

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 28659, Expiration Date: 7-22-11

FOR REVISIONS BY BENCHMARK ENGINEERING INC. ONLY  
 2480 BALTIMORE NATIONAL PIKE STE 418  
 ELLICOTT CITY, MARYLAND 21043  
 410-465-6105



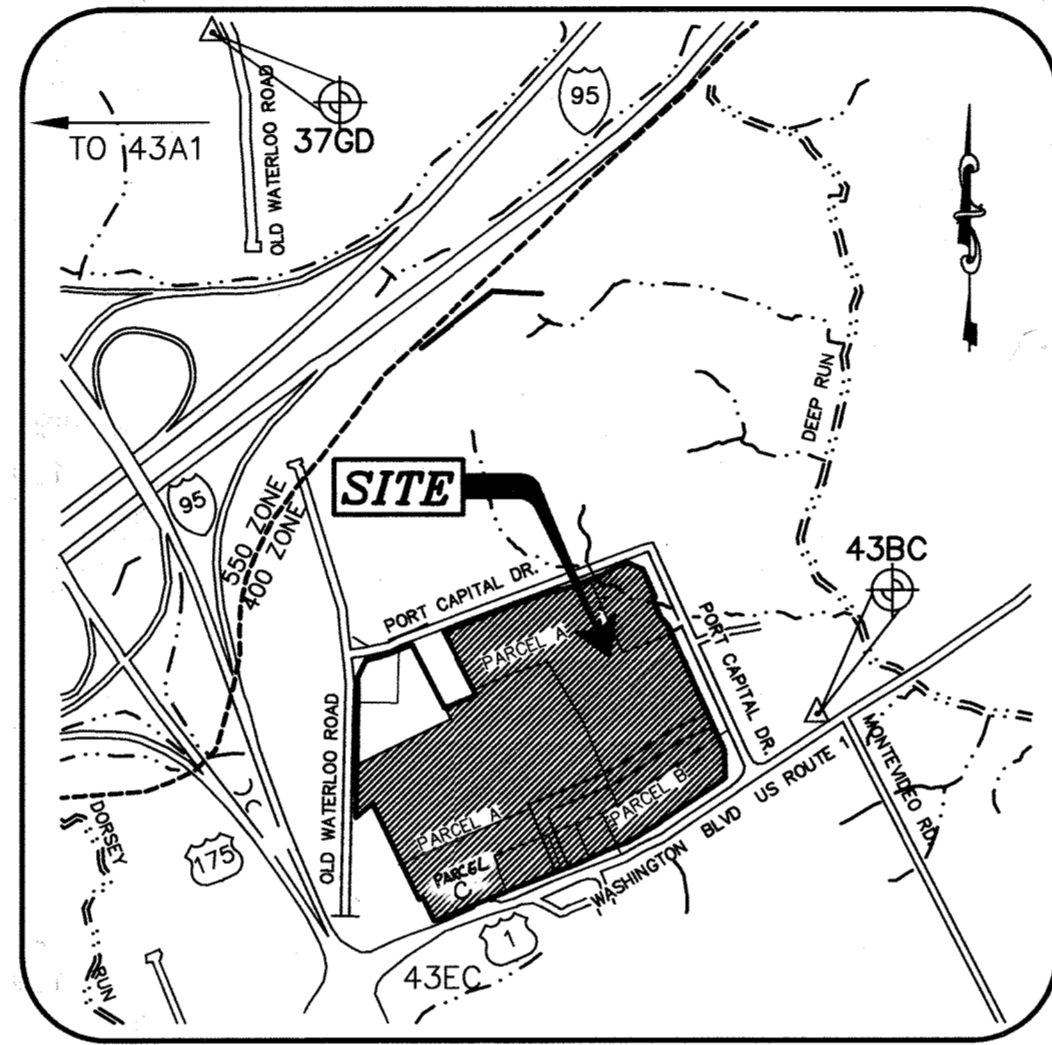
# ROAD CONSTRUCTION PLANS HOWARD SQUARE PARCELS A, B AND C FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

### GENERAL NOTES:

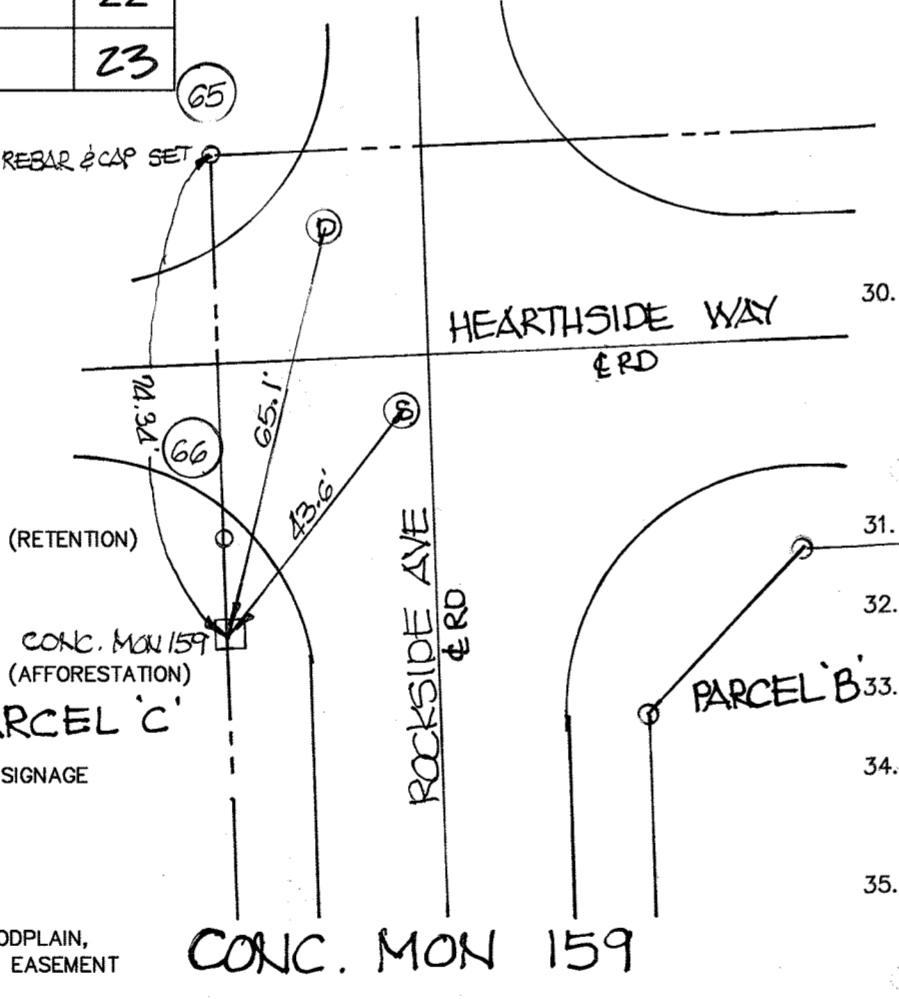
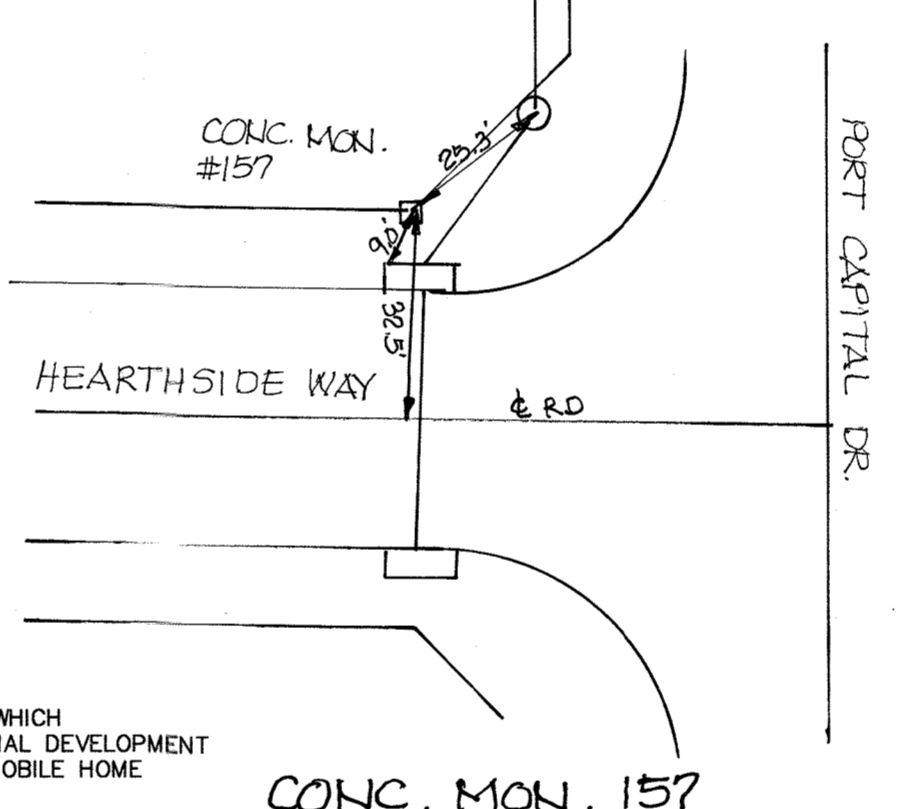
- THIS PLAN IS SUBJECT TO COUNTY COUNCIL BILL 45-2003, THE AMENDED 5th EDITION SUBDIVISION REGULATIONS, EFFECTIVE OCTOBER 2, 2003, AND TO THE 2004 COMPREHENSIVE ZONING PLAN DATED FEBRUARY 2, 2004.
- THE SUBJECT PROPERTY IS ZONED CAC-CU PER THE 2/2/2004 COMPREHENSIVE ZONING PLAN AND PER THE "COMP LITE" ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06.
- SITE DATA:  
 ZONING: CAC-CU  
 TAX MAP: 43 PARCELS A, B AND C  
 DEED REFERENCE: 7301/583  
 GROSS AREA: 40.4 ACRES±  
 NUMBER OF PROPOSED BULK PARCELS: 2  
 AREA OF ROAD DEDICATION: -2.08 ACRES±
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS UNLESS A WAIVER HAS BEEN GRANTED.
- TOPOGRAPHIC INFORMATION IS BASED ON AERIAL RUN TOPOGRAPHY PERFORMED BY WINGS TOPOGRAPHY, INC. ON OR ABOUT APRIL 2005, COMPLIANT WITH FIELD RUN TOPOGRAPHY PERFORMED BY MILDENBERG, BOENDER AND ASSOC. ON OR ABOUT JUNE 2007.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATES SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 43EC AND 43BC  
 STA. 43EC N 547,821.272 E 1,372,882.450 EL 220.415  
 STA. 43BC N 549,992.0910 E 1,375,466.8200 EL 214.820
- BOUNDARY INFORMATION IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT FEBRUARY, 2002 BY MILDENBERG, BOENDER AND ASSOCIATES, INC.
- LAND DEDICATED TO HOWARD COUNTY, MARYLAND FOR THE PURPOSES OF A PUBLIC ROAD (1.87 ACRES)
- LAND DEDICATED TO THE STATE OF MARYLAND FOR THE PURPOSES OF A PUBLIC ROAD (0.21 ACRES)
- BASED ON AVAILABLE COUNTY DATA, NO HISTORIC STRUCTURES OR BURIAL GROUNDS EXIST ON SITE.
- SOILS DATA BASED ON HOWARD COUNTY SOIL SURVEY DATED 1968, SHEET 20.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED.
- ALL STRUCTURES TO BE REMOVED UNLESS OTHERWISE NOTED.
- NO STEEP SLOPES EXIST ON SITE.
- FLOODPLAIN LIMIT SHOWN PER F-08-013 PREPARED BY MILDENBERG, BOENDER AND ASSOCIATES INC. APPROVED IN JANUARY 2008 UNDER SDP-08-046.

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RIGHT OF WAY ELEVATION CHART NAD 83		
R/W P.T. NO.	DESCRIPTION	ELEVATION
61	REBAR & CAP	212.24'
62	REBAR & CAP	221.61'
63	REBAR & CAP	229.06'
64	REBAR & CAP	232.45'
65	REBAR & CAP	235.21'
66	X-CUT	233.20'
72	MAG NAIL	229.39'
73	X-CUT	229.50'
74	X-CUT	228.44'
75	REBAR & CAP	233.58'
76	REBAR & CAP	235.23'
77	REBAR & CAP	232.22'
78	REBAR & CAP	228.45'
79	X-CUT	221.24'
80	REBAR & CAP	218.14'
81	REBAR & CAP	215.23'
82	REBAR & CAP	212.91'
83	X-CUT	209.75'
84	REBAR & CAP	208.13'
85	REBAR & CAP	206.70'
86	REBAR & CAP	219.26'
87	REBAR & CAP	225.12'
88	MAG NAIL	227.62'
157	CONC. MON.	216.17'
158	REBAR & CAP	217.98'
159	CONC. MON.	233.90'



AS-BUILT NOTES:  
 1) HORIZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83/ADJ 91 AS PROJECTED FROM HO CO GEODETIC CONTROL STATIONS 43EC AND 43BC. VERTICAL DATUM FOR THIS AS-BUILT IS NORTH AMERICAN VERTICAL DATUM NGVD 29 AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS.  
 2) THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A 5' TOTAL STATION AND PRISM.  
 3) THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.



- WP-08-020 WAS APPROVED ON OCTOBER 3, 2007, WAIVING SECTION 16.155 (APPLICABILITY) WHICH REQUIRED THE SUBMISSION OF SITE DEVELOPMENT PLAN FOR NEW OR EXPANDED NONRESIDENTIAL DEVELOPMENT AND NEW RESIDENTIAL DEVELOPMENT INCLUDING SINGLE-FAMILY ATTACHED, APARTMENT AND MOBILE HOME RESIDENTIAL DEVELOPMENT. APPROVAL IS SUBJECT TO THE FOLLOWING:  
 1. HSDC MUST APPROVE THE ASSOCIATED GRATING PERMIT.  
 2. THE APPLICANT AND HIS CONSULTANT MUST SCHEDULE A MEETING WITH ALL APPLICABLE COUNTY AND STATE AGENCIES TO ADDRESS THE COMMENTS FOR F-08-013 ISSUED IN THE DEPARTMENT OF PLANNING AND ZONING'S LETTER DATED SEPTEMBER 27, 2007.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREETLIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE PROPOSED LIGHTING TYPES ARE 150WATT HPS, MAPLE LAWN ACORN ON LOCATION AS FOLLOWS:  
 US-1 STA.0+60.43'LT., STA.1+20.43'LT., STA.2+20.46'LT., STA.3+00.46'LT., STA.3+80.46'LT., STA.4+70.46'LT./HAND BOX, STA.5+40.54'LT./HAND BOX, STA.7+35.94'LT./HAND BOX, STA.8+15.58'LT., STA.8+95.44'LT., STA.9+73.44'LT., STA.10+53.44'LT., STA.11+40.48'LT., STA.12+20.49'LT., STA.13+20.49'LT., STA.13+75.49'LT., STA.14+61.49'LT., STA.15+40.49'LT., ROCKSIDE AVE. STA.1+25.24'LT., STA.1+25.24'RT., STA.2+25.24'RT., STA.3+20.25'LT., HEARTHESIDE WAY STA.4+07.26'RT., STA.4+95.24'LT., STA.5+79.26'RT., STA.6+30.24'LT., STA.7+59.24'RT., STA.8+70.24'LT., STA. 9-70.24' RT., STA.10+70.24'LT., STA.11+70.24'RT.
- WATER AND SEWER IS PUBLIC. CONTRACT NUMBER: 14-4554-D.
- EXISTING UTILITIES BASED ON FIELD RUN SURVEY PERFORMED BY MILDENBERG, BOENDER AND ASSOC., INC. AND HOWARD COUNTY AS-BUILT PLANS.
- TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP ON NOVEMBER 2006 AND APPROVED UNDER S-06-010 ON JUNE 5, 2007.
- GRADING PERMIT GP-08-24 WAS APPROVED ON NOVEMBER 2007.
- EXISTING WATER, SEWER AND UTILITY LINES ON THE SITE TO BE ABANDONED AND REMOVED IN ACCORDANCE WITH A PETITION TO RELEASE A UTILITY EASEMENT PER SECTION 4.201(D). EASEMENTS WERE ABANDONED BY COUNTY COUNCIL RESOLUTION 140-2008 ON AUGUST 12, 2008.
- WP-09-025 WAS APPROVED ON OCTOBER 11, 2009, WAIVING SECTION 16.115(c)(2) AND SECTION 16.116(a)(1) & (2) WHICH PROHIBITS CLEARING, EXCAVATION, FILLING AND ALTERING DRAINAGE IN A FLOODPLAIN AND GRADING, REMOVAL OF VEGETATIVE COVER IN THE WETLANDS, WETLANDS BUFFERS AND STREAM BUFFERS. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:  
 1. LIMITS OF DISTURBANCE WILL BE THE MINIMUM NECESSARY TO THE IMPROVEMENTS AND SHALL NOT EXCEED THE DISTURBANCE SHOWN ON THE WAIVER PETITION EXHIBIT. DISTURBANCE IS LIMITED AS FOLLOWS:  
 - 850 SQUARE FEET OF FLOODPLAIN DISTURBANCE  
 - 400 SQUARE FEET OF WETLAND DISTURBANCE  
 - 1,800 SQUARE FEET OF WETLAND BUFFER DISTURBANCE  
 - 5,100 SQUARE FEET OF STREAM BUFFER DISTURBANCE  
 2. ALL NECESSARY STATE AND LOCAL PERMITS WILL BE OBTAINED PRIOR TO AND GRADING AND/OR CONSTRUCTION ACTIVITY.  
 3. SUPER SILT FENCE SHALL BE INSTALLED ALONG THE ENTIRE LOD ASSOCIATED WITH THE OUTFALL SO THAT MINIMUM DISTURBANCE TO ENVIRONMENTAL AREAS ARE RESPECTED. THE FENCING SHALL BE INSTALLED PRIOR TO THE COMMENCING OF ANY CONSTRUCTION OR GRADING ACTIVITY AND SHALL REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443, Expiration Date: 12-21-20

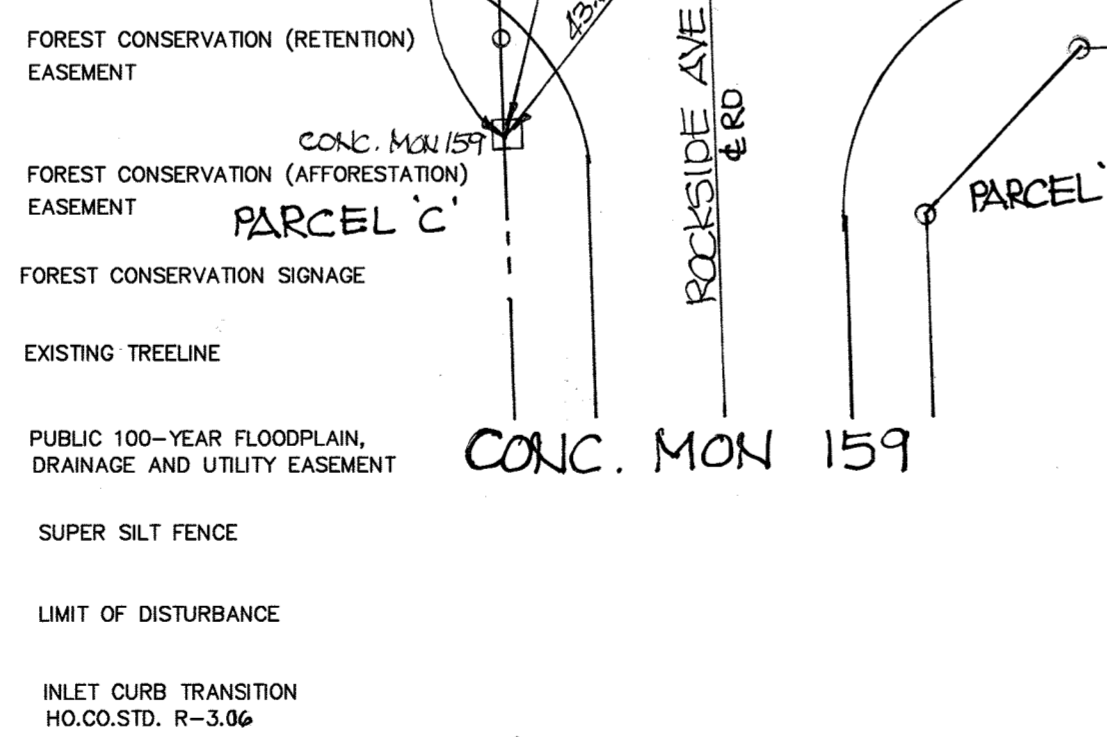
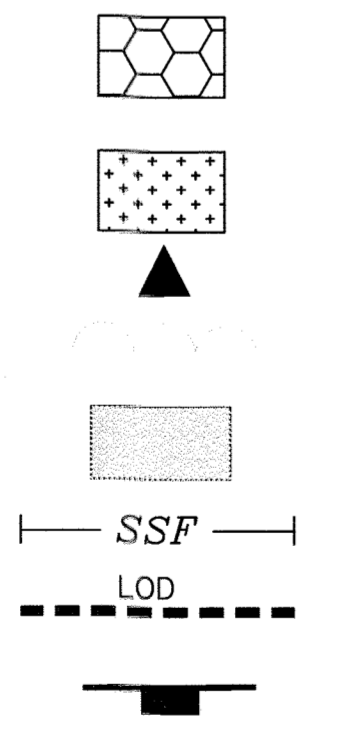
AS-BUILT CERTIFICATION  
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications  
 Donald Mason, P.E. Date: 2/26/2010

### DEVELOPER

ATAPCO HOWARD SQUARE  
 BUSINESS TRUST  
 10 EAST BALTIMORE STREET STE 100  
 BALTIMORE, MARYLAND 21202  
 410-547-7476

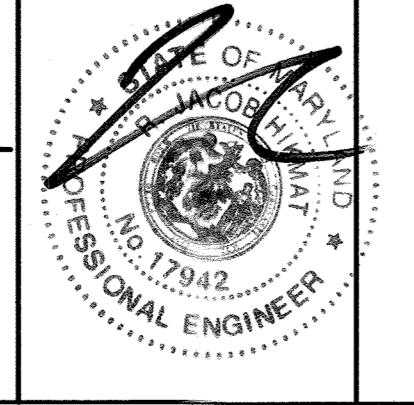
BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT HAVE OBTAINED A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO SHALL CONDUCT PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: [Signature] DATE: 1/25/08  
 PRINTED NAME OF DEVELOPER: [Name]

### LEGEND



BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE 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: 11/25/08  
 PRINTED NAME OF ENGINEER: E. JACOB HEMAT

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942 EXPIRATION DATE: 09/03/2010



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 22370, Expiration Date: 6-30-2011

Revision to address 23 only. Benchmark Engineering, Inc.



THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE: [Blank]  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF SOIL CONSERVATION DISTRICT: [Signature] DATE: 2/2/08  
 HOWARD SOIL CONSERVATION DISTRICT  
 APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF BUREAU OF HIGHWAYS DATE: 12-11-08  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 12/22/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 12/19/08

date	NOV. 2008
project	04-081
illustration	engineering
scale	MM
revision	MM
description	AS SHOWN B/E

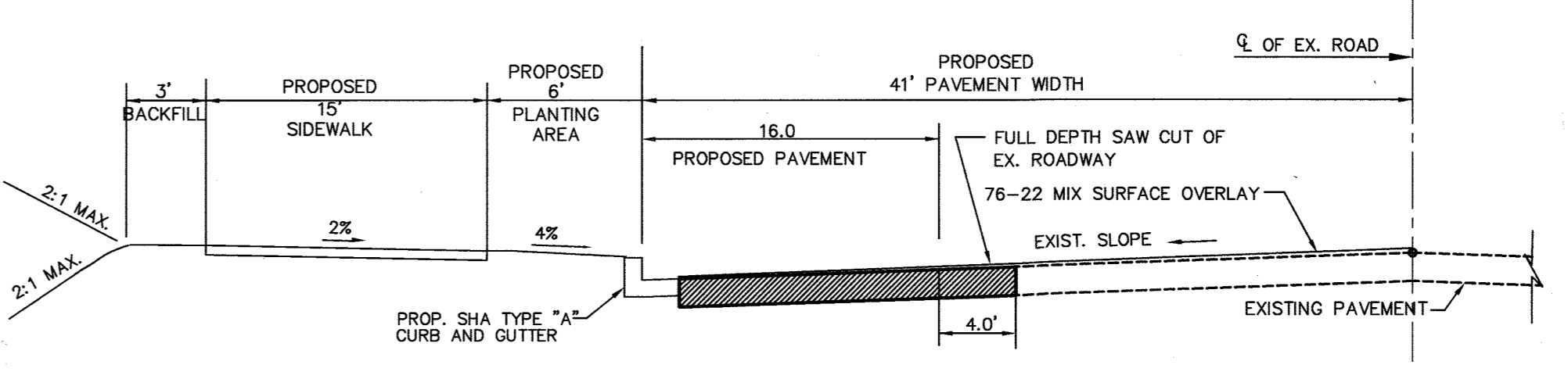
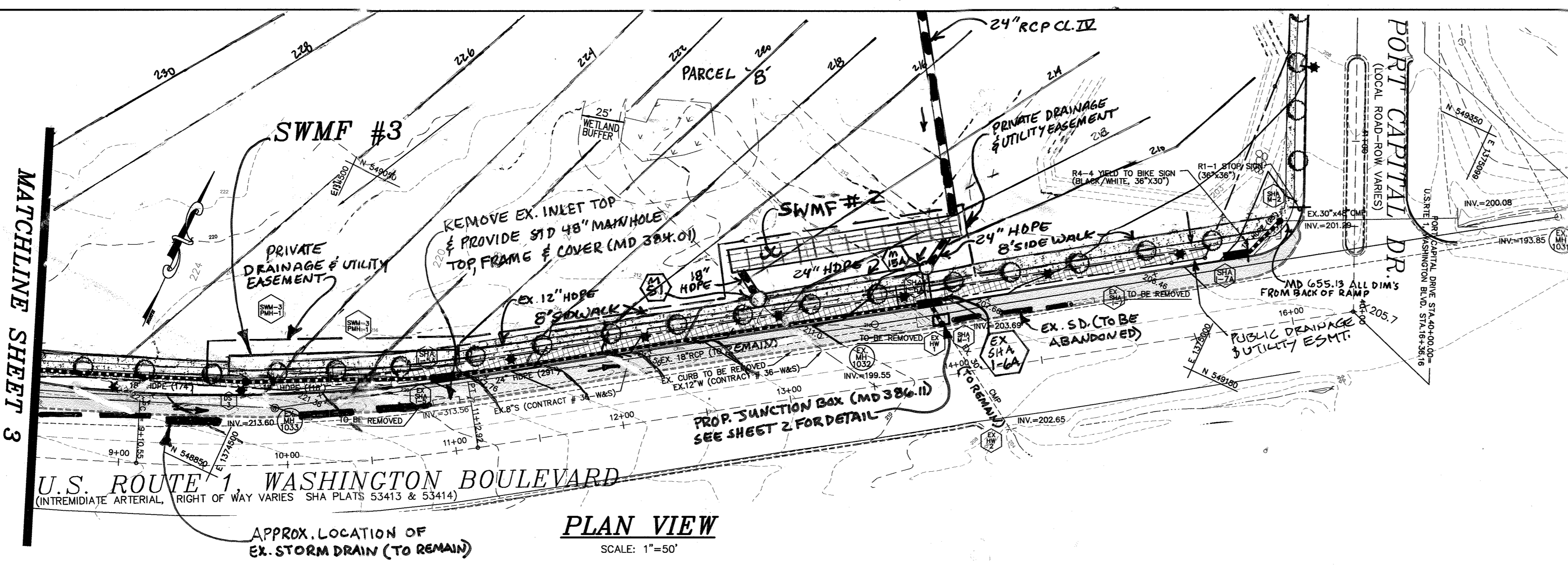
NO. 1	ADD PARCEL 'C' AND GENERAL NOTE 30	BY	DATE
NO. 2	REVISE PARCEL 'A' & 'B' TO SHOW 'AS-BUILT' CONSTRUCTION	BY	DATE
NO. 3	REVISE PARCEL 'A' & 'B' TO SHOW 'AS-BUILT' CONSTRUCTION	BY	DATE
NO. 4	REVISE PARCEL 'A' & 'B' TO SHOW 'AS-BUILT' CONSTRUCTION	BY	DATE

HOWARD SQUARE  
 PARCELS A AND B AND C  
 TAX MAP 43, PARCEL 1  
 HOWARD COUNTY, MARYLAND  
 COVER SHEETS

MILDENBERG, BOENDER & ASSOC., INC.  
 Surveyors  
 Engineers Planners  
 5072 Dorsey Hall Drive Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Fax  
 (410) 997-0286 Bldg.  
 1 OF 23  
 F-08-013



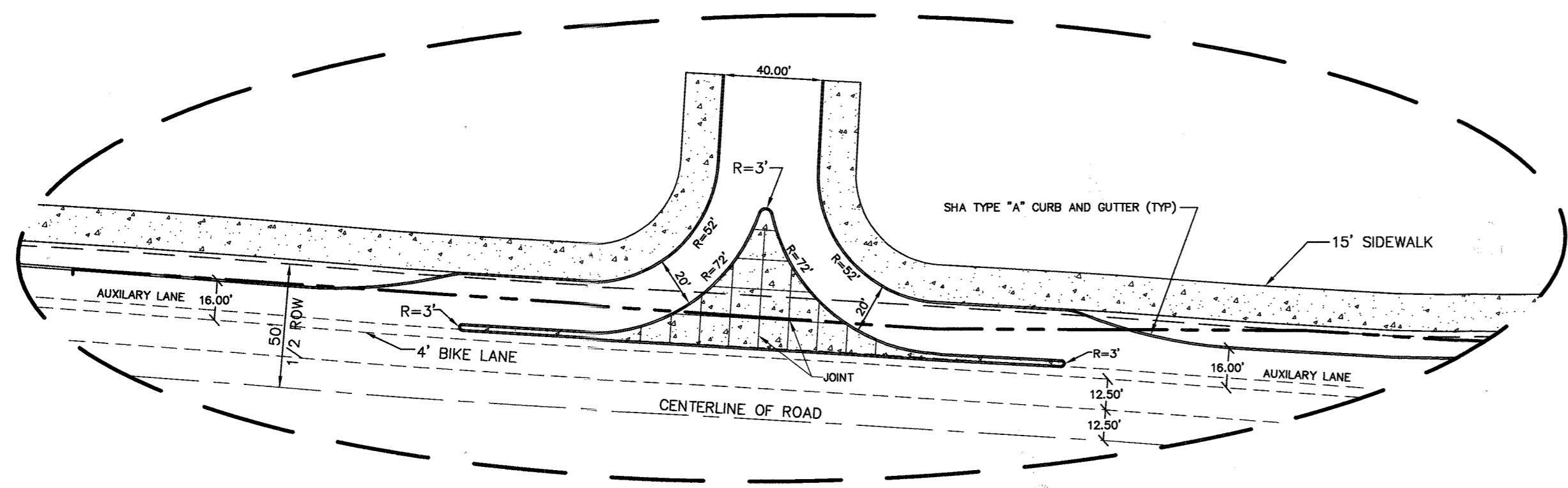




**TYPICAL SECTION - ROUTE 1**

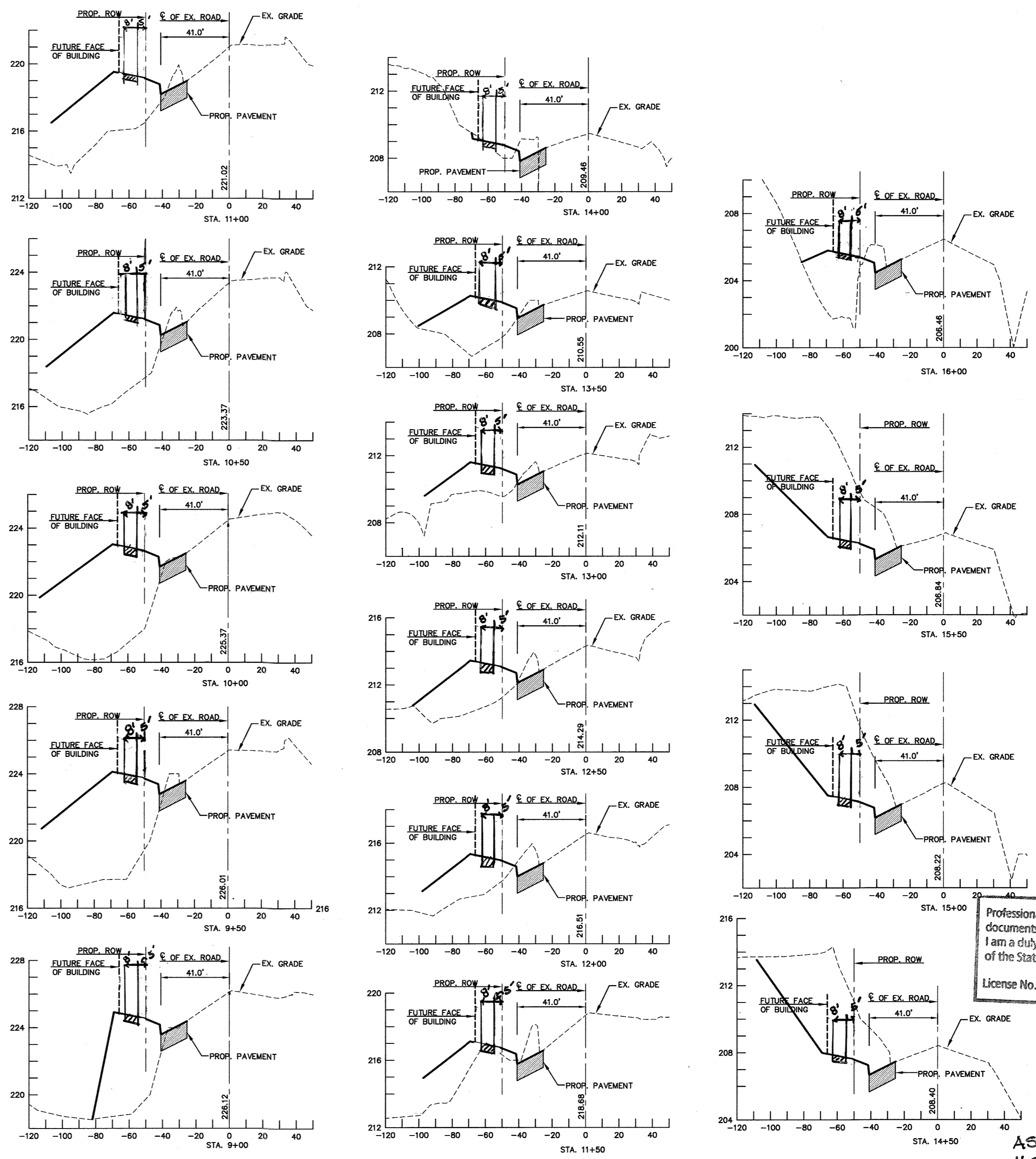
N.T.S.  
FOR DETAILS NOT SHOWN SEE H.O.CO. STD. R1-08  
WIDENING STRIPS ALONG EXISTING ROADWAYS.

NOTES:  
EXISTING INLETS, EX-SHA 1-1, EX-SHA 1-2, EX-SHA 1-3, EX-SHA 1-5 AND EX-SHA 1-7 TO BE REMOVED.  
ALL EXISTING SHA PIPES TO BE ABANDONED SHALL BE FILLED WITH FLOWABLE BACKFILL.  
**NOTE: REFER TO SHEET 2 FOR TREE AND LIGHT POLE LOCATIONS**



**DETAIL-INTERSECTION ROUTE 1 AND ROCKSIDE AVENUE**

SCALE: 1"=50'



**ROUTE 1 ROAD IMPROVEMENTS  
CROSS-SECTIONS**

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

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License No. 21443, Expiration Date: 12/21/22

AS-BUILT FOR THE U.S. ROUTE 1 IMPROVEMENTS WERE REVIEWED AND APPROVED BY SEA UNDER PERMIT NO. 07-AP-HO-013-11  
"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"



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FOR REVISION BY BENCHMARK ENGINEERING INC. ONLY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 22370, Expiration Date: 6-20-17  
FOR REVISION #5 ONLY



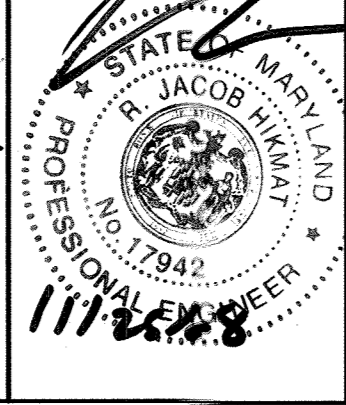
**DEVELOPER**  
ATAFCO HOWARD SQUARE I  
BUSINESS TRUST  
10 EAST PATTERSON STREET, STE 1600  
BALTIMORE, MARYLAND 21202  
MC-347-7146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942  
EXPIRATION DATE: 09/03/2010

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*W. F. M...* 12-11-08  
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*C. H...* 12/22/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

*M. D...* 12/19/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



Project	04-081	Date	NOV-2008
Illustration	MMM	Engineering	MMM
Scale	MMM	Approval	MMM
AS SHOWN	RJH	BY	RJH

NO. 1	REVISE WITH 2' OFFSET FROM ROAD	DATE	12-11-08
NO. 2	REVISE WITH 3' OFFSET FROM ROAD	DATE	1-14-10
NO. 3	SHOW EX-SHA LOCATIONS TO REMAIN	DATE	1-14-10
NO. 4	REV. AND ADD MID RAMP REF. 3	DATE	3-27-10
NO. 5	ADD LABEL 'C' TO TITLE BLOCK	DATE	11-15-10
NO.	DESCRIPTION	DATE	BY

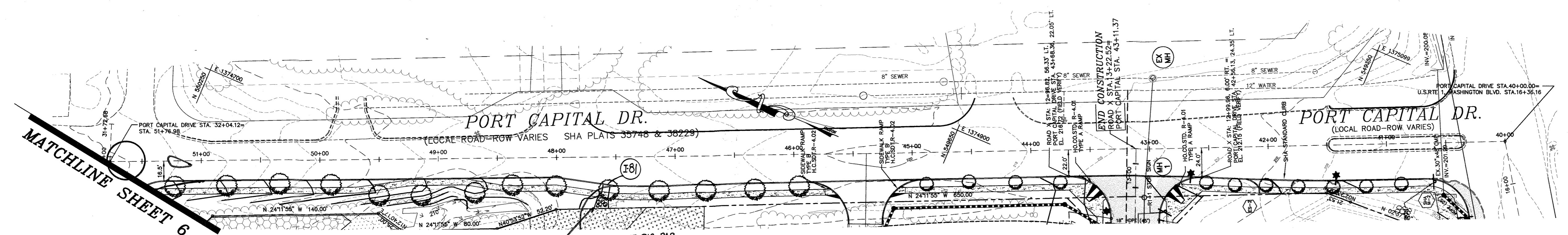
**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
FIRST ELECTION DISTRICT  
**ROUTE 1 ROAD IMPROVEMENTS**

**MILDENBERG, & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286, Balt. (410) 997-0288 Fax

Project	04-081	Scale	AS SHOWN
Date	NOV 2008	Illustration	MMM
Approval	MMM	Scale	AS SHOWN
Revision	1	Date	11-15-10
Revision	2	Date	11-15-10
Revision	3	Date	11-15-10

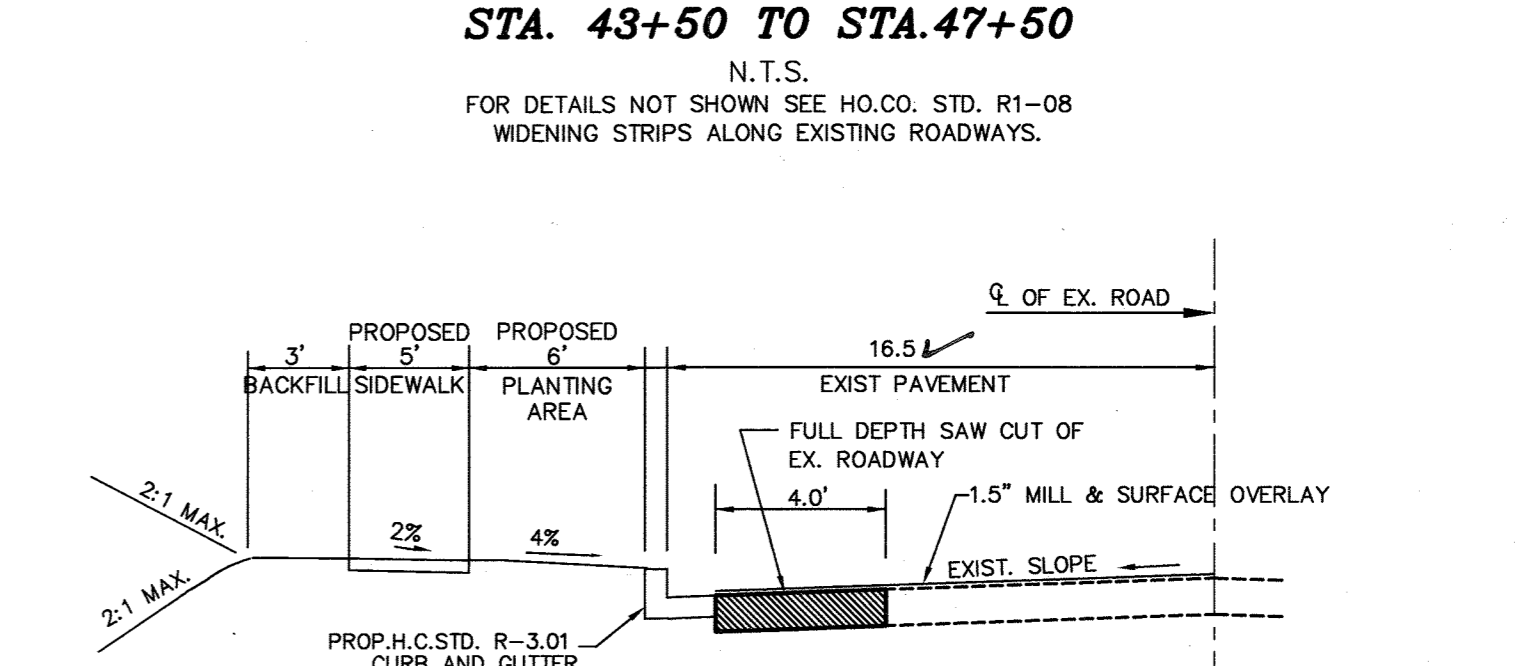
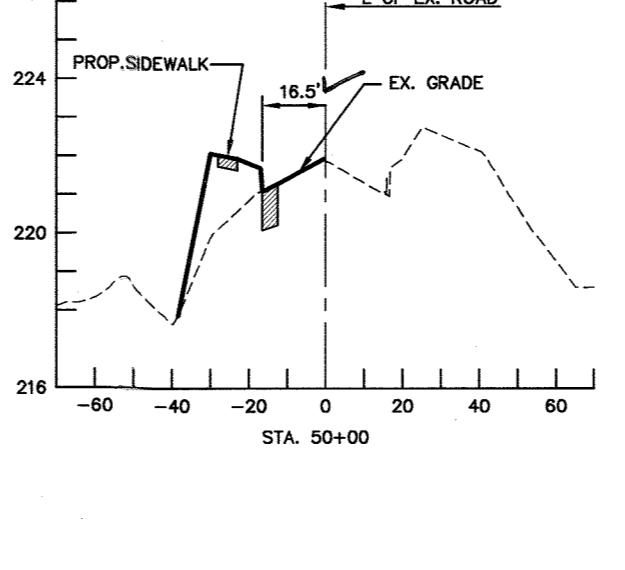
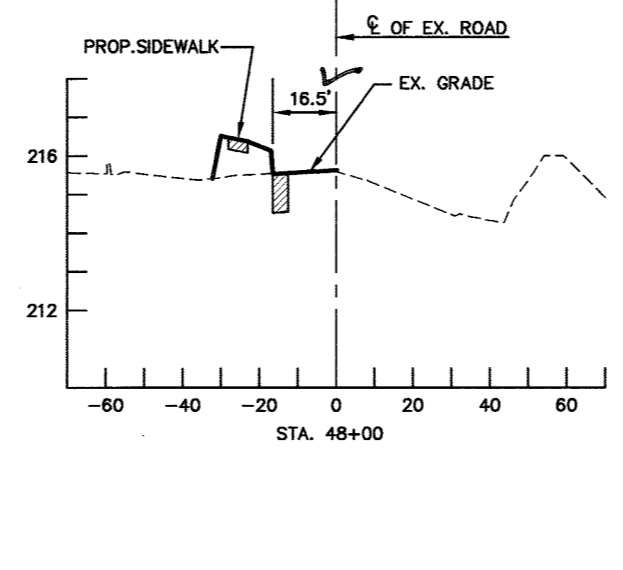
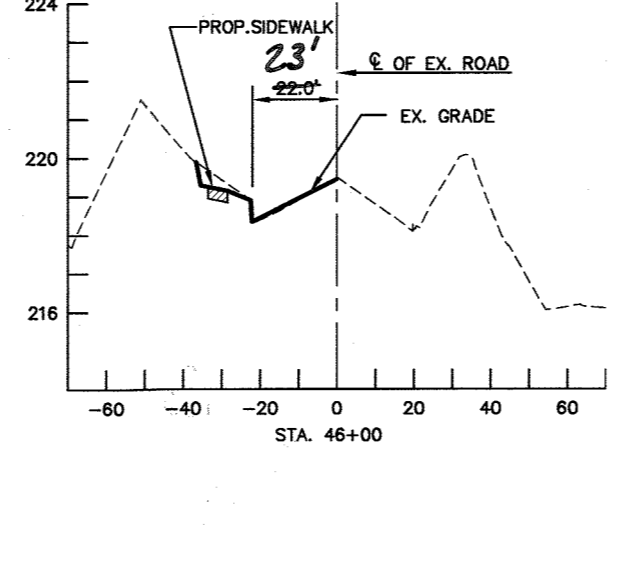
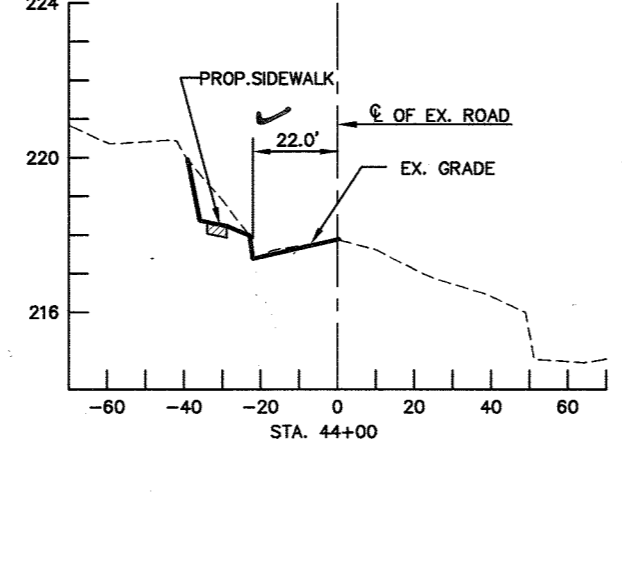
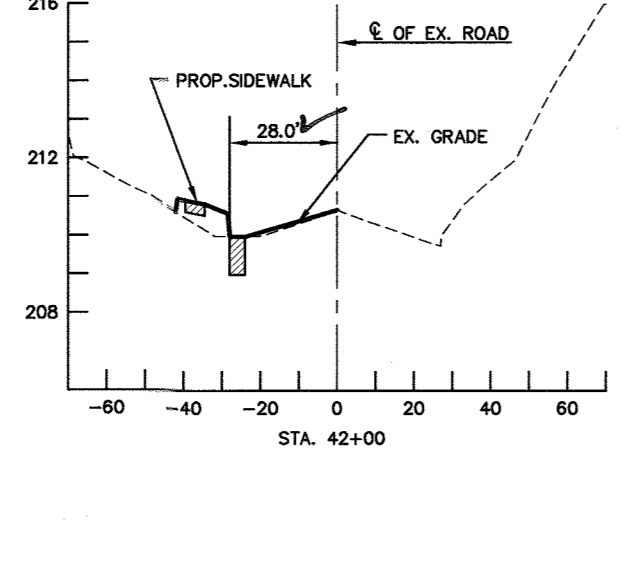
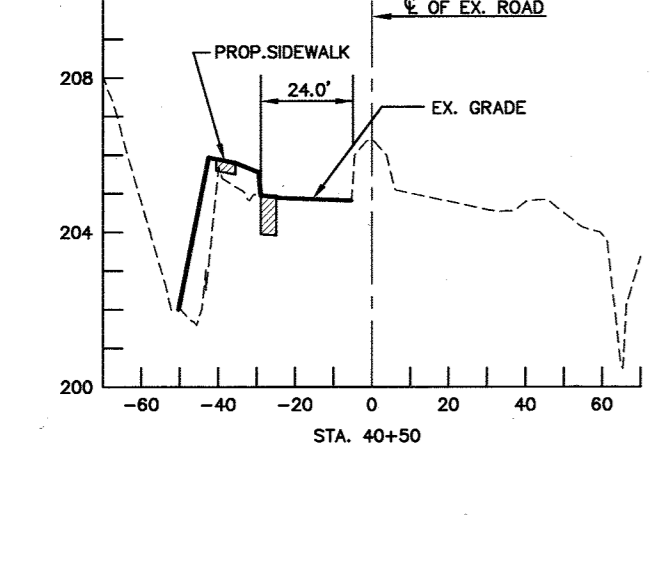
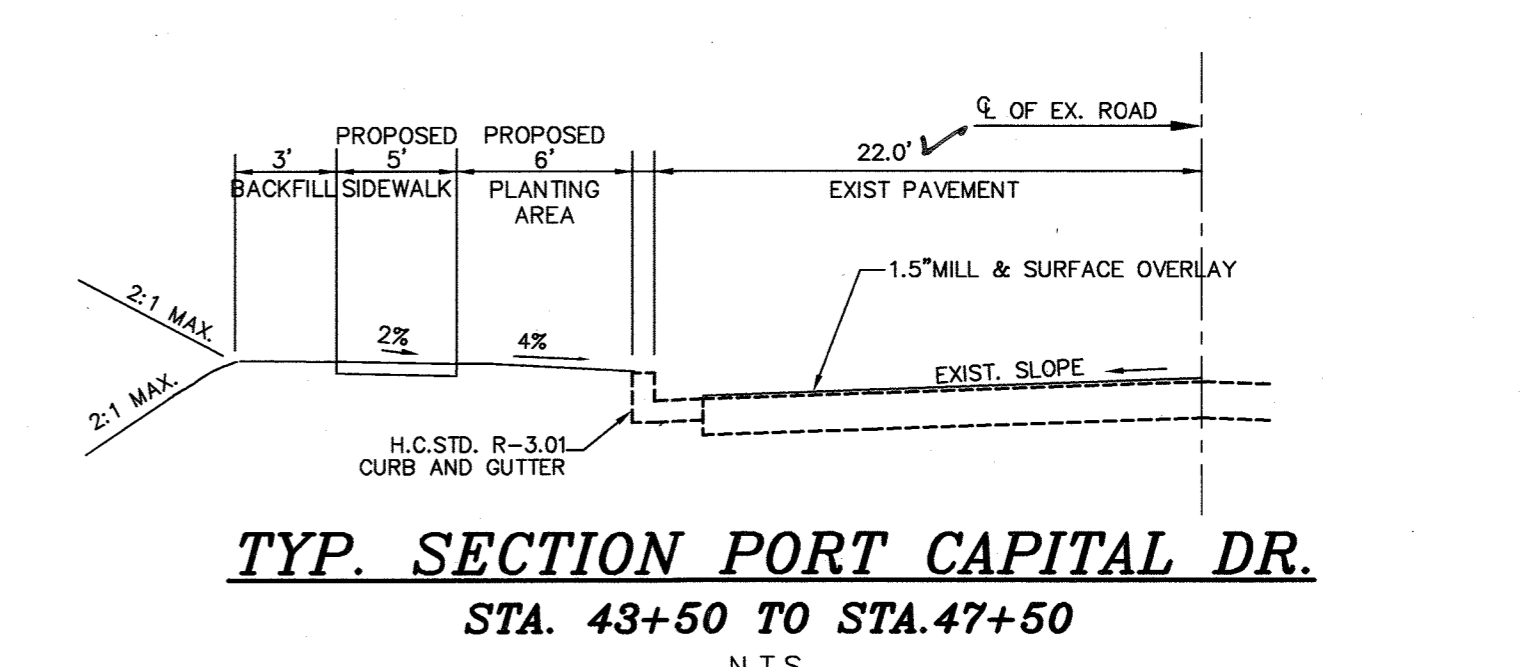
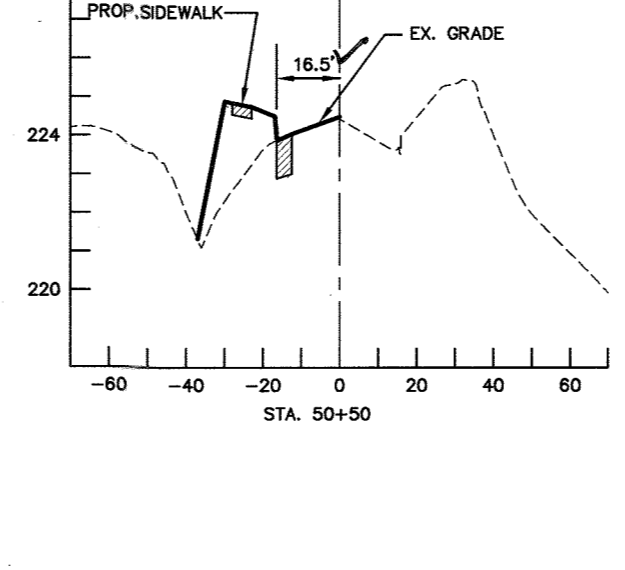
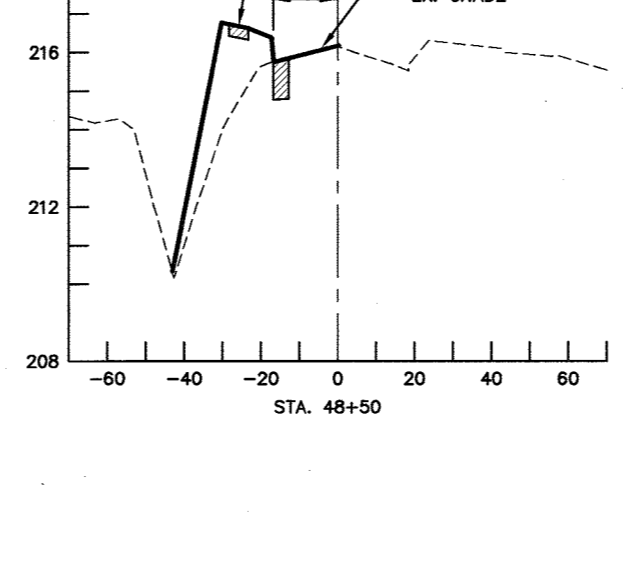
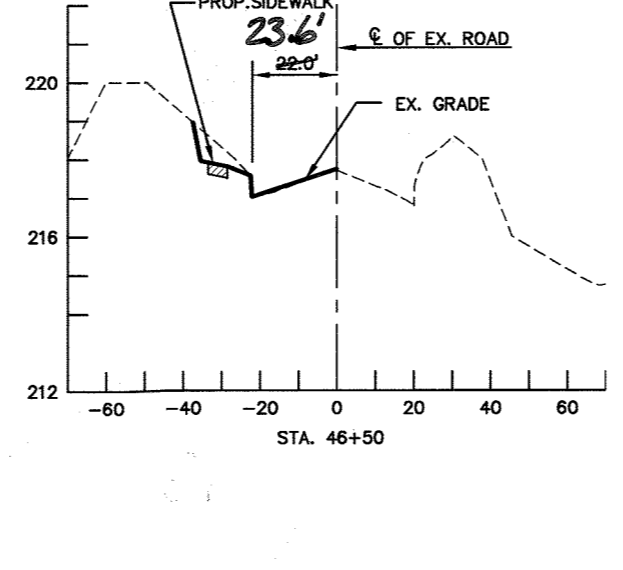
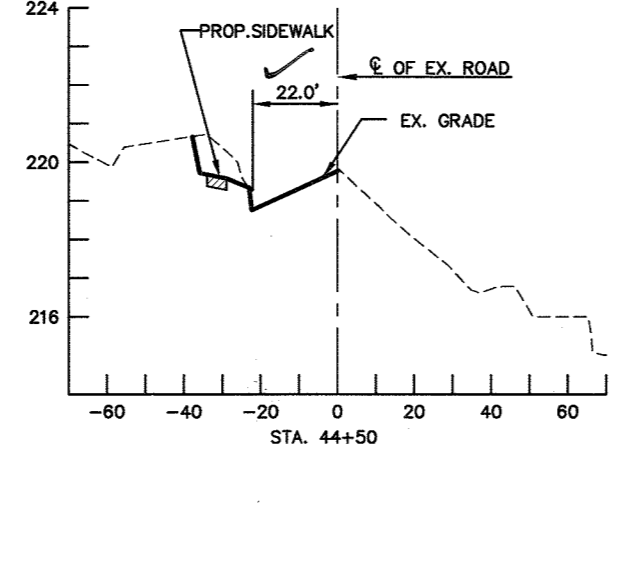
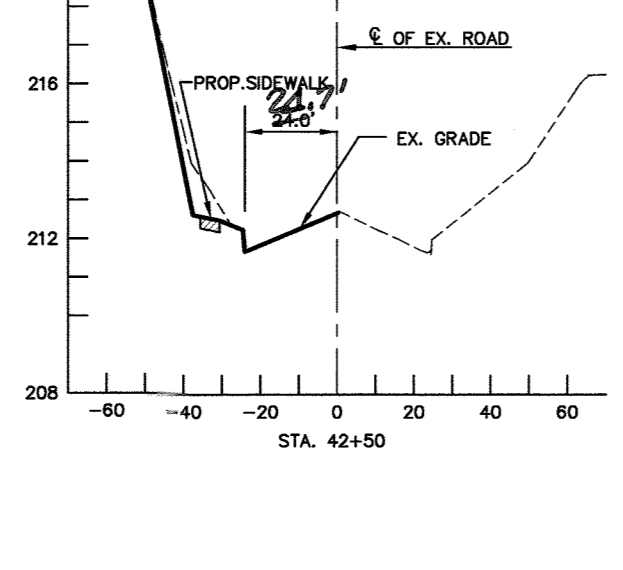
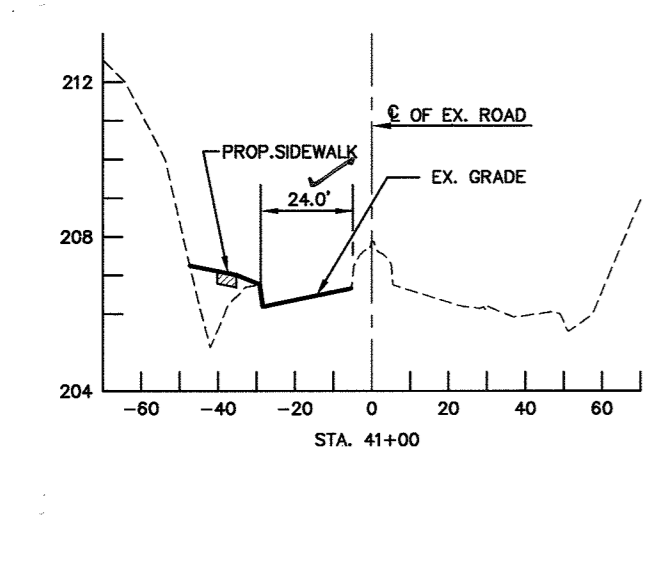
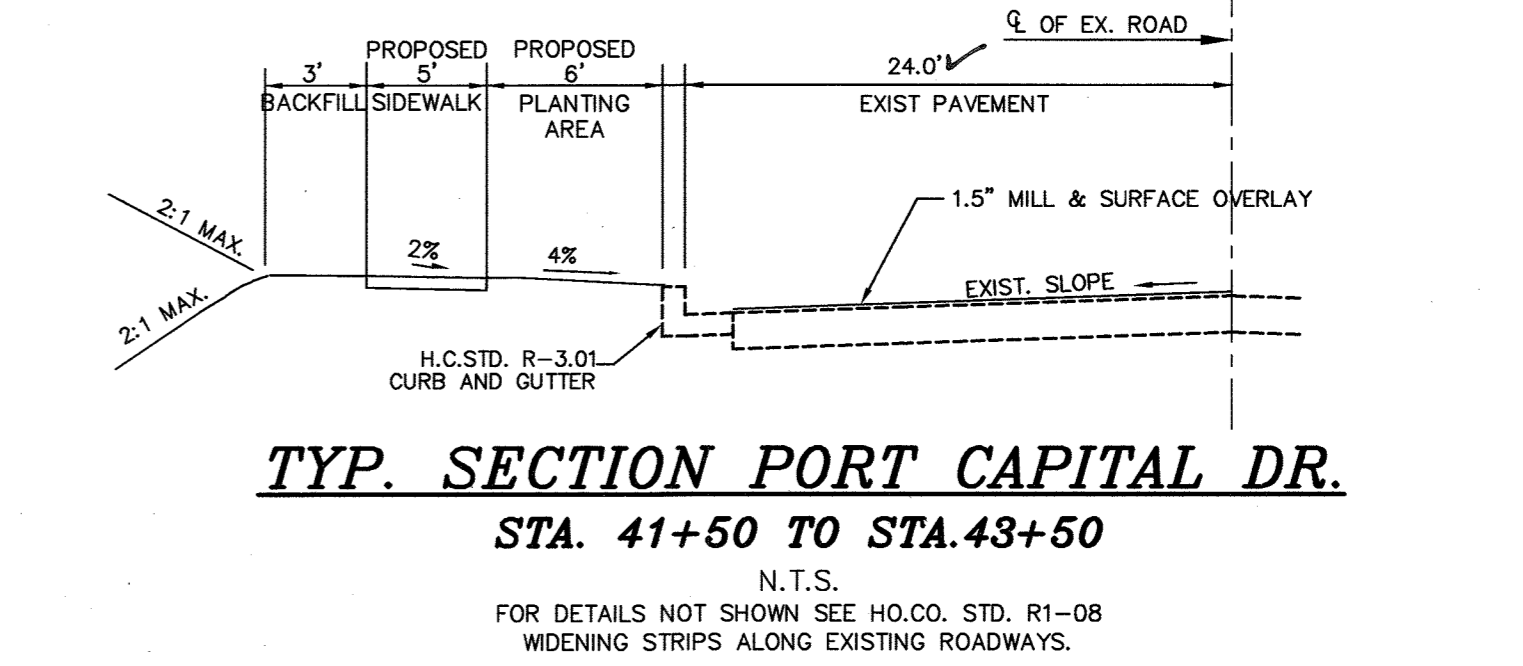
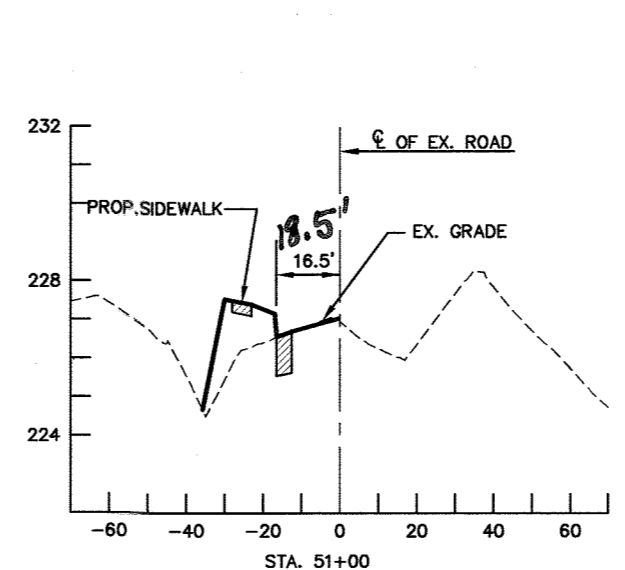
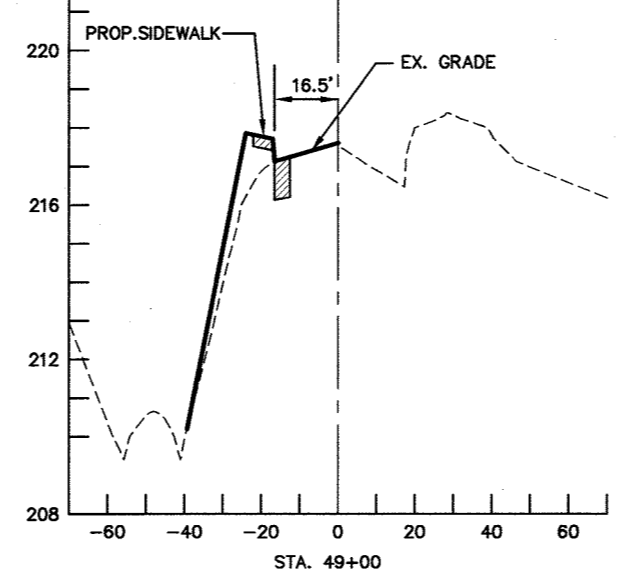
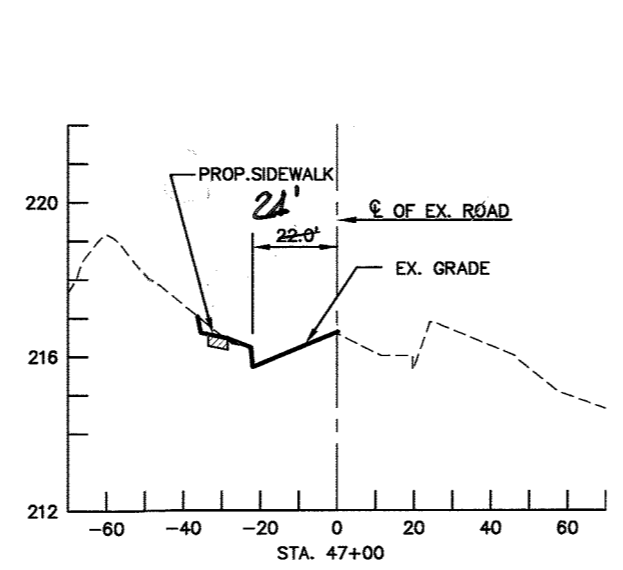
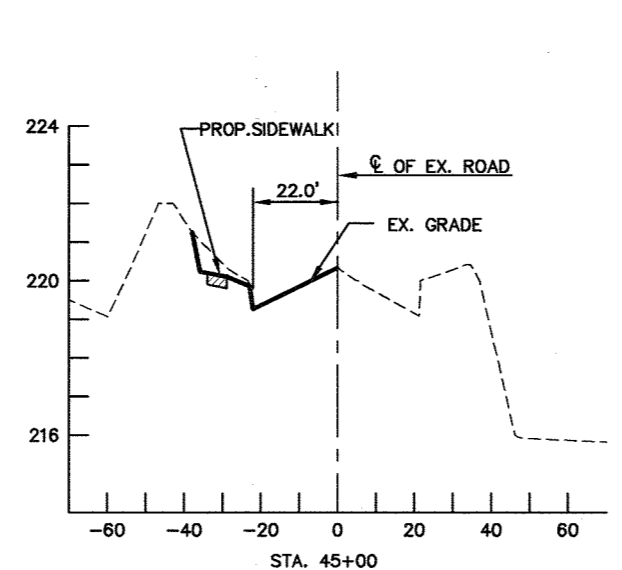
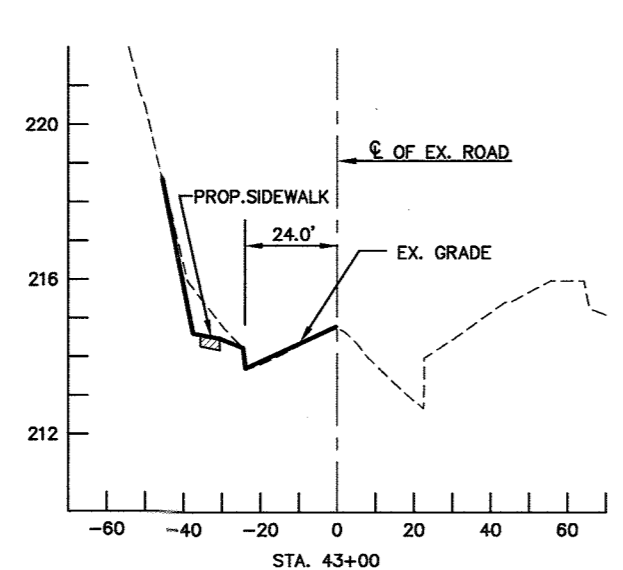
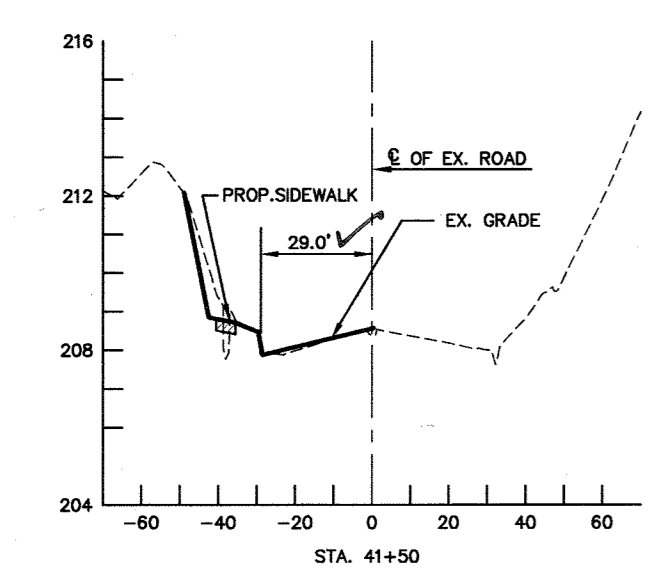
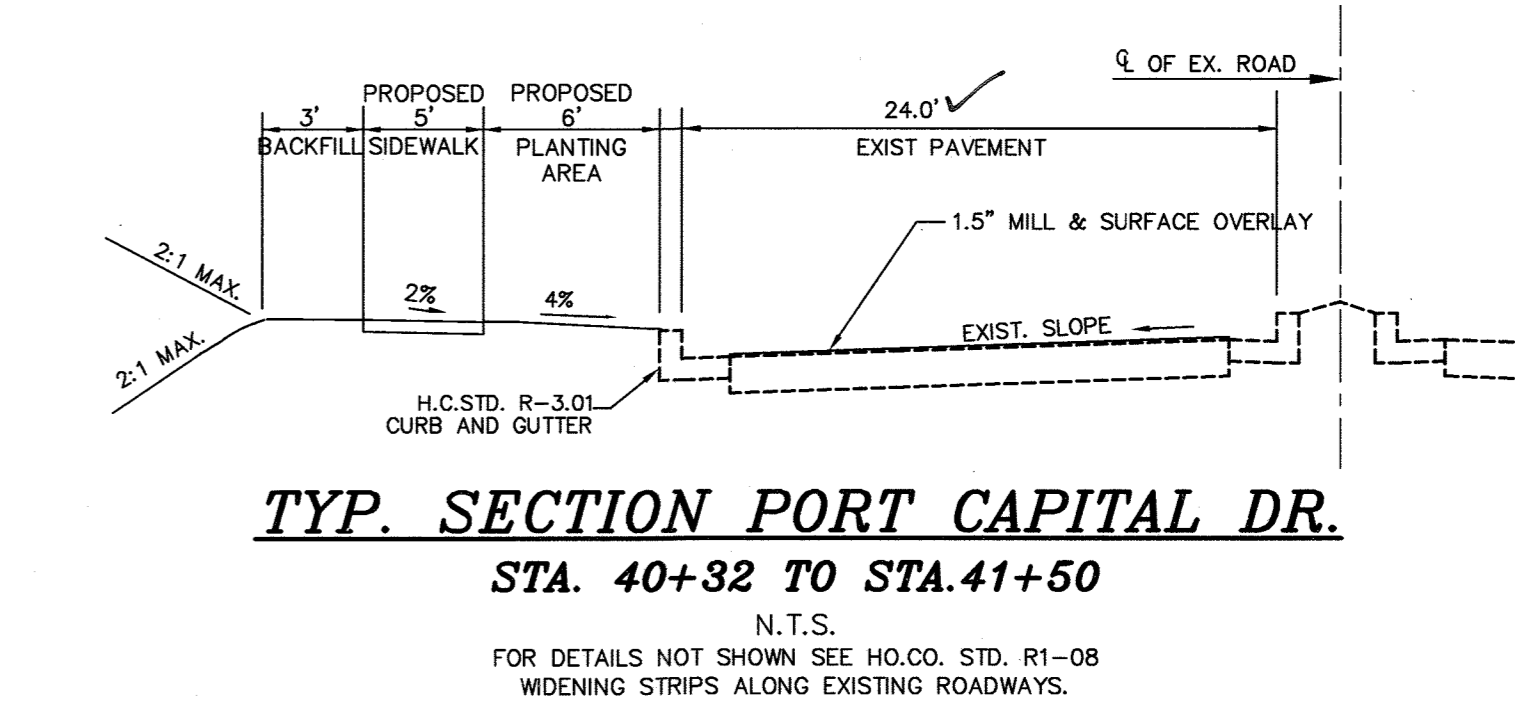
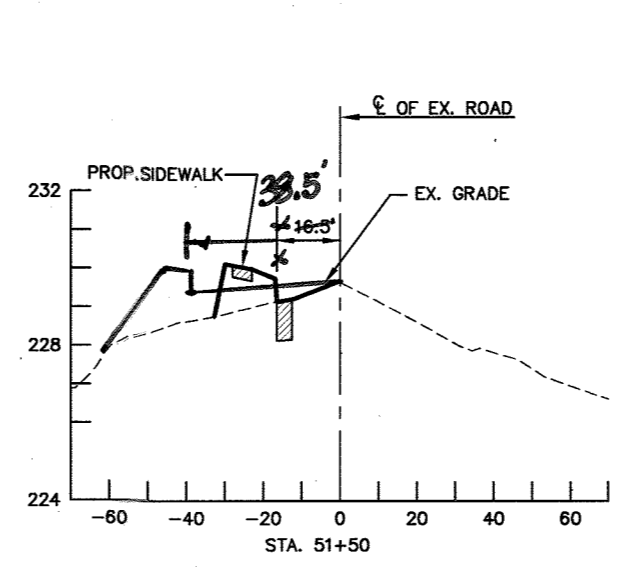
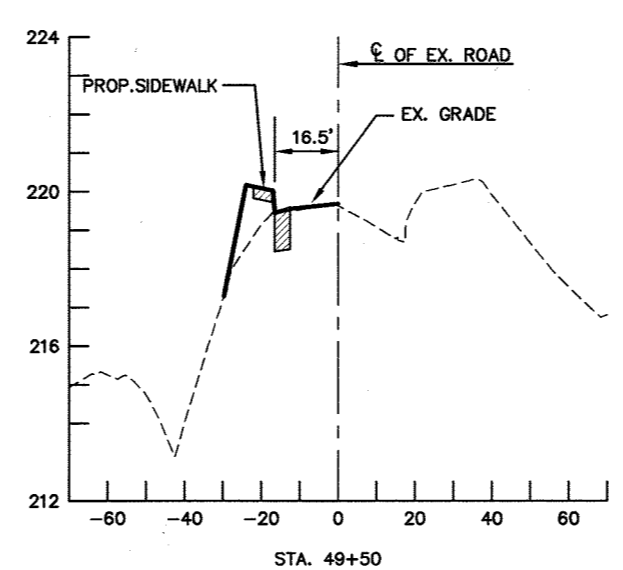
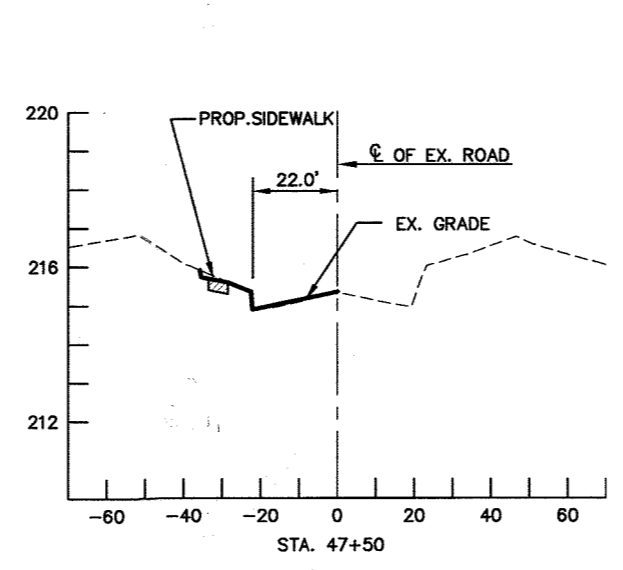
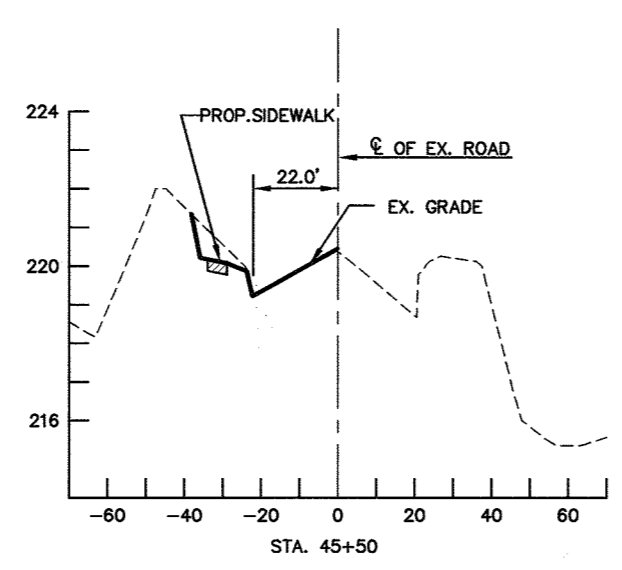
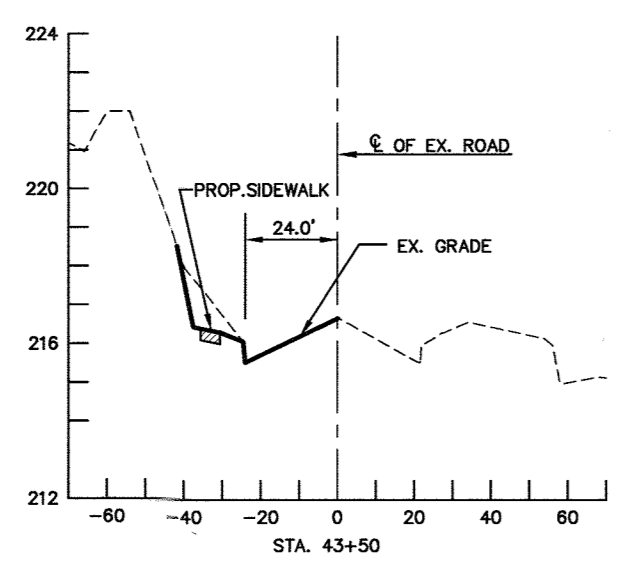
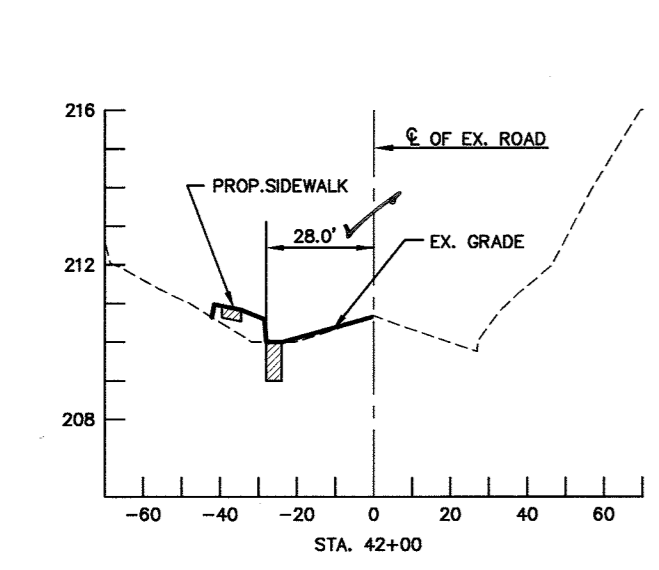
**HOWARD SQUARE**  
 PARCELS A AND B AND C  
 TAX MAP 43, PARCEL 1  
 HOWARD COUNTY, MARYLAND  
 FIRST ELECTION DISTRICT  
**PORT CAPITAL DRIVE ROAD IMPROVEMENTS**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0296 Fax: (410) 997-0298 Fax



**PLAN VIEW**  
SCALE: 1"=50'

10' CLASS I RIP-RAP PROTECTION (UNDERLINED WITH FILTER CLOTH) 450 x 9.0' THICK = 18.0" W = 8.0'



**PORT CAPITAL DRIVE IMPROVEMENTS - CROSS SECTIONS**

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

**DEVELOPER**

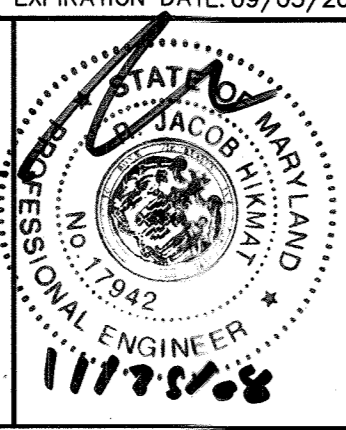
ATA PCO, HOWARD SQUARE I  
 10 EAST BALTIMORE STREET, STE. 1600  
 BALTIMORE, MARYLAND 21202  
 410-547-1116

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942 EXPIRATION DATE: 09/03/2010

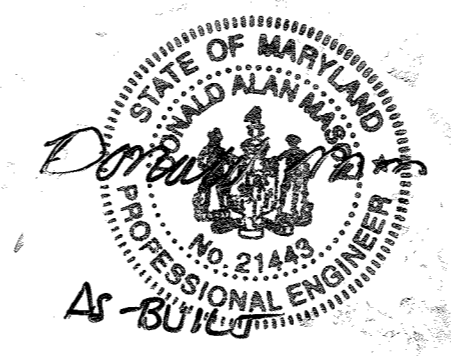
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 12-11-08  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 12/22/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 12/19/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443 Expiration Date: 12/31/10



**AS-BUILT CERTIFICATION**  
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications  
 Donald Mason, P.E. Date: 2/27/2010

**TYP. SECTION PORT CAPITAL DR. STA. 47+50 TO STA.41+50**  
 N.T.S.  
 FOR DETAILS NOT SHOWN SEE HO.CO. STD. R1-08 WIDENING STRIPS ALONG EXISTING ROADWAYS.

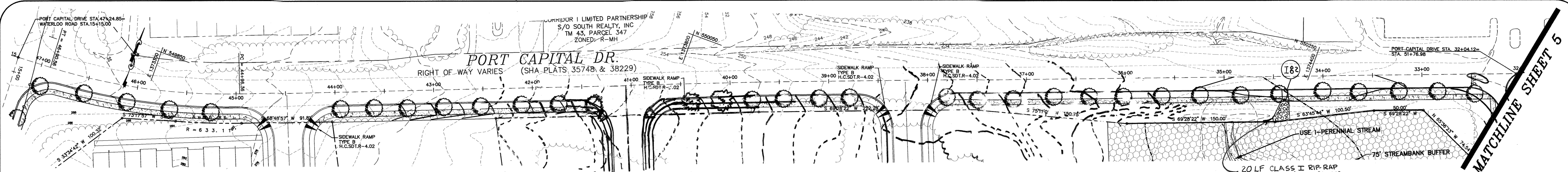
**TYP. SECTION PORT CAPITAL DR. STA. 43+50 TO STA.47+50**  
 N.T.S.  
 FOR DETAILS NOT SHOWN SEE HO.CO. STD. R1-08 WIDENING STRIPS ALONG EXISTING ROADWAYS.

**TYP. SECTION PORT CAPITAL DR. STA. 41+50 TO STA.43+50**  
 N.T.S.  
 FOR DETAILS NOT SHOWN SEE HO.CO. STD. R1-08 WIDENING STRIPS ALONG EXISTING ROADWAYS.

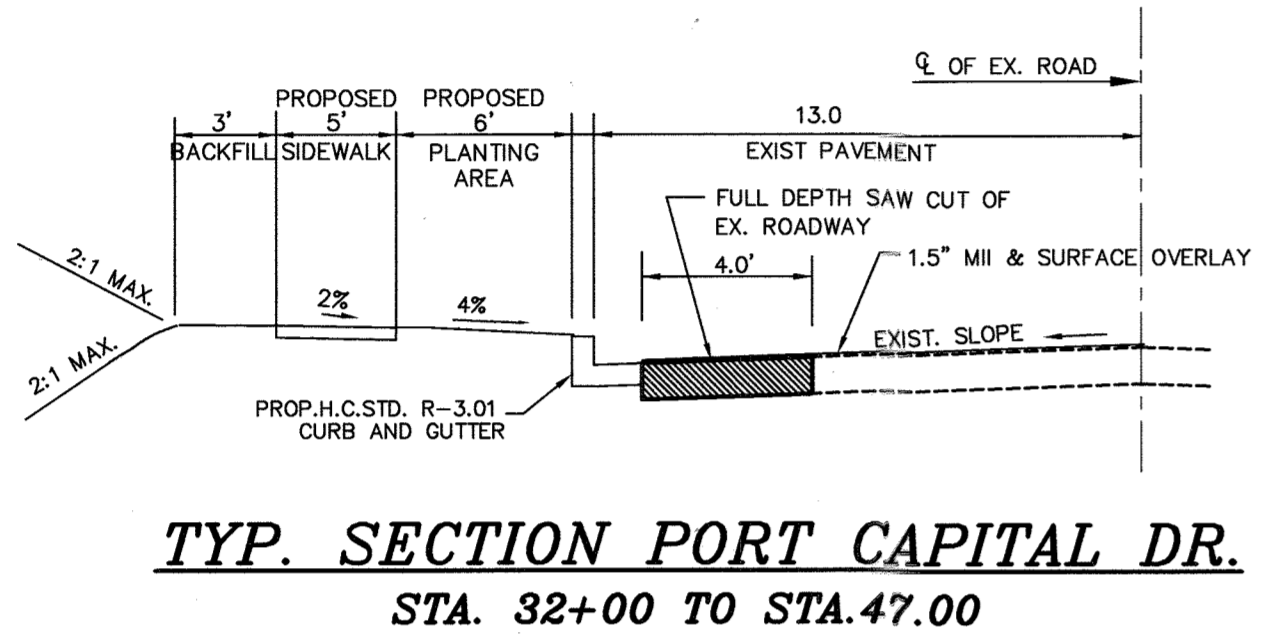
**TYP. SECTION PORT CAPITAL DR. STA. 40+32 TO STA.41+50**  
 N.T.S.  
 FOR DETAILS NOT SHOWN SEE HO.CO. STD. R1-08 WIDENING STRIPS ALONG EXISTING ROADWAYS.

H:\04-081\ALLADIN\F-PLANS\0481-F-PLANS.DWG

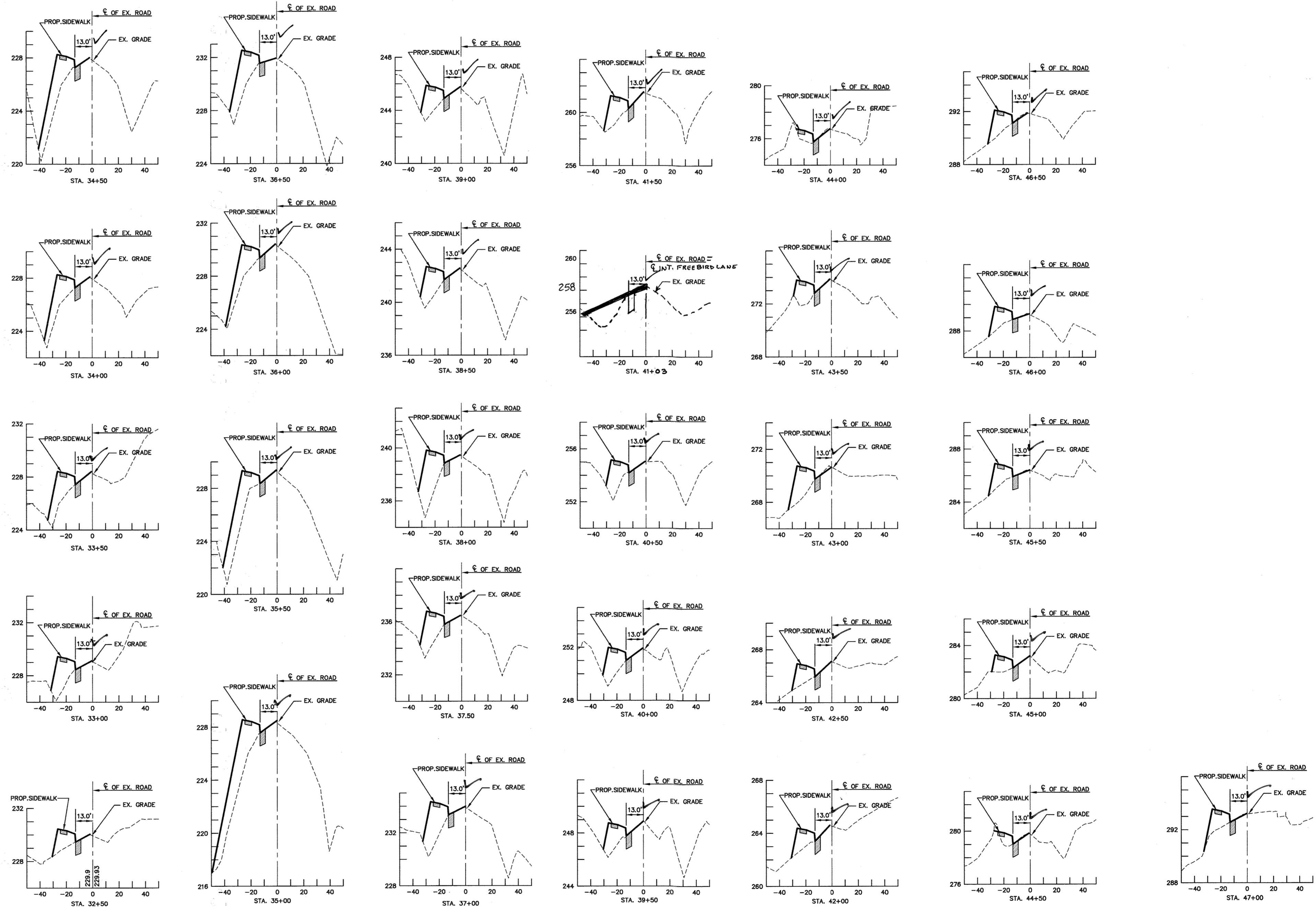
AS-BUILT



**PLAN VIEW**  
SCALE: 1"=50'



**TYP. SECTION PORT CAPITAL DR.**  
STA. 32+00 TO STA. 47+00  
N.T.S.  
FOR DETAILS NOT SHOWN SEE HO.CO. STD. R1-08  
WIDENING STRIPS ALONG EXISTING ROADWAYS.



**PORT CAPITAL DRIVE IMPROVEMENTS - CROSS SECTIONS**

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

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21448 Expiration Date: 12/21/20

AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications  
Donald Mason, P.E. Date: 12/21/20



F:\04-081\ALLADIN\F-PLANS\0481-F-PLANS.DWG

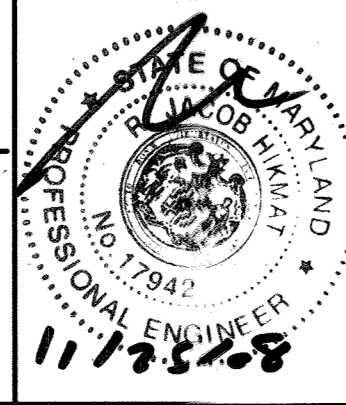
**DEVELOPER**  
ATAPCO HOWARD SQUARE I  
BUSINESS TRUST  
10 EAST BALTIMORE STREET STE 1600  
BALTIMORE, MARYLAND 21202  
410-397-7146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942 EXPIRATION DATE: 09/03/2010

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Wade Z. ...* 12-11-08  
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy ...* 12/22/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

*...* 12/19/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

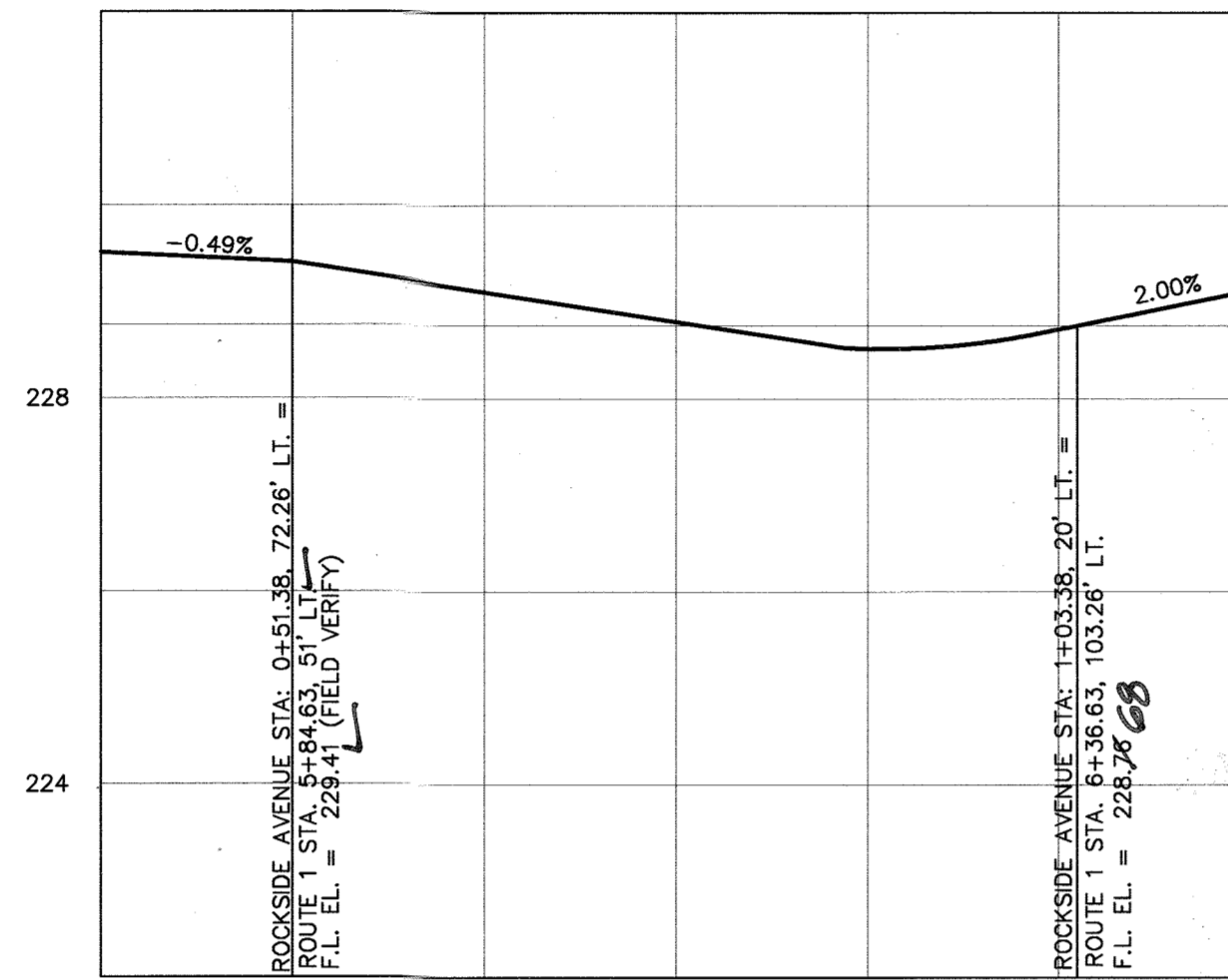


Project	04-081	Date	NOV-2008
Illustration	MMM	Scale	AS SHOWN
Approval	MMM	By	RJH

REV.	DATE	DESCRIPTION
1	11-11-08	ADD EXISTING SIDEWALK AND PLANTING AREA
2	11-15-08	ADD PARCEL 'C' TO TITLE BLOCK
3	11-15-08	ADD PARCEL 'C' TO TITLE BLOCK

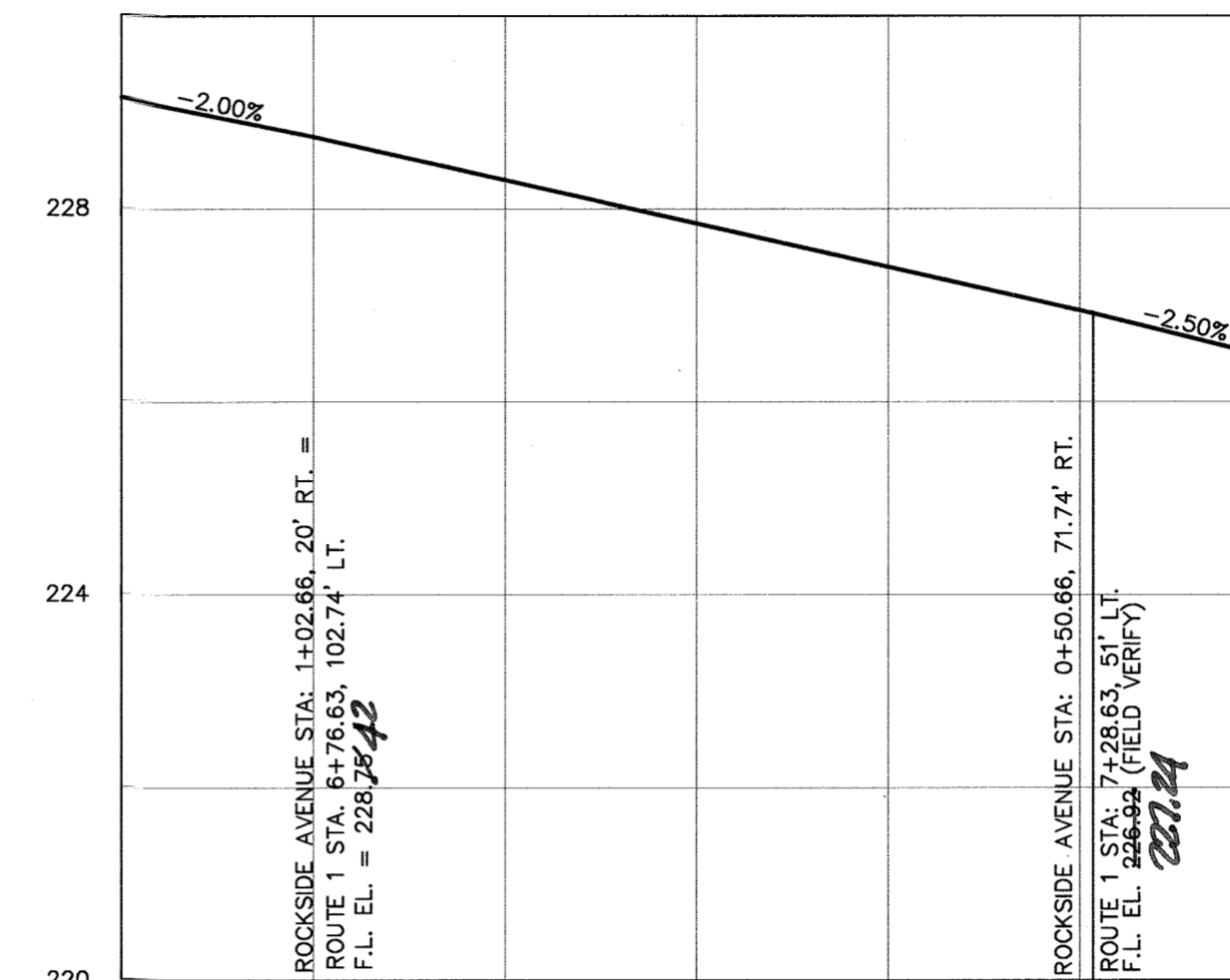
**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
FIRST ELECTION DISTRICT  
**PORT CAPITAL DRIVE ROAD IMPROVEMENTS**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Fax: (410) 997-0298 Fax



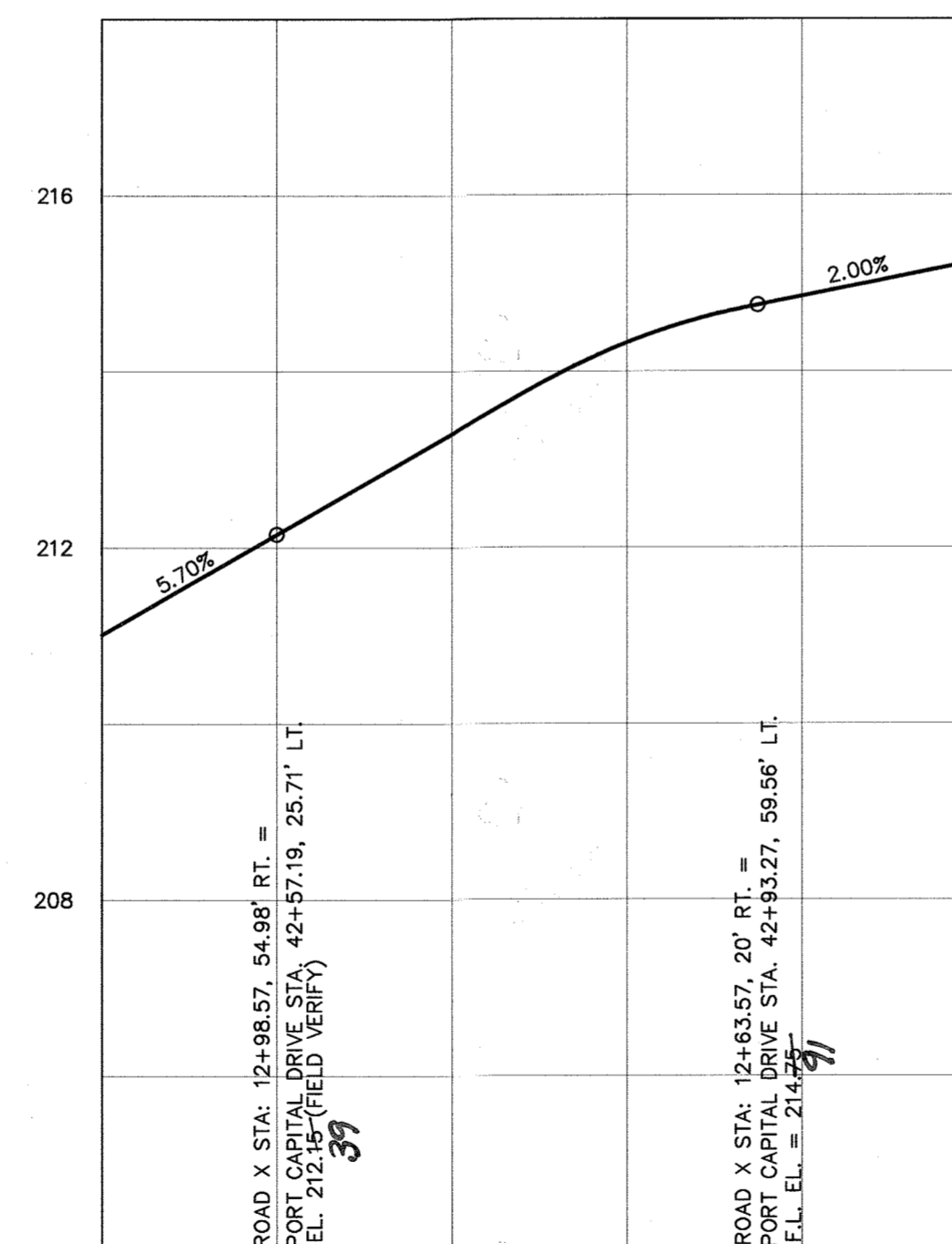
**ROUTE 1 FILLET PROFILE  
(LEFT)**

SCALE: HOR: 1"=20'  
VER: 1"=2'



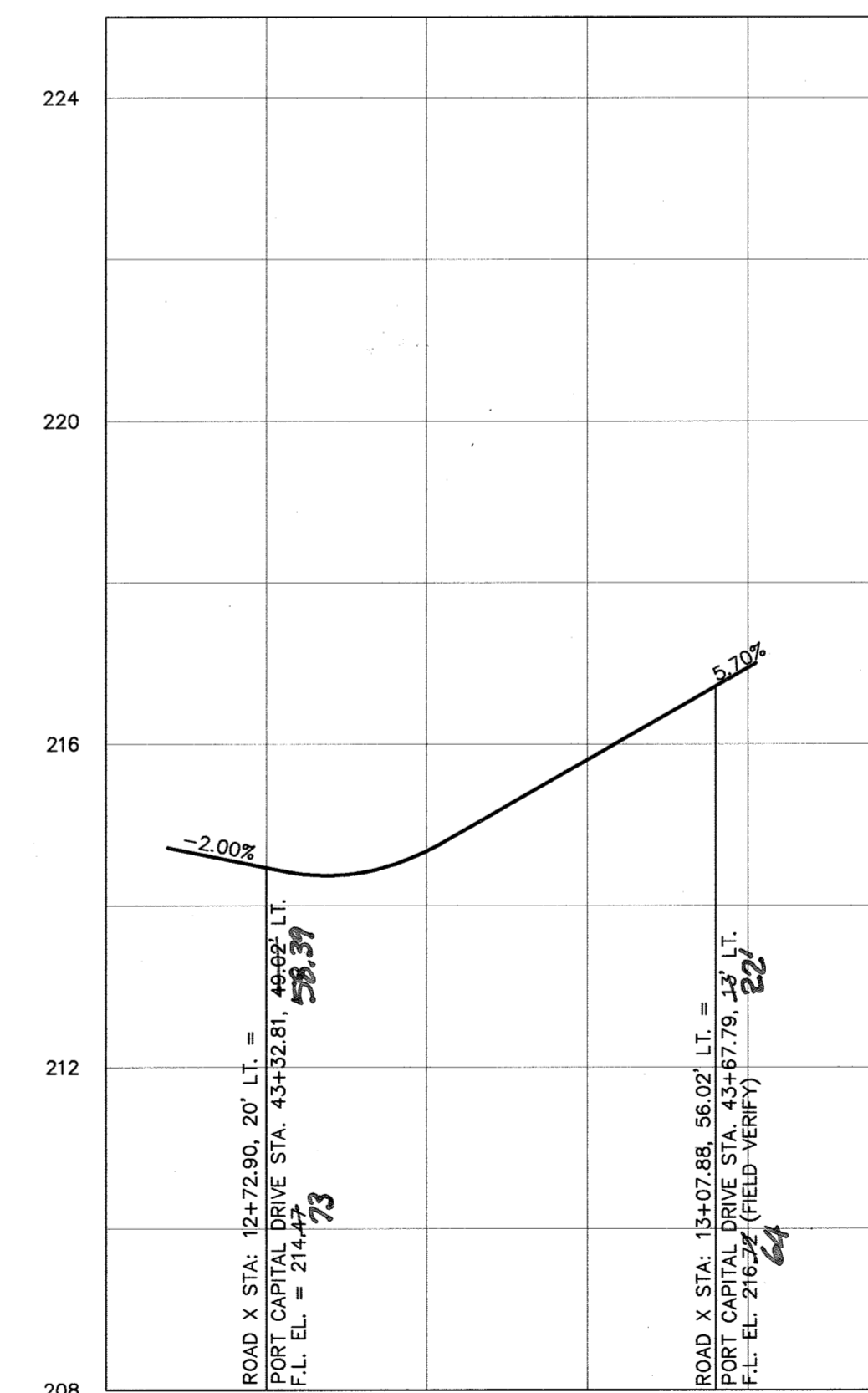
**ROUTE 1 FILLET PROFILE  
(RIGHT)**

SCALE: HOR: 1"=20'  
VER: 1"=2'



**PORT CAPITOL DRIVE FILLET PROFILE  
(LEFT)**

SCALE: HOR: 1"=20'  
VER: 1"=2'



**PORT CAPITOL DRIVE FILLET PROFILE  
(RIGHT)**

SCALE: HOR: 1"=20'  
VER: 1"=2'



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12-21-20

AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications.  
Donald Mason, P.E. Date: 2/27/2020

**DEVELOPER**

ATAPCO HOWARD SQUARE I  
BUSINESS TRUST  
10 EAST BALTIMORE STREET STE. 1600  
BALTIMORE, MARYLAND 21202  
NO. 347-1146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942 EXPIRATION DATE: 08/03/2010

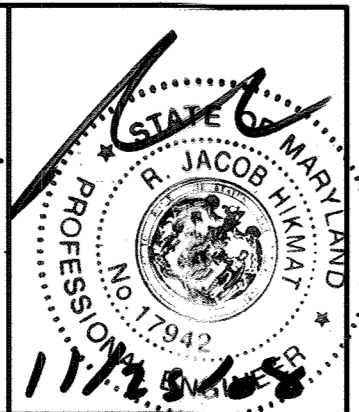
APPROVED: DEPARTMENT OF PUBLIC WORKS

*William R. Marshall* 12-11-08  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Andy Hester* 12/22/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Mark Demmer* 2/19/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

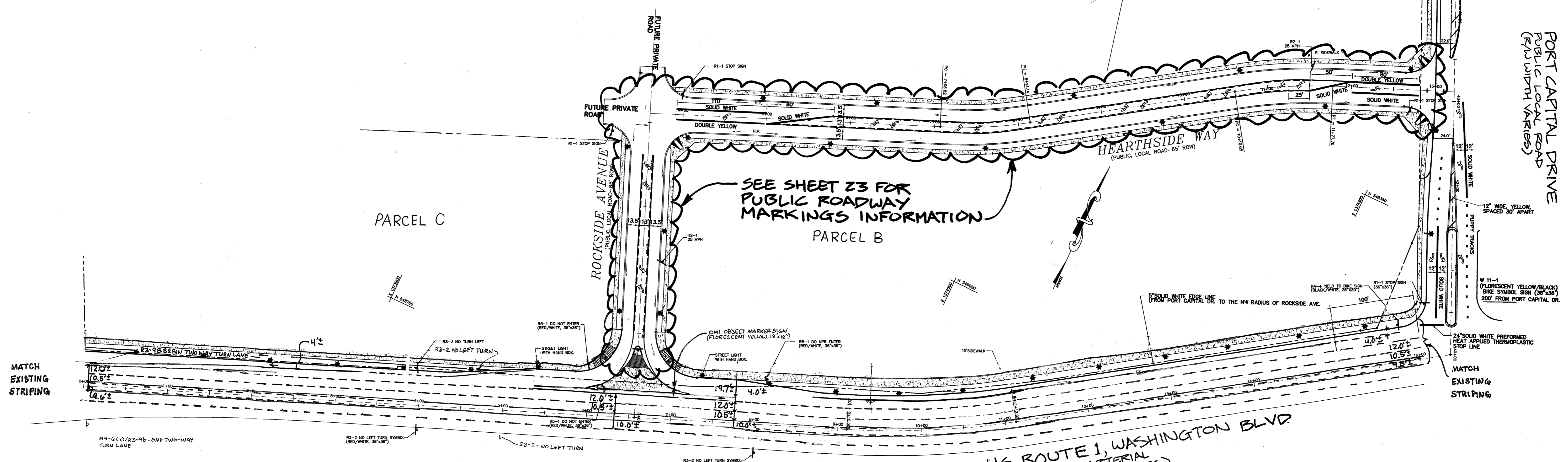
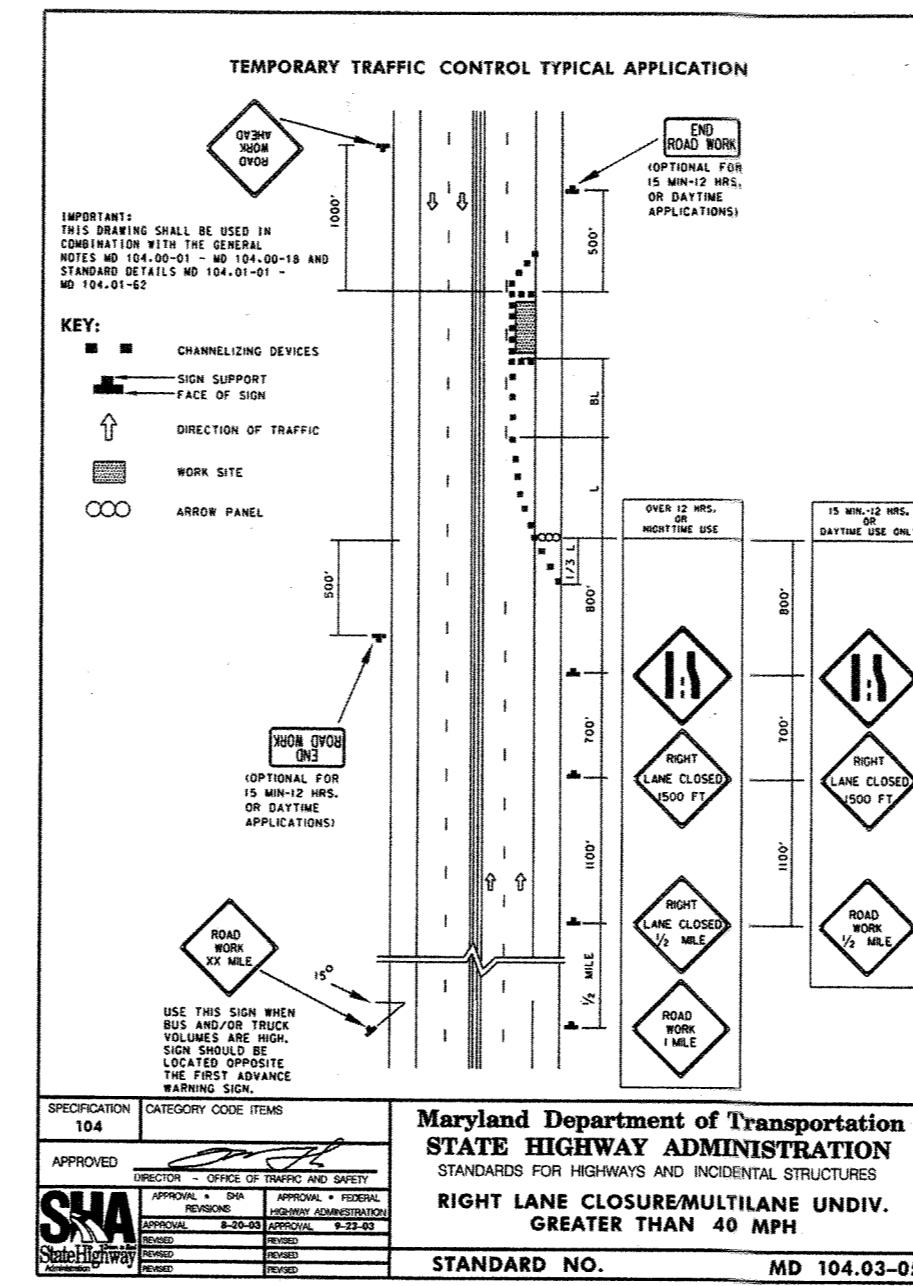
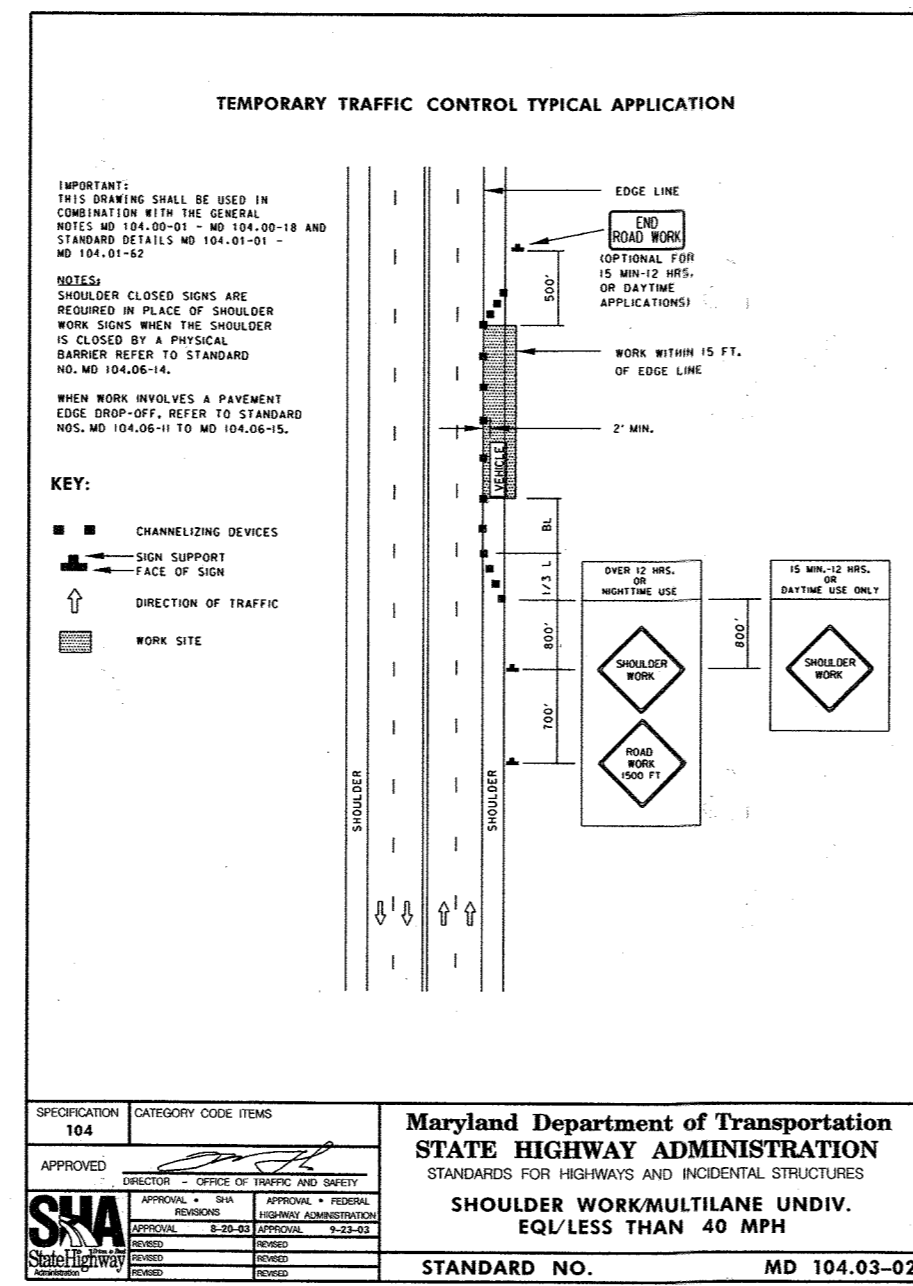
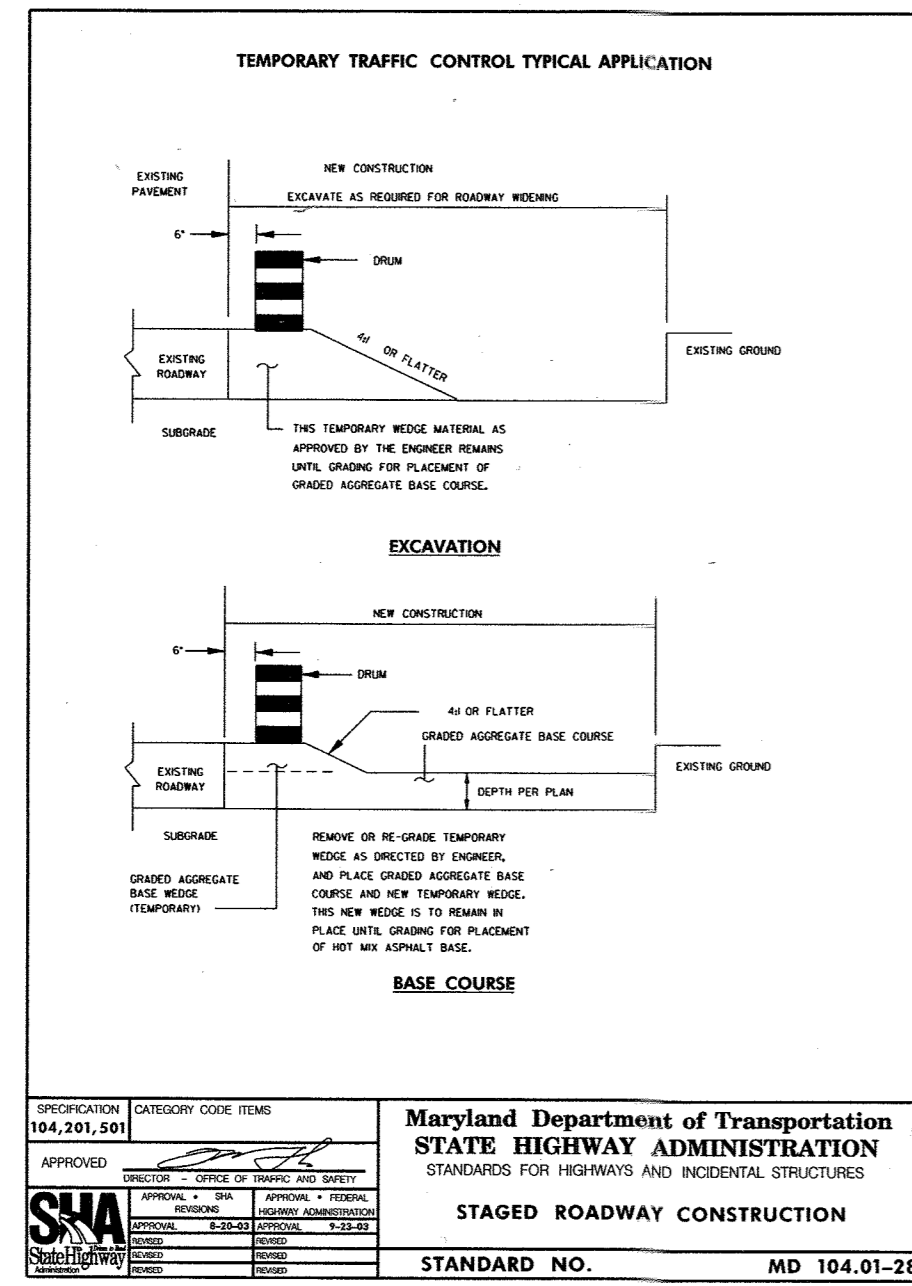


Project	date
04-081	NOV. 2008
Illustration	engineering
MMM	MMM
scale	approval
AS SHOWN	RJH

ADD PARCEL C TO TITLE BLOCK	BY	DATE
no.	BY	DATE
description	BY	DATE
revisions	BY	DATE

**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
FIRST ELECTION DISTRICT  
FILLET PROFILES

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Inverness Hall Drive, Suite 202, Fillicott City, Maryland 21042  
(410) 997-0286 Balt. (410) 997-0288 Fax.



**DEVELOPER**  
AT&P CO. HOWARD SQUARE I  
BUSINESS TRUST  
10 EAST BALTIMORE STREET, STE. 1600  
BALTIMORE, MARYLAND 21202  
410-347-7740

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXPIRATION DATE: 09/03/2010.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 22370, Expiration Date: 6-30-2021

**THIS PLAN IS ONLY FOR M.O.T., STREET LIGHTING, SIGNAGE, AND MARKINGS ON U.S. ROUTE 1 AND PORT CAPITAL DRIVE**

"NO AS-BUILT INFORMATION" IS PROVIDED ON THIS SHEET

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443, Expiration Date: 12/21/20

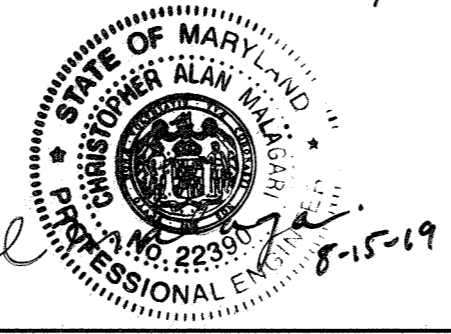
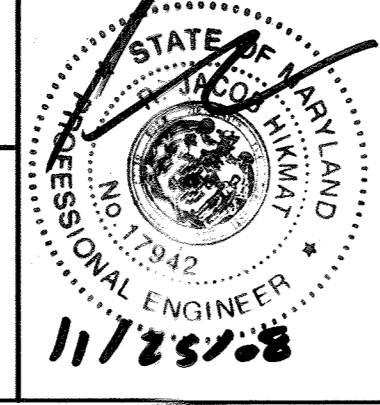
- NOTES:**
- NUMEROUS SIGNS R3-9b (CENTER TURN LINE) WILL BE NEEDED ALONG HEARTHSIDES WAY, ROCKSIDE AVE AND PORT CAPITAL DRIVE. THE ACTUAL NUMBER AND LOCATIONS WILL BE DETERMINED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) AT THE TIME OF CONSTRUCTION.
  - ★ DENOTES 250 WATT TEAR DROP FIXTURE MOUNTED ON A BLACK FIBERGLASS POLE WITH A SHROUD USING A 4' ARM
  - ★ DENOTES 150 WATT "MAPLE LAWN" ACORN POST TOP MOUNTED ON A 12" BLACK FIBERGLASS POLE WITH A SHROUD.
  - PAVEMENT MARKINGS:**
    - ALL LINE LANES AND SYMBOL/ARROWS SHALL BE PREFORMED THERMOPLASTIC MARKING MATERIAL.
    - PROVIDE A 24" SOLID WHITE PREFORMED HEAT APPLIED THERMOPLASTIC "STOP" LINE AT PORT CAPITAL DR. AROUND THE NW RADIUS OF ROCKSIDE AVE.
    - PROVIDE 5" SOLID WHITE EDGE LINE ALONG THE WEST EDGE OF US 1 FROM PORT CAPITAL DR. AROUND THE NW RADIUS OF ROCKSIDE AVE.
    - PROVIDE 5" SOLID WHITE EDGE LINE AROUND THE SW RADIUS OF ROCKSIDE AVE AT STA. 2+30.
    - PROVIDE TWO PREFORMED HEAT APPLIES THERMOPLASTIC RIGHT TURN ARROW IN THE AUXILIARY TURN LANE BETWEEN PORT CAPITAL DR. AND ROCKSIDE AVE. AT STA. 9+40 AND STA. 12+80.
    - PROVIDE 4" WIDE BICYCLE LANE ADJACENT TO THE AUXILIARY LANE.
    - A SUPPLEMENTAL STRIPING PLAN HAS BEEN PROVIDED WITH THE SHA ACCESS PERMIT, PROVIDING FOR MORE DETAILED PLAN FOR THE STRIPING WITHIN US 1 ROUTE 1.

8. ALL SIGN LOCATIONS AND PAVEMENT MARKINGS ALONG COUNTY ROADWAYS SHALL BE APPROVED BY YGE TRAFFIC DIVISION (410-313-5752) PRIOR TO ANY INSTALLATION.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
12-11-08  
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
12/22/08  
DATE

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION  
12/19/08  
DATE



Project	04-081	Date	NOV.2008
Illustration	MMM	Engineering	MMM
Scale	AS SHOWN	Approval	RJH

REV	DESCRIPTION	DATE
1	ADD PARCEL C	11-19-10
2	REMOVE STRIPING, ISLAND & SIDEWALK @ US 1	8-15-11
3	ADD SHEET 23 TO PLAN SET	6-15-11

**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
FIRST ELECTION DISTRICT  
MOT/PAVEMENT MARKINGS, SIGNS & STREET LIGHT PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive Suite 202, Ellicott City, Maryland - 21042  
(410) 997-0296 Fax: (410) 997-0298



**LEGEND**

- SF SILT FENCE
- SSF SUPER SILT FENCE
- LOD LIMIT OF DISTURBANCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL MATTING

**SOILS CLASSIFICATION**

- | SYMBOL | DESCRIPTION   |
|--------|---|
| LI     | LEONARDTOWN SILT LOAM (TYPE D)                                    |
| BeC3   | BELTSVILLE SILT LOAM, 5 TO 10 PERCENT, SEVERELY ERODED (TYPE C)   |
| BeC2   | BELTSVILLE SILT LOAM, 5 TO 10 PERCENT, MODERATELY ERODED (TYPE C) |
| ScD    | SANDY AND CLAYEY SAND, MODERATELY SLOPING (TYPE C)                |
| BeB2   | BELTSVILLE SILT LOAM, 1 TO 5 PERCENT, MODERATELY ERODED (TYPE C)  |
| Em     | ELKTON SILT LOAM (TYPE C/D)                                       |
| ScB    | SANDY AND CLAYEY SAND, GENTLY SLOPING (TYPE C)                    |
| BeA    | BELTSVILLE SILT LOAM, 0 TO 1 PERCENT SLOPES (TYPE C)              |
| EVC    | EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES (TYPE B)              |

**SEDIMENT CONTROL BASIN DATA:**

DRAINAGE AREA: 29.16 AC  
 TOTAL STORAGE REQUIRED: 104,976 C.F.  
 TOTAL STORAGE PROVIDED: 129,849 @ EL.221.0  
 WET STORAGE REQUIRED: 52,488 C.F.  
 WET STORAGE PROVIDED: 59,918 C.F. @ EL.=219.5  
 WET STORAGE ELEVATION: 219.5  
 DRY STORAGE REQUIRED: 52,488 C.F.  
 DRY STORAGE PROVIDED: 69,930 C.F. @ EL.=221.00  
 EX. 1 YEAR Q=16.0 CFS (TSSW)  
 PR. 1 YEAR Q=12.8 CFS (TSSW)

**SEDIMENT TRAP # 1 DATA:**

STONE OUTLET SEDIMENT TRAP (ST-II)  
 DRAINAGE AREA: 2.3 AC  
 TOTAL STORAGE REQUIRED: 8,280 C.F.  
 TOTAL STORAGE PROVIDED: 34,000 C.F.  
 WET STORAGE REQUIRED: 4,140 C.F.  
 WET STORAGE PROVIDED: 18,393 C.F. # EL.=220.00  
 DRY STORAGE REQUIRED: 4,140 C.F.  
 DRY STORAGE PROVIDED: 12,607 C.F. @ EL.=222.00  
 WEIR LENGTH: 14.0'  
 WEIR ELEVATION: 220.00  
 TOP OF EMBANKMENT EL: 222.00  
 BOTTOM EL: 217.00

**SEDIMENT TRAP # 2 DATA:**

STONE OUTLET SEDIMENT TRAP (ST-II)  
 DRAINAGE AREA: 3.5 AC  
 TOTAL STORAGE REQUIRED: 12,600 C.F.  
 TOTAL STORAGE PROVIDED: 61,026 C.F.  
 WET STORAGE REQUIRED: 6,300 C.F.  
 WET STORAGE PROVIDED: 33,616 C.F. @ EL.=206.00  
 DRY STORAGE REQUIRED: 6,300 C.F.  
 DRY STORAGE PROVIDED: 27,110 C.F. @ EL.=208.00  
 WEIR LENGTH: 14'  
 WEIR ELEVATION: 206.00  
 TOP OF EMBANKMENT EL: 208.00  
 BOTTOM EL: 203.00

**DEVELOPER**

ATLAS HOWARD SQUARE I  
 10 EAST BALTIMORE STREET, STE 1100  
 BALTIMORE, MD 21202  
 410-341-9146



Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 22390 Expiration Date: 6-30-17

BY THE DEVELOPER:

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

SIGNATURE OF DEVELOPER: *Mark G...* DATE: 11/28/08  
 PRINTED NAME OF DEVELOPER:

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: *JACOB HIKMAT* DATE: 11/28/08  
 PRINTED NAME OF ENGINEER:

THESE PLANS HAVE BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND APPROVED FOR CONSTRUCTION.

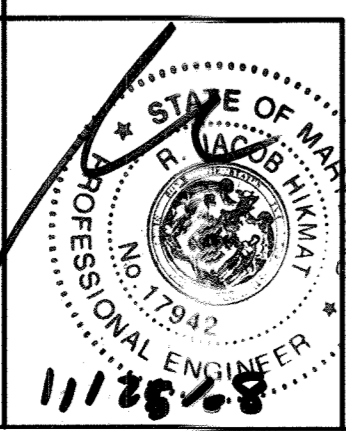
USDA - NATIONAL RESOURCE CONSERVATION SERVICE

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

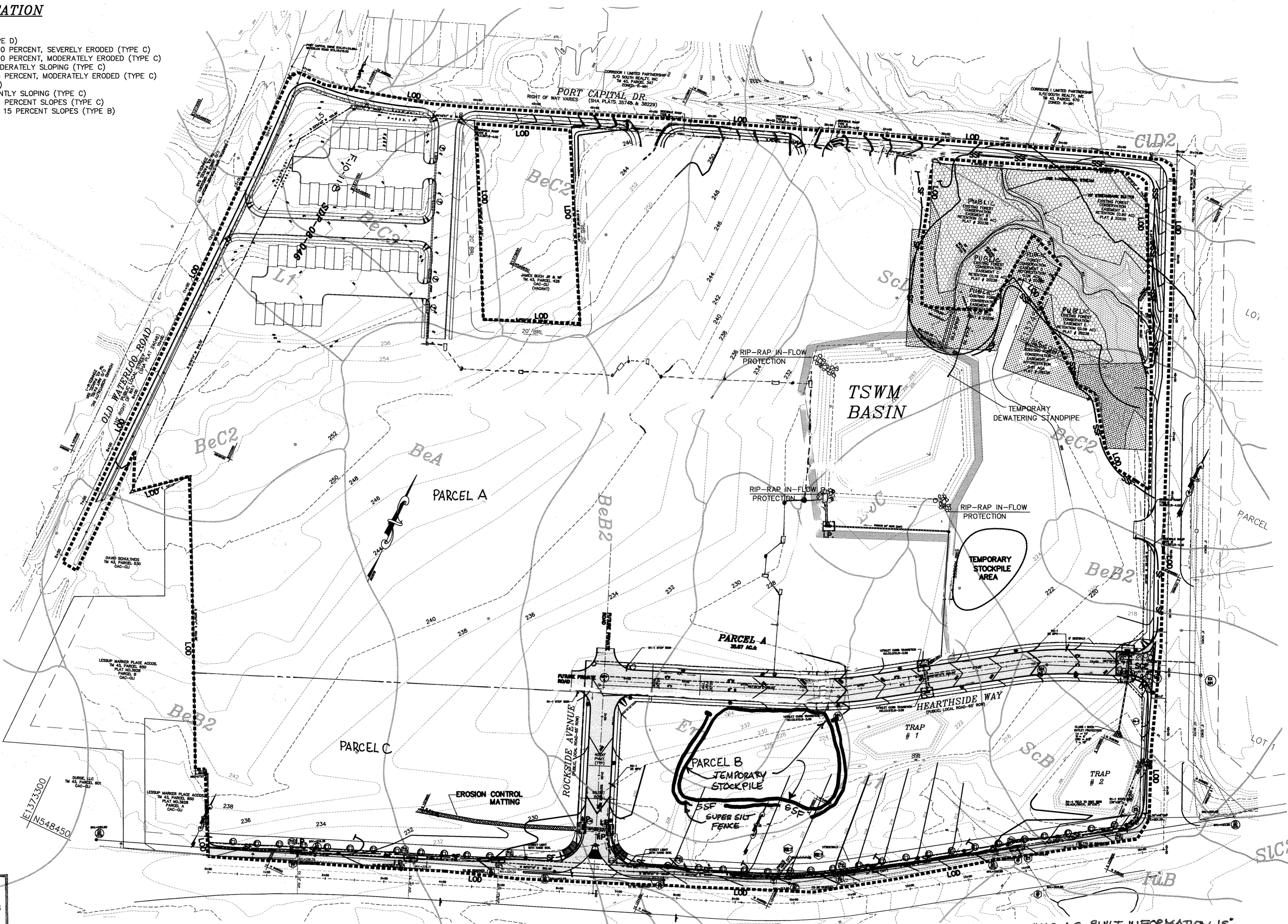
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 W. R. ... DATE: 12/2/08

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 ... DATE: 12/23/08

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 ... DATE: 12/19/08



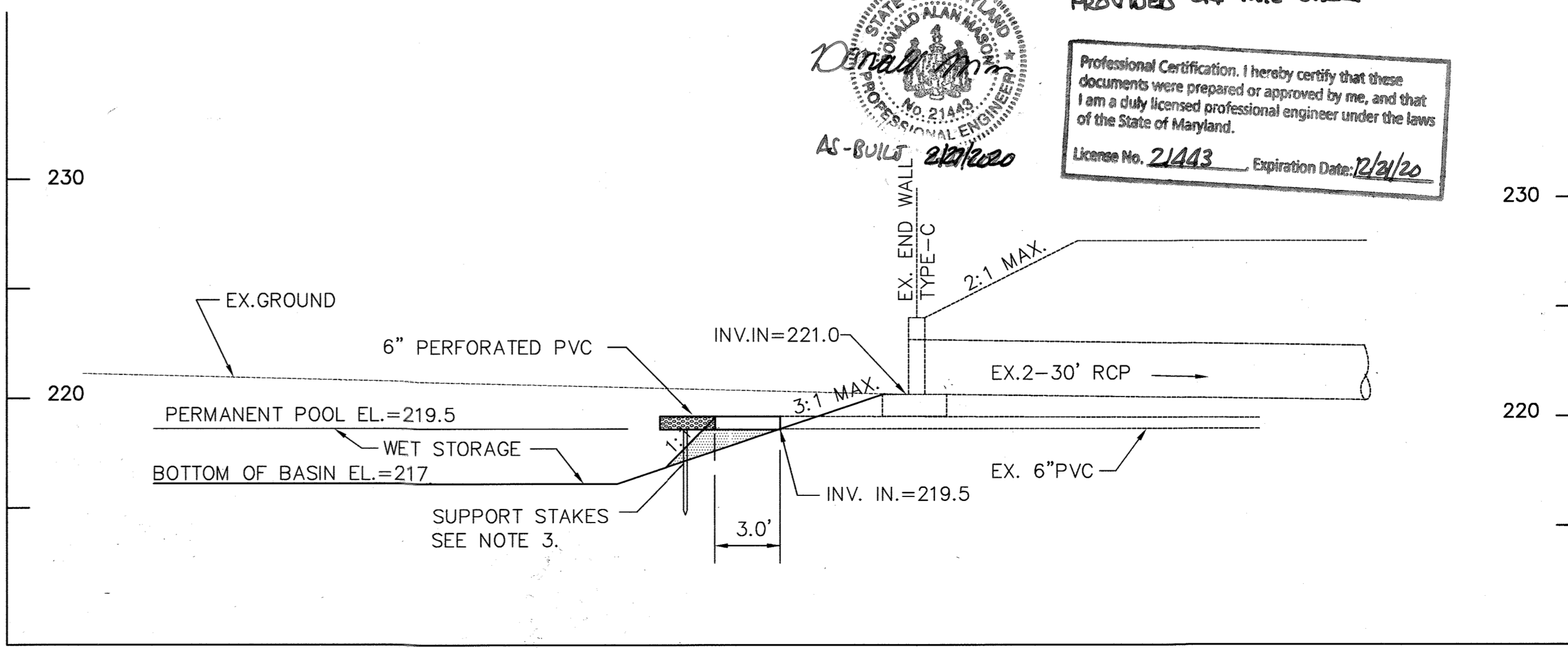
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942 EXPIRATION DATE: 09/03/2010  
 FOR REVIEW BY BENCHMARK ENGINEERS INC. ONLY



"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"



Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443 Expiration Date: 12/31/20



**TEMPORARY DEWATERING STANDPIPE**

SCALE: 1"=5'

AS-BUILT

date	NOV-2008	project	04-081
illustration	MMK	scale	AS SHOWN
approval	MMK	BY	RIH



no.	description	BY	date
1	AS-BUILT	RIH	11-15-10
2	REVISE STATIONING	MMK	11-15-10
3	REVISE STATIONING	MMK	11-15-10
4	SHOW TEMPORARY STANDPIPE	MMK	11-15-10

**HOWARD SQUARE**  
 PARCELS A AND BAND C  
 TAX MAP 43, PARCEL 1  
 HOWARD COUNTY, MARYLAND  
 FIRST ELECTION DISTRICT  
**OVERALL GRADING, EROSION AND SEDIMENT CONTROL PLAN**

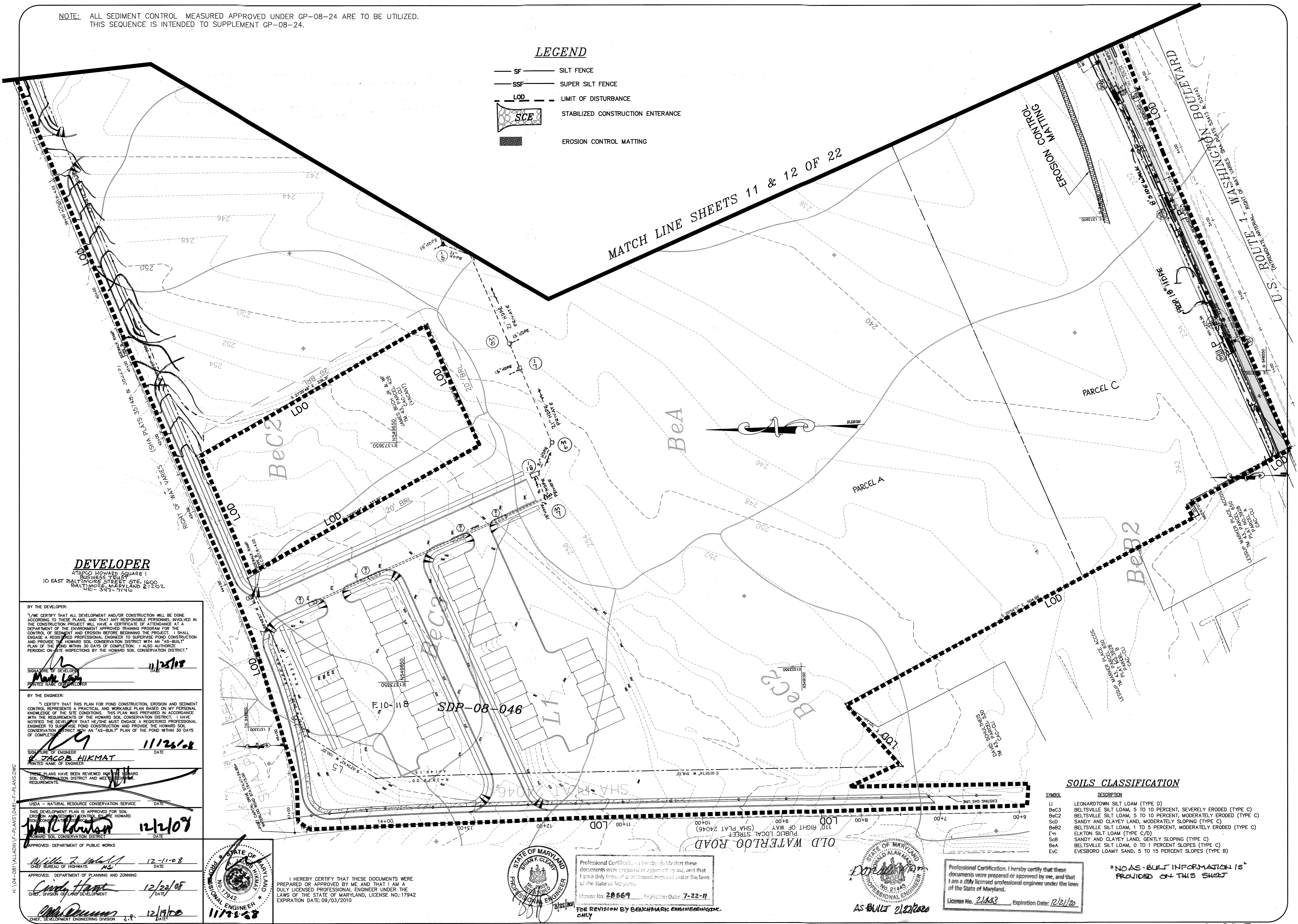
**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0296 Bal. (410) 997-0298 Fax

NOTE: ALL SEDIMENT CONTROL MEASURED APPROVED UNDER GP-08-24 ARE TO BE UTILIZED. THIS SEQUENCE IS INTENDED TO SUPPLEMENT GP-08-24.

**LEGEND**

- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- LOD — LIMIT OF DISTURBANCE
-  SCE — STABILIZED CONSTRUCTION ENTRANCE
-  — EROSION CONTROL MATTING

MATCH LINE SHEETS 11 & 12 OF 22



**DEVELOPER**

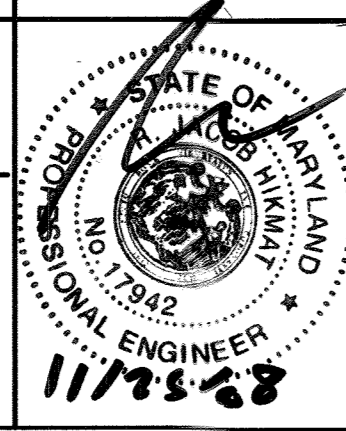
AT&T HOWARD SQUARE I  
 BUSINESS TRAIL  
 10 EAST BALTIMORE STREET, STE. 1600  
 BALTIMORE, MARYLAND 21202  
 TEL: 347-7146

BY THE DEVELOPER:  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 11/25/08  
 PRINTED NAME OF DEVELOPER: [Name]

BY THE ENGINEER:  
 "I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 11/25/08  
 PRINTED NAME OF ENGINEER: JACOB HIKMAT

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 USA - NATURAL RESOURCE CONSERVATION SERVICE DATE: 12/2/09  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF HOWARD SOIL CONSERVATION DISTRICT: *[Signature]* DATE: 12/2/09

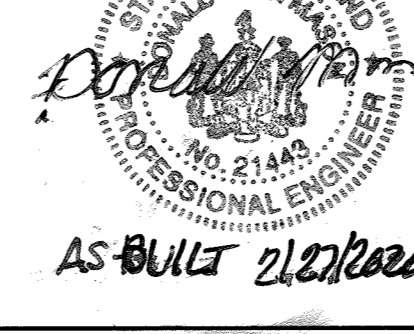
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 SIGNATURE: *[Signature]* DATE: 12-11-08  
 CHIEF BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 SIGNATURE: *[Signature]* DATE: 12/23/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 APPROVED: *[Signature]* DATE: 12/19/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21443 EXPIRATION DATE: 09/03/2010.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 28669, Expiration Date: 7-22-11  
 FOR REVISION BY BENCHMARK ENGINEERING INC. ONLY



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443, Expiration Date: 12/2/09

**SOILS CLASSIFICATION**

SYMBOL	DESCRIPTION
U	LEONARDTOWN SILT LOAM (TYPE D)
BcC3	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT, SEVERELY ERODED (TYPE C)
BcC2	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT, MODERATELY ERODED (TYPE C)
ScD	SANDY AND CLAYEY LAND, MODERATELY SLOPING (TYPE C)
BcB2	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT, MODERATELY ERODED (TYPE C)
Cm	ELKTON SILT LOAM (TYPE C/D)
ScB	SANDY AND CLAYEY LAND, GENTLY SLOPING (TYPE C)
BcA	BELTSVILLE SILT LOAM, 0 TO 1 PERCENT SLOPES (TYPE C)
EVC	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES (TYPE B)

"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"

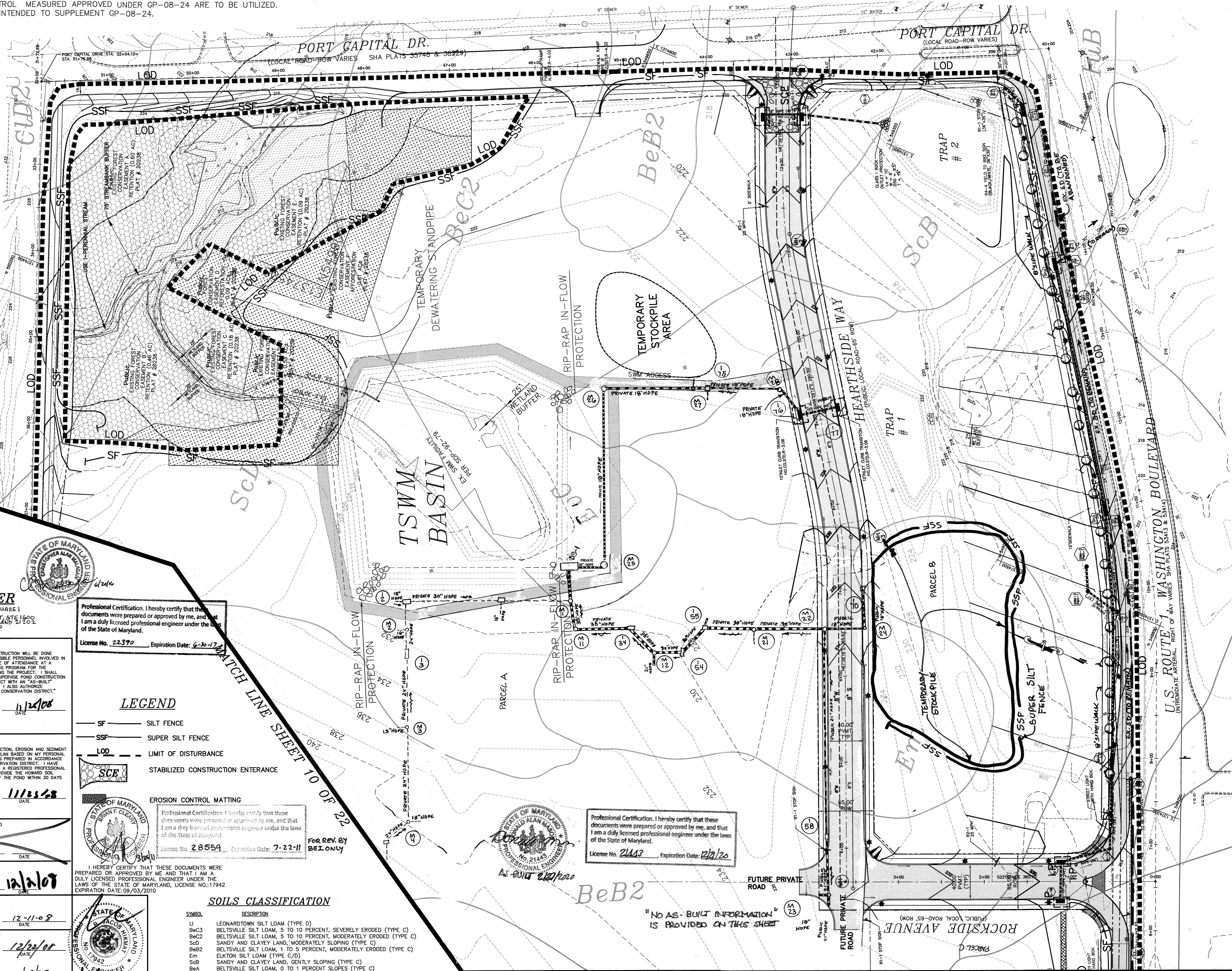
Project	04-081
Illustration	MMM
Scale	1"=60'
Date	NOV. 2008
Approval	MMM
Approval	RJH

NO. 1	REVISED PER COMMENTS	DATE	BY
2	ADD PARCELS A, B, & C	1-25-12	MMM
3	ADD PARCELS A, B, & C	1-25-12	MMM
4	ADD PARCELS A, B, & C	3-29-12	MMM
5	ADD PARCELS A, B, & C	11-15-12	MMM
6	ADD PARCELS A, B, & C		
7	ADD PARCELS A, B, & C		

**HOWARD SQUARE**  
 PARCELS A AND B AND C  
 TAX MAP 43, PARCEL 1  
 HOWARD COUNTY, MARYLAND  
 FIRST ELECTION DISTRICT  
 GRADING AND SEDIMENT CONTROL PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Jones Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Buit. (410) 997-0288 Fax

NOTE: ALL SEDIMENT CONTROL MEASURED APPROVED UNDER GP-08-24 ARE TO BE UTILIZED. THIS SEQUENCE IS INTENDED TO SUPPLEMENT GP-08-24.



**DEVELOPER**

ATAPCO HOWARD SQUARE 1  
10 EAST BALTIMORE STREET STE 1600  
BALTIMORE, MARYLAND 21202  
VIC. 341.7146

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

11/28/08

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

11/28/08

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET ALL REQUIREMENTS.

12/12/08

APPROVED: DEPARTMENT OF PUBLIC WORKS  
12-11-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
12/22/08

12/19/08

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 22390 Expiration Date: 6-30-17

**LEGEND**

- SF SILT FENCE
- SSF SUPER SILT FENCE
- LOD LIMIT OF DISTURBANCE
- SCE STABILIZED CONSTRUCTION ENTERANCE

**EROSION CONTROL MATTING**

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 28559 Expiration Date: 7-22-11

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942 EXPIRATION DATE: 09/03/2010

**SOILS CLASSIFICATION**

SYMBOL	DESCRIPTION
LI	LEONARDTOWN SILT LOAM (TYPE D)
BeC3	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT, SEVERELY ERODED (TYPE C)
BeC2	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT, MODERATELY ERODED (TYPE C)
ScD	SANDY AND CLAYEY LAND, MODERATELY SLOPING (TYPE C)
BeB2	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT, MODERATELY ERODED (TYPE C)
Em	ELKTON SILT LOAM (TYPE C/D)
ScB	SANDY AND CLAYEY LAND, GENTLY SLOPING (TYPE C)
BeA	BELTSVILLE SILT LOAM, 0 TO 1 PERCENT SLOPES (TYPE C)
EVC	EVEBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES (TYPE B)

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12/21/20

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12/21/20

Project	04-081	date	NOV.2008
Illustration	MMM	approval	MMM
scale	1"=50'	BY	RJH

5	SHAW-THEPARK STABLE PARCEL #1	DATE	6-30-10
4	REUSE EXISTING LAND AS USUAL	DATE	5-10-12
3	ADD EX. SP. ALONG RT. 1 TO REMAIN	DATE	3-27-12
2	REUSE EXISTING STORM DRAIN	DATE	3-27-12
1	ADD PARCEL #2	DATE	11-15-10

**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
**GRADING AND SEDIMENT CONTROL PLAN (STAGE 1)**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286, (410) 997-0286 Fax



**HOWARD SOIL CONSERVATION DISTRICT**

**PERMANENT SEEDING NOTES**

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING 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./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK 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 14 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (08 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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

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

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

**STANDARD SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- 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 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 5), SOO (SEC. 5A), TEMPORARY SEEDING (SEC. 5B) AND MULCHING (SEC. 5C). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:  
TOTAL AREA OF SITE: 43.2 ACRES  
AREA DISTURBED: 45.28 ACRES  
AREA TO BE ROCKED OR PAVED: 2.8 ACRES  
AREA TO BE VEGETATIVELY STABILIZED: 42.69 ACRES  
TOTAL CUT: 193,900 CU. YDS.  
TOTAL FILL: 193,900 CU. YDS.  
TOTAL WASTE/BORROW AREA LOCATION: N/A
- THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITY MEASUREMENTS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY 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 CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**STANDARD AND SPECIFICATIONS FOR TOPSOIL**

DEFINITION  
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE  
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
  - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
  - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-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, OR OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CON-TRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDEHS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.

- TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SON GRASS, MUSTEGE, 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.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
  - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
    - PH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PROVIDED TO RAISE THE PH TO 6.5 OR HIGHER.
    - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
    - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
    - NO SOO OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

- TOPSOIL APPLICATION
  - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
  - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.

- TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

- ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
  - COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
    - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.08.
    - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
    - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
  - COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SOODING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

**TEMPORARY DUST CONTROL MEASURES**

- 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 FLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH 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.

**SEQUENCE OF CONSTRUCTION**

NOTE: ALL SEDIMENT CONTROL MEASURED APPROVED UNDER GP-08-24 ARE TO BE UTILIZED. THIS SEQUENCE IS INTENDED TO SUPPLEMENT GP-08-24.

- OBTAIN GRADING PERMIT. (1 DAY)
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN. (1 DAY)
- CONSTRUCT SILT FENCES AND SUPER SILT FENCES. (5 DAYS)
- PERFORME MASS GRADING. (120 DAYS)
- SEED AND MULCH ALL DISTURBED AREAS WITHIN 7 DAYS OF MASS GRADING COMPLETION. (5 DAYS)
- CONSTRUCT ROADS AND ALL STORM DRAINS DOWN TO AND INCLUDING DS-1. ALL INLETS AND DS-1 SHALL BE BLAGM DRAINING TO ENTER THE INSTALLED STORM DRAIN SYSTEM. CONSTRUCT IN-FLUX PROTECTION INTO THE SEDIMENT BASIN.
- REMOVE EXISTING TWIN 30" PIPES. (5 DAYS)
- AFTER CONSTRUCTION OF 43 UNITS (SDP-08-06) CONSTRUCT A MINIMUM OF 30% OF STORMWATER MANAGEMENT FACILITY #1. **NOTE CONTINUING AT BOTTOM OF THIS SHEET**
- AFTER COMPLETION OF SECTION 3 (SDP-08-XX) CONSTRUCT THE REMAINING OF STORMWATER MANAGEMENT FACILITY #1.
- CONSTRUCT SWM #1. CARE MUST BE TAKEN TO SCHEDULE THE CONSTRUCTION DURING A FORECASTED DRY PERIOD. EVERY EFFORT MUST BE TAKEN TO CONSTRUCT AS FAST AS PRACTICAL. (20 DAYS)
- AFTER THE FACILITY IS FULLY CONSTRUCTED, INSPECTED AND APPROVED BY THE COUNTY, REMOVE SAND BAGS AND INSTALL THE TRASH RACK.
- CONSTRUCT SWM # 2 AND BLOCK UNTIL APPROVED BY HOWARD COUNTY.
- CONSTRUCT SWM # 3 AND BLOCK UNTIL APPROVED BY HOWARD COUNTY.
- REMOVE SEDIMENT CONTROL MEASURES AS APPROVED BY THE SEDIMENT CONTROL INSPECTOR.

NOTE:  
1. SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.  
2. IT IS CRITICAL THAT NO SEDIMENT LADEN WATER ENTER THE STORM DRAIN SYSTEM OR BE CONNECTED TO SWM #1.

**DEVELOPER**

ATARCO HOWARD SQUARE  
10 EAST BALTIMORE STREET STE. 1000  
BALTIMORE, MARYLAND 21202  
410.334.1746

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

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 11/20/08  
PRINTED NAME OF DEVELOPER: **ATARCO**

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

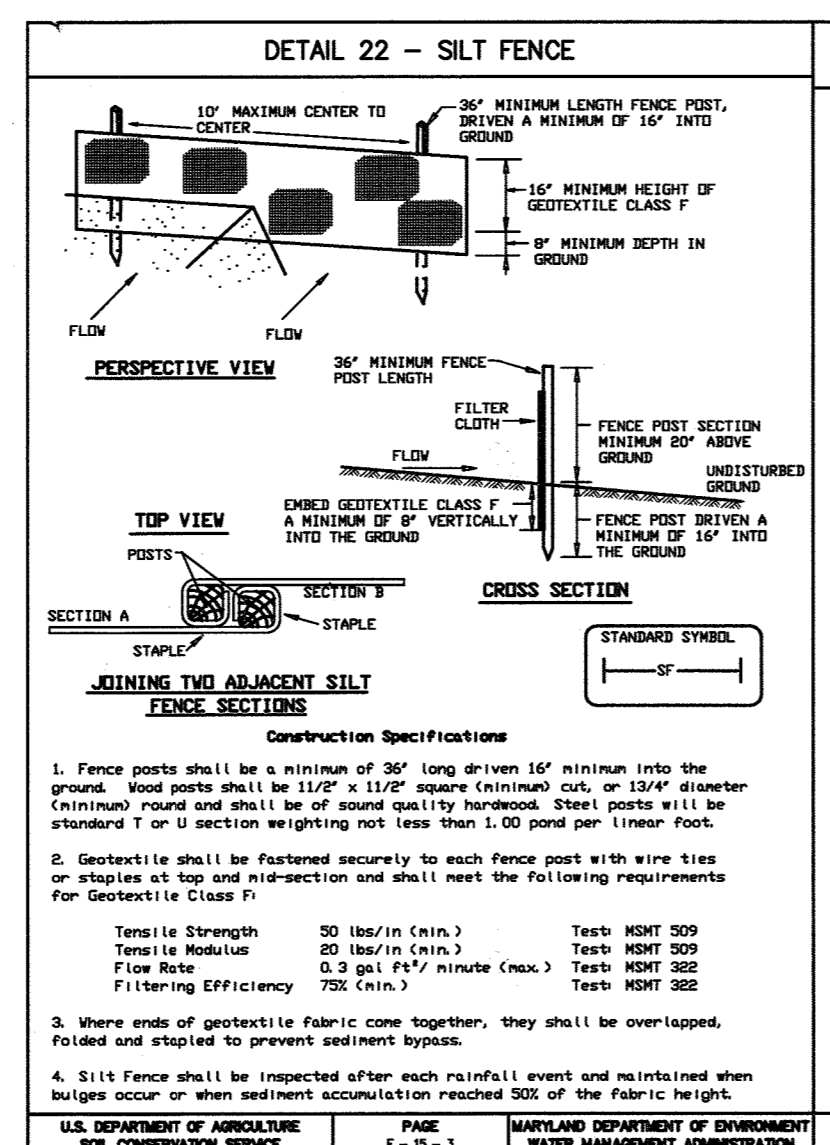
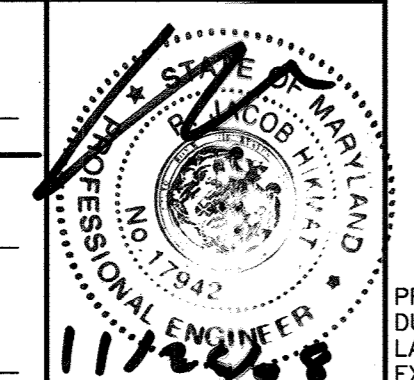
SIGNATURE OF ENGINEER: *[Signature]* DATE: 11/25/08  
PRINTED NAME OF ENGINEER: **ALICIA KIMAT**

REVISIONS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE REQUIREMENTS.

APPROVED: NATURAL RESOURCE CONSERVATION SERVICE DATE: 11/20/08  
THE DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: DEPARTMENT OF PUBLIC WORKS DATE: 12-11-08  
CHIEF BUREAU OF HIGHWAYS: *[Signature]*

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 12/22/08  
CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]*

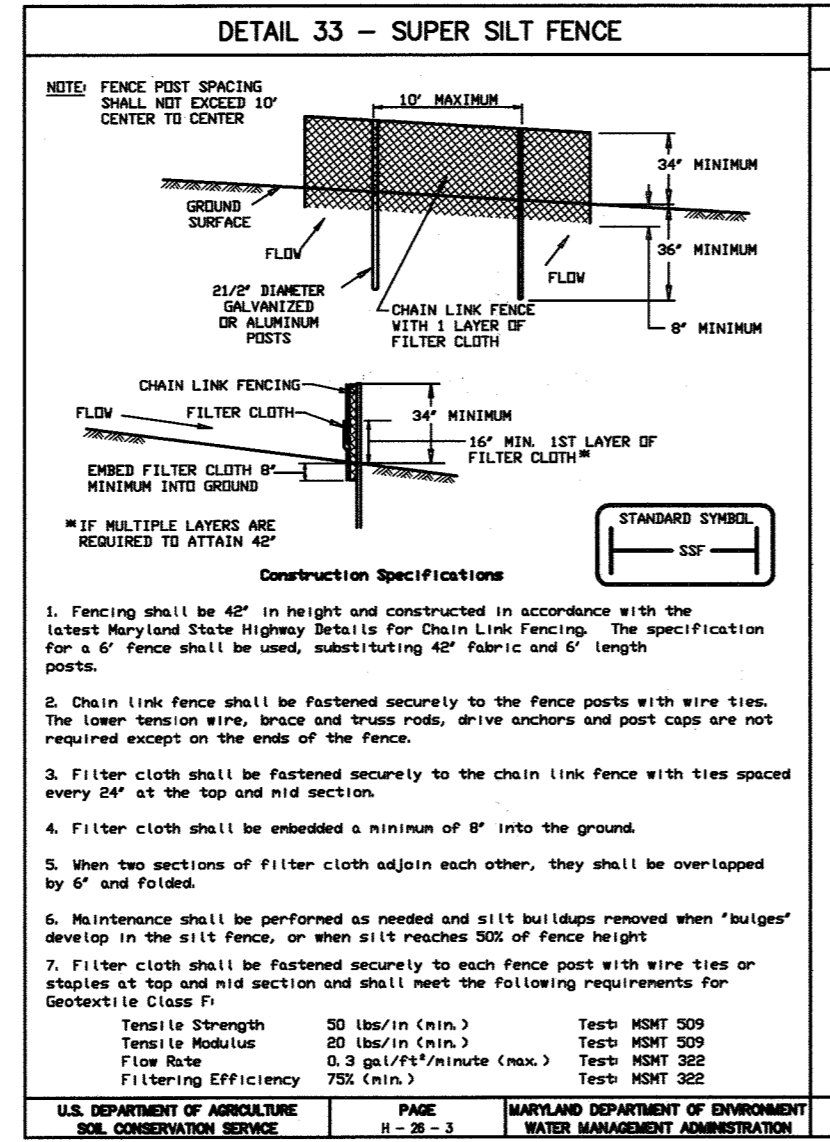
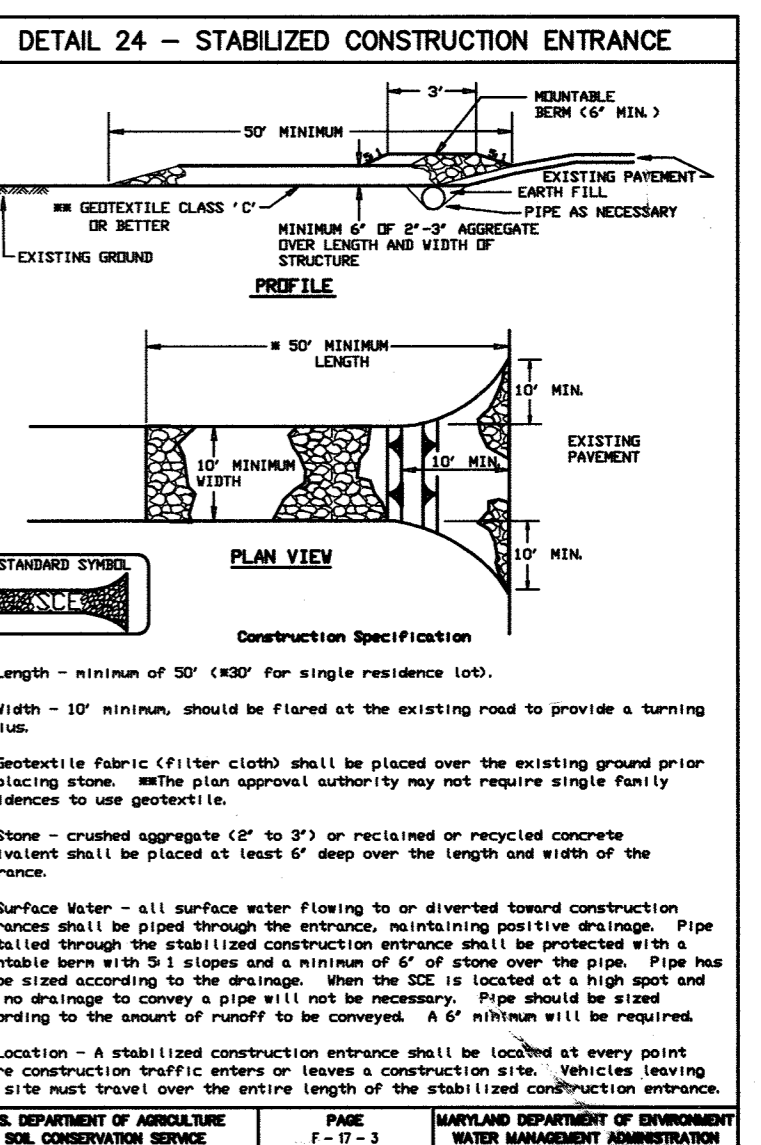
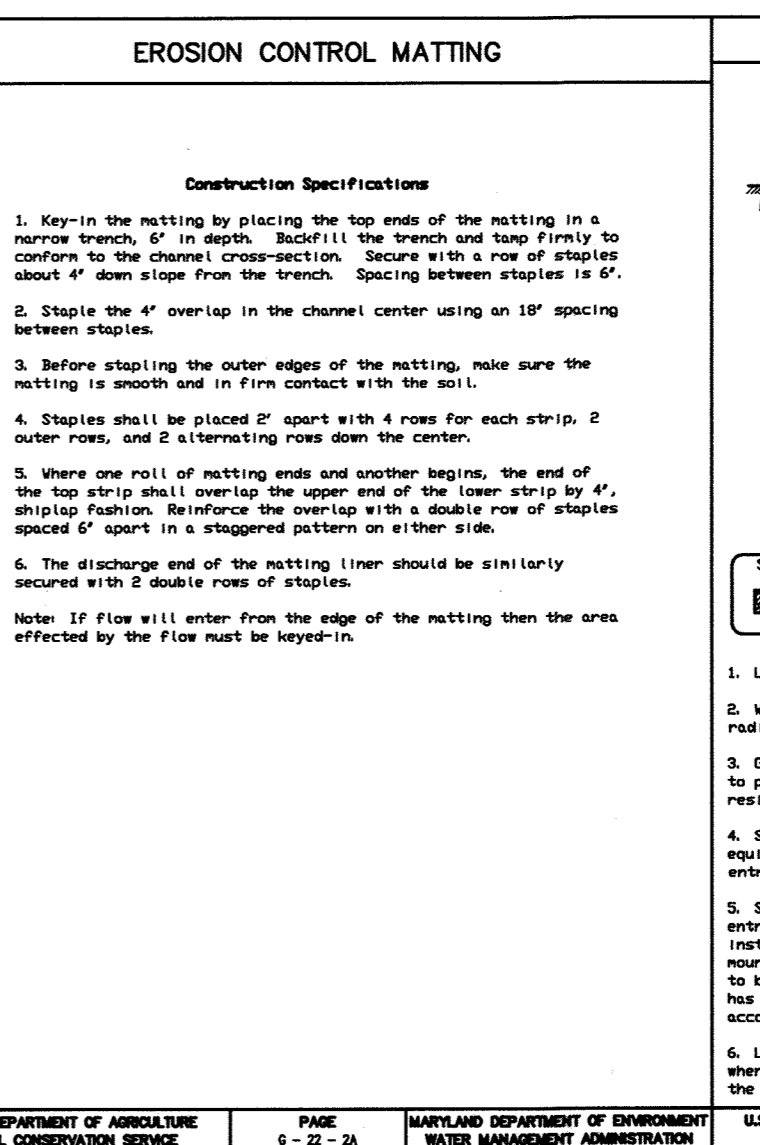
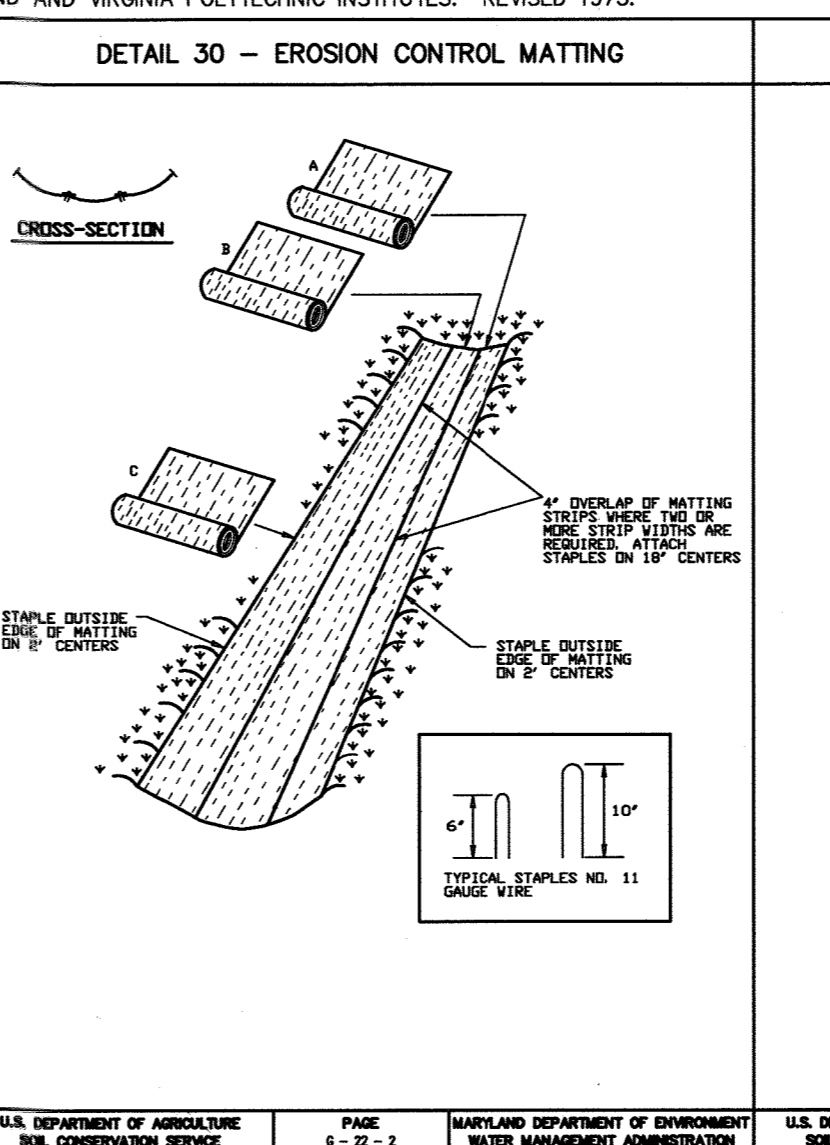
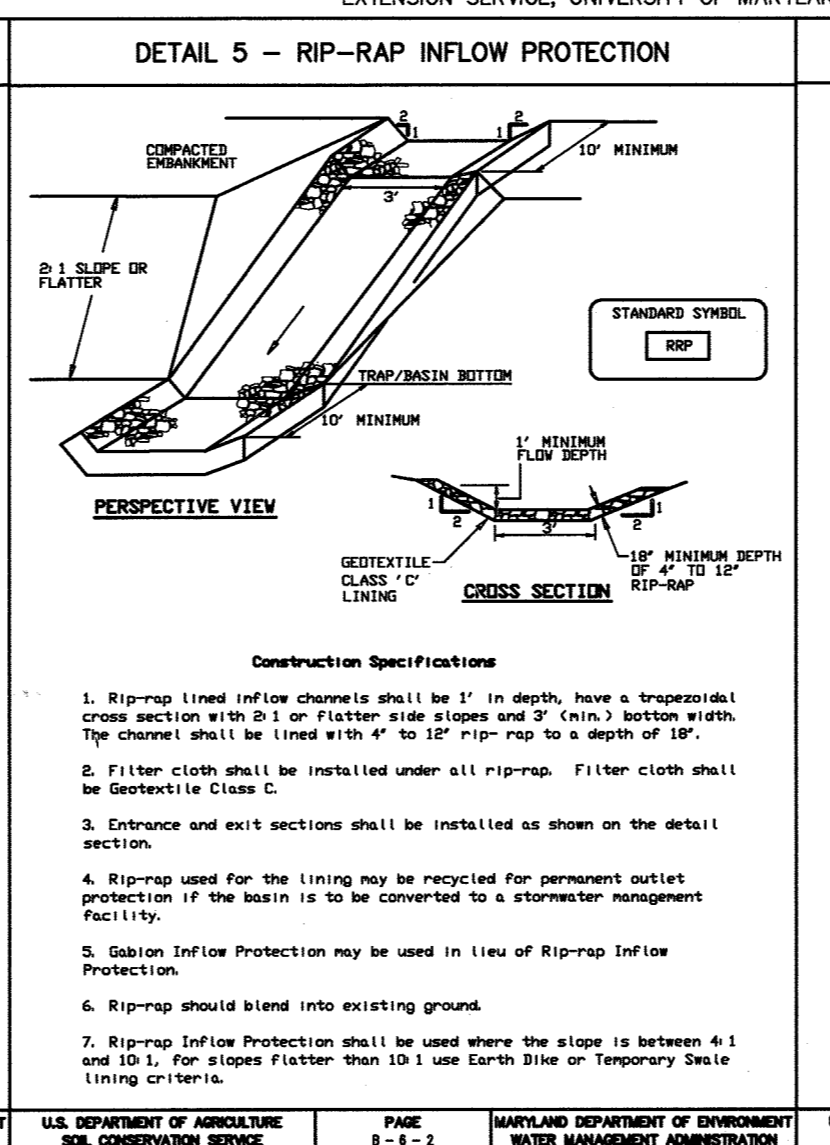


**SILT FENCE**

Silt Fence Design Criteria

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

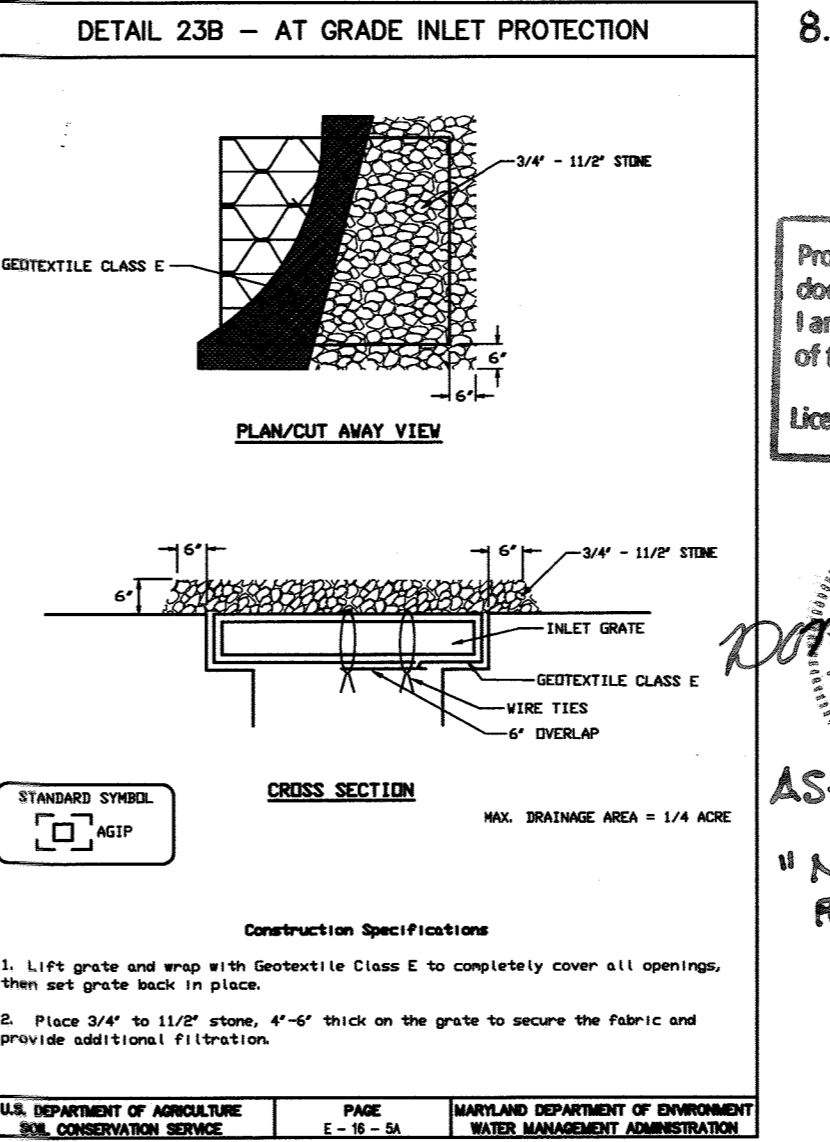
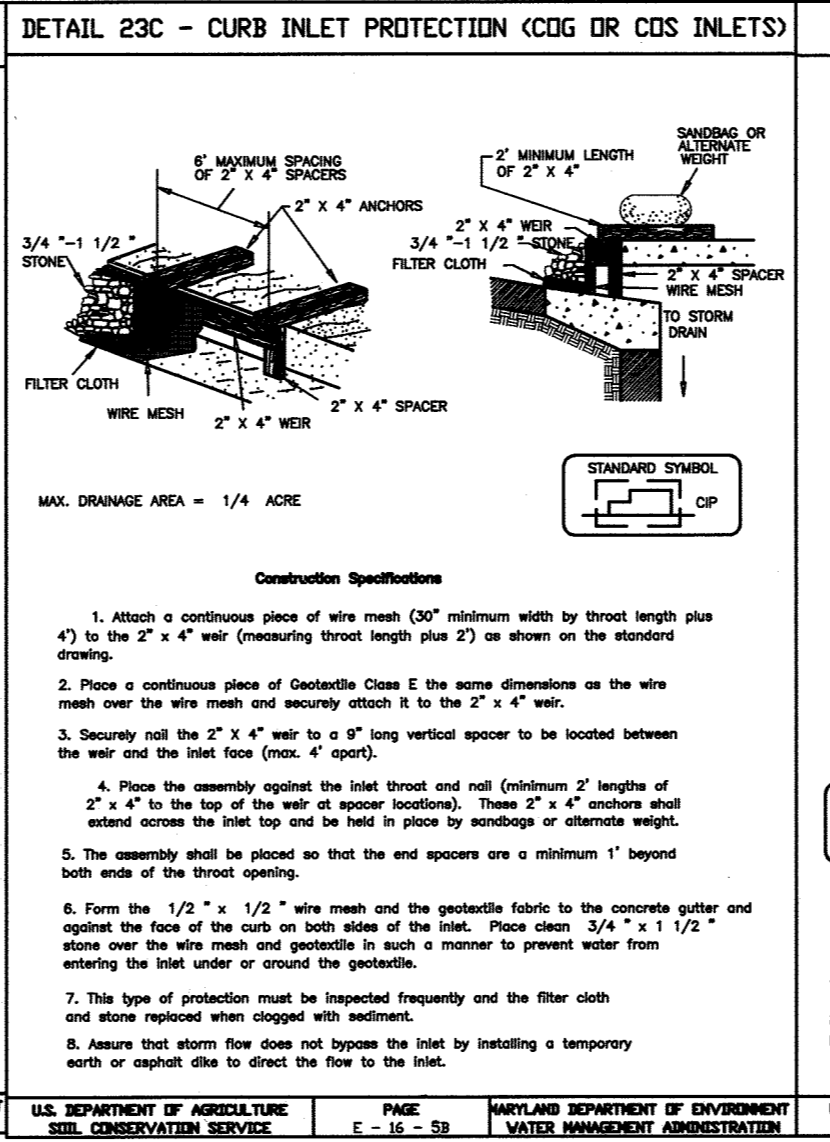
Note: In areas of less than 8:1 slope and sandy soils (USDA general classification system, soil Class 4) maximum silt fence length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



**SUPER SILT FENCE**

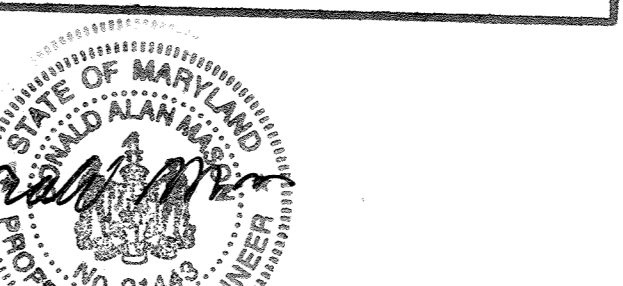
Design Criteria

Slope	Slope Steepness	Slope Length (feet)	Silt Fence Length (feet)
0 - 10%	0 - 1:1	unlimited	unlimited
10 - 20%	1:1 - 3:1	100 feet	1,500 feet
20 - 30%	3:1 - 5:1	100 feet	1,000 feet
30 - 50%	5:1 - 8:1	100 feet	500 feet
50% +	8:1 +	50 feet	250 feet



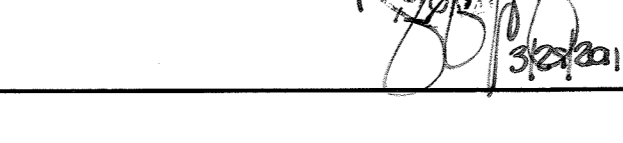
8. CONTINUED: UPON COMPLETION OF SWM #1 AND STORM DRAIN CONNECTION TO THE FACILITY INLETS ALONG HEARTH SIDE SHALL BE UNBLOCKED AND S5F INLET PROTECTION PROVIDED. CONSTRUCTION OF THE 30% OF SWM #1 SHALL BE SCHEDULED DURING A FORECASTED DRY PERIOD. EVERY EFFORT MUST BE TAKEN TO CONSTRUCT THE FACILITY AS FAST AS PRACTICAL.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12/31/20



"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 28559 Expiration Date: 7-22-11



FOR REVISIONS BY BET ONLY

AS-BUILT

Project	NOV-2008	Approval	AS SHOWN
Illustration	MM	Scale	AS SHOWN
Scale	MM	Date	11-15-10

Revised	3-11-11	Date	11-15-10
By	MM	Scale	AS SHOWN
Check	MM	Date	11-15-10

HOWARD SQUARE  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21042  
(410) 397-0286 Fax: (410) 397-0286



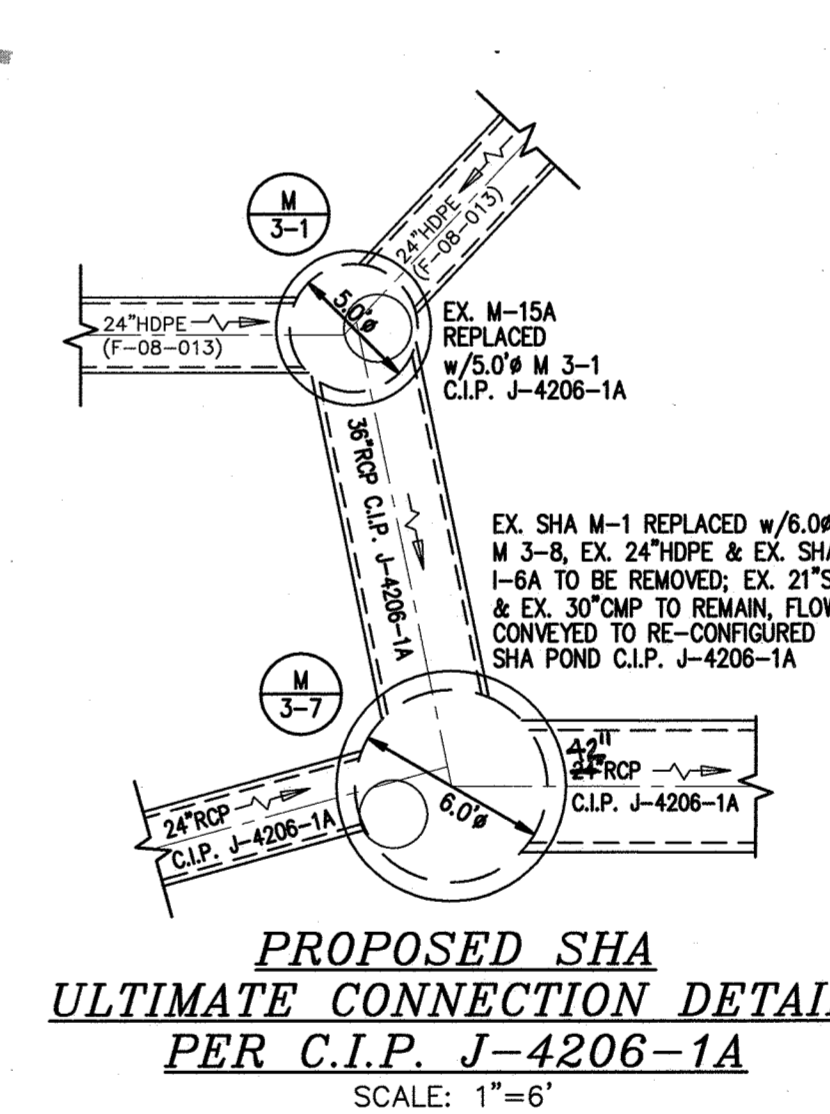


PHASE	INLET #	ZONING (Z)	SUBAREA (B)	AREA (AC)	"C" FACTOR (C)-25	"C" FACTOR (C)-25	% IMPERVIOUS (P) 25
1-1	CAC-CL1	0.80	0.51	85.2			
EX 1-2	CAC-CL1	0.13	0.78	94.8			
EX 1-3	CAC-CL1	0.68	0.55	79.0			
1-4	CAC-CL1	0.13	0.74	91.9			
1-5	CAC-CL1	0.23	0.61	77.2			
NEW 1-6	CAC-CL1	0.26	0.55	76.8			
1-7	CAC-CL1	0.24	0.68	88.3			
1-8	CAC-CL1	0.24	0.82	97.1			
1-9	CAC-CL1	0.20	0.61	82.5			
1-10	CAC-CL1	0.22	0.57	80.9			
1-11	CAC-CL1	0.66	0.51	77.7			
1-12	CAC-CL1	0.09	0.30	65.0			
1-12A	CAC-CL1	0.32	0.33	65.0			
1-13A	CAC-CL1	0.03	0.30	65.0			
1-13	CAC-CL1	0.22	0.30	65.0			
1-14	CAC-CL1	0.34	0.30	65.0			
1-15	CAC-CL1	0.46	0.33	65.0			
1-16	CAC-CL1	0.34	0.62	77.4			
1-17	CAC-CL1	0.33	0.66	87.3			
1-18	CAC-CL1	0.04	0.33	65.0			
1-19	CAC-CL1	0.46	0.33	65.0			
1-20	CAC-CL1	0.18	0.33	65.0			
1-21	CAC-CL1	0.20	0.33	65.0			
1-22	CAC-CL1	0.25	0.63	84.0			
1-23	CAC-CL1	0.35	0.64	79.0			
1-24	CAC-CL1	0.25	0.75	93.0			
1-25	CAC-CL1	0.86	0.53	85.0			
1-26	CAC-CL1	0.16	0.76	93.4			
1-27	CAC-CL1	1.03	0.33	65.0			
1-28	CAC-CL1	0.23	0.61	83.3			
EX 1-29	CAC-CL1	0.34	0.33	65.0			
1-30	CAC-CL1	0.15	0.82	97.7			
1-31	CAC-CL1	0.13	0.31	65.0			
1-32	CAC-CL1	0.06	0.30	65.0			
1-33	CAC-CL1	0.20	0.67	87.8			
1-34	CAC-CL1	0.25	0.81	83.2			
1-35	CAC-CL1	0.33	0.64	85.2			
1-36	CAC-CL1	0.38	0.33	65.0			
1-37	CAC-CL1	0.44	0.43	71.4			
1-38	CAC-CL1	0.35	0.62	84			
1-39	CAC-CL1	0.62	0.59	81.9			
1-40	CAC-CL1	0.13	0.96	100			
1-41	CAC-CL1	0.32	0.55	79.2			
1-42	CAC-CL1	0.23	0.33	65			
1-43	CAC-CL1	0.23	0.65	86.3			
1-44	CAC-CL1	0.36	0.54	78.8			
1-45	CAC-CL1	0.30	0.60	82.5			
1-46	CAC-CL1	0.80	0.33	65			
1-47	CAC-CL1	0.21	0.61	83.3			
1-48	CAC-CL1	0.23	0.55	77.4			
1-49	CAC-CL1	0.17	0.33	65			
1-50	CAC-CL1	0.82	0.51	76.4			
1-51	CAC-CL1	0.29	0.60	83.1			
1-52	CAC-CL1	0.29	0.33	65			
1-53	CAC-CL1	0.24	0.62	84.0			
1-54	CAC-CL1	0.31	0.59	81.9			
1-55	CAC-CL1	0.55	0.53	78.4			
1-56	CAC-CL1	0.34	0.61	83.5			
1-57	CAC-CL1	0.30	0.33	65.0			
1-58	CAC-CL1	0.15	0.61	83.7			
1-59	CAC-CL1	0.45	0.47	74.3			
1-60	CAC-CL1	0.08	0.86	100.0			
1-61	CAC-CL1	0.39	0.60	82.9			
1-62	CAC-CL1	0.15	0.96	100.0			
1-63	CAC-CL1	0.33	0.59	82.0			
1-64	CAC-CL1	0.15	0.86	100.0			
1-65	CAC-CL1	0.29	0.33	65.0			
1-66	CAC-CL1	0.29	0.33	65.0			
1-67	CAC-CL1	0.29	0.33	65.0			
1-68	CAC-CL1	0.15	0.75	93.0			
1-69	CAC-CL1	0.40	0.54	79.0			
1-70	CAC-CL1	0.54	0.85	98.9			
EX 1-70	CAC-CL1	0.35	0.65	98.7			
1-71	CAC-CL1	2.19	0.72	85.0			
1-72	CAC-CL1	0.26	0.60	82.2			
1-73	CAC-CL1	0.26	0.60	82.2			
1-74	CAC-CL1	0.54	0.55	79.9			
EX 1-75	CAC-CL1	0.30	0.30	65.0			
EX 1-76	CAC-CL1	0.24	0.76	92.7			
EX 1-77	CAC-CL1	0.15	0.86	100.0			
M-44	CAC-CL1	0.34	0.35	64.4			
EX SHA 1-6A	CAC-CL1	0.58	0.80	96.6			
EX WQ#5	CAC-CL1	2.48	0.78	91.2			
1-91	CAC-CL1	0.20	0.30	65.0			
1-90	CAC-CL1	0.22	0.36	64.5			
1-79	CAC-CL1	0.22	0.33	64.2			
1-80	CAC-CL1	0.19	0.32	64.1			
1-78	CAC-CL1	0.22	0.33	64.2			
1-86	CAC-CL1	0.18	0.33	64.2			
1-87	CAC-CL1	0.18	0.33	64.2			
1-88	CAC-CL1	0.14	0.33	64.2			
1-89	CAC-CL1	0.36	0.33	64.2			
MBA 1-71	CAC-CL1	0.26	0.86	100.0			
MBA 1-72	CAC-CL1	0.33	0.75	92.6			
MBA 1-73	CAC-CL1	0.50	0.33	64.2			
M-45	CAC-CL1	0.27	0.33	64.2			
1-82	CAC-CL1	0.18	0.41	67.8			
MH-24	CAC-CL1	0.24	0.86	100.0			
1-93	CAC-CL1	0.14	0.72	85.0			
1-94	CAC-CL1	0.34	0.72	85.0			
1-95	CAC-CL1	0.23	0.72	85.0			
1-96	CAC-CL1	0.25	0.72	85.0			
M-57	CAC-CL1	0.42	0.86	100.0			
M-58	CAC-CL1	1.20	0.86	100.0			
M-59	CAC-CL1	0.11	0.72	85.0			
1-81	CAC-CL1	0.46	0.86	89.9			
1-82	CAC-CL1	0.44	0.74	89.9			
MBA 1-76	CAC-CL1	1.07	0.86	100.0			
MBA 1-77	CAC-CL1	0.68	0.53	92.7			
EX SHA 1-4A	CAC-CL1	0.60	0.83	94.9			
EX SHA 1-6A	CAC-CL1	0.53	0.81	94.3			
EX SHA 1-4A	CAC-CL1	0.58	0.80	93.8			
EX WQ#3	CAC-CL1	2.48	0.78	91.2			
DA-7,8,9	CAC-CL1	1.66	0.77	91.1			

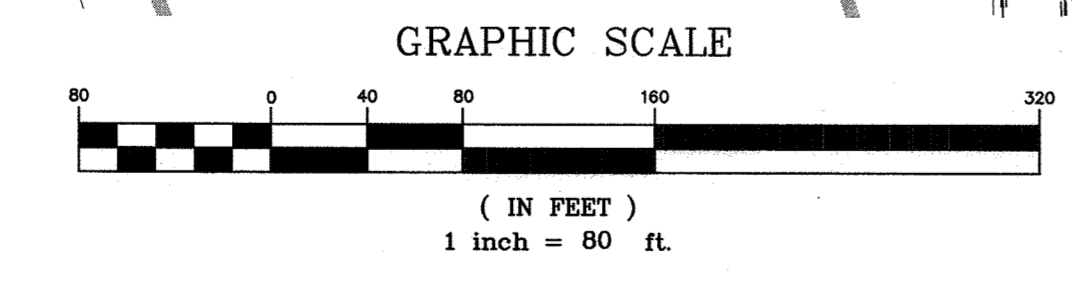
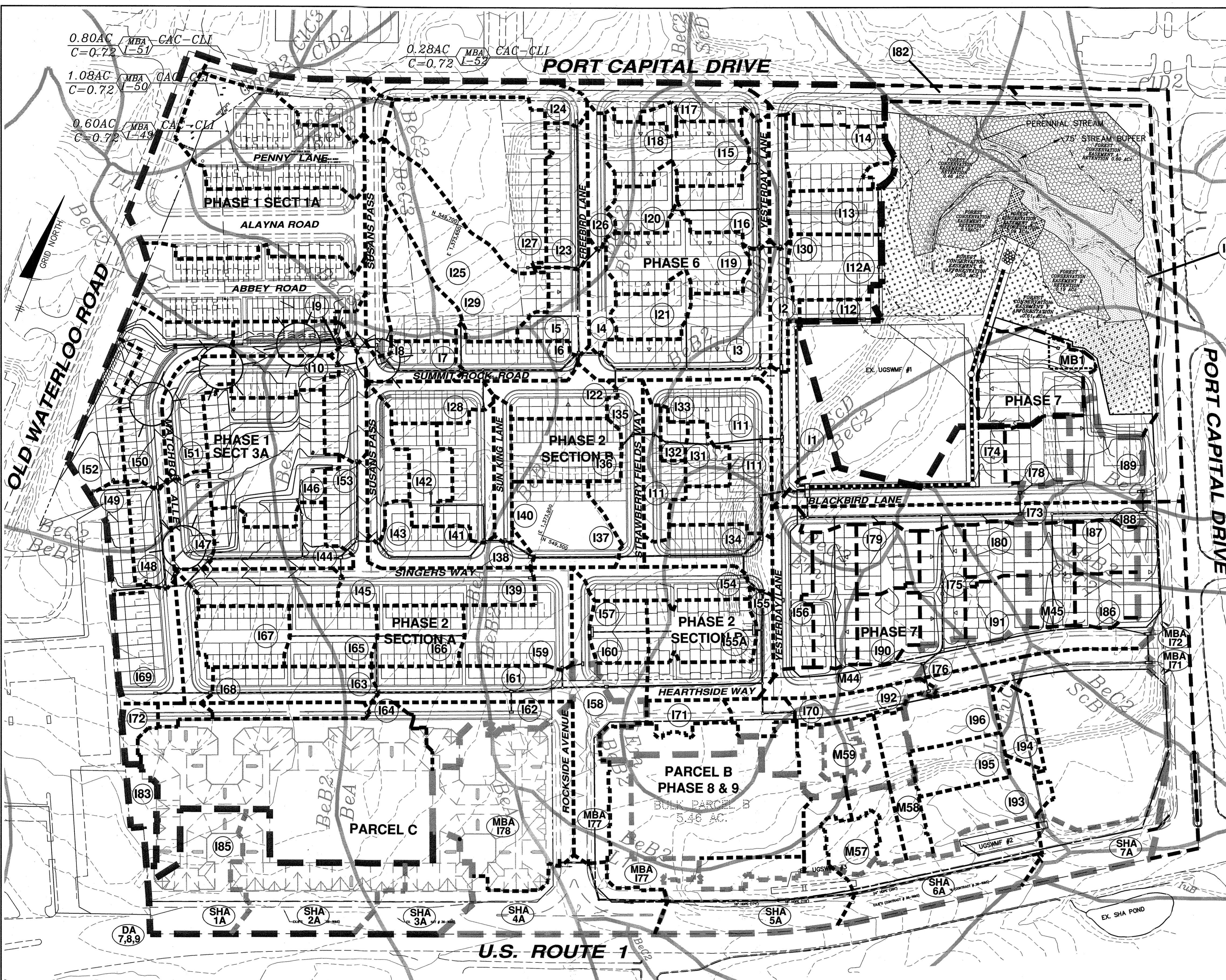
"NO AS BUILT INFORMATION IS PROVIDED ON THIS SHEET"

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12/31/2020



THIS REVISION SUPERCEDES THE PREVIOUS REPLACEMENT SHEET DATED JUNE, 2011



\* THE SHA 25YR HGL INTERIM CONDITION DOES NOT INCLUDE DISCHARGE FROM THE DEVELOPMENT OF PARCEL B; IMPROVEMENTS UNDER CAPITAL PROJECT #J-4206-1A WILL CONVEY THE ULTIMATE DISCHARGE UPON COMPLETION.

NOTE: IF THE IMPROVEMENTS PROPOSED UNDER CAPITAL PROJECT #J-4206-1A ARE NOT INSTALLED, THE DEVELOPER IS RESPONSIBLE FOR PROVIDING ADEQUATE STORM DRAIN OUTFALL AND CONVEYANCE FROM THE HOWARD SQUARE SITE\*\*

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, DIVISION OF HIGHWAYS  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

SYMBOL	HYDRIC	HYDROLOGIC GROUP	SOILS CHART NAME
Ba	YES	C	BELTSVILLE SILT LOAM, 0 TO 1 PERCENT SLOPES
Ba2	YES	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BaC2	YES	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
BaC3	YES	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
Om2	YES	B	CHILLUM SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
Em	YES	D	ERIKTON SILT LOAM
Exc	YES	A	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES
Li	YES	D	LEONARDTOWN SILT LOAM
Sd	YES	C	SANDY AND CLAYEY LAND, MODERATELY ERODED

REPLACEMENT SHEET

NO. 3 DATE 11-13-15

REVISION

DEVELOPER/OWNER: ATAPCO HOWARD SQUARE I BUSINESS TRUST  
 10 E. Baltimore St. Suite 1600  
 Baltimore, MD 21202  
 (410) 347-7189

HOWARD SQUARE PARCEL A, B, AND C

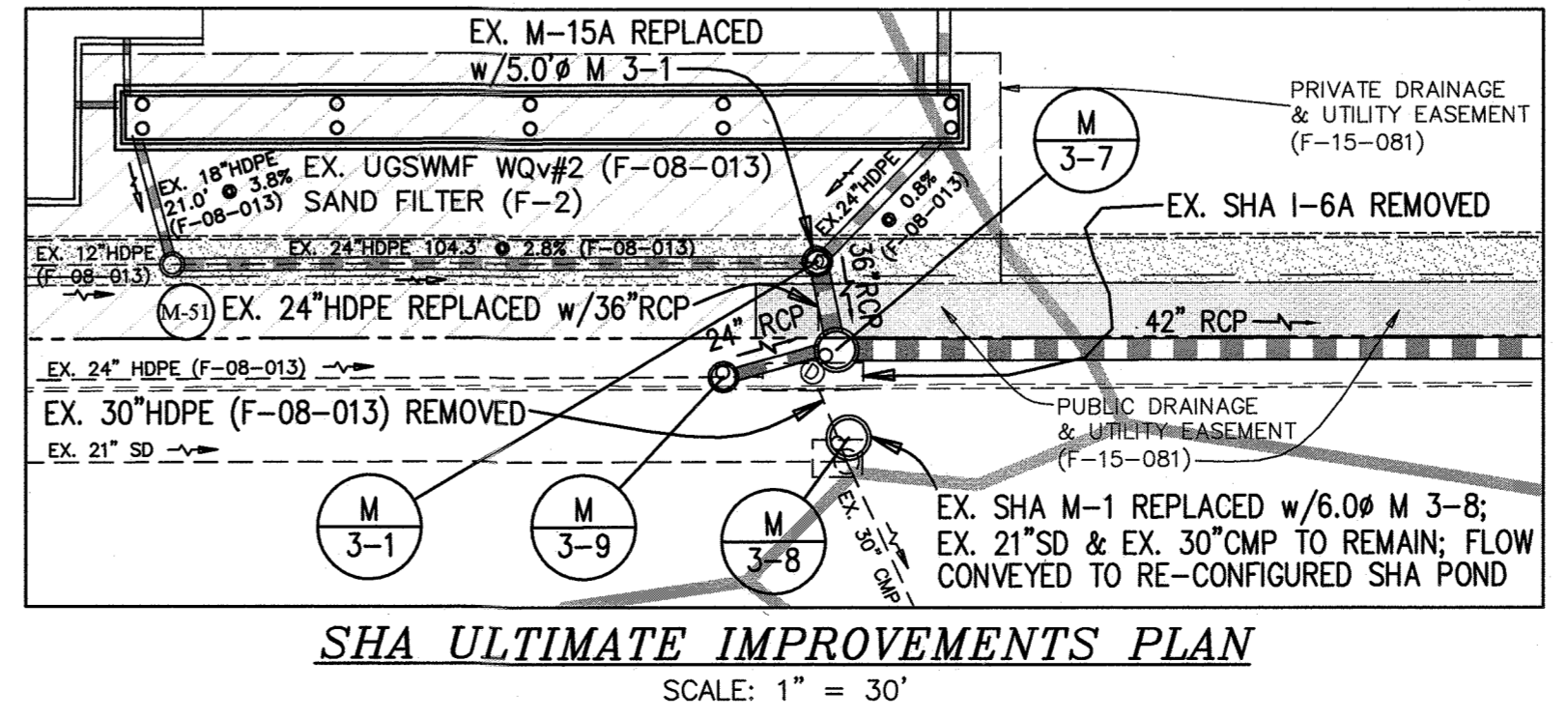
TAX MAP: 43 GRID 3 & 9 - PARCEL: C  
 ZONED: CAC-CL1  
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

REPLACEMENT SHEET  
 REVISED STORM DRAIN DRAINAGE AREA MAP

DATE: DECEMBER, 2015  
 REVISION: BEI PROJECT NO. 2337

DRAFT: BEI CHECK: CAM SCALE: AS SHOWN SHEET 16 OF 23

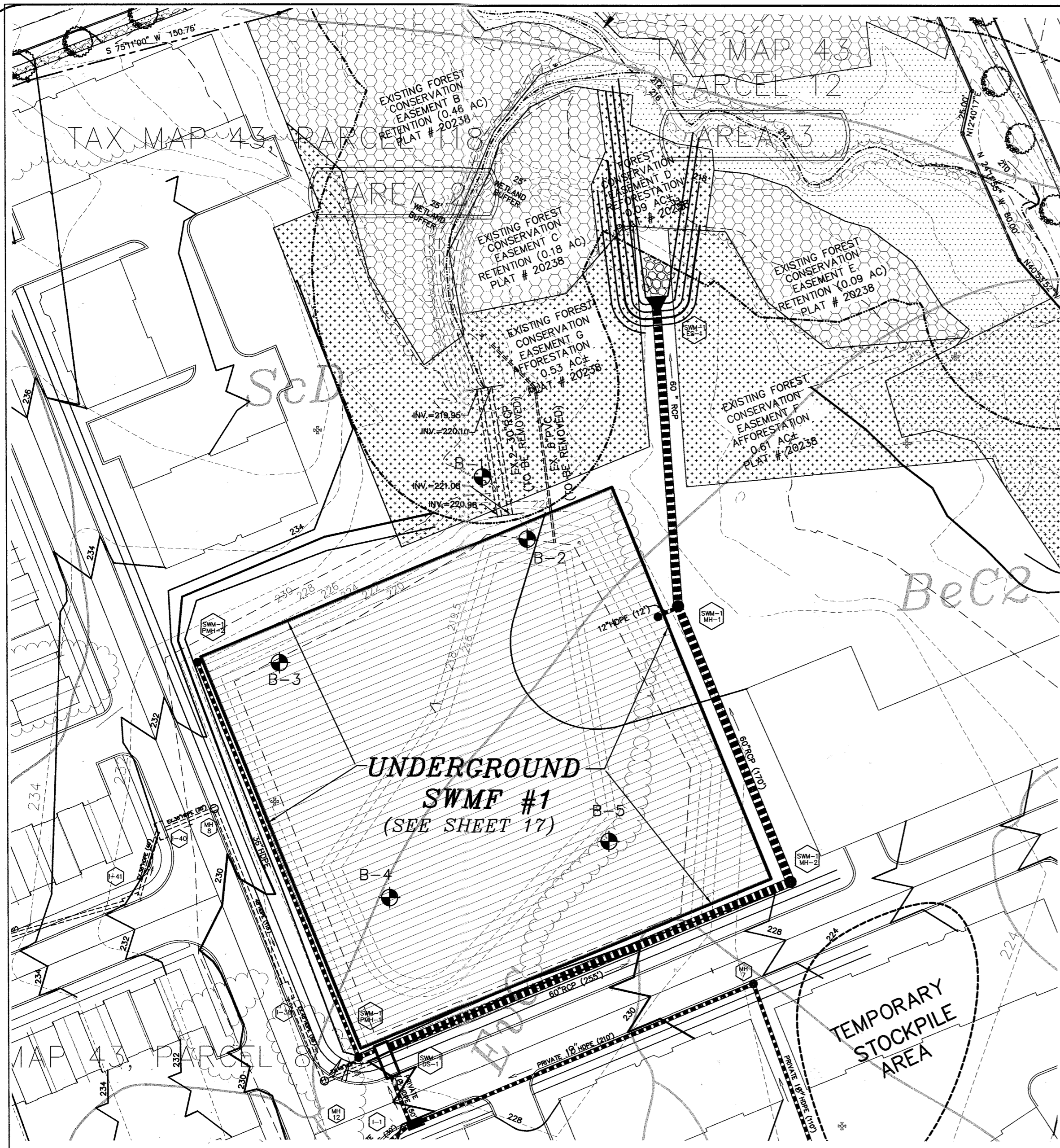
AS-BUILT F-08-013



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 6-30-2015





**PLAN (ULTIMATE CONDITION)**  
SCALE: 1"=50'

**DEVELOPER**

AT PRO SQUARE I  
BUSINESS TRUST  
10 EAST BALTIMORE STREET  
BALTIMORE, MARYLAND 21202  
410-347-7146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942 EXPIRATION DATE: 09/03/2010

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE CONSTRUCTION AND PERFORM PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
DATE: 11/24/18

SIGNATURE OF DEVELOPER: *Mark Carr*  
PRINTED NAME OF DEVELOPER: Mark Carr

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE CONSTRUCTION AND PERFORM PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
DATE: 11/25/18

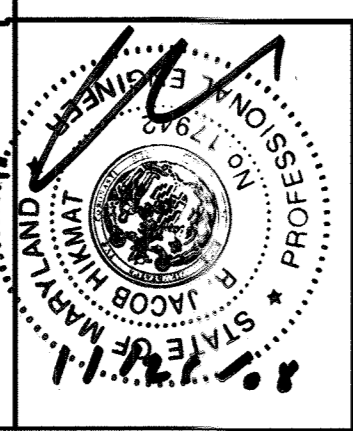
SIGNATURE OF ENGINEER: *YACOB HIKMAT*  
PRINTED NAME OF ENGINEER: YACOB HIKMAT

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT REQUIREMENTS.  
DATE: 11/25/18

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 12/23/18

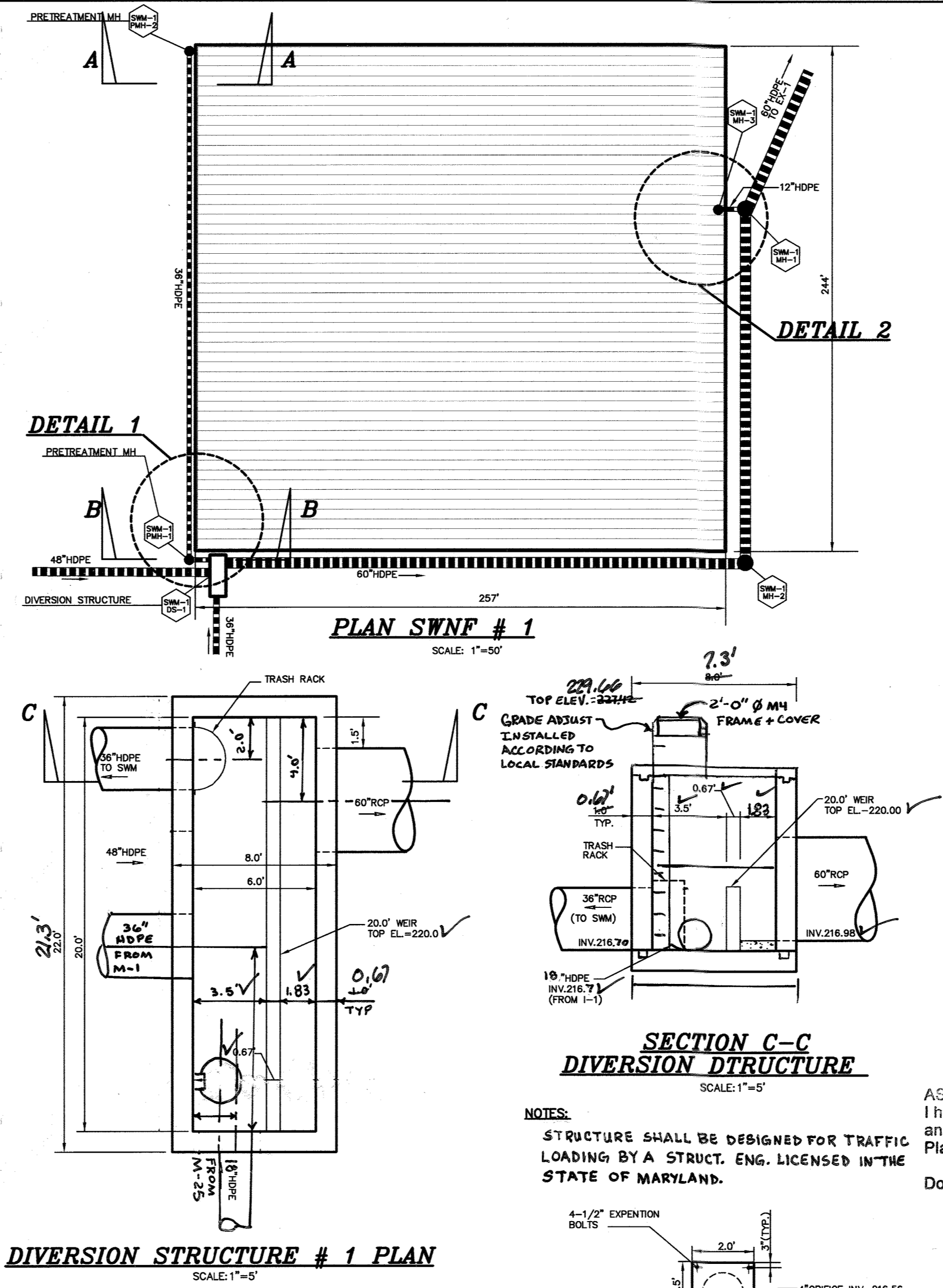
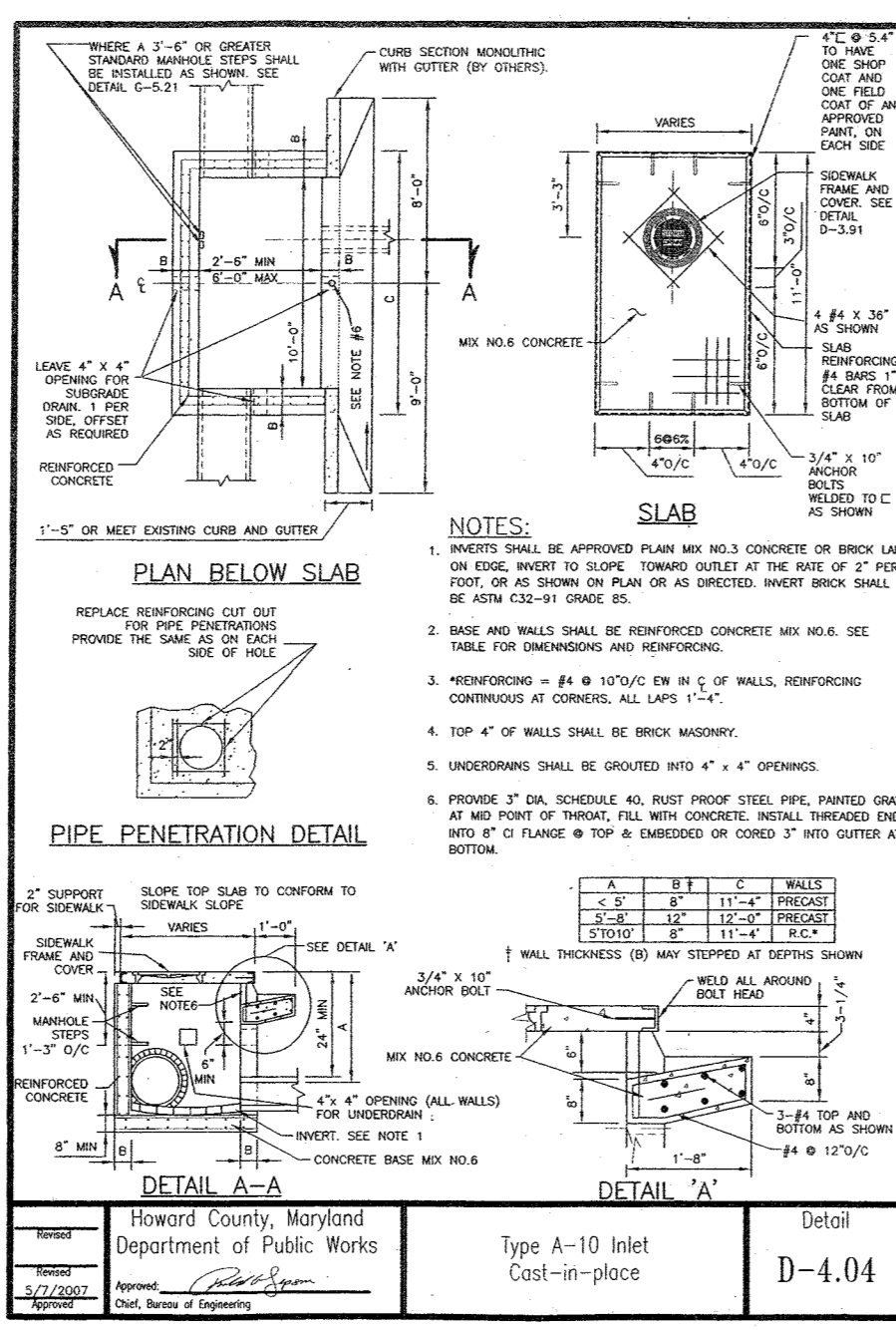
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 12/23/18

HOWARD SOIL CONSERVATION DISTRICT  
DATE: 12/19/18



**SWMF #1 DATA:**

DA = 30.82 AC.  
Wqv REQUIRED: 91,174 C.F.  
Wqv PROVIDED: 97,124.5 C.F. @ EL. 218.5  
Rev PROVIDED: 10,942 C.F.  
Cpv PROVIDED: 12,509 C.F. @ E. 216.5  
Cpv LAG TIME REQUIRED: 18 Hr  
Cpv LAG TIME PROVIDED: 26.4 Hr  
Cpv EL = 220.02  
OWNERSHIP AND MAINTENANCE: PRIVATE

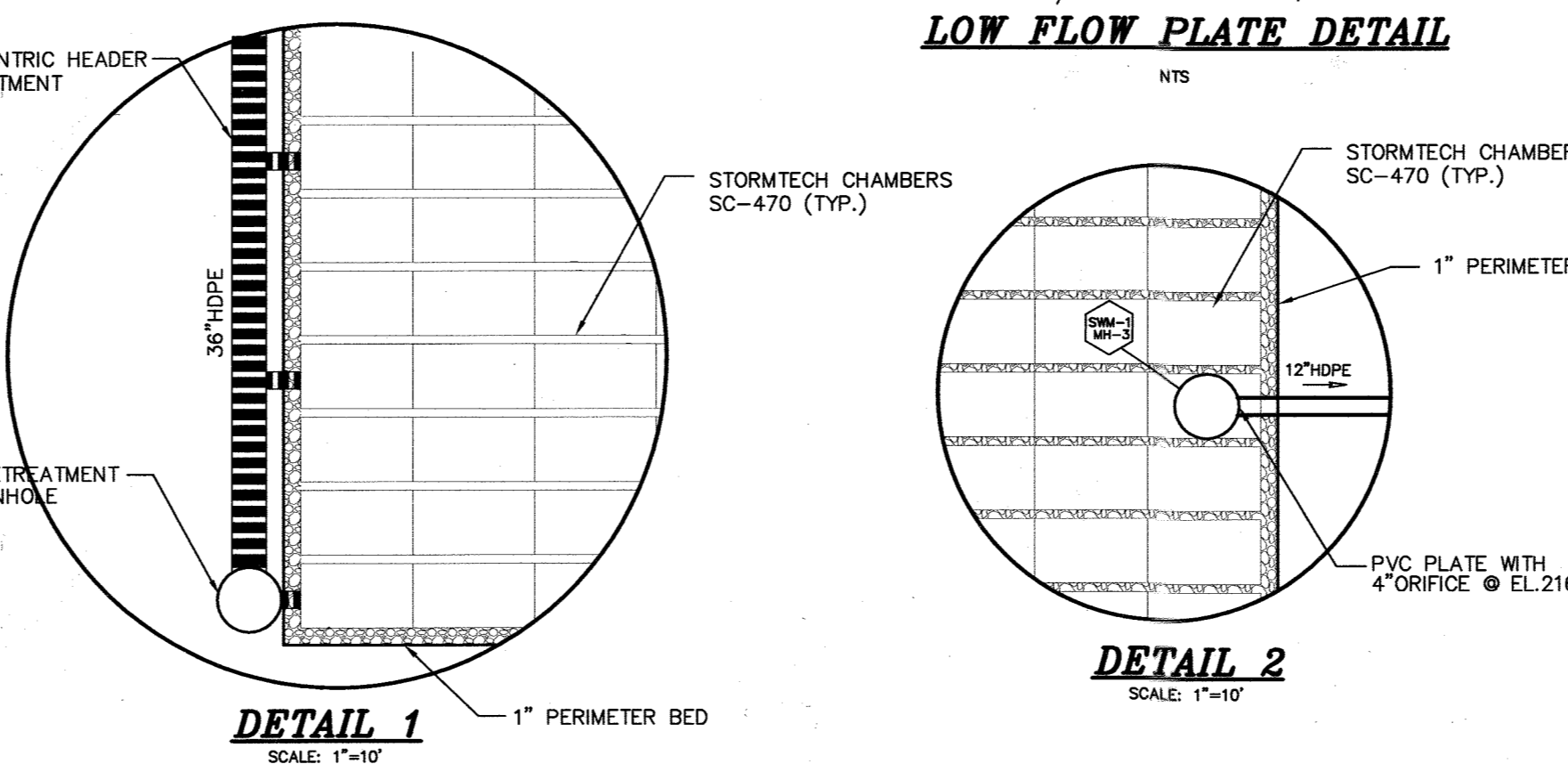


**DIVERSION STRUCTURE # 1 PLAN**  
SCALE: 1"=5'

**SECTION C-C DIVERSION STRUCTURE**  
SCALE: 1"=5'

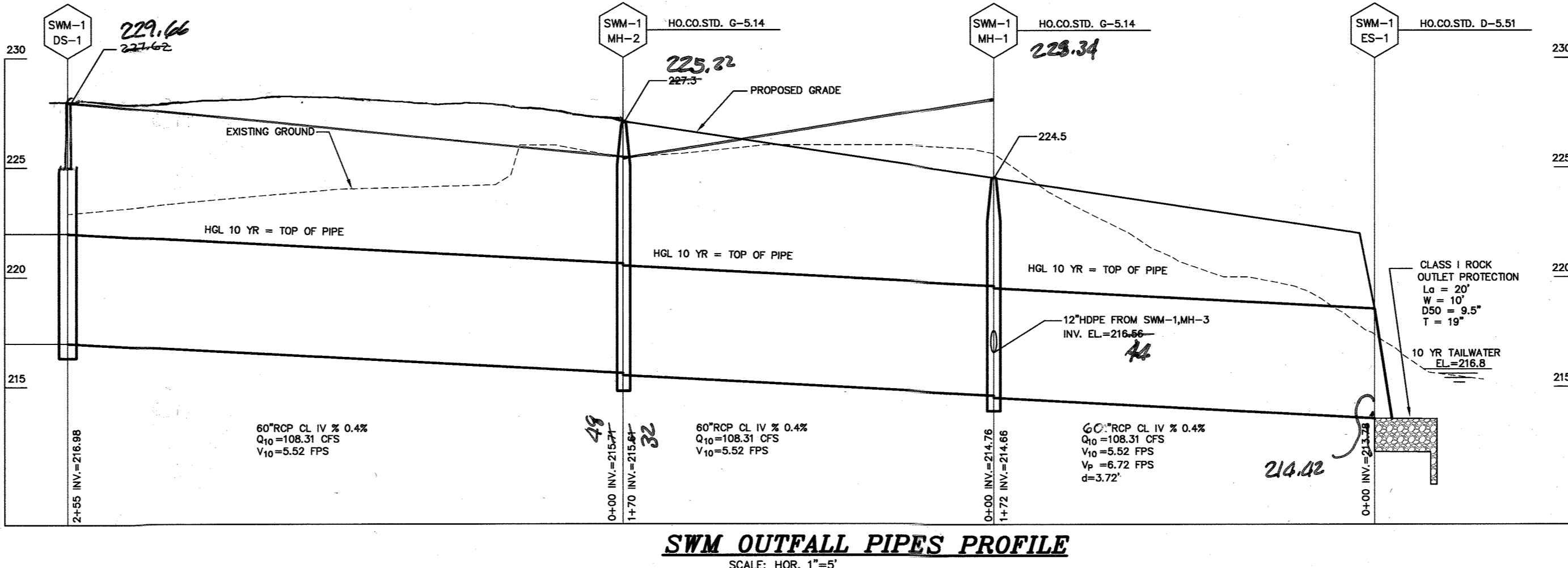
NOTES:  
STRUCTURE SHALL BE DESIGNED FOR TRAFFIC LOADING BY A STRUCT. ENG. LICENSED IN THE STATE OF MARYLAND.

**LOW FLOW PLATE DETAIL**  
SCALE: 1"=10'

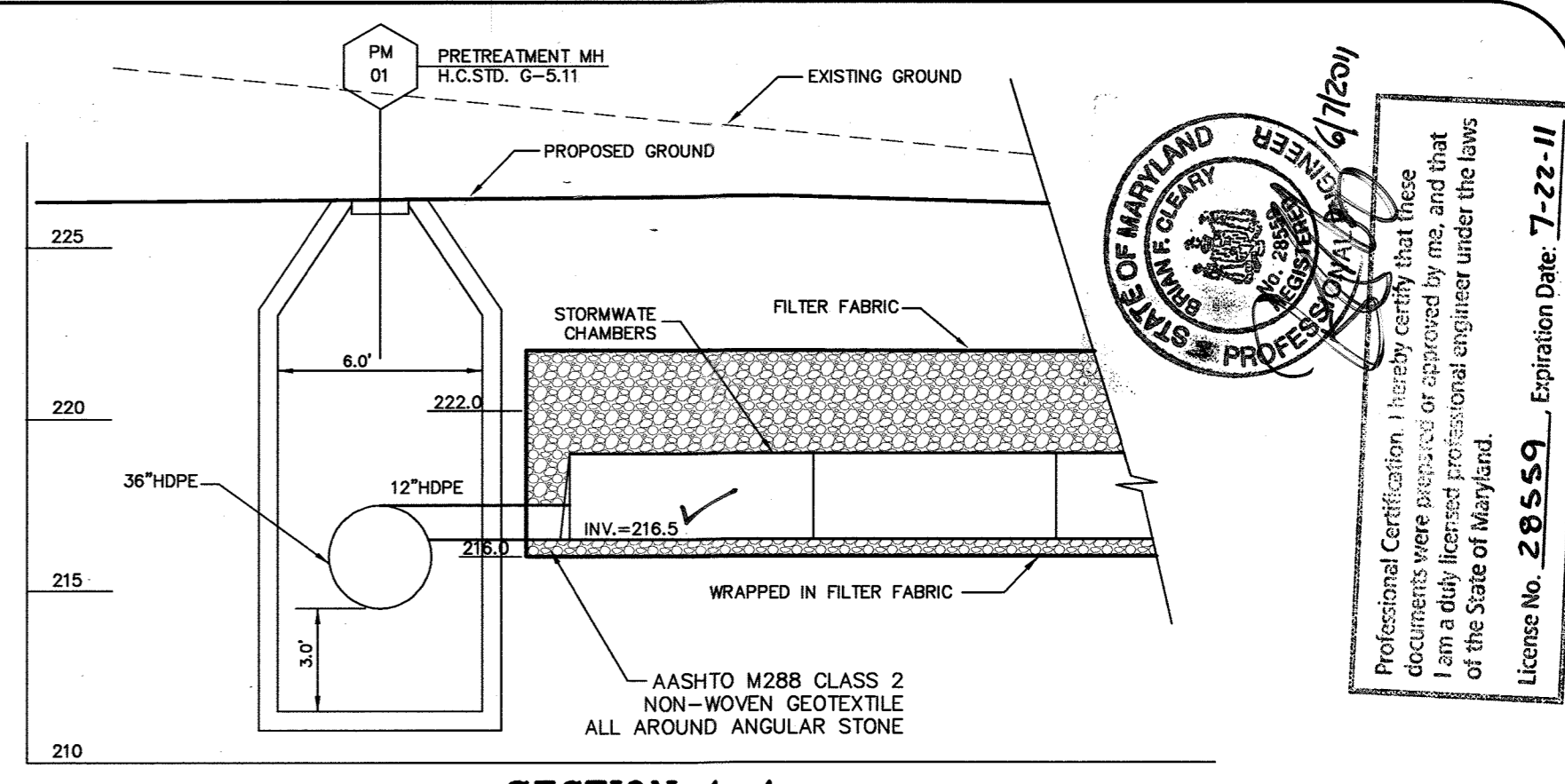


**DETAIL 1**  
SCALE: 1"=10'

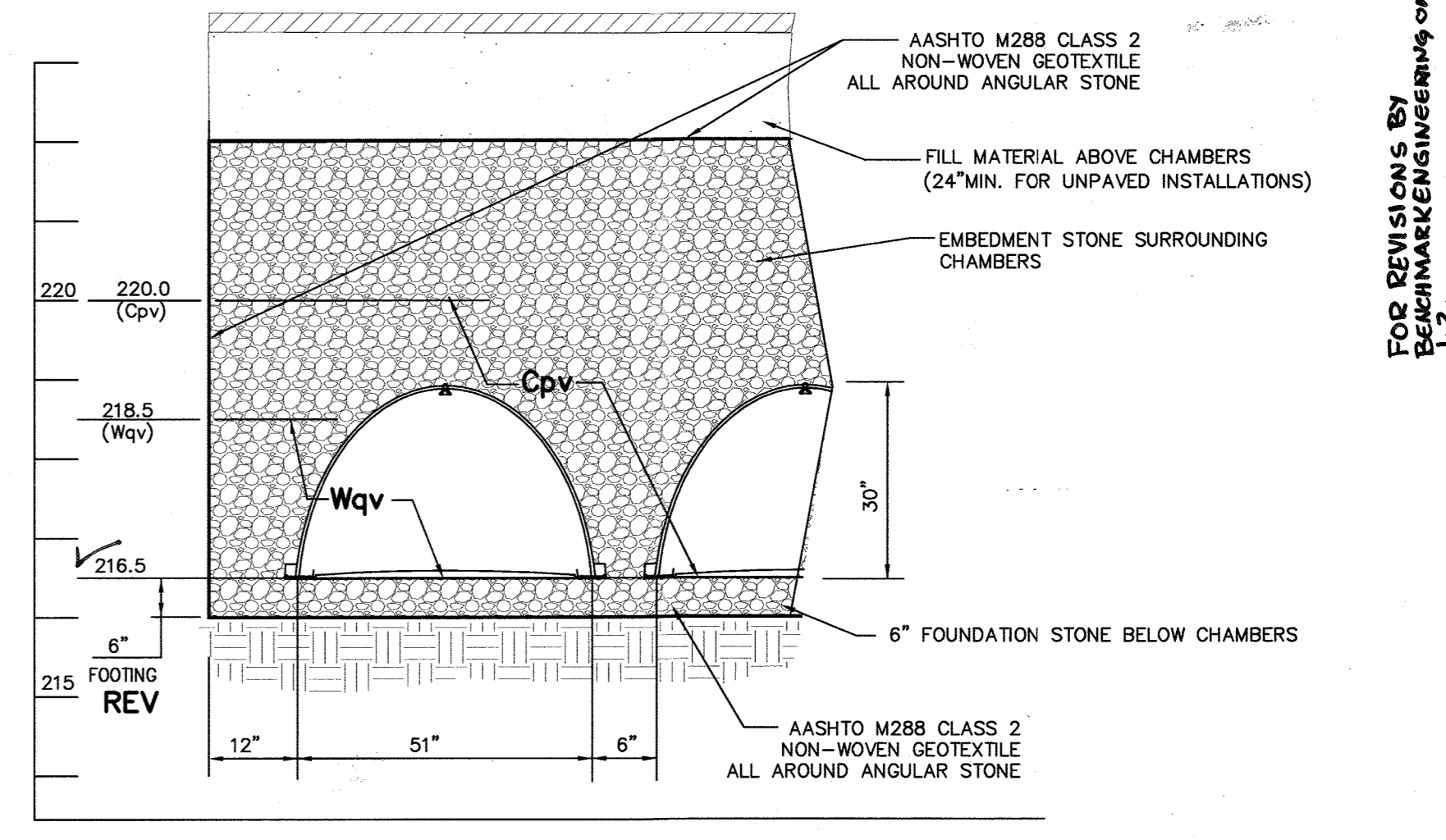
**DETAIL 2**  
SCALE: 1"=10'



**SWM OUTFALL PIPES PROFILE**  
SCALE: HORIZ. 1"=5' VERT. 1"=5'

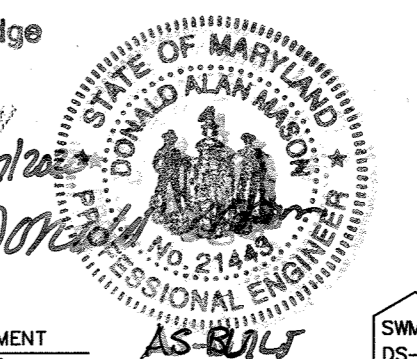


**SECTION A-A**  
SCALE: 1"=5'

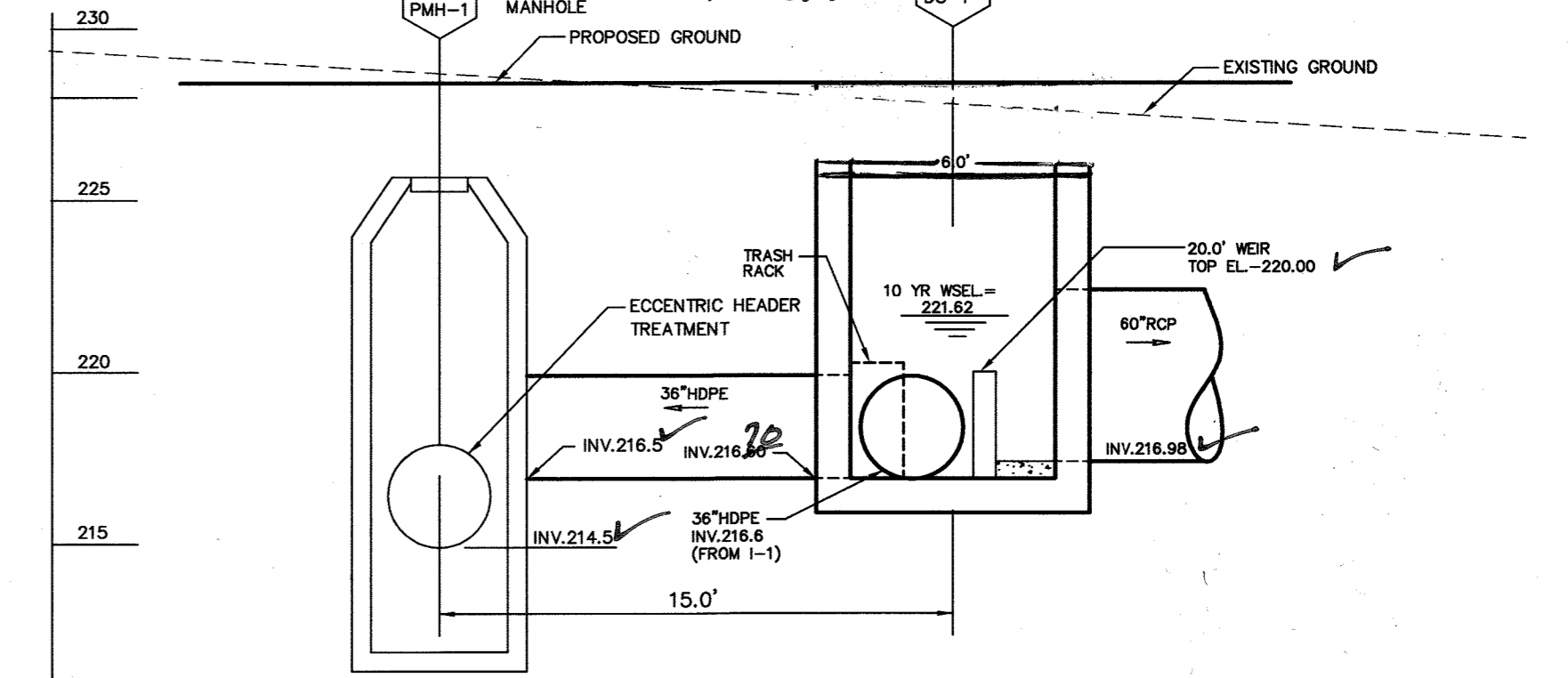


**STORMTECH SC-470 CHAMBER SYSTEM SECTION**  
SCALE: 1"=2'

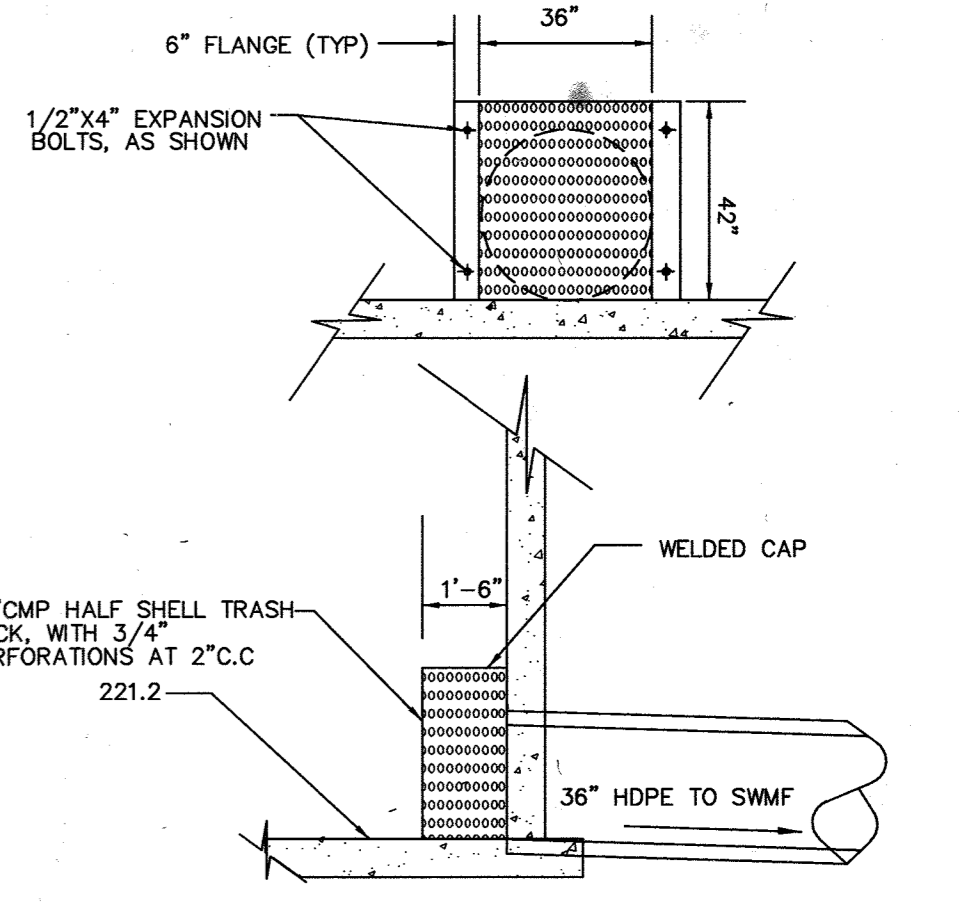
AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications.  
Donald Mason, P.E.  
Date: 2/21/22



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443, Expiration Date: 12/31/20



**SECTION B-B**  
SCALE: 1"=5'



**TRASH RACK DETAIL IN DIVERSION STRUCTURE (DM-1)**  
SCALE: 1"=5'

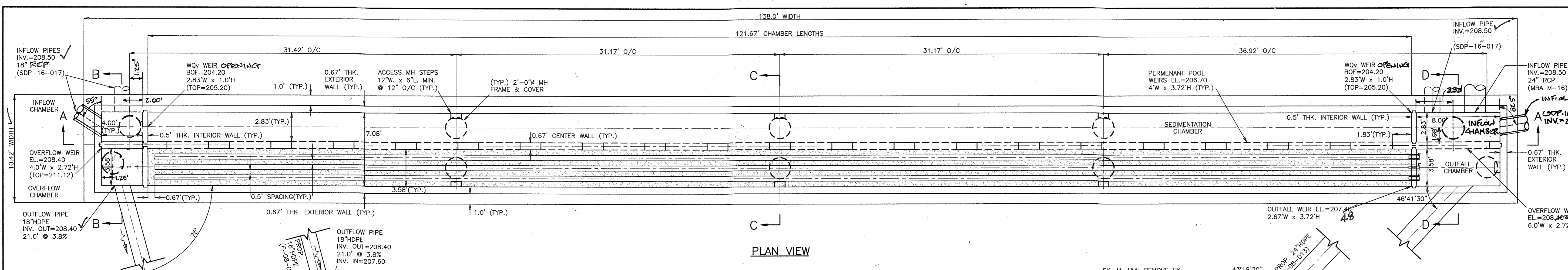
AS-BUILT

Project	Date	Illustration	Scale	Approval
04-081	NOV-2008	engineering	MMM	MMM

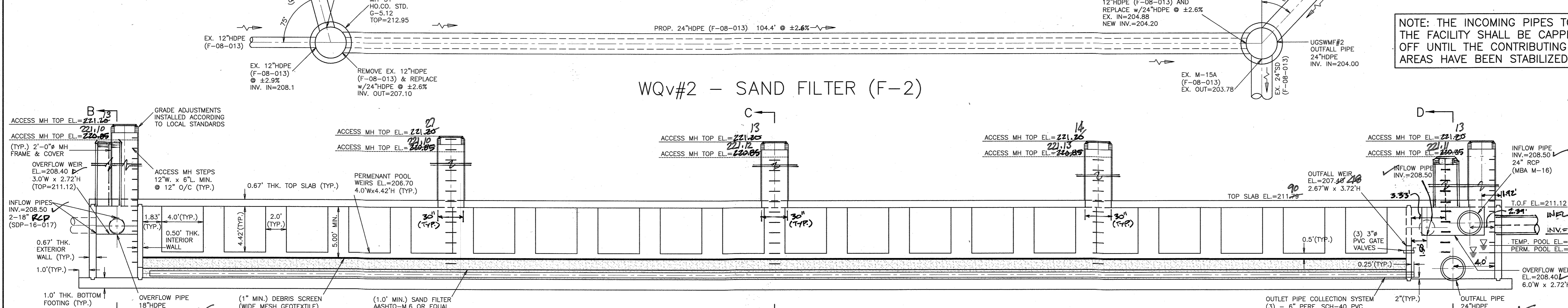
Rev	Description	Date
1	REV. GRADING, STRUC. DET. AND DETAILS	6-2-11
2	ADD PARCEL C TO TITLE BLOCK	7-11-10
7	ADD PARCEL C TO TITLE BLOCK	8-7

**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
**STORMWATER MANAGEMENT DETAILS (SWMF # 1)**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Jersey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Balt. (410) 997-0288 Fax



- OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS AND FILTER (WQV#2)**
1. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED AND/OR REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEEDS 36 HOURS.
  2. DEBRIS & LITTER SHALL BE REMOVED AS NECESSARY TO INSURE PROPER OPERATION OF THE SYSTEM.
  3. SEDIMENT SHALL BE CLEANED-OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES.
  4. WHEN WATER POUNDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS & LIQUIDS MUST BE FOLLOWED BY THE OWNER.
  5. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
  6. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
  7. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATED THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



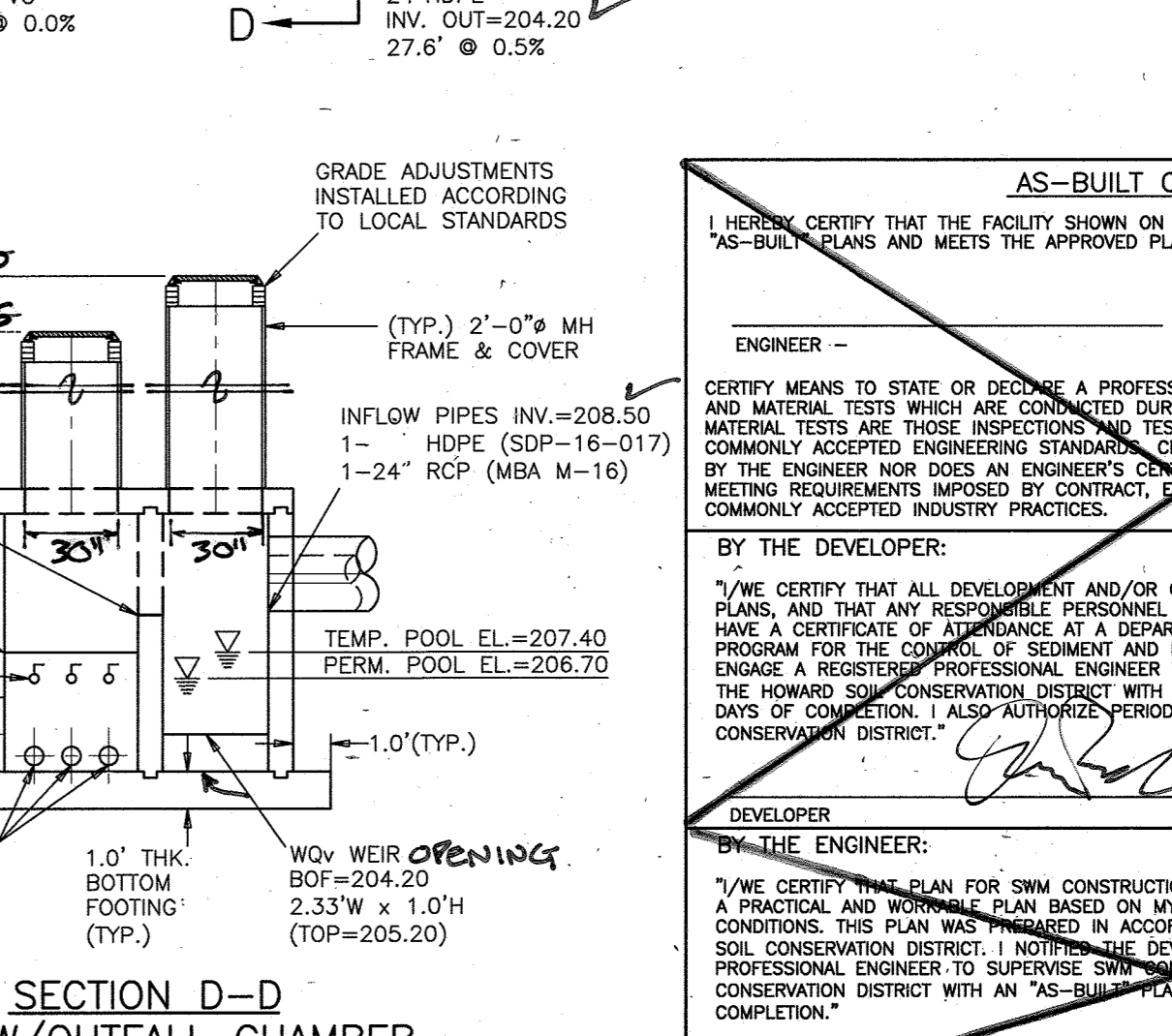
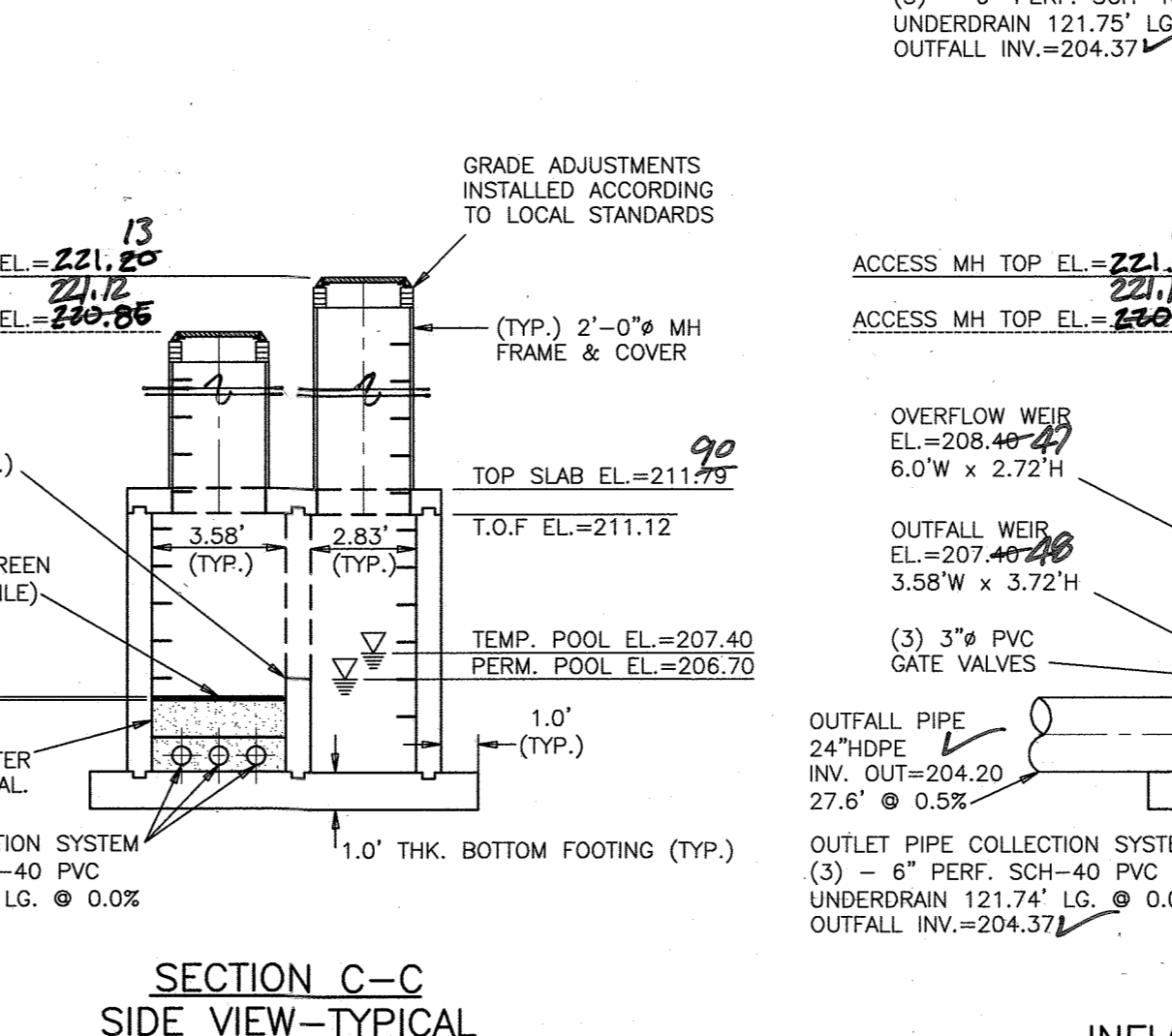
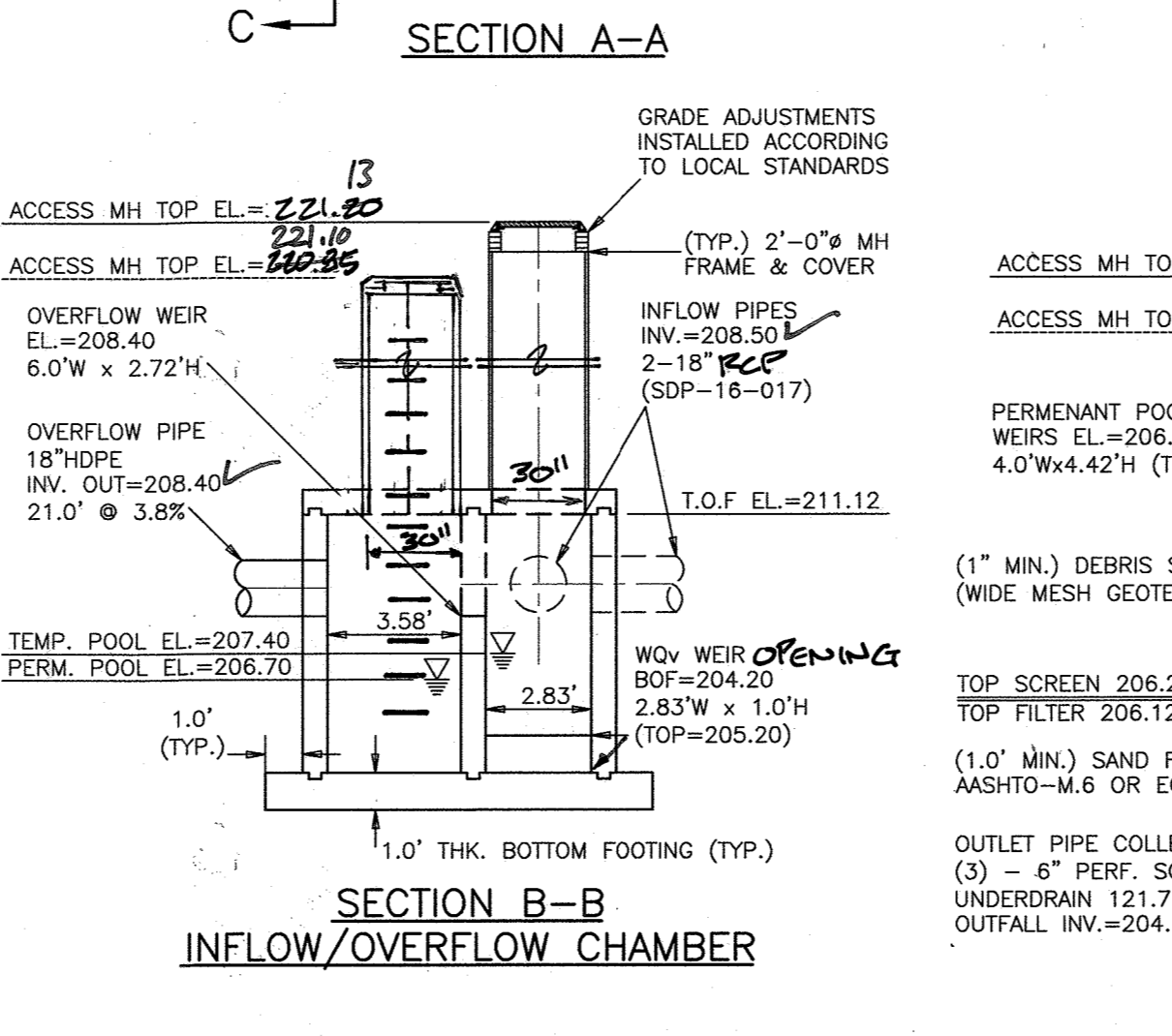
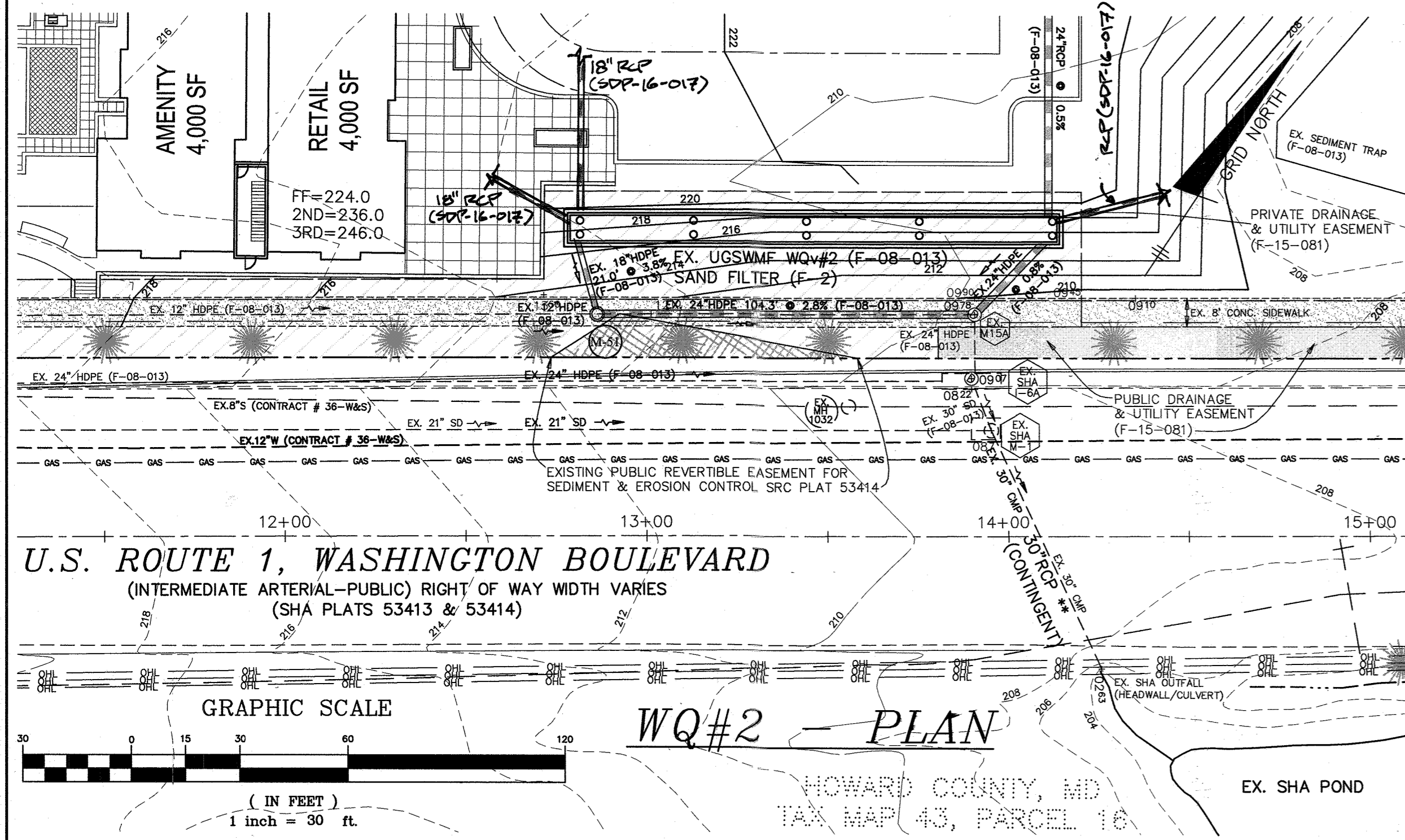
**TABLE B.3.1 MATERIALS AND SPECIFICATIONS FOR SAND FILTERS #1 & #2**

MATERIAL	SPECIFICATION	SIZE	NOTES:
NON-REBAR STEEL	ASTM A-36 ASTM D-448 ASTM D-448 WASHED COBBLES	N/A NO. 8 2" TO 5"	STRUCTURAL STEEL TO BE HOT-DIPPED GALVANIZED ASTM A-123
GEOTEXTILE	APPARENT OPENING SIZE: (ASTM D-4753) EQUILIBRIUM OPENING SIZE OF #10 SIEVE PUNCTURE RESISTANCE: (ASTM D-4853)	0.8" THICK EQUILIBRIUM OPENING SIZE OF #10 SIEVE	MUST MAINTAIN 125 GPM / SQ. FT. FLOW RATE. NOTE: A PEAK FLOW RATE OF 100 GPM / SQ. FT. MAY BE SUBSTITUTED FOR GEOTEXTILES MEANT TO "SEPARATE" SAND FILTER LAYERS
UNDERDRAIN GRATE	ASTM M-43	0.375" TO 0.750"	GRADE ADJUSTMENTS INSTALLED ACCORDING TO LOCAL STANDARDS
UNDERDRAIN PIPING	F756 TYPE F528 OR 4" TO 6" RCP SCH-40 PVC OR SDP-15	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW, MINIMUM OF 3" OF GRATEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES	
POURED-IN-PLACE CONC. (IF REQUIRED)	MISHA MIX NO. 3, F-3500MH @ 28 DAYS, NORMAL WEIGHT, AIR ENTRAINED, REINFORCING TO MEET ASTM 615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONC. REQUIRED: 28 DAY STRENGTH TEST AND SLUMP TEST. CAST AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND.
SAND (2" DEEP)	ASTM M-6 OR ASTM C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DOLomite AND GRAYSTONE TO ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR SOLUBLE SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

**WQ#2 - DETAIL**  
SCALE: 1"=5'

NOTE: SAND FILTER SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF MARYLAND AND DESIGNED FOR HS25 LOADING.

NOTE: UGSWMF#2 WILL BE BUILT UNDER F-08-013 DURING THE CONSTRUCTION OF PHASE 7 SDP-15-036; NO BUILDING USE AND OCCUPANCY PERMITS WILL BE ISSUED FOR PHASE 7 UNTIL THIS WORK IS COMPLETED.



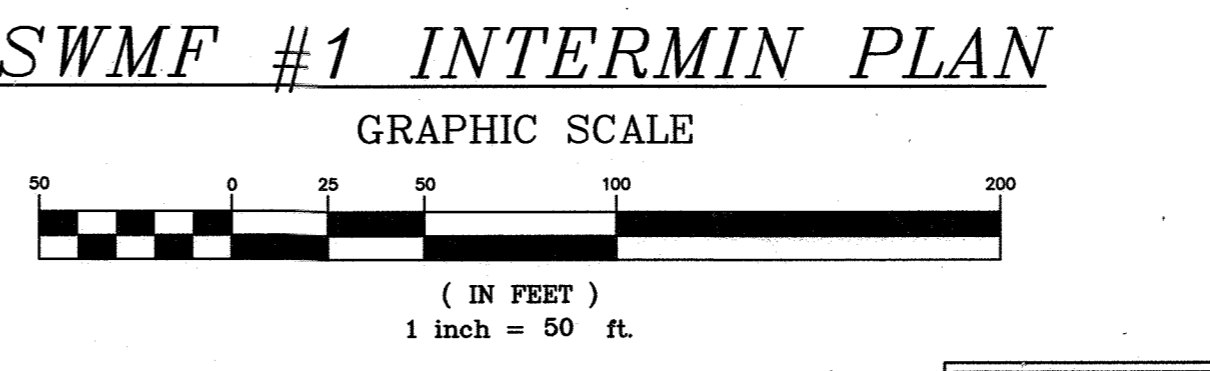
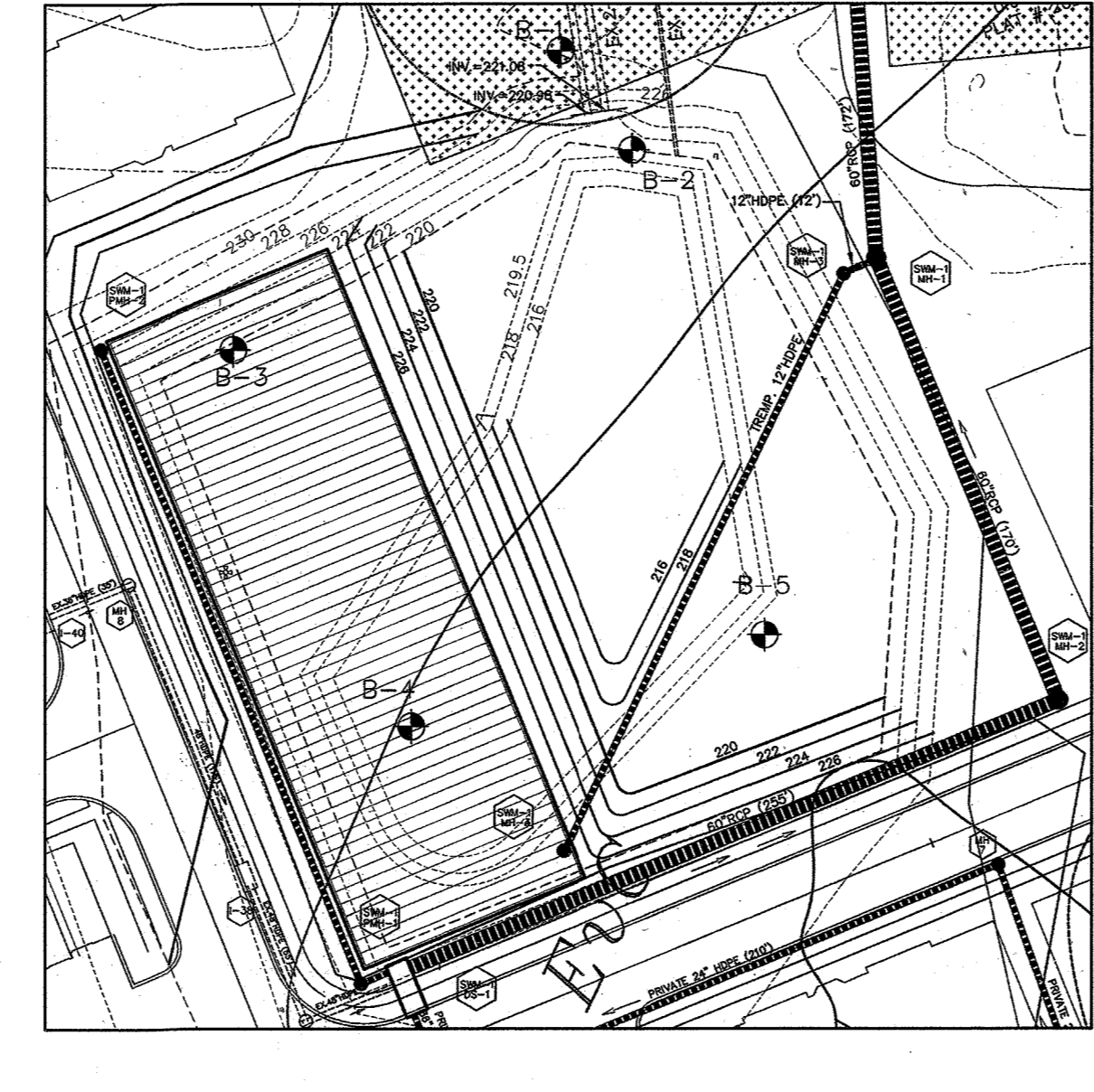
**AS-BUILT CERTIFICATION**

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.

ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

BY THE DEVELOPER: \_\_\_\_\_ DATE: \_\_\_\_\_

BY THE ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: \_\_\_\_\_ DATE: 12-17-15

Chief, Division of Land Development: \_\_\_\_\_ DATE: 12-21-15

Director: \_\_\_\_\_ DATE: 12-22-15

NO.	DATE	REVISION
3	8-12-16	REVISIONS PER WQ#2 DESIGN
2	11-13-15	REPLACEMENT SHEET

**BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS**  
8480 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
(P) 410-485-6105 (F) 410-485-6144  
E-MAIL: balb@benchmark-engineering.com  
WWW.BEI-CIVILENGINEERING.COM

**HOWARD SQUARE PARCEL A, B, AND C**

TAX MAP: 43 GRID 3 & 9 - PARCEL: C  
ZONED: CAC-CL1  
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

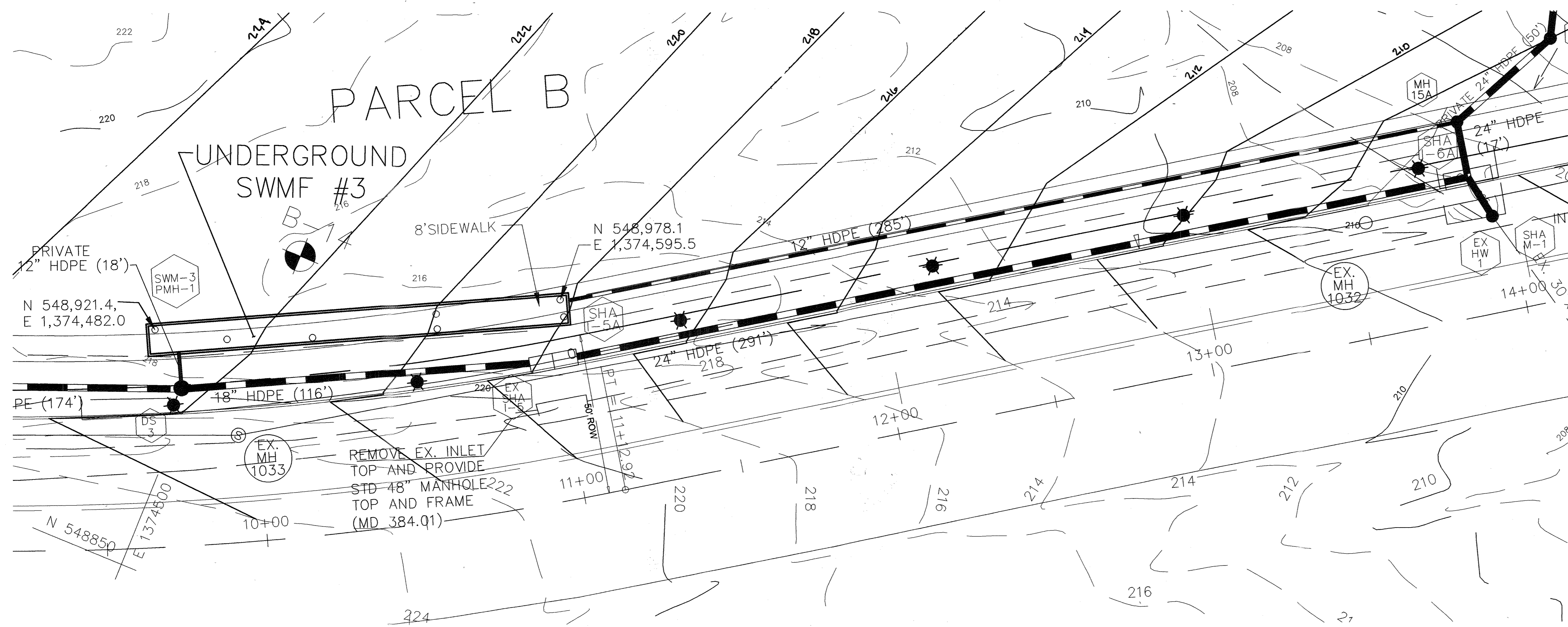
REPLACEMENT SHEET  
REVISED STORMWATER MANAGEMENT DETAILS (UGSWMF#2)

DATE: NOVEMBER, 2015  
REVISION: \_\_\_\_\_

DEVELOPER/OWNER: ATAPCO HOWARD SQUARE I BUSINESS TRUST  
10 E. Baltimore St. Suite 1600  
Baltimore, MD 21202  
(410) 347-7189

BEI PROJECT NO. 2541  
SHEET 18 OF 23

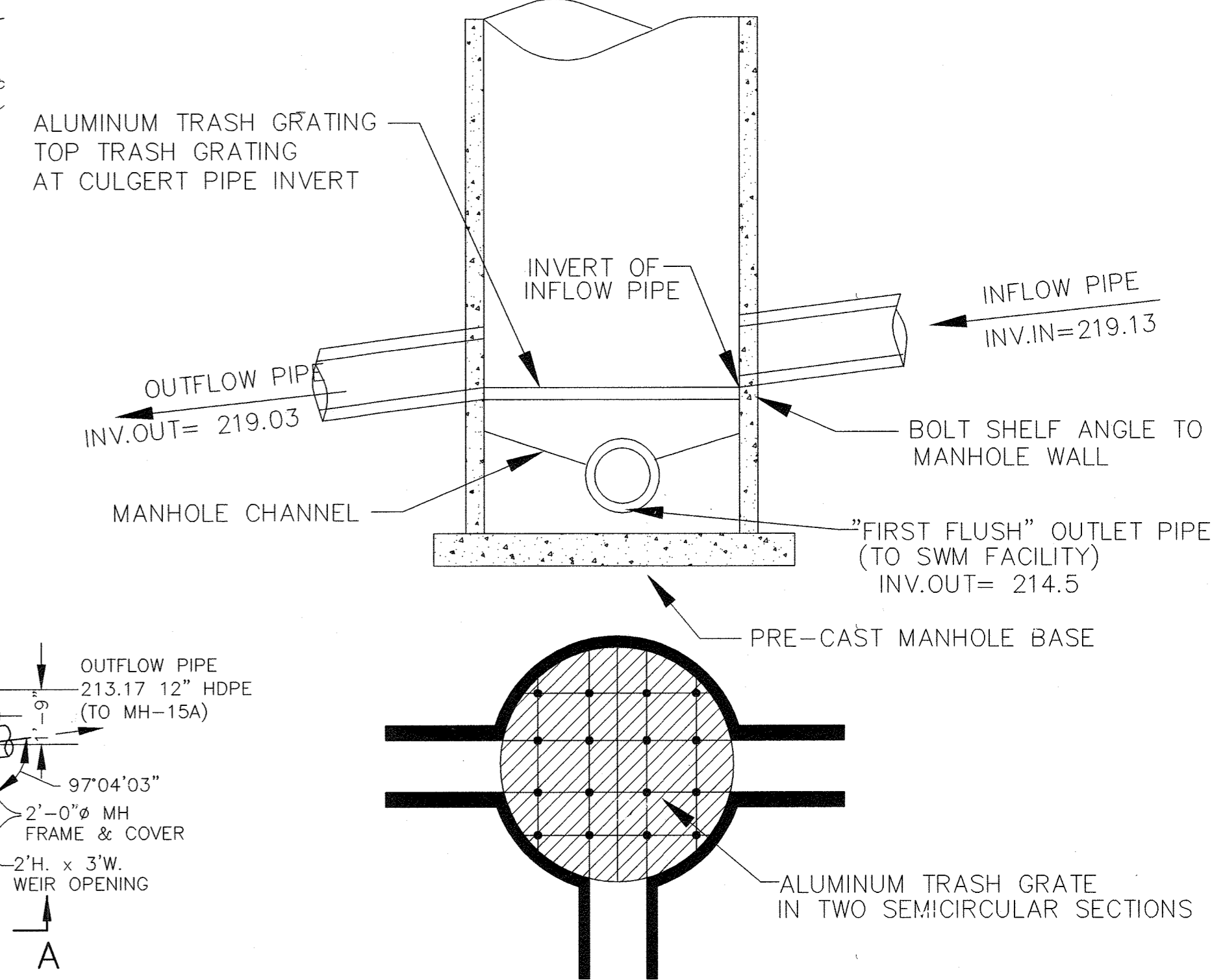
AS-BUILT F-08-013



MATERIAL	SPECIFICATION	SIZE	NOTES:
NON-REBAR STEEL	ASTM A-36	N/A	STRUCTURAL STEEL TO BE HOT-DIPPED GALVANIZED ASTM A-123
PEA GRAVEL	ASTM D-448	3/8\"/>	
ORNAMENTAL STONE	WASHED COBBLES	2\"/>	
GEOTEXTILE	APPROXIMATE OPENING SIZE: (ASTM D-4751) 0.875\"/>		
UNDERDRAIN GRAVEL	ASHITO M-43	0.375\"/>	
UNDERDRAIN PIPING	7758 TYPE F5028 OR ASHITO M-278	4\"/>	
POURED-IN-PLACE CONC. (IF REQUIRED)	MSHA MIX NO. 3; Fc=3500psi @ 28 DAYS, NORMAL WEIGHT, AIR ENTRAINED; REINFORCING TO MEET ASTM 615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONC. REQUIRED; 28 DAY STRENGTH TEST AND SLUMP TEST ALL CONC. DESIGN (CAST IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS; DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND.
SAND (2\"/>			

**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS AND FILTER (WQ#3)**

- THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED AND/OR REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEEDS 36 HOURS.
- DEBRIS & LITTER SHALL BE REMOVED AS NECESSARY TO INSURE PROPER OPERATION OF THE SYSTEM.
- SEDIMENT SHALL BE CLEANED-OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES.
- WHEN WATER POUNDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS & LIQUIDS MUST BE FOLLOWED BY THE OWNER.
- A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATED THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

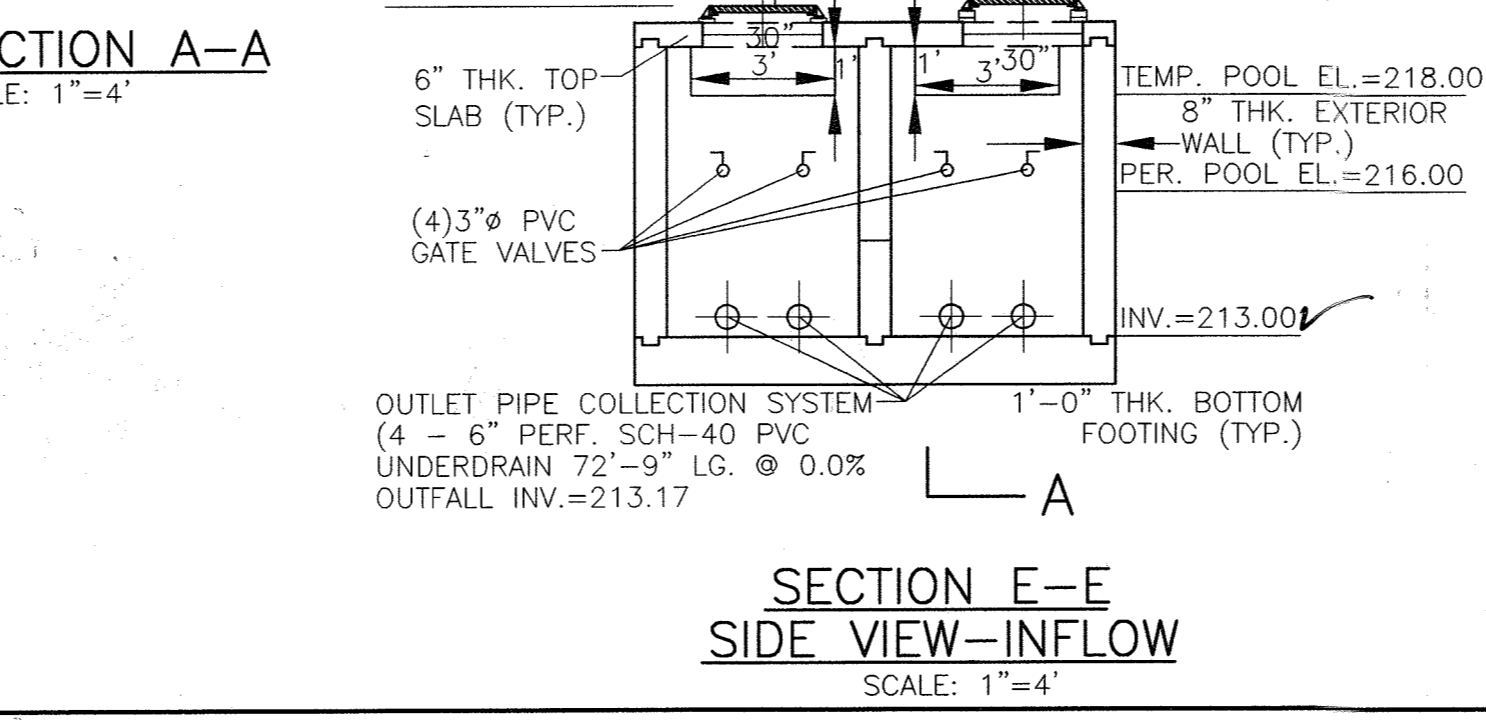
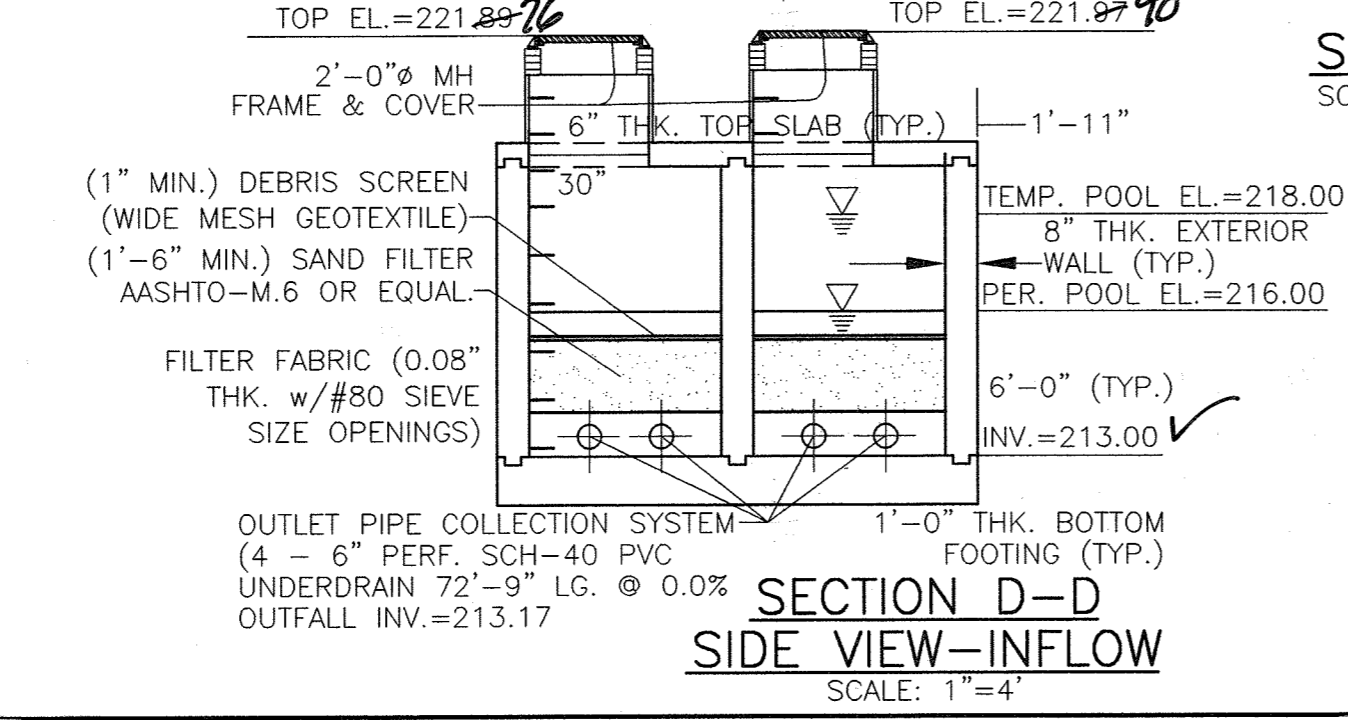
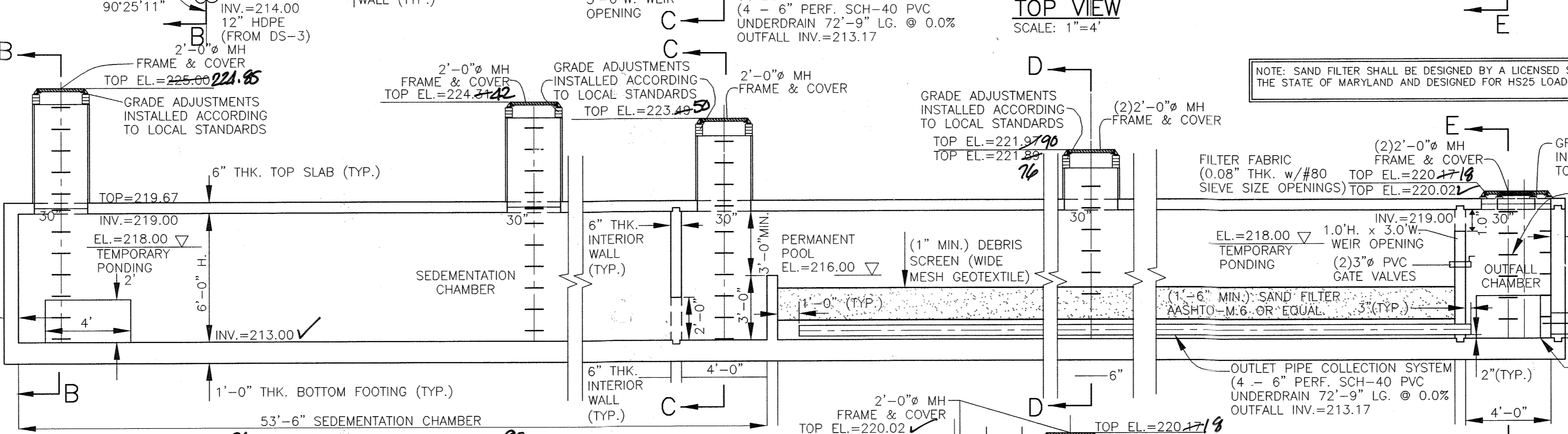
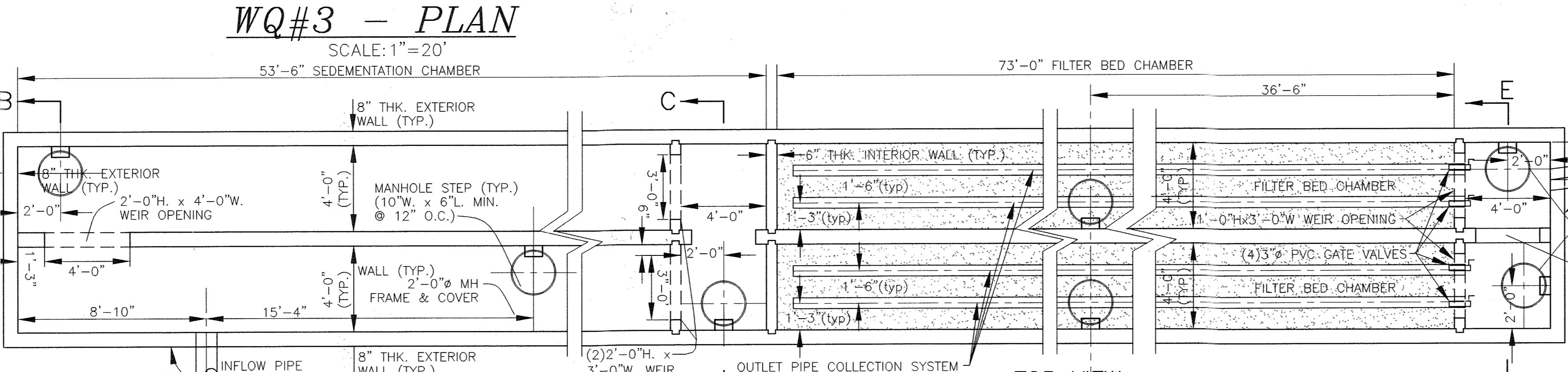
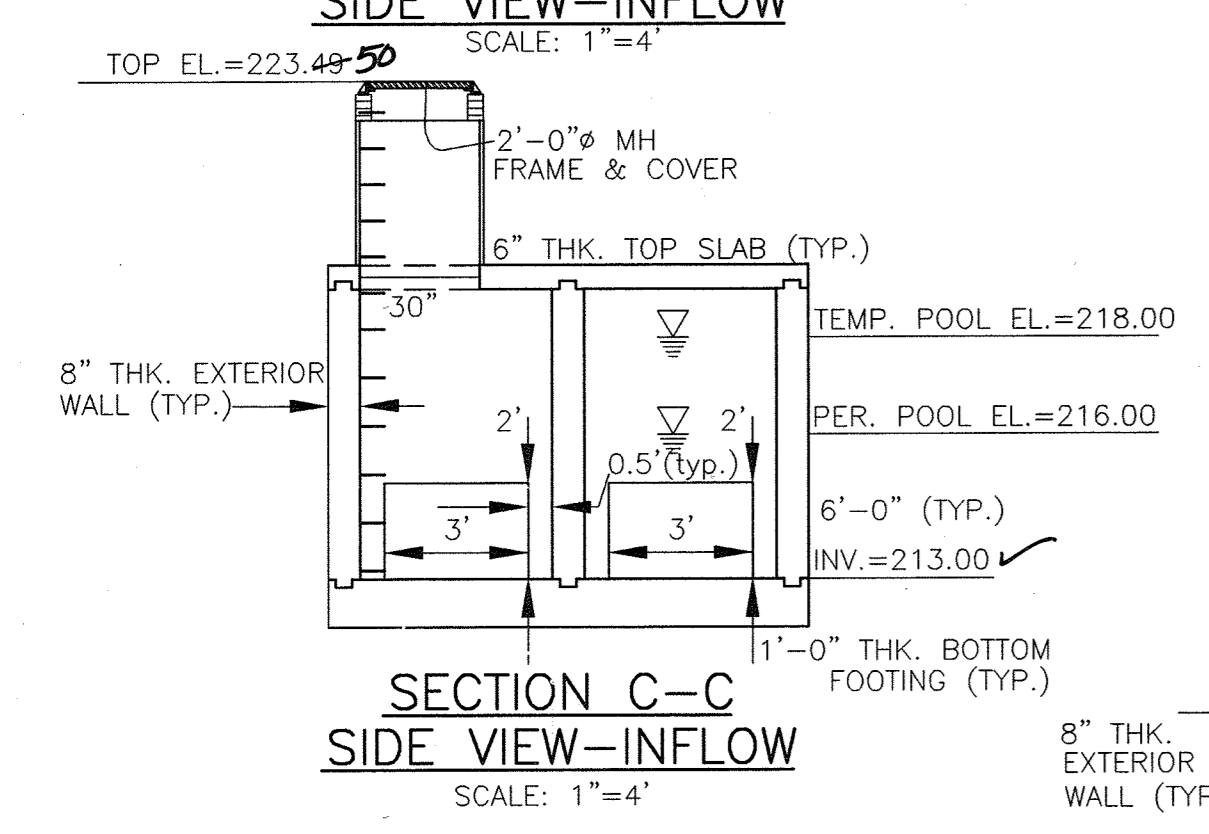
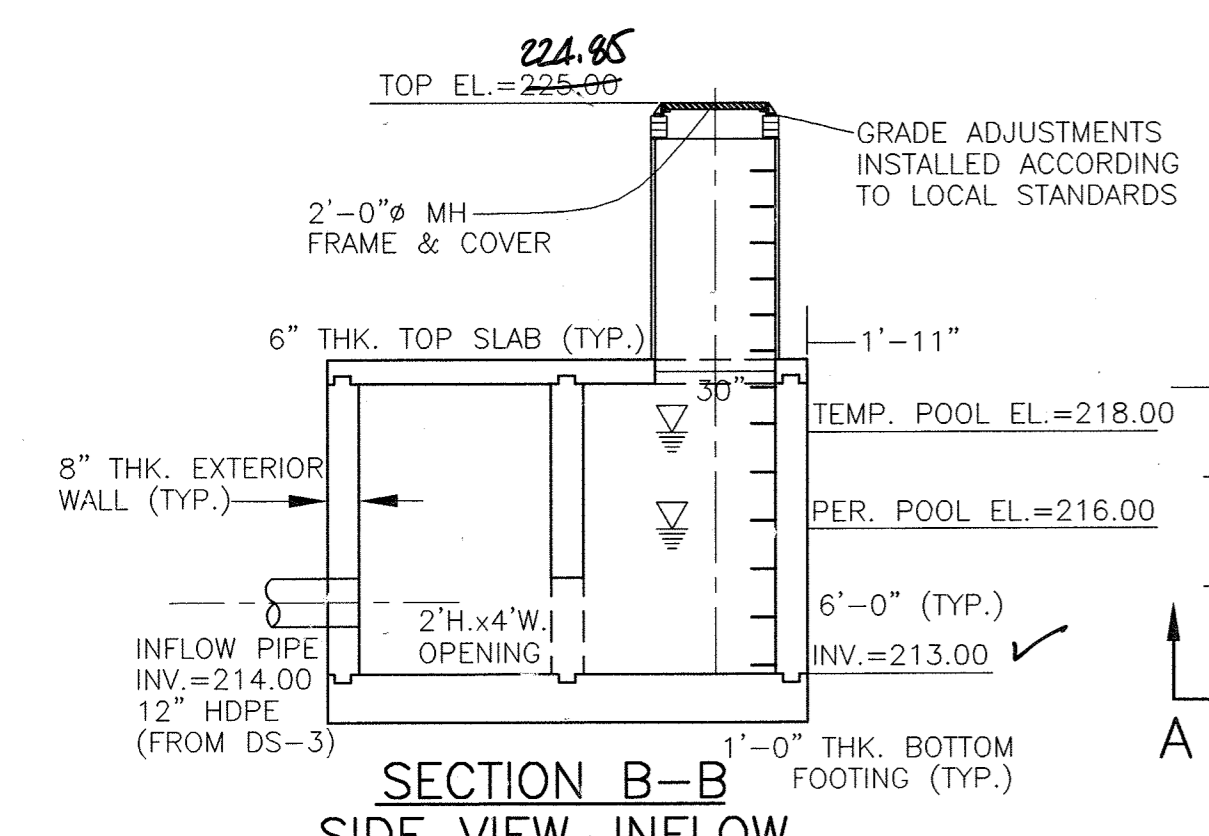


**SCHEMATIC PLAN OF DIVERSION MANHOLE (DM-3)**

PLEASE NOTE THAT THIS REPLACEMENT SHEET SUPERSEDES THE PREVIOUS SHEET DATED NOVEMBER, 2008

BY THE ENGINEER:  
 I HEREBY CERTIFY THAT THIS PLAN FOR SWMF CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER - BRIAN F. CLEARY, P.E. # 28559  
 DATE 9/25/2012



NOTE: SAND FILTER SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF MARYLAND AND DESIGNED FOR HS25 LOADING.

AS-BUILT CERTIFICATION

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

Donald M. Mason  
 ENGINEER - BRIAN F. CLEARY, P.E. # 28559  
 DATE 9/25/2012

NOTE: THE INCOMING PIPE TO THE FACILITIES SHALL BE CAPPED OFF UNTIL THE CONTRIBUTING AREAS HAVE BEEN STABILIZED

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043  
 (P) 410-465-8105 (F) 410-465-8644  
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
 (P) 301-371-3555 (F) 301-371-3508  
 WWW.BE1-CIVILENGINEERING.COM

DEVELOPER/OWNER:  
 ATAPCO HOWARD SQUARE I BUSINESS TRUST  
 10 E. Baltimore St. Suite 1600  
 Baltimore, MD 21202  
 (410) 347-7189

**HOWARD SQUARE PARCEL A, B AND C**

TAX MAP: 43, PARCEL: 1  
 ZONED: CAC-CL1  
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

REVISED  
**STORMWATER MANAGEMENT DETAILS (SWMF#3)**

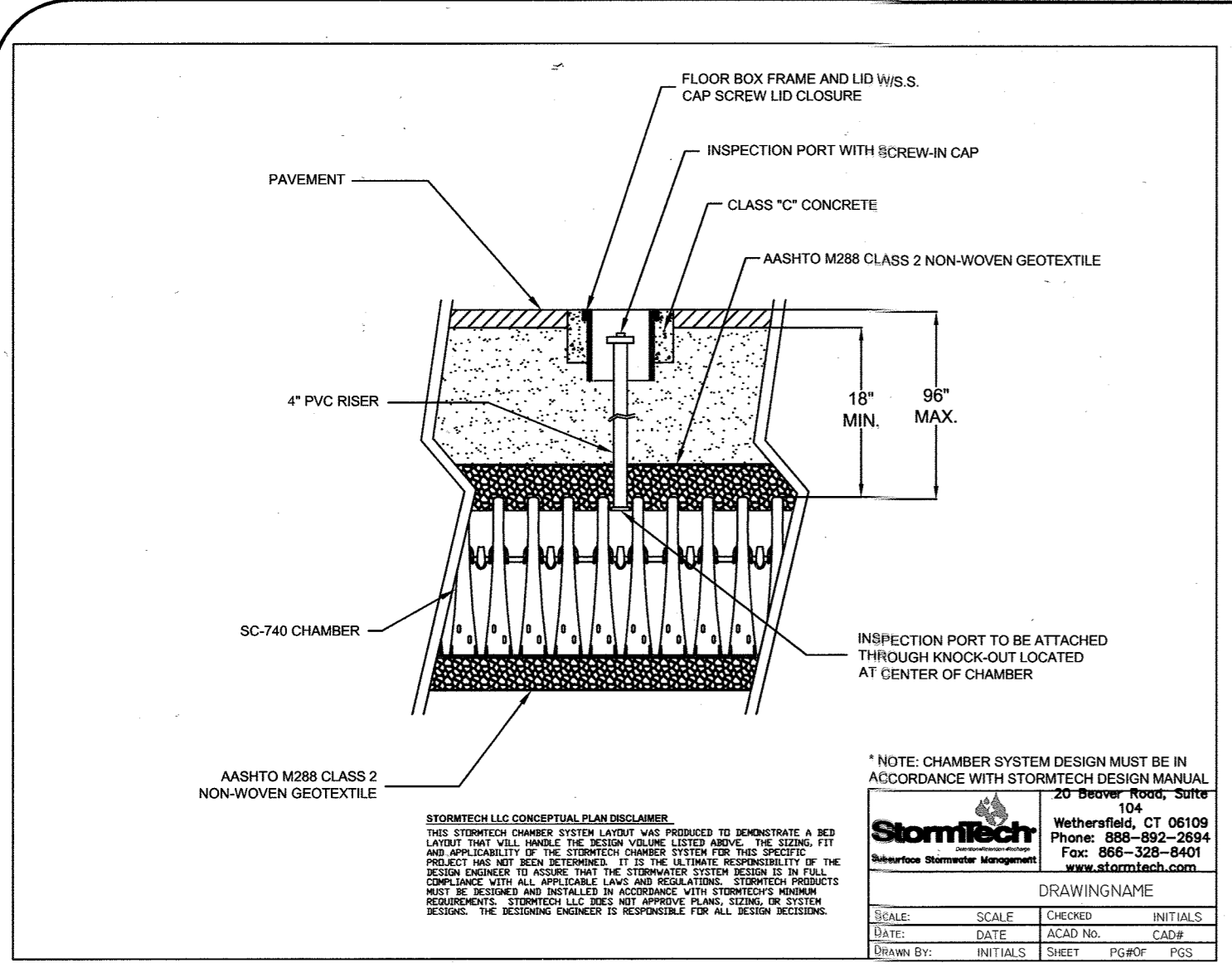
DATE: SEPTEMBER, 2012  
 BEI PROJECT NO. 2337  
 SCALE: 1" = 60'  
 SHEET 19 OF 23

AS-BUILT F-08-013

Project	NOV 2008	Scale	AS SHOWN
Illustration	04-081	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM
Approval	MMM	Scale	MMM

HOWARD SQUARE  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
FIRST ELECTION DISTRICT  
STORMWATER MANAGEMENT DETAILS

MILDENBERG, BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Fax: (410) 997-0298 Fax



**ACCEPTABLE FILL MATERIALS**  
STORMTECH SC-310 AND SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M288 DESIGNATION	AASHTO M288 REQUIREMENT	CONTRACTOR'S REQUIREMENT
1. FILL MATERIAL FROM 1" TO ABOVE CHAMBER	ANY SOIL ROCK MATERIALS, NATIVE SOIL OR SOIL ENHANCED WITH STABILIZING AGENTS TO MEET SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE FOR ENGINEER'S PLAN, PAVED INSTALLATION MAY HAVE STRENGTH MATERIAL AND PREVENTION REQUIREMENTS.
2. FILL MATERIAL FROM 1" TO 18" ELEVATION ABOVE CHAMBER (TOP FOR IMPROVED INSTALLATIONS)	GRANULAR WELL-GRADED, STABILIZED MATERIALS, 100% FINES, 5% Fines, 8.8, 9.5, 10.	3.102 (4.4) F-1, A-1 3.102 (4.4) F-2, A-2 3.102 (4.4) F-3, A-3 3.102 (4.4) F-4, A-4 3.102 (4.4) F-5, A-5	CONTRACTOR TO FURNISH TO A MINIMUM 95% STANDARD PROCTOR DENSITY. STABILIZED MATERIALS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. STABILIZED MATERIALS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.	
3. EMBANKMENT STONE SURROUNDING AND TO 4 FEET ELEVATION ABOVE CHAMBER	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 1.5" TO 3.0"	3.102 (4.4) F-1, A-1 3.102 (4.4) F-2, A-2 3.102 (4.4) F-3, A-3 3.102 (4.4) F-4, A-4 3.102 (4.4) F-5, A-5	NO COMPACTOR REQUIRED.	
4. FOUNDATION STONE BELOW CHAMBER	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 1.5" TO 3.0"	3.102 (4.4) F-1, A-1 3.102 (4.4) F-2, A-2 3.102 (4.4) F-3, A-3 3.102 (4.4) F-4, A-4 3.102 (4.4) F-5, A-5	95% STANDARD PROCTOR DENSITY.	

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS CLEAN, CRUSHED, ANGULAR NO. 1, STONE.

**DEVELOPER**  
ATARCO HOWARD SQUARE I  
10 EAST BALTIMORE STREET STE. 1600  
Baltimore, Maryland 21202  
410-347-7146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942 EXPIRATION DATE: 09/03/2010

BY THE DEVELOPER:  
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION DURING CONSTRUCTION. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE CONSTRUCTION PERIODS ON-SITE. I ALSO AUTHORIZE MILDENBERG, BOENDER & ASSOC., INC. TO SUPERVISE CONSTRUCTION PERIODS ON-SITE.

Signature: [Signature]  
Date: 12/2/08

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE CONSTRUCTION PERIODS ON-SITE.

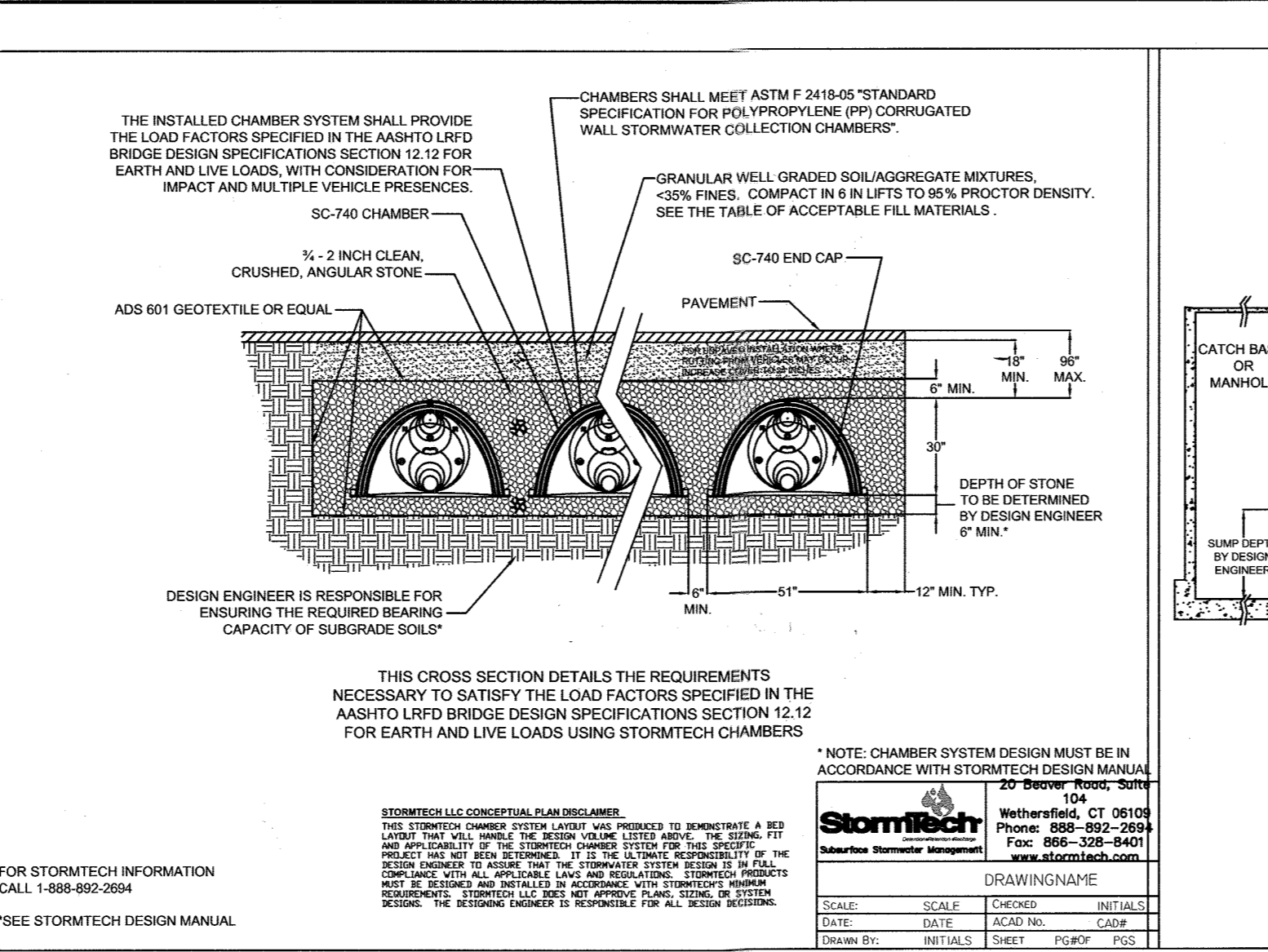
Signature: [Signature]  
Date: 11/25/08

USDA - NATURAL RESOURCE CONSERVATION SERVICE  
DATE: [Blank]

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
DATE: [Blank]

HOWARD SOIL CONSERVATION DISTRICT  
APPROVED: [Signature]  
DATE: 11/22/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
[Signature]  
DATE: 12/19/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



**STORMTECH L.L.C. CONCEPTUAL PLAN DISCLOSURE**

THIS STORMTECH CHAMBER SYSTEM LIGHTLY WAS PREPARED TO DEMONSTRATE A RED LAYER THAT WILL BE ABOVE THE BEST AVAILABLE LAYER ABOVE THE STONE. THE FIT AND APPLICABILITY OF THE STORMTECH CHAMBER SYSTEM FOR THE PROJECT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER. IT IS THE USER'S RESPONSIBILITY TO VERIFY THAT THE STORMTECH CHAMBER SYSTEM IS COMPATIBLE WITH ALL APPLICABLE LAWS AND REGULATIONS. STORMTECH PRODUCTS MUST BE INSTALLED IN ACCORDANCE WITH STORMTECH DESIGN MANUAL. THE DESIGN ENGINEER IS RESPONSIBLE FOR ALL DESIGN DECISIONS.

DATE: [Blank] SCALE: [Blank] CHECKED: [Blank] INITIALS: [Blank]  
DRAWN BY: [Blank] SHEET: [Blank] PLOTTED: [Blank]

**STORMTECH L.L.C. CONCEPTUAL PLAN DISCLOSURE**

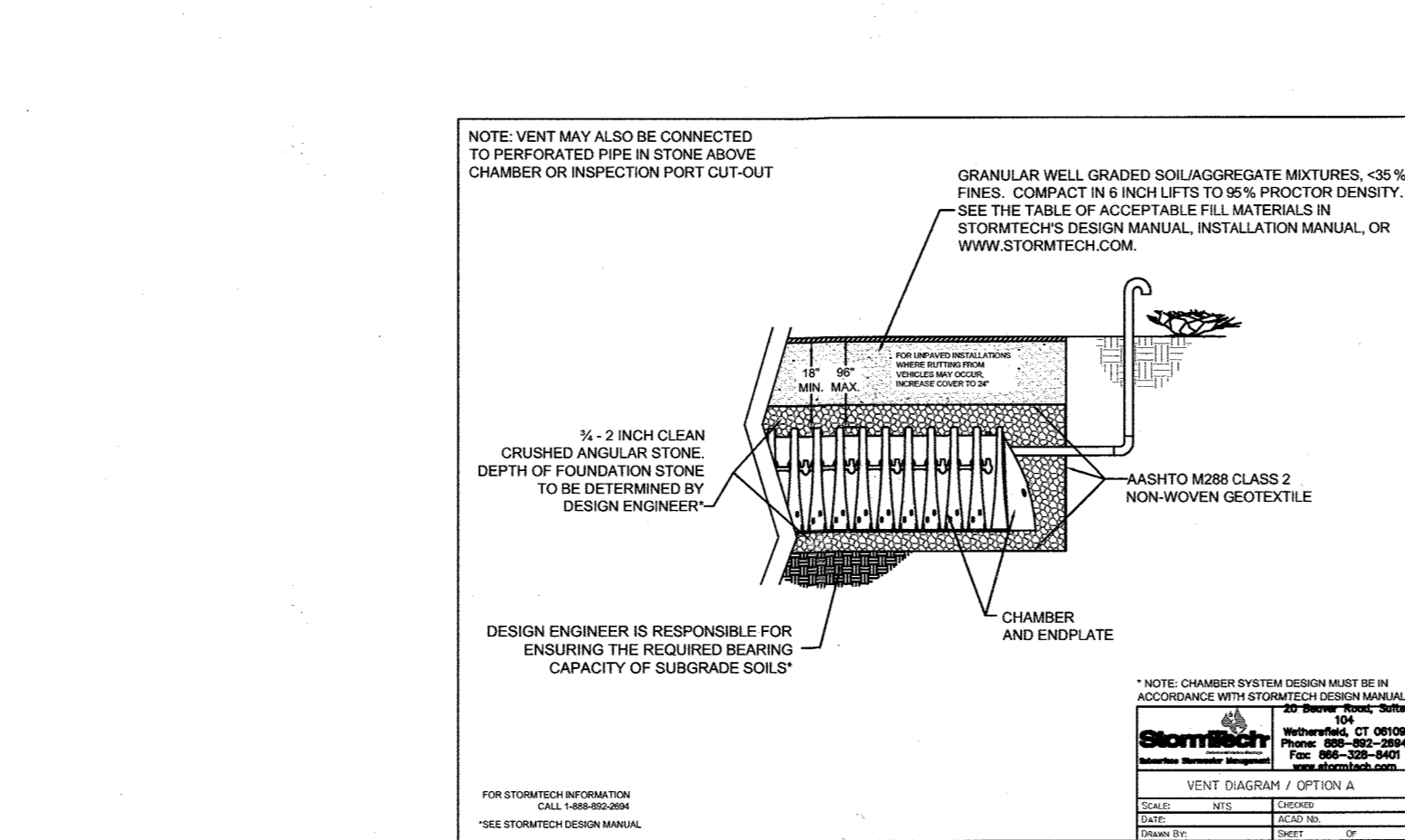
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**STORMTECH L.L.C. CONCEPTUAL PLAN DISCLOSURE**

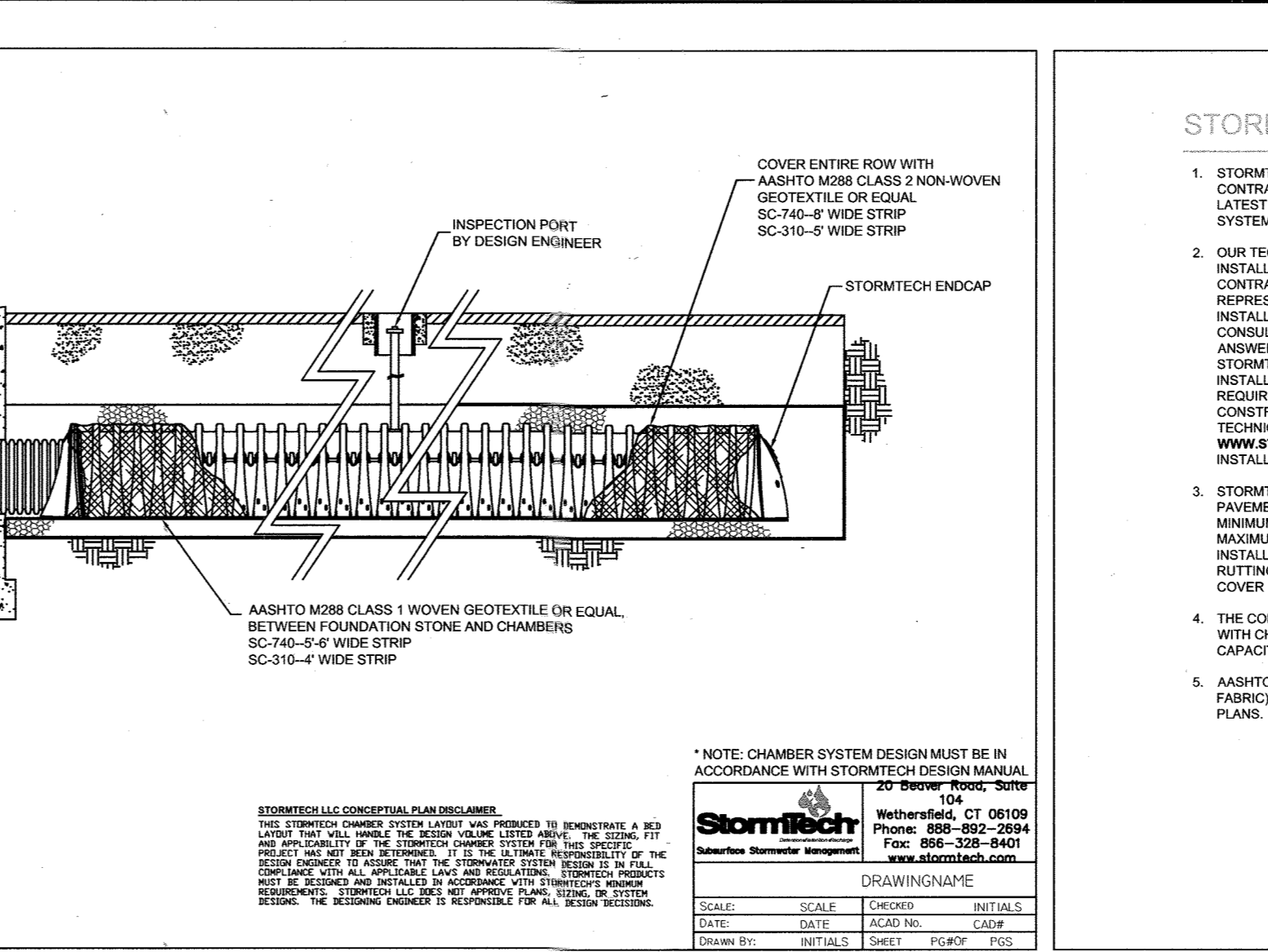
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NOTE: CHAMBER SYSTEM DESIGN MUST BE IN ACCORDANCE WITH STORMTECH DESIGN MANUAL.

DATE: [Blank] SCALE: [Blank] CHECKED: [Blank] INITIALS: [Blank]  
DRAWN BY: [Blank] SHEET: [Blank] PLOTTED: [Blank]



**STORMTECH L.L.C. CONCEPTUAL PLAN DISCLOSURE**

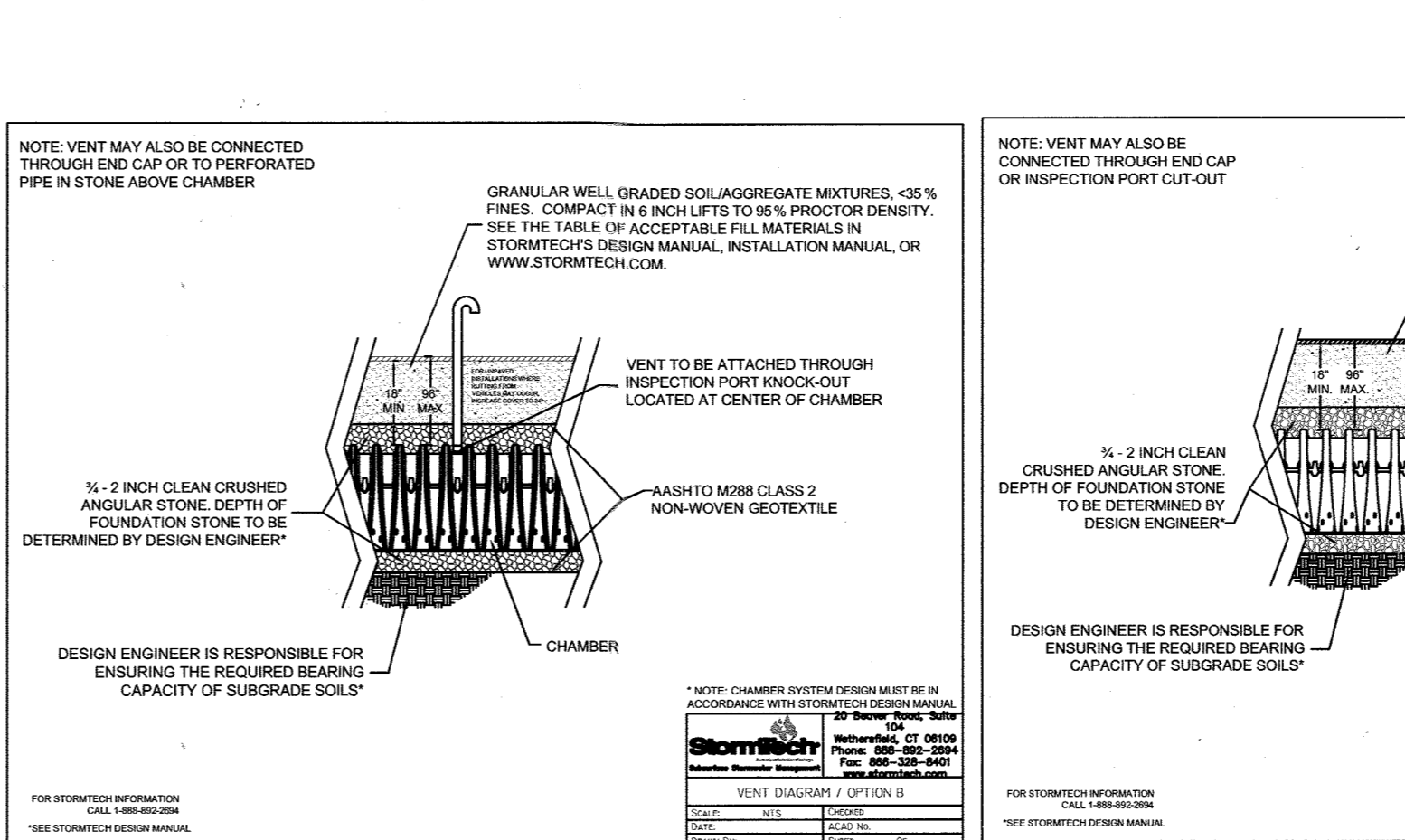
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**STORMTECH L.L.C. CONCEPTUAL PLAN DISCLOSURE**

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NOTE: CHAMBER SYSTEM DESIGN MUST BE IN ACCORDANCE WITH STORMTECH DESIGN MANUAL.

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**STORMTECH GENERAL NOTES**

- STORMTECH L.L.C. ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING STORMTECH'S INSTALLATION INSTRUCTIONS.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEMS CONSTRUCTION. CALL 1-888-802-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVEMENT, ETC.) MINIMUM COVER IS 18 INCHES INCLUDING PAVEMENT. MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES. MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMTECH SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-802-2694 OR VISIT WWW.STORMTECH.COM.

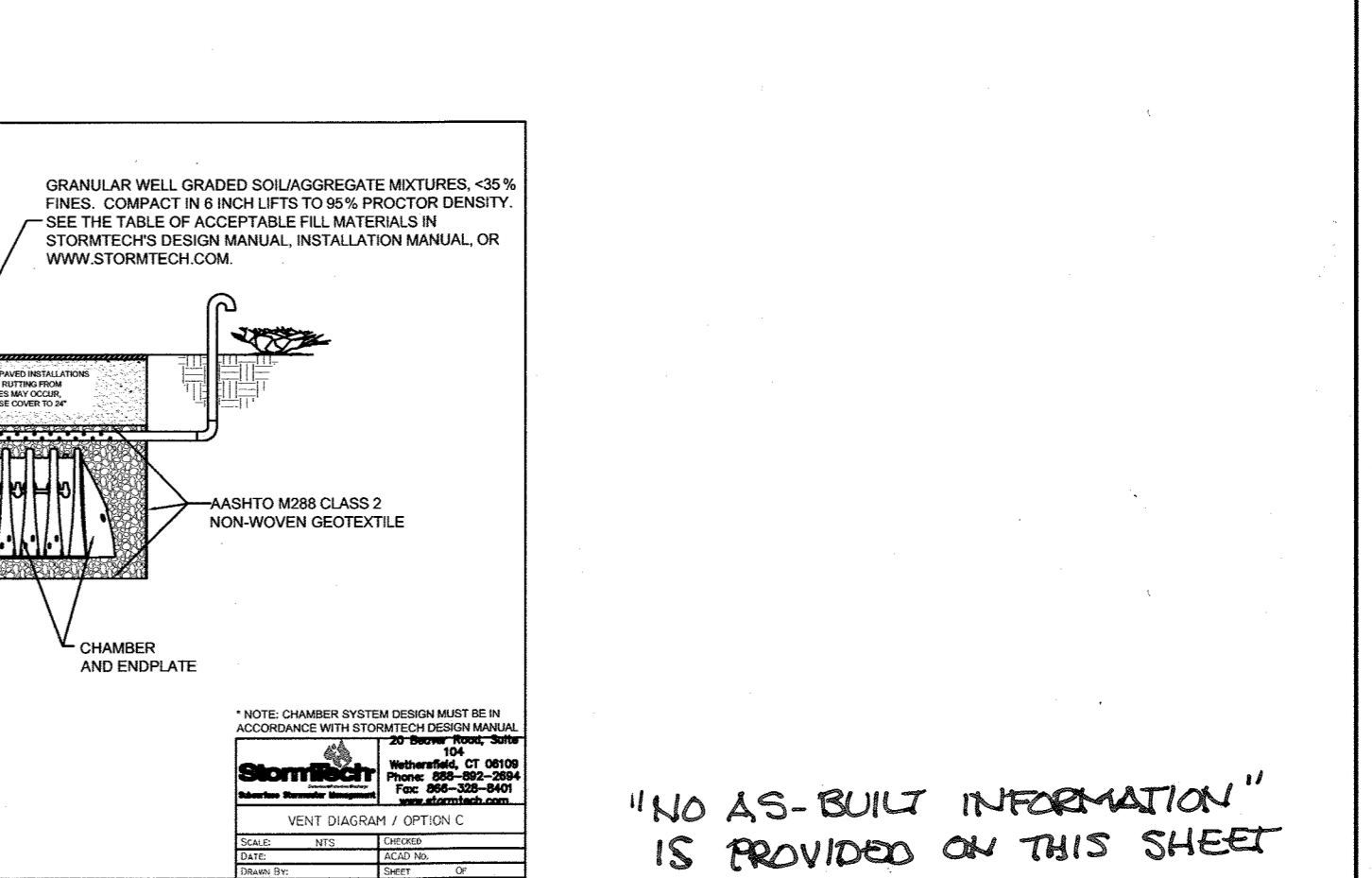
**STORMTECH PRODUCT SPECIFICATIONS**

- GENERAL**
- STORMTECH CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF AS A SUBSURFACE RETENTION SYSTEM. STORMTECH CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL. AS A SUBSURFACE DETENTION SYSTEM, STORMTECH CHAMBERS DETAIN AND ALLOW FOR THE METICULOUS FLOW OF WATER TO AN OUTFALL.
- CHAMBER PARAMETERS**
- THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESC), AND TO MAINTAIN ADEQUATE STRENGTH THROUGHOUT HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.
- THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-740 SHALL BE 30.0 INCHES TALL, 51.0 INCHES WIDE AND 90.7 INCHES LONG. THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-310 SHALL BE 16.0 INCHES TALL, 34.0 INCHES WIDE AND 90.7 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 85.4 INCHES.
- THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE.
- THE CHAMBER SHALL BE OPEN-BOTTOMED.
- THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.
- THE NOMINAL STORAGE VOLUME OF A JOINED STORMTECH SC-740 CHAMBER SHALL BE 74.9 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS WHICH INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY. THIS EQUATES TO 2.2 CUBIC FEET OF STORAGE SQUARE FOOT OF BED. THE NOMINAL STORAGE VOLUME OF AN INSTALLED STORMTECH SC-310 CHAMBER SHALL BE 31.0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS WHICH INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY. THIS EQUATES TO 1.3 CUBIC FEET OF STORAGE SQUARE FOOT OF BED.
- THE CHAMBER SHALL HAVE FORTY-EIGHT ORIFICES PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.
- THE CHAMBER SHALL HAVE TWO ORIFICES NEAR ITS TOP TO ALLOW FOR EQUALIZATION OF AIR PRESSURE BETWEEN ITS INTERIOR AND EXTERIOR.
- THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOWS AND VISUAL INSPECTIONS DOWN A ROW'S ENTIRE LENGTH.
- THE CHAMBER SHALL HAVE 14 CORRUGATIONS.
- THE CHAMBER SHALL HAVE A CIRCULAR, INDENTED, FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4-INCH INSPECTION PORT.
- THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING AASHTO METHODS FOR THERMOPLASTIC CULVERTS CONTAINED IN THE LRFD BRIDGE DESIGN SPECIFICATIONS THROUGH 2001. DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK. DESIGN SHALL BE THE AASHTO HS20 TRUCK, DESIGN SHALL BE APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL.
- THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.
- END CAP PARAMETERS**
- THE END CAP SHALL BE INJECTION MOLDED OF POLYETHYLENE RESIN TO HELP FACILITATE FACTORY MANUFACTURED PIPE FITTINGS.
- THE END CAP SHALL BE DESIGNED TO FIT INTO ANY CORRUGATION OF A CHAMBER, WITH THE CORRUPTION OF A CHAMBER THAT HAS ITS LENGTH TRIMMED, SEPARATING ROWS INTO STORAGE BASINS OF VARIOUS LENGTHS.
- THE END CAP SHALL HAVE SAYS GUIDES TO ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM.
- THE END CAP SHALL HAVE EXCESS STRUCTURAL ADEQUACIES TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INSET ELEVATION.
- THE PRIMARY FACE OF AN END CAP SHALL BE CURVED OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.
- THE END CAP SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

**STORMTECH L.L.C. CONCEPTUAL PLAN DISCLOSURE**

THIS STORMTECH CHAMBER SYSTEM LIGHTLY WAS PREPARED TO DEMONSTRATE A RED LAYER THAT WILL BE ABOVE THE BEST AVAILABLE LAYER ABOVE THE STONE. THE FIT AND APPLICABILITY OF THE STORMTECH CHAMBER SYSTEM FOR THE PROJECT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER. IT IS THE USER'S RESPONSIBILITY TO VERIFY THAT THE STORMTECH CHAMBER SYSTEM IS COMPATIBLE WITH ALL APPLICABLE LAWS AND REGULATIONS. STORMTECH PRODUCTS MUST BE INSTALLED IN ACCORDANCE WITH STORMTECH DESIGN MANUAL. THE DESIGN ENGINEER IS RESPONSIBLE FOR ALL DESIGN DECISIONS.

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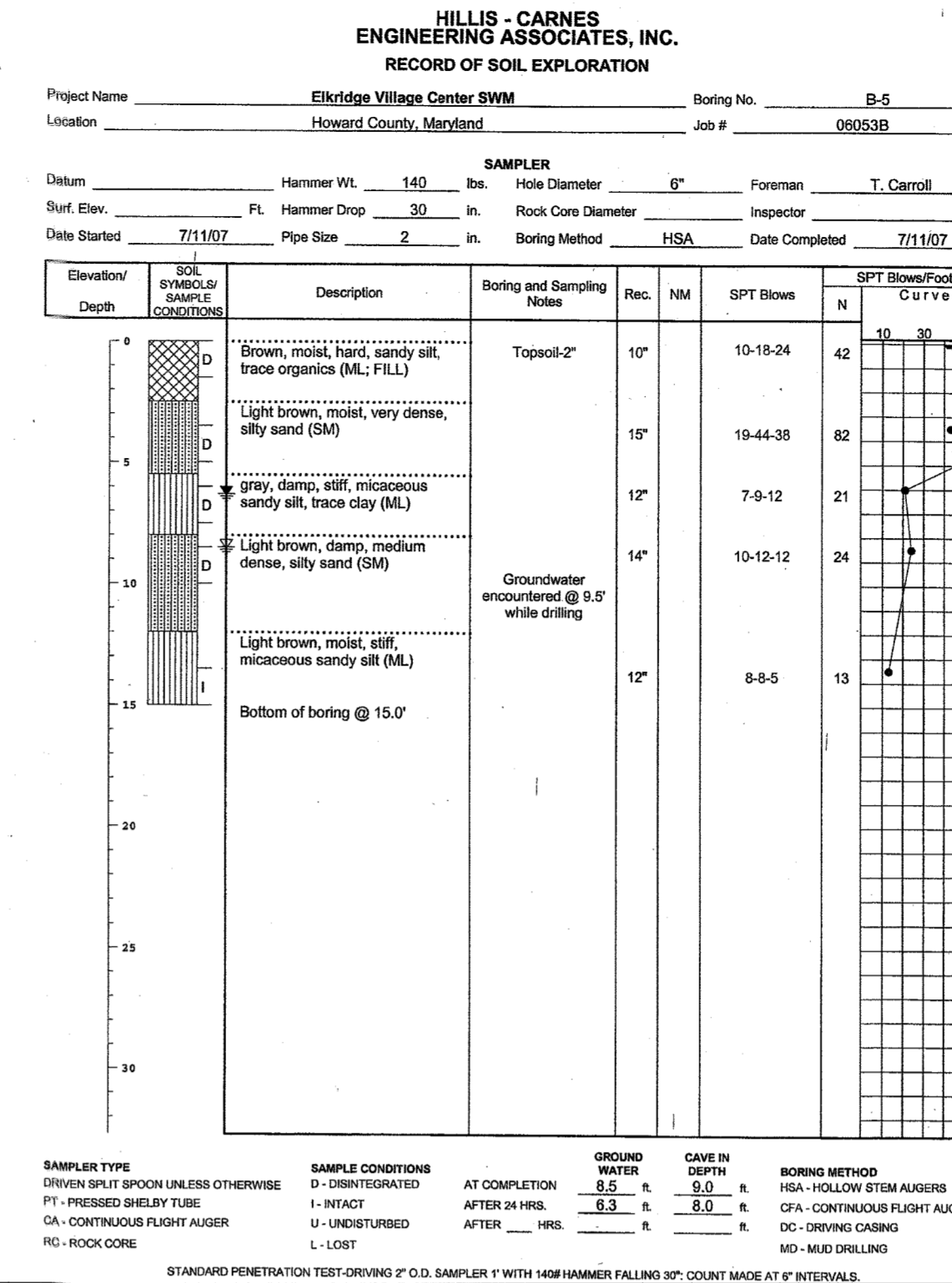
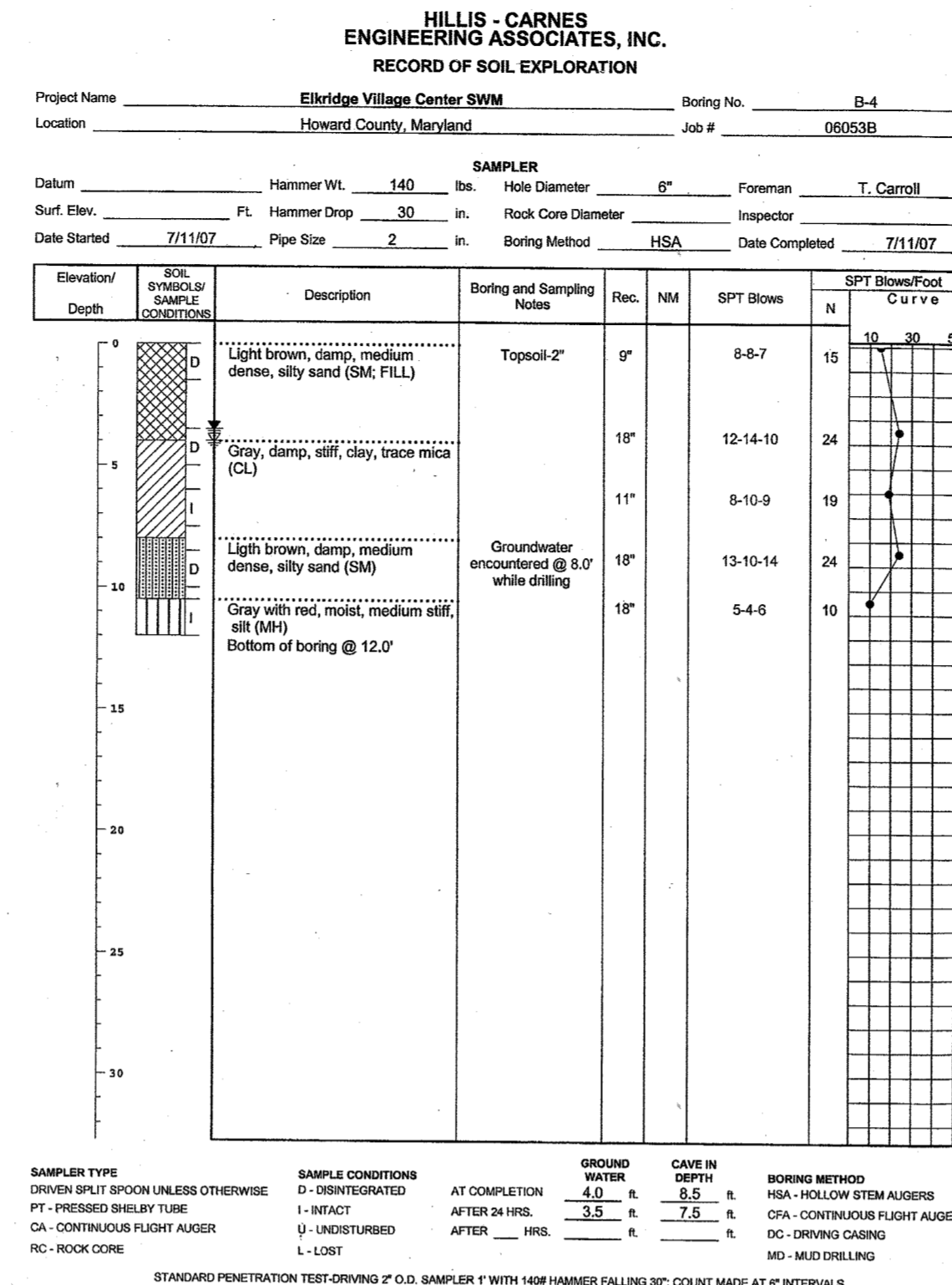
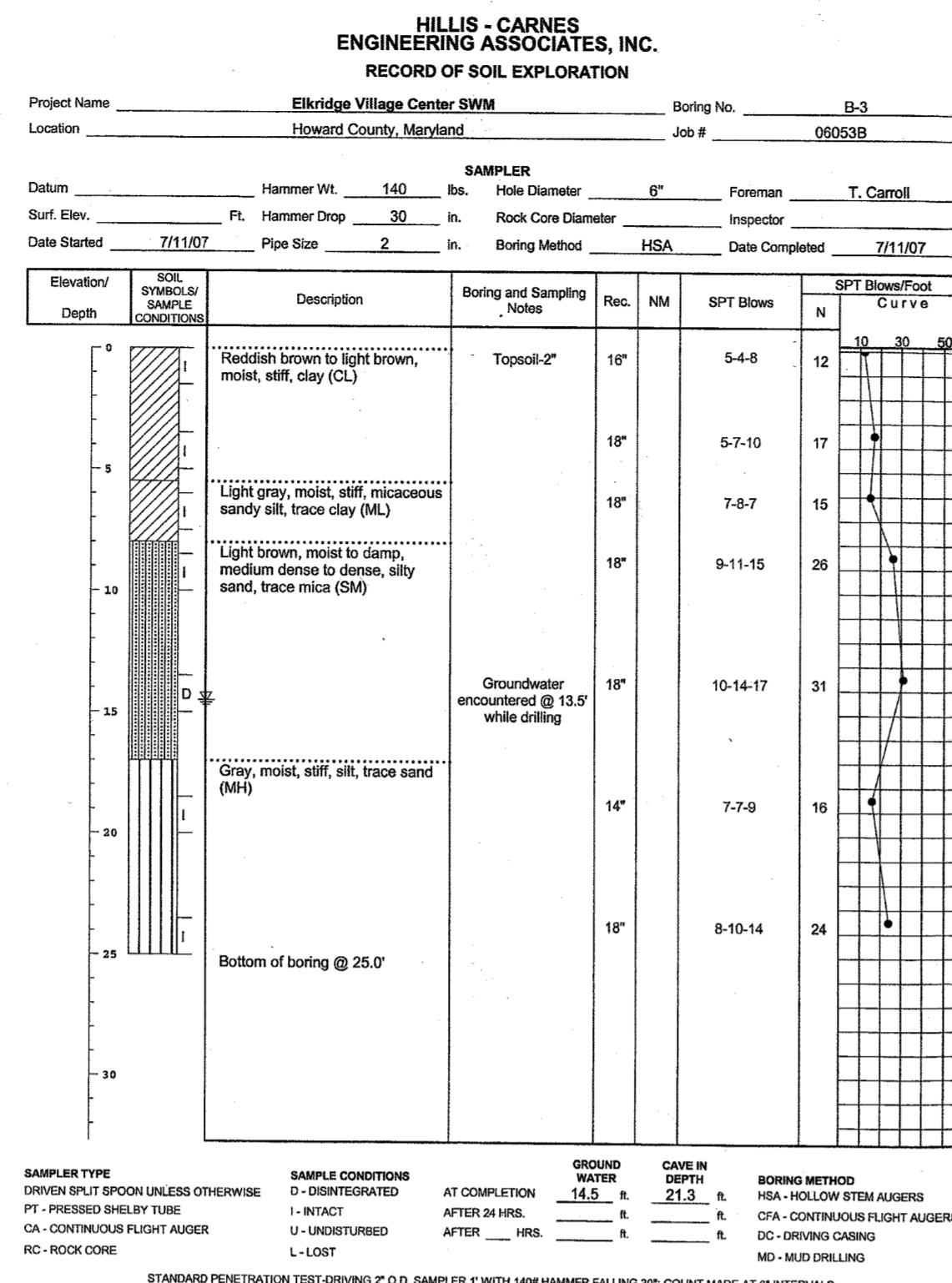
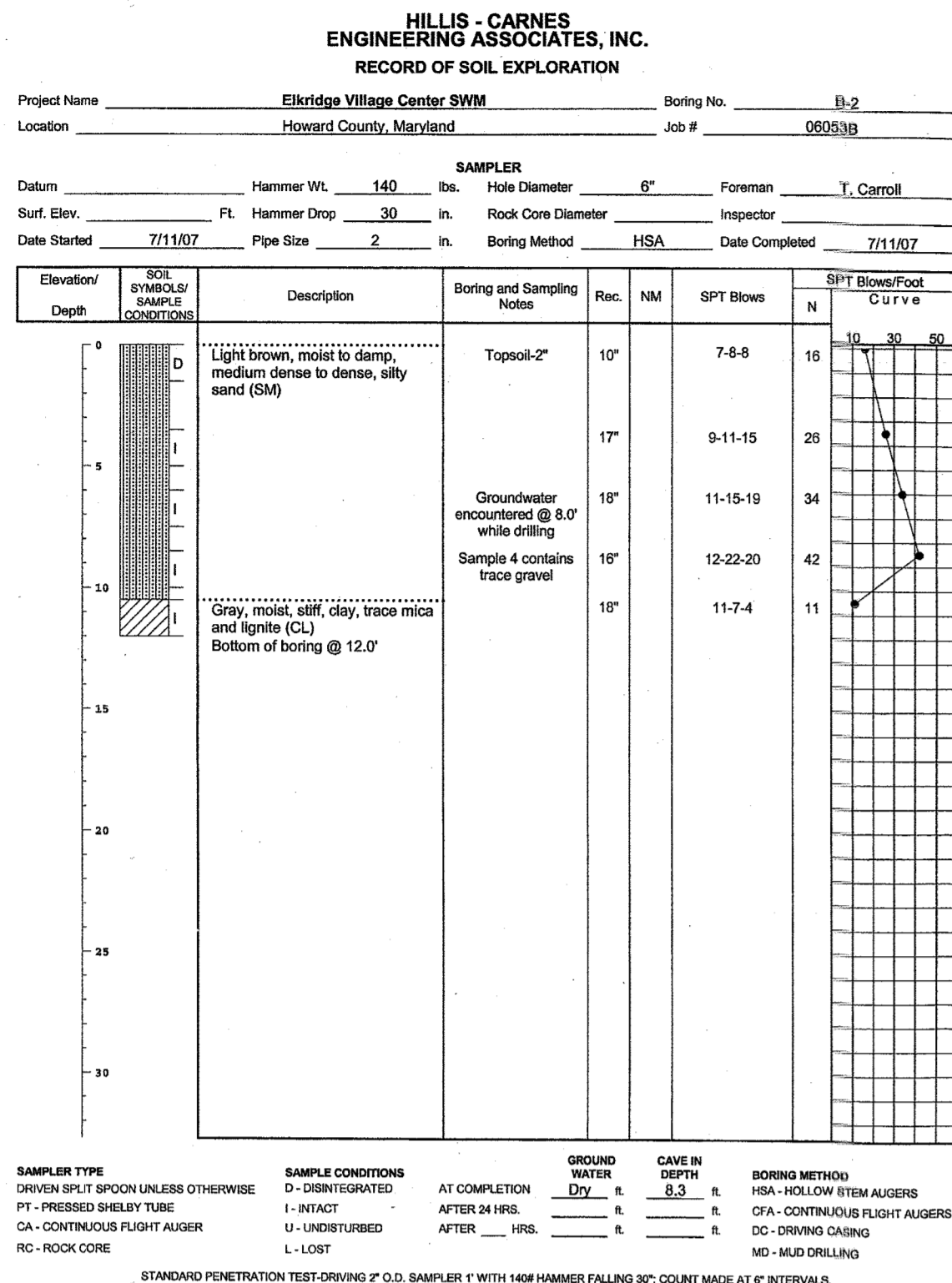
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DATE: [Blank] SCALE: [Blank] CHECKED: [Blank] INITIALS: [Blank]  
DRAWN BY: [Blank] SHEET: [Blank] PLOTTED: [Blank]

"NO AS-BUILT INFORMATION" IS PROVIDED ON THIS SHEET

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21463, Expiration Date: 12/12/20

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
[Signature]  
DATE: 2/21/2020



**EVALUATION**

We have compared the conditions encountered in the borings with the bottom elevations of the proposed facilities and our general evaluations are as follows:

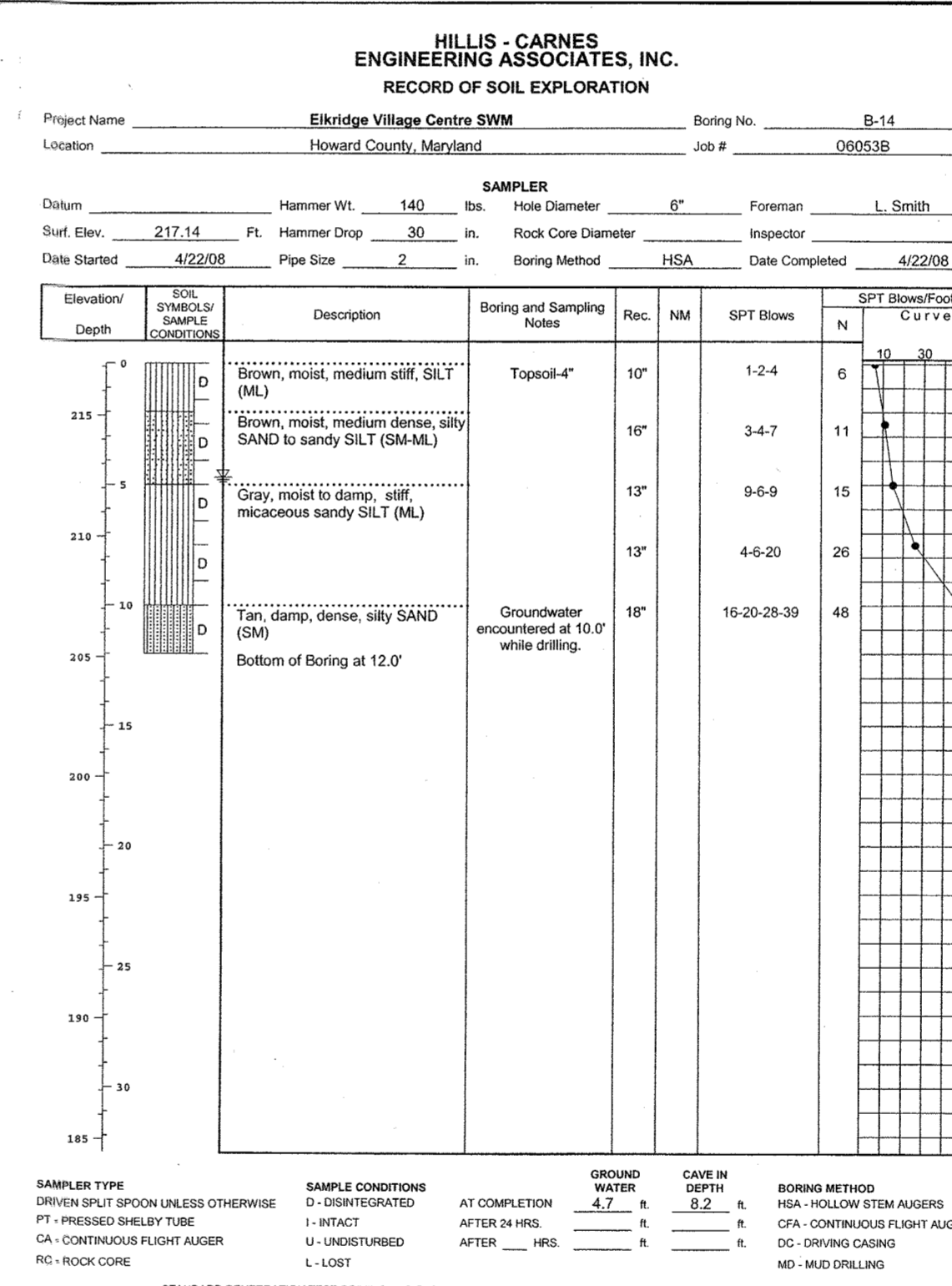
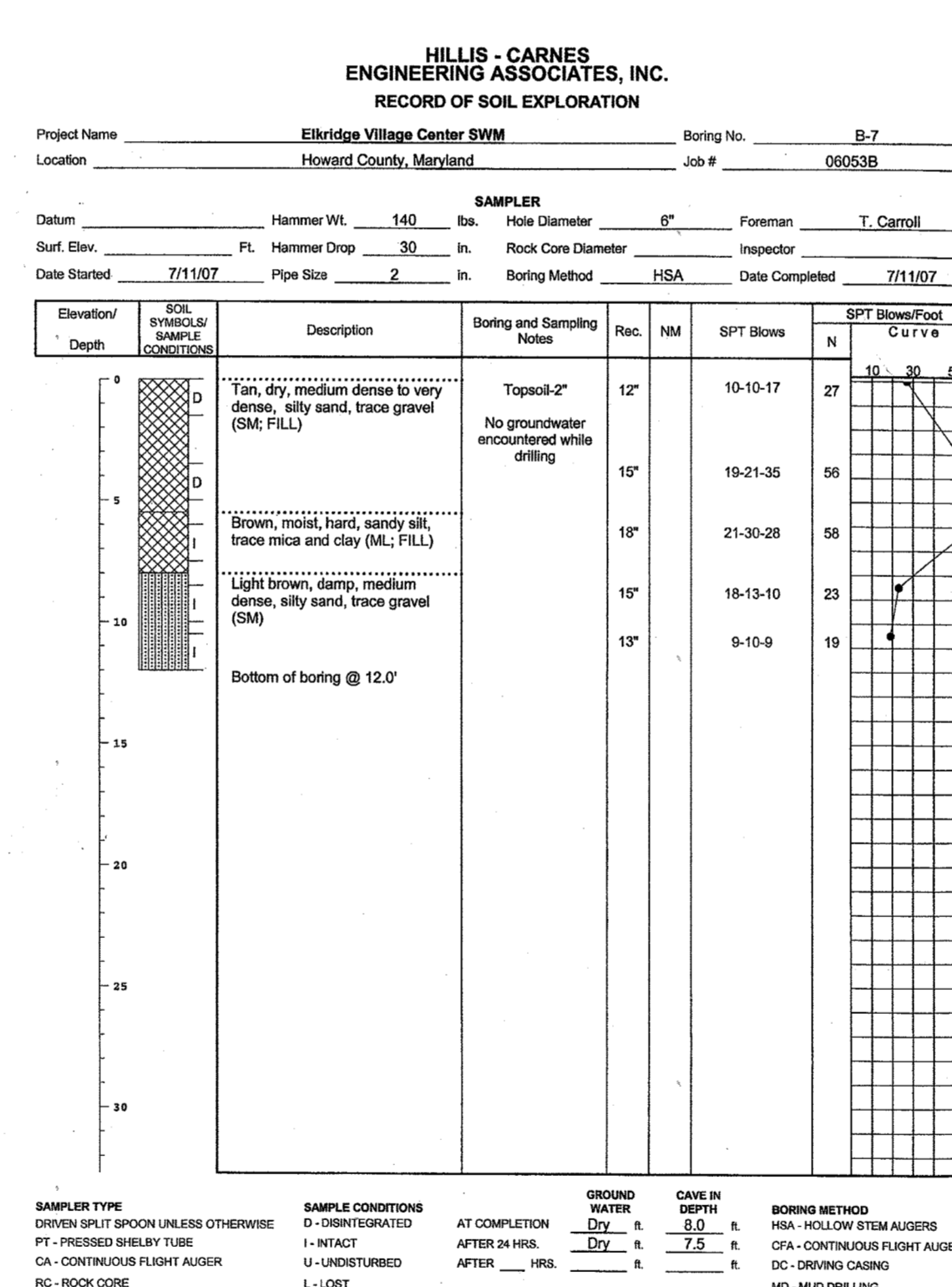
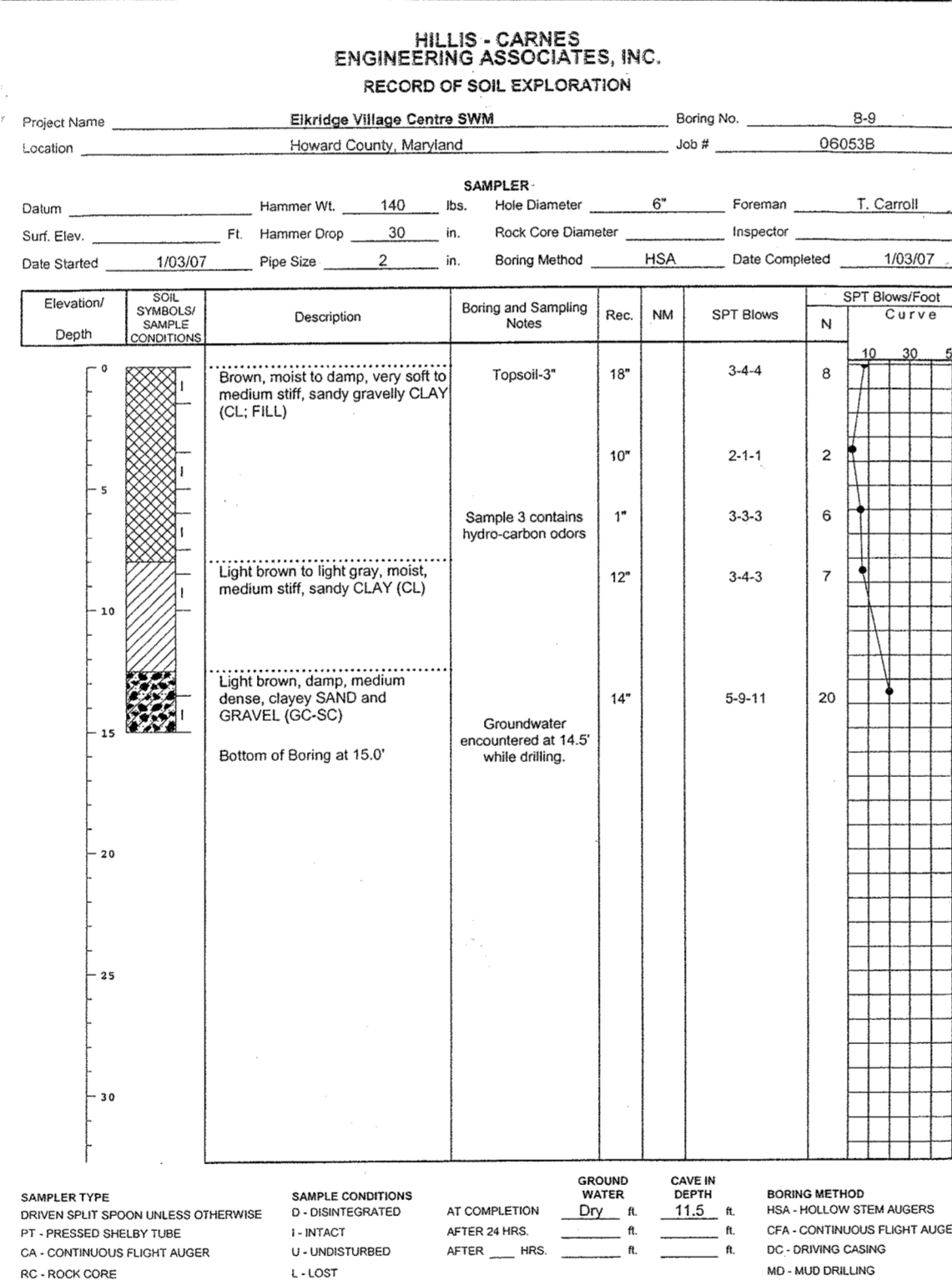
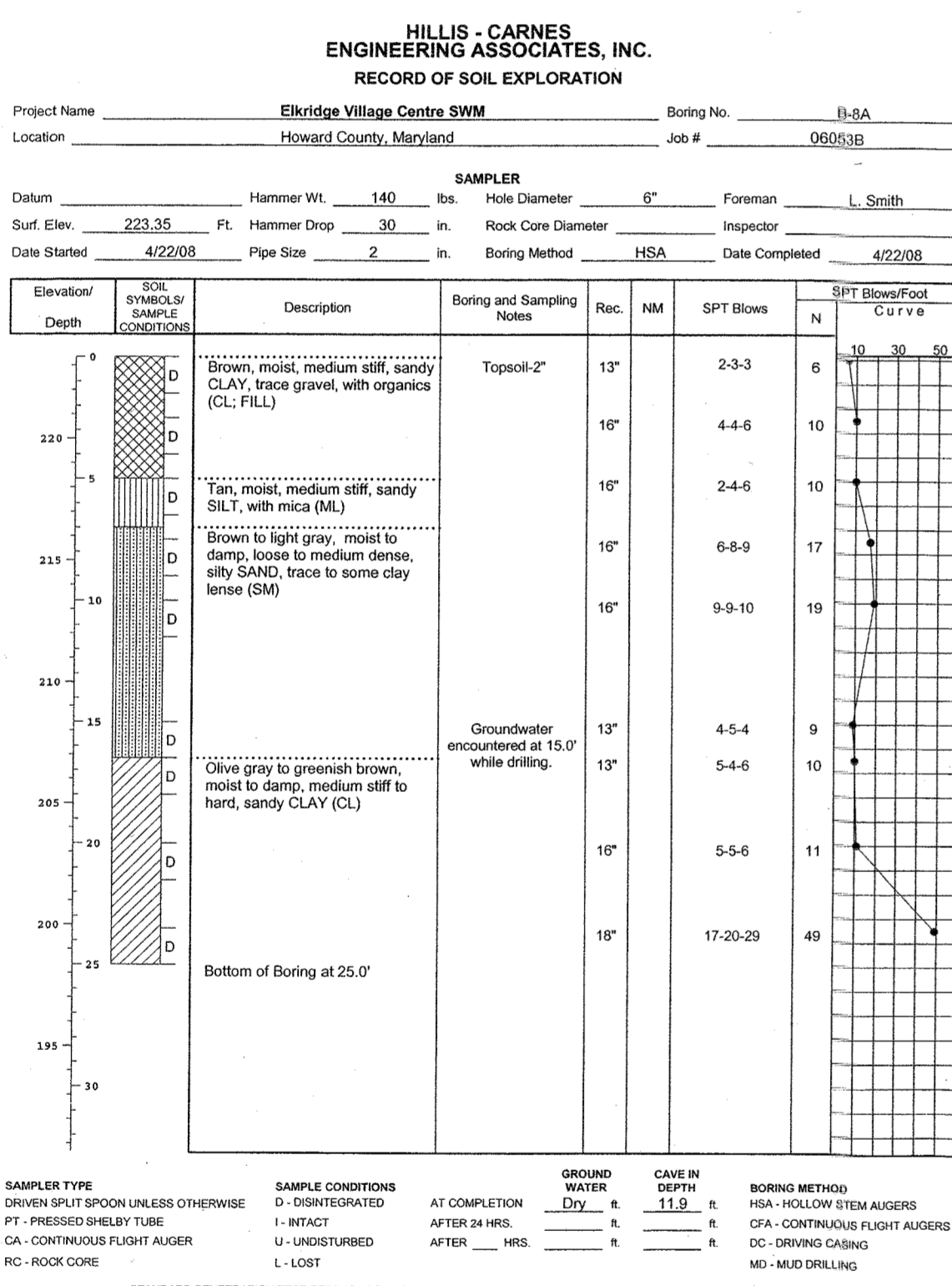
Facility #1: Borings B-1 through B-5 were drilled in the vicinity of Facility No. 1. Groundwater levels were initially noted in the borings as being near or at the proposed bottom of facility (EL 216.0). As such, the previously mentioned test pit was excavated to better define the cause(s) of the variable groundwater readings that were obtained from the borings drilled in this area.

Based on the results of the test pit, it appears that the water encountered in the borings drilled in this area is water that is perched within the more granular materials that are located on top of the clay layer that was located at depth in the test pit and in the borings. As stated previously, a sump was placed adjacent to the test pit area and it was possible to pump the sump dry. Furthermore, the water entering the sump generally appeared to be entering the sump from the pond side, indicating that the perched water was being fed from the pond itself. It is therefore our opinion that the static groundwater level is located at least 4 ft below the proposed facility bottom and that the proposed underground facility can be constructed as designed.

Facility #2: Borings B-8 and B-9 were drilled in the vicinity of Facility No. 2. Groundwater levels were noted as being located above the proposed bottom of facility (EL 201.5). The water encountered in the borings drilled in this area was also located within the more granular materials that are located on top of the clay layer that was located at depth in the borings. It is also possible that the water encounter in this area is also perched.

Facility #3: Borings B-7 and B-14 were drilled in the vicinity of Facility No. 3. Groundwater levels appeared to be lower than that of the proposed bottom of facility (EL 213).

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.



**SOIL BORINGS SUMMARY:**

BORING #	SURF. EL.	BORING DEPTH	DEPTH OF GROUND WATER
2	219.85	12'	DRY
3	233.60	25'	DRY
4	219.84	15'	DRY
5	224.33	15'	DRY
7	219.85	15'	DRY
8	223.35	15'	DRY
9	222.84	15'	DRY
14	216.00	10'	DRY

**NOTES:**

- GROUND WATER ELEVATION AT 24 HOURS.
- SURFACE ELEVATION BASED ON EXISTING CONDITION ON JANUARY 2007 (SEE GEOTECHNICAL REPORT)

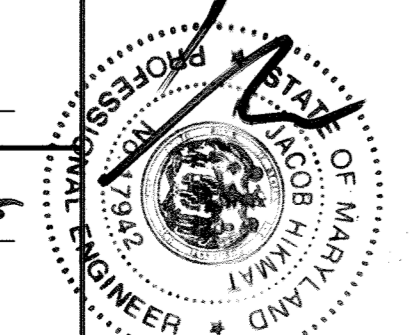
**DEVELOPER**  
AT&CO HOWARD SQUARE 1  
10 EAST BALTIMORE STREET, STE. 1600  
BETHESDA, MARYLAND 20814  
410-347-7146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942 EXPIRATION DATE: 09/03/2010

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 12-11-07  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 12/22/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] 12/19/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443, Expiration Date: 12/19/20

**'NO AS-BUILT INFORMATION' IS PROVIDED ON THIS SHEET**

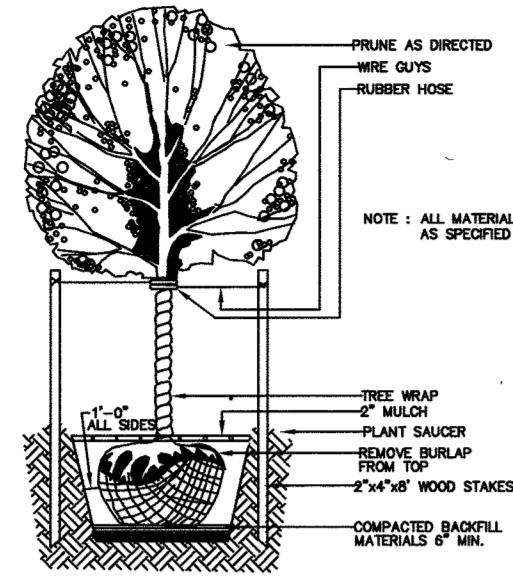
Project: 04-081  
 Date: NOV-2008  
 Illustration: MAM  
 Scale: MAM  
 Approval: AS SHOWN RJH

ADD REVISIONS TO TITLE BLOCK  
 REVISIONS

**HOWARD SQUARE**  
 PARCELS A AND B AND C  
 TAX MAP 43, PARCEL 1  
 HOWARD COUNTY, MARYLAND  
**BORING LOGS**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Bnl. (410) 997-0286 Fax

NOTE: LANDSCAPE SHOWN IS FOR PUBLIC ROCKSIDE AVENUE AND FOR THE ROAD IMPROVEMENTS ALONG ROUTE 1, PORT CAPITAL DRIVE AND OLD WATERLOO ROAD. ALL OTHER LANDSCAPING REQUIRED SHALL BE PROVIDED AT SITE DEVELOPMENT STAGE WHEN ACTUAL USES ARE DETERMINED.



TYPICAL DECIDUOUS TREE PLANTING DETAIL  
NOT TO SCALE

THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

**DEVELOPER'S/OWNER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE, AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION 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.

NAME: John L. Henry DATE: 12/8/08

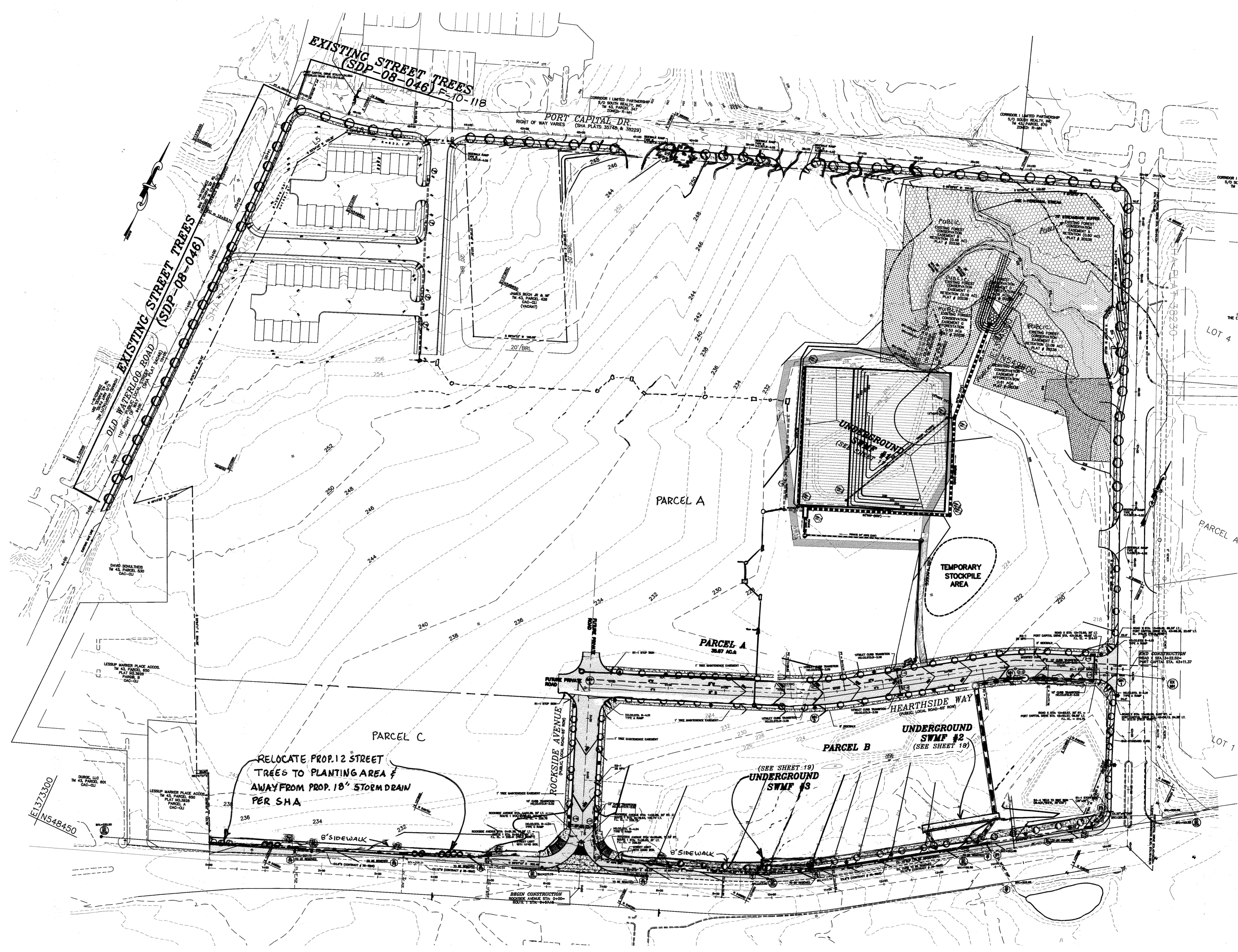
**STREET TREE CALCULATIONS**

ROCKSIDE AVENUE - (1120 x 2) / 40 = 56 STREET TREES  
ROUTE 1 - 1240 / 40 = 31 STREET TREES  
PORT CAPITAL DRIVE - 2159 / 40 = 54 STREET TREES

TOTAL TREES REQUIRED = 141 STREET TREES  
TOTAL TREES PROVIDED = 141 STREET TREES

**PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
141		PYRUS CALLERYANA 'REDSPIRE'	REDSPIRE PEAR	2 1/2" - 3" CAL.
TOTAL		141 TREES (141 STREET TREES)		



**DEVELOPER**  
ATAPCO HOWARD SQUARE I  
BUSINESS CENTER  
10 EAST BARTIMORE STREET STE. 1600  
BARTIMORE, MARYLAND 21202  
410-341-7146

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 17942 EXPIRATION DATE: 09/03/2010

APPROVED: DEPARTMENT OF PUBLIC WORKS  
Walter Z. White 12-11-08  
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Andy Hain 12/22/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

John L. Henry 12/19/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



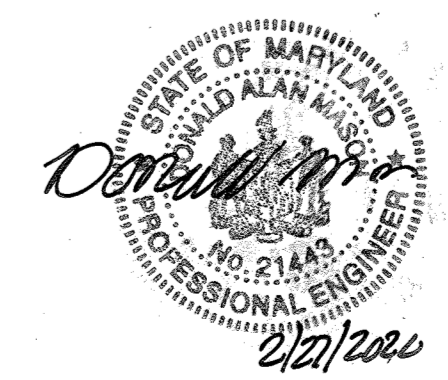
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 28559, Expiration Date: 7-22-11  
FOR REVISION BY BEI ONLY



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 22390, Expiration Date: 6-30-17

- LEGEND**
- FOREST CONSERVATION (DETENTION) EASEMENT
  - FOREST CONSERVATION (AFFORESTATION) EASEMENT
  - FOREST CONSERVATION STORAGE
  - EXISTING TREE LINE
  - PUBLIC 100-YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
  - SUPER SALT FENCE
  - LIMIT OF DISTURBANCE
  - WET CORE TRANSITION (H.C. 208)

"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"



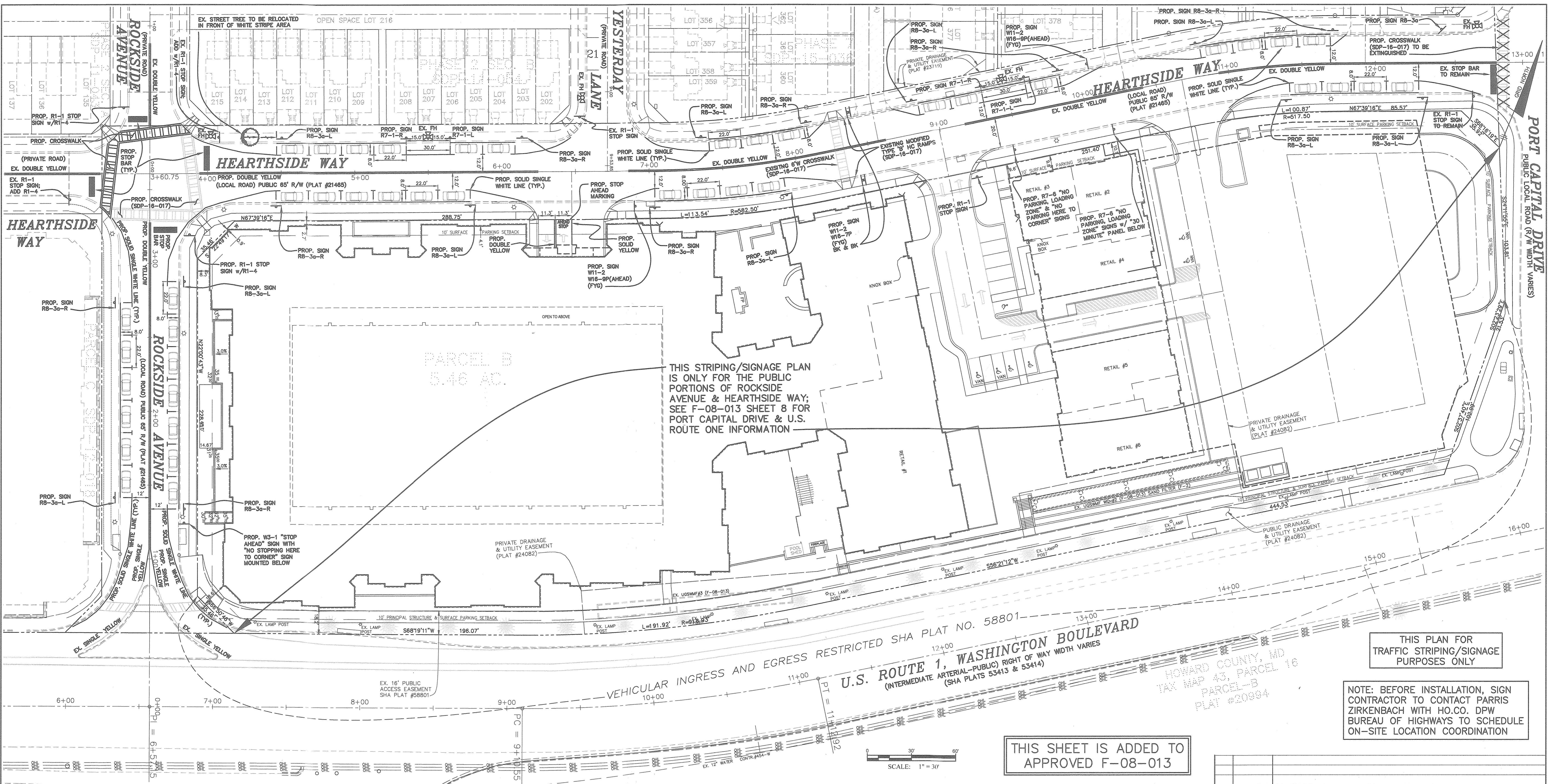
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21023, Expiration Date: 12/31/20

Project	date	NOV-2008
04-081	NOV-2008	engineering
Illustration	MMM	MMM
scale	MMM	MMM
AS SHOWN	AS SHOWN	RJH

REV	DATE	BY	DESCRIPTION
6	12-1-15	BEI	REVISE W/ #2 DESIGN AND TREE TRIMMING CONDITIONS
5	4-11-14	BEI	REVISE W/ #3 DESIGN AND TREE TRIMMING CONDITIONS
4	9-17-17	BEI	REVISE W/ #3 DESIGN AND TREE TRIMMING CONDITIONS
3	7-13-17	BEI	REVISE STREAM DEBRIS AND TRIMMING TO F.C.E.
2	3-24-17	BEI	REVISE STREAM DEBRIS AND TRIMMING TO F.C.E.
1	7-15-16	BEI	APPREVECC AND TRIMMING TO F.C.E.

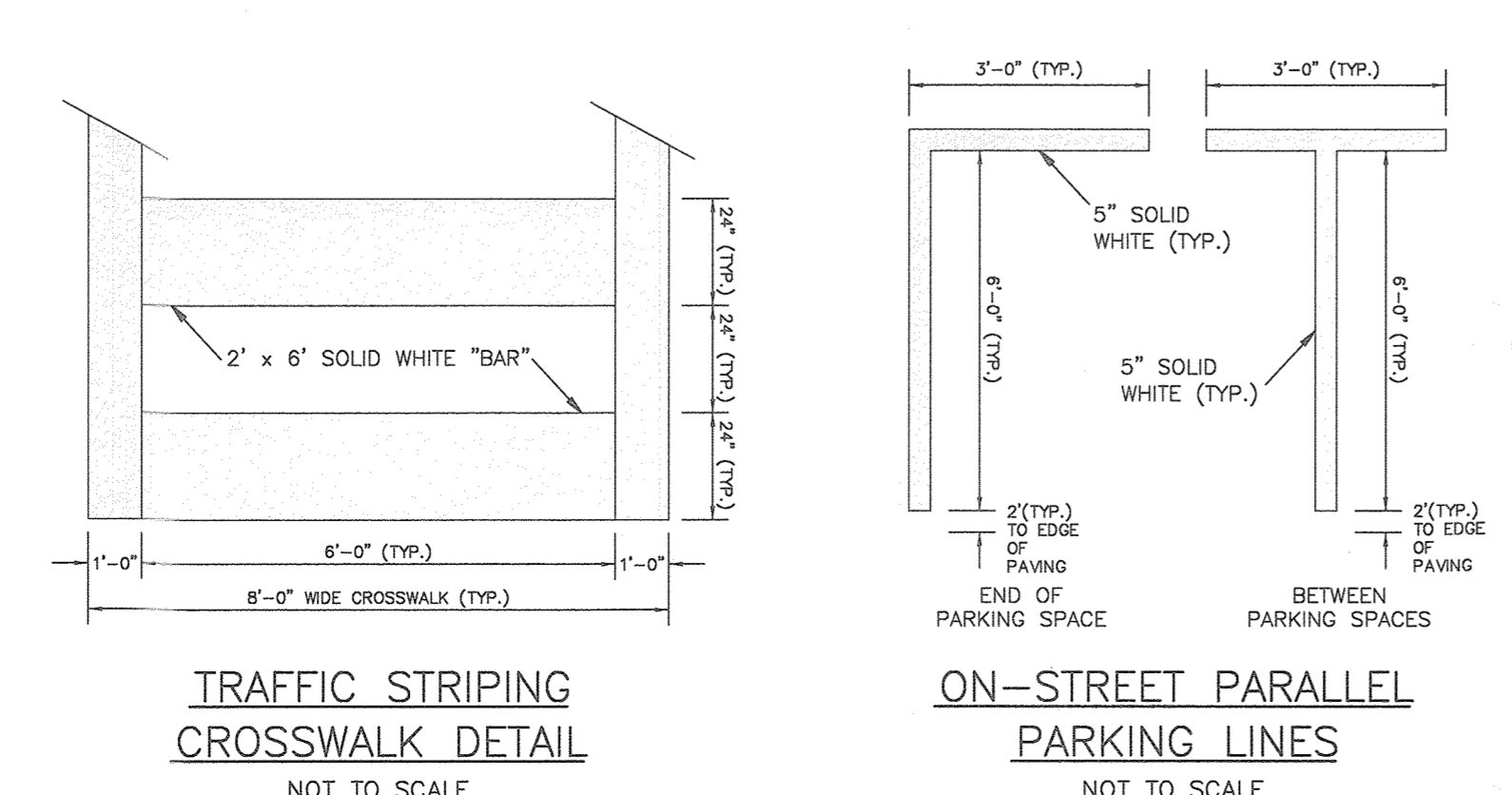
**HOWARD SQUARE**  
PARCELS A AND B AND C  
TAX MAP 43, PARCEL 1  
HOWARD COUNTY, MARYLAND  
FIRST ELECTION DISTRICT  
LANDSCAPE PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Fax (410) 997-0286



**PAVEMENT MARKING NOTES**

- 1) ALL PAVEMENT MARKINGS TO BE 5" WIDE REFLECTIVE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.
- 2) ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 3) ALL PAVEMENT MARKINGS SHALL BE LAYED-OUT AND APPROVED BY THE TRAFFIC ENGINEER BEFORE INSTALLATION.
- 4) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY OWNED RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (14 ga.) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 ga.) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 5) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO INSTALLATION OF ANY TRAFFIC CONTROL DEVICES.
- 6) STREET TREES MUST BE A MINIMUM OF FOUR(4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE(5) FEET FROM ANY STORM DRAIN. A MINIMUM DISTANCE OF TWENTY(20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM STREET LIGHTS. TREES MUST BE PLANTED A MINIMUM OF FIVE(5) FEET FROM AN OPEN SPACE ACCESS STRIP AND TEN(10) FEET FROM A DRIVEWAY.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443 Expiration Date 12/31/20

THIS SHEET IS ADDED TO APPROVED F-08-013

THIS PLAN FOR TRAFFIC STRIPING/SIGNAGE PURPOSES ONLY

NOTE: BEFORE INSTALLATION, SIGN CONTRACTOR TO CONTACT PARRIS ZIRKENBACH WITH HO.CO. DPW BUREAU OF HIGHWAYS TO SCHEDULE ON-SITE LOCATION COORDINATION

1	DATE	SHEET ADDITION
NO.	DATE	REVISION
<b>BENCHMARK ENGINEERING, INC.</b> ENGINEERS & LAND SURVEYORS & PLANNERS 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-485-8105 (F) 410-485-8844 E-MAIL: bmark@benchmark-engineering.com WWW.BEI-CIVILENGINEERING.COM		
DEVELOPER/OWNER: ATAPCO HOWARD SQUARE I BUSINESS TRUST One South Street Suite 2800 Baltimore, MD 21202 (410) 347-7189		Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 12209 Expiration Date: 6-30-2021 
TAX MAP: 43 GRID 3 & 9 - PARCEL: B ZONED: CAC-CL1 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND		REVISIONS: DATE: AUGUST 16, 2019 REVISION: BEI PROJECT NO. 2541
DRAFT: MCR	CHECK: CAM	SCALE: AS SHOWN SHEET 23 OF 23