

NO.	TITLE
1	TITLE SHEET
2	GRADING, SEDIMENT AND EROSION CONTROL PLAN
3	GRADING, SEDIMENT AND EROSION CONTROL PLAN
4	SEDIMENT AND EROSION CONTROL NOTES, DETAILS AND BORINGS
5	STORM DRAIN DRAINAGE AREA MAP AND PROFILES
6	LANDSCAPE PLAN
7	SWM DETAILS - FACILITY #1
8	FOREST CONSERVATION PLAN
9	PERCOLATION CERTIFICATION PLAN

R/W PT. NO.	DISCUSSION	ELEVATION
12	REBAR # CAP	597.72'
13	REBAR # CAP	598.61'
14	CONC. MONUMENT	599.71'
15	REBAR # CAP	571.24'
16	REBAR # CAP	565.07'
17	REBAR # CAP	563.66'
18	REBAR # CAP	570.62'
19	REBAR # CAP	571.01'
20	REBAR # CAP	570.84'
21	REBAR # CAP	570.90'
* 1002	CONC. MONUMENT	563.41'
* 1730	CONC. MONUMENT	569.95'

* MONUMENT SET AS PART OF MAPLEWOOD FARMS F-07-74
SEE MAPLEWOOD FARMS AS-BUILTS FOR REFERENCES

GENERAL NOTES

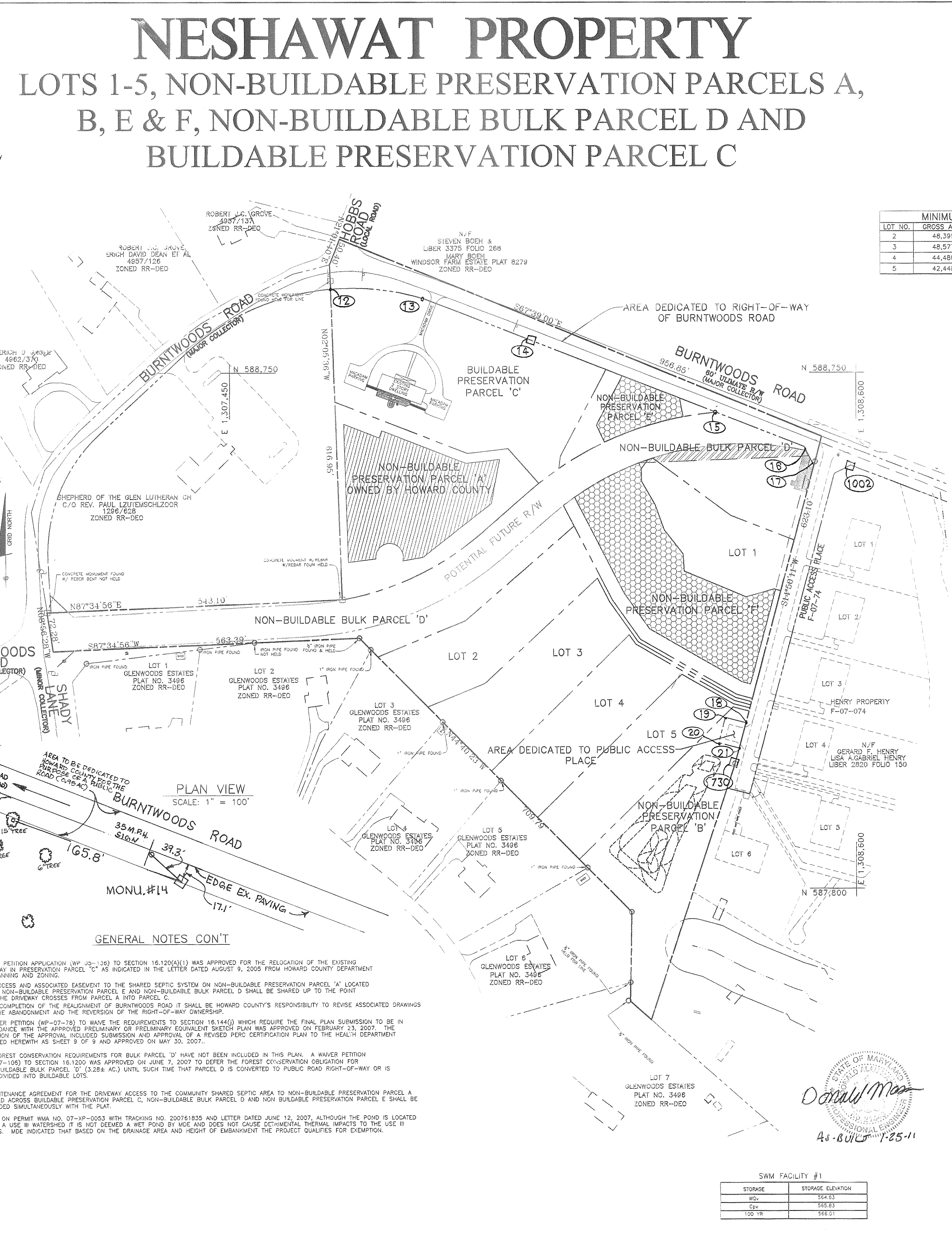
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH 2-FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING INC. ON OR ABOUT NOVEMBER 2003.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 218A AND 218B WERE USED FOR THIS PROJECT.
- WATER IS PRIVATE.
- SEWER IS PRIVATE FOR LOT 2 AND BUILDABLE PRESERVATION PARCEL 'C'. SEWER FOR LOTS 1 AND 3 THROUGH 5 WILL BE A PUBLIC SHARED SEPTIC IN NON-BUILDABLE PRESERVATION PARCEL 'A' WITH PRIVATELY OWNED PRETREATMENT TANKS.
- STORMWATER MANAGEMENT SHALL BE PROVIDED BY AN EXTENDED DETENTION POND WITH MICRO-POND AND A GRASSED SHALE. THE FACILITIES SHALL BE JOINTLY MAINTAINED BY THE HOMEOWNERS ASSOCIATION AND HOWARD COUNTY AND LOCATED WITHIN NON-BUILDABLE PRESERVATION PARCEL 'B'.
- EXISTING UTILITIES ARE BASED UPON FIELD SURVEY LOCATIONS.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- THE WETLANDS DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS INC. IN JANUARY 2004.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES, INC. DATED SEPTEMBER 27, 2004. ADDITIONAL BORINGS B-7 AND B-8 WERE CONDUCTED ON JANUARY 10, 2007.
- THIS SUBJECT PROPERTY IS ZONED RR-DEO PER THE 2-2-2004 COMPREHENSIVE ZONING PLAN AND THE COMP LITE AGREEMENT EFFECTIVE 7-28-2005. ALL ADJACENT PROPERTIES ARE ZONED RR-DEO.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS SITE.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR OTHER REQUIRED BUFFERS, FLOODPLAIN OR FOREST CONSERVATION EASEMENT AREA.
- BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED DURING NOVEMBER, 2003 BY BENCHMARK ENGINEERING INC.
- FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS IN SEPTEMBER, 2004.
- THIS PROJECT IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING OR GRADING PERMIT APPLICATION.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECOGNITION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
- THE PURPOSE OF THE PRESERVATION PARCELS IS AS FOLLOWS:
PRESERVATION PARCEL 'A' IS PROPOSED AS A NON-BUILDABLE PARCEL THAT SHALL INCLUDE BUT NOT BE LIMITED TO THE COMMUNITY SEPTIC AREA AND ACCESS AND UTILITY EASEMENTS. IT WILL BE OWNED BY HOWARD COUNTY. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH THE HOMEOWNERS ASSOCIATION. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
PRESERVATION PARCEL 'B' IS PROPOSED AS NON-BUILDABLE PARCEL THAT SHALL INCLUDE BUT NOT BE LIMITED TO STORM DRAINS, UTILITY EASEMENTS AND STORM WATER MANAGEMENT. IT WILL BE OWNED BY THE HOMEOWNERS ASSOCIATION. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
PRESERVATION PARCEL 'C' IS PROPOSED AS BUILDABLE PRESERVATION PARCEL. ONE (1) HOUSING ALLOCATION ALLOWING ONE (1) BUILDABLE UNIT SHALL BE UTILIZED. IT WILL BE PRIVATELY OWNED. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY AND THE HOMEOWNERS ASSOCIATION. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
PRESERVATION PARCEL 'E' IS PROPOSED AS NON-BUILDABLE PARCEL THAT SHALL INCLUDE BUT NOT BE LIMITED TO STORM DRAINS, DRAINAGE EASEMENTS, UTILITY EASEMENTS AND FOREST CONSERVATION EASEMENTS. IT WILL BE PRIVATELY OWNED. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY AND THE HOMEOWNERS ASSOCIATION. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
PRESERVATION PARCEL 'F' IS PROPOSED AS NON-BUILDABLE PARCEL THAT SHALL INCLUDE BUT NOT BE LIMITED TO STORM DRAINS, DRAINAGE EASEMENTS, UTILITY EASEMENTS AND FOREST CONSERVATION EASEMENTS. IT WILL BE PRIVATELY OWNED. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY AND THE HOMEOWNERS ASSOCIATION. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
NON-BUILDABLE BULK PARCEL 'D' HAS BEEN CREATED IN ORDER TO ALLOW FOR THE POTENTIAL FUTURE RE-ALIGNMENT OF BURNTWOODS ROAD. AS AN ALTERNATIVE THIS PARCEL MAY BE SUBDIVIDED IN THE FUTURE TO POTENTIALLY YIELD TWO BUILDABLE LOTS. IF THIS AREA IS UTILIZED FOR BUILDABLE LOTS, DENSITY WOULD BE REQUIRED TO SUPPORT THE NEW LOTS.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 OF THE FOREST CONSERVATION MANUAL OF 2.76 ACRES OF REQUIRED AFFORESTATION SHALL BE FULFILLED BY THE PLACEMENT OF 1.57 ACRES OF PLANTINGS INTO EASEMENT AREAS AND THE PAYMENT OF A FEE-IN-LIEU FOR THE REMAINDER OF 1.19 ACRES OF \$18,877.00 (\$1,835.40 x \$9.75) TO THE FOREST CONSERVATION FUND. SURETY FOR 1.57 ACRES OF AFFORESTATION (\$8,599.20 SQ.FT. x \$0.50) IN THE AMOUNT OF \$4,299.60 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT UNDER THIS FINAL PLAN, F-07-121. THE AREA OF THE FUTURE ROW OF BURNTWOODS ROAD (NON-BUILDABLE BULK PARCEL 'D') OF 3.28 ACRES HAS BEEN DEDUCTED FROM ITS OBLIGATIONS IN ACCORDANCE WITH THE DECISION OF WP-07-106. FOREST CONSERVATION OBLIGATIONS ON THIS AREA WILL BE FULFILLED AT THE TIME OF ANY FUTURE SUBDIVISION OF NON-BUILDABLE BULK PARCEL 'D'.

- PERIMETER AND STORM WATER MANAGEMENT LANDSCAPING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL AS SHOWN ON THE LANDSCAPE PLAN SHEET OF THE ROAD CONSTRUCTION DRAWINGS FOR THIS PROJECT. SURETY IN THE AMOUNT OF \$20,000.00 SHALL BE PROVIDED WITH THE DEVELOPER'S AGREEMENT UNDER THIS FINAL PLAN, F-07-121. STREET TREES FOR PUBLIC ACCESS PLACE SHALL BE PROVIDED UNDER F-07-74.
- WELLS SHALL BE PLACED AT THE FURTHEST PORTION OF THE WELL BOX. MAINTAIN 15' OF SEPARATION FROM ROADS AND R/W.
- WELLS SHALL BE DRILLED BY A CERTIFIED WELL DRILLER PRIOR TO RECORD PLAT SUBMISSION FOR SIGNATURE PER HOWARD COUNTY HEALTH DEPARTMENT REQUIREMENTS. IT WILL NOT BE CONSIDERED TO BE GOVERNMENTAL DELAY IF THE WELLS ARE NOT COMPLETED PRIOR TO THE SUBMISSION'S MILESTONE DATE. PRIOR TO DRILLING OF THE WELLS FOR LOTS 3, 4 AND 5 THE WELL DRILLER SHALL CONTACT HOWARD COUNTY DEPARTMENT OF HEALTH TO SCHEDULE AN ON-SITE MEETING TO VERIFY THE LOCATION OF THE PROPOSED WELLS. WELL # 94-3266 SHALL BE ABANDONED PRIOR TO CONSTRUCTION BY A CERTIFIED WELL DRILLER PER HOWARD COUNTY HEALTH DEPARTMENT REQUIREMENTS.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12' (18' SERVING MORE THAN ONE RESIDENCE).
SURFACE - 6" OF CONCRETE CRUSHER RUN BASE WITH TAR AND CHIP COATING.
C) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
D) STRUCTURES/CULVERTS/BRIDGES - CAPABLE OF SUPPORTING 25 GROSS TONS (+25 LOAD).
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
F) STRUCTURE CLEARANCES - MAXIMUM 12 FEET.
G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEE CUNNINGHAM AND ASSOC., INC., DATED JUNE, 2004.
- LOTS 1-5 WILL DERIVE ACCESS ONTO THE PUBLIC ACCESS PLACE OF THE ADJOINING MAPLEWOOD FARMS (F-07-74).
- THERE IS AN EXISTING RESIDENCE WHICH IS TO REMAIN LOCATED ON BUILDABLE PRESERVATION PARCEL 'C'.
- THE SHARED SEPTIC SYSTEM IS SUBJECT TO HEALTH DEPARTMENT REQUIREMENTS AND ACCEPTANCE BY THE DEPARTMENT OF PUBLIC WORKS.

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. Mullen 8-10-07
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cynthia Hamant 8/14/07
 CHIEF, DIVISION OF LAND DEVELOPMENT

William J. Mullen 8/14/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



GENERAL NOTES CONT

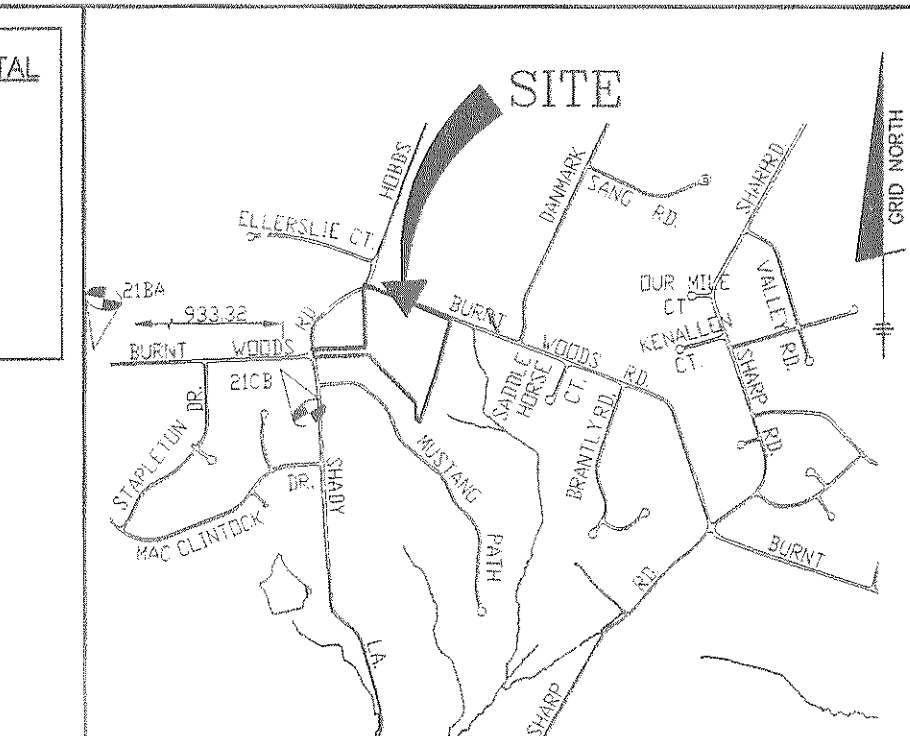
- WAIVER PETITION APPLICATION (WP 03-136) TO SECTION 16.120(A)(1) WAS APPROVED FOR THE RELOCATION OF THE EXISTING DRIVEWAY IN PRESERVATION PARCEL 'C' AS INDICATED IN THE LETTER DATED AUGUST 9, 2005 FROM HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
- THE ACCESS AND ASSOCIATED EASEMENT TO THE SHARED SEPTIC SYSTEM ON NON-BUILDABLE PRESERVATION PARCEL 'A' LOCATED WITHIN NON-BUILDABLE PRESERVATION PARCEL E AND NON-BUILDABLE BULK PARCEL D SHALL BE SHARED UP TO THE POINT THAT THE DRIVEWAY CROSSES FROM PARCEL A INTO PARCEL C.
- UPON COMPLETION OF THE REALIGNMENT OF BURNTWOODS ROAD IT SHALL BE HOWARD COUNTY'S RESPONSIBILITY TO REVISE ASSOCIATED DRAWINGS FOR THE ABANDONMENT AND THE REVERSION OF THE RIGHT-OF-WAY OWNERSHIP.
- A WAIVER PETITION (WP-07-78) TO WAIVE THE REQUIREMENTS TO SECTION 16.144(I) WHICH REQUIRE THE FINAL PLAN SUBMISSION TO BE IN ACCORDANCE WITH THE APPROVED PRELIMINARY OR PRELIMINARY EQUIVALENT SKETCH PLAN WAS APPROVED ON FEBRUARY 23, 2007. THE CONDITION OF THE APPROVAL INCLUDED SUBMISSION AND APPROVAL OF A REVISED PERC CERTIFICATION PLAN TO THE HEALTH DEPARTMENT PROVIDED HERewith AS SHEET 9 OF 9 AND APPROVED ON MAY 30, 2007.
- THE FOREST CONSERVATION REQUIREMENTS FOR BULK PARCEL 'D' HAVE NOT BEEN INCLUDED IN THIS PLAN. A WAIVER PETITION (WP-07-106) TO SECTION 16.1200 WAS APPROVED ON JUNE 7, 2007 TO DEFER THE FOREST CONSERVATION OBLIGATION FOR NON-BUILDABLE BULK PARCEL 'D' (3.28 AC) UNTIL SUCH TIME THAT PARCEL 'D' IS CONVERTED TO PUBLIC ROAD RIGHT-OF-WAY OR IS RESUBDIVIDED INTO BUILDABLE LOTS.
- A MAINTENANCE AGREEMENT FOR THE DRIVEWAY ACCESS TO THE COMMUNITY SHARED SEPTIC AREA TO NON-BUILDABLE PRESERVATION PARCEL A LOCATED ACROSS BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE BULK PARCEL D AND NON-BUILDABLE PRESERVATION PARCEL E SHALL BE RECORDED SIMULTANEOUSLY WITH THE PLAT.
- BASED ON PERMIT WMA NO. 07-XP-0053 WITH TRACKING NO. 200761835 AND LETTER DATED JUNE 12, 2007, ALTHOUGH THE POND IS LOCATED WITHIN A USE III WATERSHED IT IS NOT DEEMED A WET POND BY MDE AND DOES NOT CAUSE DETRIMENTAL THERMAL IMPACTS TO THE USE III WATERS. MDE INDICATED THAT BASED ON THE DRAINAGE AREA AND HEIGHT OF EMBANKMENT THE PROJECT QUALIFIES FOR EXEMPTION.

SWM FACILITY #1

STORAGE	STORAGE ELEVATION
W.C.	564.63
C.P.	565.83
100 YR	568.21

BENCHMARKS NAD'83 HORIZONTAL

HO. CO. #210B STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE N 586168.043' E 1306716.629'
HO. CO. #218A STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE N 586125.184' E 1306355.353'



MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
2	48,399	2,245	46,154
3	48,577	1,557	47,020
4	44,480	833	43,647
5	42,448	172	42,276

VICINITY MAP
 SCALE: 1" = 2000'
 IJC HOWARD COUNTY MAP #9, D-6 AND D-7

SITE ANALYSIS DATA CHART

GENERAL SITE DATA

- PRESENT ZONING: RR-DEO
- APPLICABLE DPZ FILE REFERENCES: SP-05-05, WP-06-138, WP-07-106
- PROPOSED USE OF SITE: RESIDENTIAL
- PROPOSED WATER AND SEWER SYSTEMS: PRIVATE

AREA TABULATION

- GROSS TRACT AREA: 17.07 ac ±
- AREA WITHIN 100-YEAR FLOODPLAIN: 0.00 ac ±
- TOTAL AREA OF 25% OR GREATER STEEP SLOPES: 0.00 ac ±
AREA NOT IN FLOODPLAIN (FOR MTA CALC): 0.00 ac ±
- NET TRACT AREA: 17.07 ac ±
- TOTAL NUMBER OF LOTS ALLOWED PER ZONING: 4
1 UNIT PER 4.25 GROSS ACRES (MAX) 4
- TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBDIVISION: 6
- AREA OF C.I. LOTS: 4.99 ac ±
- AREA OF NON-BUILDABLE PRESERVATION PARCELS: 5.38 ac ± (PARCELS A, E & F)
- AREA OF BUILDABLE PRESERVATION PARCELS: 2.48 ac ±
- AREA OF NON-BUILDABLE BULK PARCELS: 3.28 ac ±
- AREA OF BUILDABLE BULK PARCELS: N/A
- AREA OF ROAD RIGHT-OF-WAY: 0.94 ac ±
- OPEN SPACE ON-TOTAL SITE: N/A
- AREA OF RECREATIONAL OPEN SPACE REQUIRED: N/A

LEGEND

- PROPOSED CONTOURS: 999, 999
- EXISTING WETLANDS
- EXISTING WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- FOREST CONSERVATION EASEMENT
- PUBLIC UTILITY, WATER AND SEWER EASEMENT
- RIP-RAP
- EROSION CONTROL MATTING
- USE-IN-COMMON EASEMENT
- SIGHT DISTANCE EASEMENT

OVERALL DENSITY EXCHANGE CHART

GROSS AREA	17.07 ac ±
NET TRACT AREA	17.07 ac ± (SEE AREA TABULATION THIS SHEET)
DWELLING UNITS ALLOWED (as matter of right)	17.07 ac ± @ 1 DU per 4.25 GROSS ACRES = 4
MAXIMUM DWELLING UNITS ALLOWED	17.07 ac ± @ 1 DU per 2.00 NET ACRES = 8
PROPOSED DWELLING UNITS	5 + 1 EXISTING DWELLING = 6
NUMBER OF DEO UNITS TO BE RECEIVED	6 - 4 (base density) = 2
SENDING PARCEL INFORMATION	SUBSIDENCE NAME: PARKER PROPERTY TAX MAP: 15 GRID: 10 PARCEL: 17

BENCHMARK ENGINEERING, INC.
 ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bei-civilengineering.com

OWNER: GHASSANI NESHAWAT
 14445 BURNTWOODS ROAD
 GLENWOOD, MD 21738-9530

DEVELOPER: BURNTWOODS, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041-0417
 (410) 465-4244

PROJECT: NESHAWAT PROPERTY
 LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS
 A, B, E & F, NON-BUILDABLE BULK PARCEL D AND
 BUILDABLE PRESERVATION PARCEL C

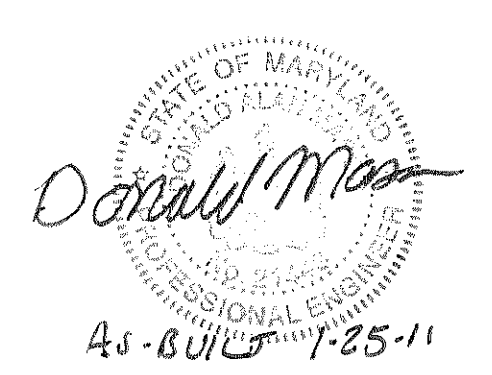
LOCATION: TAX MAP 21
 PARCEL 138 - GRID 5
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET

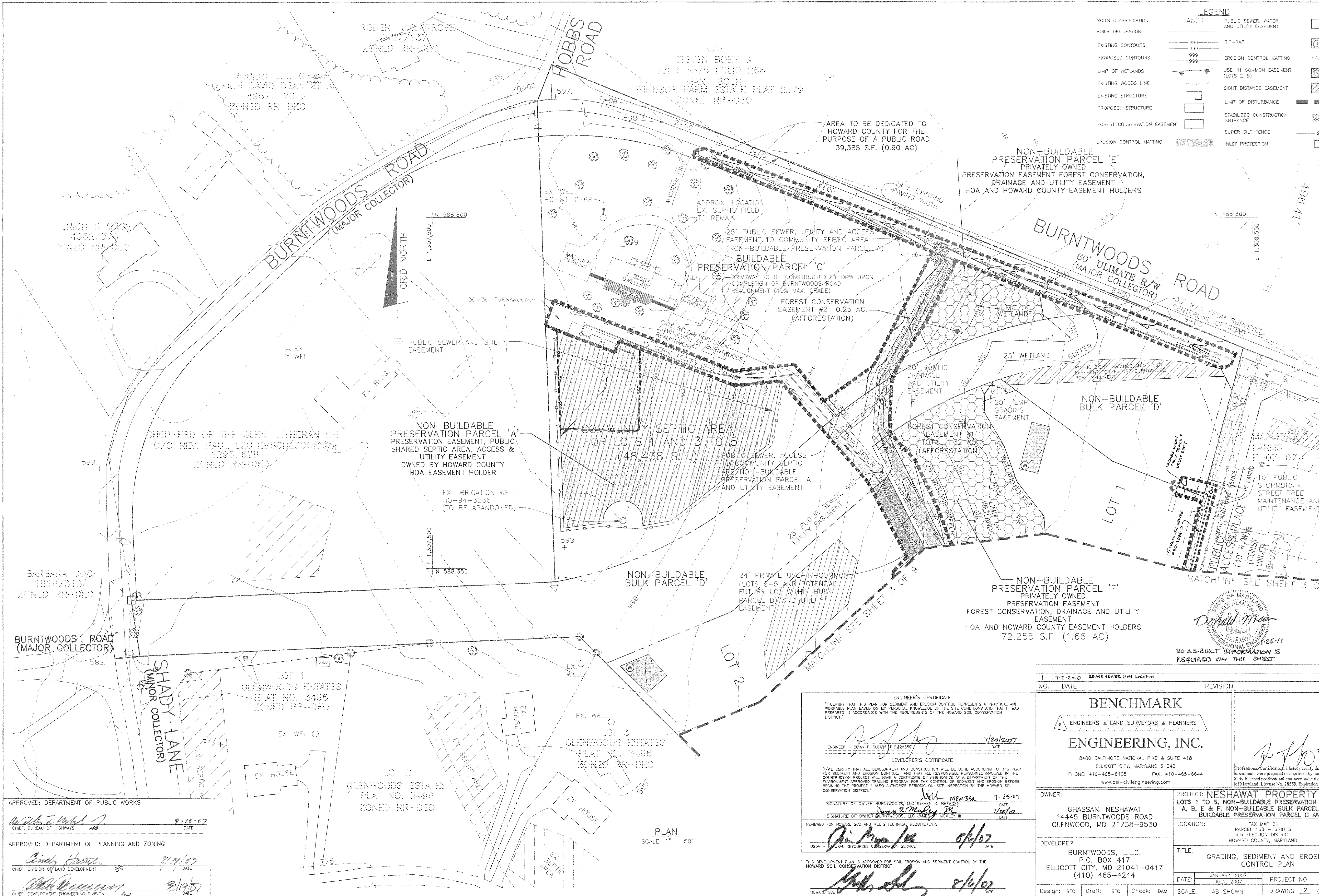
DATE: JANUARY, 2007
 JULY, 2007 PROJECT NO. 1662

SCALE: AS SHOWN DRAWING 1 OF 9

Design: brc Draft: brc Check: DAM



Donald M. Moore 7/25/2007
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2009



LEGEND

SOILS CLASSIFICATION	AbC1	PUBLIC SEWER, WATER AND UTILITY EASEMENT
SOILS DELINEATION	---	RIP-RAP
EXISTING CONTOURS	999	EROSION CONTROL MATTING
PROPOSED CONTOURS	999	USE-IN-COMMON EASEMENT (LOTS 2-5)
LIMIT OF WETLANDS	---	SIGHT DISTANCE EASEMENT
EXISTING WOODS LINE	---	LIMIT OF DISTURBANCE
EXISTING STRUCTURE	[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
PROPOSED STRUCTURE	[Symbol]	SUPER SILT FENCE
FOREST CONSERVATION EASEMENT	[Symbol]	INLET PROTECTION
EROSION CONTROL MATTING	[Symbol]	

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 8-10-07
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 8/14/07
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 8/14/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

PLAN
 SCALE: 1" = 50'

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

ENGINEER - BRIAN F. CLEARY, P.E. #28559 7/25/2007
 DATE

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF OWNER BURNWOODS, LLC STEVEN K. BREWSTER 7-25-07
 DATE

SIGNATURE OF OWNER BURNWOODS, LLC JAMES W. MCKEY III 7/25/07
 DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 [Signature] 8/6/07
 USDA - RURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 8/6/07
 HOWARD SCD

NO.	DATE	REVISION
1	7-2-2010	REVISE SEWER LINE LOCATION

BENCHMARK ENGINEERING, INC.
 ENGINEERS • LAND SURVEYORS • PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-8644
 www.bei-civilengineering.com

Professional Certification: I hereby certify the documents were prepared or approved by me duly licensed professional engineer under the of Maryland, License No. 28559, Expiration 1-25-11

OWNER: GHASSANI NESHAWAT
 14445 BURNWOODS ROAD
 GLENWOOD, MD 21738-9530

DEVELOPER: BURNWOODS, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041-0417
 (410) 465-4244

PROJECT: NESHAWAT PROPERTY
 LOTS 1 TO 5, NON-BUILDABLE PRESERVATION
 A, B, E & F, NON-BUILDABLE BULK PARCEL
 BUILDABLE PRESERVATION PARCEL C AND

LOCATION: TAX MAP 21
 PARCEL 138 - GRID 5
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN

DATE: JANUARY, 2007
 JULY, 2007

PROJECT NO. 2

Design: BFC Draft: BFC Check: DAM
 SCALE: AS SHOWN DRAWING 2

LEGEND

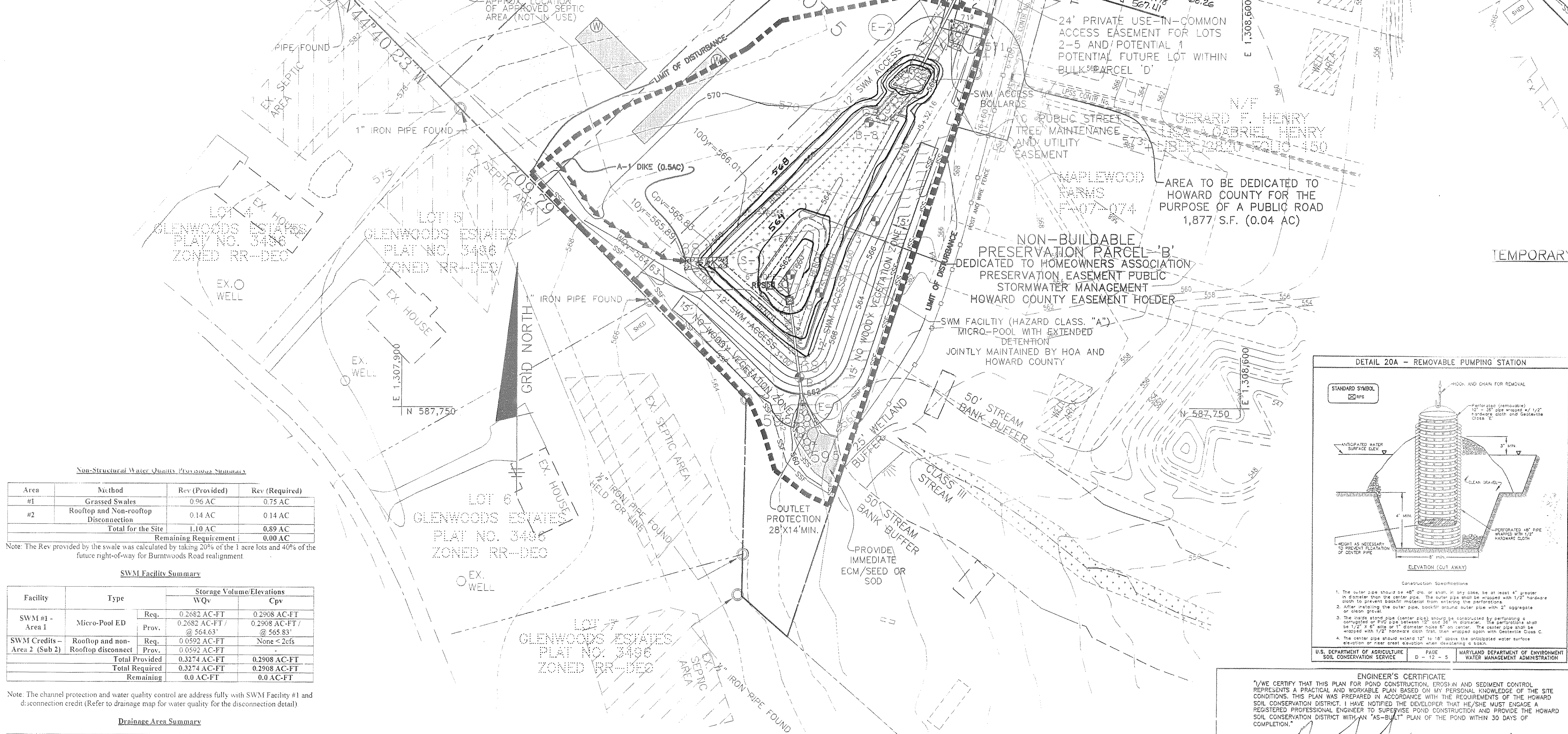
SOILS CLASSIFICATION	abc1	PUBLIC SEWER, WATER AND UTILITY EASEMENT	
SOILS DELINEATION	---	RIP-RAP	
EXISTING CONTOURS	---999---	EROSION CONTROL MATTING	
PROPOSED CONTOURS	---999---	USE-IN-COMMON EASEMENT (LOTS 2-5)	
LIMIT OF WETLANDS	---	SIGHT DISTANCE EASEMENT	
EXISTING WOODS LINE	---	LIMIT OF DISTURBANCE	
EXISTING STRUCTURE		STABILIZED CONSTRUCTION ENTRANCE	
PROPOSED STRUCTURE		SUPER SILT FENCE	
FOREST CONSERVATION EASEMENT		INLET PROTECTION	
EROSION CONTROL MATTING			
CLEANWATER DIVERSION DIKE			

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.

Donald A. Mason
DONALD A. MASON
PE NO. 1-25-11
DATE 7-25-11

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED PURSUANT TO CONSTRUCTION, THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROVED BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION BELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT ENFORCEMENT OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.



Non-Structural Water Quality Protection Summary

Area	Method	Rev (Provided)	Rev (Required)
#1	Grassed Swales	0.96 AC	0.75 AC
#2	Rooftop and Non-rooftop Disconnection	0.14 AC	0.14 AC
Total for the Site		1.10 AC	0.89 AC
Remaining Requirement		0.00 AC	0.00 AC

Note: The Rev provided by the swale was calculated by taking 20% of the 1 acre lots and 40% of the future right-of-way for Burnwoods Road realignment

SWM Facility Summary

Facility	Type	Storage Volume/Elevations	
		WQv	Cpv
SWM #1 - Area 1	Micro-Pool ED	Req.	0.2682 AC-FT
		Prov.	0.2908 AC-FT
SWM Credits - Area 2 (Sub 2)	Rooftop and non-rooftop disconnect	Req.	@ 564.63'
		Prov.	@ 565.83'
Total Provided		0.3274 AC-FT	0.2908 AC-FT
Total Required		0.3274 AC-FT	0.2908 AC-FT
Remaining		0.0 AC-FT	0.0 AC-FT

Note: The channel protection and water quality control are address fully with SWM Facility #1 and disconnection credit (Refer to drainage map for water quality for the disconnection detail)

Drainage Area Summary

STUDY POINTS (DRAINAGE AREAS)	EXISTING DISCHARGE (CFS)			DEVELOPED DISCHARGE (CFS)		
	1 YR	10 YR	100 YR	1 YR	10 YR	100 YR
#1	1.3	11.0	22.2	1.3	35.4	56.1
#2	1.3	16.2	34.9	0.7	7.1	14.2
#3	1.0	10.4	22.0	1.0	9.7	20.1

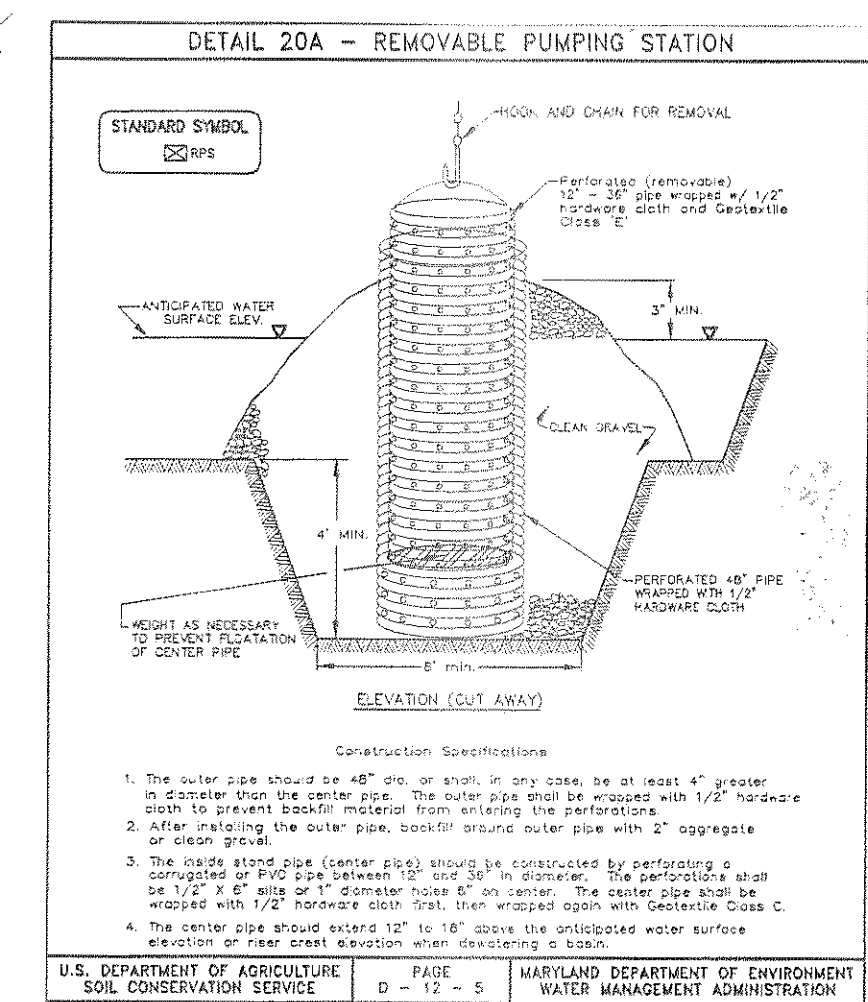
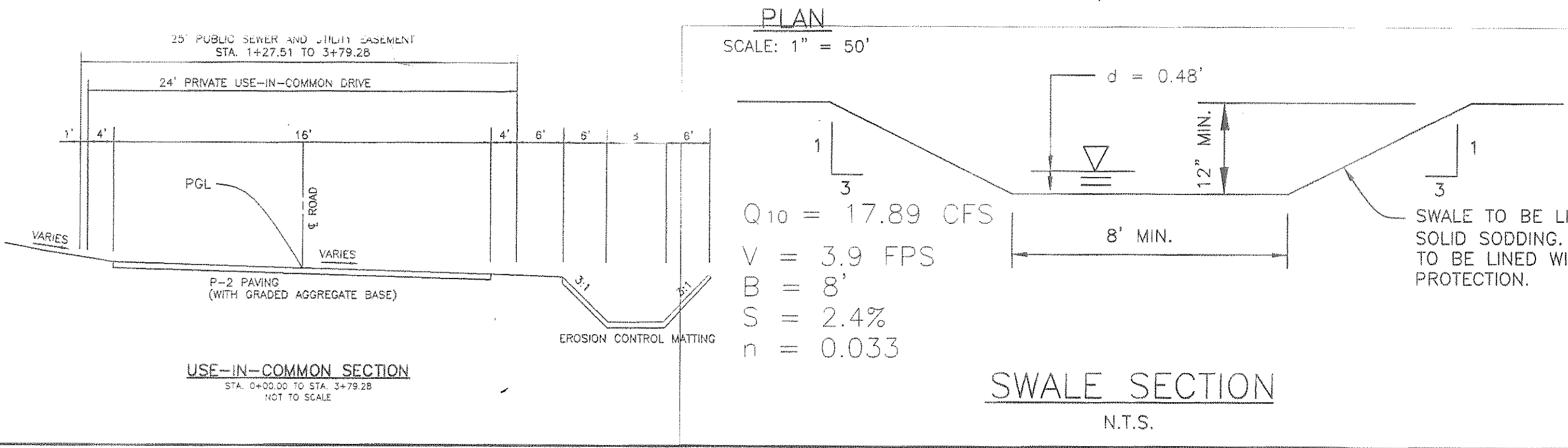
APPROVED: DEPARTMENT OF PUBLIC WORKS

Michelle J. ...
CHIEF, BUREAU OF HIGHWAYS 48
DATE 8-10-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy ...
CHIEF, DIVISION OF LAND DEVELOPMENT 85
DATE 8/14/07

John ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION 47
DATE 8/14/07



TEMPORARY BASIN #1
EXISTING D.A. = 6.38 AC
DEVELOPED D.A. = 9.93 AC
WET STORAGE ELEVATION = 562.54
DEPTH = 8' TOP OF EMBANKMENT
REQ. AND PROVIDED WET VOL. = 17,874± C.F.
REQ. AND PROVIDED DRY VOL. = 35,748± C.F.
RISER BARREL SIZE = 27" DIA
O'ITFALL LENGTH = 85'
EMBANKMENT ELEV. = 268.1
CLEANOUT ELEV. = 561.43
EXIST Q1 = 1.3 CFS
DEVELOPED Q1 = 1.3 CFS

ENGINEER'S CERTIFICATE

I/WE 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.

ENGINEER - BRUN F. CLEARY, P.E. (28559) DATE 7/25/2007

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGIND THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF OWNER: BURNWOODS, L.L.C. STEVEN C. BREEDEN DATE 7-25-07
SIGNATURE OF OWNER: BURNWOODS, L.L.C. JAMES W. DAVLEY III DATE 7/25/07

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA - NATURAL RESOURCES CONSERVATION SERVICE
Jim Myers 8/6/07
DATE 8/6/07

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John ... 8/6/07
DATE 8/6/07

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bel-civilengineering.com

OWNER: GHASSANI NESHAWAT
14445 BURNWOODS ROAD
GLENWOOD, MD 21738-9530

DEVELOPER: BURNWOODS, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MD 21041-0417
(410) 465-4244

PROJECT: NESHAWAT PROPERTY
LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F, NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C AND

LOCATION: PARCEL 138 - GRID 5
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN

DATE: JANUARY, 2007
JULY, 2007

PROJECT NO. 1662
DRAWING 3 OF 9

Design: BFC Draft: BFC Check: DAM SCALE: AS SHOWN

SEDIMENT CONTROL NOTES

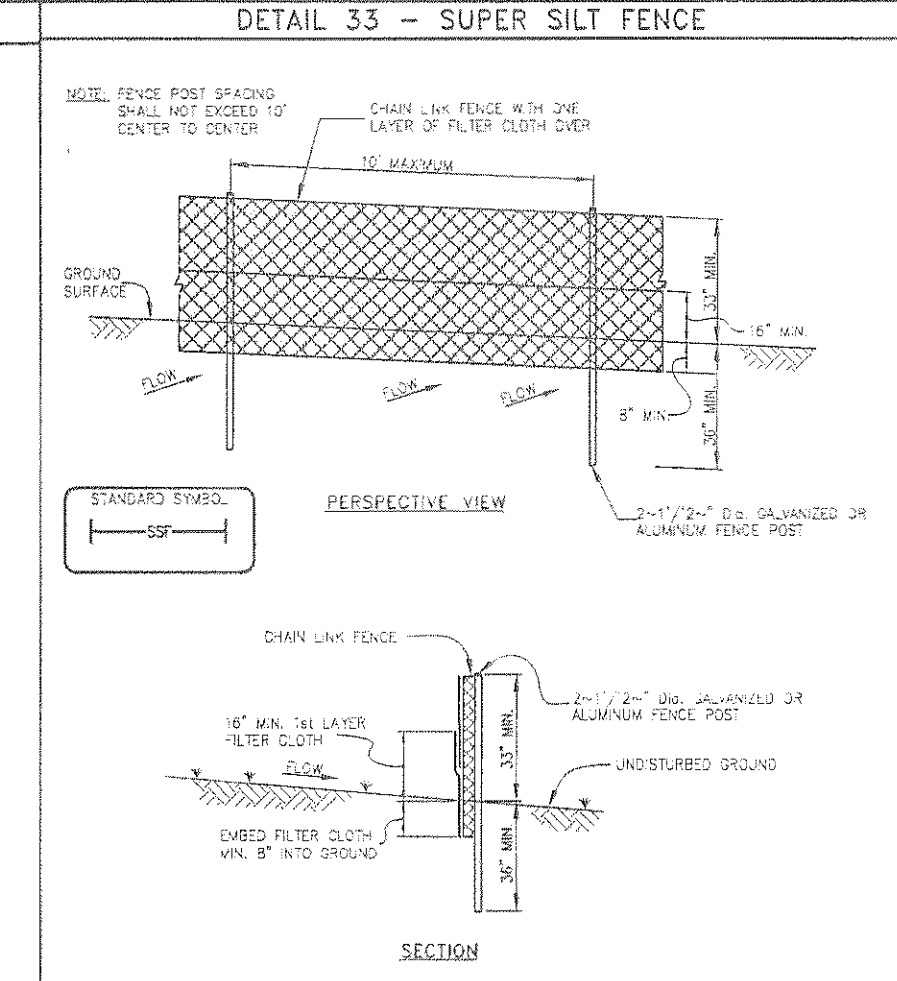
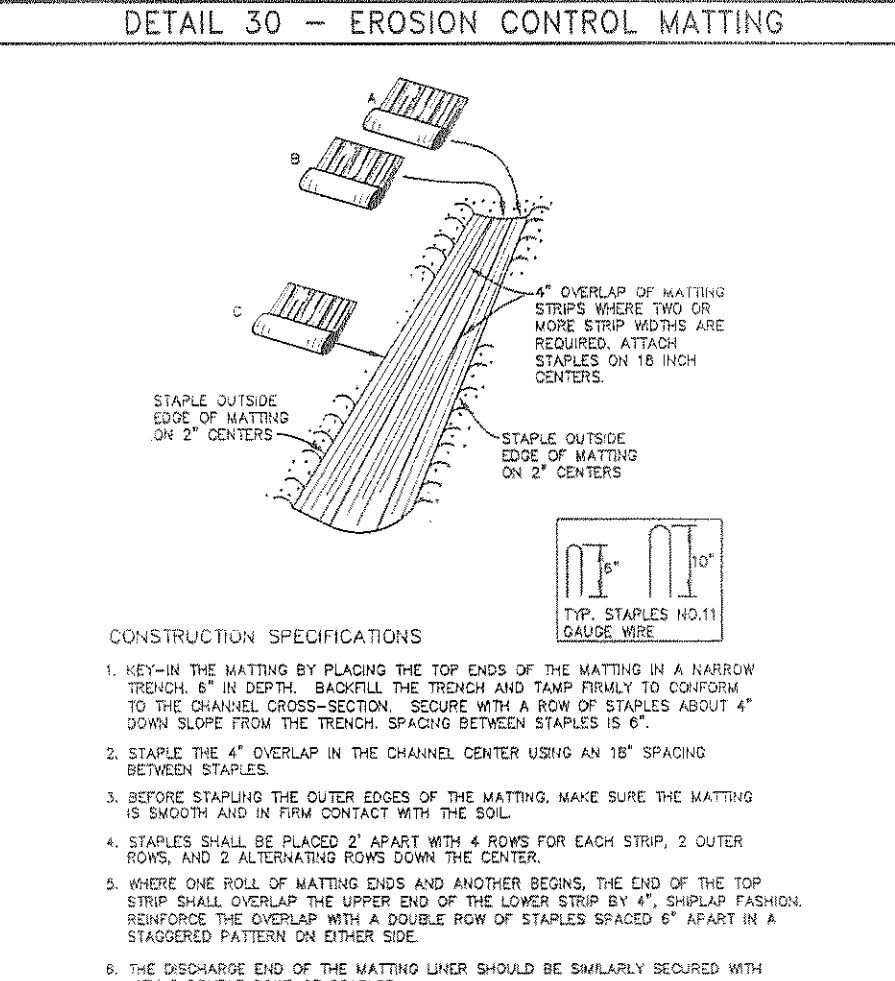
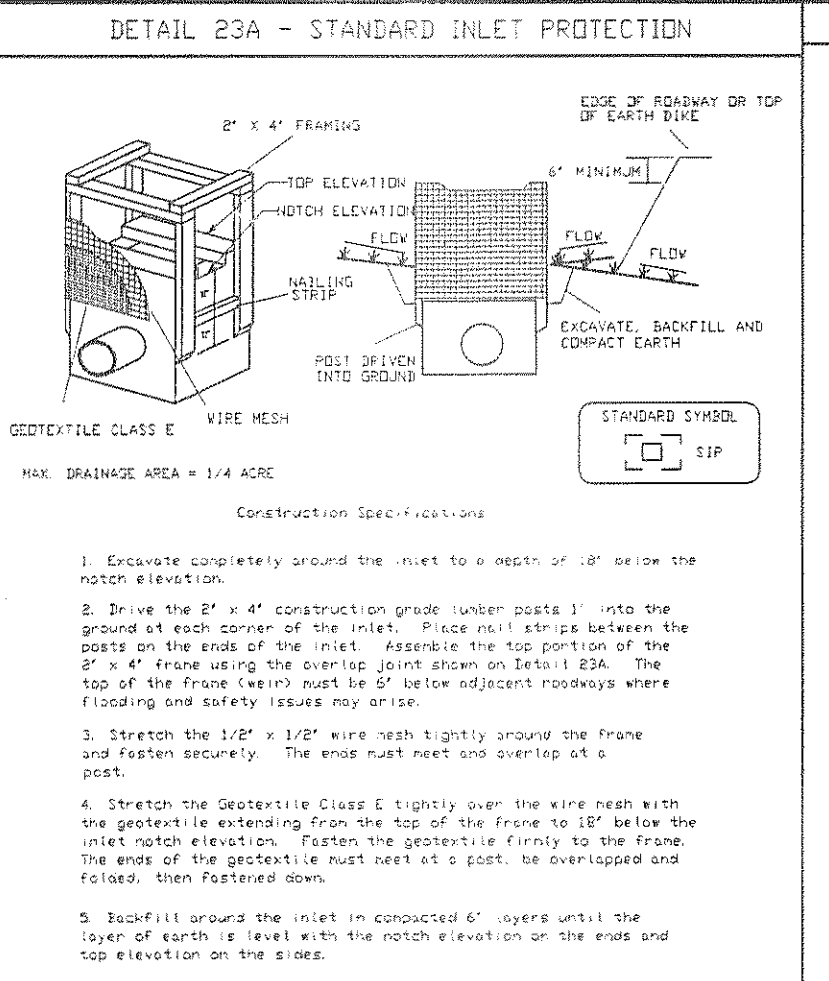
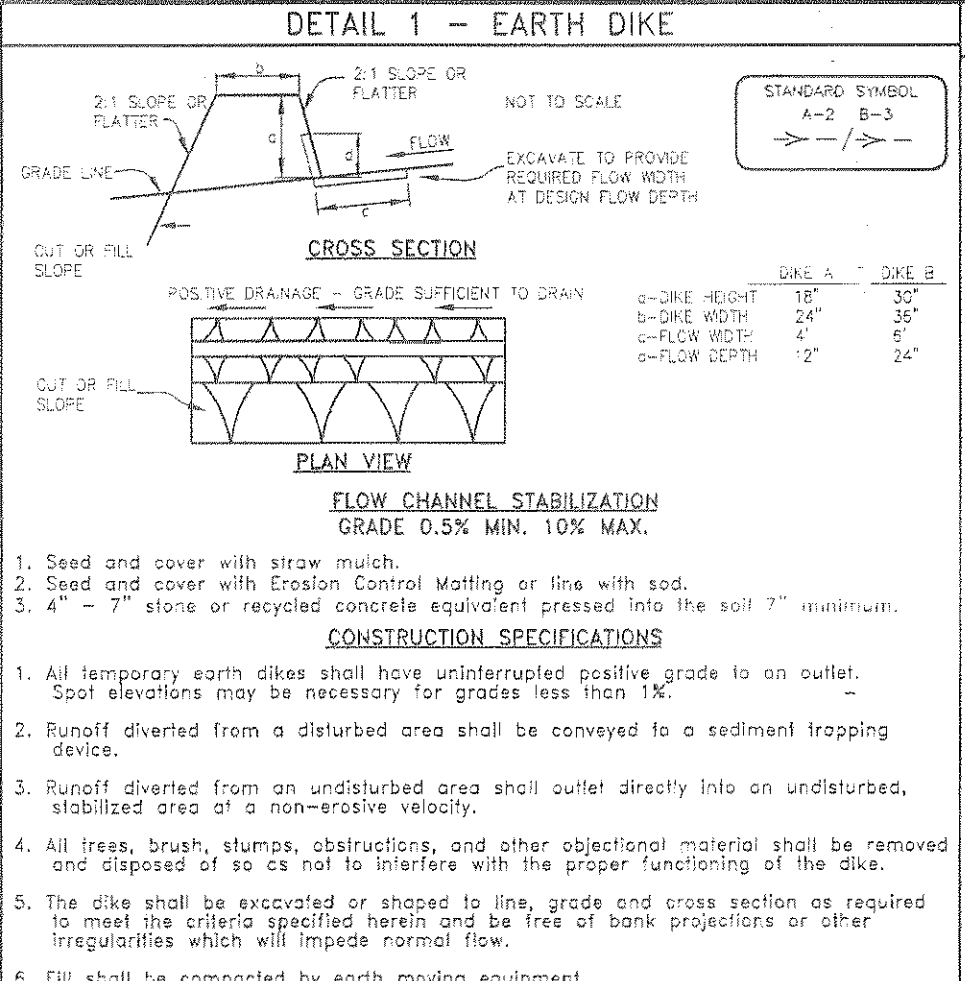
1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (15A-180)
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARKING STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL. REVISIONS THEREOF.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERMANENT SEDIMENT CONTROL STRUCTURES, PERMITS, SLOPES AND ALL SLOPES GREATER THAN 3:1. 7-14 DAYS AFTER ANY OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHALL BE VENDED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE BY THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEDIMENTS (SEC. 51) 500 (LBS/1000 SQ. FT.) SEEDS, SOIL AND MULCHING (SEC. 52) TOPDRESSING AND STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS: TOTAL AREA OF SITE (THIS SUBMISSION) 17.07 ACRES AREA DISTURBED 3.47 ACRES AREA TO BE ROOFED OR PAVED 0.32 ACRES AREA TO BE VEGETATIVELY STABILIZED 3.15 ACRES TOTAL CUT 4519 CY TOTAL FILL 4231 CY OFF-SITE WASTE/BORROW AREA LOCATION *

TOPSOIL SPECIFICATIONS

Topsoil salvaged from the existing site may be used provided that it meets that standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by the U.S. Department of Agriculture in cooperation with Maryland State University.

Topsoil Specifications - Soil to be used as topsoil must meet the following:

- Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, silty loam, or silty clay loam. 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 texture soils and shall contain less than 5% by volume of clods, stones, logs, coarse fragments, gravel, sticks, roots, twigs, 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, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
- Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (2000-8000 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly on designated areas by hand or mechanical means in conjunction with tillage operations as directed in the following procedures.
- For sites having disturbed areas over 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 2.00 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, obtain test results including 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 6.0 or higher.
 - Organic content or 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 seed or soil shall be placed on soil which has been treated with soil sterilants or chemical weed control for weed control until sufficient time has elapsed (14 days minimum) to permit degradation of phytotoxic materials.
 - Note: Topsoil substitutes or amendments as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - Place topsoil (if required) and apply soil amendments as specified in 2.00 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- Topsoil Application:
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and buffers.
 - Grades on the areas to be topsoiled, which have 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 seeding or sodding can proceed with a minimum of additional soil preparation and tillage. Any irregularities 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 PIECE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITH ONE WORKING DAY, ANCHOR IS SHORTER.
 - AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR, AN ADDITIONAL ROW OF "SUPER" SILT FENCE IS TO BE PLACED AT THE EASTERN L.O.D.



SUPER SILT FENCE CONSTRUCTION SPECIFICATIONS

Filter Cloth	Filter Cloth	Filter Cloth	Filter Cloth
1. Fencing shall be 42" high and constructed in accordance with the specifications for Chain Link Fence, Class B.			
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The ties shall be spaced every 48" along the length of the fence.			
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.			
4. Filter cloth shall be extended a minimum of 8" into the ground.			
5. When two sections of filter cloth meet, they shall be overlapped by 8" and fastened.			
6. Maintenance shall be performed as needed and all bulges removed when "barges" develop in the silt fence, or when silt reaches 50% of fence height.			
7. 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:			

Filter Cloth Specifications

Material	Weight	Filter Efficiency	Test Method
Filter Cloth	50 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502

PERMANENT SEEDBED PREPARATIONS

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS PER ACRE 0-0-0 UREA-FORM FERTILIZER (19 LBS/1000 SQ FT).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 31, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF WOODING LOVEGRASS. DURING THE PERIOD OF OCTOBER 15 THROUGH FEBRUARY 28, PROTECTIVE 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOLO OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROOTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING AN ANCHORING TOOL. USE 345 GALLONS PER ACRE OF GALVALUM 50 FT OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND

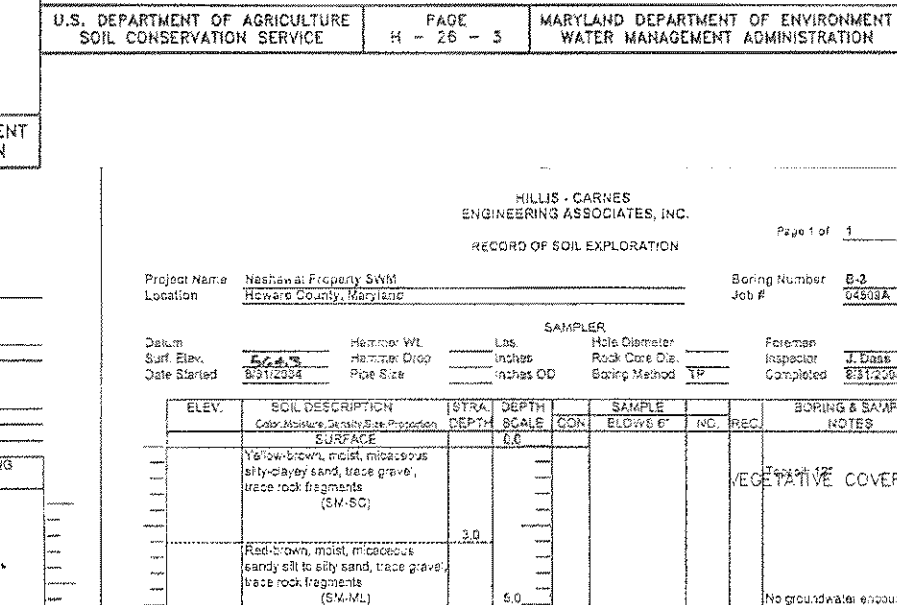
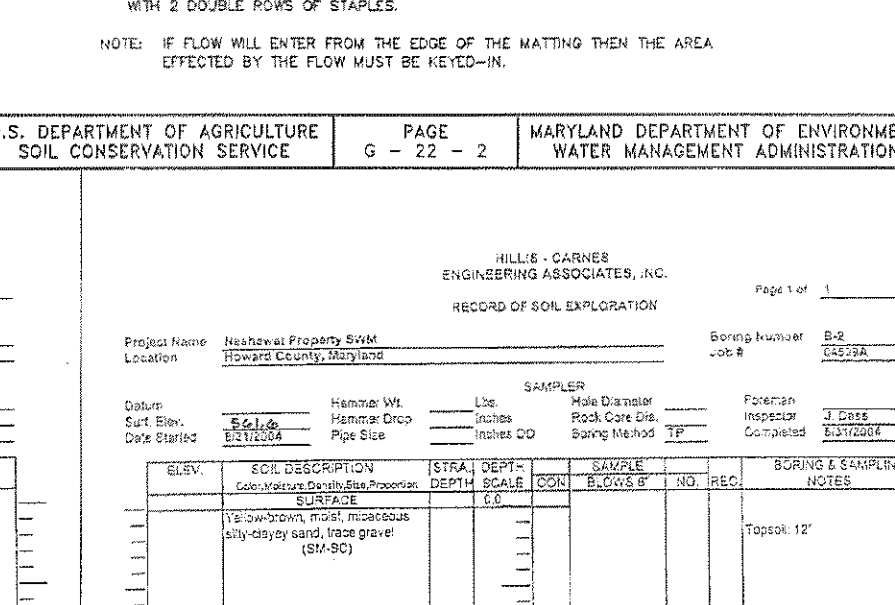
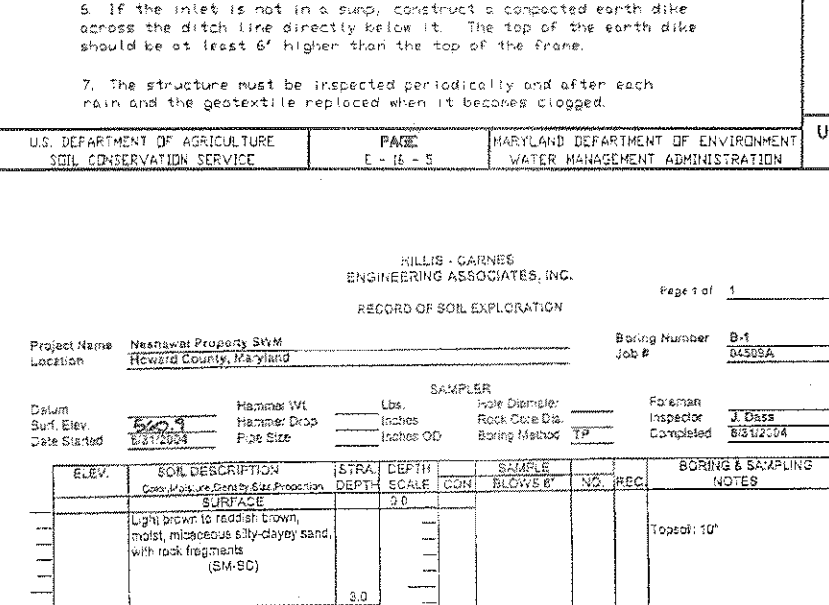
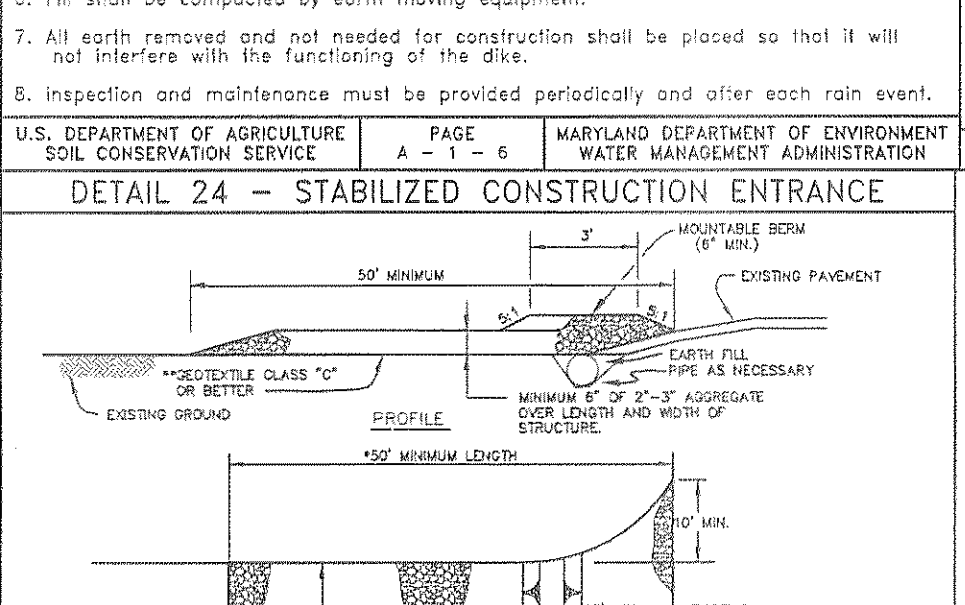
SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR REPLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

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 PERMITS, EROSION AND SEDIMENT CONTROLS. 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 PIECE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITH ONE WORKING DAY, ANCHOR IS SHORTER.

AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR, AN ADDITIONAL ROW OF "SUPER" SILT FENCE IS TO BE PLACED AT THE EASTERN L.O.D.



CONSTRUCTION SPECIFICATIONS CONTINUED

Material	Weight	Filter Efficiency	Test Method
Filter Cloth	50 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502

3.0 DUST CONTROL

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Temporary Methods

- Mulch - See standards for vegetative stabilization with mulches only. Mulch should be clipped or trolled to prevent blowing.
- Vegetative Cover - See standards for temporary vegetative cover.
- Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward right angles to prevailing currents and intervals of about 10 times their height are effective in controlling dust blowing.
- Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist as needed. At no time should the site be irrigated to the point that runoff begins to flow.
- Barriers - Solid board fences, wire fences, snow fences, burlap fences, straw bales, and similar material can be used on construction sites to prevent dust blowing. Barriers placed right angles to prevailing currents at intervals of about 10 times their height are effective in controlling dust blowing.
- Calcium Chloride - Apply at rates that will keep surface moist. May need re-treatment.

Permanent Stabilization

Permanent Vegetation - See standards for permanent vegetative cover, or permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.

Topsoiling - Covering with less erodible soil materials. See standards for topsoiling.

References

- Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
- Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION

DAY 1 OBTAIN GRADING PERMIT.

DAY 2-9 INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCES, AND INSTALL SEDIMENT CONTROL DEVICES FOR CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITY ONLY.

DAY 10-25 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL CONTRACTOR THE STORMWATER MANAGEMENT FACILITY AND STABILIZE THE SURROUNDING DISTURBED AREAS.

DAY 26-28 INSTALL SUPER SILT FENCES FOR SEDIMENT CONTROL FOR CONSTRUCTION OF THE SWALE, BURNTWOODS ROAD SHOULDER IMPROVEMENTS AND INSTALLATION OF THE SHARED SEPTIC SYSTEM.

DAY 29-40 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR CONSTRUCT THE SHARED SEPTIC SYSTEM AND SWALE INSTALL STORM DRAIN TO THE STORMWATER MANAGEMENT FACILITY. DISTURBED AREAS FOR THE INSTALLATION OF THE STORM DRAIN SHALL BE STABILIZED AT THE END OF EACH DAY.

DAY 41-43 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZED DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES.

NOTE: EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOILD SOIL SHOULD BE USED.

TEMPORARY SEEDBED PREPARATIONS

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 1 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT) FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WOODING LOVEGRASS (0.7 LBS/1000 SQ FT) FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOLO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROOTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING AN ANCHORING TOOL. USE 345 GALLONS PER ACRE OF GALVALUM 50 FT OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

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- Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

SEQUENCE OF CONSTRUCTION

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DAY 41-43 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZED DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES.

NOTE: EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOILD SOIL SHOULD BE USED.

TEMPORARY SEEDBED PREPARATIONS

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 1 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT) FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WOODING LOVEGRASS (0.7 LBS/1000 SQ FT) FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOLO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROOTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING AN ANCHORING TOOL. USE 345 GALLONS PER ACRE OF GALVALUM 50 FT OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

NOTE: EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOILD SOIL SHOULD BE USED.

TEMPORARY SEEDBED PREPARATIONS

Material	Weight	Filter Efficiency	Test Method
Filter Cloth	50 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502

TEMPORARY SEEDBED PREPARATIONS

Material	Weight	Filter Efficiency	Test Method
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3.0 DUST CONTROL

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Temporary Methods

- Mulch - See standards for vegetative stabilization with mulches only. Mulch should be clipped or trolled to prevent blowing.
- Vegetative Cover - See standards for temporary vegetative cover.
- Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward right angles to prevailing currents and intervals of about 10 times their height are effective in controlling dust blowing.
- Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist as needed. At no time should the site be irrigated to the point that runoff begins to flow.
- Barriers - Solid board fences, wire fences, snow fences, burlap fences, straw bales, and similar material can be used on construction sites to prevent dust blowing. Barriers placed right angles to prevailing currents at intervals of about 10 times their height are effective in controlling dust blowing.
- Calcium Chloride - Apply at rates that will keep surface moist. May need re-treatment.

Permanent Stabilization

Permanent Vegetation - See standards for permanent vegetative cover, or permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.

Topsoiling - Covering with less erodible soil materials. See standards for topsoiling.

References

- Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
- Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

TEMPORARY SEEDBED PREPARATIONS

Material	Weight	Filter Efficiency	Test Method
Filter Cloth	50 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502
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APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

8-10-07

5/14/07

2/14/07

B-7 CONSTRUCTION SPECIFICATIONS

B-8 CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for ponds up to 375'. All references to ASTM and ASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow, waste, embankment, and structural works shall be cleared, free of trees, stumps, logs, brush, and other objectionable material. When specified, material shall be removed. Channel banks and strip berms shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir, as directed by the owner or his representative. When specified, sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

TEMPORARY SEEDBED PREPARATIONS

Material	Weight	Filter Efficiency	Test Method
Filter Cloth	50 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (min.)	Test Method 502

TEMPORARY SEEDBED PREPARATIONS

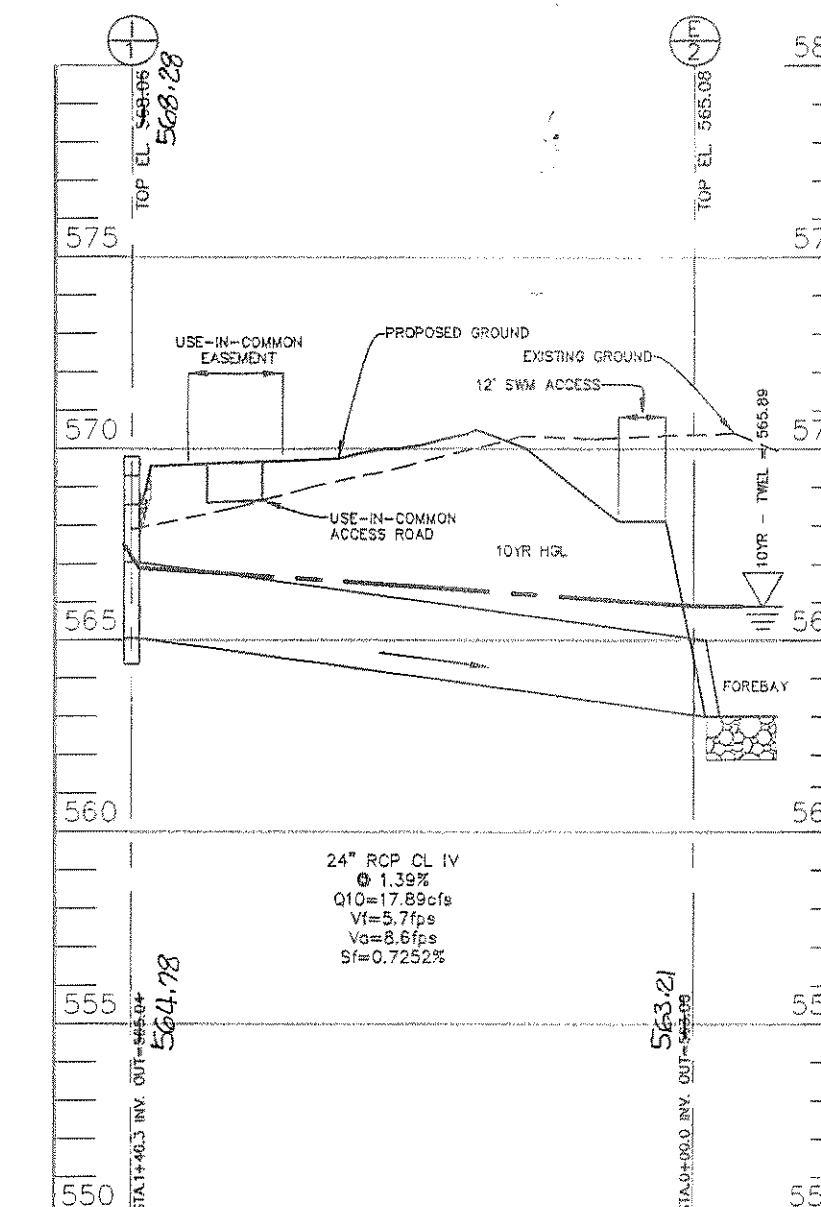
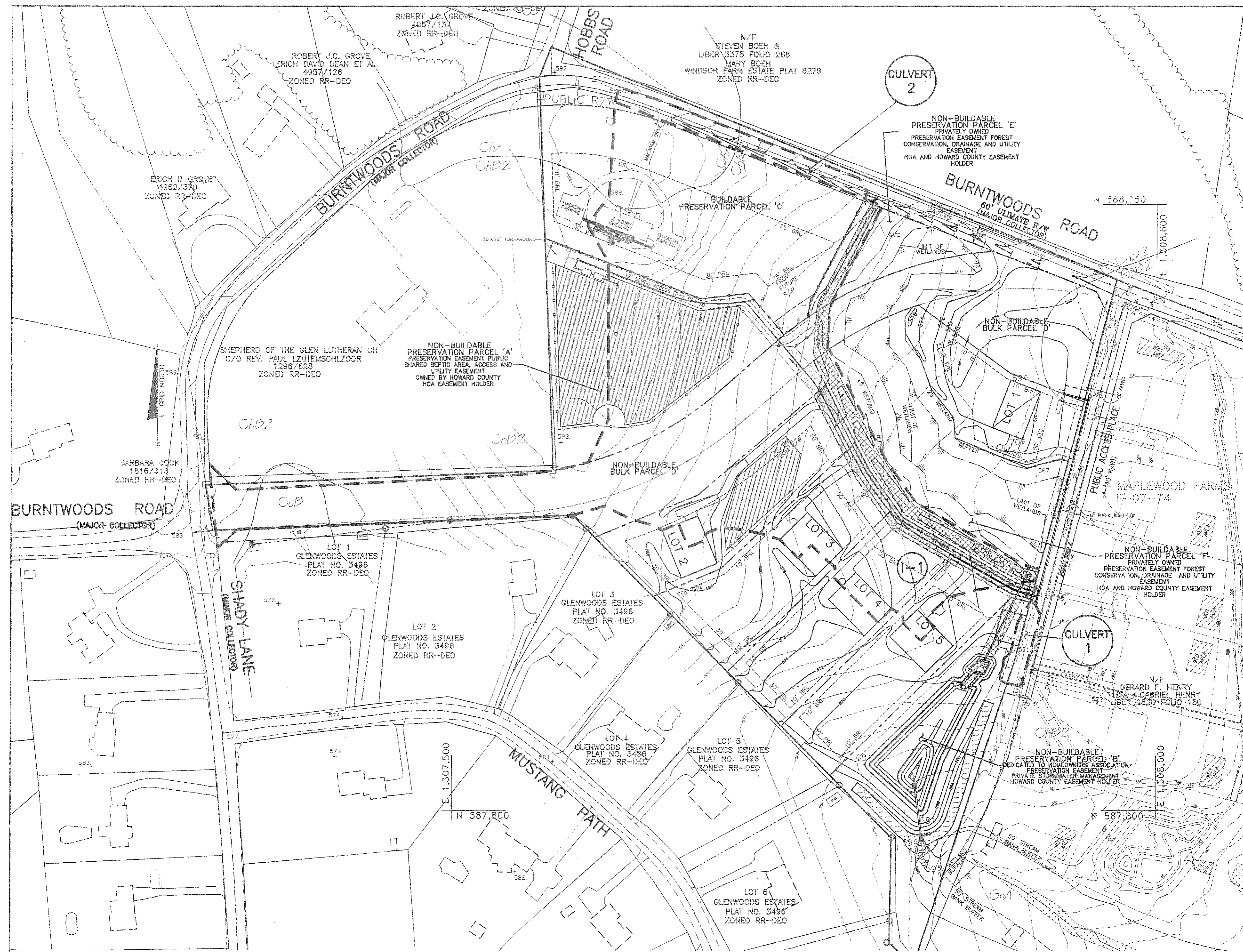
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TEMPORARY SEEDBED PREPARATIONS

Material	Weight	Filter Efficiency	Test Method
Filter Cloth	50 lbs/100 sq. ft.	75% (min.)	Test Method 502
Filter Cloth	25 lbs/100 sq. ft.	75% (



STORM DRAIN PROFILE
I-1 TO E-2
SCALE: VERTICAL 1"=5'
HORIZONTAL 1"=50'

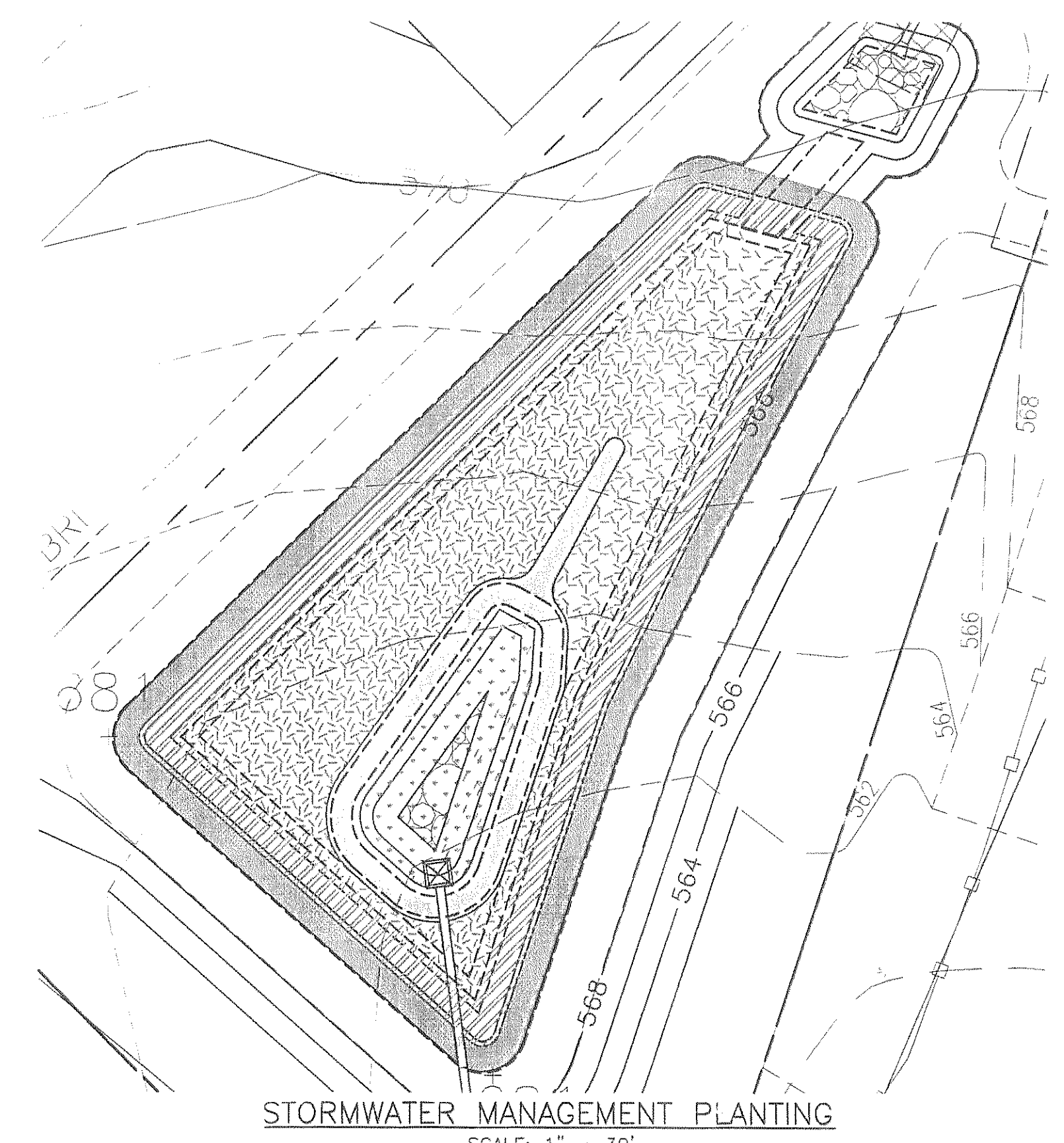
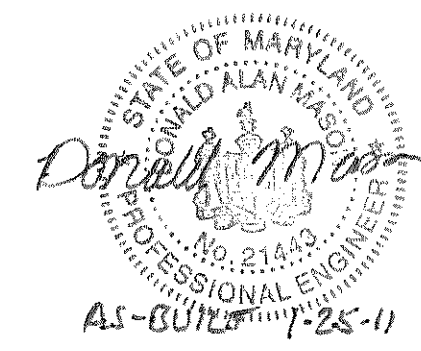
PLANTING SCHEDULE FOR BMP

ZONE	AREA (SF)	ELEVATION RANGE	PLANT MIX
1	1,401	560.00 - 563.00	100% WATER LILLY
2	1,731	563.00 - 564.00	50% BROAD WATER WEED 25% QUICK POTATO 25% ARROW ARUM
3	6,618	564.00 - 565.00	50% CUTGRASS, RICE 50% SWITCHGRASS
4	4,177	565.00 - 565.83	50% LOVEGRASS-MEADOW 25% VIOLETS, COMMON BLUE 25% CONEFLOWER, CUT-LEAF
5	3,560	565.93 - 568.10	75% WITCHGRASS, NEEDLE-LEAF 25% CONEFLOWER, SWEET
6	0 SF	N/A	N/A

NOTES:
1. ALL PLANTINGS TO BE SEED MIX WITH THE ABOVE IDENTIFIED PROPORTIONS SPREAD EVENLY THROUGH THE IDENTIFIED AREAS.
2. PLANTINGS SHALL BE IN ACCORDANCE WITH APPENDIX A OF THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I & II.

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- ZONE 5

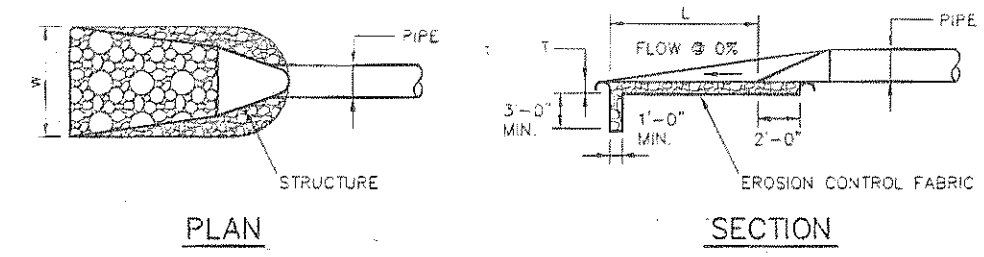


STORMWATER MANAGEMENT PLANTING
SCALE: 1" = 30'

OUTLET PROTECTION DETAIL
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
- GEOTEXTILE CLASS C28 OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING AND DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE PREPARED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE FABRIC. ALL OVERLAPS, WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
- STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR THE RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SHALL FILL THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
- THE STONE SHALL BE PLACED SO THAT IT BLENDERS WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR QUANTIC TO THE STONE WILL OCCUR.



STRUCTURE	d50	LENGTH(L)	WIDTH(W)	THICK(T)	SHA CLASS
E-1	9'-5"	28' @ 0%	14'	19"	1

PIPE SCHEDULE

TYPE & CLASS	SIZE	LENGTH
RCP	24"	147'
CMP	15"	49'
ASTM C-361	27"	84'

RCP = REINFORCED CONCRETE PIPE
CMP = CORRUGATED METAL PIPE

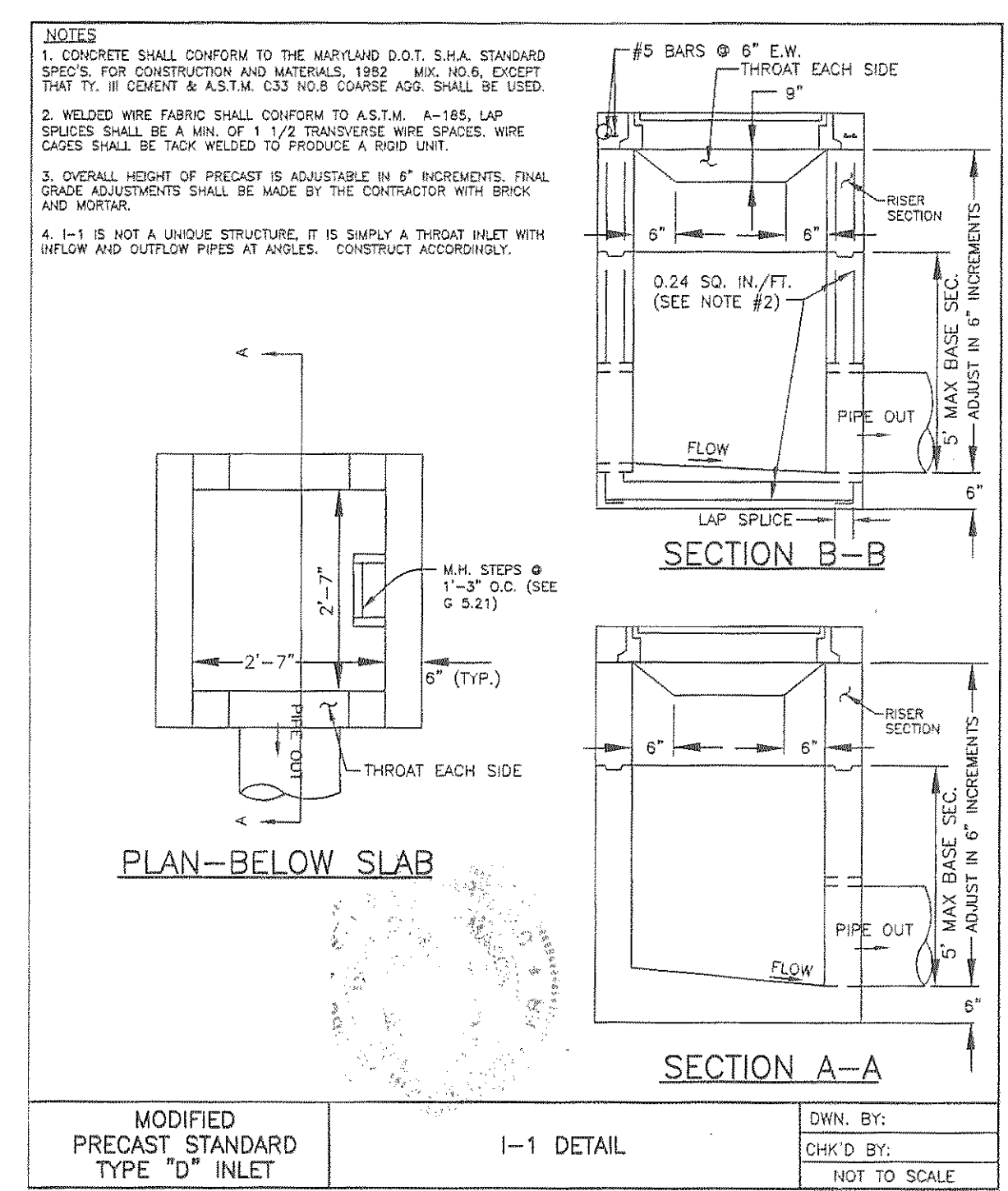
STRUCTURE SCHEDULE

STORM INLETS						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
I-1	TYPE "D"	N 588,167.44, E 1,308,397.53	-	565.04 564.78	568.30	SD-4.11 W/ 9" OPENING/4-SIDES

END SECTIONS						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
E-1	CONCRETE END SECTION	N 587,755.68, E 1,308,234.74	-	559.50	-	SD - 5.51
E-2	CONCRETE END SECTION	N 588,036.08, E 1,308,333.16	-	563.00	-	SD - 5.51

STRUCTURES						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
S-1	CONTROL STRUCTURE	N 587,839.08, E 1,308,223.74	560.00	560.00	566.55	SEE SHEET 7 OF 9

- STRUCTURE ELEVATION AND LOCATION FOR CURB INLETS IS AT THE TOP OF CURB AT MIDPOINT OF THE INLET AT THE FACE.
- STRUCTURE ELEVATION AND LOCATION FOR TYPE "D" AND "WR" INLETS IS AT THE TOP OF SLAB/GRADE AT CENTER OF THE INLET.
- ALL STORM DRAINS SHALL BE REINFORCED CONCRETE PIPE (CLASS 10) UNLESS OTHERWISE NOTED.
- STRUCTURE ELEVATION AND LOCATION FOR END SECTION IS AT THE INVERT WHERE PIPE JOINS END SECTION



MODIFIED PRECAST STANDARD TYPE "D" INLET
I-1 DETAIL
DWN. BY: [Signature]
CHK'D BY: [Signature]
NOT TO SCALE

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 8-10-07
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 8/14/07
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF CIVIL ENGINEERING
[Signature] 8/14/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-5105 FAX: 410-465-6644
www.bei-civilengineering.com

OWNER: GHASSANI NESHAWAT, 14445 BURNWOODS ROAD, GLENWOOD, MD 21738-9530

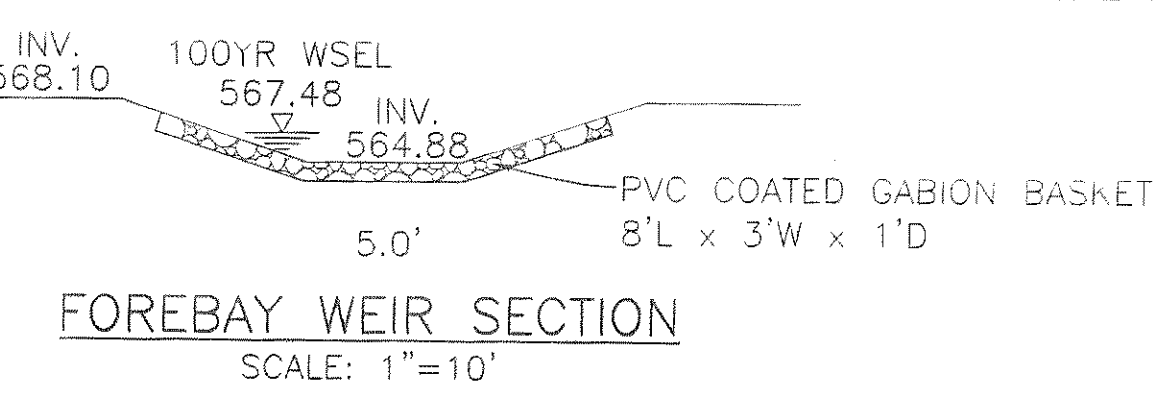
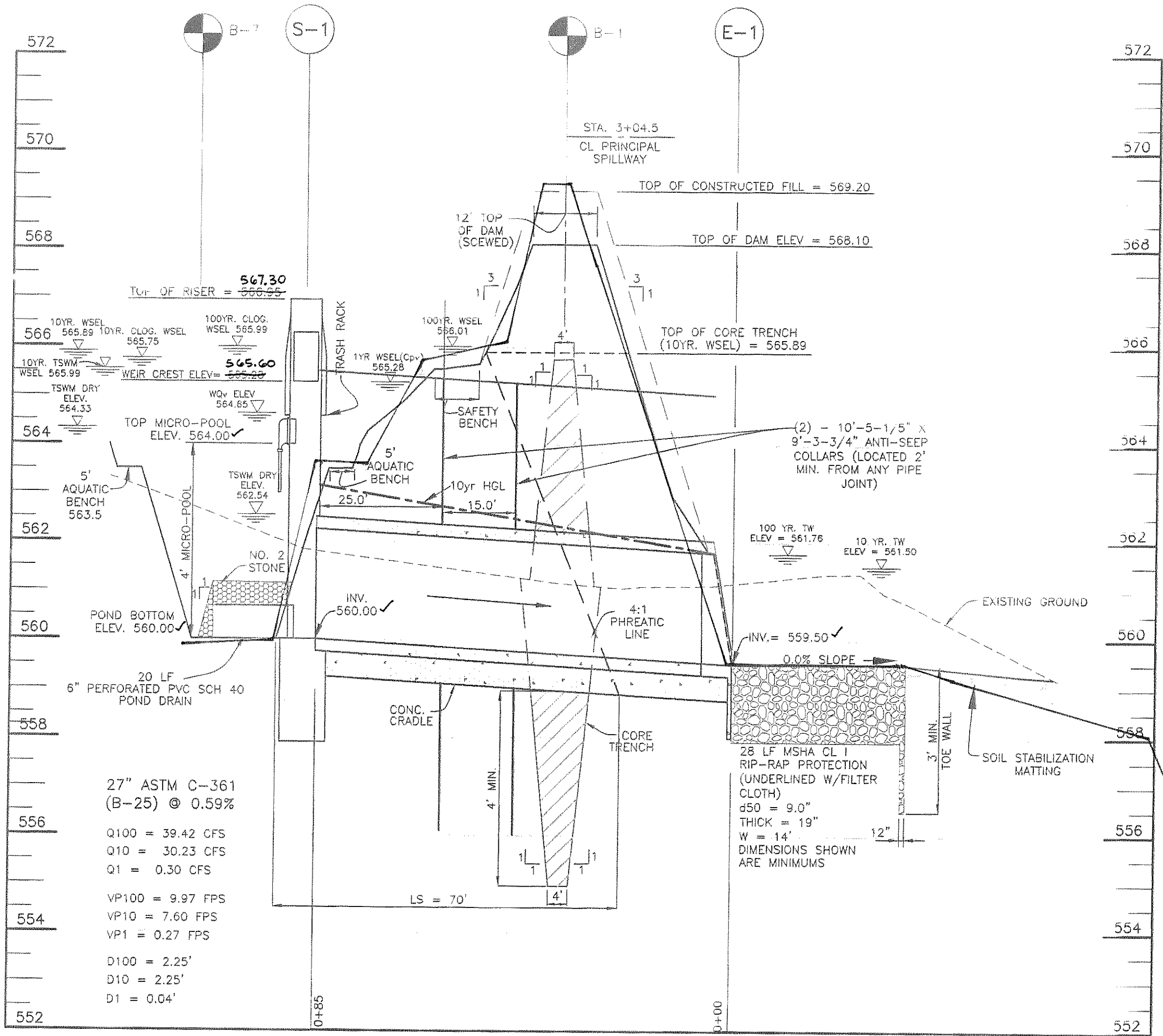
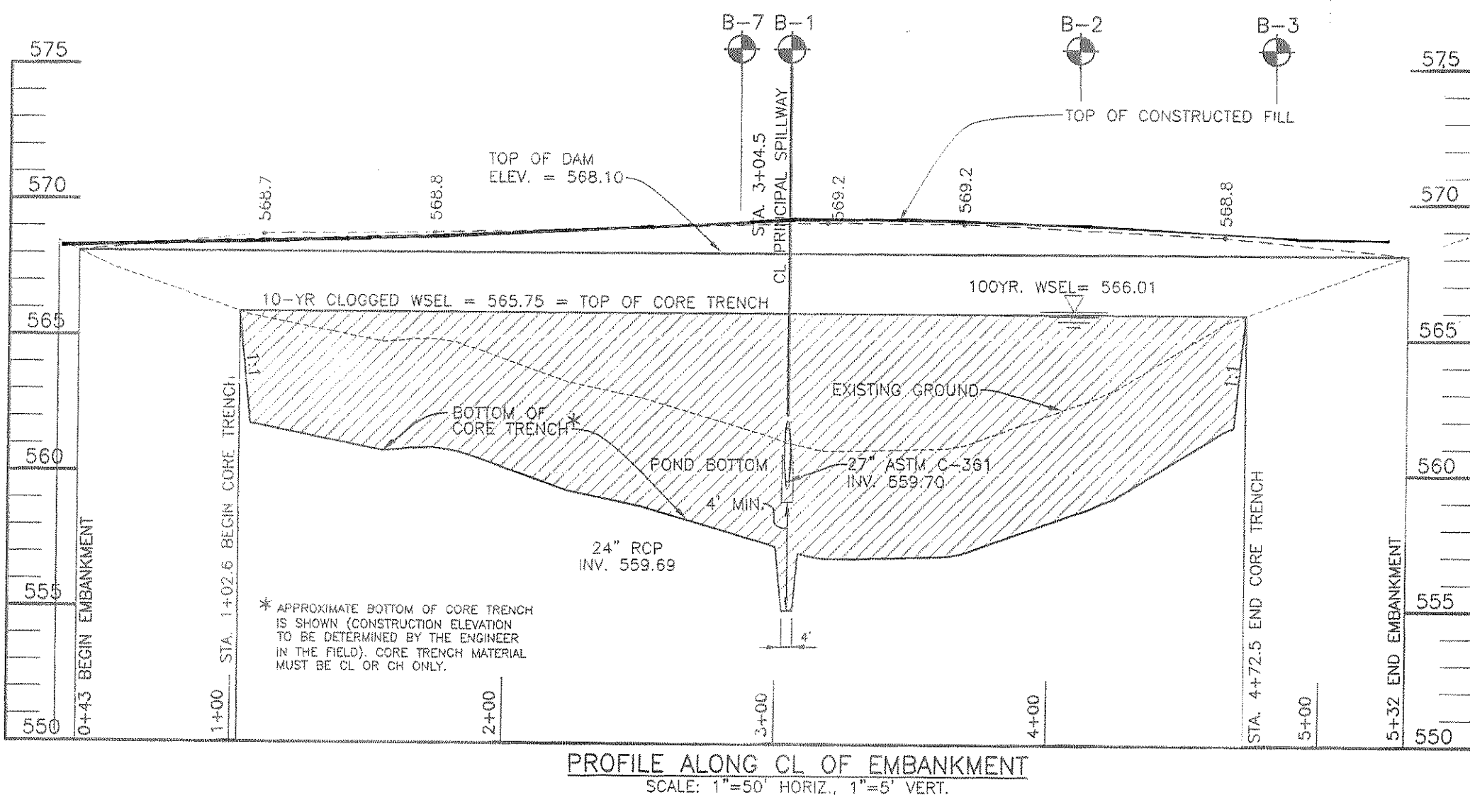
DEVELOPER: BURNWOODS, L.L.C., P.O. BOX 417, ELLICOTT CITY, MD 21041-0417, (410) 465-4244

PROJECT: NESHAWAT PROPERTY, LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F, NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C

TITLE: STORM DRAIN DRAINAGE AREA MAP, PROFILES AND DETAILS

DATE: JANUARY, 2007
SCALE: AS SHOWN

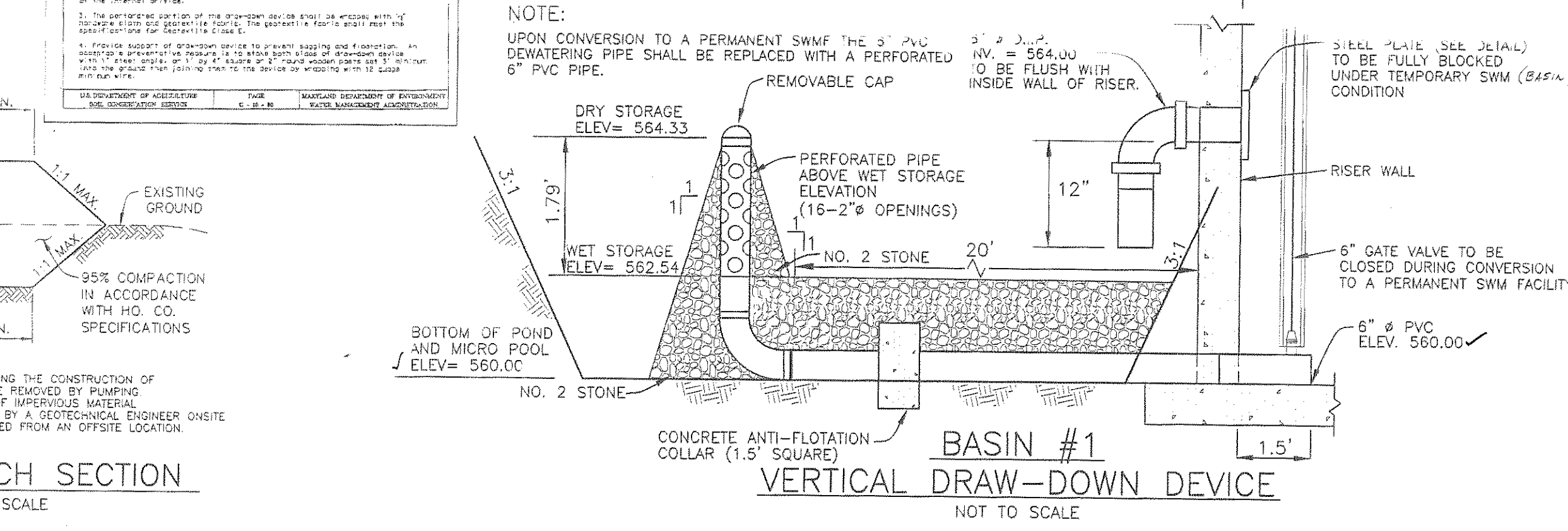
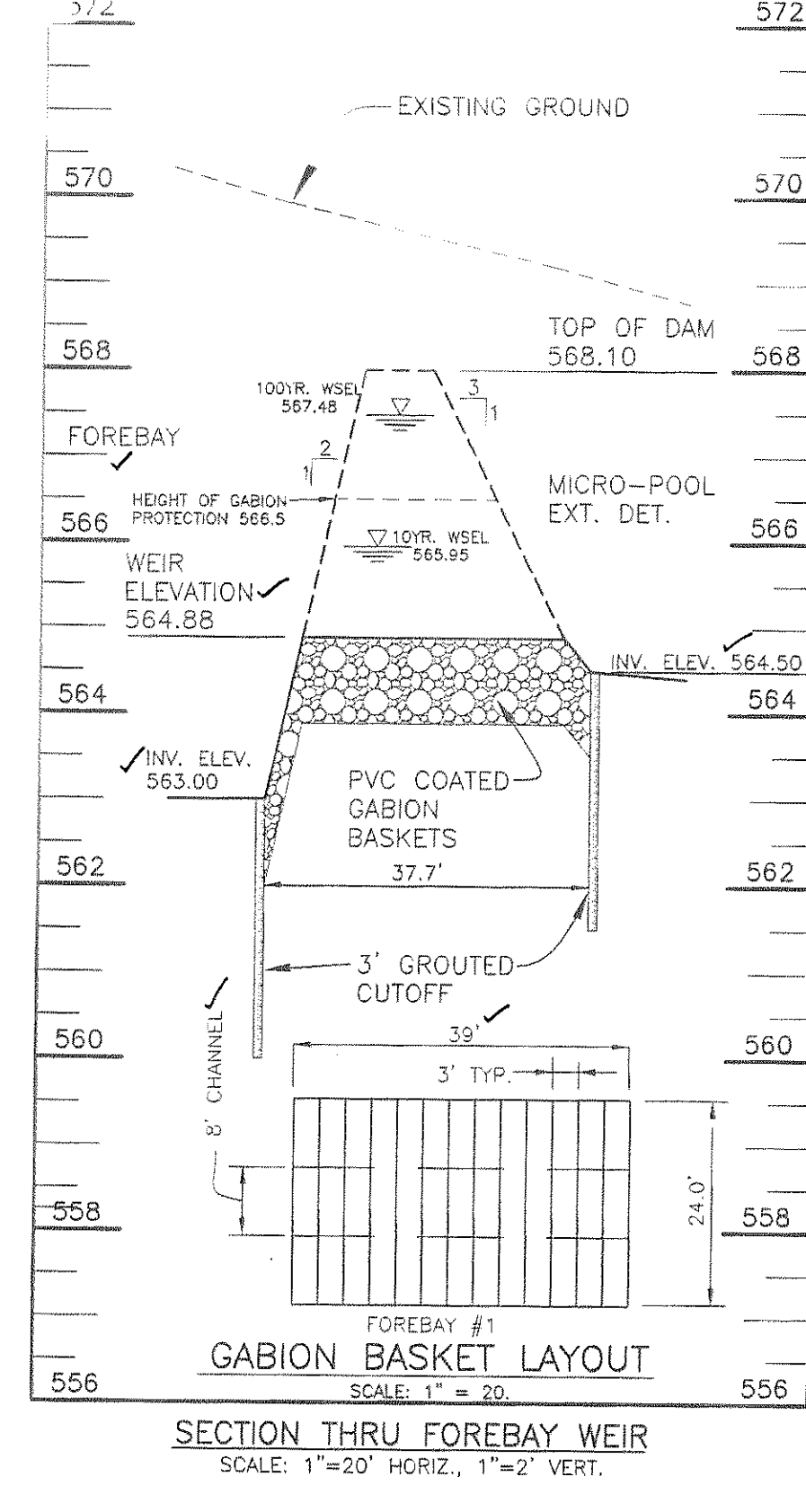
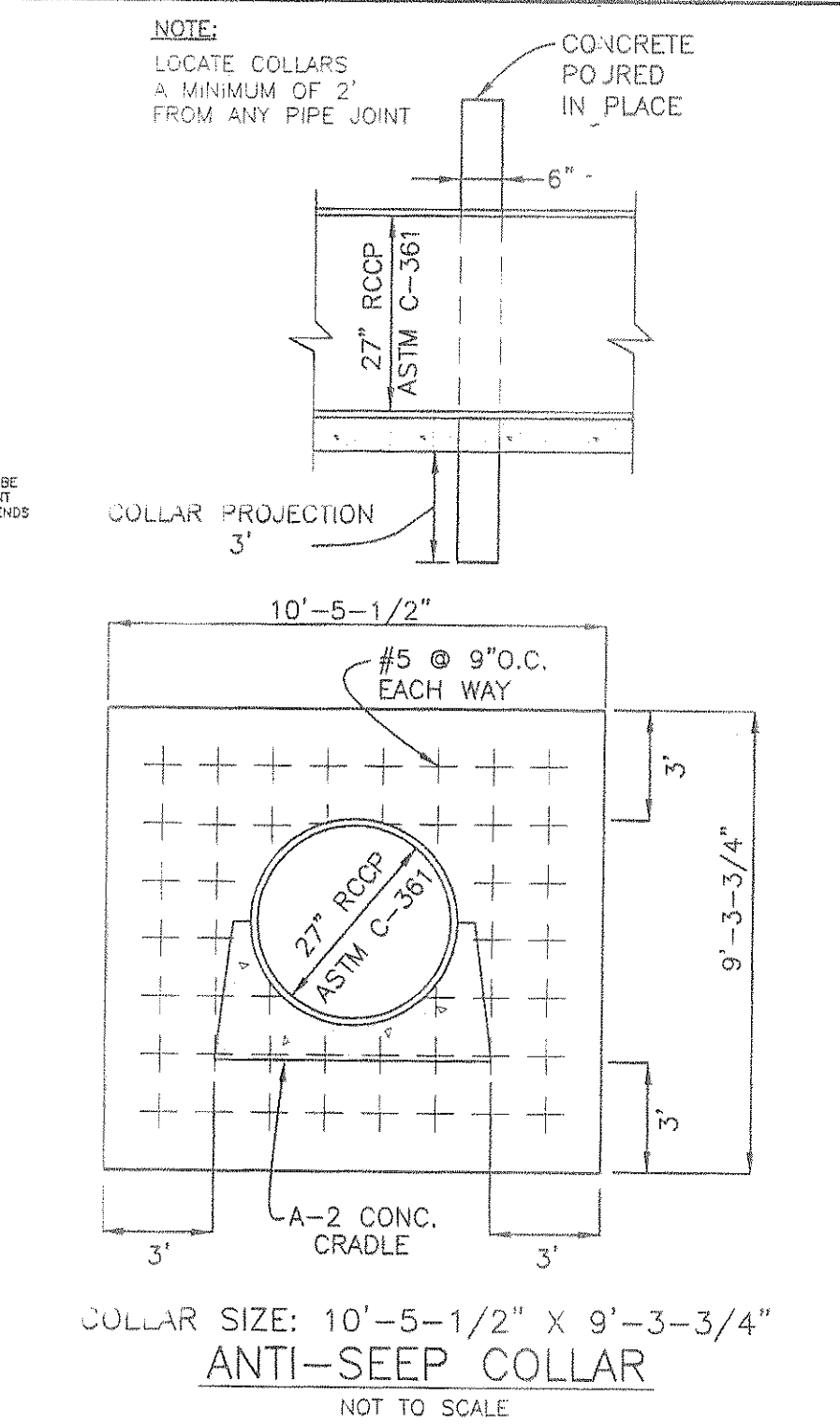
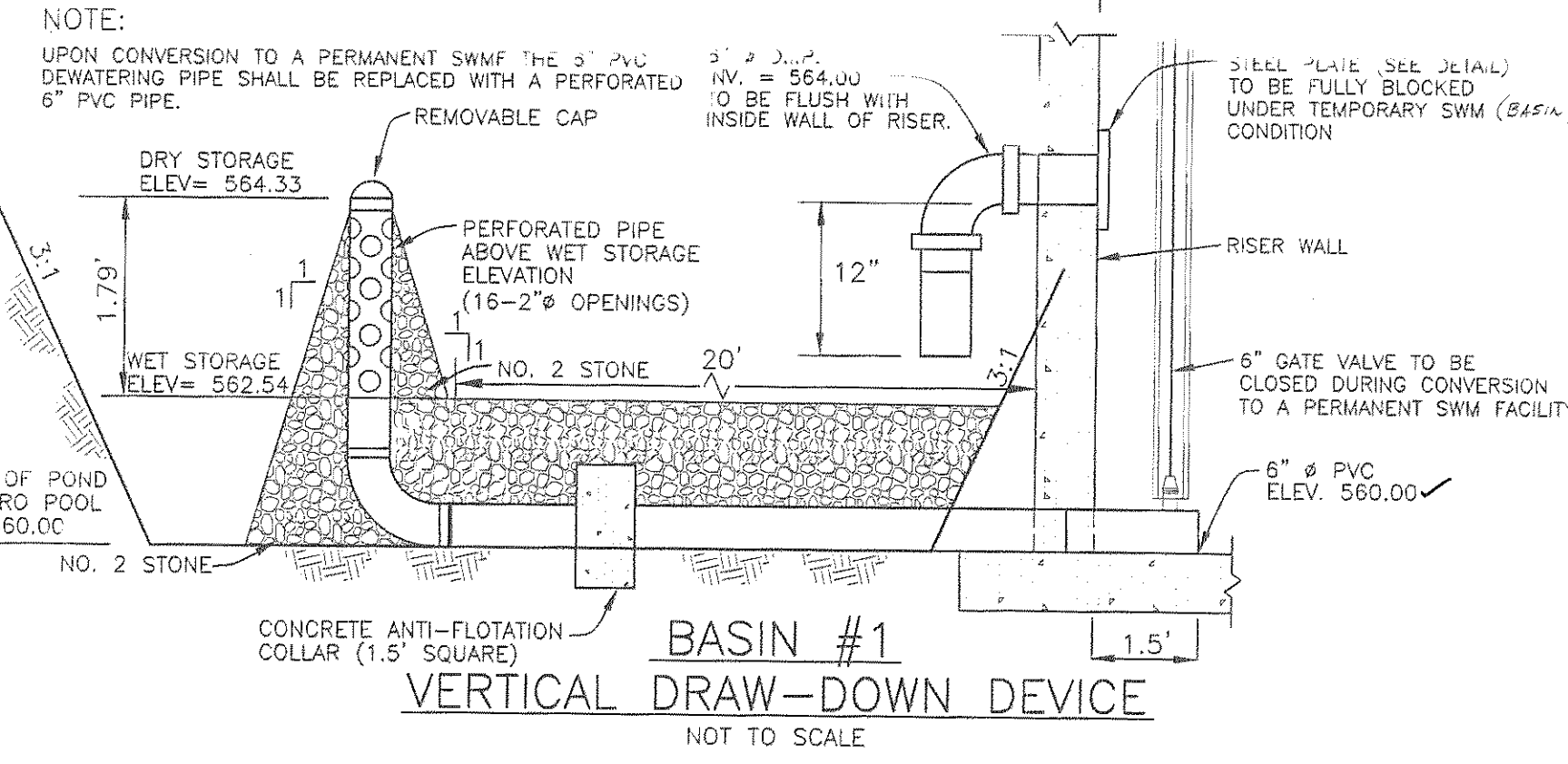
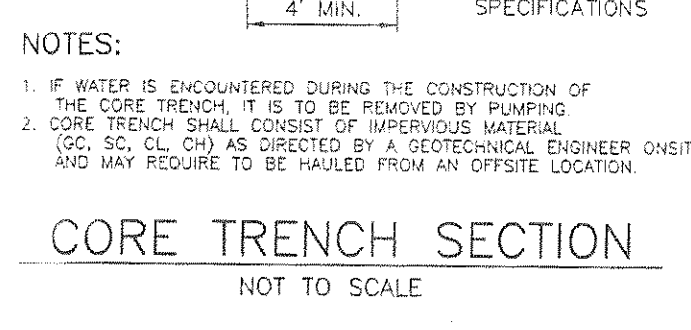
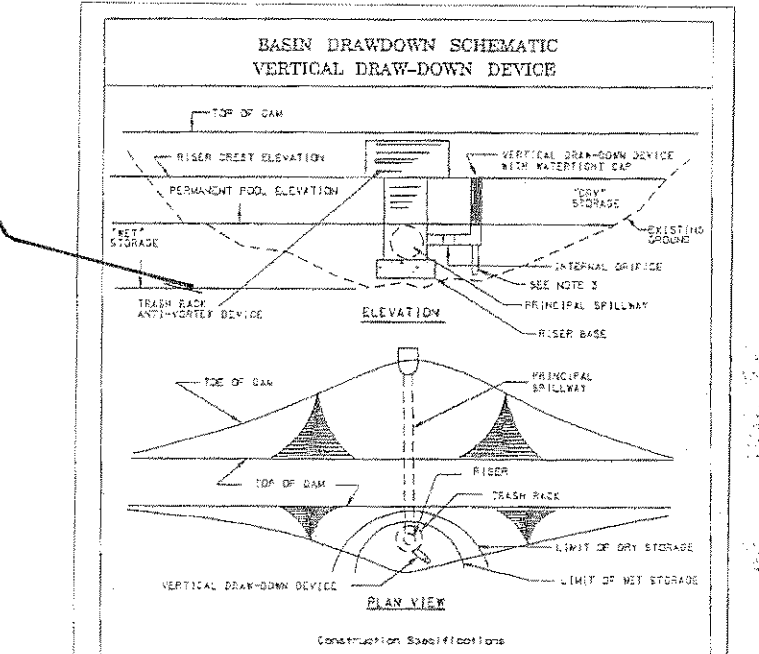
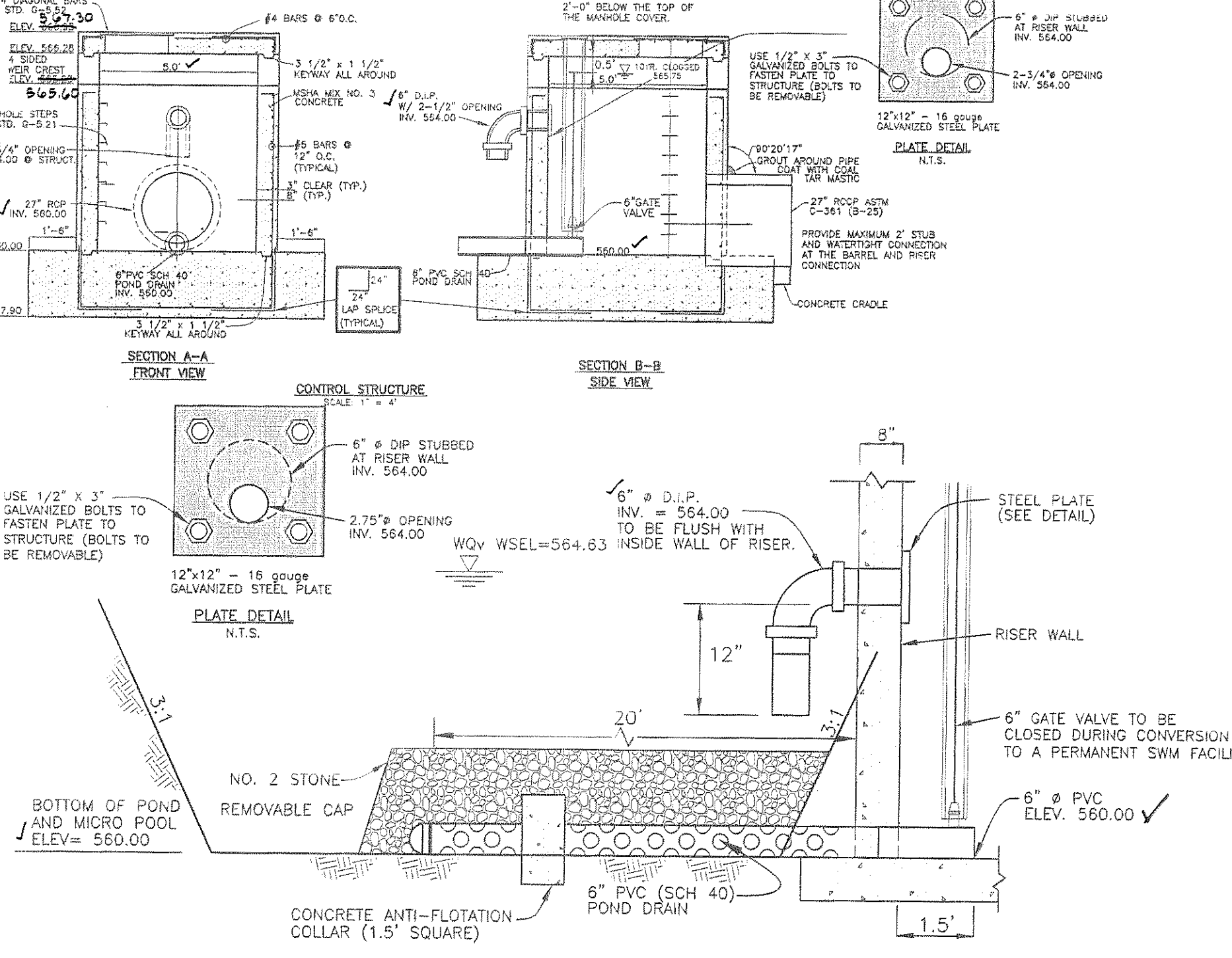
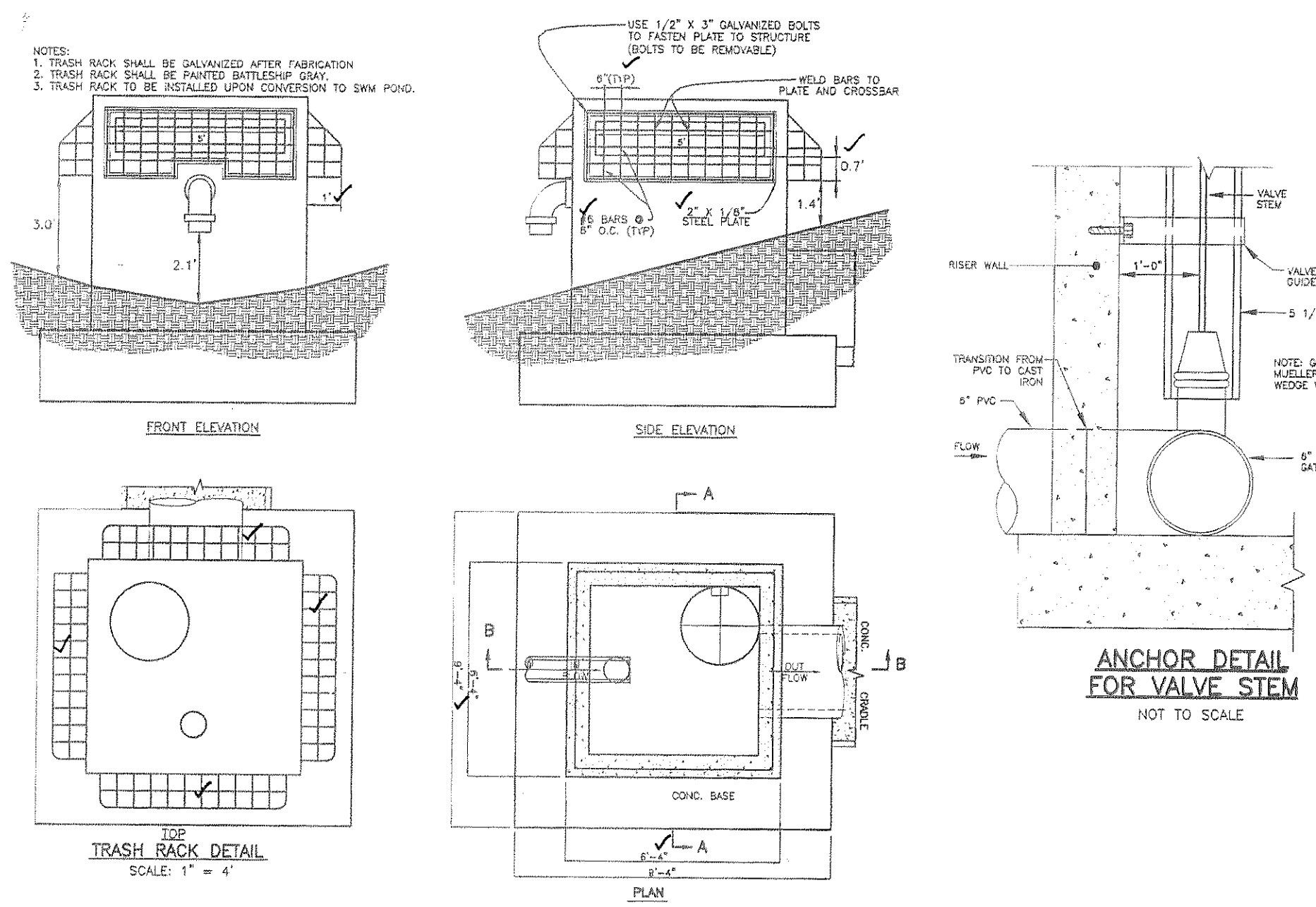
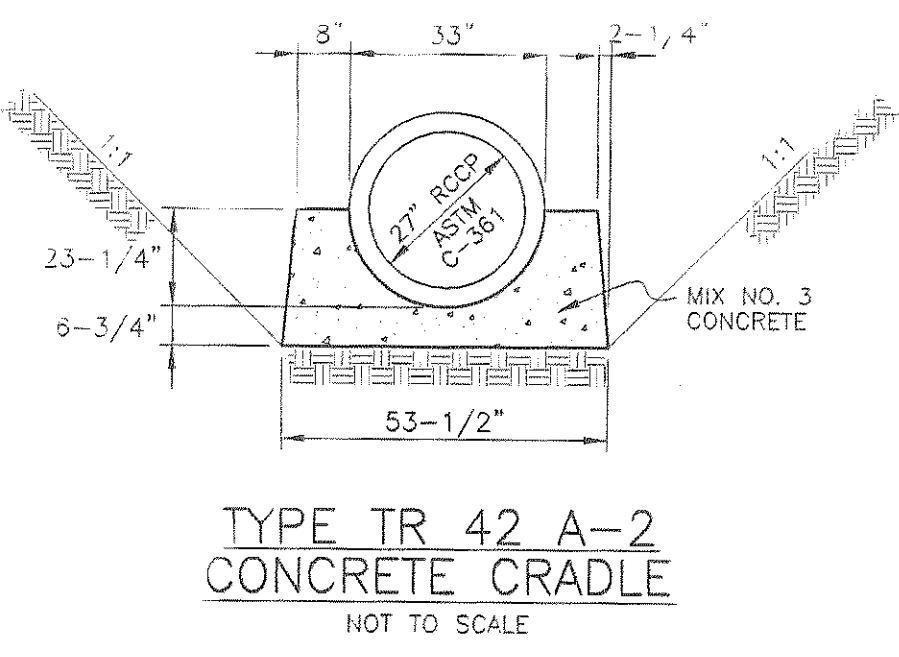
DESIGN: BFC DRAFT: BFC CHECK: DAM



APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 9-10-07 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 8/14/07 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF ENGINEERING
[Signature] 8/14/07 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



NOTE: LOCATE COLLARS A MINIMUM OF 2' FROM ANY PIPE JOINT

NOTE: GATE VALVE SHALL BE WELDED TO 2\"/>

COLLAR SIZE: 10'-5-1/2" X 9'-3-3/4"

COLLAR SIZE: 10'-5-1/2" X 9'-3-3/4"

GEOTECHNICAL ENGINEER RECOMMENDATIONS:

EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION

THE AREAS OF THE PROPOSED SWM FACILITIES SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREAS IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROFFERED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE. FOR AREAS THAT ARE NOT ACCESSIBLE TO A DUMP TRUCK, THE EXPOSED MATERIALS SHOULD BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROFFERING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.

A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH NRCS-MD CODE NO. 378 POND STANDARDS/SPECIFICATIONS, SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUTOFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION (U.C. SO. CH. OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE.

IT IS OUR PROFESSIONAL OPINION THAT IN ADDITION TO THE SOIL MATERIALS DESCRIBED ABOVE A FINE-GRAINED SOIL, INCLUDING SILT(SL) WITH A PLASTICITY INDEX OF 10 OR MORE CAN BE CENTER OF THE EMBANKMENT AND CORE TRENCH. ALL FILL MATERIALS MUST BE PLACED AND COMPACTIONED IN ACCORDANCE WITH NRCS-MD CODE NO. 378 SPECIFICATIONS.

OPERATION AND MAINTENANCE SCHEDULE FOR JOINTLY OWNED AND MAINTAINED MICRO-POOL, EXTENDED DETENTION POND

ROUTINE MAINTENANCE:

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE:

- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE F-25 SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
- SEDIMENTS SHALL BE REMOVED FROM THE POND, AND FOREBAY, NO LATER THAN WHEN THE DAM OR FOREBAY IS FULL. ALL FILL SHALL BE PLACED IN A SEDIMENT OR, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

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.

Donald M. [Signature] DATE: 1-25-11

CERTIFY MEANS TO STATE OR CLAIM THAT THE FACILITY WAS CONSTRUCTED BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. THE ENGINEER DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION REPRESENT ANY OTHER PARTY FROM THE REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:

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

James K. [Signature] MEMBER 7-25-07 DATE
 SIGNATURE OF OWNER BURNWOODS, LLC STEVEN K. BREEDEN

James R. [Signature] 7/25/07 DATE
 SIGNATURE OF OWNER BURNWOODS, LLC JAMES R. MOXLEY III

BY THE ENGINEER:

I/WE 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] 7/25/2007 DATE
 ENGINEER - BRIAN F. CLEARY, P.E. #28550

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] 8/6/07 DATE
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

[Signature] 8/6/07 DATE
 HOWARD SOIL CONSERVATION DISTRICT

NO.	DATE	REVISION

BENCHMARK ENGINEERS, LAND SURVEYORS & PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bei-civilengineering.com

OWNER: GHASSANI NESHAWAT
 14445 BURNWOODS ROAD
 GLENWOOD, MD 21738-9530

DEVELOPER: BURNWOODS, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041-0417
 (410) 465-4244

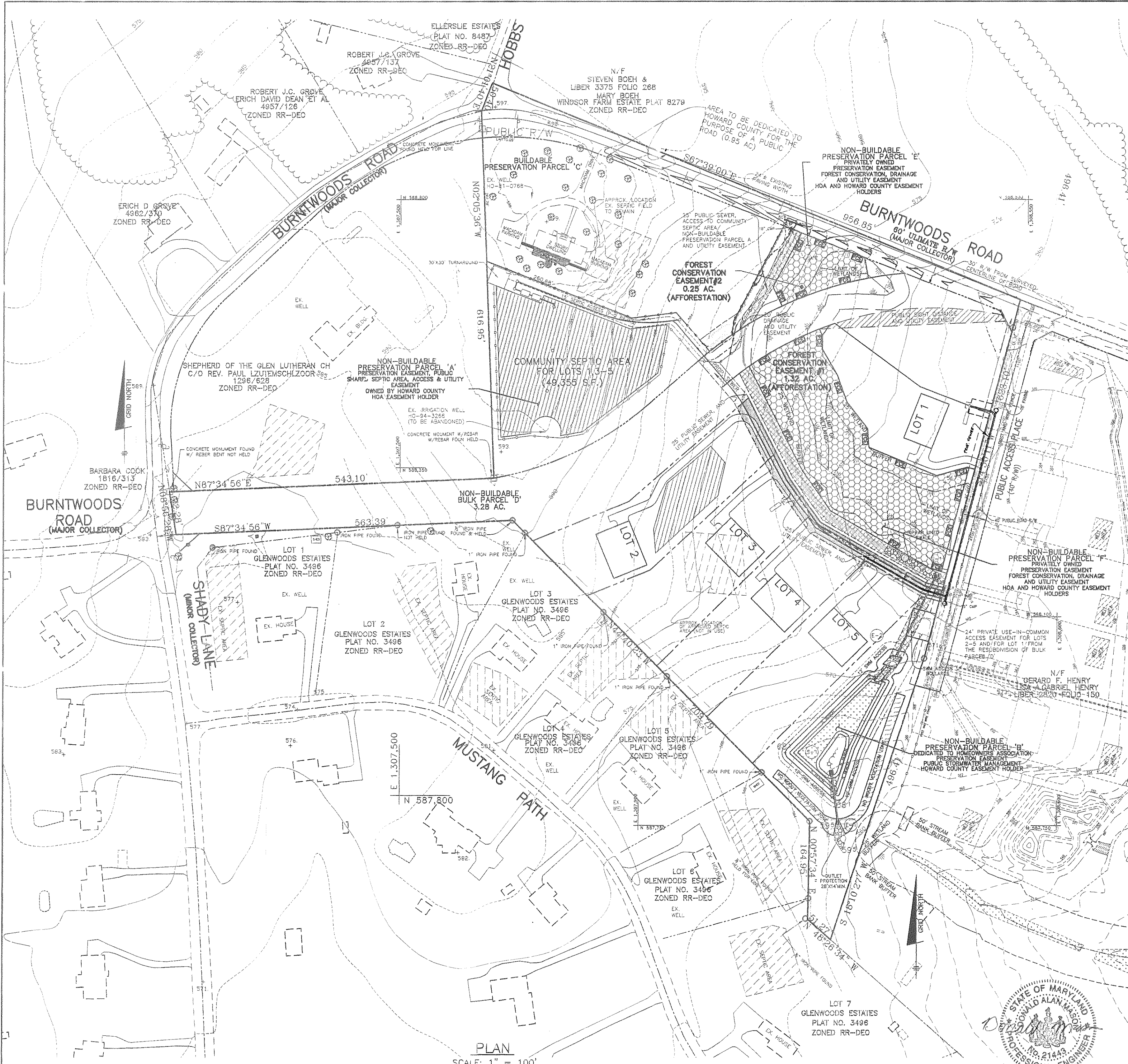
PROJECT: NESHAWAT PROPERTY
 LOTS 1 TO 5, NON-BUILDABLE PRESERVATION
 PARCELS A, B, E & F, NON-BUILDABLE BULK
 PARCEL D AND BUILDABLE PRESERVATION PARCEL C

LOCATION: TAX MAP 21
 PARCEL 138 - GRID 5
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: SWM DETAILS - FACILITY #1
 MICRO-POOL WITH EXTENDED DETENTION

DATE: JANUARY, 2007 PROJECT NO. 1662
 JULY, 2007

Design: BFC Draft: BFC Check: DAM SCALE: AS SHOWN DRAWING 7 OF 9



FOREST CONSERVATION WORKSHEET
NESHAWAT PROPERTY
5-Aug-02

NET TRACT AREA:

A. Total tract area	17.07
B. Land dedication acres (parks, county facility, etc.)	0.00
C. Land dedication for roads or utilities (not being constructed by this plan)	3.28
D. Area to remain in commercial agricultural production/use	0.00
E. Other deductions (specify)	0.00
F. Net Tract Area	13.79

LAND USE CATEGORY: (from Trees Technical Manual)
Input the number "1" under the appropriate land use, limit to only one entry.

APA	MDR	IDA	HDR	MPD	CIA
0	1	0	0	0	0

G. Afforestation Threshold	20%	x F =	2.76
H. Conservation Threshold	25%	x F =	3.45

EXISTING FOREST COVER:

I. Existing forest cover	0.00
J. Area of forest above afforestation threshold	0.00
K. Area of forest above conservation threshold	0.00

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation	0.00
M. Clearing permitted without mitigation	0.00

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared	0.00
O. Total area of forest to be retained	0.00

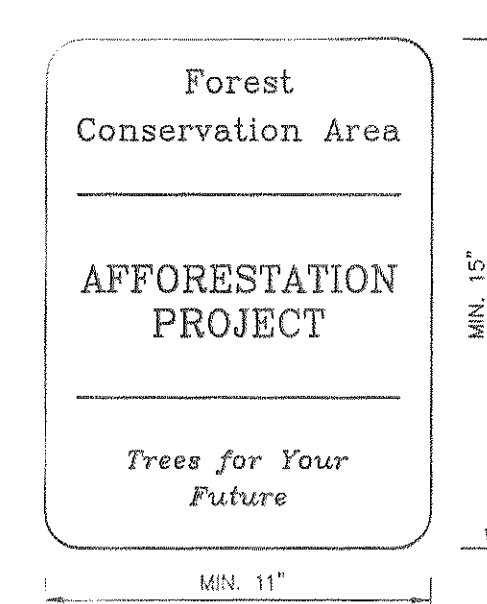
PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold	0.00
Q. Reforestation for clearing below conservation threshold	0.00
R. Credit for retention above conservation threshold	0.00
S. Total reforestation required	0.00
T. Total afforestation required	2.76
U. Credit for landscaping (may not exceed 20% of "S")	0.00
V. Total reforestation and afforestation required	2.76

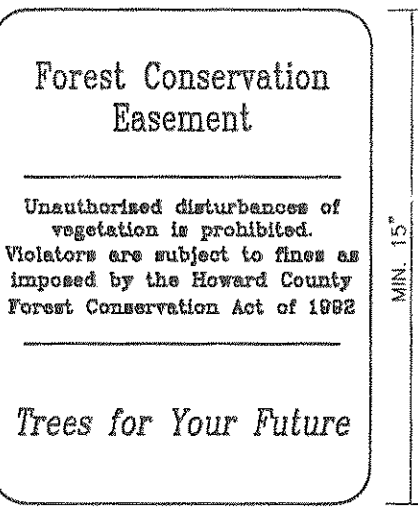
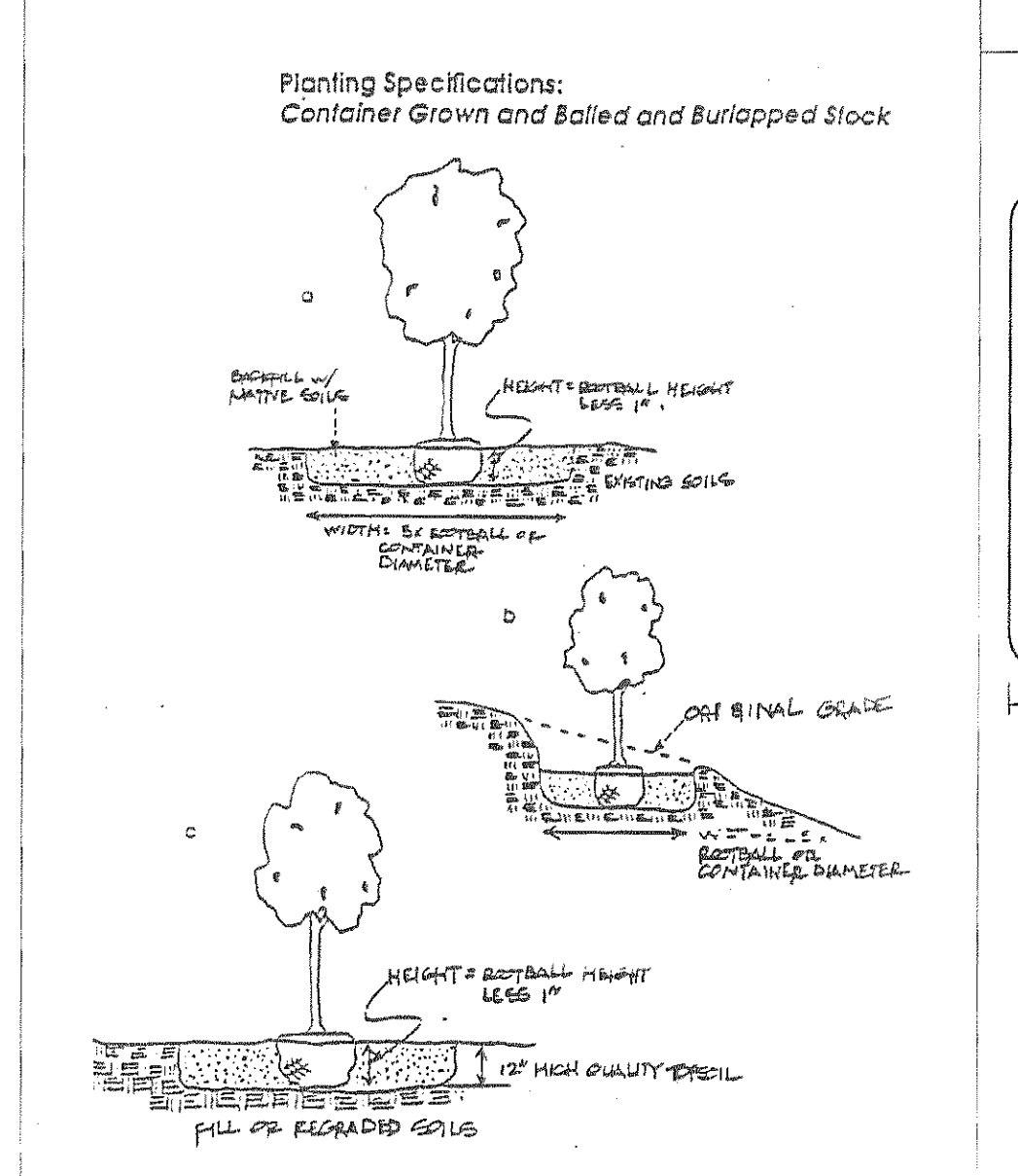
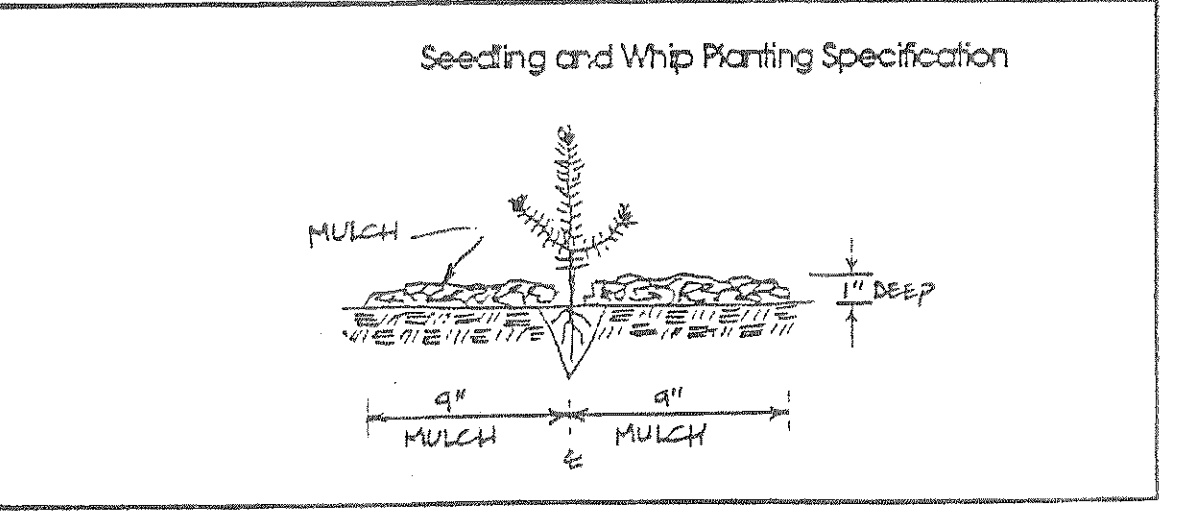
* THE DEDUCTION OF 3.28 ACRES OF BULK AREA FOR THE FUTURE REALIGNMENT OF BURNTWOODS ROAD (NON-BUILDABLE BULK PARCEL D) HAS BEEN APPROVED UNDER WP-07-106 (SEE FCP NOTE #8).

LEGEND

SOILS CLASSIFICATION	AbC1	PUBLIC SEWER, WATER AND UTILITY EASEMENT
SOILS DELINEATION	---	RIP-RAP
EXISTING CONTOURS	---	EROSION CONTROL MATTING
PROPOSED CONTOURS	---	USE-IN-COMMON EASEMENT (LOTS 2-5)
LIMIT OF WETLANDS	---	SIGHT DISTANCE EASEMENT
EXISTING WOODS LINE	---	LIMIT OF DISTURBANCE
EXISTING STRUCTURE	---	STABILIZED CONSTRUCTION ENTRANCE
PROPOSED STRUCTURE	---	SUPER SILT FENCE
FOREST CONSERVATION EASEMENT	---	INLET PROTECTION
EROSION CONTROL MATTING	---	FOREST CONSERVATION SIGNAGE



- PLANTING/SOIL SPECIFICATIONS**
- PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15TH AND APRIL 30TH.
 - A TWELVE (12) INCH LAYER OF TOPSOIL SHALL BE SPREAD OVER ALL AFFORESTATION AREAS IMPACTED BY SITE WORKING TO ASSURE A SUITABLE PLANTING AREA. UNDESIRABLE WEEDS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE WORKING SHALL HAVE NO ADDITIONAL TOPSOIL INSIDER.
 - ALL BAREROOT PLANTING STOCK SHALL HAVE THEIR ROOT SYSTEMS DIPPED INTO AN ANTI-DESICCATANT TO PREVENT DRYING.
 - PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. AFTER PLANTING THE SHALL COVERED WITH 3 PARTS EXISTING SOIL TO 2 PARTS TO PLANTING.
 - FERTILIZER SHALL BE APPLIED TO AFFORESTATION AREAS AS PER MANUFACTURER'S SPECIFICATIONS.
 - A TWO (2) INCH LAYER OF HARDWOOD MULCH SHALL BE PLACED OVER THE ROOT AREA OF ALL PLANTS.
 - PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
 - ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.
- SEQUENCE OF CONSTRUCTION**
- PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.
 - UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS PER THE FOREST RETENTION AREA REQUIREMENTS DESCRIBED IN THE FOREST CONSERVATION PLAN.
 - PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.
- MAINTENANCE OF PLANTINGS**
- MAINTENANCE OF ALL PLANTINGS SHALL LAST FOR A PERIOD OF 24 MONTHS.
 - PLANTS SHALL BE WATERED AS PER PLANTING/SOIL SPECIFICATIONS. WATERING SHALL BE DONE AT LEAST TWICE A WEEK DURING THE 1ST GROWING SEASON. WATERING SHALL BE DONE AT LEAST TWICE A WEEK DURING THE 2ND GROWING SEASON.
 - INVASIVE WEEDS AND UNDESIRABLE WEEDS WILL BE REMOVED FROM REFORESTATION AREAS. OLD FIELD WEEDS SHALL BE REMOVED FROM REFORESTATION AREAS.
 - PLANTS WILL BE EXAMINED A MINIMUM OF TWO TIMES DURING THE GROWING SEASON FOR DISEASE, PESTS AND WEEDS. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE AGENT.
 - DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.
- GUARANTEE REQUIREMENTS**
- AFTER ONE GROWING SEASON, PLANT MATERIAL SHALL BE MAINTAINED AT 80% SURVIVAL THRESHOLD.
 - THE SURVIVAL RATE OF PLANTINGS SHALL BE MAINTAINED AT 80% SURVIVAL THRESHOLD AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75% THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.
 - THE CONTRACTOR WILL NOT BE LIABLE FOR PLANT LOSS DUE TO THEFT OR VANDALISM.
- SURETY FOR REFORESTATION**
- THE DEVELOPER SHALL POST A SURETY (BOND, LETTER OF CREDIT) TO ENSURE THAT REFORESTATION SHALL BE COMPLETED. UPON ACCEPTANCE OF THE PLANTINGS BY THE COUNTY, THE BOND SHALL BE RELEASED.



- FCP NOTES:**
- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY AND/OR RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
 - THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1002 OF THE HOWARD COUNTY CODE. THE FOREST CONSERVATION ACT, NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT UNLESS THE FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
 - LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMITS OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
 - THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY ORDINANCES.
 - NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
 - TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
 - PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
 - THE FOREST CONSERVATION REQUIREMENTS FOR BULK PARCEL 'D' HAVE NOT BEEN INCLUDED IN THIS PLAN. A WAIVER PETITION (WP-07-106) TO SECTION 16.1002 HAS BEEN SUBMITTED TO DEFER THE FOREST CONSERVATION OBLIGATION OF NON-BUILDABLE PARCEL 'D' (3.28 AC) UNTIL PARCEL 'D' IS REDEVELOPED.
 - FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1002 OF THE FOREST CONSERVATION ACT OF 2002 SHALL BE FULFILLED BY THE PLACEMENT OF 1.57 ACRES OF PLANTINGS AND EASEMENT AREAS AND THE PAYMENT OF A FEE-IN-LIEU FOR THE REMAINDER OF 1.71 ACRES OF AFFORESTATION (\$6,399.20 SOILTY x \$0.50) IN THE AMOUNT OF \$24,194.60. SURETY FOR 1.57 ACRES OF AFFORESTATION (\$6,399.20 SOILTY x \$0.50) IN THE AMOUNT OF \$24,194.60 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT UNDER THIS FINAL PLAN. F-07-121) THE AREA OF THE FUTURE ROW OF BURNTWOODS ROAD (NON-BUILDABLE BULK PARCEL D) OF 3.28 ACRES HAS BEEN DEDUCTED FROM FCE OBLIGATIONS IN ACCORDANCE WITH THE DECISION OF WP-07-106. FOREST CONSERVATION OBLIGATIONS ON THIS AREA WILL BE FULFILLED AT THE TIME OF ANY FUTURE SUBDIVISION OF NON-BUILDABLE BULK PARCEL D.
 - FOREST CONSERVATION EASEMENT BEARING AND DISTANCE DESCRIPTIONS ARE PROVIDED ON THE FINAL PLAN.
- PLANTING NOTES:**
- Planting density based on 700 planting units per acre. 2" caliper trees = 7 planting units, 1" caliper trees = 3.5 planting units, whips with shelter = 2 planting units.
- ** These species should not be planted within the wetland limits.
- 1" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing.
- Planting shall be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance.
- Multiflora rose/heavy brush removal/control may be required prior to installation of planting.
- All whips are required to be installed with tree shelters per Howard County FCA requirements.

MULTIFLORA ROSE CONTROL NOTE

MULTIFLORA ROSE IS PREVALENT IN CERTAIN AREAS TO BE PLANTED. PRIOR TO PLANTING ALL MULTIFLORA ROSE SHOULD BE REMOVED. REMOVAL OF THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWED BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN THE ROSE THICKETS SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDE TREATMENTS SHALL OCCUR ON 2 MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE EACH IN THE SPRING AND FALL FOR SUBSEQUENT YEARS. HERBICIDE USED SHALL BE MADE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURERS SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE/SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGIN AT LEAST SIX MONTHS PRIOR TO PLANTING.

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. ... 8-10-07 DATE
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Judy ... 8/14/07 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF ENGINEERING DIVISION
... 8/14/07 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

SITE DATA

GROSS AREA:	17.07
AREA DEDICATED TO R/W	3.28
AGRICULTURAL PRODUCTION AREA	0.00
NET TRACT AREA	13.79
EXISTING FOREST (EXCLUDING PARCEL B)	0.00
AFFORESTATION THRESHOLD	2.76
CONSERVATION THRESHOLD	3.45
CLEARING PROPOSED	0.00
PROPOSED FOREST RETENTION	0.00
AFFORESTATION REQUIRED	2.76
ONSITE AFFORESTATION PROPOSED	1.57
TOTAL	1.57
FEE-IN-LIEU	1.19

FCE # 1 - 1.32 acres
Planting Units Required: 924
Planting Units Provided: 925

Qty	Species	Size	Spacing	Total FCA Units	
9	Acer rubrum - Red maple	1" cal.	15' o.c.		
8	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.		
6	Platanus occidentalis - Sycamore	1" cal.	15' o.c.		
6	Quercus palustris - Pin oak	1" cal.	15' o.c.		
29	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			103	
85	Acer rubrum - Red maple	2-3' whip	11' o.c.		
16	Diospyros virginiana - Persimmon **	2-3' whip	11' o.c.		
40	Liriodendron tulipifera - Tulip poplar **	2-3' whip	11' o.c.		
60	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.		
80	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.		
24	Prunus serotina - Black cherry **	2-3' whip	11' o.c.		
32	Quercus palustris - Pin oak	2-3' whip	11' o.c.		
40	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.		
32	Viburnum prunifolium - Blackhaw **	2-3' whip	11' o.c.		
411	Total whip plantings x 2 units/tree = FCA unit credit			822	
				Total Unit Credit	925

FCE # 2 - 0.25 acres
Planting Units Required: 175
Planting Units Provided: 177.5

Qty	Species	Size	Spacing	Total FCA Units	
3	Acer rubrum - Red maple	1" cal.	15' o.c.		
2	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.		
5	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			17.5	
25	Acer rubrum - Red maple	2-3' whip	11' o.c.		
10	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.		
15	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.		
20	Quercus palustris - Pin oak	2-3' whip	11' o.c.		
10	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.		
80	Total whip plantings x 2 units/tree = FCA unit credit			160	
				Total Unit Credit	177.5

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ENGINEERS • LAND SURVEYORS • PLANNERS

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OWNER: GHASSANI NESHAWAT
14445 BURNTWOODS ROAD
GLENWOOD, MD 21738-9530

DEVELOPER: BURNTWOODS, L.L.C.
P.O. BOX 417
ELLICOTT CITY, MD 21041-0417
(410) 465-4244

PROJECT: NESHAWAT PROPERTY
LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F, NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C

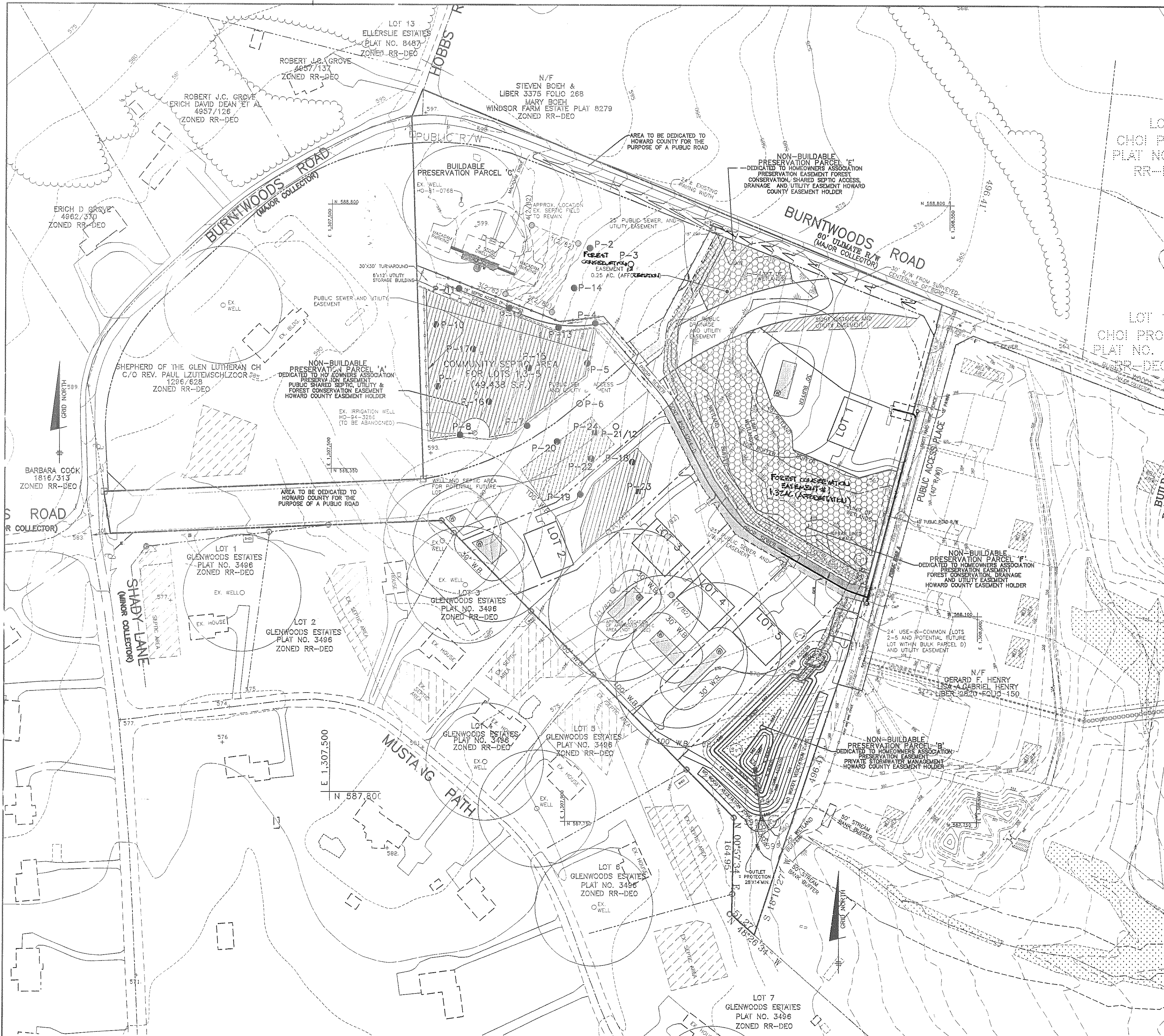
LOCATION: TAX MAP 21
PARCEL 138 - GRID 5
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION PLAN

DATE: JANUARY, 2007
JULY, 2007

PROJECT NO. 1662

Design: BFC Draft: BFC Check: DAM SCALE: AS SHOWN DRAWING 8 OF 9



PLAN
SCALE: 1" = 100'

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF KNOWLEDGE AND BELIEF.

Donald A. Mason
DONALD A. MASON P.E. NO. 21443
PLAN PREPARER

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter Z. White 9-18-07
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hanisch 8/14/09
CHIEF, DIVISION OF LAND DEVELOPMENT

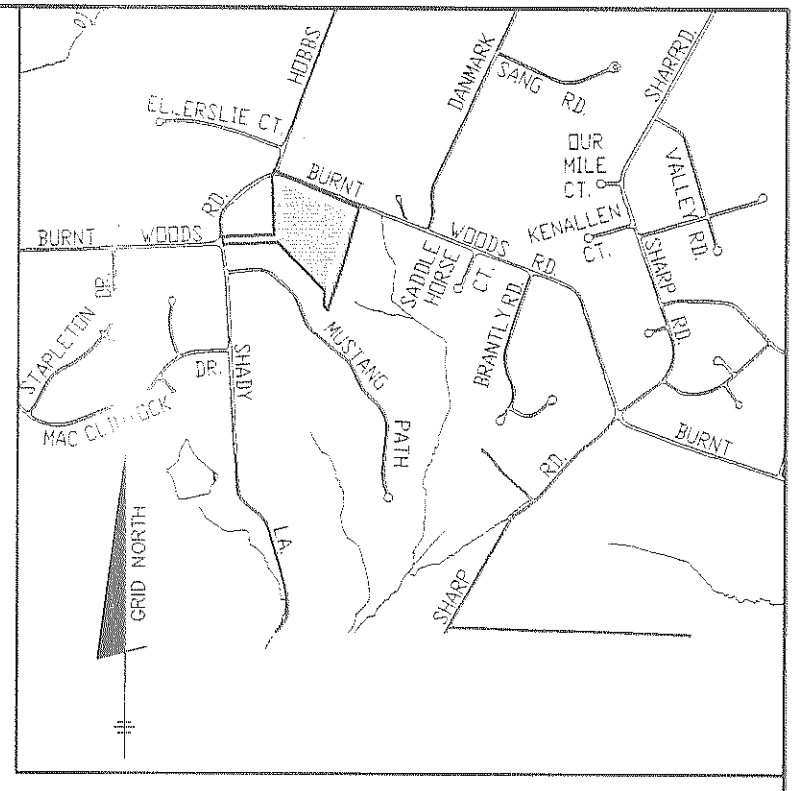
APPROVED: FOR PRIVATE WATER AND SEWER SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
William P. Peter Beilman 8/14/09
COUNTY HEALTH OFFICER



AS-BUILT INFORMATION IS REQUIRED ON THIS SHEET.

GENERAL NOTES

- 1.) THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNER-IMP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- 2.) THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT, AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
- 3.) UNLESS OTHERWISE SHOWN NO WELLS OR SEWERAGE EASEMENTS ARE LOCATED WITHIN 100 FEET OF THE PROPERTY.
- 4.) EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF PERMIT ISSUANCE.
- 5.) TOPOGRAPHY SHOWN HEREON WAS PURCHASED FROM HOWARD COUNTY, GEOGRAPHICAL INFORMATION SYSTEMS BY BENCHMARK ENGINEERING, INC. AND FIELD VERIFIED.
- 6.) WELLS TO BE DRILLED PRIOR TO RECORD PLAT SUBMITTAL FOR SIGNATURE.
- 7.) PRIOR TO DRILLING OF THE WELLS FOR LOTS 3, 4 AND 5, THE WELL DRILLER SHALL CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO SCHEDULE AN ON-SITE MEETING TO VERIFY THE LOCATION OF THE PROPOSED WELLS.



VICINITY MAP
SCALE: 1"=2000'

LEGEND

- SOILS CLASSIFICATION: AbC1
- SOILS DELINEATION: [Symbol]
- EXISTING CONTOURS: [Symbol]
- PROPOSED CONTOURS: [Symbol]
- LIMIT OF WETLANDS: [Symbol]
- EXISTING WOODS LINE: [Symbol]
- PROPOSED WOODS LINE: [Symbol]
- EXISTING STRUCTURE: [Symbol]
- PROPOSED STRUCTURE: [Symbol]
- EXISTING SEPTIC FIELD: [Symbol]
- PROPOSED SEPTIC FIELD: [Symbol]
- EXIST. PERCOLATION TEST (PASS): [Symbol]
- EXIST. PERCOLATION TEST (FAIL): [Symbol]
- PASSED PERC TEST DUG 8/23/03: [Symbol]
- FAILED PERC DUG 8/23/03: [Symbol]
- PASSED PERC TEST DUG 10/14/03: [Symbol]

SOILS LEGEND

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
CHA	B	CHESTER SILT LOAM - 0 TO 3 PERCENT SLOPES
CHB2	B	CHESTER SILT LOAM - 3 TO 8 PERCENT SLOPES - MODERATELY ERODED
CuB	B	COMUS SILT LOAM - LOCAL ALLUVIUM - 3 TO 8 PERCENT SLOPES
GnB2	C	GLENVILLE SILT LOAM - 3 TO 8 PERCENT SLOPES - MODERATELY ERODED

NO.	DATE	REVISION
1	7-2-2010	REVISE SEWER LINE LOCATION

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bei-civilengineering.com

OWNER: GHASSANI NESHAWAT 14445 BURNTWOODS ROAD GLENWOOD, MD 21738-9530	PROJECT: NESHAWAT PROPERTY LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F, NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C
DEVELOPER: BJRNTWOODS, L.L.C. P.O. BOX 417 ELLICOTT CITY, MD 21041-0417 (410) 465-4244	LOCATION: TAX MAP 21 PARCEL 138 - GRID 5 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DESIGN: BFC DRAFT: BFC CHECK: DAM	TITLE: REVISED PERCOLATION CERTIFICATION PLAN DATE: APRIL 2007 PROJECT NO. 1662
SCALE: AS SHOWN	DRAWING 9 OF 9