

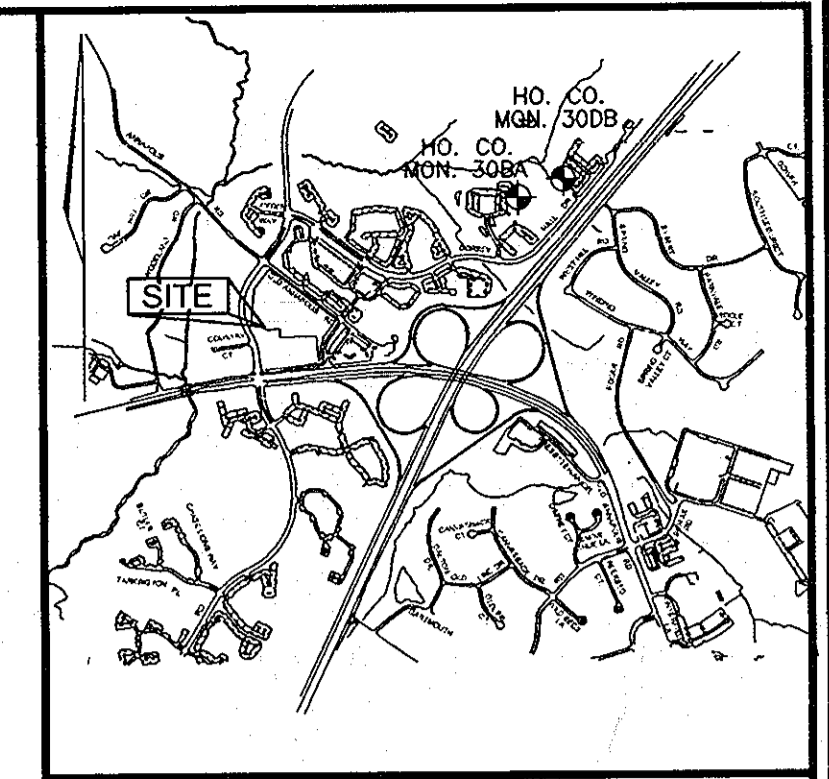
**GENERAL NOTES**

- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:  
MISS UTILITY 1-800-257-7777  
BELL ATLANTIC TELEPHONE CO. 725-9976  
HOWARD COUNTY BUREAU OF UTILITIES 313-2366  
VERIZON CABLE LOCATION DIVISION 393-3553  
B.G.A.E. CO. CONTRACTOR SERVICES 850-4620  
B.G.A.E. CO. UNDERGROUND DAMAGE CONTROL 787-4620  
STATE HIGHWAY ADMINISTRATION 531-5533
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- THE SUBJECT PROPERTY IS ZONED R-A-15/R-20 PER THE FEBRUARY 12, 2004 COMPREHENSIVE ZONING PLAN, AND COMP LITE ZONING AMENDMENTS EFFECTIVE JULY 28, 2006.
- COORDINATES AND ELEVATIONS ARE BASED ON HOWARD COUNTY MONUMENT NO'S. 30BA AND 300B.
- THIS PROPERTY IS SUBJECT TO THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE APRIL 2004 ZONING REGULATIONS.
- THE PROPERTY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 2005.
- TOPOGRAPHY SHOWN HEREON IS BASED ON FIELD RUN TOPOGRAPHICAL SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 2005.
- A GEOTECHNICAL STUDY WAS PERFORMED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. DATED JUNE 2005.
- SIGHT DISTANCE ANALYSIS WAS PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. AND APPROVED UNDER S-05-02.
- WETLAND DELINEATION WAS PERFORMED BY ECO-SCIENCES, INC., DATED JUNE 2004. AND APPROVED UNDER S-05-02.
- APFO TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP, DATED JUNE 11, 2004 AND APPROVED UNDER S-05-02.
- THE FOREST STAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC., DATED JUNE 2004 AND APPROVED UNDER S-05-02.
- A NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
- NO GRADING OR DISTURBANCE IS PERMITTED WITHIN THE STREAM BANK BUFFER LOCATED ON THIS SITE.
- THIS PROJECT COMPLIES WITH MODERATE INCOME HOUSING UNIT AGREEMENTS AND CONVENANTS AS DESCRIBED IN SECTION 13.402 OF THE COUNTY CODE.
- THERE ARE NO WETLANDS LOCATED ONSITE.
- THERE ARE NO FLOODPLAINS ON THIS SITE.
- NO BURIAL GROUNDS OR CEMETERIES ARE LOCATED ON THIS PROPERTY.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- FOREST CONSERVATION REQUIREMENTS IN ACCORDANCE WITH SECTION 16.1202 OF THE FOREST CONSERVATION MANUAL FOR THIS PROJECT SHALL BE FULFILLED BY THE PLACEMENT OF 3.50 ACRES OF REQUIRED REFORESTATION IN AN OFF-SITE RETENTION EASEMENT OCCURRING AT A 2:1 RATIO ON THE LAFON PROPERTY, TAX MAP 2, BLOCK 18, PARCEL 49, RE-06-06(S2) PLAT NO. 18549, RECORDED ON 9/27/06, SURETY IN THE AMOUNT OF \$60,984.00 FOR 7 ACRES OF RETENTION (304,920 SQ.FT. X.20) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN.
- UNDER THIS SITE DEVELOPMENT PLAN PERIMETER LANDSCAPING, STREET TREES AND STORM WATER MANAGEMENT PLANTINGS SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$87,900.00 FOR 251 SHADE TREES AND 84 EVERGREEN TREES UNDER THIS SITE DEVELOPMENT PLAN.
- STORMWATER MANAGEMENT (P-1) WILL BE PROVIDED BY A MICROPOOL EXTENDED DETENTION POND (P-1). W/O AND REV WILL BE PROVIDED BY THE MICROPOOL EXTENDED DETENTION POND, GRAVEL TRENCH AND GRASS CHANNEL CREDITS. THE FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- FOUNDATION SOILS MUST BE EXAMINED BY THE SOILS ENGINEER TO ASSURE THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS ASSUMED DESIGN STRENGTHS.
- ALL PAVING TO BE P-2 PAVING, HOWARD COUNTY STANDARD DETAIL R-2.01. THE PAVING SECTION WILL BE CONFIRMED OR MODIFIED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION BASED ON ACTUAL TESTING.
- ALL TRASH COLLECTION TO BE PRIVATE.
- ALL WATER METERS WILL BE LOCATED INSIDE PROPOSED BUILDINGS.
- ALL WELLS AND SEPTIC SYSTEMS WILL BE PROPERLY SEALED AND ABANDONED BY A LICENSED PROFESSIONAL.
- WATER SERVICE WILL BE PUBLIC AND BE PROVIDED BY CONTRACT NUMBER #44-0900.
- SEWER SERVICE WILL BE PUBLIC AND BE PROVIDED BY CONTRACT NUMBER #20-3311.
- ALL UNITS HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM. GARAGES SHALL BE USED FOR PARKING PURPOSES ONLY AND ARE NOT PERMITTED TO BE CONVERTED TO OTHER USES PER THE HOWARD COUNTY ZONING REGULATIONS, UNLESS THE 2 OFF-STREET PARKING SPACES ARE PROVIDED WITHIN THE RESIDENTIAL UNIT DRIVEWAY.
- SUPPLEMENTARY BULK REGULATIONS THE FOLLOWING SUPPLEMENTARY REGULATIONS SHALL APPLY IN ADDITION TO THE REQUIREMENTS OF THE APPLICABLE ZONING DISTRICT.  
a. EXCEPTIONS TO SETBACK REQUIREMENTS  
i. IN ALL DISTRICTS EXCEPT THE NT DISTRICT, CORNICES, EAVES AND CANTILEVERED BUILDING FEATURES MAY PROJECT NOT MORE THAN THREE FEET INTO ANY REQUIRED SETBACK AREA.  
ii. IN ALL DISTRICTS EXCEPT THE NT DISTRICT, THE FOLLOWING BUILDING FEATURES, IF NOT MORE THAN 16 FEET IN WIDTH, MAY PROJECT NOT MORE THAN FOUR FEET INTO ANY REQUIRED SETBACK AREA OR REQUIRED DISTANCE BETWEEN BUILDINGS: BAY WINDOWS AND WINDOW WELLS, ORIELS, VESTIBLES, BALCONIES, CHIMNEYS, AIR CONDITIONING UNITS, AND EXTERIOR STAIRWAYS OR RAMPS, WHETHER ABOVE OR BELOW GROUND LEVEL.  
c. IN ALL RESIDENTIAL DISTRICTS (BUT NOT IN THE NT DISTRICT), OPEN OR ENCLOSED PORCHES AND DECKS MAY PROJECT NOT MORE THAN 10 FEET INTO ANY REQUIRED FRONT OR REAR SETBACK AREA OR INTO A REQUIRED SETBACK FROM A PROJECT BOUNDARY OR DIFFERENT ZONING DISTRICT. EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GROUND LEVEL, MAY EXTEND NOT MORE THAN 10 FEET INTO A FRONT SETBACK AREA OR A SETBACK FROM A PROJECT BOUNDARY OR DIFFERENT ZONING DISTRICT, AND NOT MORE THAN 16 FEET INTO A REAR SETBACK AREA.  
37. OPEN SPACE TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.  
38. DEVELOPER RESERVES TO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAN FOR WATER, SEWER, STORM DRAINAGE, OTHER PUBLIC UTILITIES AND FOREST CONSERVATION (DESIGNATED AS FOREST CONSERVATION AREA) LOCATED IN, ON OVER AND THROUGH LOTS/PARCELS, ANY CONVEYANCES OF THE AFORESAID LOTS/PARCELS SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID LOTS/PARCELS. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY WITH A METS AND BOUNDS DESCRIPTION OF THE FOREST CONSERVATION AREA, UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND IN THE CASE OF THE FOREST CONSERVATION EASEMENT(S) UPON COMPLETION OF THE DEVELOPER'S OBLIGATIONS UNDER THE FOREST CONSERVATION INSTALLATION AND MAINTENANCE AGREEMENT EXECUTED BY THE DEVELOPER AND THE COUNTY, AND THE RELEASE OF THE DEVELOPER'S SURETY POSTED WITH SAID AGREEMENT. THE COUNTY SHALL ACCEPT THE EASEMENTS AND RECORD THE DEED(S) OF EACH EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.  
39. PROTECTIVE COVENANTS INCLUDING COVENANTS GOVERNING THE MAINTENANCE OF COMMUNITY OWNED OPEN SPACE, RESERVATIONS AND HOMEOWNER DOCUMENTS HAVE BEEN RECORDED IN THE LAND RECORDS OF HOWARD COUNTY AS RECORDING REFERENCE NUMBER 06048/186.  
40. UNITS 53 THROUGH 57, UNITS 75 TO 79 AND 81 TO 85 ARE UNITS WITH ONE CAR GARAGE. ALL OTHER UNITS ARE TWO CAR GARAGES.  
41. DORSEY CROSSINGS HOMEOWNERS ASSOCIATION, INC. HAS BEEN RECORDED WITH SDAT AS D11465903 WORK ORDER NUMBER 0001285653.  
42. THE REQUIRED TO MODERATE INCOME HOUSING UNITS (MIHU) SHALL BE PROVIDED PER SECTION 13.402(e) OF THE HOWARD COUNTY CODE. AT OFFSITE LOCATION OF ELLICOTT GARDEN DEVELOPMENT (SDP-07-038) AT THE RATE OF 1.5 OFFSITE UNITS PER MIHU REQUIRED. 15 OFFSITE UNITS PROVIDED.  
43. DPZ FILE NUMBERS: F-06-155, S-05-02 AND WP-06-34.  
44. A WAIVER PETITION HAS BEEN SUBMITTED AND APPROVED, DATED DECEMBER 15, 2005, TO WAIVE SECTION 16.144(f) REQUIRING THE SUBMISSION OF A PRELIMINARY PLAN, SUBJECT TO THE FOLLOWING:  
1. ALL ROAD IMPROVEMENTS REQUIRED BY THE DEVELOPMENT ENGINEERING DIVISION, THE DEPARTMENT OF PUBLIC WORKS AND THE MARYLAND STATE HIGHWAY ADMINISTRATION MUST BE SHOWN ON THE SITE DEVELOPMENT PLAN SDP-06-36.  
2. THE FINAL PLAN MUST BE SUBMITTED BY 6 MONTHS FROM THE DATE OF THIS LETTER REQUIRED FOR SUBDIVISIONS OF 51 - 100 HOUSING UNITS.  
3. THE DEVELOPER IS ADVISED THAT THE FINAL PLAN AND SITE DEVELOPMENT PLAN WILL BE REVIEWED CONCURRENTLY WITH EACH OTHER.

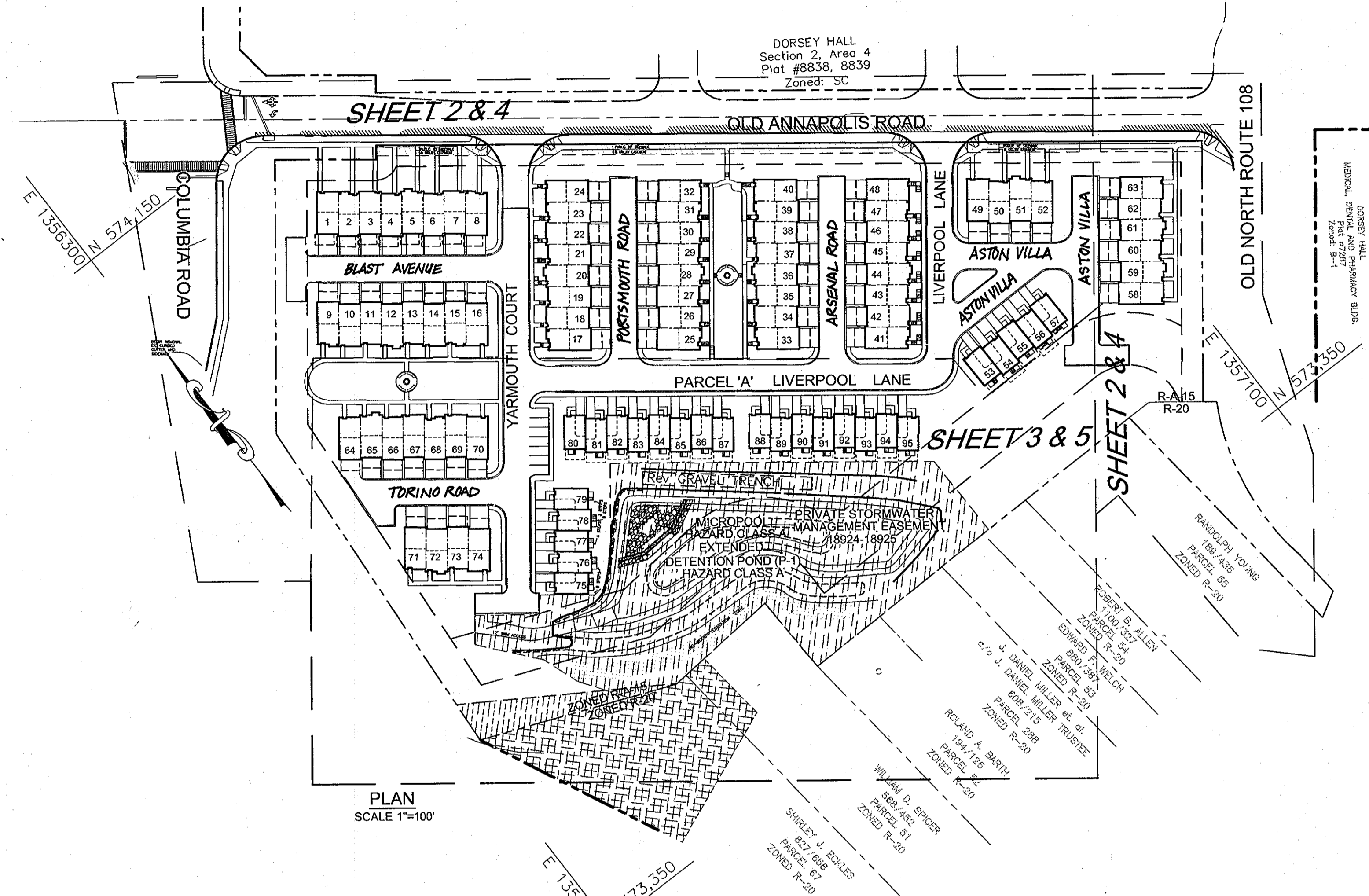
# SITE DEVELOPMENT PLAN DORSEY CROSSING

## PARCEL A SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THROUGH 95

BENCHMARKS			
NO.	NORTHING	EASTING	ELEVATION
30BA	573,149.052	1,357,083.226	397.18
300B	572,298.132	1,353,001.811	409.18



VICINITY MAP  
SCALE 1"=2000'



ADDRESS CHART					
UNIT #	STREET ADDRESS	UNIT #	STREET ADDRESS	UNIT #	STREET ADDRESS
1	4516 BLAST AVENUE	33	4101 ARSENAL ROAD	65	9612 TORINO ROAD
2	4514 BLAST AVENUE	34	4703 ARSENAL ROAD	66	9610 TORINO ROAD
3	4512 BLAST AVENUE	35	4705 ARSENAL ROAD	67	9608 TORINO ROAD
4	4510 BLAST AVENUE	36	4707 ARSENAL ROAD	68	9606 TORINO ROAD
5	4508 BLAST AVENUE	37	4709 ARSENAL ROAD	69	9604 TORINO ROAD
6	4506 BLAST AVENUE	38	4711 ARSENAL ROAD	70	9602 TORINO ROAD
7	4504 BLAST AVENUE	39	4713 ARSENAL ROAD	71	9600 TORINO ROAD
8	4502 BLAST AVENUE	40	4715 ARSENAL ROAD	72	9605 TORINO ROAD
9	4515 BLAST AVENUE	41	4702 ARSENAL ROAD	73	9603 TORINO ROAD
10	4513 BLAST AVENUE	42	4704 ARSENAL ROAD	74	9601 TORINO ROAD
11	4511 BLAST AVENUE	43	4706 ARSENAL ROAD	75	4911 YARMOUTH COURT
12	4509 BLAST AVENUE	44	4708 ARSENAL ROAD	76	4909 YARMOUTH COURT
13	4507 BLAST AVENUE	45	4710 ARSENAL ROAD	77	4907 YARMOUTH COURT
14	4505 BLAST AVENUE	46	4712 ARSENAL ROAD	78	4905 YARMOUTH COURT
15	4503 BLAST AVENUE	47	4714 ARSENAL ROAD	79	4903 YARMOUTH COURT
16	4501 BLAST AVENUE	48	4716 ARSENAL ROAD	80	4503 LIVERPOOL LANE
17	4801 PORTSMOUTH ROAD	49	4401 ASTON VILLA	81	4501 LIVERPOOL LANE
18	4803 PORTSMOUTH ROAD	50	9403 ASTON VILLA	82	4529 LIVERPOOL LANE
19	4805 PORTSMOUTH ROAD	51	9405 ASTON VILLA	83	4527 LIVERPOOL LANE
20	4807 PORTSMOUTH ROAD	52	9407 ASTON VILLA	84	4525 LIVERPOOL LANE
21	4809 PORTSMOUTH ROAD	53	9409 ASTON VILLA	85	4523 LIVERPOOL LANE
22	4811 PORTSMOUTH ROAD	54	9404 ASTON VILLA	86	4521 LIVERPOOL LANE
23	4813 PORTSMOUTH ROAD	55	9406 ASTON VILLA	87	4519 LIVERPOOL LANE
24	4815 PORTSMOUTH ROAD	56	9408 ASTON VILLA	88	4517 LIVERPOOL LANE
25	4802 PORTSMOUTH ROAD	57	9410 ASTON VILLA	89	4515 LIVERPOOL LANE
26	4804 PORTSMOUTH ROAD	58	9412 ASTON VILLA	90	4511 LIVERPOOL LANE
27	4806 PORTSMOUTH ROAD	59	9419 ASTON VILLA	91	4509 LIVERPOOL LANE
28	4808 PORTSMOUTH ROAD	60	9417 ASTON VILLA	92	4507 LIVERPOOL LANE
29	4810 PORTSMOUTH ROAD	61	9415 ASTON VILLA	93	4505 LIVERPOOL LANE
30	4812 PORTSMOUTH ROAD	62	9413 ASTON VILLA	94	4503 LIVERPOOL LANE
31	4814 PORTSMOUTH ROAD	63	9411 ASTON VILLA	95	4501 LIVERPOOL LANE
32	4816 PORTSMOUTH ROAD	64	9614 TORINO ROAD		

**GENERAL SITE DATA**  
PRESENT ZONING: R-A-15 381046.26 SF (8.53 AC.)/R-20 9406.38 (0.22 AC.)  
APPLICABLE DPZ FILE REFERENCE: S-05-02, F-06-155, WP-06-34, RE-06-06(S2)  
OFFSITE FOREST PLANT RECORDING# 18549-18551  
PROPOSED USE OF SITE: SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
PROPOSED WATER SYSTEM: PUBLIC  
PROPOSED SEWER SYSTEM: PUBLIC

**AREA TABULATION**  
TOTAL AREA OF BUILDABLE UNITS: 73,635 SF. (1.69 AC.)  
TOTAL PROJECT AREA: 391,075 SF (8.98 AC.)  
WIDENING STRIPE: 10027 SF (0.22 AC.)  
NET AREA OF SITE: 371,639.88 SF (8.53 AC.)  
APPROXIMATE LIMIT OF DISTURBANCE: 8.98 AC.

**PARKING TABULATION**  
TOTAL NUMBER OF UNITS ALLOWED: 8.53 ACRES X 15 UNITS= 128 UNITS  
TOTAL NUMBER OF UNITS PROPOSED: 95  
REQUIRED AT 2.0 SPACES PER DU: 95  
PARKING SPACES REQUIRED: 2 SPACES X 95 UNITS = 190 SPACES  
0.3 SPACES PER UNIT FOR GUEST/OVERFLOW PARKING = 29 SPACES  
TOTAL PARKING SPACES REQUIRED: = 219 SPACES  
PARKING SPACES PROVIDED: UNIT=1 GARAGE/1 DRIVEWAY=2 SPACES  
PARKING SPACES PROVIDED: 26-TYPE A=1 GARAGE/1 DRIVEWAY=2 SP. (52 SP.)  
69-TYPE B=2 GARAGE /2 DRIVEWAY=4 SP.(276 SP.)  
TOTAL= 328 SPACES

OFF-STREET PARKING PROVIDED:  
TOTAL PARKING SPACES PROVIDED= 335 SPACES

**DENSITY TABULATION**

TRACT AREA	8.98 AC.
100-YEAR FLOODPLAIN	0.0 AC.
STEEP SLOPES OUTSIDE FLOODPLAIN	0.0 AC.
NET AREA	8.98 AC.
DENSITY	15.0 DWELLING UNITS/NET AREA (R-A-15 ONLY)
TOTAL NUMBER OF PROPOSED UNITS:	95
OPEN SPACE CALCULATION:	25% OF GROSS PROPERTY AREA
OPEN SPACE REQUIRED:	2.25 AC
CREDITED OPEN SPACE PROVIDED:	136,333 SF (3.13 AC.)
NON CREDITED OPEN SPACE PROVIDED:	6284 SF (0.14 AC.)
RECREATION OPEN SPACE REQUIRED:	400 SF PER UNIT 38,000 SF
RECREATION OPEN SPACE PROVIDED:	38,387 SF
10% MODERATE INCOME HOUSING REQUIRED:	10 UNITS
10% MODERATE INCOME HOUSING PROVIDED OFFSITE:	10 UNITS*

\*15 OFFSITE UNITS PROVIDED AT ELLICOTT GARDENS (SDP 06-36)

PERMIT INFORMATION CHART					
PROJECT NAME		SECTION/AREA	LOT/PARCEL		
DORSEY CROSSING		N/A	PARCEL A		
PLAT REF.	BLOCK NO.	ZONE	TAX MAP ELEC DIST	CENSUS TR	
18924-18925	3	R-A-15/R-20	30	2ND	6023.05
WATER CODE:			SEWER CODE:		

**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.

10/19/13  
PEND  
1-17-12  
DATE

**COVER SHEET  
DORSEY CROSSING**  
PARCEL A  
SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
UNITS 1 THRU 95

TAX MAP 30 GRID 3  
2ND ELECTION DISTRICT

PARCEL A  
PARCELS 59-65, 229, AND 231  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET, ELLICOTT CITY, MD 21043  
TEL: 410.461.7666 FAX: 410.461.8959

DESIGN BY: RHV/JTR/J  
DRAWN BY: LIT/JR/J  
CHECKED BY: RHV  
DATE: JANUARY, 2006  
SCALE: AS SHOWN  
W.O. NO.: 04-141.00/2019063

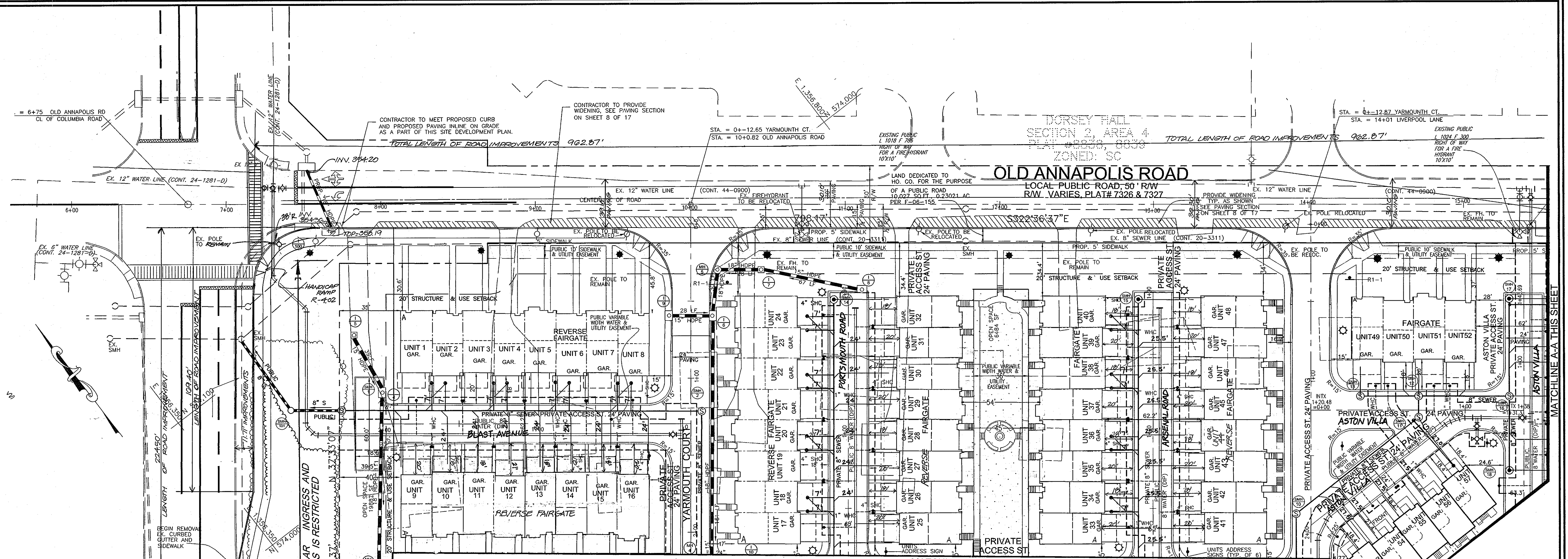
1 SHEET OF 17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hanna  
CHIEF, DIVISION OF LAND DEVELOPMENT 08 DATE 6/8/07

Steve Breeden  
CHIEF, DEVELOPMENT ENGINEERING DIVISION 08 DATE 5/30/07

Mark Dwyer  
DIRECTOR 08 DATE 6/11/07

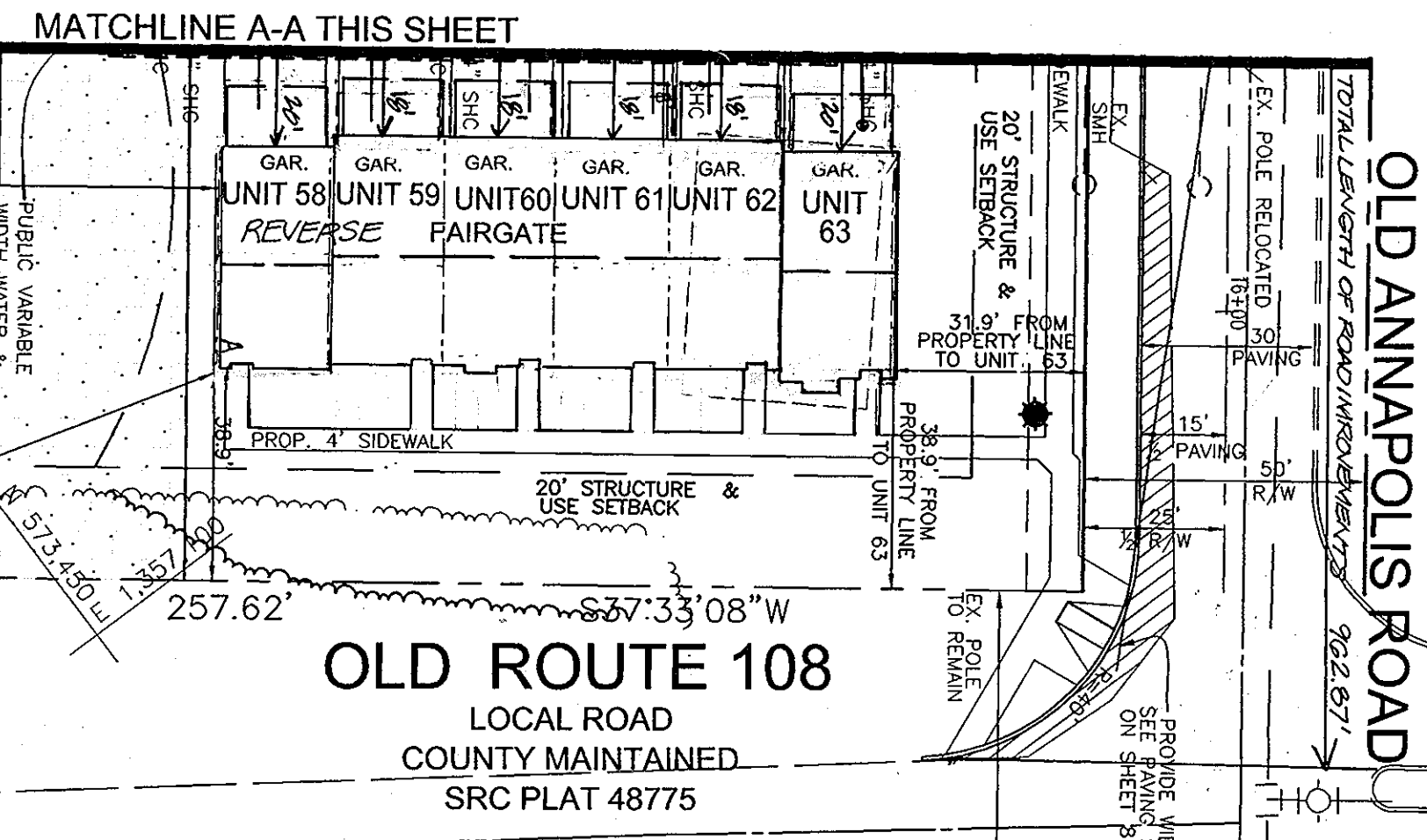


MATCHLINE SEE SHEET 3 OF 14

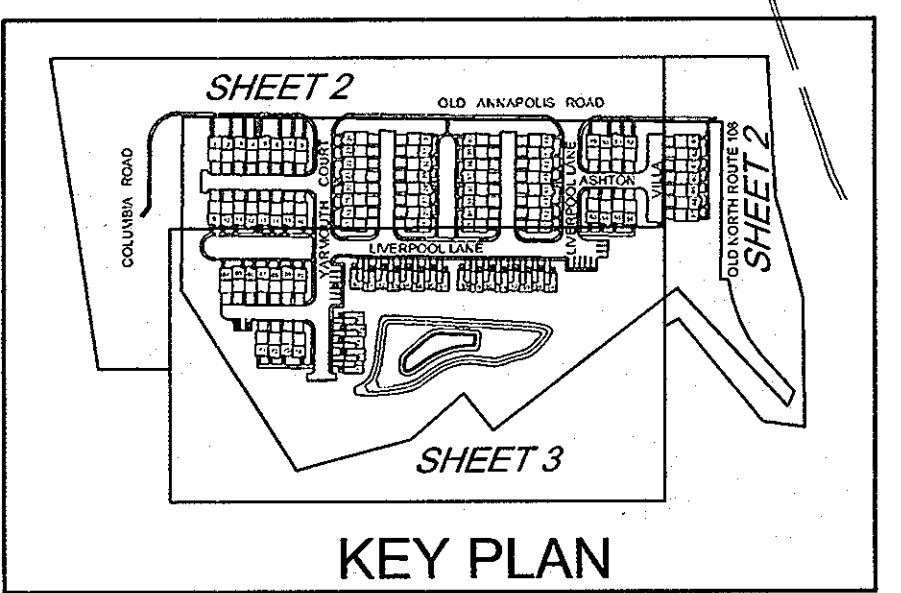
**LEGEND**

- OPENSACE
- RECREATIONAL OPEN SPACE
- NON-CREDITED OPEN SPACE
- PUBLIC VARIABLE WIDTH WATER & UTILITY EASEMENT
- BUFFER
- NO WOODY VEGETATION
- PRIVATE STREET LIGHT
- PUBLIC STREET LIGHT
- STREET NAME SIGN

NO.	REVISION	DATE
5	REVISE CURB RADIUS AT THE INTERSECTION OF COLUMBIA RD AND OLD ANNAPOLIS ROAD FROM 45' TO 30'	6/7/2011
4	AS-BUILT REVISIONS	5/21/10
3	REVISE TRIM B'S UNITS 4, 6, 7 & 8	4/29/08
1	ADD APPROVED STREET NAMES	6/29/07



PLAN SCALE 1"=30'



**SITE LAYOUT PLAN  
DORSEY CROSSING**  
PARCEL A  
SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
UNITS 1 THRU 95

TAX MAP 30 GRID 3 PARCELS 58-65, 229, AND 231  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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8407 MAIN STREET TEL: 410.461.7666  
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 6/8/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 6/11/07  
DIRECTOR DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

**ENGINEER'S CERTIFICATE**

"I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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. 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]* 5/10/07  
SIGNATURE OF ENGINEER DATE  
ROBERT H. VOGEL

**DEVELOPER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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."

*[Signature]* 5/10/07  
SIGNATURE OF DEVELOPER DATE  
STEVEN L. SEBASTIAN

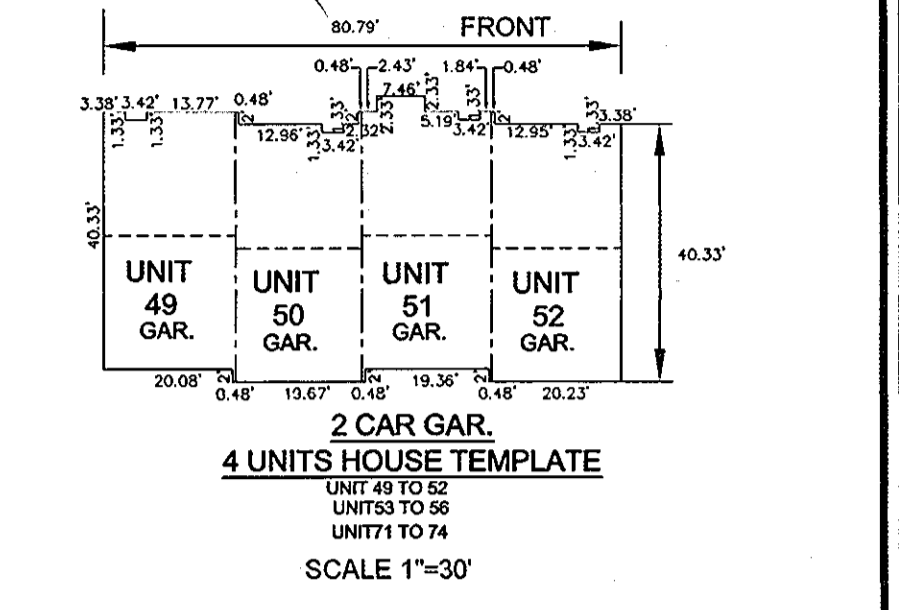
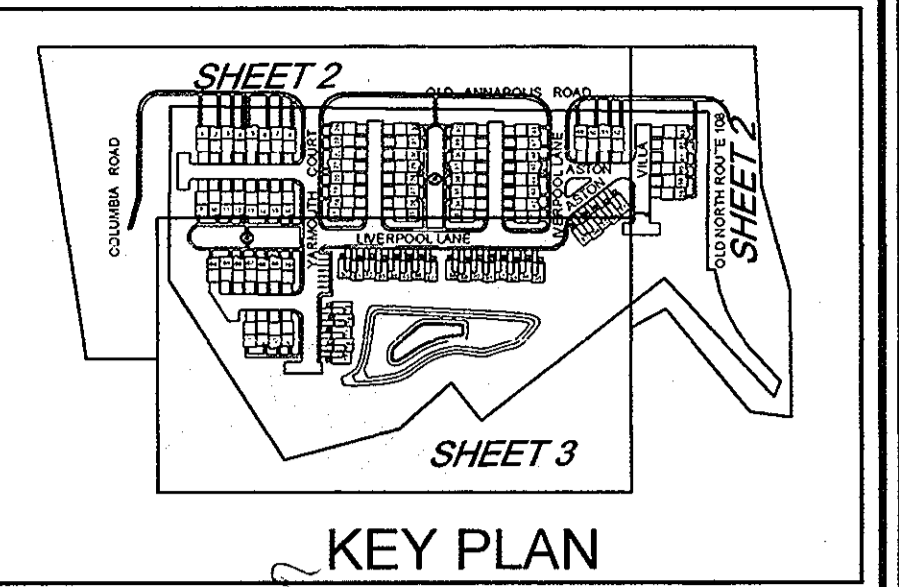
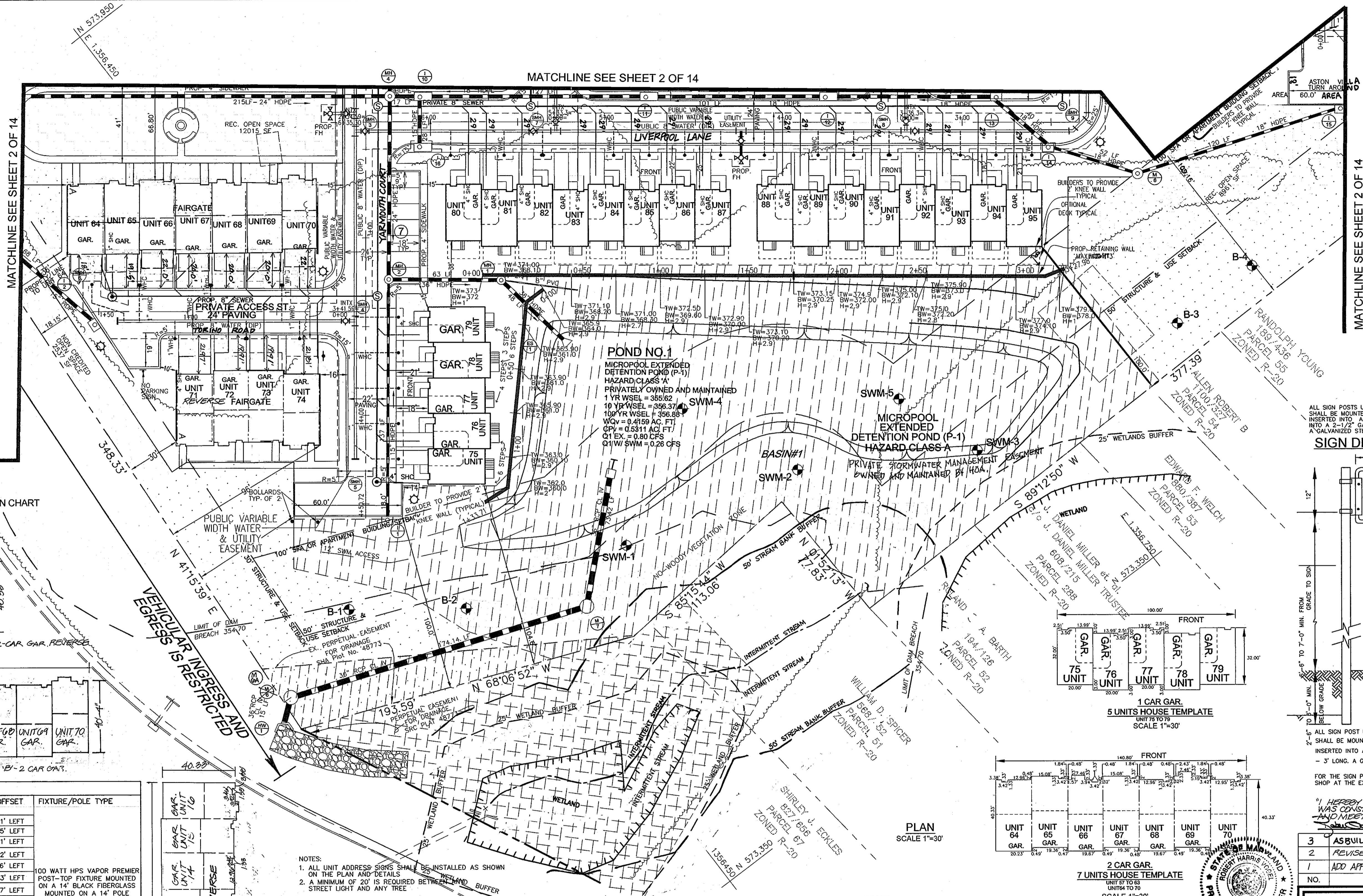
**AS-BUILT CERTIFICATION**

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLAN AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

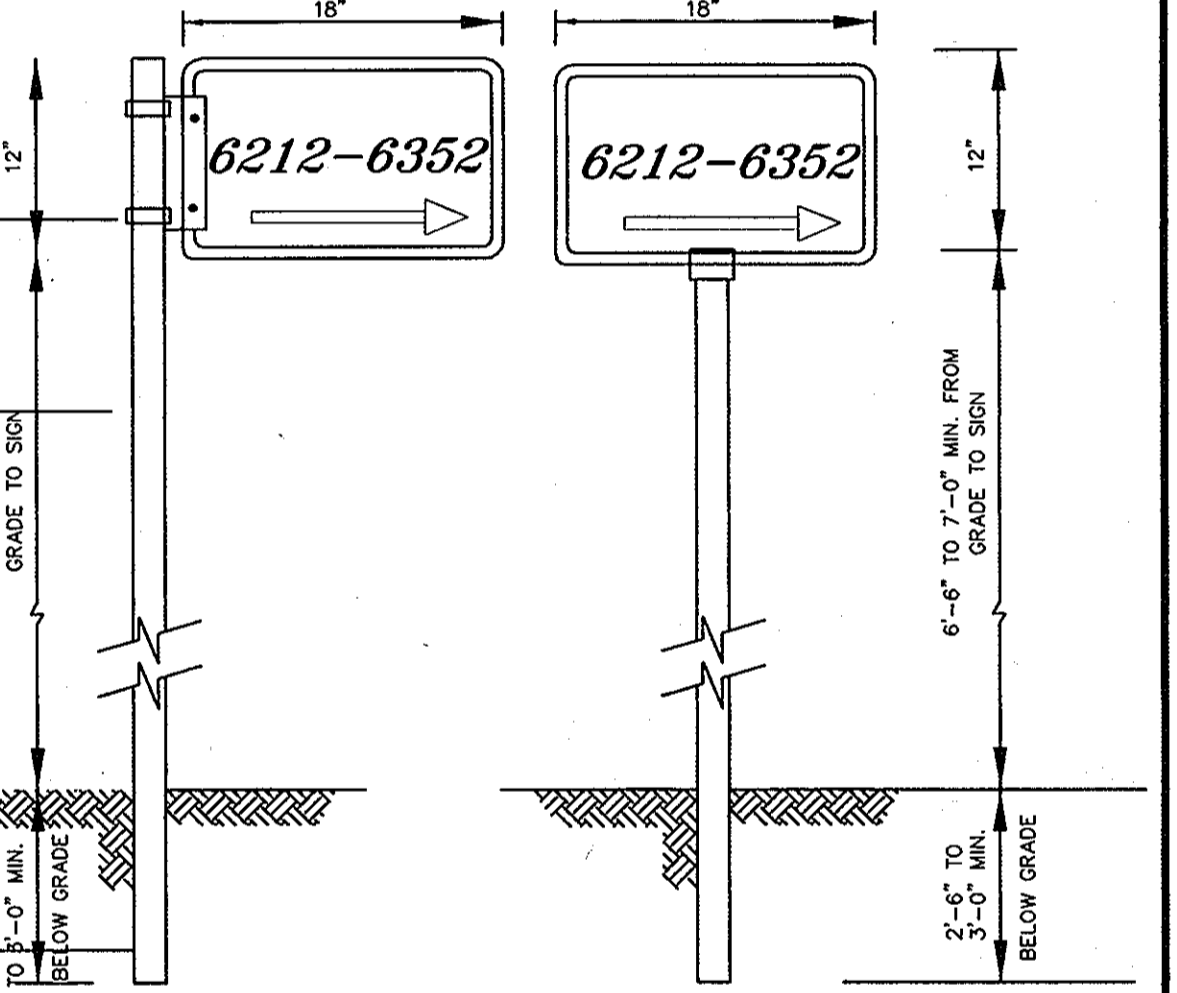
*[Signature]* 6/19/07 1-17-12  
DATE

DESIGN BY: RHW/LTR/J  
DRAWN BY: LTR/J  
CHECKED BY: RHW  
DATE: JANUARY 2006  
SCALE: AS SHOWN  
W.O. NO.: 04-141.00/2019063

2 SHEET OF 17



ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED FOR THIS PROJECT 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.



FOR THE SIGN PLACEMENT IN THE PUBLIC ROW, SIGN SHALL BE FABRICATED IN THE COUNTY SIGN SHOP AT THE EXPENSE OF THE DEVELOPER.

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

NO.	REVISION	DATE
3	AS-BUILT REVISIONS	5/21/10
2	REVISE TRIM 'B' UNITS 4, 6, 7 & 8	4/29/08
1	ADD APPROVED STREET NAMES	6/29/07
NO.	REVISION	DATE

**SITE LAYOUT PLAN  
DORSEY CROSSING**  
PARCEL A  
SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
UNITS 1 THRU 95

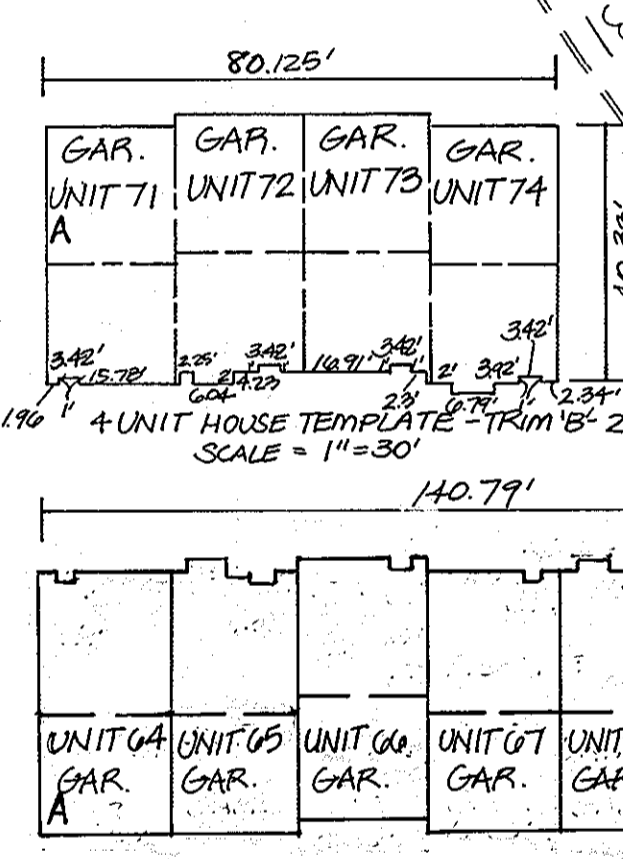
TAX MAP 30 GRID 3 PARCELS 59-65, 22 AND 231  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHV/LTR/J  
DRAWN BY: LTR/J  
CHECKED BY: RHV  
DATE: JANUARY, 2006  
SCALE: AS SHOWN  
W.D. NO.: 04-141.00/2019063

- LEGEND**
- OPENSOURCE
  - RECREATIONAL OPEN SPACE
  - NON-CREDITED OPEN SPACE
  - PUBLIC VARIABLE WIDTH WATER & UTILITY EASEMENT
  - NO WOODY VEGETATION BUFFER
  - PRIVATE STREET LIGHT
  - PUBLIC STREET LIGHT
  - STREET NAME SIGN

STREET LIGHT LOCATION CHART



STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
PRIVATE			
LIVERPOOL LA. ( AT UNIT-49 )	0+69	21' LEFT	100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS MOUNTED ON A 14" POLE
LIVERPOOL LA. ( AT UNIT-53 )	2+14	25' LEFT	
ASTON VILLA. ( AT UNIT-56 )	1+18	21' LEFT	
LIVERPOOL LA. ( AT UNIT-33 )	0+25	22' LEFT	
LIVERPOOL LA. ( AT UNIT-48 )	1+89	16' LEFT	
LIVERPOOL LA. ( AT UNIT-17 )	0+23	23' LEFT	
LIVERPOOL LA. ( AT UNIT-24 )	1+90	17' LEFT	
YARMOUTH CT. ( AT UNIT-8 )	0+23	23' LEFT	
YARMOUTH CT. ( AT UNIT-9 )	1+92	23' LEFT	
YARMOUTH CT. ( AT UNIT-70 )	1+24	23' LEFT	
YARMOUTH CT. ( AT UNIT-71 )	1+49	20' LEFT	
YARMOUTH CT. ( AT UNIT-75 )	4+47	27' LEFT	
PUBLIC			
OLD ANNAPOLIS ROAD	70+52	29.5' RIGHT	150 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
OLD ANNAPOLIS ROAD	80+65	29.9' RIGHT	
OLD ANNAPOLIS ROAD	90+63	29.8' RIGHT	
OLD ANNAPOLIS ROAD	100+50	32.55' RIGHT	
OLD ANNAPOLIS ROAD	120+06	33.0' RIGHT	
OLD ANNAPOLIS ROAD	130+54	32.5' RIGHT	
OLD ANNAPOLIS ROAD	140+44	35.0' RIGHT	
OLD ANNAPOLIS ROAD	150+23	35.0' RIGHT	
OLD ANNAPOLIS ROAD	160+19	35.0' RIGHT	
OLD ANNAPOLIS ROAD	160+19	35.0' RIGHT	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE  
 THESE PLANS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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. I HAVE NOTICED 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.

5/10/07

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.

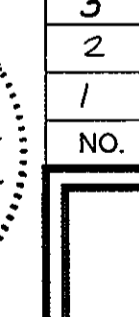
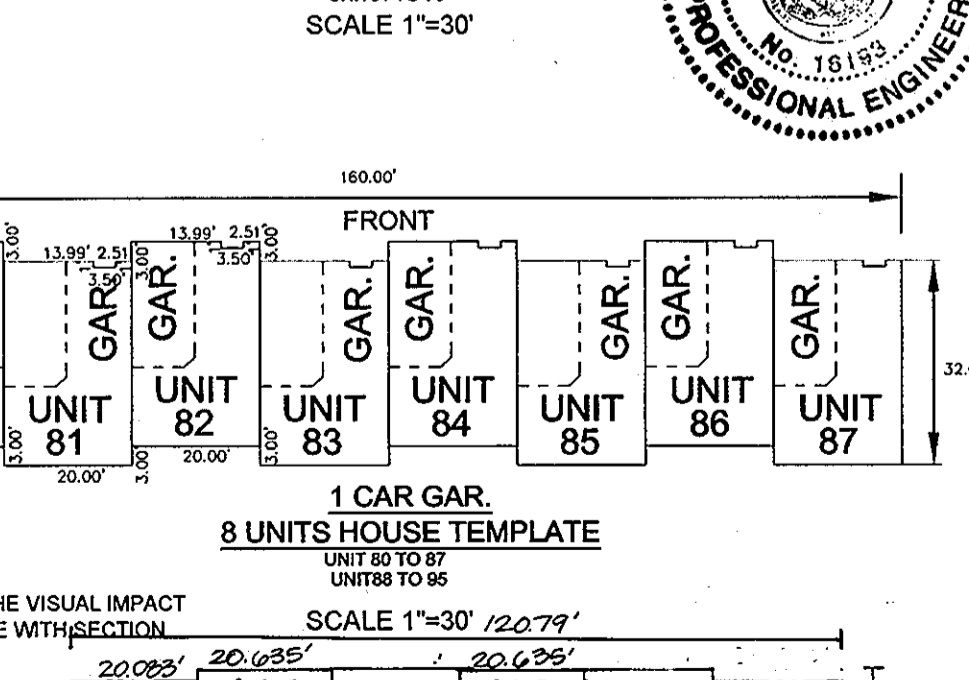
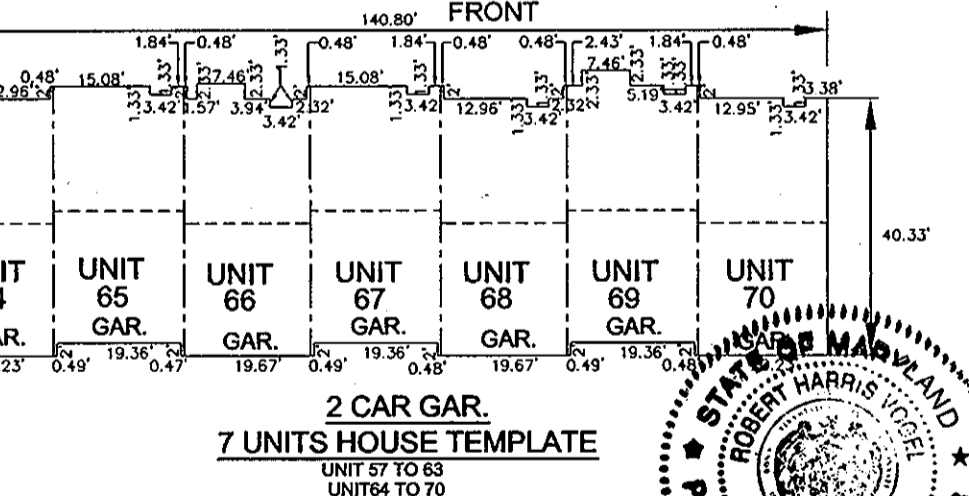
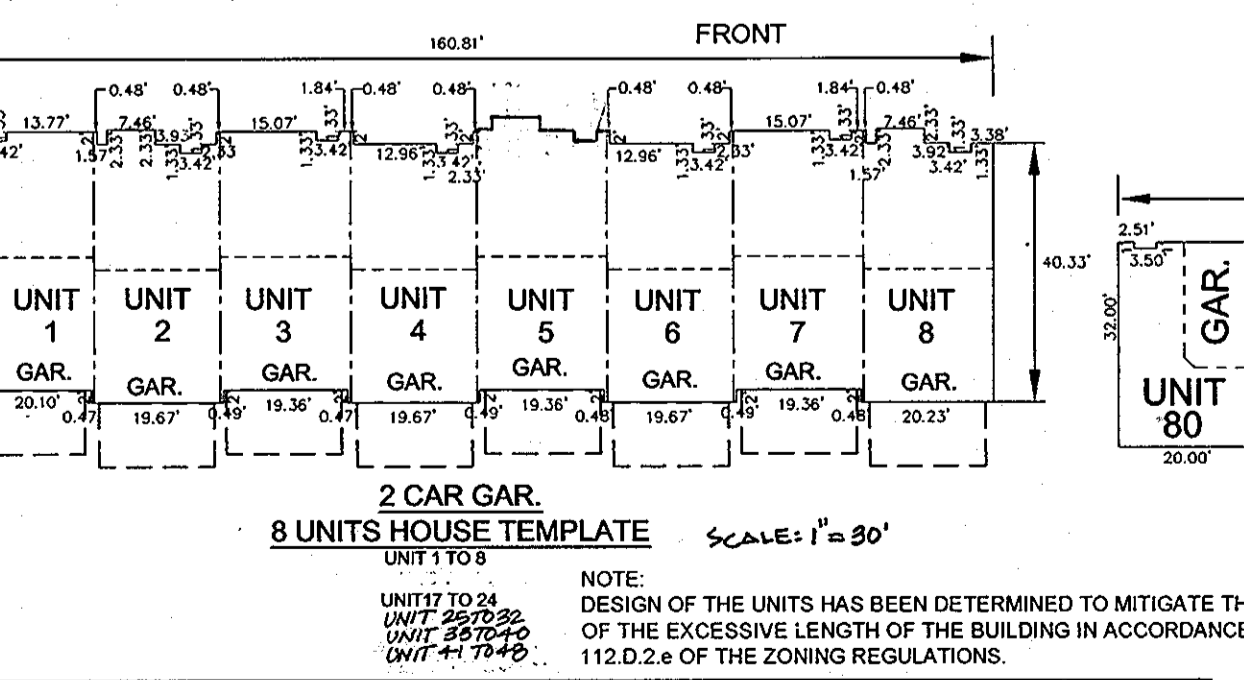
5/9/07

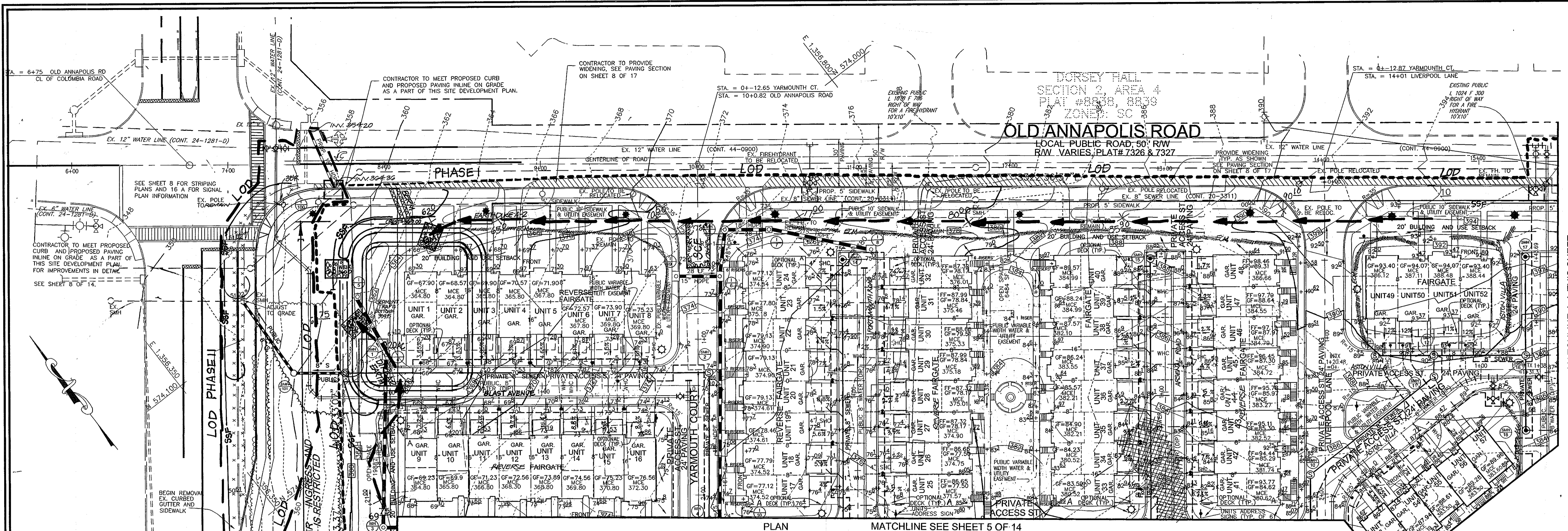
**NOTES:**

- ALL UNIT ADDRESS SIGNS SHALL BE INSTALLED AS SHOWN ON THE PLAN AND DETAILS.
- A MINIMUM OF 20' IS REQUIRED BETWEEN THE STANDARD STREET LIGHT AND ANY TREE.

**STANDARD SIGN DESIGN SPECIFICATIONS:**

- THE SIGN SIZE SHALL BE 12" X 18".
- THE SIGN MATERIAL SHALL BE 0.090 GAUGE THICKNESS ANODIZED ALUMINUM.
- THE SIGN SHALL HAVE A BROWN BACKGROUND WITH 3" HIGH WHITE REFLECTIVE NUMBERS AND ARROW WITH A WHITE REFLECTIVE BORDER.
- WHERE A PRIVATE ROAD NAME IS IN USE OR PART OF A PRIVATE HOMEOWNER'S ARTICLES OF INCORPORATION AGREEMENT THE SIGN SIZE WILL BE ENLARGED TO ACCOMMODATE THE NECESSARY LETTERING BUT REMAIN PROPORTIONAL TO THE ABOVE DESIGN LIMITS.
- THE SIGN WILL BE INSTALLED WITHIN THE COMMON DRIVEWAY EASEMENT WHERE A PRIVATE ROAD NAME IS IN USE OR PART OF A PRIVATE HOMEOWNER'S ARTICLES OF INCORPORATION AGREEMENT IN ACCORDANCE WITH THE DEPARTMENT OF PLANNING AND ZONING ADDRESS NUMBERING SYSTEM AND PER SECTION 3.503(c) OF THE HOWARD COUNTY CODE - PUBLIC SIGNS, MAINTENANCE AND REPLACEMENT OF THE ADDRESS NUMBER DIRECTIONAL SIGNS WILL BE THE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION OR A PROPERTY MANAGEMENT COMPANY.
- COMPLIANCE REGARDING THE INSTALLATION OF THE NEW ADDRESS NUMBER DIRECTIONAL SIGNS WILL BE ENFORCED BY THE DEPARTMENT IF INSPECTIONS, LICENSES AND PERMITS AT THE APPROVAL FOR ISSUANCE OF THE USE AND OCCUPANCY PERMITS.





- LEGEND**
- OPENS SPACE
  - RECREATIONAL OPEN SPACE
  - NON-CREDITED OPEN SPACE
  - PUBLIC VARIABLE WIDTH WATER & UTILITY EASEMENT
  - NO WOODY VEGETATION BUFFER
  - PRIVATE STREET LIGHT
  - PUBLIC STREET LIGHT
  - STREET NAME SIGN

**TEMPORARY SEDIMENT TRAP II**

EX. DRAINAGE AREA: 2.08 AC  
 PROP. DRAINAGE AREA: 2.25 AC  
 WET STORAGE REQUIRED = (2.25 AC.) (1800 CF/AC) - 4050 CF  
 DRY STORAGE REQUIRED: 16,244 CF (1 YR TSSW)  
 TOTAL STORAGE REQUIRED: 20,294 CF  
 TOTAL STORAGE PROVIDED: 20,294 CF  
 BOTTOM DIMENSIONS: 80 X 60  
 BOTTOM ELEV: 359.15  
 CREST ELEV: 363.00  
 WET STORAGE ELEV: 359.15-360.00  
 DRY STORAGE ELEV: 360.00-363.00  
 TOTAL STORAGE DEPTH: 3.85  
 TOP OF EMBANKMENT: 364.00  
 CLEANOUT ELEV: 359.55  
 SIDE SLOPES: 2:1

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Paul Williams* 5/30/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hunt* 6/1/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Wendy K. Joyce* 6/1/07  
 DIRECTOR DATE

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

*Robert H. Vogel* 5/21/07  
 PROFESSIONAL ENGINEER DATE

USDA-NATURAL RESOURCES CONSERVATION SERVICE

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

*Robert H. Vogel* 5/21/07  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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. 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.

*Robert H. Vogel* 4/24/07  
 SIGNATURE OF ENGINEER DATE  
 ROBERT H. VOGEL

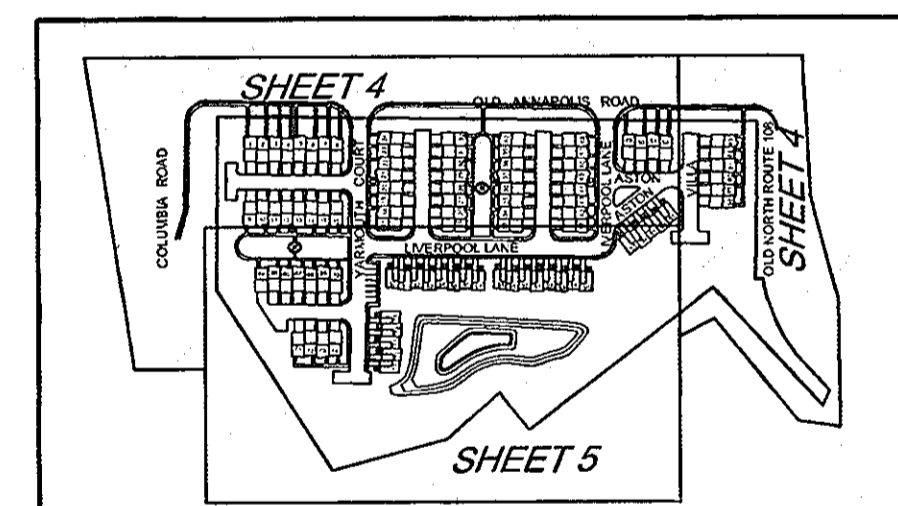
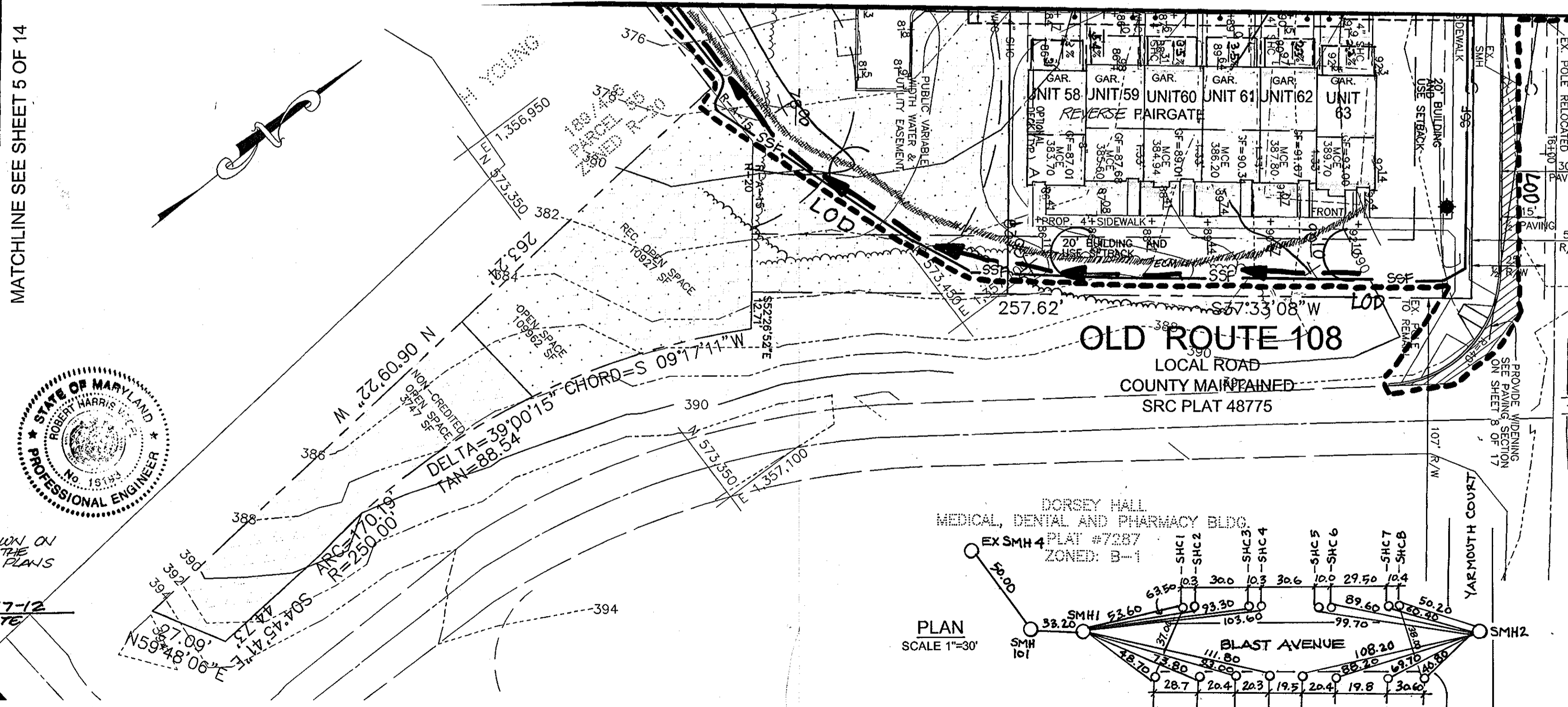
**DEVELOPER'S CERTIFICATE**

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*Robert H. Vogel* 4/23/07  
 SIGNATURE OF DEVELOPER DATE  
 STEVEN GREEN

**AS BUILT PLAN FOR SEWER**  
 BLAST AVENUE, DORSEY CROSSING

5	REVISE CURB RADIUS AT THE INTERSECTION OF COLUMBIA ROAD AND OLD ANNAPOLIS ROAD FROM 45 TO 30'	6/7/2011
No.	REVISION	DATE



**AS-BUILT REVISIONS**

4	AS-BUILT REVISIONS	5-23-10
3	REVISE TRIM LINES - UNITS 4, 6, 7, 8	
2	REVISE PLAN TO SHOW SEDIMENT EROSION CONTROL	7-20-07
1	ADD APPROVED STREET NAMES	6/29/07
No.	REVISION	DATE

**GRADING AND SEDIMENT EROSION CONTROL PLAN**

**DORSEY CROSSING**

PARCEL A  
 SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
 UNITS 1 THRU 95

TAX MAP 30 GRID 3  
 2ND ELECTION DISTRICT

PARCEL A  
 PARCELS 59-65, 229, AND 231  
 HOWARD COUNTY, MARYLAND

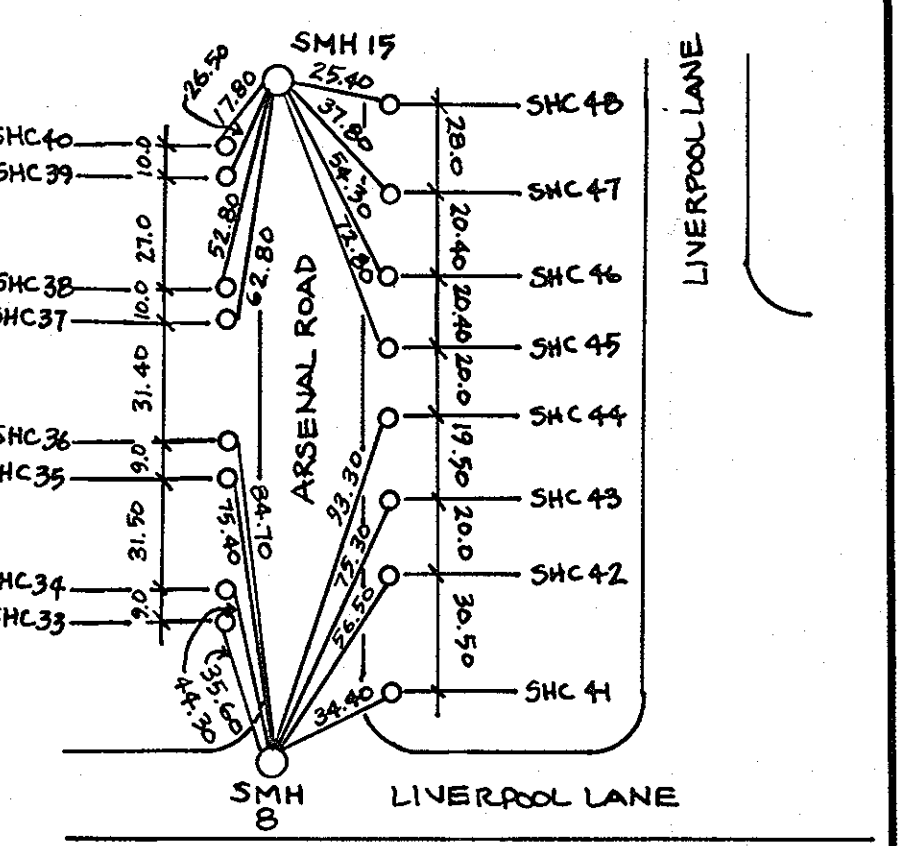
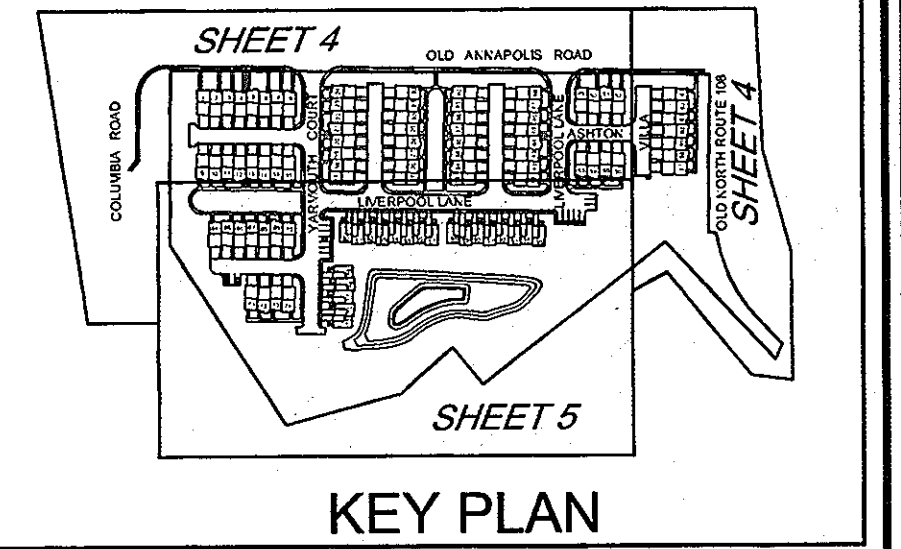
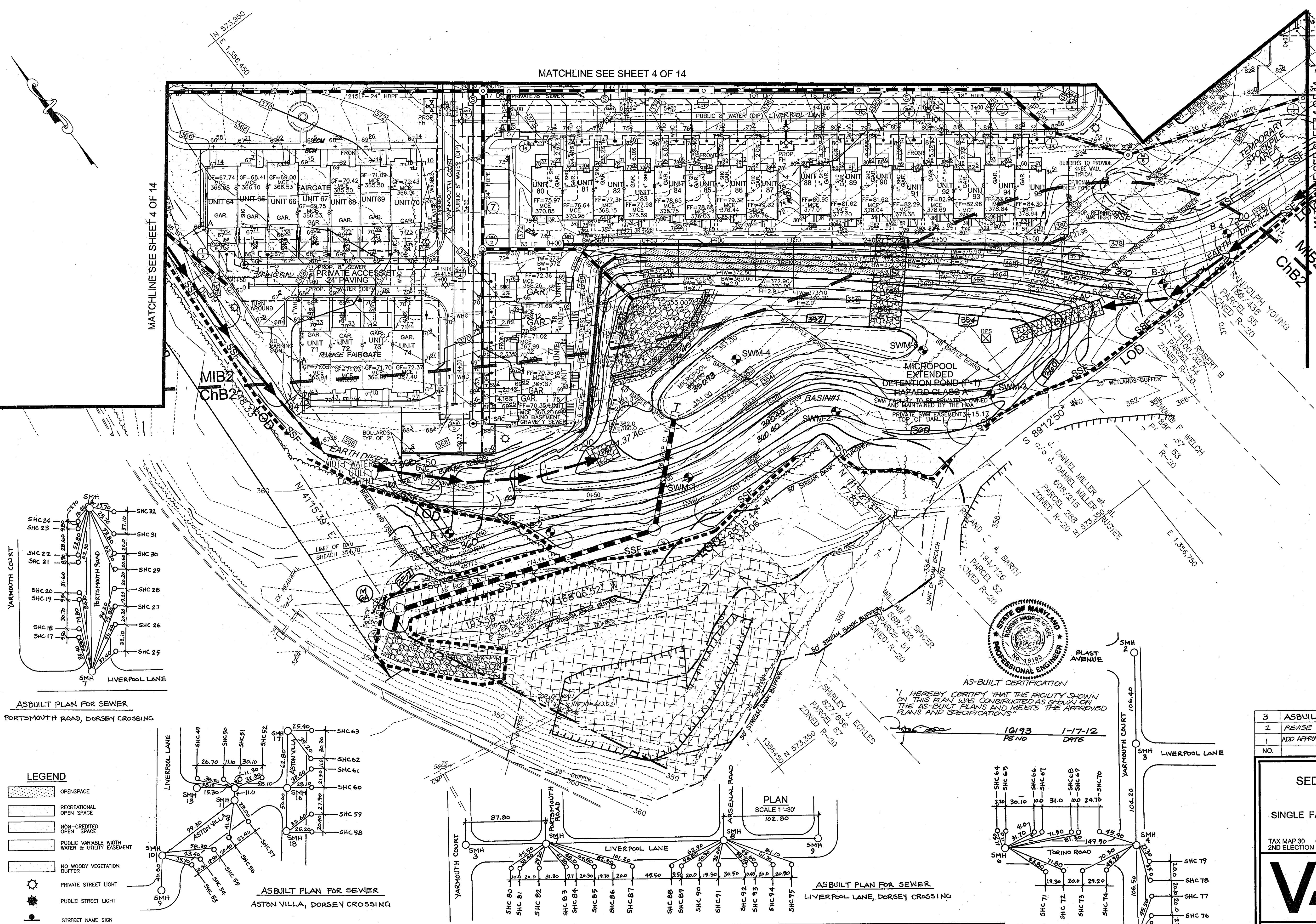
**ROBERT H. VOGEL ENGINEERING, INC.**  
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STATE OF MARYLAND PROFESSIONAL ENGINEER

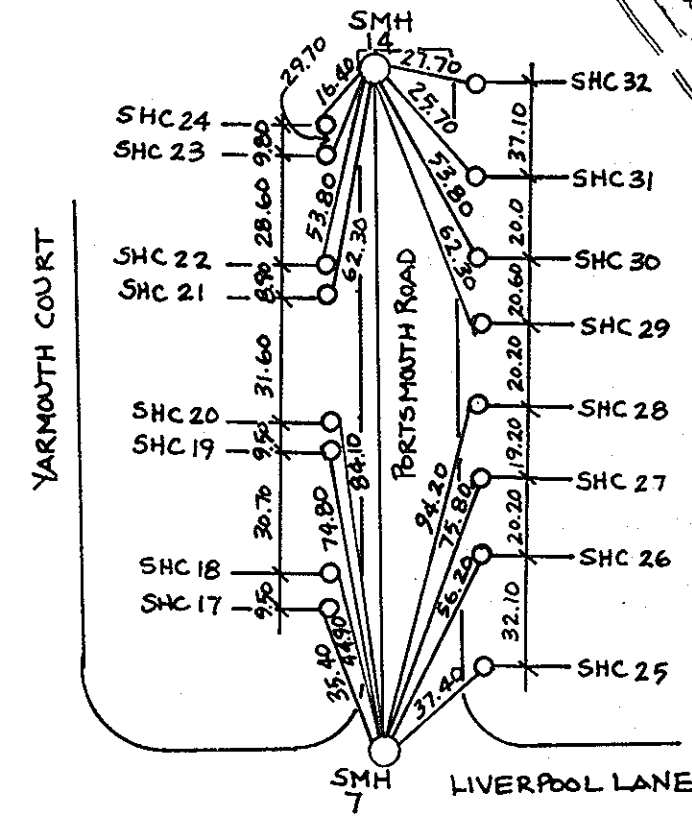
DESIGN BY: RHV/LTR/JL  
 DRAWN BY: LIT/RJ  
 CHECKED BY: RRV  
 DATE: JANUARY, 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 04-141.00/2019083

4 SHEET OF 17

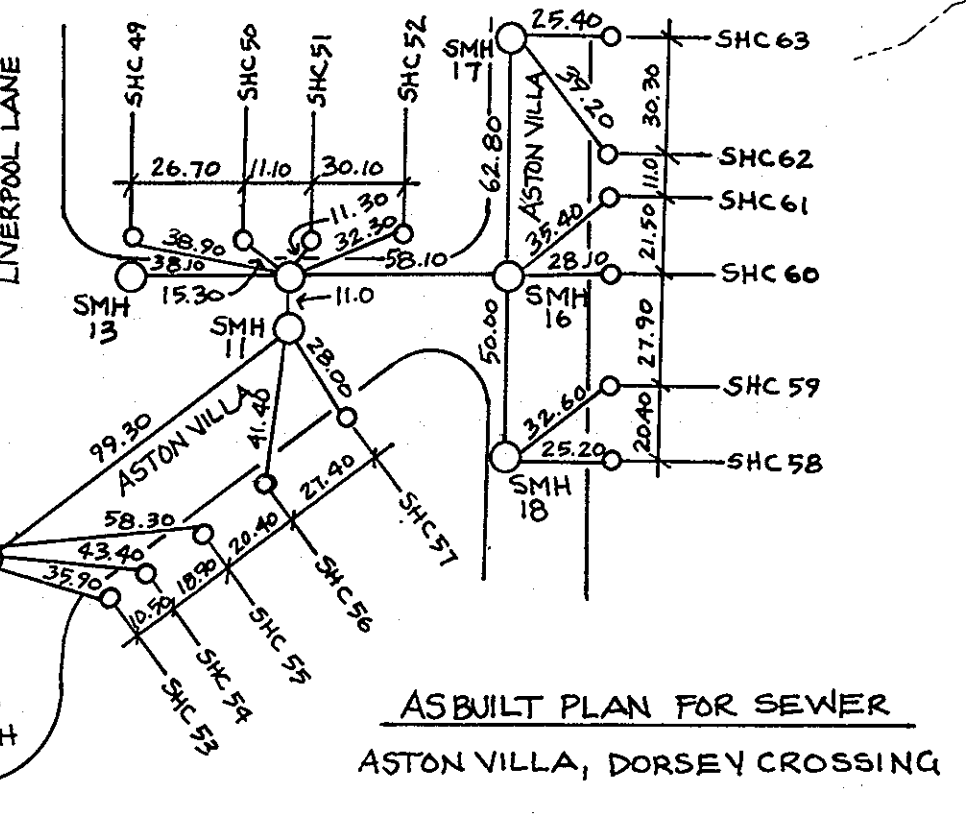


**POND NO.1**  
 MICROPOL EXTENDED DETENTION POND (P-1)  
 HAZARD CLASS 'A'  
 PRIVATELY OWNED AND MAINTAINED  
 1 YR WSEL = 355.62  
 10 YR WSEL = 356.37  
 100 YR WSEL = 356.68  
 WQv = 0.4159 AC. FT.  
 CPv = 0.5311 AC. FT.  
 Q1 EX = 0.80 CFS  
 Q1 W/ SWM = 0.26 CFS

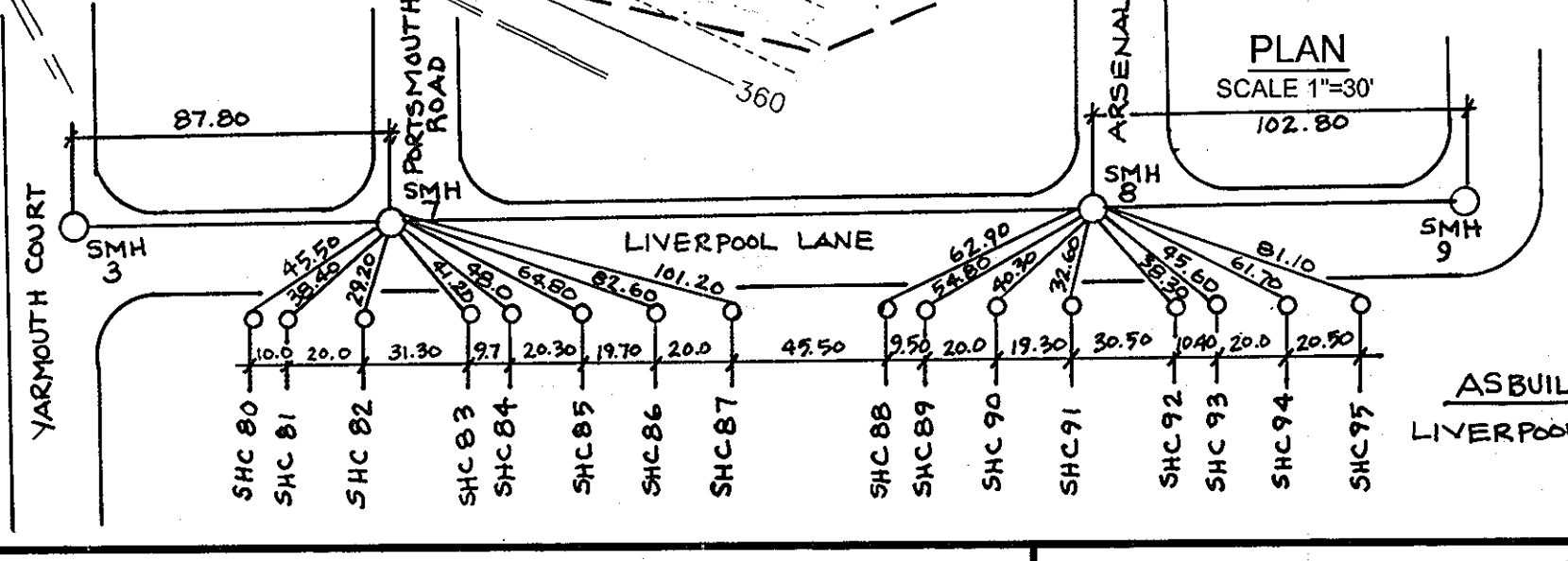
**TEMPORARY SEDIMENT BASIN 1**  
 TRAP TYPE: BASIN  
 EX. DRAINAGE AREA: 6.54 AC  
 PROP. DRAINAGE AREA: 8.21 AC  
 TOTAL STORAGE REQUIRED: 29,520 CF  
 TOTAL STORAGE PROVIDED: 70,000 CF  
 BOTTOM ELEV: 351.00  
 CREST ELEV: 356.60  
 WET STORAGE ELEV: 351.00-354.40  
 DRY STORAGE ELEV: 354.40-356.60  
 TOTAL STORAGE DEPTH: 8.50  
 TOP OF EMBANKMENT: 359.50  
 CLEANOUT ELEV: 353.30  
 SIDE SLOPES: 3:1  
 EMERGENCY SPILLWAY: NA  
 Q1 EX = 0.80 CFS  
 Q1 W/ SWM = 0.84 CFS



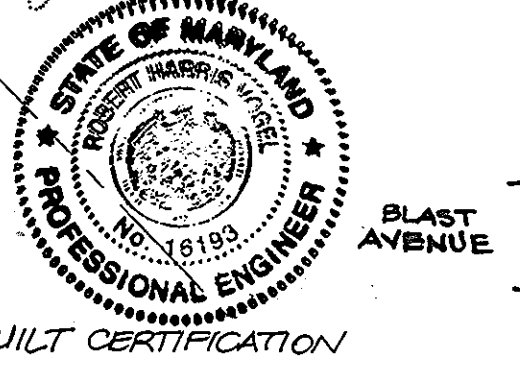
ASBUILT PLAN FOR SEWER  
 PORTSMOUTH ROAD, DORSEY CROSSING



ASBUILT PLAN FOR SEWER  
 ASTON VILLA, DORSEY CROSSING



ASBUILT PLAN FOR SEWER  
 LIVERPOOL LANE, DORSEY CROSSING



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLAN AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
 10/19/13  
 PENO  
 1-17-12  
 DATE

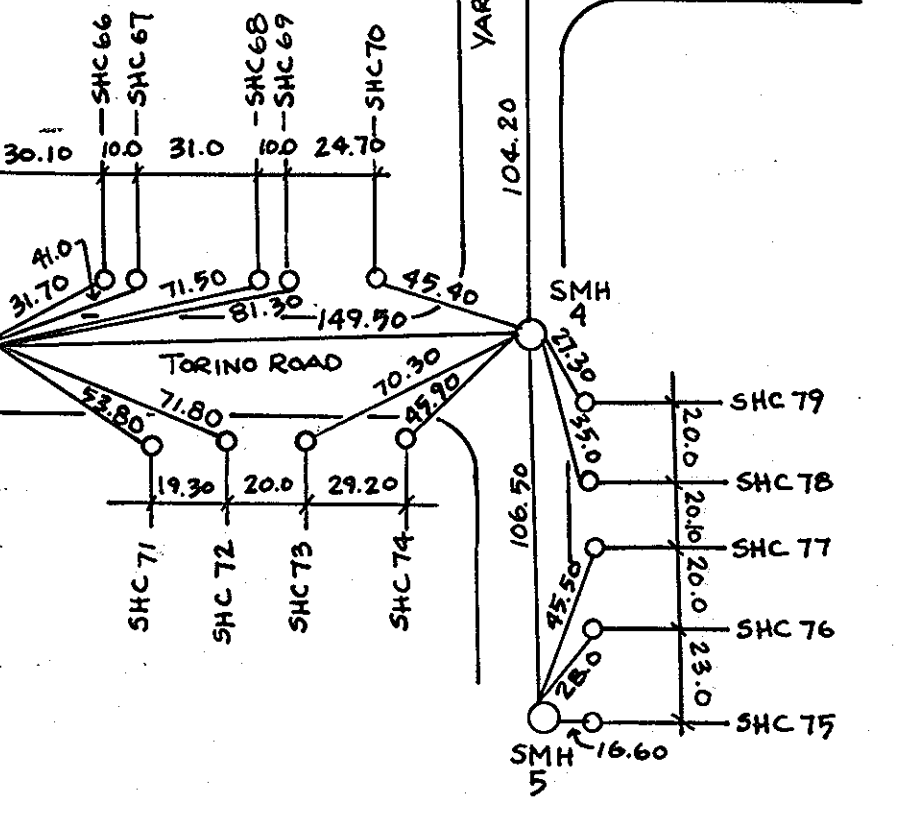
- LEGEND**
- OPENSOURCE
  - RECREATIONAL OPEN SPACE
  - NON-CREDITED OPEN SPACE
  - PUBLIC VARIABLE WIDTH WATER & UTILITY EASEMENT
  - NO WOODY VEGETATION BUFFER
  - PRIVATE STREET LIGHT
  - PUBLIC STREET LIGHT
  - STREET NAME SIGN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 5/30/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 6/8/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 6/1/10  
 DIRECTOR

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL.  
 [Signature] 5/21/10  
 USDA-NATURAL RESOURCES CONSERVATION SERVICE  
 THESE PLANS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 5/21/10  
 HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**  
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 [Signature] 4/21/10  
 SIGNATURE OF ENGINEER  
 ROBERT H. VOGEL

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.  
 [Signature] 4/21/10  
 SIGNATURE OF DEVELOPER  
 [Signature]



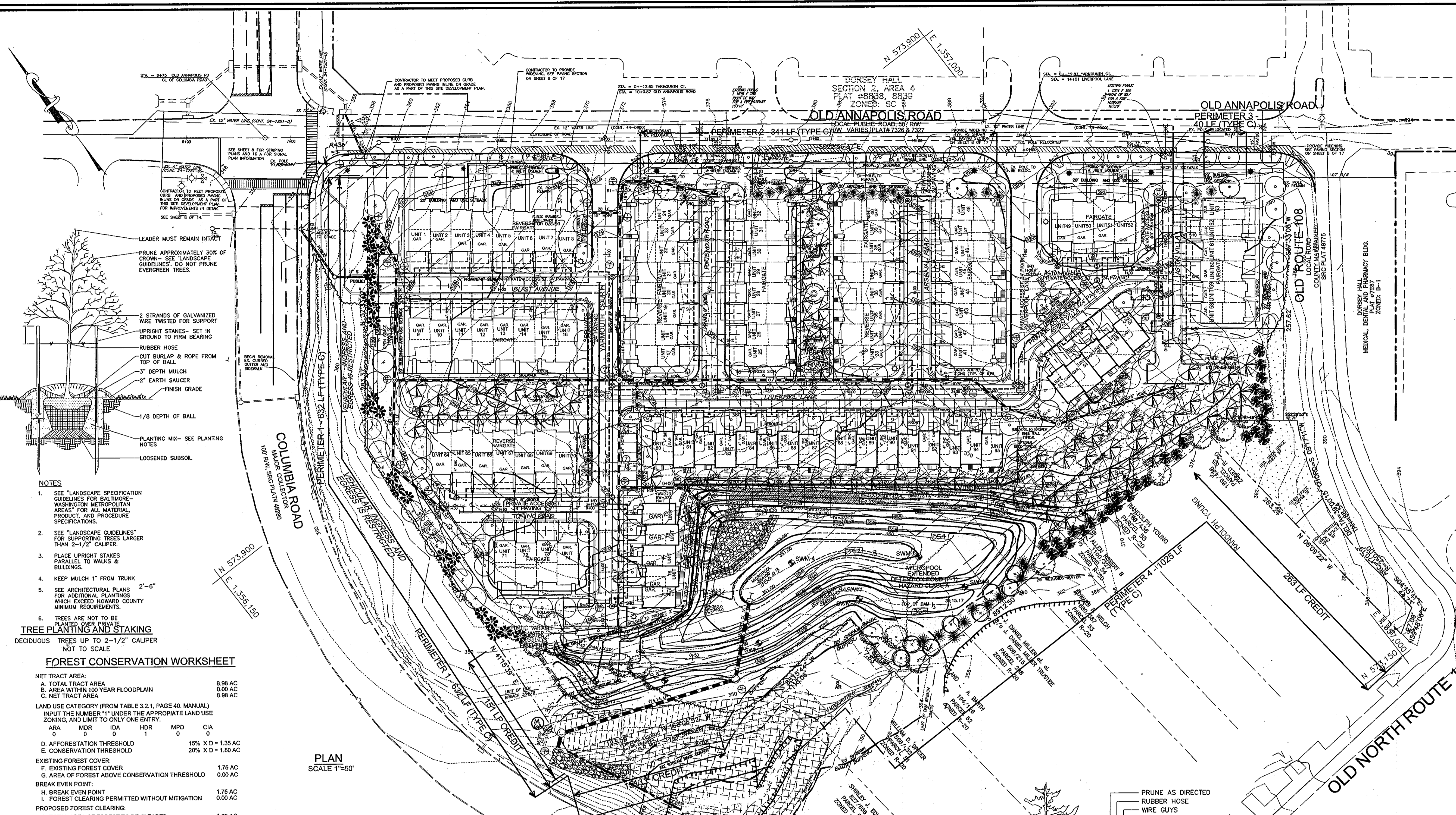
ASBUILT PLAN FOR SEWER  
 YARMOUTH COURT & TORINO ROAD

NO.	REVISION	DATE
3	ASBUILT REVISIONS	5-24-10
2	REVISE TRIM 'B' UNITS 4, 6, 7 & 8	4/29/10
1	ADD APPROVED STREET NAMES	6/29/07

**GRADING AND SEDIMENT EROSION CONTROL PLAN**  
**DORSEY CROSSING**  
 PARCEL A  
 SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THRU 95  
 PARCEL A  
 PARCELS 59-65, 229, AND 231  
 HOWARD COUNTY, MARYLAND

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DESIGN BY: RHV/LTR/J  
 DRAWN BY: LTR/J  
 CHECKED BY: RHV  
 DATE: JANUARY, 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 04-141.002019063  
 5 SHEET OF 17



LANDSCAPE SCHEDULE				
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
12	12	LIQUIDAMBAR STYRACIFLUA AMERICAN SWEETGUM PERIMETER-1 (12)	2 1/2"-3" Col.	B & B
95	95	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE SCHEDULE-1 (95)	2 1/2"-3" Col.	B & B
15	15	ZELKOVA SERATA 'VILLAGE GREEN' VILLAGE GREEN ZELKOVA PERIMETER-4 (15)	2 1/2"-3" Col.	B & B
10	10	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN (SHADE TREE) PERIMETER-2 (10)	2 1/2"-3" Col.	B & B
8	8	ACER SACCHARUM 'GOLDSPIRE' COLUMBIAN SUGAR MAPLE SCHEDULE D (8)	2 1/2"-3" Col.	B & B
2	2	QUERCUS COCCINEA SCARLET OAK (SHADE TREES) SCHEDULE B (2)	2 1/2"-3" Col.	B & B
24	24	CYPRESS OCYPARIS LEYLANDI LEYLAND CYPRESS PERIMETER-1 (24)	5' - 6' Ht.	B & B
20	20	PICEA OMORICA SERPIAN SPRUCE PERIMETER-2 (18), PERIMETER-3 (2)	6' - 8' Ht.	B & B
30	30	CEDRUS ATLANTICA 'GLAUCOA' BLUE ATLAS CEDAR PERIMETER-4 (30)	6' - 8' Ht.	B & B
10	10	PINUS STROBUS EASTERN WHITE PINE SCHEDULE D (10)	6' - 8' Ht.	B & B

SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	
Perimeter/Frontage Designation	1 C	2 C	3 C
Linear Feet of Roadway Frontage/Perimeter	632'	341'	40'
Credit for Existing Vegetation (Yes, No, Linear Feet)	YES 145'	No	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet)	No	No	No
Number of Plants Required	489	341	40
Shade Trees	140	12	1
Evergreen Trees	120	24	2
Number of Plants Provided	12	9	1
Shade Trees	24	18	2
Other Trees (2:1 Substitution)	-	-	-
Shrubs (10:1 Substitution)	-	-	-

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	7
NUMBER OF TREES AND ISLANDS REQUIRED	1
NUMBER OF TREES AND ISLANDS PROVIDED	1
OTHER TREES (2:1 SUBSTITUTION)	-

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	95
NUMBER OF TREES REQUIRED (1:1 DU SFA; 1:3 DU APTS)	95
NUMBER OF TREES PROVIDED	95
SHADE TREES (2:1 SUBSTITUTION)	-
SHRUBS (10:1 SUBSTITUTION)	-

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	850 LF
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	YES, 450 LF (PERIMETER BUFFER 4)
NUMBER OF TREES REQUIRED (SHADE TREES, EVERGREEN TREES)	(400 LF) 8 SHADE TREES, 10 EVERGREEN TREES
NUMBER OF TREES PROVIDED (SHADE TREES, EVERGREEN TREES, OTHER TREES (2:1 SUBSTITUTION))	8 SHADE TREES, 10 EVERGREEN TREES, 9 TREES (2:1 SUBSTITUTION TREES)

NO.	REVISION	DATE
5	REVISE CURB RADIUS AT THE INTERSECTION OF COLUMBIA ROAD AND OLD ANNAPOLIS ROAD FROM 45' TO 35'	6/7/2011
1	ADD APPROVED STREET NAMES	6/29/07

**LANDSCAPING AND FOREST CONSERVATION PLAN**  
**DORSEY CROSSING**  
 PARCEL A  
 SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THRU 95  
 TAX MAP 30 GRID 3 PARCEL A  
 2ND ELECTION DISTRICT PARCELS 59-65, 229, AND 231  
 HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHW/LTR/J  
 DRAWN BY: LTR/J  
 CHECKED BY: RHW  
 DATE: JANUARY, 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 04-141.002019063

6 SHEET OF 17

- NOTES**
- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
  - SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
  - PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
  - KEEP MULCH 1" FROM TRUNK
  - SEE ARCHITECTURAL PLANS "2"-6" FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
  - TREES ARE NOT TO BE PLANTED OVER PRIVATE DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

**FOREST CONSERVATION WORKSHEET**

NET TRACT AREA:  
 A. TOTAL TRACT AREA 8.98 AC  
 B. AREA WITHIN 100 YEAR FLOODPLAIN 0.00 AC  
 C. NET TRACT AREA 8.98 AC

LAND USE CATEGORY (FROM TABLE 3.2.1, PAGE 40, MANUAL)  
 INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.

ABA	MOR	IDA	HR	MPO	CIA
0	0	0	1	0	0

D. AFFORESTATION THRESHOLD 15% X D = 1.35 AC  
 E. CONSERVATION THRESHOLD 20% X D = 1.80 AC

EXISTING FOREST COVER:  
 F. EXISTING FOREST COVER 1.75 AC  
 G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD 0.00 AC

BREAK EVEN POINT:  
 H. BREAK EVEN POINT 1.75 AC  
 I. FOREST CLEARING PERMITTED WITHOUT MITIGATION 0.00 AC

PROPOSED FOREST CLEARING:  
 J. TOTAL AREA OF FOREST TO BE CLEARED 1.75 AC  
 K. TOTAL AREA OF FOREST TO BE RETAINED 0.00 AC

PLANTING REQUIREMENTS:  
 L. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD 0.00 AC  
 M. REFORESTATION FOR CLEARING BELOW THE CONSERVATION THRESHOLD 3.50 AC  
 N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD 0.00 AC  
 P. TOTAL REFORESTATION REQUIRED 3.50 AC  
 Q. TOTAL AFFORESTATION REQUIRED 0.00 AC  
 R. TOTAL PLANTING REQUIRED 3.50 AC

PLAN SCALE 1"=50'

**NOTES**

- FOREST CONSERVATION REQUIREMENTS IN ACCORDANCE WITH SECTION 16.1202 OF THE FOREST CONSERVATION MANUAL FOR THIS PROJECT SHALL BE FULFILLED BY THE PLACEMENT OF 3.50 ACRES OF REFORESTATION INTO AN OFF-SITE RETENTION EASEMENT OCCURRING AT A 2:1 RATIO ON THE LAFON PROPERTY, TAX MAP 2, BLOCK 18, PARCEL 49; RE-06-06(S2) PLAT NO. 18549, RECORDED ON 9/27/06, SURETY IN THE AMOUNT OF \$60,984.00 FOR 7 ACRES OF RETENTION (304,920 SF. X 0.20) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN.
- PERIMETER LANDSCAPING, STREET TREES AND STORM WATER MANAGEMENT PLANTINGS SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$87,900.00 FOR 251 SHADE TREES AND 84 EVERGREEN TREES UNDER THIS SITE DEVELOPMENT PLAN.

**PUBLIC ROAD STREET TREE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	110	AMUR MAPLE ACER GINNALA (SHADE TREES GROWTH HEIGHT=20')	2"-3" CAL.	B & B

**STREET TREE CALCULATIONS**

STREET NAME	LINEAR FEET NO. REQUIRED	NO. PROVIDED
OLD ANNAPOLIS ROAD	830/40	21
LIVERPOOL LANE	1772/40	44
YARMOUTH COURT	1372/40	34
ASTON VILLA	455/40	11

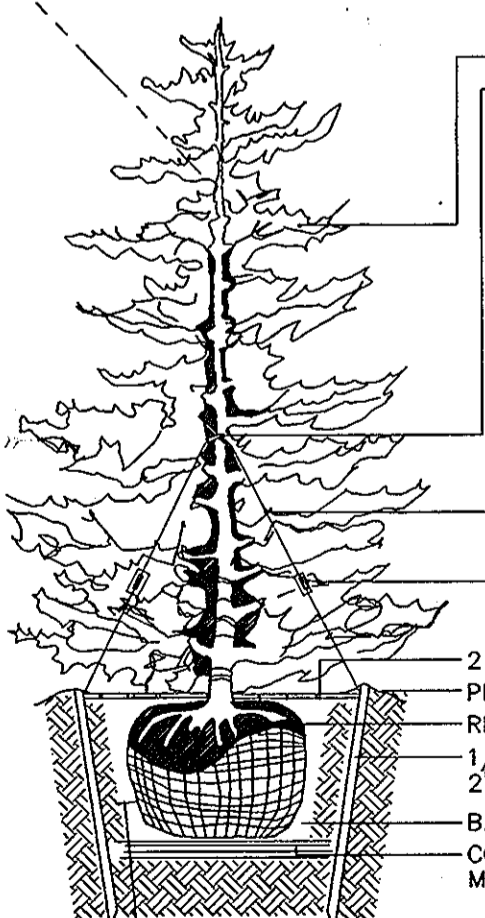
**DEVELOPER'S LANDSCAPE CERTIFICATE**

I/WE CERTIFY THAT LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF THE PROJECT, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER'S/OWNER'S NAME: STEWART GREENWOOD  
 DORSEY CROSSING, LLC. MEMBER

**LEGEND**

- PUBLIC VARIABLE WIDTH WATER & UTILITY EASEMENT
- OPENSOURCE
- RECREATIONAL OPEN SPACE
- NON-CREDITED OPEN SPACE
- STREET NAME SIGN
- PUBLIC STREET LIGHT
- PRIVATE STREET LIGHT
- PUBLIC STREET LIGHT



**LEGEND**

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- ~~~~~ EXISTING TREELINE

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
CHB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] 5/20/07 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] 6/10/07 DATE

DIRECTOR: [Signature] 6/10/07 DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE: [Signature] 5/21/07 DATE

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

HOWARD SOIL CONSERVATION DISTRICT: [Signature] 5/21/07 DATE

**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: [Signature] DATE: 6/29/07

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.

SIGNATURE OF DEVELOPER: [Signature] DATE: 6/29/07

**STATE OF MARYLAND PROFESSIONAL ENGINEER**

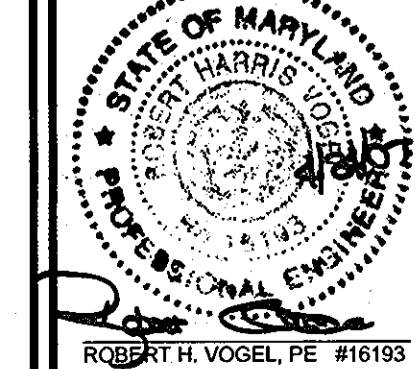
AS-BUILT CERTIFICATION

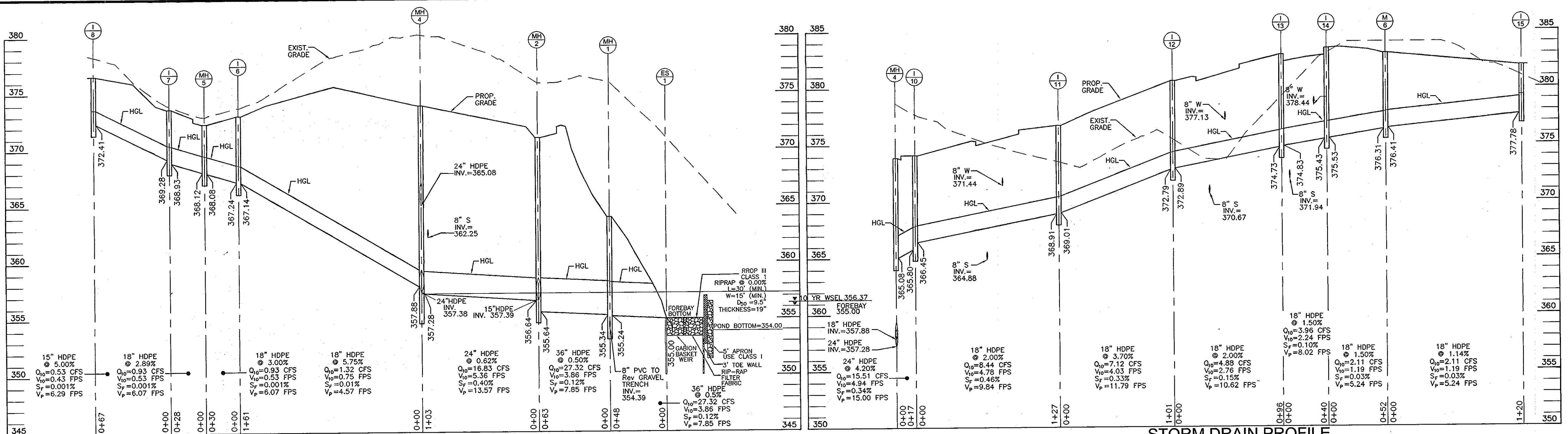
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

DATE: 6/29/07

RENO: 16193

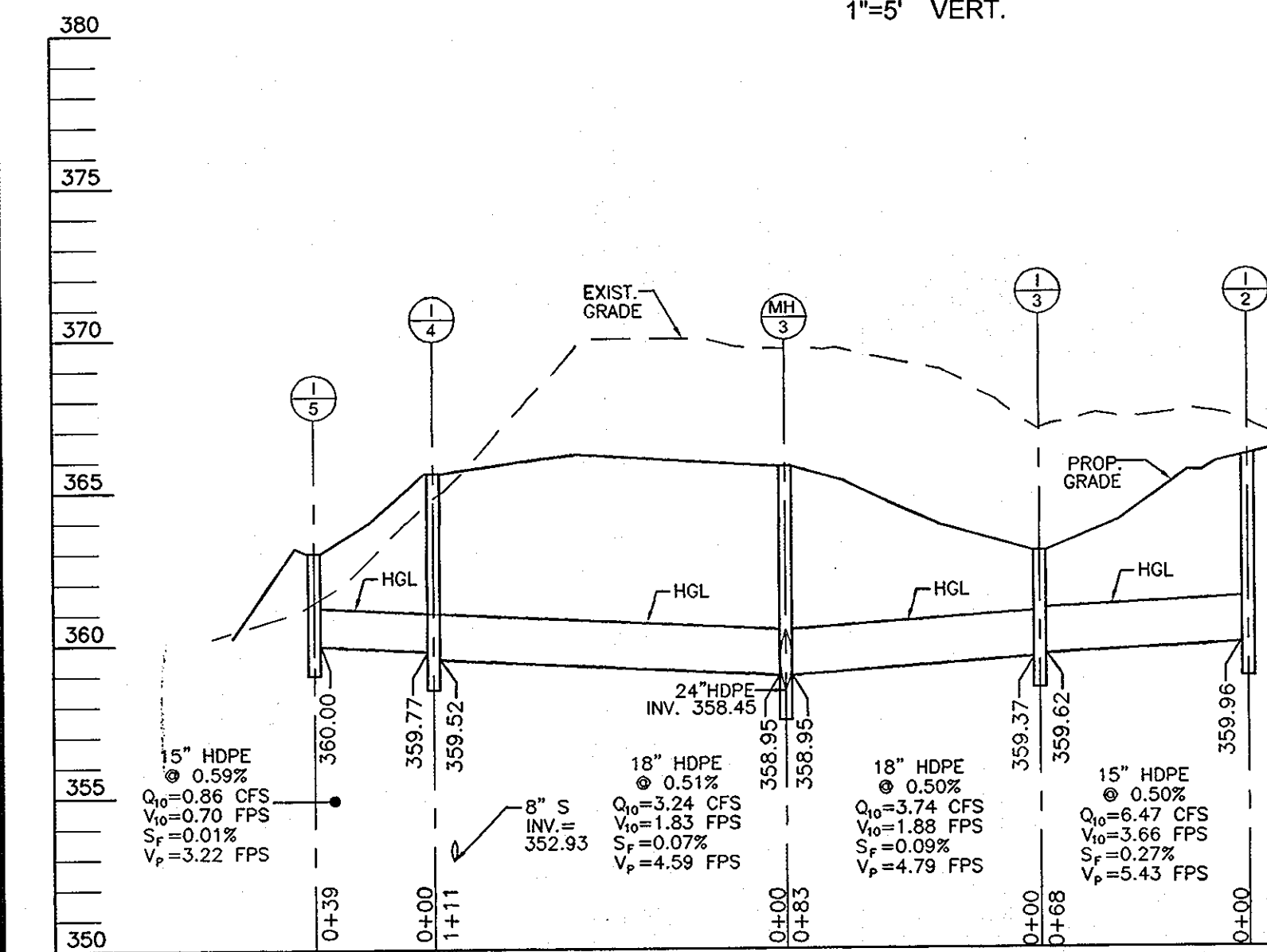
DATE: 1-17-12



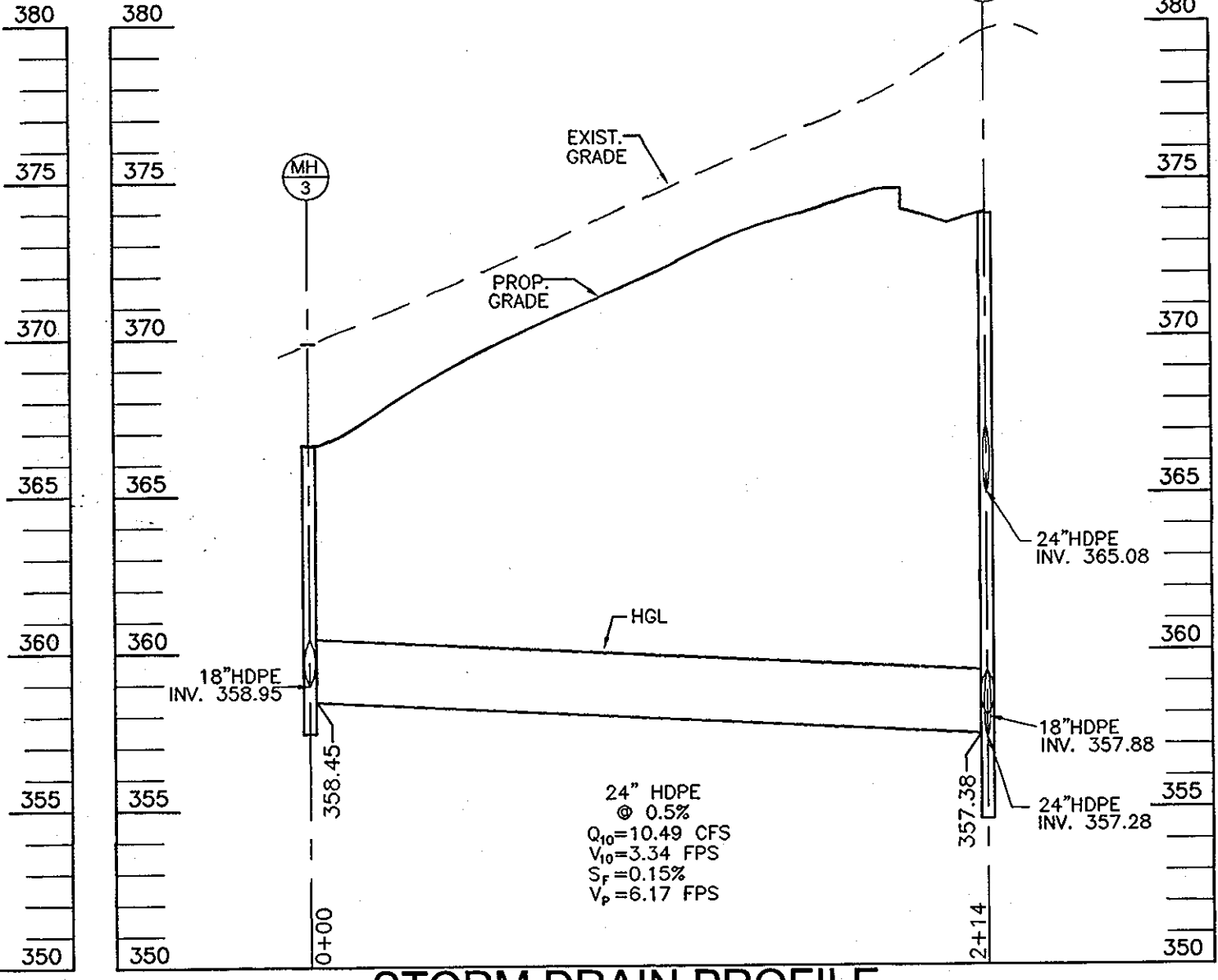


**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.

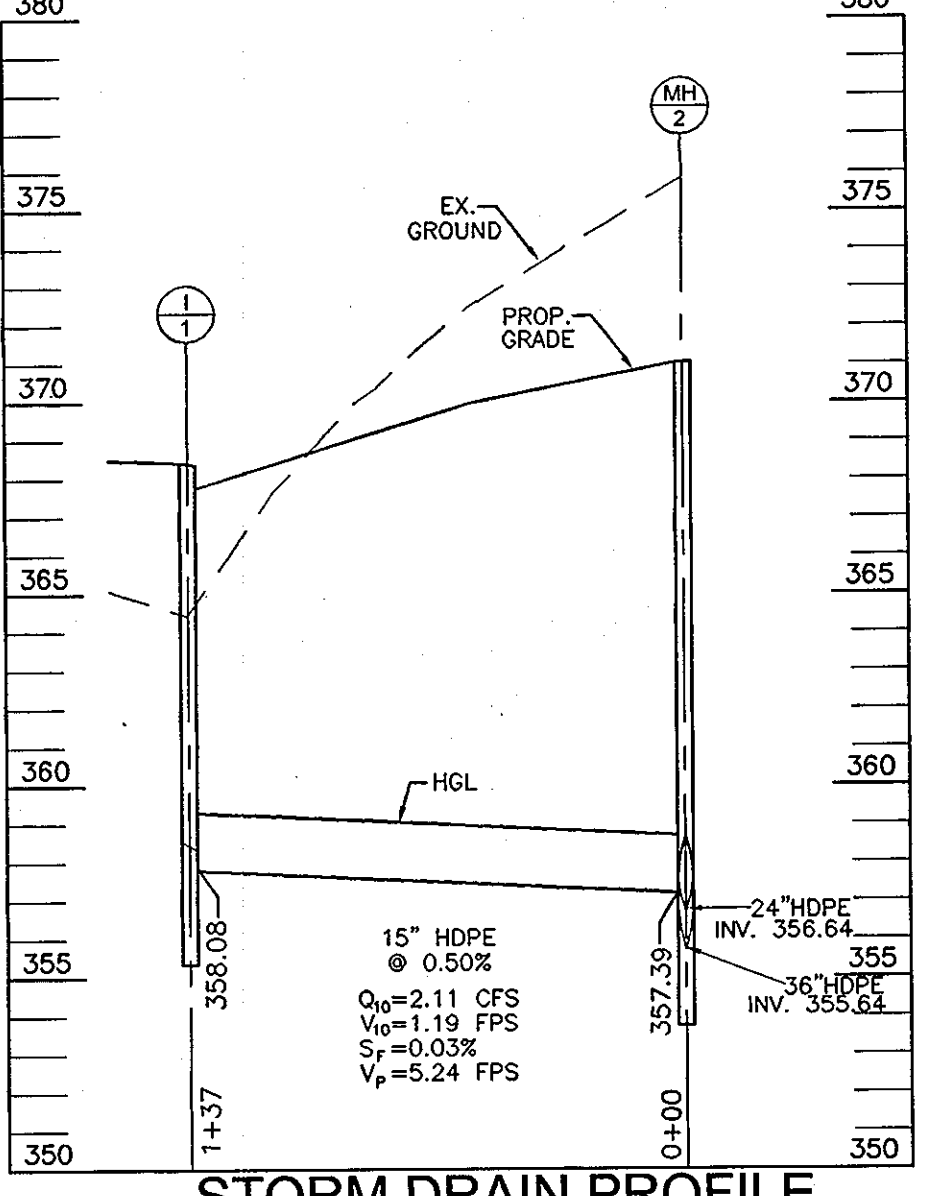
**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



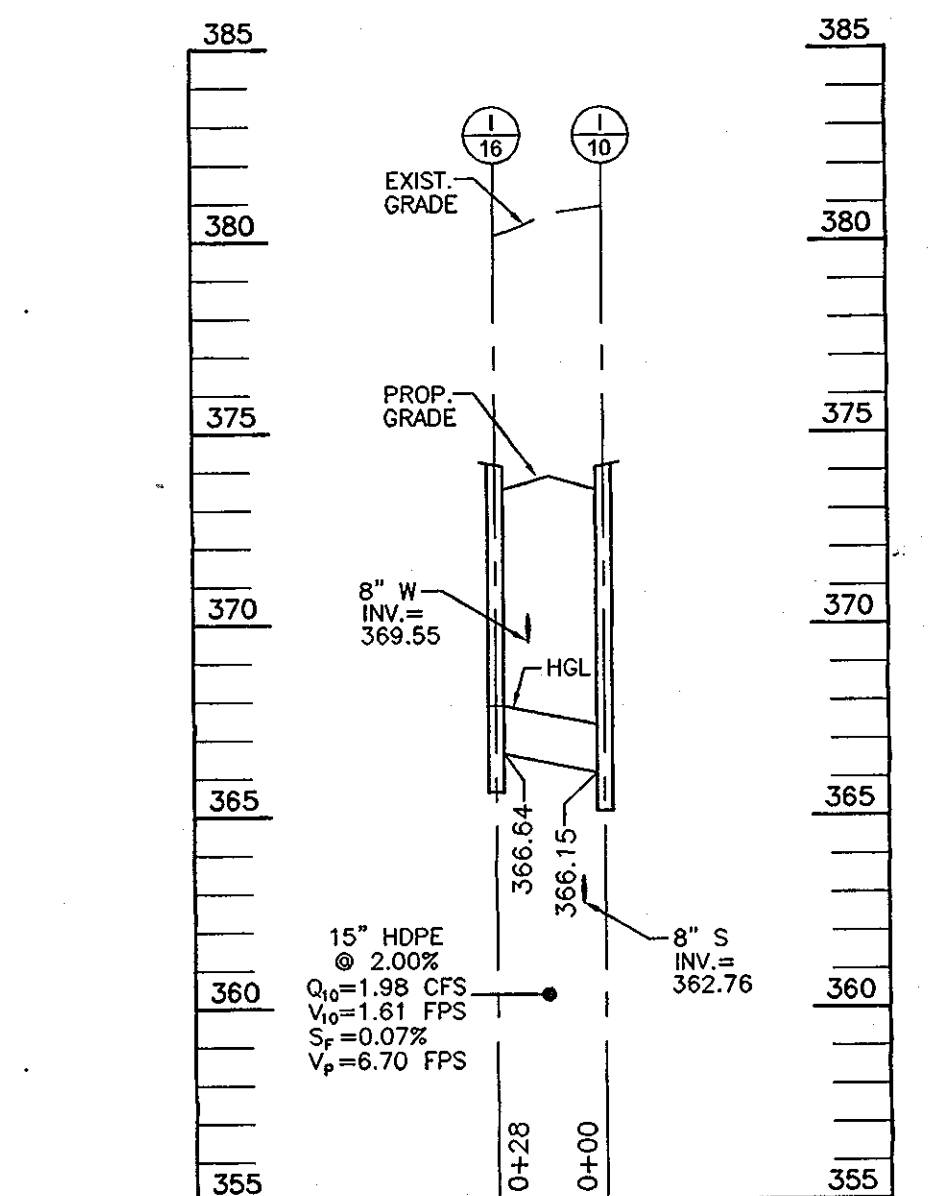
**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



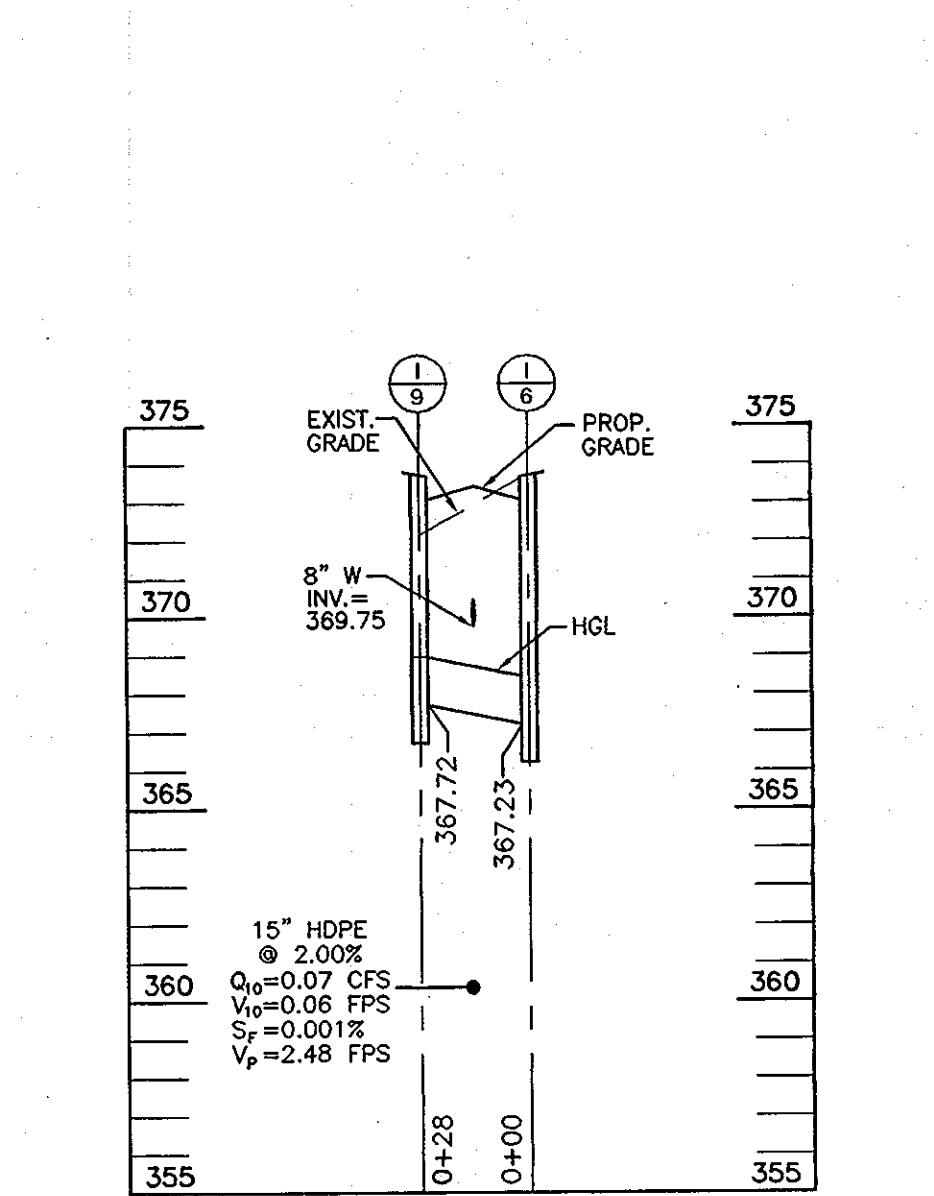
**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORZ.  
1"=5' VERT.

INLET SCHEDULE							
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
		NORTHING	EASTING				
I-1	STANDARD PRECAST TYPE 'A-5'	573,629.21	1,356,421.52	368.85	358.08	-	SD-4.40
I-2	STANDARD PRECAST TYPE 'A-5'	573,816.18	1,356,359.98	365.60	-	359.96	SD-4.40
I-3	STANDARD PRECAST TYPE 'K'	573,883.20	1,356,346.06	363.00	359.62	359.37	SD-4.12
I-4	STANDARD PRECAST TYPE 'A-5'	574,034.66	1,356,467.09	365.60	359.77	359.52	SD-4.40
I-5	STANDARD PRECAST TYPE 'K'	574,075.84	1,356,474.65	363.00	-	360.00	SD-4.12
I-6	STANDARD PRECAST TYPE 'A-5'	573,945.67	1,356,684.58	373.07	367.23(15) 366.24(18)	367.14	SD-4.40
I-7	STANDARD PRECAST TYPE 'K'	573,948.97	1,356,709.44	373.67	369.28	368.93	SD-4.12
I-8	STANDARD PRECAST TYPE 'A-5'	573,897.33	1,356,752.08	376.60	-	372.41	SD-4.40
I-9	STANDARD PRECAST TYPE 'A-5'	573,960.40	1,356,645.63	373.67	-	367.72	SD-4.40
I-10	STANDARD PRECAST TYPE 'A-10'	573,804.18	1,356,581.21	374.12	366.45 366.15	365.80	SD-4.41
I-11	STANDARD PRECAST TYPE 'A-10'	573,726.77	1,356,681.90	376.72	369.01	368.91	SD-4.41
I-12	STANDARD PRECAST TYPE 'A-10'	573,665.24	1,356,761.94	380.60	372.89	372.79	SD-4.41
I-13	STANDARD PRECAST TYPE 'A-5'	573,607.79	1,356,836.67	382.89	374.83	374.73	SD-4.40
I-14	STANDARD PRECAST TYPE 'A-5'	573,544.96	1,356,849.19	383.46	375.53	375.43	SD-4.40
I-15	STANDARD PRECAST TYPE 'A-5'	573,488.60	1,356,989.07	381.90	-	377.78	SD-4.40
I-16	STANDARD PRECAST TYPE 'A-10'	573,785.23	1,356,566.47	374.12	-	366.64	SD-4.41

STRUCTURE SCHEDULE							
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
		NORTHING	EASTING				
HW-1	TYPE 'C' HEADWALL	573,527.82	1,356,487.00	353.00	-	350.00	SD-5.11
ES-1	END SECTION	573,649.34	1,356,561.70	355.00	355.00	-	SD-5.61 & 5.62
RS-1	RISER STRUCTURE	573,569.85	1,356,532.49	357.63	351.00	350.70	

STORM DRAIN MANHOLE SCHEDULE							
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
		NORTHING	EASTING				
M-1	STANDARD 4' PRECAST MANHOLE	573,697.17	1,356,554.40	364.00	355.34	354.39	G-5.12
M-2	STANDARD 4' PRECAST MANHOLE	573,735.98	1,356,504.49	371.04	357.39	356.64	G-5.12
M-3	STANDARD 4' PRECAST MANHOLE	573,948.63	1,356,397.27	366.10	358.90	358.45	G-5.12
M-4	STANDARD 4' PRECAST MANHOLE	573,817.49	1,356,567.85	373.90	357.88	357.28	G-5.12
M-5	STANDARD 4' PRECAST MANHOLE	573,967.98	1,356,684.68	372.38	368.12	368.02	G-5.12
M-6	STANDARD 4' PRECAST MANHOLE			383.80	376.41	376.31	G-5.12
M-6A	STANDARD 4' PRECAST MANHOLE			376.30	356.70	356.60	MD-384.09
M-7	STANDARD 4' PRECAST MANHOLE			367.14	356.80	356.70	MD-384.09

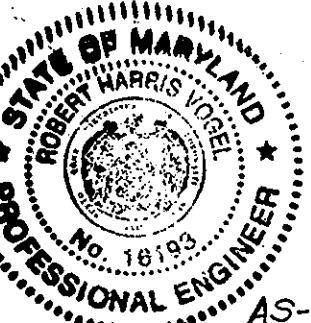
PIPE SCHEDULE		
PIPE SIZE	TYPE	TOTAL LENGTH
15"	HDPE	368
18"	HDPE	949
24"	HDPE	334
36"	HDPE	111
36"	RCP CL IV	149

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5/30/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 6/18/07  
 DIRECTOR  
 DATE: 6/11/07

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL.  
 USDA-NATURAL RESOURCES CONSERVATION SERVICE  
 THESE PLANS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE  
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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. I HAVE NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
 SIGNATURE OF ENGINEER: ROBERT H. VOGEL  
 DATE: 4/23/07

DEVELOPER'S CERTIFICATE  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.  
 SIGNATURE OF DEVELOPER: James R. Mosley, III  
 DATE: 4/23/07



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.  
 DATE: 10/19/03  
 DATE: 1-17-12

**STORM DRAIN PROFILES**  
**DORSEY CROSSING**  
 PARCEL A  
 SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
 UNITS 1 THRU 95

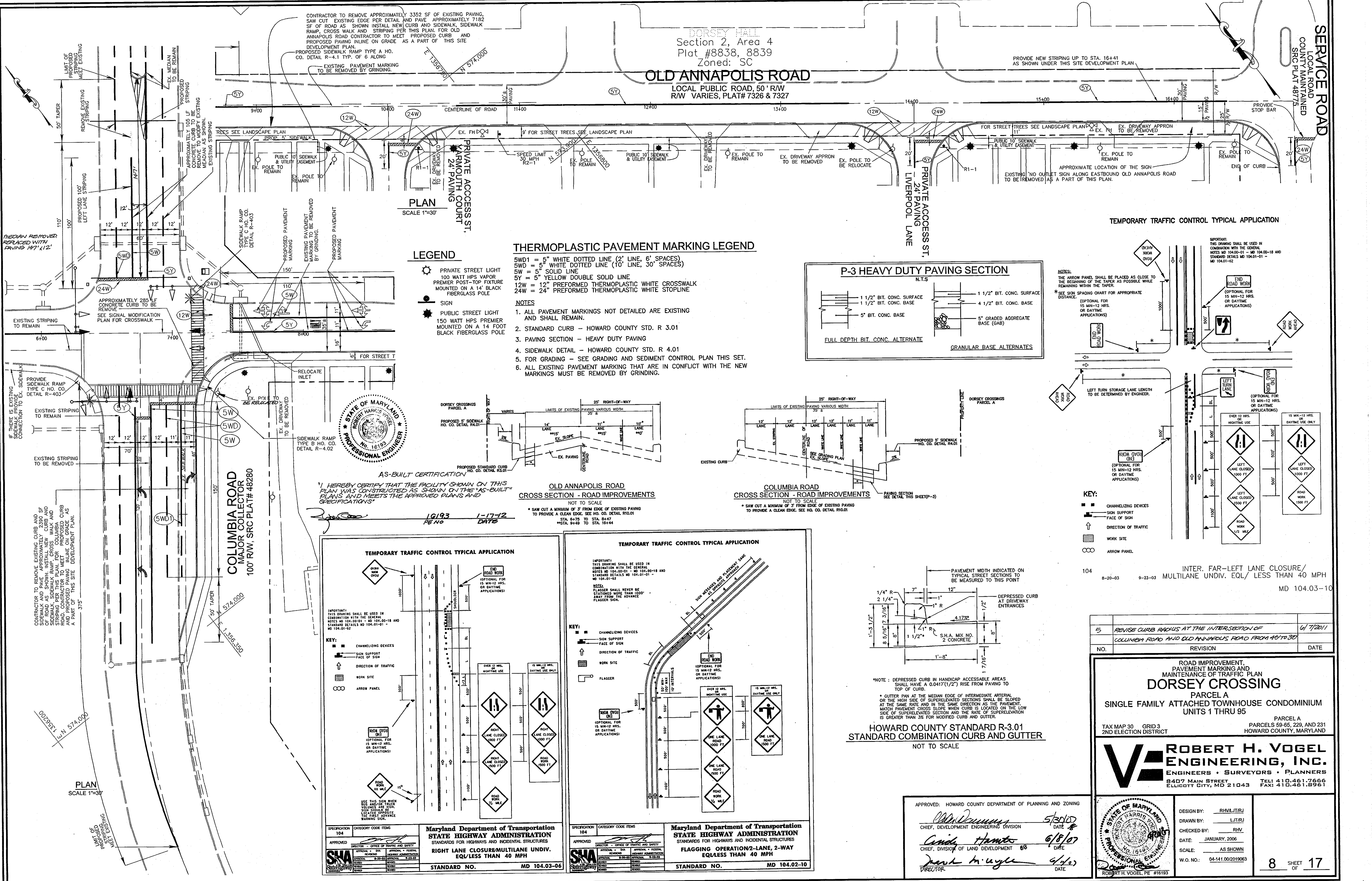
TAX MAP 30 GRID 3 PARCELS 59-65, 229, AND 231  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET TEL: 410.461.7666  
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/LJR  
 DRAWN BY: LJR/RJ  
 CHECKED BY: RHV  
 DATE: JANUARY, 2006  
 SCALE: AS SHOWN  
 W.D. NO.: 04-141.00/201903

7 SHEET OF 17

AS-BUILT 11/17/012 SDP-06-036



Section 2, Area 4  
 Plat #8838, 8839  
 Zoned: SC  
**OLD ANNAPOLIS ROAD**  
 LOCAL PUBLIC ROAD, 50' R/W  
 R/W VARIES, PLAT# 7326 & 7327

CONTRACTOR TO REMOVE APPROXIMATELY 3352 SF OF EXISTING PAVING, SAW CUT EXISTING EDGE PER DETAIL AND PAVE APPROXIMATELY 7182 SF OF ROAD AS SHOWN. INSTALL NEW CURB AND SIDEWALK, SIDEWALK RAMP, CROSS WALK AND STRIPING PER THIS PLAN. FOR OLD ANNAPOLIS ROAD CONTRACTOR TO MEET PROPOSED CURBS AND PROPOSED PAVING IN LINE ON GRADE AS A PART OF THIS SITE DEVELOPMENT PLAN.  
 PROPOSED SIDEWALK RAMP TYPE A HO. CO. DETAIL R-4.1 TYP. OF 6 ALONG EXISTING PAVEMENT MARKING TO BE REMOVED BY GRINDING.

PLAN  
 SCALE 1"=30'

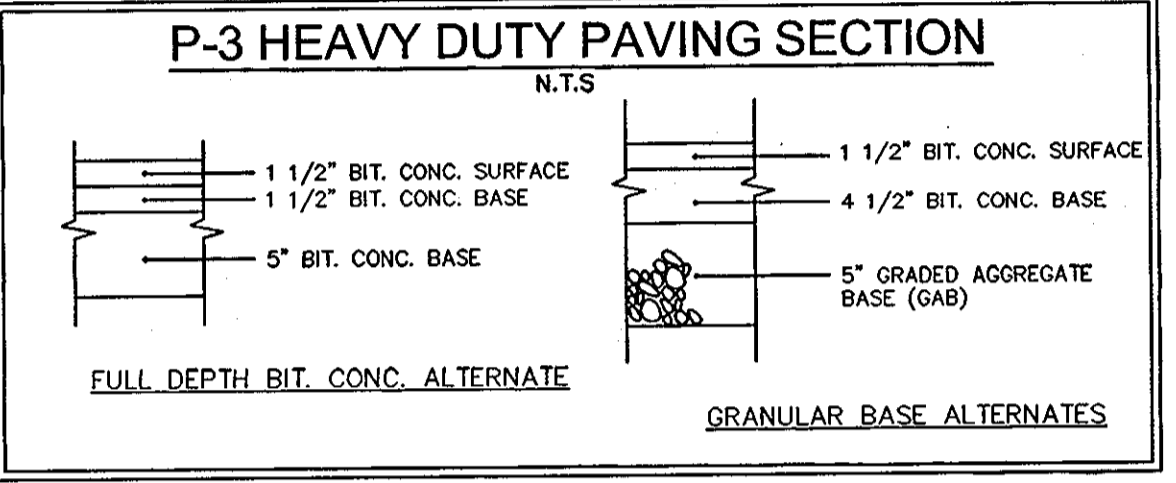
**LEGEND**

- ☉ PRIVATE STREET LIGHT  
100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
- ☉ SIGN  
PUBLIC STREET LIGHT  
150 WATT HPS PREMIER MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE

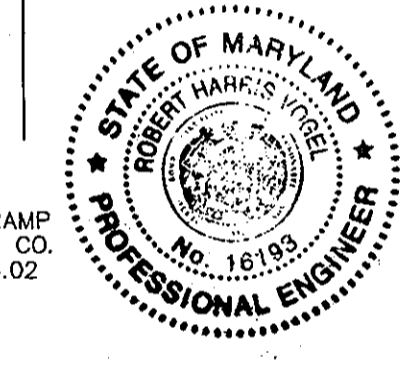
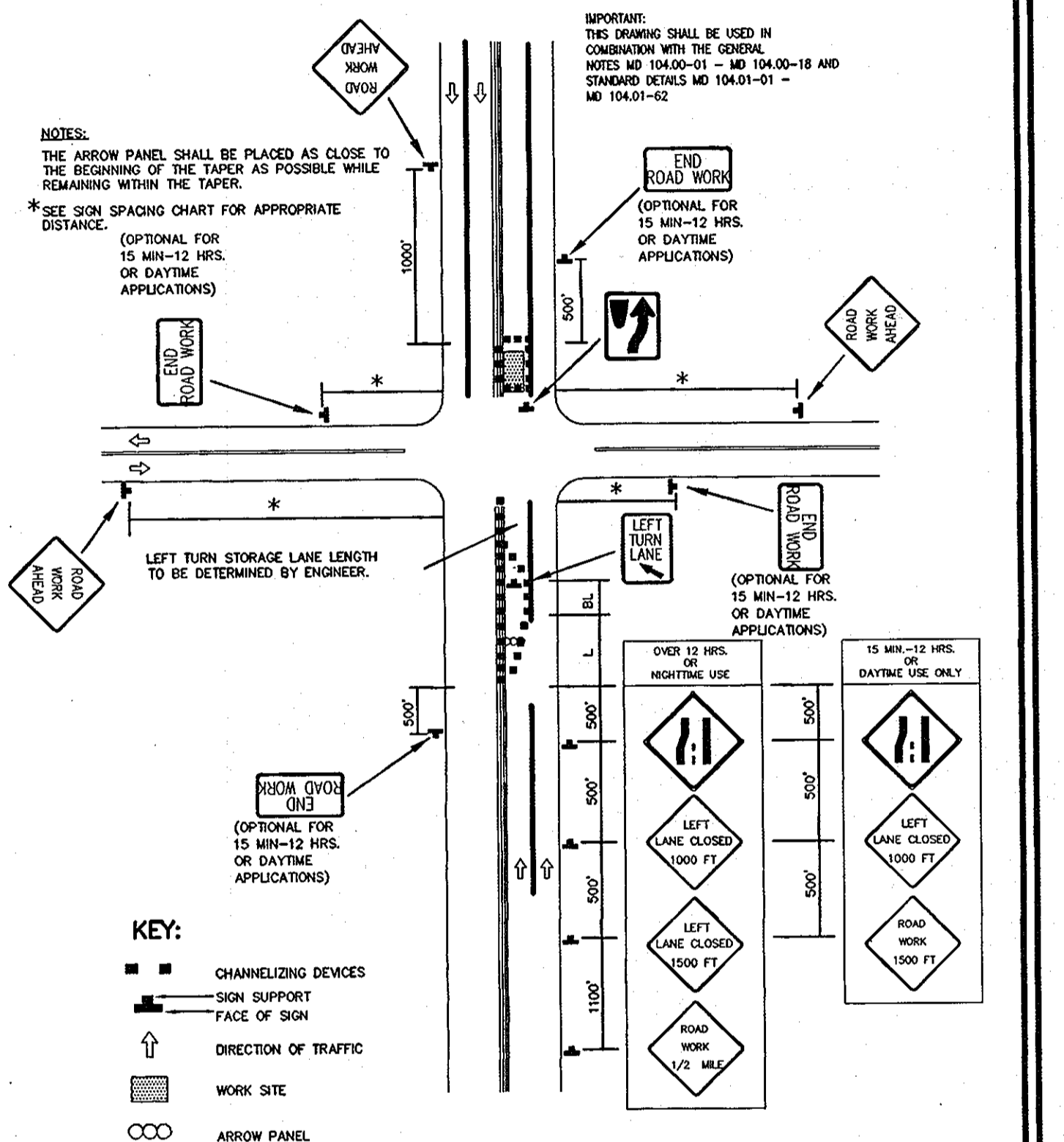
**THERMOPLASTIC PAVEMENT MARKING LEGEND**

- 5WD1 = 5" WHITE DOTTED LINE (2' LINE, 6" SPACES)
- 5W = 5" WHITE DOTTED LINE (10' LINE, 30" SPACES)
- 5S = 5" SOLID LINE
- 5Y = 5" YELLOW DOUBLE SOLID LINE
- 12W = 12" PREFORMED THERMOPLASTIC WHITE CROSSWALK
- 24W = 24" PREFORMED THERMOPLASTIC WHITE STOPLINE

- NOTES**
1. ALL PAVEMENT MARKINGS NOT DETAILED ARE EXISTING AND SHALL REMAIN.
  2. STANDARD CURB - HOWARD COUNTY STD. R 3.01
  3. PAVING SECTION - HEAVY DUTY PAVING
  4. SIDEWALK DETAIL - HOWARD COUNTY STD. R 4.01
  5. FOR GRADING - SEE GRADING AND SEDIMENT CONTROL PLAN THIS SET.
  6. ALL EXISTING PAVEMENT MARKING THAT ARE IN CONFLICT WITH THE NEW MARKINGS MUST BE REMOVED BY GRINDING.



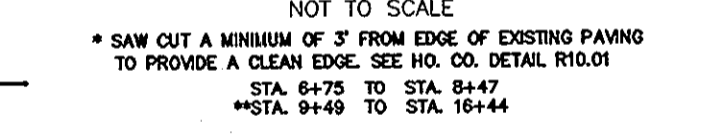
**TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION**



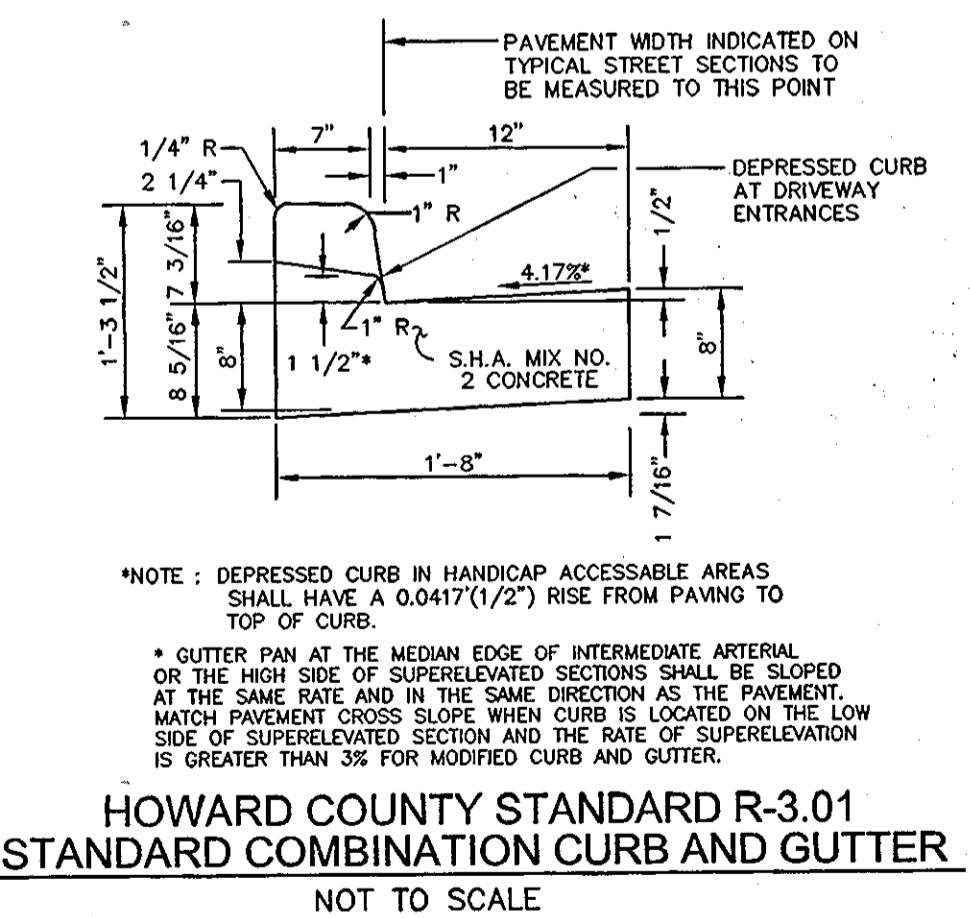
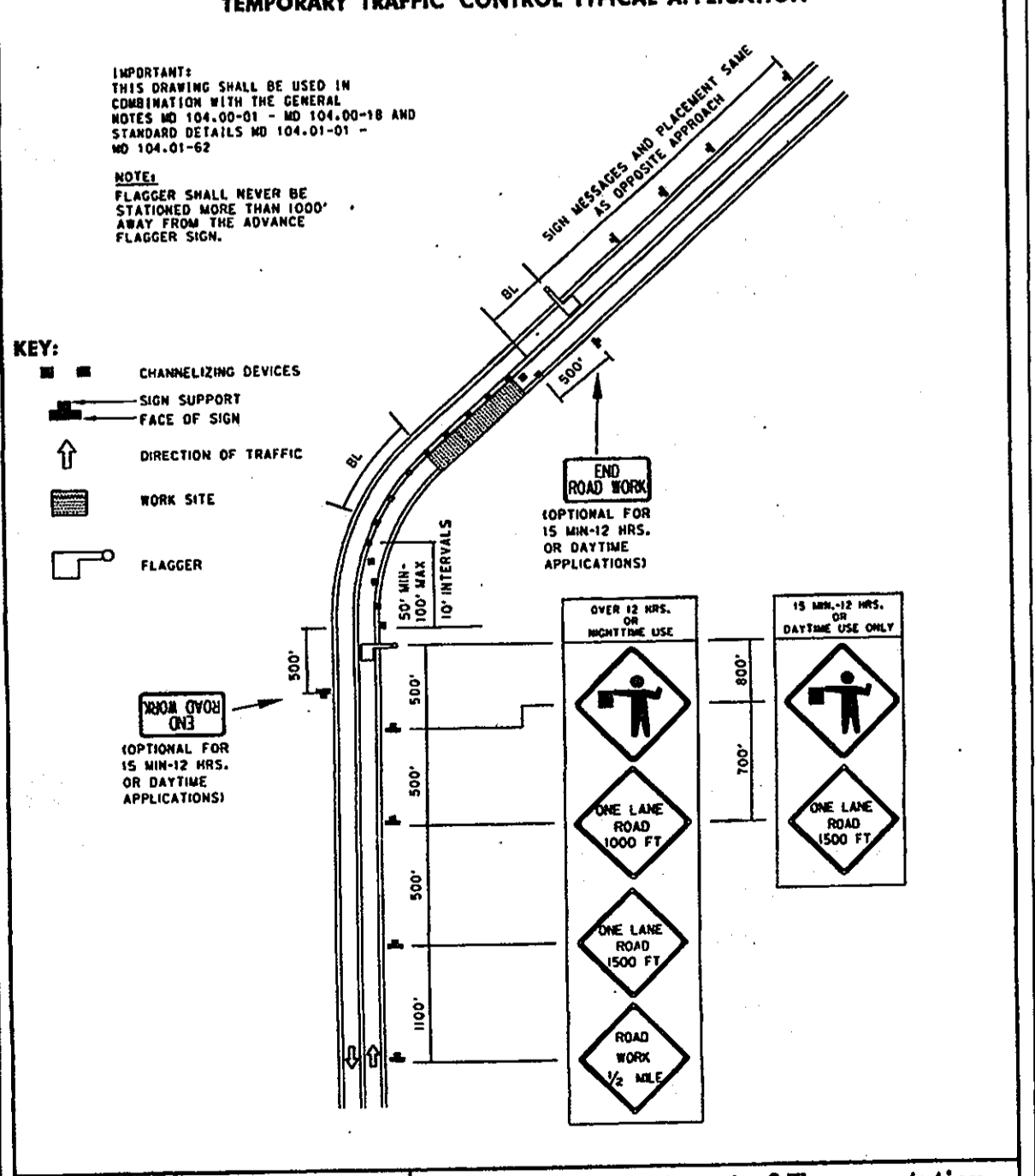
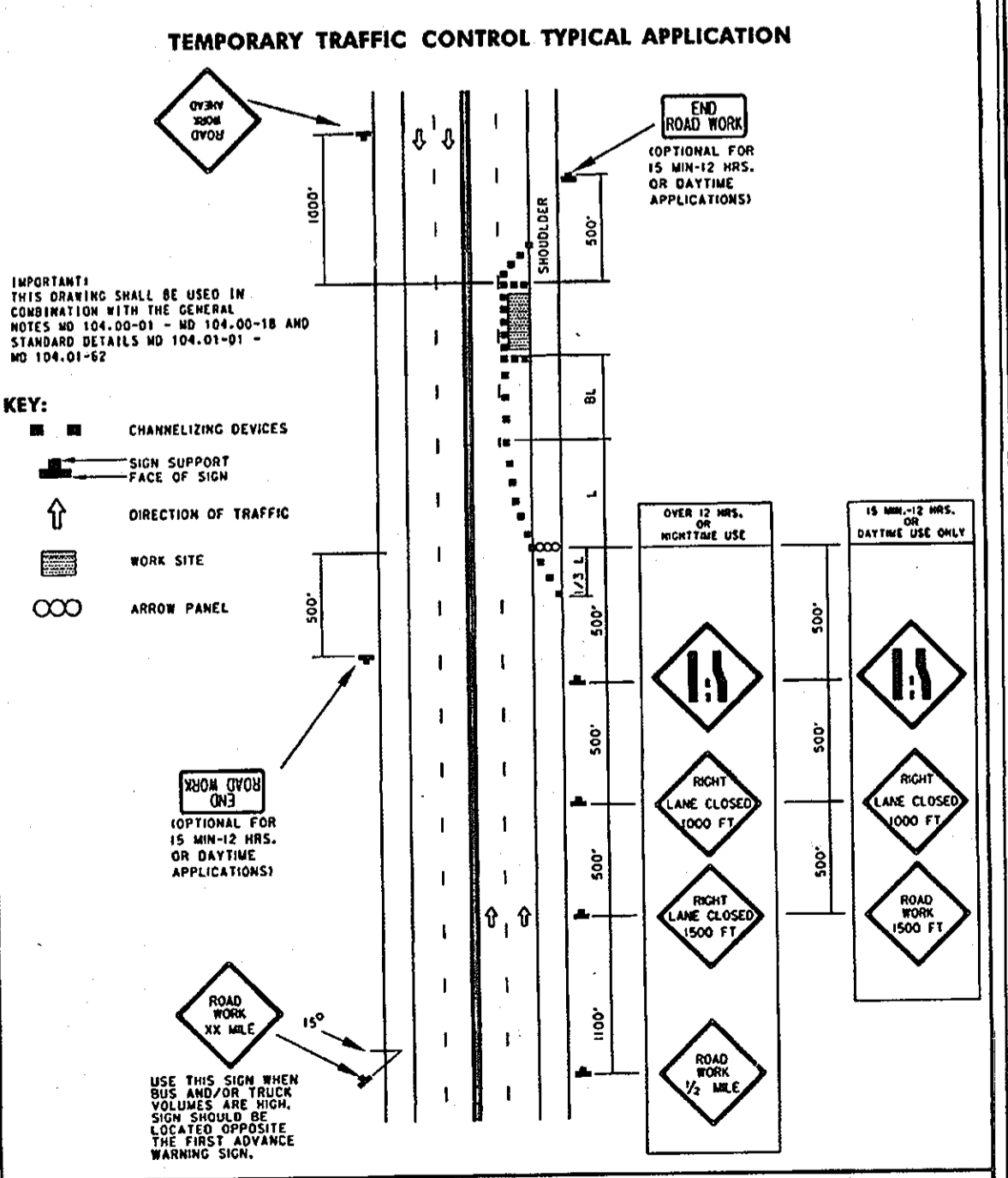
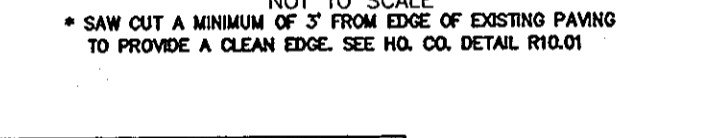
AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

16193 PE NO 1-17-12 DATE

**OLD ANNAPOLIS ROAD CROSS SECTION - ROAD IMPROVEMENTS**



**COLUMBIA ROAD CROSS SECTION - ROAD IMPROVEMENTS**



APPROVED: [Signature] DIRECTOR - OFFICE OF TRAFFIC AND SAFETY  
 Maryland Department of Transportation  
 STATE HIGHWAY ADMINISTRATION  
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
 RIGHT LANE CLOSURE/MULTILANE UNDIV. EQ/LESS THAN 40 MPH  
 STANDARD NO. MD 104.03-06

APPROVED: [Signature] DIRECTOR  
 Maryland Department of Transportation  
 STATE HIGHWAY ADMINISTRATION  
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
 FLAGGING OPERATION/2-LANE, 2-WAY EQ/LESS THAN 40 MPH  
 STANDARD NO. MD 104.02-10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signatures and Dates]  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

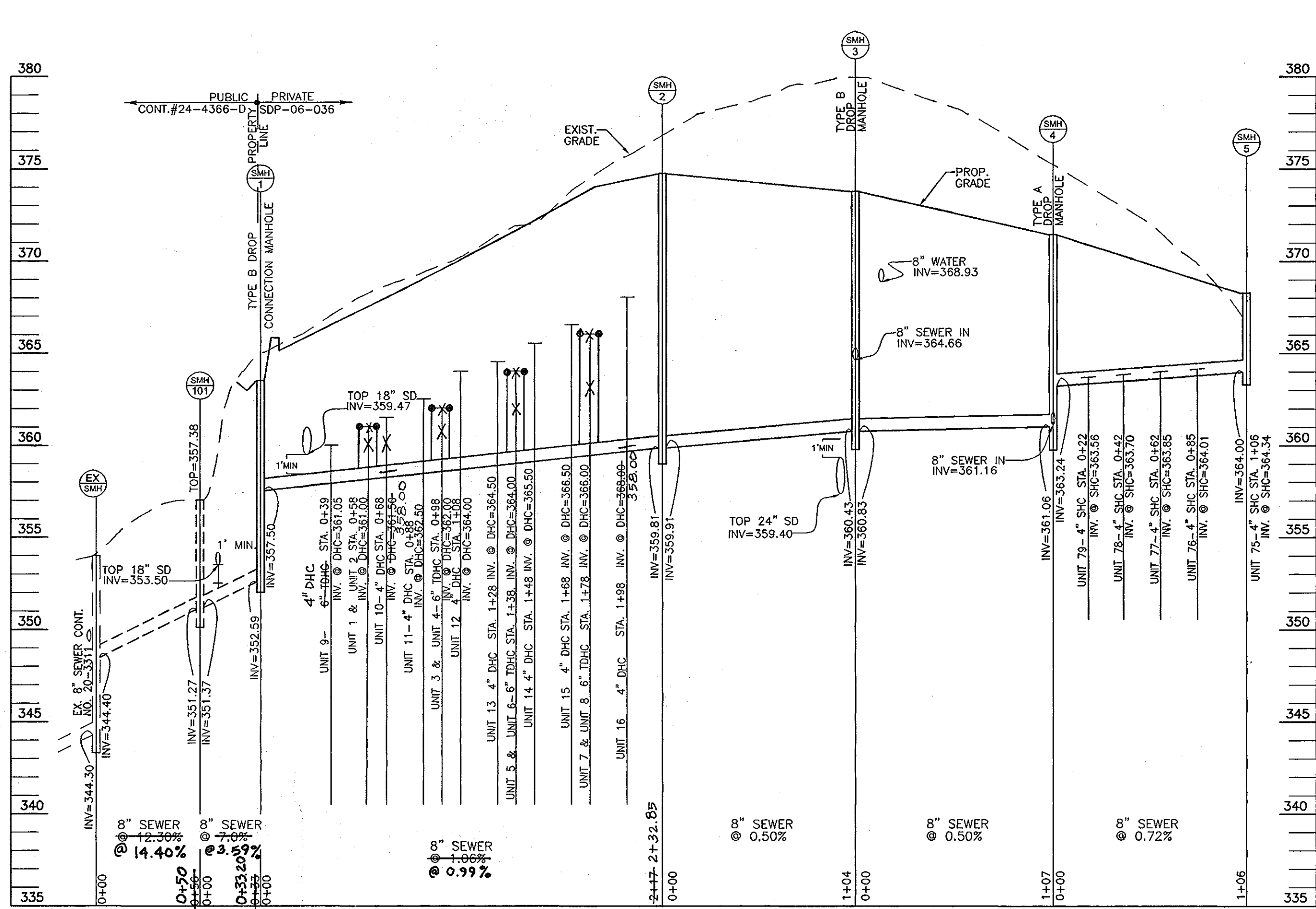
NO.	REVISION	DATE
5	REVISE CURB RADIUS AT THE INTERSECTION OF COLUMBIA ROAD AND OLD ANNAPOLIS ROAD FROM 46' TO 30'	6/7/2011

ROAD IMPROVEMENT, PAVEMENT MARKING AND MAINTENANCE OF TRAFFIC PLAN  
**DORSEY CROSSING**  
 PARCEL A  
 SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THRU 95  
 PARCEL A  
 TAX MAP 30 GRID 3  
 2ND ELECTION DISTRICT  
 PARCELS 59-65, 229, AND 231  
 HOWARD COUNTY, MARYLAND

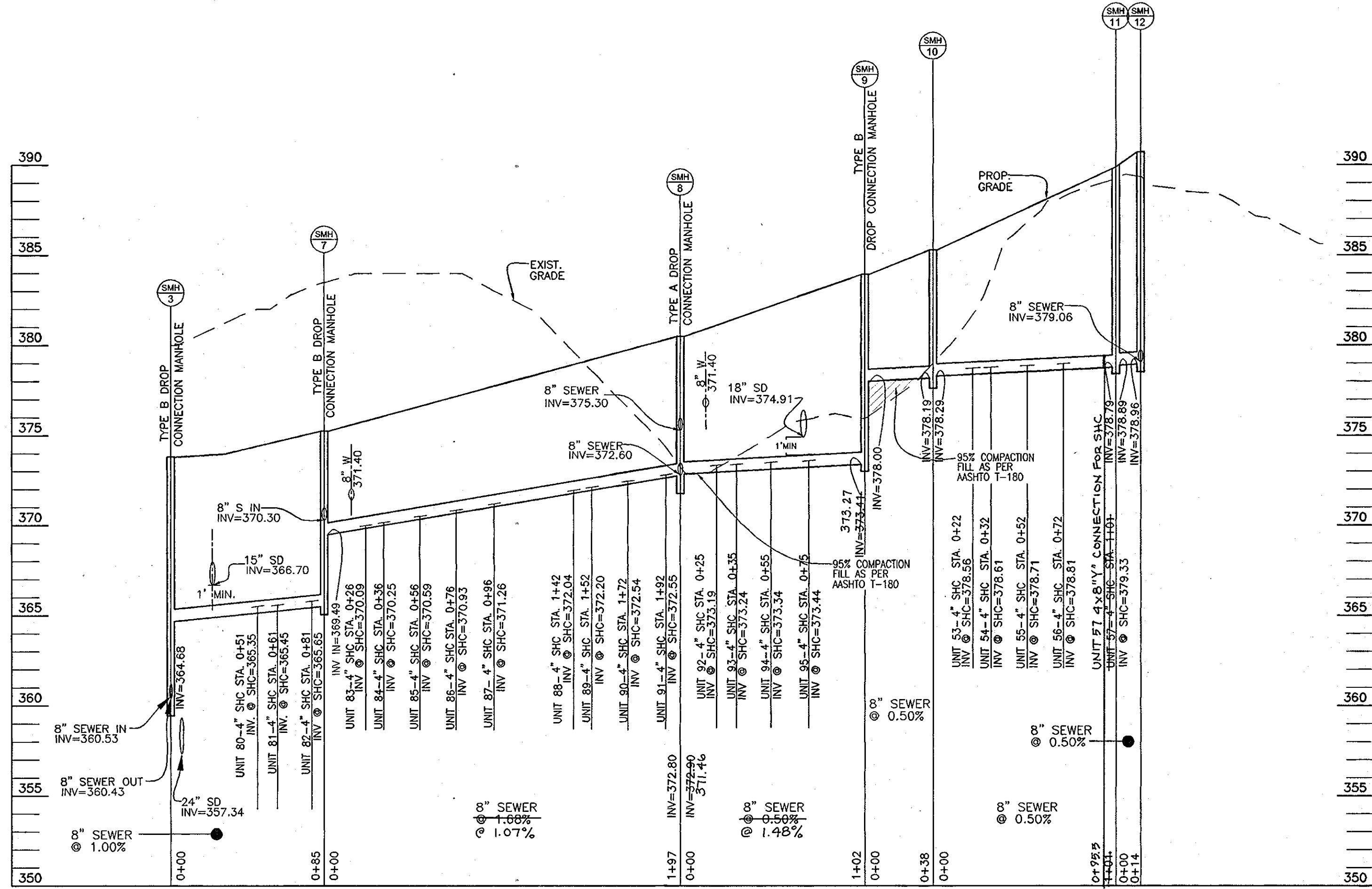
**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHM/LTR/J  
 DRAWN BY: LTR/J  
 CHECKED BY: RHM  
 DATE: JANUARY, 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 04-141.00/2019063  
 8 SHEET OF 17

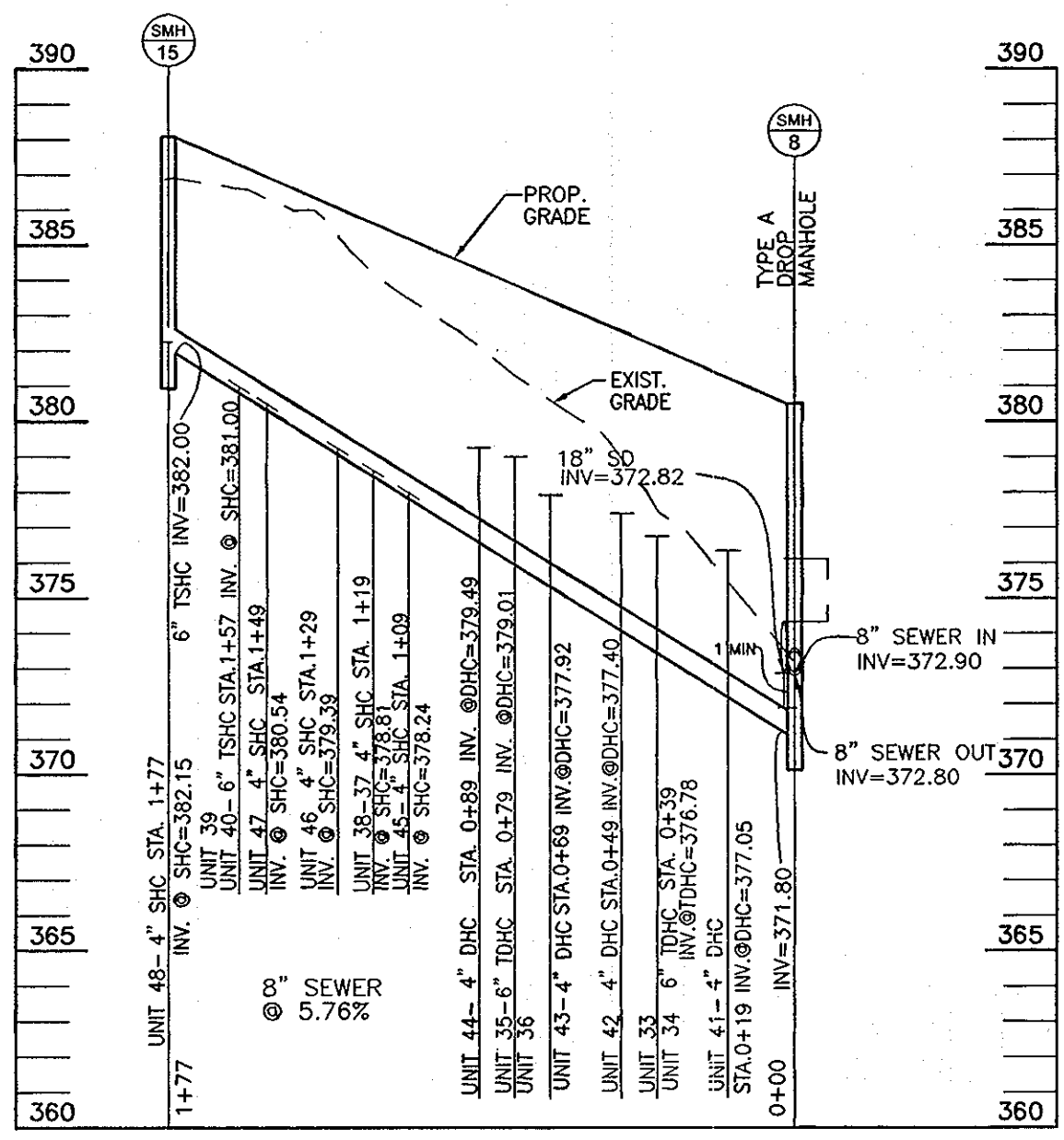




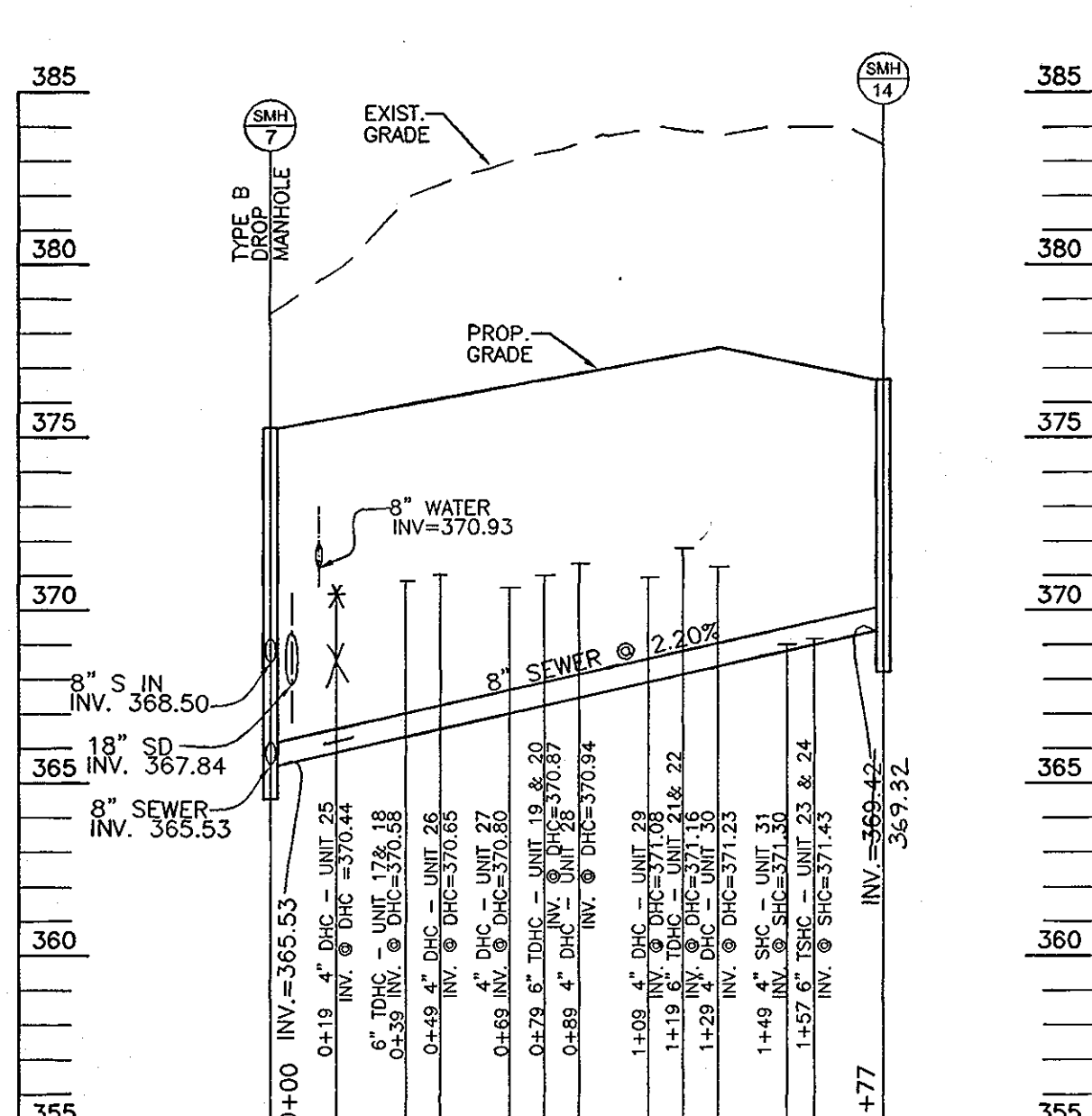
**SEWER PROFILE**  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.



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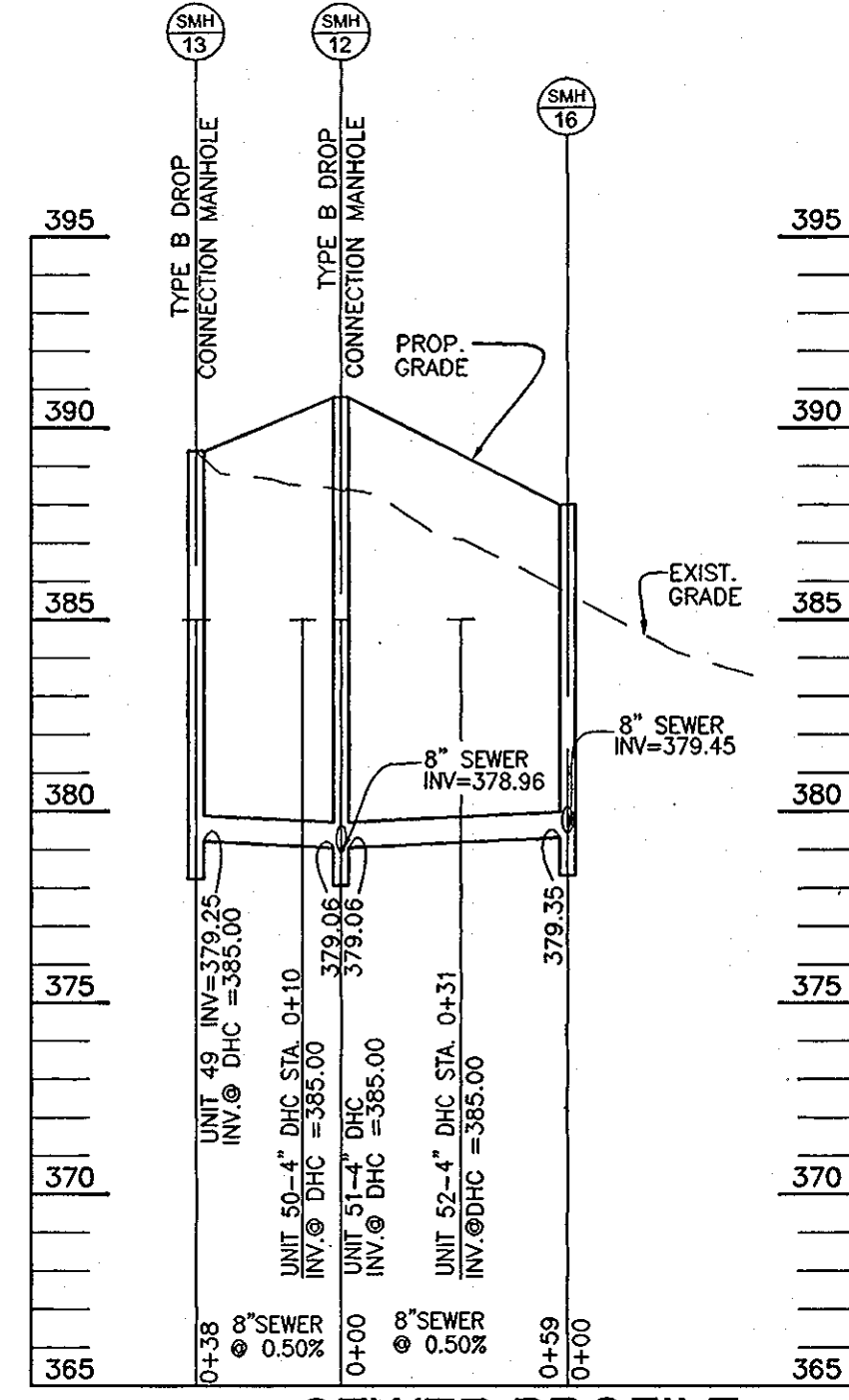
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SCALE: 1"=50' HORIZ.  
1"=5' VERT.

**PORTSMOUTH ROAD  
AS-BUILT MEASUREMENTS**

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)
SHC 17	SHC 18	9.50	SMH 14	SHC 22	53.80
18	19	30.70	"	21	62.30
19	20	9.50	"	32	21.70
20	21	31.60	"	31	39.60
21	22	8.90	"	30	54.40
22	23	28.60	"	29	73.20
23	24	9.80	SMH 7	SHC 17	35.40
24	25	32.10	"	18	44.90
25	26	32.10	"	19	74.80
26	27	20.20	"	20	84.10
27	28	19.20	"	25	32.40
28	29	20.20	"	26	56.20
29	30	20.60	"	27	75.80
30	31	20.00	"	28	94.20
31	32	26.60			
32	33	26.60			
SMH 14	SHC 24	16.40			
"	23	25.70			

**ARSENAL ROAD  
AS-BUILT MEASUREMENTS**

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)
SHC 33	SHC 34	9.00	SMH 15	SHC 39	26.50
34	35	31.50	"	38	52.80
35	36	9.00	"	37	62.80
36	37	31.40	"	48	25.40
37	38	10.00	"	47	37.80
38	39	27.00	"	46	54.30
39	40	10.00	"	45	72.80
SHC 48	SHC 47	28.00	SMH 8	SHC 33	35.60
47	46	20.40	"	34	44.30
46	45	20.40	"	35	75.40
45	44	20.00	"	36	84.70
44	43	19.50	"	41	34.40
43	42	20.00	"	42	56.50
42	41	30.50	"	43	75.30
SMH 15	SHC 40	17.80	"	44	93.30



**SEWER PROFILE**  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Cheryl Hunt* 5/20/12  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Candy Hunt* 6/5/12  
 CHIEF, DIVISION LAND DEVELOPMENT  
*Mark A. Leight* 6/11/12  
 DIRECTOR

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD COUNTY CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL.  
 USDA-NATURAL RESOURCES CONSERVATION SERVICE  
 THESE PLANS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.  
 HOWARD COUNTY CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**  
 "I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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 COUNTY CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."  
 SIGNATURE OF ENGINEER: *Robert H. Vogel* DATE: 4/23/12

**DEVELOPER'S CERTIFICATE**  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD COUNTY CONSERVATION DISTRICT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."  
 SIGNATURE OF DEVELOPER: *James R. Mosley, III* DATE: 4/23/12

AS-BUILT REVISIONS			5-21-10	
NO.	REVISION	DATE		

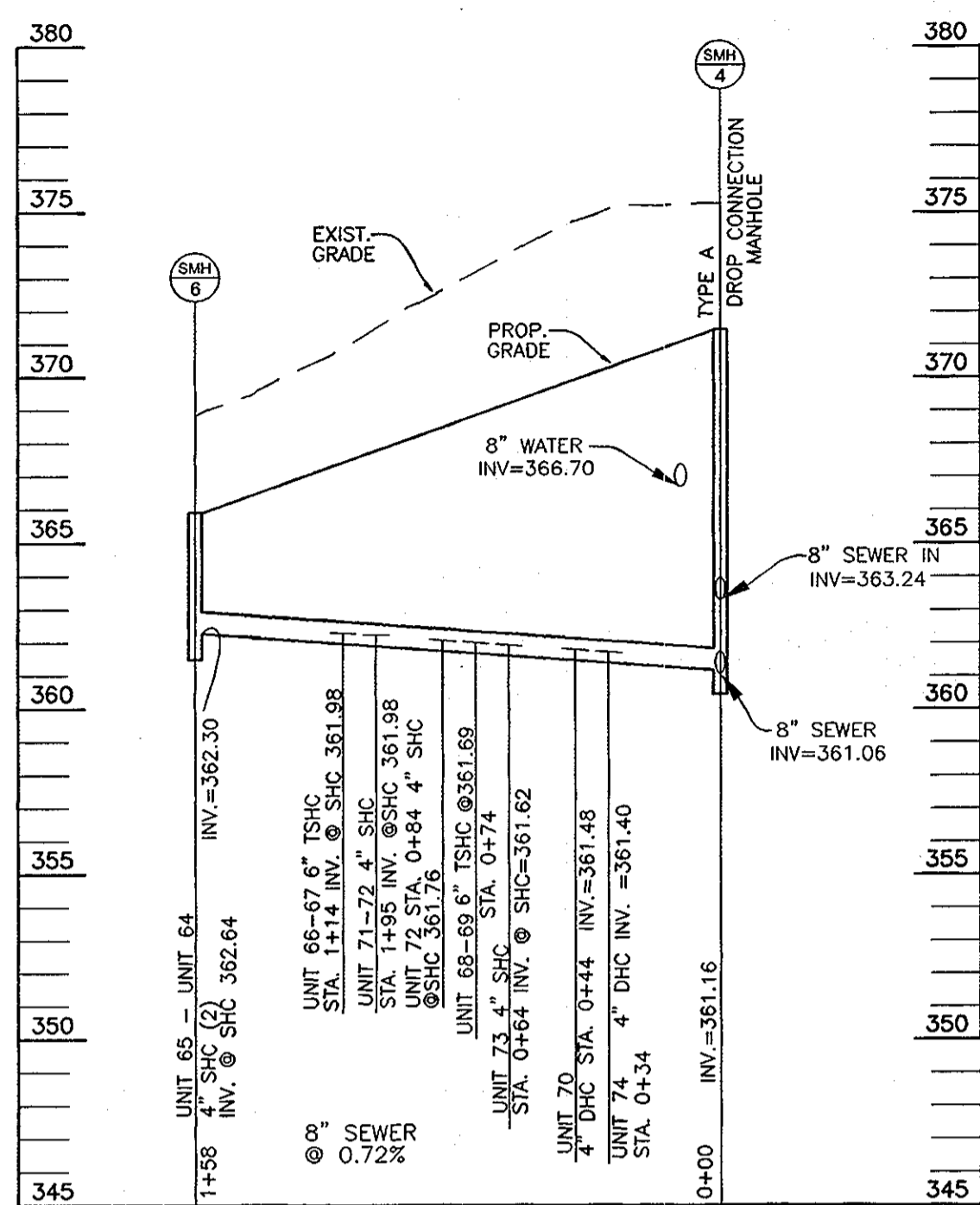
**SEWER PROFILES  
DORSEY CROSSING**  
 PARCEL A  
 SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
 UNITS 1 THRU 95

TAX MAP 30 GRID 3 PARCELS 69-65, 229, AND 231  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

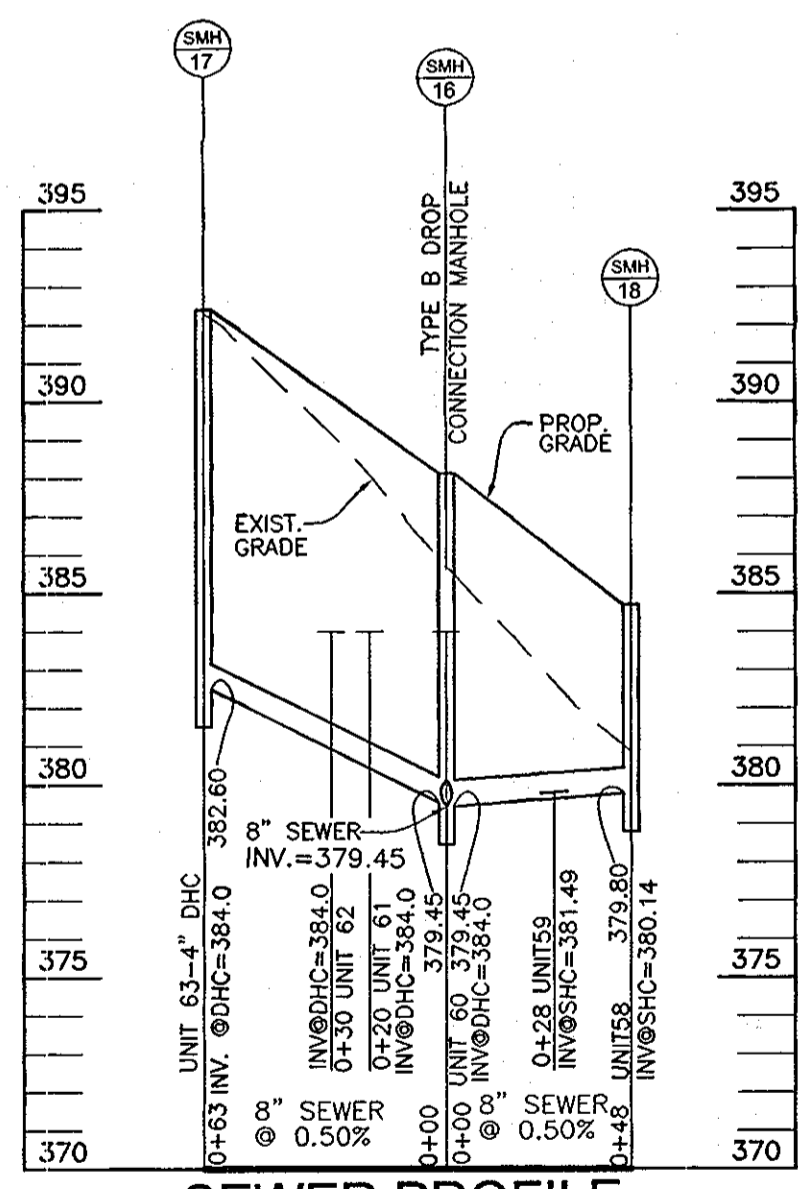
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DESIGN BY: *RHV/LJR*  
 DRAWN BY: *LJR/RJ*  
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9 SHEET OF 17



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**SEWER PROFILE**  
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**SEWER MANHOLE SCHEDULE**

NO.	TYPE	LOCATION		TOP ELEV.	INV. IN	INV. OUT	REMARKS
		NORTHING	EASTING				
SMH-1	STANDARD 4' PRECAST MANHOLE	574,041.93	1,356,438.65	363.50	357.50	352.59	S-1.31
SMH-2	STANDARD 4' PRECAST MANHOLE	573,899.66	1,356,622.99	374.80	359.91	359.81	S-1.31
SMH-3	STANDARD 4' PRECAST MANHOLE	573,817.02	1,356,559.20	373.81	360.83	360.43	S-1.31
SMH-4	STANDARD 4' PRECAST MANHOLE	573,732.38	1,356,493.75	371.46	361.18	361.06	S-1.31
SMH-5	STANDARD 4' PRECAST MANHOLE	573,649.48	1,356,429.65	368.28	-	364.00	S-1.31
SMH-6	STANDARD 4' PRECAST MANHOLE	573,822.86	1,356,375.33	365.93	360.61	362.30	S-1.31
SMH-7	STANDARD 4' PRECAST MANHOLE	573,764.77	1,356,627.29	375.26	369.49	365.53	S-1.31
SMH-8	STANDARD 4' PRECAST MANHOLE	573,644.85	1,356,783.55	380.50	371.89	372.80	S-1.31
SMH-9	STANDARD 4' PRECAST MANHOLE	573,582.73	1,356,864.49	383.92	378.00	373.41	S-1.31
SMH-10	STANDARD 4' PRECAST MANHOLE	573,612.60	1,356,877.30	385.28	378.29	378.19	S-1.31
SMH-11	STANDARD 4' PRECAST MANHOLE	573,613.98	1,356,988.29	389.88	378.89	378.79	S-1.31
SMH-12	STANDARD 4' PRECAST MANHOLE	573,624.81	1,356,996.60	390.70	379.06	378.96	S-1.31
SMH-13	STANDARD 4' PRECAST MANHOLE	573,647.77	1,356,966.63	389.40	-	379.25	S-1.31
SMH-14	STANDARD 4' PRECAST MANHOLE	573,904.96	1,356,734.89	376.66	-	369.42	S-1.31
SMH-15	STANDARD 4' PRECAST MANHOLE	573,785.04	1,356,891.15	388.08	-	382.00	S-1.31
SMH-16	STANDARD 4' PRECAST MANHOLE	573,589.00	1,357,043.26	388.00	379.45	379.35	S-1.31
SMH-17	STANDARD 4' PRECAST MANHOLE	573,639.10	1,357,081.71	392.29	-	382.60	S-1.31
SMH-18	STANDARD 4' PRECAST MANHOLE	573,550.82	1,357,013.97	384.80	-	379.80	S-1.31

**BLAST AVENUE AS BUILT MEASUREMENTS**

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)
SMH 1	SMH 2	10.30	SMH 1	SMH 2	63.50
2	3	30.00	"	3	93.30
3	4	10.30	"	4	103.60
4	5	30.60	"	9	48.70
5	6	10.00	"	10	73.80
6	7	29.50	"	11	93.00
7	8	10.40	"	12	111.80
8	16	38.00	"	SMH 101	33.20
16	15	30.60	SMH 101	EX SMH 4	50.00
15	14	19.80	SMH 2	SMH 8	50.20
14	13	20.40	"	7	60.40
13	12	19.50	"	6	89.60
12	11	20.30	"	5	99.70
11	10	20.40	"	16	42.80
10	9	28.70	"	17	67.70
9	1	37.00	"	14	85.20
SMH 1	SMH 1	53.60	"	13	108.20

**LIVERPOOL LANE AS BUILT MEASUREMENTS**

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)	
SMH 81	SMH 82	10.00	SMH 7	SMH 82	29.20	
81	82	20.00	"	83	41.20	
82	83	31.30	"	84	48.00	
83	84	9.70	"	85	64.80	
84	85	20.30	"	86	82.60	
85	86	19.70	"	87	101.20	
86	87	20.00	SMH 8	SMH 86	62.90	
87	88	45.50	"	89	54.80	
88	89	9.50	"	90	40.30	
89	90	20.00	"	91	32.60	
90	91	19.30	"	92	38.30	
91	92	30.60	"	93	45.60	
92	93	10.40	"	94	61.70	
93	94	20.00	"	95	81.10	
94	95	20.50	SMH 3	SMH 7	87.80	
SMH 7	SMH 80	45.50	SMH 8	SMH 9	102.80	
"	81	38.40	"	"	"	"

**YARMOUTH COURT & TORINO ROAD AS BUILT MEASUREMENTS**

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)	
SMH 75	SMH 76	23.00	SMH 4	SMH 79	27.30	
76	77	20.00	"	74	45.90	
77	78	20.10	"	73	70.30	
78	79	20.00	"	70	48.40	
74	73	29.20	SMH 6	SMH 71	53.80	
73	72	20.00	"	72	71.00	
72	71	19.30	"	64	11.50	
64	65	3.70	"	65	11.00	
65	66	30.10	"	66	31.70	
66	67	10.80	"	67	41.00	
67	68	31.00	"	68	71.50	
68	69	10.00	"	69	81.30	
69	70	24.70	SMH 2	SMH 3	106.40	
SMH 5	SMH 75	16.60	SMH 3	SMH 4	104.20	
"	76	28.00	SMH 4	SMH 5	106.50	
"	77	45.50	SMH 4	SMH 6	149.50	
SMH 4	SMH 76	35.00	"	"	"	"

**ASTON VILLA AS BUILT MEASUREMENTS**

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)
SMH 53	SMH 54	10.50	SMH 12	SMH 49	38.90
54	55	18.90	"	50	15.30
55	56	20.40	"	51	11.30
56	57	27.40	"	52	32.30
58	59	20.40	SMH 17	SMH 63	25.40
59	60	27.90	"	62	39.20
60	61	21.50	SMH 16	SMH 61	35.40
61	62	11.00	"	60	28.10
62	63	30.30	SMH 9	SMH 10	40.60
52	51	30.10	SMH 10	SMH 11	99.30
51	50	11.10	SMH 11	SMH 12	11.00
50	49	26.70	SMH 12	SMH 13	38.00
SMH 10	SMH 53	95.90	SMH 17	SMH 16	62.80
"	54	43.40	SMH 16	SMH 18	50.00
"	55	58.30	SMH 12	SMH 16	58.10
SMH 11	SMH 56	41.40	SMH 18	SMH 59	32.60
"	57	28.00	"	58	29.20

**SEWER HOUSE CONNECTION SCHEDULE**

UNIT NO.	TYPE	ELEV. @ MAIN	ELEV. @ DHC	END OF SHC STUB	MCE	LOWER LEVEL ELEVATION
1	25LF - 6" TSHC @ 2%	358.07	361.00	361.30	364.80	369.23
2	23LF - 6" TSHC @ 2%	358.07	361.00	361.30	364.80	369.89
3	25LF - 6" TSHC @ 2%	358.48	362.00	362.30	365.80	370.56
4	23LF - 6" TSHC @ 2%	358.48	362.00	362.30	365.80	371.23
5	25LF - 6" TSHC @ 2%	358.91	364.00	364.30	367.80	372.57
6	23LF - 6" TSHC @ 2%	358.91	364.00	364.30	367.80	372.57
7	25LF - 6" TSHC @ 2%	359.32	366.00	366.30	369.80	373.90
8	23LF - 6" TSHC @ 2%	359.32	366.00	366.30	369.80	373.90
9	40LF - 4" DHC @ 2%	357.67	360.05	361.10	364.80	369.23
10	42LF - 4" DHC @ 2%	358.19	361.5	362.10	365.80	369.89
11	40LF - 4" DHC @ 2%	358.38	362.50	363.10	366.80	371.23
12	42LF - 4" DHC @ 2%	358.61	364.00	364.60	368.30	372.57
13	40LF - 4" DHC @ 2%	358.80	364.50	365.10	368.80	373.90
14	42LF - 4" DHC @ 2%	359.04	365.50	366.10	369.80	374.56
15	40LF - 4" DHC @ 2%	359.24	366.50	367.10	370.80	375.23
16	42LF - 4" DHC @ 2%	359.55	368.00	368.60	372.30	376.56
17	24LF - 4" TDHC @ 2%	N/A	370.58	370.82	374.52	377.12
18	22LF - 4" TDHC @ 2%	N/A	370.50	370.82	374.52	377.79
19	24LF - 4" TDHC @ 2%	N/A	370.87	371.11	374.61	378.46
20	22LF - 4" TDHC @ 2%	N/A	370.87	371.11	374.61	379.13
21	24LF - 4" TDHC @ 2%	N/A	371.16	371.40	374.90	379.13
22	22LF - 4" TDHC @ 2%	N/A	371.16	371.40	374.90	379.13
23	24LF - 4" TSHC @ 2%	371.43	N/A	371.68	375.18	377.80
24	22LF - 4" TSHC @ 2%	371.43	N/A	371.68	374.54	377.13
25	41LF - 4" DHC @ 2%	N/A	370.44	371.04	371.57	376.83
26	43LF - 4" DHC @ 2%	N/A	370.65	371.25	374.75	377.50
27	41LF - 4" DHC @ 2%	N/A	370.80	371.40	374.90	378.17
28	43LF - 4" DHC @ 2%	N/A	370.94	371.54	375.01	378.17
29	41LF - 4" DHC @ 2%	N/A	371.08	371.68	375.18	378.84
30	43LF - 4" DHC @ 2%	N/A	371.23	371.83	375.33	379.51
31	41LF - 4" DHC @ 2%	N/A	371.30	371.90	375.46	378.84
32	41LF - 4" SHC @ 2%	371.91	N/A	372.51	376.01	378.17
33	24LF - 4" TDHC @ 2%	N/A	376.78	377.02	380.52	382.90
34	22LF - 4" TDHC @ 2%	N/A	376.78	377.02	380.52	384.20
35	24LF - 4" TSHC @ 2%	379.00	N/A	378.53	382.03	384.90
36	22LF - 4" TSHC @ 2%	379.00	N/A	378.53	382.03	385.60
37	24LF - 4" TSHC @ 2%	379.81	N/A	380.05	383.55	386.20
38	22LF - 4" TSHC @ 2%	379.81	N/A	380.05	382.10	387.60
39	24LF - 4" TSHC @ 2%	381.00	N/A	381.74	384.99	388.20
40	22LF - 4" TSHC @ 2%	381.00	N/A	381.74	384.99	389.60
41	41LF - 4" DHC @ 2%	N/A	373.02	377.15	380.62	384.62
42	43LF - 4" DHC @ 2%	N/A	377.40	378.50	381.74	385.29
43	41LF - 4" SHC @ 2%	377.92	N/A	379.02	382.52	385.96
44	43LF - 4" SHC @ 2%	379.49	N/A	379.77	383.27	386.63
45	41LF - 4" SHC @ 2%	378.24	N/A	380.53	384.04	387.30
46	43LF - 4" SHC @ 2%	379.39	N/A	381.22	384.79	387.97
47	41LF - 4" SHC @ 2%	380.54	N/A	381.05	384.55	388.64
48	41LF - 4" SHC @ 2%	382.15	N/A	383.10	386.66	389.31
49	24LF - 4" DHC @ 2%	N/A	385.00	385.45	387.95	393.40
50	22LF - 4" DHC @ 2%	N/A	385.00	385.44	387.94	394.00

UNIT NO.	TYPE	ELEV. @ MAIN	ELEV. @ DHC	END OF SHC STUB	MCE	LOWER LEVEL ELEVATION
51	24LF - 4" DHC @ 2%	N/A	385.00	385.44	388.48	394.00
52	22LF - 4" DHC @ 2%	N/A	385.00	385.44	388.44	393.40
53	43LF - 4" SHC @ 5%	378.56	N/A	380.41	383.35	387.27
54	46LF - 4" SHC @ 5%	378.61	N/A	380.46	383.39	387.94
55	43LF - 4" SHC @ 5%	378.71	N/A	380.56	383.50	388.61
56	46LF - 4" SHC @ 5%	378.81	N/A	380.66	383.50	389.28
57	43LF - 4" SHC @ 5%	378.79	N/A	380.64	383.60	389.96
58	40LF - 4" SHC @ 2%	380.14	N/A	381.80	383.70	385.60
59	42LF - 4" SHC @ 2%	381.49	N/A	382.33	384.83	384.94
60	42LF - 4" SHC @ 2%	384.00	384.00	384.84	387.84	389.00
61	41LF - 4" SHC @ 2%	N/A	384.00	384.84	387.84	391.00
62	43LF - 4" DHC @ 2%	N/A	384.00	384.85	387.85	392.33
63	24LF - 4" DHC @ 2%	N/A	384.00	386.20	389.70	393.00
64	25LF - 4" SHC @ 5%	362.30	N/A	362.60	366.08	367.73
65	23LF - 4" TSHC @ 5%	362.30	N/A	362.60	366.10	368.40
66	23LF - 6" TSHC @ 2%	361.98	N/A	362.73	366.53	369.73
67						

# SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (312-1853).
- ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, 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, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

	TOTAL
TOTAL AREA	8.98 AC
AREA DISTURBED	8.98 AC
AREA TO BE ROOFED OR PAVED	4.20 AC
AREA TO BE VEGETATIVELY STABILIZED	5.18 AC
TOTAL CUT	20,000 CY
TOTAL FILL	20,000 CY
OFFSITE WASTE/BORROW AREA LOCATION	
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES OR OTHER WORK OF THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
  - \* TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT

# 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

- DEFINITION**  
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- PURPOSE**  
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
- CONDITIONS WHERE PRACTICE APPLIES**
- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
    - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
    - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
    - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
    - THE SOIL IS SO ACIDIC THAT TREATMENT WITH 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-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
  - TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
    - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDEES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 AND 1/2" IN DIAMETER.
    - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
    - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
  - FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
    - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

# PERMANENT SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
- SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
- SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
- PREFERRED-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./100 SO.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SO.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT THE TIME OF SEEDING. APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SO.FT.)
  - ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SO.FT.) AND APPLY 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SO.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
- SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SO.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SO.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROJECT SITE BY: OPTION (1) 2 TONS PER ACRE 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./1000 SO.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 SO.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 2 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SO.FT.) FOR ANCHORING.
- MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

# 30.0 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.
- SPECIFICATIONS**
- TEMPORARY METHODS**
- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY.
  - MULCH SHOULD BE CRIMPED OR TACKED 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 SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12' APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
  - IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
  - BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
  - CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.
- PERMANENT METHODS**
- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND 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.
  - STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
- REFERENCES**
- AGRICULTURAL HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USE IN PREDICTING SOIL LOSS.
  - AGRICULTURAL INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION. USDA-ARS.

# SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
  - NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410.313.1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
  - CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS FOR LIMIT OF DISTURBANCE, PHASE I. (3 DAYS)
  - AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, CONSTRUCT BASIN 1 AND SEDIMENT TRAP 1. (2 WEEKS)
  - AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, CLEAR AND GRADE SITE. (1 MONTH)
  - WORK UNDER THE LIMIT OF DISTURBANCE PHASE II TO BE DONE AFTER CONTRIBUTING AREA TO PHASE I IS STABILIZED.
  - CONSTRUCT BUILDINGS AND SIDEWALK. (6 MONTHS)
  - FINE GRADE REMAINING SITE. (1 WEEK)
  - STABILIZE DISTURBED AREAS AND INSTALL PERIMETER LANDSCAPING AND STREET TREES. (3 DAYS)
  - UPON STABILIZATION OF ALL DISTURBED AREAS AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. CONVERT SEDIMENT BASIN TO FINAL STORMWATER MANAGEMENT FACILITY. (1 WEEK)
- NOTES**
- DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON.
  - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLIED WITH.

# TEMPORARY SEEDING NOTES

- SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
- SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SO.FT.)
- SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SO.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.7 LBS./1000 SO.FT.). FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.
- MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SO.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 SO.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 2 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SO.FT.) FOR ANCHORING.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

### STONE OUTLET SEDIMENT TRAP - ST II

6. The structure shall be inspected periodically after each rain and repairs made as needed.

7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once completed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration mow shall be avoided in areas subject to erosion. Stone facing shall be as criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

9. Refer to section D for specifications concerning trap dewatering.

10. Minimum trap depth shall be measured from weir elevation.

11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.

12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.

13. Outlet-An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C-9-10a	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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### DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II

**SECTION B-B**  
(1" THICKNESS)  
3/4" TO 1 1/2" STONE  
4" MIN. WIDTH  
WEIR CREST  
12" MINIMUM  
OUTLET ELEVATION  
APRON (SEE NOTE)  
GEOTEXTILE CLASS C  
SMALL RIP-RAP 4" TO 7"

**SECTION A-A**  
BOTTOM ELEVATION  
CONSTRUCTION SPECIFICATIONS

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- All cut and fill slopes shall be 2:1 or flatter.
- The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1" thick layer of 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

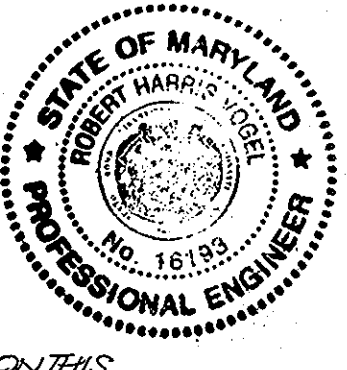
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C-9-10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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**BAFFLE DETAIL  
SEDIMENT BASIN NO. 1  
SCALE: 1"=30'**

$D = 314'$   
 $A = 12645 \text{ SF}$   
 $W_e = 40$   
 $L_e = 254'$   
 $W_e = 9$

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!

16193 PE NO  
1-17-12 DATE



NO.	REVISION	DATE

**SEDIMENT AND EROSION CONTROL DETAILS  
DORSEY CROSSING**

PARCEL A  
SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM  
UNITS 1 THRU 95

TAX MAP 30 GRID 3 PARCELS 59-65, 229, AND 231  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL  
ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET TEL: 410.461.7666  
ELICOTT CITY, MD 21043 FAX: 410.461.8961

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division  
Date: 5/21/12

Chief, Division of Land Development  
Date: 6/16/12

Director  
Date: 6/14/12

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE  
Date: 5/21/12

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

Howard Soil Conservation District  
Date: 5/21/12

**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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. 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: Robert H. Vogel  
Date: 4/23/12

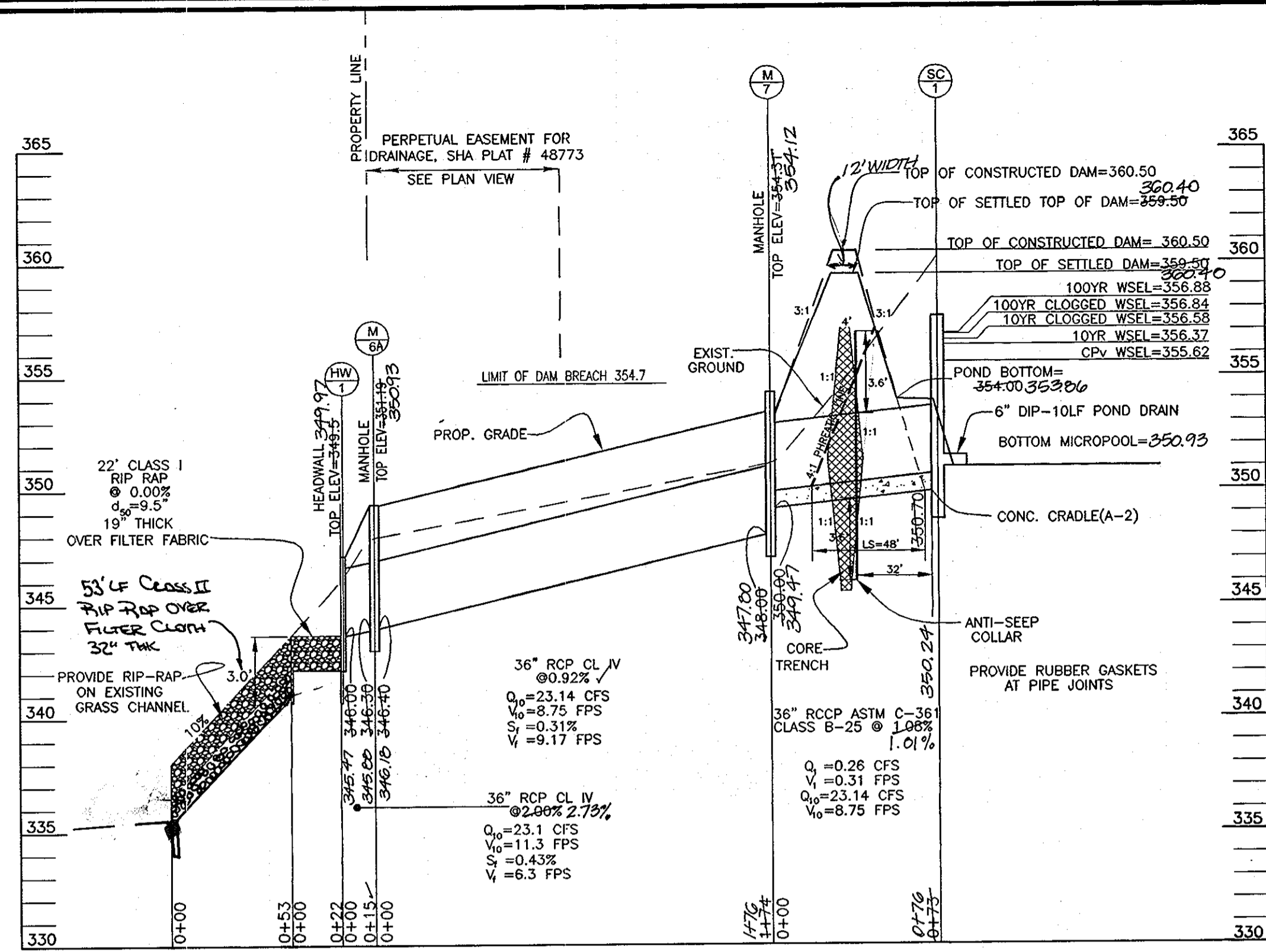
**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.

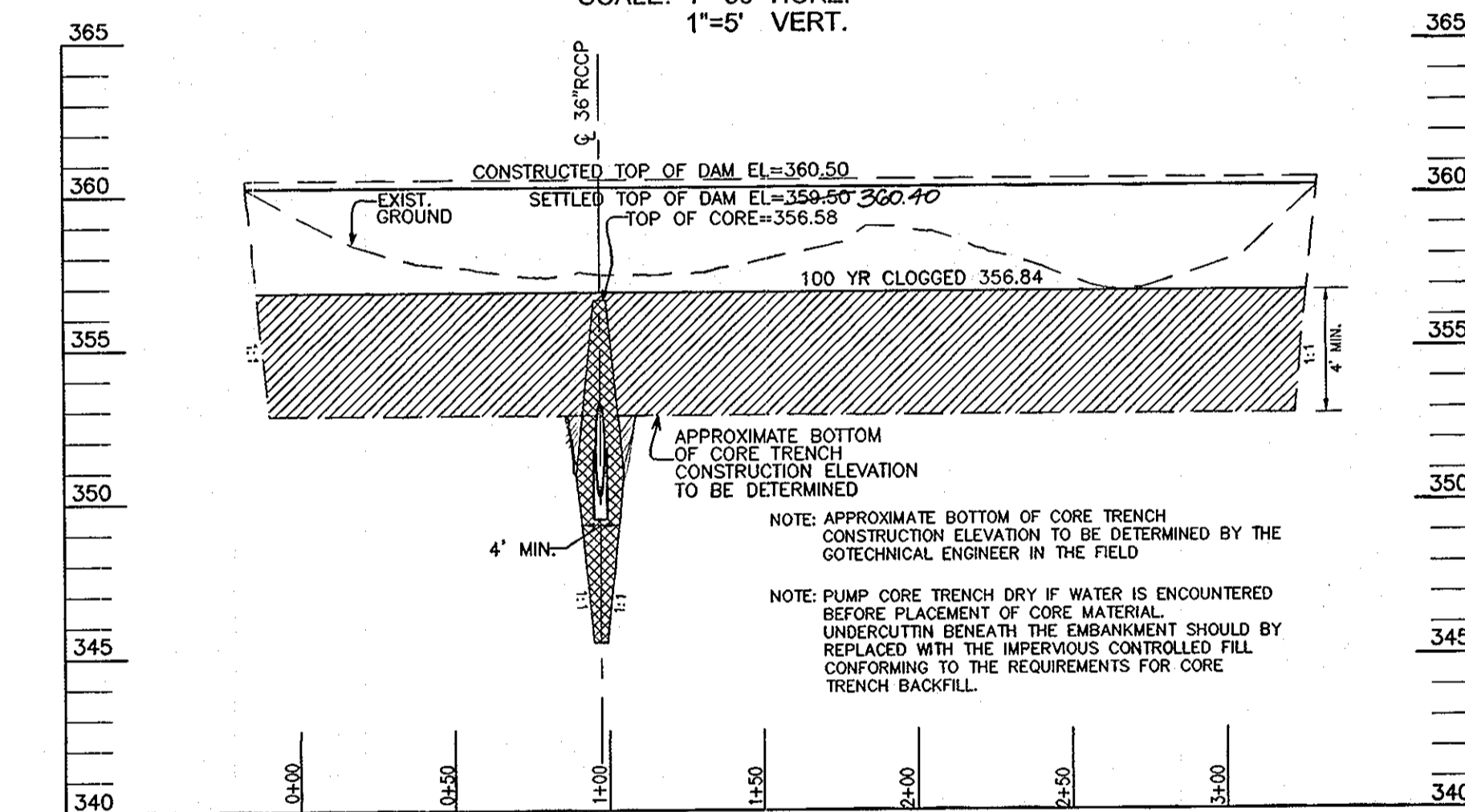
Signature: James R. Moxley, II  
Date: 4/23/12

DESIGN BY: RHV/LJR/JR  
DRAWN BY: LJR/JR  
CHECKED BY: RHV  
DATE: JANUARY, 2006  
SCALE: AS SHOWN  
W.O. NO.: 04-141.002019063

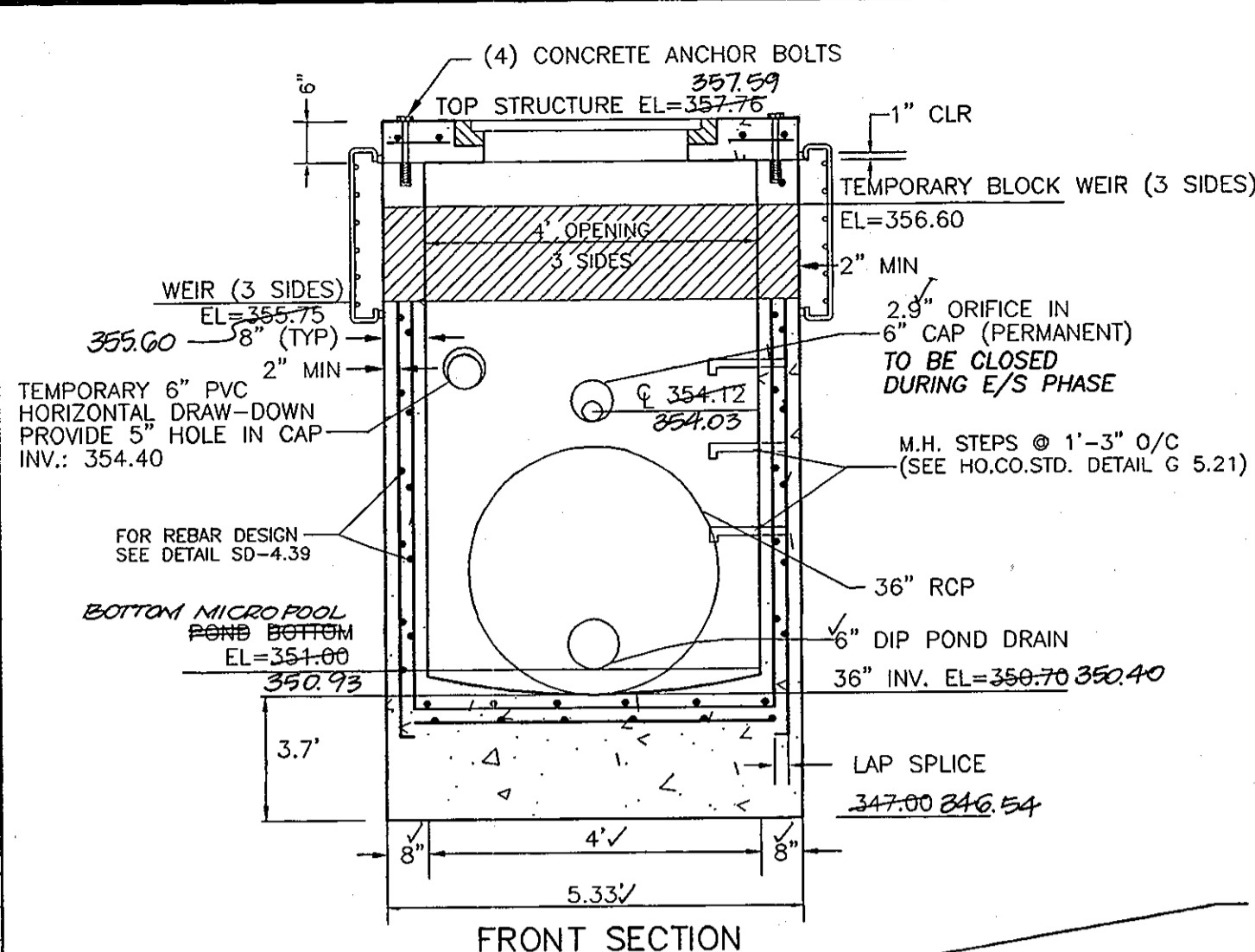
11 SHEET OF 17



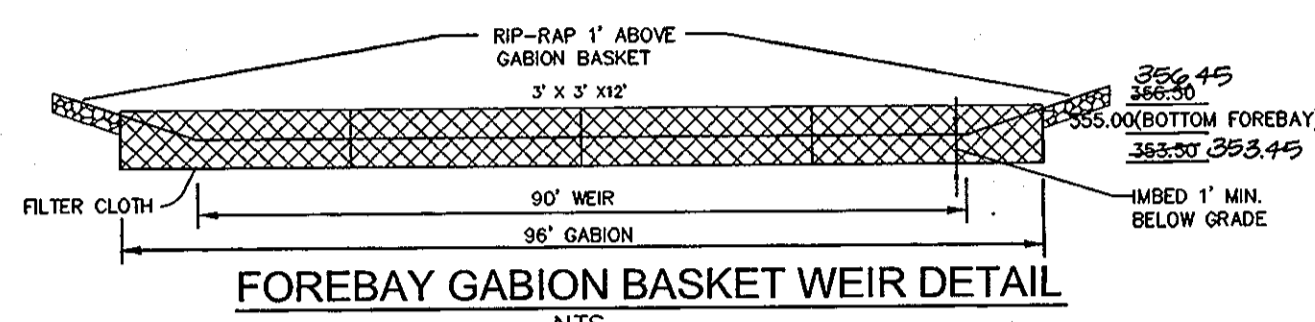
**SECTION THROUGH PRINCIPAL SPILLWAY**  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.



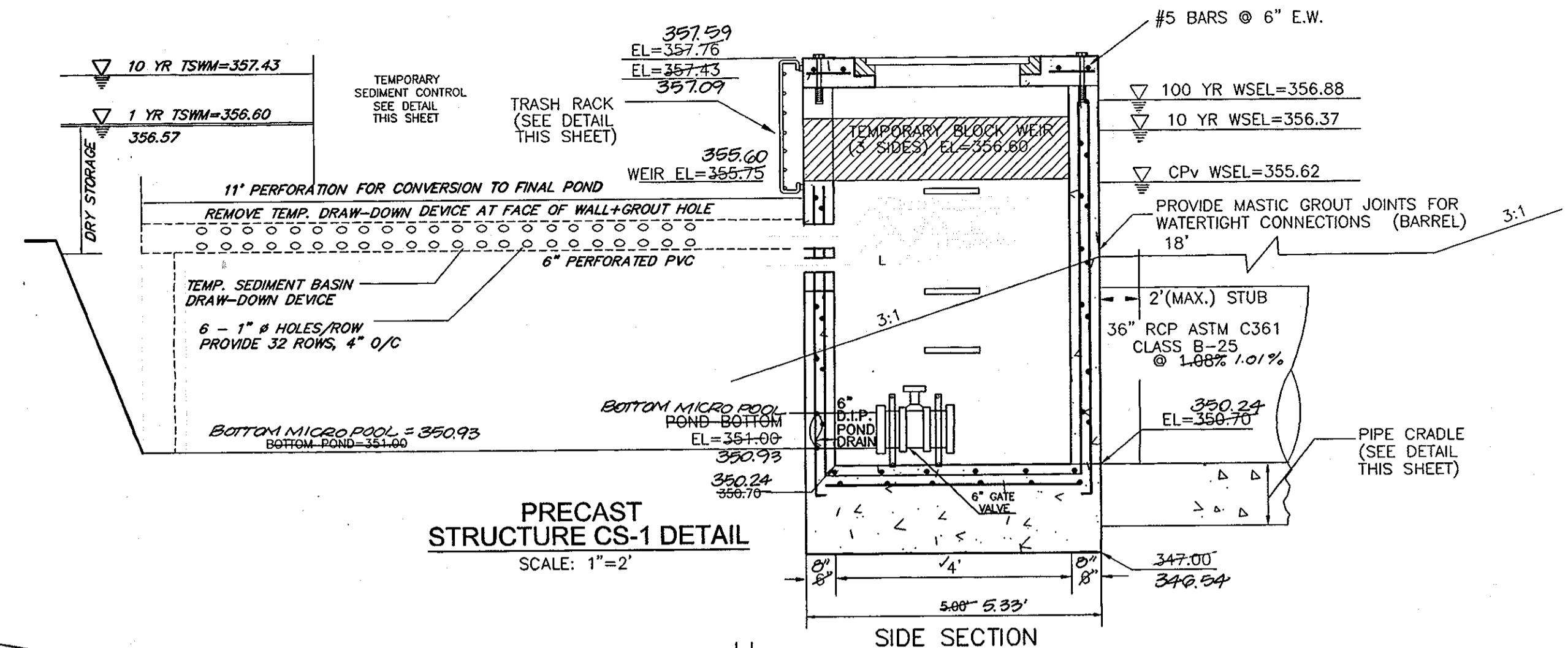
**PROFILE ALONG EMBANKMENT**  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.



**FRONT SECTION**



**FOREBAY GABION BASKET WEIR DETAIL**  
NTS



**PRECAST STRUCTURE CS-1 DETAIL**  
SCALE: 1"=2'

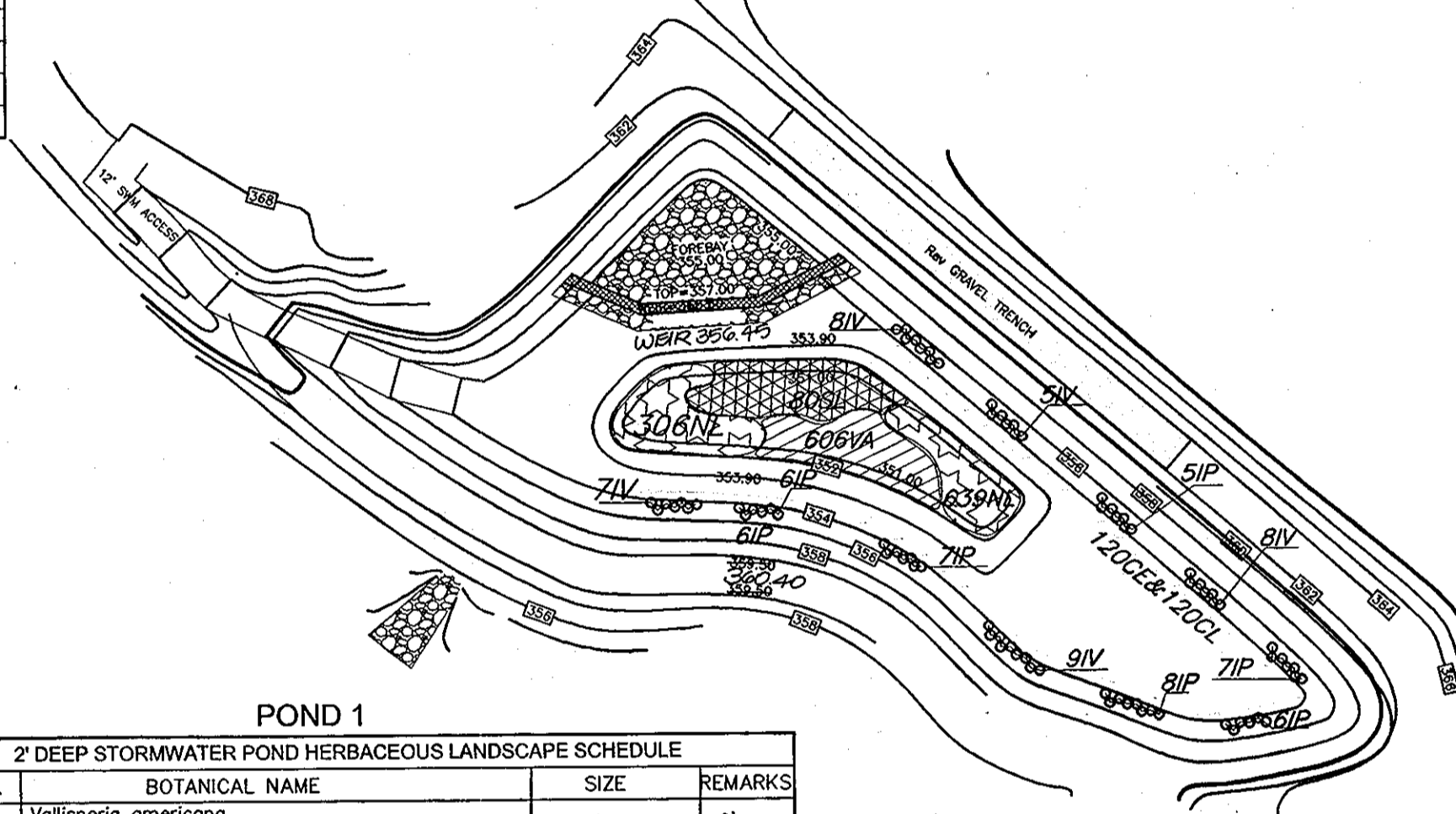
**SIDE SECTION**

**SECTION A-A**

**SECTION B-B**

- NOTES:**
1. ANTI-SEEP COLLARS SHOULD BE PLACED WITHIN THE SATURATION ZONE.
  2. ALL ANTI-SEEP COLLARS AND THEIR CONNECTIONS TO THE CONDUIT SHALL BE WATER-TIGHT AND MADE OF COMPATIBLE WITH THE CONDUIT.
  3. COLLARS DIMENSIONS SHALL EXTEND A MIN. OF 2' IN ALL DIRECTIONS AROUND THE PIPE.
  4. ANTI-SEEP COLLAR SHALL BE PLACED A MIN. OF 2' FROM PIPE JOINTS EXCEPT WHERE PLANNED JOINTS ARE USED.

**CONCRETE ANTI-SEEP COLLAR DETAIL**



**2' DEEP STORMWATER POND HERBACEOUS LANDSCAPE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
VA	606	Vallisneria spiralis Wild Celery	plug	2' oc
IP	45	Iris pseudacorus Yellow Water Iris	plug	1.5' oc
IV	37	Iris versicolor Blue Flag (wear gloves)	plug	1.5' oc
SL	80	Sagittaria latifolia Duck Potato (do not plant tubers)	plug	4' oc
CE	120	Cyperus esculentus Yellow Nut Sedge	plug	2' oc
NL	945	Nuphar luteum Spatterdock	plug	1.5' oc
CL	120	Carex lasiocarpa Lake Sedge	plug	2' oc

REMOVE Baffle Boards PRIOR TO INSTALLATION OF PLANT MATERIALS. ADD THREE INCHES OF TOPSOIL TO PLANTING AREA. STABILIZE WITH 40 POUNDS PER ACRE OF A HYDROSEED MIX (WET MIX AND MEADOW MIX) FROM SYLVIA NATIVE NURSERY OR EQUAL. ALL PLANT MATERIALS TO CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMW SPECIFICATIONS.

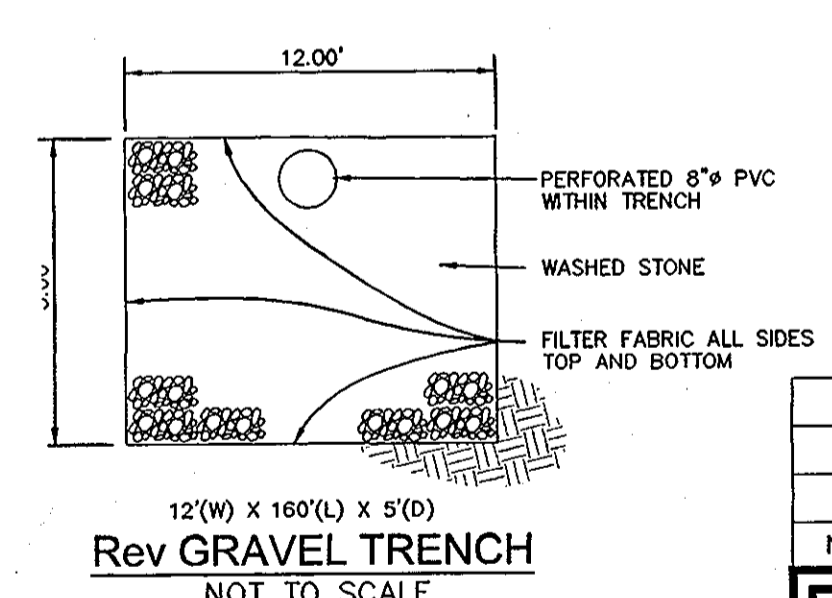
**DORSEY CROSSING SWM Infiltration Study**  
HILLS-CARNES ENGINEERING

**EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION**

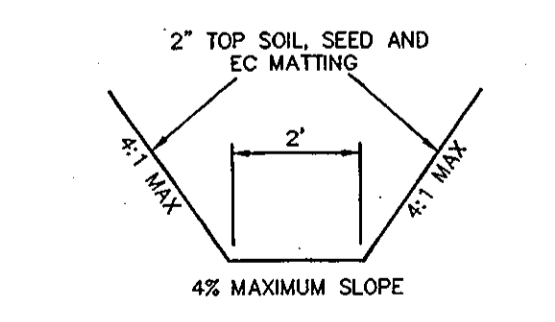
Areas of SWM pond facilities should be stripped of topsoil and any other unsuitable materials from the embankment or structure areas in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be profiled with a loaded dump truck 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 profiling 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 cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve.

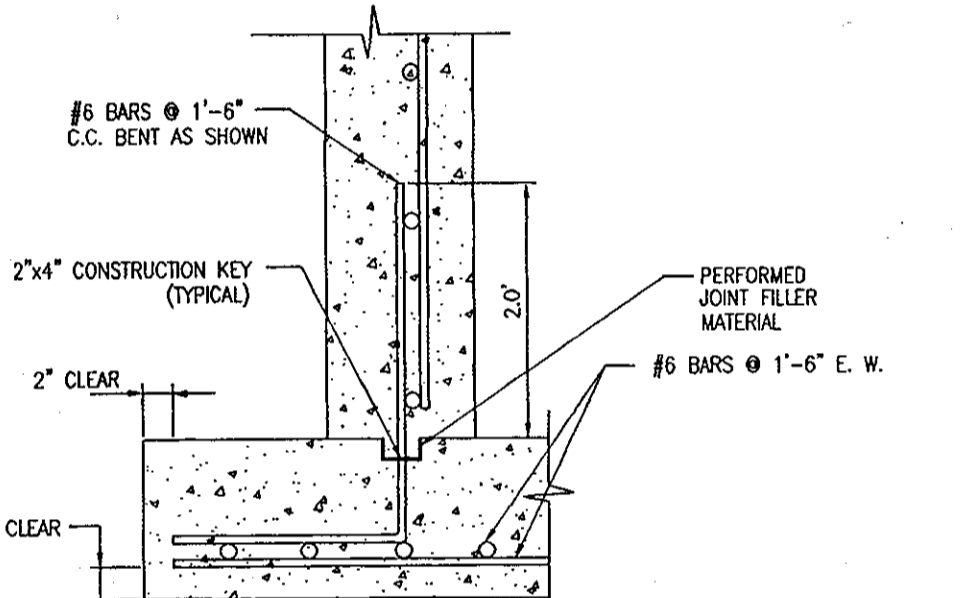
It is our professional opinion that in addition to the soil materials described above a fine-grained soil, including Silt (ML) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with NRCS-MD Code No. 378 specifications.



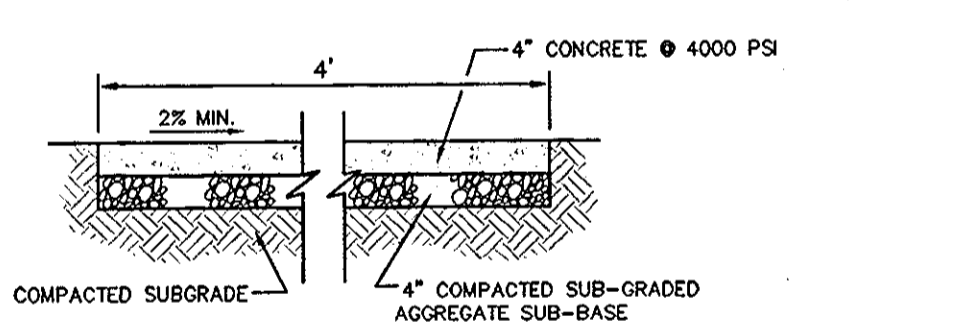
**Rev GRAVEL TRENCH**  
NOT TO SCALE



**GRASS CHANNEL CREDIT DETAIL (TYPICAL)**  
NOT TO SCALE



**RISER STRUCTURE KEY JOINT DETAIL**  
NOT TO SCALE



**HO. CO. STD. R-3.05 TYPICAL SIDEWALK DETAIL**  
NOT TO SCALE

**OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT EXTENDED DETENTION FACILITY**

STORMWATER MANAGEMENT FACILITY  
ROUTINE MAINTENANCE

1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

**OPERATION, MAINTENANCE AND INSPECTION**

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCAS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE

APPROVED: *Howard County Department of Planning and Zoning*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Candy Hunter* 6/5/19  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*March A. Leyer* 6/1/19  
DIRECTOR

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL.  
USDA-NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 5/21/07  
THESE PLANS FOR SMALL POND CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
DATE: 5/21/07  
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE  
I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION 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. 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.  
DATE: 4/24/07  
SIGNATURE OF ENGINEER: *Robert H. Vogel*  
ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.  
DATE: 4/23/07  
SIGNATURE OF DEVELOPER: *James R. Nozick, III*  
J. Nozick

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THESE PLANS WAS CONSTRUCTED AS SHOWN ON THE PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
DATE: 10/19/19  
DATE: 1-17-12  
PROF. ENG. NO. 18190  
PROFESSIONAL ENGINEER

**STORMWATER MANAGEMENT DETAILS DORSEY CROSSING**  
PARCEL A  
SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THRU 95  
TAX MAP 30 GRID 3 PARCELS 59-65, 229, AND 231  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET TEL: 410.461.7666  
ELLIOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RIVALTRJ  
DRAWN BY: JOY LITRJI  
CHECKED BY: RHW  
DATE: JANUARY, 2006  
SCALE: AS SHOWN  
W.O. NO.: 04-141.002019063

12 SHEET OF 17  
AS-BUILT 1/17/2012  
SDP-06-036

**MARYLAND 378  
STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS**

**CONSTRUCTION SPECIFICATIONS**

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

**SITE PREPARATION**

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOW OF THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25'-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

**EARTH FILL**

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND OUT OF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CL, OR CL AND MUST HAVE AT LEAST 50% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST FERTILIZABLE MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION OF THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DENSITY OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHEN REQUIRED BY THE REVENUE AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

OUT OF TRENCH CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT CORE THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CURBENTLY WITH THE OUTER SHELL OF THE OUTER SHELL OF THE EMBANKMENT.

**STRUCTURE BACKFILL**

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT THICKER THAN 6" BY THE EQUIPMENT USED. HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT, THE MATERIAL NEEDS TO FIT COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF THE STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 315 AS MODIFIED. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT MINIMUM OF 6" MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONCRETE. AVERAGE SLUMP OF THE FILL SHALL BE 7" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL Voids ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF THE STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

**PIPE CONDUITS**

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL (MPBL) OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

- MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMER COATING SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 AND M-246 WITH WATER TIGHT COUPLING BANDS OR FLANGES.
- MATERIALS - (ALUMINUM COATED STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-271 WITH WATER TIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE REPLACED WITH COPD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

**POND BOTTOM SOIL CONDITIONS**

IF BROKEN ROCK FRAGMENTS ARE ENCOUNTERED AT FINISHED POND BOTTOM, UNDER CUT A MINIMUM OF 12" BELOW SAGIN GRADE AND TO A HORIZONTAL DISTANCE OF AT LEAST 15' BEYOND EACH EDGE OF THE BROKEN ROCK AND BACKFILL WITH FINE-GRAINED ML OR CL SOILS COMPACTED TO A FIRM CONDITION. THIS PROCEDURE SHOULD BE PERFORMED UNDER THE SUPERVISION OF THE PROJECT GEOTECHNICAL ENGINEER.

MATERIALS - (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATER TIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

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

Project Name: Dorsey Crossing, Job #: 02095A

Location: Howard County, Maryland

Client: Hammer Vt. 140, Inc. Hole Diameter: 6" Foreman: M. Stamps

Surf Elev.: 81.500, Fl. Hammer Drop: 30" in. Rock Core Diameter: Inspector: Date Completed: 6/10/06

Date Started: 6/10/06, Pipe Size: 2" in. Boring Method: HSA, Data Completed: 6/10/06

Elevation Depth	SOIL TYPE (ASTM)	Description	Boring and Sampling Notes	Fac.	HM	SPT Blows		SPT Blows N	SPT Blows CPT
						10'	20'		
0'		Surface brown, moist, loam, heavy silty clay, trace mica and gravel (GS-50)	0' of topsoil	12"	1.4	10	10	10	
1'		Yellow to tan, moist, medium dense, silty sand, trace mica, trace gravel (GS-50)		12"	4.6	11	11	11	
2'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	5.0	11	11	11	
3'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	3.0	7	7	7	
10'		Bottom of Hole at 10 ft							

SAMPLER TYPE: STANDARD PENETRATION TEST (SPT) - 60 LB. SAMPLER WITH 10 INCH FALLING 30" COUNT MADE AT 10 FEET INTERVAL

SOIL SAMPLES: 1-10

TEST RESULTS: 1-10

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Location: Howard County, Maryland

Client: Hammer Vt. 140, Inc. Hole Diameter: 6" Foreman: M. Stamps

Surf Elev.: 81.500, Fl. Hammer Drop: 30" in. Rock Core Diameter: Inspector: Date Completed: 6/10/06

Date Started: 6/10/06, Pipe Size: 2" in. Boring Method: HSA, Data Completed: 6/10/06

Elevation Depth	SOIL TYPE (ASTM)	Description	Boring and Sampling Notes	Fac.	HM	SPT Blows		SPT Blows N	SPT Blows CPT
						10'	20'		
0'		Surface brown, moist, loam, heavy silty clay, trace mica and gravel (GS-50)	0' of topsoil	12"	1.4	10	10	10	
1'		Yellow to tan, moist, medium dense, silty sand, trace mica, trace gravel (GS-50)		12"	4.6	11	11	11	
2'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	5.0	11	11	11	
3'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	3.0	7	7	7	
10'		Bottom of Hole at 10 ft							

SAMPLER TYPE: STANDARD PENETRATION TEST (SPT) - 60 LB. SAMPLER WITH 10 INCH FALLING 30" COUNT MADE AT 10 FEET INTERVAL

SOIL SAMPLES: 1-10

TEST RESULTS: 1-10

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

Project Name: Dorsey Crossing, Job #: 02095A

Location: Howard County, Maryland

Client: Hammer Vt. 140, Inc. Hole Diameter: 6" Foreman: M. Stamps

Surf Elev.: 81.500, Fl. Hammer Drop: 30" in. Rock Core Diameter: Inspector: Date Completed: 6/10/06

Date Started: 6/10/06, Pipe Size: 2" in. Boring Method: HSA, Data Completed: 6/10/06

Elevation Depth	SOIL TYPE (ASTM)	Description	Boring and Sampling Notes	Fac.	HM	SPT Blows		SPT Blows N	SPT Blows CPT
						10'	20'		
0'		Surface brown, moist, loam, heavy silty clay, trace mica and gravel (GS-50)	0' of topsoil	12"	1.4	10	10	10	
1'		Yellow to tan, moist, medium dense, silty sand, trace mica, trace gravel (GS-50)		12"	4.6	11	11	11	
2'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	5.0	11	11	11	
3'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	3.0	7	7	7	
10'		Bottom of Hole at 10 ft							

SAMPLER TYPE: STANDARD PENETRATION TEST (SPT) - 60 LB. SAMPLER WITH 10 INCH FALLING 30" COUNT MADE AT 10 FEET INTERVAL

SOIL SAMPLES: 1-10

TEST RESULTS: 1-10

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

Project Name: Dorsey Crossing, Job #: 02095A

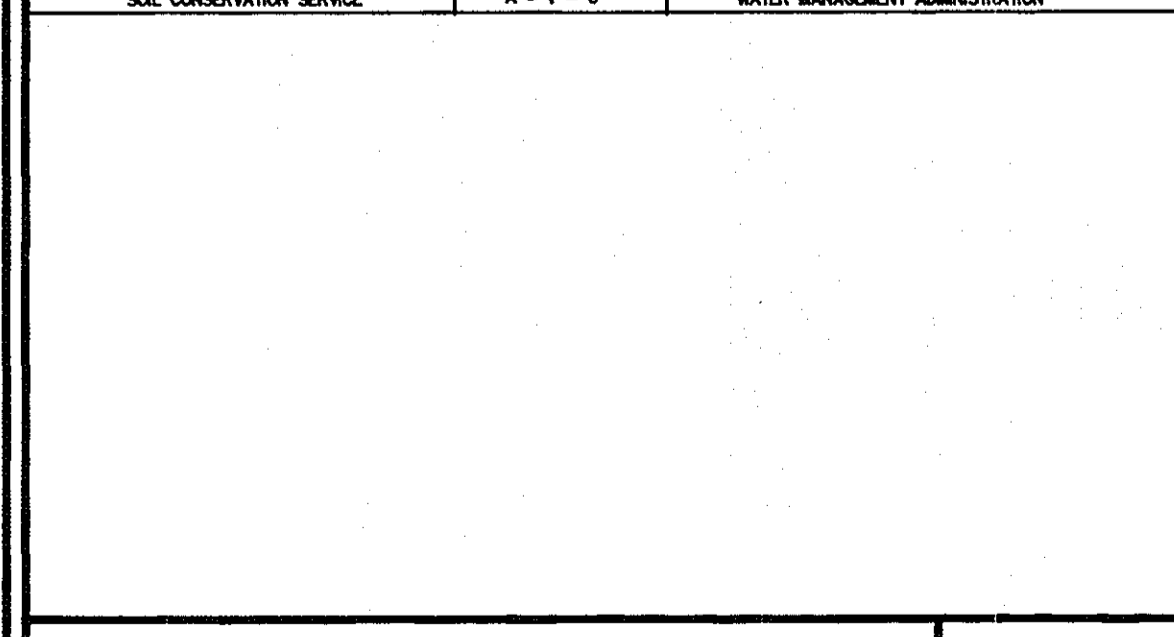
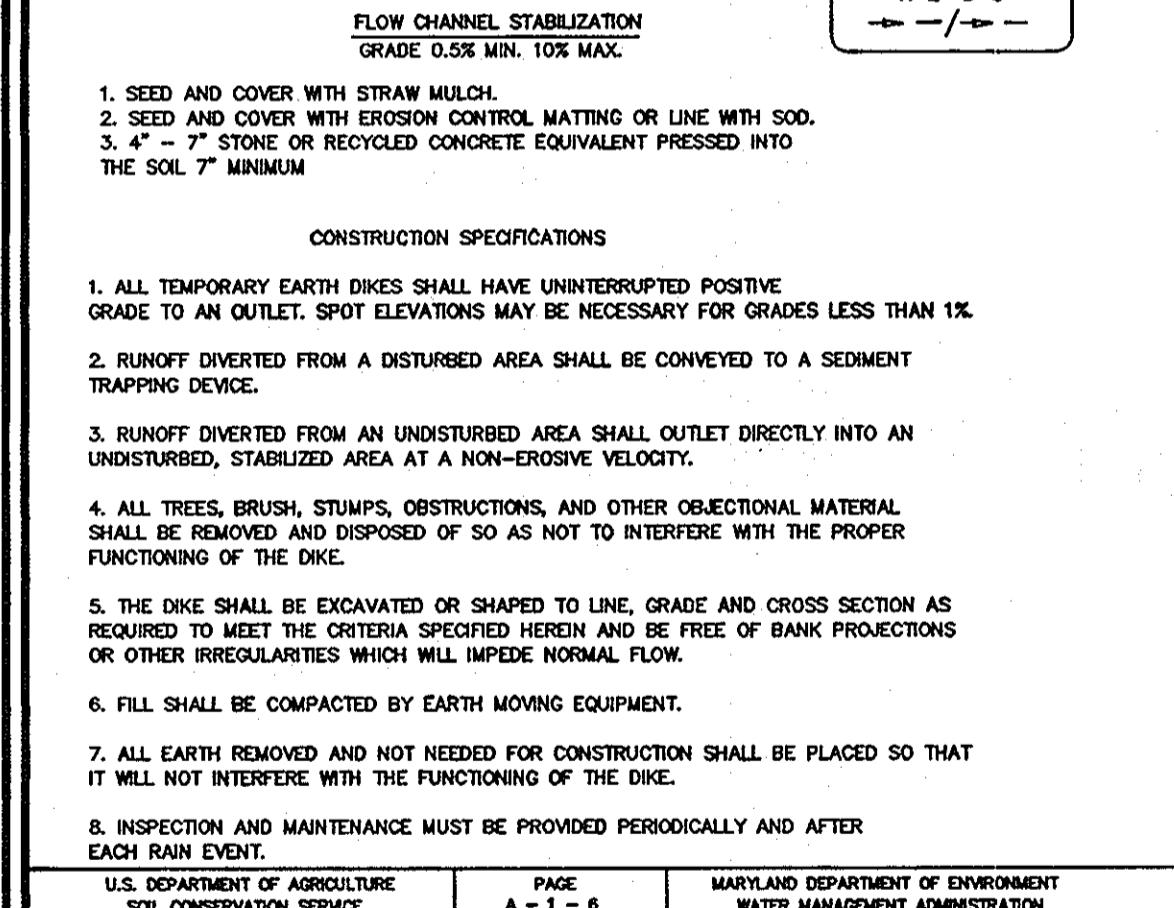
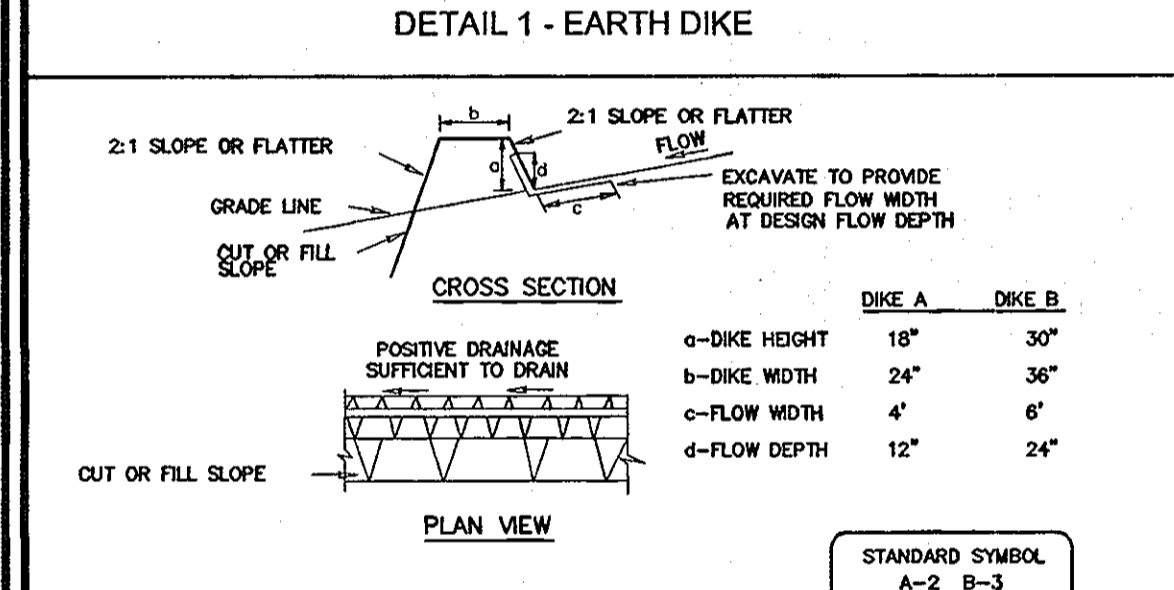
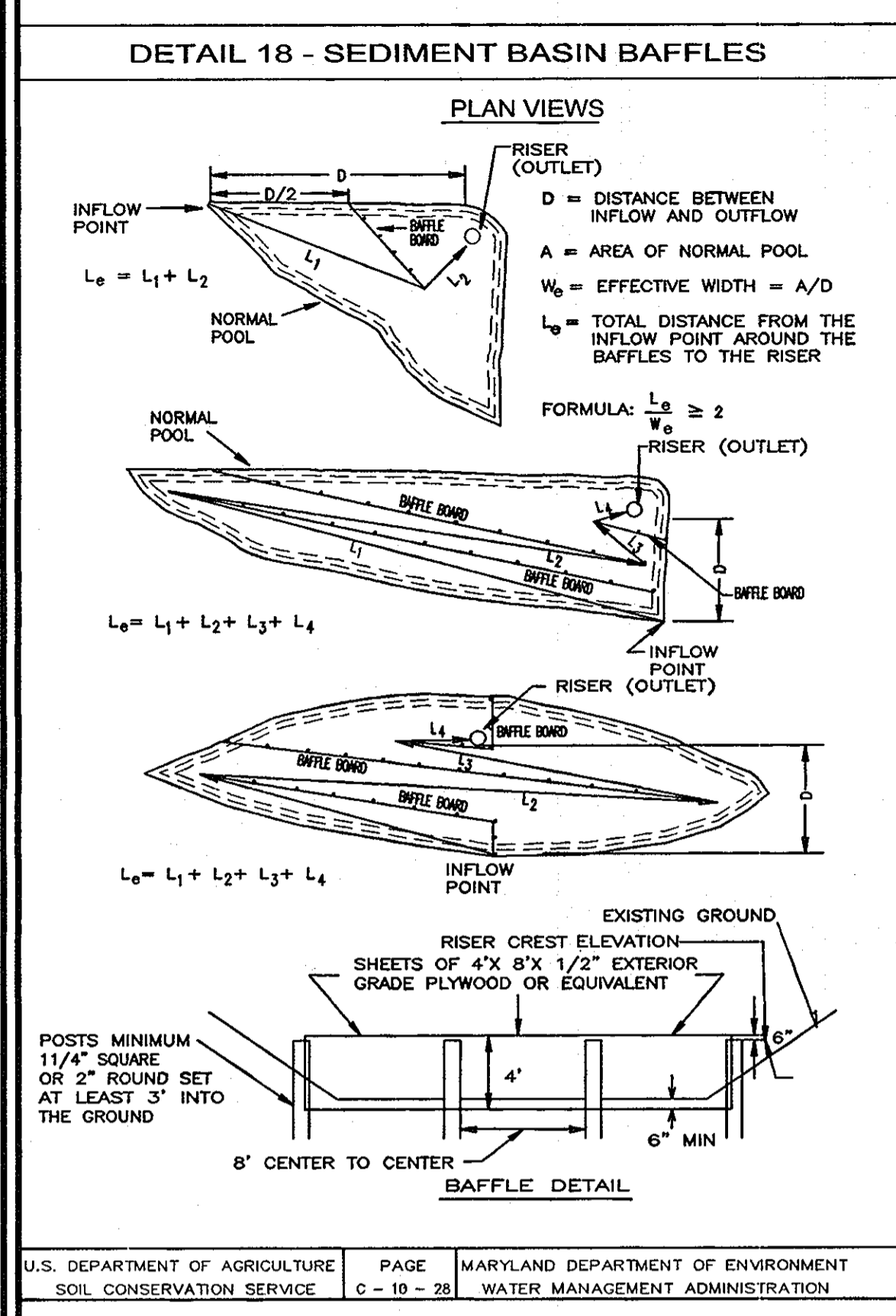
Location: Howard County, Maryland

Client: Hammer Vt. 140, Inc. Hole Diameter: 6" Foreman: M. Stamps

Surf Elev.: 81.500, Fl. Hammer Drop: 30" in. Rock Core Diameter: Inspector: Date Completed: 6/10/06

Date Started: 6/10/06, Pipe Size: 2" in. Boring Method: HSA, Data Completed: 6/10/06

Elevation Depth	SOIL TYPE (ASTM)	Description	Boring and Sampling Notes	Fac.	HM	SPT Blows		SPT Blows N	SPT Blows CPT
						10'	20'		
0'		Surface brown, moist, loam, heavy silty clay, trace mica and gravel (GS-50)	0' of topsoil	12"	1.4	10	10	10	
1'		Yellow to tan, moist, medium dense, silty sand, trace mica, trace gravel (GS-50)		12"	4.6	11	11	11	
2'		Yellow to white, moist, medium dense to dense, silty sand, trace mica, trace to no gravel (GS)		12"	5.0	11	11	11	
3'									



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

DIRECTOR

DATE: 5/20/07

DATE: 6/5/07

DATE: 4/11/07

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

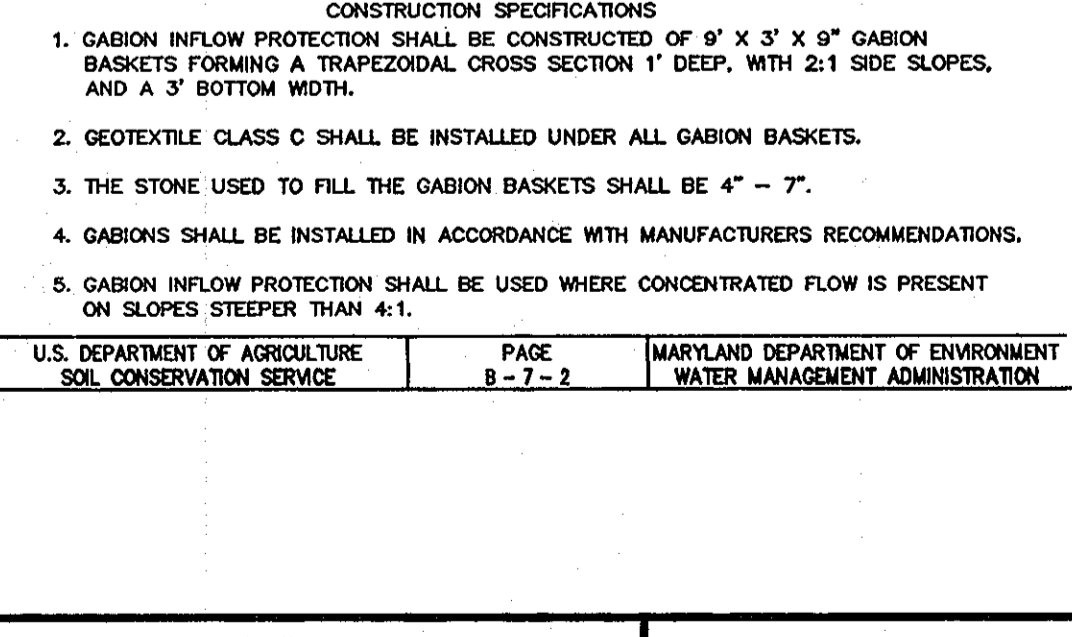
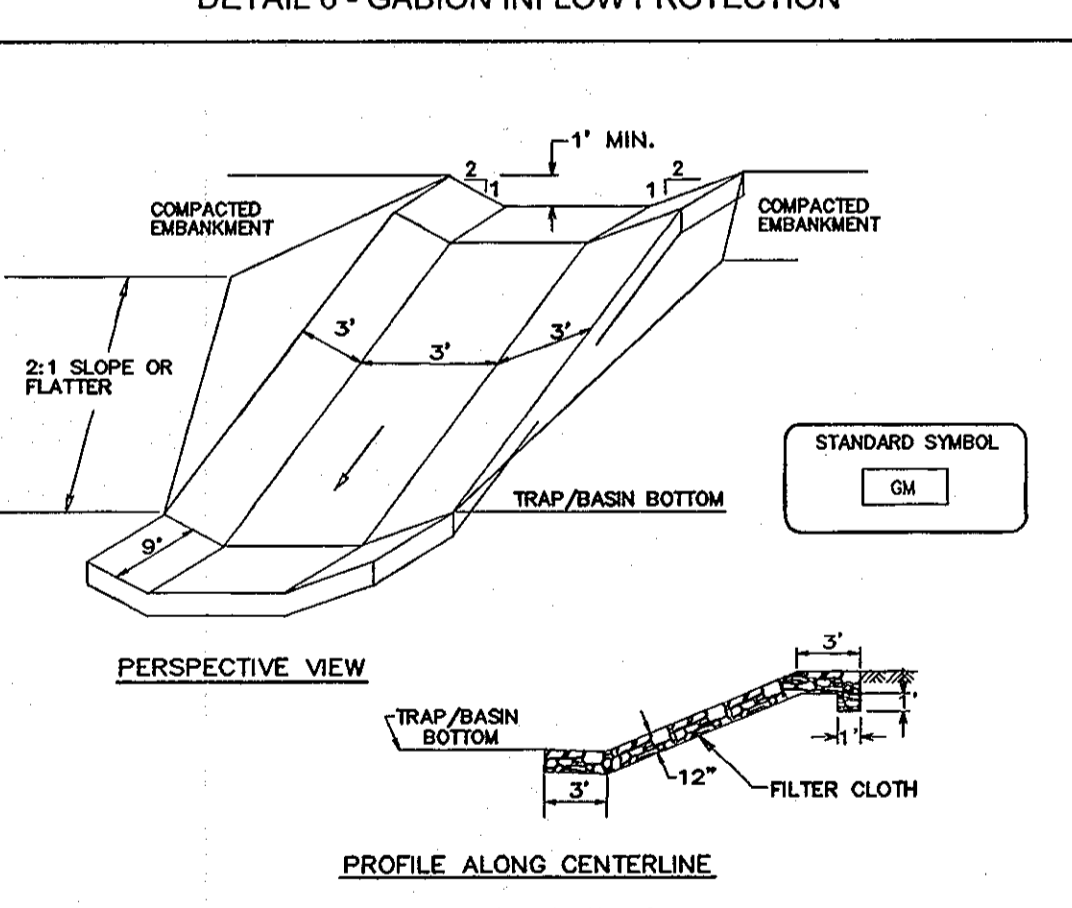
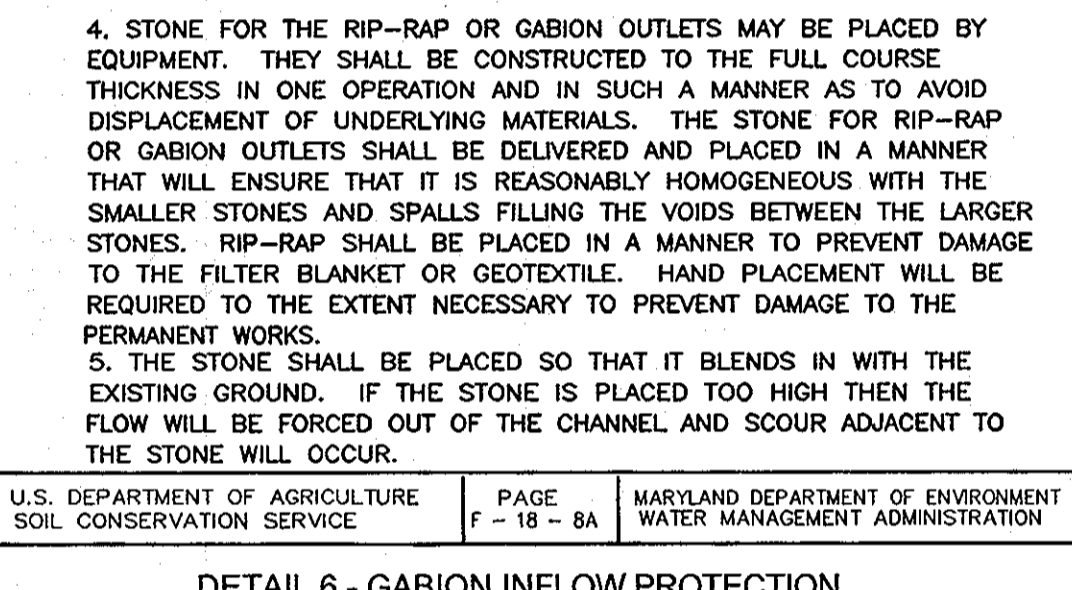
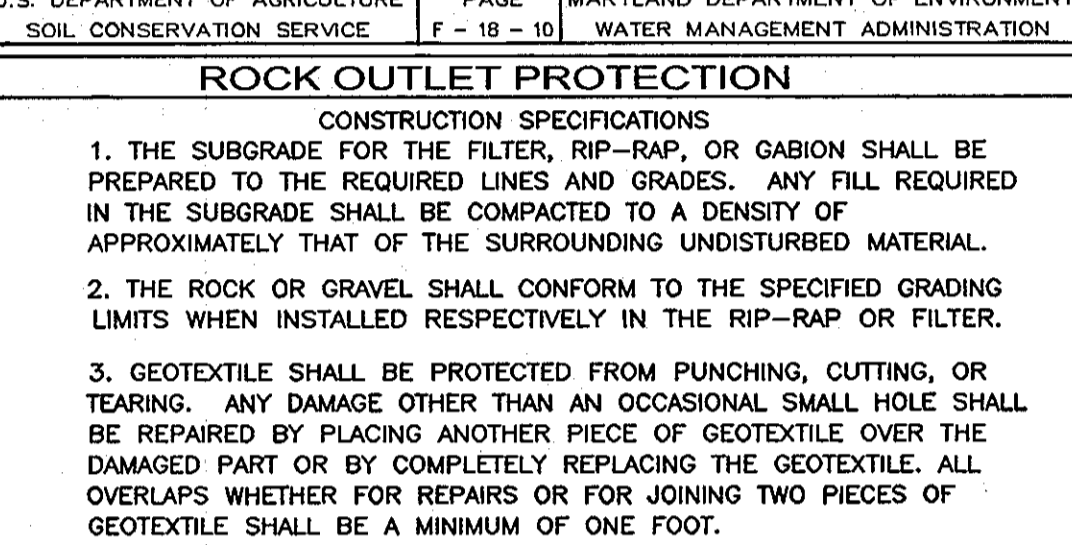
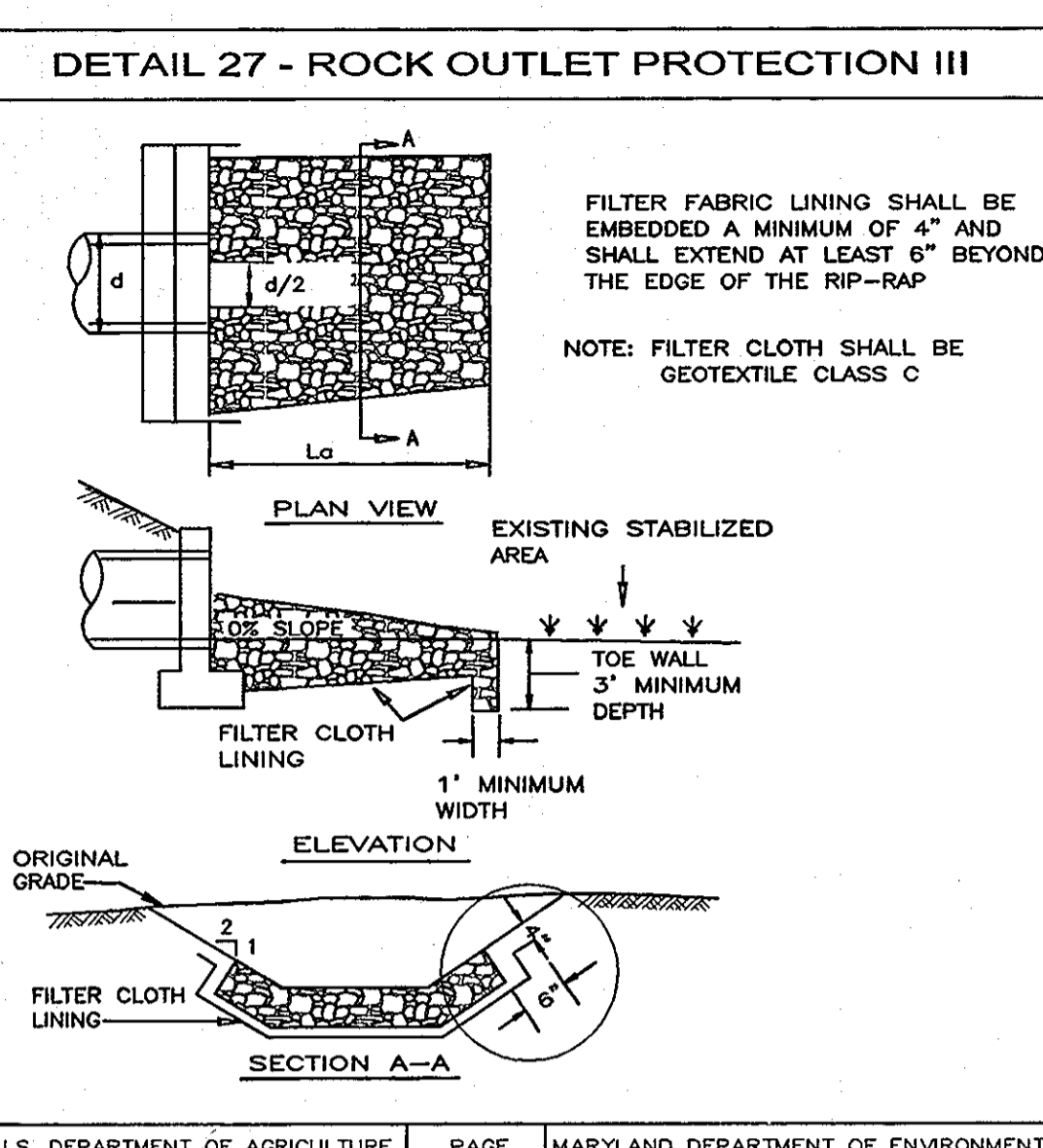
USDA-NATURAL RESOURCES CONSERVATION SERVICE

DATE: 5/21/07

DATE: 5/21/07

DATE: 5/21/07

HOWARD SOIL CONSERVATION DISTRICT

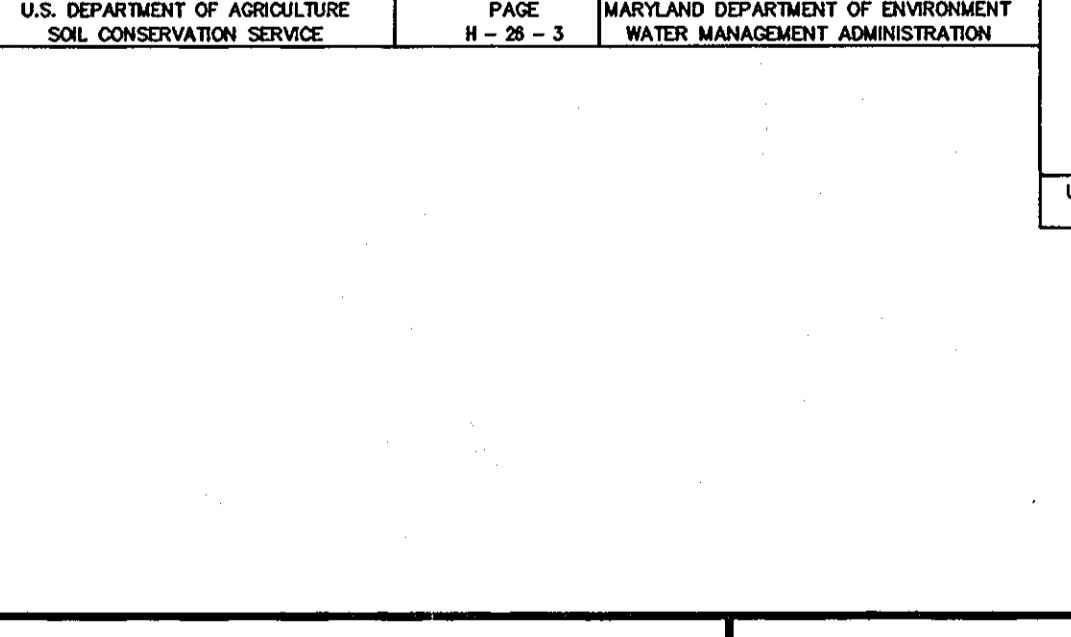
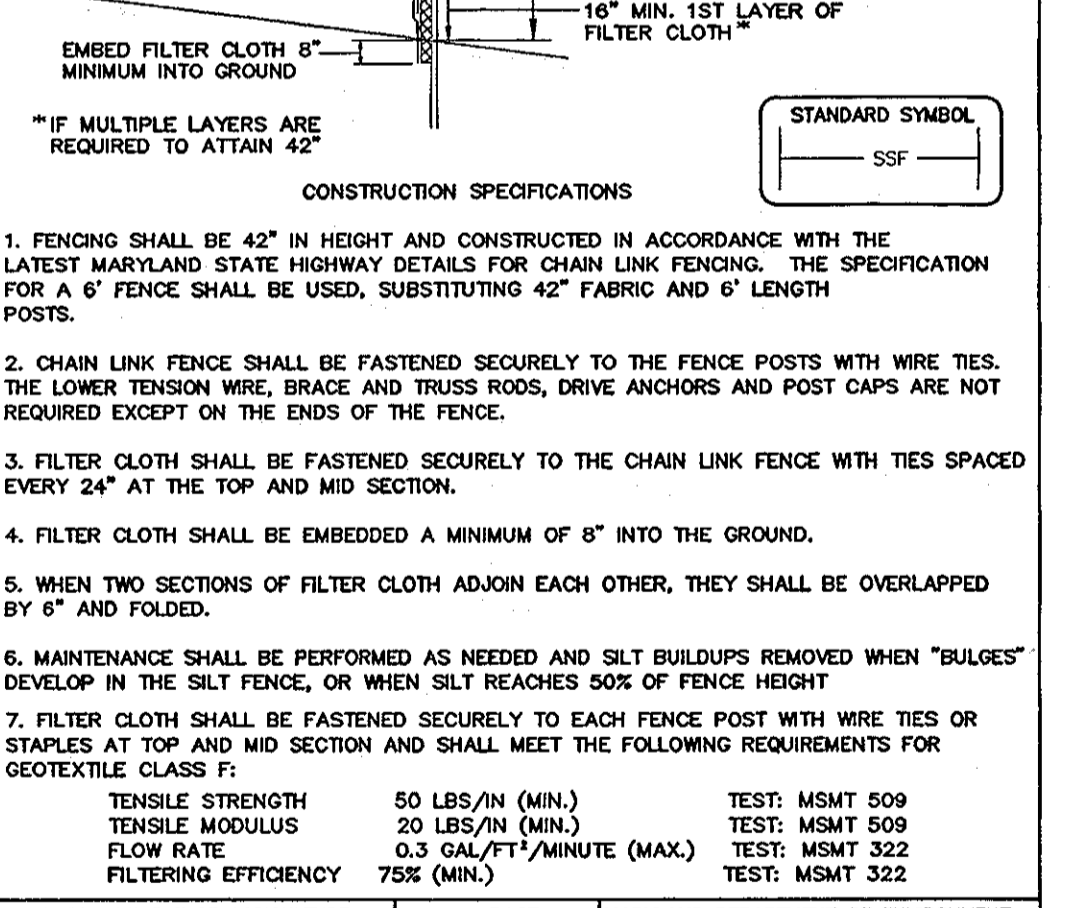
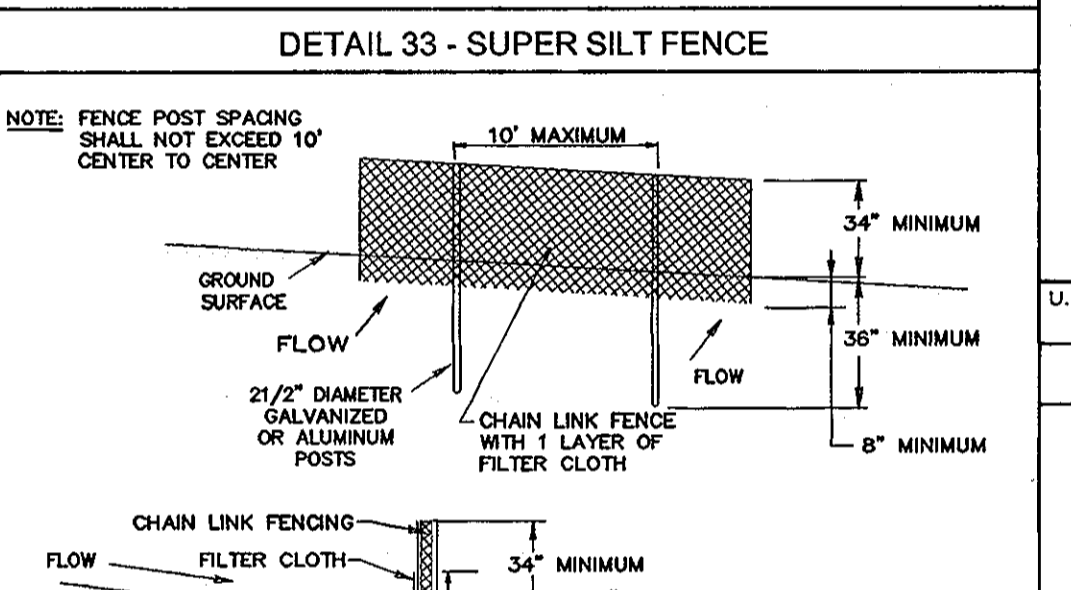
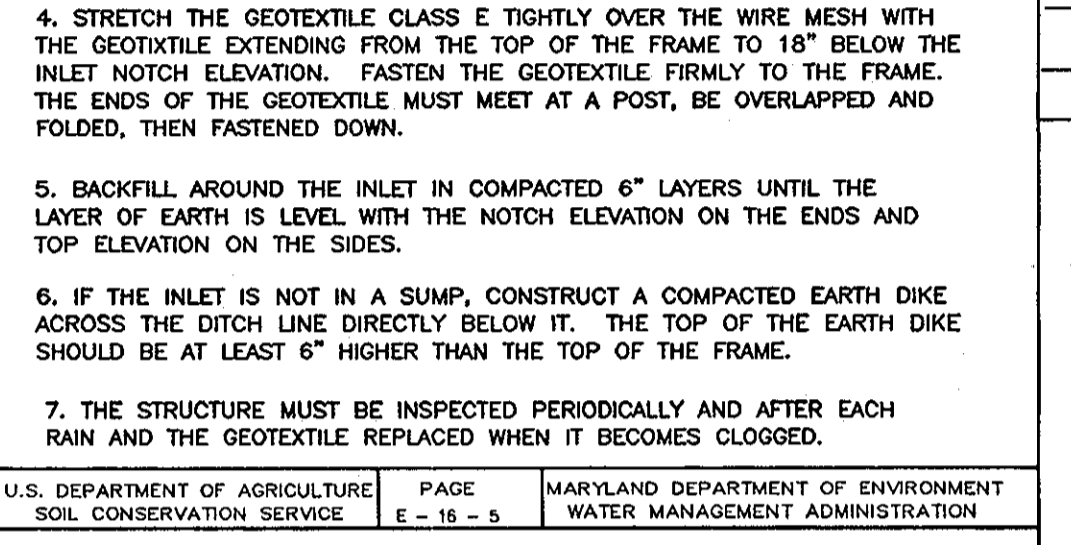
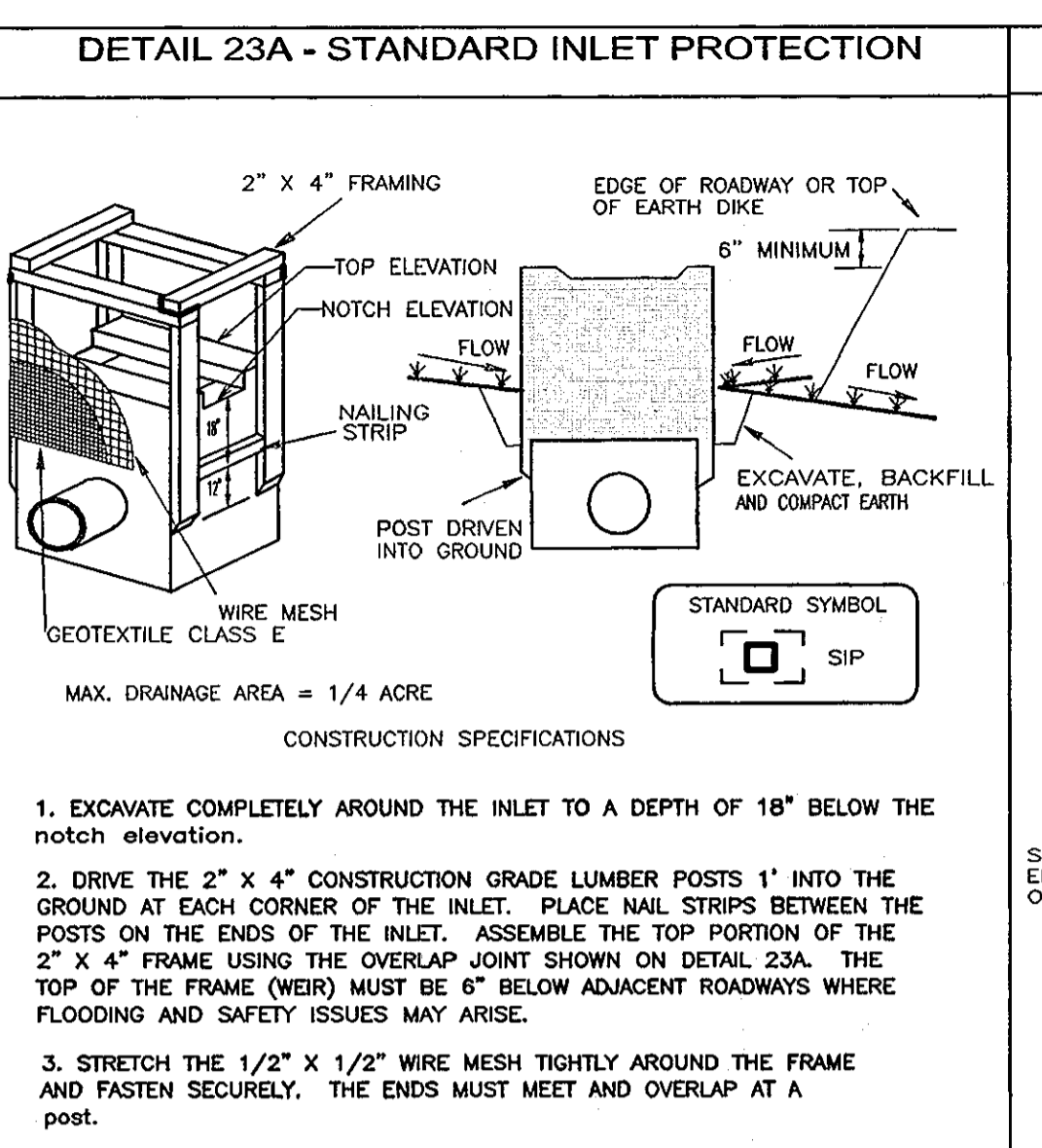


ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND SEDIMENT AND EROSION CONTROL REPRESENTS A PRUDENT 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. 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.

DATE: 4/23/07

SIGNATURE OF ENGINEER: ROBERT H. VOGEL

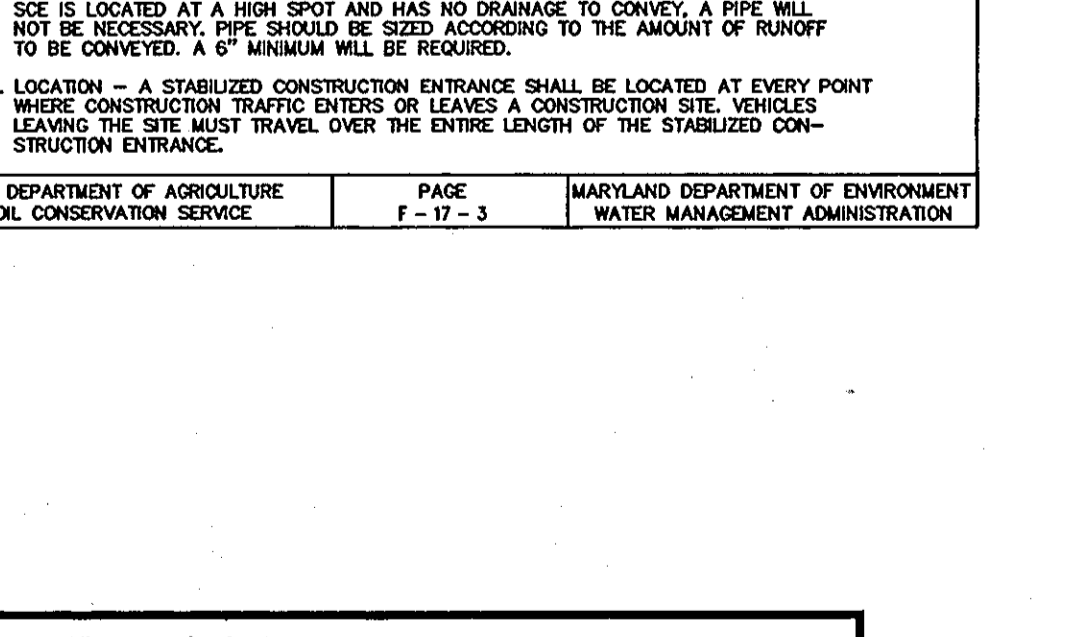
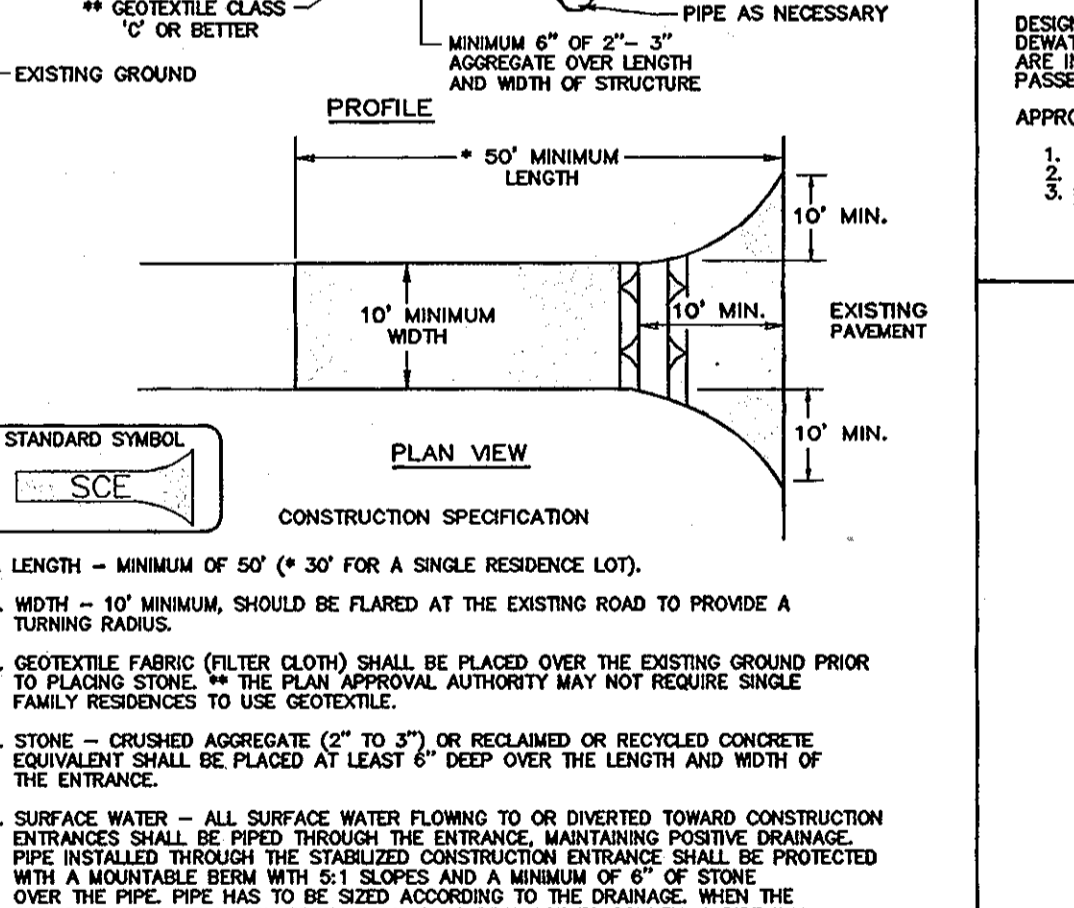
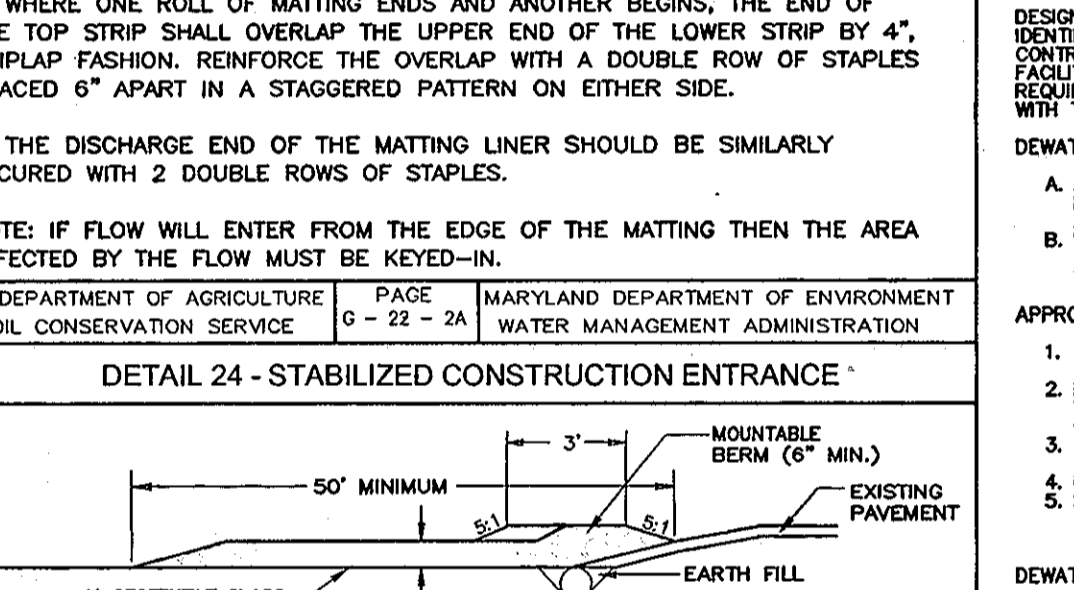
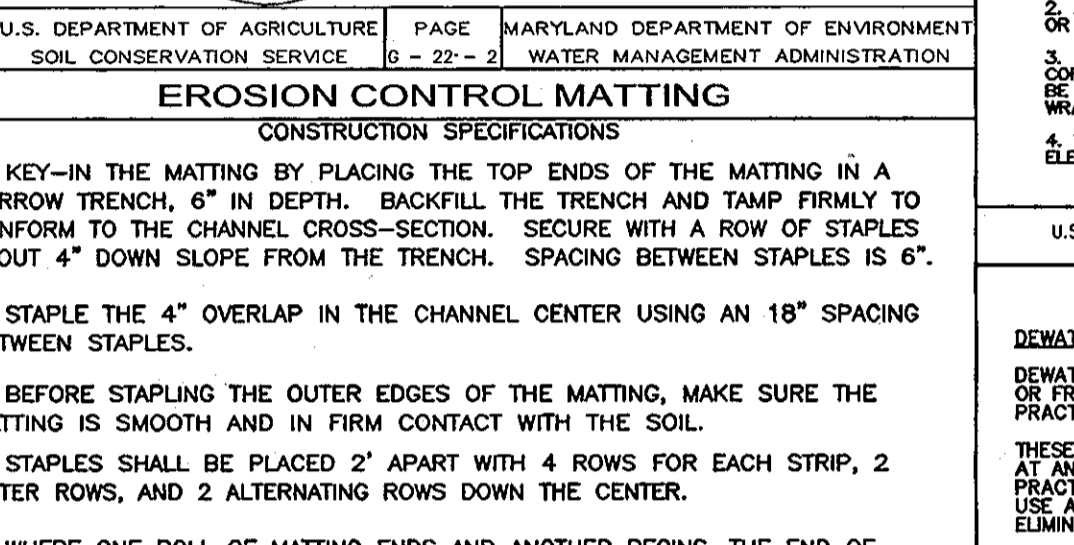
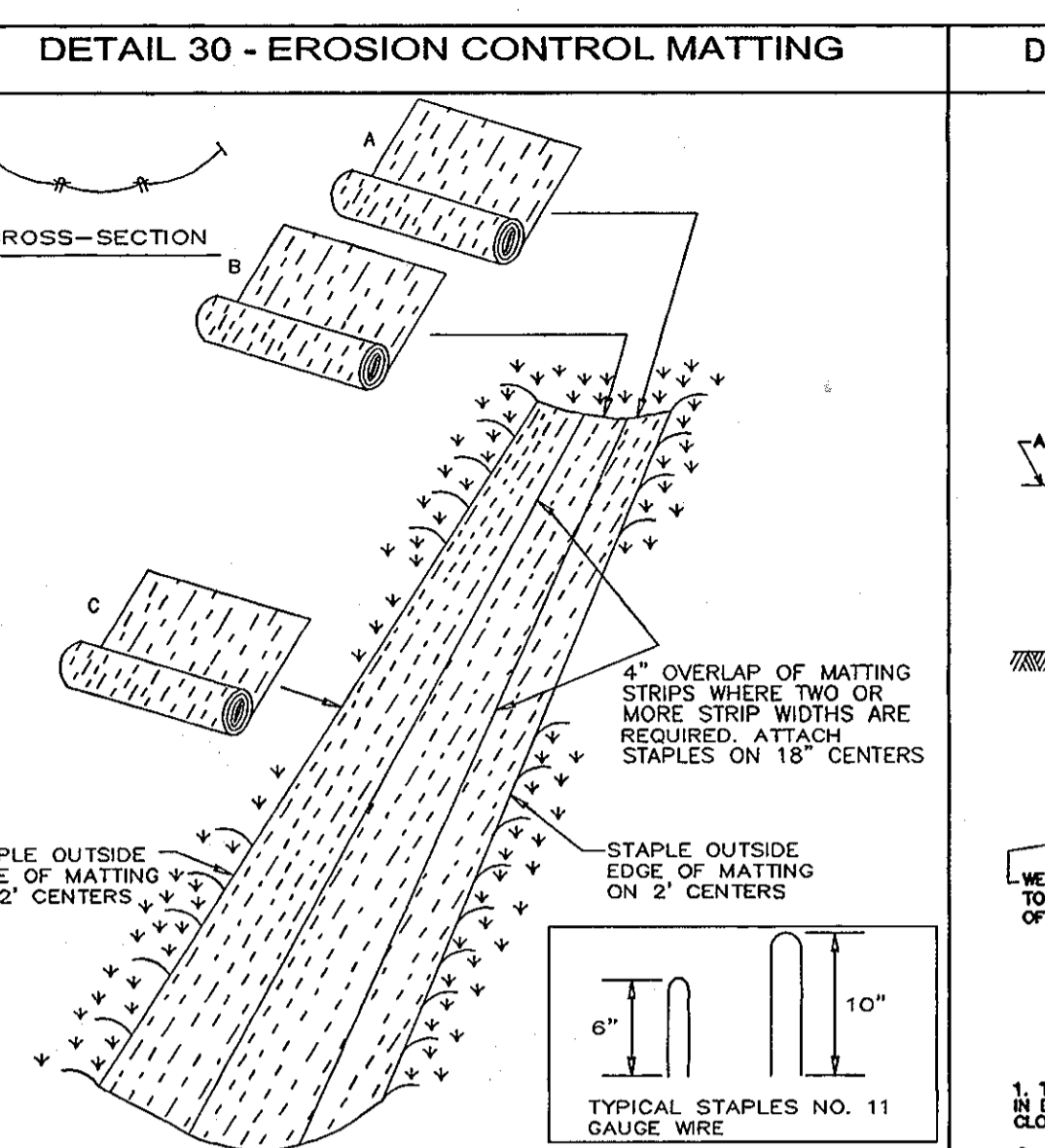


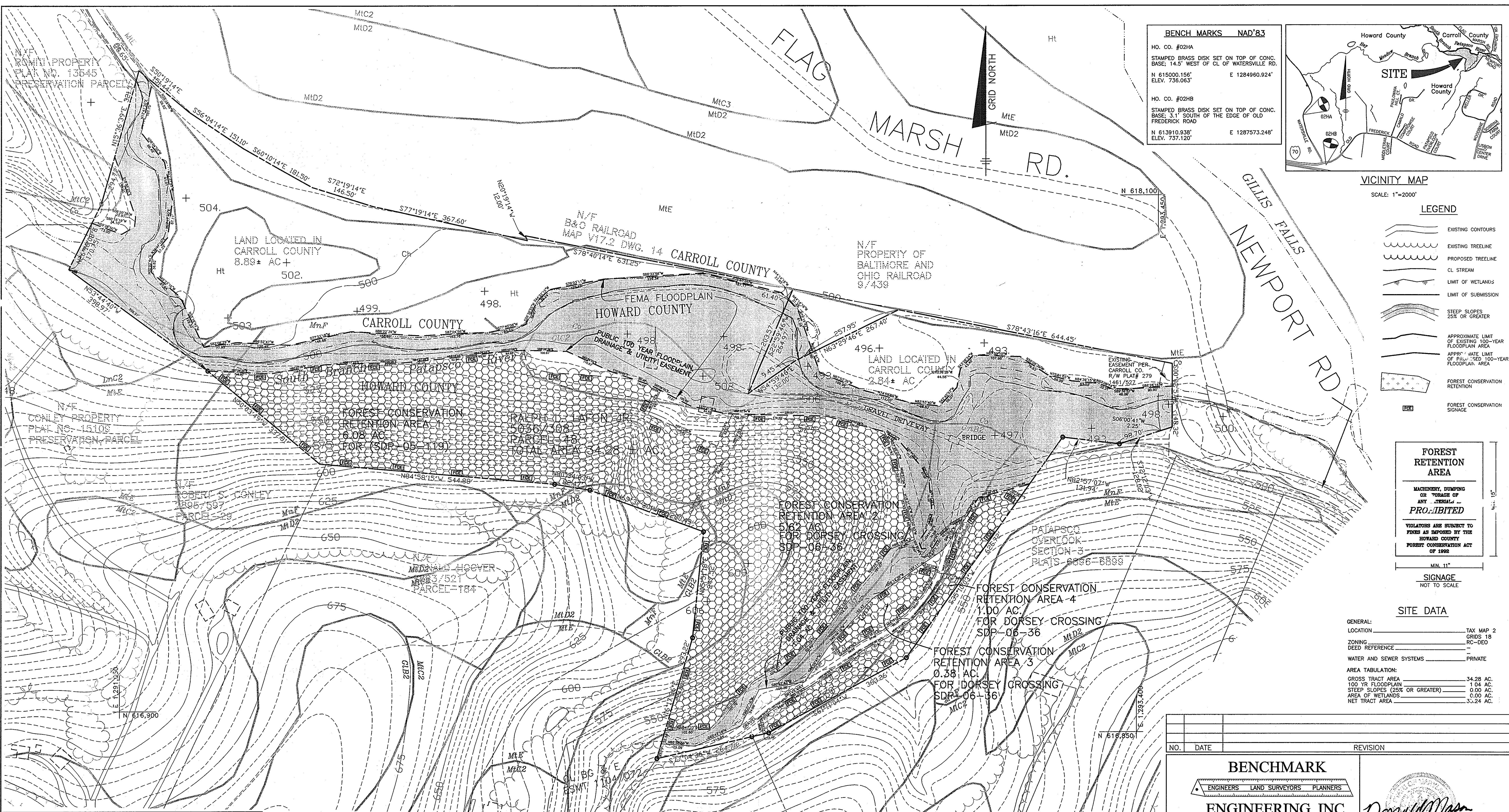
DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT 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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 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.

DATE: 4/23/07

SIGNATURE OF DEVELOPER: James R. Mosley III

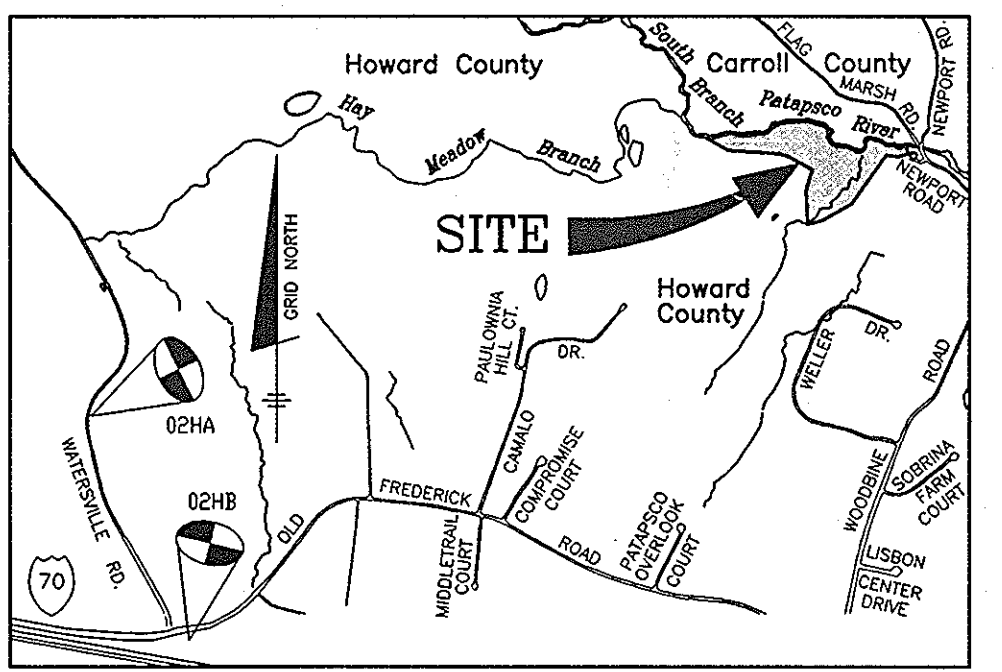




**BENCH MARKS NAD'83**

HO. CO. #02HA  
 STAMPED BRASS DISK SET ON TOP OF CONC. BASE; 14.5' WEST OF CL OF WATERSVILLE RD.  
 N 615000.156' ELEV. 736.063' E 1284960.924'

HO. CO. #02HB  
 STAMPED BRASS DISK SET ON TOP OF CONC. BASE; 3.1' SOUTH OF THE EDGE OF OLD FREDERICK ROAD  
 N 613910.938' ELEV. 737.120' E 1287573.248'



- LEGEND**
- EXISTING CONTOURS
  - EXISTING TREELINE
  - PROPOSED TREELINE
  - CL. STREAM
  - LIMIT OF WETLANDS
  - LIMIT OF SUBMISSION
  - STEEP SLOPES 25% OR GREATER
  - APPROXIMATE LIMIT OF EXISTING 100-YEAR FLOODPLAIN AREA
  - APPROXIMATE LIMIT OF PRIVATE 100-YEAR FLOODPLAIN AREA
  - FOREST CONSERVATION RETENTION
  - FOREST CONSERVATION SIGNAGE

**FOREST RETENTION AREA**

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS **PROHIBITED**

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992

MIN. 11"

**SIGNAGE**  
 NOT TO SCALE

**SITE DATA**

GENERAL: LOCATION \_\_\_\_\_ TAX MAP 2  
 ZONING \_\_\_\_\_ GRIDS 18  
 DEED REFERENCE \_\_\_\_\_ RC-DEO  
 WATER AND SEWER SYSTEMS \_\_\_\_\_ PRIVATE

AREA TABULATION:

GROSS TRACT AREA	34.28 AC.
100 YR FLOODPLAIN	1.04 AC.
STEEP SLOPES (25% OR GREATER)	0.00 AC.
AREA OF WETLANDS	0.00 AC.
NET TRACT AREA	33.24 AC.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Cindy Hamer* 6/8/10 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*Donna Williams* 5/19/07 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Marsha Ziegler* 6/16/07 DATE  
 DIRECTOR,

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

HOWARD COUNTY HEALTH DEPARTMENT DATE

**SOILS LEGEND**  
 CARROLL COUNTY

MAP SYMBOL	SOIL GROUP	SOIL TYPE
Ch	C	CODORUS SILT LOAM
Ht	D	HATBORO SILT LOAM
MtE	B	MT. AIRY CHANNERY LOAM, 25 TO 45 PERCENT SLOPES

\* INDICATES HYDRIC SOILS  
 TAKEN FROM SOILS SURVEY, ISSUED OCTOBER 1969, MAP NO. 51 AND 52

**PLAN**  
 SCALE: 1" = 100'

**SOILS LEGEND**  
 HOWARD COUNTY

MAP SYMBOL	SOIL GROUP	SOIL TYPE
Co	C	CODORUS SILT LOAM
CuB	B	COMUS SILT LOAM, LOCAL ALLUVIUM, 3 TO 8 PERCENT SLOPES
ChB2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES MODERATELY ERODED
GIA	B	GLENELG LOAM, 0 TO 3 PERCENT SLOPES
GIB2	B	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
GIC2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
GnB2	C	GLENVILLE SILT LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
LnC2	B	LINGANORE CHANNERY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MgB2	B	MANOR GRAVELY LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
MgC3	B	MANOR GRAVELY LOAM, 8 TO 15 PERCENT, SEVERELY ERODED

**SOILS LEGEND**  
 HOWARD COUNTY

MAP SYMBOL	SOIL GROUP	SOIL TYPE
MgC3	B	MANOR GRAVELY LOAM, 8 TO 15 PERCENT, SEVERELY ERODED
MIC2	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED.
MIC3	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED.
MnD	B	MANOR VERY STONY LOAM, 3 TO 25 PERCENT SLOPES
MnF	B	MANOR VERY STONY LOAM, 25 TO 60 PERCENT SLOPES
MIC2	B	MT. AIRY CHANNERY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MIC3	B	MT. AIRY CHANNERY LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
MD2	B	MT. AIRY CHANNERY LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
MtE	B	MT. AIRY CHANNERY LOAM, 25 TO 45 PERCENT SLOPES

\* INDICATES HYDRIC SOILS  
 TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 2

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: 410-465-6844  
 www.bei-civilengineering.com

*Donald Mann*  
 5/19/07

OWNER/DEVELOPER: RALPH L. LAFON JR.  
 15899 NEWPORT ROAD  
 MOUNT AIRY, MD 21771-3428

PROJECT: DORSEY CROSSING

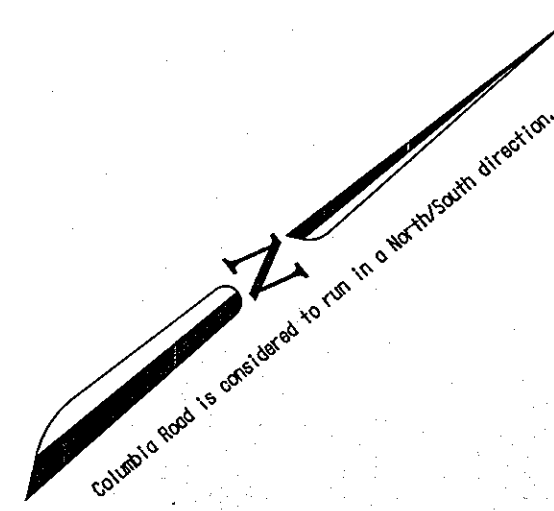
LOCATION: LAFON TAX MAP 2 - GRID 18 PARCELS 43 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	LOCATION: 9544 OLD ANNAPOLIS RD TAX MAP 90 - GRID 9 PARCELS 43 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
--	--

TITLE: FOREST CONSERVATION PLAN  
 OFFSITE FOREST MITIGATION PLAN AT LAFON PROPERTY

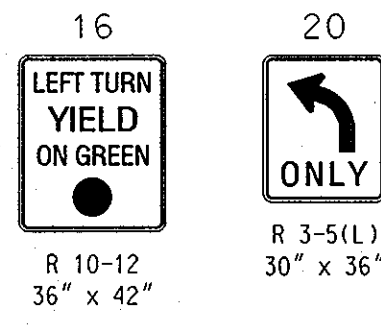
DATE: AUGUST, 2005 PROJECT NO. 1653  
 APRIL, 2006

SCALE: AS SHOWN DRAWING 15 OF 17  
 SDP-06-36

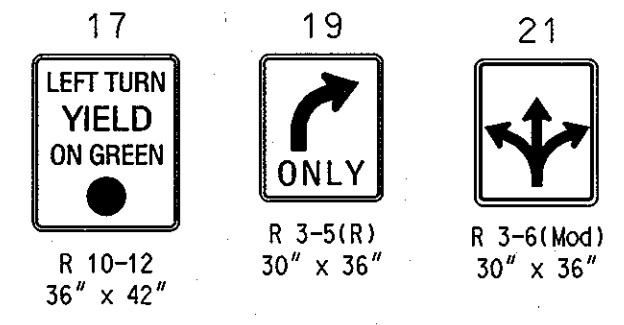
Design: DAM Draft: EDD Check: DAM



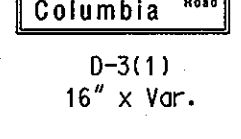
**EXISTING SIGNS**



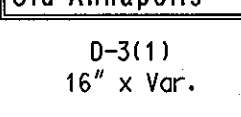
**PROPOSED SIGNS**



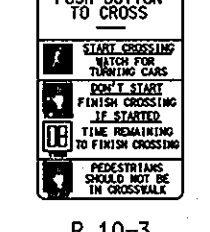
**18, 22**



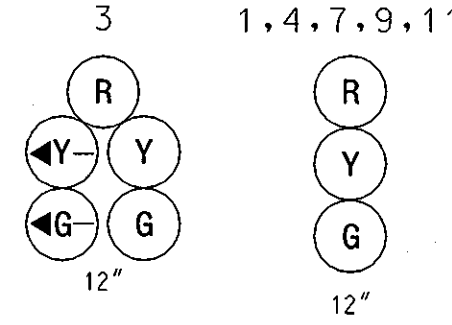
**27, 28**



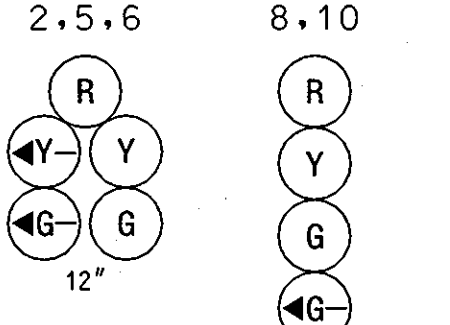
**23-26**



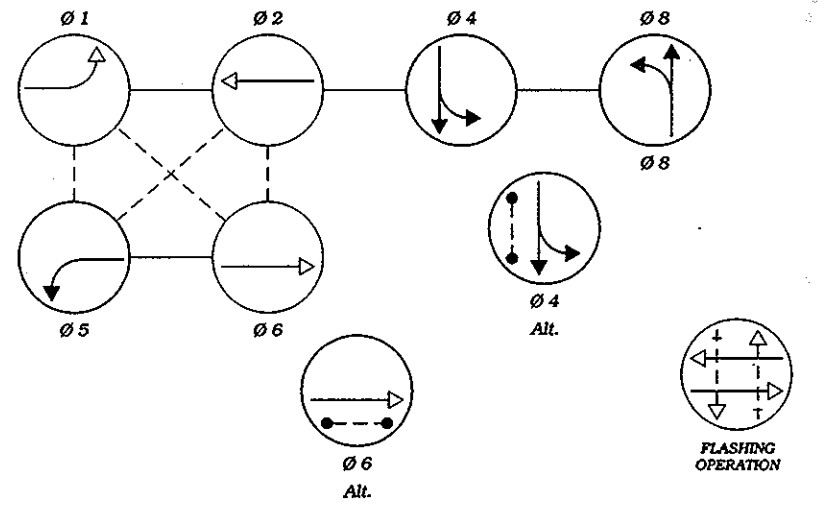
**EXISTING SIGNALS**



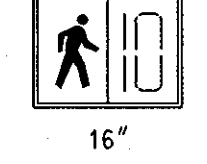
**PROPOSED SIGNAL**



**PROPOSED NEMA PHASING**

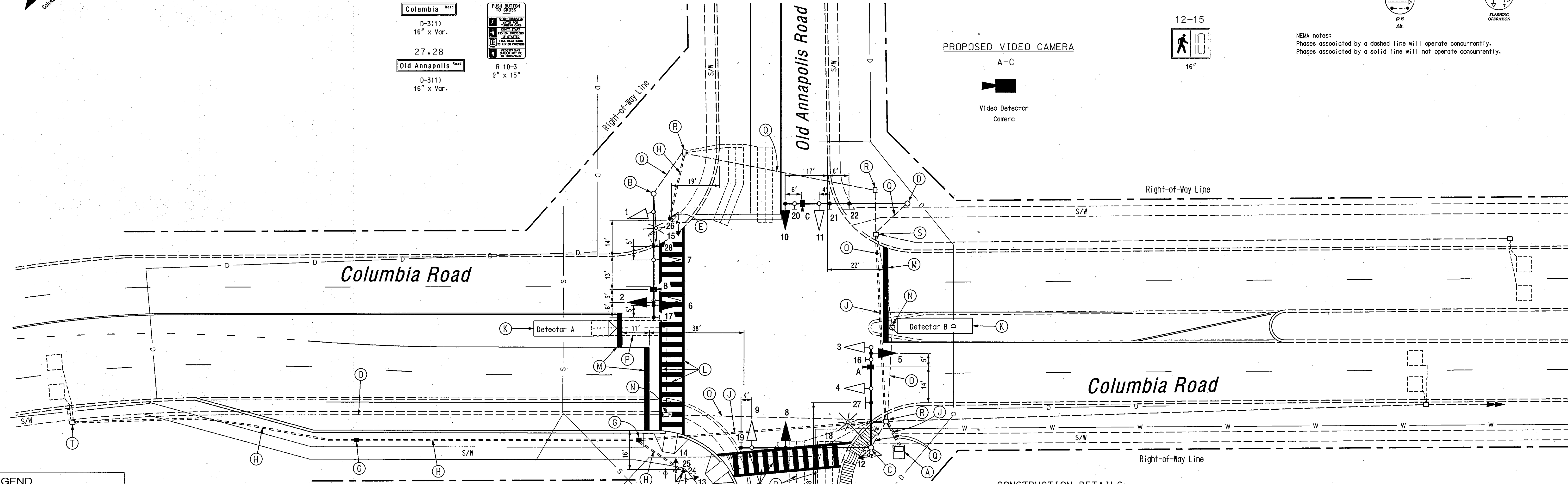


**12-15**



**PROPOSED VIDEO CAMERA**

A-C



**LEGEND**

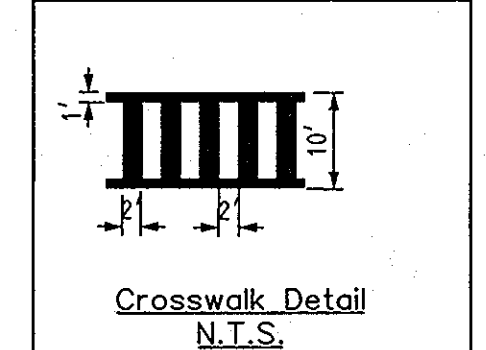
PROPOSED	EXISTING
MAST ARM	
TRAFFIC SIGNAL HEAD	
PEDESTRIAN SIGNAL HEAD	
STREET LIGHT	
HANDBOX	
CONDUIT	
LOOP DETECTOR	
CONTROLLER WITH PAD	
WOOD POLE	
FIRE HYDRANT	
MANHOLE	
W.V. WATER VALVE	W.V.
G.V. GAS VALVE	G.V.
GEOMETRICS	

**NOTES**

- Contractor shall contact the Howard County Department of Public Works, Traffic Engineering Division, Diane Schwarzman (410-313-5753) prior to installing signal heads, poles, and detectors. Exact locations of signal heads and detectors will be field laid out by the Traffic Engineering Division.
- Geometrics shall be confirmed prior to the installation of signal equipment. All traffic signal foundations shall be installed at final sidewalk or curb grade for closed sections.
- Conduits shall be installed prior to the installation of pavement markings.
- Pavement markings detailed are proposed and are to be installed by the Contractor in accordance with MD-SHA standards. All other pavement markings are to be considered as existing.
- All underground and overhead utilities shown on these plans are schematic and are not to be considered complete. The Contractor shall be responsible for notifying all utility companies prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal equipment will occur, the Contractor shall notify the appropriate Project Engineer immediately and will be required to hand excavate and/or Test Pit all utility crossings.
- Contractor shall remove and dispose of all existing conductors which will be replaced.

**CONSTRUCTION DETAILS**

- Use existing base mounted cabinet/controller. Make necessary modifications to accommodate new phasing and video detection cameras. (To be done By County Signal Shop.) Install an additional 4 in. elbow in existing foundation.
- Use existing signal pole. Replace existing 3-section signal head with 5-section signal head. Install video detection camera and signs as shown.
- Use existing signal pole. Install new traffic signal head, video detection camera, signs, pedestrian signal head, pedestrian pushbutton, and pedestrian pushbutton sign as shown. Replace existing 3-section signal head with 4-section signal head. Remove existing R10-12 sign.
- Use existing signal pole. Replace existing 3-section signal head with 4-section signal head. Install video detection camera and signs as shown.
- Install 8 ft. steel pedestal pole on breakaway base with pedestrian signal head, pedestrian pushbutton, pedestrian pushbutton sign, and grounding rod in the foundation (Note: one 2 in. PVC elbow).
- Install 8 ft. steel pedestal pole on breakaway base with pedestrian signal heads, pedestrian pushbuttons, pedestrian pushbutton signs and grounding rod in the foundation (Note: one 2 in. PVC elbow).
- Install handbox.
- Install 2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
- Install 4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
- Install video detector zone.
- Install white pavement marking for crosswalk as shown in detail.
- Install 24 in. wide white pavement marking - white for stop line.
- Remove existing handbox.
- Cap and abandon existing conduit.
- Abandon existing loop detector.
- Use existing conduit.
- Use existing handbox.
- Use existing handbox. Disconnect and pull back all cables from Controller/Cabinet and re-run in new conduit back to Controller/Cabinet.
- Use existing handbox. Splice existing loop wire to new aluminum shielded cable.



**UTILITY LEGEND**

G	GAS MAIN
W	WATER MAIN
S	SEWER MAIN
D	STORM DRAIN
TV	CABLE TELEVISION
E	ELECTRIC CABLES
T	TELEPHONE CABLES
A	AERIAL CABLES

APPROVED: DEPARTMENT OF PUBLIC WORKS Planning & Zoning  
*Mark A. Longley* Date 6/14/07  
 Director

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hunter* Date 6/18/07  
 Chief, Division of Land Development

*Mike Vannaman* Date 6/15/07  
 Chief, Development Engineering Division

NO.	REVISION	DATE
<b>TRAFFIC SIGNAL PLAN</b> <b>DORSEY CROSSING</b> PARCEL A SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THRU 95 PARCEL A PARCELS 59-65, 223, AND 231 HOWARD COUNTY, MARYLAND TAX MAP 38 GRID 3 2ND ELECTION DISTRICT		
 The Traffic Group Suite 41 9500 Franklin Square Dr. Baltimore, Maryland 410-631-0800 1-800-593-6411 Fax: 410-631-0051		<b>Columbia Road</b> <b>at</b> <b>Old Annapolis Road</b>
DESIGN BY: JD DRAWN BY: FH CHECKED BY: JD DATE: 02-15-2007 SCALE: 1" = 20' W.D. NO.: 04-14188/201/983		16 SHEET OF 17 SDP-06-036

1:2000\2006-106\ANSI\SDP.dwg 4/30/2007



**PROJECT DESCRIPTION**

**I. GENERAL**

This project involves the modification to the existing traffic control signal at the intersection of Columbia Road and Old Annapolis Road in Howard County, Maryland. Columbia Road is considered to run in a north/south direction.

**II. INTERSECTION OPERATION**

The intersection is to be modified to operate in a NEMA six (6) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for both the north and southbound movements of Columbia Road. The Columbia Road through movements will operate concurrently with an actuated pedestrian movement across the east leg of the intersection. The Old Annapolis Road movements will operate in a side street split phase mode with an actuated pedestrian movement across the south leg of the intersection.

The existing controller and base mounted cabinet are to be utilized.

Video detection is to be added.

**EQUIPMENT LIST**

Equipment to be purchased by the Developer from Howard County and be installed by the Contractor.

Quantity	Units	MD-SHA Specification Section	Description
2	EA	818	8 ft. steel pedestal pole with break away transformer base.
1	EA	---	Video Detection Interface for existing controller cabinet.
3	EA	---	Video Detector with Manufacture Recommended Cable. (1- 450 ft., 1- 200 ft., 1- 125 ft.)
2	EA	816	NEMA Load Switch
2	EA	814	12 in., one-way, four section (R,Y,G,GA) adjustable yellow faced LED traffic signalhead with mast arm mounting hardware and tunnelvisors.
3	EA	814	12 in., one-way, five section (R,Y,YA,G,GA) adjustable yellow faced LED traffic signalhead with mast arm mounting hardware and tunnelvisors.
2	EA	814	16 in., one-way, one section (Countdown indications) adjustable LED pedestrian signalhead with post top mounting hardware and cut-away visors.
2	EA	814	16 in., two-way, one section (Countdown indications) adjustable LED pedestrian signalhead with post top mounting hardware and cut-away visors.
4	EA	813	Pedestrian pushbutton assembly with pushbutton sign.

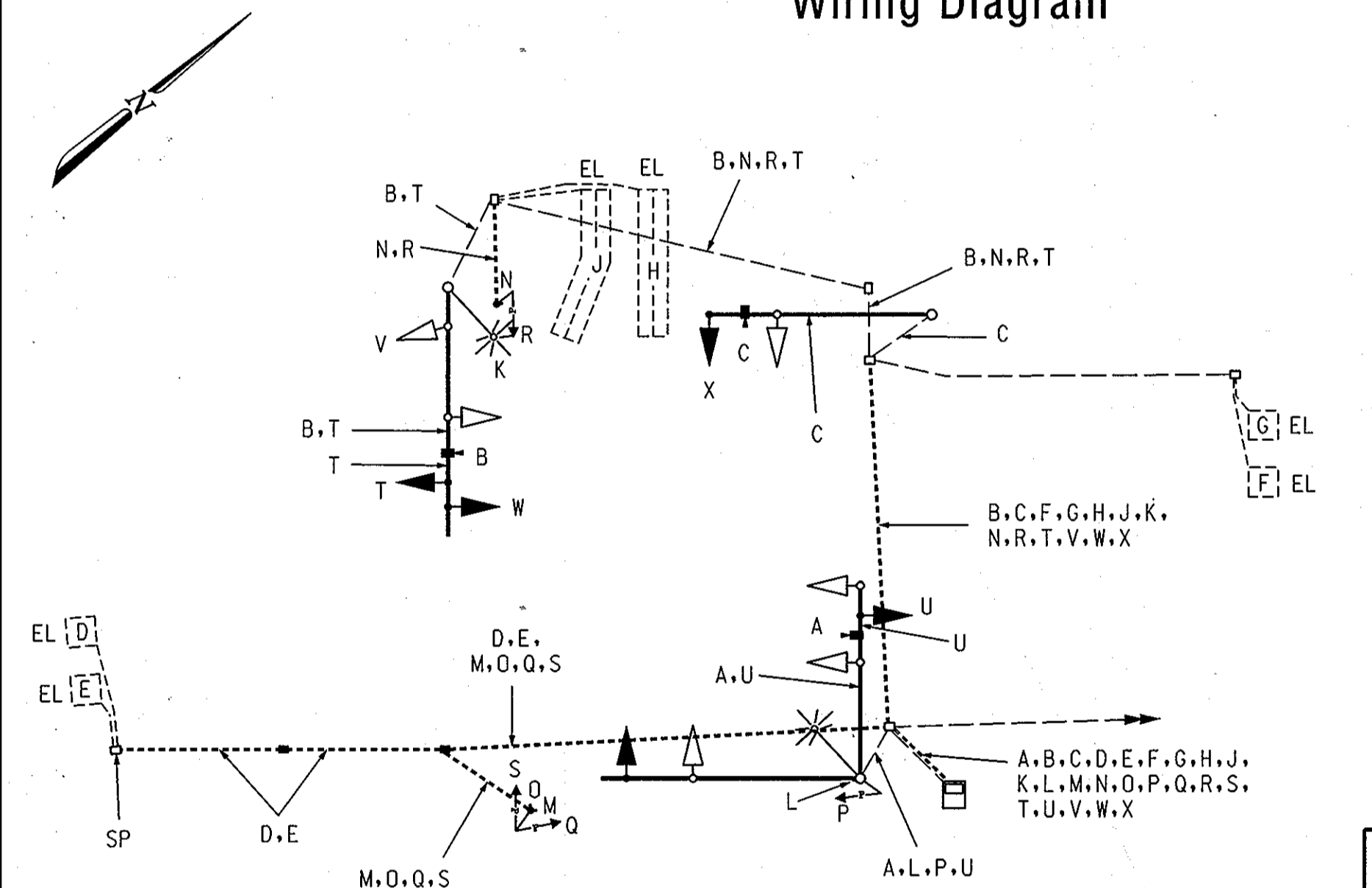
Equipment to be furnished and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	MD-SHA Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
1	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
1	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
1	EA	813	30 in. x 36 in. R 3-6(Mod) sign with mast arm mounting hardware.
4	EA	813	Pedestrian pushbutton assembly with pushbutton sign.
1	CY	205	Test pit excavation.
2	EA	811	Handbox.
725	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
600	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
600	LF	810	3-conductor electrical cable (No. 14 A.W.G.).
725	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
2	LF	805	2 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
185	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
2	CY	801	Concrete foundation for traffic signal equipment.
2	EA	804	Ground rod - 3/4 in. diameter x 10 ft. length.
2	EA	810	Loop detector splice.
280	LF	549	12 in. wide HAPPTPM - white for crosswalk.
350	LF	549	24 in. wide HAPPTPM - white for stop line/crosswalk.
Lump Sum	LS	---	Relocated existing cables in new conduit (approximately 600 LF).
Lump Sum	LS	---	Remove and dispose of existing signal equipment.
Lump Sum	LS	---	Install elbow into existing base.
Lump Sum	LS	---	As-built for County (on CADD).

**Phase Chart**

	1	2	3	4	5	6	7	8	9	10	11	12,13	14,15
Phase 1 & 5	R	R	R	R	R	R	R	R	R	R	R	DW	DW
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6	G	G	G	G	G	G	G	G	G	G	G	DW	DW
Phase 1 & 6	G	G	G	G	R	R	R	R	R	R	R	DW	DW
1 Change	G	G	G	G	R	R	R	R	R	R	R	DW	DW
Phase 2 & 5	R	R	R	R	G	G	G	G	R	R	R	DW	DW
2 Change	R	R	R	R	G	G	G	G	R	R	R	DW	DW
Phase 2 & 6	G	G	G	G	G	G	G	G	R	R	R	DW	DW
2 & 6 Change	Y	Y	Y	Y	Y	Y	Y	Y	R	R	R	DW	DW
Phase 2 & 6 Alt	G	G	G	G	G	G	G	G	R	R	R	WK	DW
Ped Clearance	G	G	G	G	G	G	G	G	R	R	R	FL/DW	DW
2 & 6 Alt Change	Y	Y	Y	Y	Y	Y	Y	Y	R	R	R	DW	DW
Phase 4	R	R	R	R	R	R	R	R	R	R	R	G	DW
4 Change	R	R	R	R	R	R	R	R	R	R	R	Y	DW
Phase Alt 4	R	R	R	R	R	R	R	R	R	R	R	G	WK
Ped Clearance	R	R	R	R	R	R	R	R	R	R	R	G	FL/DW
Alt 4 Change	R	R	R	R	R	R	R	R	R	R	R	Y	DW
Phase 8	R	R	R	R	R	R	R	R	R	R	R	G	DW
8 Change	R	R	R	R	R	R	R	R	R	R	R	Y	DW
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK

**Wiring Diagram**



- A } Video Detector Cable
- B }
- C }
- D } 2-conductor Cable (Aluminum Shielded)
- E }
- F } Existing 2-conductor Cable (Aluminum Shielded)
- G }
- H }
- J }
- K } 2-conductor Tray Cable (No. 12 A.W.G.)
- L }
- M } 2-conductor Cable (No. 14 A.W.G.)
- N }
- O }
- P } 3-conductor Cable (No. 14 A.W.G.)
- Q }
- R }
- S }
- T } 7-conductor Electrical Cable (No. 14 A.W.G.)
- U }
- V }
- W }
- X }
- EL - Existing Loop Detector Wire
- SP - Splice Aluminum Shielded Cable To Existing Loop Wire

APPROVED: DEPARTMENT OF PUBLIC WORKS *P 12*

*Mark A. ...* Date *4/11/07*

Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Candy ...* Date *4/18/07*

Chief, Division of Land Development

*...* Date *5/30/07*

Chief, Development Engineering Division

NO. \_\_\_\_\_ REVISION \_\_\_\_\_ DATE \_\_\_\_\_

**GENERAL INFORMATION SHEET**  
**DORSEY CROSSING**

PARCEL A  
SINGLE FAMILY ATTACHED TOWNHOUSE CONDOMINIUM UNITS 1 THRU 95

TAX MAP 38 GRID 3 PARCELS 59-65, 229, AND 231  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

The Traffic Group  
9900 Franklin Square Dr.  
Baltimore, Maryland  
410-931-6800  
1-800-863-8611  
Fax 410-931-6801

Columbia Road  
at  
Old Annapolis Road

DESIGN BY: JD  
DRAWN BY: FH  
CHECKED BY: JD  
DATE: 02-15-2007  
SCALE: N/A  
W.D. NO.: 04-14189/201963

17 SHEET OF 17

SDP-06-036

13/0000/0000-108-A/SES-01-plan-036 4/30/2007