

SITE DATA

1. LOCATION: TAX MAP 40, PARCEL 44, LOT 1
2. 5TH ELECTION DISTRICT
3. ZONING: RR-DEO
4. GROSS AREA OF PROJECT: 9.73 AC
5. NO. OF DWELLING UNITS PROPOSED (INCLUDING EXISTING RESIDENCE): 4
6. AREA OF PROPOSED RESIDENTIAL LOTS: 5.36 AC
7. AREA OF NON-BUILDABLE PRESERVATION SPACE TO BE OWNED BY HOA: 4.18 AC.
8. OPEN SPACE REQUIRED: NONE
9. RECREATION OPEN SPACE REQUIRED: NONE
10. AREA OF PROPOSED ROADS: 0.19 AC
11. AREA OF 100 YEAR FLOOD PLAIN: NONE
12. NO. OF LOTS/PARCELS:
4 BUILDABLE LOTS
2 NON-BUILDABLE PRESERVATION PARCELS
13. SP 03-07 FOR THIS SUBDIVISION APPROVED ON AUGUST 12, 2003.

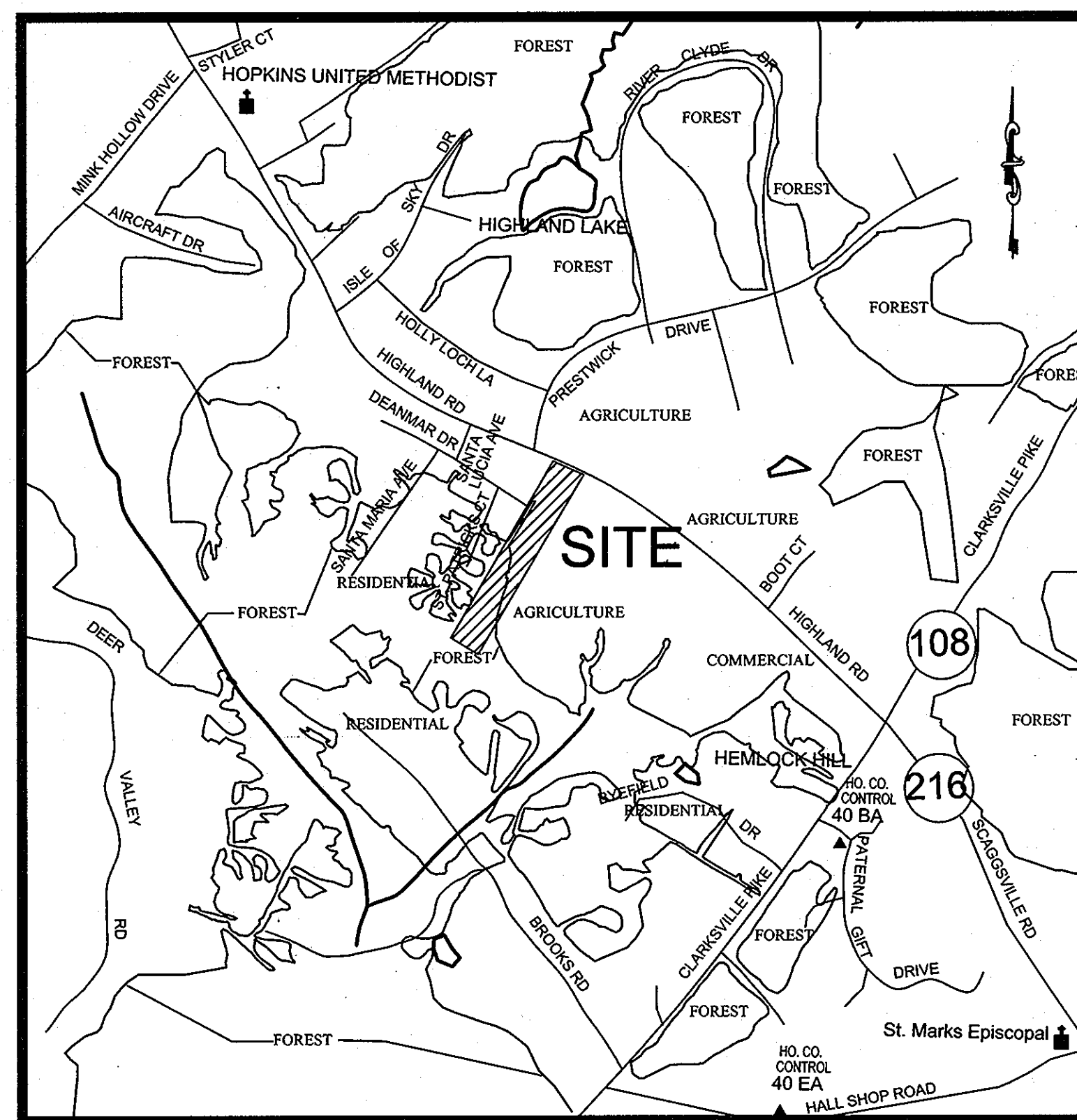
GENERAL NOTES:

1. THE PROJECT IS IN CONFORMANCE WITH THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. THIS PLAN SHALL BE SUBJECT TO THE FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND AMENDED ZONING REGULATIONS PER COUNCIL BILL 50-2001.
3. DEED REF.: LIBER 1100 FOLIO 242
4. DENSITY CALCULATIONS:
GROSS AREA: 9.73 AC
NET AREA: 9.73 AC
NUMBER OF UNITS BY RIGHT: (9.73/4.25) = 2
NUMBER OF UNITS BASED ON DEO/CEO OPTION (9.73/2) = 4
REQUIRED NUMBER OF DEO'S (4 - 2) = 2 DEO'S (SEE DENSITY RECEIVING PLAT 16891 RE-04-02)
NO. OF BUILDABLE ENTITIES PROPOSED: 4 LOTS
NO. OF NON-BUILDABLE ENTITIES PROPOSED: 2 PRIVATELY OWNED PRESERVATION PARCELS
5. THE EXISTING SINGLE FAMILY RESIDENCE ON LOT 27 IS TO REMAIN.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH 2-FOOT CONTOUR INTERVALS PREPARED BY AIR SURVEY PHOTOGRAMMETRIC MAPPING SERVICES, DATED MARCH 18, 2001.
7. STORMWATER MANAGEMENT PROVIDED BY ENVIRONMENTALLY SENSITIVE DEVELOPMENT CREDIT & BY SWM POND ON OWINGS LOT 3 (PER APPROVED F-03-133).
8. WATER WILL BE PRIVATE WELLS FOR ALL LOTS
9. SEWER WILL BE PRIVATE ON LOT SYSTEMS FOR ALL LOTS
10. FOREST STAND DELINEATION BY DEWBERRY & DAVIS LLC, FEB 2002, APPROVED JUNE 2003
11. APFO TRAFFIC STUDY PREPARED BY LEE CUNNINGHAM & ASSOC. OCT., 2002 (APPROVED UNDER S-01-18).
12. LANDSCAPING IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN INCLUDED WITH THE ROAD CONSTRUCTION PLAN SET IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS & THE LANDSCAPE MANUAL.
13. FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPE STEM AND THE ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
14. STREET LIGHTING IS NOT REQUIRED FOR THIS SITE.
15. THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT.
16. THERE ARE NO BURIAL OR CEMETERY LOCATIONS ON THIS SITE.
17. THERE ARE NO WETLANDS ON SITE BASED ON FIELD STUDY DONE BY DEWBERRY & DAVIS LLC PER LETTER DATED OCTOBER 31, 2002, SUBMITTED WITH SP 03-07, WHICH WAS APPROVED ON AUGUST 12, 2003.
18. THIS SITE MEETS THE OBJECTIVES OF ZONING SECTION 105.F.(6) BY:
A. PROVIDING PRESERVED AREAS THAT FUNCTION AS FOREST CONSERVATION AREAS AND PRESERVE THE RURAL CHARACTER OF THE SITE.
B. CLUSTERING LOTS & CONSOLIDATING SEPTIC AREAS TO MINIMIZE DISTURBANCE TO FOREST AREAS RESOURCES.
C. ELIMINATING FARMING DISTURBANCE ACTIVITIES.
D. PRESERVING EXISTING VEGETATION ALONG HIGHLAND ROAD.
E. PRESERVING RURAL & SCENIC VIEWS FROM HIGHLAND ROAD BY LOCATING HOUSING A MINIMUM OF 150' FROM THE R.W.
19. PLANNING & ZONING FILE NUMBERS: F-82-32, F-84-58, VP-82-43, VP-84-21, F-03-133, SP 03-07, RE-04-02.
20. A FOREST CONSERVATION PLAN IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD CO. CODE & THE FOREST CONSERVATION MANUAL IS PROVIDED AS PART OF THIS FINAL PLAN FOR THIS SITE. FOREST CONSERVATION WILL BE PROVIDED BY ON-SITE RETENTION OF 2.9 ACRES MINIMUM.
21. THERE ARE NO HISTORIC SITES ON THIS PROPERTY.
22. WATERSHED: PATUXENT. STREAM USE DESIGNATION: NATURAL
23. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
24. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
25. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
26. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNINGS 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.
27. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASTHO T-180.
28. THE SURETY AMOUNT FOR ONSITE PERIMETER LANDSCAPING IS 11 SHADE TREES X \$300 = \$3,300. STREET TREES ARE NOT INCLUDED IN THE LANDSCAPE SURETY BOND.
29. THE ONSITE FOREST CONSERVATION SURETY IS \$25,264.80 (FOREST RETENTION 2.90 ACRES X \$8,712/SF)
30. DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAT FOR WATER, SEWER, STORM DRAINAGE, OTHER PUBLIC UTILITIES, AND FOREST CONSERVATION (DESIGNATED AS "FOREST CONSERVATION AREA"), LOCATED IN, OVER AND THROUGH THE NON-BUILDABLE PRESERVATION PARCEL 1 OR PORTIONS THEREOF, AND SHOWN ON THIS PLAT AS THE FOREST CONSERVATION AREA. ANY AND ALL CONVEYANCES OF AFORESAID PARCEL SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID LOT(S). DEVELOPER SHALL EXECUTE AND DELIVER A DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY, WITH A METES AND BOUNDS DESCRIPTION OF THE FOREST CONSERVATION AREA. UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND, IN CASE OF A FOREST EASEMENT(S), UPON COMPLETION OF DEVELOPER'S OBLIGATION UNDER THE FOREST CONSERVATION INSTALLATION AND DEVELOPER'S SURETY POSTED WITH SAID AGREEMENT, THE COUNTY SHALL ACCEPT THE EASEMENTS AND RECORD THE DEED(S) OF EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.
31. NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
32. NO GEOTECHNICAL REPORT IS REQUIRED FOR THIS PROJECT.
33. THERE IS NO FLOODPLAIN ON THIS SITE.
34. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3" LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
35. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY MDE.
36. THE EASEMENT HOLDERS FOR PRESERVATION PARCELS H AND I ARE (1) HOWARD COUNTY, MARYLAND, AND (2) OWINGS PROPERTY HOMEOWNERS ASSOCIATION, INC. A DEED OF PRESERVATION EASEMENT WILL BE RECORDED, CONCURRENT WITH THIS PLAT, FOR EACH PRESERVATION PARCEL, WHICH DEED WILL ESTABLISH THE USES AND RESTRICTIONS GOVERNING EACH SUCH PARCEL. THE LOT 25 HOMEOWNER WILL OWN NON-BUILDABLE PRESERVATION PARCEL H AND THE LOT 28 HOMEOWNER WILL OWN NON-BUILDABLE PRESERVATION PARCEL I.

FINAL ROAD CONSTRUCTION, GRADING, AND STORMWATER MANAGEMENT PLANS

OWINGS PROPERTY

5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=1000'

HOWARD COUNTY GEODETIC CONTROL

MON. NOS.	N	E	ELEV.
40BA	549,925.102	1,324,025.124	534.654
40EA	547,911.373	1,324,510.058	503.948

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	FINAL PLAN - TITLE SHEET
2	GRADING PLAN
3	GRADING PLAN
4	STREET PROFILE & SECTIONS
5	STORM DRAIN PROFILE & DETAILS
6	EROSION & SEDIMENT CONTROL PLAN
7	EROSION & SEDIMENT CONTROL PLAN
8	EROSION & SEDIMENT CONTROL NOTES
9	EROSION & SEDIMENT CONTROL DETAILS
10	STORM DRAIN STUDY
11	LANDSCAPE/FOREST CONSERVATION PLAN
12	LANDSCAPE/FOREST CONSERVATION PLAN
13	LANDSCAPE/FOREST CONSERVATION NOTES AND DETAILS

NOTE
INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.

APPROVED: DEPARTMENT OF PUBLIC WORKS <i>William J. ...</i> 6-6-05 CHIEF, BUREAU OF HIGHWAYS MS DATE		
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. <i>...</i> 6/22/05 CHIEF, DEVELOPMENT, ENGINEERING DIVISION # DATE		
CHIEF, DIVISION OF LAND DEVELOPMENT # DATE		
5/19/05	2 ADDRESS COMMENTS DATED 3/21/05	
2/4/05	1 ADDRESS COMMENTS DATED 12/23/04	
DATE	NO.	REVISION
OWNER: RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747		DEVELOPER: RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747

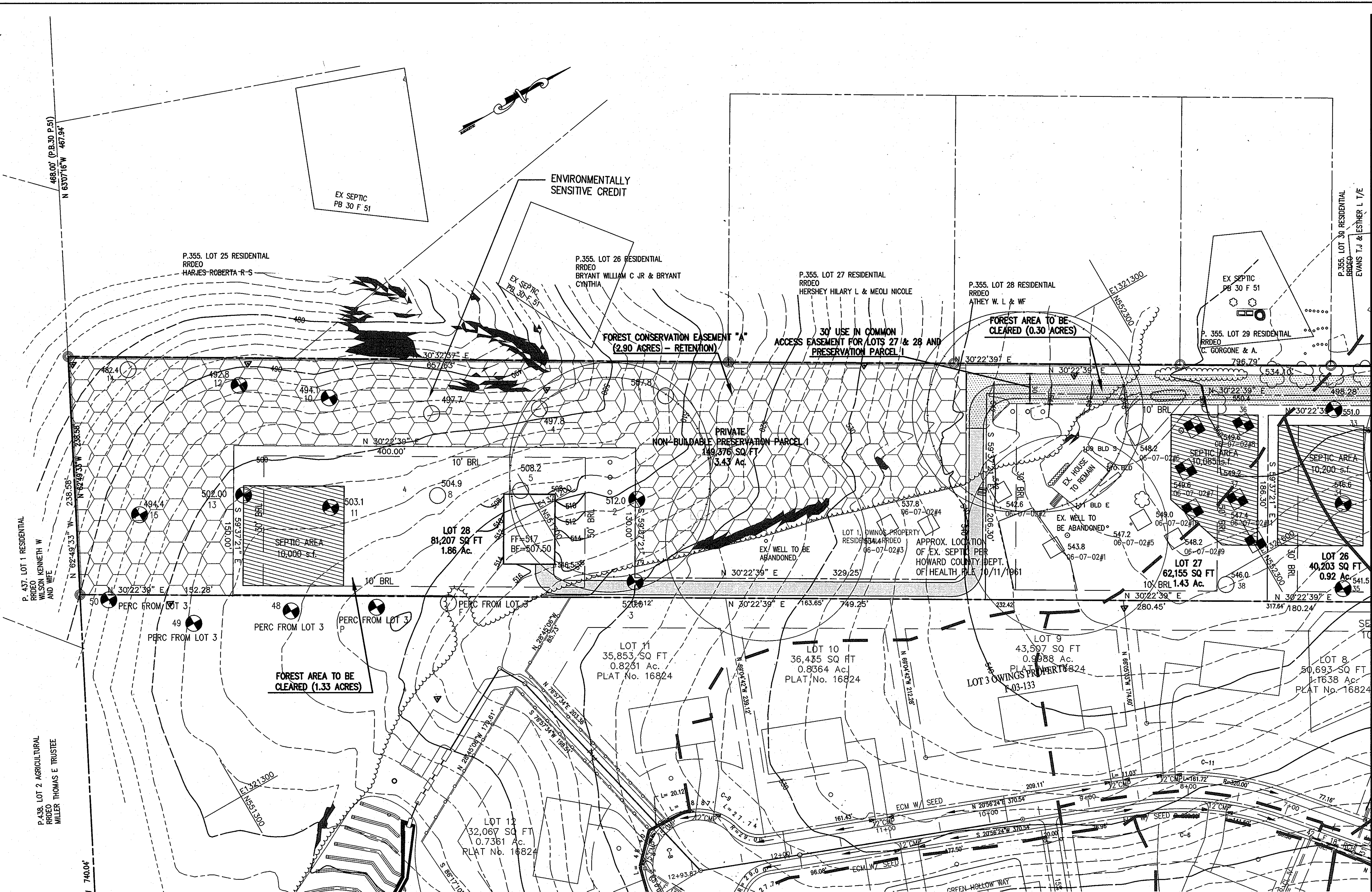
	AB CONSULTANTS, INC. 9450 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092 CONTACT: DAVID DOWS PHONE: 301-306-3091	TITLE SHEET OWINGS PROPERTY LOTS 25-28 AND NON-BUILDABLE PRESERVATION PARCELS H & I A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY TAX MAP 40, GRID 4, PARCEL 44 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.	PROJECT NO. 04-169 SCALE: AS SHOWN DATE: 5/19/05 DRAWN BY: HRP CHECKED BY: SBP SHEET: 1-13
			F-05-068

- NOTES**
1. TOPOGRAPHY FEATURES, CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON AERIAL PHOTOGRAPHY BY AIR SURVEY PHOTOGRAMMETRIC MAPPING SERVICES.
 2. THE BOUNDARY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY BY DEWBERRY & DAVIS LLC, JANUARY 2002.
 3. ALL EXISTING WELLS AND SEPTIC AREAS WITHIN 100' OF THE SITE HAVE BEEN SHOWN TO THE BEST OF OUR KNOWLEDGE.
 4. ALL WELLS TO BE DRILLED PRIOR TO SUBMITTAL OF RECORD PLAT FOR SIGNATURE.
 5. EXISTING WELLS ON PRESERVATION PARCEL 1 AND 27 TO BE ABANDONED BY A LICENSED WELL DRILLER.
 6. PERCOLATION PLAT FOR OWINGS PROPERTY LOT 1 APPROVED ON SEPTEMBER 19, 2002.
 7. A GROUND WATER APPROPRIATION PERMIT NUMBER MUST BE ISSUED PRIOR TO SUBMITTAL OF RECORD PLAT FOR SIGNATURE.
 8. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 9. LOT 3 SHOWN FOR REFERENCE ONLY.

NOTE:

1. THE EXISTING HOUSE CURRENTLY LOCATED ON EXISTING LOT 1 WILL BE LOCATED ON PROPOSED LOT 27 AND WILL NOT BE IN VIOLATION OF THE PROPOSED BRL'S FOR PROPOSED LOT 27. THIS WORK IS BEING COORDINATED WITH THE HEALTH DEPARTMENT WITH REGARDS TO THE NEW WELL AND SEPTIC FIELD CONNECTION.

MATCH LINE A-A, SEE SHEET 3-13



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.

Wade 5/20/05
SIGNATURE OF ENGINEER DATE

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 REEMED NECESSARY.

Dale Thompson 23 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

APPROVED: DEPARTMENT OF PUBLIC WORKS
William F. Hubert 6/6/05
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Mark Commey 6/10/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Candy Horvath 6/22/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
5/19/05	2	ADDRESS COMMENTS DATED 3/21/05
2/4/05	1	ADDRESS COMMENTS DATED 12/23/04

OWNER:	DEVELOPER:
RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-8736 (410) 381-8747	RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-8736 (410) 381-8747

PROJECT NO. 04-169
SCALE: 1"=50'
DATE: 5/19/05
DRAWN BY: HRP
CHECKED BY: SBP
SHEET: 2-13

GRADING PLAN
OWINGS PROPERTY
LOTS 25-28 AND
NON-BUILDABLE PRESERVATION PARCELS H & I
A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY
TAX MAP 40, GRID 4, PARCEL 44
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND.

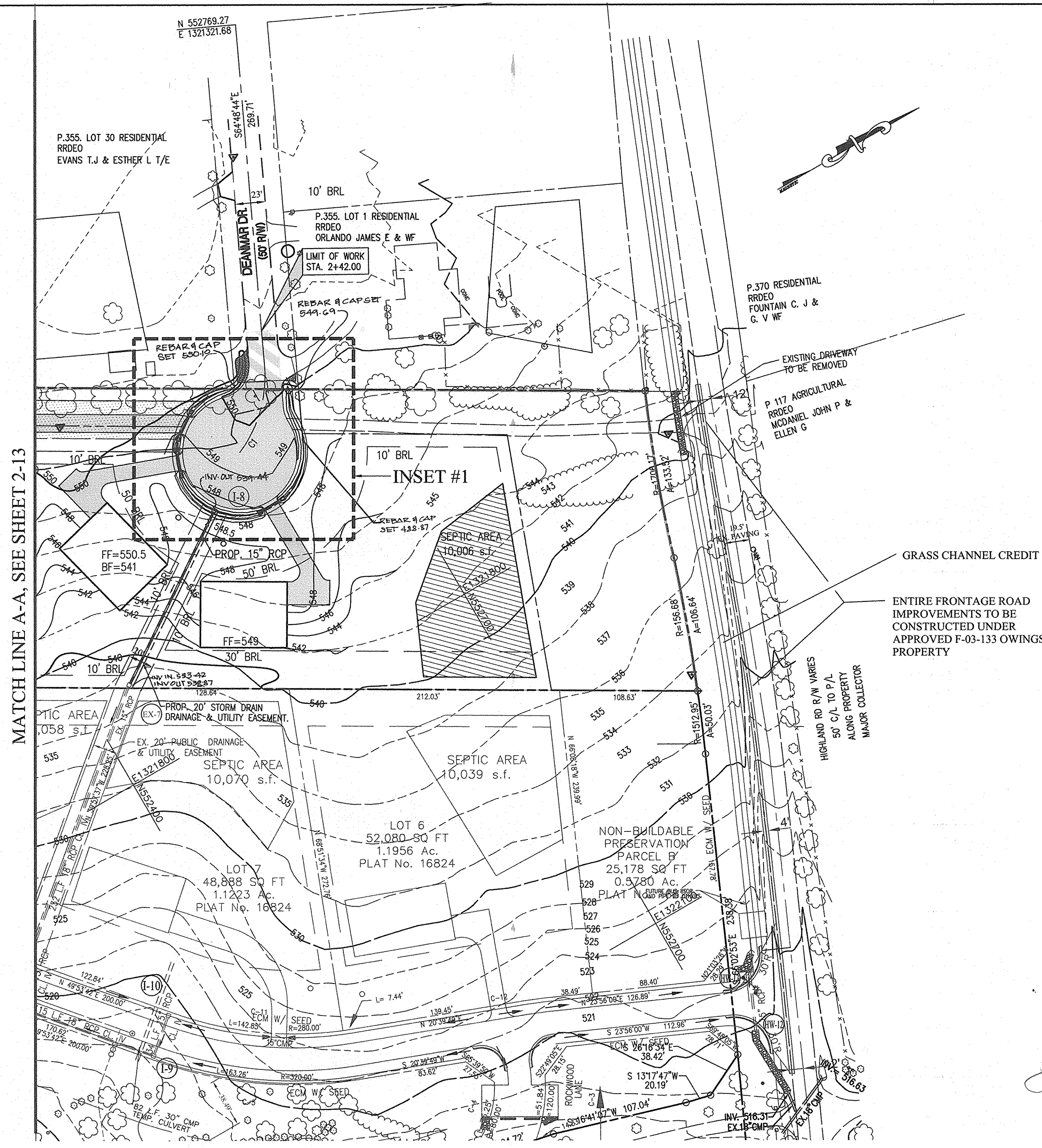
AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092

CONTACT: DAVID DOWS PHONE: 301-306-3091

LEGEND

- EXISTING 2 FOOT CONTOURS
- EXISTING 10 FOOT CONTOURS
- PERC TEST HOLE: PASSED
- PERC TEST HOLE: FAILED
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- PROPOSED SHARED SEPTIC AREA
- EXISTING 15-24.9% SLOPES
- EXISTING 25% AND GREATER SLOPES
- SOILS LINE

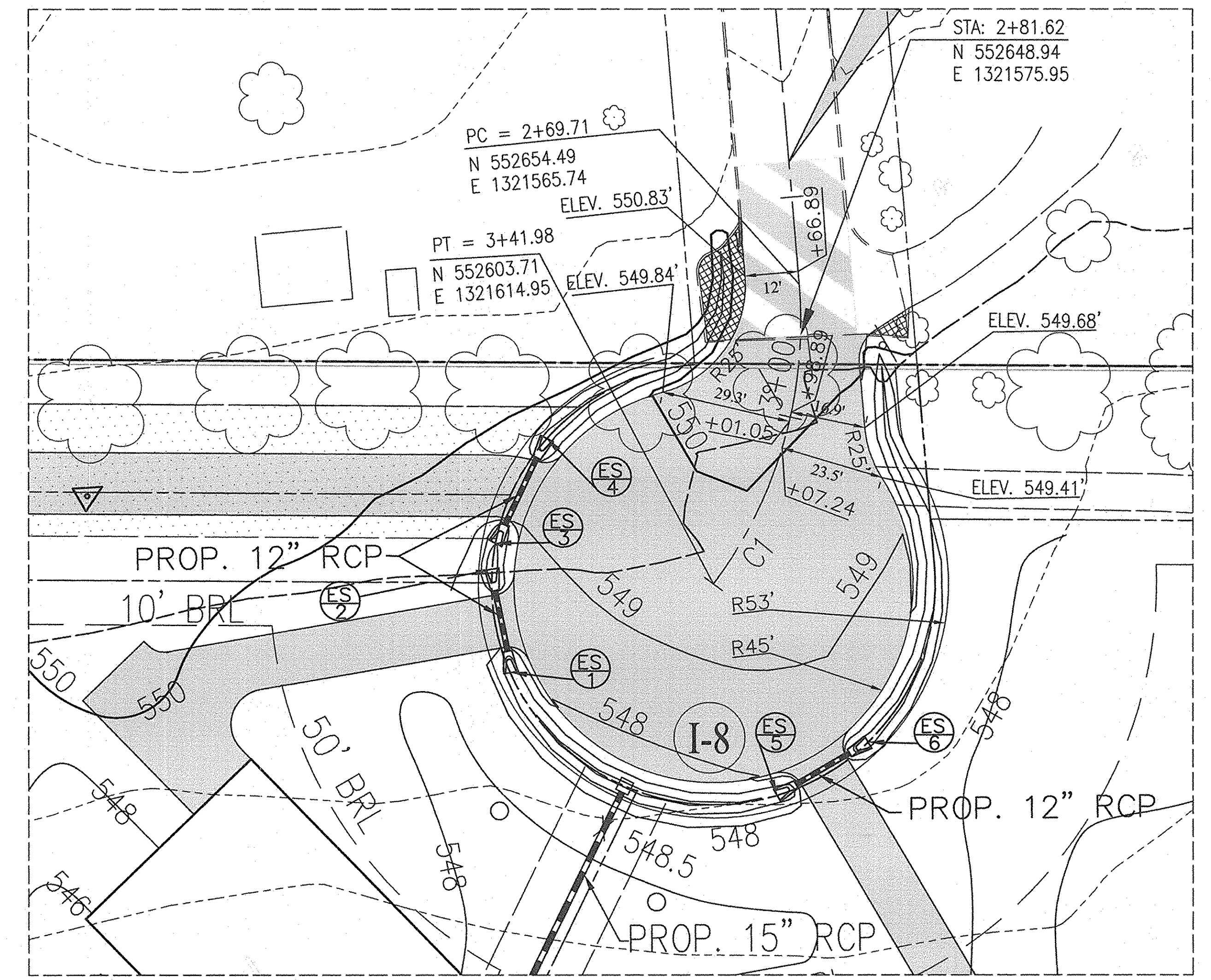
THIS AREA DESIGNATES A MINIMUM 10,000 SQ. FT. PRIVATE SEWAGE EASEMENT REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BE NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.



MATCH LINE A-A, SEE SHEET 2-13

INSET #1

GRASS CHANNEL CREDIT
ENTIRE FRONTAGE ROAD IMPROVEMENTS TO BE CONSTRUCTED UNDER APPROVED F-03-133 OWINGS PROPERTY



INSET #1
SCALE: 1" = 20'

PROP. PROPERTY BEARINGS & DISTANCES AROUND DENMAR DRIVE CUL-DE-SAC

PRESERVATION PARCEL I	①	L = 27.65' R = 50.00'
LOT 28	②	L = 25.79' R = 50.00'
LOT 27	③	L = 20.58' R = 50.00'
LOT 25	④	L = 61.19' R = 50.00'
	⑤	L = 100.40' R = 50.00'
LOT 25	⑥	N 64° 48' 44" W 10.52'
	⑦	N 64° 48' 44" W 35.14'



CONSTRUCT CONC. CURB AND GUTTER AS PER HOWARD CO. STD.# R-3.01
-STA. 2+76.15, 36.60 LT. TO STA. 2+81.12, 15.04' LT. - 8' LF.

CURVE TABLE

CURVE	L	R	T	CH	DELTA
CI	72.27	100.00	37.80	70.71	41°24'35"

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.

As Patel
SIGNATURE OF ENGINEER
5/10/05
DATE

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 REEMED NECESSARY.

As Patel
SIGNATURE OF DEVELOPER
23 May 05
DATE

PRESIDENT DALE THOMPSON BUILDERS, INC.
SOLE MEMBER RUNNING BROOK, LLC

APPROVED: DEPARTMENT OF PUBLIC WORKS
William Z. ...
CHIEF, BUREAU OF HIGHWAYS MS
6-5-05
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
6/10/05
DATE

...
CHIEF, DIVISION OF LAND DEVELOPMENT
6/20/05
DATE

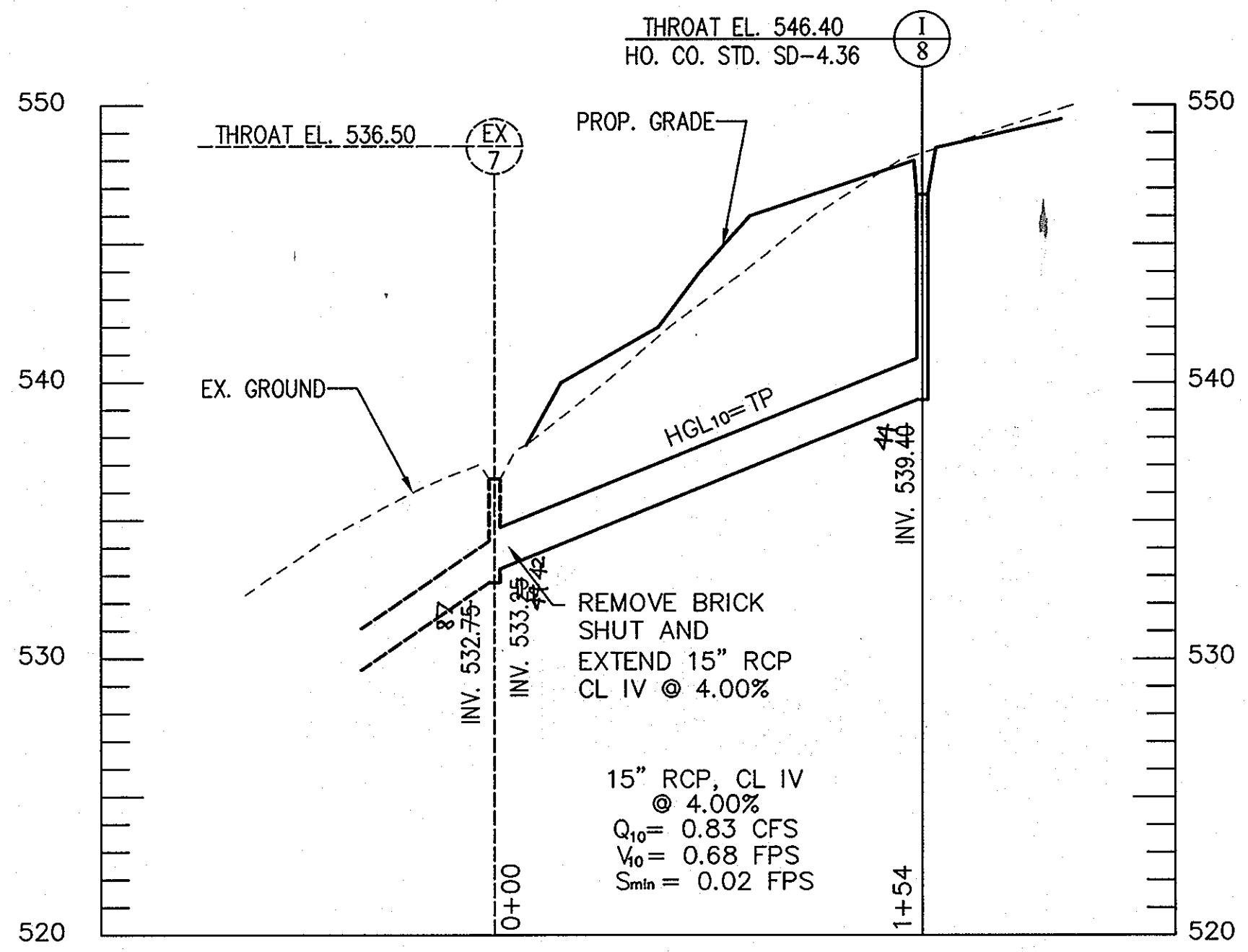
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OWNER:	DEVELOPER:
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- LEGEND**
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 - ⊙ PERC TEST HOLE: PASSED
 - PERC TEST HOLE: FAILED
 - PROPOSED WELL LOCATION
 - ▨ FOREST CONSERVATION EASEMENT
 - ▨ PROPOSED SHARED SEPTIC AREA
 - - - - - SOILS LINE
 - FULL DEPTH PAVEMENT
 - TIE-IN
 - REMOVAL OF PAVEMENT

THIS AREA DESIGNATES A MINIMUM 10,000 SQ. FT. PRIVATE SEWAGE EASEMENT REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BE NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

	AB CONSULTANTS, INC. 9450 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092 CONTACT: DAVID DOWS PHONE: 301-306-3091	PROJECT GRADING PLAN OWINGS PROPERTY LOTS 25-28 AND NON-BUILDABLE PRESERVATION PARCELS H & I A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY TAX MAP 40, GRID 4, PARCEL 44 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.	PROJECT NO. 04-169
			SCALE: 1"=50' DATE: 5/19/05 DRAWN BY: HRP CHECKED BY: SBP SHEET: 3-13



PROFILE
SCALE: 1" = 50' HOR.
1" = 5' VER.

PIPE SCHEDULE			
PIPE SIZE (IN.)	CLASS/TYPE	TOTAL LENGTH (FT.)	REMARKS
15	RCP CL IV	154	
12	RCP CL IV	45	FOR DRIVEWAY

STRUCTURE SCHEDULE								
STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-8	+546.65	-	539.40	DEANMAR DR.	N 552563.4654 E 1321644.6180	-	PRECAST DOUBLE OPEN END GRATE	SD-4.36
ES-1	-	-	546.36	CUL-DE-SAC	-	-	CONCRETE END SECTION	SD-5.52
ES-2	-	546.75	-	CUL-DE-SAC	-	-	CONCRETE END SECTION	SD-5.52
ES-3	-	-	547.00	CUL-DE-SAC	-	-	CONCRETE END SECTION	SD-5.52
ES-4	-	547.46	-	CUL-DE-SAC	-	-	CONCRETE END SECTION	SD-5.52
ES-5	-	-	546.19	CUL-DE-SAC	-	-	CONCRETE END SECTION	SD-5.52
ES-6	-	546.50	-	CUL-DE-SAC	-	-	CONCRETE END SECTION	SD-5.52

* THROAT ELEVATION=546.75

STORM DRAIN COMPUTATIONS, 10 YR STORM																
FROM	TO	AREA acres		R=C	AR	SAR	Tc min	I in/hr	Q cfs	SLOPE MIN %	SLOPE ACT %	PIPE SIZE inches	Q/A fps	LENGTH ft	TIME IN PIPE min	
		INCREM.	TOTAL						INCREM. ⁴	TOTAL						
I-8	EX-7	0.60	0.60	0.21	0.13	0.13	10.00	6.60	0.83	0.83	0.02%	4.00%	15	0.68	154	3.69
EX-7	EX-6	1.30	1.90	0.21	0.27	0.40	13.69	5.66	1.43	2.26	0.06%	6.79%	18	1.28	232	3.03
EX-6	EX-5	2.20	4.10	0.21	0.46	0.86	16.72	5.19	2.21	4.47	0.24%	6.29%	18	2.53	31	0.20

GENERAL NOTES

- CONCRETE TO BE MIX NO. 6 (4500 PSI.).
- REINFORCING - 2 LAYERS OF #4@18" W/4" WELDED WIRE FABRIC.
- THREADED PLASTIC ROSETS TO BE PROVIDED FOR HANDLING.
- PIPE OPENINGS TO BE PROVIDED AS REQUIRED FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
- FOR GRATE DETAILS SEE STANDARD NO. 378.03. GRATE TO BE AS SHOWN OR FURNISH APPROVED EQUIVALENT.
- *MINIMUM DEPTH FROM "LEAST" INLET INCLUDES DEPTHS UP TO 3'-6" VERTICAL DEPTH PAYMENT PER "LINEAR FOOT" INCLUDES DEPTHS IN EXCESS OF 3'-6".
- A 6" PERFORATED CIRCULAR PIPE FOR EROSION AND SEDIMENT CONTROL SHALL BE PLACED IN THE INLET WALL AT ALL INLET SEGMENT TRAPS AS SHOWN ON THE PLANS.

SECTION B-B SINGLE OPENING

SECTION B-B DOUBLE OPENING

SECTION C-C TYPICAL BOTH INLETS (SHOWN WITHOUT GRATE)

DOUBLE OPENING (SHOWN WITHOUT GRATE)

SINGLE OPENING

NOTE: FOR USE IN NON-TRAFFIC LOCATIONS ONLY

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]* 2/20/05
Chief - Bureau of Engineering

PRECAST
OPEN END GRATE

SD 4.36

LONGITUDINAL SECTION

END VIEW

OPTIONAL CONCRETE FOOTER

PIPE PAY LENGTH

NOTES:

- END SECTIONS MUST BE REINFORCED TO CONFORM WITH CLASS IV PIPE.
- CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE PAID PER CUBIC YARD OF CLASS P-I CONCRETE FOR MISCELLANEOUS STRUCTURES. REINFORCEMENT TO BE NO. 3 BARS.
- INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON CONSTRUCTION PLANS.
- CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD NO. 5.51.

TONGUE END ON INLET SECTION
GROOVE END ON OUTLET SECTION

PLAN

TABLE OF DIMENSIONS

DIAM.	SLOPE	CONCRETE END SECTION					CONCRETE FOOTER		
		A	B	C	D	E	W	X	Y
12"	3:1	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	3'-0"	12"	9"
15"	3:1	6"	2'-3"	3'-10"	6'-1"	2'-6"	3'-6"	12"	9"
18"	3:1	9"	2'-3"	3'-10"	6'-1"	3'-0"	4'-0"	12"	9"
21"	3:1	9"	3'-0"	5'-1 1/2"	6'-1 1/2"	3'-6"	4'-6"	12"	9"
24"	3:1	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	5'-0"	15"	9"
27"	3:1	10 1/2"	4'-1 1/2"	2'-0"	6'-1 1/2"	4'-6"	5'-6"	15"	9"
30"	3:1	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	6'-0"	6'-0"	15"	9"
36"	3:1	1'-3"	5'-3"	2'-10 3/4"	6'-3 3/4"	6'-0"	7'-3"	15"	9"
42"	3:1	1'-6"	6'-3"	2'-11"	6'-2"	6'-6"	7'-9"	15"	9"
48"	3:1	2'-0"	6'-0"	2'-2"	6'-2"	7'-0"	8'-6"	18"	12"
54"	2.4:1	2'-3"	6'-5"	2'-9 1/4"	6'-2 1/4"	7'-6"	9'-0"	18"	12"

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]* 2/20/05
Chief - Bureau of Engineering

CONCRETE END SECTION
CIRCULAR CONCRETE PIPE

DRAWN BY: R.M.P.
CHECKED BY: J.L.R.
SCALE: NONE
SD-5.52

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] 5/20/05
SIGNATURE OF ENGINEER DATE

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 REEMED NECESSARY.

[Signature] 23 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC.
SOLE MEMBER RUNNING BROOK, LLC DATE

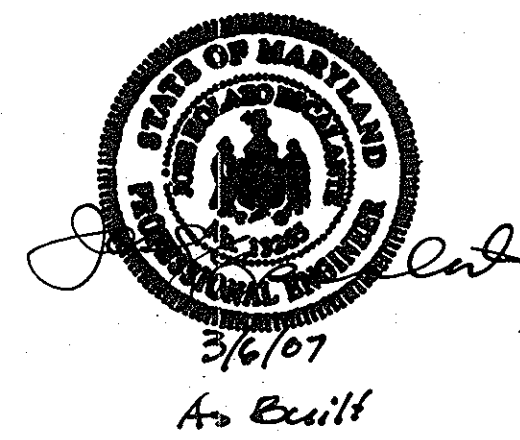
APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 6-6-05
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
[Signature] 6/10/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 6/21/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
5/19/05	2	ADDRESS COMMENTS DATED 3/21/05
2/4/05	1	ADDRESS COMMENTS DATED 12/23/04

OWNER:	DEVELOPER:
RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747	RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747

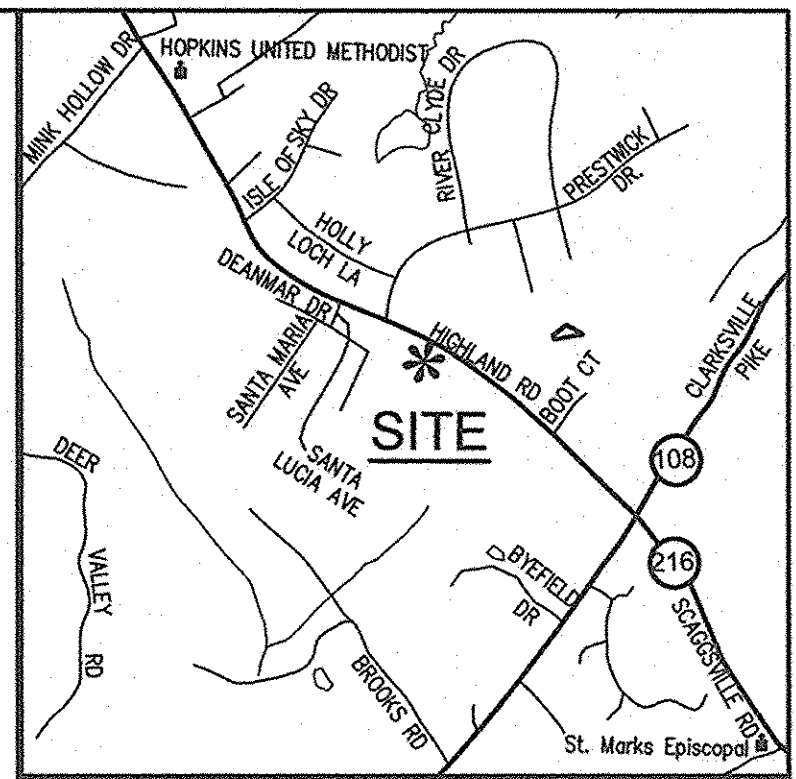


AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092

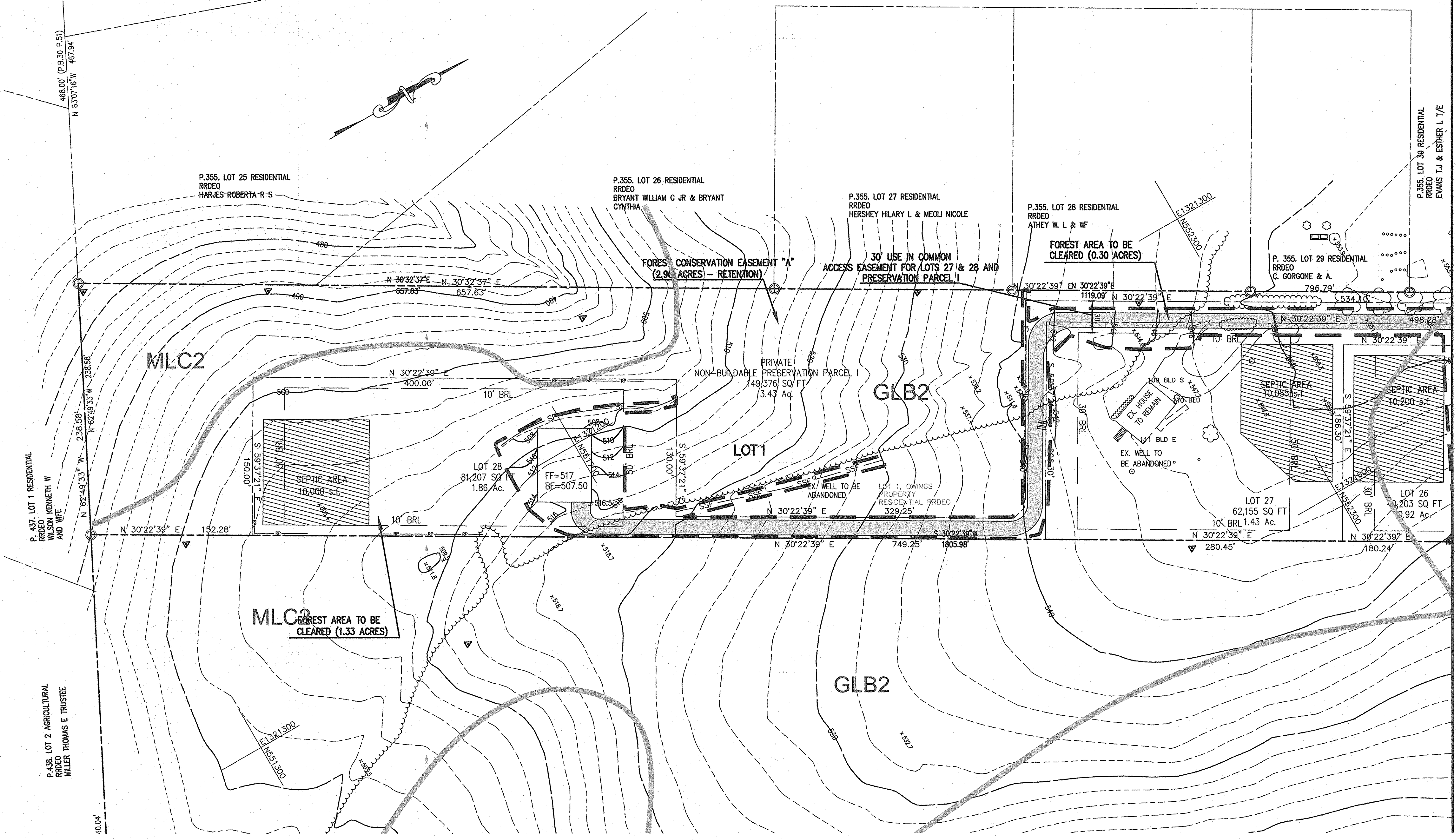
PROJECT
STORM DRAIN PROFILE & DETAILS
OWINGS PROPERTY
LOTS 25-28 AND
NON-BUILDABLE PRESERVATION PARCELS H & I
A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY
TAX MAP 40, GRID 4, PARCEL 44
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND.

CONTACT: DAVID DOWS PHONE: 301-306-3091

PROJECT NO. 04-169
SCALE: 1"=50'
DATE: 5/19/05
DRAWN BY: HRP
CHECKED BY: SBP
SHEET: 5-13



VICINITY MAP
SCALE: 1"=2000'



MATCH LINE A-A, SEE SHEET 7-13

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.

P.E. NO. _____
SIGNATURE _____ DATE _____

CERTIFY MEANS TO START OR DECLARE A PROFESSIONAL OPINION BASED UPON ON SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON SITE INSPECTIONS AND MATERIAL TEST ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEERS 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.

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.

Walt 5/20/05
SIGNATURE OF ENGINEER DATE

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 REEMED NECESSARY.

Dale Thompson 23 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

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

Jim Morgan 6/1/05
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John H. Buntz 6/1/05
DISTRICT HOWARD SOIL CONSERVATION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. ... 6-6-05
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Charles ... 6/10/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Charles ... 6/10/05
CHIEF, DIVISION OF LAND DEVELOPMENT AC DATE

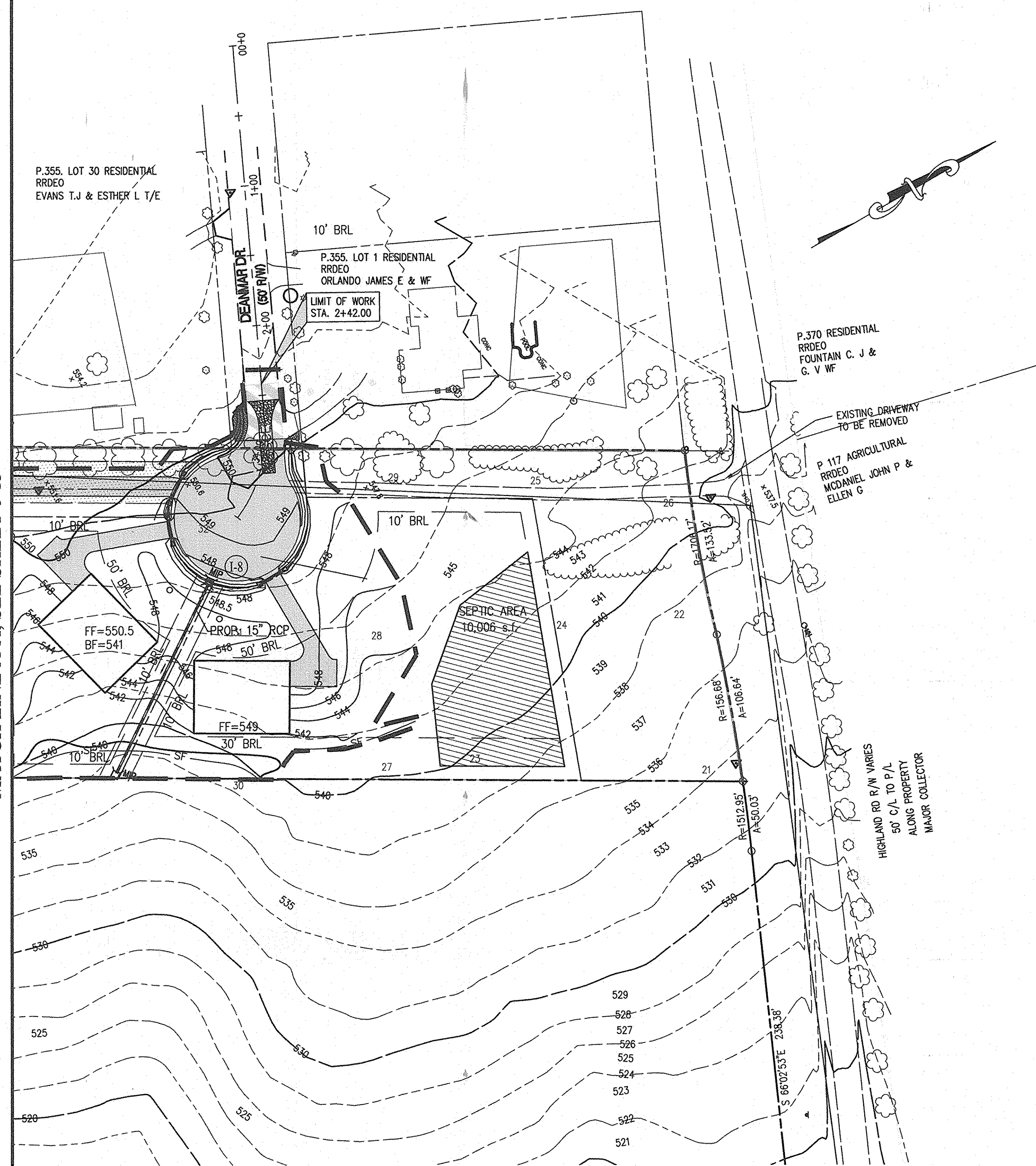
DATE	NO.	REVISION
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2/4/05	1	ADDRESS COMMENTS DATED 12/23/04

OWNER:	DEVELOPER:
RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747	RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747

- LEGEND**
- - - - - EXISTING CONTOUR
 - — — — PROPOSED CONTOUR
 - — — — LIMIT OF DISTURBANCE
 - — — — SILT FENCE
 - — — — SUPER SILT FENCE
 - — — — STABILIZED CONSTRUCTION ENTRANCE
 - — — — MEDIAN INLET PROTECTION

	AB CONSULTANTS, INC. 9450 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092 CONTACT: DAVID DOWS PHONE: 301-306-3091	PROJECT EROSION AND SEDIMENT CONTROL PLAN OWINGS PROPERTY LOTS 25-28 AND A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY TAX MAP 40, GRID 4, PARCEL 44 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.	PROJECT NO. 04-169
			SCALE: 1"=50' DATE: 5/19/05 DRAWN BY: HRP CHECKED BY: SBP SHEET: 6-13

MATCH LINE A-A, SEE SHEET 6-13



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMIT OF DISTURBANCE (LOD)
- SF SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- MEDIAN INLET PROTECTION

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 START OR DECLARE A PROFESSIONAL OPINION BASED UPON ON SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON SITE INSPECTIONS AND MATERIAL TEST ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEERS 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.

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.

Wate 5/20/05
SIGNATURE OF ENGINEER DATE

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 REEMED NECESSARY.

Dale Thompson 03 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

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

Tom M... 6/1/05
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Tom M... 6/1/05
DISTRICT HOWARD SOIL CONSERVATION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

William Z... 6-6-05
CHIEF, BUREAU OF HIGHWAYS DATE

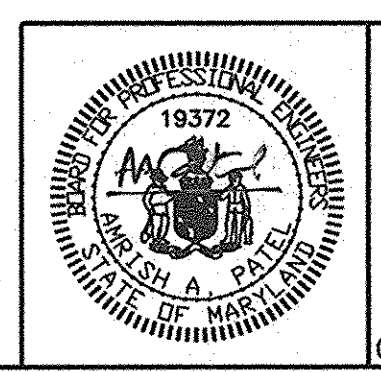
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chris D... 6/10/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Chris D... 6/23/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
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AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092

CONTACT: DAVID DOWS PHONE: 301-306-3091

PROJECT **EROSION AND SEDIMENT CONTROL PLAN OWINGS PROPERTY**

LOTS 25-28 AND NON-BUILDABLE PRESERVATION PARCELS H & I A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY TAX MAP 40, GRID 4, PARCEL 44 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.

PROJECT NO. 04-169
SCALE: 1"=50'
DATE: 5/19/05
DRAWN BY: HRP
CHECKED BY: SBP
SHEET: 7-13

HOWARD SOIL CONSERVATION DISTRICT

STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and relevant revisions.
- 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 greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 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. 21), soil (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with which slope 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 their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	9.73	Acres
Area Disturbed	2.33	Acres
Area to be roofed or paved	0.82	Acres
Area to be vegetatively stabilized	1.90	Acres
Total Cut	1.00	Cu. Yds.
Total Fill	0.00	Cu. Yds.
Offsite waste/borrow area location:	0.00	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may 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 by the end of each work day, whichever is shorter.

PERMANENT SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, unless previously loosened.

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

- Preferred - apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disc into three inches of soil, at time of seeding, apply 400lbs per acre 30-0-0 ureaform fertilizer (9lbs/1000 sq. ft.).
- Acceptable - apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disc into three inches of soil one of the following schedules.

Seeding - For the periods March 1 thru April 30, and Aug. 1 thru Oct. 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/1000sq. ft.) of weeping lovegrass during the period of Oct. 16 thru Feb. 28, protect site by option (1) 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring, option (2) use sod, option (3) seed with 60 lbs/acre Kentucky 31 tall fescue and mulch with 2 tons/acre well-anchored straw.

Mulching - Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/100 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 acres (8 gal/1000 sq. ft.) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings temporary seeding notes sq. ft. for the period Nov. 16 thru Feb. 28, protect site by applying 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring, or used sod.

TEMPORARY SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, unless previously loosened.

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

Seeding: For periods March 1 thru April 30 and from August 15 thru Nov. 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.) for the period May 1 thru Aug. 14, seed with 3 lbs per acre of weeping lovegrass (.07lbs/1000 sq. ft.).

Mulching: apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding, anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas, on slopes, 8 ft. or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring, refer to the 1983 Maryland Standards and Specifications For Soil Erosion and Sediment Control for rate and methods not covered.

20.0 STANDARDS AND SPECIFICATIONS

FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are Temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth sites, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas of final grade, former stockpile and staging areas, etc.

EFFECTS OF WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of run-off, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients and other chemicals carried by run-off to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation

- Install erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, retaining, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate regulatory authority. Fertilizers shall not be delivered to the site fully loaded according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total solids (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 80-100% will pass through a #20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3"-5" of soil by disking or other suitable means.

C. Seeded Preparation

- Temporary Seeding
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment such as disc harrows or other equipment or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smoothly, but left in the roughened condition. Sloped areas (grades) shall be trenched leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - In corporate lime and fertilizer into the top 3"-5" of soil by disking or other suitable means.
- Permanent Seeding
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soluble salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loesslike or geyseric loesslike is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
 - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3"-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as indicated on the plans.
 - Mix soil amendments into the top 3"-5" of topsoil by disking or other suitable means. Lawn areas should be rolled to smooth the surface, remove large objects like stones and branches, add ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be trenched by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1"-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

D. 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 seeding such material on this job. Note: Seed tags shall be made available to the Inspector to verify type and rate of seed used.
- Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated in the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperature above 75-80°F. can weaken bacteria and make the inoculant less effective.

E. 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 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
- Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as 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 seed rate in each direction.
- Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as 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 seed rate in each direction.

F. 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 musty, moldy, coated, decayed, 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 uniformly spread drydy.
 - 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 batter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

e. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.

- WCFM must conform to the following physical requirements: fiber length to approximately 10 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. Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
- Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

g. 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 and depth so that 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 shall be mixed with water, 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 maintain loss by wind or water. This may be done by one of the following methods (ranked 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 a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
 - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lbs/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and crest of berms. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Aqua-Tack), DCA-70 Pelmatex, Terra Tex II, Terra Tack II 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' wide and 300 to 3,000 feet long.

h. Incremental Stabilization - Cut Slopes

- All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
- Construction sequence (Refer to Figure 3 below):
 - Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
 - Perform Phase 1 excavation, dress, and stabilize.
 - Perform Phase 2 excavation, dress, and stabilize. Overseed Phase 1 as necessary.
 - Perform final phase excavation, dress, and stabilize. Overseed previously seeded areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing out of the seeding season will necessitate the application of temporary stabilization.

i. Incremental Stabilization of Embankments - Fill Slopes

- Embankments shall be constructed in fills as prescribed on the plans.
 - Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
 - At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
- Construction sequence: Refer to Figure 4 (below).
 - Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct silt trap basins on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
 - Place Phase 1 embankment, dress, and stabilize.
 - Place Phase 2 embankment, dress, and stabilize.
 - Place final phase embankment, dress, and stabilize. Overseed previously seeded areas as necessary. Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

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 vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

CONDITIONS WHERE PRACTICE APPLIES

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- 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 as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCA in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slags, 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, quack grass, Johnsongrass, nut sedge, poison hy, 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.

iii. For sites having disturbed areas under 5 acres:

- 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.

- On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of natural topsoil.

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

v. Topsoil Application

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- Grades on the areas to be top soiled, which have been previously established, shall be maintained, about 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 sodding or seed line can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from top soiling 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 seeded preparation.

vi. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

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

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. _____ 1 DAY
- NOTIFY HOWARD COUNTY CONSTRUCTION DIVISION AT (410) 313-1880, AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING WORK. _____ 1 DAY
- INSTALL ALL SEDIMENT CONTROL MEASURE AS SHOWN ON PLAN. _____ 2 DAYS
- AFTER OBTAINING PERMISSION FROM SEDIMENT CONTROL INSPECTOR, START CONSTRUCTION OF STORM DRAIN SYSTEM AND ANY MISCELLANEOUS UTILITIES. CONSTRUCT INLET PROTECTION DEVICES AS SOON AS FINISHING THE CONSTRUCTION OF THE STORM DRAIN INLET. _____ 10 DAYS
- START CLEARING AND GRADING OF THE ENTIRE SITE. _____ 10 DAYS
- START ROADWAY CONSTRUCTION. _____ 28 DAYS
- STABILIZED ENTIRE SITE. _____ 2 DAYS
- UPON APPROVAL FROM SEDIMENT CONTROL INSPECTOR, REMOVE ALL THE SEDIMENT DEVICES AND STABILIZE THE REMAINING SITE. _____ 1 DAY

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.

AWAL 5/20/05
SIGNATURE OF ENGINEER DATE

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 REMEDED NECESSARY.

John H. R... Dale Thompson 23 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

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

John H. R... 6/1/05
DATE

THE DEVELOPER IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John H. R... 6/1/05
DISTRICT HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

William J. ... 6-7-05
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

... 6/1/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

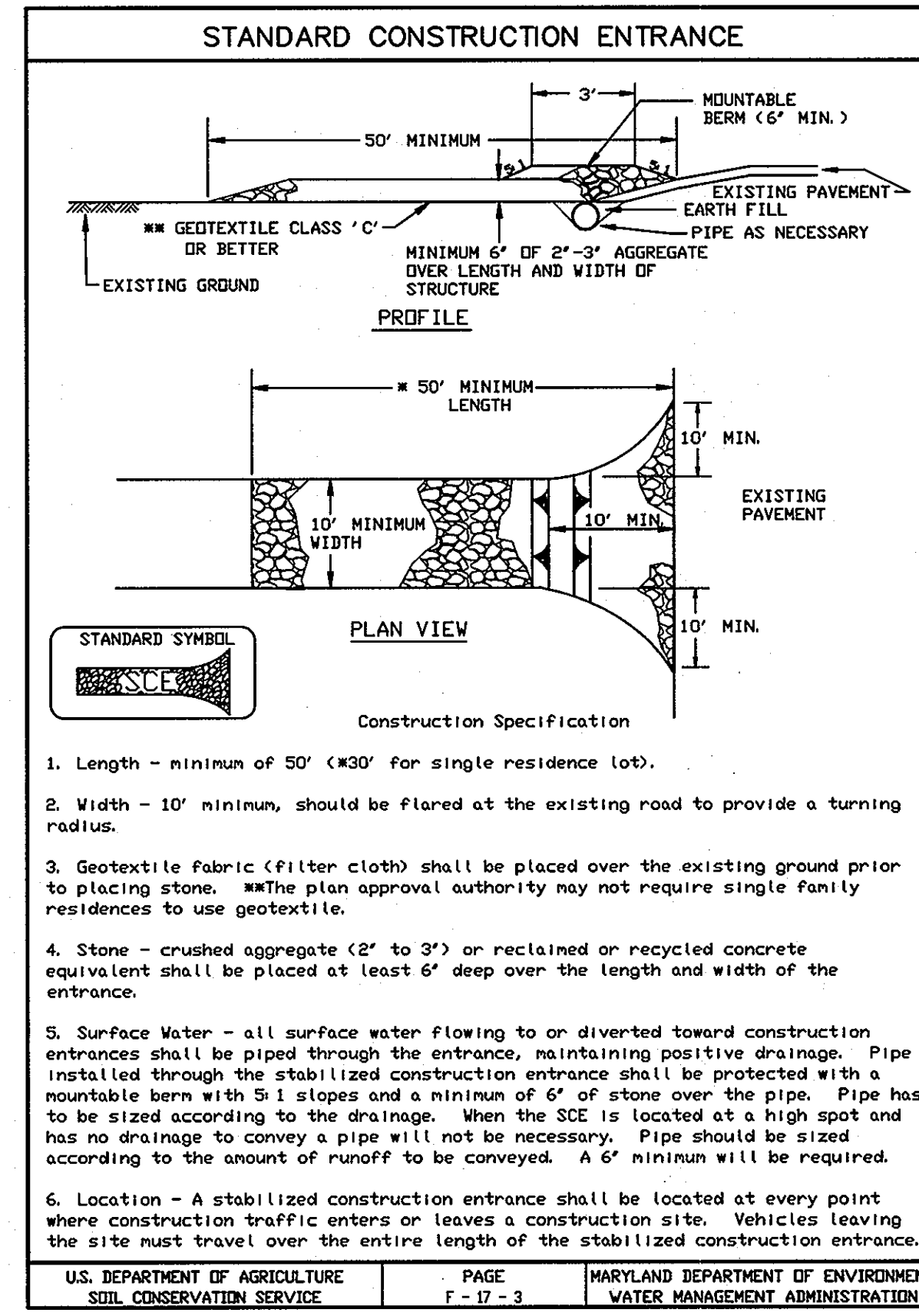
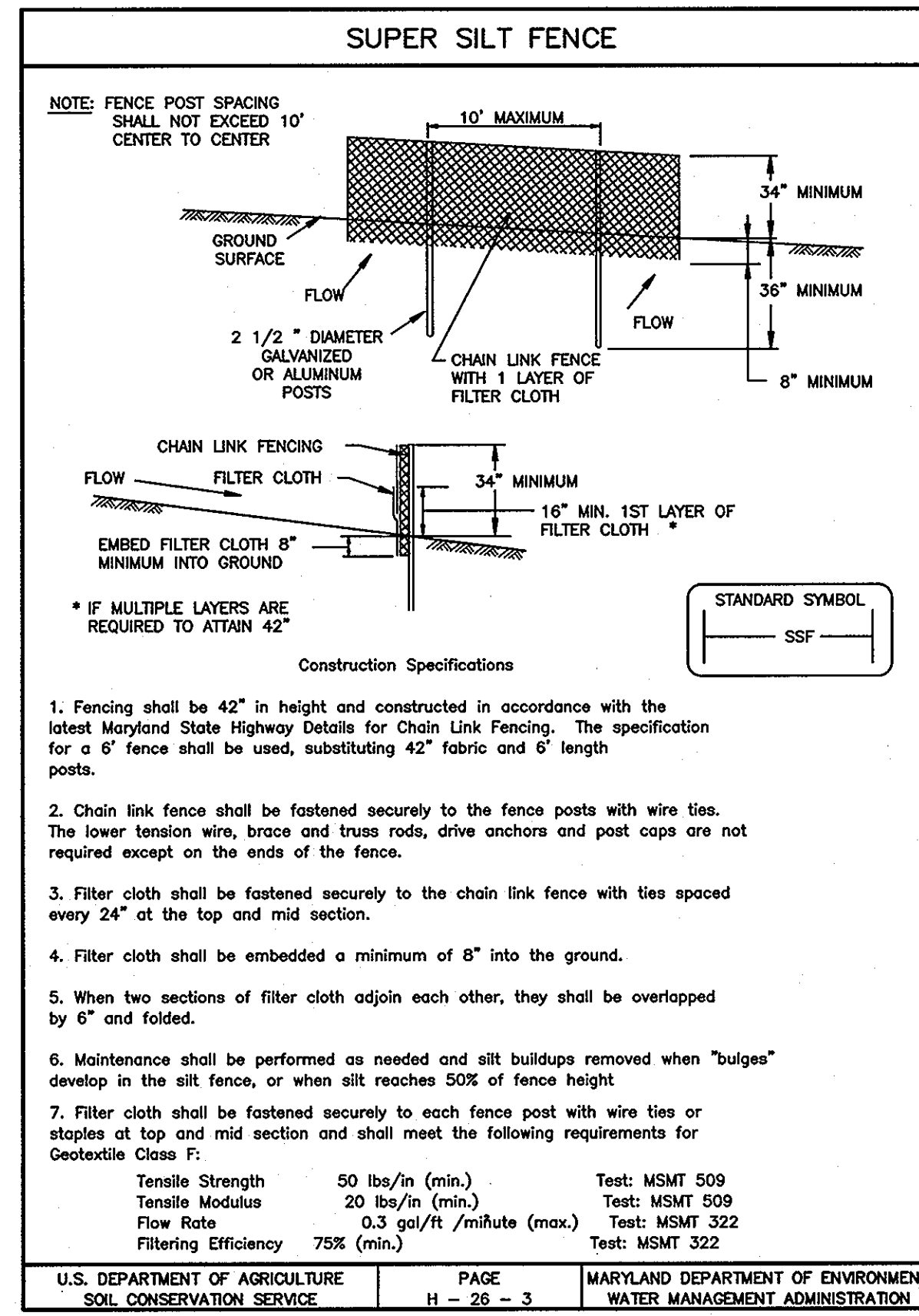
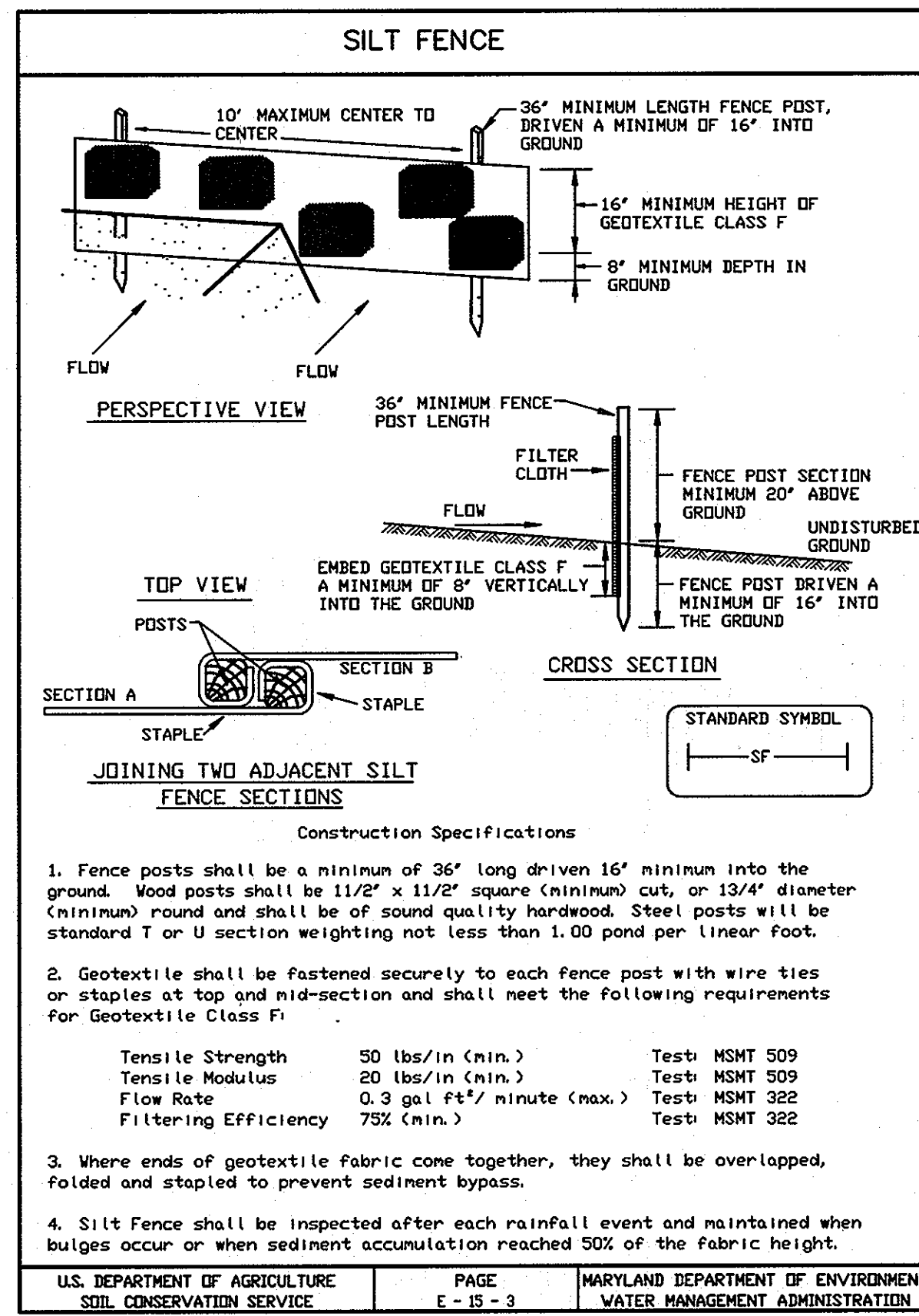
... 6/22/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

5/19/05 2 ADDRESS COMMENTS DATED 3/21/05

2/4/05 1 ADDRESS COMMENTS DATED 12/23/04

DATE	NO.	REVISION
OWNER:		
RUNNING BROOK, LLC		
6300 WOODSIDE COURT		
COLUMBIA, MARYLAND 21046		
(410) 995-6736		
(410) 381-8747		
DEVELOPER:		
RUNNING BROOK, LLC		
6300 WOODSIDE COURT		
COLUMBIA, MARYLAND 21046		
(410) 995-6736		
(410) 381-8747		

	AB CONSULTANTS, INC. 9450 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092	PROJECT EROSION AND SEDIMENT CONTROL NOTES OWINGS PROPERTY LOTS 25-28 AND NON-BUILDABLE PRESERVATION PARCELS H & I A RESUBDIVISION OF LOT 1- HARWOOD OWINGS PROPERTY	PROJECT NO. 04-169 SCALE: AS SHOWN DATE: 5/19/05 DRAWN BY: HRP CHECKED BY: SBP
		CONTACT: DAVID DOWS PHONE: 301-306-3091	TAX MAP 40, GRID 4, PARCEL 44 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.



SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum)	
	Slope Length	Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

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

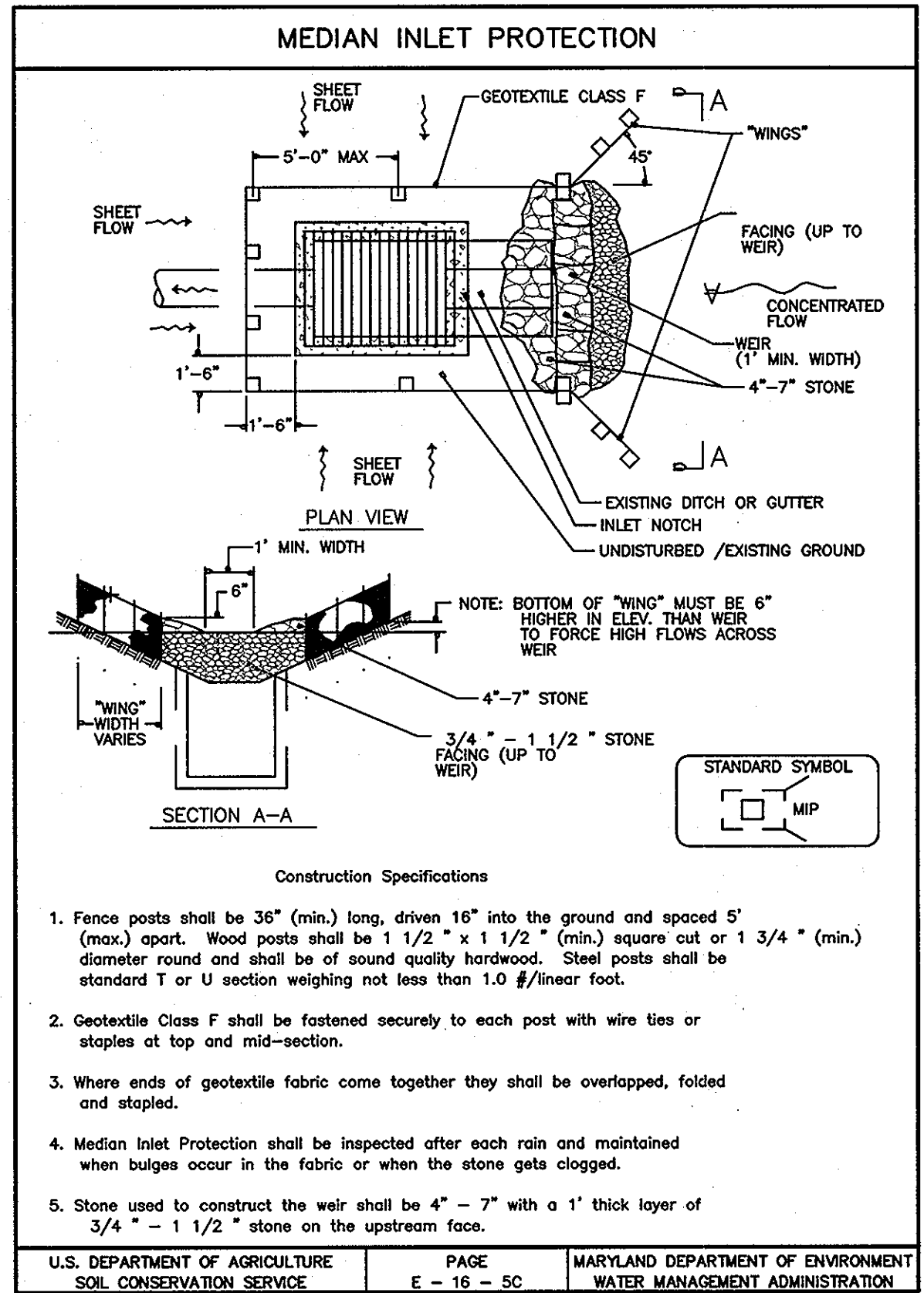
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-19-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

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



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.

AWAT 5/20/05
SIGNATURE OF ENGINEER DATE

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 REMED NECESSARY.

Dale Thompson 5/20/05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

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

Jan M. Gera 6/1/05
S.D.A.-NATURAL RESOURCES CONSERVATION SERVICE DATE

John K. Blanton 6/1/05
THE DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. DATE
DISTRICT HOWARD SOIL CONSERVATION LIST

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. Mahoney 6-6-05
CHIEF, BUREAU OF HIGHWAYS DATE

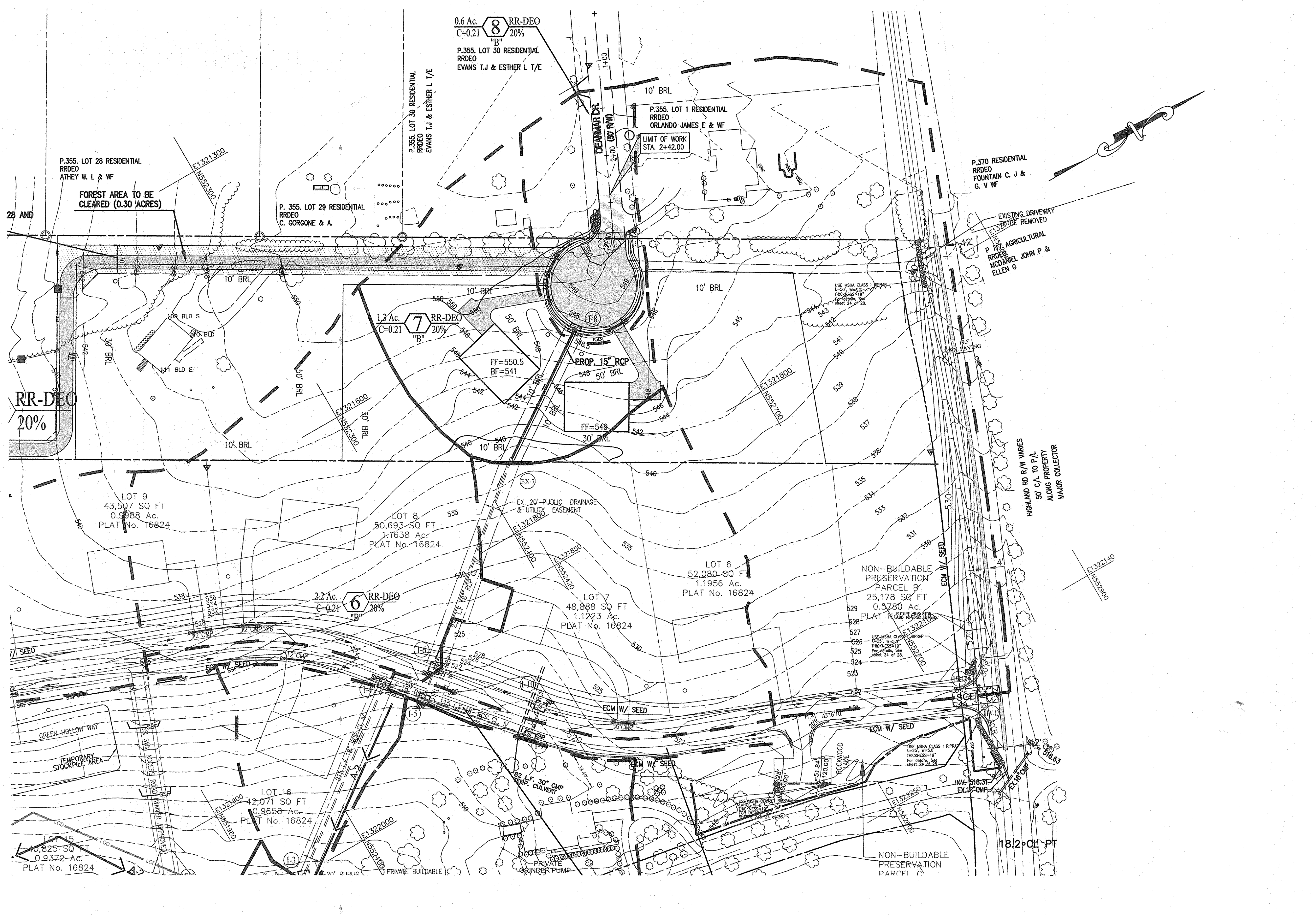
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
William J. Mahoney 6/10/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
David Stant 6/23/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

5/19/05	2	ADDRESS COMMENTS DATED 3/21/05
2/4/05	1	ADDRESS COMMENTS DATED 12/23/04
DATE	NO.	REVISION
OWNER:		DEVELOPER:
RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747		RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747

AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092
CONTACT: DAVID DOWS PHONE: 301-306-3091

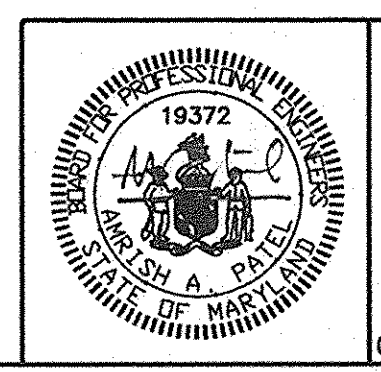
PROJECT
EROSION AND SEDIMENT CONTROL DETAILS
OWINGS PROPERTY
LOTS 25-28 AND NON-BUILDABLE PRESERVATION PARCELS H & I A RESUBDIVISION OF LOT 1- HARWOOD OWINGS PROPERTY
TAX MAP 40, GRID 4, PARCEL 44
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND.

PROJECT NO. 04-169
SCALE: AS SHOWN
DATE: 5/19/05
DRAWN BY: HRP
CHECKED BY: SBP
SHEET: 9-13
F-05-068



LEGEND
 - - - - - EXISTING 2 FOOT CONTOURS
 - - - - - EXISTING 10 FOOT CONTOURS
 - - - - - DRAINAGE DIVIDE

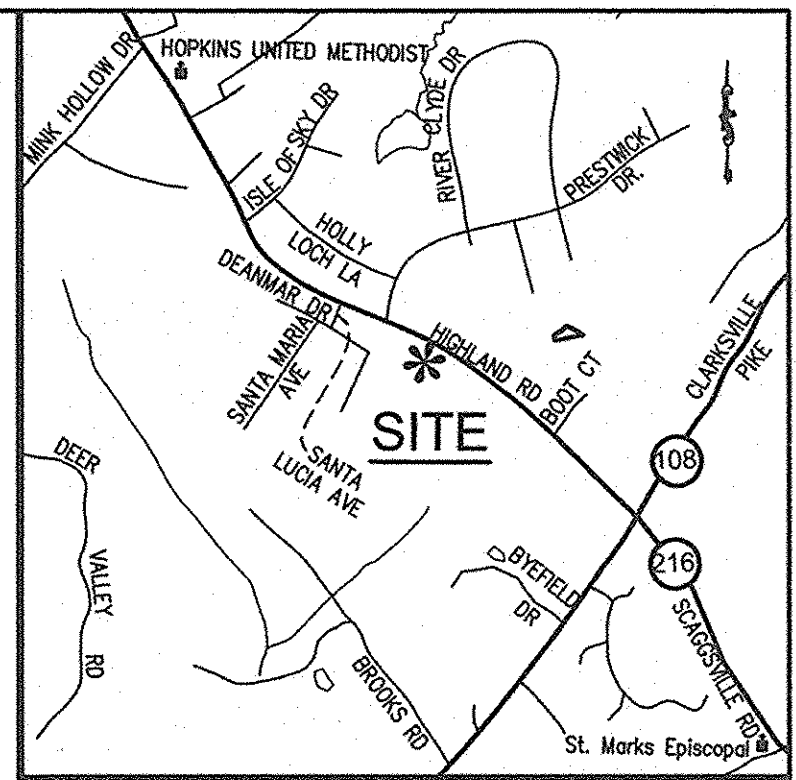
APPROVED: DEPARTMENT OF PUBLIC WORKS <i>William J. ...</i> 6-6-05 CHIEF, BUREAU OF HIGHWAYS 118 DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Clifford ...</i> 6/10/05 CHIEF, DEVELOPMENT ENGINEERING DIVISION 8 DATE <i>Clifford ...</i> 6/23/05 CHIEF, DIVISION OF LAND DEVELOPMENT 11 DATE	
5/19/05	2 ADDRESS COMMENTS DATED 3/21/05
2/4/05	1 ADDRESS COMMENTS DATED 12/23/04
DATE	NO. REVISION
OWNER: RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747	
DEVELOPER: RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747	



AB CONSULTANTS, INC.
 9450 ANNAPOLIS ROAD
 LANHAM, MARYLAND 20706
 PHONE: (301) 306-3091
 FAX: (301) 306-3092
 CONTACT: DAVID DOWS PHONE: 301-306-3091

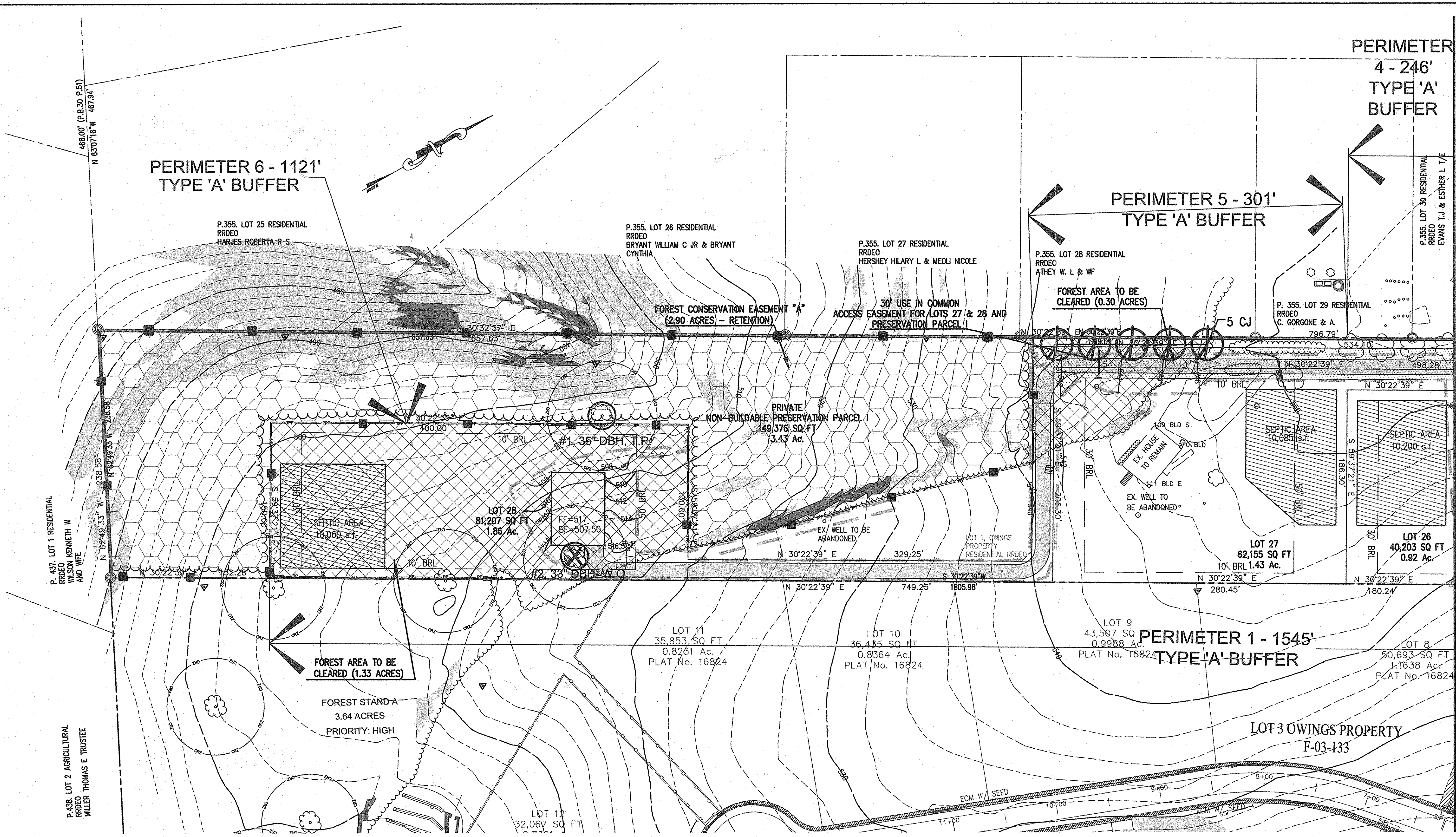
PROJECT
STORM DRAIN STUDY
OWINGS PROPERTY
 LOTS 25-28 AND
 NON-BUILDABLE PRESERVATION PARCELS H & I
 A RESUBDIVISION OF LOT 1 - HARWOOD OWINGS PROPERTY
 TAX MAP 40, GRID 4, PARCEL 44
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND.

PROJECT NO.
04-169
 SCALE: 1"=50'
 DATE: 5/19/05
 DRAWN BY: HRP
 CHECKED BY: SBP
 SHEET: 10-13



VICINITY MAP
SCALE: 1"=2000'

MATCH LINE A-A, SEE SHEET 12-13



LEGEND

- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE (TO BE INSTALLED PRIOR TO CONSTRUCTION)
- PROPOSED ROOT PRUNE AREA (TO BE INSTALLED PRIOR TO CONSTRUCTION)
- PROPOSED FOREST RETENTION AREA SIGN (TO BE INSTALLED PRIOR TO CONSTRUCTION)
- EXIST. TREE >24" D.B.H. TO BE SAVED
- ⊗ TREE >24" D.B.H. TO BE REMOVED
- SPECIMEN TREE
- ▨ FOREST CONSERVATION EASEMENTS (RETENTION)
- ▩ FOREST TO BE REMOVED

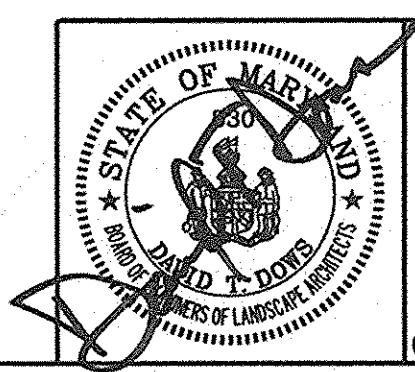
LEGEND

- CRITICAL ROOT ZONE (CRZ) (ESTIMATED RADIUS = 1.5' X DBH)
- AREAS WITH 15-25% SLOPES
- AREAS WITH 25% & GREATER SLOPES
- EXIST. TREE LINE
- PROP. TREE LINE
- ☁ EXIST. TREE
- ⊗ PROP. TREE

I certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of Howard County Code and the Landscape Manual. I further certify that upon completion a Certification of Landscape Installation, accompanied by an executed one year guarantee of plan materials will be submitted to the Department of Planning and Zoning.

Dale Thompson 2/3 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

APPROVED: DEPARTMENT OF PUBLIC WORKS <i>William J. White</i> 6-6-05 CHIEF, BUREAU OF HIGHWAYS DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Dale Thompson</i> 6/10/05 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	
CHIEF, DIVISION OF LAND DEVELOPMENT DATE <i>David Howard</i> 2/26/05	
5/19/05	2 ADDRESS COMMENTS DATED 3/21/05
2/4/05	1 ADDRESS COMMENTS DATED 12/23/04
DATE	NO. REVISION
OWNER: RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747	DEVELOPER: RUNNING BROOK, LLC 6300 WOODSIDE COURT COLUMBIA, MARYLAND 21046 (410) 995-6736 (410) 381-8747



AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092
CONTACT: DAVID DOWS PHONE: 301-306-3091

PROJECT
LANDSCAPE / FOREST CONSERVATION PLAN
OWINGS PROPERTY
LOTS 25-28 AND
NON-BUILDABLE PRESERVATION PARCELS H & I
A RESUBDIVISION OF LOT 1- HARWOOD OWINGS PROPERTY
TAX MAP 40, GRID 4, PARCEL 44
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND.

PROJECT NO.
04-169
SCALE: 1"=50'
DATE: 5/19/05
DRAWN BY: XZ
CHECKED BY: DD
SHEET: 11-13

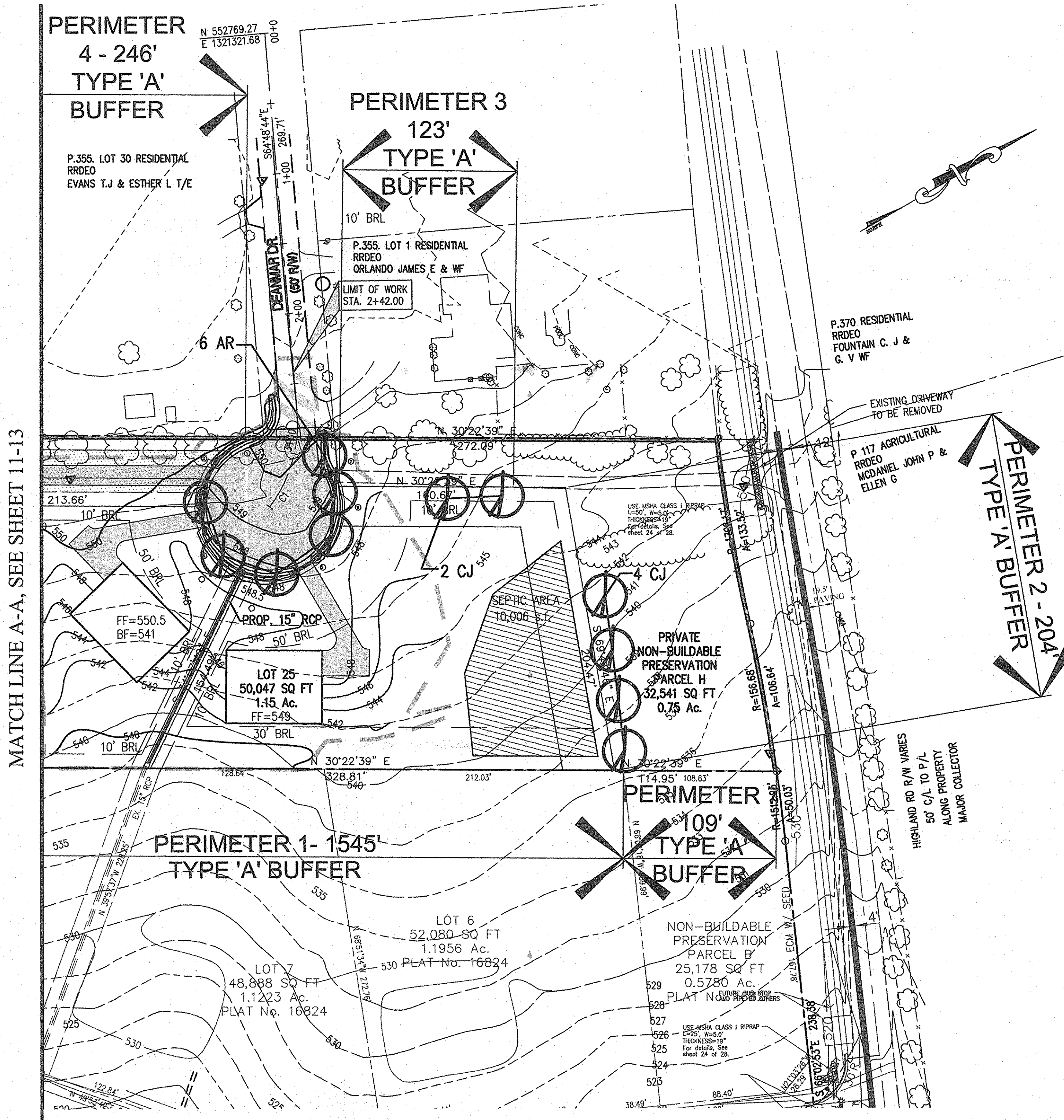
SPECIMEN TREE IDENTIFICATION LIST

BOTANICAL NAME/ COMMON NAME	TRUNK Ø (d.b.h.)	TREE HEIGHT	TREE CANOPY	TREE CONDITION	TREE PROTECTION MEASURES
* 1. <i>Liriodendron tulipifera</i> TULIP POPLAR	35"	70'	45'	GOOD	SAVE, ROOT PRUNE
* 2. <i>Quercus alba</i> WHITE OAK	33"	65'	40'	GOOD	REMOVE

NOTE: * - CANDIDATE SPECIMEN TREE WITH A 30" OR GREATER DBH

GENERAL NOTES

- TOTAL GROSS AREA : 9.73 AC; 423,773± SQ.FT.
TOTAL NET TRACT AREA : 9.73 AC; 423,773± SQ.FT.
- EXISTING ZONING: RRDEO
- THERE ARE NO 100-YEAR FLOODPLAINS KNOWN TO EXIST ON THIS SITE ACCORDING TO AVAILABLE INFORMATION (MDMRLIN.NET).
- THERE ARE NO WETLANDS ON SITE BASED ON FIELD STUDY DONE BY DEWBERRY & DAVIS LLC PER LETTER DATED OCTOBER 31, 2002, SUBMITTED WITH SP03-07, WHICH WAS APPROVED ON AUGUST, 12, 2003.
- THE WILDLIFE AND HERITAGE SERVICE HAS NO RECORDS FOR FEDERAL OR STATE RARE, THREATENED OR ENDANGERED PLANTS OR ANIMALS WITHIN THIS PROJECT SITE. HOWEVER, THE FORESTED AREA ON THE SUBJECT PROPERTY CONTAINS FOREST INTERIOR DWELLING BIRD HABITAT. THIS INFORMATION COMES FROM DNR.
- THE SUBJECT PROPERTY FALLS WITHIN THE ROCKY GORGE DAM SUB-WATERSHED (USE CLASS 1), OF THE PATUXENT WATERSHED.
- THERE IS ONE FOREST STAND ON THIS SITE TOTALING 4.54 ACRES. SITE INVESTIGATIONS PERFORMED ON 2/1/02, BY DEWBERRY & DAVIS LLC.
- TWO SPECIMEN CANDIDATE TREES WITH 30" + DBH MEASUREMENTS EXIST ON THE SUBJECT PROPERTY; ONE OF WHICH (TREE #2) WILL BE REMOVED.
- NO HYDRIC SOILS EXISTS WITHIN THE SUBJECT PROPERTY ACCORDING TO THE HOWARD COUNTY SOIL SURVEY OF MARYLAND.
- THERE ARE NO HISTORICAL SITES KNOWN TO EXIST ON THE SUBJECT PROPERTY ACCORDING TO AVAILABLE INFORMATION (MDMRLIN.NET)



MATCH LINE A-A, SEE SHEET 11-13

LEGEND

- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE (TO BE INSTALLED PRIOR TO CONSTRUCTION)
- PROPOSED ROOT PRUNE AREA (TO BE INSTALLED PRIOR TO CONSTRUCTION)
- PROPOSED FOREST RETENTION AREA SIGN (TO BE INSTALLED PRIOR TO CONSTRUCTION)
- EXIST. TREE >24" D.B.H. TO BE SAVED
- TREE >24" D.B.H. TO BE REMOVED
- SPECIMEN TREE
- FOREST CONSERVATION EASEMENTS (RETENTION)
- FOREST TO BE REMOVED

LEGEND

- CRITICAL ROOT ZONE (CRZ) (ESTIMATED RADIUS = 1.5' X DBH)
- AREAS WITH 15-25% SLOPES
- AREAS WITH 25% & GREATER SLOPES
- EXIST. TREE LINE
- PROP. TREE LINE
- EXIST. TREE
- PROP. TREE

I certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of Howard County Code and the Landscape Manual. I further certify that upon completion a Certification of Landscape Installation, accompanied by an executed one year guarantee of plan materials will be submitted to the Department of Planning and Zoning.

Dale Thompson 23 May 05
PRESIDENT DALE THOMPSON BUILDERS, INC. DATE
SOLE MEMBER RUNNING BROOK, LLC

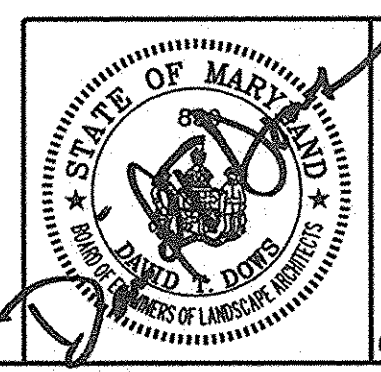
APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. White 6-6-05
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
John J. ... 6/10/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John J. ... 6/22/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

5/19/05	2	ADDRESS COMMENTS DATED 3/21/05
2/4/05	1	ADDRESS COMMENTS DATED 12/23/04

DATE	NO.	REVISION
		OWNER:
		DEVELOPER:
		RUNNING BROOK, LLC
		6300 WOODSIDE COURT
		COLUMBIA, MARYLAND 21046
		(410) 995-6736
		(410) 381-8747



AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092

PROJECT
LANDSCAPE / FOREST CONSERVATION PLAN
OWINGS PROPERTY
LOTS 25-28 AND
NON-BUILDABLE PRESERVATION PARCELS H & I
A RESUBDIVISION OF LOT 1- HARWOOD OWINGS PROPERTY
TAX MAP 40, GRID 4, PARCEL 44
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND.

PROJECT NO.
04-169
SCALE: 1"=50'
DATE: 5/19/05
DRAWN BY: XZ
CHECKED BY: DD
SHEET: 12-13

