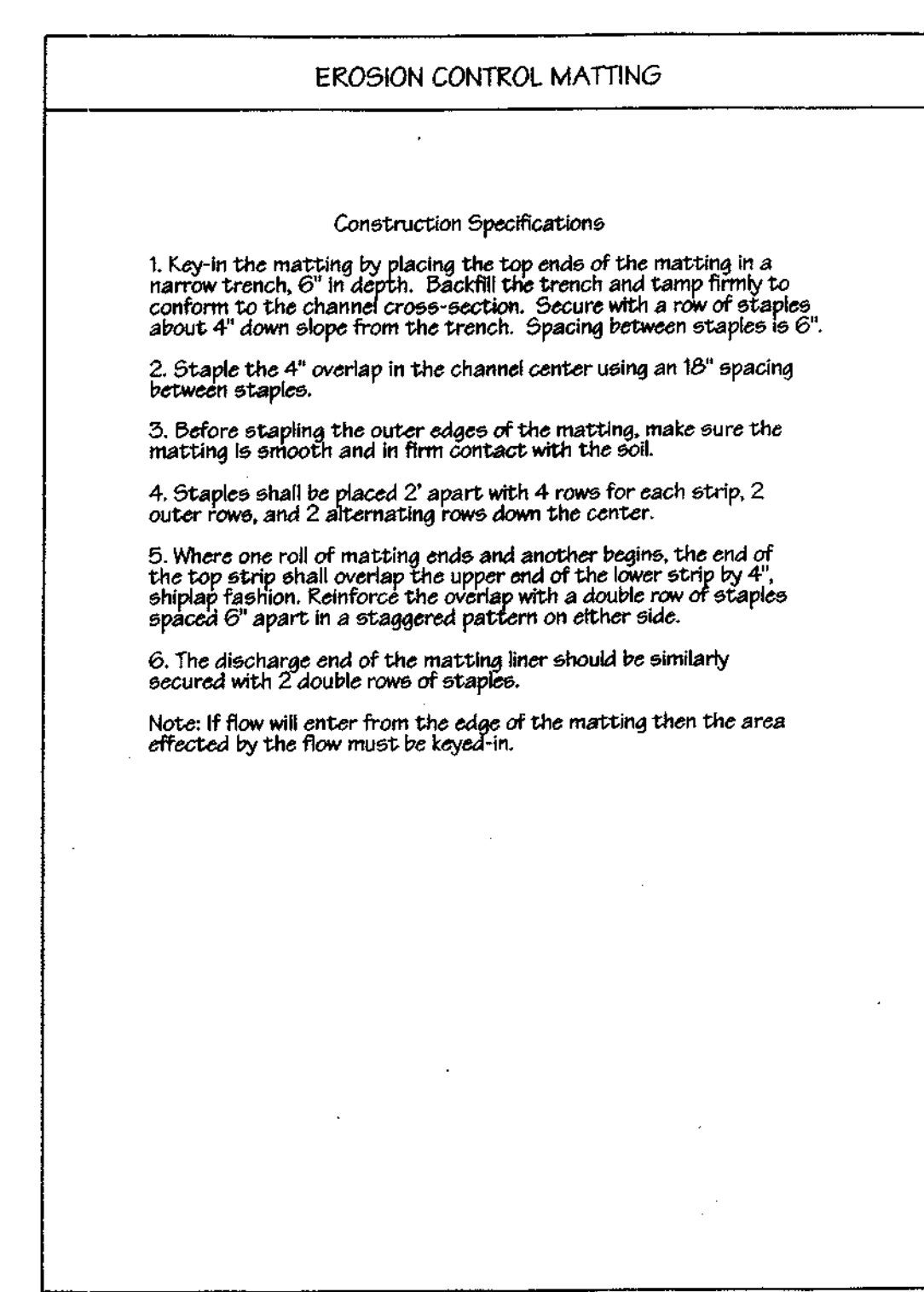
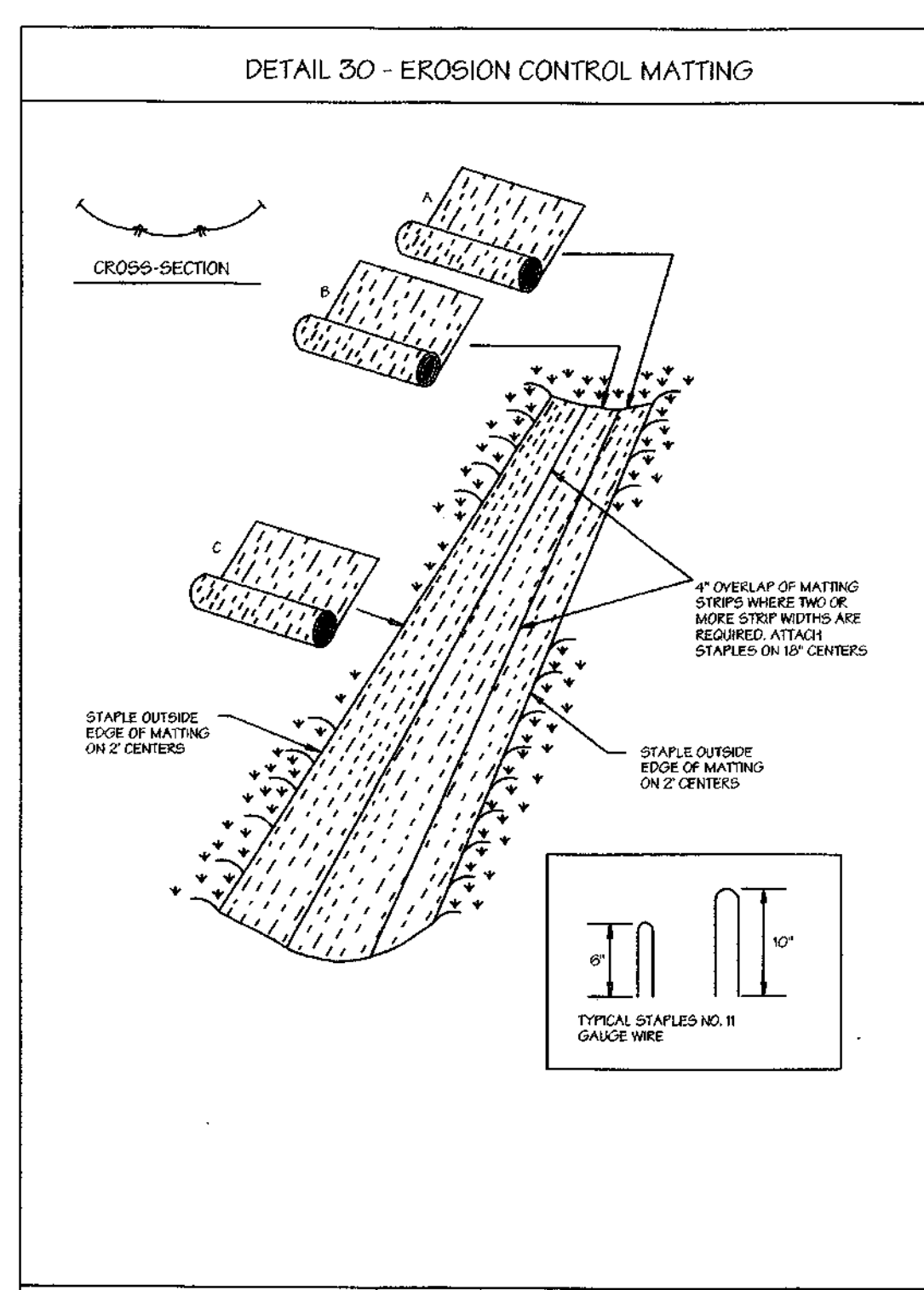
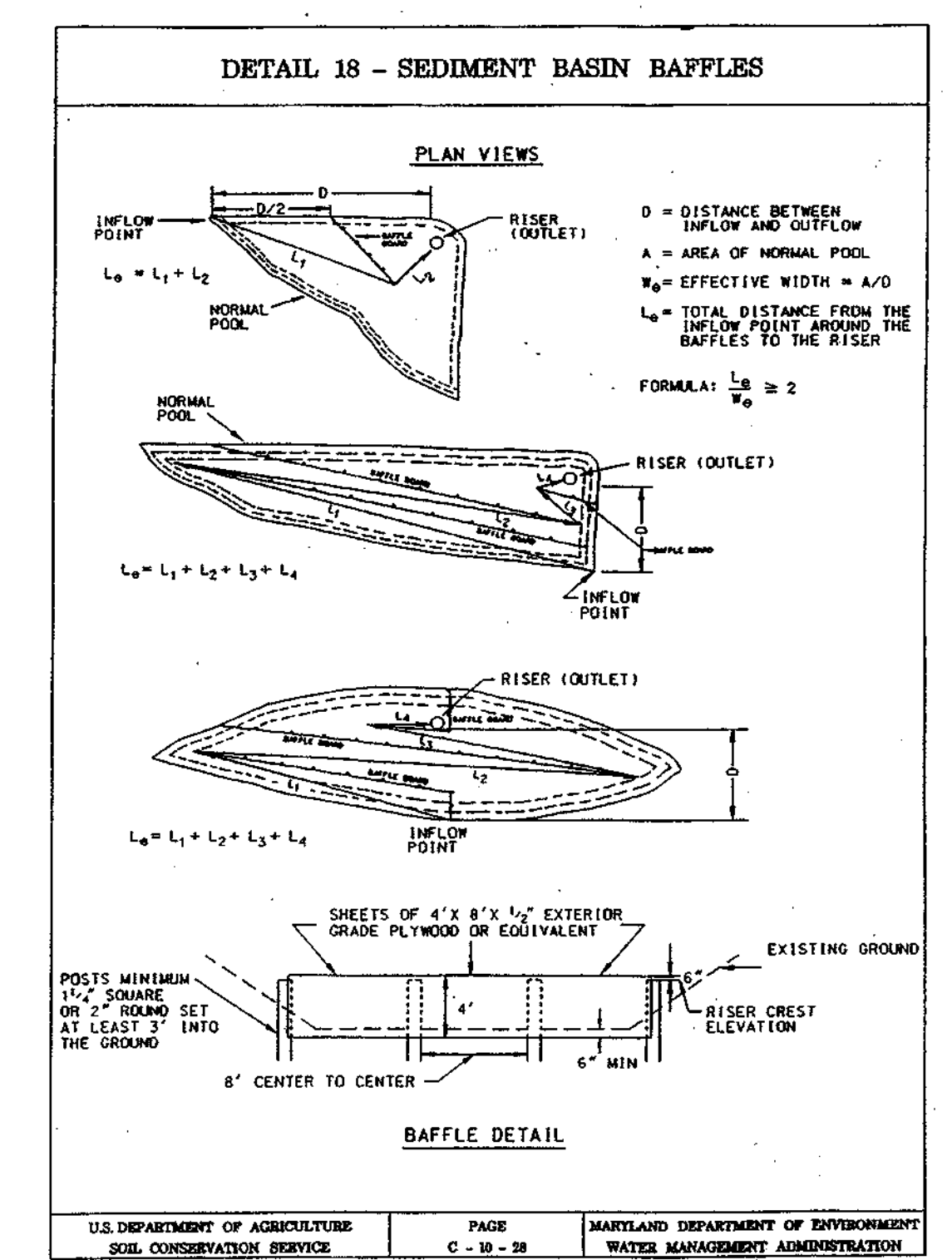
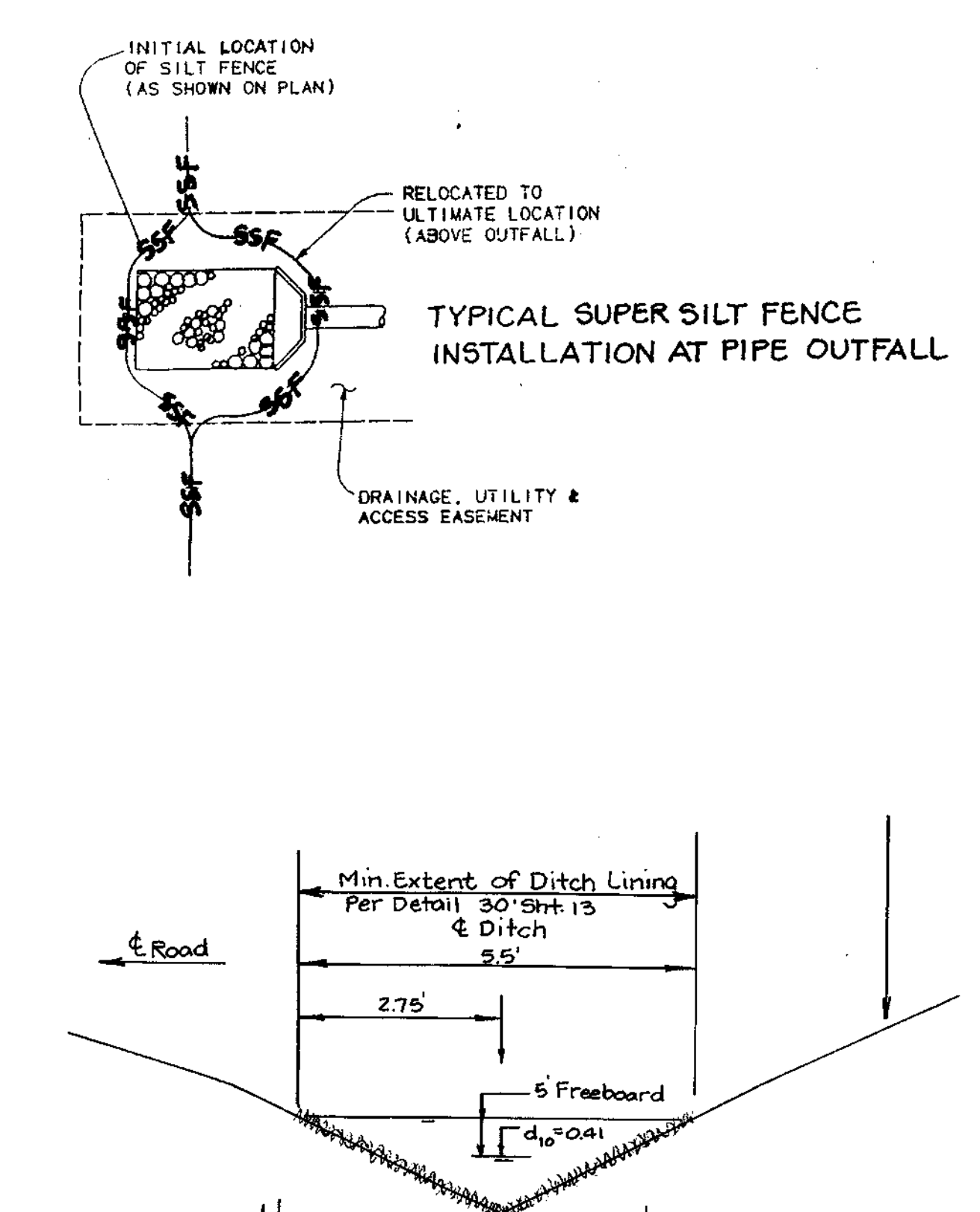
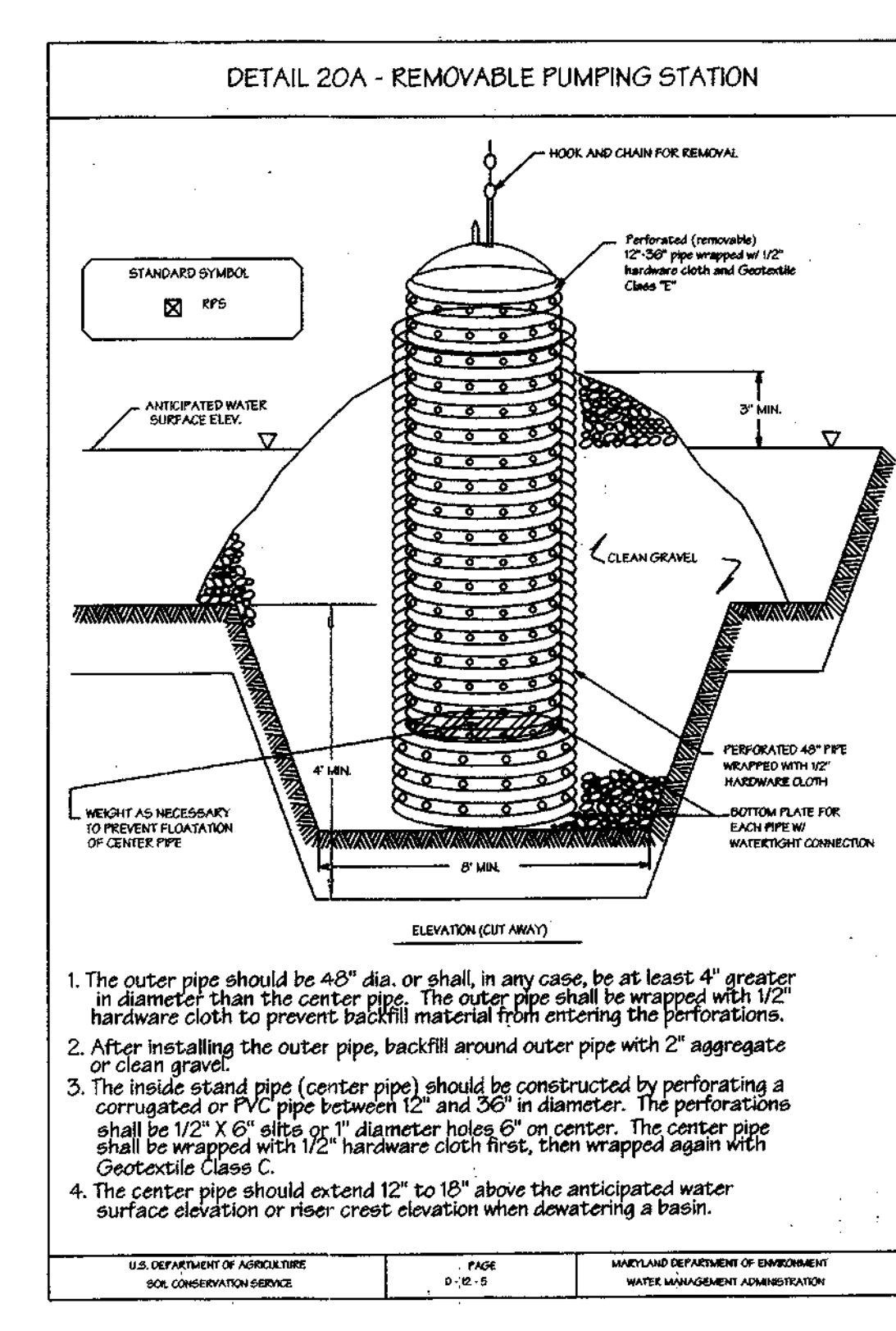
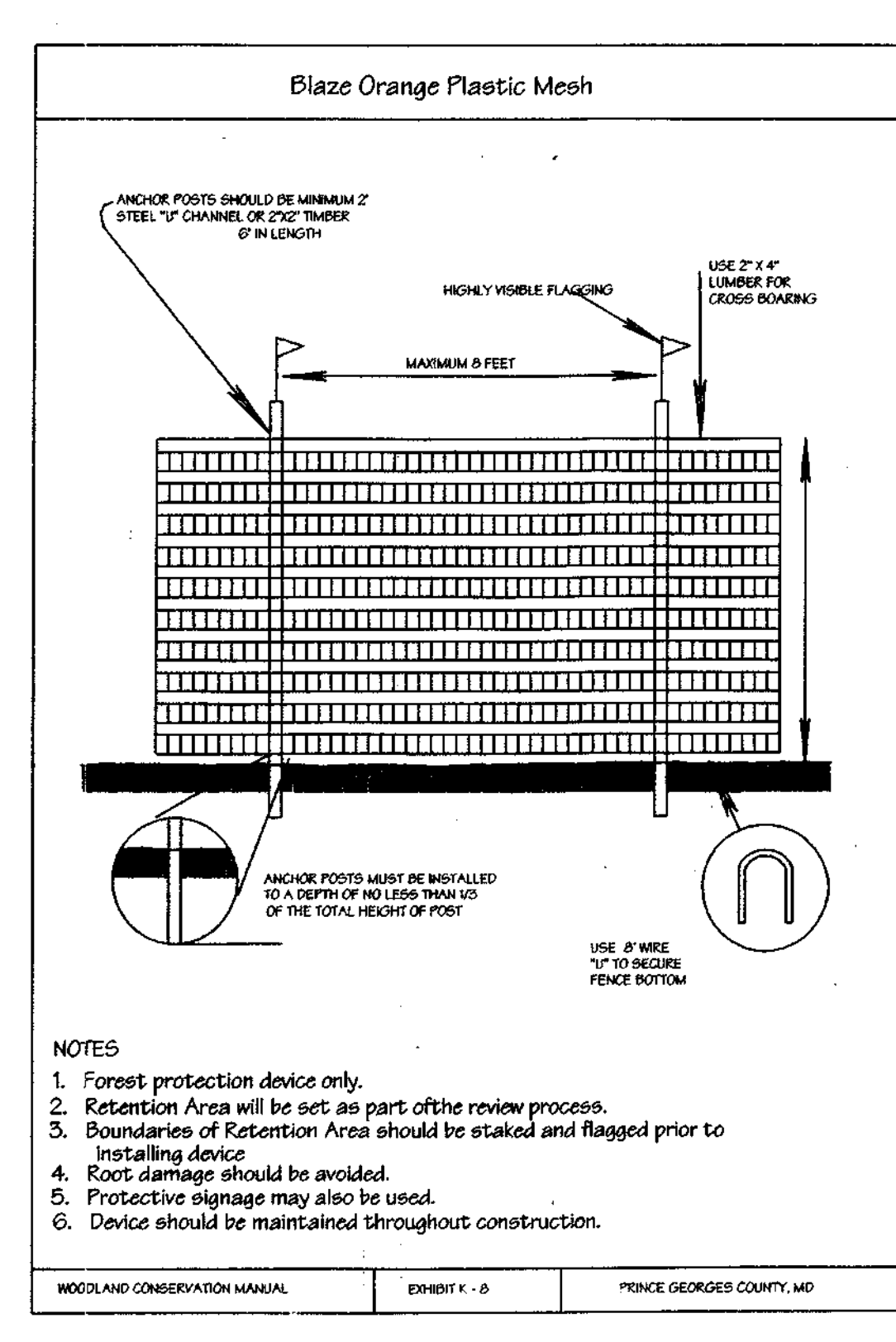
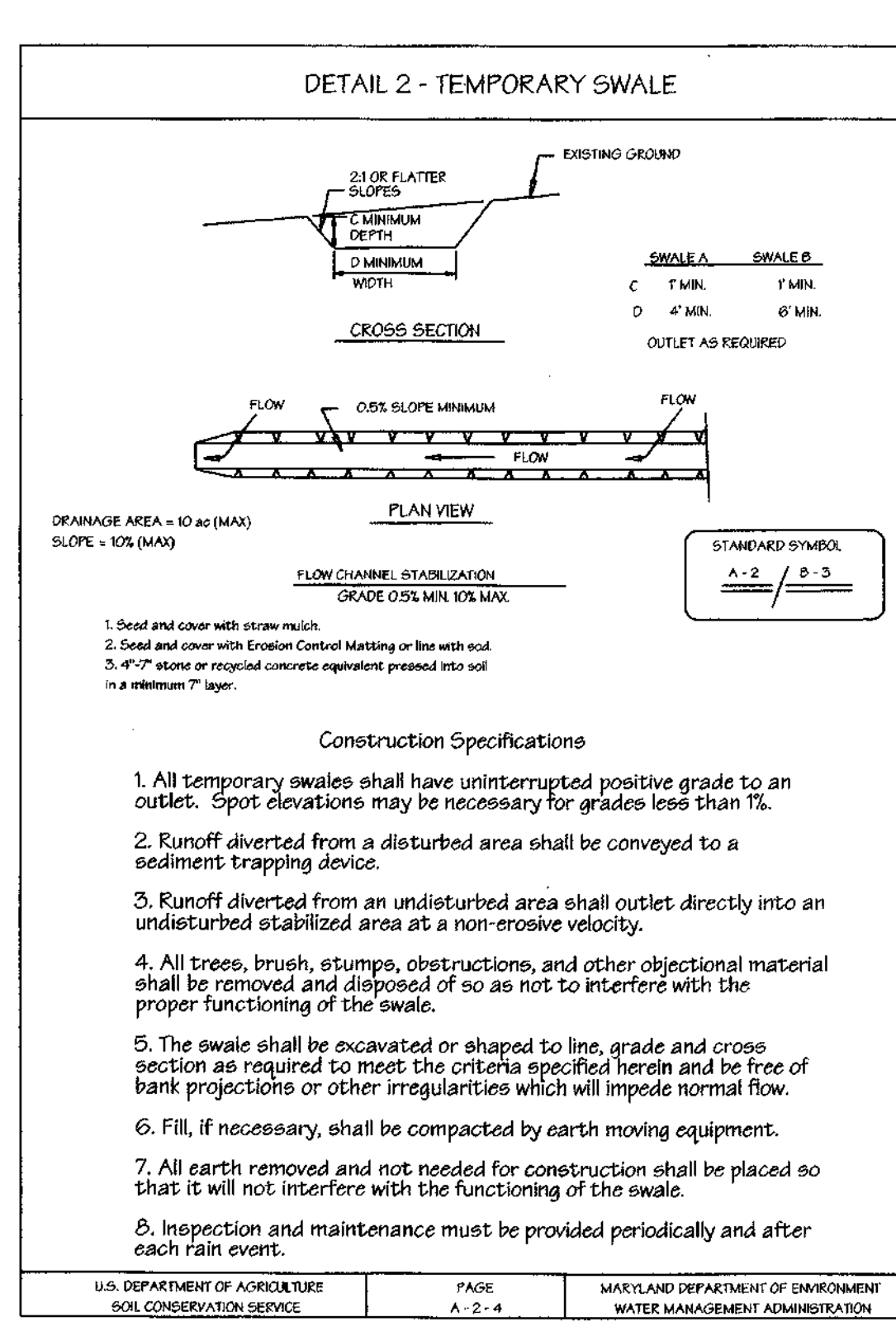
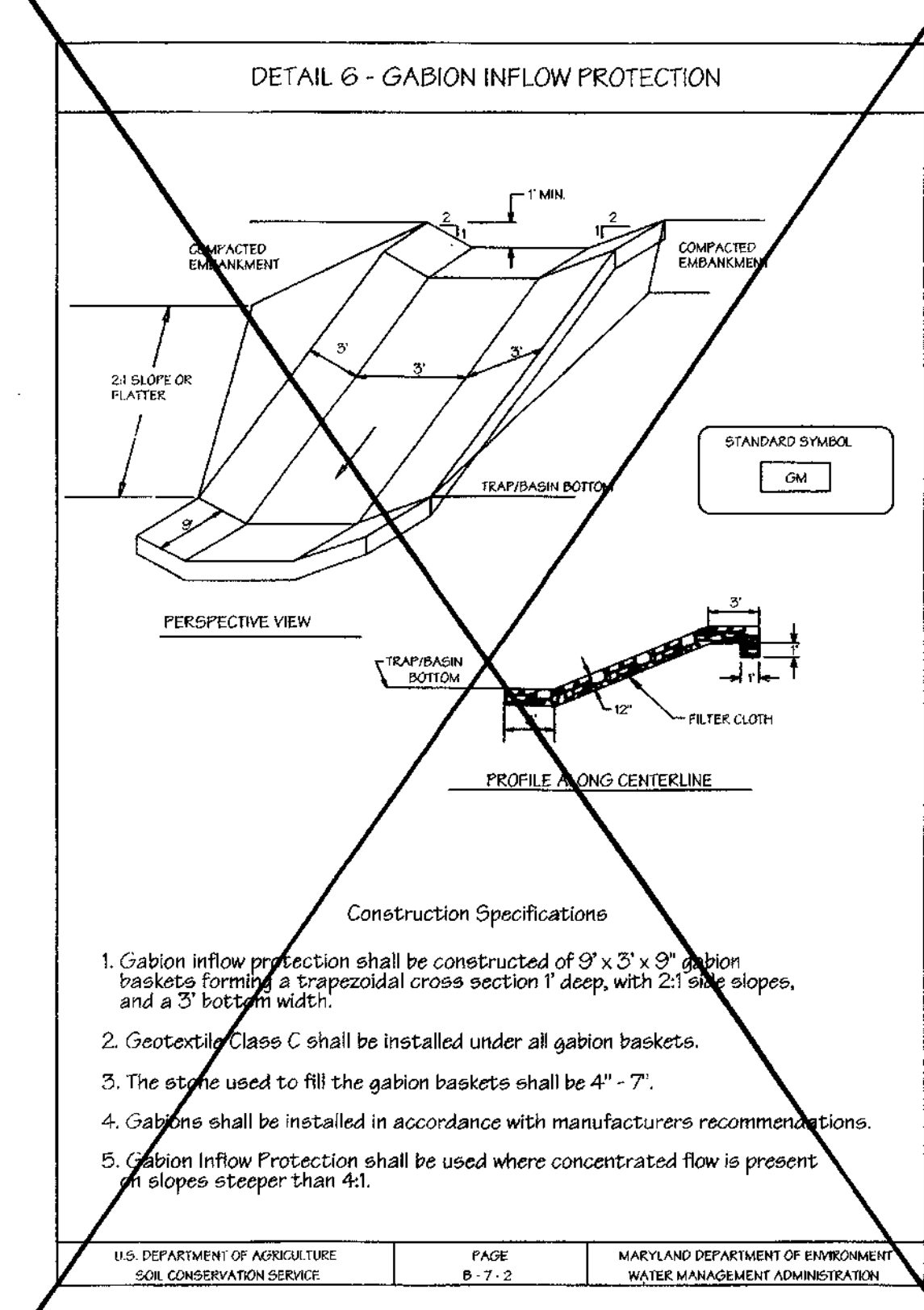
LDE, INC.
9250 Rumeys Road, Suite 106, Columbia, MD, 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	EDS	SCALE	As Shown
DRAWN	JLM	DRAWING	10 of 17
CHECKED	BDB	JOB NO.	98-0405
DATE	6/01	FILE NO.	FD-73

BRANTWOOD
Section Three - Area Two
Lots 17-216, Preservation Parcel "E"
A Reevaluation of Brantwood - Section 3 Area 1
Subdivision Plan Parcel 17-216

Tax Map No. 16 - Grid No. 21 - Parcel 45 & 205
3rd Election District - Howard County, Maryland
Previous Submittals: WP 90-06, P 90-026, WP 99-55, S 99-09, WP 00-05, P 00-03, P 00-04, P 01-07

DEVELOPER: BRANTWOOD, LLC
8835 - F Columbia 100 Parkway
Columbia, Maryland 21045
(410) 752-0210



OWNER:
Parcels 45 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

File and Projects: C:\BANTWOOD\proj\Section 2\Section 2.dwg SEC Drawing 2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/20/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/19/01
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/20/01
CHIEF, Bureau of Highways

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[Signature] 6/27/01
NATURAL RESOURCE CONSERVATION SERVICE

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[Signature] 6/27/01
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

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[Signature] 6/19/01
REGISTERED PROFESSIONAL ENGINEER

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[Signature] 6/26/01
SIGNATURE OF DEVELOPER

STATE OF MARYLAND

[Signature] 6/19/01
REGISTERED PROFESSIONAL ENGINEER

By	Date	No.	Description

REVISIONS

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	SCALE As Shown
DRAWN JLM	DRAWING 11 of 17
CHECKED BDB	JOB NO. 98-040.5
DATE 6/01	FILE NO. F01-73

Sediment & Erosion Control - Details

BRANTWOOD
Section Three - Area Two
Lots #1718 Preservation Parcel "E"
A Resubdivision of Brantwood - Section 2 Area 1
Subdivided into Parcels "A" & "B"
Tax Map No. 16 - Grid No. 21 - Parcel 45, & 205
3rd Election District - Howard County, Maryland
Previous Submittals: WF 90-96, 90-125, WF 99-26, 99-03, WF 00-25, F 00-05, F 00-04, F 01-67

BRANTWOOD LLC
8835 - F Columbia 100 Parkway
Columbia, Maryland 21045
(410) 730-0810

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment and structural works shall be cleared grubbed, and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

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 to the ground surface. For dry stormwater management ponds, a minimum of a 25 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 and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to the 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 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 heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, 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.

When required by the reviewing agency the minimum required density 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 T-99 (Standard Proctor).

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 of flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURAL 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 compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil 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 shall completely fill all voids adjacent to the flowable fill zone. 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 structure or pipe unless there is compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

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 - (Polymer Coated Steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-196 or M211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specifications M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti seep-collars, end sections, etc., must be composed of the same material and coatings 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 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 re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter: flanges on both ends of the pipe, with a circular 3/8" closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with O-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugated depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24" wide by 3/8" thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8" closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

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-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50 % of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in "Structure Backfill" section of this standard. Gravel bedding is not permitted.

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 length, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 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.

Plastic Pipe - The following criteria shall apply for plastic pipe.

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.

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.

DRAINAGE DIAPHRAGMS - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

CONCRETE:

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP:

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile 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 921.09, Class C.

CARE OF WATER DURING CONSTRUCTION:

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

STABILIZATION:

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resource Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL:

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for borings 1 through 4.

Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for boring 5.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for borings 1 through 3.

Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for boring 4.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

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Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for boring 5.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for borings 1 through 3.

Table with 13 columns: ELEV, SOIL DESCRIPTION, SYNL DEPTH, DEPTH, SCALE, CON, BORE, REC, BORING & SAMPLING NOTES. Includes data for boring 4.

OWNER: Parcels 45 & 205 Richard B. Talkin, Trustee 9175 Guilford Road Suite 301 Columbia, Maryland 21046

LDE, INC. 9250 Rumsey Road, Suite 106, Columbia, MD. 21045 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature and date for Department of Planning and Zoning approval.

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.

Signature and date for Howard Soil Conservation District approval.

ENGINEER'S CERTIFICATE

Professional Engineer signature and seal for Bruce D. Burton.

DEVELOPER'S CERTIFICATE

Professional Engineer signature and seal for Jim J. Spang.

APPROVED: DEPARTMENT OF PUBLIC WORKS

Signature and date for Department of Public Works approval.

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

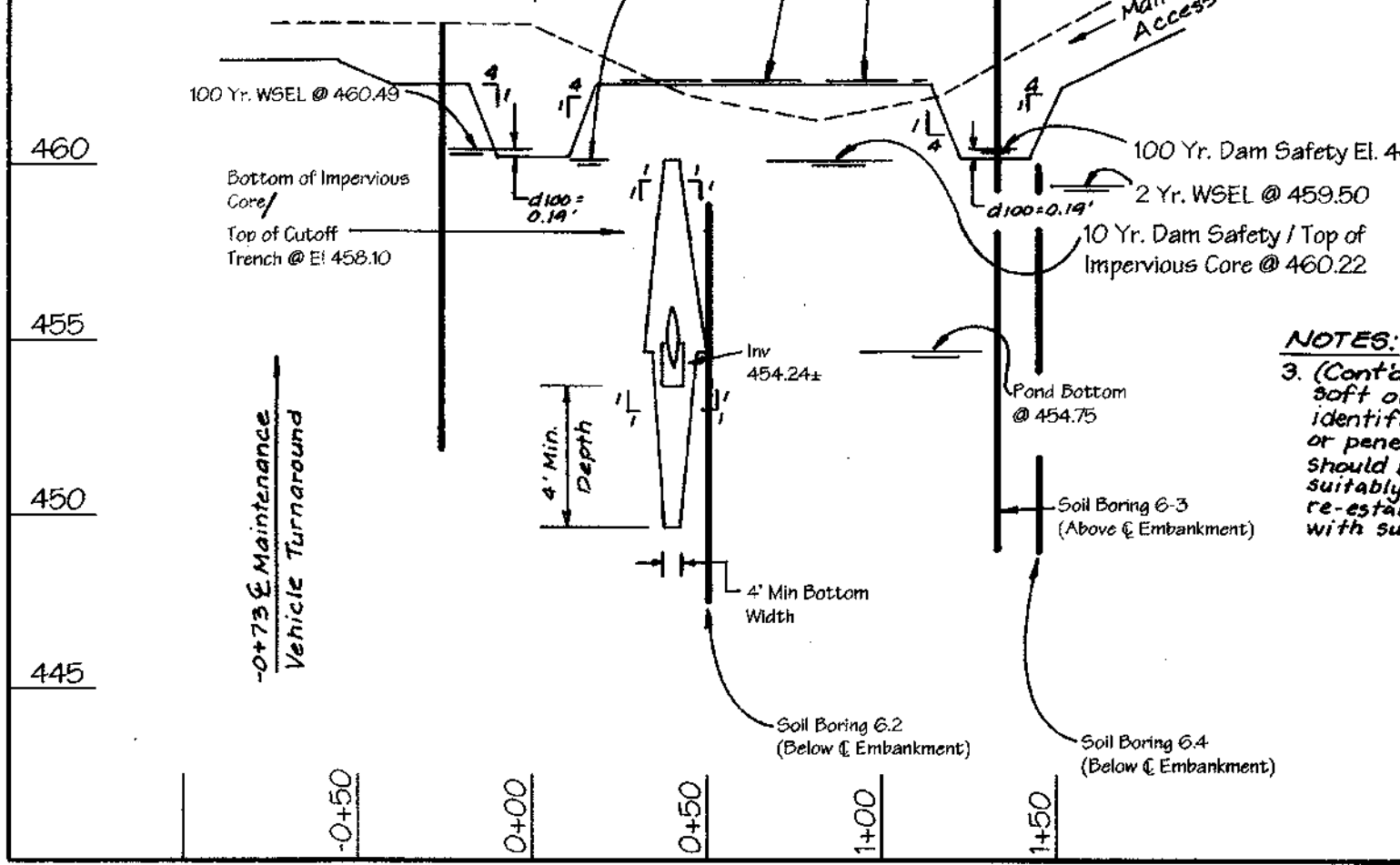
Signature and date for Howard County Soil Conservation District approval.

Table with 3 columns: DATE, By, Description. Includes revision 6/01.

BRANTWOOD Section Three - Area Two. Pond Construction Notes & Soil Borings. Lot 17-17A Preservation Parcel "E".

NOTES:

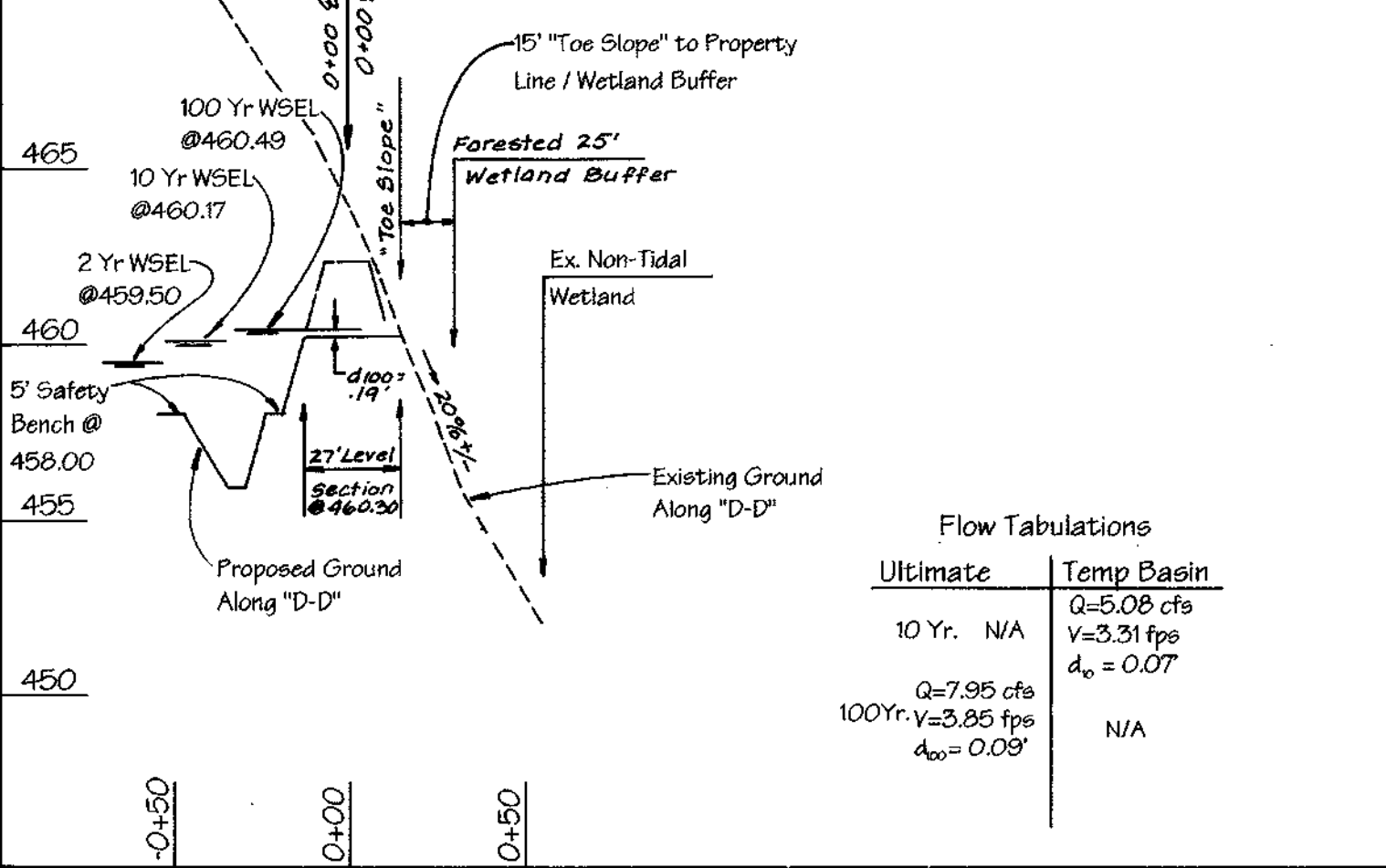
1. A Geotechnical Engineer is to be present on site to supervise the construction of the core trench, per MD 516 Specifications.
2. Cut Off Trench shall be dewatered prior to the placement of County Approved Fill material.
3. The site shall be stripped of top soil and any other unsuitable materials from the embankment or structure areas in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials shall be proofrolled 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, exposed material shall be observed and tested by a Geotechnical Engineer or his Representative utilizing a Dynamic Cone Penetrometer.



Profile Along C of Embankment
Scale: 1" = 50' Horizontal
1" = 5' Vertical

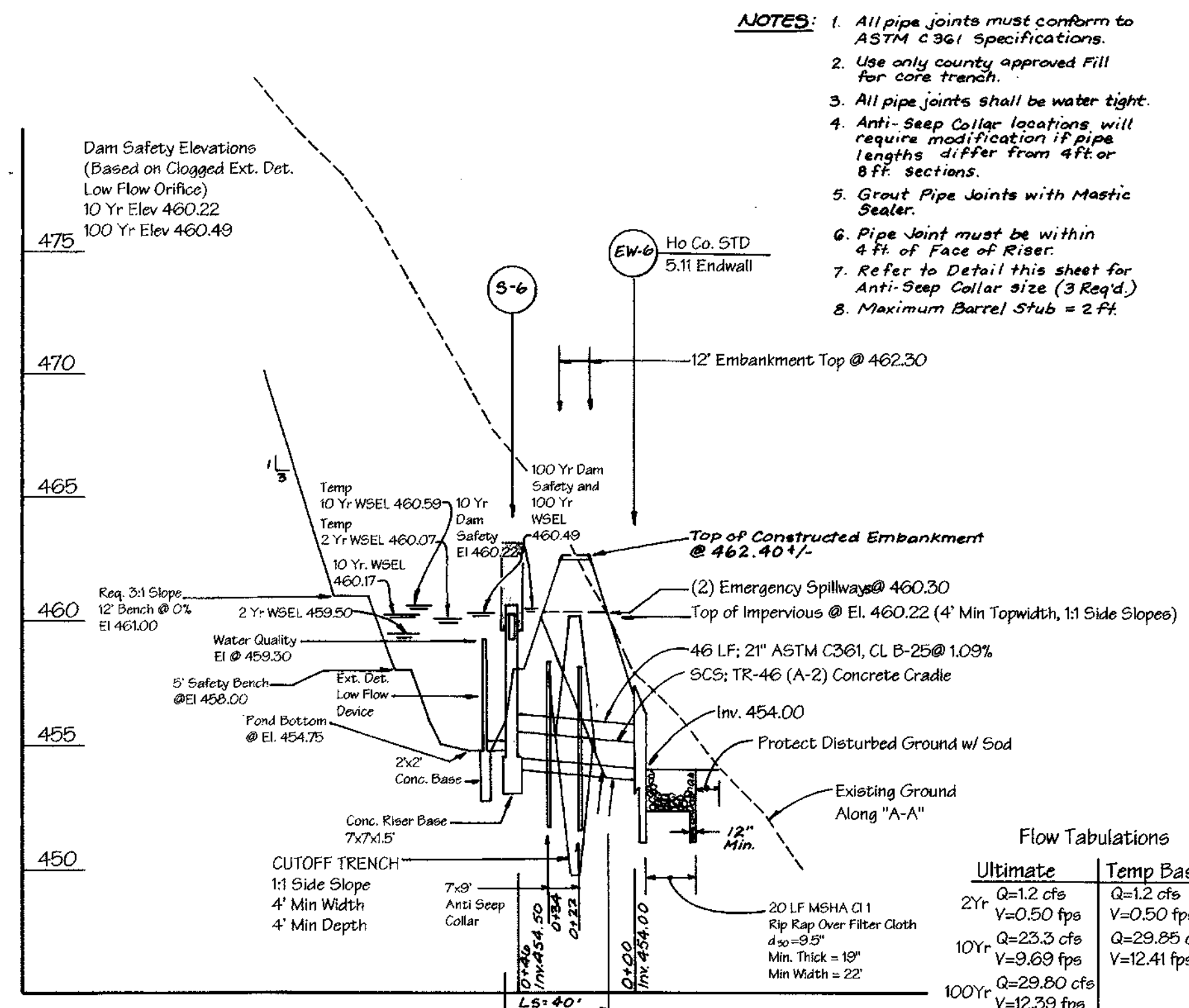
Flow Tabulations	
Ultimate	Temp Basin
10Yr: N/A	Q=10.15 cfs / V=0.08 fps / d ₉₀ =0.29
100Yr: Q=15.90 cfs / V=0.29 fps / d=0.19	N/A

- NOTES:**
3. (Cont'd.) Any excessively soft or loose materials identified by proof rolling or penetrometer testing should be excavated to suitable firm soil, and then re-established by backfilling with suitable soil.



Profile Along C of Emergency Spillway #1
"D-D" - See Sheet 14
Scale: 1" = 50' Horizontal
1" = 5' Vertical

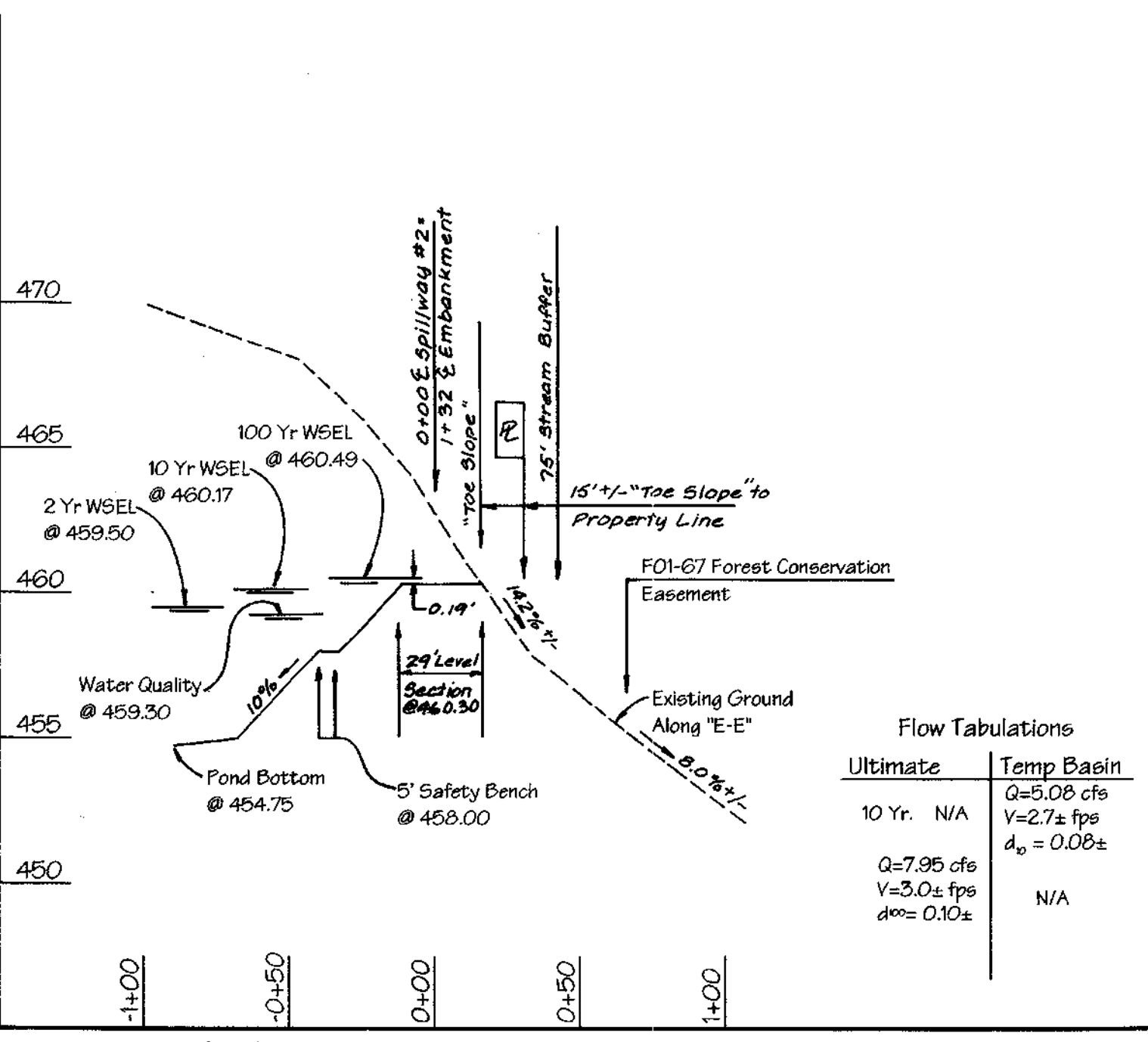
Flow Tabulations	
Ultimate	Temp Basin
10 Yr: N/A	Q=5.08 cfs / V=3.31 fps / d ₉₀ =0.07
100Yr: Q=7.95 cfs / V=3.85 fps / d ₉₀ =0.09	N/A



Profile Along C of Principal Spillway
Cross Section "C-C"
Scale: 1" = 50' Horizontal
1" = 5' Vertical

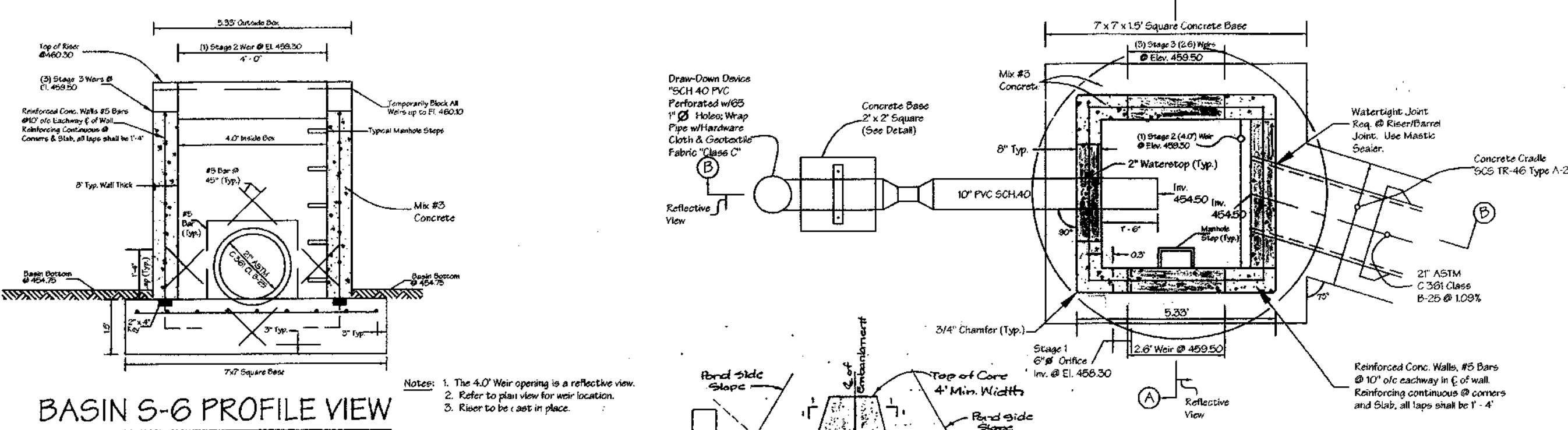
- NOTES:**
1. All pipe joints must conform to ASTM C361 Specifications.
 2. Use only county approved fill for core trench.
 3. All pipe joints shall be water tight.
 4. Anti-Sleep Collar locations will require modification if pipe lengths differ from 4ft or 8ft sections.
 5. Grout Pipe Joints with Mastic Sealer.
 6. Pipe joint must be within 4ft. of Face of Riser.
 7. Refer to Detail sheet for Anti-Sleep Collar size (3 Req'd).
 8. Maximum Barrel 5ftub = 2ft.

Flow Tabulations	
Ultimate	Temp Basin
2Yr: Q=1.2 cfs / V=0.50 fps	Q=1.2 cfs / V=0.50 fps
10Yr: Q=23.3 cfs / V=9.69 fps	Q=23.3 cfs / V=12.41 fps
100Yr: Q=29.80 cfs / V=12.39 fps	N/A

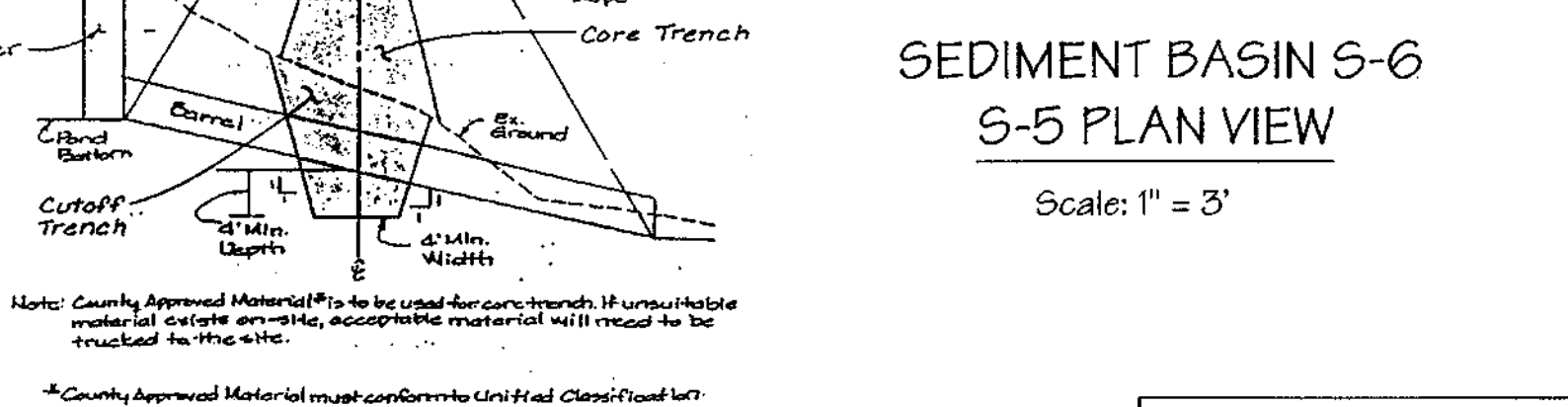


Profile Along C of Emergency Spillway #2 & Maintenance Access
"E-E" - See Sheet 14
Scale: 1" = 50' Horizontal
1" = 5' Vertical

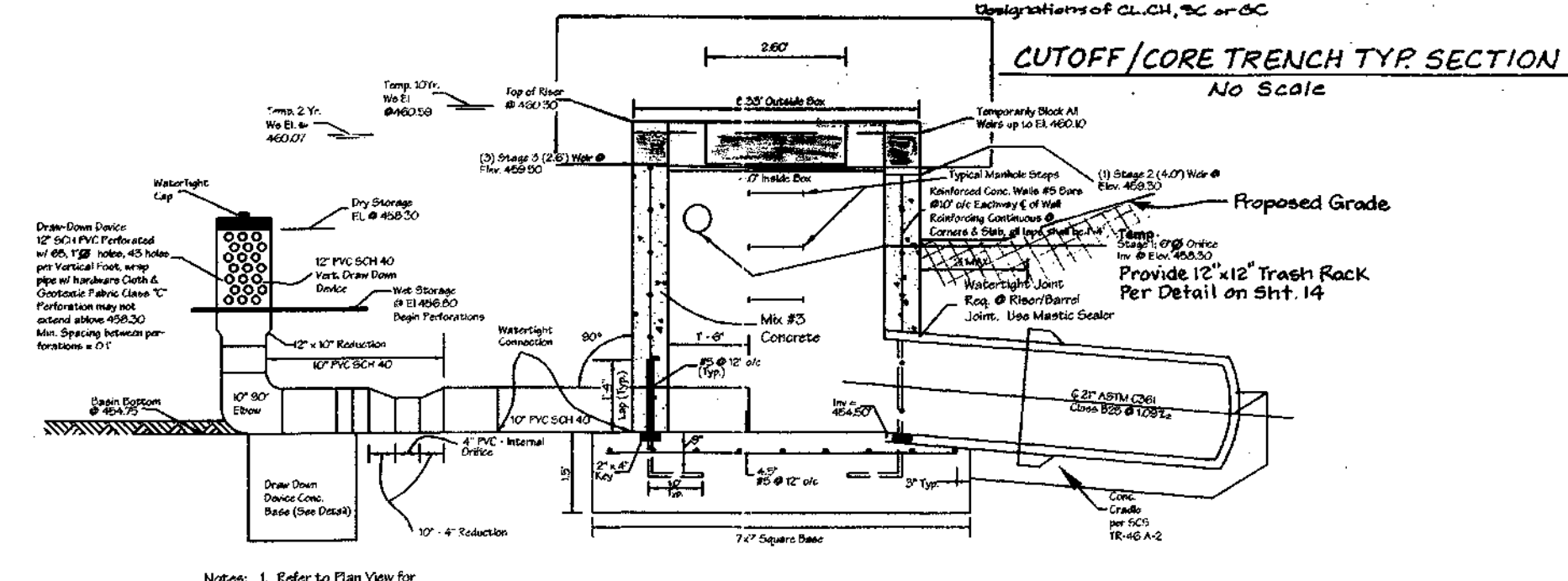
Flow Tabulations	
Ultimate	Temp Basin
10 Yr: N/A	Q=5.08 cfs / V=2.7± fps / d ₉₀ =0.08±
Q=7.95 cfs / V=3.0± fps / d=0.10±	N/A



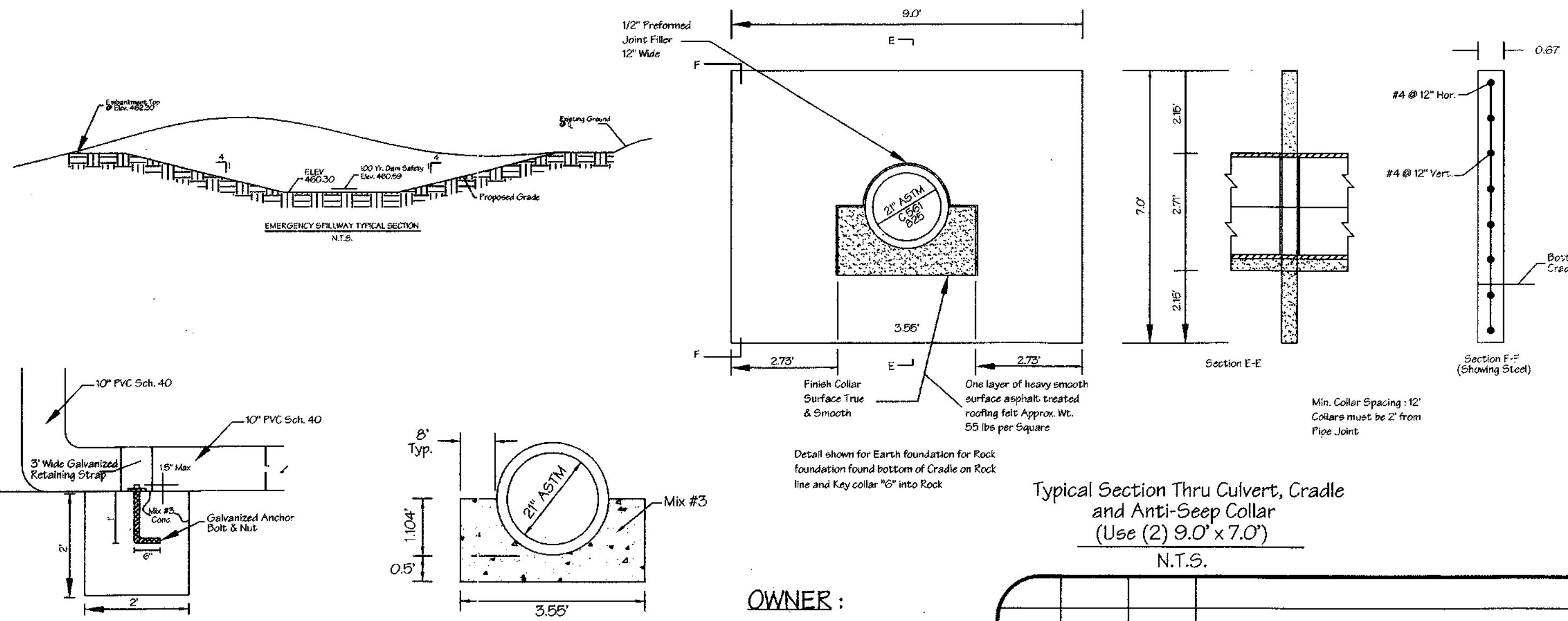
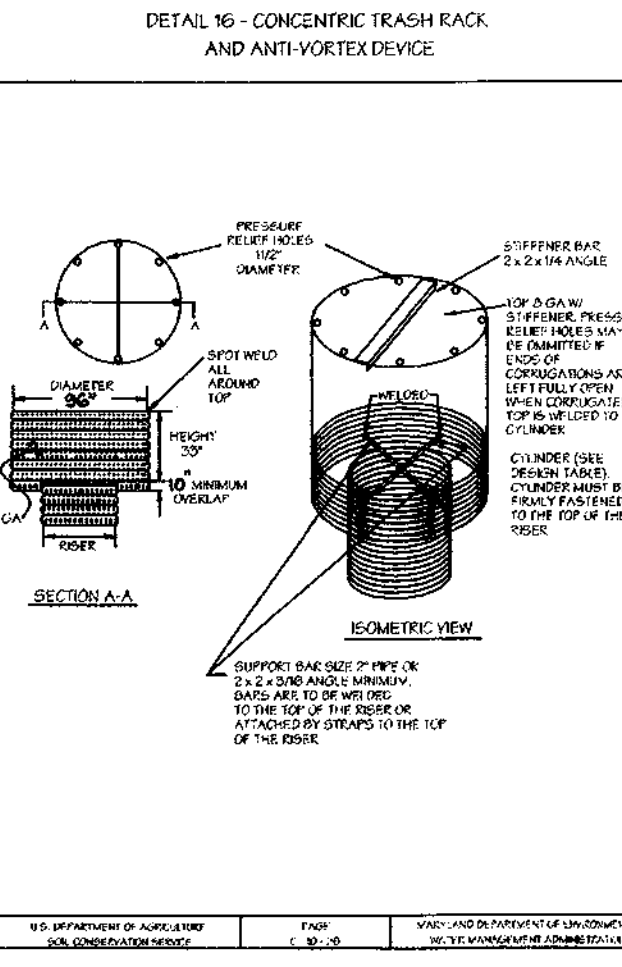
BASIN 5-6 PROFILE VIEW
SECTION "A-A"
N.T.S.



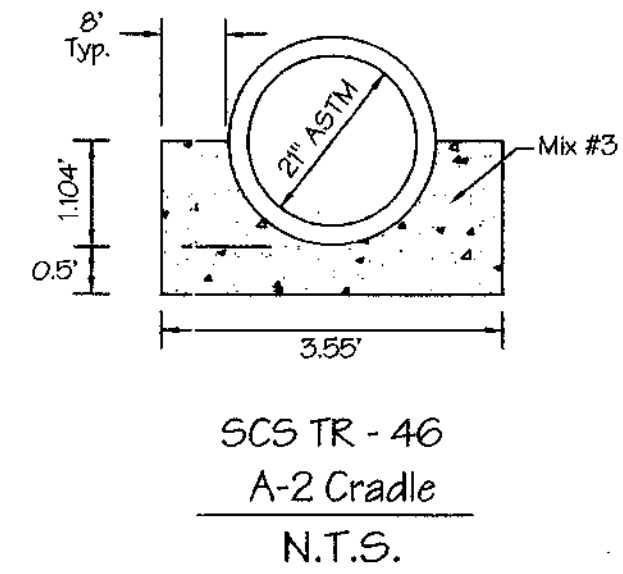
SEDIMENT BASIN 5-6
S-5 PLAN VIEW
Scale: 1" = 3'



BASIN 5-6 PROFILE VIEW
SECTION "B-B"
Scale: 1" = 3'



LOW FLOW / DRAW DOWN DEVICE
CONCRETE BASE DETAIL
N.T.S.



SC5 TR - 46
A-2 Cradle
N.T.S.

OWNER:
Parcels 45, 172 & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

By	Date	No.	Description

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/10/01
CHIEF, Bureau of Highways

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.

[Signature] 6/27/01
NATURAL RESOURCE COORDINATOR

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/27/01
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION CONTROL, AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE ADVISED THE DEVELOPER THAT HEEDING TO THESE REQUIREMENTS IS A PROFESSIONAL OBLIGATION OF THE ENGINEER TO SUPERVISE POND CONSTRUCTION AND TO SUPERVISE POND CONSTRUCTION AND TO SUPERVISE POND CONSTRUCTION WITH AN "AS-BUILT" PLAN OF THE POND WITH 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 6/19/01
REGISTERED PROFESSIONAL ENGINEER

DEVELOPER'S CERTIFICATE

"I" WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL EMPLOY A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROMOTE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITH 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 6/27/01
SIGNATURE OF DEVELOPER

AS-BUILT CERTIFICATION

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.

Signature: _____ P.E. No.: _____
Date: _____

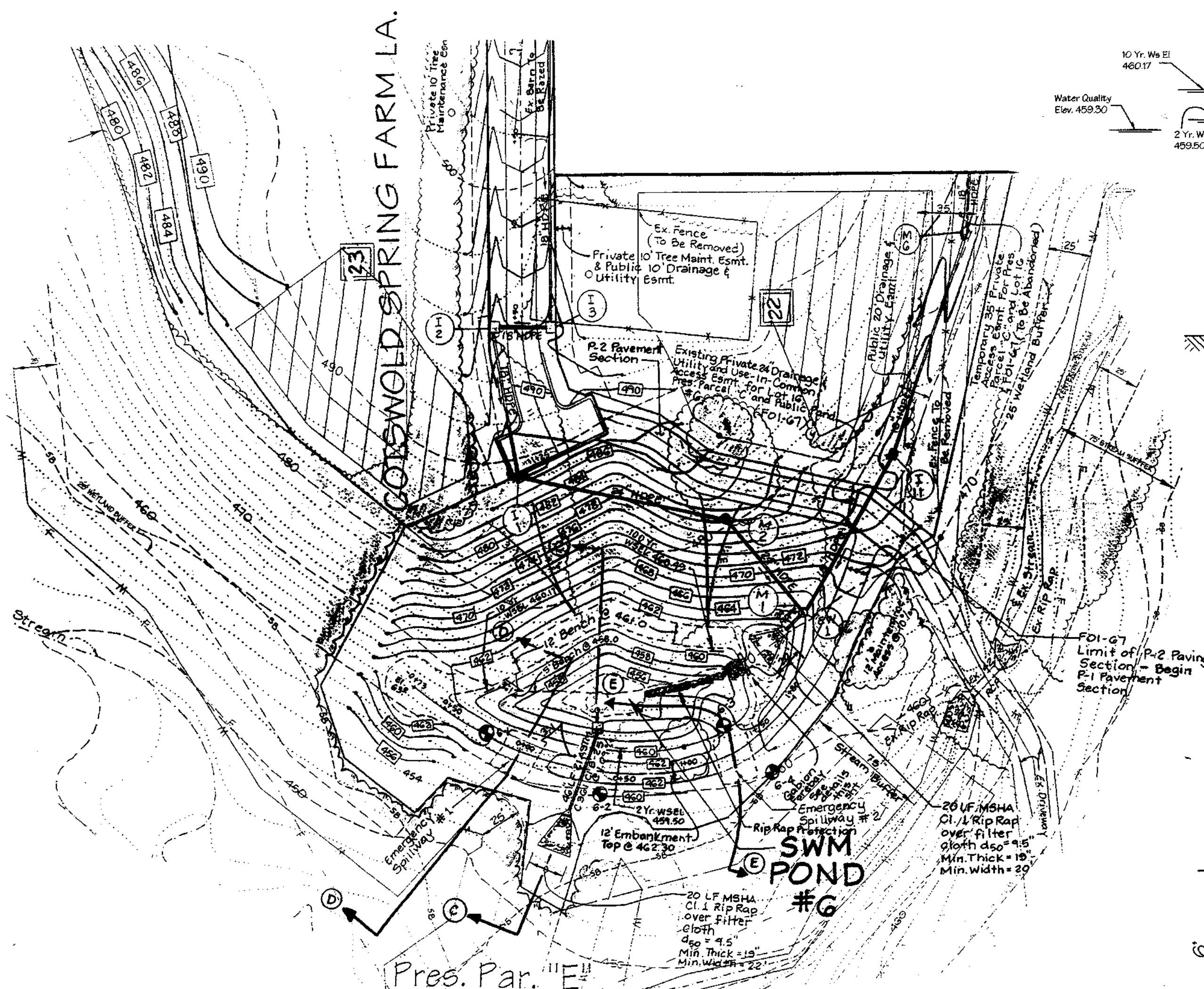
Certify means to state or declare a professional opinion based upon on-site inspections and material tests which are conducted during construction. The on-site inspections and material tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. 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 means, including meeting commonly accepted industry practices.

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

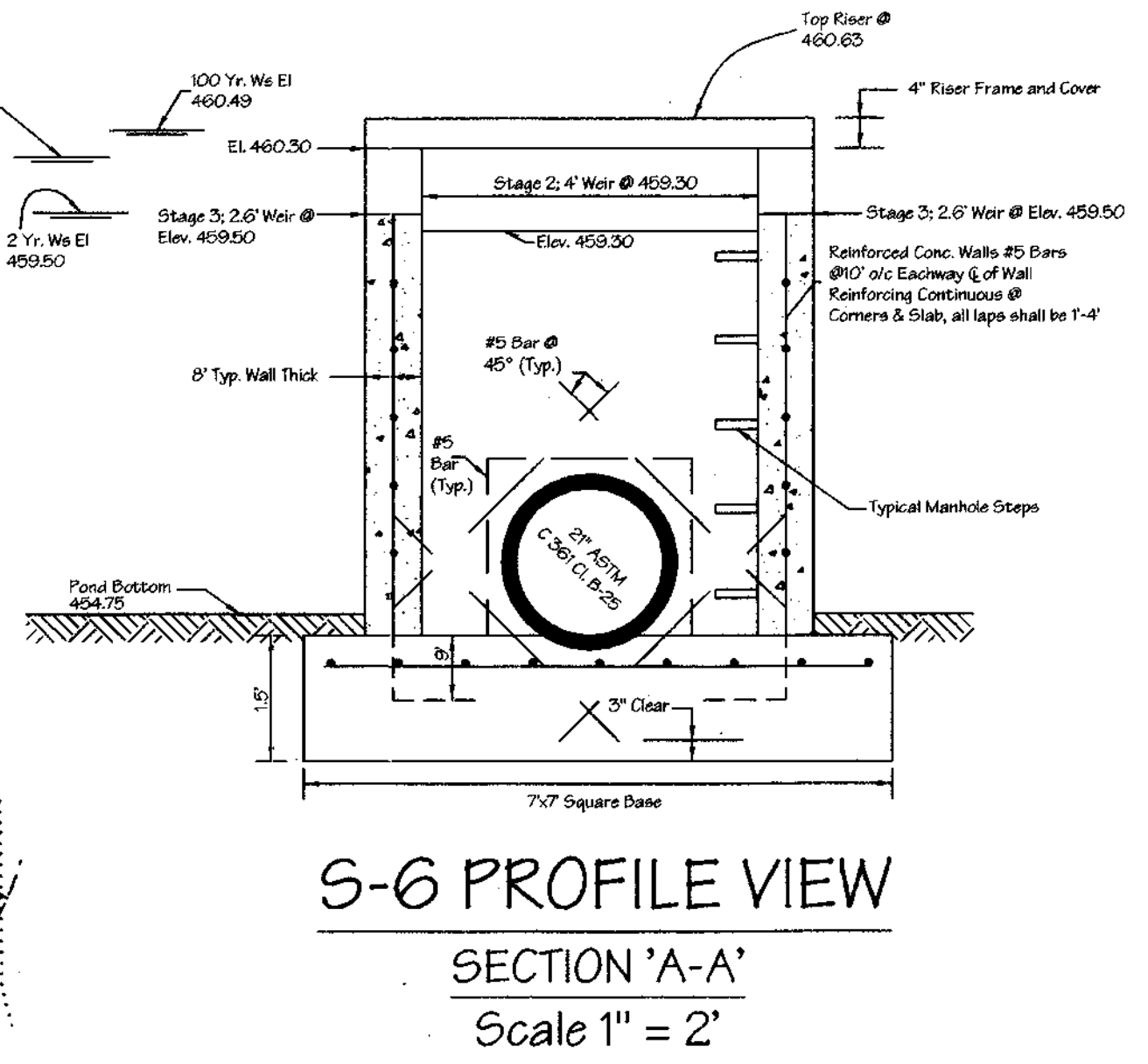
DESIGNED: EDS
DRAWN: JLM, STB
CHECKED: BDB
DATE: 6/2001

DEVELOPER: BRANTWOOD, LLC
2825 - P Columbia 100 Parkway
Columbia, Maryland 21045
(410) 730-0810

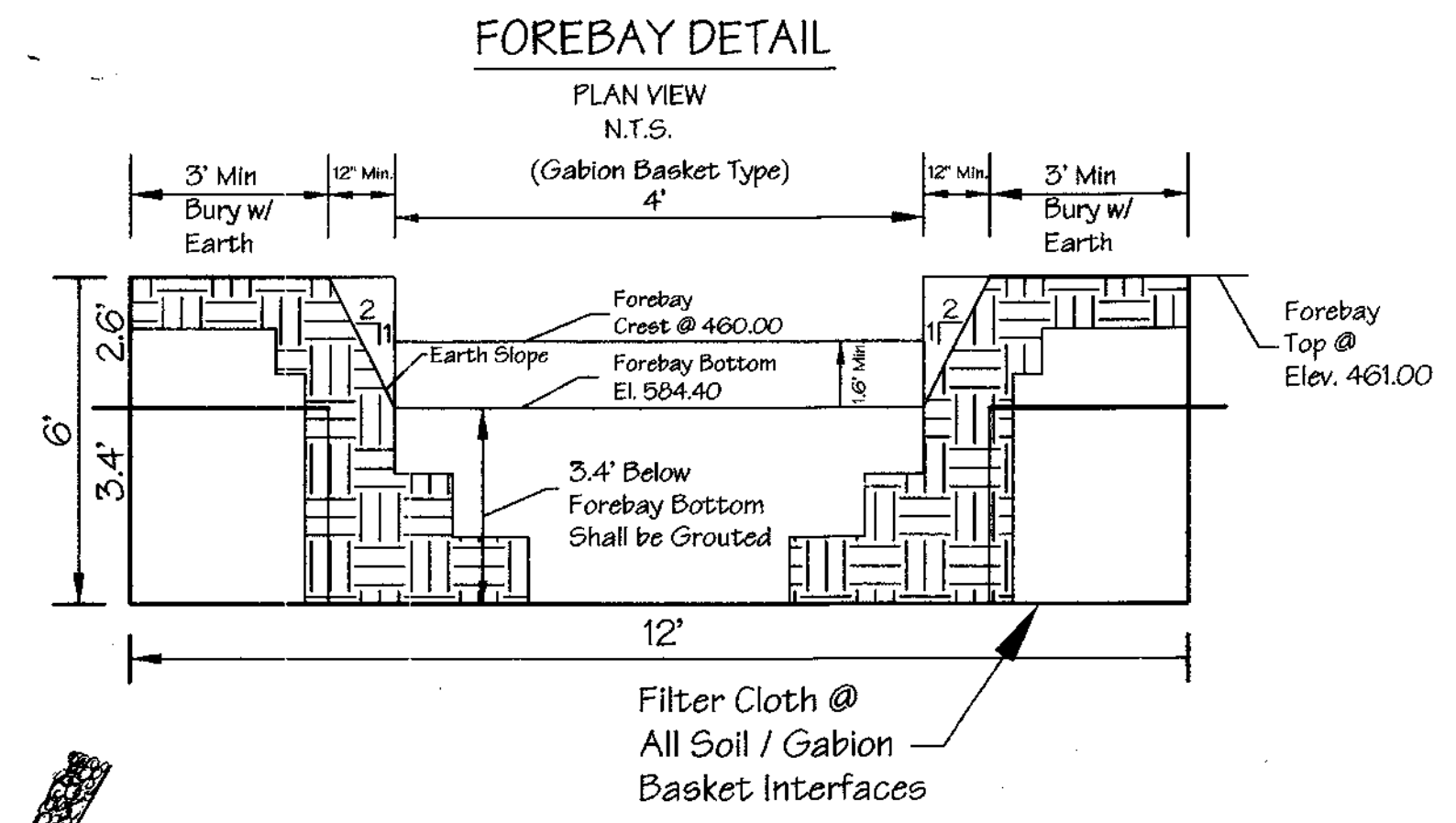
SCALE: As Shown
DRAWING: 13 of 17
JOB NO.: 98-040.5
FILE NO.: F01-73



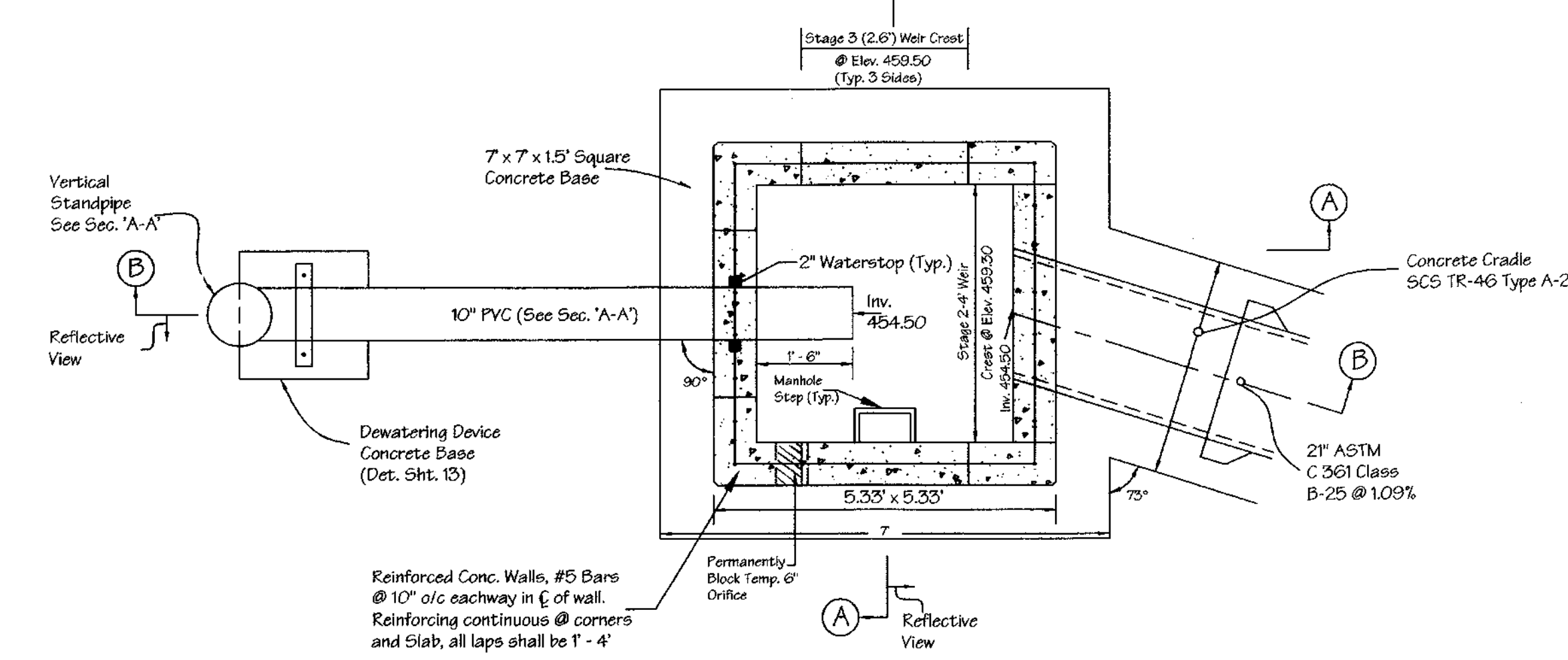
ULTIMATE POND #6 DETAIL
SCALE: 1" = 50'



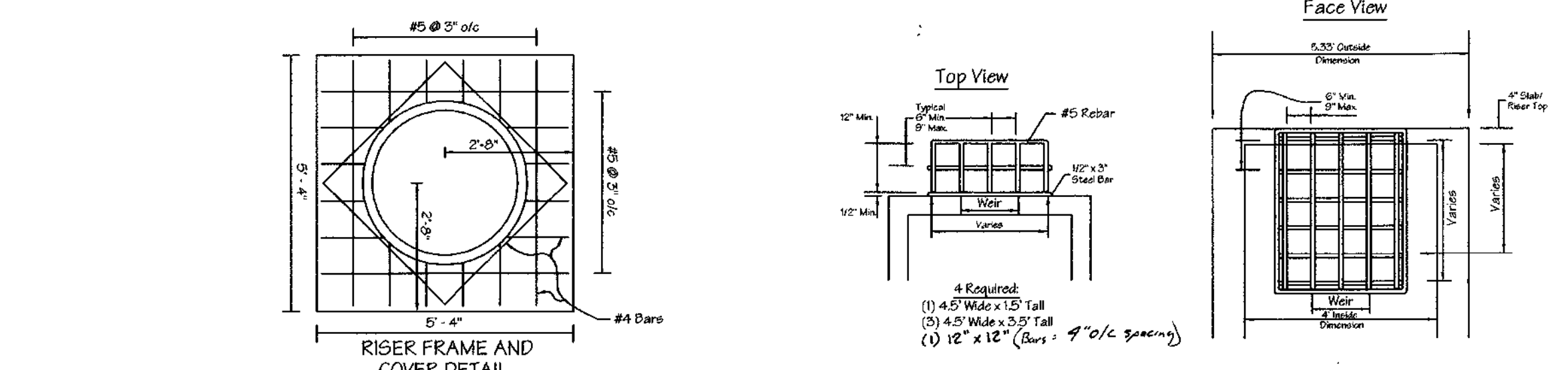
S-6 PROFILE VIEW SECTION 'A-A'
Scale 1" = 2'



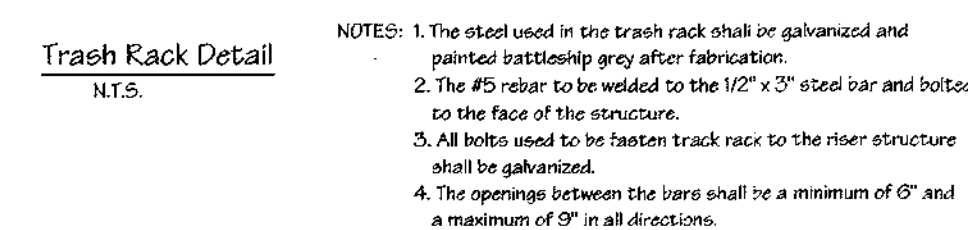
FOREBAY DETAIL PLAN VIEW
N.T.S.



SWM POND S-6 PLAN VIEW
Scale: 1" = 2'



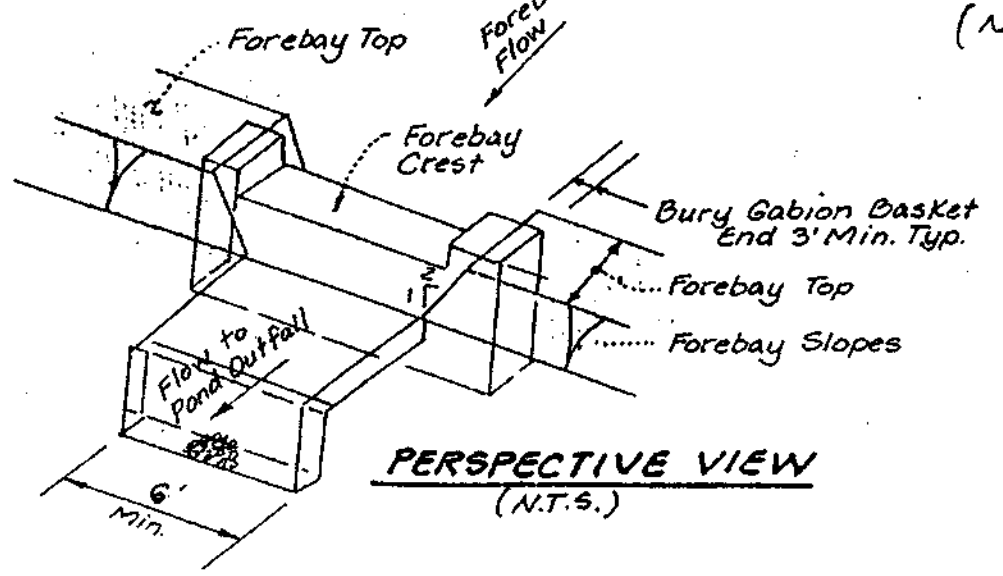
RISER FRAME AND COVER DETAIL
N.T.S.



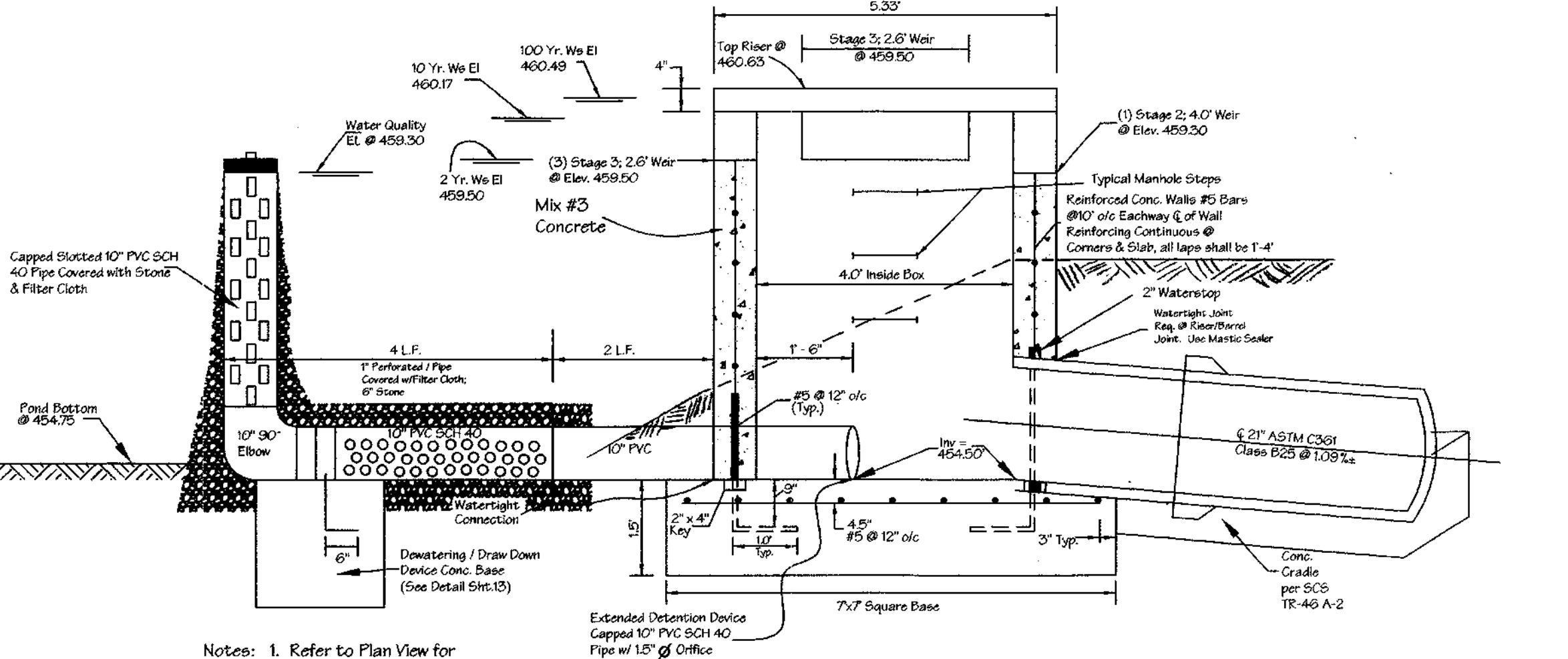
TRASH RACK DETAIL
N.T.S.



TYPICAL RIPRAP CHANNEL FROM FOREBAY TO POND BOTTOM
(N.T.S.)



PERSPECTIVE VIEW
(N.T.S.)



S-6 PROFILE VIEW SECTION 'B-B'
SCALE: 1" = 2'

SUMMARY TABLE

PRIVATE POND #6
Private H.O.A. Maintenance
Hazard Classification "A"
Drainage Area = 8.10 Acres
Water Quality Management = Extended Detention
Water Quantity Management = Detention

	SWM POND		
	2 Year	10 Year	100 Year
Total Existing Flow (cfs)	30	162.0	362
Unmanaged Flow (cfs)	25	120	260
Acceptable Release* (cfs)	2.0	20	45
Computed Inflow (cfs)	12	28	47
Facility Discharge (cfs)	12	23.3	45.7
Elevation at Discharge	459.50	460.17	460.49
Storage at Elevation (AC/FT)	0.35	0.47	0.53
Total Developed Flow (cfs)	26	153	366

* With allowance for Future Pond

Operation and Maintenance Schedule
Stormwater Management Facility
Extended Detention Pond

- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
- Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
- When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.

OPERATION, MAINTENANCE, AND INSPECTION

Inspection of the pond shown hereon shall be performed at least annually, in accordance with the checklist and requirements contained within USDO, SCS "Standards and Specifications For Ponds" (MD 378). The pond owner(s) and their heirs, successors, or assigns shall be responsible for the safety of the pond and take 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.

OWNER:
Parcels 45, & 205
Richard B. Talkin, Trustee
9175 Guilford Road Suite 301
Columbia, Maryland 21046

By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/16/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/20/01
CHIEF, Bureau of Highways

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.

[Signature] 6/27/01
NATURAL RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 6/27/01
HOWARD COUNTY SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION...
[Signature] 6/19/01
PROFESSIONAL ENGINEER

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS...
[Signature] 6/26/01
SIGNATURE OF DEVELOPER



Maintenance Notes

- County maintenance responsibility for facilities located on HOA property will be limited to the structural maintenance of the man-made elements of the facility (e.g. pipes, headwalls, riprap, dams and risers). County maintenance responsibilities shall also include removal of accumulated silt.
- Homeowners Association maintenance responsibilities will include landscape maintenance and trash removal. Landscape maintenance shall include mowing of all areas in open space including side slopes, dam top, embankment and spillways, except that the bottom of the facility shall not be mowed to less than 4 inches in height. Woody vegetation shall not be allowed to grow on the dam or within 20 feet of the top of cut slopes or toe of embankment (See Section 5.2.4.5). The maintenance responsibilities shall be included in the Homeowners Association By-Laws and Declaration of Covenants and be recorded with the developer agreement for the project.

Maintenance Requirements

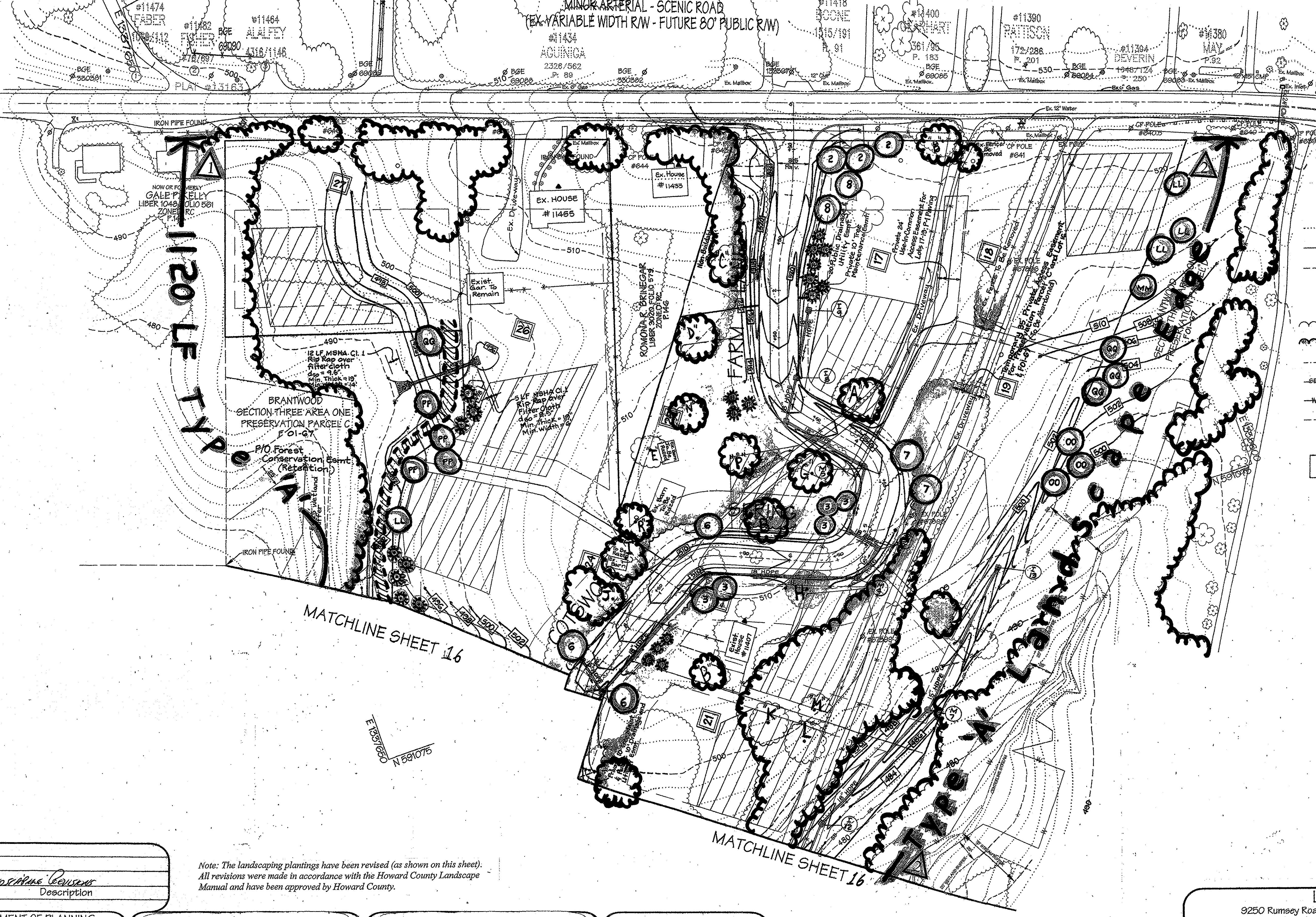
- Removal of silt when accumulation exceeds six (6) inches in basins without forebays. In basins with forebays, removal of silt shall occur when the accumulation exceeds four (4) inches in the forebay.
- Removal of accumulated paper, trash and debris as necessary.
- Vegetation growing on the embankment top and faces is not allowed to exceed 18 inches in height at any time.
- Annual inspection and repair of the structure.
- Corrective maintenance is required any time an extended detention basin does not drain the equivalent of the Water Quality Volume within 60 hours (i.e., no standing water is allowed).
- Corrective maintenance is required any time the forebay does not drain down completely within 60 hours (i.e., no standing water is allowed).

LDE, INC.

9250 Rumeey Road, Suite 106, Columbia, MD, 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	EDS	BRANTWOOD Ultimate Pond #6 Plan View & Details Section Three - Area Two Lots 17-27, Non-Buildable Preservation Parcel "E" <small>A Resubdivision of Brantwood - Section 3 Area 1 Subdivided into Parcels "A" & "B" Tax Map No. 15 - Grid No. 21 - Parcels 45, & 205 3rd Election District - Howard County, Maryland Previous Submittals: WF 90-96, F 90-125, WF 99-05, S 99-08, WF 00-05, F 00-02, F 00-04, F 01-07</small>	SCALE	As Shown
DRAWN	JLM KBW STB		DRAWINGS	14 of 17
CHECKED	BDE		JOB NO.	98-040.5
DATE	6/2001		FILE NO.	F01-73
DEVELOPER	BRANTWOOD, LLC 8835 - F Columbia 100 Parkway Columbia, Maryland 21045 (410) 730-0810			

FREDERICK ROAD - MD ROUTE 144
 MINOR ARTERIAL - SCENIC ROAD
 (EX-VARIABLE WIDTH R/W - FUTURE 80' PUBLIC R/W)



LEGEND

	EX. 2 FT. CONTOUR
	PROP. 2 FT. CONTOUR
	EX. 10 FT. CONTOUR
	PROP. SEPTIC AREA
	EX. SEPTIC AREA
	EX. TREES
	EX. TREES TO REMAIN
	EX. STREAM
	75' FT. STREAM BUFFER
	EX. NON-TIDAL WETLAND
	25' FT. WETLAND BUFFER
	PROPOSED WELL
	EXISTING HOUSE FRONT ORIENTATION

MATCHLINE SHEET 16

MATCHLINE SHEET 16

Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.

By	Date	No.	Description
CF	10/16	1	CONCEPT REVISION

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/20/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 10/20/10
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPT. OF PUBLIC WORKS

[Signature] 10-22-10
 CHIEF, BUREAU OF HIGHWAYS

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in the construction project will have a certificate of attendance of a Department of the Environment Approved Training Program for the control of sediment and erosion before beginning the project. I/We employ a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "on-site" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

[Signature] *[Signature]*
 Signature of Developer Date

I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland, License Number **906** - expiration date **3-8-12**

[Signature]

OWNERS:

Parcel 172
 Brantwood LLC
 8835 P. Columbia 100 Pkwy
 Columbia, Md. 21045

Parcel 45
 Hugh F. Cole, Jr.
 8835 P. Columbia 100 Pkwy
 Columbia, Md. 21045

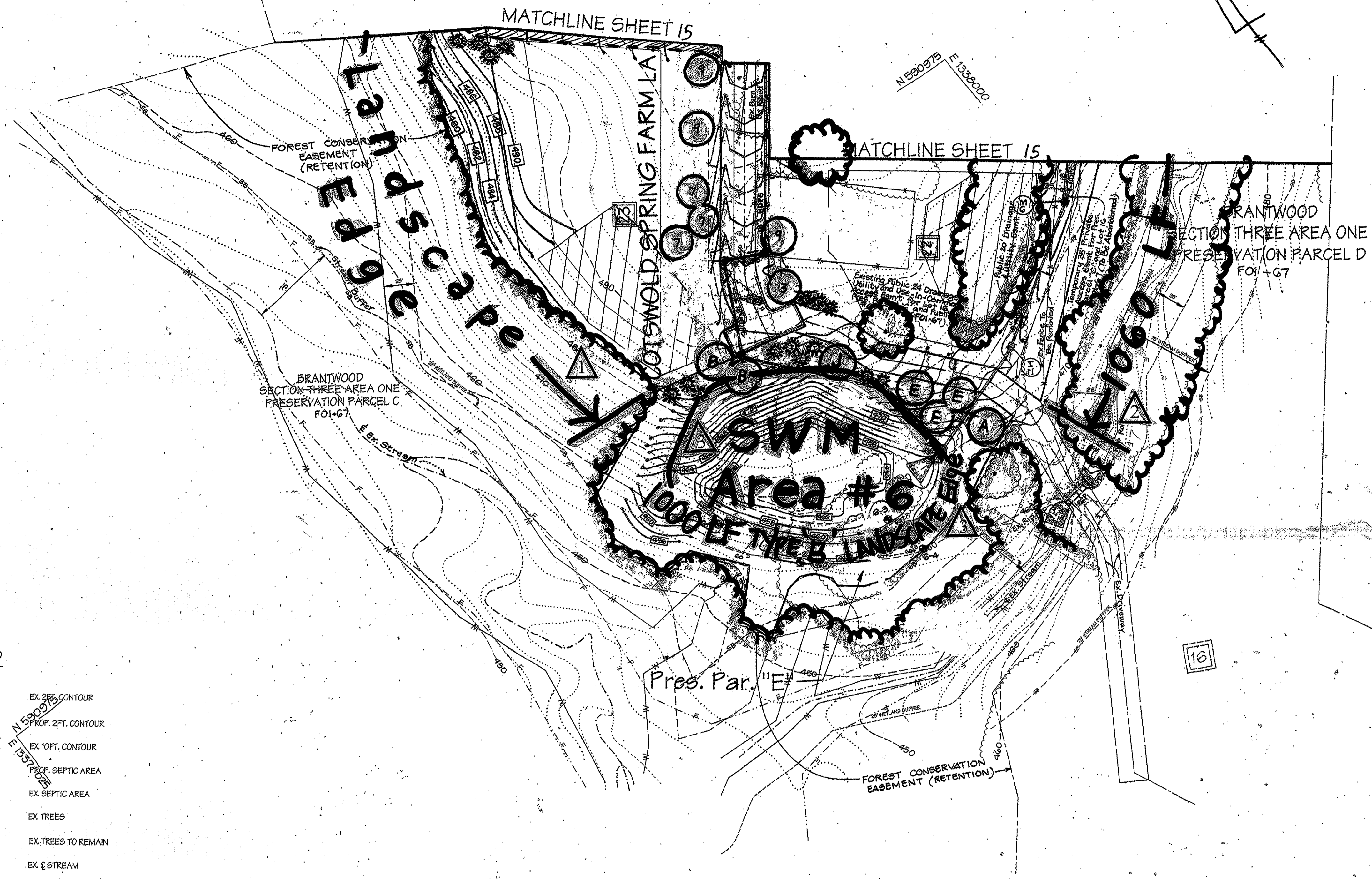
Parcel 205
 Brantwood LLC
 8835 P. Columbia 100 Pkwy
 Columbia, Md. 21045

LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS
 DRAWN: JLM
 CHECKED: BDB
 DATE: 6/1/2001

Project: Landscape and Street Tree Planting Plan
BRANTWOOD
 Section Three - Area Two
 Lot 17-274 Preservation Parcel "E"
 A Re subdivision of Brantwood - Section D Area 1
 Subdivided into Parcels "A" & "B"
 Tax Map No. 16 - Grid No. 21 - Parcel 45 & 205
 3rd Election District - Howard County, Maryland
 Previous Subdivide: WF 90-96, F 90-125, WF 99-56, S 99-03, WF 00-55, F00-05, F 01-04, F 01-07

SCALE: 1" = 50'
 DRAWING: 15 of 17
 JOB NO.: 98-040.5
 FILE NO.: F01-73



LEGEND

- 522--- EX 2FT. CONTOUR
- 522- PROP. 2FT. CONTOUR
- 520- EX 10FT. CONTOUR
- [Hatched Box] PROP. SEPTIC AREA
- [Hatched Box] EX. SEPTIC AREA
- [Wavy Line] EX. TREES
- [Dotted Circle] EX. TREES TO REMAIN
- - - EX. @ STREAM
- SB-SB-SB- 75' FT. STREAM BUFFER
- W-W-W- EX. NON-TIDAL WETLAND
- - - 225' FT. WETLAND BUFFER
- PROPOSED WELL

Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 10/26/10
 DATE

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 10/28/10
 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature]
 CHIEF, Bureau of Highways
 10-27-10
 DATE

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a sufficient amount of attendance at a Department of the Environment Approved Training Program for the control of sediments and erosion before beginning the project. I/We 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.

[Signature] Date 10/12/10
 Signature of Developer Date

I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland, License Number 906, expiration date 3-8-12



OWNERS:

- Parcel 172 Brantwood LLC 8835 P. Columbia 100 Pkwy Columbia, Md. 21045
- Parcel 45 Hugh E. Cole, Jr. 8835 P. Columbia 100 Pkwy Columbia, Md. 21045
- Parcel 205 Brantwood LLC 8835 P. Columbia 100 Pkwy Columbia, Md. 21045

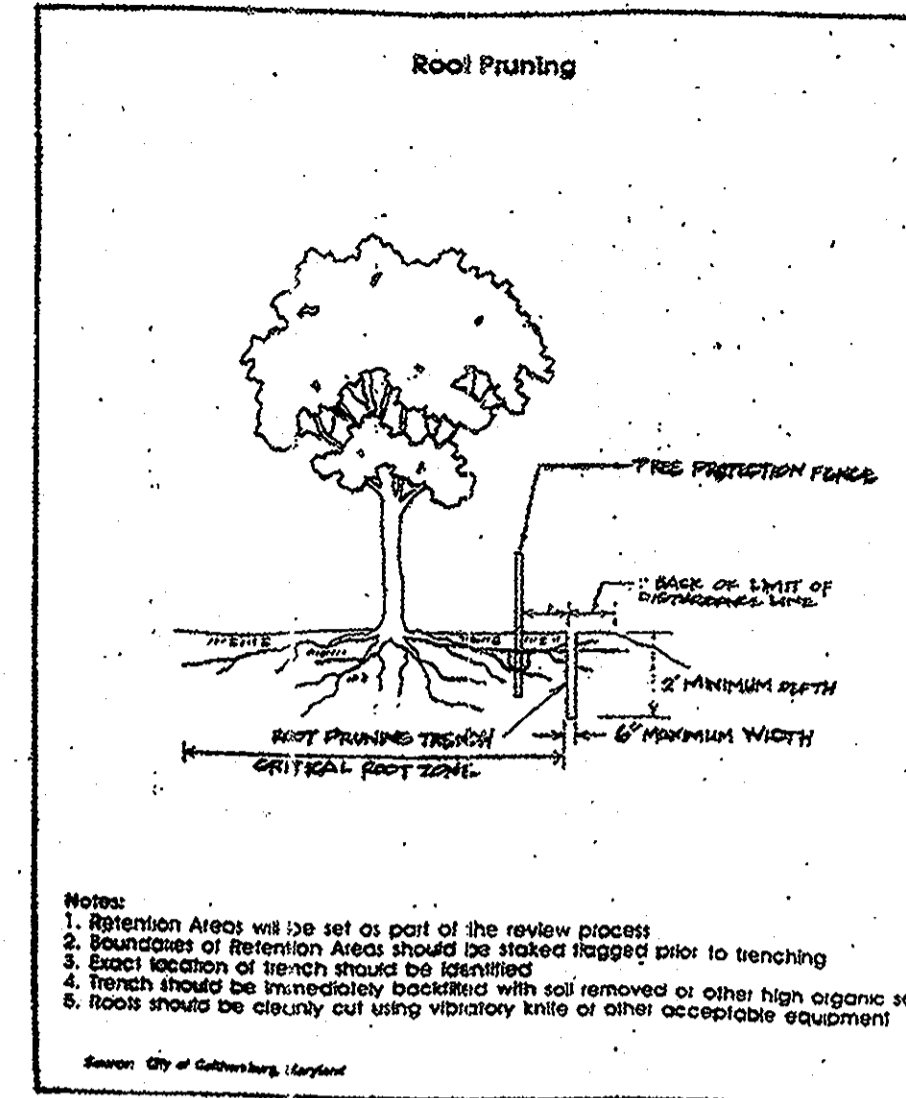
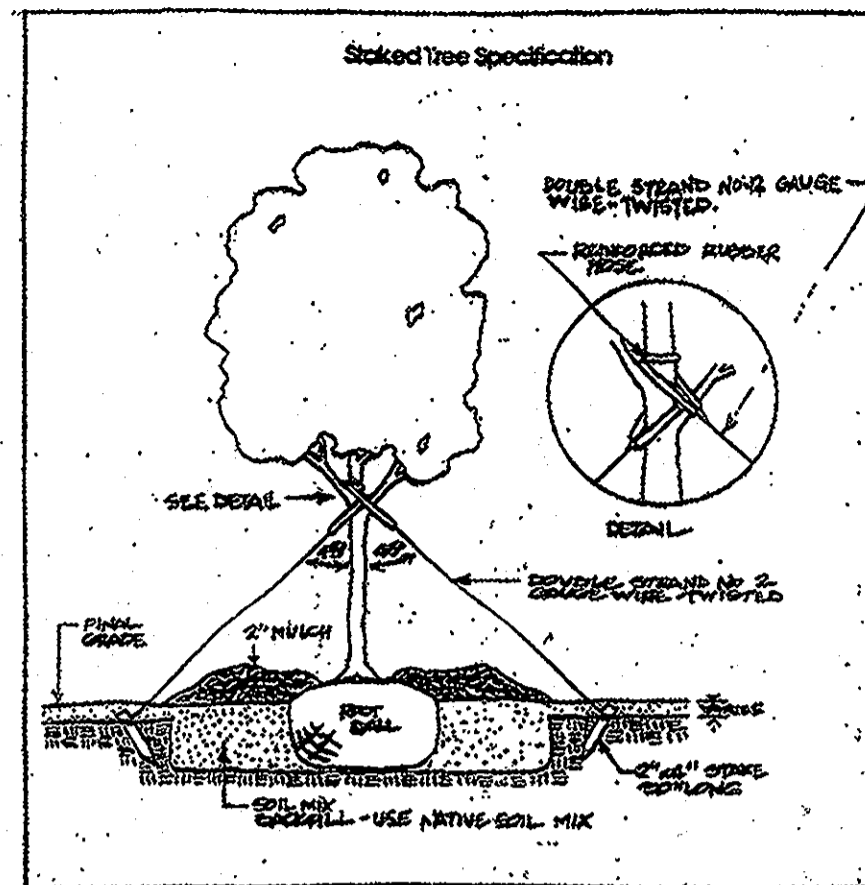
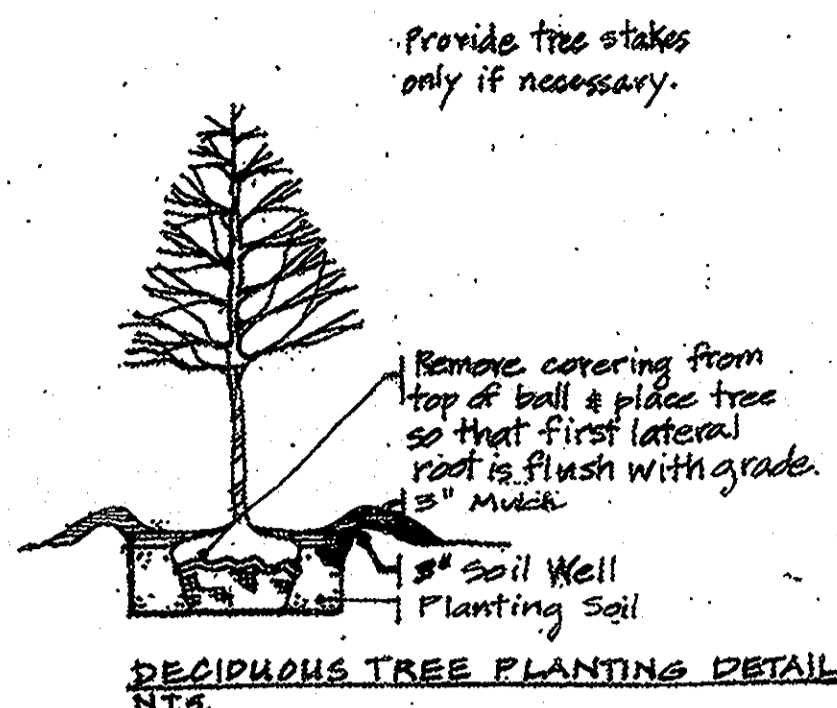
By	Date	No.	Description
CF	10/16	1	LANDSCAPE REVISIONS

LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	BRANTWOOD Section Three - Area Two Lots 17-21 Preservation Parcel "E" <small>A Resubdivision of Brantwood - Section 3 Area 1 Subdivided into Parcels "A" & "D" Tax Map No. 15 - Grid 1-A, 21 - Parcel 45, & 205 2nd Election Districts - Howard County, Maryland Previous Submittals: WF 90-96, F 90-124, WF 90-55, S 90-08, WF 00-55, F00-05, F 00-04, F 01-67</small>	SCALE 1" = 50'
DRAWN JLM		DRAWING 16 of 17
CHECKED BDB		JOB NO. 98-040.5
DATE 6/2001		DEVELOPER BRANTWOOD, LLC 8835 - P. Columbia 100 Parkway Columbia, Maryland 21045 (410) 752-0810

TREE PLANTING NOTES

- Notify "Miss Utility" 72 hours prior to installation of all plant material.
- Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
- Plants to be located in the field by the owner or owner's representative. Notify owner 72 hours in advance of planting.
- A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
- The number, size, location of plants shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
- Street tree locations may be adjusted for final location of driveways. Trees to be located a minimum of 10 feet from driveways.
- Street trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
- Street tree planting must conform to the Subdivision and Land Development Regulations and the Department of Public Works Design Manual of Howard County.
- Balled and burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
- Tree pits shall be backfilled with 50% topsoil, 25% peat 25% sand with one pound of 10-10-10 fertilizer per pit.
- Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pH 4.5 to 5.5, free of woody material or harmful minerals.
- All plants shall be watered at planting with weekly watering thereafter for the first 90 days. Watering shall continue bimonthly or as necessary to maintain plants in a healthy condition during the guarantee period.
- Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
- Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance.
- Maintenance shall begin immediately after planting and continue to the end of guarantee period.
- Maintenance consists of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.
- There shall be a minimum of 20 feet between street lights and street trees. All street trees shall be maintained by the HOA (Homeowners Association) end of guarantee period.



SPECIMEN TREE

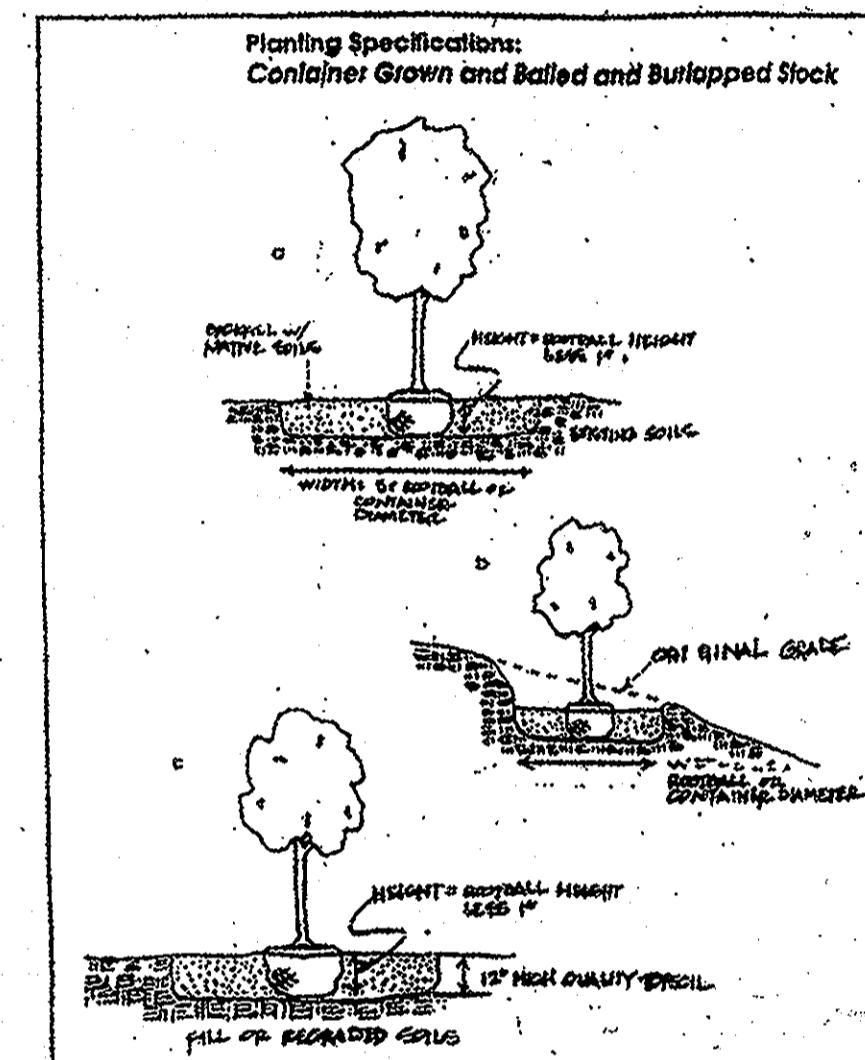
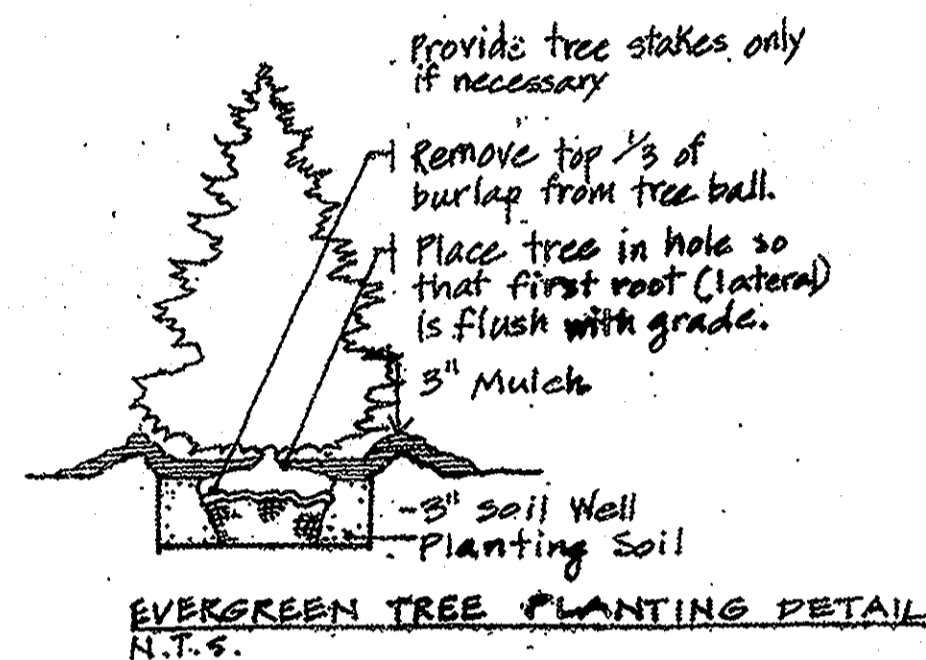
DO NOT REMOVE

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

GENERAL NOTES

- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
- The Owner/Developer is responsible for the planting of all plants material required to meet the standards established by the Howard County Landscape Manual.
- Financial Surety for the required landscaping has been posted as part of the Department of Public Works Developer's Agreement in the amount of \$25,000.
- Financial Surety for the required street trees has been posted in the amount of \$15,000.
- The Forest Conservation obligations for BRANTWOOD "Section Three" POO-03 & POO-04 have been provided within the Forest Conservation Easement as shown on the FOI-87 Plan, 17.64 Ac. of Retention has been provided.

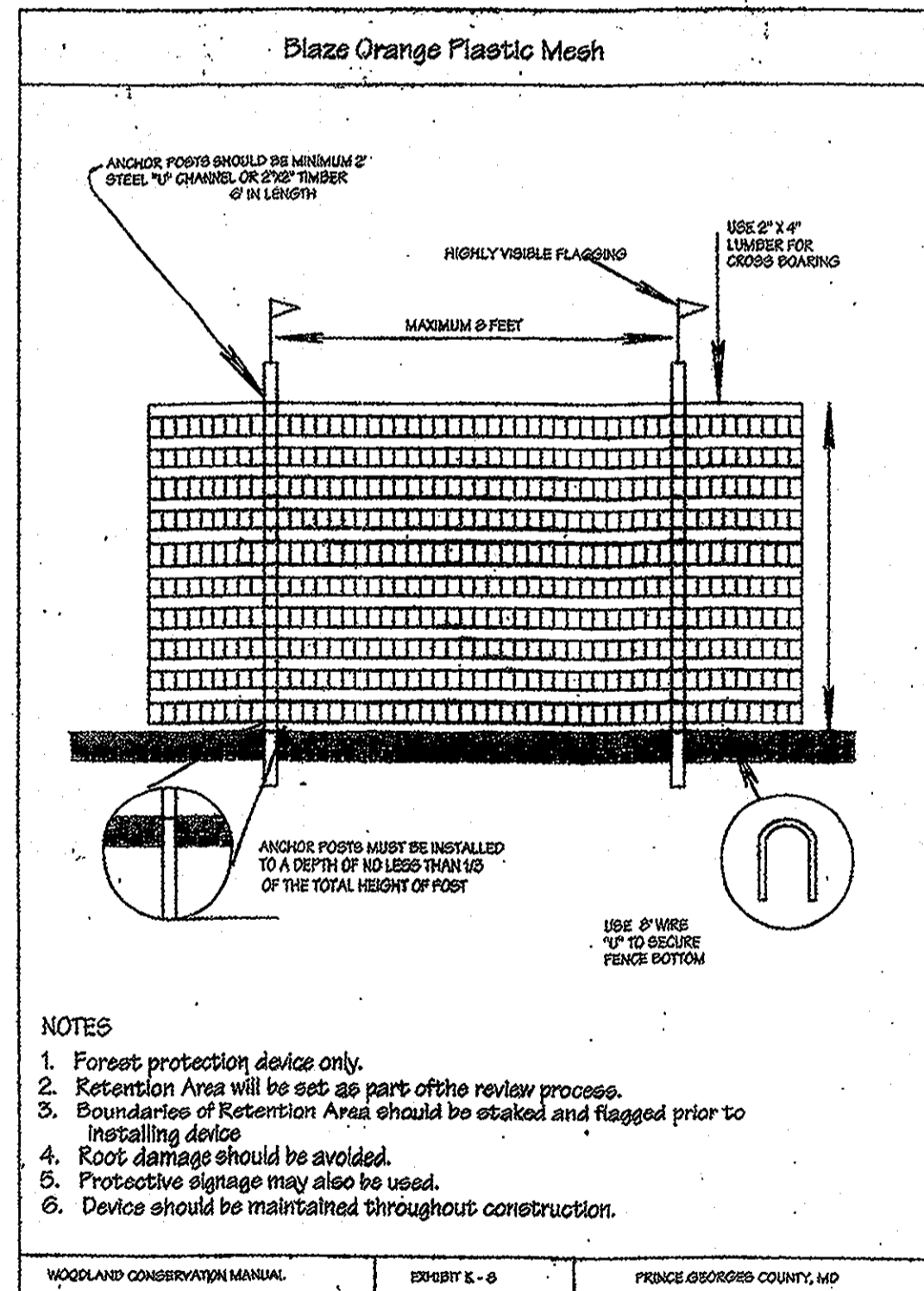


Tree ID	Tree Type	Keep / Remove	Reason for Removal
A	38" Sweet Buckeye	Keep	
B	52" Red Maple	Keep	
C	38" Hickory	Keep	Evaluate Tree Well
D	42" Poplar	Keep	
E	36" White Oak	Remove	Proposed House Site - Lot 9
F	38" White Oak	Keep	
G	42" White Oak	Keep	
H	30" Hickory	Keep	Possible Removal / Evaluate Root Prune
I	42" Northern Red Oak	Remove	
J	31" Northern Red Oak	Keep	
K	40" White Oak	Keep	
L	45" Poplar	Keep	
M	34" Sweet Buckeye	Keep	
N	30" White Oak	Keep	
O	41" White Oak	Keep	Root Prune / Aeration System
P	30" Poplar	Remove	Stormwater Management Pond
Q	45" Twin Poplar	Keep	
R	34" White Oak	Keep	Possible Removal / Well Relocation

Symbol	Botanical Name	Common Name	Quantity	Size
2	Acer s. 'Green Mountain'	Green Mt. Sugar Maple	3	2 1/2 - 3" cal. BB
3	Cornus kousa	Chinese Dogwood	6	6 - 8" Ht. BB
6	Prunus s. 'Kwanzan'	Kwanzan Cherry	3	1 1/2 - 2" cal. BB
7	Prunus yedoensis	Yoshino Cherry	4	1 1/2 - 2" cal. BB
9	Zelkova s. 'Village Green'	Village Green Zelkova	3	2 1/2 - 3" cal. BB
10	Cupressocyparis leylandii	Leyland Cypress	7	5 - 6" Ht. BB/ cont.
14	Pinus strobus	White Pine	7	6 - 8" Ht. BB

Symbol	Botanical Name	Common Name	Quantity	Size
LL	Fraxinus p. 'marshall's seedless'	Green Ash	4	2 1/2 - 3" cal. BB
MM	Liquidambar styraciflua	Sweet Gum	1	2 1/2 - 3" cal. BB
OO	Platanus a. 'Bloodgood'	London Plane-tree	3	2 1/2 - 3" cal. BB
PP	Prunus sargentii	Sargent Cherry	4	2 - 2 1/2" cal. BB
QQ	Quercus rubra	Red Oak	4	2 1/2 - 3" cal. BB
A	Cryptomeria j. 'yoshino'	Cryptomeria	4	7 - 8" Ht. BB/ cont.
+	Pinus strobus	White Pine	5	6 - 8" Ht. BB
+	Thuja p. 'Green Giant'	Western Arborvitae	3	7 - 8" Ht. BB/ cont.

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	B	A
Linear Feet of Roadway Frontage / Perimeter	765 LF	2622 LF
Credit for Existing Vegetation (Yes, No Linear Feet) (Describe below if needed)	YES 1 SPECIMEN = 1 SHADE	YES 462 LF OR 6 TREES
Credit for walk, fence or berm (Yes, No Linear Feet) (Describe below if needed)	NO	NO
Number of Plants Required	16 SHADE	44 SHADE
Number of Plants Provided	1 CREDIT SHADE	38 SHADE
Evergreen Trees	15 SHADE	6 BY CREDIT
Other Trees (21 substitution)	20 EVERGREEN	44 TOTAL
Shrubs (10 substitution)	36 TOTAL	



Area #	Type	Sheet #	# LF	Trees Required	Credit for Existing	Total Trees Required	Proposed Trees
1	A	15, 16 of 17	1120	1120 / 60 = 19	420 / 60 = 7	19 - 7 = 12	6 Shade; 12 Evergreen
2	A	15, 16 of 17	1060	1060 / 60 = 18	460 / 60 = 8	18 - 8 = 10	10 Shade
3	B	16 of 17 (Shade)	1000	1000 / 50 = 20	650 / 50 = 13	20 - 13 = 7	7 Shades
	B	16 of 17 (Evergreen)	1000	1000 / 40 = 25	650 / 40 = 16	25 - 16 = 9	9 Evergreens

Type A - 150- Shade
Type B - 150- Shade; 140 Evergreen

Category	Quantity
Linear Feet of Perimeter	999 LF
Number of Plants Required	20 SHADE
Shade Trees 1:50	25 EVERGREEN
Evergreen Trees 1:40	
Credit for Existing Vegetation (Yes, No and %)	NO
Credit for Other Landscaping (Yes, No and %)	NO
Number of Trees Provided	10 SHADE
Evergreen Trees	49 EVERGREEN
Other Trees (21 substitution)	

Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.

I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland, License Number 906, expiration date 3-6-12



APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 10/26/10

DATE: 10/26/10

APPROVED: DEPARTMENT OF PUBLIC WORKS

DATE: 10-27-10

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Government approved Training Program for the control of erosion and erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District site inspection by the end of the project within 30 days of completion. I also authorize periodic site inspections by the Howard Soil Conservation District.

Signature of Developer: [Signature] Date: 10/26/10

By	Date	No.	Description
CE	10/10/10		LANDSCAPING REVISIONS

LDE, INC.
9250 Rumsay Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS
DRAWN: JLM
CHECKED: BDB
DATE: 6/2001

REVISIONS

SCALE: As Shown
DRAWING: 17 of 17
JOB NO.: 98-0405
FILE NO.: FOI-73

BRANTWOOD Section Three - Area Two
Lot 17-27 & Preservation Parcel "E"
A Resubdivision of Brantwood - Section 3 Area 1
Suitable Part Parcel "A" & "B"
Tax Map No. 16 - Grid No. 21 - Parcel 45, & 205
3rd Election District - Howard County, Maryland
Previous Submittals: WF 98-06, F 00-120, WF 98-05, 9 98-08, WF 00-05, F 00-04, F 01-07

DEVELOPER: BRANTWOOD, LLC
8835 - P Columbia 100 Parkway
Columbia, Maryland 21045
(410) 730-0810