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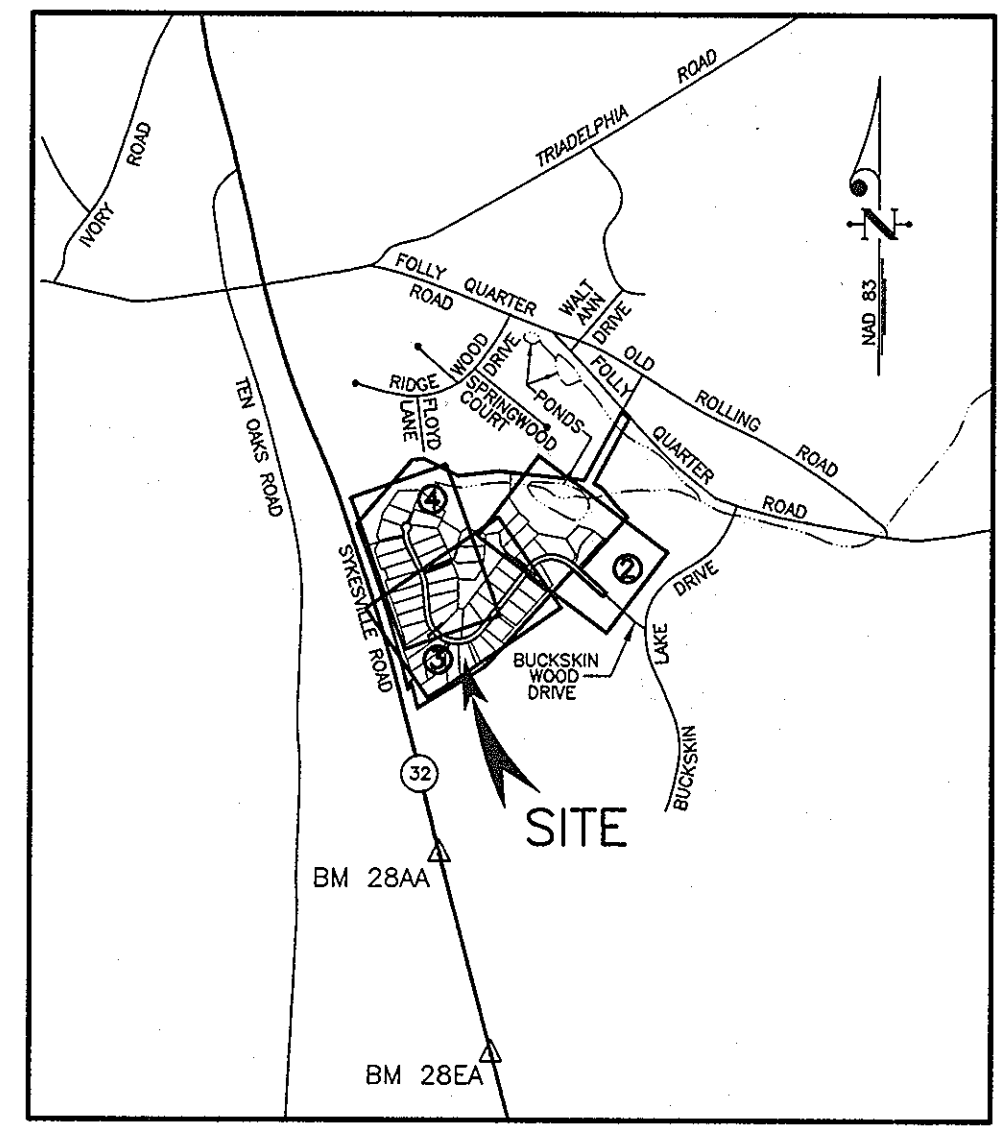
ROAD CONSTRUCTION PLANS

BUCKSKIN RIDGE

LOTS 1 - 47 AND PRESERVATION PARCEL A

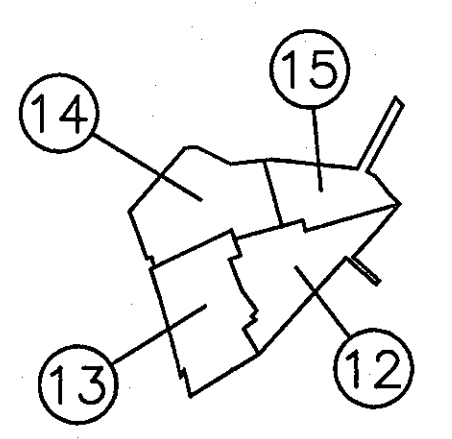
- GENERAL NOTES:**
- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
 - The contractor shall notify the Department of Public Works/Bureau of Engineering, Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
 - The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
 - Project Background:
Zoning: RR-DEO
Total Tract Area: 96.9366 Ac
Number of Proposed Lots: 47 Buildable, 1 Preservation Parcel
 - Preliminary Plan Reference: P-01-07
 - Other County File Nos.: S-00-08
 - Traffic control devices, 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.
 - Topographic survey was field run at 2' contour intervals by Clark, Finefrock & Sackett, Inc., dated August 1997.
 - Horizontal and vertical control based on Howard County Control Stations 28AA, elev. 568.338' and 28EA, elev. 485.757'
 - Private water and sewer are to be utilized.
 - Stormwater Management for this project is being provided on site for quantity and quality. Quantity control is proposed by detention, 2, 10, and 100-year control. Rev. for roadways is provided by open section. Ownership and maintenance by the Buckskin Ridge Homeowners Association Inc.
 - The following studies were prepared and approved under S-00-08 and P-01-07.
 - Forest Stand Delineation by Environmental Systems Inc., dated December 1999.
 - Wetland Delineation by Environmental Systems Inc., dated December 1999.
 - Traffic Study by Lee Cunningham and Assoc., dated January, 2000.
 - Geotechnical report by Geo-Technology Associates, Inc., dated April 2001.
 - Preliminary floodplain analysis approved with P-01-07. Final floodplain analysis submitted concurrent with this plan.
 - Noise study was approved on 4/11/01 with P-01-07.
 - Existing utilities and improvements shown are taken from available records, where not visibly evident from field survey.
 - Trench compaction for storm drains within the road or street rights of way limits shall be in accordance with "Howard County Design Manual", Vol IV, Std. No. G-2.01
 - All compacted fill shall be in accordance with AASHTO T-180 requirements.
 - All fillet radii are 5 ft. unless indicated otherwise.
 - Sag and crest vertical curves were designed in accordance with the "Howard County Design Manual", Vol. III.
 - Street tree locations shown are tentative and are to be used for bond purposes only. The final location and variety of trees may vary to accommodate field conditions and builder landscape program.
 - Street trees shall be planted a minimum of five (5) feet from storm drain, waterline or sewer pipe manholes; also a minimum of twenty (20) feet from street lights.
 - MDE NTW Permit Tracking Number is CENAB-OP-RMS (Columbia Builders/Buckskin Ridge) 01-64713-5, for reconstruction of the existing pond, and road crossing. MDE Dam Safety Division WMA file no. 01-MR-0071, tracking no. 200164713.
 - Financial surety for the onsite Forest Conservation obligations for this subdivision are \$229,849.00 for retention of 27.5308 acres of forest and \$19,219.00 for 0.8824 acres of reforestation. Financial surety for the offsite Forest Conservation obligations for this subdivision are \$126,321.00 for 6.36 acres of reforestation. Off-site location is Romiti Property, TM 2, Parcel 61.
 - Preservation Parcel A will be owned by the Buckskin Ridge Preservation LLC. Preservation Parcel A is encumbered by an easement agreement with the Buckskin Ridge Homeowners Association, Inc. and Howard County, Maryland. This agreement prohibits further subdivision of this parcel, outlines the maintenance responsibilities of their owners, and enumerates the uses permitted on the parcel.
 - This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual. Financial surety for the required 177 street trees in the amount of \$53,100.00 as part of Developer's Agreement. The landscape buffer obligations are met by retention of existing forest, which constitute equivalent buffers. **No landscape surety is required for retention of existing trees.**
 - All lines shown in standard symbols as presented in the Design Manual, Volume IV, "Standard Specifications and Details for Construction".
 - Driveway culverts shall be constructed at site development plan stage in accordance with approved culvert size shown on this sheet.
 - Drywells shall be provided on the site development plans, sized to disconnect impervious areas not draining to the street or yard inlets, for the following lots: 15.

DRIVEWAY CULVERT SCHEDULE*									
LOT NO.	Q IN CFS	PIPE SIZE	STATION FOR (A)	INVERT IN (A)	STATION FOR (B)	INVERT OUT (B)	PIPE LENGTH		
1	---	---	---	---	---	---	---	SHARED WITH LOT 47	
2	---	---	---	---	---	---	---	NO CULVERT NEEDED SHARED WITH LOTS 1 AND 47	
3	---	---	---	---	---	---	---	NO CULVERT NEEDED SHARED WITH LOTS 1 AND 47	
4	3.3	11"x17"	37+82	609.16	38+04	607.61	22'		
5	3.1	9"x14"	36+54	617.36	36+76	616.21	22'		
6	2.3	9"x14"	35+16	622.85	35+38	622.02	22'		
7	1.8	9"x14"	33+76	628.10	33+98	627.24	22'		
8	1.5	9"x14"	32+51	632.71	32+73	631.88	22'		
9	1.2	9"x14"	31+22	637.62	31+44	636.79	22'		
10	0.8	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
11	0.5	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
12	0.1	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
13	0.1	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
14	0.2	9"x14"	26+92.15	637.71	26+31.67	637.32	28'		
15	---	---	---	---	---	---	---	SHARED WITH LOT 14	
16	0.35	9"x14"	26+52.34	637.13	26+31.67	636.83	22'		
17	0.9	9"x14"	24+95.34	634.62	24+74.66	634.10	22'		
18	1.0	9"x14"	24+43.34	633.30	24+22.67	632.62	22'		
19	1.5	9"x14"	22+56	626.49	22+34	625.85	22'		
20	2.0	9"x14"	20+13	620.49	19+91	619.74	22'		
21	---	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
22	---	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
23	1.0	9"x14"	15+36	587.95	15+14	585.95	22'		
24	---	---	---	---	---	---	---	SHARED WITH LOT 25	
25	3.1	9"x14"	9+71	575.00	91+99	573.50	28'		
26	1.4	9"x14"	14+68.31	581.92	14+47.69	580.28	22'		
27	---	---	---	---	---	---	---	SHARED WITH LOT 28	
28	1.3	9"x14"	15+04	585.03	14+76	582.57	28'		
29	0.7	9"x14"	16+65	599.70	16+43	597.71	22'		
30	0.1	9"x14"	18+18	611.36	17+96	609.99	22'		
31	1.1	9"x14"	20+04	620.19	19+82	619.41	22'		
32	0.6	9"x14"	21+68	624.28	21+46	623.87	22'		
33	2.5	9"x14"	24+36	633.07	24+14	632.37	22'		
34	0.8	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
35	0.3	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	
36	1.3	9"x14"	30+80	638.77	31+02	638.17	22'		
37	2.8	9"x14"	32+32	633.50	32+54	632.67	22'		
38	3.9	9"x14"	33+51	628.86	33+73	628.04	22'		
39	4.4	---	---	---	---	---	---	SEE PLAN SHEET-4 AND PROFILE SHEET-7	
40	---	---	---	---	---	---	---	SEE PLAN SHEET-4 AND PROFILE SHEET-7	
41	---	---	---	---	---	---	---	SEE PLAN SHEET-4 AND PROFILE SHEET-7	
42	---	---	---	---	---	---	---	SEE PLAN SHEET-4 AND PROFILE SHEET-7	
43	---	---	---	---	---	---	---	SEE PLAN SHEET-4 AND PROFILE SHEET-7	
44	4.7	9"x14"	36+42	617.76	36+64	616.68	22'		
45	5.7	9"x14"	38+09.13	607.26	38+32.86	605.73	22'		
46	---	---	---	---	---	---	---	NO CULVERT NEEDED SHARED WITH LOTS 1 AND 47	
47	1.0	---	---	---	---	---	---	NO CULVERT NEEDED DIP DRIVEWAY PER HO. CO. STD. R-6.06	

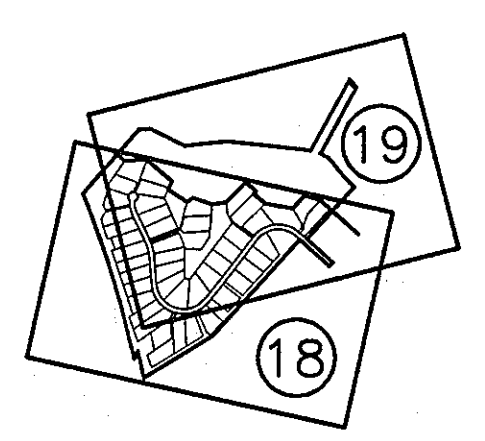


VICINITY MAP
SCALE: 1" = 2000'

BENCH MARKS				
MONUMENT	DESCRIPTION	ELEVATION	NORTHING	EASTING
28AA	HO. CO. MONUMENT	568.338	576548.454	1318268.852
28EA	HO. CO. MONUMENT	485.757	572158.938	1319400.734



KEY MAP FOR SHEETS 12 - 15
SCALE: 1" = 2000'



KEY MAP FOR SHEETS 18 & 19
SCALE: 1" = 2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danaher 4-15-02
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Cindy Howard 4/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: *John Vasserman* 4/16/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2.	Revise Storm Drain Pipe to HOPE & Remove Speed Calming Devices	10-27-09
1.	Revise Preservation Parcel owner and easement information.	6-28-02
No.	REVISION	DATE



OWNER:
JARED T. HEALY, TRUSTEE
M. CHARLOTTE POWEL, TRUSTEE
10715 CHARTER DRIVE
COLUMBIA, MARYLAND 21044

CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	COVERSHEET	SCALE
TD	BUCKSKIN RIDGE	AS SHOWN
DRAWN	LOTS 1 - 47 AND	DRAWING
LAI/GRH2	PRESERVATION PARCEL A	1 of 23
CHECKED	TAX MAP #22 PARCELS 74, 77, & 283	JOB NO.
TD	FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	00-008
DATE	(DPZ FILE REF.: S-00-08, P-01-07)	FILE NO.
3/1/02	FOR: FLOYD LANE L.L.C. (DEVELOPER)	00-008 D
	P.O. BOX 999	
	COLUMBIA, MARYLAND 21044	

CURVE DATA						
NAME AND STATION	RADIUS	DELTA	LENGTH	TANGENT	CHORD	BEARING
BUCKSKIN WOOD DRIVE 9+84.83 - 14+79.11	300.00'	94°24'03"	494.28'	323.98'	440.24'	S.84°35'34"W.

SPEED CONTROL DEVICE TABLE						
STATION	LETTER	OFFSET	T.C. ELEVATION	LETTER	OFFSET	T.C. ELEVATION
10+45	A	12' RT	575.51	E	12' LT	575.51
10+11	B	6' RT	575.42	F	6' LT	575.42
10+31	C	6' RT	574.60	G	6' LT	574.60
10+37	D	12' RT	574.18	H	12' LT	574.18

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02
2	CHANGED RETAINED TREE SPACING TO RANDOM PATTERN	6-3-03
3	Revise tree types & show 32 ex. street trees	11-8-07
4	Revise Storm Drain Pipe to HUFF & Remove Speed Calming Devices	10-27-09

STREET TREE LEGEND					
BOTANICAL NAME	COMMON NAME	SIZE	ROOT	QUANTITY	SYMBOL
ACER RUBRUM	RED MAPLE	2-1/2" CAL.	B ₂ & D	177	(Symbol)

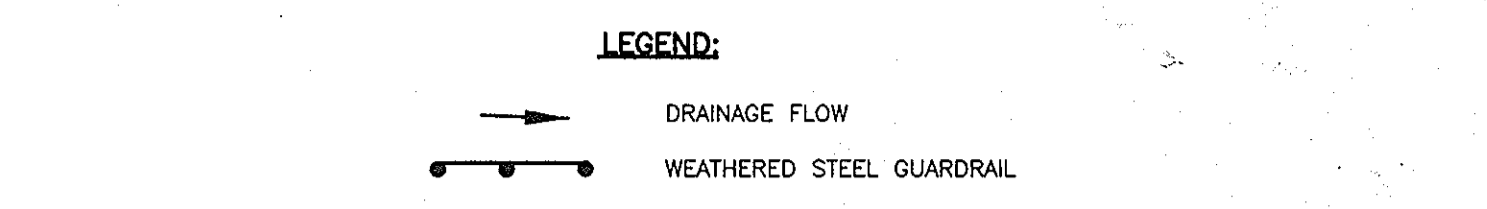
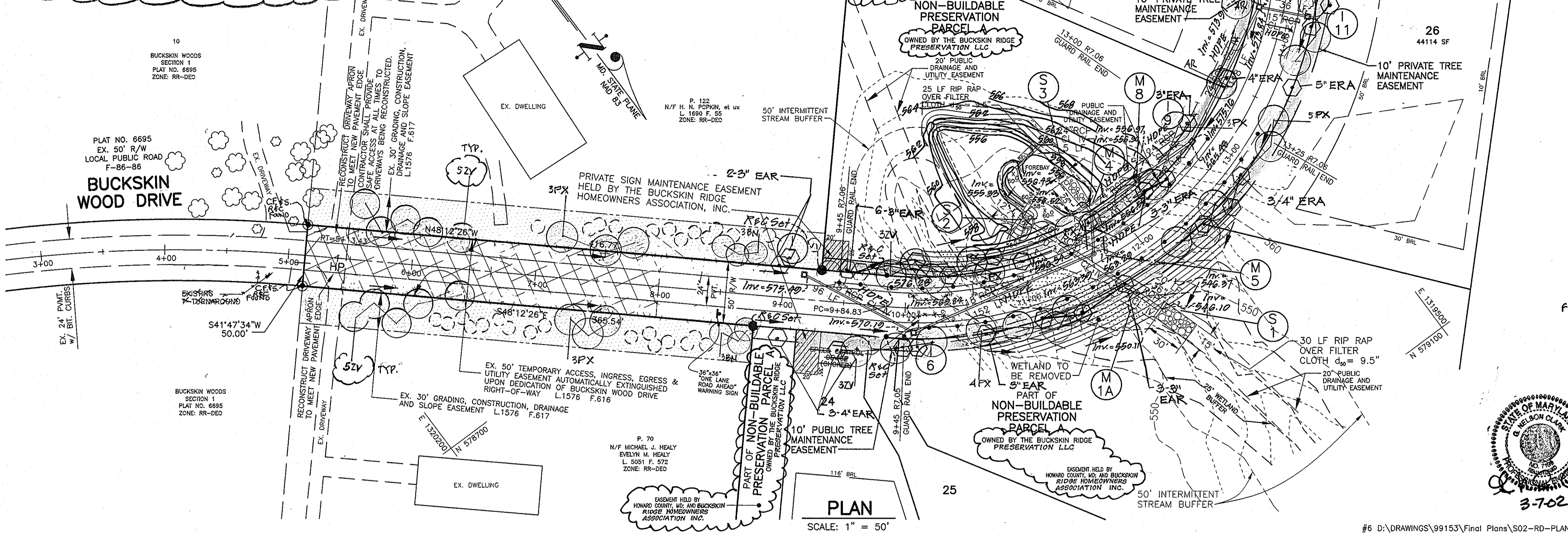
STREET TREE SCHEDULE (REV. #2)				
KEY	Botanical Name	Common Name	Size	QUANT.
AR	Acer rubrum 'Red Sunset'	Red Sunset Maple	2.5" Cal.	32
BR	Betula nigra 'Heritage'	Heritage River Birch	2.5" Cal.	6
PX	Platanus X Acari folia	London Plane Bloodleaf	2.5" Cal.	62
QO	Quercus Plustris	Pini Oak	2.5" Cal.	49
ZV	Zelkova GreenVase	Green Vase Zelkova	2.5" Cal.	25

Additional Trees at Developer's Option

KEY	Botanical Name	Common Name	Size	Quant.
EAR	Acer rubrum 'Red Sunset'	Red Sunset Maple	3'-5"	32

Street tree revision #3 to show ex. planted trees 11-28-07

NOTE: RANDOM SPACING OF TREES IS SHOWN AS CONCEPTUAL
FINAL LOCATIONS MAY VARY BASED ON FIELD CONDITIONS



STREET TREES NOTES:

- 177 STREET TREES REQUIRED BASED ON 7,064 LF ROAD FRONTAGE / 40' STREET TREES SHOWN; ALTERNATIVE COMPLIANCE PROPOSED BY RETENTION OF ADJACENT STOCK. 177 STREET TREES ARE TO BE BONDED, AND INSTALLED AT 1/40' IF ADJACENT RETAINED STOCK DOES NOT COMPLY.
- SEE SHEET 5 FOR PLANTING DETAIL.
- FINANCIAL SURETY FOR THE REQUIRED 177 STREET TREES IN THE AMOUNT OF \$53,100 WILL BE PART OF THE DEVELOPERS AGREEMENT.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Robert M. Jankov 4-15-02
CHIEF, BUREAU OF HIGHWAYS

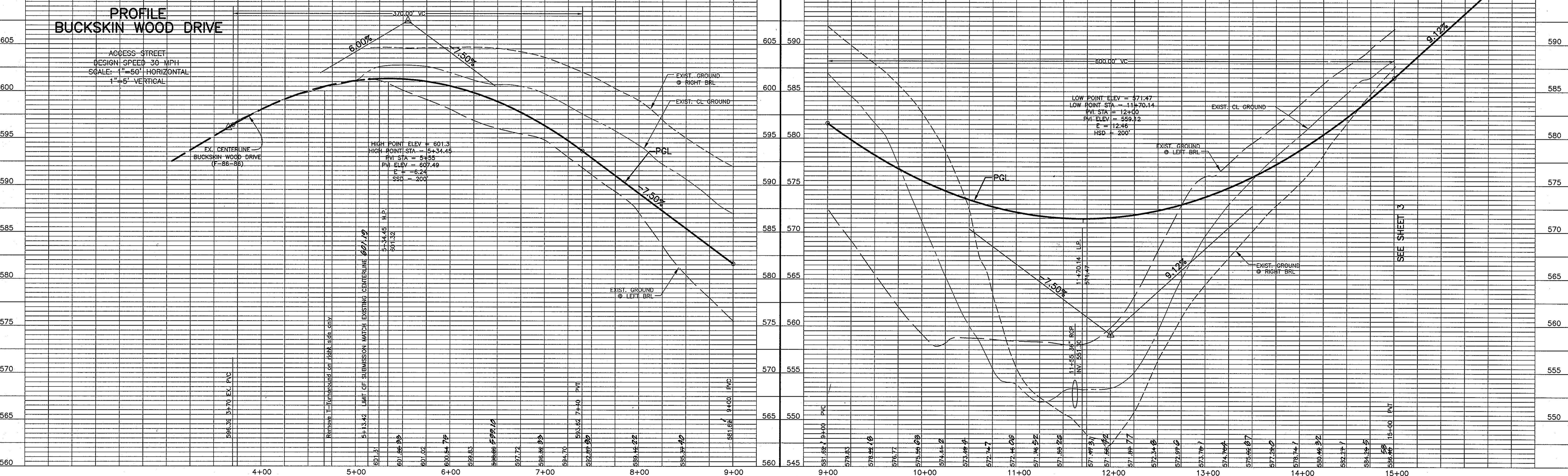
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Christy H. Harts 4/24/02
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: *[Signature]* 4/16/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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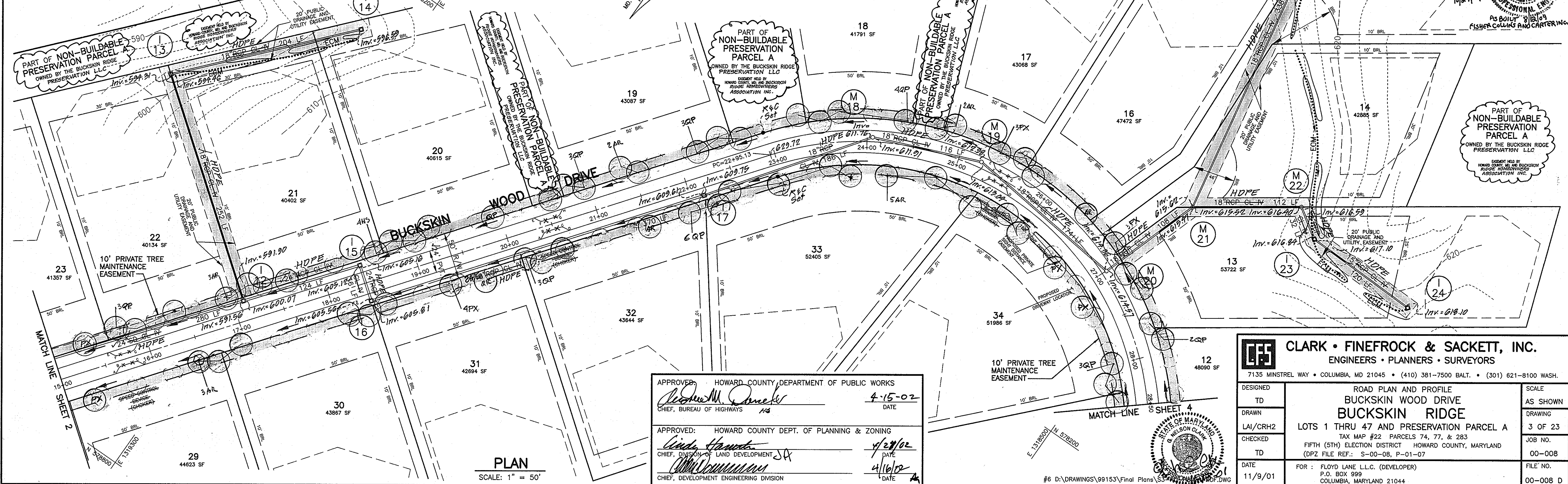
DESIGNED	TD	ROAD PLAN AND PROFILE BUCKSKIN WOOD DRIVE BUCKSKIN RIDGE LOTS 1 THRU 47 AND PRESERVATION PARCEL A TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND (DPZ FILE REF.: S-00-08, P-01-07)	SCALE	AS SHOWN
DRAWN	LAI/CRH2		DRAWING	2 OF 23
CHECKED	TD		JOB NO.	00-008
DATE	3/1/02	FOR: FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 999 COLUMBIA, MARYLAND 21044	FILE NO.	00-008 D



STATION	LETTER	OFFSET	T.C. ELEVATION	LETTER	OFFSET	T.C. ELEVATION
15+50	A	12' RT	592.10	E	12' LT	592.10
15+55	B	8' RT	591.73	F	8' LT	591.73
15+60	C	6' RT	589.91	G	6' LT	589.91
15+65	D	12' RT	589.18	H	12' LT	589.18
20+34	A	12' RT	623.20	E	12' LT	623.20
20+40	B	6' RT	623.56	F	6' LT	623.56
20+60	C	8' RT	624.14	G	8' LT	624.14
20+66	D	12' RT	624.12	H	12' LT	624.12
25+34	A	12' RT	637.44	E	12' LT	637.44
25+40	B	6' RT	637.72	F	6' LT	637.72
25+60	C	6' RT	638.02	G	6' LT	638.02
25+66	D	12' RT	637.92	H	12' LT	637.92

CURVE DATA						
NAME AND STATION	RADIUS	DELTA	LENGTH	TANGENT	CHORD	BEARING
BUCKSKIN WOOD DRIVE 22+95.13 - 30+39.16	310.00'	137.30°57'	744.03'	797.49'	577.88'	N.73°50'59"W.

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02
2	CHANGED RECOMMENDED TREE SPACING TO RANDOM PATTERN	6-3-03
3	Revised street tree types	11-8-08
4	Revise Storm Drain Pipe to HDPE & Remove Speed Calming Devices	10-17-09



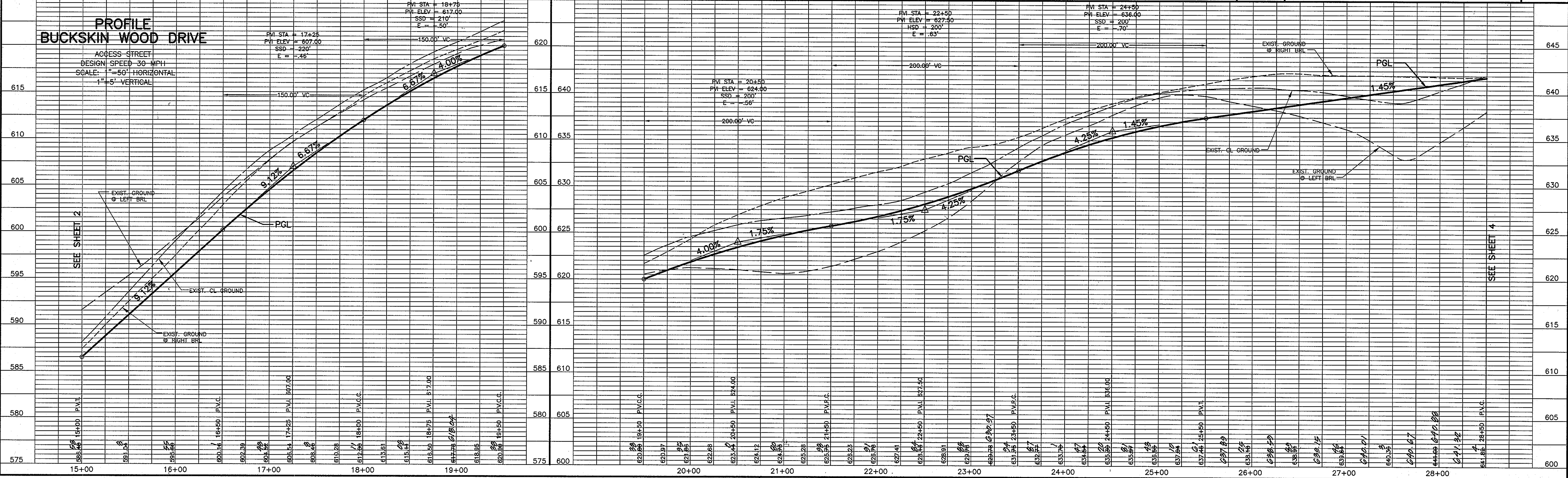
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4-15-02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Linda Hamada
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/29/02

William Cummings
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4/16/02

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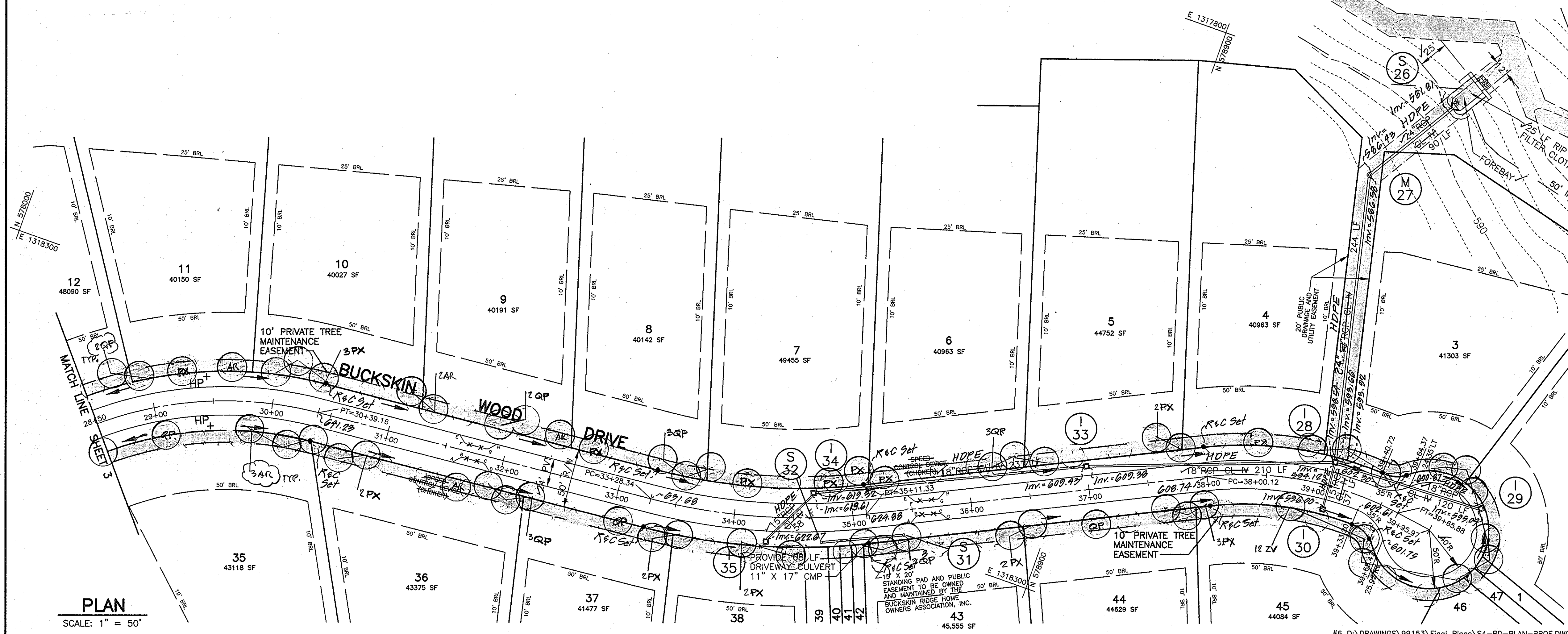
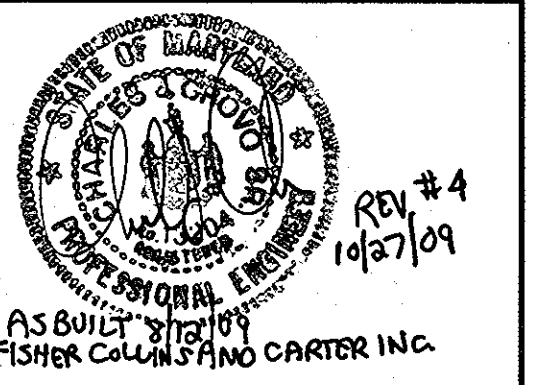
DESIGNED TD	ROAD PLAN AND PROFILE BUCKSKIN WOOD DRIVE BUCKSKIN RIDGE LOTS 1 THRU 47 AND PRESERVATION PARCEL A TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND (DPZ FILE REF.: S-00-08, P-01-07)	SCALE AS SHOWN
DRAWN LAI/CRH2		DRAWING 3 OF 23
CHECKED TD		JOB NO. 00-008
DATE 11/9/01	FOR: FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 999 COLUMBIA, MARYLAND 21044	FILE NO. 00-008 D



CURVE DATA						
NAME AND STATION	RADIUS	DELTA	LENGTH	TANGENT	CHORD	BEARING
BUCKSKIN WOOD DRIVE 33+28.34 - 35+11.33	500.00'	20°58'08"	182.99'	92.53'	181.97'	N.15°34'34"W.
BUCKSKIN WOOD DRIVE 38+00.12 - 39+65.88	275.00'	34°32'10"	165.76'	85.48'	163.26'	N.08°47'33"W.

SPEED CONTROL DEVICE TABLE						
STATION	LETTER	OFFSET	T.C. ELEVATION	LETTER	OFFSET	T.C. ELEVATION
31+34	A	12' RT	639.19	E	12' LT	639.19
31+40	B	6' RT	639.15	F	6' LT	639.15
31+60	C	6' RT	638.41	G	6' LT	638.41
31+66	D	12' RT	638.00	H	12' LT	638.00
35+47	A	12' RT	623.74	E	12' LT	623.74
35+53	B	6' RT	623.69	F	6' LT	623.69
35+73	C	6' RT	622.94	G	6' LT	622.94
35+79	D	12' RT	622.54	H	12' LT	622.54

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02
2	CHANGED RECOMMENDED TREE SPACING TO RANDOM PATTERN	6-05-03
3	Revise street tree types	11-8-08
4	Revise storm Drain pipe to HDPE & Remove Speed Calming Devices	10-27-09



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard W. Sackett 4-15-02
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
David Hamer 4/21/02
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: *Michael J. Sackett* 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

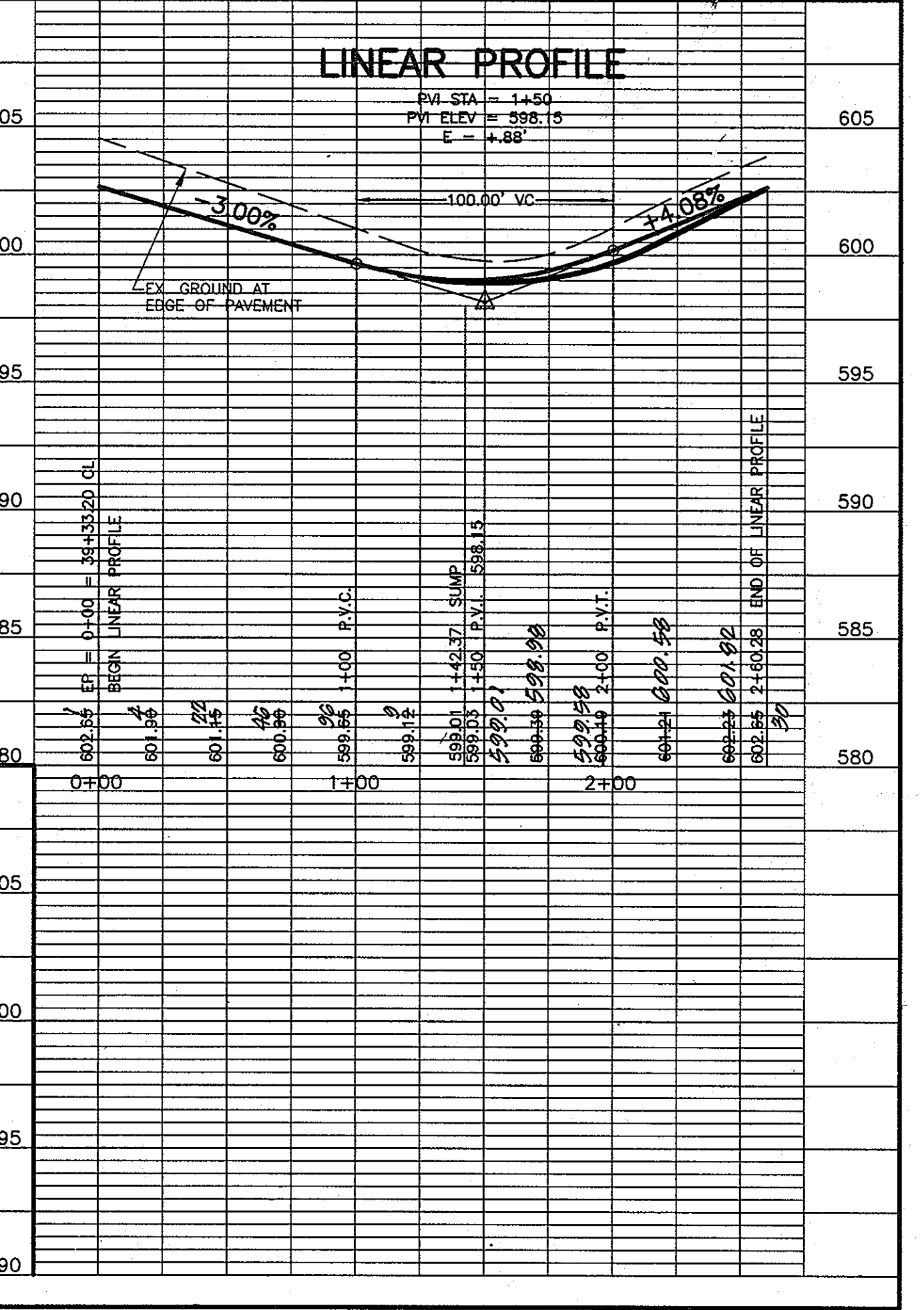
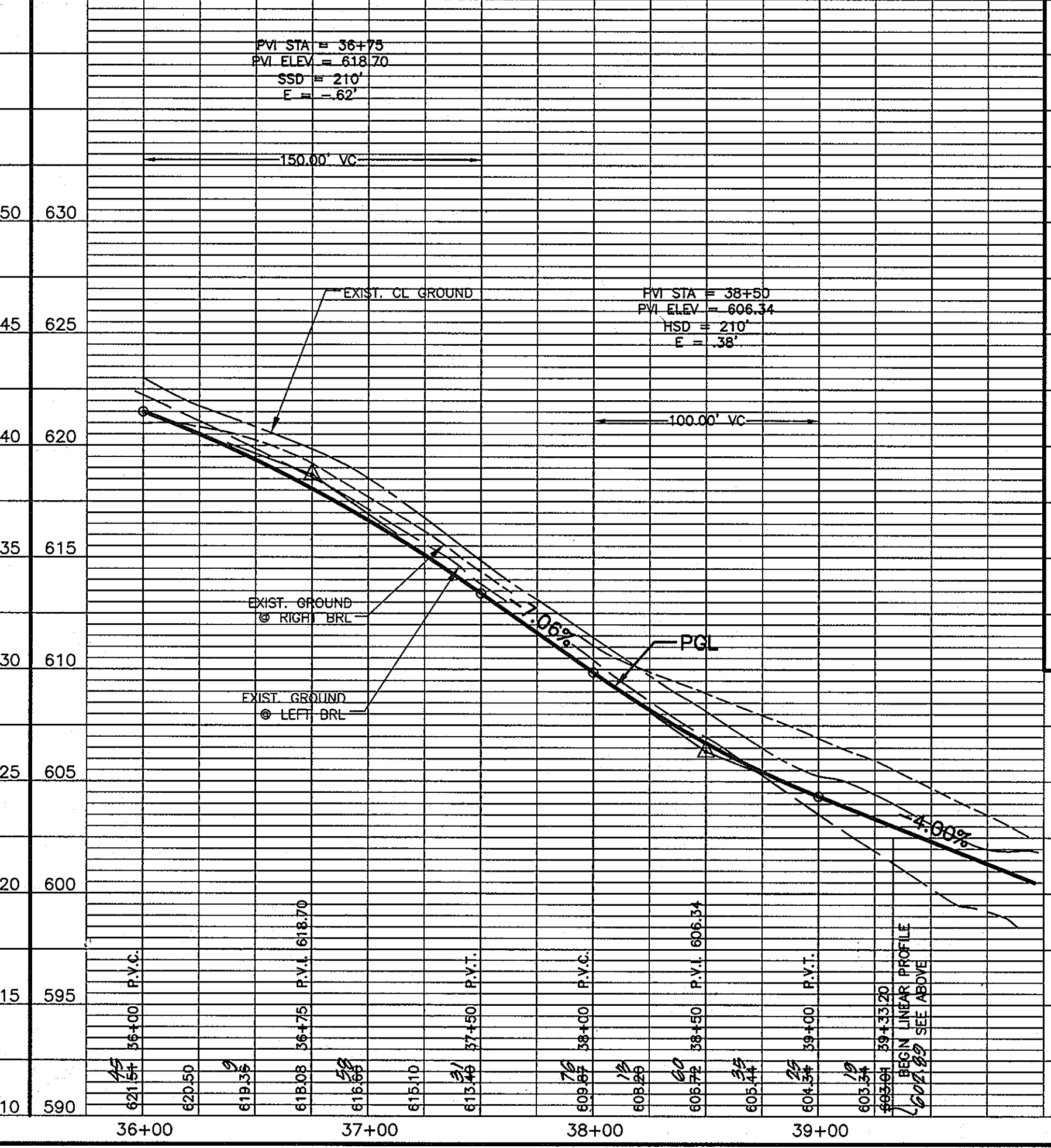
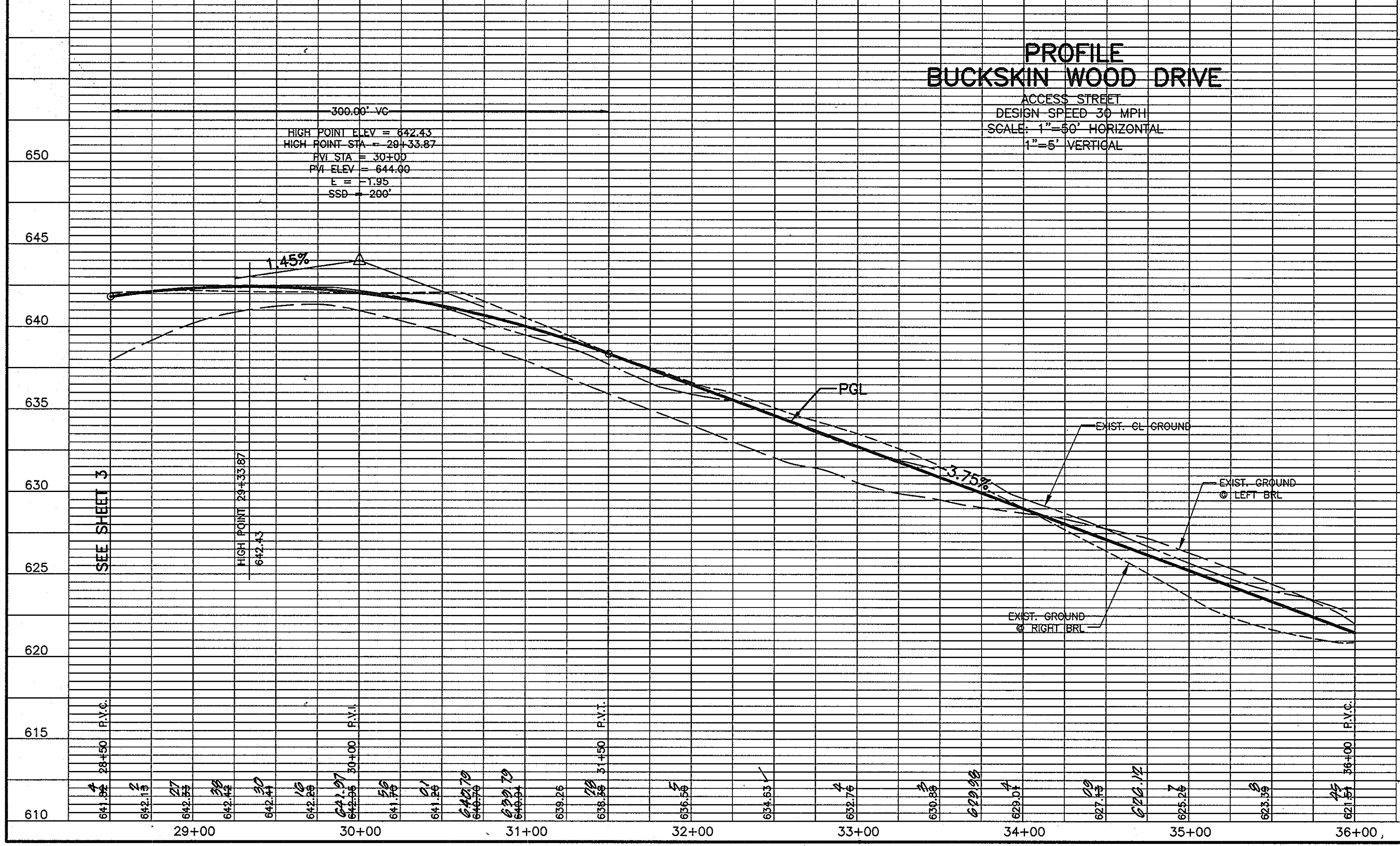
CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED: TD
 DRAWN: LAI/CRH2
 CHECKED: TD
 DATE: 11/9/01

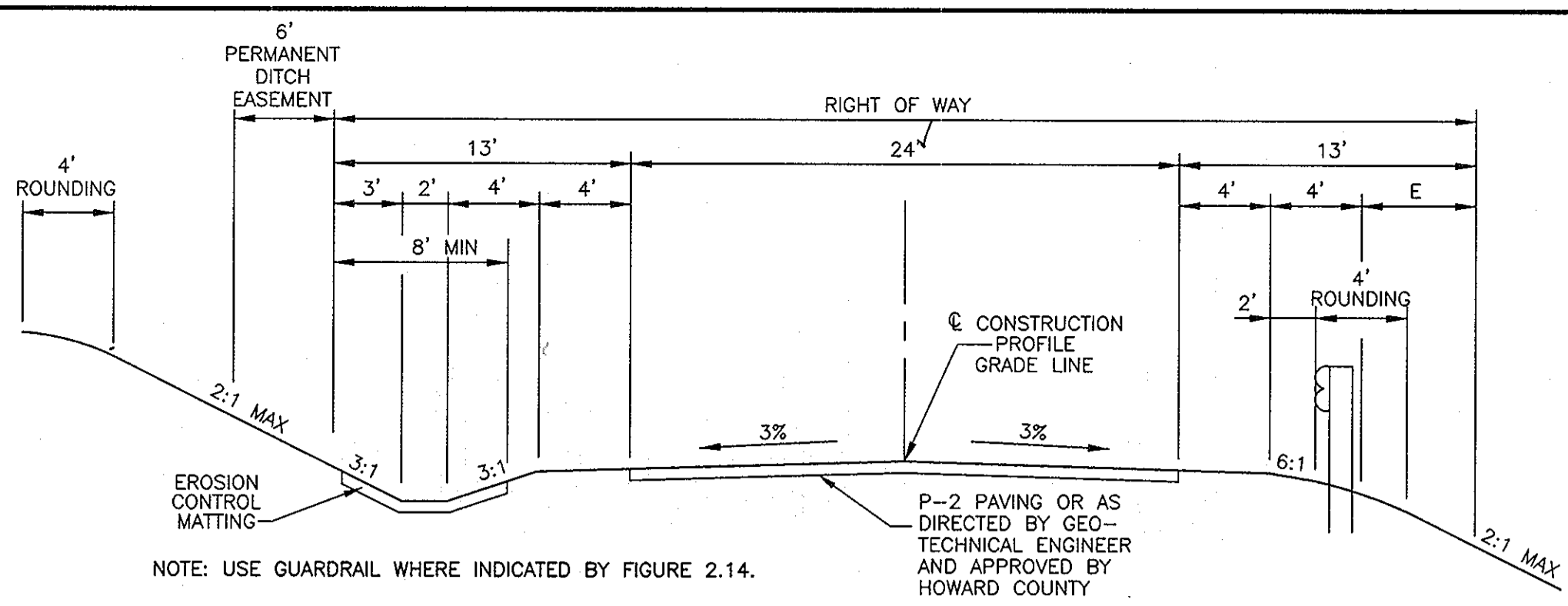
ROAD PLAN AND PROFILE
BUCKSKIN WOOD DRIVE
 LOTS 1 THRU 47 AND PRESERVATION PARCEL A
 TAX MAP #22 PARCELS 74, 77, & 283
 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 (DPZ FILE REF.: S-00-08, P-01-07)

SCALE: AS SHOWN
 DRAWING: 4 OF 23
 JOB NO.: 00-008
 FILE NO.: 00-008 D

FOR: FLOYD LANE L.L.C. (DEVELOPER)
 P.O. BOX 999
 COLUMBIA, MARYLAND 21044

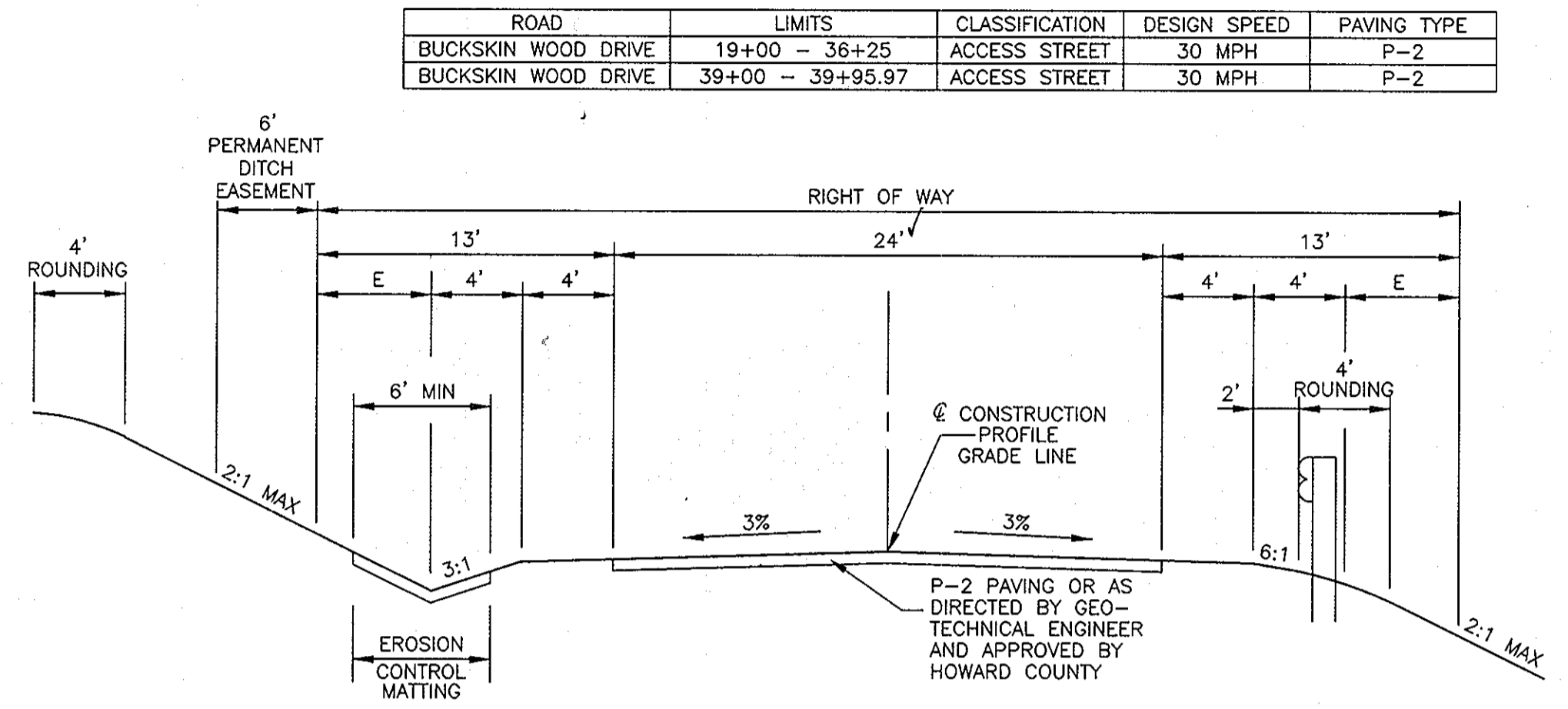


AS-BUILT 8-12-09 F.O. 191



1-1/2" BITUMINOUS CONCRETE BASE	1-1/2"
2-1/2" BITUMINOUS CONCRETE BASE	2-1/2"
PRIME	
6" GRADED AGGREGATE BASE COURSE	6"

TYPICAL PAVING SECTION GRANULAR BASE ALTERNATE
NO SCALE
(SECTION P-2)



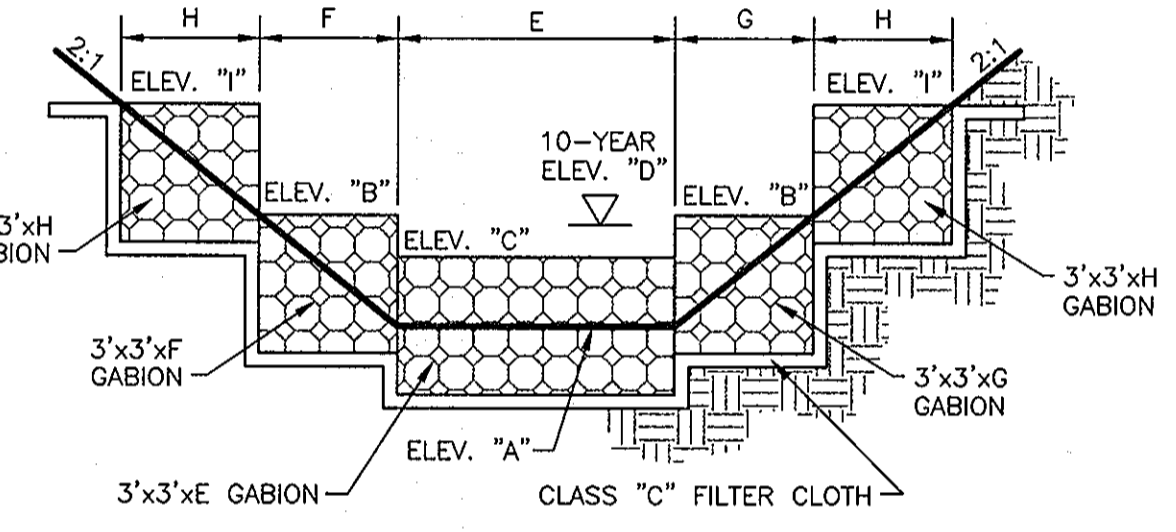
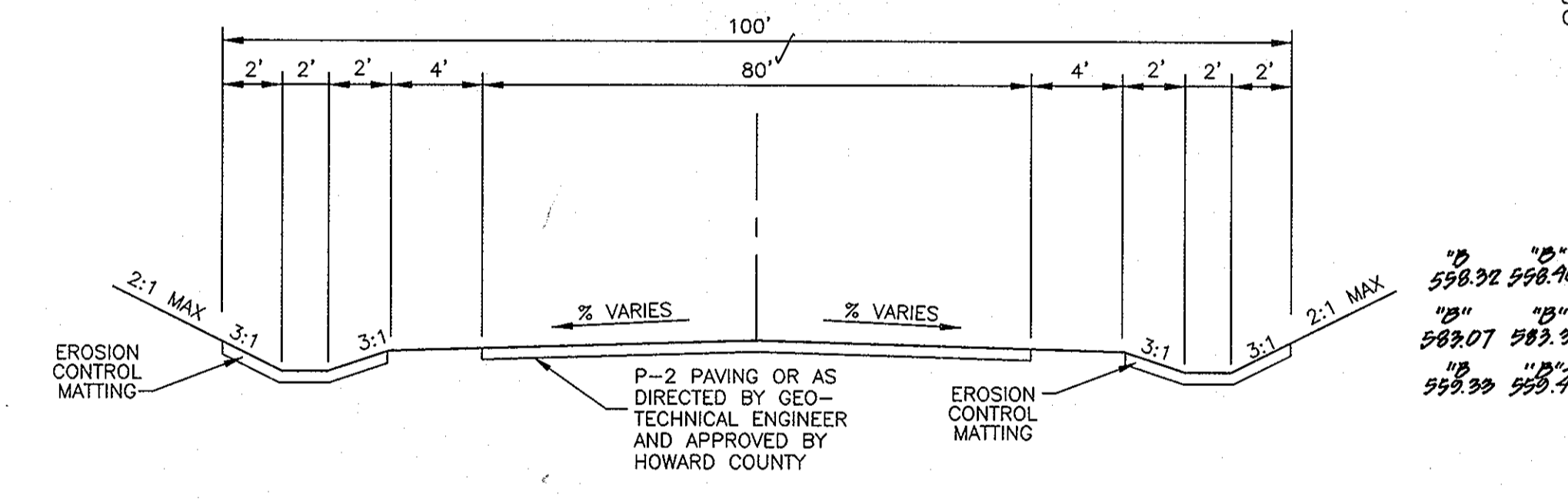
1-1/2" BITUMINOUS CONCRETE SURFACE	1-1/2"
5" BITUMINOUS CONCRETE BASE	5"

TYPICAL PAVING SECTION FULL DEPTH ALTERNATE
NO SCALE
(SECTION P-2)

ROAD	LIMITS	CLASSIFICATION	DESIGN SPEED	PAVING TYPE
BUCKSKIN WOOD DRIVE	19+00 - 36+25	ACCESS STREET	30 MPH	P-2
BUCKSKIN WOOD DRIVE	39+00 - 39+95.97	ACCESS STREET	30 MPH	P-2

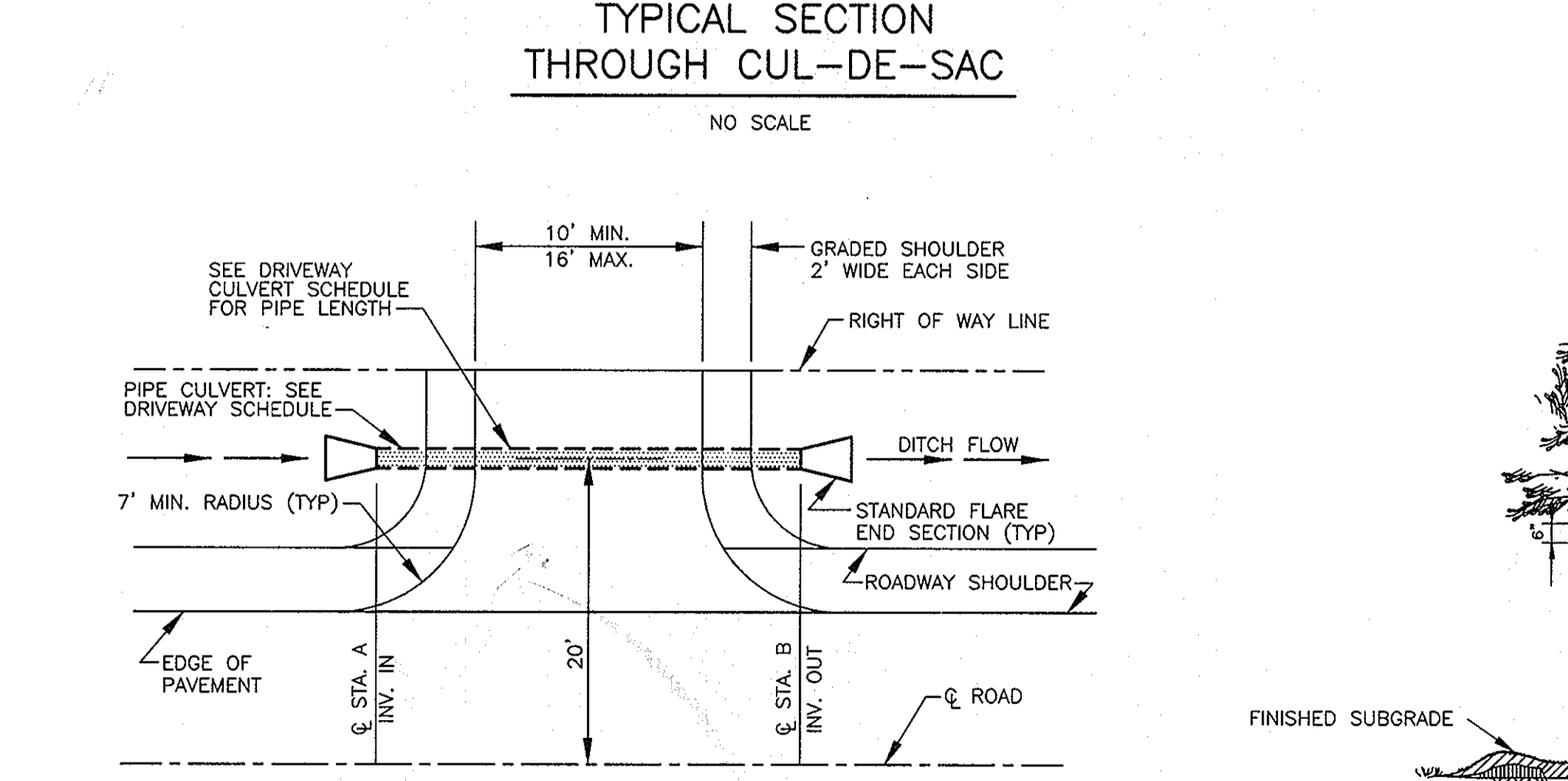
ROAD	LIMITS	CLASSIFICATION	DESIGN SPEED	PAVING TYPE
BUCKSKIN WOOD DRIVE	5+13.43 - 19+00	ACCESS STREET	30 MPH	P-2
BUCKSKIN WOOD DRIVE	36+25 - 39+00	ACCESS STREET	30 MPH	P-2

TYPICAL SECTIONS BUCKSKIN WOOD DRIVE
NO SCALE

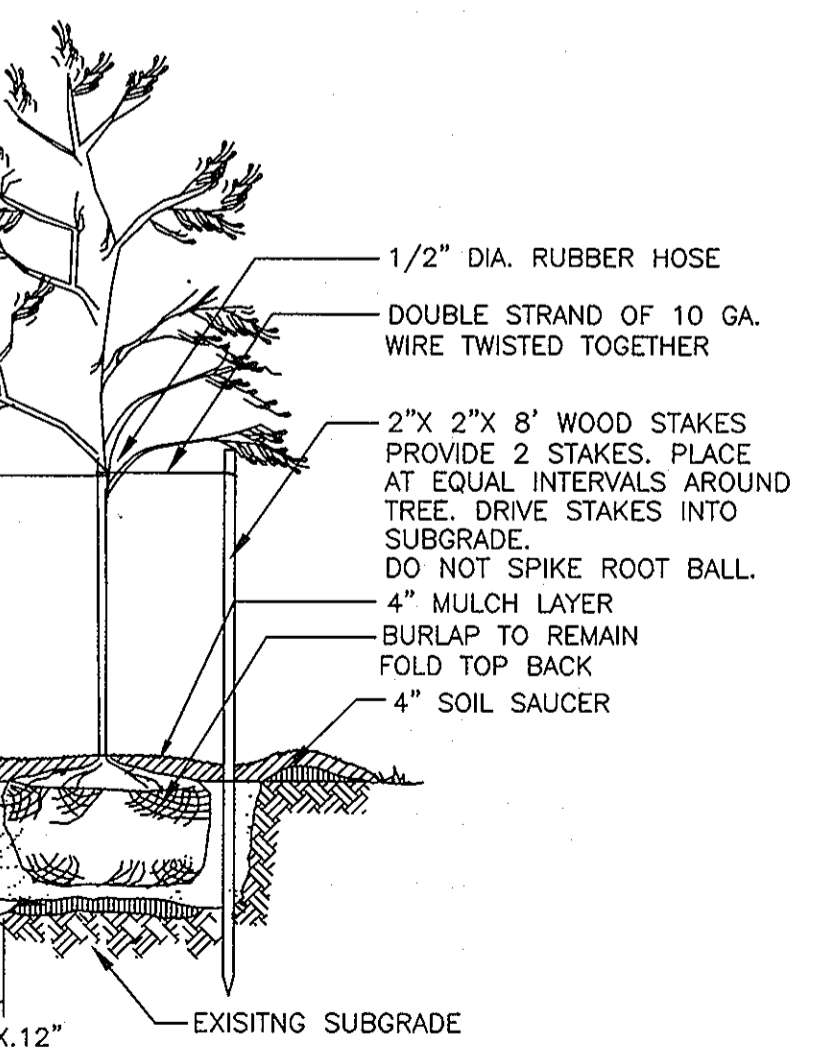


OUTFALL NO.	ELEV. "A"	ELEV. "B"	ELEV. "C"	ELEV. "D"	ELEV. "E"	ELEV. "F"	ELEV. "G"	ELEV. "H"	ELEV. "I"	COMMENTS
S-3	556.35	556.70	557.40	558.45	9.0'	3'	3'	N/A	N/A	V ₁₀ = 3.0 FPS
S-26	582.00	583.70	583.17	12.0'	3'	3'	N/A	N/A	N/A	V ₁₀ = 2.1 FPS
S-2	555.50	556.30	557.50	559.38	0.25'	0.3'	6'	3'	559.63	V ₁₀ = 3.2 FPS

SECTION THROUGH GABIONS
NOT TO SCALE

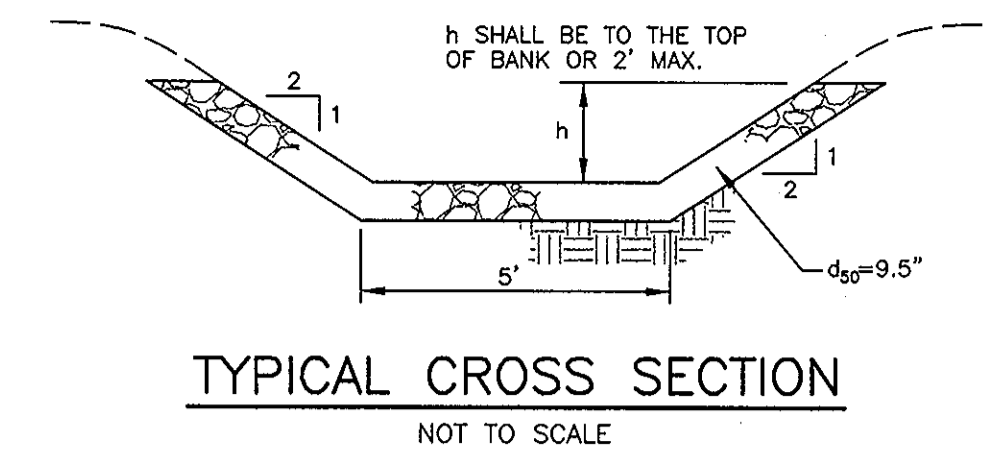


DRIVEWAY CULVERT DETAIL
SCALE: NONE
NOTE: SEE DRIVEWAY CULVERT SCHEDULE (SHEET 1) AND HO. CO. STD R-6.06 FOR DETAILS NOT SHOWN.

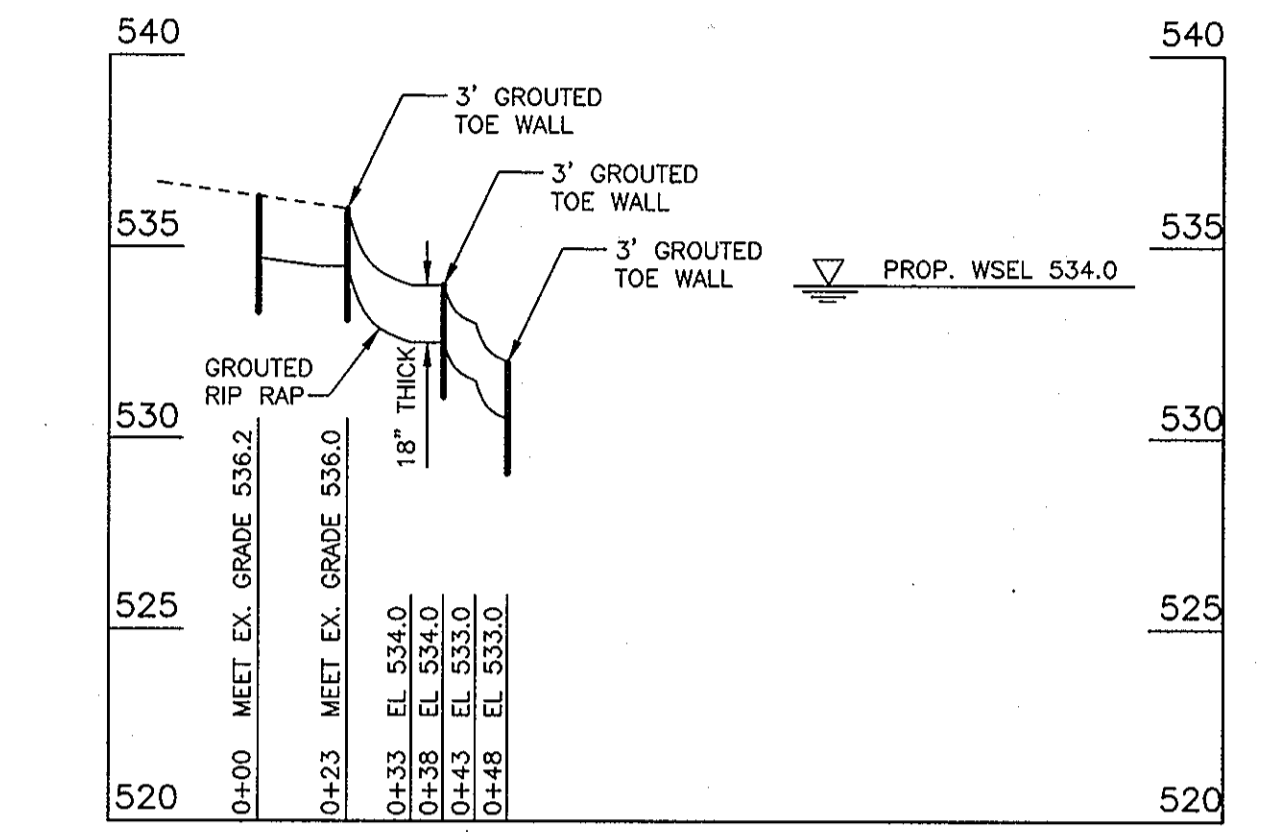


STREET TREE PLANTING DETAIL
NO SCALE

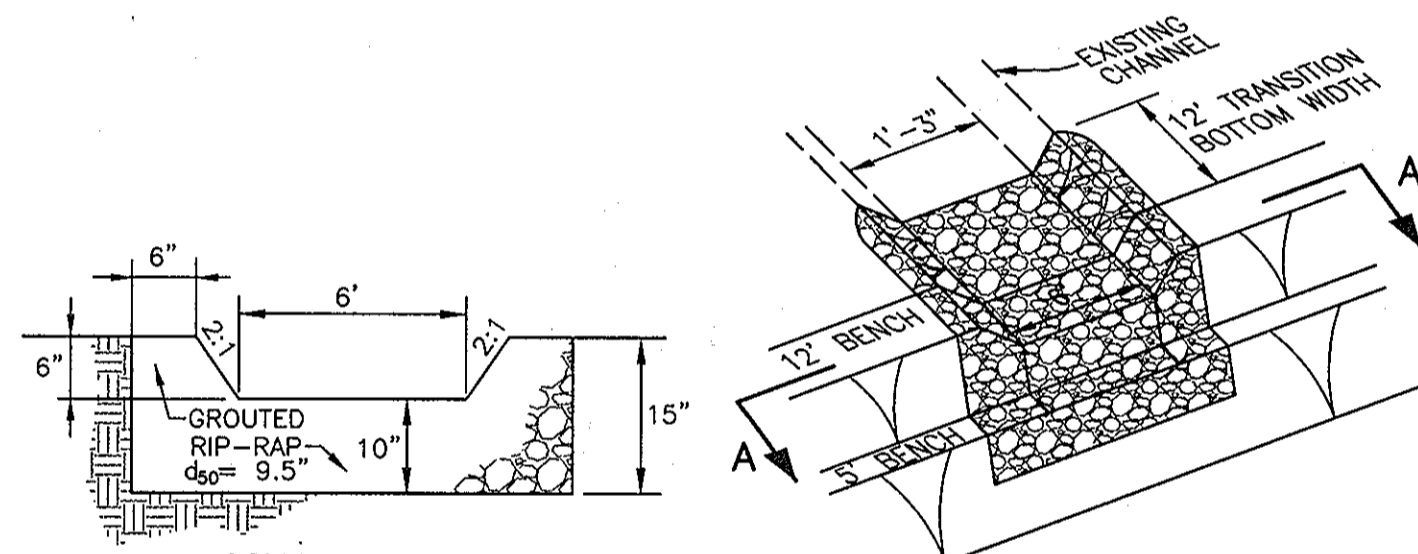
No.	Description	Date
1	Remove Speed Calming Devices	10-27-09



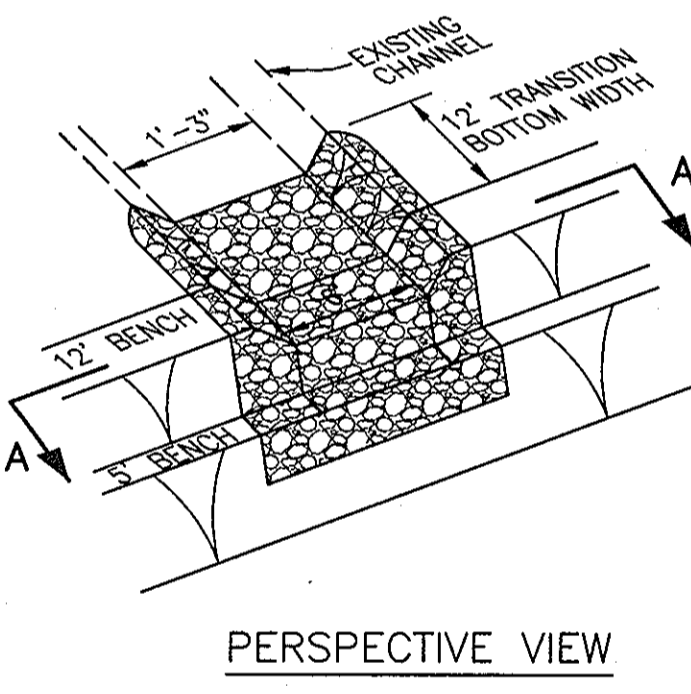
TYPICAL CROSS SECTION
NOT TO SCALE



ARMORED INFLOW PROTECTION #1 PROFILE
HOR. 1"=30'
VER. 1"=5'

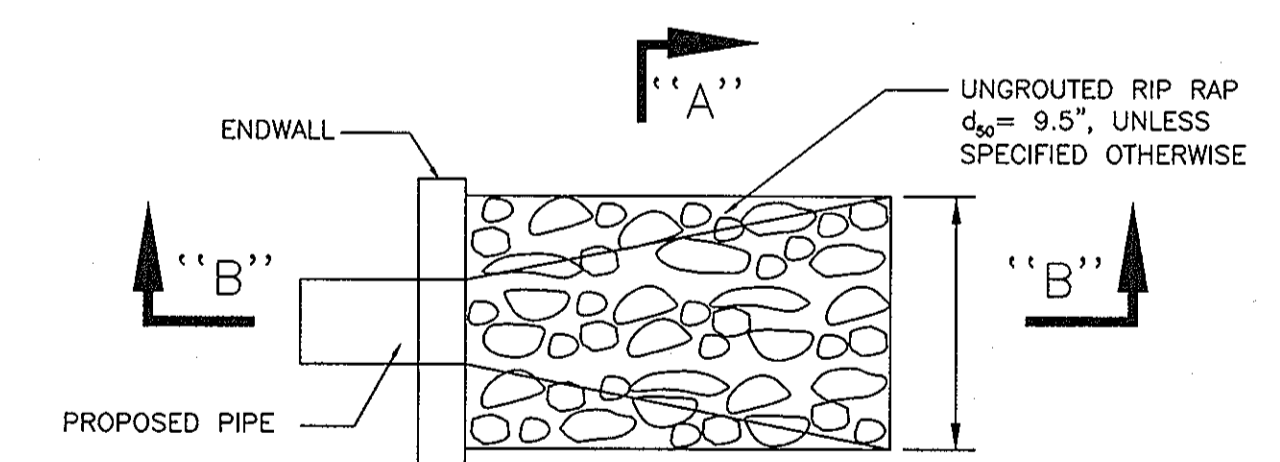


SECTION A-A



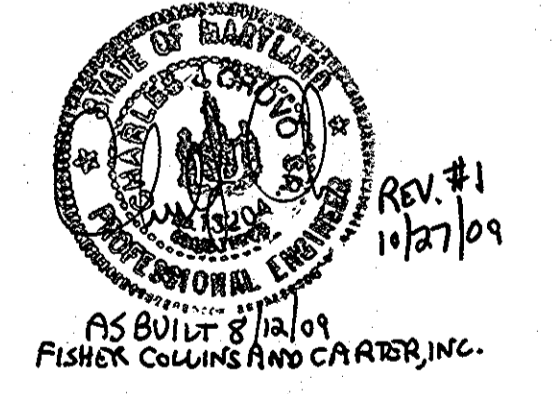
PERSPECTIVE VIEW

ARMORED INFLOW PROTECTION #2
NO SCALE



RIPRAP AND GABION CONSTRUCTION SPECIFICATIONS

- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile Class C28 or better shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile fabric over the damaged part or by completely replacing the geotextile fabric. All overlaps whether for repairs or for joining two pieces of geotextile fabric shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile fabric. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.
- Rip rap is SHA Class 1.



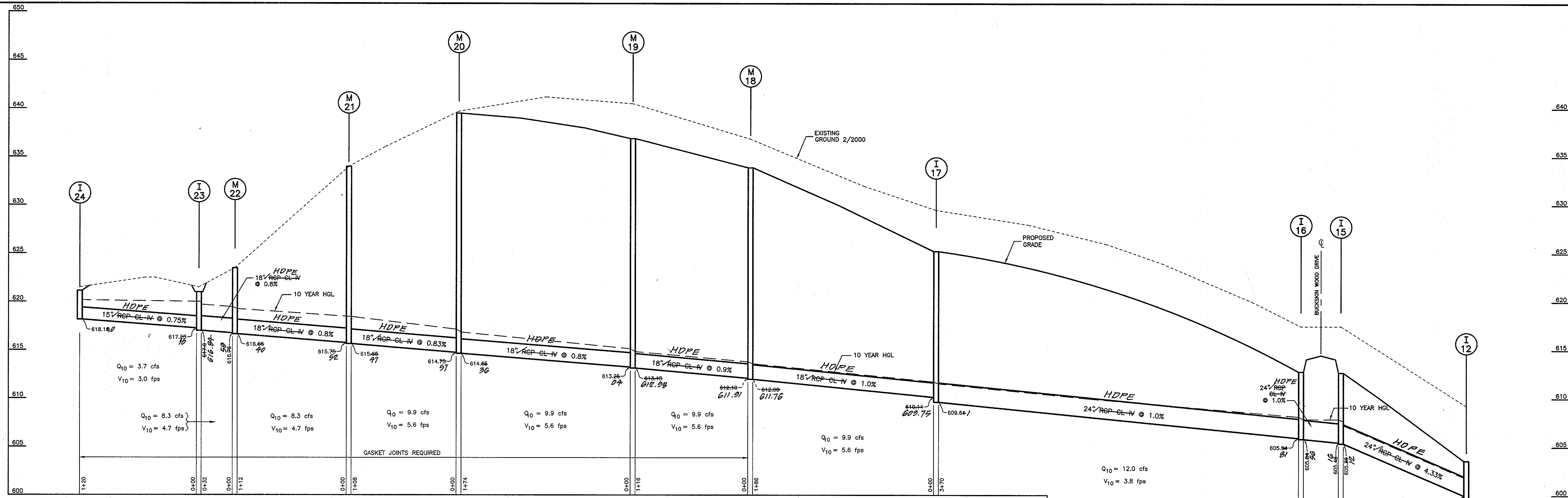
CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	CONSTRUCTION DETAILS	SCALE
TD	BUCKSKIN RIDGE	NONE
DRAWN	LOTS 1 - 47 AND	DRAWING
LAI/CRH2	PRESERVATION PARCEL A	5 of 23
CHECKED	(PREVIOUS FILE: FLOYD LANE PROPERTY S-00-08)	JOB NO.
TD	L4997 F.647	00-008
DATE	TAX MAP #22 PARCELS 74, 77, & 283	FILE NO.
3/1/02	FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	00-008 D

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 4-15-02
CHIEF, BUREAU OF HIGHWAYS

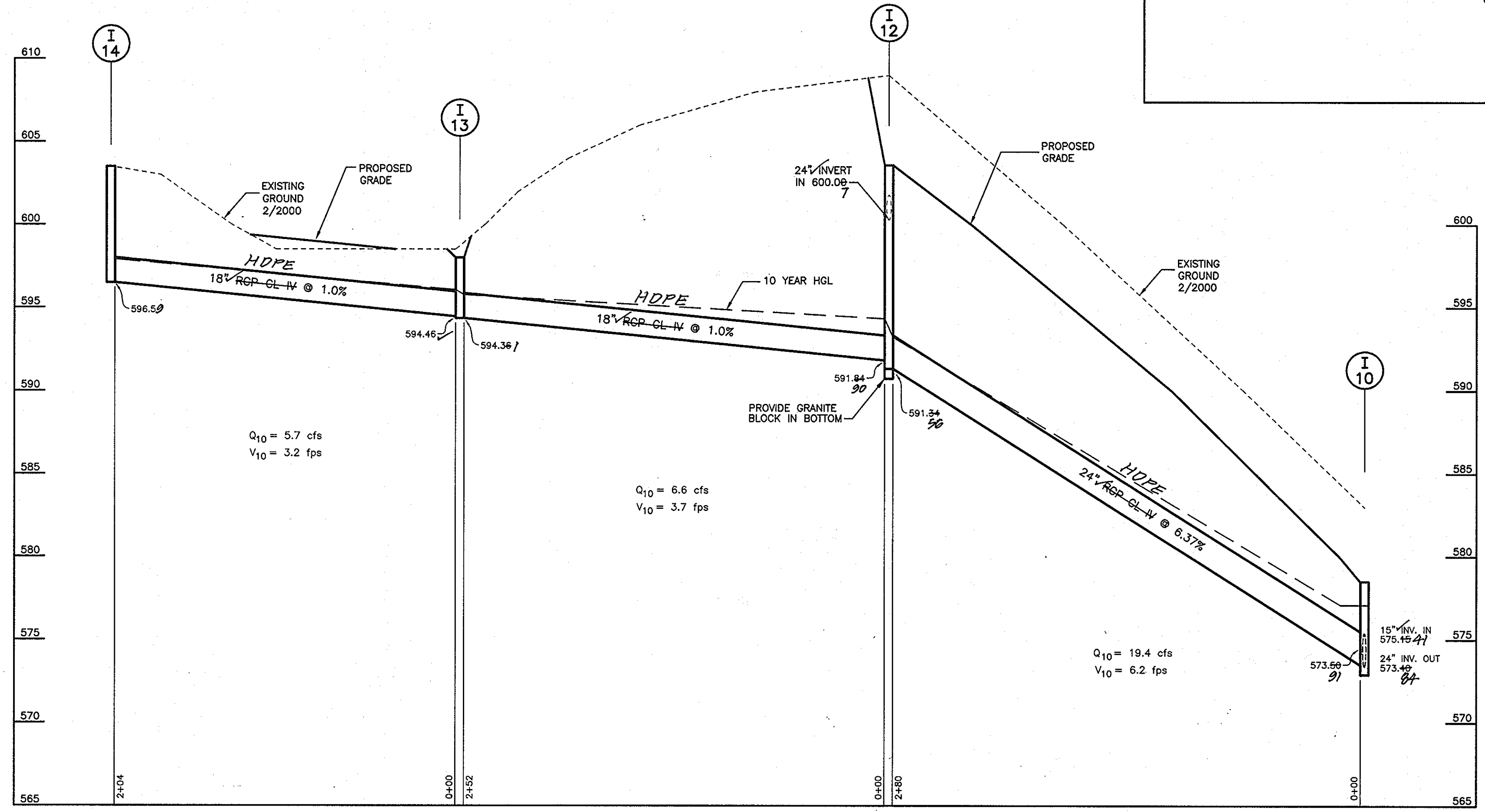
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] 4/27/02
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: *[Signature]* 4/16/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION



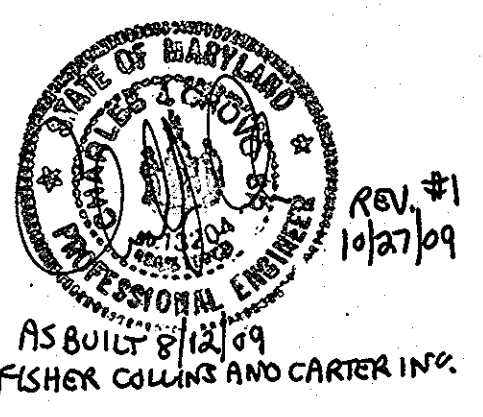
PROFILE SCALES: HORIZ.: 1" = 50'
VERT.: 1" = 5'

STRUCTURE SCHEDULE						
NO.	TYPE	INVERT	OUT	TOP ELEVATION*	REMARKS	LOCATION
I-6	DOUBLE S INLET	570.85/19	570.00/23	574.00/23	SD 4.23	10+07.44 20'-RT 18' RT
I-7	S INLET		575.76/43	579.46/57	SD 4.22	9+14.55 20'-LT 18' LT
I-9	S INLET	571.56/50	573.40/49	579.00/57	SD 4.22	12+56.55 20'-RT 22.8' RT
I-10	S INLET	573.56/57	573.40/49	579.00/57	SD 4.22	14+22.87 20'-RT 22.7' RT
I-11	S INLET		575.64/57	579.00/57	SD 4.22	14+22.87 20'-RT 19.7' RT
I-12	S INLET	591.04/500.00	591.34/58	604.46/58	SD 4.22	17+11.19 24'-LT 19.8' LT
I-13	S INLET	594.46/	594.36/	599.00/57	SD 4.22	17+11.19 24'-LT 27.8' LT
I-14	S INLET		598.50/	603.60/	SD 4.22	18+11.19 24'-LT 28.1' LT
I-15	DOUBLE S INLET	605.48/18	605.30/18	614.60/18	SD 4.23	18+11.19 20.00' RT
I-16	S INLET	605.94/9	605.84/9	614.60/18	SD 4.22	18+11.19 20.00' RT
I-17	DOUBLE S INLET	610.14/23	609.64/1	618.00/23	SD 4.23	22+11.19 21.00' RT
I-23	S INLET	617.26/10	617.00/10	621.00/21	SD 4.22	27+54.63 21.00' RT
I-24	S INLET	618.16/0	618.00/0	621.00/21	SD 4.22	28+00.00 21.00' RT
I-25	S INLET	619.00/23	618.00/23	620.00/23	SD 4.22	28+16.55 21.00' RT
I-28	S INLET	624.00/50	623.50/50	627.00/50	SD 4.22	39+05.55 21.00' RT
I-29	S INLET		595.00/24	598.00/23	SD 4.22	1+59.17 14'-RT L.P. 47.00' RT
I-30	DOUBLE S INLET		596.40/24	600.00/23	SD 4.23	39+05.55 24'-RT 21.5' RT
I-33	S INLET	609.60/43	609.60/38	614.60/38	SD 4.22	36+98.37 20'-LT 21.0' LT
I-34	S INLET	619.76/61	619.60/34	624.60/70	SD 4.22	34+67.22 24'-LT 22.2' LT
I-35	DOUBLE S INLET		622.60/67	626.16/29	SD 4.23	34+27.63 24'-LT 22.2' RT
M-4	SHALLOW MANHOLE	556.90/556.50	556.40/24	561.60/39	G 5.12	11+78.44 20'-RT 20.05' LT
M-5	PRECAST MANHOLE	564.00/563.30	563.40/29	571.00/19	G 5.12	11+62.30 20'-RT 7.00' LT
M-8	SHALLOW MANHOLE	567.00/566.30	566.00/37	569.50/33	G 5.12	12+30.55 20'-RT 25.56' LT
M-18	PRECAST MANHOLE	612.00/11.91	611.00/11.70	633.70/60	G 5.12	24+05.30 4.78' LT 5.0' LT
M-19	PRECAST MANHOLE	613.26/04	613.16/12.28	638.82/70	G 5.12	25+22.87 6.88' LT 7.1' LT
M-20	PRECAST MANHOLE	614.76/57	614.66/36	639.48/3	G 5.12	27+00.00 5.44' LT 7.25' LT
M-21	PRECAST MANHOLE	615.99/615.76	615.66/47	634.00/38	G 5.12	26+84.56 14.00' LT 11.0' LT
M-22	PRECAST MANHOLE	616.76/59	616.66/44	624.60/22	G 5.12	27+35.50 20.00' LT 22.73' LT
M-27	PRECAST MANHOLE	586.00/58	586.00/30	595.80/50	G 5.12	38+85.42 26'-LT 26.50' LT
M-1A	PRECAST MANHOLE	550.00/11	546.24/37	560.00/20	G 5.12	11+78.44 36'-RT 36.75' LT
S-1	'A' HEADWALL	546.00/10	546.00/10	552.00/10	SD 5.11	11+83.20 50'-RT 50.03' RT
S-2	'A' HEADWALL		555.00/33	560.00/33	SD 5.11	11+55.50 50'-RT 23.73' LT
S-3	'C' ENDWALL	556.35/43	556.25/43	559.10/10	SD 5.21	11+78.44 40'-RT 46.63' LT
S-26	'A' HEADWALL	582.00/581.81	582.00/581.81	585.80/31	SD 5.11	39+11.50 30'-RT 33.6' RT
S-31	END SECTION	621.50/6	621.47/54	622.42/50	S 5.63	35+39.50 21.00' RT
S-32	END SECTION	624.67/68	624.60/18	624.67/68	S 5.63	34+73.50 21.00' RT



PIPE SCHEDULE		
SIZE	TYPE*	TOTAL
15"	RCP HDPE	685 LF
18"	RCP HDPE	1940 LF
24"	RCP HDPE	1444 LF
36"	RCP	124 SF
11' x 17'	CMP	68 LF

ALL RCP PIPES SHALL BE RCP CL IV - ALTERNATE OF HDPE PIPES THAT MEET M24 AND MP-95 STANDARDS MAY BE SUBSTITUTED EXCEPT FROM S-1 TO S-2.



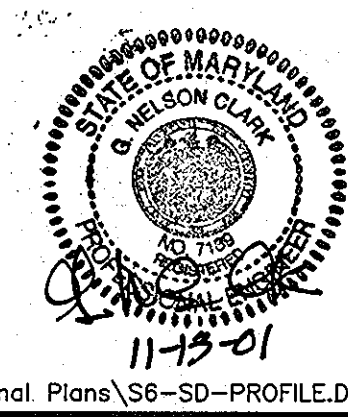
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Ouellet 4-15-02
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Candy Kramb 4/24/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: *[Signature]* 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NOTE: SEE SHEET 5 FOR RIP RAP DETAIL.

No.	Description	Date
1	Revise Storm Drain pipe to HDPE	10-27-09



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 ENGINEERS • PLANNERS • SURVEYORS

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DESIGNED TD	STORM DRAIN PROFILES BUCKSKIN RIDGE	SCALE AS SHOWN
DRAWN LAI/CRH2	LOTS 1 - 47 AND PRESERVATION PARCEL A	DRAWING 6 of 23
CHECKED TD	TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND (DPZ FILE REF.: S-00-08, P-01-07)	JOB NO. 00-008
DATE 3/1/02	FOR: FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 995 COLUMBIA, MARYLAND 21044	FILE NO. 00-008 D

AS-BUILT 8-12-09 F.O.191

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for ponds MD-37B. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural work shall be cleared, grubbed and stripped (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 with 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" in size or other objectionable materials. Fill material for the core of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC 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 placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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

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 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 or 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.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to be placed completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

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 side 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 flooding the pipe. When using flowable fill, all metal pipe shall be completely filled with flowable fill to voids adjacent to the pipe. Adequate measures shall be taken (sand bags, etc.) to prevent flooding the pipe. 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. 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:

- 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 weightlight coating bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with weightlight coating 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 Specification M-191 or M-211 with weightlight coating bands or flanges. Aluminum 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 Specification M-191 or M-211 with weightlight coating bands or flanges. Aluminum 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 Specification M-191 or M-211 with weightlight coating bands or flanges. Aluminum 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.

water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. 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. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coating as the pipe. Metals must be insulated from dissimilar metals with use of rubber or plastic insulating materials at least 24 mts in thickness.
- Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded or ground 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 bond width. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard top type band with 12-inch wide by 3/8-inch 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 corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long standard corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Neoprene gaskets shall have either continuously welded seams with interlaced caulking or a neoprene bead.

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

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

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
- 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 the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

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:

- 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 M234 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill."

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

Drainage Diaphragm - 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.

Core 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 area 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 purposes. During the placing and compacting of material in required excavations, the water level of the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require dewatering the water to sumps from which the water shall be pumped.

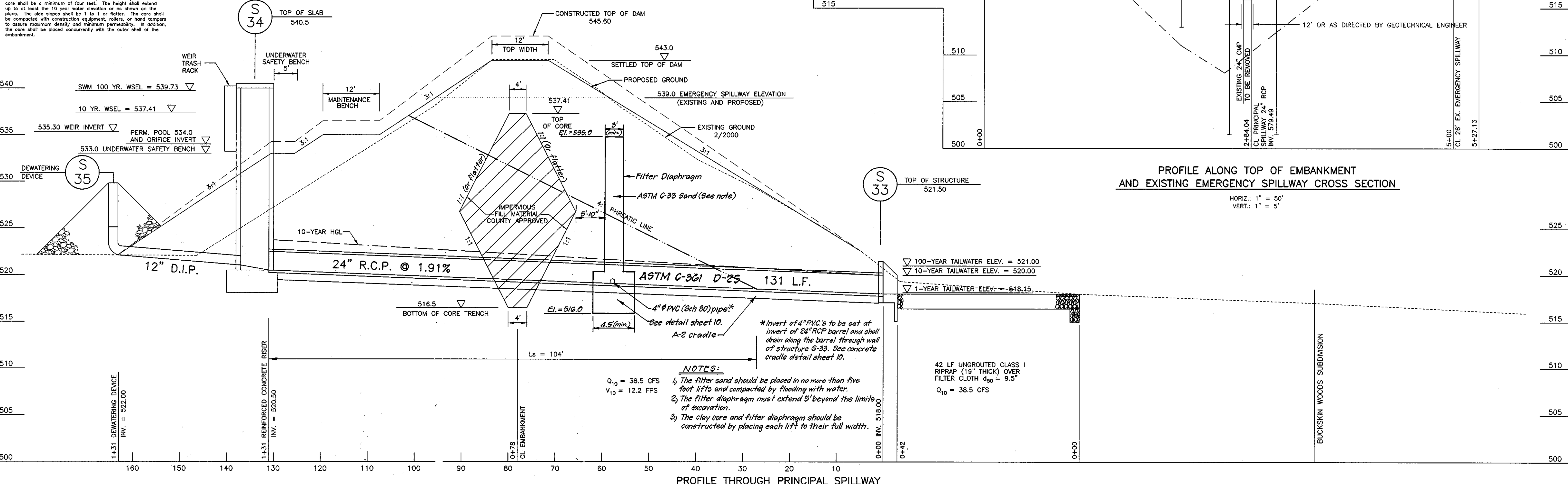
Stabilization

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 Resources 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. Slope and bank laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

POND NOTES

- OWNERSHIP AND MAINTENANCE WILL BE BY THE BUCKSKIN RIDGE HOMEOWNERS ASSOCIATION, INC.
- HAZARD CLASSIFICATION 'A' IS BASED ON DEPTH OF FLOODING OF FOLLY QUARTER ROAD AND DISCHARGE INTO A DESIGNATED FLOOD PLAIN.
- MDE NW Permit Tracking Number is CENAB-OP-RMS (Columbia Builders/Buckskin Ridge) 01-64713-5, for reconstruction of the existing pond, and road crossing. MDE Dam Safety Division WMA file no. 01-MR-0071, tracking no. 200164713.



APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 4-15-02
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 4/21/02
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

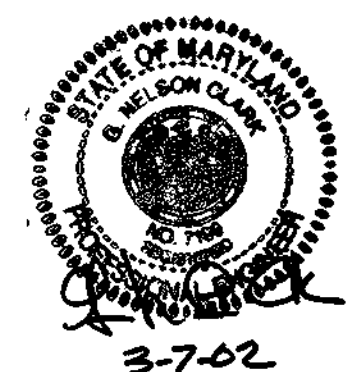
NO	REVISION	DATE
1	Revised profile through spillway and profile along top of embankment	11-27-02

By The Developer:
 "I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at Department of 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] 3-7-02
 Signature of Developer Date

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

[Signature] 3-7-02
 Signature of Engineer Date



CLARK · FINEFROCK & SACKETT, INC.
 ENGINEERS · PLANNERS · SURVEYORS
 7135 MINTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	TD	SCALE	AS SHOWN
DRAWN	LAI/CRH2	DRAWING	9 OF 23
CHECKED	TD	JOB NO.	00-008
DATE	3/1/02	FILE NO.	00-008 D

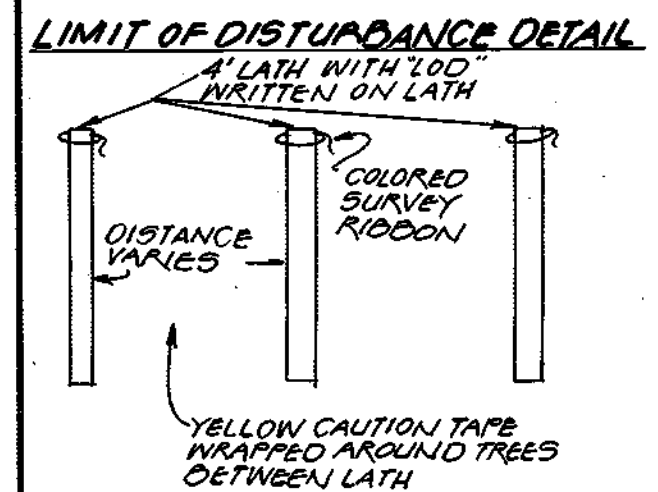
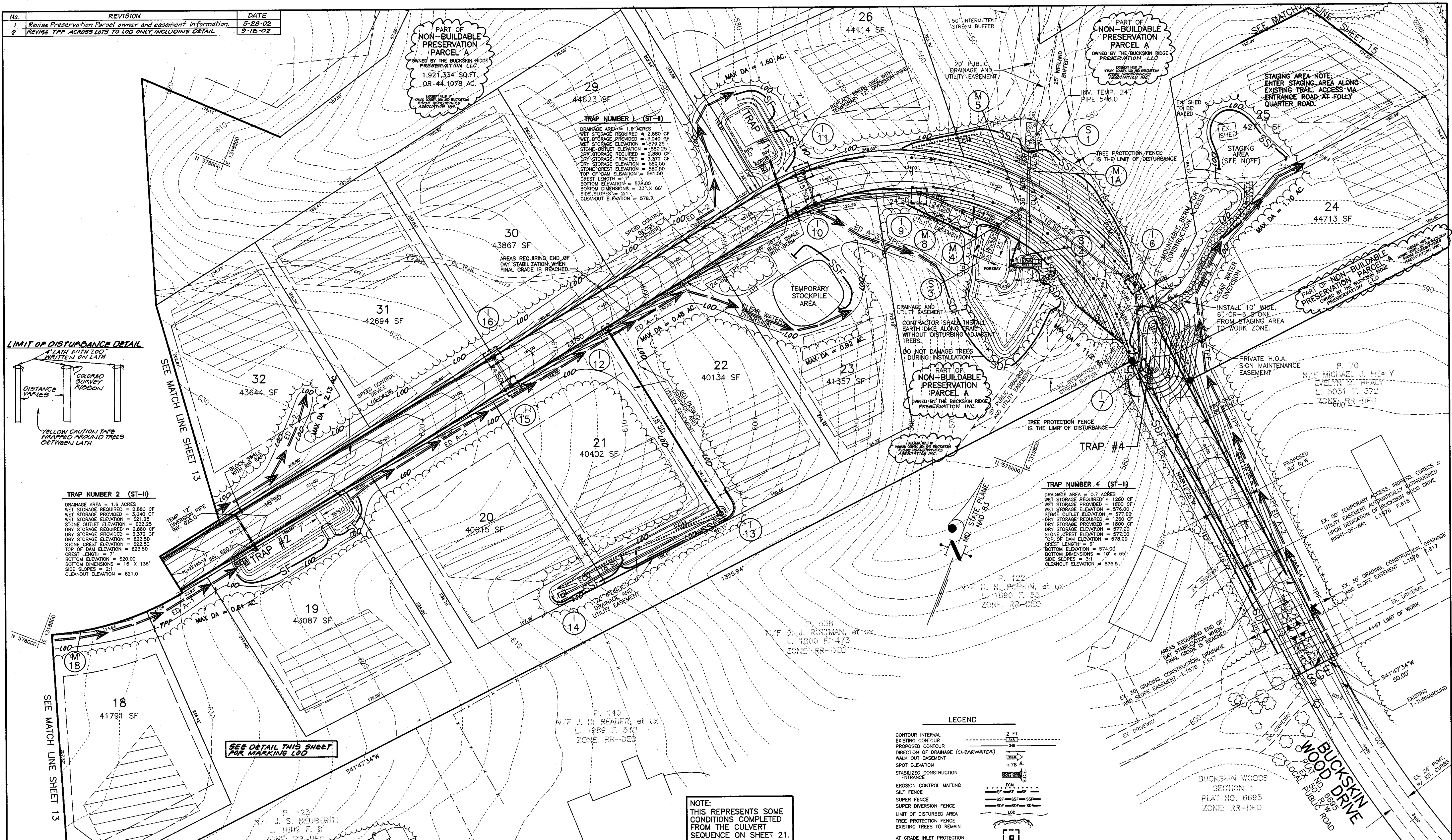
STORM WATER MANAGEMENT DETAILS
BUCKSKIN RIDGE
 LOTS 1 - 47 AND
 PRESERVATION PARCEL A

L.804 F.258, L.1748 F.001, L.1774 F.257 & L.1774 F.261
 TAX MAP #22 PARCELS 74, 77, 283
 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FOR : FLOYD LANE L.L.C. (DEVELOPER)
 P.O. BOX 999
 COLUMBIA, MARYLAND 21044

F01.191

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02
2	REVISE TFF ACROSS LOTS TO LOD ONLY, INCLUDING DETAIL.	9-18-02



TRAP NUMBER 2 (ST-II)
 DRAINAGE AREA = 1.8 ACRES
 WET STORAGE REQUIRED = 2,880 CF
 WET STORAGE PROVIDED = 3,040 CF
 WET STORAGE ELEVATION = 621.25
 STONE OUTLET ELEVATION = 622.25
 DRY STORAGE PROVIDED = 2,880 CF
 DRY STORAGE REQUIRED = 3,372 CF
 STONE CREST ELEVATION = 622.50
 TOP OF DAM ELEVATION = 623.50
 CREST LENGTH = 7'
 BOTTOM ELEVATION = 620.00
 BOTTOM DIMENSIONS = 16' X 136'
 SIDE SLOPES = 2:1
 CLEANOUT ELEVATION = 621.0

SEE MATCH LINE SHEET 13
 SEE MATCH LINE SHEET 13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Casale 4-15-02
 CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Christy Harris 4/24/02
 CHIEF, DEPT. OF PLANNING & ZONING JHA DATE

Mark D. ... 4/16/02
 CHIEF, DEPT. OF PLANNING & ZONING DATE

Reviewed for: HOWARD S.C.D.
 and meets Technical Requirements
Jim ... 4/16/02
 Signature Date
 U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

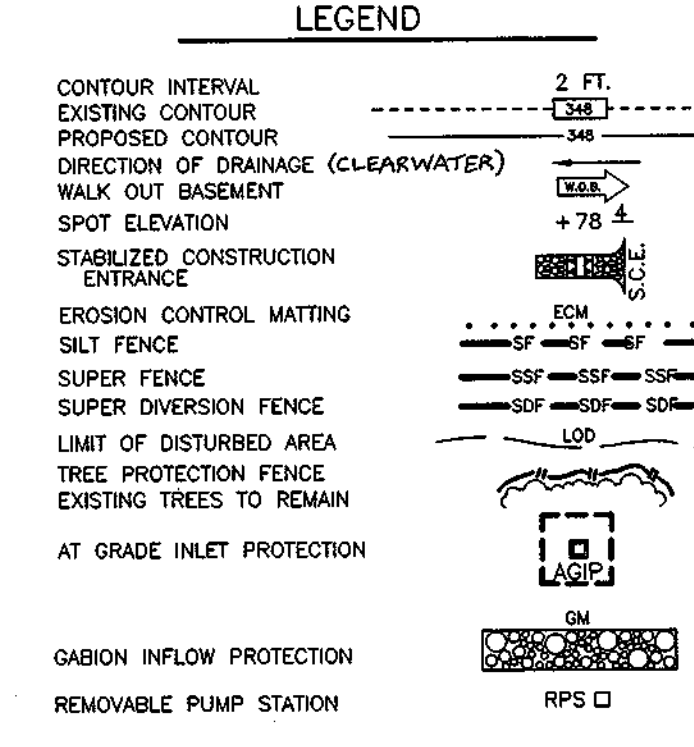
... 4/16/02
 HOWARD S.C.D. DATE

DEVELOPER'S/BUILDER'S CERTIFICATE
 "I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

... 3-7-02
 NAME DATE

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

G. Nelson Clark 3-7-02
 G. NELSON CLARK DATE



CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED: TD
 DRAWN: LAI/CRH2
 CHECKED: TD
 DATE: 3/5/02

GRADING AND SEDIMENT AND EROSION CONTROL PLAN
 PHASE 3
BUCKSKIN RIDGE
 LOTS 1 - 47 AND
 PRESERVATION PARCEL A
 TAX MAP #22, PARCELS 74, 77, & 283
 FIFTH (5TH) ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 (DPZ FILE REF.: S-00-08, P-01-07)

SCALE: 1" = 50'
 DRAWING: 12 of 23
 JOB NO.: 00-008
 FILE NO.: 00-008 D

FOR: FLOYD LANE, L.L.C. (DEVELOPER)
 P.O. BOX 999
 COLUMBIA, MARYLAND 21044 410-730-3939



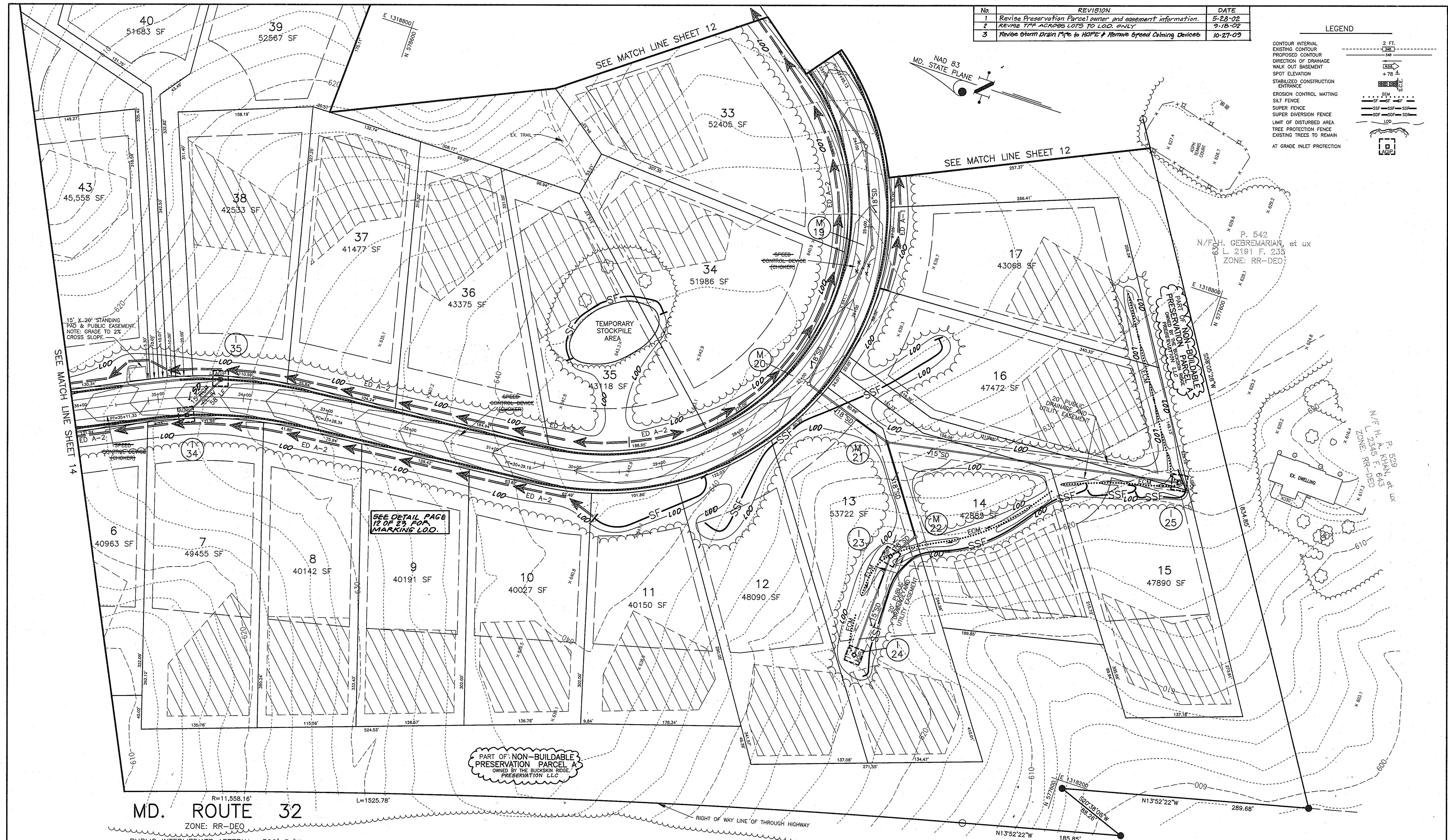
F.01.191

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02
2	REVISE TYP ACROSS LOTS TO L.O.D. ONLY	9-18-02
3	Revise storm Drain Pipe to HADPE & Remove Greed Catching Devices	10-27-09

LEGEND

2 FT. SCALE

- EXISTING CONTOUR
- PROPOSED CONTOUR
- DIRECTION OF DRAINAGE
- WALK OUT BASEMENT
- SPOT ELEVATION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL MATING
- SILT FENCE
- SUPER FENCE
- SUPER DIVERSION FENCE
- LIMIT OF DISTURBED AREA
- TREE PROTECTION FENCE
- EXISTING TREES TO REMAIN
- AT GRADE INLET PROTECTION

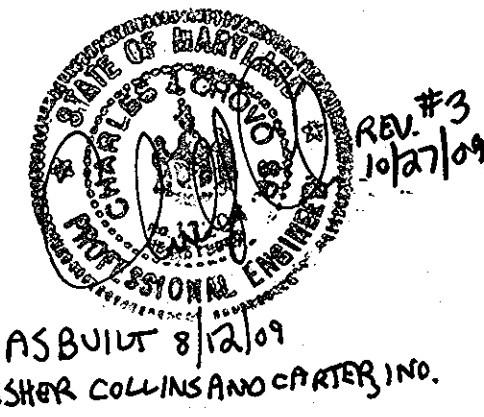


MD. ROUTE 32
 ZONE: RR-DEO
 PUBLIC INTERMEDIATE ARTERIAL 300' R/W

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels 4-15-02
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Wanda Hancock 4/29/02
 CHIEF, DIVISION OF LAND-DEVELOPMENT

APPROVED: *Chris Brannon* 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

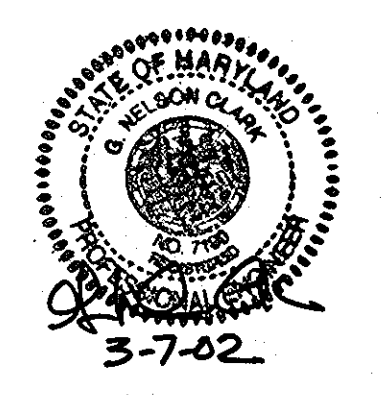


Reviewed for HOWARD S.C.D. and meets Technical Requirements
Jim Mays 4/8/02
 U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Howard S.C.D. 4/8/02

DEVELOPER'S/BUILDER'S CERTIFICATE
 "I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."
B. James Greenfield 3-7-02
 NAME DATE

ENGINEER'S CERTIFICATE
 "I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
G. Nelson Clark 3-7-02
 NAME DATE



CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	TD	GRADING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 3	SCALE
DRAWN	LAI/CRH2	BUCKSKIN RIDGE	1" = 50'
CHECKED	TD	LOTS 1 - 47 AND PRESERVATION PARCEL A	DRAWING
DATE	3/1/02	TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND (DPZ FILE REF.: S-00-08, P-01-07)	13 OF 23
		FOR: FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 999 COLUMBIA, MARYLAND 21044	JOB NO. 00-008
			FILE NO. 00-008 D

AS-BUILT 8-12-09 F-01.191

#6 D:\DRAWINGS\99153\Final Plans\S13-GRADE-SE.DWG

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all 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 also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

B. James Greenfield
NAME

3-7-02
DATE

Reviewed for HOWARD S.C.D.
and meets Technical Requirements
[Signature] 4/16/02
Signature Date
U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 4/16/02
HOWARD S.C.D. DATE

LEGEND

- CONTOUR INTERVAL 2 FT.
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DIRECTION OF DRAINAGE
- WALK OUT BASEMENT
- SPOT ELEVATION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL MATTING
- SILT FENCE
- SUPER FENCE
- SUPER DIVERSION FENCE
- LIMIT OF DISTURBED AREA
- TREE PROTECTION FENCE
- EXISTING TREES TO REMAIN



PART OF NON-BUILDABLE PRESERVATION PARCEL A
 OWNED BY THE BUCKSKIN RIDGE PRESERVATION LLC
 1,921,334 SQ. FT.
 OR 44.1078 AC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 4-15-02
 CHIEF, BUREAU OF HIGHWAYS DATE

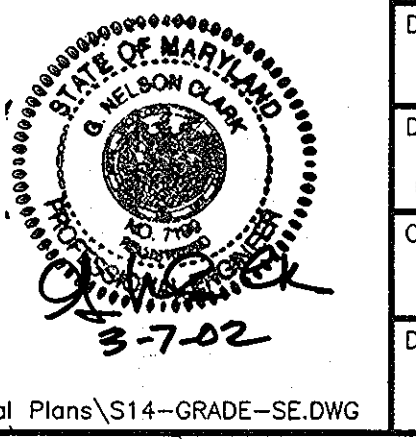
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] 4/29/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3	Revise Storm Drain Pipe to HDPE & Remove Speed Calming Devices	10-21-00	2	REVISE TFF ACROSS LOTS TO LOD ONLY	9-18-02
			1	Revise Preservation Parcel owner and easement information.	8-23-02
				REVISION	DATE

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

[Signature] 3-7-02
 C. NELSON CLARK DATE



CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	TD	GRADING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 3	SCALE	1" = 50'
DRAWN	LAI/CRH2	BUCKSKIN RIDGE	DRAWING	14 of 23
CHECKED	TD	LOTS 1 - 47 AND PRESERVATION PARCEL A	JOB NO.	00-008
DATE	3/1/02	TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND (DPZ FILE REF.: S-00-08, P-01-07)	FILE NO.	00-008 D

FOR: FLOYD LANE L.L.C. (DEVELOPER)
 P.O. BOX 999 COLUMBIA, MARYLAND 21044

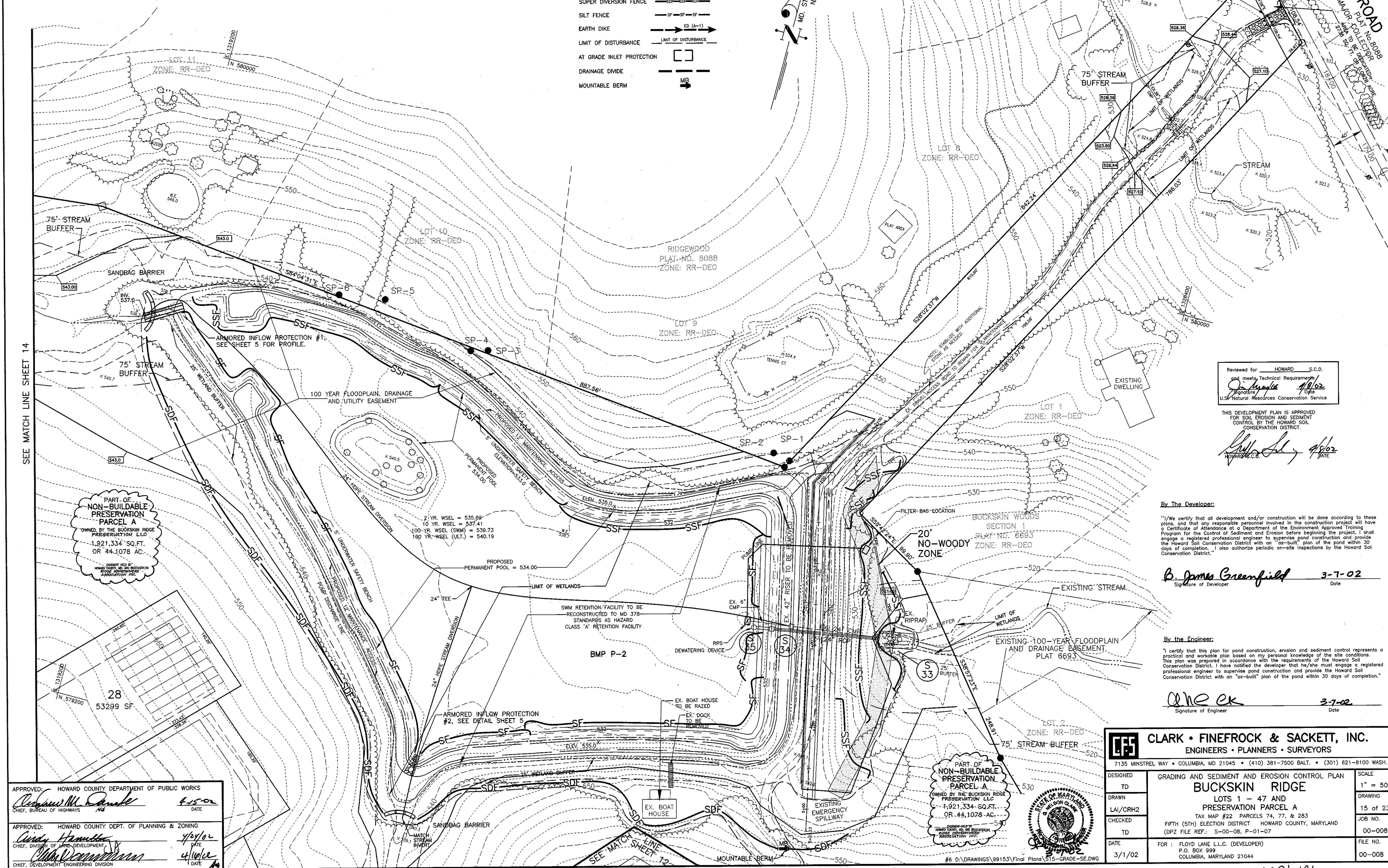
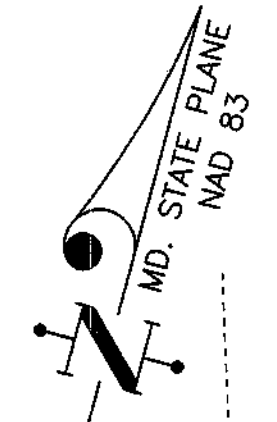
AS-BUILT 8-12-09 F.O. 191

SEE MATCH LINE SHEET 15

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- SUPER SILT FENCE
- SUPER DIVERSION FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- AT GRADE INLET PROTECTION
- DRAINAGE DIVIDE
- MOUNTABLE BERM



Reviewed for: HOWARD S.C.D.
 and meets Technical Requirements
 Signature: [Signature] 4/8/02
 Title: Engineer
 U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] 4/8/02
 HOWARD S.C.D. DATE

By The Developer:
 "I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."
B. James Greenfield 3-7-02
 Signature of Developer Date

By the Engineer:
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."
[Signature] 3-7-02
 Signature of Engineer Date

PART OF NON-BUILDABLE PRESERVATION PARCEL A
 OWNED BY THE BUCKSKIN RIDGE PRESERVATION LLC
 1,921,334 SQ. FT.
 OR 44.1078 AC.

PART OF NON-BUILDABLE PRESERVATION PARCEL A
 OWNED BY THE BUCKSKIN RIDGE PRESERVATION LLC
 1,921,334 SQ. FT.
 OR 44.1078 AC.

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	TD	GRADING AND SEDIMENT AND EROSION CONTROL PLAN	SCALE
DRAWN	LAJ/CRH2	BUCKSKIN RIDGE	1" = 50'
CHECKED	TD	LOTS 1 - 47 AND PRESERVATION PARCEL A	DRAWING
DATE	3/1/02	TAX MAP #22 PARCELS 74, 77, & 283	15 of 23
		FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.
		(DPZ FILE REF.: S-00-08, P-01-07)	00-008
		FOR: FLOYD LANE L.L.C. (DEVELOPER)	FILE NO.
		P.O. BOX 999 COLUMBIA, MARYLAND 21044	00-008 D

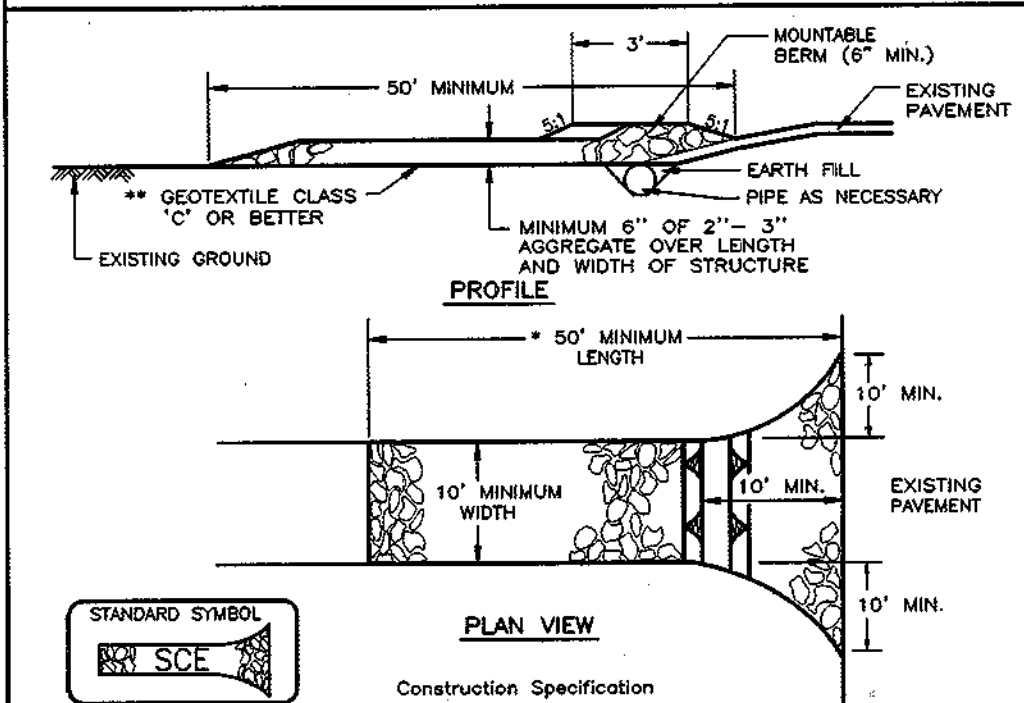
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 4-5-02
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] 4/24/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

#01191

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

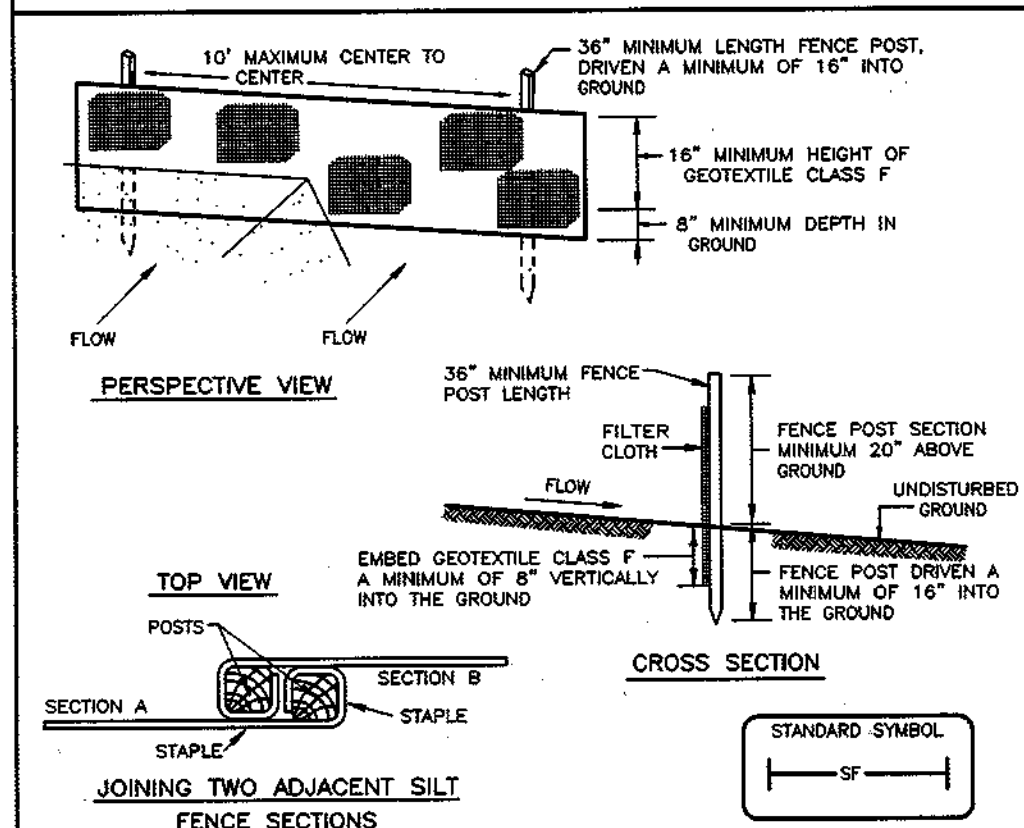


Construction Specifications

- Length - minimum of 50' (* 30' for a single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. ** The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey, a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - a stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 7-11-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE

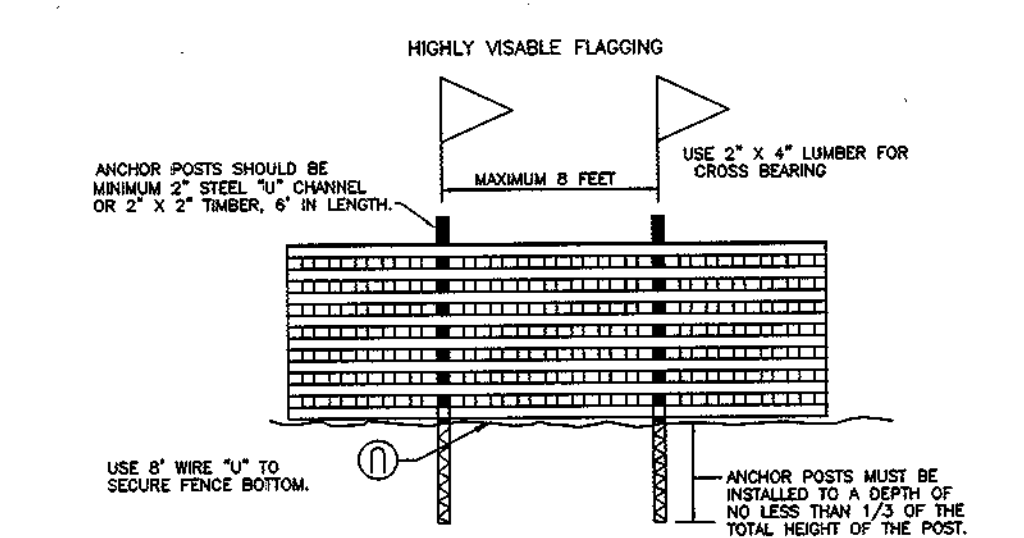


Construction Specifications

- Fence posts shall be a minimum of 36" long, driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum size) or 2" x 4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts shall be standard T or U section weighing not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at the top and mid-section and shall meet the following requirements for Geotextile Class F:
Tensile Strength 50 lbs/in (min.) Test: MSMT 509
Tensile Modulus 20 lbs/in (min.) Test: MSMT 509
Flow Rate 0.3 gal ft²/minute (max.) Test: MSMT 322
Filtering Efficiency 75% (min.) Test: MSMT 312
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent seepage.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", snaphop fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area affected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES:

- Forest protection device only.
- Retention area will be set as part of the review process.
- Boundaries of retention area should be staked and flagged by landowner.
- Root damage should be avoided.
- Protection signage should be used.
- Device should be maintained throughout construction.

BLAZE ORANGE PLASTIC MESH

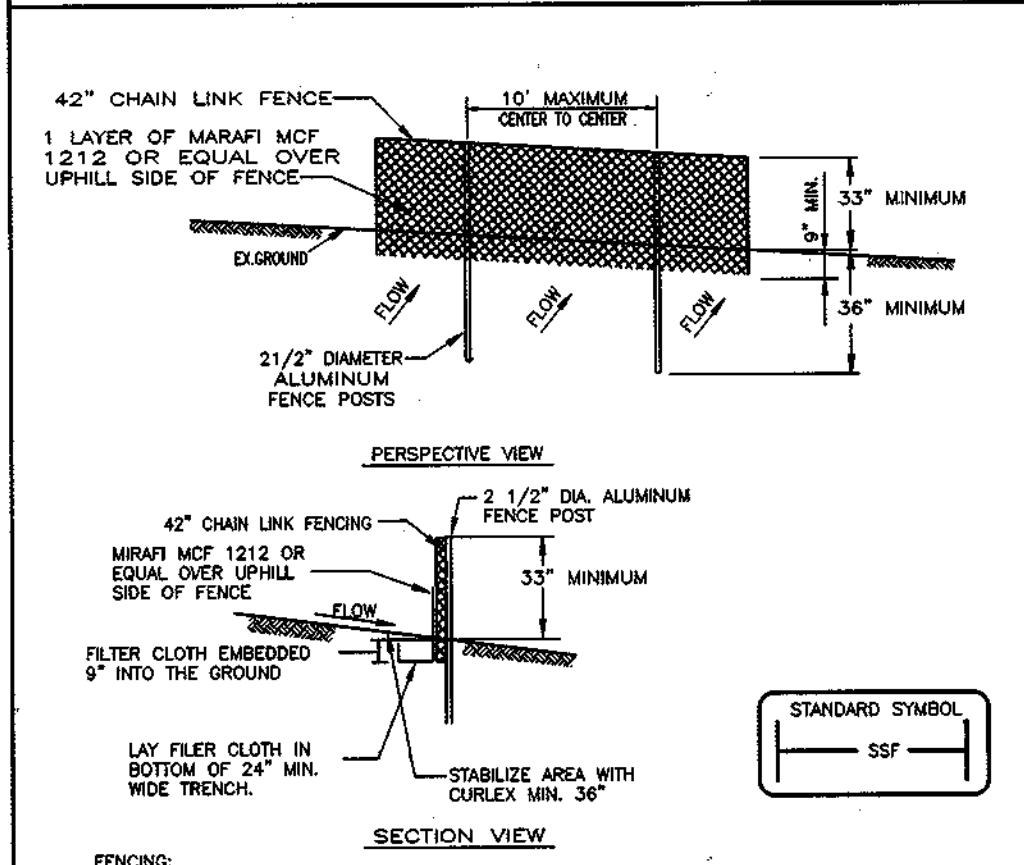
APPROVED: DEPARTMENT OF PLANNING & ZONING
 Chief Development Engineering Division
 Chief, Division of Land Development

Reviewed for HOWARD S.C.D. and meets Technical Requirements
 Signature: [Signature] Date: 4/15/02
 U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature] Date: 4/24/02

DETAIL - SUPER SILT FENCE



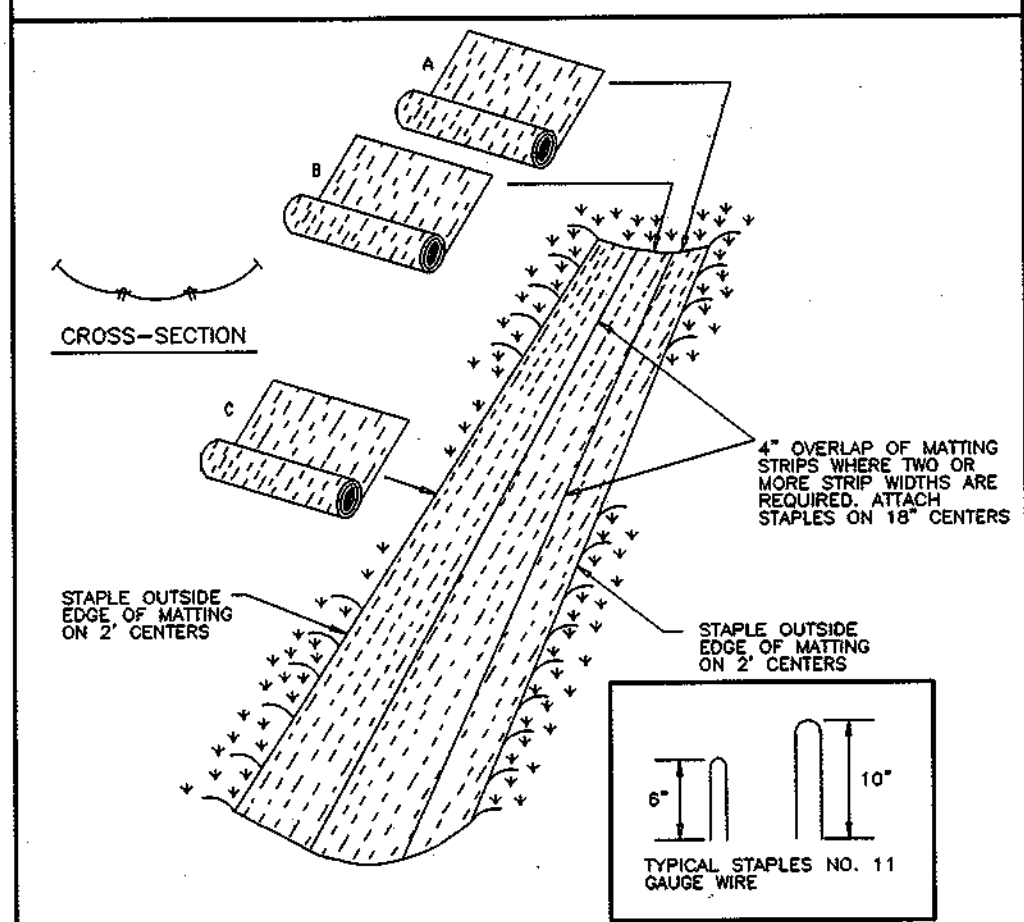
FENCING:

FENCING SHALL BE 42" HIGH CHAIN LINK FENCE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS AND SHALL MEET THE SPECIFICATIONS FOR A 4" x 4" FENCE. FABRIC SHALL BE USED, SUBSTITUTE 42" FABRIC & 70" POSTS SHALL BE PLACED WITHOUT CONCRETE EMBEDMENT.

- CHAIN LINK FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH TIES OR STRAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NECESSARY AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



Construction Specifications

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2" apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", snaphop fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area affected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 9-29-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARDS 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 vegetable 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 appropriate soil conditioners is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards 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-SSCS in cooperation with Maryland Agricultural Experimental Station.
 - Topsoil shall not be used as topsoil unless it meets 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 a 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" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

III. For sites having disturbed areas under 5 acres:
 1. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres:
 1. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 a. 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.
 b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 d. No seed 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.

II. Place topsoil (if required) and apply soil amendments specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grass 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" - 8" higher in elevation.
- Topsoil shall be uniformly distributed in a 4"-8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

TEMPORARY SEEDING NOTES

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

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

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

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

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT AND EROSION 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 (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within:
 - 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1;
 - 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 perimeters 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 for permanent seedings, sod, temporary seeding and mulching (Sec 5). 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:	96,9936 Acres
Area Disturbed:	17.15 Acres
Area to be seeded or paved:	1.55 Acres
Area to be vegetatively stabilized:	3.72 Acres
Total Area:	12,359 CV
Offsite Waste/Borrow Area Location:	N/A
- 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 DPM Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be required for the installation of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approval may not be obtained until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities shall be backfilled and stabilized within one working day, or is limited to three pipe lengths.
- The total amount of earth dike = 6,820 LF
- The total amount of silt fence = 1260 LF
- The total amount of super silt fence = 4,240 LF

* 5.46 Acres will be flooded during pond reconstruction and will not be permanently stabilized.

CONSTRUCTION SEQUENCE FOR ROADS AND STORM DRAINS:

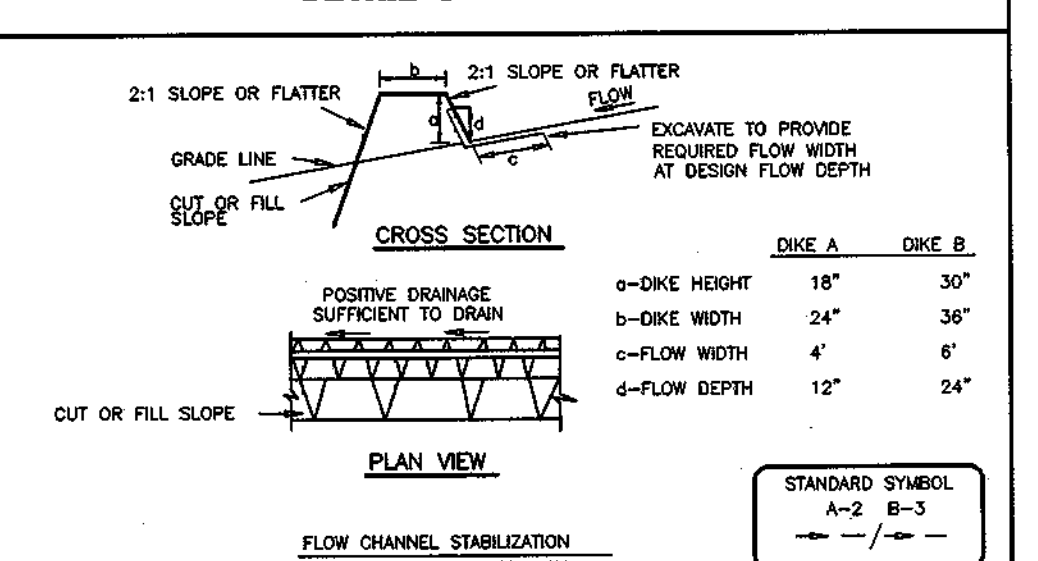
NO. OF DAYS	
1	Obtain grading permit.
2	Install Stabilized Construction Entrances. Add additional stone as needed to stabilize existing access road.
3	Install tree protection fence for entire site, see additional notes on sheet 19. Contractor shall note that disturbance up to the limit of the tree protection fence is for installation of perimeter controls only. Subsequent grading shall use the perimeter control as the limit of disturbance.
4	Construct staging area and OR-6 drive. Access staging area from Folly Quarter Road. No trees are to be removed or damaged along existing access road within Forest Conservation Retention areas. Clear and grub for sediment control measures.
5	Construct rip rap outfall at S-1.
6	Remove existing 6" CMP and replace with 24" temporary pipe, outfall onto rip trap.
7	Construct earth dikes, install superfill fence.
8	Clear and grub for culvert installation.
9	With approval of Sediment Control Inspector, install culvert, headwalls, gabions at S-2. If dewatering is required, use filter bag at discharge point.
10	Grade over culvert to obtain minimum 2' cover.
11	With a 5-day clear weather forecast from the NWS and permission from the sediment control inspector, construct additional earth dikes to S-2, direct flow to gabion mattress at face of S-2.
12	With approval of Sediment Control Inspector, remove temporary 24" pipe. Install additional controls.
13	Construct road fill to elevation 574, stabilize supporting slopes.
14	With approval of Sediment Control Inspector, grade balance site and install utilities, storm drains, install At Grade Inlet Protection as each inlet is constructed.
15	Pave road, stabilize disturbed areas. Stabilize wetland and buffer areas using appropriate seed mix.
16	With a 5-day clear weather forecast from the NWS and permission from the sediment control inspector, construct forebay and grading between M-4 and S-2. Stabilize immediately.
17	With approval of sediment control inspector, remove sediment controls, install street trees, and stabilize all disturbed areas.

CONSTRUCTION SEQUENCE FOR POND RECONSTRUCTION:

STREAM CLOSURE NOTE: The stream channel will not be disturbed between March 1st and June 15th.

NO. OF DAYS	
1	Obtain all required permits, including: MDE NTW Permit Tracking Number is CENAB-OP-RMS (Columbia Builders/Buckskin Ridge) 01-04713-5, for reconstruction of the existing pond, and road crossing. MDE Dam Safety Division WMA file no. 01-AR-0071, tracking no. 200164713.
2	Dewater pond. Contractor shall insure that muddy water discharge is minimized by using slow drawdown. Only grading for replacement of the basin is allowed until the embankment reconstruction is complete. No grading is allowed in the pond interior until sequence number 6 below.
3	Sandbag channels and install 24" pipes. Remove riser, low flow, and connect to existing 24" barrel with water tight connector.
4	Install removable pump station, and filter bag discharge. Install earth dike to divert flow to pump pit. Install remaining sediment control devices.
5	With a 5-day clear weather forecast from the NWS and permission from the inspector, excavate as needed to relocate existing barrel sufficient to allow construction of new barrel and riser. Construct new riser and barrel and dewatering device. Connect 24" pipe to RPS, remove CMP barrel, backfill, open dewatering valve on riser. Reconstruct embankment and face as shown. Clear woody vegetation from non-woody zone with approval of Sediment Control Inspector.
6	Construct armored inflow protection at inflows of pond, grade perimeter benches, stabilize disturbed areas.
7	With approval of Sediment Control Inspector, clear dewatering valve on riser, remove removable pump station. Construct rip rap outfall at s-33, and toe drain. Stabilize disturbed areas, stabilize wetland and buffer areas using appropriate seed mix.
8	With approval of Sediment Control Inspector, when water surface elevation has reached elevation 533.00, remove sandbags, piping, and allow normal base flow to resume.
9	With approval of Sediment Control Inspector, stabilize any remaining disturbed areas, using appropriate seed mix.

DETAIL 1 - EARTH DIKE

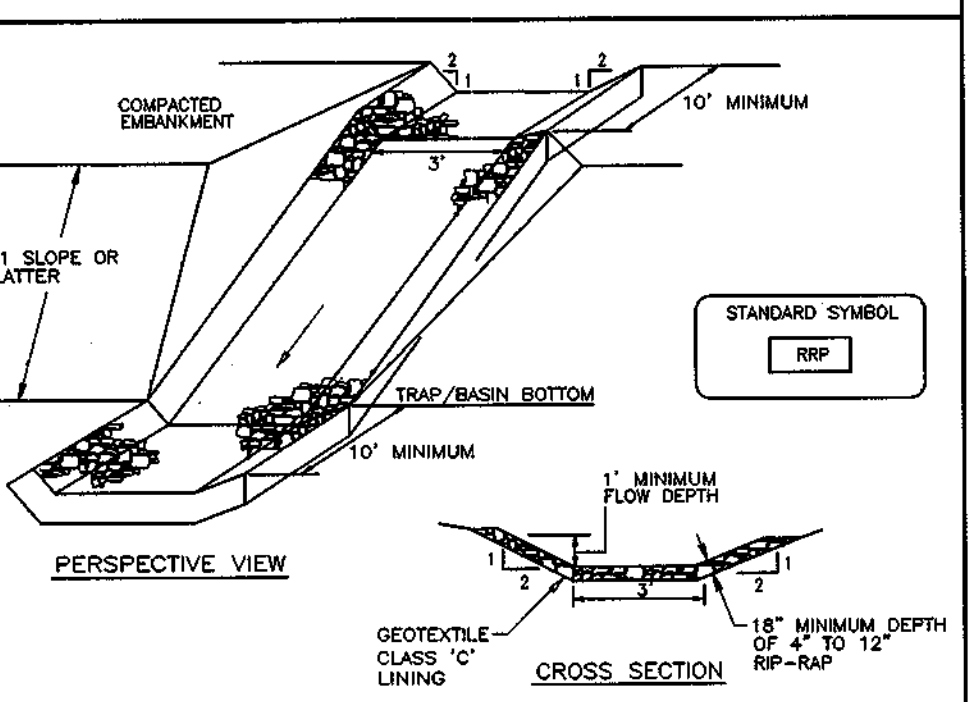


Construction Specifications

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1:1.
- Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- Runoff diverted from an undisturbed area shall outlet directly into an undisturbed area at a non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
- The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
- Fill shall be compacted by earth moving equipment.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
- Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 - RIP-RAP INFLOW PROTECTION

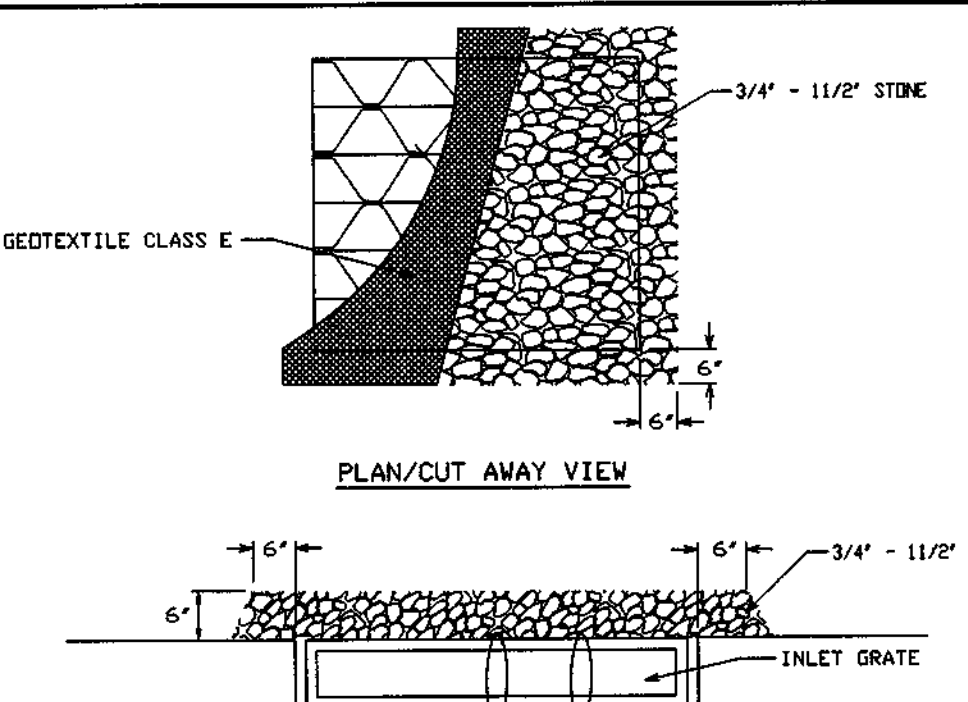


Construction Specifications

- Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3" (min.) bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
- Rip-rap should blend into existing ground.
- Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1; for slopes flatter than 10:1 use Earth Dike or Temporary Stone Lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION



Construction Specifications

- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4" to 1 1/2" stone, 4'-6" thick on the grate to secure the fabric and provide additional filtration.

MAX. DRAINAGE AREA = 1/4 ACRE

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DEVELOPER'S/BUILDER'S CERTIFICATE

I, the undersigned, certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

Signature: B. James Greenfield Date: 3-7-02

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Signature: G. Nelson Clark Date: 3-14-02

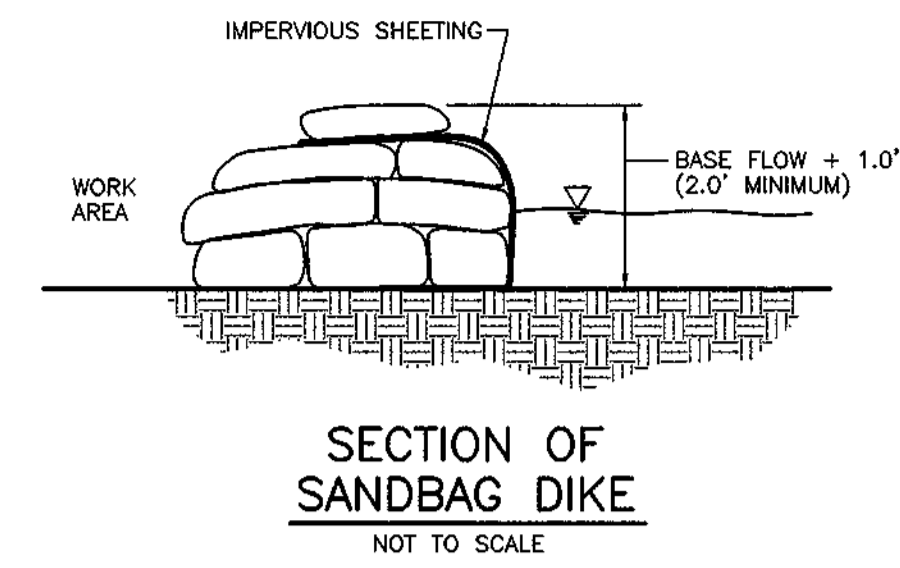
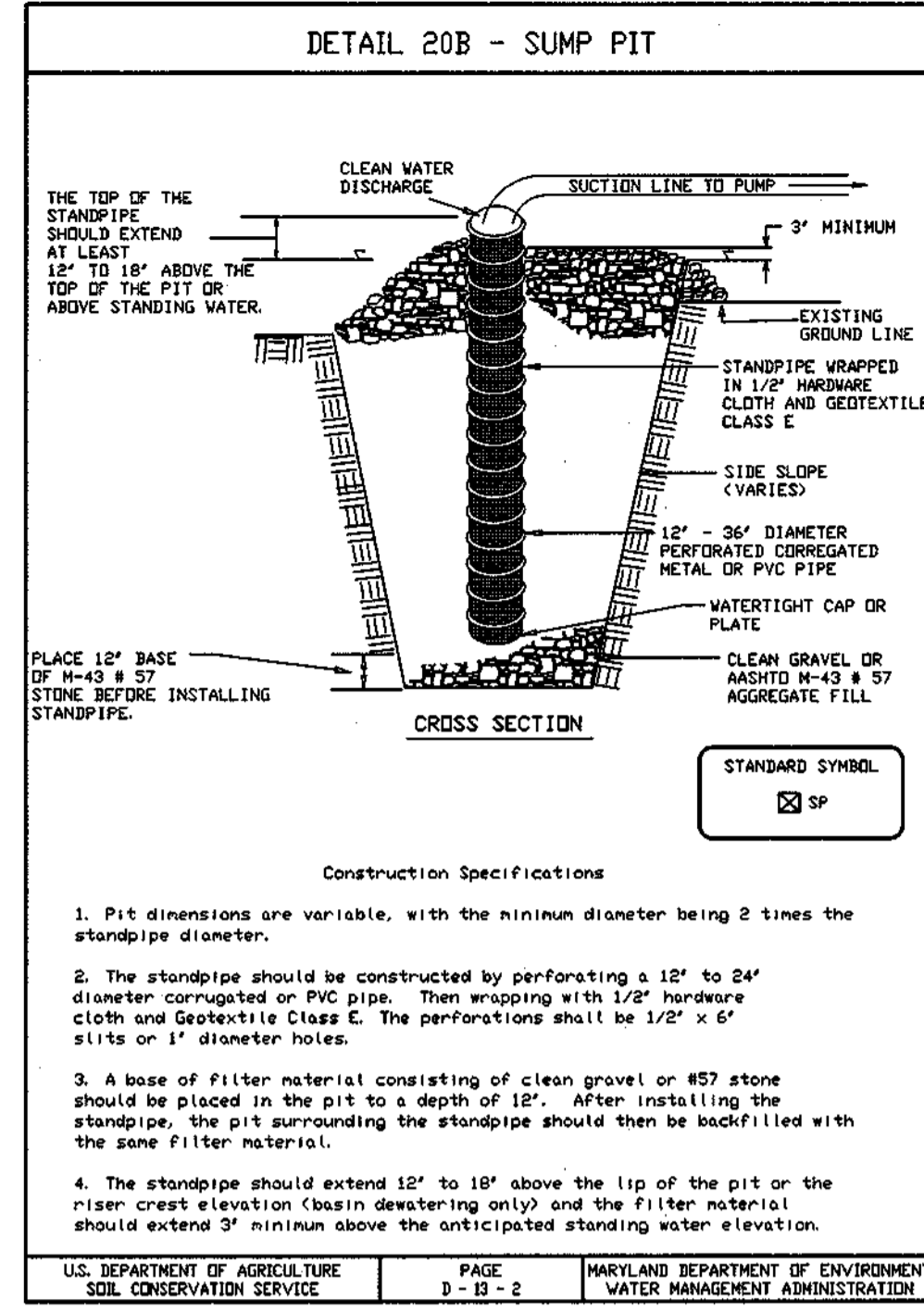
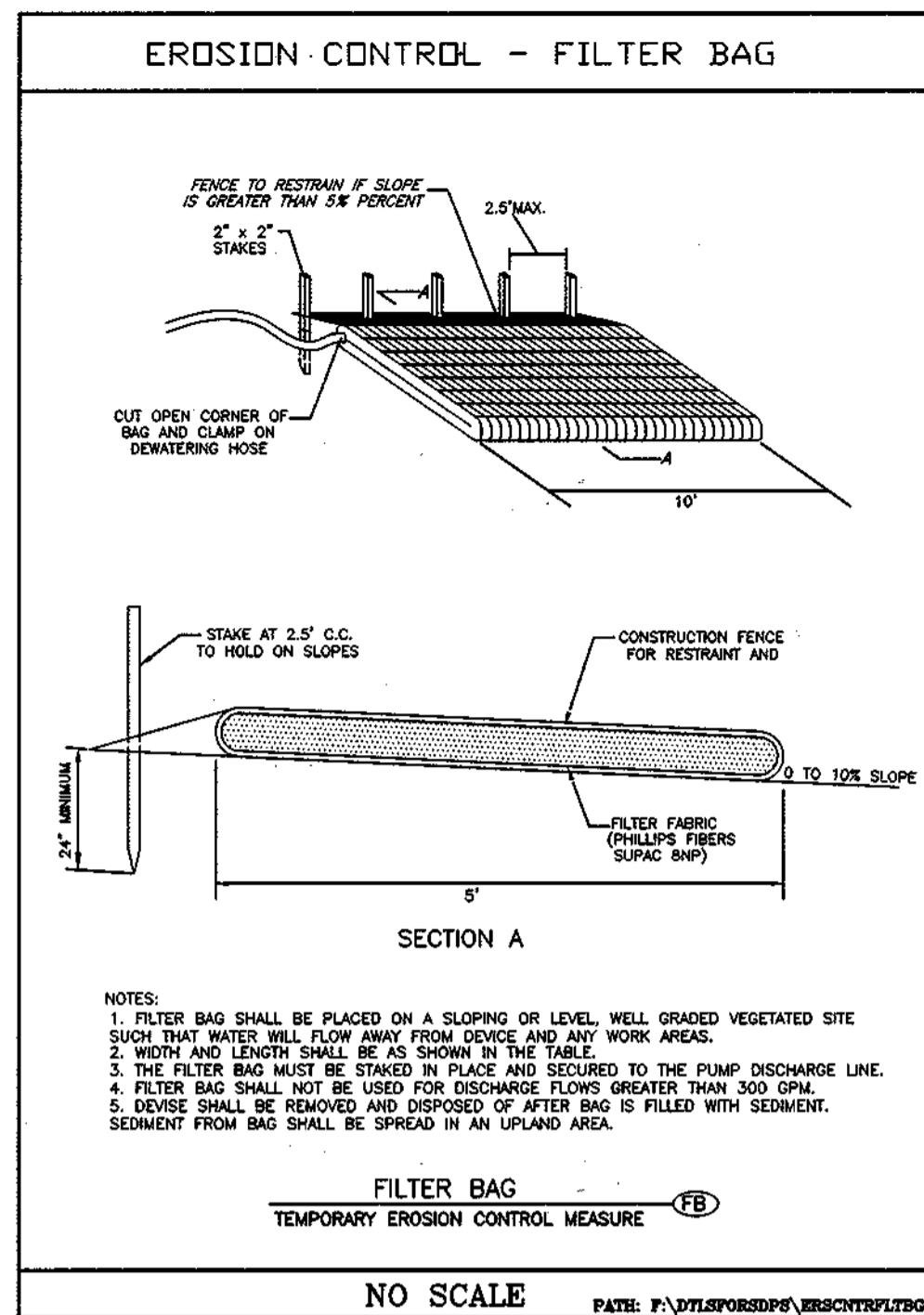
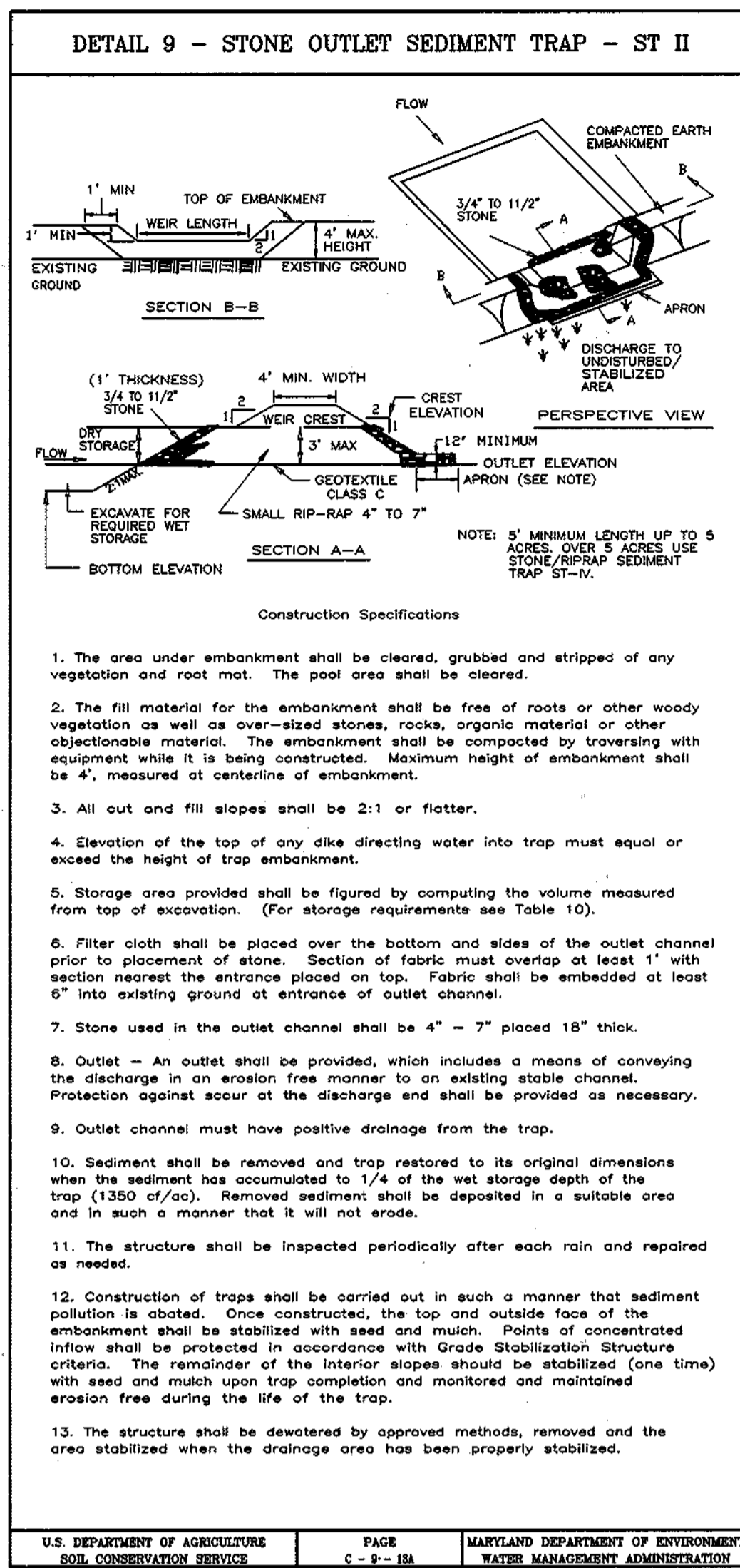
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 ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	SEDIMENT AND EROSION CONTROL DETAILS	SCALE
TD	BUCKSKIN RIDGE	AS SHOWN
DRAWN	LOTS 1 - 47 AND PRESERVATION PARCEL A	DRAWING
LAI/CRH2	TAX MAP #22 PARCELS 74, 77, & 283	16 OF 23
CHECKED	FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.
TD	(DPZ FILE REF.: S-00-08, P-01-07)	00-008
DATE	FOR: FLOYD LANE L.L.C. (DEVELOPER)	FILE NO.
3/1/02	P.O. BOX 999 COLUMBIA, MARYLAND 21044	00-008 D

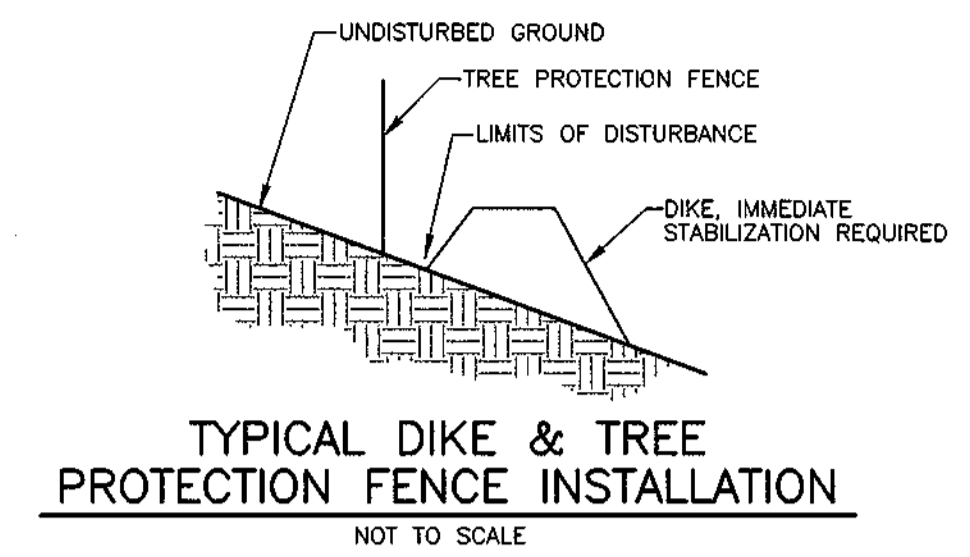
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F.01.191



MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION

- SHEETING ON THE DIVERSION SHOULD BE POSITIONED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST A 18-INCH (0.45 METERS) OVERLAP.
- PRIOR TO REMOVAL OF THESE TEMPORARY STRUCTURES, ANY ACCUMULATED SEDIMENT SHOULD BE REMOVED, DEPOSITED AND STABILIZED IN AN APPROVED AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS AUTHORIZED BY THE WMA.
- SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

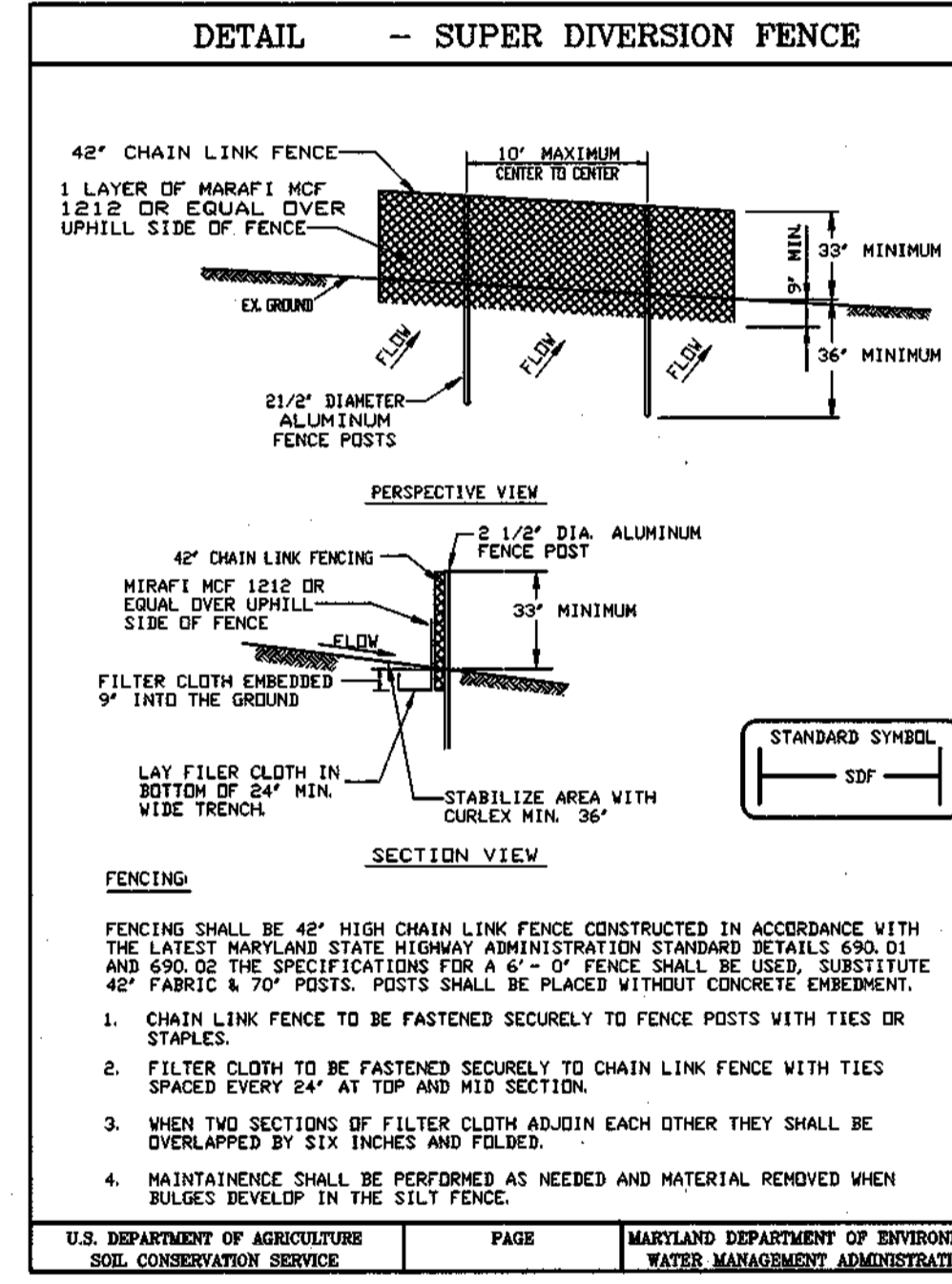
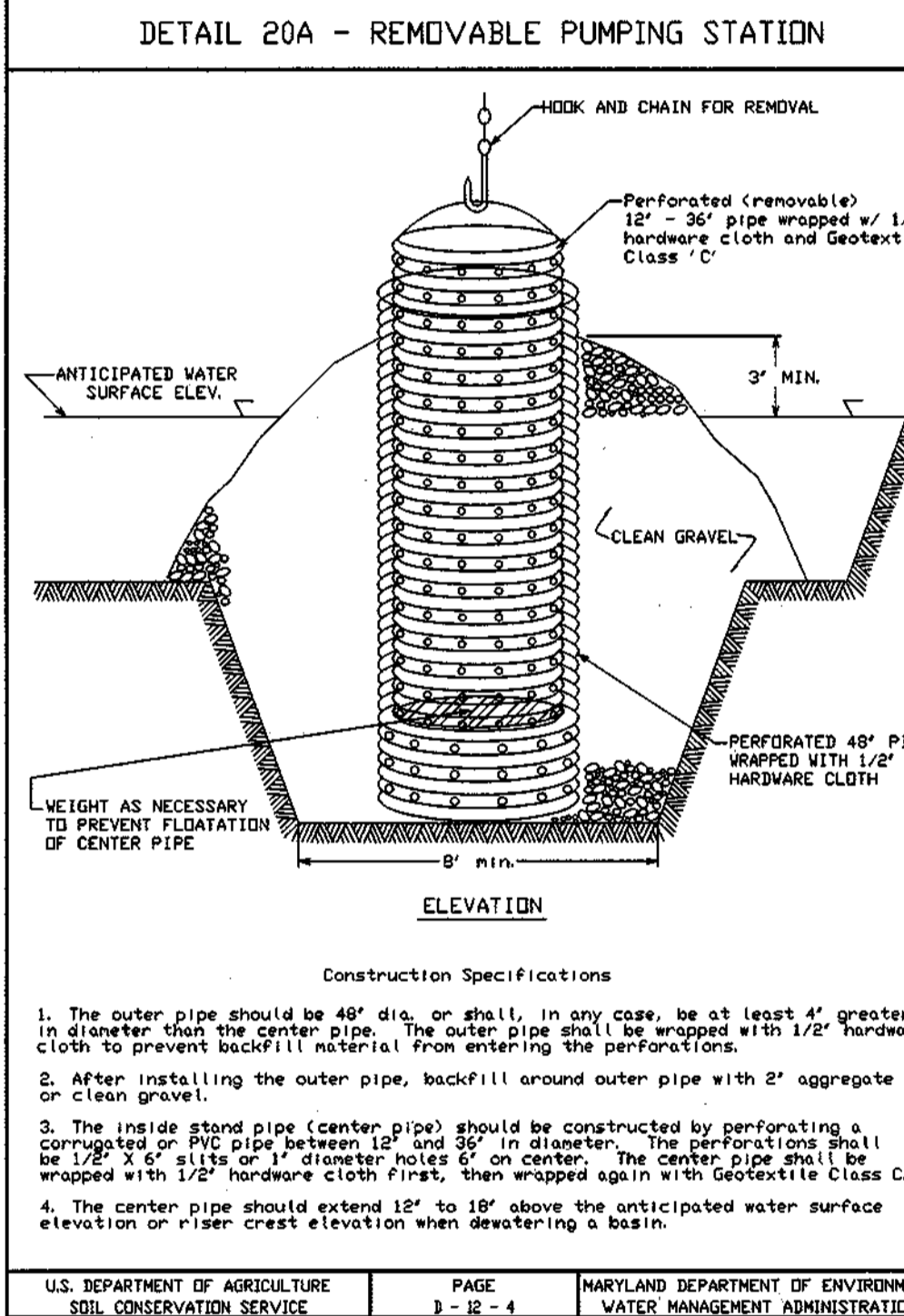
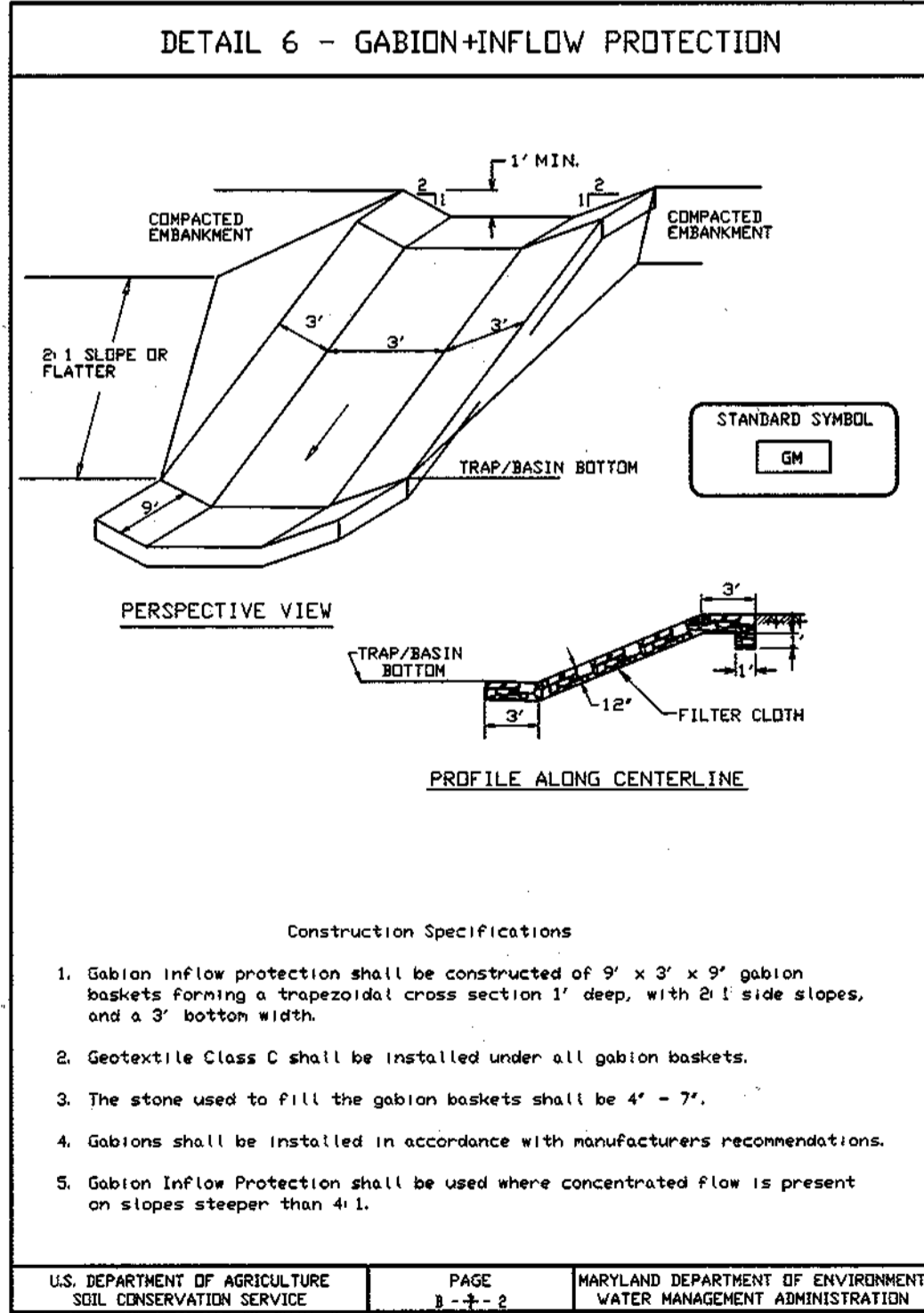


CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS AND BUFFERS

- No excess fill, construction material or debris are to be stockpiled or stored in the wetlands or buffers.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland or buffer.
- Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material or any other deleterious substance. If any additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material or any other deleterious substance.
- Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetland or buffer.
- Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetland and buffer in excess of nontidal wetland and buffer lost under the original structure of fill.
- Conduct the activity so as not to cause or contribute to a degradation of water quality as determined by the Maryland Department of the Environment.
- To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:
 - Class III Waters. In-stream work may not be conducted during the period October 1 through April 30, inclusive during any year.
 - All stabilization in the wetland and buffer shall be of the following recommended species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria italica*), Barley (*Hordeum sp.*), Oats (*Avena sp.*), and/or Rye (*Secale cereale*). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Division. Kentucky 31 fescue shall not be utilized in the wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.

WETLAND AND WETLAND BUFFER SEED MIX FOR TEMPORARY OR PERMANENT STABILIZATION

- | | |
|----------------------|--|
| Up to June 15 | Annual Ryegrass
Spring Oats
Winter Rye
Winter Wheat
Red Clover
Small Hop Clover |
| June 16 to August 15 | Annual Ryegrass
Japanese or Foxtail Millet
Spring Oats
Winter Rye
Winter Wheat
Red Clover
Small Hop Clover |
| August 16 and Later | Annual Ryegrass
Spring Oats (will winter kill)
Winter Rye
Winter Wheat
Barley
Flax |
- December, January & February
(during periods of no snow cover and above freezing temperature)
Winter Rye
Winter Wheat



OPEN CHANNEL MAINTENANCE CRITERIA

OPEN CHANNEL SYSTEMS AND GRASS FILTER STRIPS SHOULD BE MOWED AS REQUIRED DURING THE GROWING SEASON TO MAINTAIN GRASS HEIGHTS IN THE 4 TO 6 INCH RANGE.

SEDIMENT BUILD-UP WITHIN THE BOTTOM OF THE CHANNEL OR FILTER STRIP SHALL BE REMOVED WHEN 3" HAS BEEN EXCEEDED.

APPROVED: *Andrew M. Danette* 4-15-02
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Cindy Hammett 4/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Jim Angelus 4/18/02
Signature
U.S. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard S.C.D. 4/18/02
DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

B. James Greenfield 3-7-02
DATE

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

G. Nelson Clark 3-8-02
DATE



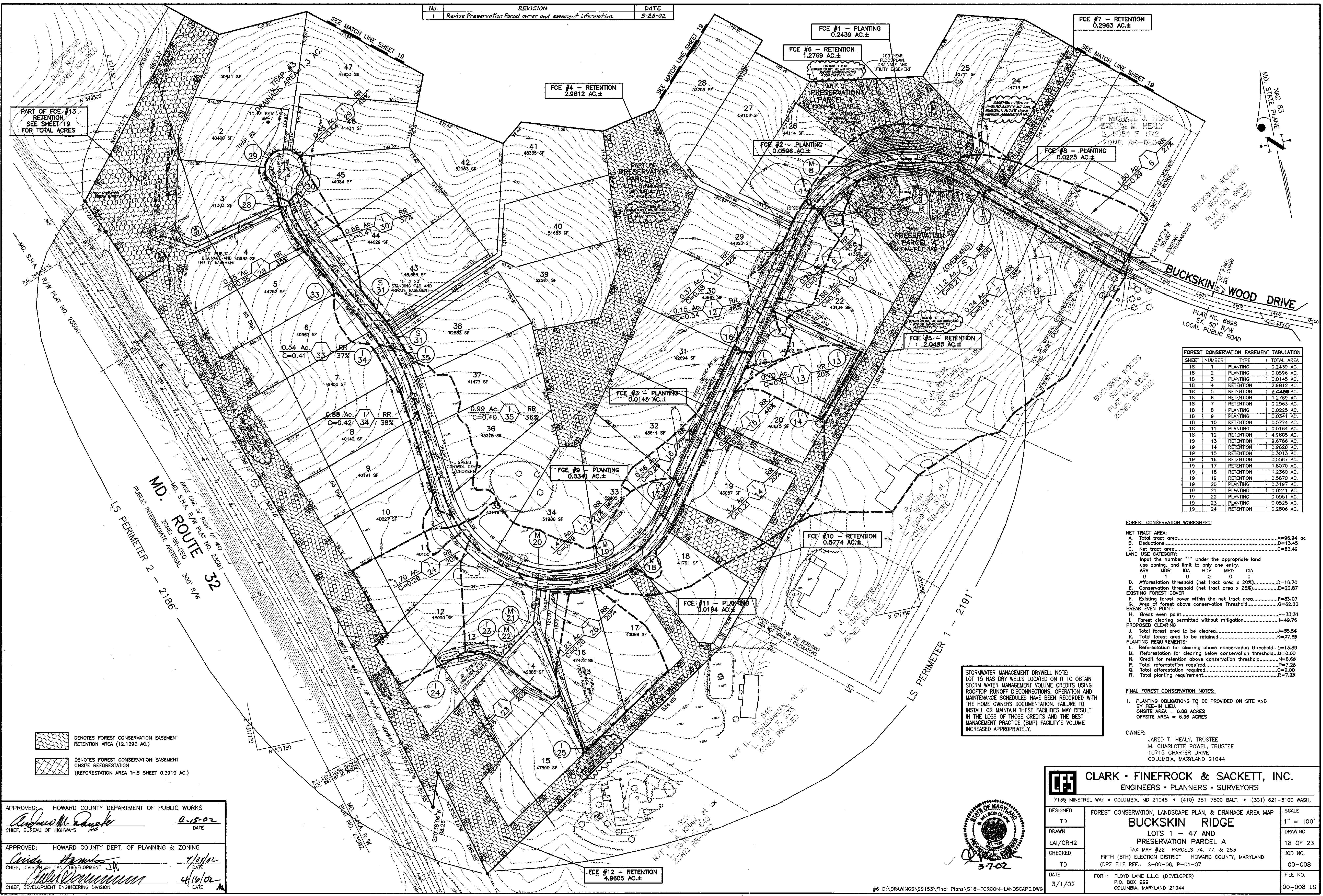
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DESIGNED TD	SEDIMENT AND EROSION CONTROL DETAILS BUCKSKIN RIDGE LOTS 1 - 47 AND PRESERVATION PARCEL A TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND (DPZ FILE REF.: S-00-08, P-01-07)	SCALE AS SHOWN DRAWING 17 OF 23 JOB NO. 00-008
DRAWN CRH2		FILE NO. 00-008 D
CHECKED TD	FOR: FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 999 COLUMBIA, MARYLAND 21044	
DATE 3/1/02		

F.O. 191

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02



SHEET NUMBER	TYPE	TOTAL AREA
18 1	PLANTING	0.2439 AC.
18 2	PLANTING	0.0596 AC.
18 3	PLANTING	0.0145 AC.
18 4	RETENTION	2.9812 AC.
18 5	RETENTION	2.0485 AC.
18 6	RETENTION	1.2769 AC.
18 7	RETENTION	0.2963 AC.
18 8	PLANTING	0.0225 AC.
18 9	PLANTING	0.0341 AC.
18 10	RETENTION	0.5774 AC.
18 11	PLANTING	0.0164 AC.
18 12	RETENTION	4.9605 AC.
19 13	RETENTION	9.5786 AC.
19 14	RETENTION	0.9628 AC.
19 15	RETENTION	0.3013 AC.
19 16	RETENTION	0.5567 AC.
19 17	RETENTION	1.8070 AC.
19 18	RETENTION	1.2360 AC.
19 19	RETENTION	0.5670 AC.
19 20	PLANTING	0.3197 AC.
19 21	PLANTING	0.0241 AC.
19 22	PLANTING	0.0951 AC.
19 23	PLANTING	0.0525 AC.
19 24	RETENTION	0.2806 AC.

FOREST CONSERVATION WORKSHEET:

NET TRACT AREA:
 A. Total tract area.....A=96.94 ac
 B. Deductions.....B=13.45
 C. Net tract area.....C=83.49

LAND USE CATEGORIES:
 Input the number "1" under the appropriate land use zoning, and limit to only one entry.
 ARA MDR DA HDR MPD CIA
 0 1 0 0 0

D. Afforestation threshold (net tract area x 20%).....D=16.70
 E. Conservation threshold (net tract area x 25%).....E=20.87

EXISTING FOREST COVER
 F. Existing forest cover within the net tract area.....F=83.07
 G. Area of forest above conservation threshold.....G=62.20
 BREAK EVEN POINT:
 H. Break even point.....H=33.31
 I. Forest clearing permitted without mitigation.....I=49.76

PROPOSED CLEARING
 J. Total forest area to be cleared.....J=85.54
 K. Total forest area to be retained.....K=27.59

PLANTING REQUIREMENTS:
 L. Reforestation for clearing above conservation threshold.....L=13.89
 M. Reforestation for clearing below conservation threshold.....M=0.00
 N. Credit for retention above conservation threshold.....N=6.66
 P. Total reforestation required.....P=7.28
 Q. Total afforestation required.....Q=0.00
 R. Total planting requirement.....R=7.28

FINAL FOREST CONSERVATION NOTES:
 1. PLANTING OBLIGATIONS TO BE PROVIDED ON SITE AND BY FEE-IN LIEU.
 ONSITE AREA = 0.88 ACRES
 OFFSITE AREA = 6.36 ACRES

OWNER:
 JARED T. HEALY, TRUSTEE
 M. CHARLOTTE POWELL, TRUSTEE
 10715 CHARTER DRIVE
 COLUMBIA, MARYLAND 21044

STORMWATER MANAGEMENT DRYWELL NOTE:
 LOT 15 HAS DRY WELLS LOCATED ON IT TO OBTAIN STORM WATER MANAGEMENT VOLUME CREDITS USING ROOFTOP RUNOFF DISCONNECTIONS. OPERATION AND MAINTENANCE SCHEDULES HAVE BEEN RECORDED WITH THE HOME OWNERS DOCUMENTATION. FAILURE TO INSTALL OR MAINTAIN THESE FACILITIES MAY RESULT IN THE LOSS OF THOSE CREDITS AND THE BEST MANAGEMENT PRACTICE (BMP) FACILITY'S VOLUME INCREASED APPROPRIATELY.

DENOTES FOREST CONSERVATION EASEMENT RETENTION AREA (12.1293 AC.)
 DENOTES FOREST CONSERVATION EASEMENT ONSITE REFORESTATION (REFORESTATION AREA THIS SHEET 0.3910 AC.)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Drapek 4-15-02
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Christy Hamrick 4/16/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

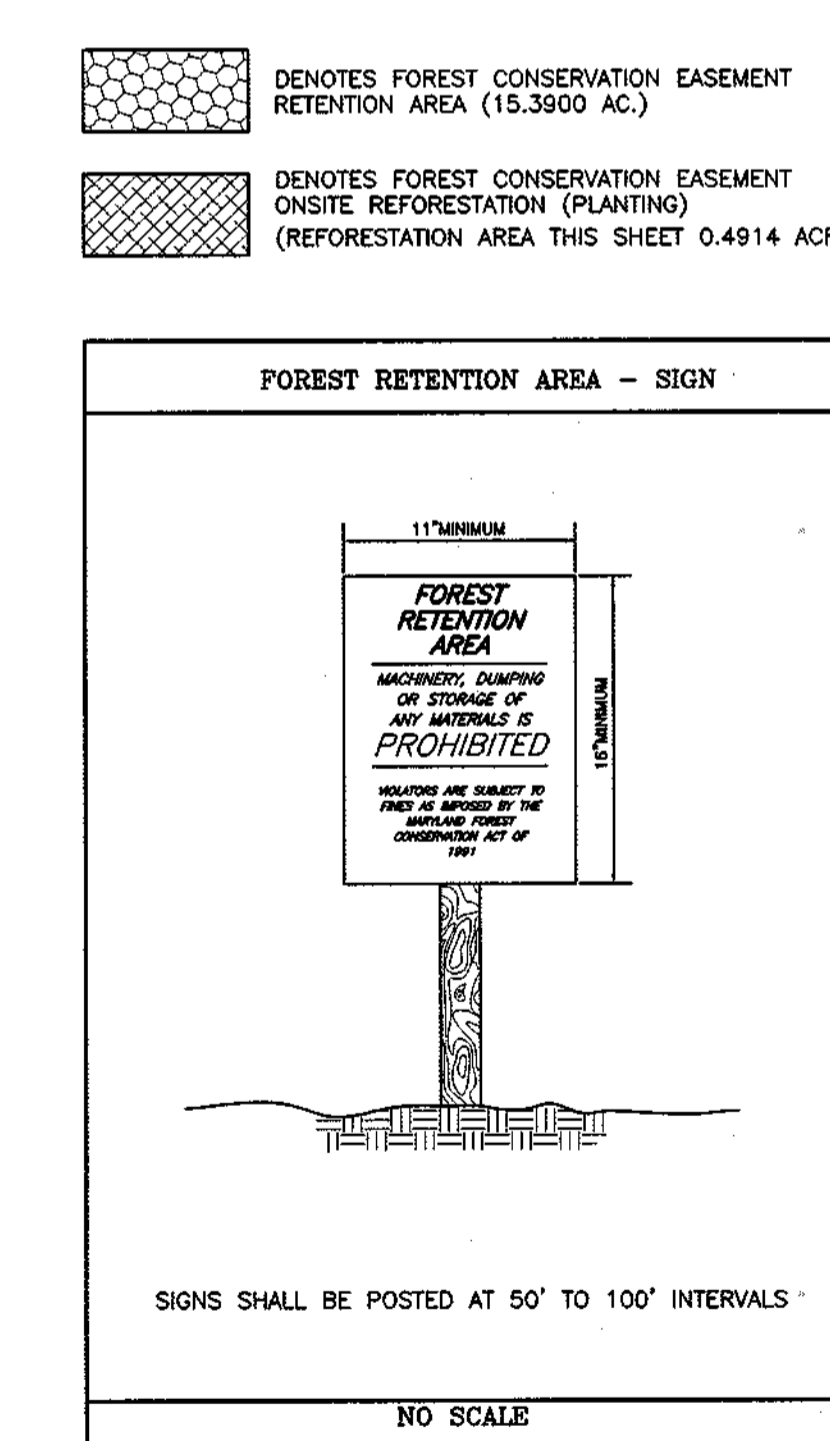
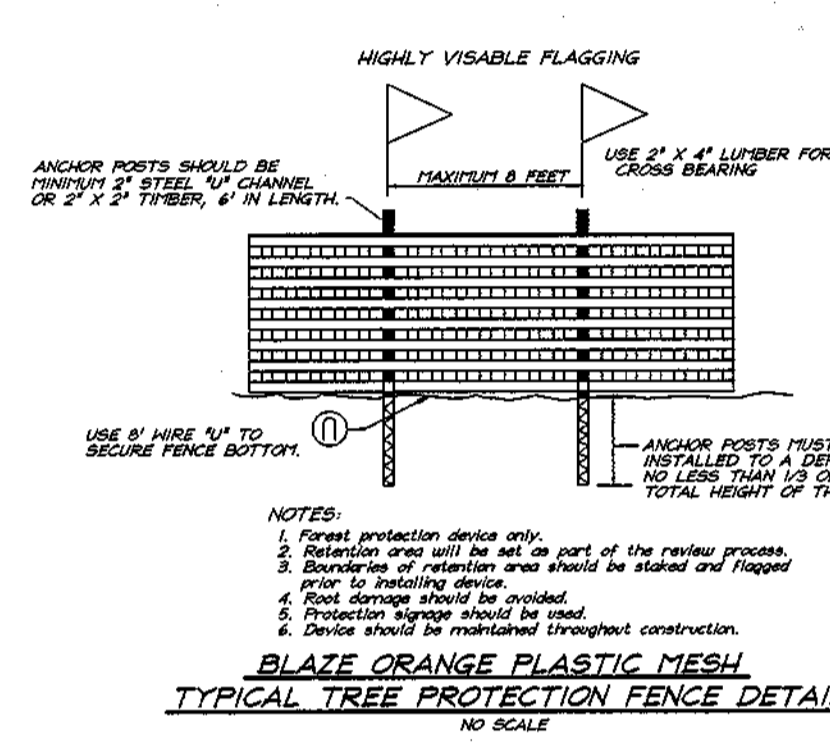
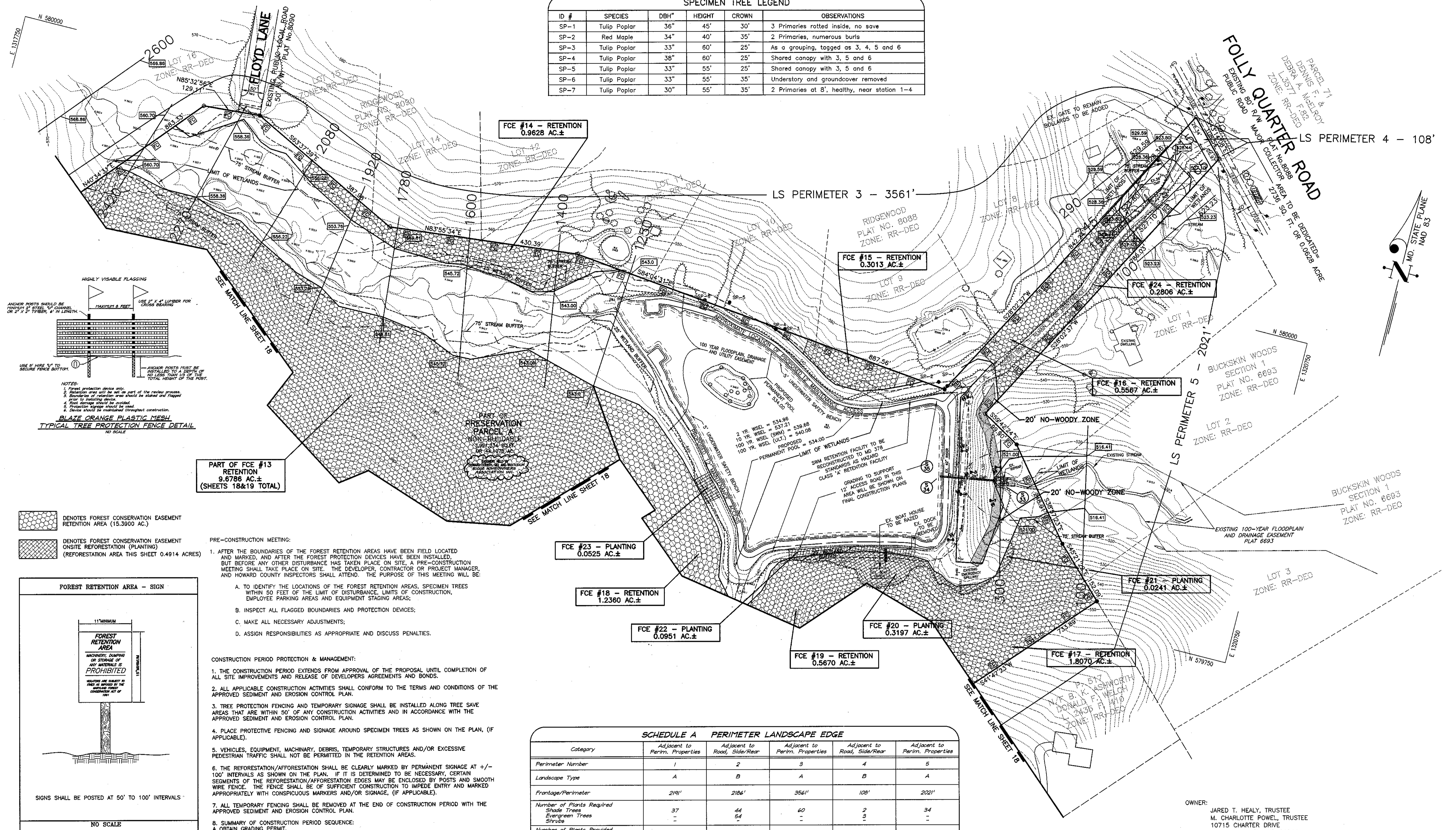
Robert W. ... 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	FOREST CONSERVATION, LANDSCAPE PLAN, & DRAINAGE AREA MAP	SCALE	1" = 100'
TD		DRAWING	18 OF 23
DRAWN		JOB NO.	00-008
LAI/CRH2		FILE NO.	00-008 LS
CHECKED		DATE	3/1/02
TD		FOR :	FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 999 COLUMBIA, MARYLAND 21044

SPECIMEN TREE LEGEND					
ID #	SPECIES	DBH"	HEIGHT	CROWN	OBSERVATIONS
SP-1	Tulip Poplar	36"	45'	30'	3 Primaries rotted inside, no save
SP-2	Red Maple	34"	40'	35'	2 Primaries, numerous burls
SP-3	Tulip Poplar	33"	60'	25'	As a grouping, tagged as 3, 4, 5 and 6
SP-4	Tulip Poplar	38"	60'	25'	Shored canopy with 3, 5 and 6
SP-5	Tulip Poplar	33"	55'	25'	Shared canopy with 3, 5 and 6
SP-6	Tulip Poplar	33"	55'	35'	Understory and groundcover removed
SP-7	Tulip Poplar	30"	55'	35'	2 Primaries at 8', healthy, near station 1-4



- NOTES:**
- Forest protection device only.
 - Retention area will be set on part of the reforestation process.
 - Boundaries of retention area should be staked and flagged.
 - Flagging should be installed.
 - Flagging should be maintained throughout construction.
 - Device should be maintained throughout construction.
- BLAZE ORANGE PLASTIC MESH**
- PART OF FCE #13 RETENTION 9.6786 AC.± (SHEETS 18&19 TOTAL)**
- PRE-CONSTRUCTION MEETING:**
- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
 - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
 - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - MAKE ALL NECESSARY ADJUSTMENTS;
 - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.
- CONSTRUCTION PERIOD PROTECTION & MANAGEMENT:**
- THE CONSTRUCTION PERIOD EXTENDS FROM APPROVAL OF THE PROPOSAL UNTIL COMPLETION OF ALL SITE IMPROVEMENTS AND RELEASE OF DEVELOPERS AGREEMENTS AND BONDS.
 - ALL APPLICABLE CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE TERMS AND CONDITIONS OF THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.
 - TREE PROTECTION FENCING AND TEMPORARY SIGNAGE SHALL BE INSTALLED ALONG TREE SAVE AREAS THAT ARE WITHIN 50' OF ANY CONSTRUCTION ACTIVITIES AND IN ACCORDANCE WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.
 - PLACE PROTECTIVE FENCING AND SIGNAGE AROUND SPECIMEN TREES AS SHOWN ON THE PLAN, (IF APPLICABLE).
 - VEHICLES, EQUIPMENT, MACHINERY, DEBRIS, TEMPORARY STRUCTURES AND/OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL NOT BE PERMITTED IN THE RETENTION AREAS.
 - THE REFORESTATION/AFFORESTATION SHALL BE CLEARLY MARKED BY PERMANENT SIGNAGE AT +/- 100' INTERVALS AS SHOWN ON THE PLAN. IF IT IS DETERMINED TO BE NECESSARY, CERTAIN SEGMENTS OF THE REFORESTATION/AFFORESTATION EDGES MAY BE ENCLOSED BY POSTS AND SMOOTH WIRE FENCE. THE FENCE SHALL BE OF SUFFICIENT CONSTRUCTION TO IMPEDE ENTRY AND MARKED APPROPRIATELY WITH CONSPICUOUS MARKERS AND/OR SIGNAGE, (IF APPLICABLE).
 - ALL TEMPORARY FENCING SHALL BE REMOVED AT THE END OF CONSTRUCTION PERIOD WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.
 - OBTAIN GRADING PERMIT.
 - INSTALL TEMPORARY TREE PROTECTION FENCING AND SIGNAGE ALONG LIMITS OF DISTURBANCE AND AROUND SPECIMEN TREES.
 - PROCEED WITH CLEARING, GRADING, STABILIZATION OR CONSTRUCTION IN ACCORDANCE WITH APPROVED PLANS.
 - AFTER COMPLETED CONSTRUCTION, REMOVE TEMPORARY TREE PROTECTION DEVICES.
 - INSTALL PLANTINGS.
 - PLACE PERMANENT PROTECTIVE DEVICES, I.E. SIGNAGE AND FENCING AS DEEMED NECESSARY.
 - INITIATE POST CONSTRUCTION PROTECTION AND MANAGEMENT PROGRAM.

Category	SCHEDULE A PERIMETER LANDSCAPE EDGE				
	Adjacent to Perm. Properties	Adjacent to Road, Side/Rear	Adjacent to Perm. Properties	Adjacent to Road, Side/Rear	Adjacent to Perm. Properties
Perimeter Number	1	2	3	4	5
Landscape Type	A	B	A	B	A
Frontage/Perimeter	2191'	2186'	3561'	108'	2021'
Number of Plants Required					
Shade Trees	37	44	60	2	34
Evergreen Trees	-	54	-	3	-
Shrubs	-	-	-	-	-
Number of Plants Provided					
Shade Trees	Existing mature trees to remain	Existing mature trees to remain	Existing mature trees to remain	Existing mature trees to remain	Existing mature trees to remain
Evergreen trees					
Other Trees (20' substitution)					
Shrubs (10' substitution)					
(Describe plant substitution credits below if needed)					

- Notes:**
- Credit for existing vegetation is taken.
 - Perimeter plantings are the responsibility of the developer.
 - Alternative compliance for stormwater management plantings is proposed. Compliance is proposed through preservation of existing vegetation, and reforestation of adjacent areas.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. J. ... 4-15-02
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Andy ... 4/23/02
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: *...* 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

No.	REVISION	DATE
1	Revise Preservation Parcel owner and easement information.	5-28-02

OWNER:
 JARED T. HEALY, TRUSTEE
 M. CHARLOTTE POWEL, TRUSTEE
 10715 CHARTER DRIVE
 COLUMBIA, MARYLAND 21044

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	FOREST CONSERVATION, LANDSCAPE PLAN, & DRAINAGE AREA MAP	SCALE	1" = 100'
DRAWN	BUCKSKIN RIDGE	DRAWING	19 OF 23
LAI/CRH2	LOTS 1 - 47 AND PRESERVATION PARCEL A	JOB NO.	00-008
CHECKED	TAX MAP #22 PARCELS 74, 77, & 283	FILE NO.	00-008 LS
DATE	FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
	(DPZ FILE REF.: S-00-08, P-01-07)		
	FOR: FLOYD LANE L.L.C. (DEVELOPER)		
	P.O. BOX 999		
	COLUMBIA, MARYLAND 21044		

#6 D:\DRAWINGS\99153\Final Plans\S19-FORCON-LANDSCAPE.DWG

F-01-191

HANDLING AND PLANTING OF SEEDLING(1)

HEELING IN BARE ROOT STOCK

Bare root seedling and ship stock should be heeled in, if left unplanted for more than 24 hours.

1. DIG V-SHAPED TRENCH IN MOIST SHADY PLACE
2. BREAK BUNDLES AND SPREAD OUT EVENLY
3. FILL IN LOOSE SOIL AND WATER WELL
4. COMPLETE FILLING IN SOIL AND FIRM WITH FEET

TREE BANKING

Tree banking should be used, when bare root trees must be held in the open for longer than a few days.

PLACE TREES IN AN EAST WEST TRENCH WITH THE TOPS OF THE TREES POINTING TOWARD THE AFTERNOON SUN. MOST OF SOIL SHOULD BE WORKED AROUND THE ROOTS TO COVER THEM AND MINIMIZE AIR POCKETS. POINT TREE TOPS TOWARD THE AFTERNOON SUN TO EXPOSE THE LEAST SURFACE TO THE SUN SO THE BUDS WILL BE LESS LIKELY TO BEGIN GROWTH.

Adapted from Maryland State FOREST CONSERVATION MANUAL

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HANDLING AND PLANTING OF SEEDLING(2)

HANDLING SEEDLINGS IN THE FIELD

Correct
IN BUCKET WITH SUFFICIENT WATER TO COVER ROOTS

Incorrect
IN HAND: ROOT DRY OUT

NOTE:
Seedlings dry out very quickly and, once dry, often are not usable even after moistening.

SEEDLING PLANTING METHODS

A. DIBBLE PLANTING

1. INSERT DIBBLE AT ANGLE SHOWN ABOVE AND PUSH FORWARD TO UPRIGHT POSITION
2. REMOVE DIBBLE AND PLACE SEEDLING AT CORRECT DEPTH
3. INSERT DIBBLE 2 INCHES TOWARD PLANTER FROM SEEDLING

SOURCE: Adapted from Maryland State FOREST CONSERVATION MANUAL

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HANDLING AND PLANTING OF SEEDLING(3)

1. INSERT MATTOCK LEFT HANDLE AND PULL
2. PLACE SEEDLING ALONG STRAIGHT SIDE AT CORRECT DEPTH
3. FILL IN AND PACK SOIL TO BOTTOM OF ROOTS
4. FIRM AROUND SEEDLING WITH HEEL
5. FINISH FILLING IN SOIL AND FIRM WITH FEET

B. MATTOCK PLANTING

SOURCE: Adapted from Maryland State FOREST CONSERVATION MANUAL

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HANDLING AND PLANTING OF SEEDLING(4)

C. CORRECT AND INCORRECT PLANTING DEPTH

Correct
AT SAME DEPTH OR 1/2 DEEPER THAN SEEDLING GREW IN NURSERY

Incorrect
TOO DEEP AND ROOT BENT

Incorrect
TOO SHALLOW AND ROOTS EXPOSED

SEEDLING AND WHIP PLANTING SPECIFICATION

NOTE:
Mulching newly planted seedlings helps the soil retain moisture and it protects the seedling from compaction and stem injuries.

SOURCE: Adapted from Maryland State FOREST CONSERVATION MANUAL

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EXHIBIT H-1

Tree Planting and Maintenance Calendar General Guidelines

	J	F	M	A	M	J	J	A	S	O	N	D
Transplant of 2" DBH or Greater	NOT RECOMMENDED											
Planting of Seedlings, Whips	NOT RECOMMENDED											
Inspection		X				X				X		
Fertilizer (if needed)	X											
Water	NOT RECOMMENDED											

Key:
 [Hatched Box] - greatly recommended
 [Dotted Box] - recommended with additional care
 [Star] - dependant upon site conditions

Note: Activities during November through February are dependant upon ground conditions.

The planting and care of trees is most successful when coordinated with the local climate conditions. This calendar summarizes some of the recommended time frames for basic reforestation and stress reduction activities.

REFORESTATION PLANTING SCHEDULE

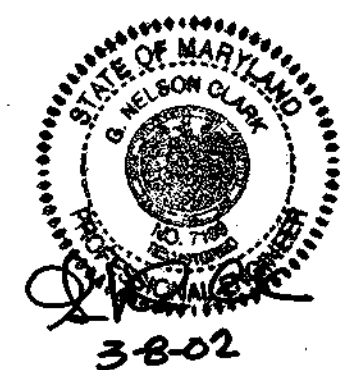
QTY.	PLANT NAME	RED MAPLE	SIZE	COMMENTS
190	ACER RUBRUM	RED MAPLE	6-12" TUBLINGS	TUBLING VARIETIES TO BE RANDOMLY
190	LIQUIDAMBAR STYRAGIFLUA	SWEET GUM	6-12" TUBLINGS	CLUSTERED AND SPACED ±8' O.C.
190	NYSSA SYLVATICA	BLACK GUM	6-12" TUBLINGS	
190	QUERCUS RUBRA	NORTHERN RED OAK	6-12" TUBLINGS	
95	AMELANGHIER CANADENSIS	SHADBLow SERVICE BERRY	6-12" TUBLINGS	
95	CERCIS CANADENSIS	EASTERN REDBUD	6-12" TUBLINGS	

LANDSCAPE CONTRACTOR'S RESPONSIBILITIES:

1. WORK RELATED TO THIS FOREST CONSERVATION PLAN SHALL BE PERFORMED ONLY BY A LANDSCAPE CONTRACTOR EXPERIENCED IN FORESTATION PRACTICES.
2. HANDLING AND PLANTING METHOD DETAILS SHOWN ON THIS PLAN ARE INTENDED AS A GUIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO APPROPRIATELY INSTALL AND MAINTAIN QUALITY PLANTINGS FOR A PERIOD OF TWO (2) YEARS TO GUARANTEE THE OWNER THAT AFTER THE TWO-YEAR PERIOD AT LEAST 100 TREES PER ACRE OR 75% OF THE TOTAL TREES PLANTED PER ACRE (WHICHEVER IS GREATER), ARE ALIVE AND IN GOOD CONDITION.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. ... 4-15-02
 CHIEF, BUREAU OF HIGHWAYS

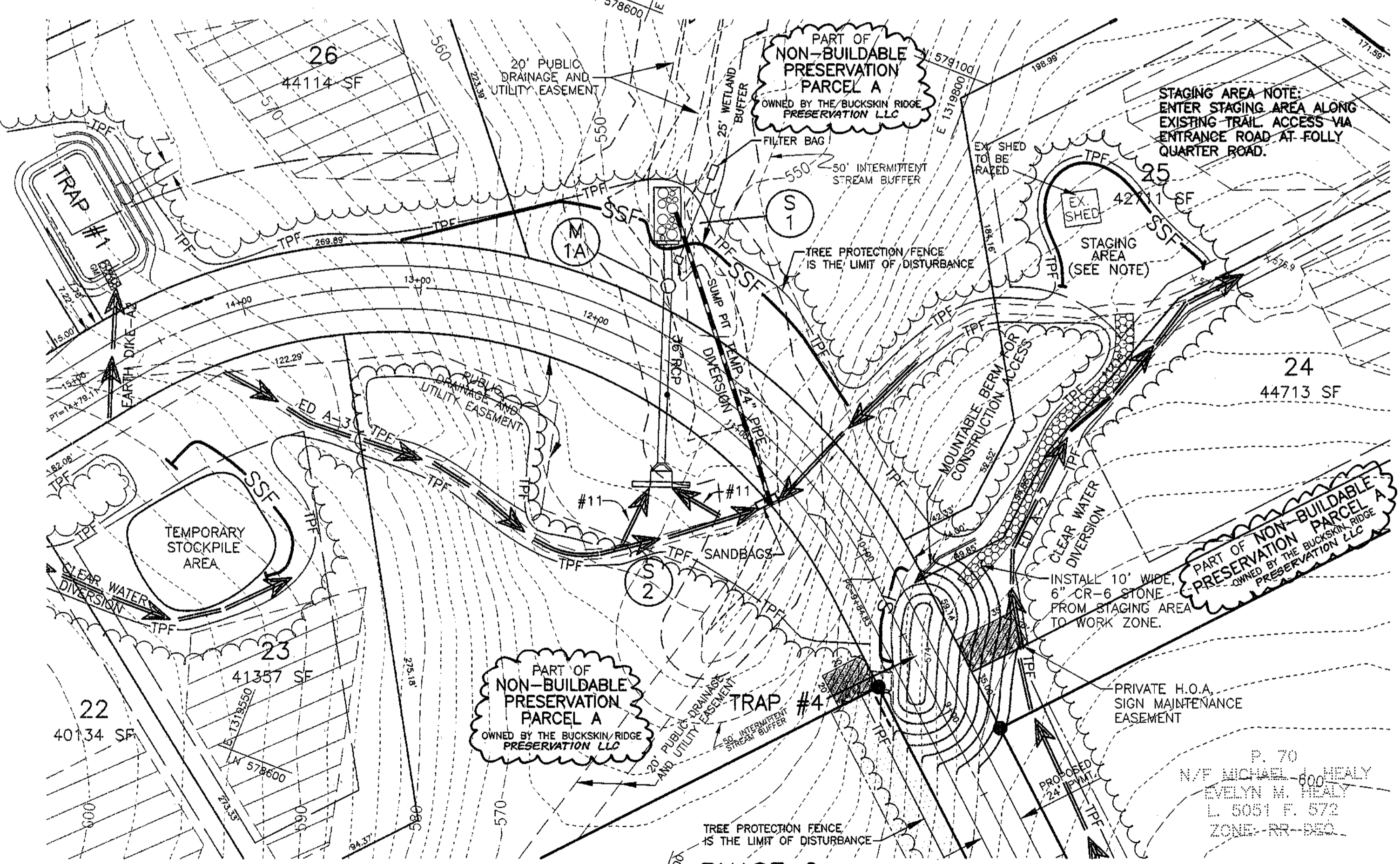
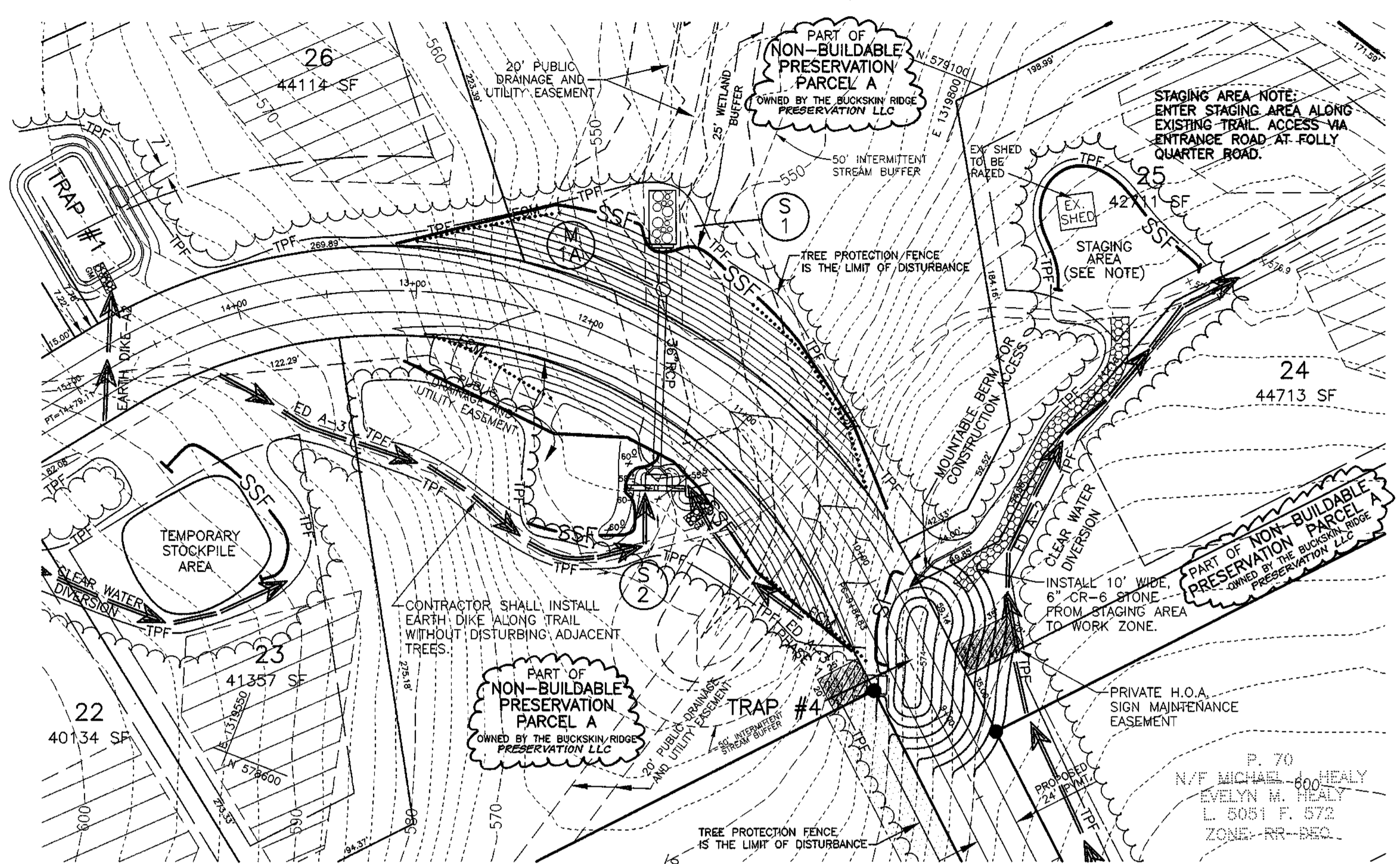
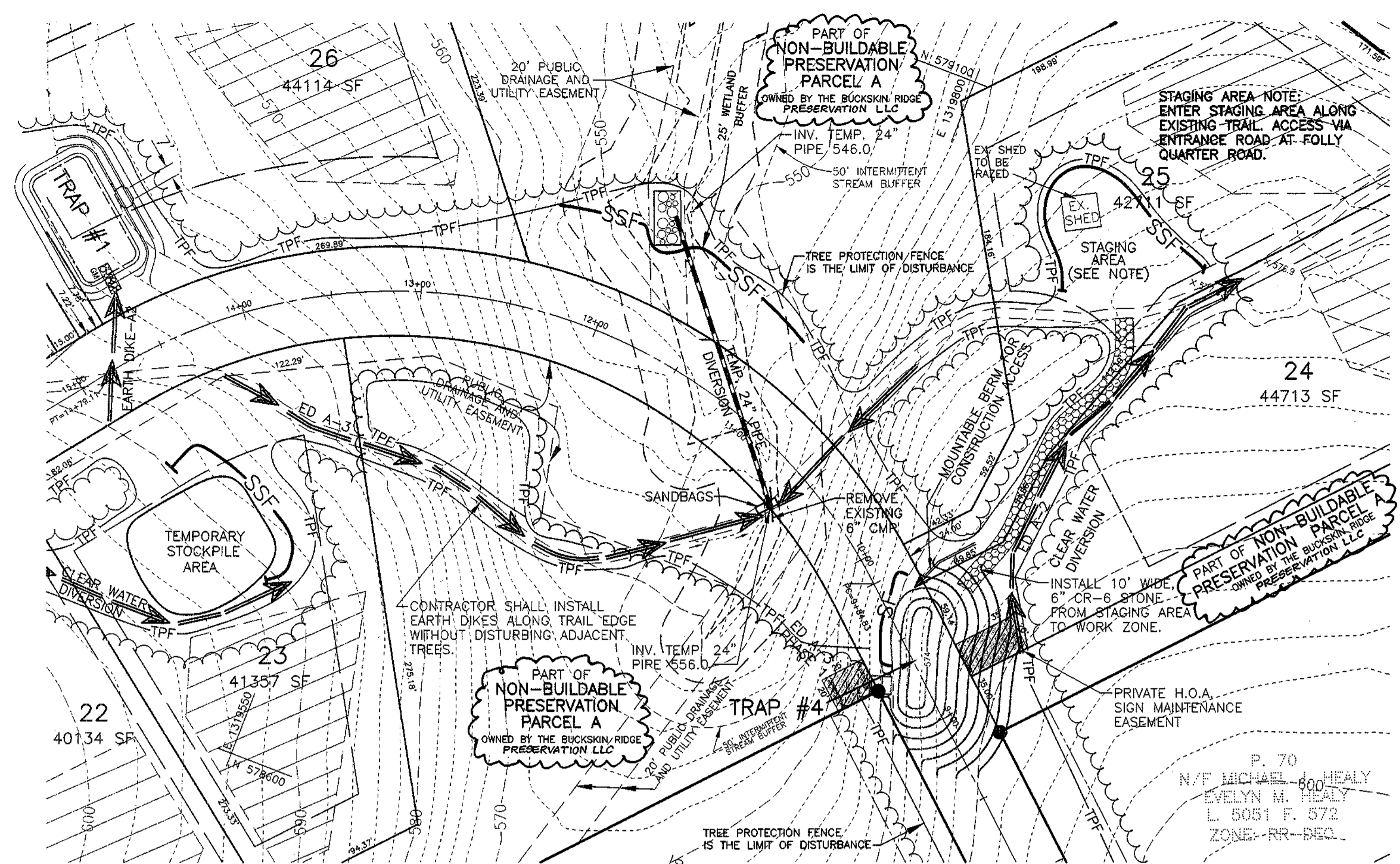
APPROVED: DEPARTMENT OF PLANNING & ZONING
Cindy ... 4/16/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



CLARK · FINEFROCK & SACKETT, INC.
 ENGINEERS · PLANNERS · SURVEYORS

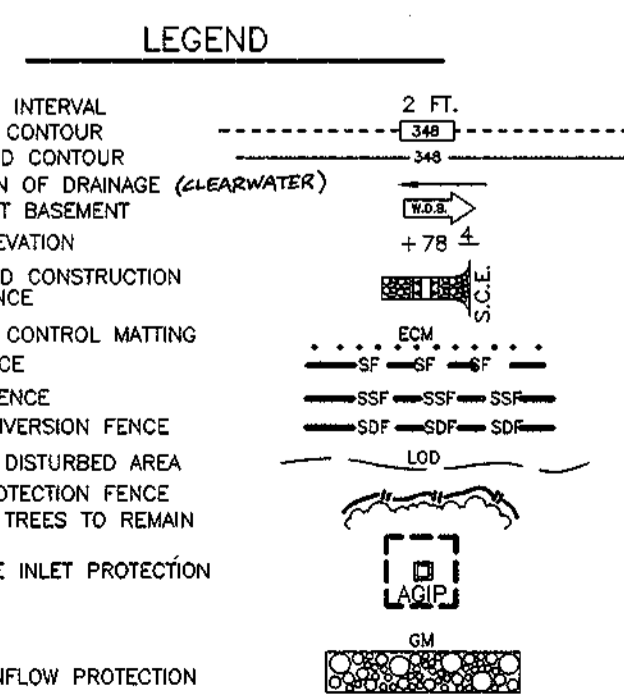
7135 MINSTREL WAY · COLUMBIA, MD 21045 · (410) 381-7500 BALT. · (301) 621-8100 WASH.

DESIGNED	TD	REFORESTATION DETAILS	SCALE
DRAWN	CRH2	BUCKSKIN RIDGE	AS SHOWN
CHECKED	TD	LOTS 1 - 47 AND PRESERVATION PARCEL A	20 of 23
DATE	5/23/01	L.804 F.258, L.1748 F.001, L.1774 F.257 & L.1774 F.261 TAX MAP #22 PARCELS 74, 77, & 283 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 00-008
		FOR : FLOYD LANE L.L.C. (DEVELOPER) P.O. BOX 999 COLUMBIA, MARYLAND 21044	FILE NO. 00-008 LS



- CONSTRUCTION SEQUENCE** (See sheet 16 for general items #1 - 4)
- PHASE 1 - Week One** - To be constructed during 5-day clear weather forecast from the NWS and permission from the sediment control inspector.
- Construct rip rap outfall at S-1.
 - Remove existing 6" CMP and replace with 24" temporary pipe, outfall onto rip rap.
 - Construct earth dikes, install supersilt fence.
- PHASE 2 - Week 2**
- Clear and grub for culvert installation.
 - With approval of Sediment Control Inspector, install culvert, headwalls, gabions at S-2. If dewatering is required, use filter bag at discharge point.
 - Grade over culvert to obtain minimum 2' cover.
 - During 5-day clear weather forecast from the NWS and permission from the sediment control inspector, construct additional earth dikes to S-2, direct flow to gabion mattress at face of S-2.
 - With approval of Sediment Control Inspector, remove temporary 24" pipe. Install additional controls.
 - Construct road fill to elevation 574, stabilize supporting slopes.

TRAP NUMBER 1 (ST-II)	TRAP NUMBER 4 (ST-II)
DRAINAGE AREA = 1.6 ACRES	DRAINAGE AREA = 0.7 ACRES
WET STORAGE REQUIRED = 2,880 CF	WET STORAGE REQUIRED = 1,260 CF
WET STORAGE PROVIDED = 3,040 CF	WET STORAGE PROVIDED = 1,800 CF
WET STORAGE ELEVATION = 579.25	WET STORAGE ELEVATION = 576.00
STONE OUTLET ELEVATION = 580.25	STONE OUTLET ELEVATION = 577.00
DRY STORAGE REQUIRED = 2,880 CF	DRY STORAGE REQUIRED = 1,260 CF
DRY STORAGE PROVIDED = 3,372 CF	DRY STORAGE PROVIDED = 1,800 CF
DRY STORAGE ELEVATION = 580.50	DRY STORAGE ELEVATION = 577.00
STONE CREST ELEVATION = 580.50	STONE CREST ELEVATION = 577.00
TOP OF DAM ELEVATION = 581.50	TOP OF DAM ELEVATION = 578.00
CREST LENGTH = 7	CREST LENGTH = 6'
BOTTOM ELEVATION = 578.00	BOTTOM ELEVATION = 574.00
BOTTOM DIMENSIONS = 33' X 66'	BOTTOM DIMENSIONS = 10' X 55'
SIDE SLOPES = 2:1	SIDE SLOPES = 3:1
CLEANOUT ELEVATION = 578.7	CLEANOUT ELEVATION = 575.5



Reviewed for HOWARD S.C.D. and meets Technical Requirements
 Signature: *[Signature]* Date: 4/10/02
 S.C.D. Natural Resources Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *[Signature]* Date: 4/10/02
 HOWARD S.C.D.

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
 Signature: *[Signature]* Date: 3-7-02
 G. NELSON CLARK

DEVELOPER'S/BUILDER'S CERTIFICATE
 "I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."
 Signature: *[Signature]* Date: 3-7-02
 B. James Greenfield

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: *[Signature]* Date: 4-15-02
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 Signature: *[Signature]* Date: 4/24/02
 CHIEF, DPZ

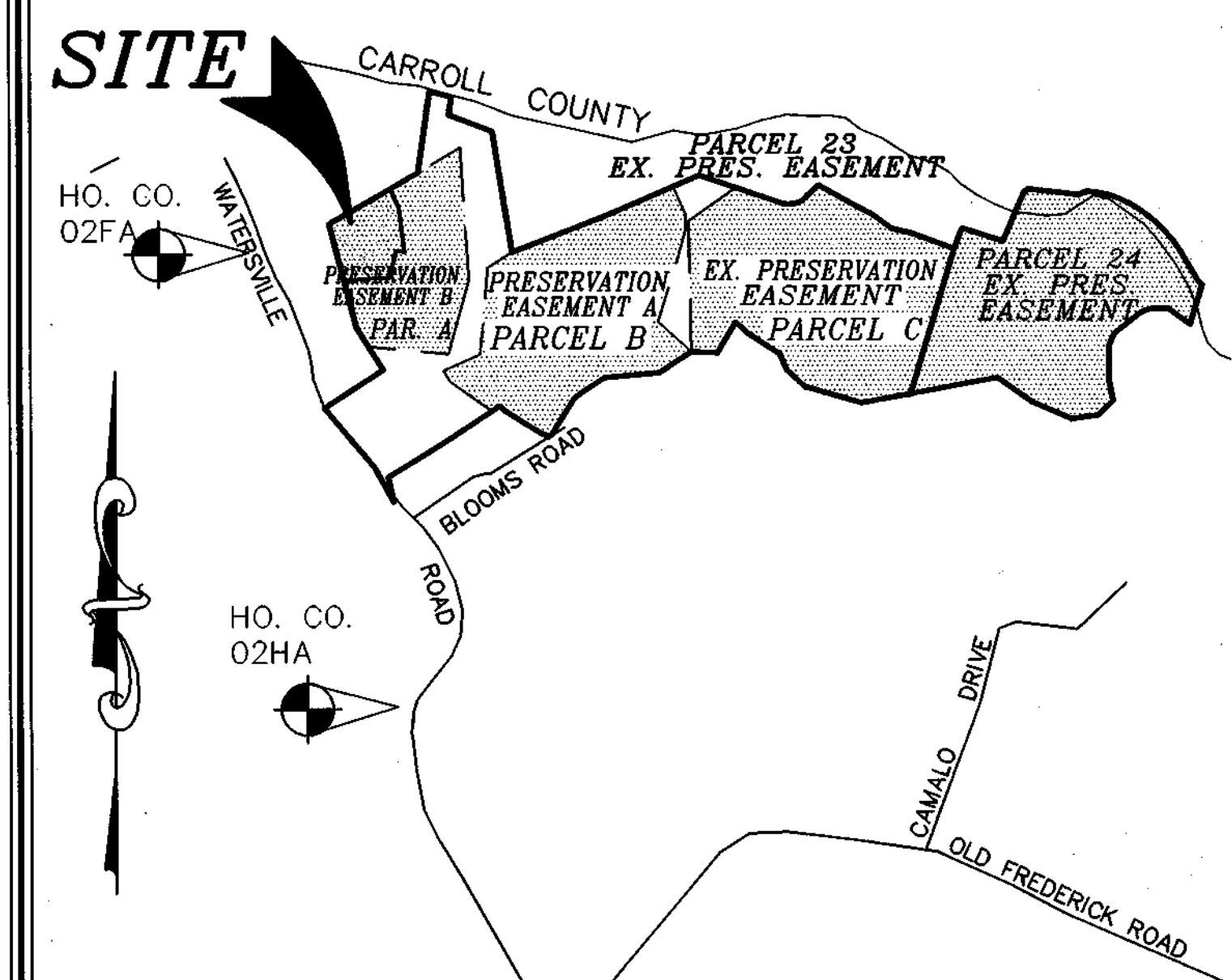
Signature: *[Signature]* Date: 4/11/02
 CHIEF, DPZ

No.	Revision	Date
1	Revise Preservation Parcel owner and easement information.	5-28-02

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.

DESIGNED	ROAD CROSSING CONSTRUCTION SEQUENCE PHASES 1 & 2	SCALE	1" = 50'
DRAWN	BUCKSKIN RIDGE	DRAWING	21 of 23
CHECKED	LOTS 1 - 47 AND PRESERVATION PARCEL A	JOB NO.	00-008
DATE	TAX MAP #22 PARCELS 74, 77, & 283	FILE NO.	00-008 D

FOR: FLOYD LANE L.L.C. (DEVELOPER)
 P.O. BOX 999
 COLUMBIA, MARYLAND 21044 410-730-3939



VICINITY MAP
SCALE: 1"=1200'



PROPOSED PUBLIC REFORESTATION
FOREST CONSERVATION EASEMENT
PLANTING
6.36 Ac.±
FOR METES AND BOUNDS SEE SHEET
23 OF 23

EXISTING FOREST CONSERVATION EASEMENT TABULATION						
EASEMENT NUMBER	SUBDIVISION NAME	FILE NUMBER(S)	ACREAGE	PLAT NUMBER	RETENTION	PLANTING
ONE	* SEE BELOW	N/A	N/A	N/A	N/A	N/A
TWO	MAIER INDUSTRIAL PARK	SDP-99-48, SDP-99-55	1.40 Ac.±	13931	NO	YES
THREE	BALTIMORE WASHINGTON AUTO EXCHANGE	SDP-99-55	3.31 Ac.±	13931	NO	YES
FOUR	HOWARD BUSINESS PARK	F-00-29	2.50 Ac.±	14172	NO	YES
FIVE	HOWARD BUSINESS PARK	F-00-29	3.80 Ac.±	14172	NO	YES
SIX	HOWARD BUSINESS PARK	F-00-29	3.43 Ac.±	14172	NO	YES
SEVEN	BALTIMORE WASHINGTON AUTO EXCHANGE	SDP-00-63	1.80 Ac.±	14485	NO	YES
EIGHT	BALTIMORE WASHINGTON AUTO EXCHANGE	SDP-00-63	6.60 Ac.±	14486, 14487	NO	YES
NINE	BALTIMORE WASHINGTON AUTO EXCHANGE	SDP-00-63	15.14 Ac.±	14487	NO	YES
TEN	GREER PROPERTY	F-01-180	0.52 Ac.±		NO	YES
ELEVEN	BONNIE BRANCH OVERLOOK II	F-02-45	0.62 Ac.±		NO	YES

* FORMER PART ONE WAS ABANDONED AND COMBINED WITH PART FOUR TO BECOME PART FOUR.

DPW
Andrew M. Buckle 4-15-02

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/15/02

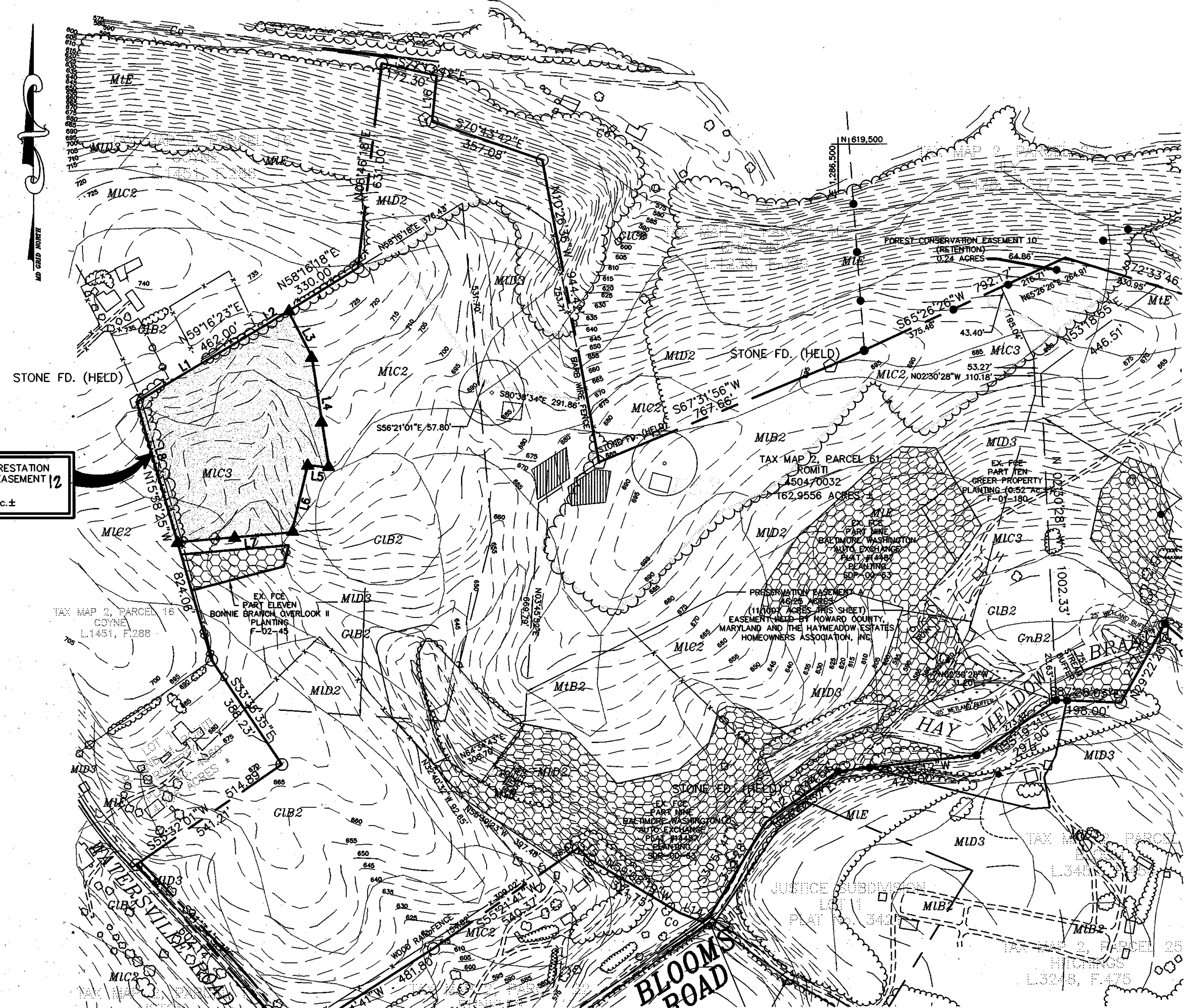
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4/16/02

BUCKSKIN RIDGE
LOTS 1-47 & PRESERVATION PARCEL A
F-01-191

DEVELOPER
FLOYD LANE, LLC
c/o MR. B. JAMES GREENFIELD
COLUMBIA BUILDERS
P.O. BOX 999
COLUMBIA, MARYLAND 21044

OWNER/GRANTOR
MR. ROBERT ROMITI
MR. LORENZO ROMITI
MS. THERESA ROMITI
6723 HOLLIBIRD AVENUE
BALTIMORE, MARYLAND 21222

DATE:	NO.	REVISION
PROJECT: BUCKSKIN RIDGE LOTS 1-47 & PRESERVATION PARCEL A F-01-191 HOWARD COUNTY, MARYLAND		
TITLE: OFF-SITE FCE LOCATION PLAN		
AREA: ROMITI FARM PARCELS A THRU C TAX MAP 2-PARCEL 61-BLOCK 15,16, & 17 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: REFORESTATION PLANTING PLAN COVER SHEET		
		WILDMAN ENVIRONMENTAL SERVICES 4747 BONNIE BRANCH RD. ELLICOTT CITY, MD. 21043 PHONE: (410) 869-8989 FAX: (410) 869-8901
		DESIGNED BY: R.B.W. DRAWN BY: J.E.P. PROJECT NO. DATE: 3/8/02 SCALE: 1"= 300' SHEET NO. 22 OF 23



- ### PLANTING SPECIFICATIONS AND NOTES
- #### SITE PREPARATION AND SOILS
- PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
 - DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
 - SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
 - ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.
- #### PLANT STORAGE AND INSPECTION
- FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
 - FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
 - PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN PRACTICES FOR SIZE, FORM, WIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
 - UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.

REFORESTATION PLANT LIST

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
228	Prunus serotina Wild Black Cherry	I	M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
228	Robinia pseudoacacia Black Locust	VI	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
228	Quercus prinus Chestnut Oak	MT	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
228	Quercus rubra Red Oak	MT	D-M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER
228	Fraxinus americana White Ash	MT	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
228	Nyssa sylvatica Black Gum	T	M-W	FAC	11'	SEEDLING/WHIP W/TREE SHELTER
228	Juglans nigra Black Walnut	VI	M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
228	Acer rubrum Red Maple	VI	D-W	FAC	11'	SEEDLING/WHIP W/TREE SHELTER
228	Cercis canadensis Eastern Redbud	T	M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER
228	Diospyros virginiana Persimmon	I	D-M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER

- #### PLANT INSTALLATION
- THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
 - PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATIONS NEAR EXISTING FOREST.
 - SHOULDER SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
 - CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENCIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
 - FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN FEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
 - FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4). PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPOSED SPACING INDICATED ON PLANT LIST.
 - AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LIST TO OBTAIN A MORE NATURAL APPEARANCE.
 - NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONE WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE WELL DRAINED NATIVE SOIL FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY BE WATERED IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.

Quantities Of Individual Species And Species Composition May Change Depending On Availability At Time Of Planting. Total Quantity Of Trees For Entire Easement Area Will Not Change. Any Species Substitution Must Be Listed On The Howard County Forest Association List. If Quantities Are Changed, A Minimum Of Five (5) Species Must Be Planted.

- #### General Notes
- The Forest Conservation Easement Has Been Established As An Offsite Forest Mitigation Area. Per Section 16.1216 Of The Howard County Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation Easement Are Allowed.
 - Denotes Proposed Forest Conservation Easement.
 - Denotes Forest Conservation Area Signs.

Forest Conservation Worksheet 2.2

NET TRACT AREA:	AREA
A. Total tract area	A = 96.94 Ac.±
B. Deductions	B = 13.45 Ac.±
C. Net tract area	C = 83.49 Ac.±
LAND USE CATEGORY: (From Table 3.2.1., Page 40, Manual)	
Input the number "1" under the appropriate land use zoning, and limit to only one entry.	
ARA MDR IDA HDR MPD CIA	
0 1 0 0 0 0	
D. Afforestation Threshold (Net Tract Area x 20%)	D = 16.70 Ac.±
E. Conservation Threshold (Net Tract Area x 25%)	E = 20.87 Ac.±
EXISTING FOREST COVER:	
F. Existing Forest Cover within the Net Tract Area	F = 83.07 Ac.±
G. Area of Forest Above Conservation Threshold	G = 62.20 Ac.±
BREAK EVEN POINT:	
H. Break Even Point	H = 33.31 Ac.±
I. Forest Clearing Permitted Without Mitigation	I = 49.76 Ac.±
PROPOSED FOREST CLEARING:	
J. Total Area of Forest to be Cleared	J = 55.54 Ac.±
K. Total Area of Forest to be Retained	K = 27.95 Ac.±
PLANTING REQUIREMENTS	
L. Reforestation for Clearing Above the Conservation Threshold	L = 13.89 Ac.±
M. Reforestation for Clearing Below the Conservation Threshold	M = 0.00 Ac.±
N. Credit for Retention Above the Conservation Threshold	N = 6.68 Ac.±
O. Total Reforestation Required	O = 7.28 Ac.±
P. Total Afforestation Required	P = 0.00 Ac.±
Q. Total Planting Requirement	Q = 7.28 Ac.±

- #### FERTILIZING
- DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
 - NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
 - IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALLY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

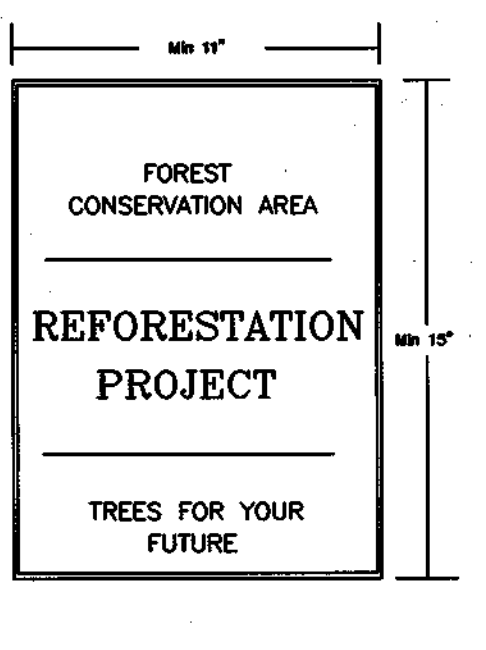
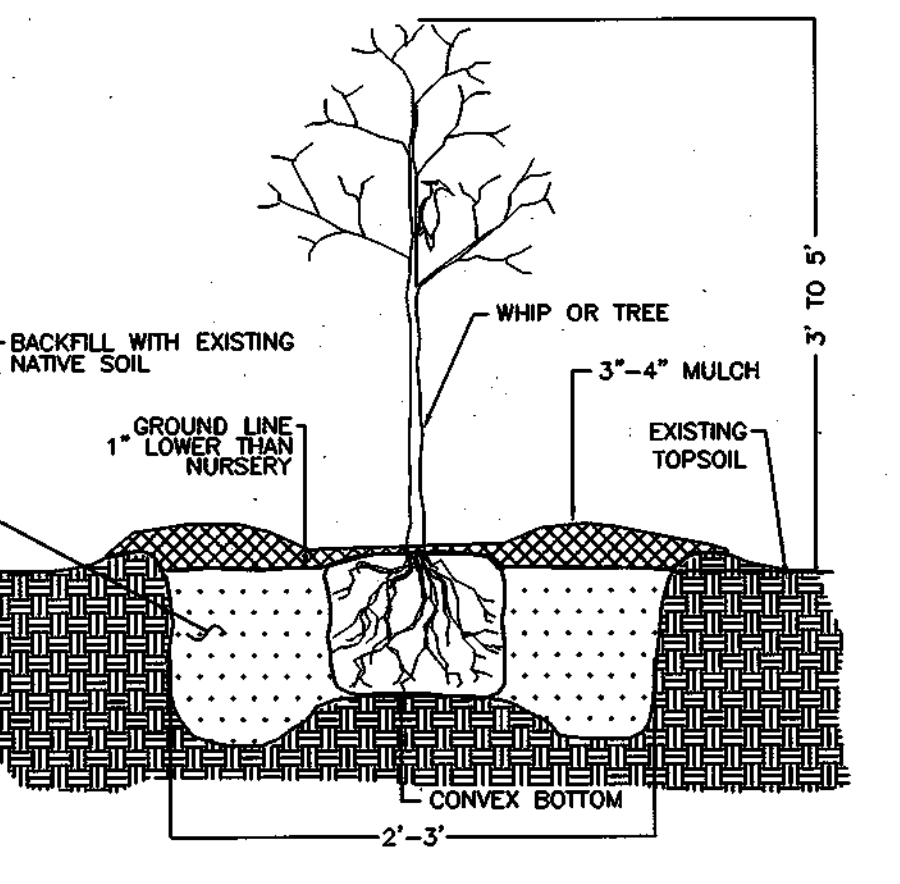
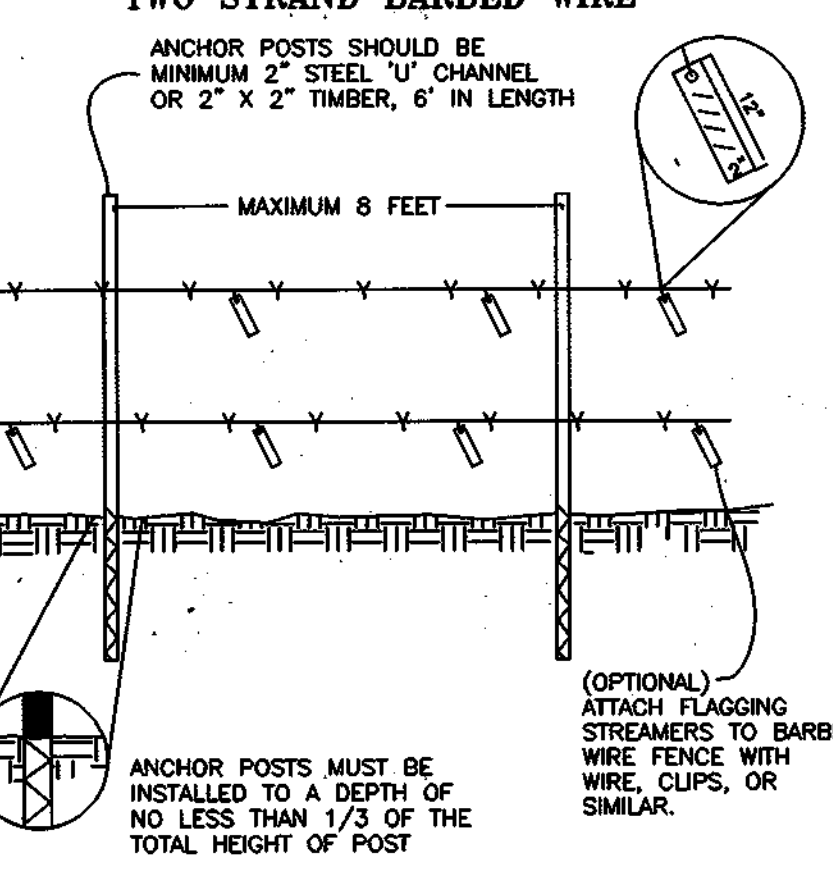
- #### MAINTENANCE SCHEDULE
- ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
 - ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
 - VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY AFFECTING THE PLANTED STOCK.
 - REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
 - REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
 - A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

- #### SUPERVISION
- ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

FOREST CONSERVATION EASEMENT TABLE

LINE	BEARING	DISTANCE
L1	N 59°16'23" E	462.00
L2	N 58°16'18" E	78.72
L3	S 27°12'56" E	156.27
L4	S 08°42'54" E	345.87
L5	N 82°51'54" W	66.21
L6	S 13°24'55" W	212.53
L7	S 85°16'46" W	350.85
L8	N 15°52'23" W	448.08

PROTECTIVE FENCE DETAIL



TREE PLANTING DETAIL
CONTAINER GROWN

SIGNAGE DETAIL
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division
 DATE: 4/24/02
 DATE: 4/16/02

AUTOCAD FILE NAME C:\DRAWINGS\Land Projects\dwg\Romiti Property\Buckskin Two REP2.dwg

THIS PLAN IS FOR
 FOREST CONSERVATION EASEMENT
 PLANTING PURPOSES ONLY

DATE:	NO.	REVISION
PROJECT:		
BUCKSKIN RIDGE LOTS 1-47 & PRESERVATION PARCEL A F-01-191 HOWARD COUNTY, MARYLAND		
TITLE:		
OFF-SITE FOREST MITIGATION PLAN		
AREA:		
ROMITI FARM PARCELS A THRU C TAX MAP 2-PARCEL 61-BLOCK 15,16, & 17 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE:		
REFORESTATION PLANTING PLAN COVER SHEET		
BUCKSKIN RIDGE LOTS 1-47 & PRESERVATION PARCEL A F-01-191		
DEVELOPER		OWNER/GRANTOR
FLOYD LANE, LLC c/o MR. B. JAMES GREENFIELD COLUMBIA BUILDERS P.O. BOX 999 COLUMBIA, MARYLAND 21044	MR. ROBERT ROMITI MR. LORENZO ROMITI THESSA BUILDERS 6723 HOLBIRD AVENUE BALTIMORE, MARYLAND 21222	
DESIGNED BY: R.B.W. DRAWN BY: J.E.P. PROJECT NO. DATE: 3/4/02 SCALE: 1" = 200' SHEET NO. 23 OF 23		

F.01.191