

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS BENSON BRANCH OVERLOOK LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'

(A Resubdivision of Lots 1,2 & 3
Benson Branch Overlook, Plat No. 13087)

**TAX MAP NO. 22 PARCEL 10 BLOCK 9
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND**

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Danciger 6-18-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Windy Hamilton 9/22/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

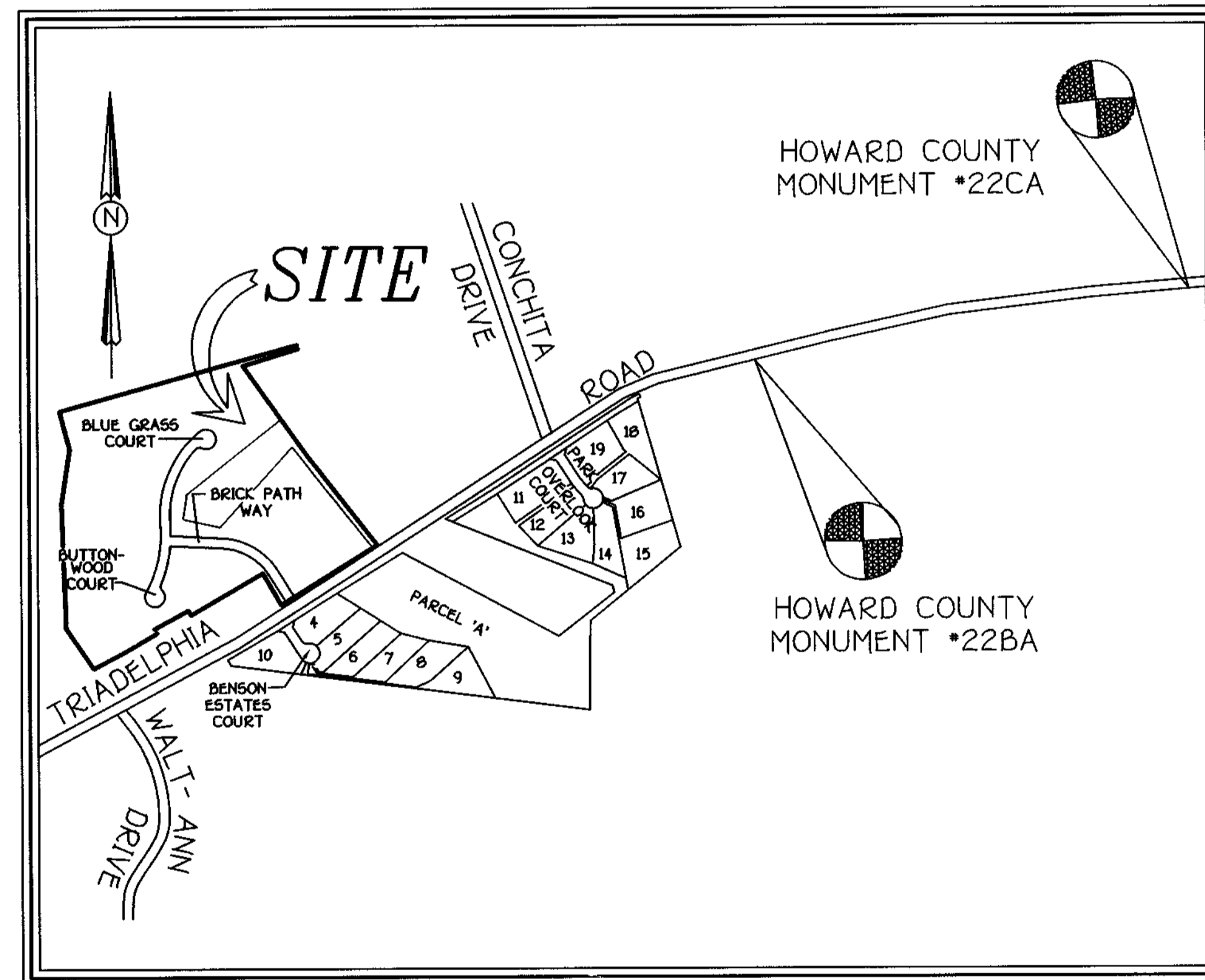
W.D. Deussen 6/19/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE *ve*

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1	TITLE SHEET
2	TRIADELPHIA ROAD PLAN & PROFILE AND TYP. ROADWAY SECTION
3	TRIADELPHIA ROAD PLAN, BRICK PATH WAY PLAN & PROFILE AND BLUE GRASS COURT PROFILE
4	BUTTONWOOD COURT PLAN & PROFILE AND BLUE GRASS COURT PLAN & PROFILE
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6	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
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14	FOREST CONSERVATION PLAN
15	FOREST CONSERVATION PLAN

MINIMUM LOT SIZE CHART				
LOT NO.	TOTAL AREA	PIPESTEM	REMAINING	MIN. LOT SIZE
5	57,162 s.f.	8,496 s.f.	48,666 s.f.	48,666 s.f.
6	47,498 s.f.	2,480 s.f.	45,018 s.f.	45,018 s.f.
15	42,234 s.f.	2,291 s.f.	40,003 s.f.	40,003 s.f.

TRAFFIC CONTROL SIGNS				
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
BRICK PATH WAY	0+25	13'L	STOP	R1-1
BRICK PATH WAY	2+25	13'R	SPEED LIMIT 25	R2-1
BRICK PATH WAY	2+25	13'L	STOP AHEAD	W3-12
BRICK PATH WAY	7+66	13'R	STOP	R1-1
BRICK PATH WAY	6+00	13'L	SPEED LIMIT 25	R2-1

ROAD CLASSIFICATION CHART		
ROAD NAME	CLASSIFICATION	R/W WIDTH
BRICK PATH WAY	LOCAL ROAD	50'
BUTTONWOOD COURT	CUL-DE-SAC	50'
BLUE GRASS COURT	CUL-DE-SAC	50'



VICINITY MAP
SCALE: 1" = 600'

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - a. HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
 - b. MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMENDED.
 - c. SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - d. SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATIONS FOR POND CONSTRUCTION (CODE 37B).
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-315-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
4. TOPOGRAPHY SHOWN HEREON WAS FLOWN ON APRIL 30, 1997 BY HARFORD AERIAL SURVEYS, INC.
5. THE HORIZONTAL AND VERTICAL DATUM SHOWN IS BASED ON THE FOLLOWING NAD83 HOWARD COUNTY CONTROL STATIONS:

HOWARD COUNTY MONUMENT NO. 22BA	N 178349.4425 (METERS)	ELEV. =
	E 403349.5520 (METERS)	
HOWARD COUNTY MONUMENT NO. 22CA	N 178947.1131 (METERS)	ELEV. =
	E 403931.0927 (METERS)	
6. A WAIVER WAS APPROVED ON JUNE 20, 1997 FOR MINIMUM INTERSECTION SPACING AS PER HOWARD COUNTY DESIGN MANUAL VOL. III, TABLE 2.0A.
7. THE WETLANDS STUDY WAS PREPARED BY EXPLORATION RESEARCH, INC. ON APRIL 9, 1997. NO WETLANDS EXIST ON SITE.
8. THE SOILS INVESTIGATION REPORT WAS PREPARED BY FROEHLING & ROBERTSON INC., ON JULY 15, 1997.
9. THE PRELIMINARY PLAN P-98-06 WAS APPROVED ON 11-14-97.
10. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
11. PRIVATE WATER AND PRIVATE SEWER SHALL BE UTILIZED WITHIN THIS DEVELOPMENT.
12. FOREST CONSERVATION PLANS ARE PROVIDED BY EXPLORATION RESEARCH, INC.
13. TRAFFIC STUDY WAS PROVIDED BY THE TRAFFIC GROUP AND WAS APPROVED UNDER 5-97-18.

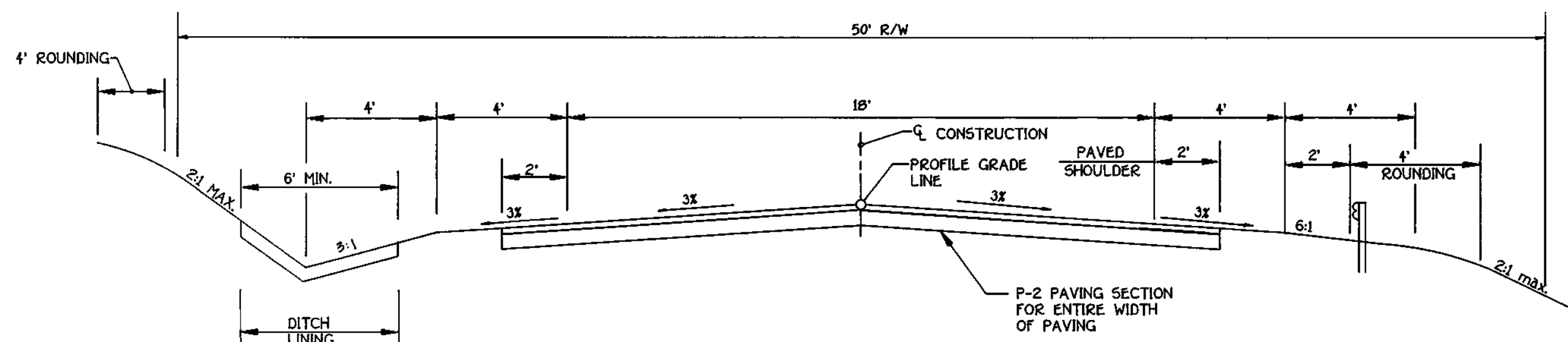
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTURIAL SQUARE OFFICE PARK - 18072 BALDOR NATIONAL FREE
ELICOTT CITY, MARYLAND 21042
(410) 461-2222

DEVELOPER
BENSON BRANCH OVERLOOK, L.L.C.
C/O MR. DONALD R. REINHER, JR.
LAND DESIGN DEVELOPMENT, INC.
10005 PICKOBY RIDGE ROAD, SUITE 215
COLUMBIA, MARYLAND 21044

OWNER
BERTHA MAY BURGESS
13126 TRIADELPHIA ROAD
ELICOTT CITY, MARYLAND 21042

Jayesh V. Pancholi 2-27-98
JAYESH V. PANCHOLI DATE

BENSON BRANCH OVERLOOK
LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'
(A RESUBDIVISION OF LOTS 1,2 & 3
BENSON BRANCH OVERLOOK, PLAT NO. 13087)
ZONED RR-DEO
TAX MAP No. 22 PARCEL 10 BLOCK 9
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: FEBRUARY, 1998
SHEET 1 OF 15



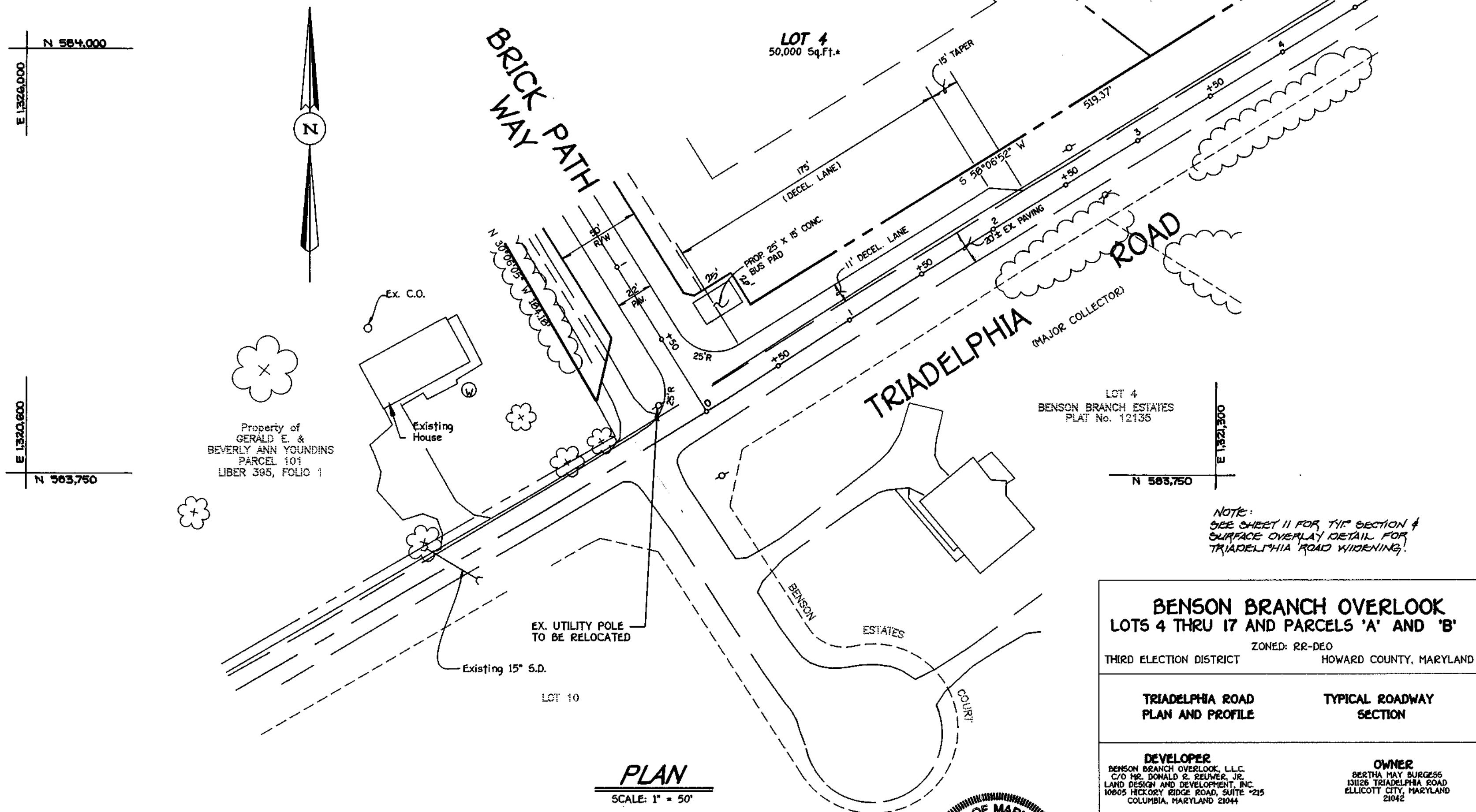
NOTE:
SEE HOWARD COUNTY STD. DETAILS FOR PAVING SECTION.

TYPICAL ROADWAY SECTION

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	STATION LIMITS	PAVING SECTION
BRICK PATH WAY	LOCAL ROAD	25 MPH	RR-DEO	0+00 TO 7+92.60	P-2
BUTTONWOOD COURT	CUL-DE-SAC	25 MPH	RR-DEO	0+00 TO 2+94.64	P-2
BLUE GRASS COURT	CUL-DE-SAC	25 MPH	RR-DEO	0+00 TO 5+91.10	P-2



PLAN
SCALE: 1" = 50'

NOTE:
SEE SHEET 11 FOR TYP SECTION & SURFACE OVERLAY DETAIL FOR TRIADELPHIA ROAD WIDENING!

BENSON BRANCH OVERLOOK
LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'

ZONED: RR-DEO
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TRIADELPHIA ROAD PLAN AND PROFILE **TYPICAL ROADWAY SECTION**

DEVELOPER: BENSON BRANCH OVERLOOK, L.L.C.
C/O MR. DONALD S. BRUNER, JR.
LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE 725
COLUMBIA, MARYLAND 21044

OWNER: BERTHA MAY BURGESS
10805 HICKORY RIDGE ROAD
ELLCOTT CITY, MARYLAND 21042

SCALE: AS SHOWN DATE: FEB. 1998 DWG. NO. 2 OF 19

DES. J.V.P. DRN. J.A.U. CHK. C.J.C.

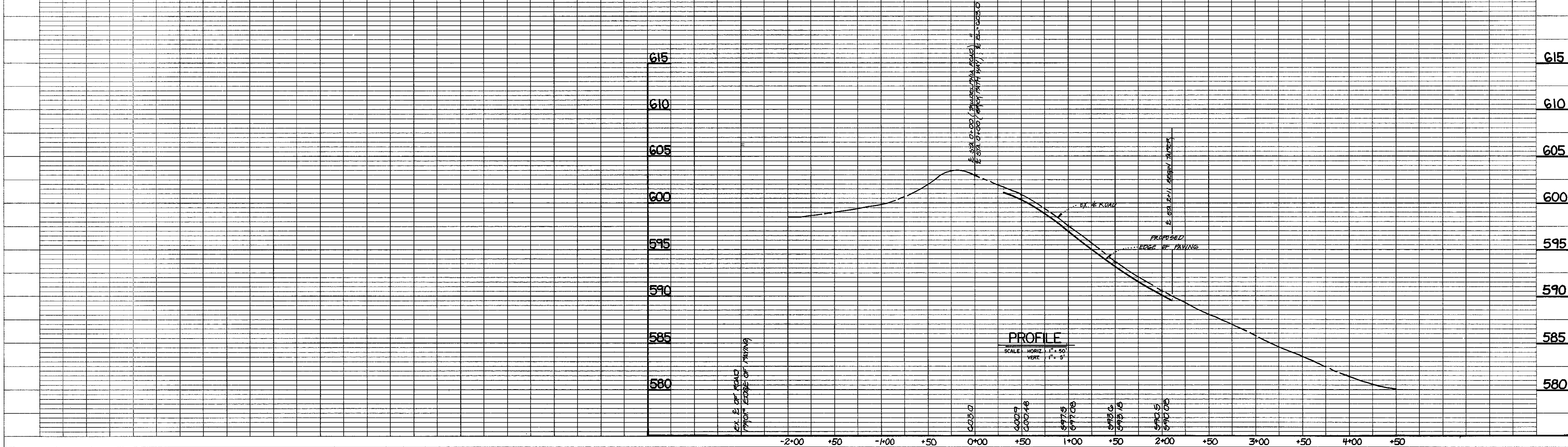
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 461-2955

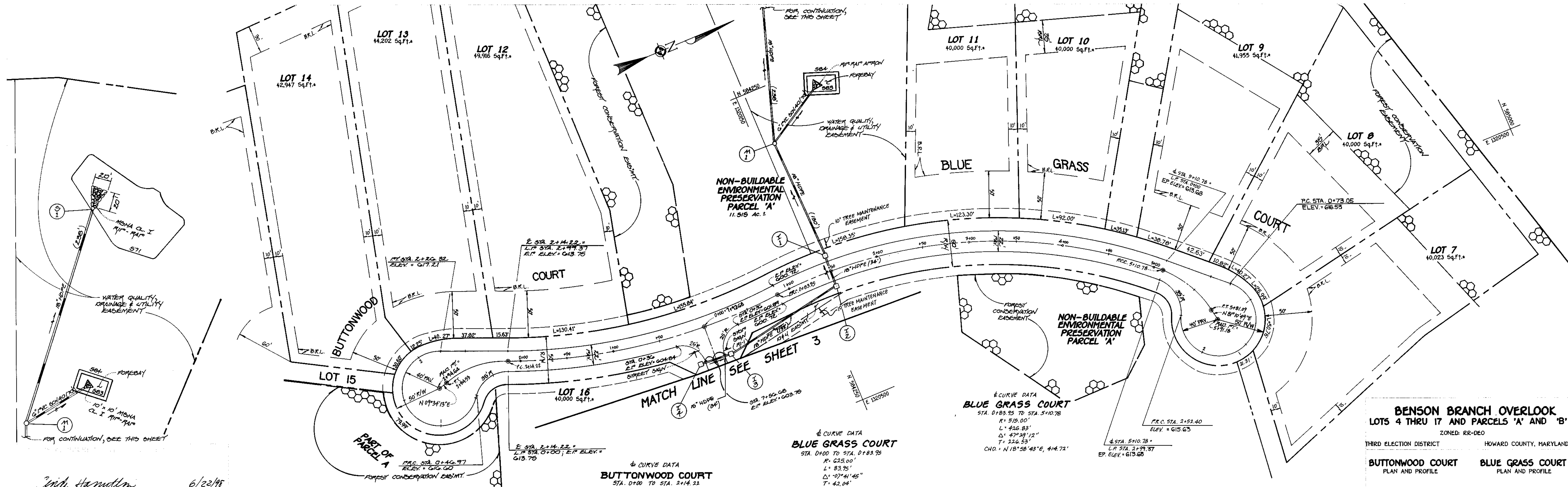
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Candy Hamilton 6/22/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Bob Rasmussen 6/19/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Robert M. Daniels 6-18-98
CHIEF, BUREAU OF HIGHWAYS DATE

TRIADELPHIA ROAD





Erin Hamilton 6/22/98
Andrew M. Damer 6-18-98
 6/19/98

BENSON BRANCH OVERLOOK
 LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'
 ZONED: RR-DEO
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BUTTONWOOD COURT PLAN AND PROFILE
BLUE GRASS COURT PLAN AND PROFILE

DEVELOPER
 BENSON BRANCH OVERLOOK, LLC
 C/O MR. DONALD S. BURGESS
 LAND DESIGN AND DEVELOPMENT, INC.
 1005 HICKORY RIDGE ROAD, SUITE 205
 COLUMBIA, MARYLAND 21044

OWNER
 BERTHA MAY BURGESS
 13126 TRIADAPLEA ROAD
 ELLICOTT CITY, MARYLAND 20824

SCALE: AS SHOWN FEBRUARY, 1998 4 19
 J.V.P. J.A.U. / L.M. G.U.G.

STATE OF MARYLAND
 PROFESSIONAL ENGINEER

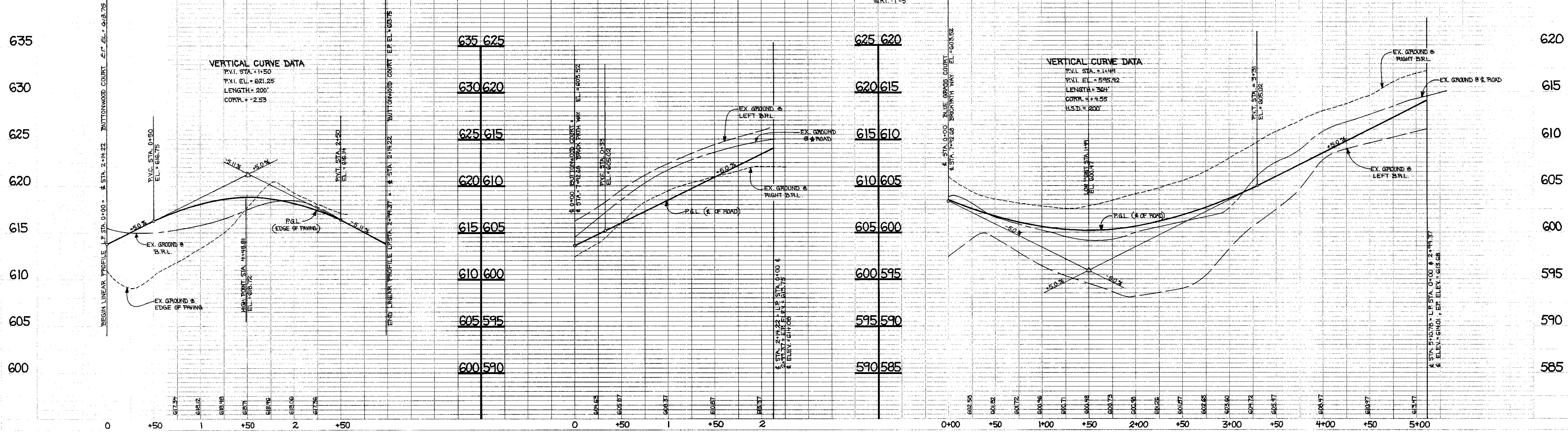
PLAN
 SCALE: 1"=50'

BUTTONWOOD COURT
 LINEAR PROFILE

BUTTONWOOD COURT
 DESIGN SPEED = 25 M.P.H.

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

BLUE GRASS COURT
 DESIGN SPEED = 25 M.P.H.

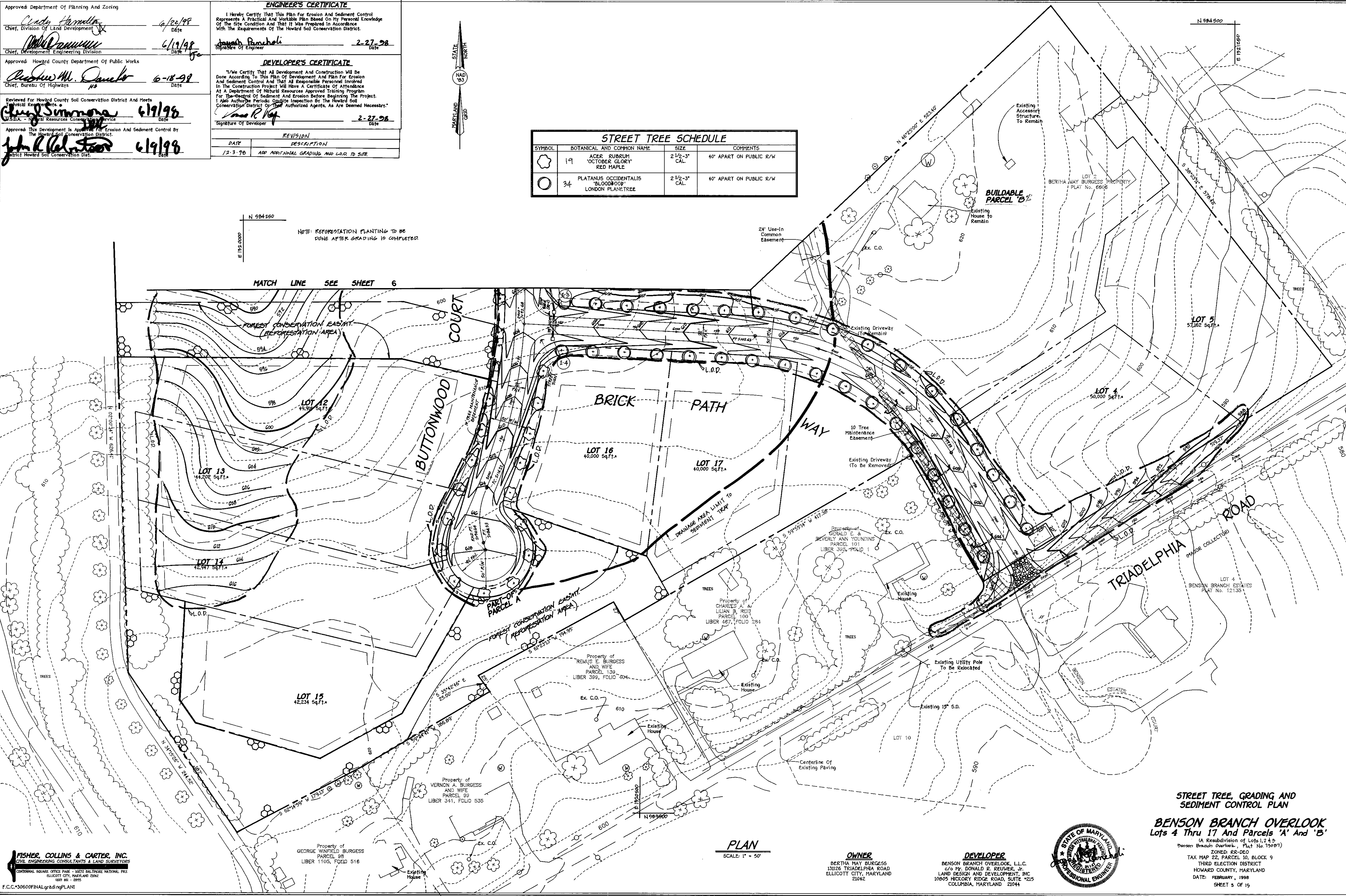


Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Chief, Development Engineering Division
 Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Reviewed For Howard County Soil Conservation District And Meets Technical Requirements
 U.S.D.A. - Natural Resources Conservation Service
 Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

ENGINEER'S CERTIFICATE
 I Herby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.
Signature Of Engineer: *Joseph Burcheli* **Date:** 2-27-98
DEVELOPER'S CERTIFICATE
 "We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic Onsite Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."
Signature Of Developer: *James R. Vogt* **Date:** 2-27-98
REVISION
 DATE DESCRIPTION
 12-3-96 ADD ADDITIONAL GRADING AND L.O.D. TO SITE

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
☼	19 ACER RUBRUM "OCTOBER GLORY" RED MAPLE	2 1/2 - 3" CAL.	40' APART ON PUBLIC R/W
○	34 PLATANUS OCCIDENTALIS "BLOODROCK" LONDON PLANETREE	2 1/2 - 3" CAL.	40' APART ON PUBLIC R/W



NOTE: REFORESTATION PLANTING TO BE DONE AFTER GRADING IS COMPLETED.

MATCH LINE SEE SHEET 6

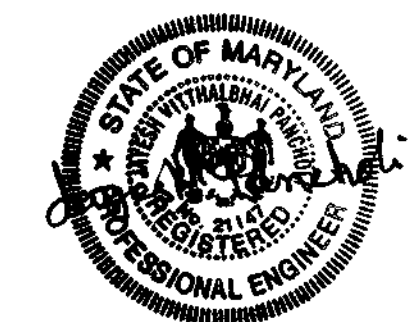
PLAN
 SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21117
 410.461.2955
 F.C.C. 30600 FINAL grading PLAN

Property of GEORGE WINFIELD BURGESS
 PARCEL 98
 LIBER 1105, FOLIO 516

OWNER
 BERTHA MAY BURGESS
 13116 TRIADAPLHIA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o Mr. DONALD S. RELIVER, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10805 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MARYLAND 21044



STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' And 'B'
 (A Resubdivision of Lots 1, 2, 4 & 5
 Benson Branch Overlook, Plat No. 12007)
 ZONED: RR-DEQ
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 5 OF 19

Approved: Department Of Planning And Zoning

Cindy Hamilton 6/22/98
Chief, Division Of Land Development
Date

James Panchali 6/19/98
Chief, Development Engineering Division
Date

Approved: Howard County Department Of Public Works
Richard M. Daniels 6-18-98
Chief, Bureau Of Highways
Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.
Clayton Simmons 6/19/98
U.S.D.A. - Federal Resources Conservation Service
Date

Approved: This Development Is Appropriate For Erosion And Sediment Control By The Howard Soil Conservation District.
John R. Calverton 6/19/98
District Howard Soil Conservation Dist.
Date

ENGINEER'S CERTIFICATE

I Herby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

James Panchali 2-27-98
Signature Of Engineer Date

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To The Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I/We Authorize Periodic Onsite Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

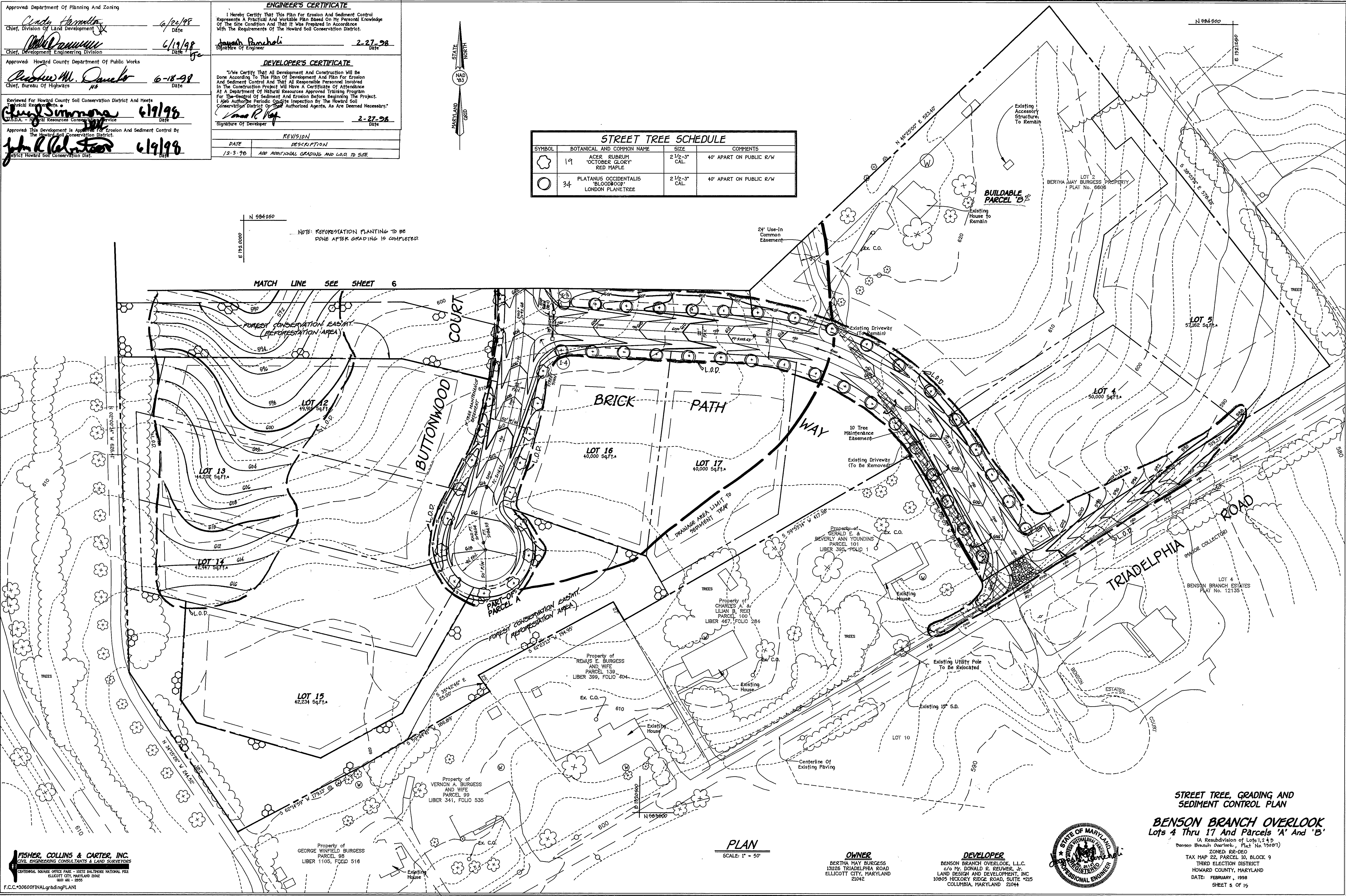
James Panchali 2-27-98
Signature Of Developer Date

REVISION	
DATE	DESCRIPTION
12-3-90	ADD ADDITIONAL GRADING AND L.O.D. TO SITE



STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	19 ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W
	34 PLATANUS OCCIDENTALIS 'BLOODBOOP' LONDON PLANETREE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W

N 584500
E 1920000
NOTE: REFORESTATION PLANTING TO BE DONE AFTER GRADING IS COMPLETED.
MATCH LINE SEE SHEET 6



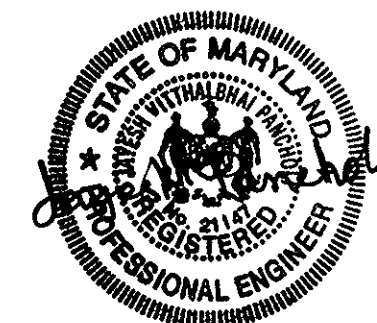
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL FIRE
ELLIOTT CITY, MARYLAND 21114
410 481-2955
F.C.C.*30600FINALGradingPLAN

Property of GEORGE WINFIELD BURGESS
PARCEL 98
LIBER 1105, FOLIO 516

PLAN
SCALE: 1" = 50'

OWNER
BERTHA MAY BURGESS
13126 TRIADELPHIA ROAD
ELLIOTT CITY, MARYLAND
21042

DEVELOPER
BENSON BRANCH OVERLOOK, L.L.C.
c/o Mr. DONALD R. ZEUSER, II
LAND DESIGN AND DEVELOPMENT, INC
10805 HICKORY RIDGE ROAD, SUITE #215
COLUMBIA, MARYLAND 21044



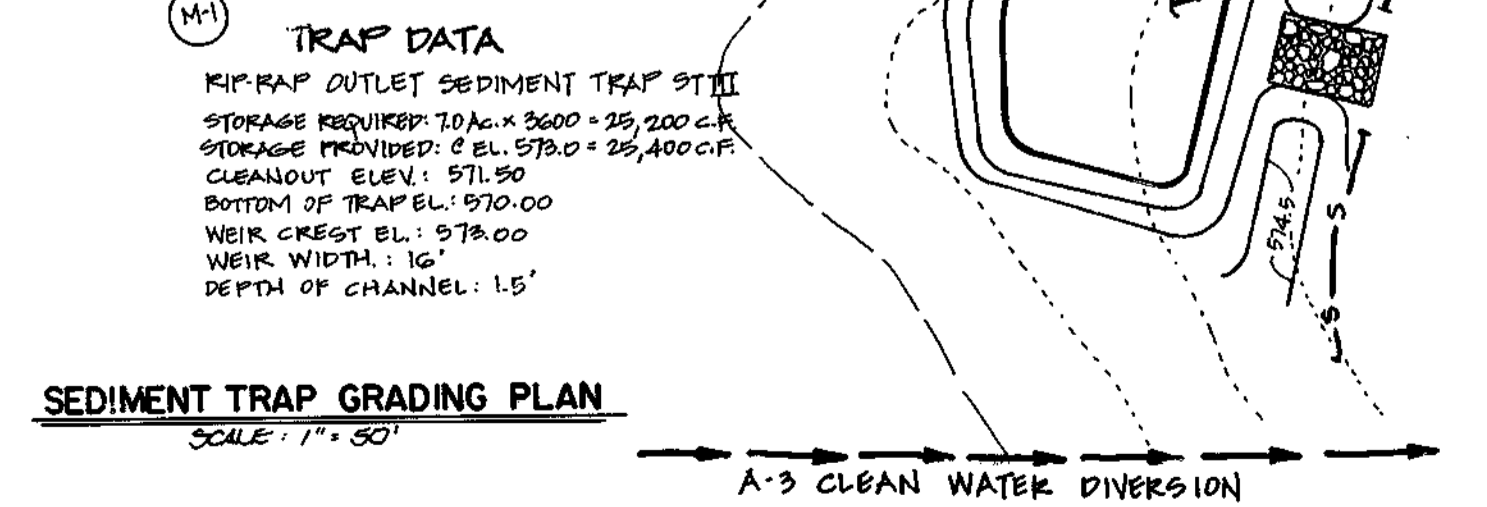
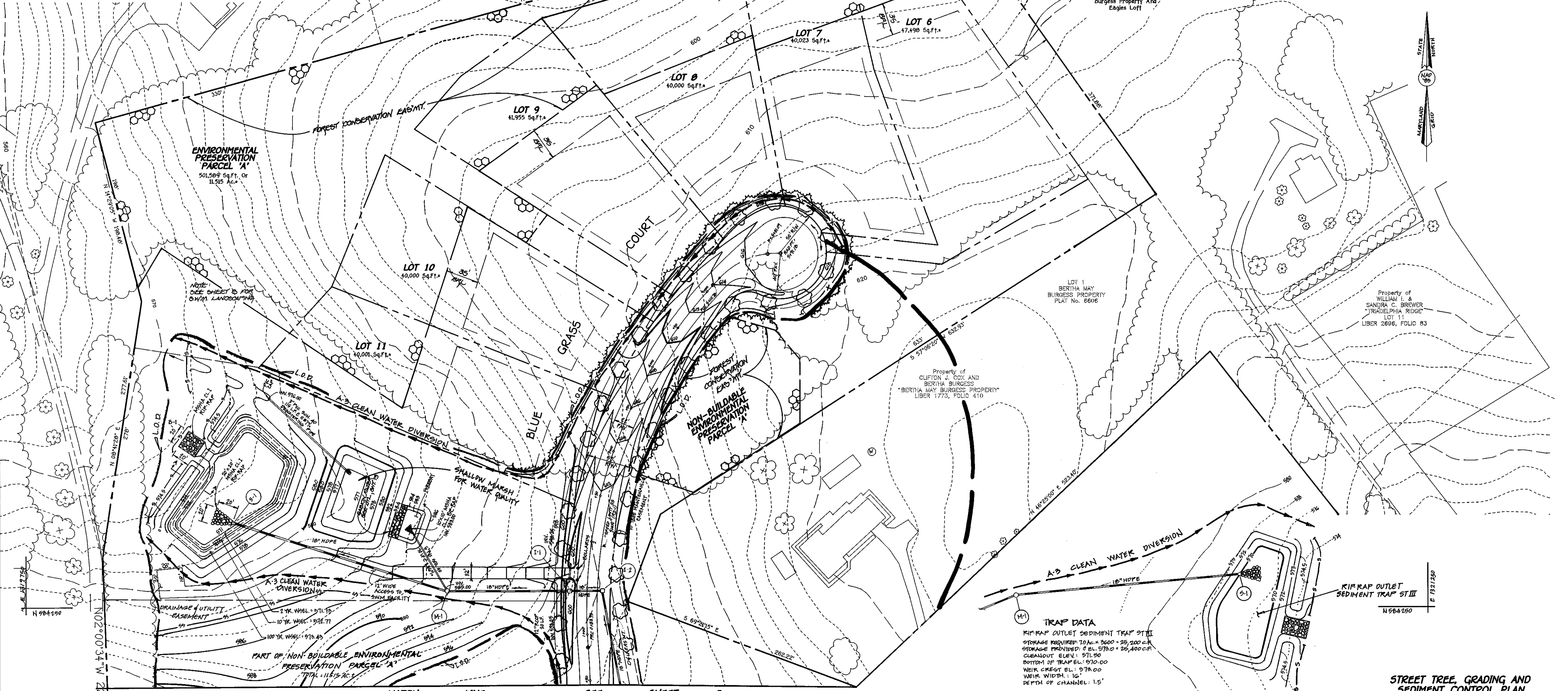
STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
BENSON BRANCH OVERLOOK
Lots 4 Thru 17 And Parcels 'A' And 'B'
(A Resubdivision of Lots 1, 2 & 3
Benson Branch Overlook, Plat No. 130971)
ZONED: RR-DEO
TAX MAP 22, PARCEL 10, BLOCK 9
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: FEBRUARY, 1998
SHEET 5 OF 15

Approved: Department of Planning And Zoning
 Chief, Division Of Land Development
 Date: 6/22/98
 Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Date: 6-19-98

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements
 Date: 6/19/98
 Approved The Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District
 Date: 6/19/98
 REVISION
 DATE DESCRIPTION
 12-3-98 ADD ADDITIONAL GRADING AND L.O.D. TO SITE

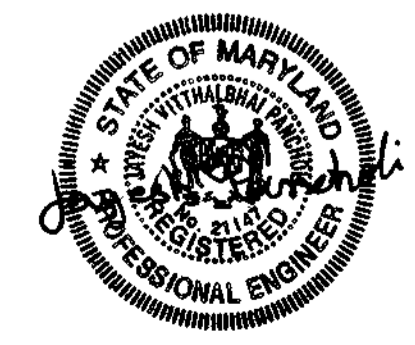
STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
(Symbol)	ACER RUBRUM "OCTOBER GLORY" RED MAPLE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W

ENGINEER'S CERTIFICATE
 I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.
 Date: 2-27-98
DEVELOPER'S CERTIFICATE
 I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Reasonable Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary.
 Date: 2-27-98



STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' And 'B'
 (A Resubdivision of Lots 1, 2, 4, 5 Benson Branch Overlook, Plat No. 19087)
 ZONED: RR-DEO
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 6 OF 19

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21114
 4100 461 - 2925



OWNER
 BERTHA MAY BURGESS
 13126 TRIADLEPHIA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 270 MR. DONALD E. BELLER, JR.
 LAND DESIGN AND DEVELOPMENT, INC
 10805 HICKORY RIDGE ROAD, SUITE #215
 COLUMBIA, MARYLAND 21044

Approved: Department of Planning And Zoning
 Chief, Division Of Land Development
 Chief, Development Engineering Division
 Approved: Howard County Department of Public Works
 Chief, Bureau Of Highways

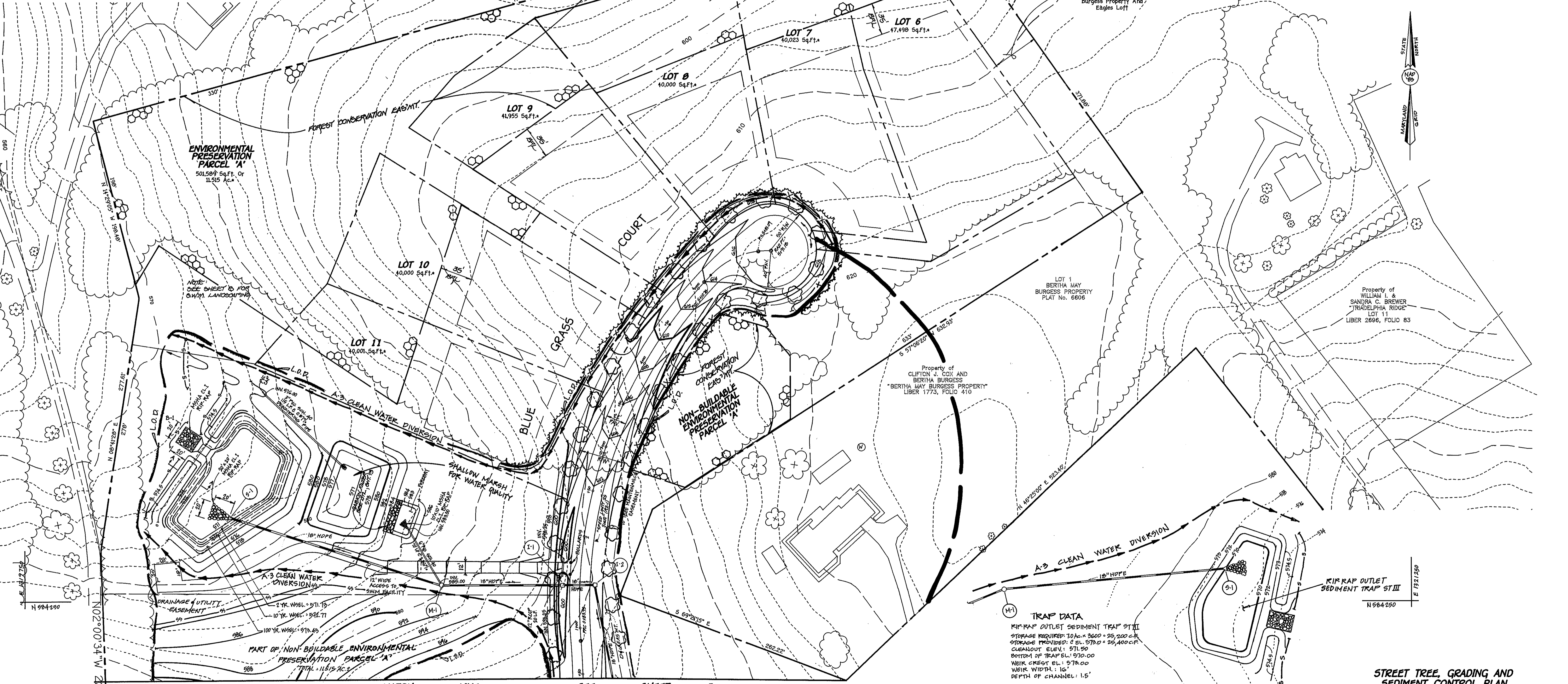
Reviewed For Howard County Soil Conservation District And Needs Technical Requirements
 U.S.D.A. - Natural Resources Conservation Service
 Approved: The Development Is Approved For Erosion And Sediment Control By The Howard County Soil Conservation District
 District Howard Soil Conservation District

STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2" - 3" CAL.	40' APART ON PUBLIC R/W

ENGINEER'S CERTIFICATE
 I Herby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.
 Signature Of Engineer: *James P. Panchal* Date: 2-27-98

DEVELOPER'S CERTIFICATE
 I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary.
 Signature Of Developer: *James P. Panchal* Date: 2-27-98

REVISION	
DATE	DESCRIPTION
12-3-98	ADD ADDITIONAL GRADING AND L.O.D. TO SITE.



MATCH LINE - SEE SHEET 5

SEDIMENT TRAP GRADING PLAN
 SCALE: 1" = 30'

TRAP DATA
 KIP RAP OUTLET SEDIMENT TRAP ST III
 STORAGE REQUIRED: 10A x 3600 = 25,200 cu ft
 STORAGE PROVIDED: 2 EL. ST. 25,400 cu ft
 CLEANOUT ELEV: 571.50
 BOTTOM OF TRAP EL: 570.00
 WEIR CREST EL: 578.00
 WEIR WIDTH: 16'
 DEPTH OF CHANNEL: 1.5'

OWNER
 BERTHA MAY BURGESS
 15126 TRIADAPHA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o Mr. DONALD R. REUWER, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10805 HICKORY RIDGE ROAD, SUITE #215
 COLUMBIA, MARYLAND 21044

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' And 'B'
 A Resubdivision of Lots 1, 2 & 3
 Benson Branch Overlook, Plat No. 150871
 ZONED: R2-DEO
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 6 OF 19

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BELLWOOD NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21042
 410.461.2255



Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Date: 6/22/98
 Date: 6/19/98
 Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Date: 6/18/98

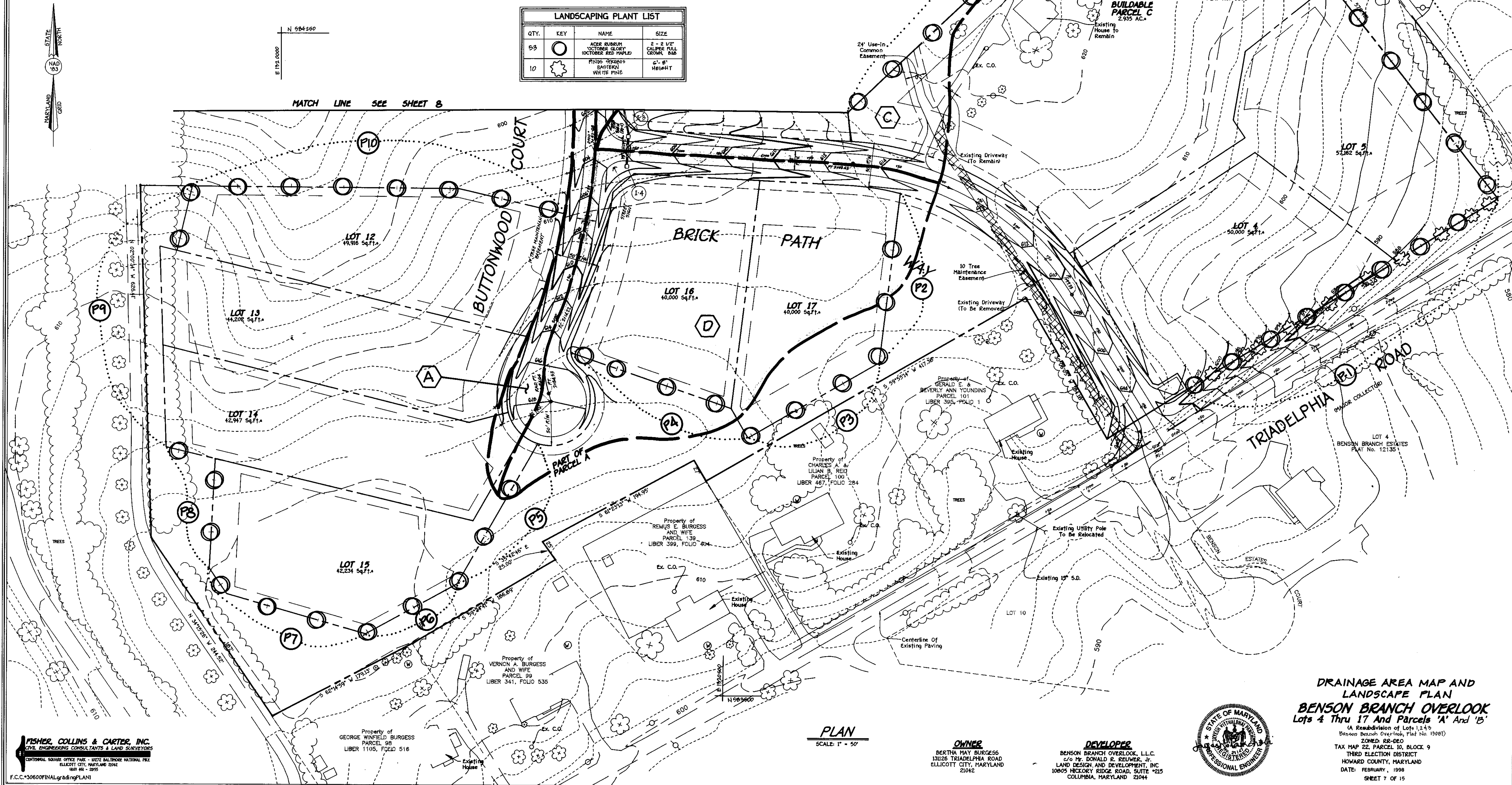
PERIMETER	SCHEDULE A PERIMETER LANDSCAPE EDGE																
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
LANDSCAPE EDGE	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to	Adjacent to
LINEAR FEET OF PERIMETER	412'	102'	172'	220'	100'	107'	200'	102'	107'	107'	107'	107'	107'	107'	107'	107'	107'
DESIGN FOR EXISTING VEGETATION	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR NEW VEGETATION	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR EXISTING TREES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR NEW TREES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR EXISTING SHRUBS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR NEW SHRUBS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR EXISTING GRASS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN FOR NEW GRASS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

"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 114 (Schedule 'A' & 'B') REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$11,400.

DRAINAGE AREA DATA				
STRUCTURE NO.	DRAINAGE AREA	C	ZONED	X IMP.
I-1	A	0.60	RR-DEO	47X
I-2	B	3.04	RR-DEO	14X
I-3	C	1.31	RR-DEO	20X
I-4	D	2.35	RR-DEO	20X

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
99	(Symbol)	ACER RUBRUM OCTONIS GLABR (OCTOBER RED MAPLE)	2 - 2 1/2" CALIPER FULL CROWN, 6'6"
10	(Symbol)	PRUNUS SPINOSA BASTARDIA WHITE PINE	6' - 8' HEIGHT

MATCH LINE SEE SHEET 8



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 1000 W. BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 (410) 481-2855
 F.C.C. 30600FINAL.grd:rdg:PLAN1

Property of GEORGE WINFIELD BURGESS
 PARCEL 89
 LIBER 1105, FOLIO 518

PLAN
 SCALE: 1" = 50'

OWNER
 BERTHA HAY BURGESS
 13126 TRIADDELPHIA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o Mr. DONALD R. REUVER, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10805 HICKORY RIDGE ROAD, SUITE #215
 COLUMBIA, MARYLAND 21044



DRAINAGE AREA MAP AND
 LANDSCAPE PLAN
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' And 'B'
 (A Resubdivision of Lots 1,2,3,4
 Benson Branch Overlook, Plat No. 19987)
 ZONED: RR-DEO
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 7 OF 15

Approved Department Of Planning And Zoning

Andrew Hamilton
 Chief, Division Of Land Development
 Date: 6/22/98

McDermott
 Chief, Development Engineering Division
 Date: 6/19/98

Approved Howard County Department Of Public Works
Richard M. Doncker
 Chief, Bureau Of Highways
 Date: 6-18-98

PRIMARY WETLAND VEGETATION

PLANT SPECIES	SIZE	REMARKS
SAGITTARIA LATIFOLIA (S.L.)	ROOTS	36" O.C.
BUCK POTATO	ROOTS	36" O.C.
SCIRPUS AMERICANUS (S.A.)	ROOTS	36" O.C.
COMMON THREE SQUARE		

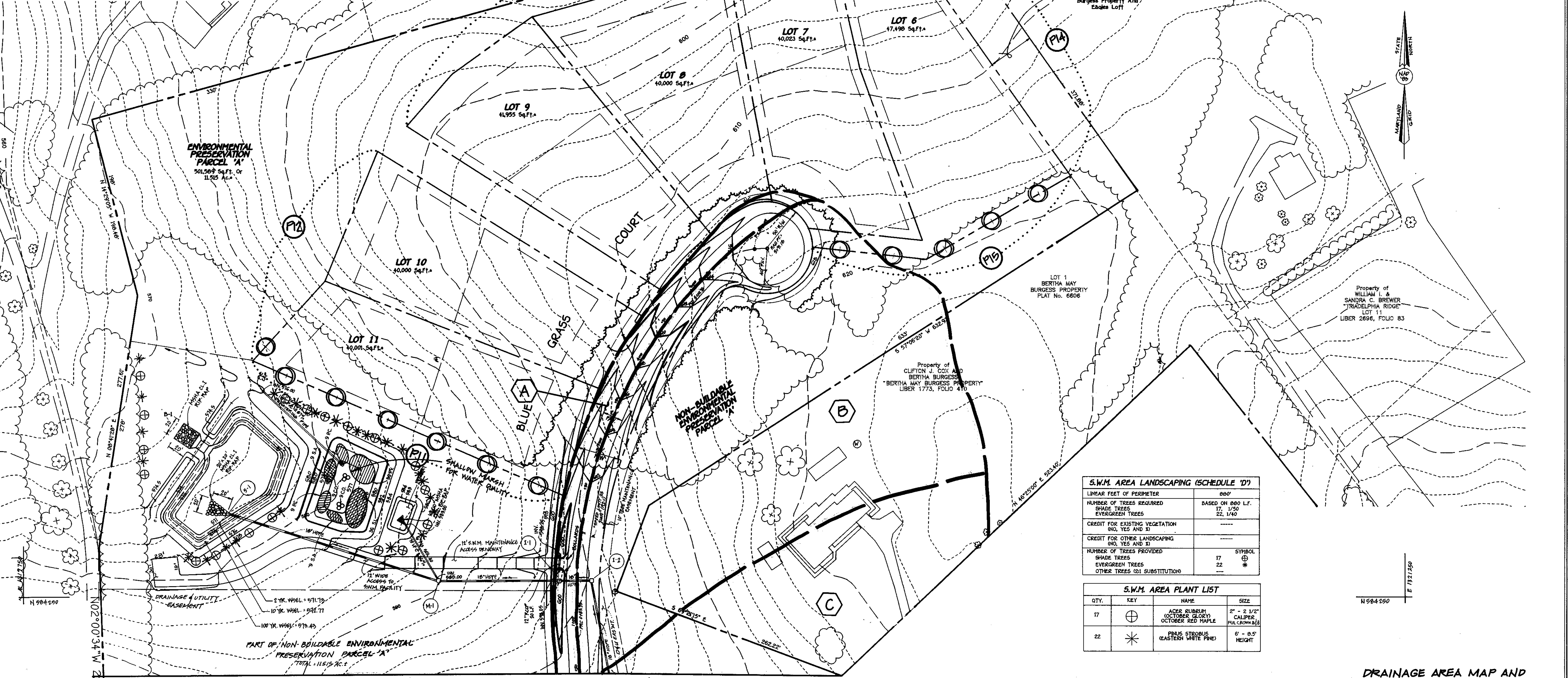
SECONDARY WETLAND VEGETATION

PLANT SPECIES	SIZE	REMARKS
CEPHALANTHUS OCCIDENTALIS (C.O.)	ROOTS	
BUTTON BUSH	ROOTS	36" O.C.
HELANDERA VIRGINICA (P.V.)	ROOTS	36" O.C.
ARROW - ARUM	ROOTS	36" O.C.
PONTEDERIA CORDATA (P.C.)	ROOTS	36" O.C.
PIGWEED		

NOTES:
 1. ALL PLANT MATERIAL TO BE MET GROWN OR ADAPTED TO WETLAND CONDITIONS.
 2. ALTERNATING TO THE PROPOSED GRADING SHOWS MAY AFFECT THE SUCCESS OF THE PLANT MATERIAL.
 3. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

SHALLOW MARSH PLANTING

KEY	SHALLOW MARSH PLANTING
S.L.	36
S.A.	18
C.O.	18
P.V.	36
P.C.	18



S.W.M. AREA LANDSCAPING (SCHEDULE 'D')

LINEAR FEET OF PERIMETER	800'
NUMBER OF TREES REQUIRED	BASED ON 800 LF.
SHADE TREES	17, 1/20
EVERGREEN TREES	22, 1/40
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	----
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	----
NUMBER OF TREES PROVIDED	
SHADE TREES	17
EVERGREEN TREES	22
OTHER TREES (21 SUBSTITUTION)	---

S.W.M. AREA PLANT LIST

QTY.	KEY	NAME	SIZE
17	⊕	ACER RUBRUM (OCTOBER GLORY)	2" - 2 1/2" CALIPER
22	⊛	OCTOBER RED MAPLE	FUL CROWN B&B
	⊛	PINUS STROBUS (EASTERN WHITE PINE)	6' - 8.5' HEIGHT

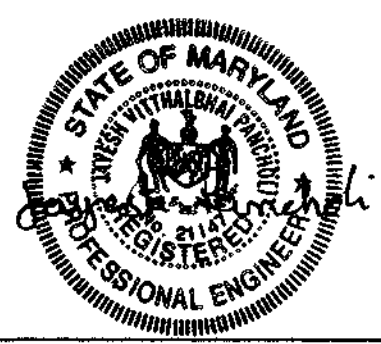
PERIMETER LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
12	⊕	ACER RUBRUM (OCTOBER GLORY)	2" - 2 1/2" CAL. FULL CROWN, B&B
	⊛	OCTOBER RED MAPLE	

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10722 BALDWIN NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2555
 F.C.C.*3060/FINAL.grading.PLAN2

OWNER
 BERTHA MAY BURGESS
 13126 TRIADAPHA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o MR. DONALD E. REUWER, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10805 HICKORY RIDGE ROAD, SUITE #215
 COLUMBIA, MARYLAND 21044

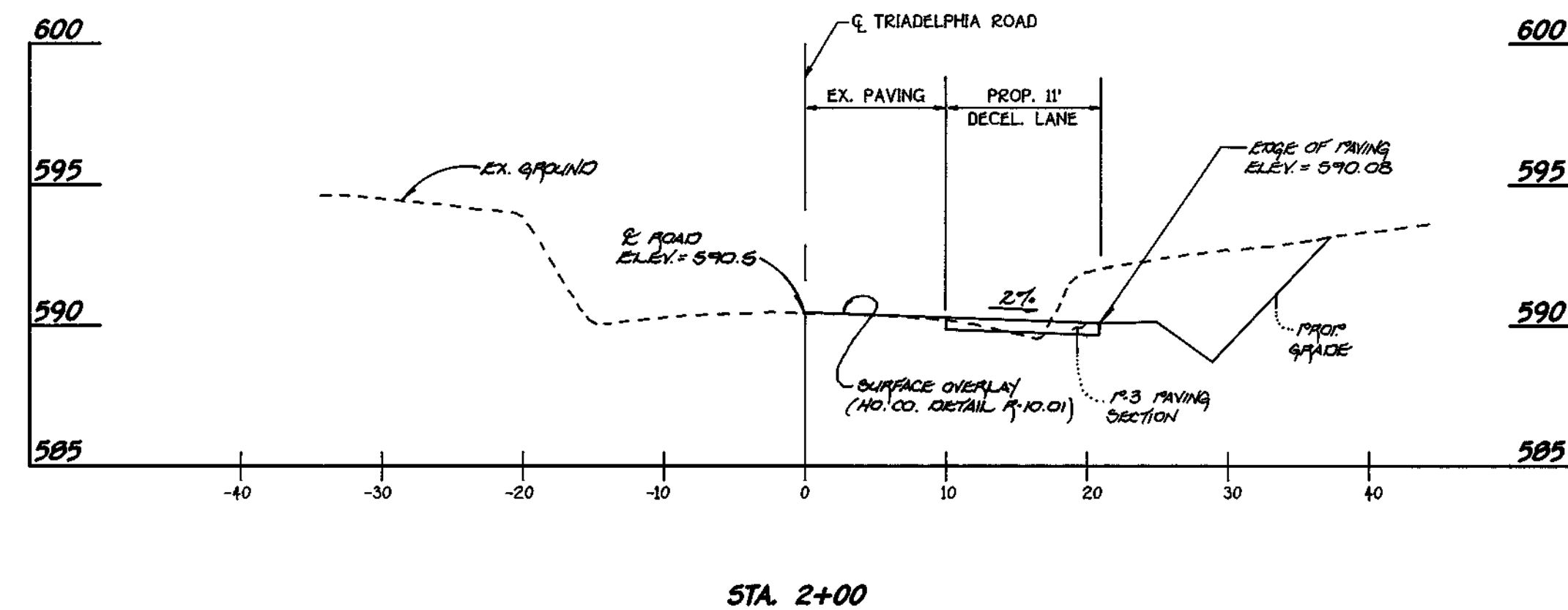
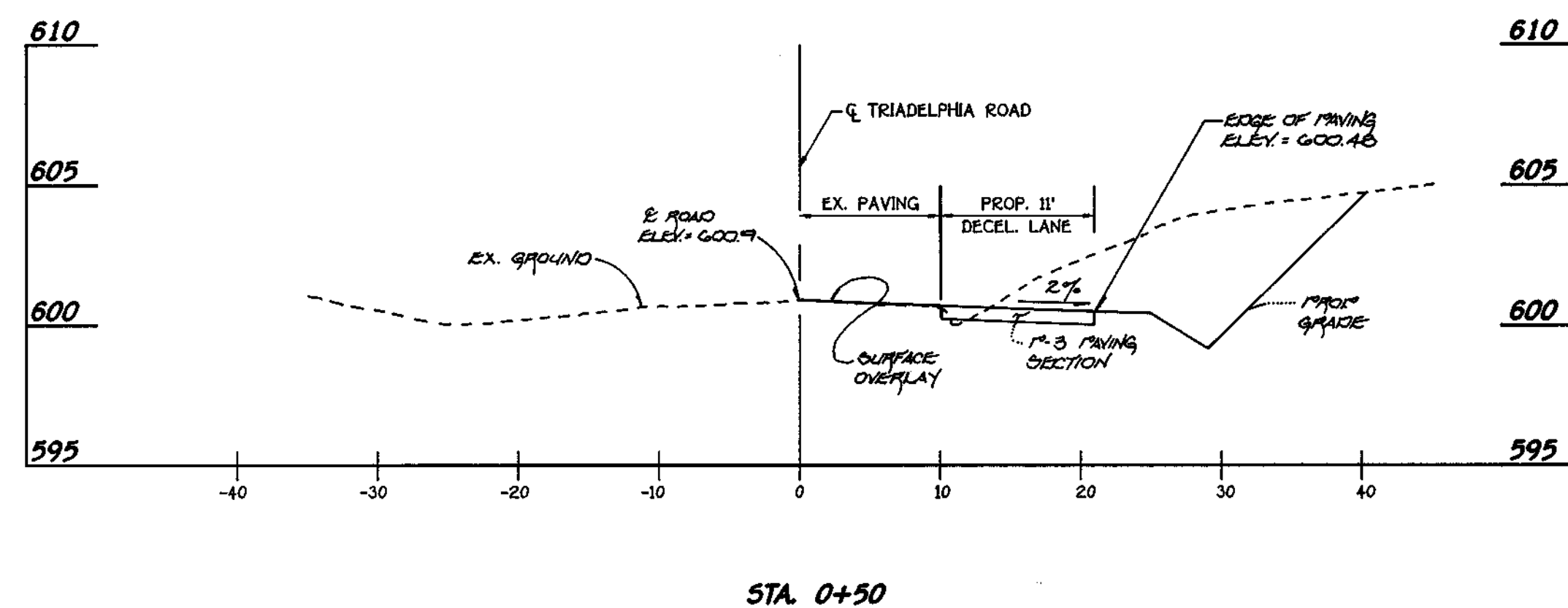
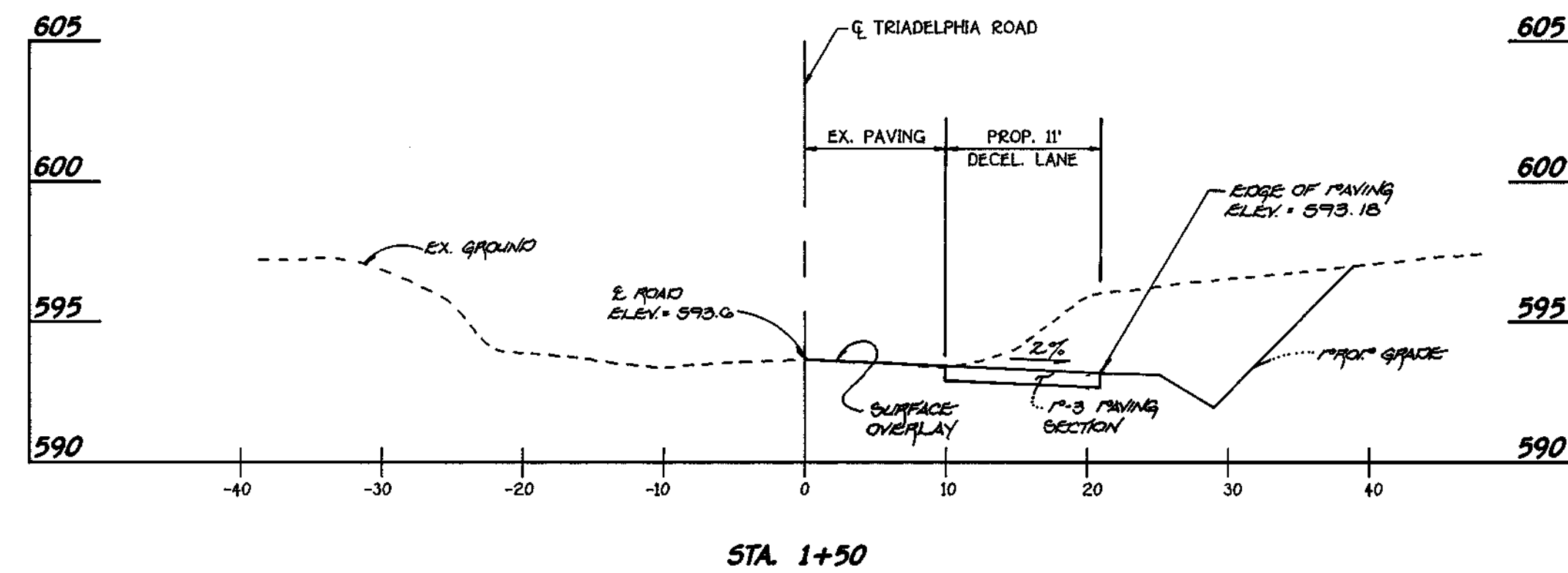
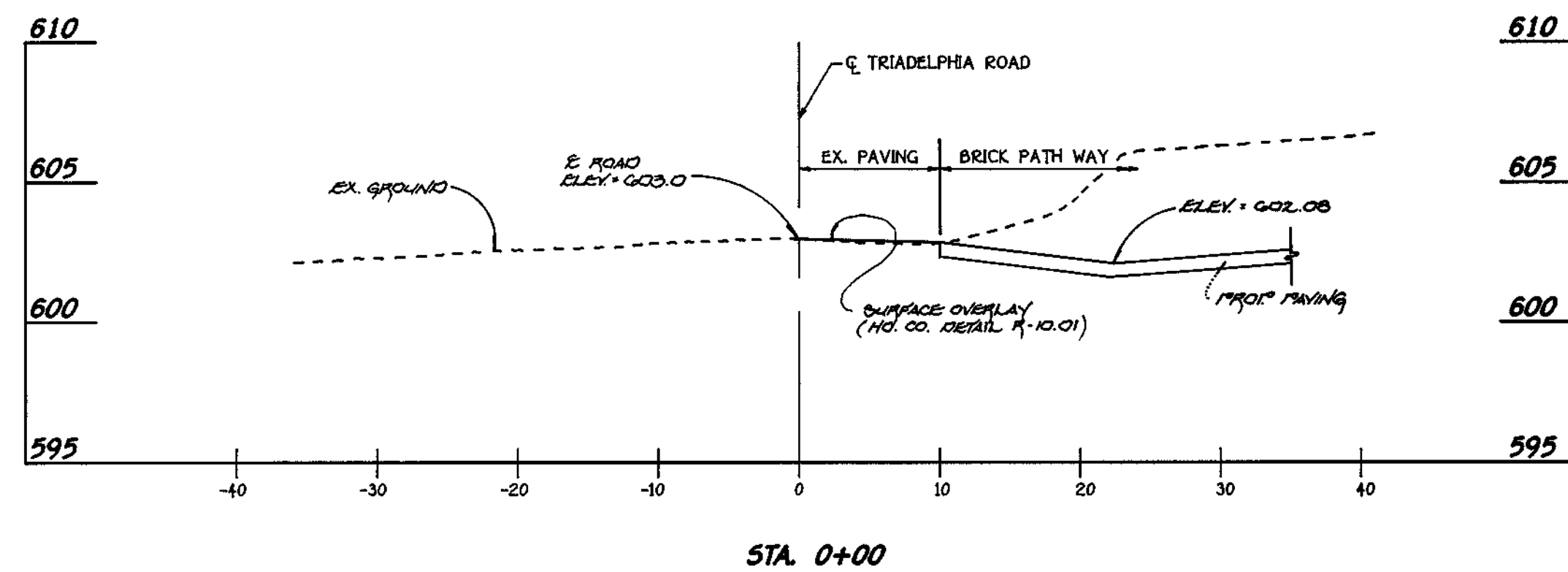


DRAINAGE AREA MAP AND LANDSCAPE PLAN
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' And 'B'
 (A Re-subdivision of Lots 1, 2 & 3
 Benson Branch Overlook, Plat No. 13087)
 ZONED RS-DEO
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 8 OF 15

F98.105

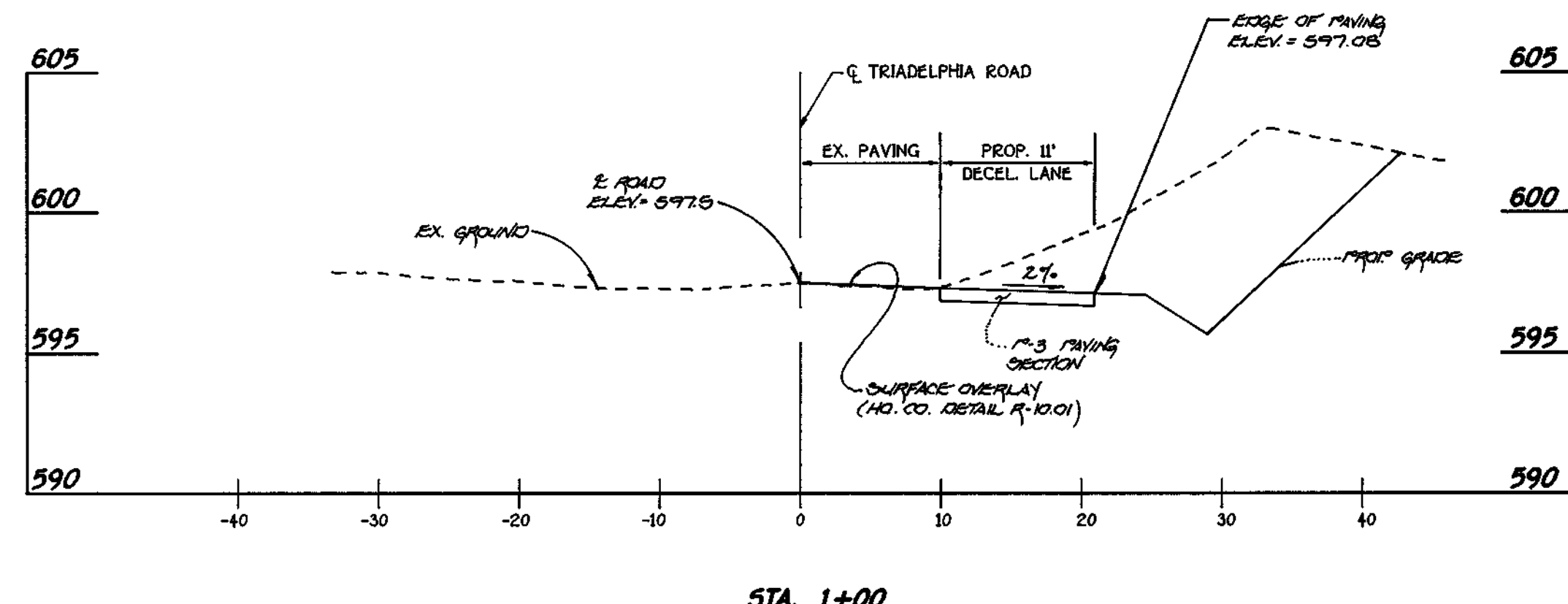
Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Date 6/24/98

Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Date 6-18-98



NOTE: PAVING SECTION ON TRIADDELPHIA ROAD TO BE P-3 PER H.C. DETAIL K-2.01.

CROSS-SECTIONS
 SCALE: HORIZ. 1" = 10'
 VERT. 1" = 2'

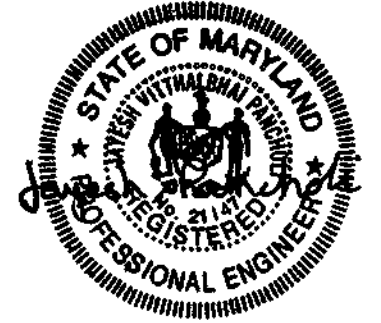


CROSS-SECTIONS
 SCALE: HORIZ. 1" = 10'
 VERT. 1" = 2'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 4101 461 - 2255

OWNER
 BERTHA MAY BURGESS
 13126 TRIADDELPHIA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o Mr. DONALD R. REUMER, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10805 HICKORY RIDGE ROAD, SUITE #215
 COLUMBIA, MARYLAND 21044



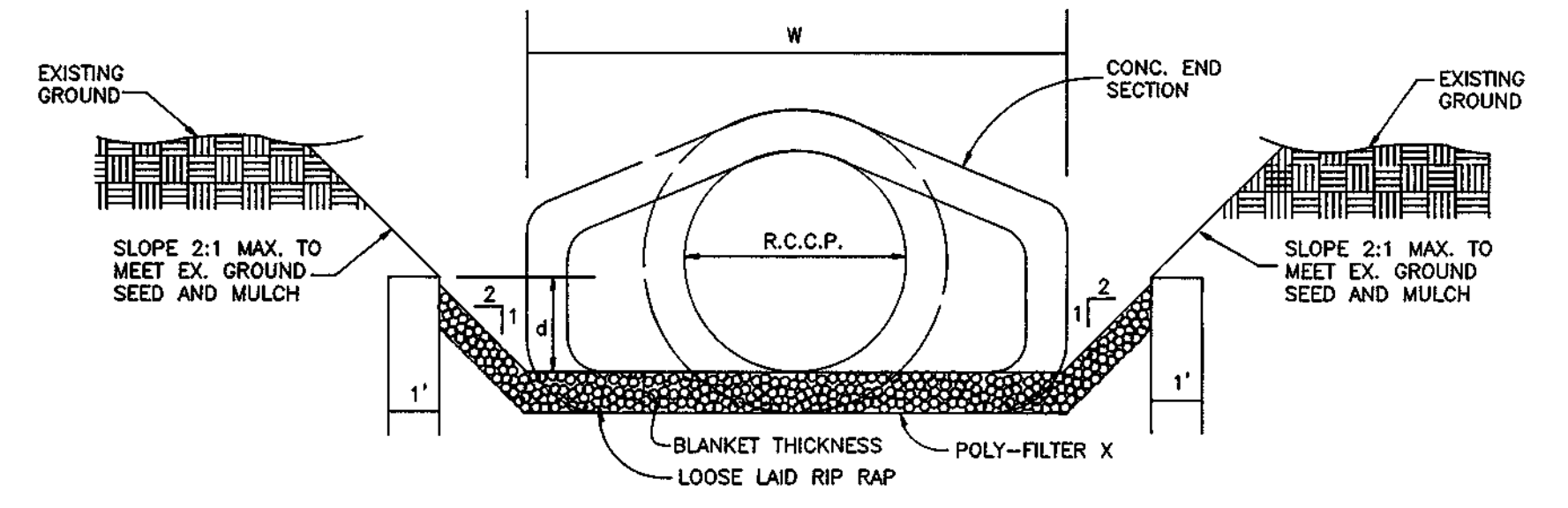
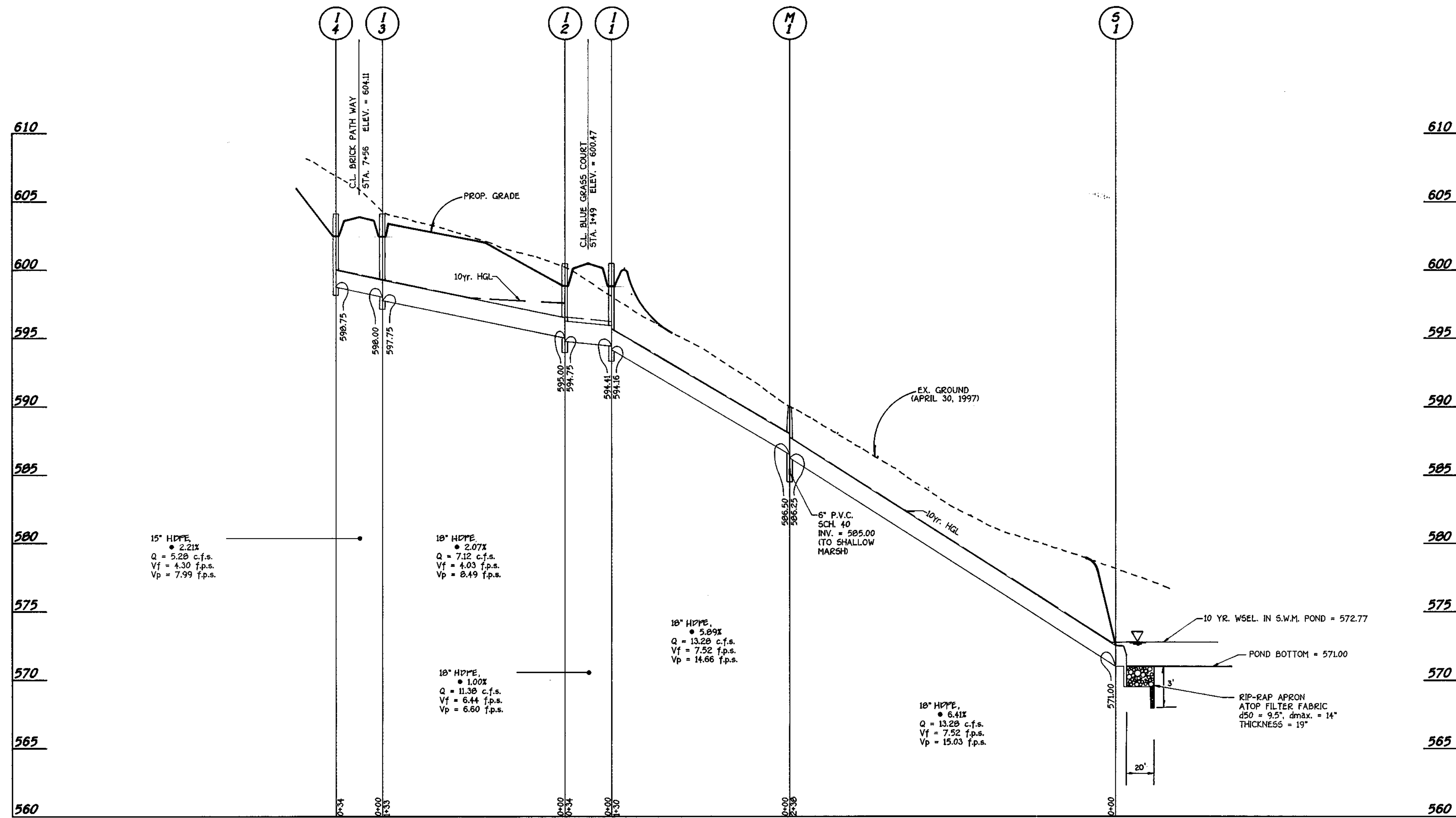
CROSS-SECTIONS (TRIADDELPHIA ROAD)
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' And 'B'
 (A Resubdivision of Lots 1, 2, 4, 5
 Parcel Branch Overlook, Plat No. 13087)
 ZONED: RR-DEO
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 9 OF 19

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Date: 6/22/98

Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Date: 6-18-98

STRUCTURE SCHEDULE									
STRUCTURE NO.	TOP ELEVATION	THROAT ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	600.00	598.75	594.41	594.16	BLUE GRASS COURT	C.L. STA. 1+49	17' L	'K' INLET	S.D. 4.12 w/ S.D. 4.13
I-2	600.00	598.75	595.00	594.75	BLUE GRASS COURT	C.L. STA. 1+49	17' R	'K' INLET	S.D. 4.12 w/ S.D. 4.13
I-3	603.63	602.38	598.00	597.75	BRICK PATH WAY	C.L. STA. 7+56	17' R	'K' INLET	S.D. 4.12 w/ S.D. 4.13
I-4	603.63	602.38	-----	598.75	BRICK PATH WAY	C.L. STA. 7+56	17' L	'K' INLET	S.D. 4.12 w/ S.D. 4.13
M-1	590.00	-----	586.50	586.25, 585.00	-----	N 584,270.174 E 1,320,196.477	-----	STD. MANHOLE	G - 5.01
S-1	572.50	-----	571.00	571.00	-----	N 584,343,720 E 1,319,879,126	-----	CONC. END SECTION	S.D. 5.51

NOTE: PER HOWARD COUNTY MEMORANDUM DATED 10/2/97 5/2 4-36 INLETS ARE PREPARED OVER 5/2 4.12. SHOULD THE CONTRACTOR CHOOSE TO UTILIZE THE 5/2 4-36 INLETS THE CONTRACTOR MUST NOTIFY THE ENGINEER PRIOR TO ORDERING THE INLETS FROM THE MANUFACTURER AND OR CONSTRUCTION STAKEOUT.



RIP-RAP CHANNEL DESIGN DATA															
STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (F.P.S.)	Q (C.F.S.)	RIP-RAP SIZE (d ₅₀ d _{max})	BLANKET THICKNESS	Q ₁₀	DIA.
S-1	6.0 S.E.	8.47'	0.71'	0.796	0.005 F _{1/2}	0.070'	4.0'	1.0'	0.035	2.40	14.40	9.5" 14"	19"	13.28 C.F.S.	18"

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

- The subgrade for the filter, riprap 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 riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each 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 riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

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

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 410-461-2999

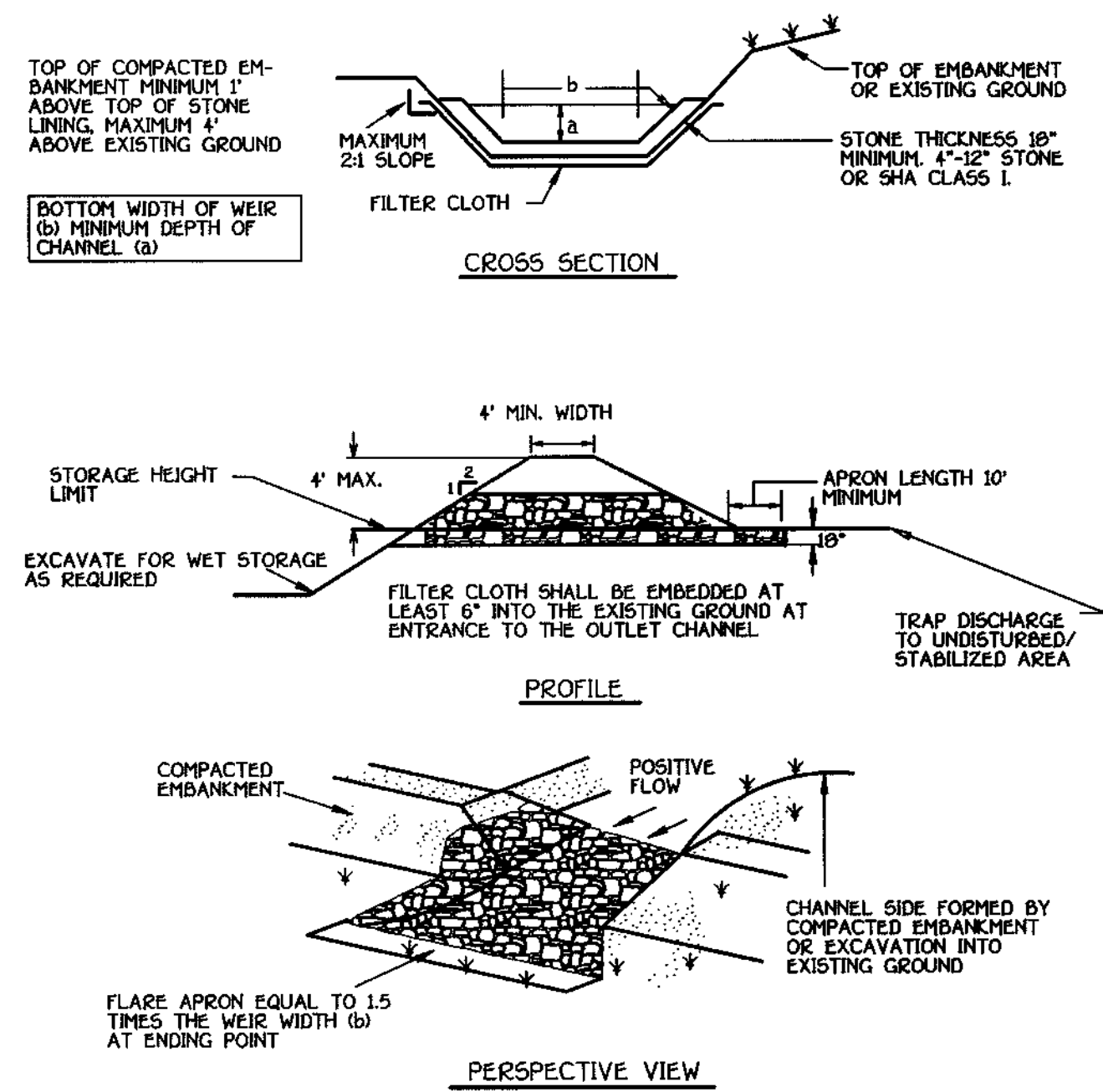
OWNER
 BERTHA MAY BURGESSE
 13126 TRIADLEPHIA ROAD
 ELLICOTT CITY, MARYLAND
 21042

DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o Mr. DONALD R. REUWER, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10805 HICKORY RIDGE ROAD, SUITE #215
 COLUMBIA, MARYLAND 21044



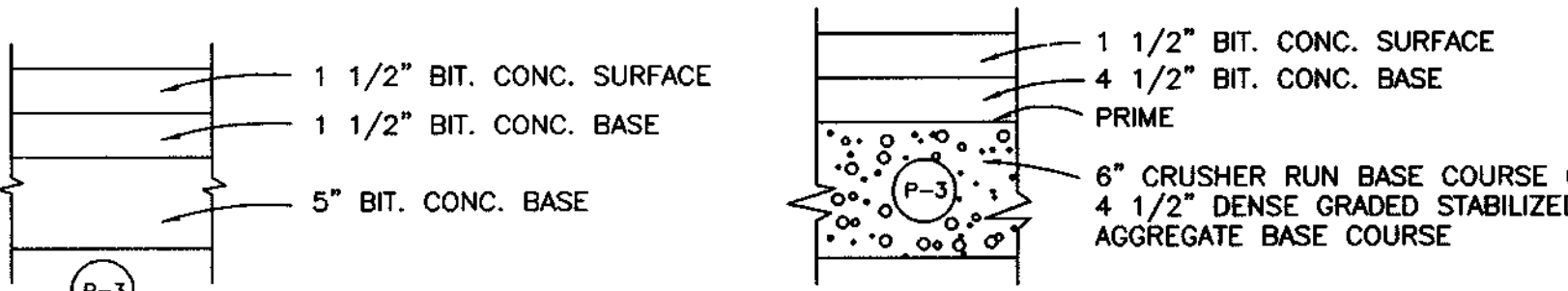
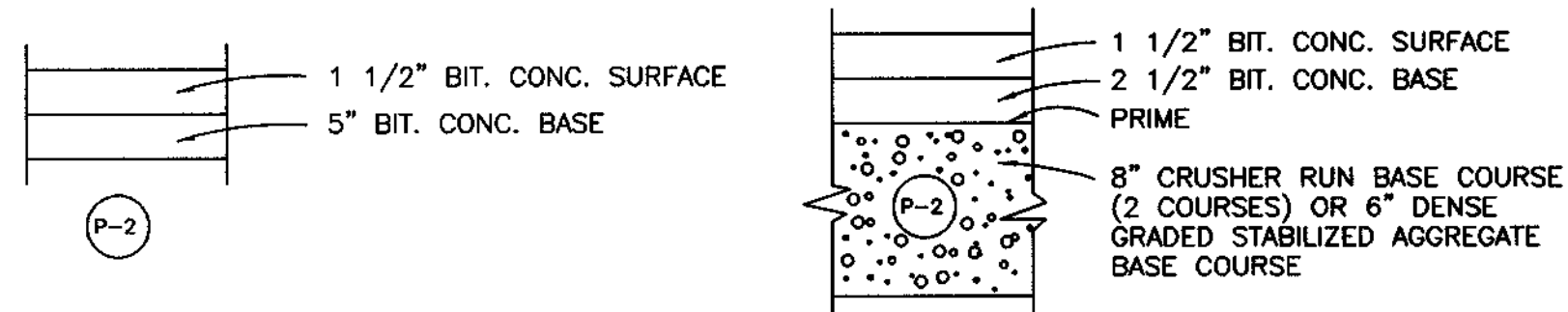
STORM DRAIN PROFILES
BENSON BRANCH OVERLOOK
 Lots 4 Thru 17 And Parcels 'A' and 'B'
 A Resubdivision of Lots 13, 4, 3
 Benson Branch Overlook, Plat No. 130071
 ZONED: RR-DEO
 TAX MAP 22, PARCEL 10, BLOCK 9
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY, 1998
 SHEET 10 OF 15

DETAIL 10 - RIP-RAP OUTLET SEDIMENT TRAP - ST III

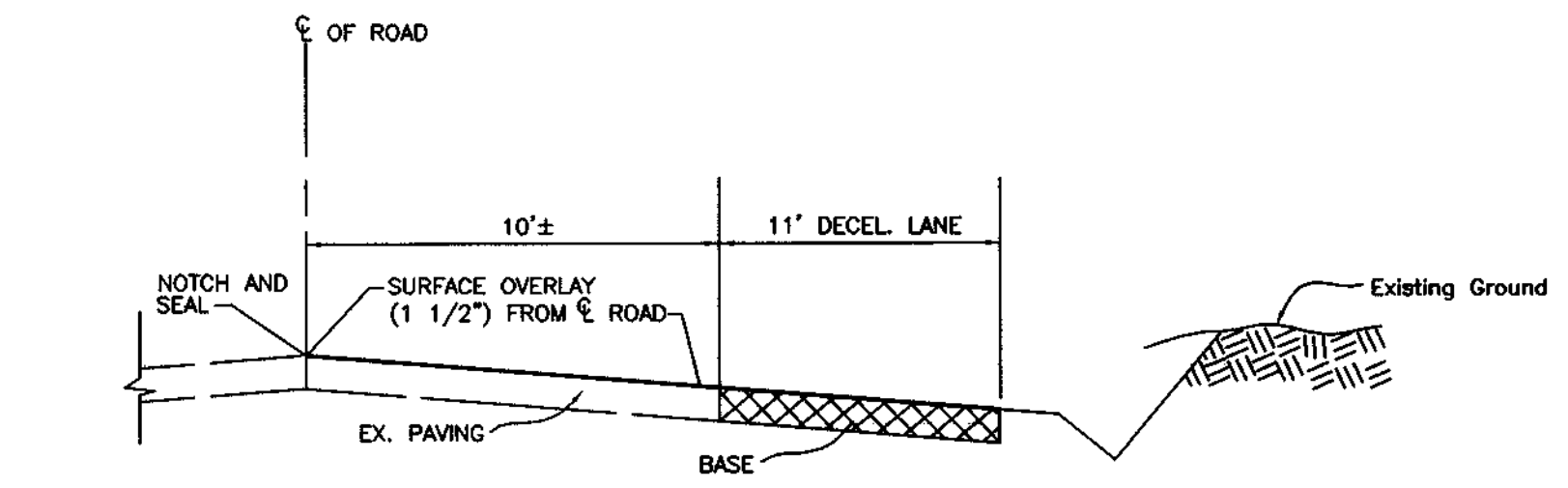
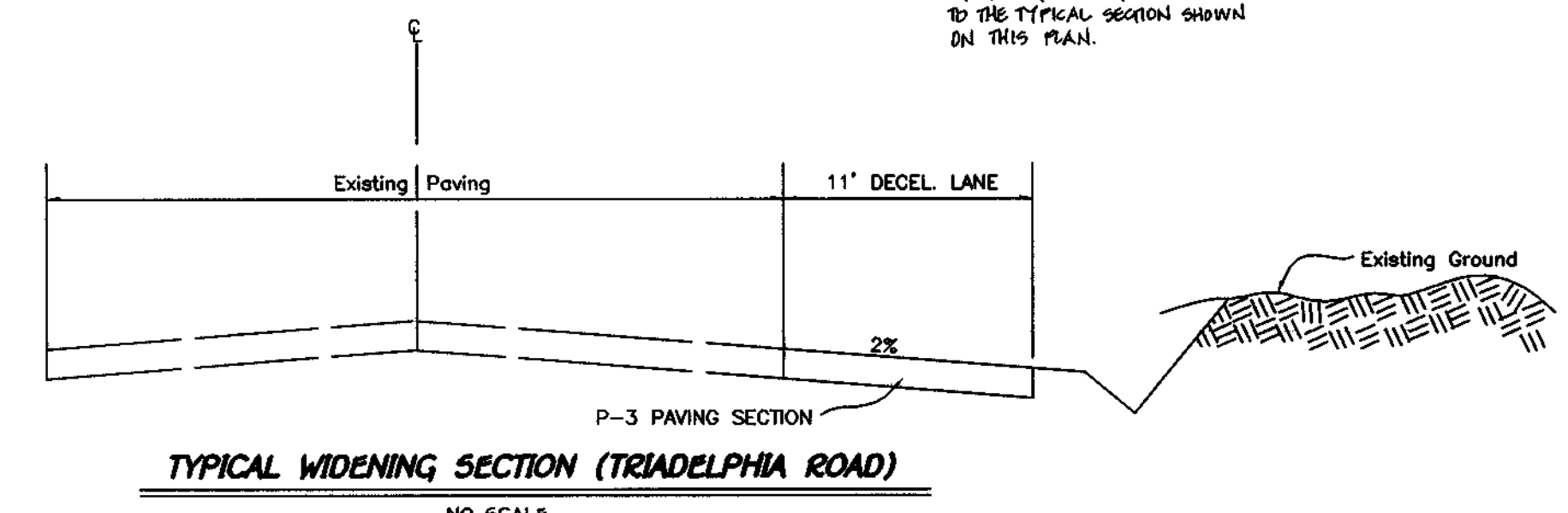


- Construction Specifications**
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.
 - All cut and fill slopes shall be 2:1 or flatter.
 - Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.
 - Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 10).
 - Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.
 - Stone used in the outlet channel shall be 4" - 12" placed 18" thick.
 - Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge end shall be provided as necessary.
 - Outlet channel must have positive drainage from the trap.
 - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/4 of the wet storage depth of the trap (350 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
 - The structure shall be inspected periodically after each rain and repaired as needed.
 - Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
 - The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

NOTE: MAXIMUM DRAINAGE AREA= 10 ac.



NOTE: THE DEPTH OF THE BASE DEPENDS ON THE COR TEST RESULTS AND MAY REQUIRE MODIFICATIONS TO THE TYPICAL SECTION SHOWN IN THIS PLAN.



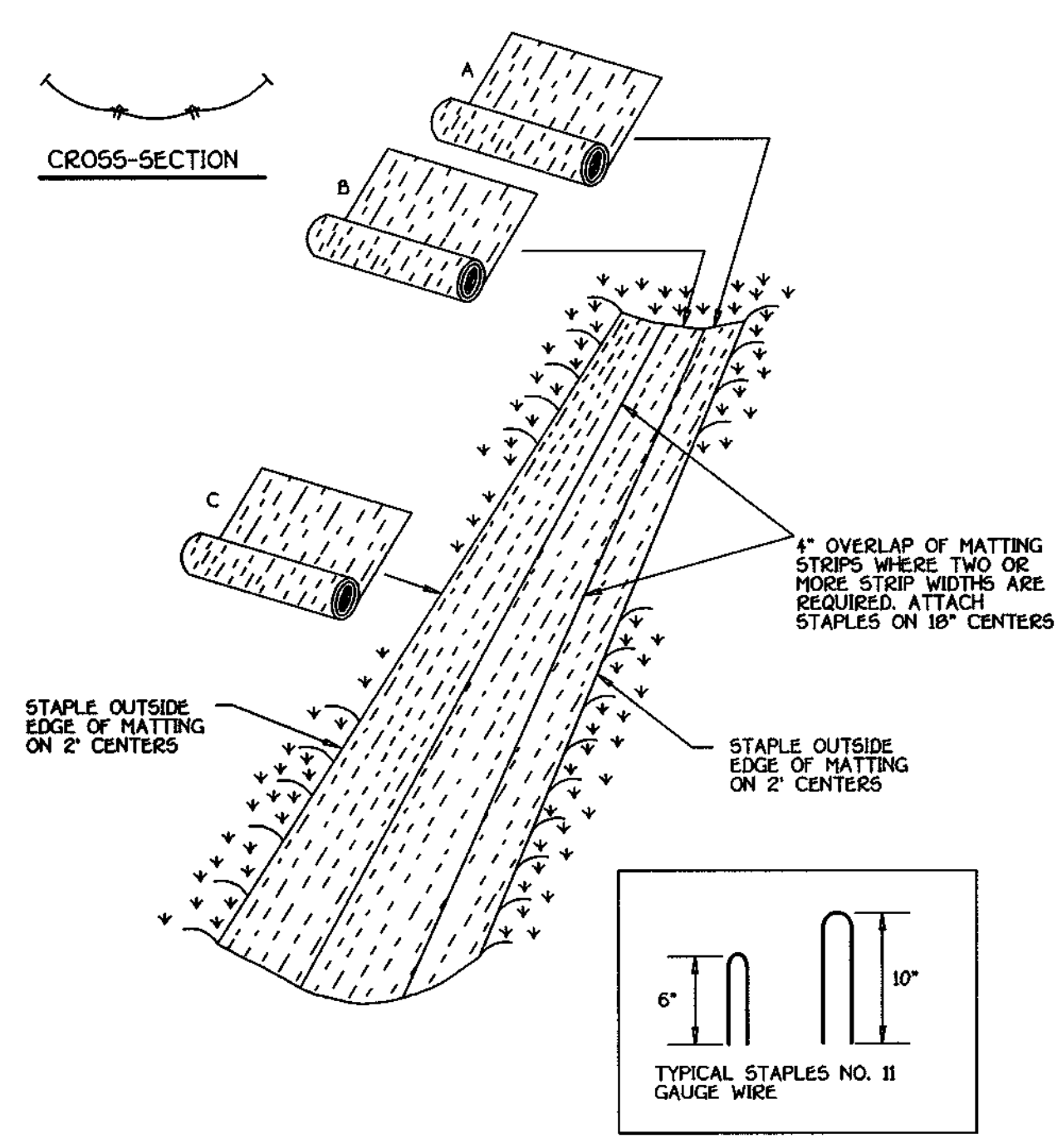
THE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STD. DETAIL R-10.01

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 410 461-2955

OWNER
 BERTHA MAY BURGESS
 13126 TRIADELPHIA ROAD
 ELICOTT CITY, MARYLAND 21042

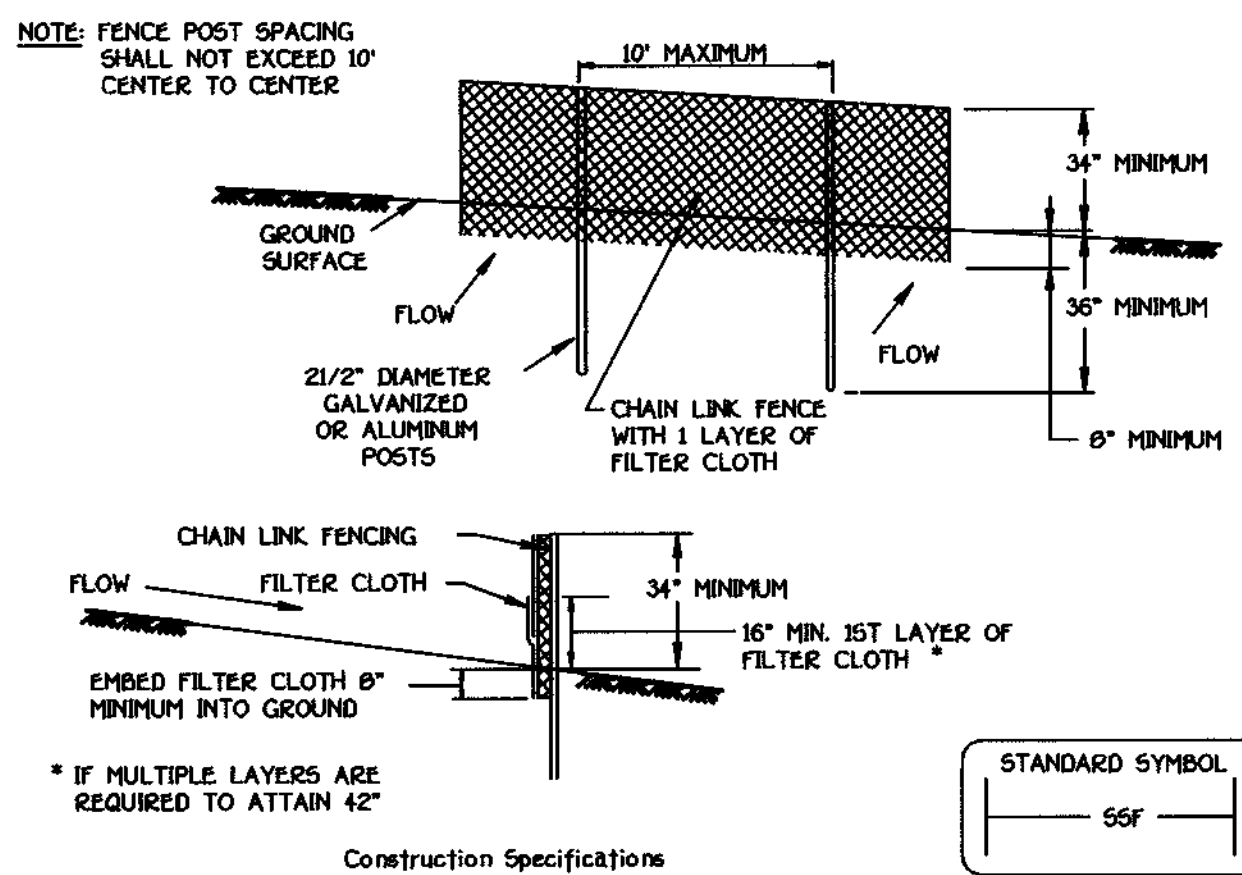
DEVELOPER
 BENSON BRANCH OVERLOOK, L.L.C.
 c/o MR. DONALD R. BELLWEE, JR.
 LAND DESIGN AND DEVELOPMENT, INC.
 10605 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MARYLAND 21044

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", shiplap 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 effected by the flow must be keyed-in.

DETAIL 33 - SUPER SILT FENCE



- Construction Specifications**
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
 - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
 - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 - Filter cloth shall be embedded a minimum of 8" into the ground.
 - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
 - Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
 - Filter cloth shall be fastened securely to each fence post with wire ties or staples at 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/ft /min/ft (max) | Test: MSMT 322 |
| Filtering Efficiency | 75% (min) | Test: MSMT 322 |

SEQUENCE OF CONSTRUCTION

- Obtain The Required Grading Permit.
 - Notify Miss Utility 48 Hours Before Beginning Any Work (1-800-257-7777). Notify Howard County Office Of Construction/Inspection At (410) 313-1000 (5) Working Days Prior To Start Of Construction.
 - Install Tree Protection Fence. (2 Days)
 - Install Sediment Control Measures, Stabilized Construction Entrance, Rip-Rap Outlet Sediment Trap, Earth Dikes And Silt Fence. Stabilize Disturbed Areas Per Temporary Seeding Notes. (1 Week)
 - Grade Road To Subgrade And Install Storm Drains, Inlets And Road Side Ditches. (1 Week)
 - Construct Stormwater Management Pond. (1 Week)
 - Construct Road. (1 Week)
 - Obtain Permission From The Sediment Control Inspector To Remove Sediment Control. (2 Days)
 - Stabilize All Disturbed Areas With Permanent Seeding. (2 Days)
- NOTE: CONTRACTOR TO MAINTAIN CONTINUOUS AND UNINTERRUPTED ACCESS TO ADJACENT LOT NO. 1 IN THE "BERTHA MAY BURGESS SUBDIVISION."

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature of Developer: *[Signature]* DATE: 2-27-98

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Engineer: *[Signature]* DATE: 2-27-98

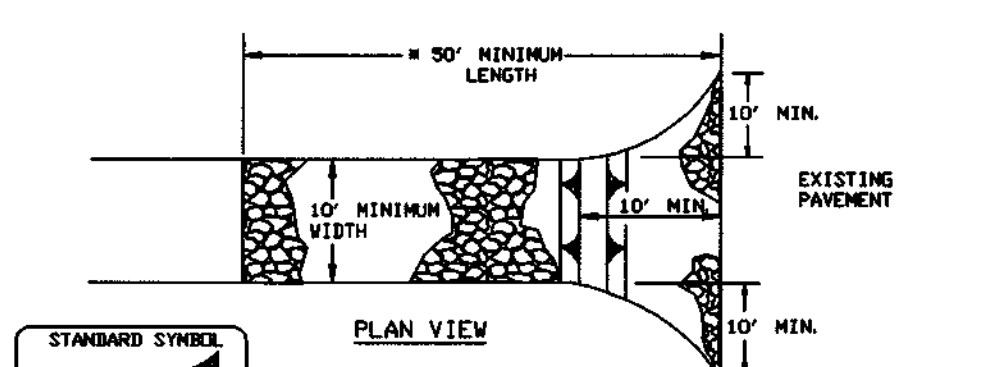
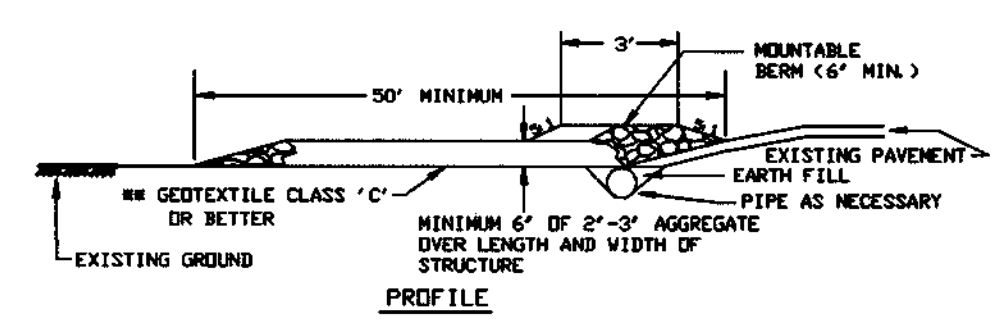
Signature of Engineer: *[Signature]* DATE: 6/19/98

Signature of Engineer: *[Signature]* DATE: 6/19/98

Signature of Engineer: *[Signature]* DATE: 6-18-98

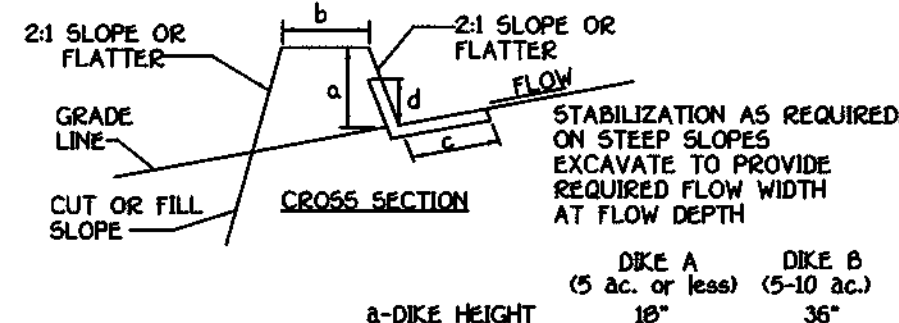


DETAIL SHEET
BENSON BRANCH OVERLOOK
 LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'
 (A RESUBDIVISION OF LOTS 1, 2 & 3 BENSON BRANCH OVERLOOK, PLAT NO. 130B77)
 ZONED : "RR-DEO"
 TAX MAP No. 22 PARCEL 10 BLOCK 9
 THIRD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: FEBRUARY, 1998
 SHEET 11 OF 15



STABILIZED CONSTRUCTION ENTRANCE - 2
NOT TO SCALE

- Construction Specifications**
- Length - minimum of 30" (830" for single residence lot).
 - Width - 10" minimum, should be placed 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 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.



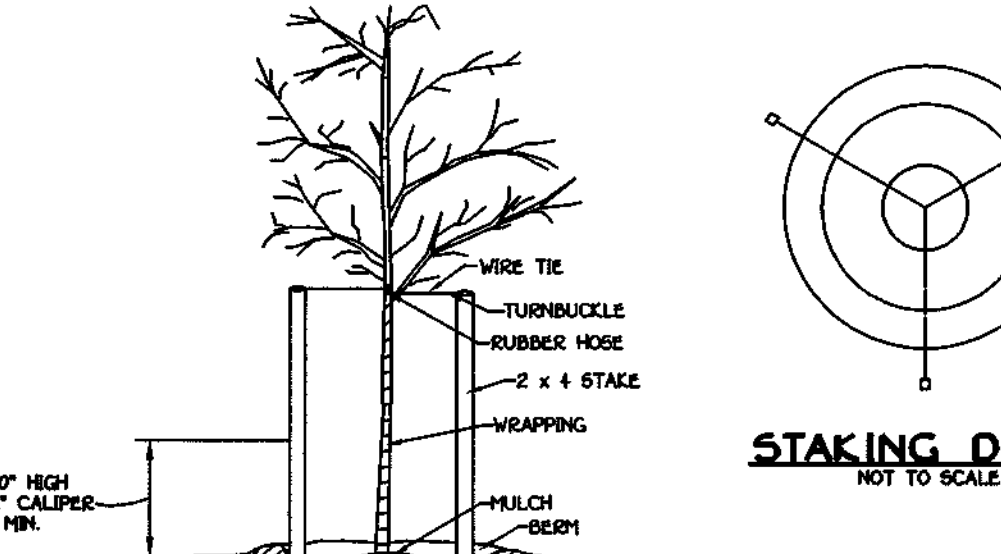
FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
3	5.1-8.0%	SEED WITH JUTE, OR SOD: 2" STONE	SEED WITH JUTE, OR SOD: EXCESSIVE: SOD: 2" STONE
4	8.1-20%	LINED RIP-RAP 4'-8"	LINED RIP-RAP 4'-8"

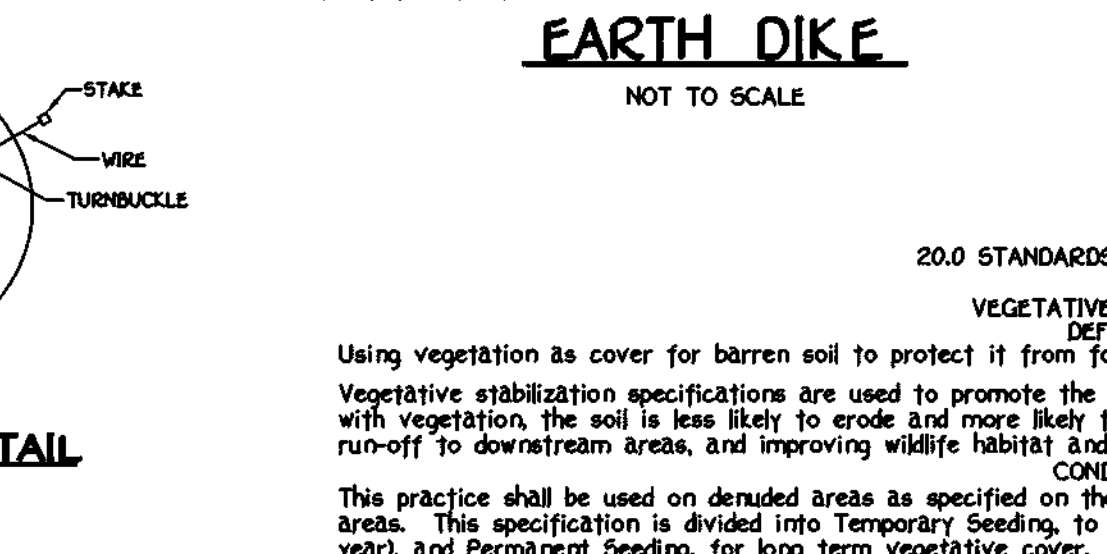
- CONSTRUCTION SPECIFICATIONS**
- ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
 - ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET. ON STEEP SLOPES EXCAVATE TO PROVIDE POSITIVE DRAINAGE AT FLOW DEPTH.
 - FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
 - EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR A DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
 - STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

EARTH DIKE
NOT TO SCALE



TREE PLANTING
NOT TO SCALE

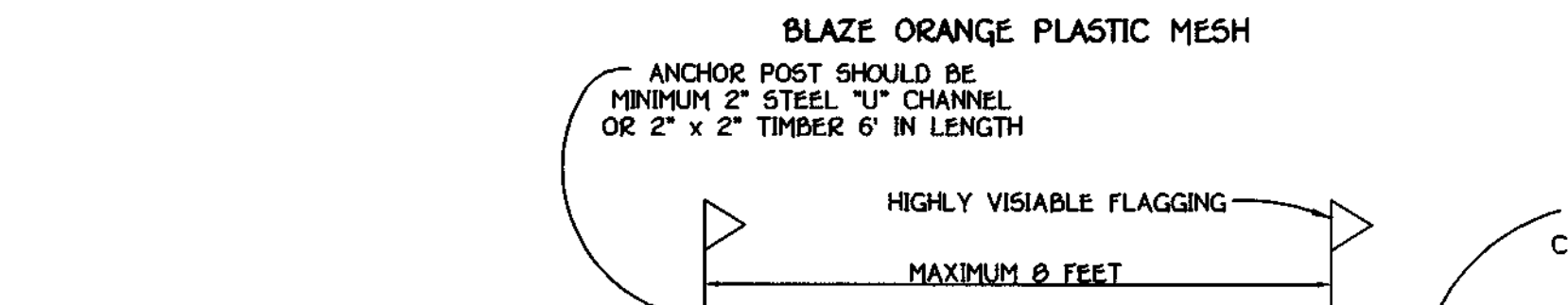


GRADING FOR PLANTING ON SLOPES
NOT TO SCALE

- SEDIMENT CONTROL NOTES**
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1059).
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1. b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE 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 SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 - ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - SITE ANALYSES:

TOTAL AREA OF SITE	30.8 ACRES
AREA TO BE ROOFED OR PAVED	6.4 ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.8 ACRES
TOTAL CUT	6,600 CU.YDS.
TOTAL FILL	6,600 CU.YDS.
 - OFFSITE WASTE/BOGROW 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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
 - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SEDIMENT CONTROL NOTES

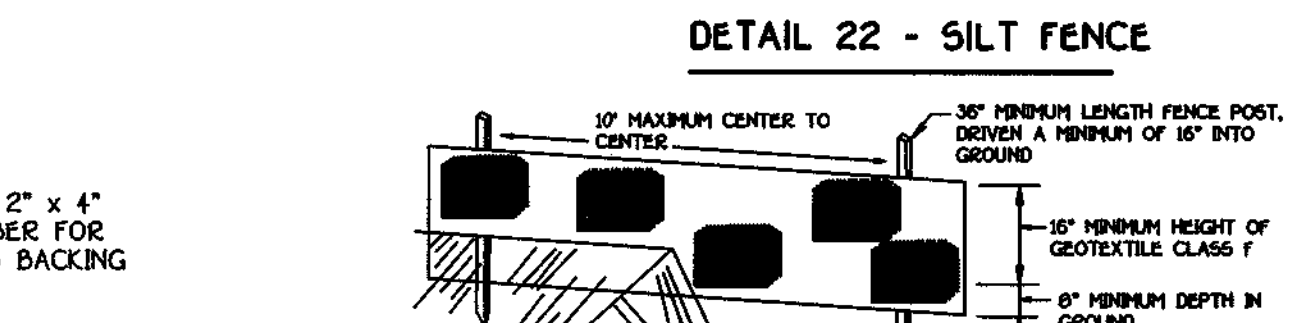


TREE PROTECTION DETAIL
NOT TO SCALE

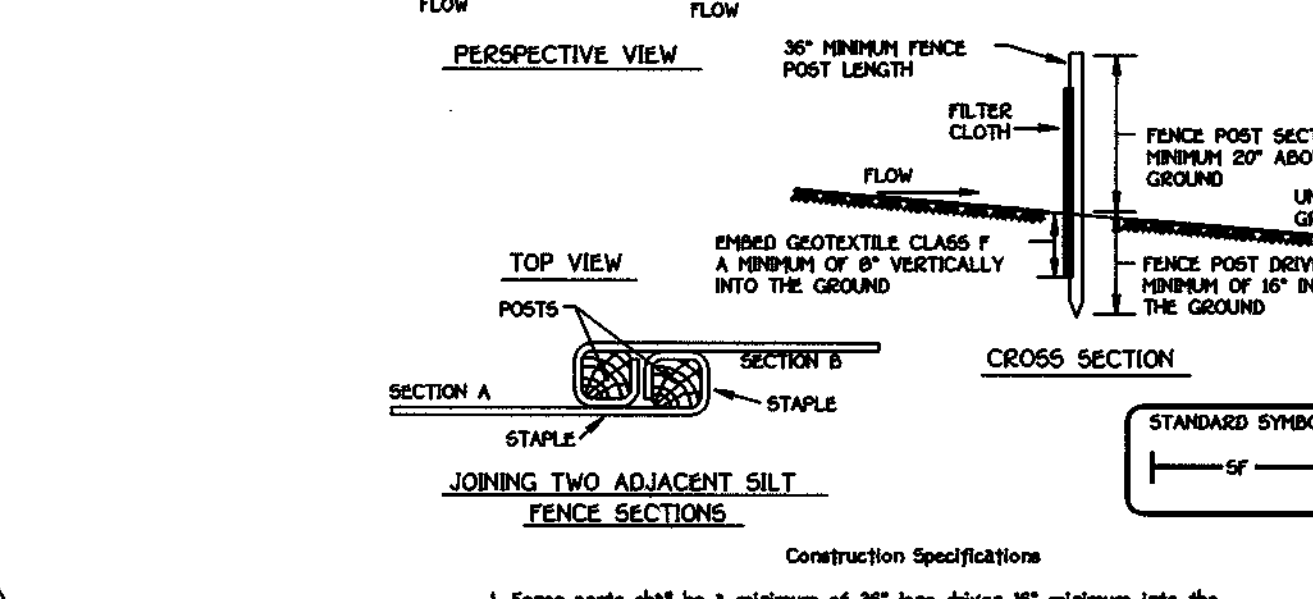
- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

- SEED SPECIFICATIONS**
- All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
 - Inoculant for treating legume seed in the seed mixture shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the amount of inoculant as directed on package. It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.
- Methods of Seeding**
- Hydroseeding** - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
 - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs./acre; K2O (potassium); 200 lbs./acre.
 - Lime - use only ground agricultural limestone. Up to 5 tons per acre may be applied by hydroseeding. Where practical, seed should be applied in two directions perpendicular to each other. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Dry Seeding** - This includes use of conventional drop or broadcast spreaders.
 - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 266. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Drill or Cultipacker Seeding** - Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeding shall be applied in two directions perpendicular to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- Mulch Specifications (in order of preference)**
- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be more than 1/2 inch in diameter or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFM)
 - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity spread slurry.
 - WCFM, including dye, shall contain no germination or growth inhibiting factors.
 - WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and retention properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFM materials shall contain no elements or compounds at concentration levels that will be phytotoxic to grass seedlings.
 - WCFM must conform to the following physical requirements: fiber length to approximately 1 mm, diameter approximately 1 mm, pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
 - Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
 - If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution of water and the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber mulch and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
 - Securing Straw Mulch (Mulch Anchoring) - Mulch anchoring shall be performed immediately following mulch application to minimize erosion. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface. The remainder of area should be spread uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroseal, Terra Tax II, Terra Tack AK or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and crevices. The remainder of area should be spread uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroseal, Terra Tax II, Terra Tack AK or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

SEED SPECIFICATIONS



DETAIL 22 - SILT FENCE



CONSTRUCTION SPECIFICATIONS

- Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1/2" x 1/2" square (minimum cut), or 1 3/4" diameter (minimum round) and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 100 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class I:

Tensile Strength	50 lb/in (min)	Tensile HSBT	500
Tensile Modulus	50 lb/in (min)	Tensile HSBT	322
Flow Rate	0.3 gal / ft / minute (max)	Tensile HSBT	322
Filtration Efficiency	75% (min)	Tensile HSBT	322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

CONSTRUCTION SPECIFICATIONS

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THE PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature of Developer: *James R. Roman* DATE: 2-27-98

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature of Engineer: *James R. Roman* DATE: 2-27-98

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Signature: *James R. Roman* DATE: 6/19/98

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

Signature: *James R. Roman* DATE: 6/19/98

APPROVED DEPARTMENT OF PLANNING AND ZONING

Signature: *James R. Roman* DATE: 6/20/98

APPROVED DEPARTMENT OF PLANNING AND ZONING

Signature: *James R. Roman* DATE: 6/19/98

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature: *James R. Roman* DATE: 6-18-98

SEDIMENT CONTROL NOTES AND DETAILS

BENSON BRANCH OVERLOOK

LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'

(A RESUBDIVISION OF LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)

PLAT NO. 130871

ZONED: "RR-DEG"

TAX MAP No. 22 PARCEL 10 BLOCK 9

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: FEBRUARY, 1998

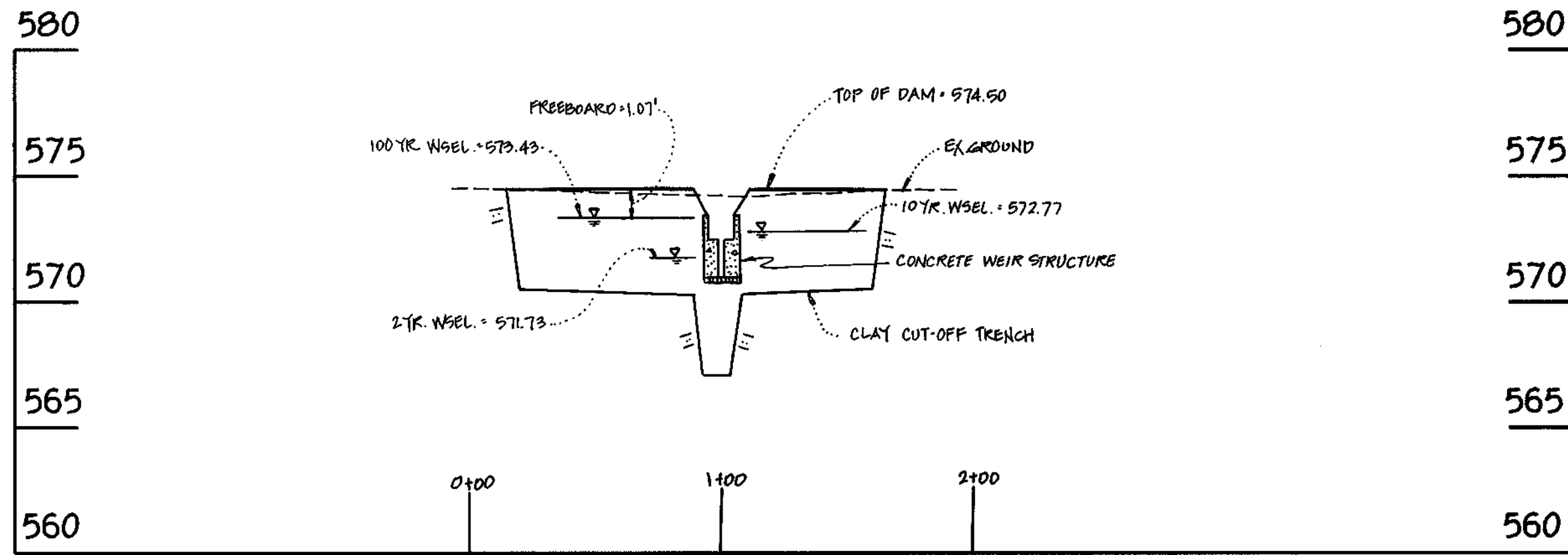
SHEET 12 OF 15

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS, CONSULTANTS & LAND SURVEYORS
CENTRAL SERVICE OFFICE, P.O. BOX 10272 BALTIMORE, MARYLAND 21286
ELICOTT CITY, MARYLAND 21042
410-661-2999

OWNER
BERTHA MAY BURGESS
13126 TRADAPLATA ROAD
ELLICOTT CITY, MARYLAND 21042

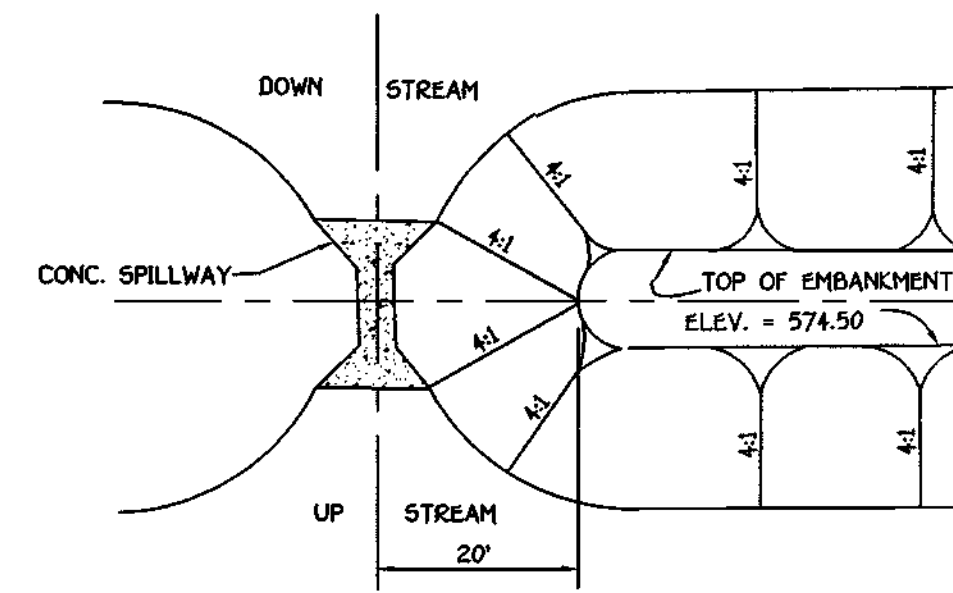
DEVELOPER
BENSON BRANCH OVERLOOK, L.L.C.
c/o MR. DONALD C. BULLER, JR.
LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MARYLAND 21044



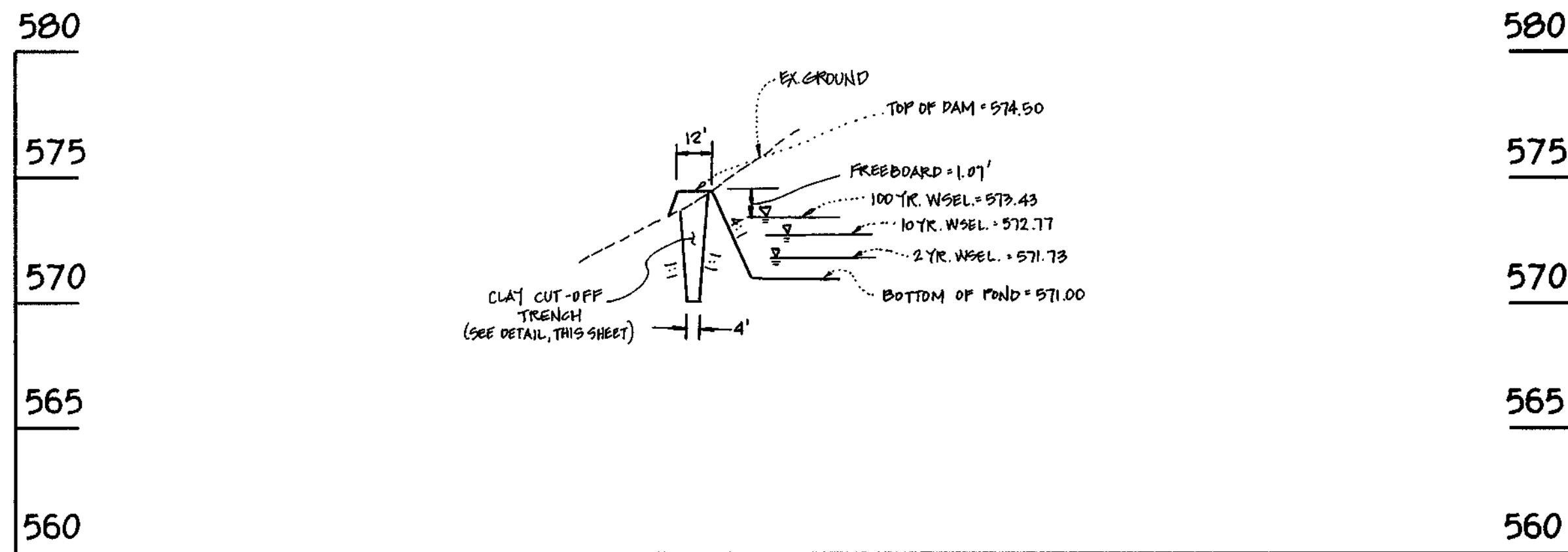


PROFILE THRU C OF DAM

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

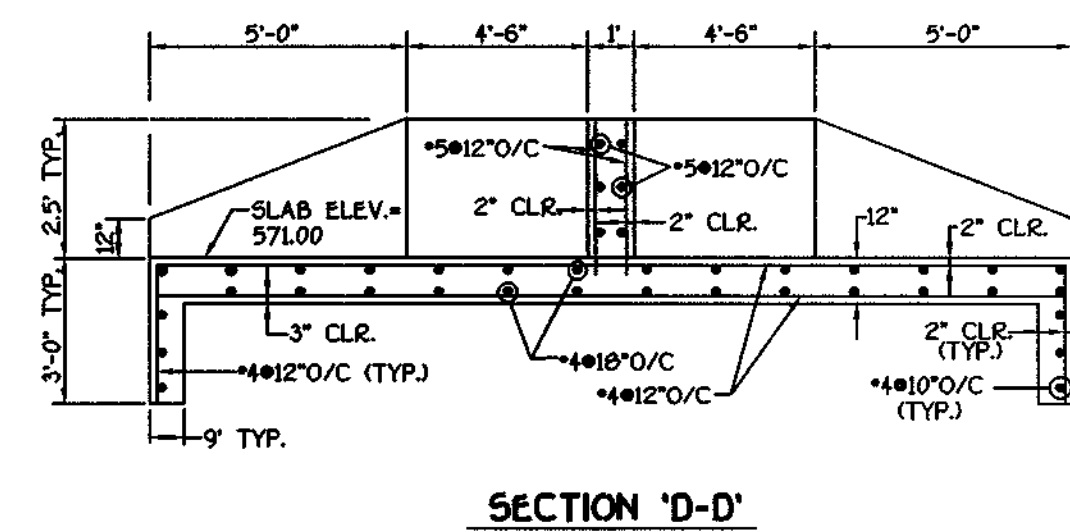


EARTH TRANSITION DETAIL
NOT TO SCALE

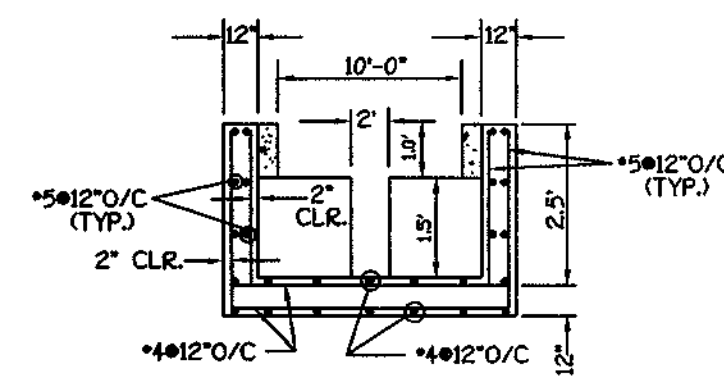


SECTION 'A-A'

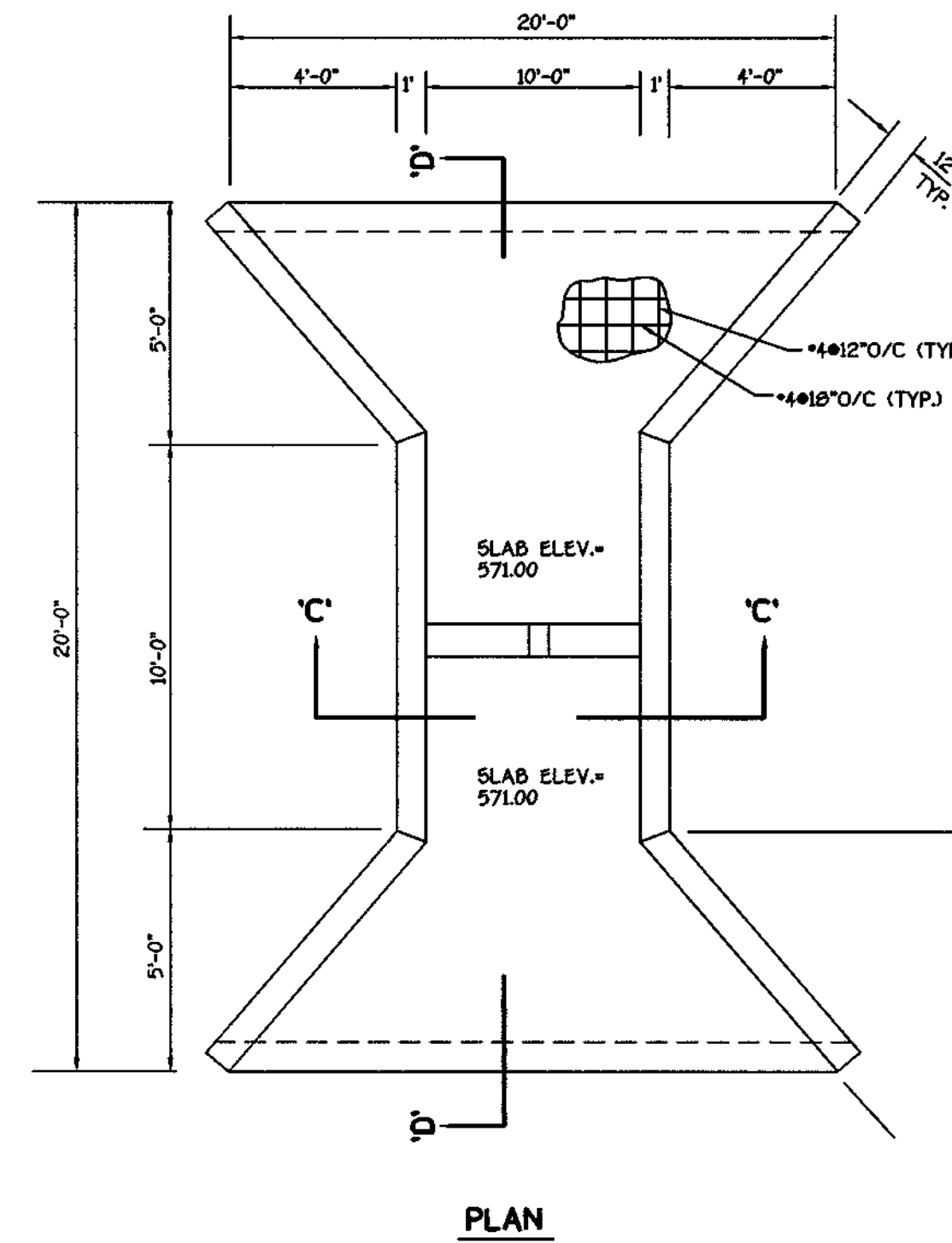
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VERT. : 1" = 5'



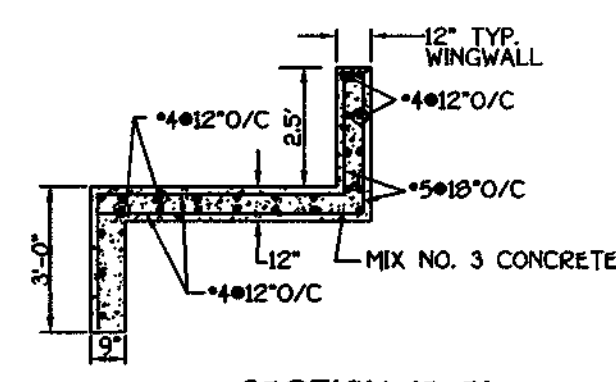
SECTION 'D-D'



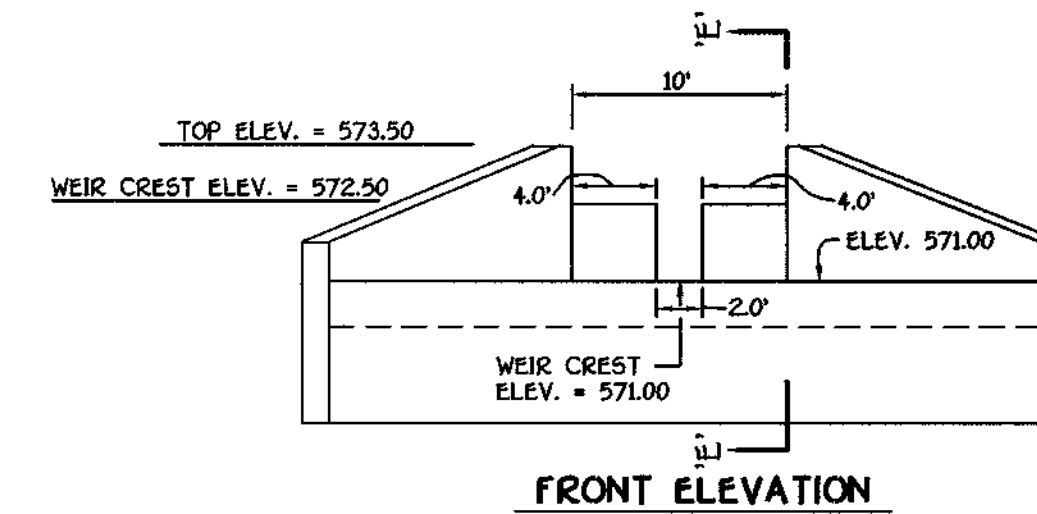
SECTION 'C-C'



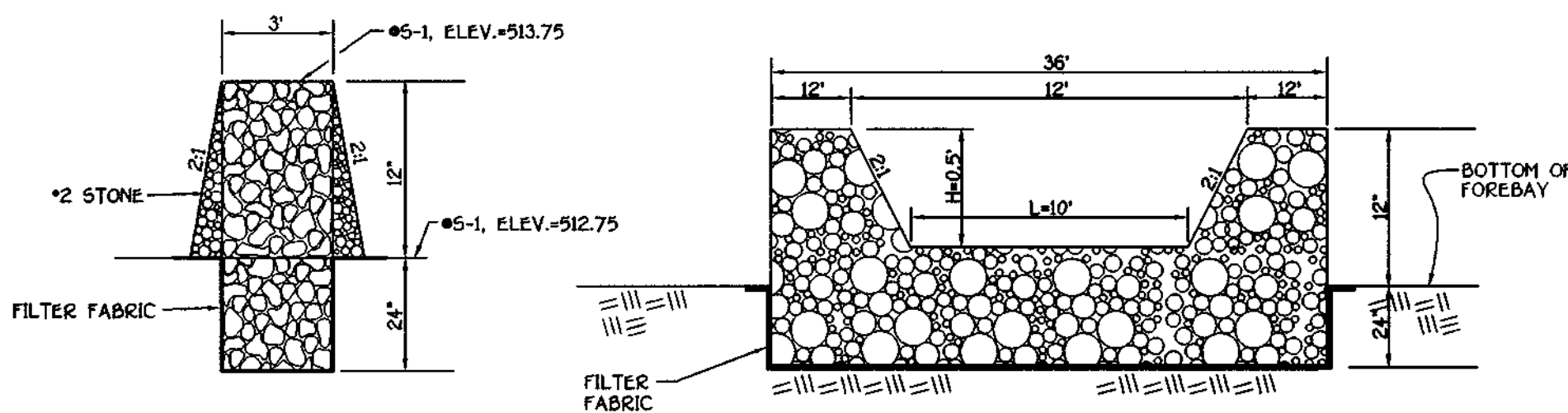
PLAN



SECTION 'E-E'



FRONT ELEVATION



GABION FILTER DETAIL
NOT TO SCALE

GABION WEIR SECTION
NOT TO SCALE

(MODIFIED HOWARD COUNTY STD. DTL. S.D.-7.00)
CONCRETE WEIR STRUCTURE DETAIL
NOT TO SCALE

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."

Signature Of Developer: *[Signature]* Date: 2-27-98

Printed Name Of Developer: _____

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 Of Engineer: *[Signature]* Date: 2-27-98

Printed Name Of Engineer: _____

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.
Signature: *[Signature]* Date: 6/9/98

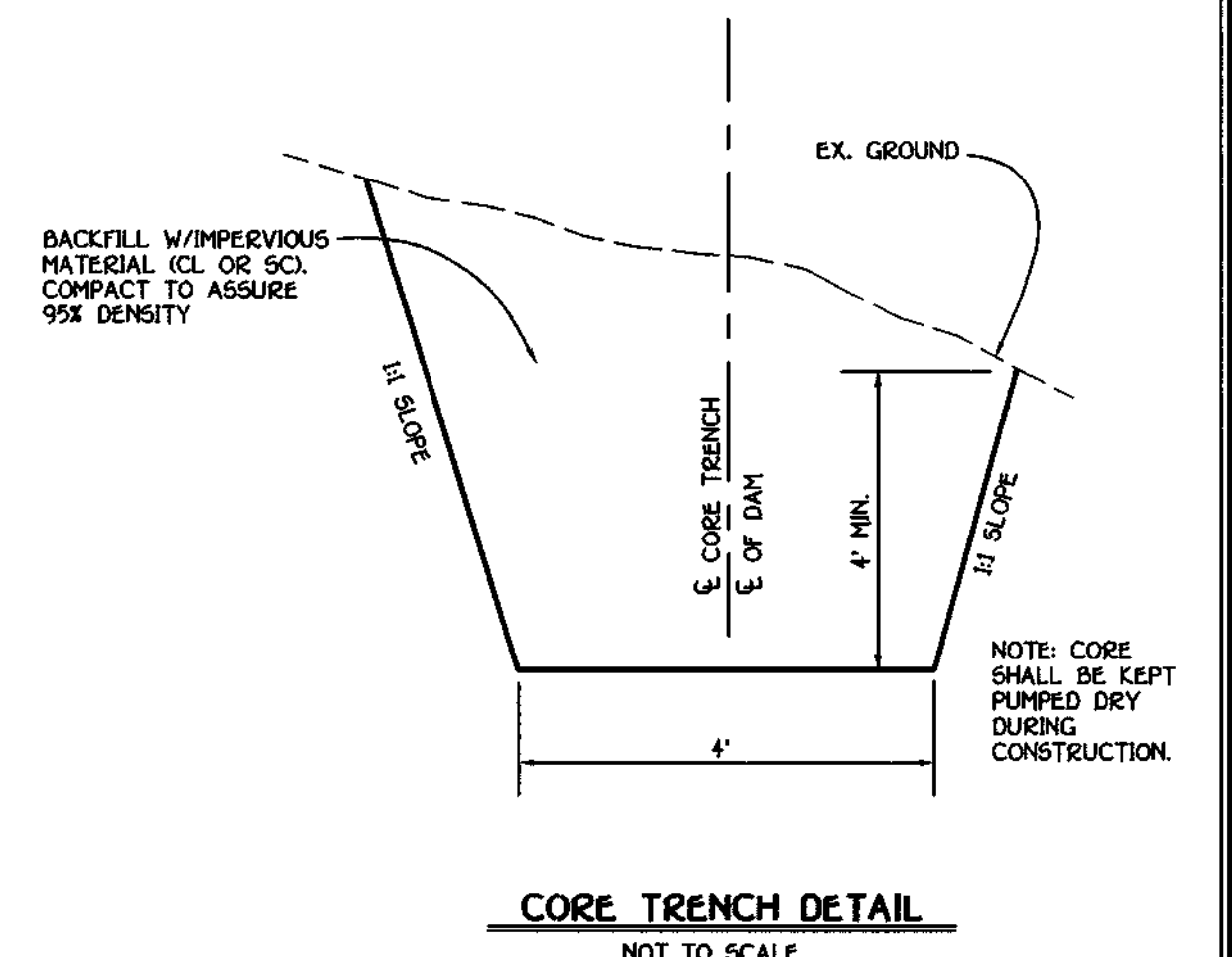
Signature: *[Signature]* Date: 6/9/98

Approved: Department Of Public Works
Signature: *[Signature]* Date: 6-18-98

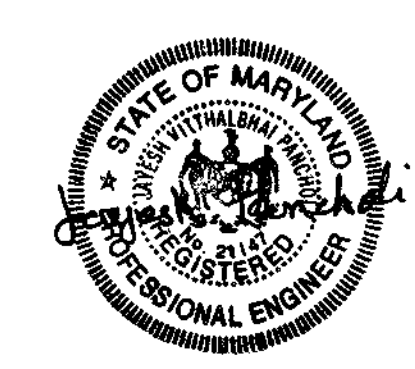
Approved: Department Of Planning And Zoning
Signature: *[Signature]* Date: 6/22/98

Signature: *[Signature]* Date: 6/19/98

AS-BUILT CERTIFICATION
I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.
Signature: _____ P.E. No. _____
Date: _____
Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.



CORE TRENCH DETAIL
NOT TO SCALE



CONSTRUCTION SEQUENCE

1. Obtain grading and building permits and conduct a pre-construction meeting with the Howard County inspectors.
2. Install sediment control and perimeter tree protection fencing and signage along disturbed limits per the plan.
3. Complete grading and construction of structures.
4. Remove temporary tree protection measures.
5. Install afforestation/reforestation plantings as required.
6. Inspect and maintain afforestation plantings for a 2 year period.
7. Provide a final report and certification of survivability of plantings.

REFORESTATION PLANTING NOTES

1. Reforestation areas may be planted as soon as reasonable to do so. Late winter-early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as condition warrants.
2. Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollins, N.Y. 11423 or approved equal.
3. Plant materials will be planted in accordance with the Planting Distribution Diagram, Planting Details and plant schedule.
4. Plant material shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standard for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
5. Planting stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
6. Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill material.
7. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angering is preferred with scarification of the sides of each hole.
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.

REFORESTATION AREA MONITORING NOTES

1. Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill.
2. The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall.
3. Survival will be determined by a stratified random sampling of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement plantings if required at that time.

PLANT SCHEDULE

species	size	quantity
Red Maple	whip/seedling	588
Black Oak	whip/seedling	294
Red Bud	whip/seedling	294
Flowering Dogwood	whip/seedling	294
Total		1470*

*1470 trees total at 700 whips/seedlings per acre

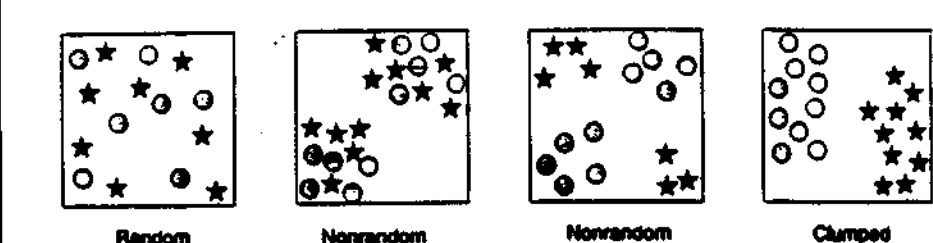
FOREST TREE PROTECTION AND MANAGEMENT NOTES

1. Tree protection devices shall be installed prior to any grading or land clearing.
2. After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place a pre-construction meeting with the Howard County inspector is required.
3. No grading, storage of equipment, vehicles, equipment staging or dumping is permitted within forest conservation easement areas.
4. Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
5. Attachment of signs or any other objects to trees is prohibited.
6. Root pruning will be performed with rotary ditching equipment or vibratory knife as conditions warrant.
7. Any significant changes made to the forest conservation plan shall be made with the prior consent of the Howard County Inspector.
8. No burial of discarded material is permitted within forest conservation and planting areas.
9. No open burning within 100ft. Of wooded areas is permitted.
10. Post Construction Phase
 - a. Inspect existing trees around perimeter of site for signs of root or trunk damage and excessive soil compaction.
 - b. Remove dead or dying trees and evaluate for hazard tree removal*
 - c. All temporary forest protection devices will be removed after construction.
 - d. Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this forest conservation plan.

* A licensed arborist or forester should be retained for this service as needed.

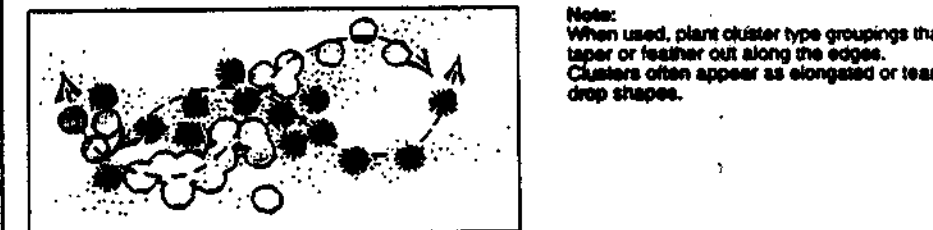
State Forest Conservation Manual
Section 3.8: Forest and Tree Protection: How it Occurs

Typical Forest Tree Distribution Patterns



Note: Naturally occurring populations of trees tend to be found in informal groupings. A cluster of trees is really a mosaic of different species groups. The objective of an afforestation/reforestation plan is to select the appropriate species and distribution pattern for a chosen site that meets natural patterns.

Aggregate Distribution Drift

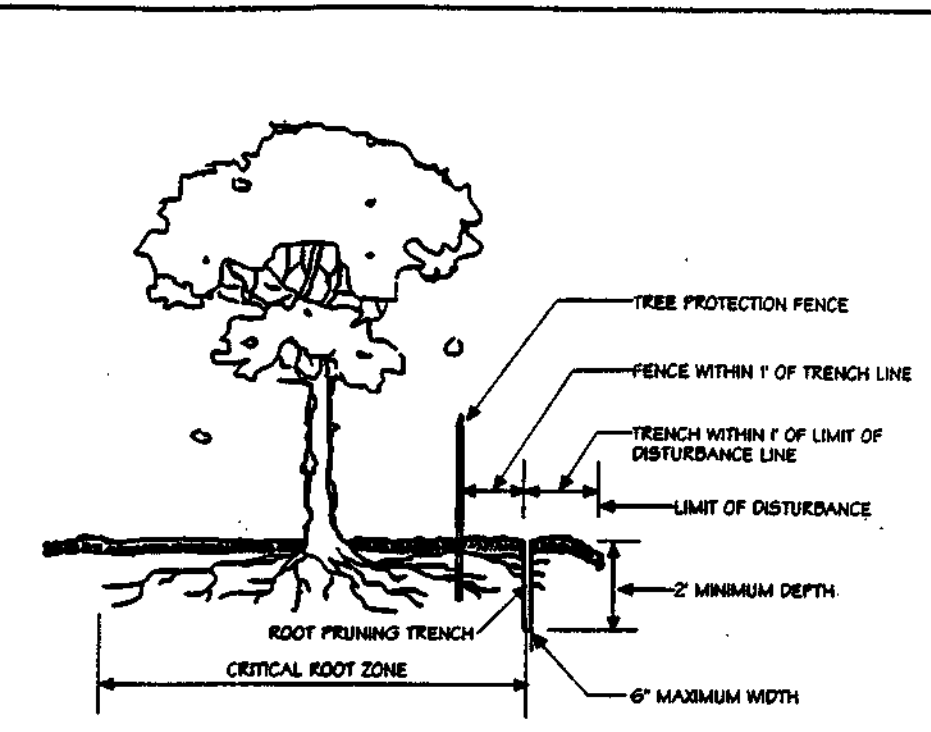


Mixing Transplant Stock



Planting Distribution Patterns Figure 3.8.2

State Forest Conservation Manual
Appendix C: Sample Details and Specifications



Notes:
1. Retention Areas to be established as part of the forest conservation plan review process.
2. Boundaries of Retention Areas to be staked, flagged and/or fenced prior to trenching.
3. Exact location of trench should be identified.
4. Trench should be immediately backfilled with soil removed or organic soil.
5. Roots should be clearly cut using vibratory knife or other acceptable equipment.

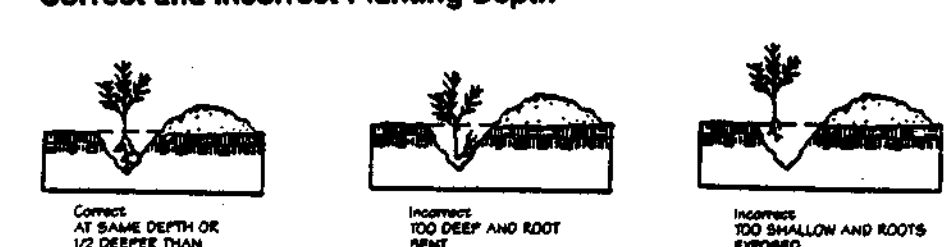
Root Pruning Figure C-1

State Forest Conservation Manual
Appendix C: Sample Details and Specifications

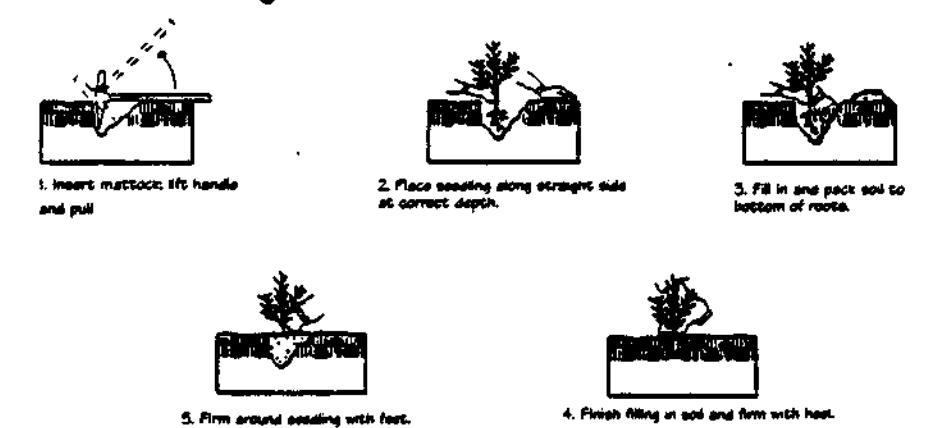
Seedling and Whip Planting



Correct and Incorrect Planting Depth

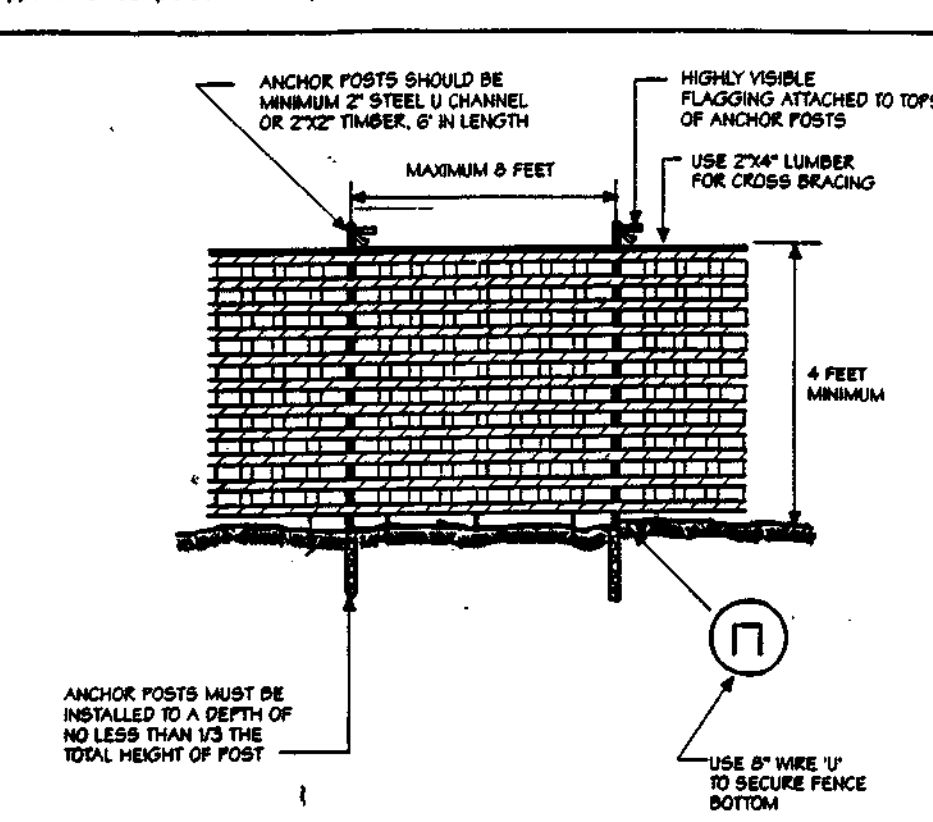


Mattock Planting



Seedling and Whip Planting Techniques Figure C-18

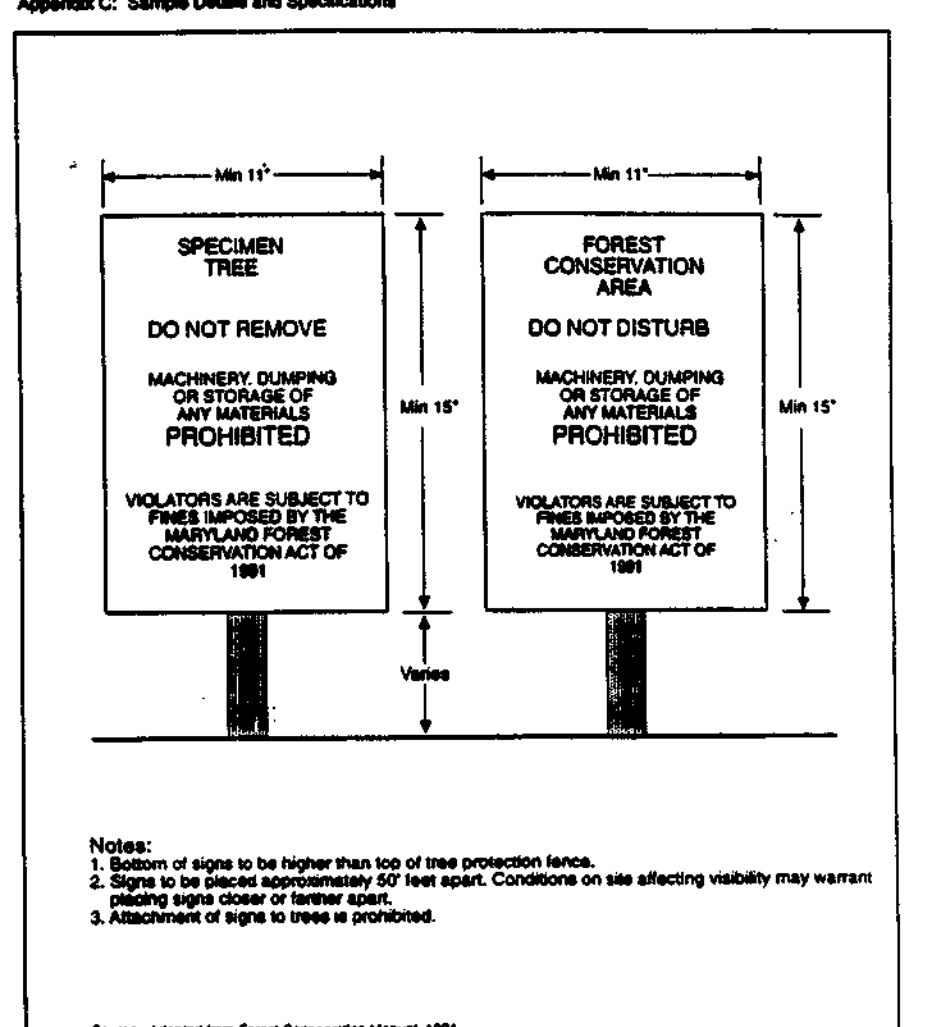
State Forest Conservation Manual
Appendix C: Sample Details and Specifications



Notes:
1. Blaze orange or blue plastic mesh fence for forest protection device, only.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
5. Protection signs are required. See Figure C-4.
6. Device should be maintained throughout construction.

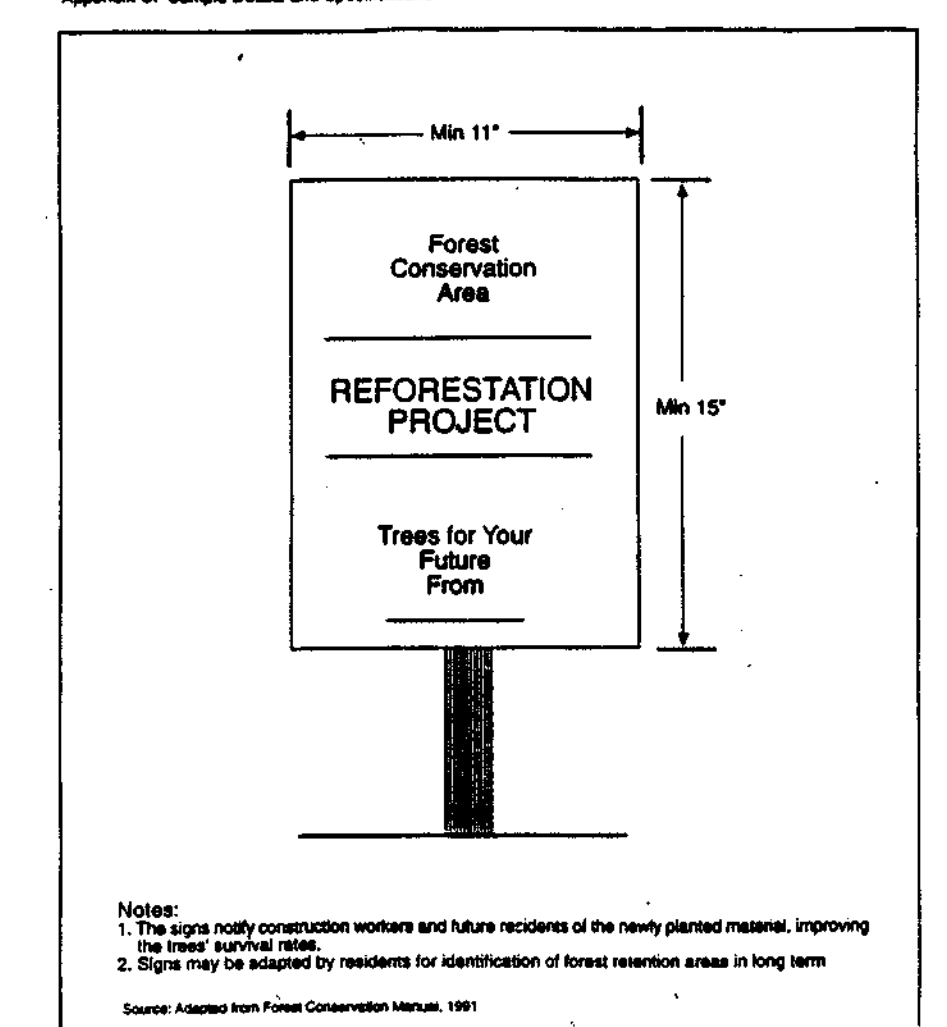
Plastic Mesh Tree Protection Fence Figure C-5

State Forest Conservation Manual
Appendix C: Sample Details and Specifications

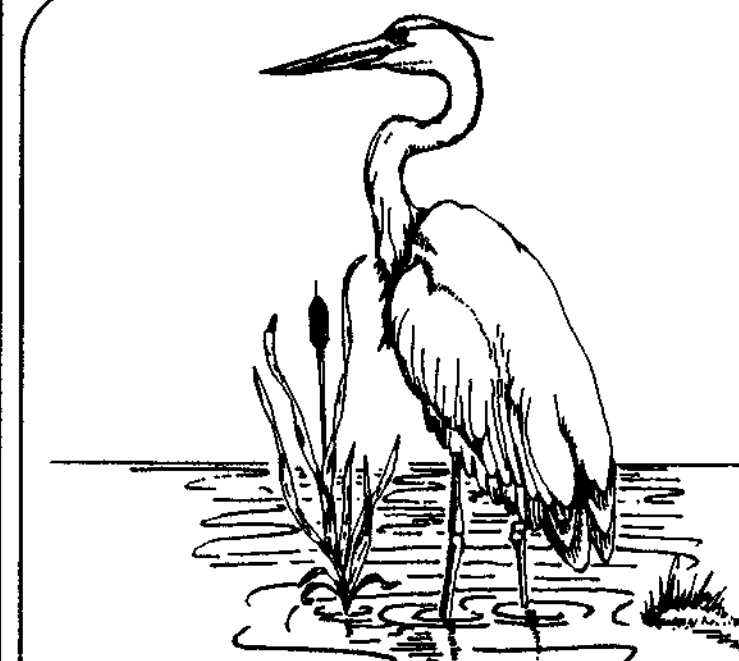


Construction Signs Figure C-4

State Forest Conservation Manual
Appendix C: Sample Details and Specifications



Reforestation and Afforestation Area Signs Figure C-21



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FINAL FOREST CONSERVATION PLAN
BENSON BRANCH OVERLOOK
LOTS 4 THRU 17 AND PARCELS 'A' AND 'B'
TAX MAP 22, PARCEL 10, BLOCK 9
THIRD ELECTION DISTRICT
HOWARD COUNTY, MD

OWNER
BERTHA MAY BURGESS
131126 TRIADDELPHIA ROAD
ELLICOTT CITY, MD 21042

DEVELOPER
BENSON BRANCH L.L.C.
c/o MR. DONALD R. REUWER, Jr.
LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE #215
COLUMBIA, MD 21044

DRAWN BY: MJK SCALE:
DESIGNED BY: SJS DATE:
CHECKED BY: JZ SHEET 15 OF 15

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dumbro 6-18-98
CHIEF, BUREAU OF HIGHWAYS DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cathy Hamilton 6/22/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Bob Dammann 6/19/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

