

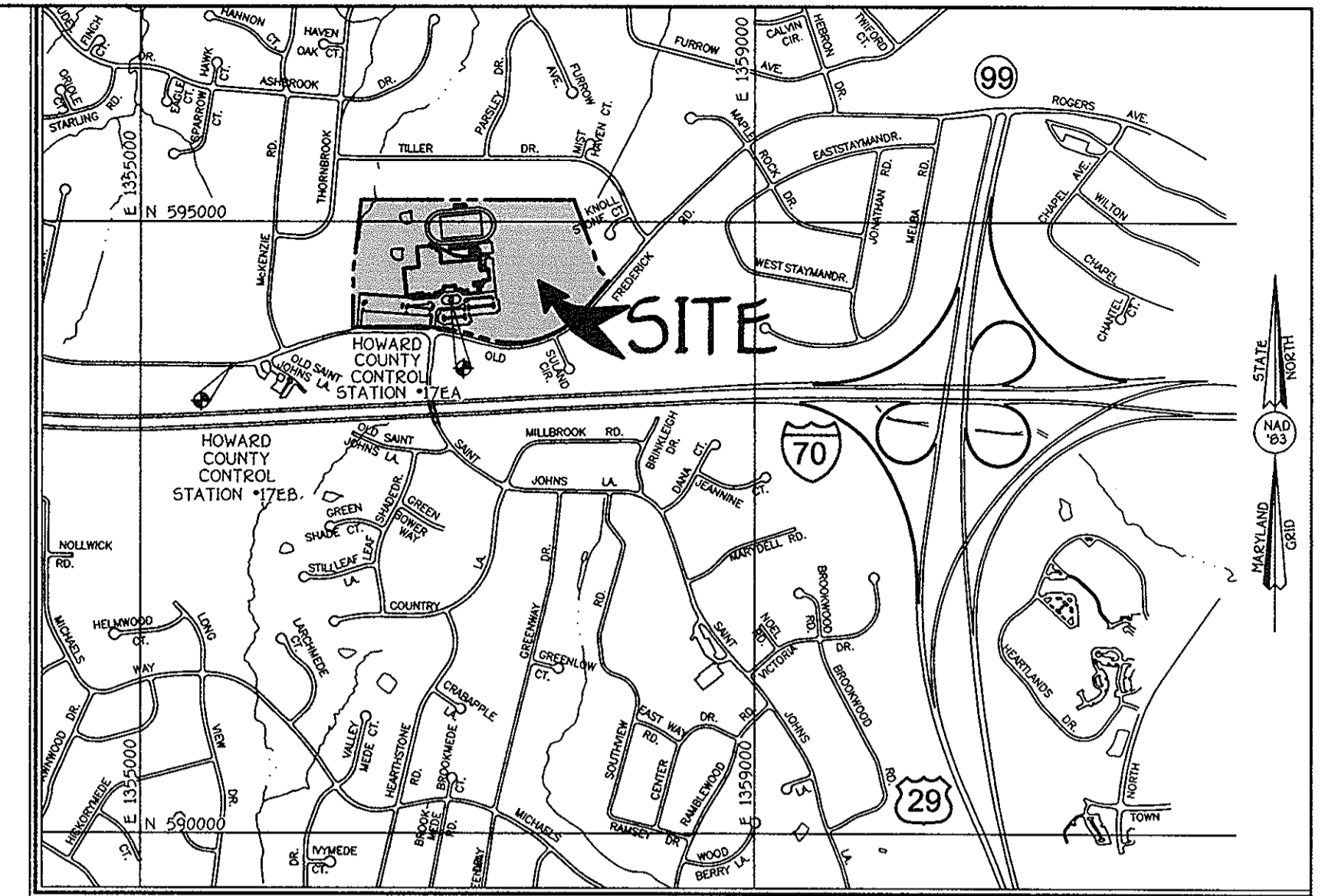
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4	GEOMETRY PLAN
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7	HANDICAP ACCESS PLAN
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# SITE DEVELOPMENT PLAN MOUNT HEBRON HIGH SCHOOL

TAX MAP No.: 17      GRID No: 9, 10, 15, 16

PARCEL No.: 471

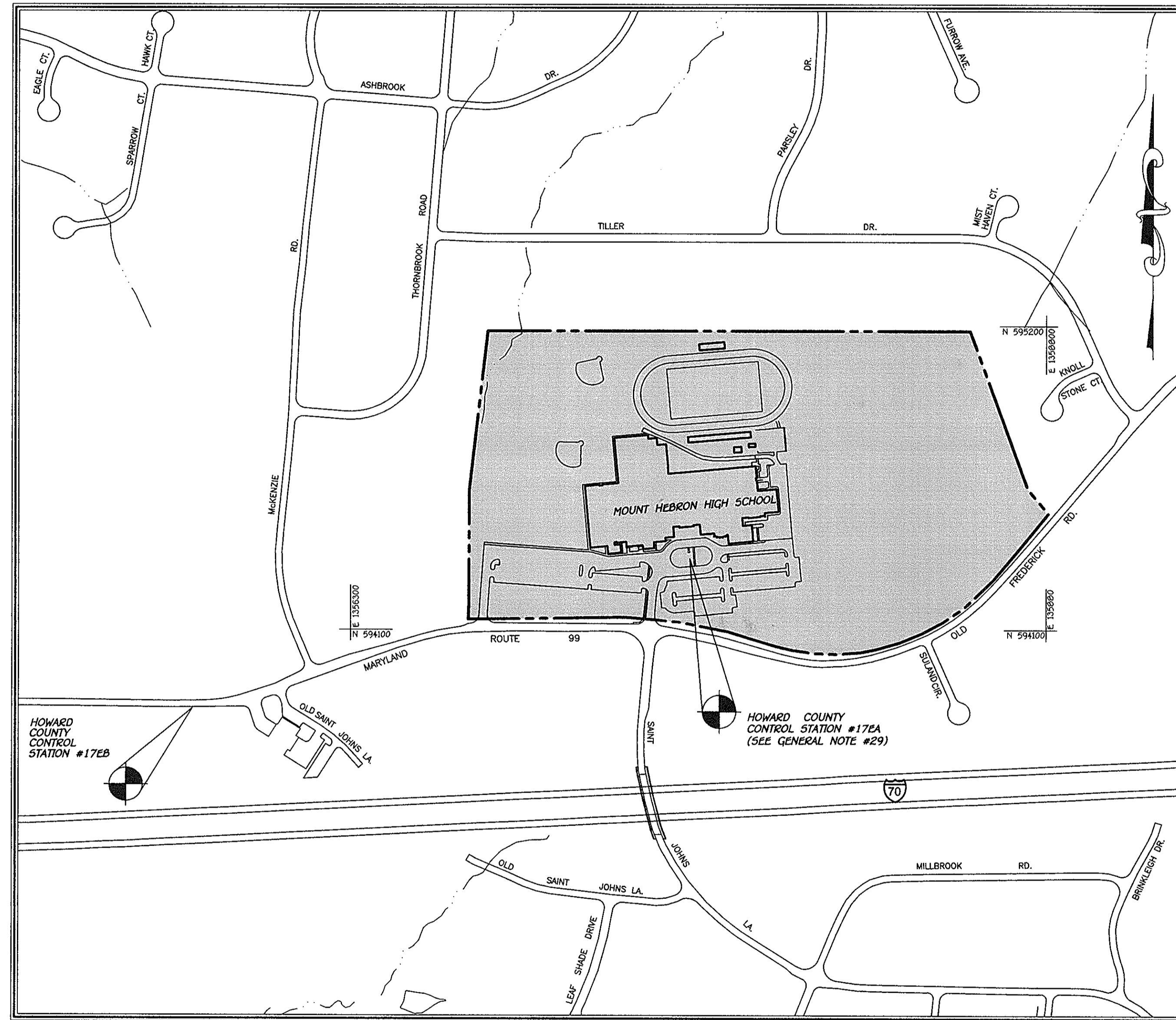
SECOND ELECTION DISTRICT      HOWARD COUNTY, MARYLAND



**VICINITY MAP**  
SCALE: 1" = 1200'  
REFERENCED ADC MAP 11

### SITE ANALYSIS DATA

1. General Site Data:
  - A. Present Zoning: R-20
  - B. Present use of site or structure: Institutional: Public School
  - C. Public water and sewer to be utilized.
2. Area Tabulation:
  - A. Total project area: 40.055 Ac.
  - B. Area of this plan submission: 6.1 Ac. is the limit of submission and grading disturbance for the construction of the parking lot addition.
  - C. Impervious Coverage Proposed Paved Areas (Access Road, Parking and Walkways) - 4.0 Ac.
3. Open Space Data: A. Open Space Required: N/A
4. Parking Space Data:
  - A. The Number of parking spaces in accordance with the Public School System's requirements = 403
  - B. Total number of parking spaces provided on site (including handicap Parking) = 403
  - C. Number of Handicapped parking spaces provided (including Handicap Van Spaces) = 16
  - D. Total Number of Bus Stacking spaces provided = 25



**PLAN**  
SCALE: 1" = 200'

### General Notes

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
2. The contractor shall notify the Bureau of Engineering/Construction Inspection Division at 410-313-1000 at least five working days prior to start of work.
3. The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any digging and excavation work.
4. Project Background:  
Tax Map 17, Grid 9,10,15,16  
Parcel No. 471  
Zoning: This project is zoned R-20 per the 2/2/04 comprehensive zoning plan and to the Comp-Lite Zoning Amendments dated 7/20/06.  
Election District: SECOND  
Section/Area: N/A  
Site Area: 40.055 Ac.
5. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Maryland Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to placement of any asphalt.
6. All plan dimensions are to the face of curb or face of building unless otherwise noted. Dimensions are measured perpendicular or radial between items unless otherwise noted.
7. Existing topography and features were derived from a field run survey by Fisher, Collins and Carter Inc. and Harford Aerial Surveys inc. on or about June 10, 2006.
8. Coordinates are based on NAD 83 Maryland Coordinates System as projected by Howard County Geodetic Control Stations.  
17EA N 594,357.619 E 1,357,519.370 ELEV. 478.780  
17EB N 594,813.861 E 1,357,731.855 ELEV. 453.488
9. Public water and sewer is to be utilized for this project. The existing water and sewer systems serving this project are Contract No. 71W, 325 and 27385-B.
10. All on-site storm drains under this site development plan are private.
11. The existing utilities shown hereon were derived from available public records. The Contractor must dig test pits by hand at all utility crossings and connection points to verify the exact location.
12. All proposed ramps shall be in accordance with current A.D.A. Standards Accessibility Guidelines. Maximum sidewalk cross slope shall be two percent. Provide a (5'x5') five foot by five foot level landing (max. slope 2%) at the top and bottom of all ramps and building entrances and exits. Handrails shall be provided on all ramps in accordance with section 4.8.5 of the A.D.A. Standards Accessibility Guidelines. All proposed ramps within SHA right of way shall be in accordance with the current SHA standards for the A.D.A. ramps and detectable mats.
13. All driveways and parking to be owned and maintained by the Howard County Public School System.
14. Any damage to County and or State owned right-of-way to be corrected at the Contractor's expense.
15. Trench bedding for storm drains structures shall be in accordance with Howard County Standard G2.01 Class C Bedding unless otherwise noted.
16. Gutter pan of curbs shall be pitched to conform to the adjacent drainage patterns of the adjoining paving for vehicular use. See detail 16.
17. For details of parking, road section, handicap, curb and gutter see sheet 8.
18. There are no known grave sites or cemeteries on this site based on a visual site visit and based on an examination of the Howard County Cemetery Inventory MRP.
19. This Project is recorded among the land records in Howard County, Maryland as L. 406 F. 222, L. 545 F. 131.
20. Soils Analysis prepared by: Penniman and Browne, Inc. dated October 26, 2006.
21. All outside lighting shall comply with Zoning Regulations Section 134 which requires lights to be installed to direct/reflect light downwards and inwards on the site and away from all public streets and residential areas. See detail on sheet 8. "Light trespass onto adjoining residential properties shall be limited 0.1 foot candles."
22. Previous DPZ file numbers: SDP75-106, VP01-67, SDP87-157, WP92-90, WP93-101, SDP97-146, SDP95-127, WP01-130, WP03-138.
23. No clearing, grading or construction is permitted within the limit of wetlands, streams or their required buffers, except as approved on this plan for necessary utility line disturbances in accordance with Section 16.16(c) of the Subdivision and Land Development Regulations.
24. No landscape surety is required for this plan since it is a Howard County Board of Education project.
25. This SDP is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations per Council Bill No. 45-2003 and the Amended Zoning Regulations per Council Bill No. 75-2003. Development or construction on this property must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application or building/grading permit application.
26. All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post. All signs mounted within SHA right of way shall be in accordance with the SHA sign standards.
27. Landscaping is in accordance with Section 16.124 of the Howard County Code and the Landscape Manual.
28. Forest Conservation for this project is exempt due to the limits of disturbance being within the original limits of disturbance based on Site Development Plans SDP75-106 and SDP87-167. Grading permits were approved prior to 12-31-92 in accordance with Section 16.120(b)(3)(iii) of the Howard County Code, which exempts this project from forest conservation.
29. The Contractor shall notify the Howard County Department of Public Works Survey Division 5 working days prior to any work being done. Survey Control Station 17EA shall be relocated prior to any demolition work being done in this area. (410-313-6102)
30. Stormwater management will be provided by an infiltration facility. The stormwater management facility will be owned and maintained by the Howard County Public School System.
31. Maintenance of traffic along Maryland 99 shall conform to the appropriate MSHA Temporary Traffic Control Typical Applications (TTCTA). Refer to Standards MD 104.00-01 through MD 104.01-10 for Maintenance of Traffic General Notes shown on sheet 10.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CONTINENTAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
(410) 461-2895



"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. 13204, Expiration Date: November 3, 2010."

*Charles J. Grovo, Sr.*  
CHARLES J. GROVO, SR., P.E.  
5/18/09 DATE

DATE	DESCRIPTION
REVISION BLOCK	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas G. Tuttle</i>	6/29/09
Director, Department of Planning and Zoning	Date
<i>Andy Smith</i>	6/29/09
Chief, Division of Land Development	Date
<i>Paul Howard</i>	6-9-09
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 100  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

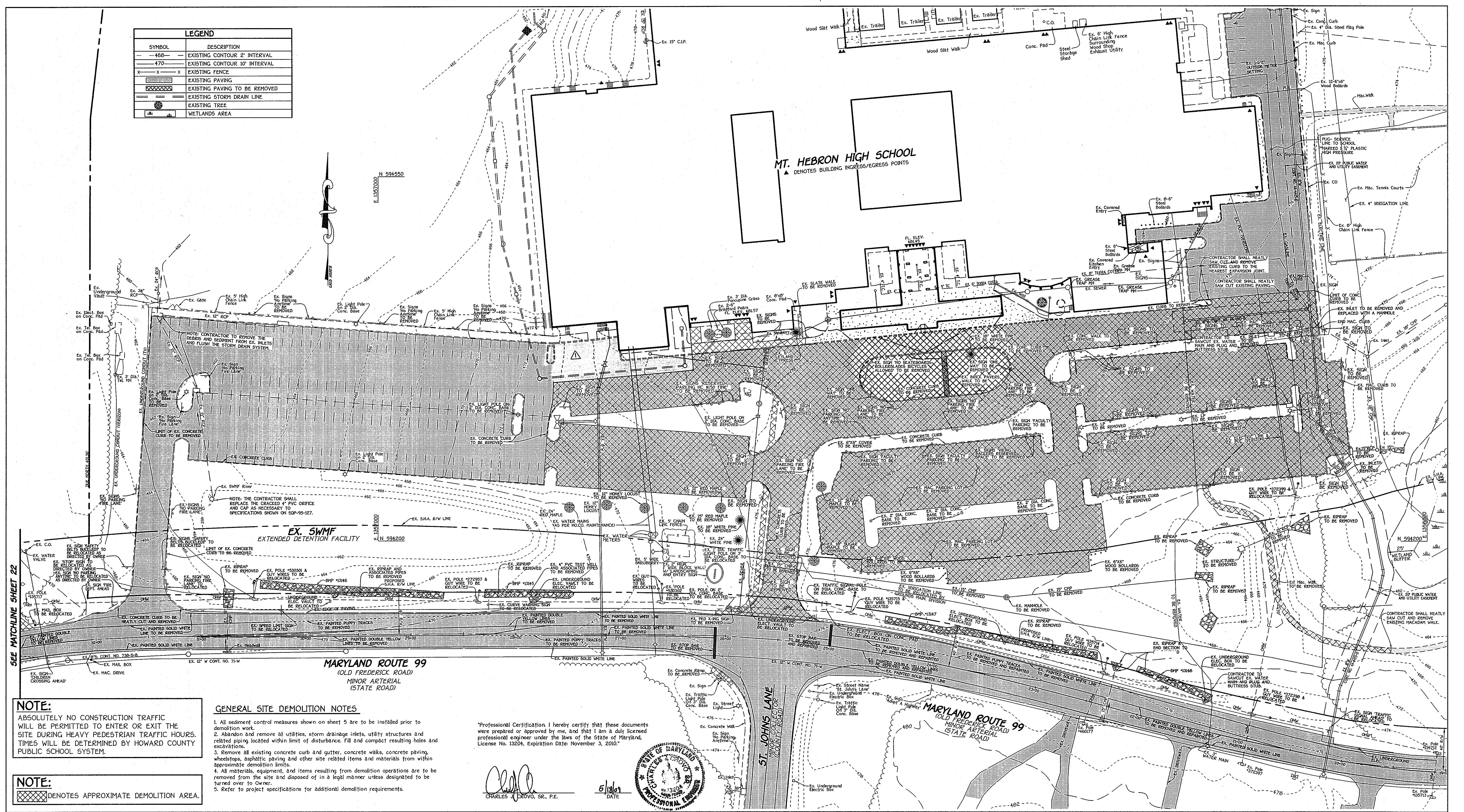
ARCHITECT  
**SEAN**  
Smolen & Emr  
1365 PROBAB DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT	SECTION/AREA				
MOUNT HEBRON HIGH SCHOOL	N/A				
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE	H03	SEWER CODE	1406900		

TITLE SHEET	
<b>MOUNT HEBRON HIGH SCHOOL</b>	
HOWARD COUNTY BOARD OF EDUCATION, MT. HEBRON HIGH SCHOOL, PARKING LOTS AND SWM EXPANSIONS	
TAX MAP No.: 17	GRID No.: 9, 10, 15, 16
SECOND ELECTION DISTRICT	PARCEL No.: 471
SCALE: AS SHOWN	DATE: APRIL 10, 2009
SHEET 1 OF 24      SDP-09-01	

**SDP09-01**

LEGEND	
SYMBOL	DESCRIPTION
---468---	EXISTING CONTOUR 2' INTERVAL
---470---	EXISTING CONTOUR 10' INTERVAL
X X X X	EXISTING FENCE
-----	EXISTING PAVING
-----	EXISTING PAVING TO BE REMOVED
-----	EXISTING STORM DRAIN LINE
-----	EXISTING TREE
-----	WETLANDS AREA



SEE MATCHLINE SHEET 22

**NOTE:**  
ABSOLUTELY NO CONSTRUCTION TRAFFIC WILL BE PERMITTED TO ENTER OR EXIT THE SITE DURING HEAVY PEDESTRIAN TRAFFIC HOURS. TIMES WILL BE DETERMINED BY HOWARD COUNTY PUBLIC SCHOOL SYSTEM.

**NOTE:**  
[Hatched Area Symbol] DENOTES APPROXIMATE DEMOLITION AREA.

- GENERAL SITE DEMOLITION NOTES**
1. All sediment control measures shown on sheet 5 are to be installed prior to demolition work.
  2. Abandon and remove all utilities, storm drainage inlets, utility structures and related piping located within limit of disturbance. Fill and compact resulting holes and excavations.
  3. Remove all existing concrete curb and gutter, concrete walks, concrete paving, wheelstops, asphaltic paving and other site related items and materials from within approximate demolition limits.
  4. All materials, equipment, and items resulting from demolition operations are to be removed from the site and disposed of in a legal manner unless designated to be turned over to Owner.
  5. Refer to project specifications for additional demolition requirements.

"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. 13204, Expiration Date: November 3, 2010."

*Charles Crovo, Sr., P.E.*  
DATE: 6/19/09



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CORPORAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
4103 481 - 2055

DATE	DESCRIPTION	APPROVED	DATE
3/2/10	Revised Exist Curb, Sidewalk & Contours in Front of Building	<i>Thomas S. Butler</i>	6/29/09
	REVISION BLOCK	<i>Charles Crovo, Sr.</i>	6/29/09
	APPROVED: DEPARTMENT OF PLANNING AND ZONING	<i>David Hamer</i>	6-9-09
	Chief, Division of Land Development	<i>David Hamer</i>	
	Chief, Development Engineering Division	<i>David Hamer</i>	

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

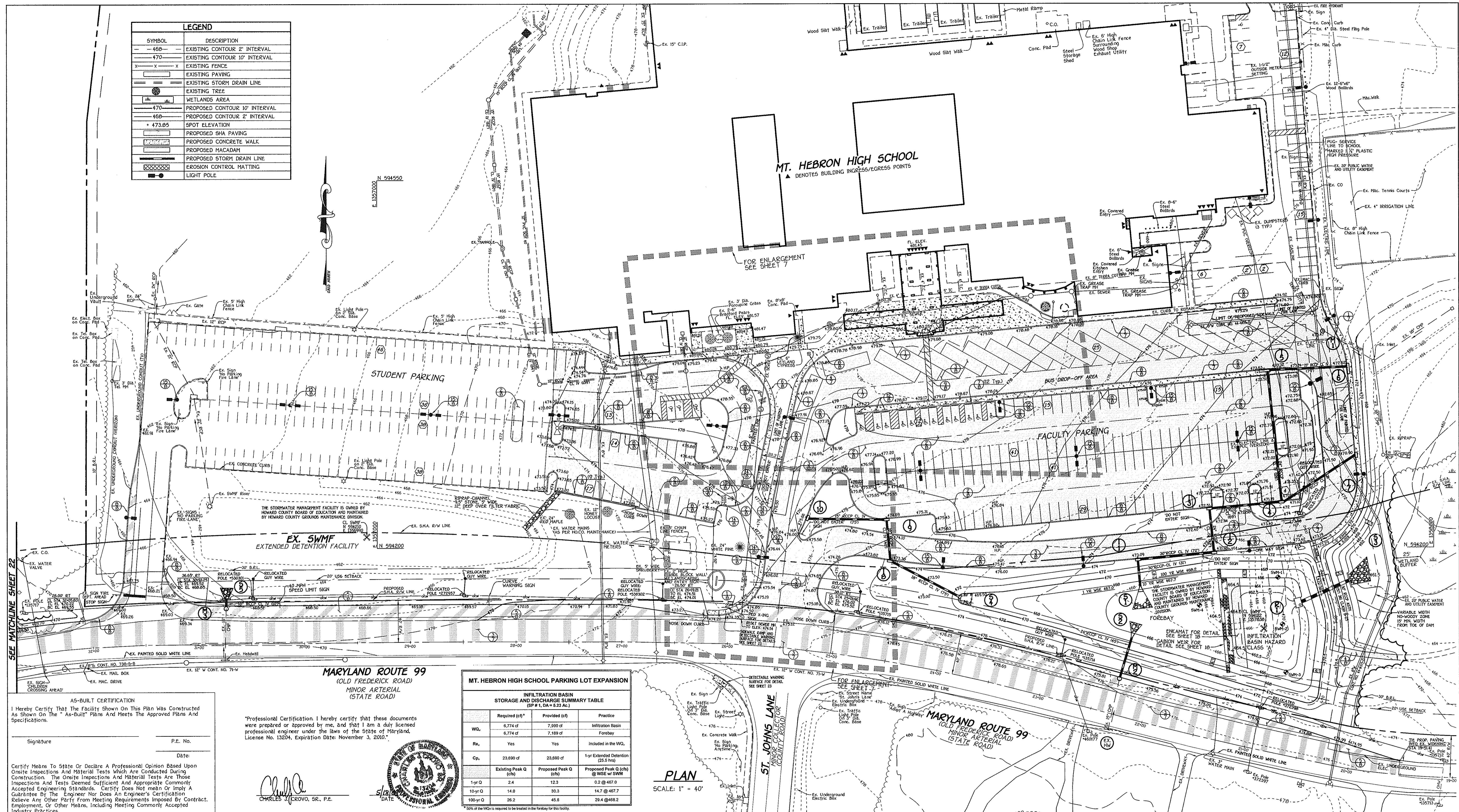


Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042
PROJECT	
MOUNT HEBRON HIGH SCHOOL	SECTION/AREA N/A
DEED REF. 545/131 406/222	BLOCK NO. 9,10,15 & 16
ZONE R-20	TAX MAP 17
ELEC. DIST. SECOND	CENSUS TR. 6021.00
WATER CODE H03	SEWER CODE 1406900

DEMOLITION PLAN	
<b>MOUNT HEBRON HIGH SCHOOL</b>	
HOWARD COUNTY BOARD OF EDUCATION, MT. HEBRON HIGH SCHOOL, PARKING LOTS AND SWM EXPANSIONS	
TAX MAP No.: 17	GRID No.: 9, 10, 15, 16
SECOND ELECTION DISTRICT	PARCEL No.: 471
SCALE: 1" = 40'	DATE: APRIL 10, 2009
SHEET 2 OF 24 SDP-09-01	

SDP 09-01

LEGEND	
SYMBOL	DESCRIPTION
--- 460 ---	EXISTING CONTOUR 2' INTERVAL
--- 470 ---	EXISTING CONTOUR 10' INTERVAL
X - X - X	EXISTING FENCE
---	EXISTING PAVING
---	EXISTING STORM DRAIN LINE
---	EXISTING TREE
shaded area	WETLANDS AREA
--- 470 ---	PROPOSED CONTOUR 10' INTERVAL
--- 460 ---	PROPOSED CONTOUR 2' INTERVAL
+ 473.05	SPOT ELEVATION
---	PROPOSED SHA PAVING
---	PROPOSED CONCRETE WALK
---	PROPOSED MACADAM
---	PROPOSED STORM DRAIN LINE
---	EROSION CONTROL MATTING
---	LIGHT POLE



**MT. HEBRON HIGH SCHOOL PARKING LOT EXPANSION**

**INFILTRATION BASIN STORAGE AND DISCHARGE SUMMARY TABLE**  
(SP #1, DA = 6.23 Ac.)

	Required (cf)*	Provided (cf)	Practice
WG.	6,774 cf	7,990 cf	Infiltration Basin
Re.	6,774 cf	7,189 cf	Forebay
Cp.	23,890 cf	23,890 cf	1-yr Extended Detention (25.5 hrs)
Existing Peak Q (cfs)	2.4	12.3	Proposed Peak Q (cfs) @ WSE w/ SWM
1-yr Q	14.0	39.3	0.2 @ 467.0
10-yr Q	26.2	45.8	29.4 @ 468.2

\*50% of the WG is required to be treated in the forebay for this facility.

**PLAN**  
SCALE: 1" = 40'

**AS-BUILT CERTIFICATION**  
I hereby certify that the Facility shown on this Plan was constructed as shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.

Signature: \_\_\_\_\_ P.E. No.: \_\_\_\_\_  
Date: \_\_\_\_\_

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

"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. 13204, Expiration Date: November 3, 2010."

Signature: *Charles J. Cravo, Sr.*  
Date: 5/12/09  
CHARLES J. CRAVO, SR., P.E.  
DATE



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21114  
410-461-2855

**DEVELOPER'S CERTIFICATE**  
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: *Bruce Gist*  
Printed Name Of Developer: BRUCE GIST  
Date: 5/12/09

**ENGINEER'S CERTIFICATE**  
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: *Charles J. Cravo, Sr.*  
Printed Name Of Engineer: CHARLES J. CRAVO, SR.  
Date: 5/12/09

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.  
Signature: *Charles J. Cravo, Sr.*  
Date: 6/4/09  
Howard Soil Conservation District

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

DATE: \_\_\_\_\_ DESCRIPTION: \_\_\_\_\_  
REVISION BLOCK: \_\_\_\_\_

Director: *James S. Suttler* 6/29/09  
Chief, Department of Planning and Zoning  
Date: 6/29/09

Chief, Division of Land Development: *Paul E. Howard* 6-9-9  
Chief, Development Engineering Division: *Paul E. Howard* 6-9-9

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 100  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

ARCHITECT  
**SEAN**  
Smolen + Emr  
1155 ROCKCREEK DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

Address Chart

Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042

PROJECT: MOUNT HEBRON HIGH SCHOOL SECTION/AREA: N/A PARCEL: 471  
DEED REF: 545/131 BLOCK NO.: 9.10.15 & 16 ZONE: R-20 TAX MAP: 17 ELEC. DIST.: SECOND CENSUS TR.: 6021.00  
WATER CODE: H03 SEWER CODE: 1406900

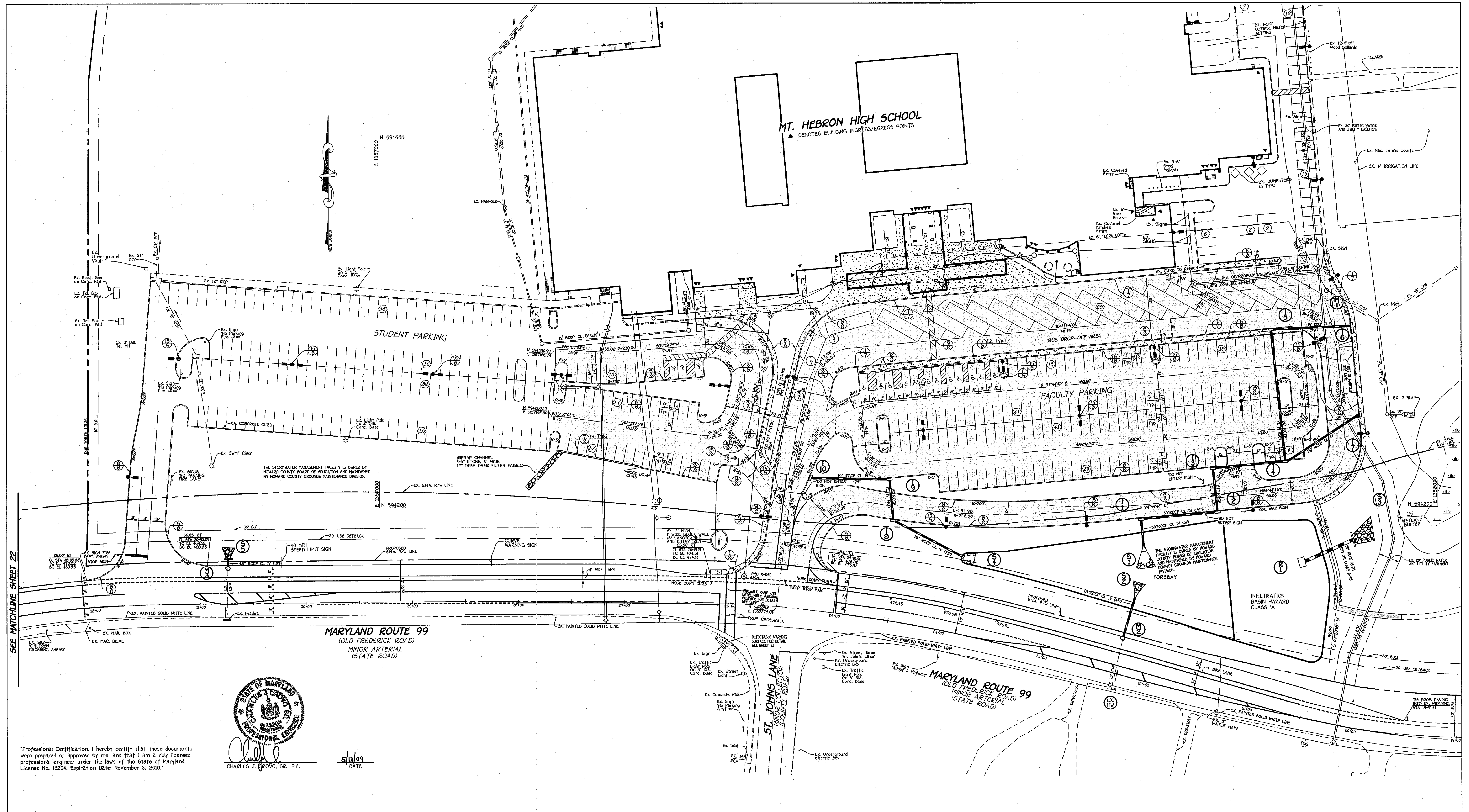
**SITE DEVELOPMENT PLAN**  
**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 40' DATE: APRIL 10, 2009

SHEET 3 OF 24 SDP-09-01

**SDP09-01**

C:\Drawings\410204.Mt. Hebron High School - Ho. Con\Parking\0501.MT. HEBRON HIGH SCHOOL'S SITE PLAN\DRAWING SITE PLAN



MT. HEBRON HIGH SCHOOL  
 ▲ DENOTES BUILDING INGRESS/EGRESS POINTS

MARYLAND ROUTE 99  
 (OLD FREDERICK ROAD)  
 MINOR ARTERIAL  
 (STATE ROAD)

MARYLAND ROUTE 99  
 (OLD FREDERICK ROAD)  
 MINOR ARTERIAL  
 (STATE ROAD)



"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. 13204, Expiration Date: November 3, 2010."

CHARLES J. CROVO, SR., P.E.  
 DATE: 5/12/09

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CONFIDENTIAL SOURCE OFFICE: 10012 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 410-2995

DATE	DESCRIPTION
3/2/10	Revised Exist. Curb & Sidewalk In Front of Building
REVISION BLOCK	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas J. Butler</i>	6/24/09
Director - Department of Planning and Zoning	Date
<i>Condy Hester</i>	6/29/09
Chief, Division of Land Development	Date
<i>David Edwards</i>	6-9-9
Chief, Development Engineering Division	Date

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

ARCHITECT  
**SCAA**  
 S m o l e n = e n r  
 1355 PICCARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT	SECTION/AREA				
MOUNT HEBRON HIGH SCHOOL	N/A				
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE	H03	SEWER CODE	1406900		

GEOMETRY PLAN

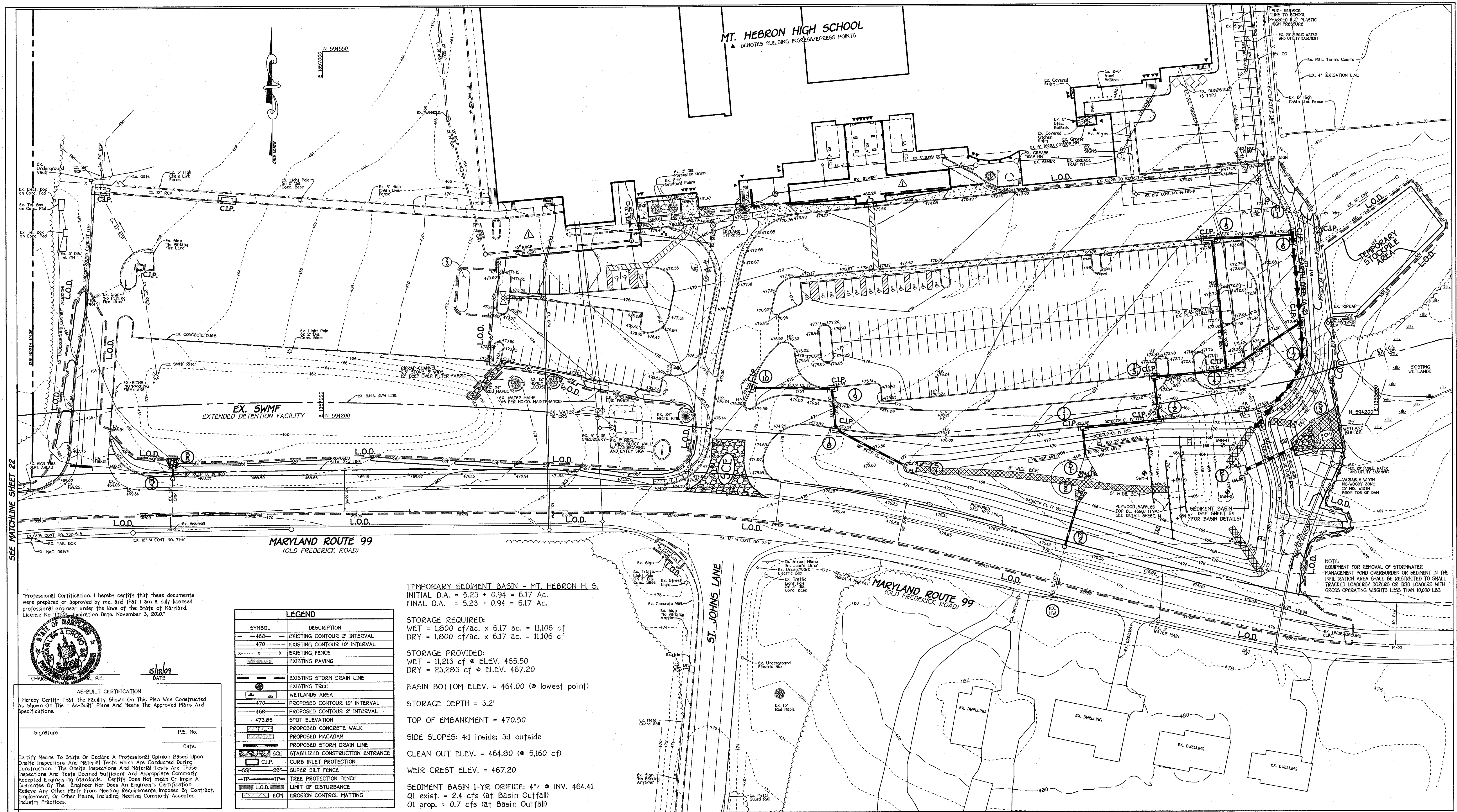
**MOUNT HEBRON HIGH SCHOOL**

HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 40' DATE: APRIL 10, 2009

SHEET 4 OF 24 SDP-09-01

SDP 09-01



**FISHER, COLLINS & CARTER, INC.**  
Civil Engineering Consultants & Land Surveyors  
CENTRAL SQUARE OFFICE PLAZA - 12722 BALTIMORE NATIONAL PARK  
ELLICOTT CITY, MARYLAND 21114  
410-414-2255

**DEVELOPER'S CERTIFICATE**  
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: *Rau*  
Date: 5/18/09

Signature of Engineer: *Charles J. Caro*  
Date: 5/18/09

**ENGINEER'S CERTIFICATE**  
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: *Charles J. Caro*  
Date: 5/18/09

Signature of Developer: *Rau*  
Date: 5/18/09

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

*William S. Suttler*  
Director - Department of Planning and Zoning  
Date: 6/29/09

*Cecily Kramke*  
Chief, Division of Land Development  
Date: 6/29/09

*Paul Umhoefer*  
Chief, Development Engineering Division  
Date: 6/9/09

PREPARED FOR:  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

ARCHITECT:  
**SEAR**  
Smolen & Felt  
1355 PISCATAWAY DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

Address Chart

Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042

PROJECT	SECTION/AREA	PARCEL
MOUNT HEBRON HIGH SCHOOL	N/A	471

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00

WATER CODE	SEWER CODE
H03	1406900

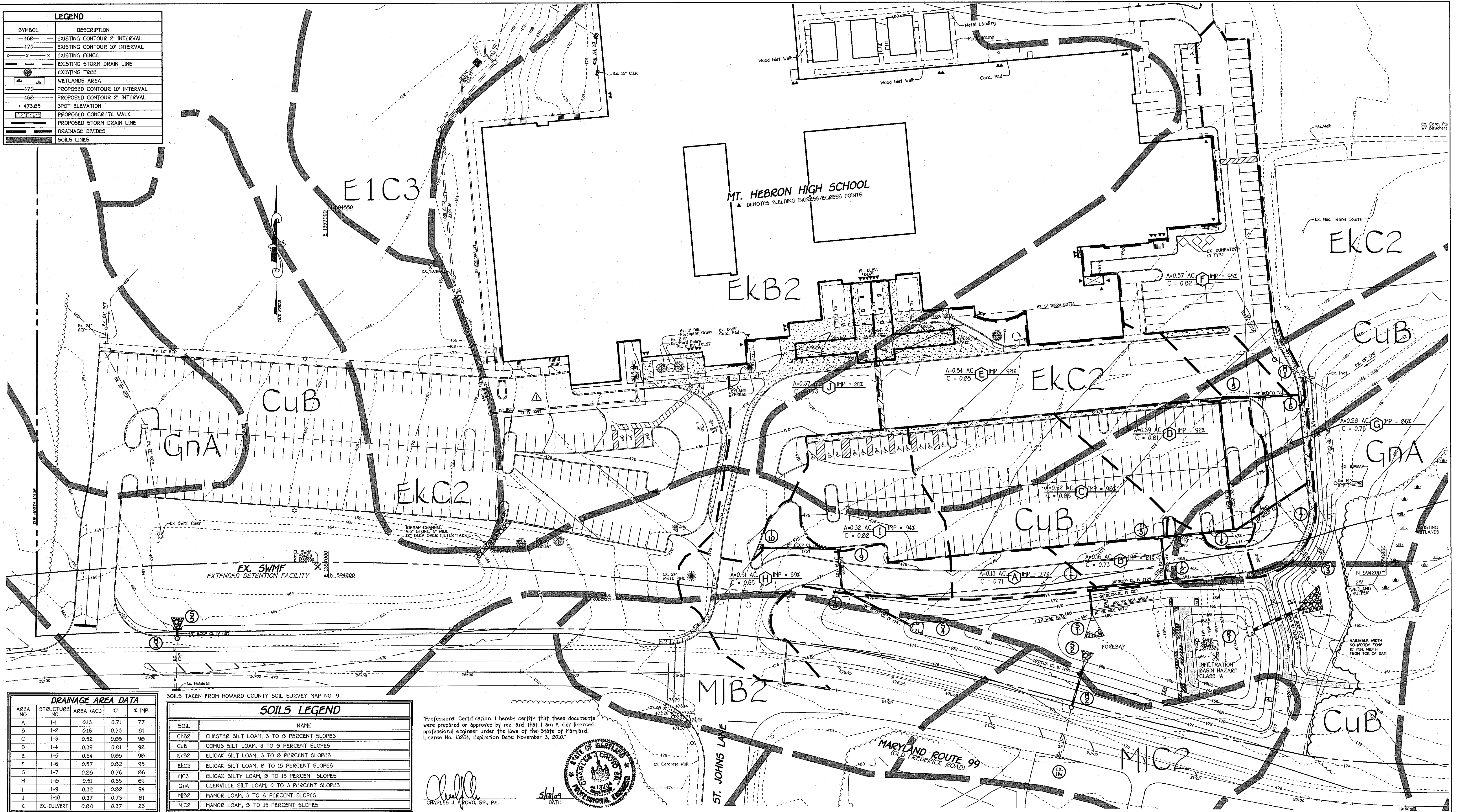
**SEDIMENT AND EROSION CONTROL PLAN**

**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No: 17 GRID No: 9, 10, 15, 16 PARCEL No: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 40' DATE: APRIL 10, 2009

SHEET 5 OF 24 SDP-09-01

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
-X-X-	EXISTING FENCE
---	EXISTING STORM DRAIN LINE
○	EXISTING TREE
■	WETLANDS AREA
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
•	SPOT ELEVATION
---	PROPOSED CONCRETE WALK
---	PROPOSED STORM DRAIN LINE
---	DRAINAGE DIVIDES
---	SOILS LINES



DRAINAGE AREA DATA				
AREA NO.	STRUCTURE NO.	AREA (AC.)	C	X IMP.
A	I-1	0.13	0.71	77
B	I-2	0.16	0.73	81
C	I-3	0.52	0.85	93
D	I-4	0.39	0.81	92
E	I-5	0.54	0.85	98
F	I-6	0.57	0.82	95
G	I-7	0.28	0.76	86
H	I-8	0.51	0.65	69
I	I-9	0.32	0.82	94
J	I-10	0.37	0.73	81
K	EX. CULVERT	0.88	0.37	26

SOILS TAKEN FROM HOWARD COUNTY SOIL SURVEY MAP NO. 9

SOILS LEGEND	
SOIL	NAME
ChB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES
CuB	COMUS SILT LOAM, 3 TO 8 PERCENT SLOPES
EKB2	ELIOAK SILT LOAM, 3 TO 8 PERCENT SLOPES
EKC2	ELIOAK SILT LOAM, 8 TO 15 PERCENT SLOPES
EIC3	ELIOAK SILTY LOAM, 8 TO 15 PERCENT SLOPES
GNA	GLENNVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES
MIC2	MANOR LOAM, 8 TO 15 PERCENT SLOPES

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. 13204, Expiration Date: November 3, 2010.

*Charles J. Feovo, Sr., P.E.*  
 CHARLES J. FEOVO, SR., P.E.  
 5/18/10 DATE

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 1000 NATIONAL SQUARE OFFICE PARK - 10022 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21114  
 410-481-2895

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Thomas E. Butler* Director - Department of Planning and Zoning  
*Carolee Hamble* Chief, Division of Land Development  
*David Chomover* Chief, Development Engineering Division

DATE: 6/19/09  
 DATE: 6-9-09

PREPARED FOR:  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Elllicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

ARCHITECT  
**SEAA**  
 Smolen + EMT  
 1365 PICARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042

PROJECT	SECTION/AREA	PARCEL
MOUNT HEBRON HIGH SCHOOL	N/A	471

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00

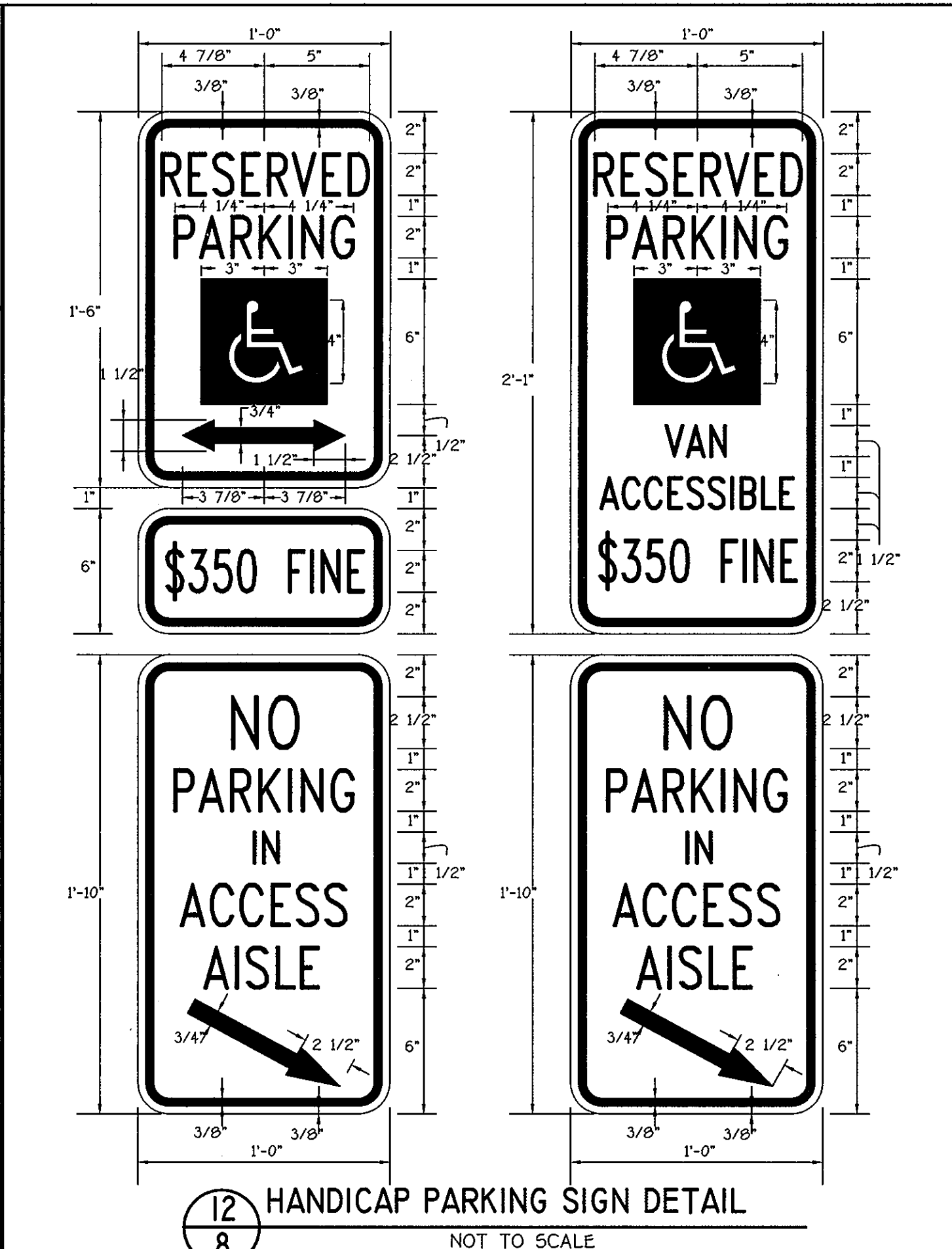
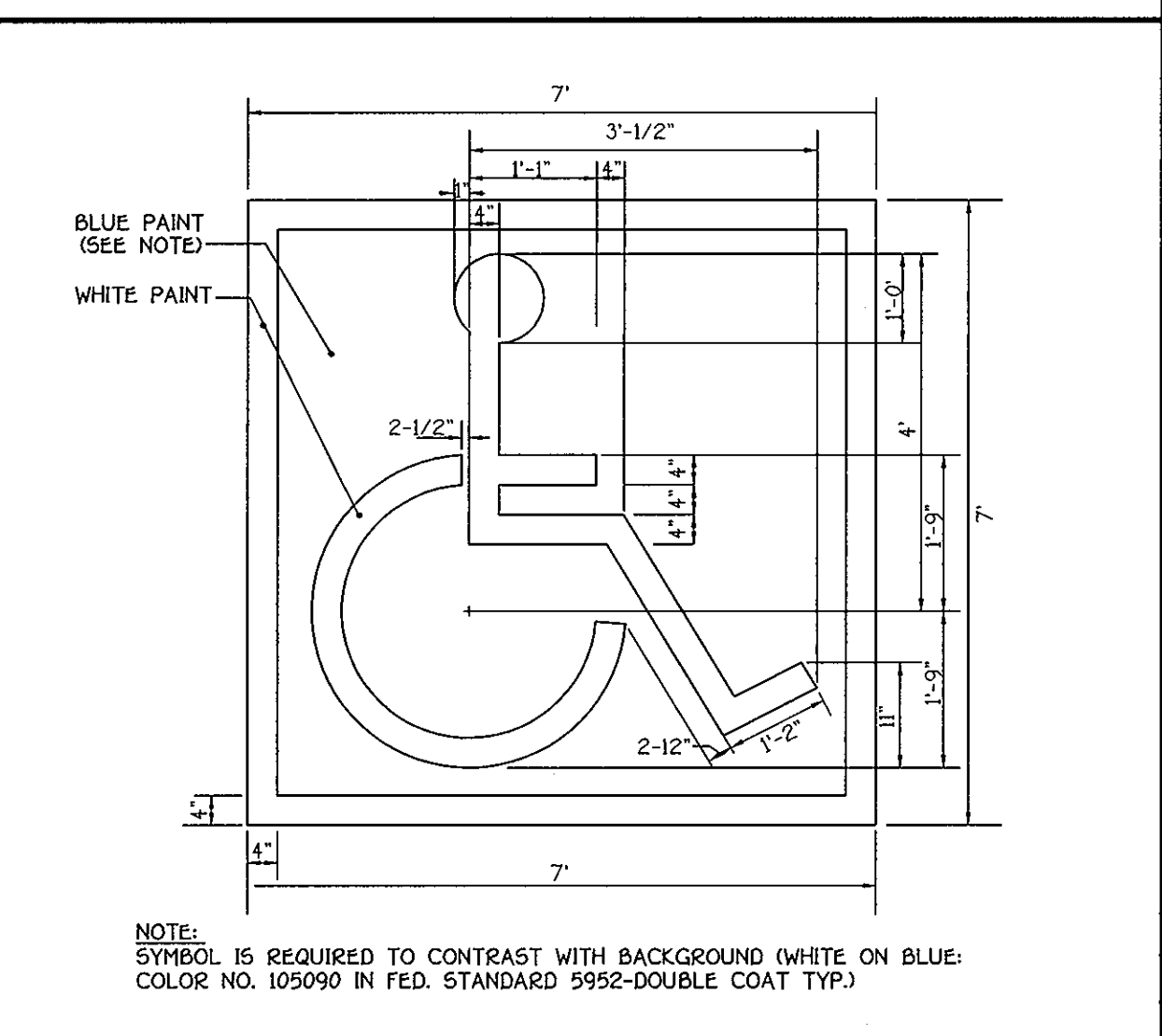
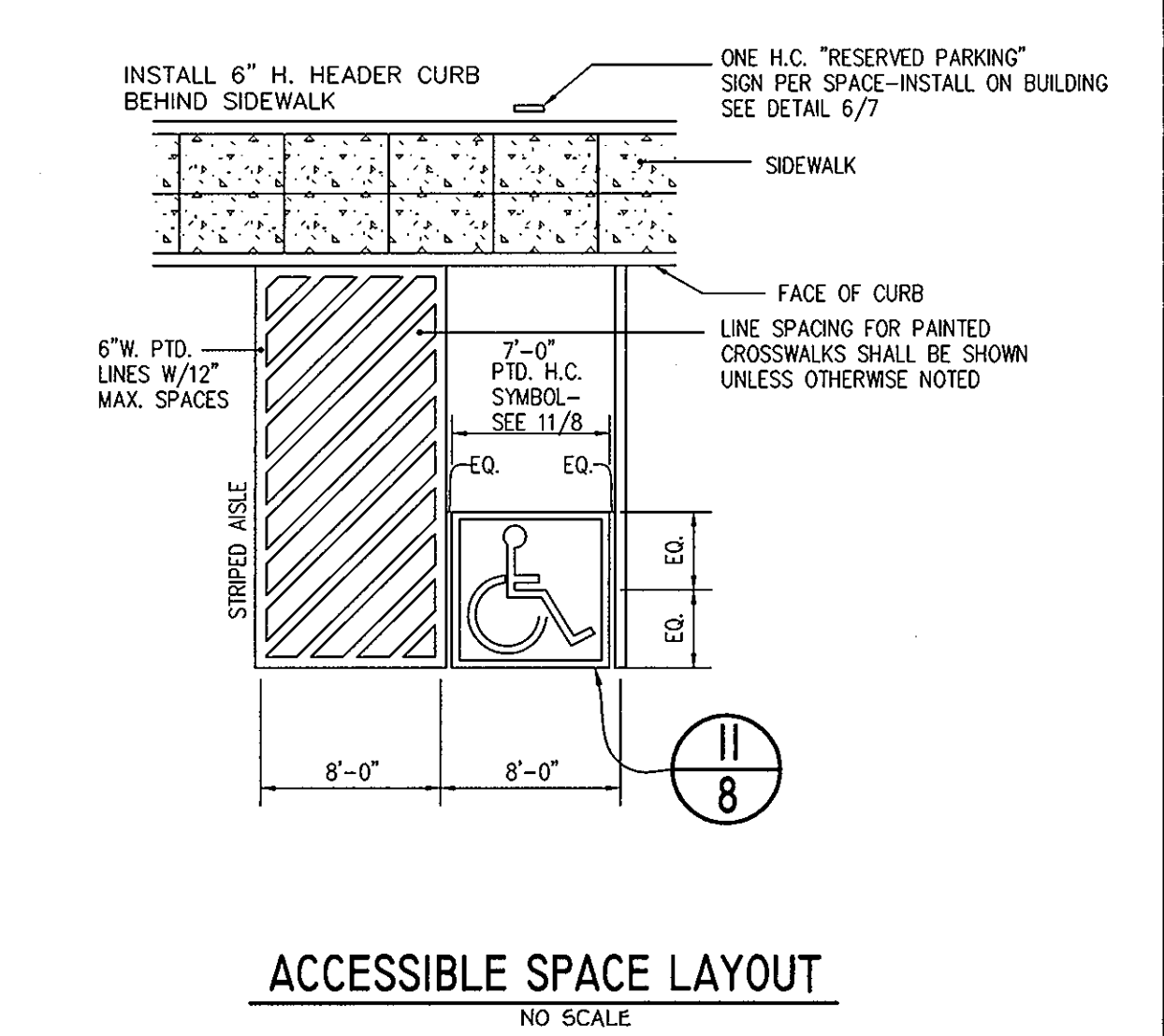
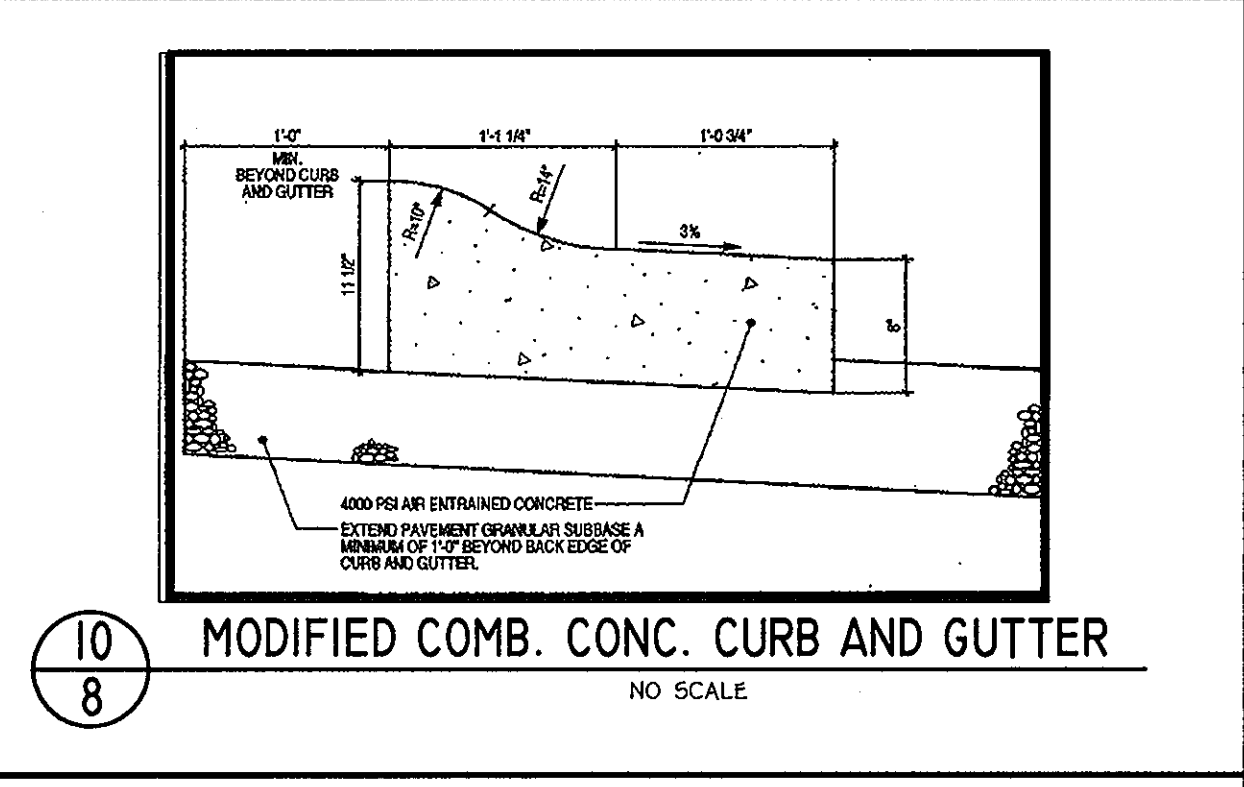
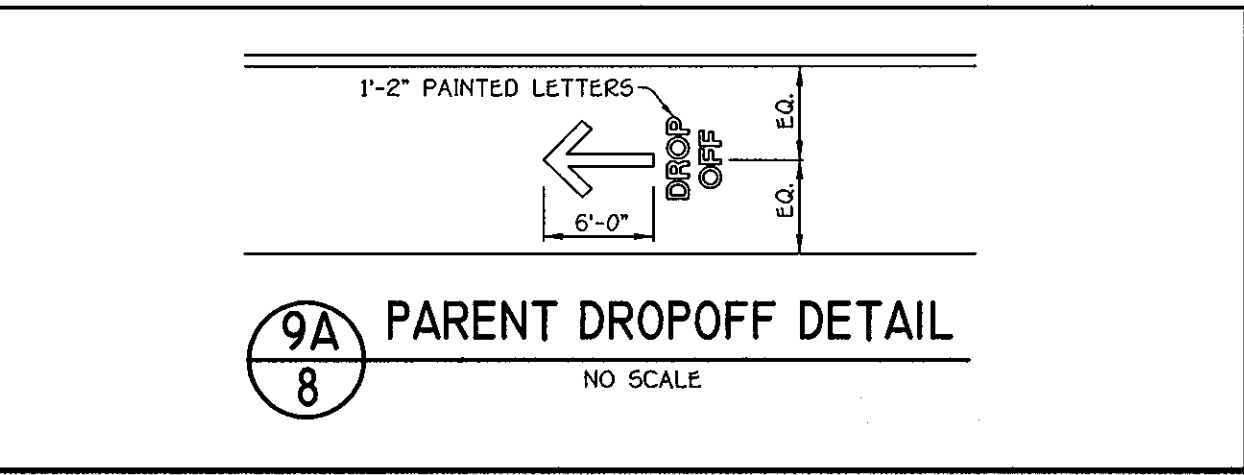
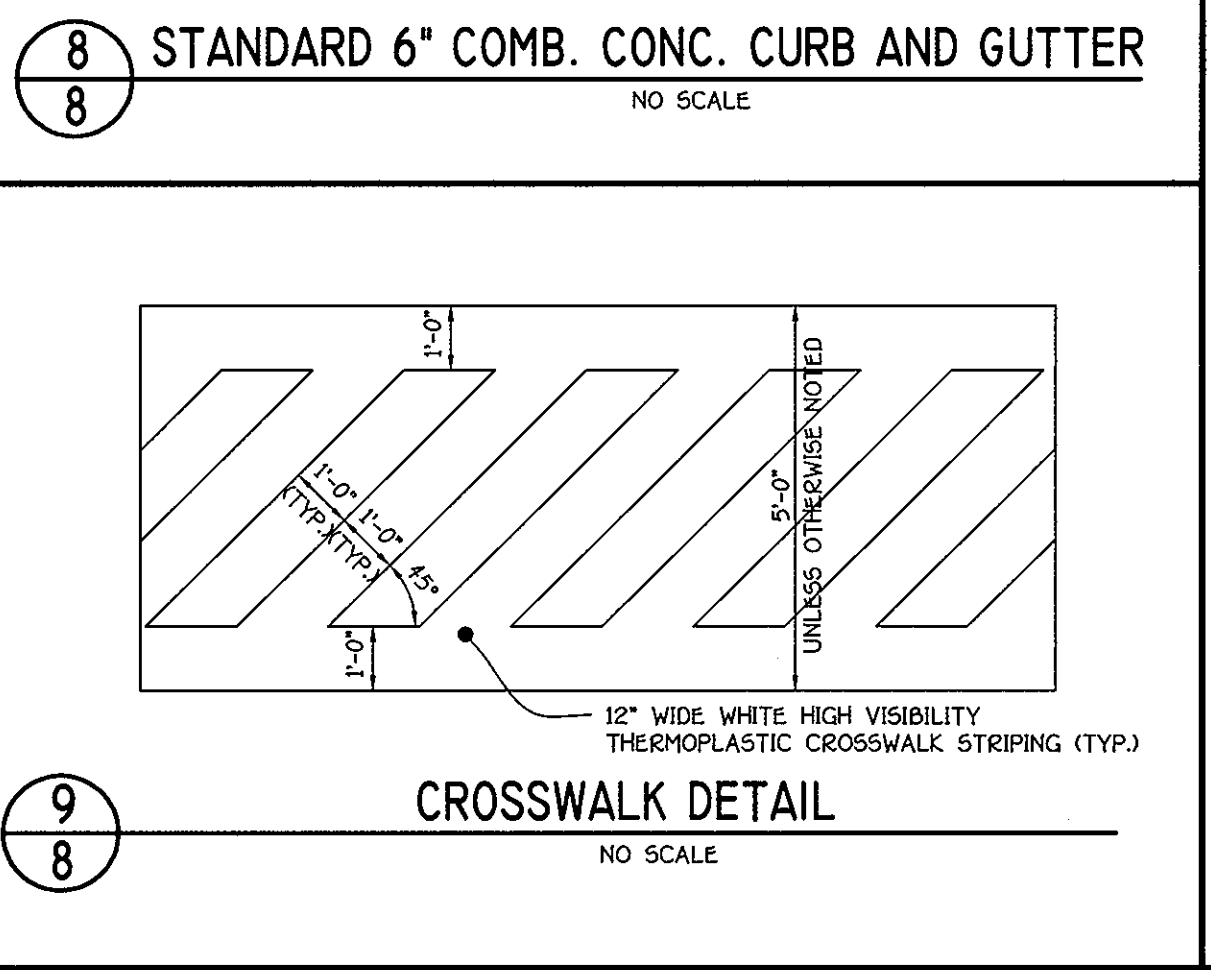
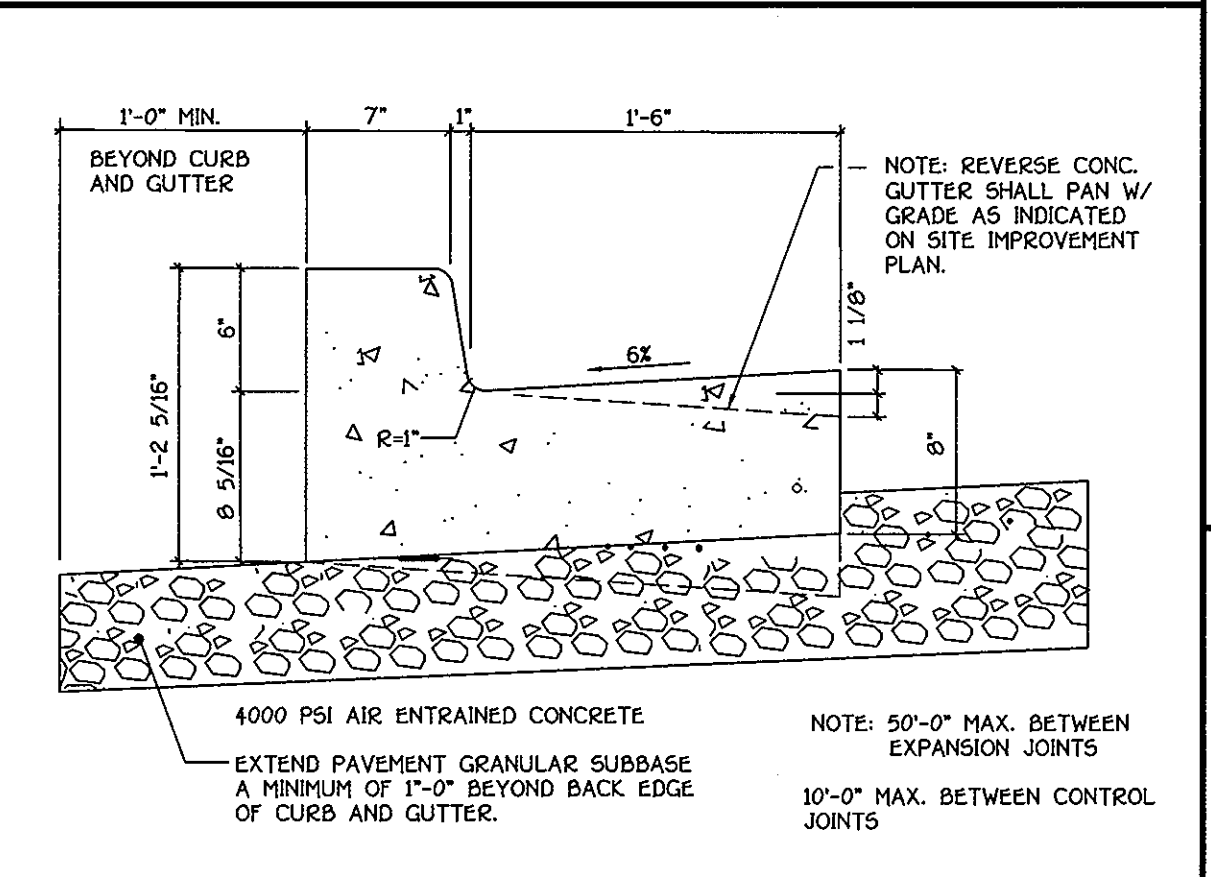
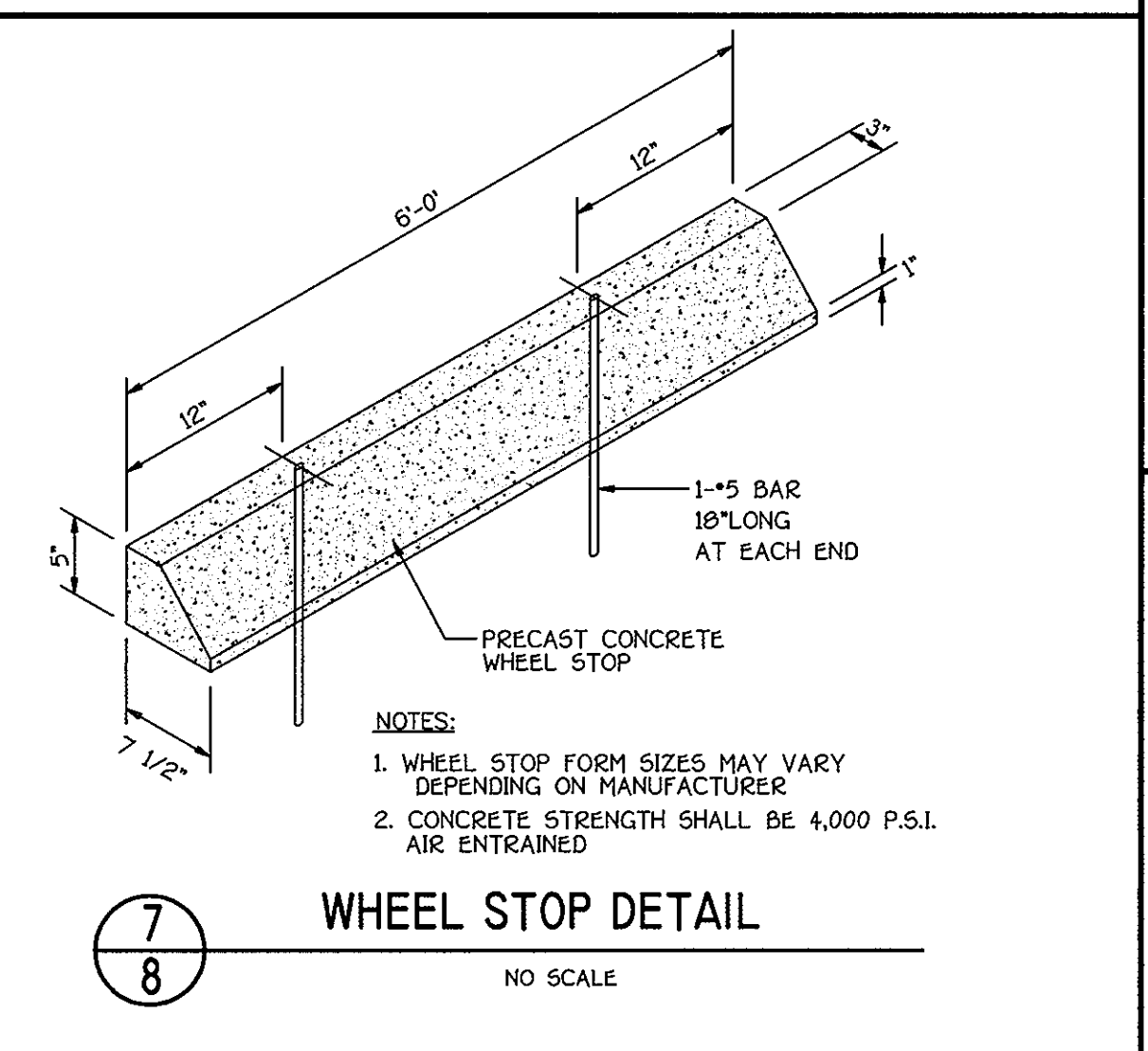
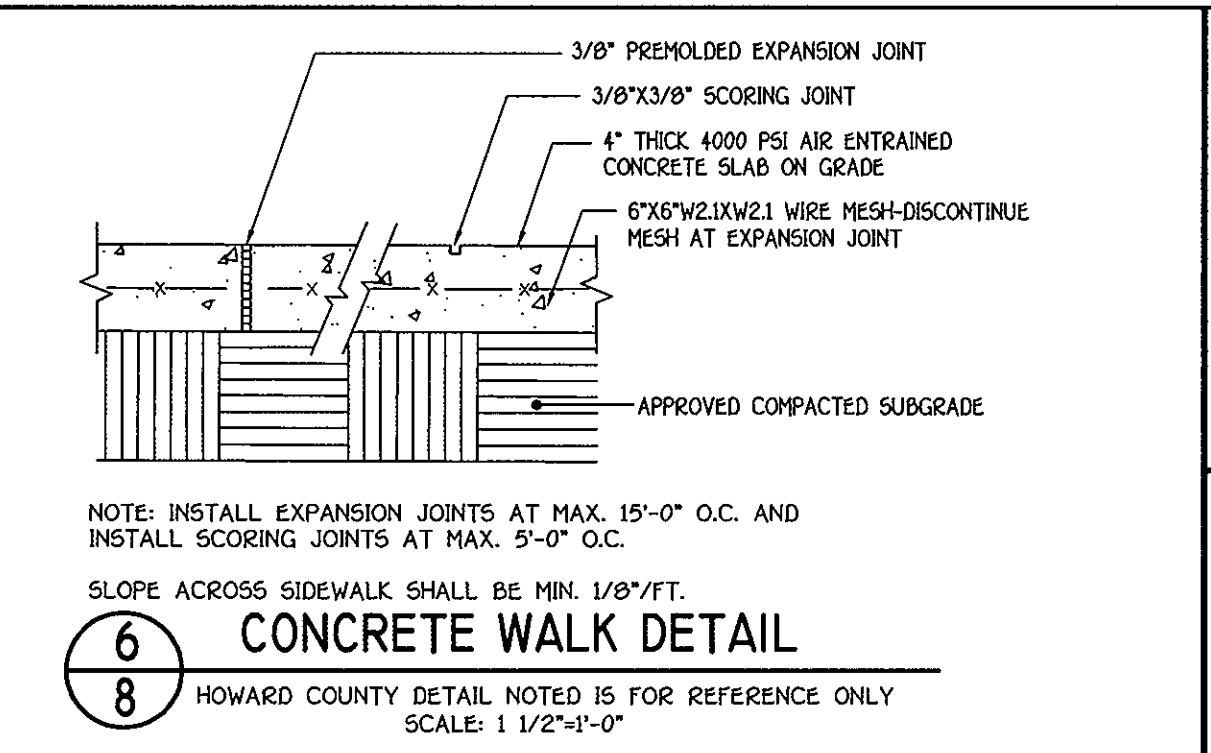
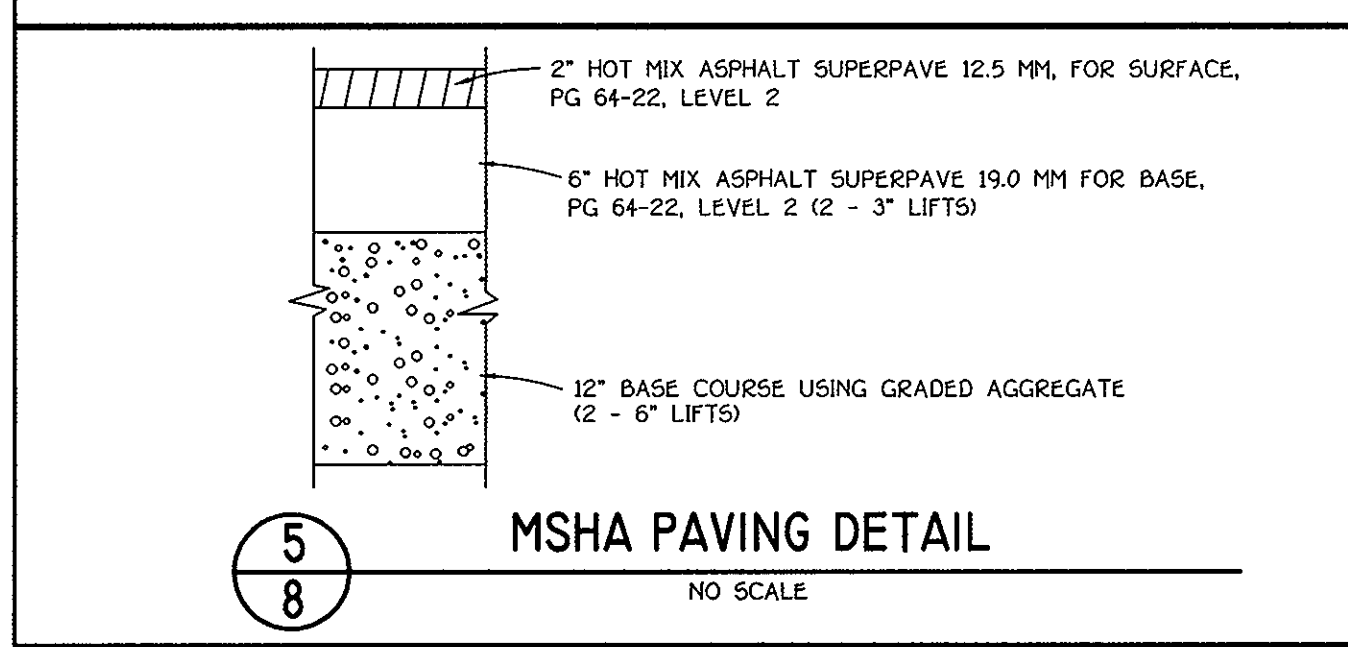
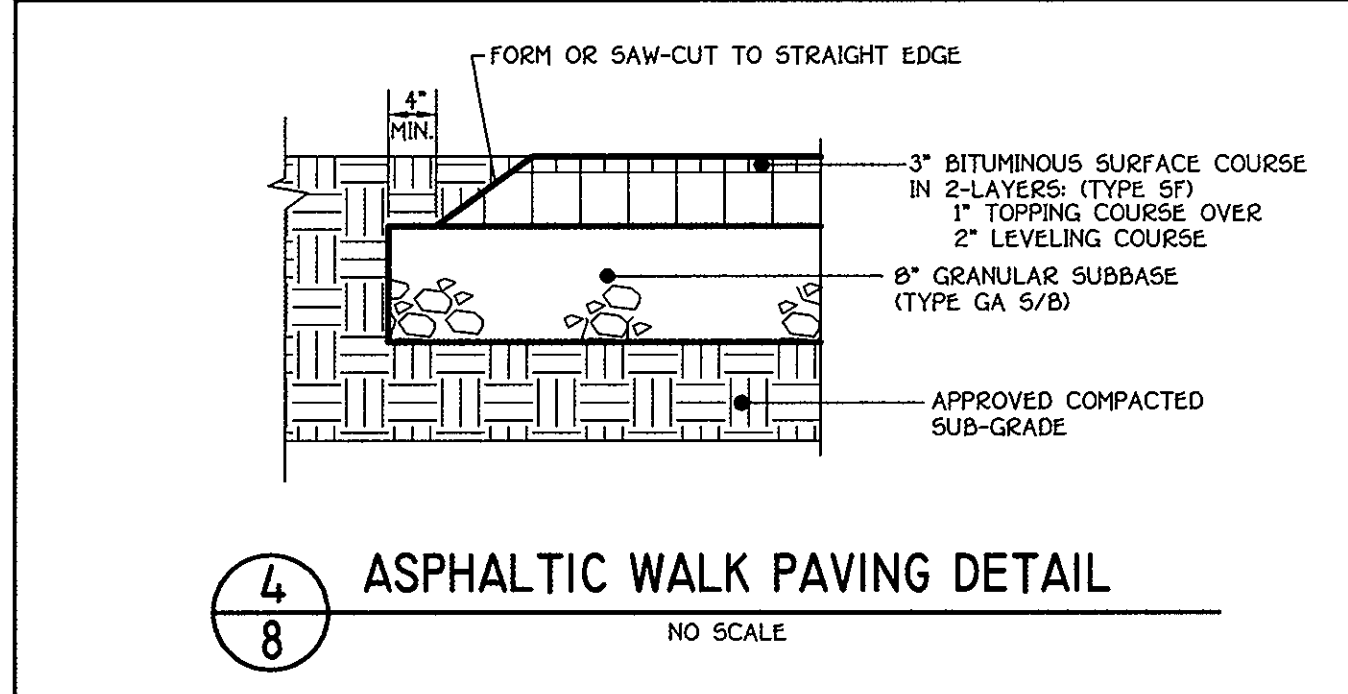
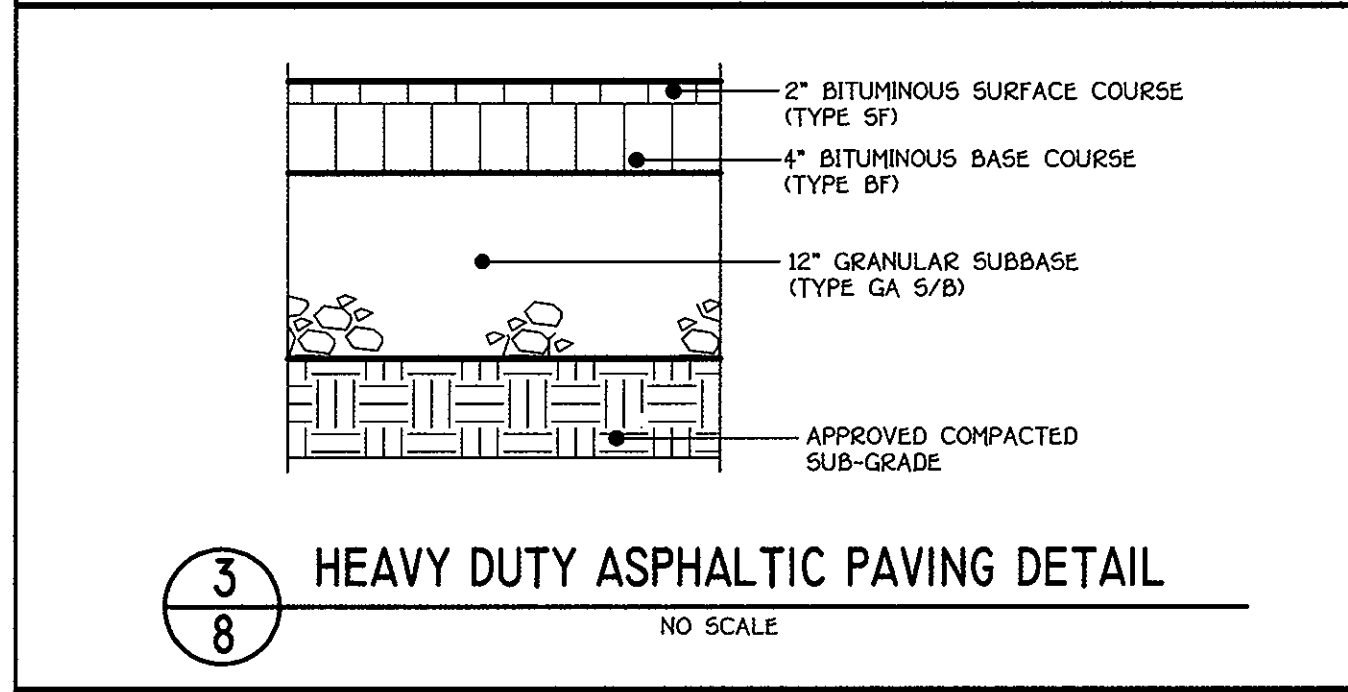
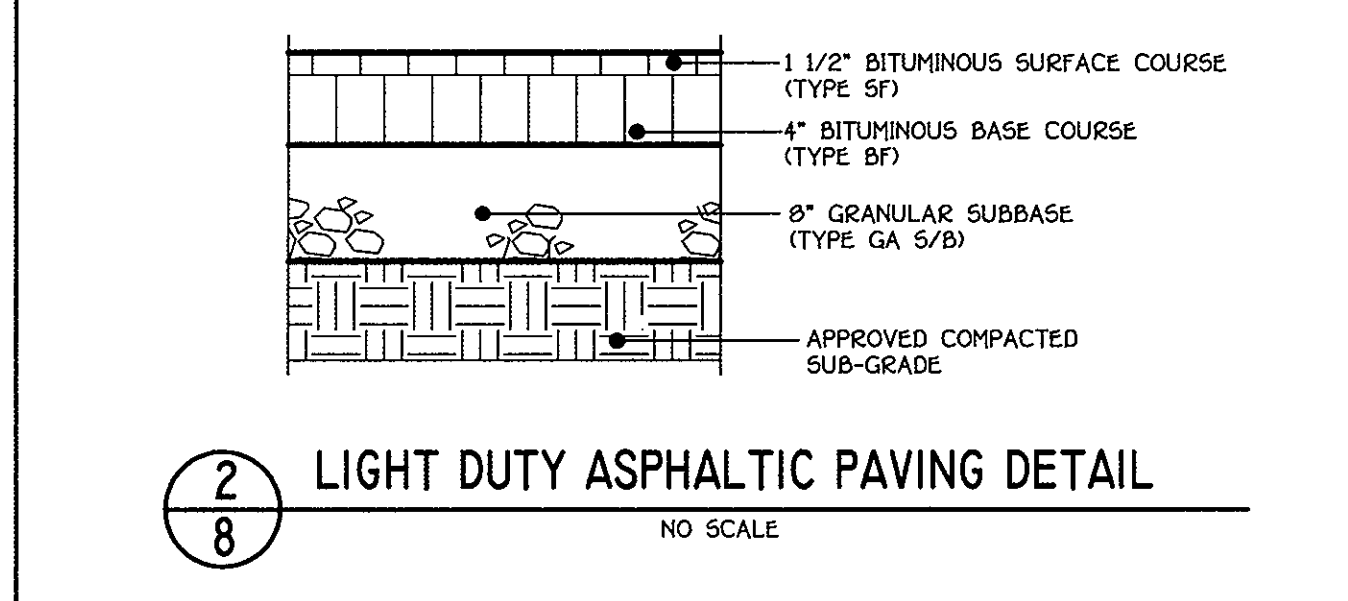
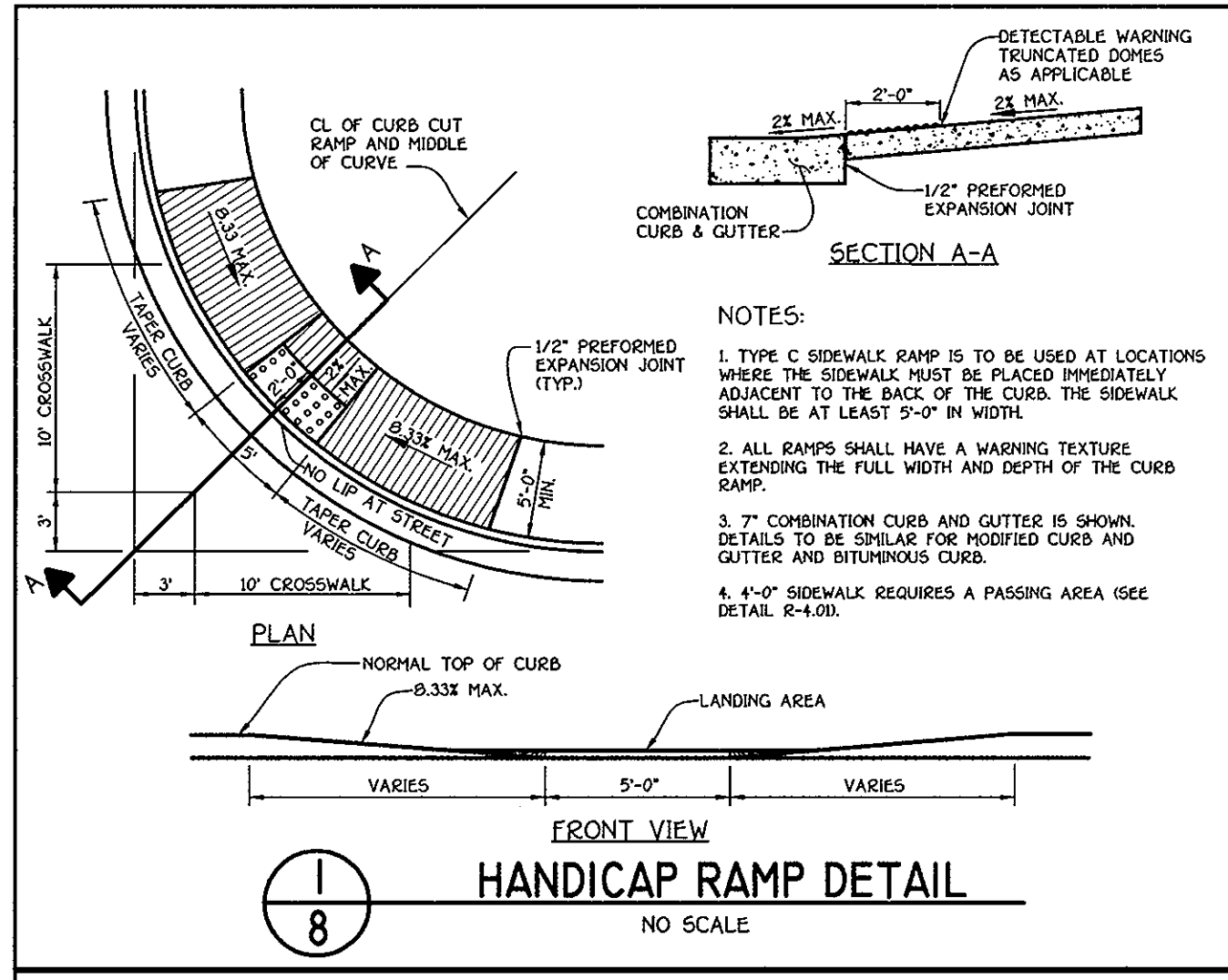
WATER CODE	SEWER CODE
H03	1406900

SOILS MAP AND DRAINAGE AREA MAP  
**MOUNT HEBRON HIGH SCHOOL**  
 HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

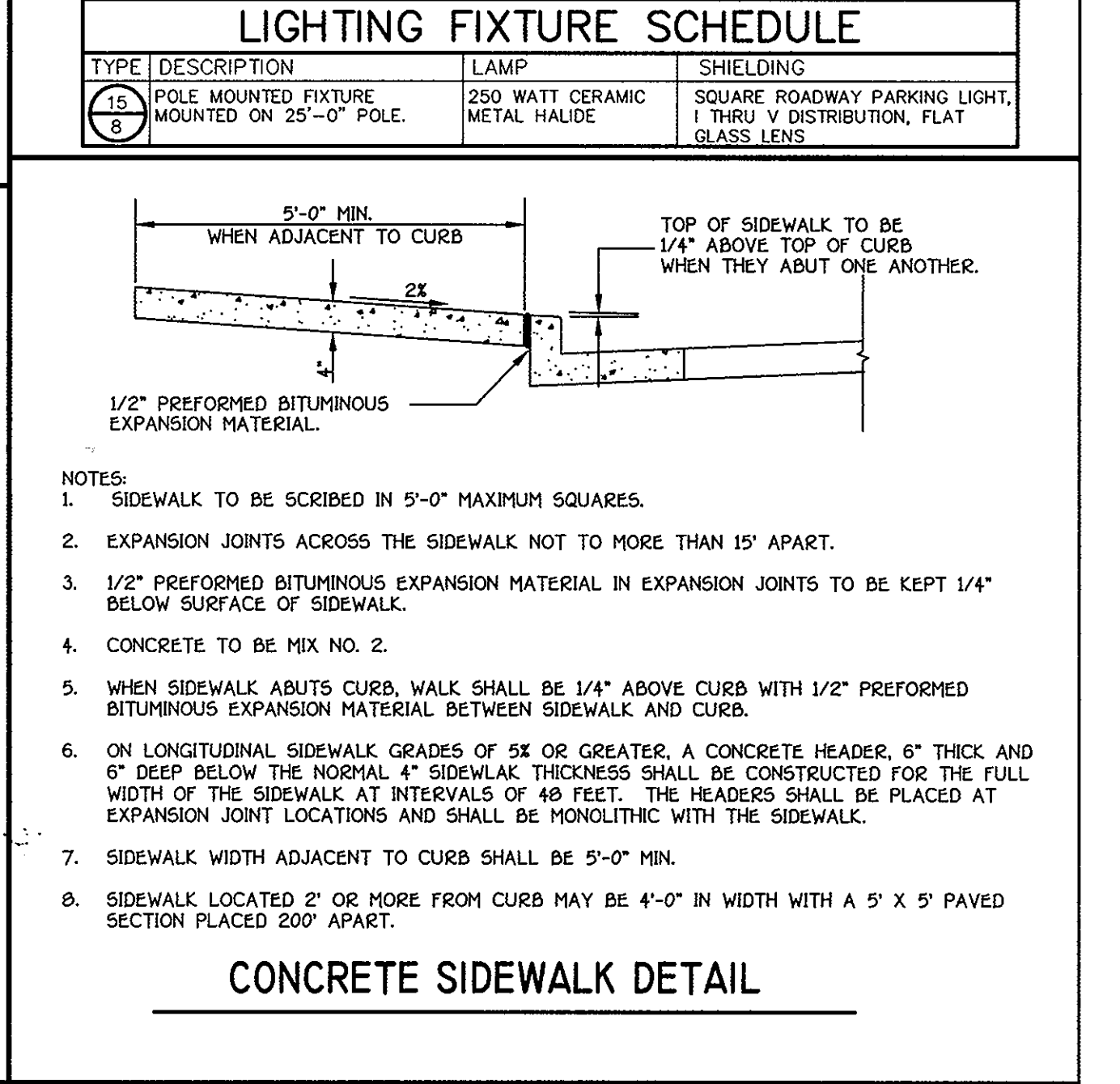
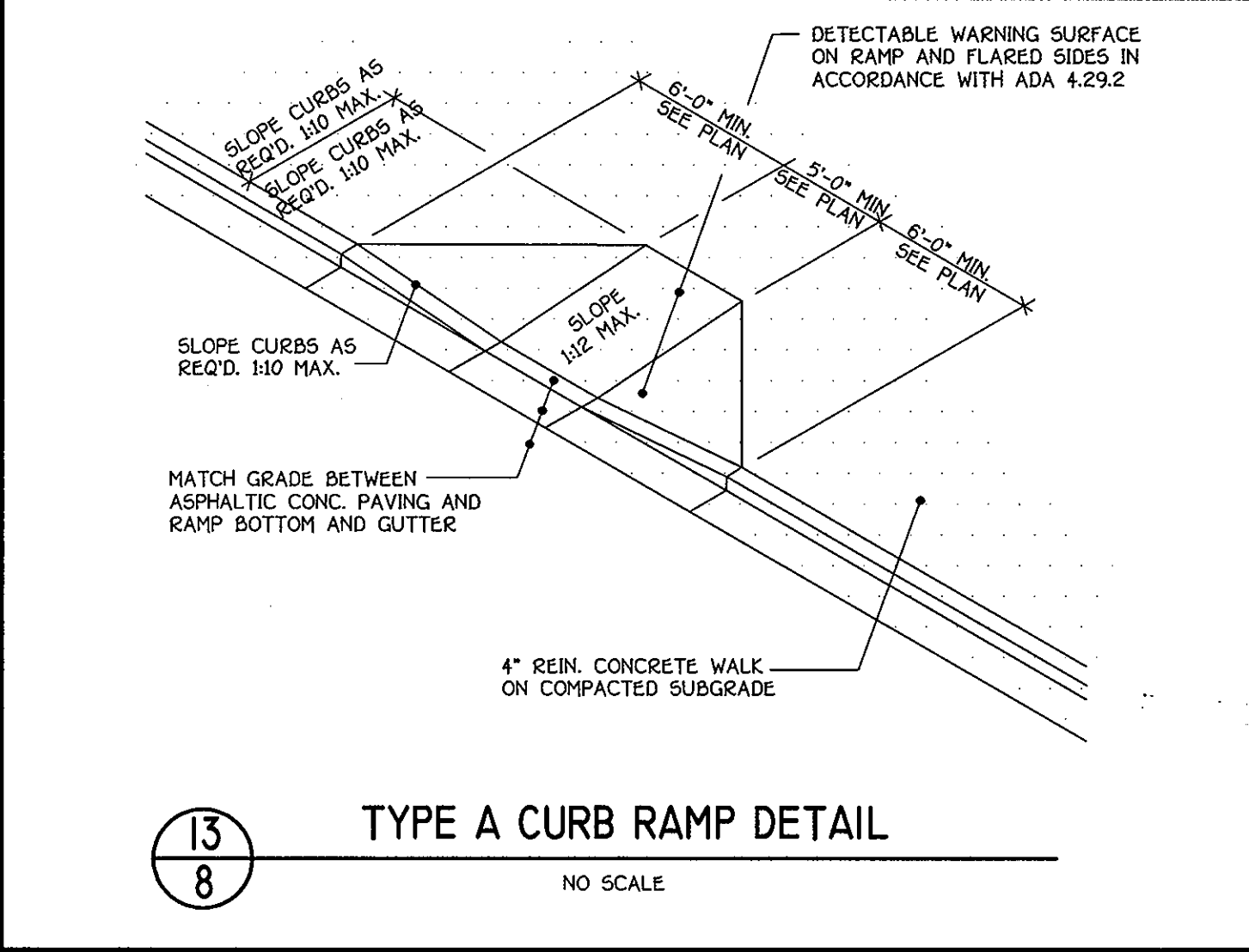
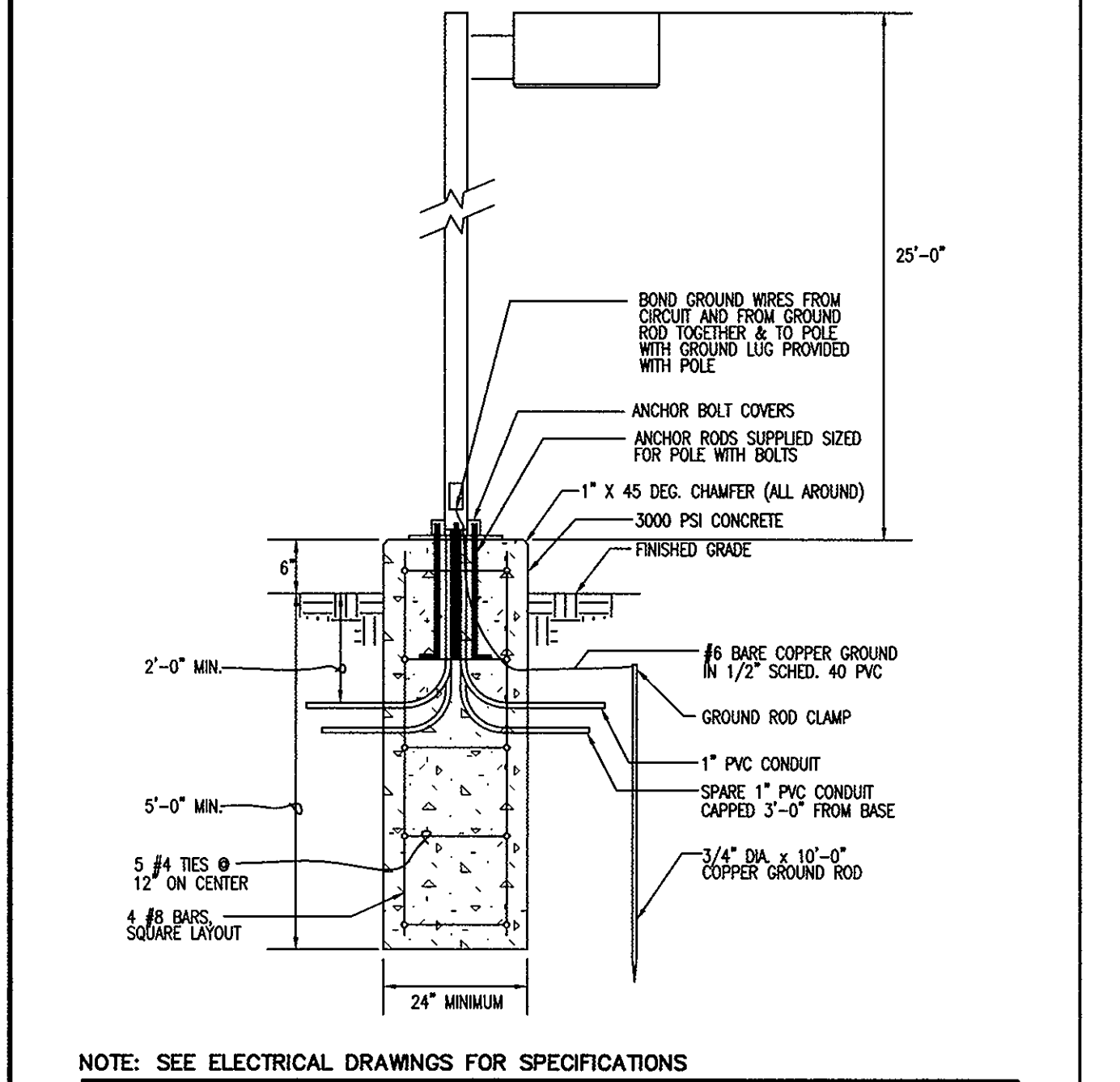
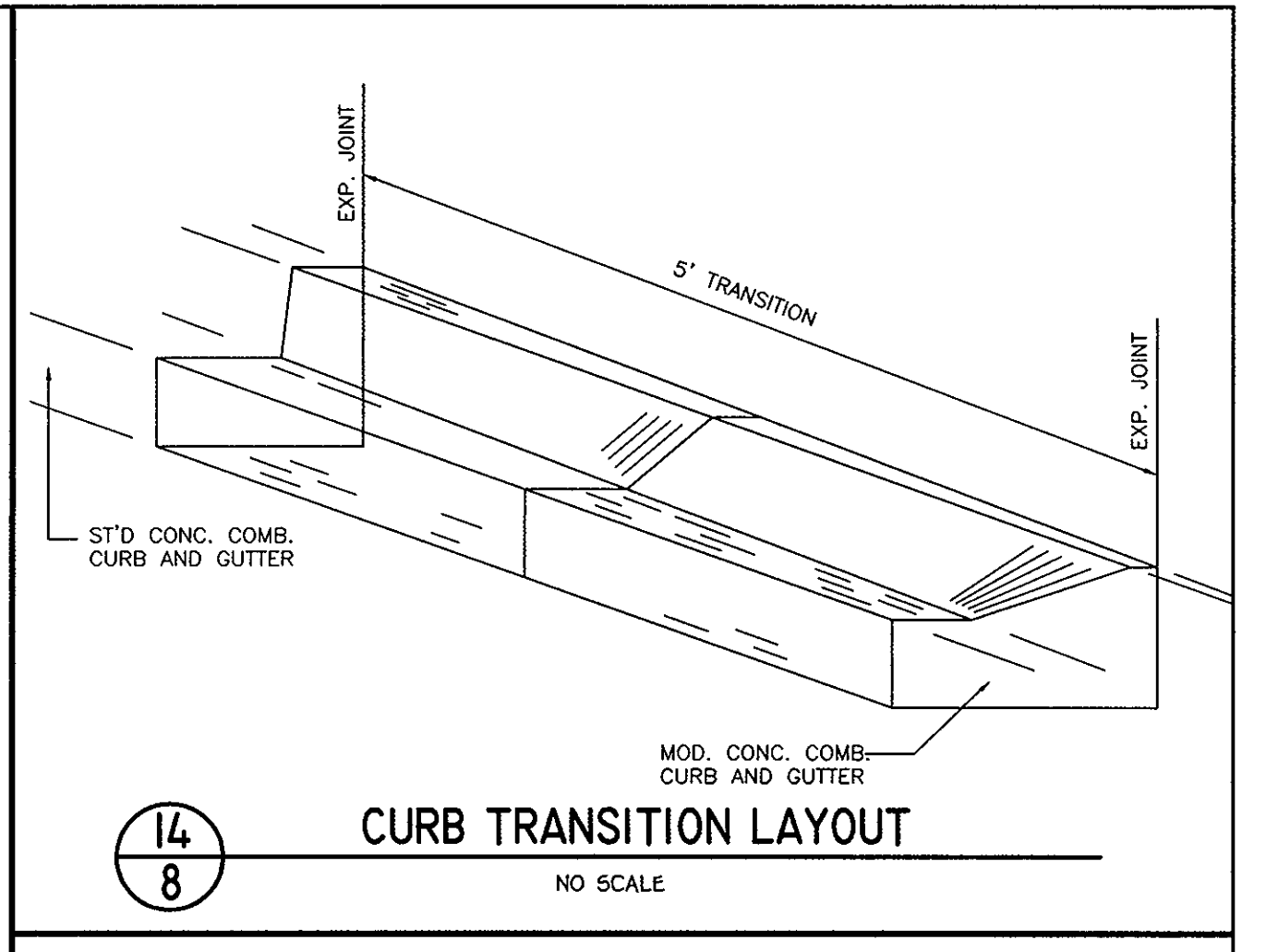
TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 40' DATE: APRIL 10, 2009

SHEET 6 OF 24 SDP-09-01





GENERAL NOTES:  
1. SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.  
2. ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE IMPROVEMENT PLAN.  
3. SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP OF SIGNS 9'-1" ABOVE FINISHED GRADE OR AS INDICATED ON SITE DRAWINGS.  
4. SIGN SHALL BE ATTACHED TO FLANGED SIDE OF POST. POST SHALL EXTEND INTO GROUND 2'-6" MIN.  
5. COLORS: LEGEND AND BORDER-GREEN SYMBOL-WHITE ON BLUE BACKGROUND BACKGROUND-WHITE  
6. CONTRACTOR SHALL COORDINATE ARROW DIRECTION WITH LOCATION OF ADJACENT AISLE.  
7. SPACES INDICATED ON SITE DEVELOPMENT PLANS AS "VAN ACCESSIBLE" SHALL BE SIGNED ACCORDINGLY.



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
1320 NATIONAL SQUARE OFFICE PARK - 10775 BELT ROAD NATIONAL FEE  
ELLICOTT CITY, MARYLAND 21042  
410 461 - 2955

"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. 13204, Expiration Date: November 3, 2010."

*Charles J. Crovo, Sr., P.E.*  
CHARLES J. CROVO, SR., P.E.  
6/29/09  
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Dorcas E. Pullett*  
Director - Department of Planning and Zoning  
*Cathy Hamlin*  
Chief, Division of Land Development  
*Wendy Eshenhan*  
Chief, Development Engineering Division

6/29/09  
6/29/09  
6/29/09

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

ARCHITECT  
**SEM**  
S M O L E N - E M T  
1355 PIPER DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

DATE	DESCRIPTION	REVISION BLOCK

Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042

PROJECT	SECTION/AREA	PARCEL
MOUNT HEBRON HIGH SCHOOL	N/A	471

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00

WATER CODE	SEWER CODE
H03	1406900

**DETAIL SHEET**  
**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 8 OF 24 SDP-09-01



20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION: Using vegetation as cover for barren soil to protect it from forces that cause erosion. PURPOSE: Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil...

CONDITIONS WHERE PRACTICE APPLIES: This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas...

- A. Site Preparation: Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. B. Soil Amendments: Soil amendments shall be performed by the University of Maryland or a recognized commercial laboratory...

Method of Seeding: Hydroseeding: Apply seed uniformly with hydroseeder. Mulk seeding: Mulk seed uniformly with mulcher. Aerial seeding: Apply seed uniformly with aircraft. Broadcast seeding: Apply seed uniformly with spreader.

Incremental Stabilization - Cut Slopes: All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.

Incremental Stabilization of Embankments - Fill Slopes: Embankments shall be constructed in lifts as prescribed on the plans. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15 feet.

Incremental Stabilization of Embankments - Fill Slopes: Embankments shall be constructed in lifts as prescribed on the plans. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15 feet.

Incremental Stabilization of Embankments - Fill Slopes: Embankments shall be constructed in lifts as prescribed on the plans. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15 feet.

ENGINEER'S CERTIFICATE: I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

SECTION 2 - TEMPORARY SEEDING

DEFINITION: Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. PURPOSE: For longer duration of vegetative cover, Permanent Seeding is required.

- A. Seed mixtures - Temporary Seeding: 1. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below...

Table with 6 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depth, Fertilizer Rate (lb/100-200), Lime Rate (lb/1000-4000). Rows include Barley, Oats, and Rye.

SEEDING SPECIFICATIONS: Seeding grass and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

Table with 6 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depth, Fertilizer Rate (lb/100-200), Lime Rate (lb/1000-4000). Rows include Tall Fescue, Kentucky Bluegrass, and Hard Fescue.

NOTE: THESE SEEDING SPECIFICATIONS ARE THE MINIMUM REQUIRED FOR SEDIMENT CONTROL. REFER TO PROJECT SPECIFICATIONS FOR SEEDING REQUIREMENTS FOR OTHER AREAS OF THE SITE.

SEDIMENT CONTROL NOTES

- 1) 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 (313-8555).

- 7) SITE ANALYSIS: TOTAL AREA OF SITE: 40,055 ACRES. AREA DISTURBED: 6.1 ACRES. AREA TO BE ROOFED OR PAVED: 0.9 ACRES.

- 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING OR CONSTRUCTION OF GRASSES, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS LITERAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

DEVELOPER'S CERTIFICATE: I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION: Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation. PURPOSE: To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, etc.

- I. Topsoil Specifications - Soil to be used as experimental soil must meet the following: 1. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist...

- II. For sites having disturbed areas under 5 acres: 1. Place topsoil if required and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

- III. For sites having disturbed areas under 5 acres: 1. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

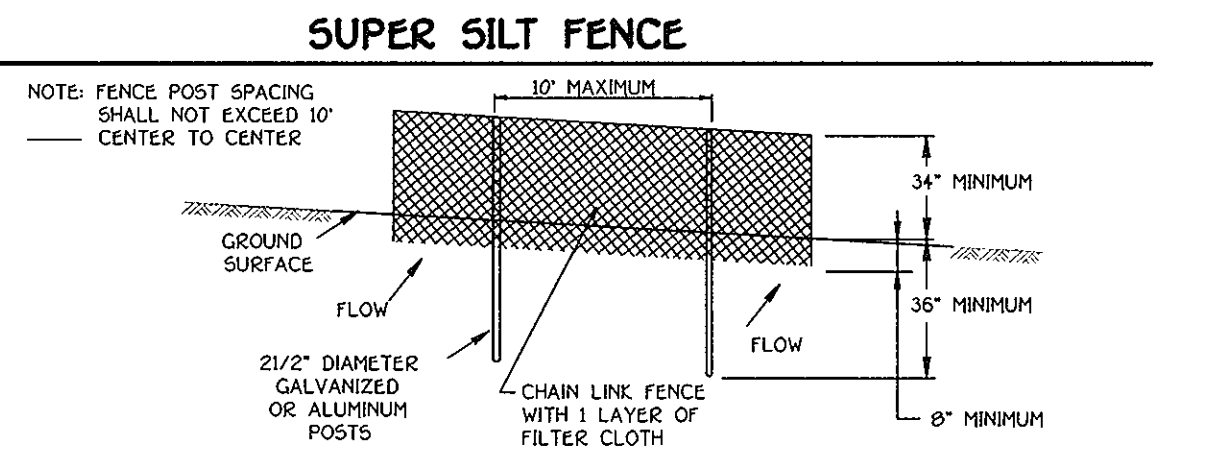
Design Criteria table with columns: Slope, Slope Steepness, Slope Length (maximum), Silt Fence Length (maximum). Rows include slopes from 0-10% to 50%+.

- IV. Topsoil Application: 1. When topsoiling, maintain erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, silt fence and sediment traps and basins.

Silt Fence Design Criteria table with columns: Slope Steepness, Slope Length, Silt Fence Length. Rows include slopes from flatter than 50:1 to 2:1 and steeper.

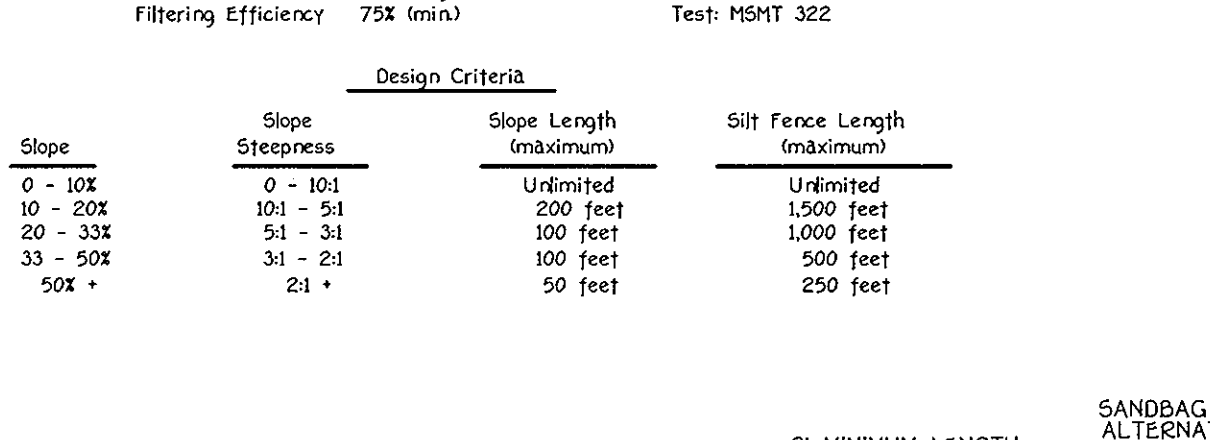
NOTE: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

SUPER SILT FENCE



- Construction Specifications: 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 8" length posts.

Design Criteria table with columns: Slope, Slope Steepness, Slope Length (maximum), Silt Fence Length (maximum). Rows include slopes from 0-10% to 50%+.

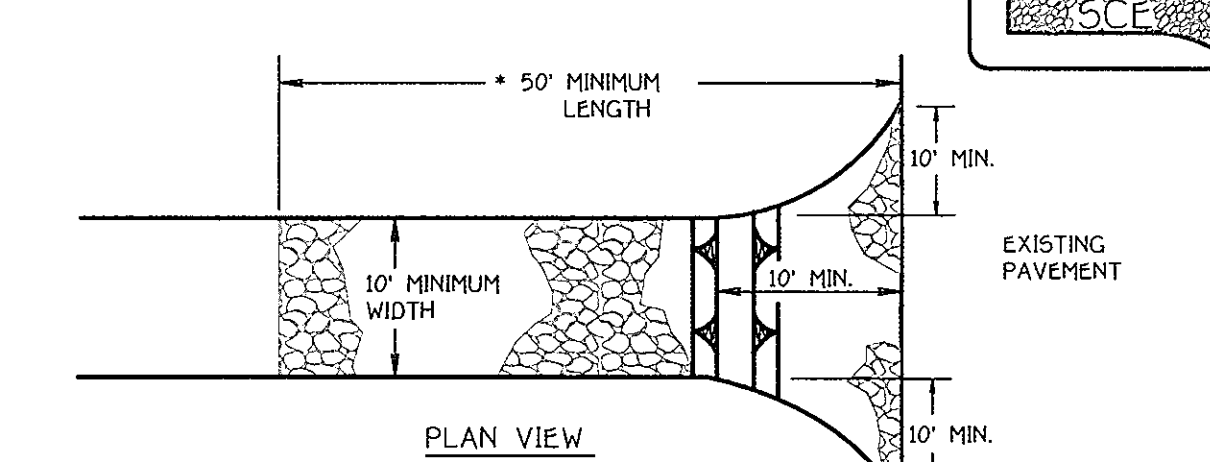
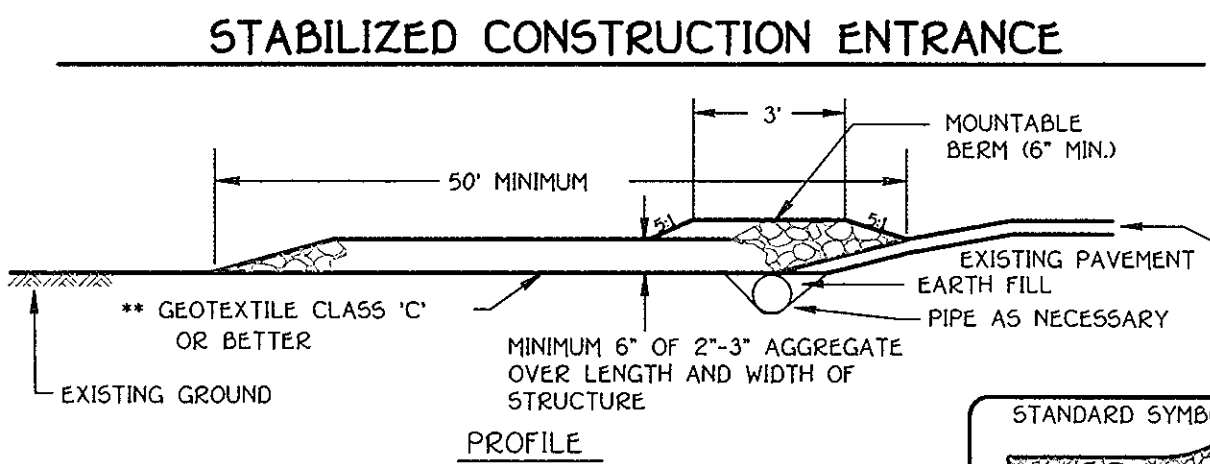


- Construction Specifications: 1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum cut), or 1 3/4" diameter (minimum round) and shall be of sound quality hardwood.

Silt Fence Design Criteria table with columns: Slope Steepness, Slope Length, Silt Fence Length. Rows include slopes from flatter than 50:1 to 2:1 and steeper.

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

STABILIZED CONSTRUCTION ENTRANCE



- Construction Specification: 1. Length - minimum of 50' (\*30' for single residence lot). 2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

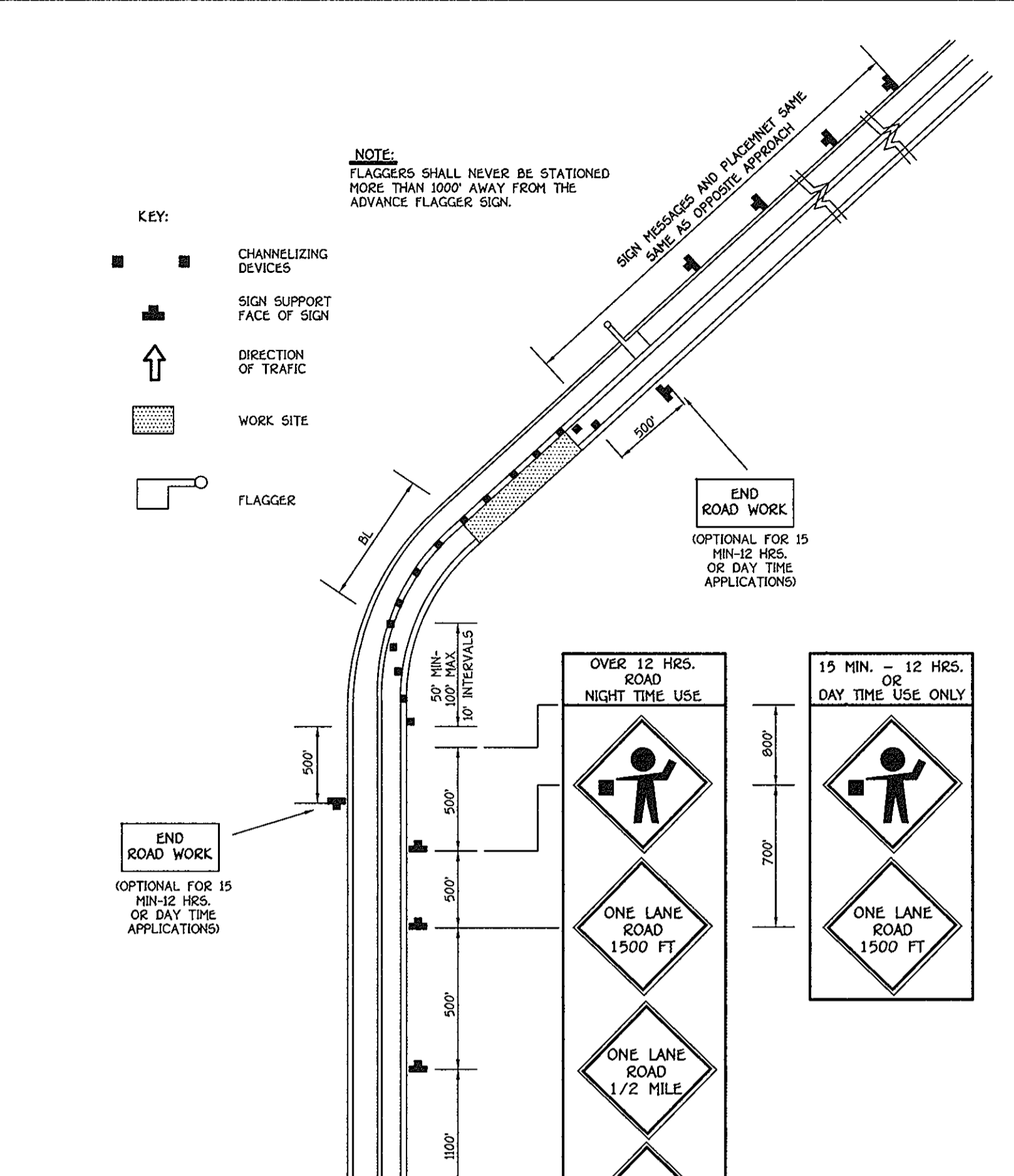
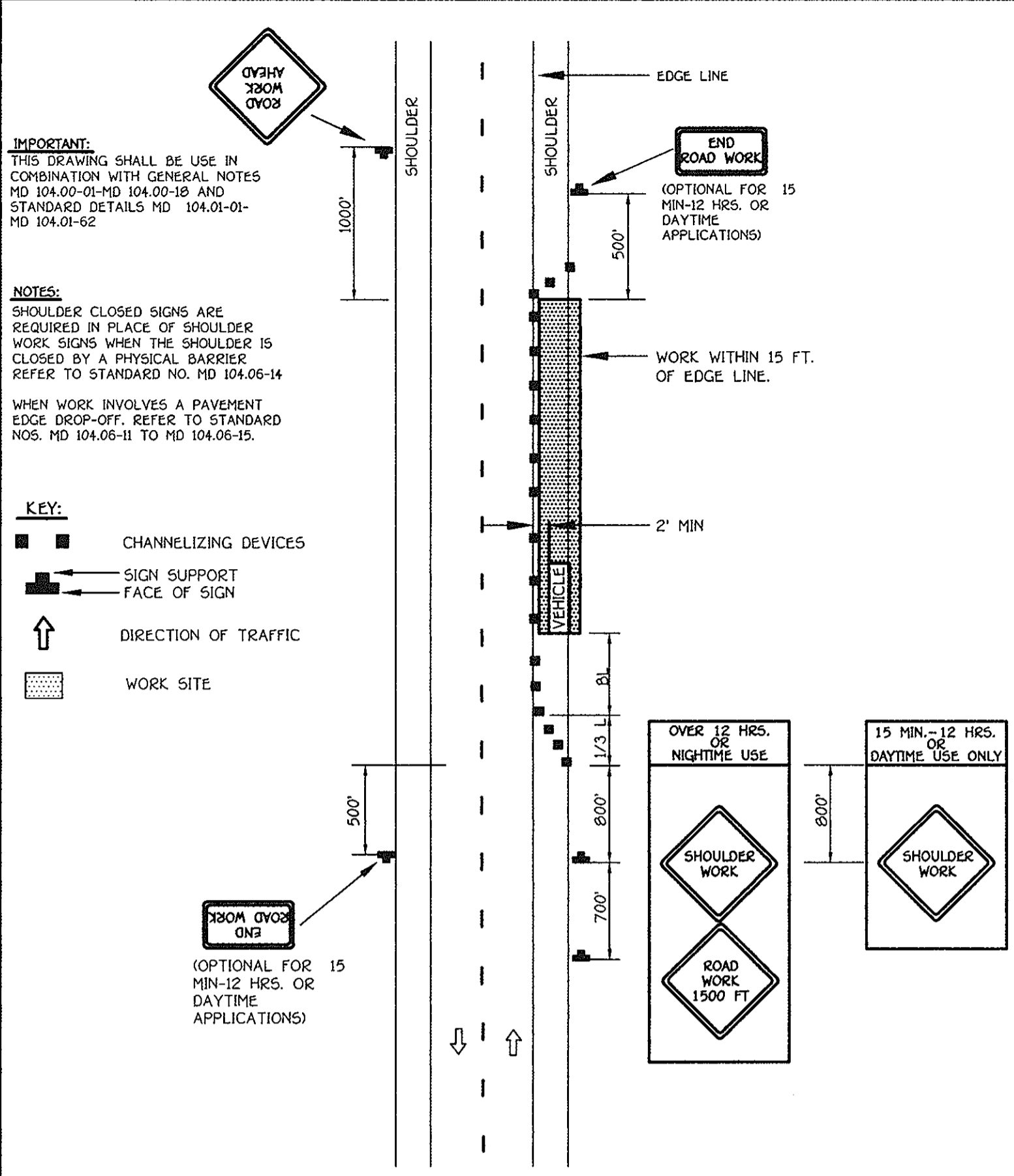
- Construction Specification: 3. Stone - crushed aggregate (2" to 3" or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

- Construction Specification: 4. Surface Water - a surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable beam with 51 slopes and a minimum of 6" of stone over the pipe.

- Construction Specification: 11. Stabilize all disturbed areas with seed & mulch in accordance with the permanent seeding specifications. (1 week)

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. 13204, Expiration Date: November 3, 2010.

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS: MOUNT HEBRON HIGH SCHOOL. HOWARD COUNTY BOARD OF EDUCATION, MT. HEBRON HIGH SCHOOL, PARKING LOTS AND SWM EXPANSIONS. TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471



**GENERAL MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS**

1. MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS SET FORTH IN SECTION 104 OF THE SHA "STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS" (JULY 2009), THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD - 2006 EDITION), AND THE SHA "BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES."
2. MAINTENANCE OF TRAFFIC ALONG MD. 99 SHALL CONFORM TO THE APPROPRIATE MSHA TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS (TTCTA). REFER TO SHA STANDARD MD 104.00-01 THROUGH MD 104.01-18 FOR MAINTENANCE OF TRAFFIC GENERAL NOTES.

**LOG OF BORING No. SWM1**

PROJECT: MT. HEBRON HIGH SCHOOL  
 CLIENT: HOWARD COUNTY PUBLIC SCHOOLS  
 PROJECT LOCATION: 9440 FREDERICK ROAD, ELLICOTT CITY  
 LOCATION: EXISTING POND IMPROVEMENT  
 DRILLER: JCB  
 DRILLING METHOD: SST  
 DEPTH TO WATER INITIAL: 11.1' AFTER 24 HOURS: 11.2' GAIN: 0.1'

DEPTH (ft)	DESCRIPTION	TEST RESULTS
0-2	Topsoil - 2 inches	
2-3	Brown and gray moist micaceous SAND, trace rock frags SM	
3-4	Reddish brown and gray CLAY & SILT, trace of sand CL	
4-6	Brown and gray moist micaceous SILT, some of sand, trace rock frags ML	
6-8	Loam - infiltration rate: 3.2 in/hr	
8-10	Gray and brown moist to wet micaceous SAND, some silt SM	
10-12	Sandy loam - infiltration rate: 1.02 in/hr	
12-20	Boring terminated at 20 ft.	

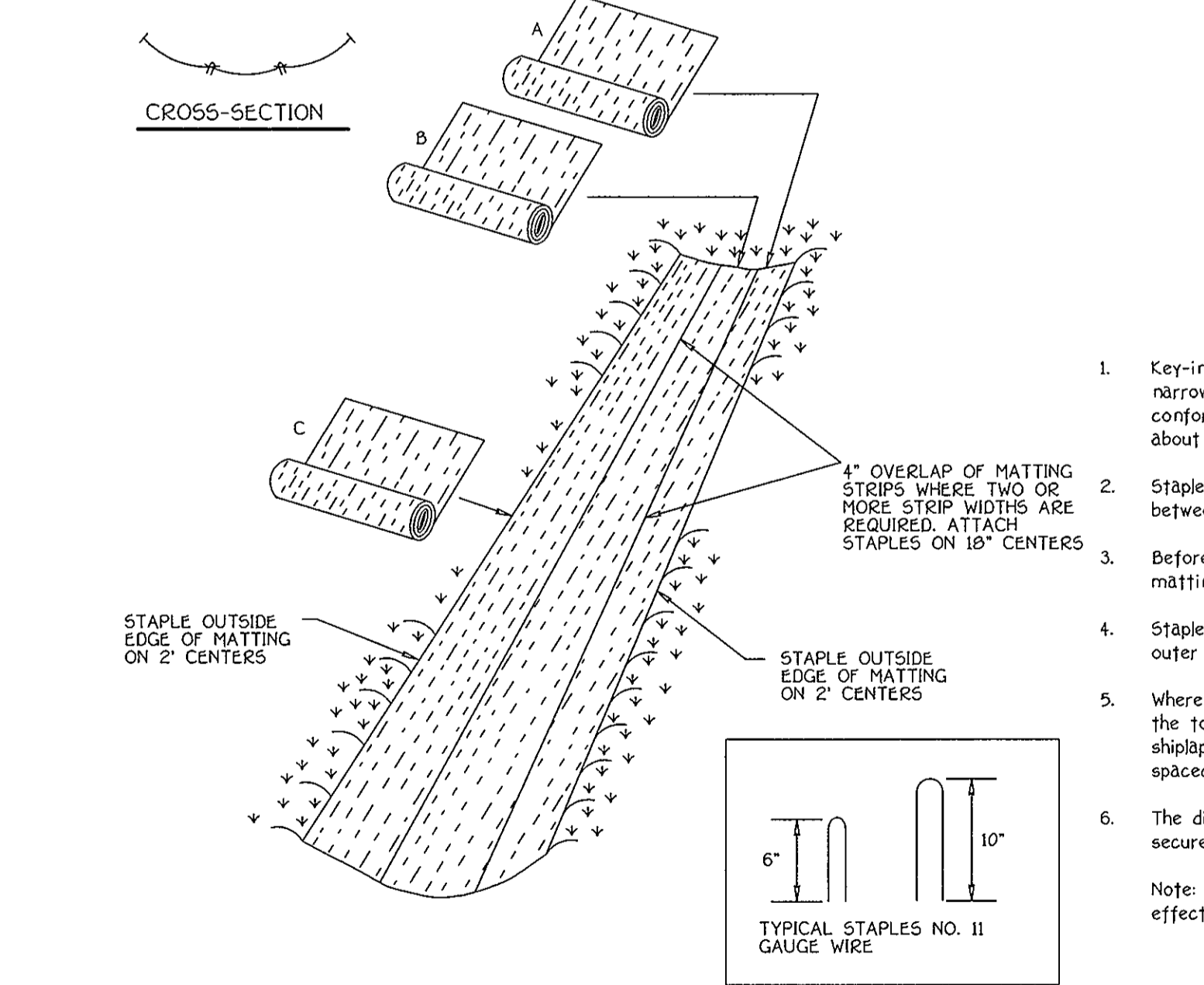
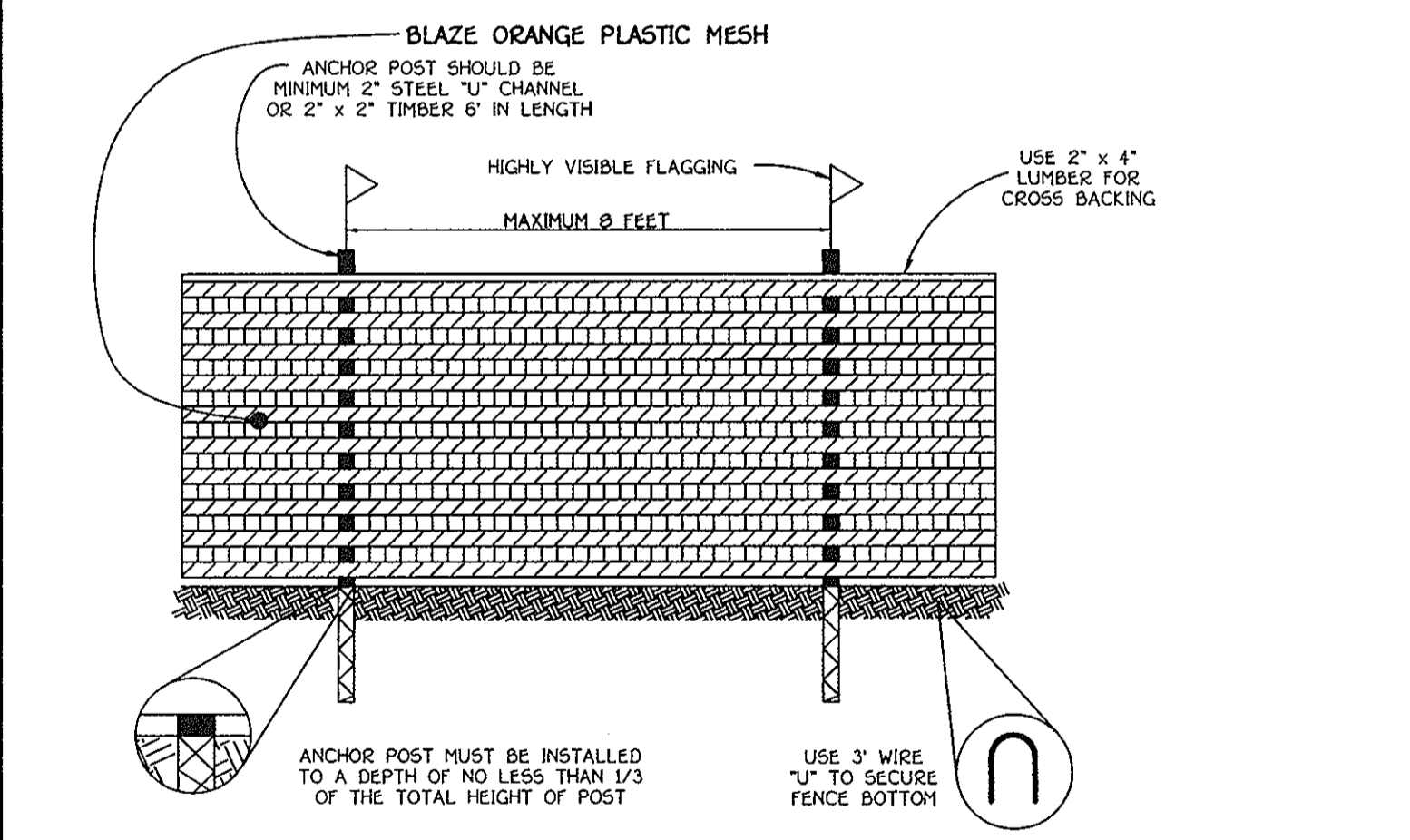
**LOG OF BORING No. SWM2**

PROJECT: MT. HEBRON HIGH SCHOOL  
 CLIENT: HOWARD COUNTY PUBLIC SCHOOLS  
 PROJECT LOCATION: 9440 FREDERICK ROAD, ELLICOTT CITY  
 LOCATION: EXISTING POND IMPROVEMENT  
 DRILLER: JCB  
 DRILLING METHOD: SST  
 DEPTH TO WATER INITIAL: 11.1' AFTER 24 HOURS: 11.2' GAIN: 0.1'

DEPTH (ft)	DESCRIPTION	TEST RESULTS
0-2	Topsoil - 2 inches	
2-3	Brown and gray moist micaceous SAND, trace rock frags SM	
3-4	Brown moist silty CLAY, and of sand, trace rock frags CL	
4-6	Loam - infiltration rate: 0.9 in/hr	
6-8	Brown and gray moist to wet micaceous SAND, some silt, trace rock frags SM	
8-10	Loamy sand - infiltration rate: 2.41 in/hr	
10-12	Brown and gray wet micaceous SAND, silt silty SM	
12-20	Boring terminated at 20 ft.	

**SHOULDER WORK / 1/2-LANE, 2-WAY EQL/LESS THAN 40 MPH**  
NO SCALE

**FLAGGING OPERATION / 1-LANE, 2-WAY EQUAL/LESS THAN 40 MPH**  
NO SCALE



**EROSION CONTROL MATTING**

**Construction Specifications**

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
  2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
  3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
  4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
  5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
  6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.
- Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

**LOG OF BORING No. SWM3**

PROJECT: MT. HEBRON HIGH SCHOOL  
 CLIENT: HOWARD COUNTY PUBLIC SCHOOLS  
 PROJECT LOCATION: 9440 FREDERICK ROAD, ELLICOTT CITY  
 LOCATION: EXISTING POND IMPROVEMENT PROPOSED EXTENSION  
 DRILLER: JCB  
 DRILLING METHOD: SST  
 DEPTH TO WATER INITIAL: 11.1' AFTER 24 HOURS: 11.2' GAIN: 0.1'

DEPTH (ft)	DESCRIPTION	TEST RESULTS
0-3	Topsoil - 3 inches	
3-4	Gray-brown, gray and white moist to wet micaceous SAND, some to little silt, occasional trace rock frags SM	
4-6	Sandy loam - infiltration rate: 1.02 in/hr	
6-8	Boring terminated at 20 ft.	

**LOG OF BORING No. SWM4**

PROJECT: MT. HEBRON HIGH SCHOOL  
 CLIENT: HOWARD COUNTY PUBLIC SCHOOLS  
 PROJECT LOCATION: 9440 FREDERICK ROAD, ELLICOTT CITY  
 LOCATION: EXISTING POND IMPROVEMENT  
 DRILLER: JCB  
 DRILLING METHOD: SST  
 DEPTH TO WATER INITIAL: 11.1' AFTER 24 HOURS: 11.2' GAIN: 0.1'

DEPTH (ft)	DESCRIPTION	TEST RESULTS
0-2	Topsoil - 2 inches	
2-3	Brown moist clayey SILT, and of sand, trace rock frags, trace silt ML	
3-4	Loam - infiltration rate: 3.2 in/hr	
4-6	Brown and gray moist to wet micaceous SAND, some to little silt, trace rock frags SM	
6-8	Loamy sand - infiltration rate: 2.41 in/hr	
8-10	Brown and gray moist to wet micaceous SAND, little silt, trace rock frags SM	
10-12	Sandy loam - infiltration rate: 1.02 in/hr	
12-20	Boring terminated at 20 ft.	

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 12722 BALTIMORE NATIONAL PARK  
 ELLICOTT CITY, MARYLAND 21114  
 410-461-2955

**ENGINEER'S CERTIFICATE**  
 I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
 Signature of Engineer: *[Signature]* Date: 5/18/09

**DEVELOPER'S CERTIFICATE**  
 I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.  
 Signature of Developer: *[Signature]* Date: 5/18/09

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
 Signature of District Director: *[Signature]* Date: 4/6/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning: *[Signature]* Date: 6/23/09  
 Chief, Division of Land Development: *[Signature]* Date: 6/29/09  
 Chief, Development Engineering Division: *[Signature]* Date: 6-9-09

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6905

ARCHITECT  
**SEAA**  
 S M o l e n = E m r  
 1355 PICARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

Address Chart

Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042

PROJECT	SECTION/AREA	PARCEL
MOUNT HEBRON HIGH SCHOOL	N/A	471

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00

WATER CODE	H03	SEWER CODE	1406900
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**TRAFFIC MAINTENANCE PLAN, SEDIMENT AND EROSION CONTROL DETAILS AND SOIL BORINGS**

**MOUNT HEBRON HIGH SCHOOL**  
 HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 10 OF 24 SDP-09-01



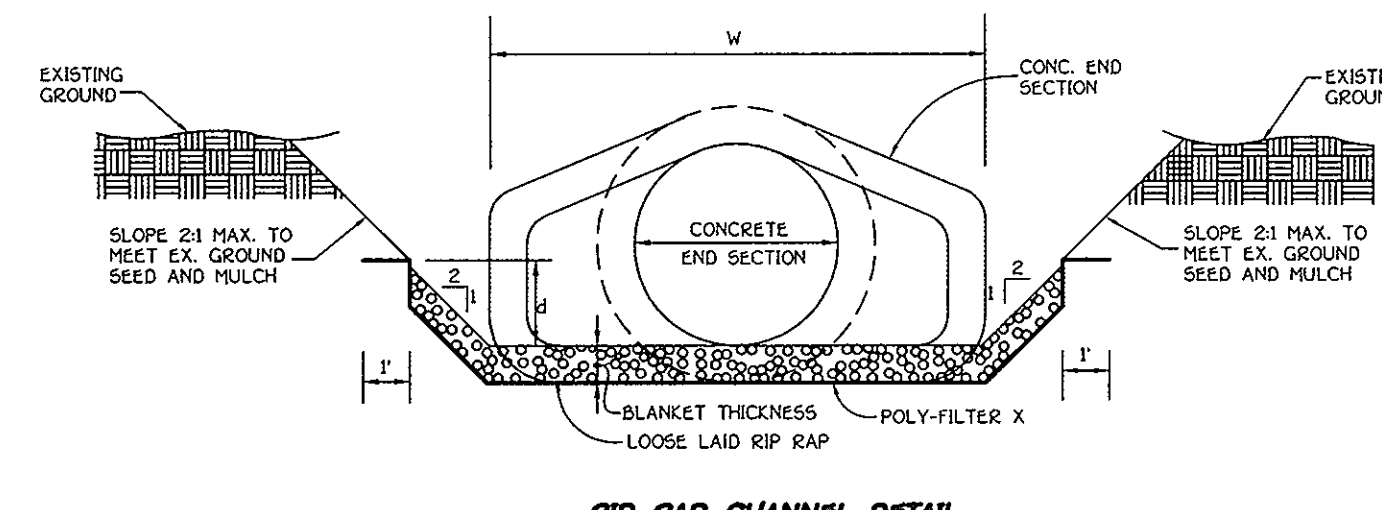
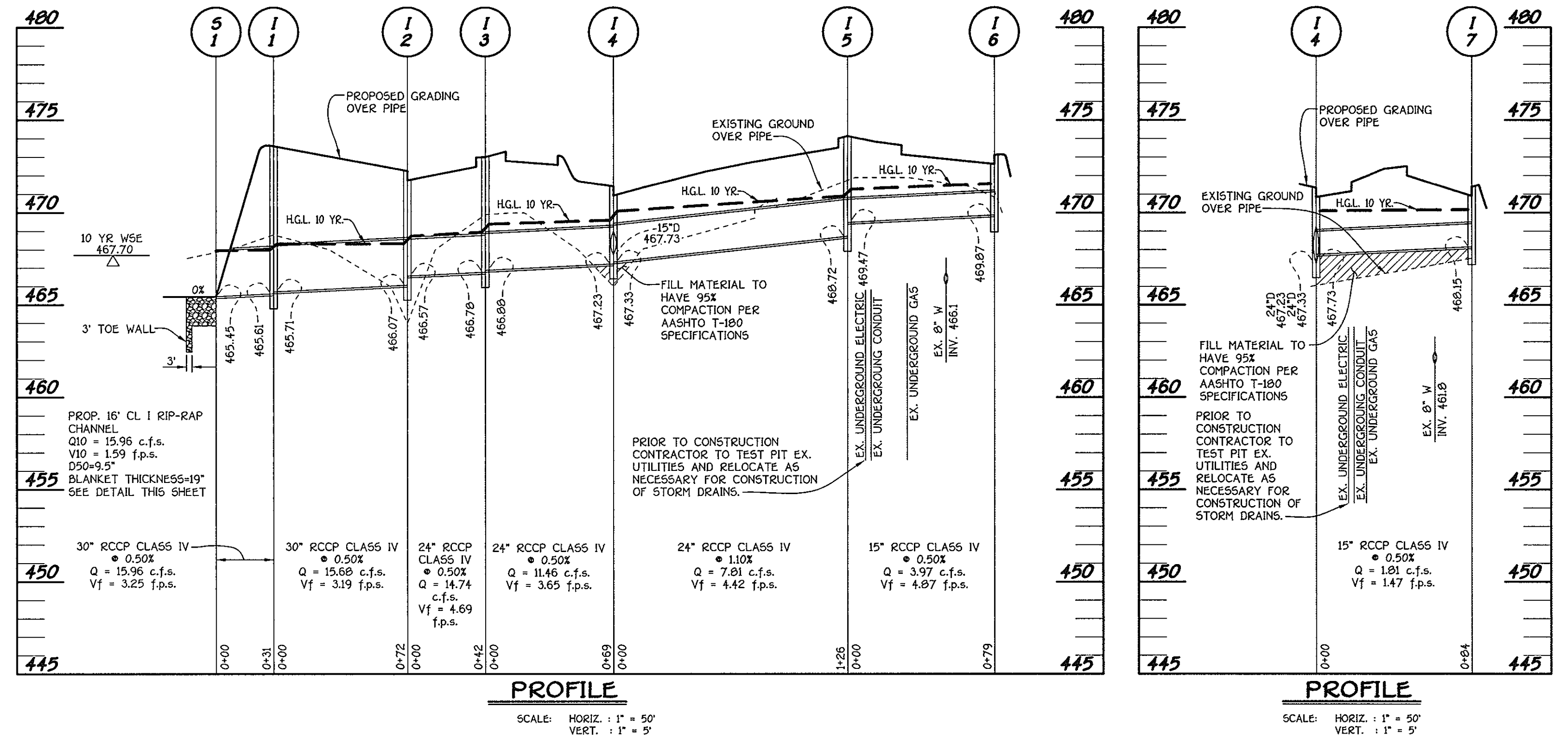
"Professional Certification I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2010."

*[Signature]*  
 CHARLES J. CEDENO, SR., P.E. 5/18/09 DATE

STRUCTURE SCHEDULE							
STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	473.69	465.71 (30")	465.01 (30")	594109.60 1357719.59	4'	A-5	S.D. - 4.01
I-2	472.36	466.57 (24")	466.07 (30")	594196.21 1357791.52	4'	A-5	S.D. - 4.01
I-3	473.11	466.80 (24")	466.78 (24")	594237.99 1357787.21	3'	A-5	S.D. - 4.01
I-4	471.43	467.33 (24")	467.23 (24")	594244.27 1357895.42	3'	A-5	S.D. - 4.01
I-5	474.23	469.47 (15")	468.72 (24")	594369.33 1357839.44	2.5'	A-10	S.D. - 4.03
I-6	473.22	-	469.87 (15")	594369.76 1357917.52	2.5'	A-10	S.D. - 4.03
I-7	471.50	-	468.15 (15")	594287.50 1357925.09	2.5'	A-5	S.D. - 4.01
I-8	473.98	469.98 (18")	469.88 (18")	594188.54 1357485.47	2.5'	A-5	S.D. - 4.01
I-9	475.29	471.03 (15")	470.78 (18")	594227.99 1357481.84	2.5'	A-5	S.D. - 4.01
I-10	476.26	-	472.41 (15")	594228.70 1357406.11	2.5'	A-5	S.D. - 4.01
S-1	467.95	-	465.45 (30")	594163.88 1357721.75	-	30" END SECTION	S.D. - 5.51
S-2	467.50	-	466.00 (24")	594112.21 1357713.12	-	18" END SECTION	S.D. - 5.21
S-3	465.00	-	461.50 (30")	594168.67 1357920.28	-	TYPE C HEADWALL	S.D. - 5.21
S-4	471.00	-	469.50 (18")	594155.23 1357546.63	-	18" END SECTION	S.D. - 5.51
S-5	467.04	-	464.74 (18")	594152.38 1356857.19	-	TYPE C HEADWALL	MSHA MD-368.01
M-1	473.47	468.72 (18")	468.59 (18")	594405.58 1357894.82	4'	4" STD. MANHOLE	G - 5.12
M-2	475.75	471.28 (15")	466.23 (24")	594074.99 1357702.01	4'	4" STD. MANHOLE	MSHA MD-384.01
M-3	476.74	465.04 (15")	464.79 (18)	59442.81 1356857.00	4'	4" STD. MANHOLE	MSHA MD-384.01

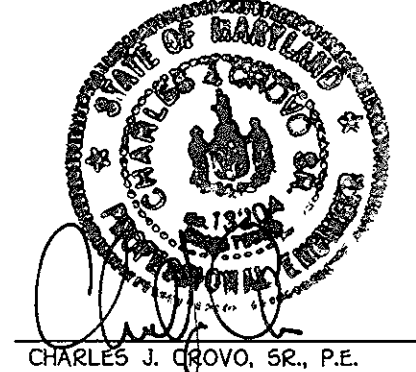
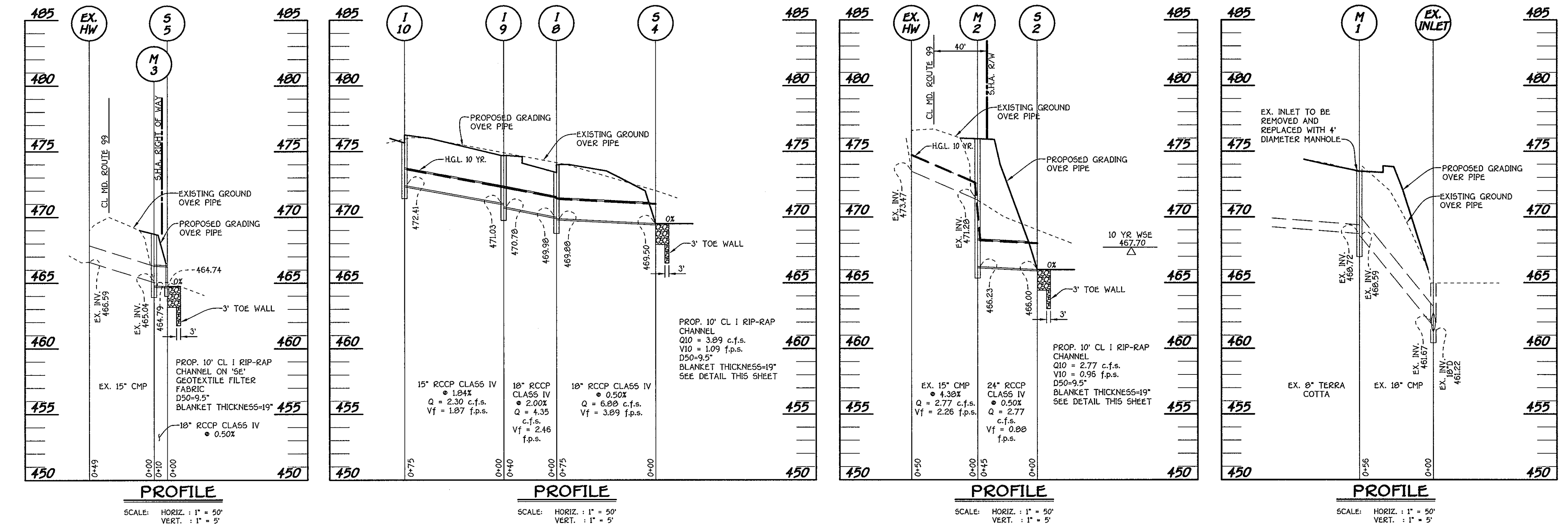
PIPE SCHEDULE		
SIZE	CLASS	LENGTH
15"	RCCP, CLASS IV	230 L.F.
18"	RCCP, CLASS IV	115 L.F.
24"	RCCP, CLASS IV	282 L.F.
30"	RCCP, CLASS IV	103 L.F.
30"	RCCP, ASTM 361	91 L.F.

- NOTES:  
 1. TOP ELEVATIONS AND COORDINATES FOR A-5 AND A-10 INLETS ARE LOCATED AT TOP CENTER OF THE THROAT INLET.  
 2. TOP ELEVATIONS AND COORDINATES FOR HEADWALLS ARE LOCATED AT CENTER FRONT FACE.  
 3. COORDINATES FOR END SECTIONS ARE LOCATED AT END OF LAST SECTION OF PIPE.



RIP-RAP CHANNEL DESIGN DATA													
STRUCTURE	AREA	WETTED PERIMETER	R	R <sup>2/3</sup>	S	S <sup>1/2</sup>	W	d	n	V (f.p.s.)	Q (c.f.s.)	RIP-RAP SIZE D <sub>50</sub> D <sub>max</sub>	BLANKET THICKNESS
S-1	10.02	21.2'	5.66	3.19	0.0050	0.0707	19'	0.5'	0.04	1.59	15.96	9.5" 15"	19"
S-2	2.88	13.0'	2.65	1.92	0.0050	0.0707	12'	0.23'	0.04	0.96	2.77	9.5" 15"	19"
S-3	11.6	16.2'	0.72	0.80	0.0050	0.0707	10'	1.1'	0.04	2.4	29.4	9.5" 15"	19"
S-4	3.55	13.2'	3.22	2.19	0.0050	0.0707	12'	0.28'	0.04	1.09	3.89	9.5" 15"	19"
S-5							12'					9.5" 15"	19"

- THIS OUTFALL WAS DESIGNED FOR THE 100 YEAR STORM.
- CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**
- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
  - The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
  - Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
  - Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and shall fill the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 1500 NATIONAL SQUARE OFFICE PARK - 1077 BALTIMORE NATIONAL PKWY.  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 481-2855

DATE	DESCRIPTION	REVISION BLOCK
APPROVED DEPARTMENT OF PLANNING AND ZONING		
<i>Morgan &amp; Swartz</i>	Director - Department of Planning and Zoning	Date: 6/29/09
<i>Andy Hunter</i>	Chief, Division of Land Development	Date: 6-9-9
<i>Dan Chandra</i>	Chief, Development Engineering Division	Date:

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

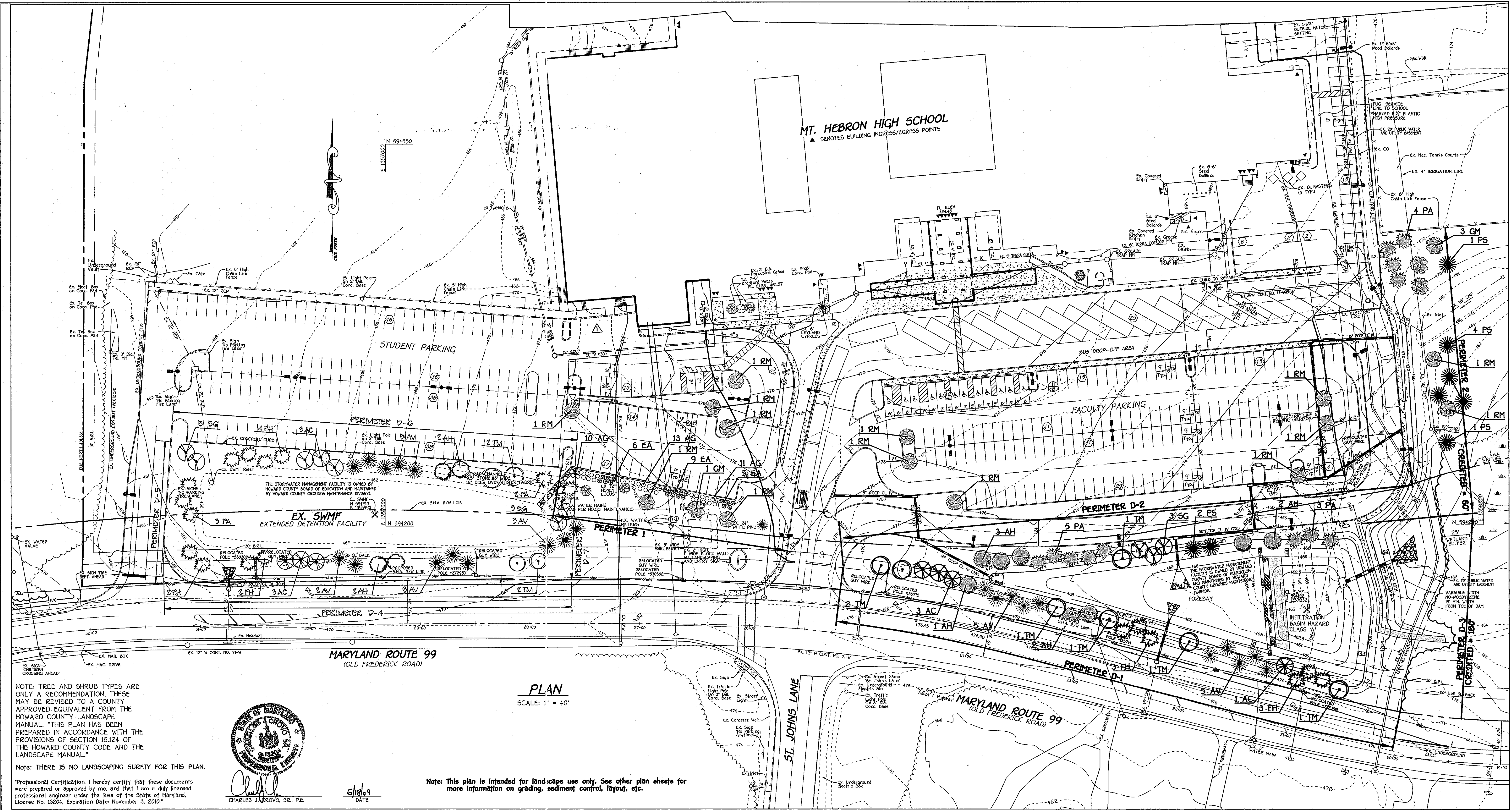
ARCHITECT  
**SEAN**  
 Sole n = E m r  
 1355 PICARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT	SECTION/AREA				
MOUNT HEBRON HIGH SCHOOL	N/A				
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE	SEWER CODE				
H03	1406900				

**STORM DRAIN PROFILES AND STRUCTURE SCHEDULE**  
**MOUNT HEBRON HIGH SCHOOL**  
 HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 11 OF 24 SDP-09-01



NOTE: TREE AND SHRUB TYPES ARE ONLY A RECOMMENDATION, THESE MAY BE REVISED TO A COUNTY APPROVED EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

Note: THERE IS NO LANDSCAPING SURETY FOR THIS PLAN.



CHARLES J. GROVO, SR., P.E.  
DATE: 6/18/09

Note: This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

PLAN  
SCALE: 1" = 40'

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
410 461 - 2955

DATE	DESCRIPTION	REVISION BLOCK
7/16/11	ADDED LANDSCAPING TO THE EXISTING SWMF	
3/12/10	Revised Contours, Curb & Sidewalk For Parking Construction	
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>Thomas J. Buttle</i> Director - Department of Planning and Zoning		
<i>David Hamrick</i> Chief, Division of Land Development		
<i>David Anderson</i> Chief, Development Engineering Division		
DATE		
6/28/09		
4/29/09		
6-9-9		

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805



Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042
PROJECT	SECTION/AREA
MOUNT HEBRON HIGH SCHOOL	N/A
DEED REF.	BLOCK NO.
545/131 406/222	9,10,15 & 16
WATER CODE	SEWER CODE
H03	1406900

LANDSCAPE PLAN			
<b>MOUNT HEBRON HIGH SCHOOL</b>			
HOWARD COUNTY BOARD OF EDUCATION, MT. HEBRON HIGH SCHOOL, PARKING LOTS AND SWM EXPANSIONS			
TAX MAP No.:	GRID No.:	PARCEL No.:	471
SECOND ELECTION DISTRICT	HOWARD COUNTY, MARYLAND	DATE:	APRIL 10, 2009
SCALE:	1" = 40'		
SHEET 12 OF 24		SDP-09-01	

SDP09-01

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	203
NUMBER OF TREES REQUIRED (1/20 SP)	10
NUMBER OF TREES PROVIDED	
SHADE TREES	10
OTHER TREES (2:1 SUBSTITUTION)	-

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING				
LINEAR FEET OF PERIMETER	TYPE 'B'			TYPE 'C'
	D-1 525'	D-2 525'	D-3 800'	
NUMBER OF TREES REQUIRED				
SHADE TREES	11	11	-	
EVERGREEN TREES	13	13	-	
CREDIT FOR EXISTING VEGETATION (NO, YES AND X)	NO	NO	YES 1000'	
NUMBER OF TREES PROVIDED				
SHADE TREES	11	11	-	
EVERGREEN TREES	13	13	-	
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	

SCHEDULE A PERIMETER LANDSCAPE EDGE									
PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)		NUMBER OF PLANTS REQUIRED			NUMBER OF PLANTS PROVIDED
				YES	NO	SHADE TREES	EVERGREEN TREES	SHRUBS TREES	SHRUBS TREES
P-1	PARKING TO ROADWAY	E	215'	YES, 2 SHADE TREES	NO	3	-	54	3
P-2	ADJACENT TO PERIMETER	C	265'	YES, 22X	NO	5	10	-	5 10

LANDSCAPE LEGEND				
SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
EA ⊙	20	EUONYMUS ALATUS COMPACTA DWARF WINGED EUONYMUS	24" - 30" HEIGHT	18" - 24" SPACING
AG ⊙	34	ABELIA X GRANDIFLORA GLOSSY ABELIA	24" - 30" HEIGHT	18" - 24" SPACING
PA ☀	12	PICEA ABIES NORWAY SPRUCE	6' - 8' HEIGHT	-
RM ☀	14	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	-
AH ☀	8	CARPINUS CAROLINIANA AMERICAN HORNBEAM	1 1/2-2" CAL.	-
GM ☀	4	ACER SACCHARUM 'GREEN MOUNTAIN' GREEN MOUNTAIN SUGAR MAPLE	2 1/2-3" CAL.	-
TM ☀	7	ACER BIERGERANUM TRIDENT MAPLE	1 1/2-2" CAL.	-
SG ☀	3	LLIQUIDAMBAR STRYACIFLUA SWEET GUM	2 1/2-3" CAL.	-
PS ☀	8	PINUS STROBUS EASTERN WHITE PINE	6' - 8' HEIGHT	-
FH ☀	6	ILEA ATTENUATA 'FOSTER' FOSTER HOLLY	5' - 6' HEIGHT	-
AC ☀	4	AMELANCHIER CANADENSIS SHADBLOW SERVICEBERRY	8' - 10' HEIGHT	-
AV ☀	10	TRIJUA OCCIDENTALIS ENERALD GREEN ARBORVITAE	2 1/2-3" CAL.	-

**PLANTING NOTES:**

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND LANDSCAPE MANUAL AND IS TO BE USED FOR PLANTING ONLY. LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THIS PLAN SHEET. NO SURETY IS REQUIRED SINCE THIS IS A HOWARD COUNTY BOARD OF EDUCATION PROJECT.
- CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK. ALL GENERAL NOTES FROM SHEET L SHALL APPLY.
- FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK, EVEN WHERE PLANT LOCATIONS ARE DIMENSIONED. CONTACT CONSTRUCTION MANAGER IF ANY RELOCATION ARE REQUIRED.
- PLANT QUANTITIES SHOWN ON PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE A.A.N. SPECIFICATIONS, AND BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED OR MULCHED SHALL BE SEEDED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ALL EXPOSED EARTH WITHIN THE LIMITS OF THE PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER PLANTING DETAILS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF SOIL OR DRAINAGE CONDITIONS ARE ENCOUNTERED WHICH MAY BE DETRIMENTAL TO THE GROWTH OF PLANTS.
- NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR HIS REPRESENTATIVE.
- REFER TO OTHER SITE DWGS. FOR ADDITIONAL SEEDING REQUIREMENTS.

NOTE: PERIMETER, SWM AND PARKING LOT LANDSCAPING SHALL BE PROVIDED AS REQUIRED UNDER SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL AND AS SHOWN ON THE LANDSCAPE PLAN SHEET FOR THIS PLAN, SDP 09-01. IN ACCORDANCE WITH SCHEDULES A, D AND THE INTERNAL PARKING LOT CHART, 40 SHADE TREES, 36 EVERGREENS AND 54 SHRUBS SHALL BE PROVIDED FOR THE PROPOSED IMPROVEMENTS SHOWN ON THIS PLAN. NO SURETY IS REQUIRED SINCE THIS IS A BOARD OF EDUCATION PROJECT.

**PLANTING SPECIFICATIONS**

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurseries (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area", hereinafter "Landscape Guidelines" approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

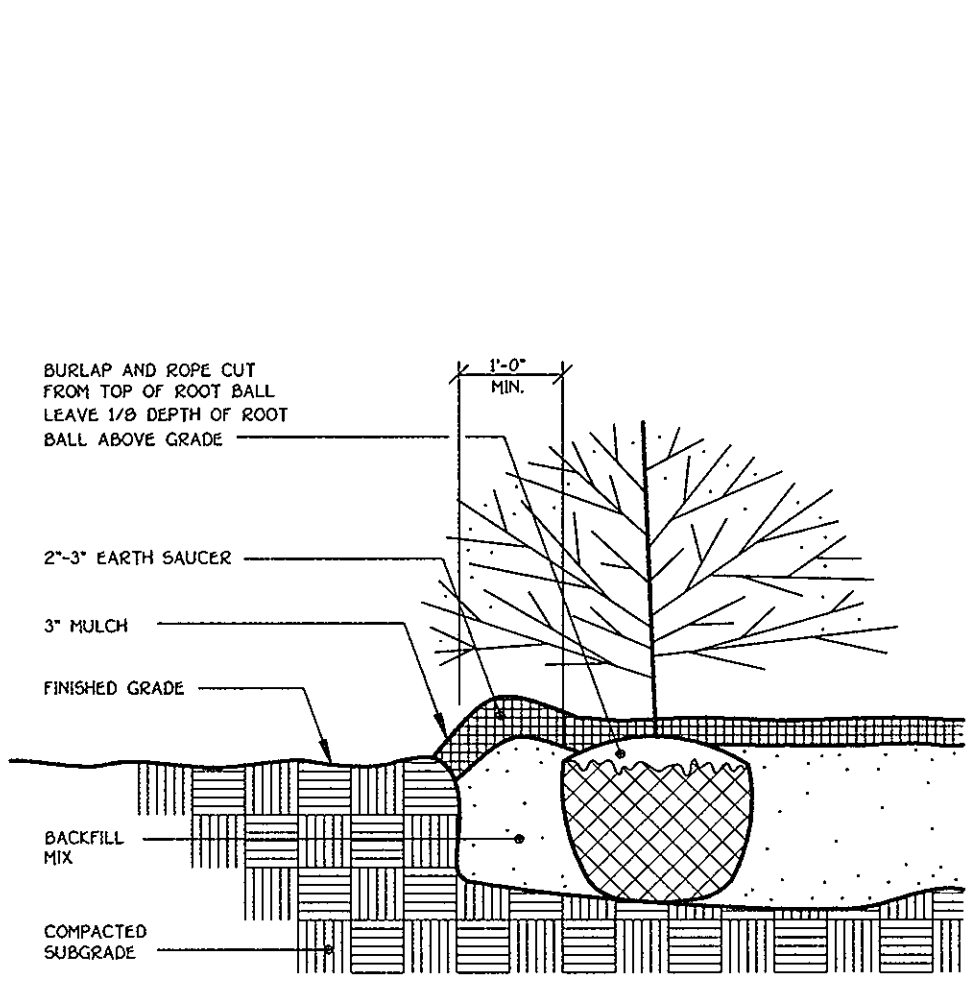
All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope).

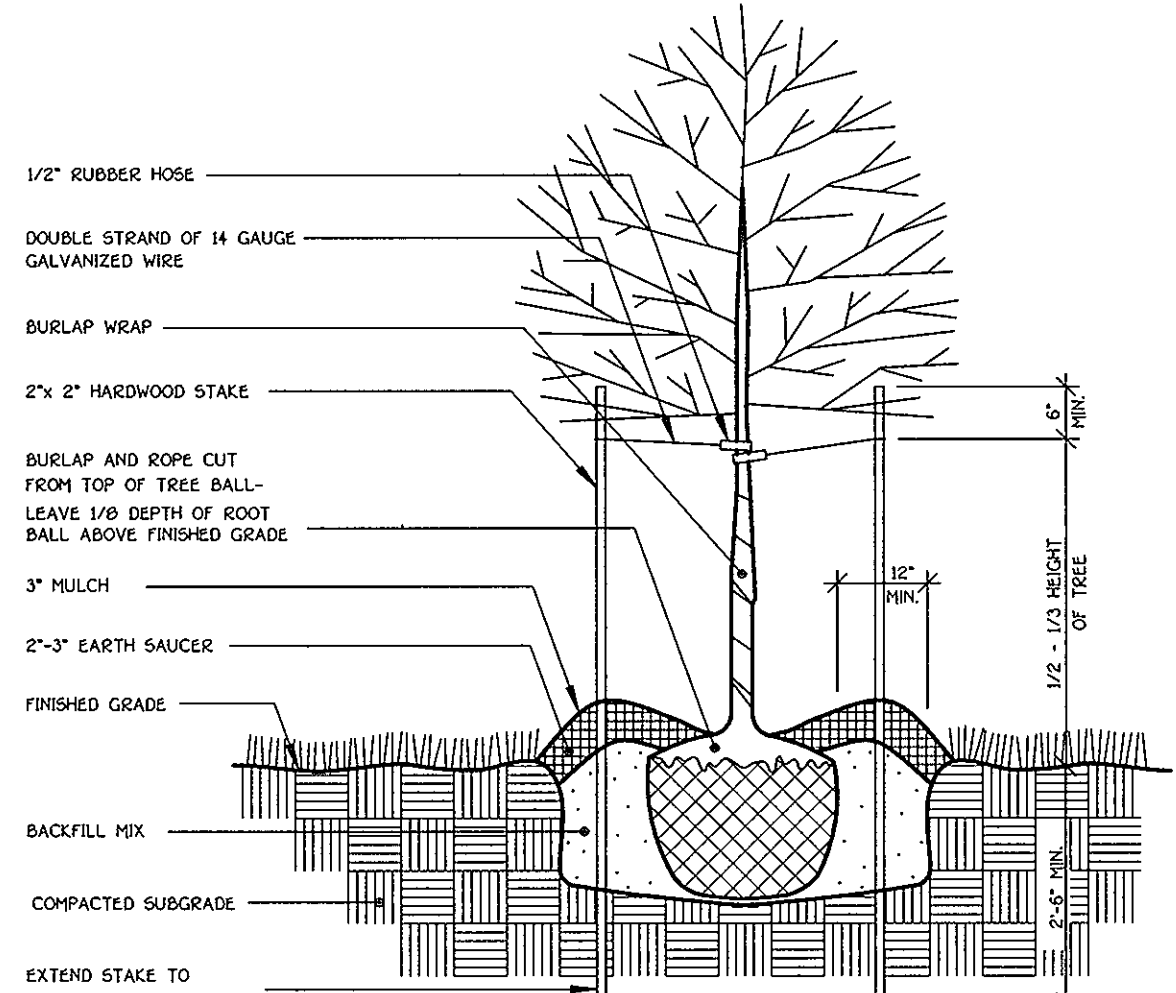
Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

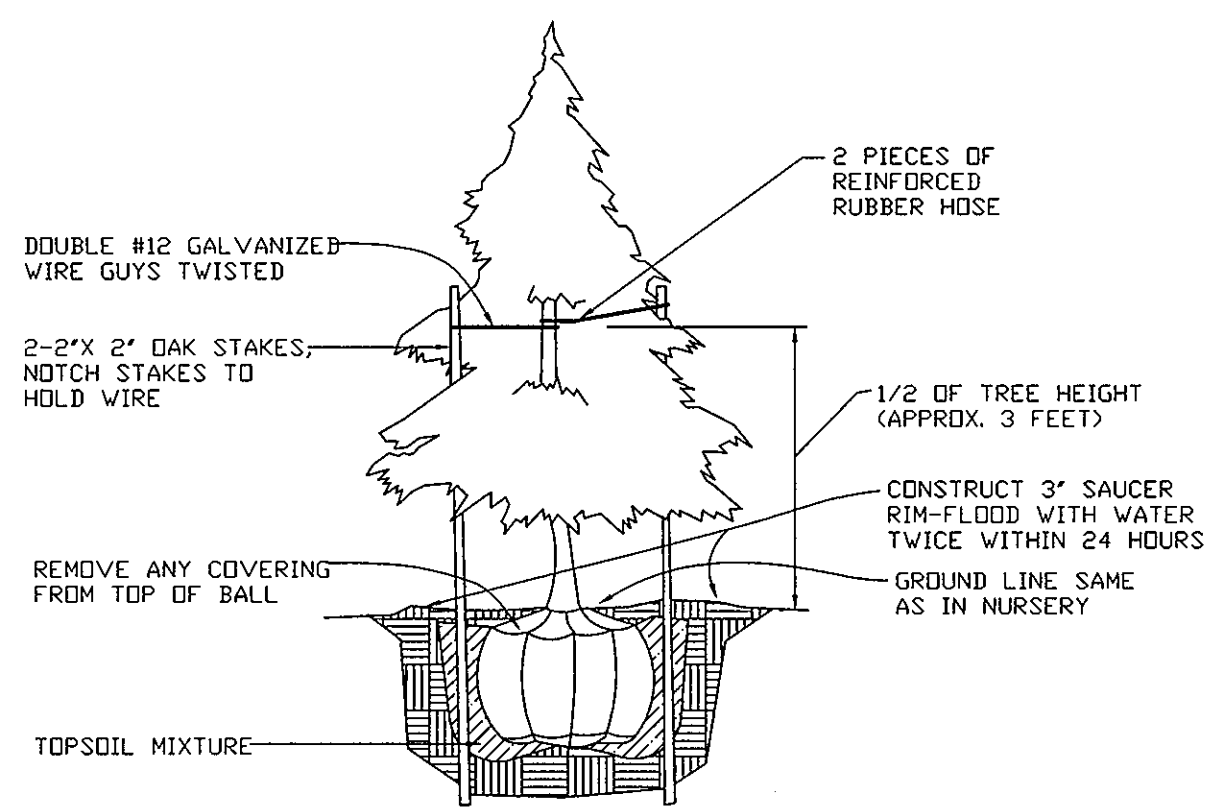
All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.



SHRUB PLANTING DETAIL



TREE PLANTING DETAIL



EVERGREEN PLANTING DETAIL

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 18277 BALDORNE NATIONAL PKWY  
 ELLICOTT CITY, MARYLAND 21114  
 410 461 - 2955



"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. 13204, Expiration Date: November 3, 2010."

CHARLES J. CROVO, SR., P.E.  
 DATE: 5/18/09

DATE	DESCRIPTION	REVISION BLOCK
6/22/09	Director - Department of Planning and Zoning	
6/22/09	Chief, Division of Land Development	
6-9-09	Chief, Development Engineering Division	

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

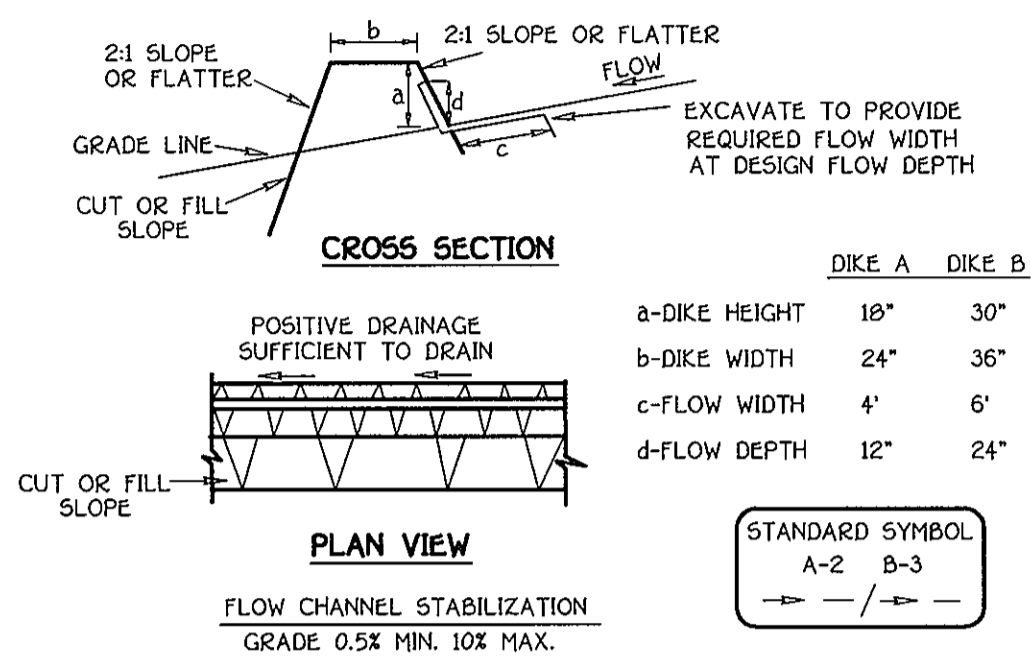


Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT	SECTION/AREA				
MOUNT HEBRON HIGH SCHOOL	N/A				
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE	SEWER CODE				
H03	1406900				

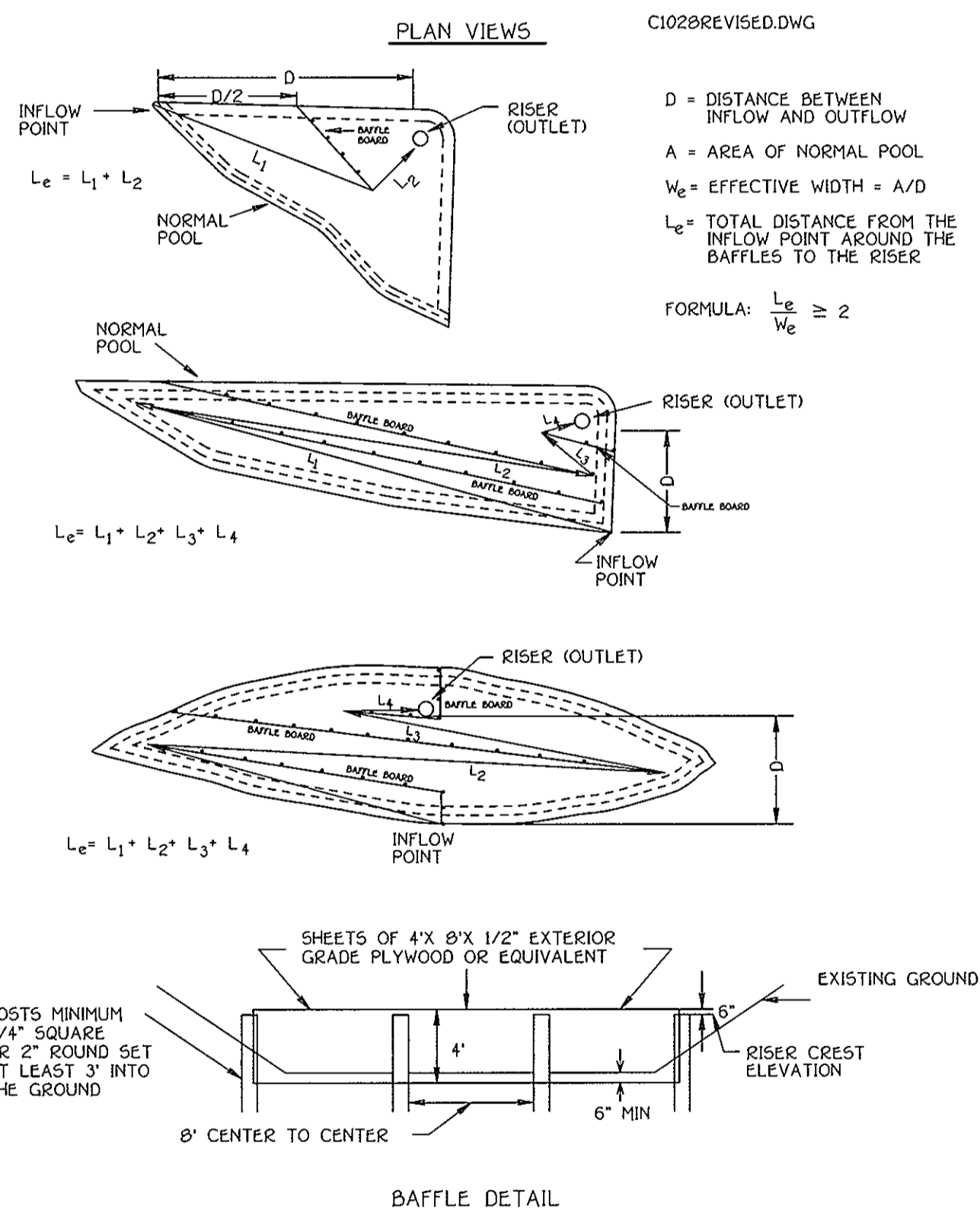
LANDSCAPE NOTES AND DETAILS

**MOUNT HEBRON HIGH SCHOOL**  
 HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 10, 2009



**SEDIMENT BASIN BAFFLES**



- DIKE A DIKE B**
- |               |         |
|---------------|---------|
| a-DIKE HEIGHT | 18" 30" |
| b-DIKE WIDTH  | 24" 36" |
| c-FLOW WIDTH  | 4' 6'   |
| d-FLOW DEPTH  | 12" 24" |
- FORMULA:**  $\frac{L_e}{W_e} \geq 2$
- Seed and cover with straw mulch.
  - Seed and cover with Erosion Control Matting or line with sod.
  - 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum.
- Construction Specifications**
- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
  - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
  - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
  - All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
  - The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bark projections or other irregularities which will impede normal flow.
  - Fill shall be compacted by earth moving equipment.
  - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
  - Inspection and maintenance must be provided periodically and after each rain event.

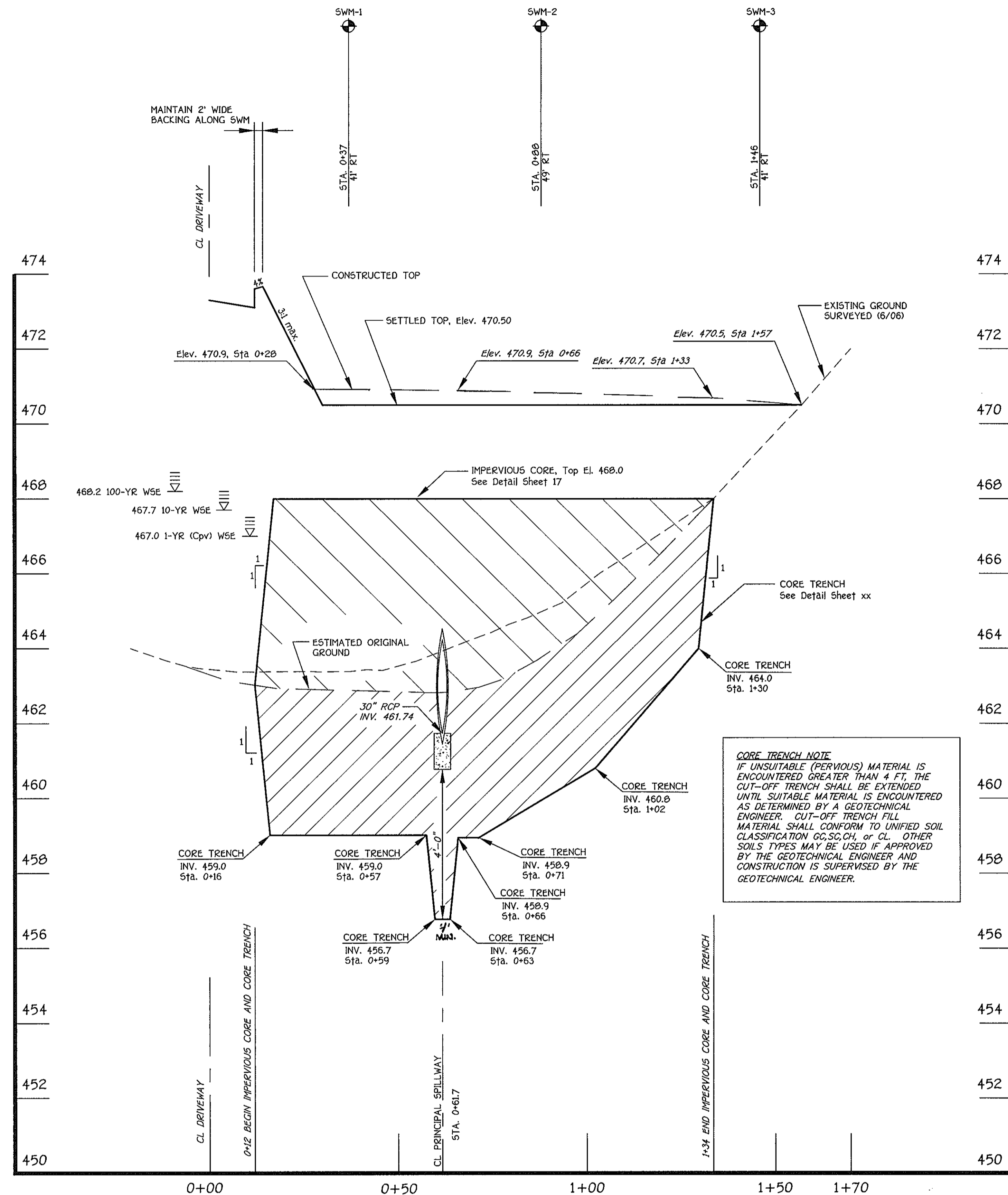
**EARTH DIKE**  
NOT TO SCALE

**GENERAL NOTES FOR CONSTRUCTION OF THE INFILTRATION BASIN**

- THE INFILTRATION BASIN SHALL BE CONSTRUCTED TO MD-378 STANDARDS AS NOTED ON THESE PLANS.
- AS APPLICABLE, CONSTRUCTION SHALL FOLLOW HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (VOL. IV) AND OTHER CONSTRUCTION CODES. THE CONTRACTOR SHALL CONSULT THE ENGINEER SHOULD THERE BE ANY DISCREPANCIES.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST THREE (3) DAYS PRIOR TO ANY EXCAVATION.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST 24 HOURS PRIOR TO THE START OF WORK.
- TOPOGRAPHY AND BOUNDARY ARE BASED ON A FIELD-RUN SURVEY PERFORMED AND CERTIFIED BY FISHER, COLLINS & CARTER, ELLICOTT CITY, MD, DATED MONTH 2006.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLAN AND FIELD CONDITIONS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR ALL FIELD CORRECTIONS IF THE ENGINEER IS NOT IMMEDIATELY NOTIFIED.
- FISHER COLLINS & CARTER, INC. IS NOT RESPONSIBLE FOR THE CONTRACTOR'S UTILIZATION OF MEN, MATERIALS, EQUIPMENT, OR SAFETY MEASURES IN THE PERFORMANCE OF ANY WORK FOR THIS PROJECT. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PERFORMING THE WORK CORRECTLY AND IN CONFORMANCE WITH APPLICABLE CODES AND SPECIFICATIONS.
- THE INFILTRATION FACILITY EMBANKMENT IS IN HAZARD CLASS 'A'.

**STORMWATER MANAGEMENT POND NOTES**

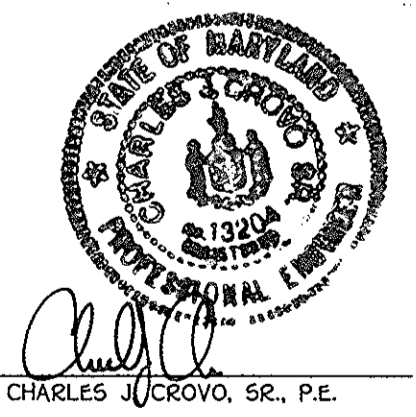
- The stormwater management pond shall be constructed to the latest edition of NRCS's Pond Standard MD-378.
- The stormwater management pond shall be constructed/converted after ALL upstream areas have been stabilized (i.e., established vegetation or paved) including the pond slopes.



**CORE TRENCH NOTE**  
IF UNSUITABLE (PERVIOUS) MATERIAL IS ENCOUNTERED GREATER THAN 4 FT, THE CUT-OFF TRENCH SHALL BE EXTENDED UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEOTECHNICAL ENGINEER. CUT-OFF TRENCH FILL MATERIAL SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. OTHER SOIL TYPES MAY BE USED IF APPROVED BY THE GEOTECHNICAL ENGINEER AND CONSTRUCTION IS SUPERVISED BY THE GEOTECHNICAL ENGINEER.

**SWM POND EMBANKMENT PROFILE**  
SCALE:  
HORIZ. 1" = 20'  
VERT. 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. 13204, Expiration Date: November 3, 2010."



**AS-BUILT CERTIFICATION**  
I hereby certify that the Facility Shown on This Plan Was Constructed As Shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.

Signature: \_\_\_\_\_ P.E. No.: \_\_\_\_\_  
Date: \_\_\_\_\_

Certify Means to State or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed by Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

**Embankment and Cut-off Trench Construction**  
THE AREA OF THE PROPOSED SWM POND SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOF-ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR REPRESENTATIVE USING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROPELLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 37B SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL.

**STORMWATER MANAGEMENT POND NOTES**

- The stormwater management pond shall be constructed to the latest edition of NRCS's Pond Standard MD-378.
- The stormwater management pond shall be constructed/converted after ALL upstream areas have been stabilized (i.e., established vegetation or paved) including the pond slopes.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
REGIONAL SQUARE OFFICE PARK - 1827 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
410 481-2855

**DEVELOPER'S CERTIFICATE**  
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: \_\_\_\_\_ Date: 5/21/09  
Printed Name Of Developer: BRUCE COST

**ENGINEER'S CERTIFICATE**  
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: \_\_\_\_\_ Date: 5/18/09  
Printed Name Of Engineer: CHARLES J. CROVO SR.  
These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.  
Signature: \_\_\_\_\_ Date: 4/1/09

DATE: \_\_\_\_\_ DESCRIPTION: \_\_\_\_\_ REVISION BLOCK: \_\_\_\_\_

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Thomas E. Suttler, Director - Department of Planning and Zoning, Date: 6/29/09  
Candice Hanna, Chief, Division of Land Development, Date: 6/29/09  
Dud Edwards, Chief, Development Engineering Division, Date: 6/29/09

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10310 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

ARCHITECT  
SEAN S O L E I N E N G I N E E R S  
1355 PICCARD DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT					
MOUNT HEBRON HIGH SCHOOL	SECTION/AREA N/A				
DEED REF. 545/131 406/222	BLOCK NO. 9,10,15 & 16	ZONE R-20	TAX MAP 17	ELEC. DIST. SECOND	CENSUS TR. 6021.00
WATER CODE H03		SEWER CODE 1406900			

**STORMWATER MANAGEMENT POND EMBANKMENT PROFILE**  
**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 14 OF 24 SDP-09-01

**Construction Considerations**

**A. Site Preparations**  
 Prior to the placement of fill in any SWM embankment or slope areas, all vegetation, organic matter and/or excessively organic material, and any existing surficial soils which are excessively soft, wet or frozen should be removed and wasted. Organic materials may be stockpiled and used exclusively as the final fill layer in landscaping and recreational field areas. Otherwise, any excess organic materials should be wasted. The stripping operations should be monitored by a P & B soils technicians or Geotechnical Engineer to verify the depths of stripping.

After stripping has been completed, the exposed subgrade in areas to be filled should be examined by P&B soil technicians or Geotechnical Engineer. The technician should require the exposed materials be proof rolled utilizing a heavily-loaded dump truck or other pneumatic-tired vehicle of similar size and weight to detect any excessively soft or yielding soils conditions. Relatively soft surficial materials may be improved for the adequate support newly placed structural fill by deep plowing or scarifying, coring, and recompacting to the project specifications; alternately, excessively soft soils may be undercut and replaced with controlled fill.

Depending upon weather condition, and due to the presence of moisture-sensitive materials, surficial undercutting of wet, excessively soft, or yielding materials may be required. If the on-site soils exhibit high moisture contents during construction, traffic of heavy equipment, including heavy compaction equipment, will create pumping and a general deterioration of these materials. A further significant increase in moisture content and/or deterioration of these moisture-sensitive soils during construction will likely require their removal and replacement with suitable (less moisture-sensitive) material. If possible, the grading operations should be conducted during dry and warm weather (preferably late spring through early fall). This should minimize potential subgrade problems, although they may not be eliminated. If such problems arise, the P&B Geotechnical Engineer should be consulted for an evaluation of the site conditions.

**B. Embankment Fill Placement**  
 The boring and laboratory data indicate that the on-site soils are generally suitable for use as controlled, compacted fill; however, the presence of moisture-sensitive fine grain materials (i.e. Micaceous Silty Sands, Clayey Silts and Sandy Silts) will require special attention to moisture contents. Consequently, the on-site soils may require discing, aeration and/or manipulation to achieve efficient compaction. Any regions exhibiting poor drainage characteristics, and low lying areas, must be expected to display moisture contents excessively high for fill placement without drying.

It should be noted that the moisture descriptions shown on the boring logs are visual only, and such descriptions (moist, very moist) are related to wet-dry conditions and do not reflect moisture relative to optimum moisture contents. The use of the on-site soils for controlled, compacted fill will depend on the time of year that construction is accomplished and whether the construction schedule and space permit manipulation and/or aeration of the soils to ensure adequate compaction. As previously discussed above, due to the moisture-sensitivity of the on-site materials, it would be prudent to accomplish the earthwork operations during the warmer and drier seasons, i.e. late spring through early fall.

Controlled fill should be placed in relatively level lifts, eight inches in loose thickness, and compacted to 95 percent of the Standard Proctor maximum dry density as established by ASTM D-698 specifications.

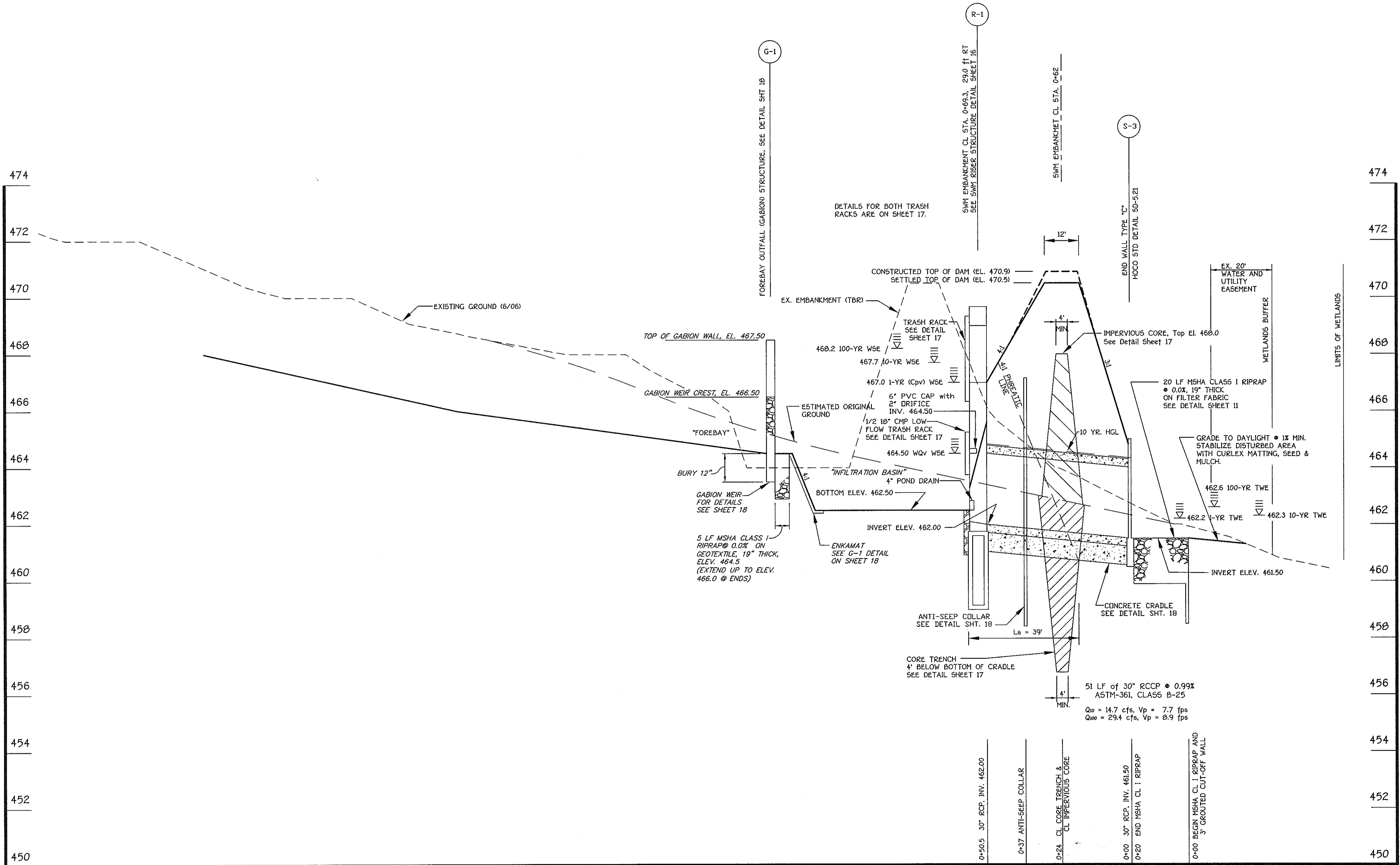
A sufficient number of in-place density tests should be performed by a P&B engineering technician to verify that the proper degree of compaction is being obtained on all fill soils. As a minimum, each lift shall be tested and one test per 2500 square feet shall be performed.

**C. Slope Recommendations**  
 The subsols encountered by the borings generally appear acceptable to support new sloped embankment fill depending upon location and depth. Accordingly a slope flatter than 2H:1V gradient, constructed of properly classified and compacted engineered fills will typically be stable. An in-depth slope stability analysis is not typically performed in this situation unless elevated ground water, unsuitable materials or excess loadings have been identified. Slopes designed steeper than 2H:1V should have slope stability analysis performed.

Where fills are placed on hillsides or slopes, the slopes of the original ground upon which the fill is to be placed shall be plowed or scarified deeply, and where the slope of the existing ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched in order to prevent the formation of any slip surfaces and to facilitate the placement of fill in horizontal layers. Additionally, a keyway should be installed at the base of the slope prior to any benched fill installation.

It is recommended that any fill required to achieve required slope subgrade be constructed as controlled embankment placed in accordance with the previously provided requirements for fill placement. The compaction should be a minimum 95% of the ASTM D698 maximum dry density performed under the direction of a Geotechnical Engineer.

**D. Embankment Seepage**  
 Ponds that are designed as retention ponds will require an impervious core constructed of materials classified as CL, CH, SC or GL compacted to 95% of the Standard Proctor at or above optimum moisture content. It is not anticipated that sufficient quantities of CL material will be available in the soils excavated from the SWM area. It should be anticipated that import clays will be required for any planned impervious cores.



**SWM FACILITY PRINCIPAL PROFILE**  
 SCALE:  
 HORZ: 1" = 20'  
 VERT: 1" = 2'

**AS-BUILT CERTIFICATION**  
 I hereby certify that the Facility shown on this Plan was Constructed as Shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.

Signature: \_\_\_\_\_ P.E. No. \_\_\_\_\_  
 Date: \_\_\_\_\_

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

"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. 13204, Expiration Date: November 3, 2010."

Signature: Charles J. Crovo, Sr. P.E.  
 Date: 5/12/09

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK 1072 BALTIMORE NATIONAL FREE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2995

**DEVELOPER'S CERTIFICATE**  
 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: *Bruce Gist* Date: 5/12/09  
 Printed Name Of Developer: BRUCE GIST

**ENGINEER'S CERTIFICATE**  
 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: *Charles J. Crovo, Sr.* Date: 5/12/09  
 Printed Name Of Engineer: CHARLES J. CROVO, SR.

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *Charles J. Crovo, Sr.* Date: 6/4/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning: *Thomas G. Suttler* Date: 6/29/09  
 Chief, Division of Land Development: *Cindy Kamm* Date: 6/29/09  
 Chief, Development Engineering Division: *Paul Brown* Date: 6-9-9

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 109  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

ARCHITECT  
**SEAM**  
 S T R O L E N - E M I  
 1355 PICCARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

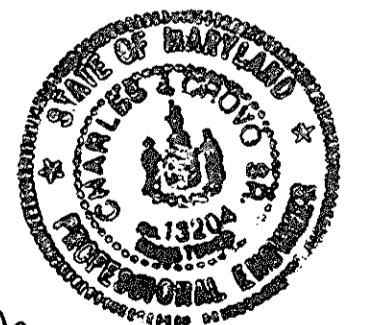
Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT		SECTION/AREA	PARCEL		
MOUNT HEBRON HIGH SCHOOL		N/A	471		
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE			SEWER CODE		
H03			1406900		

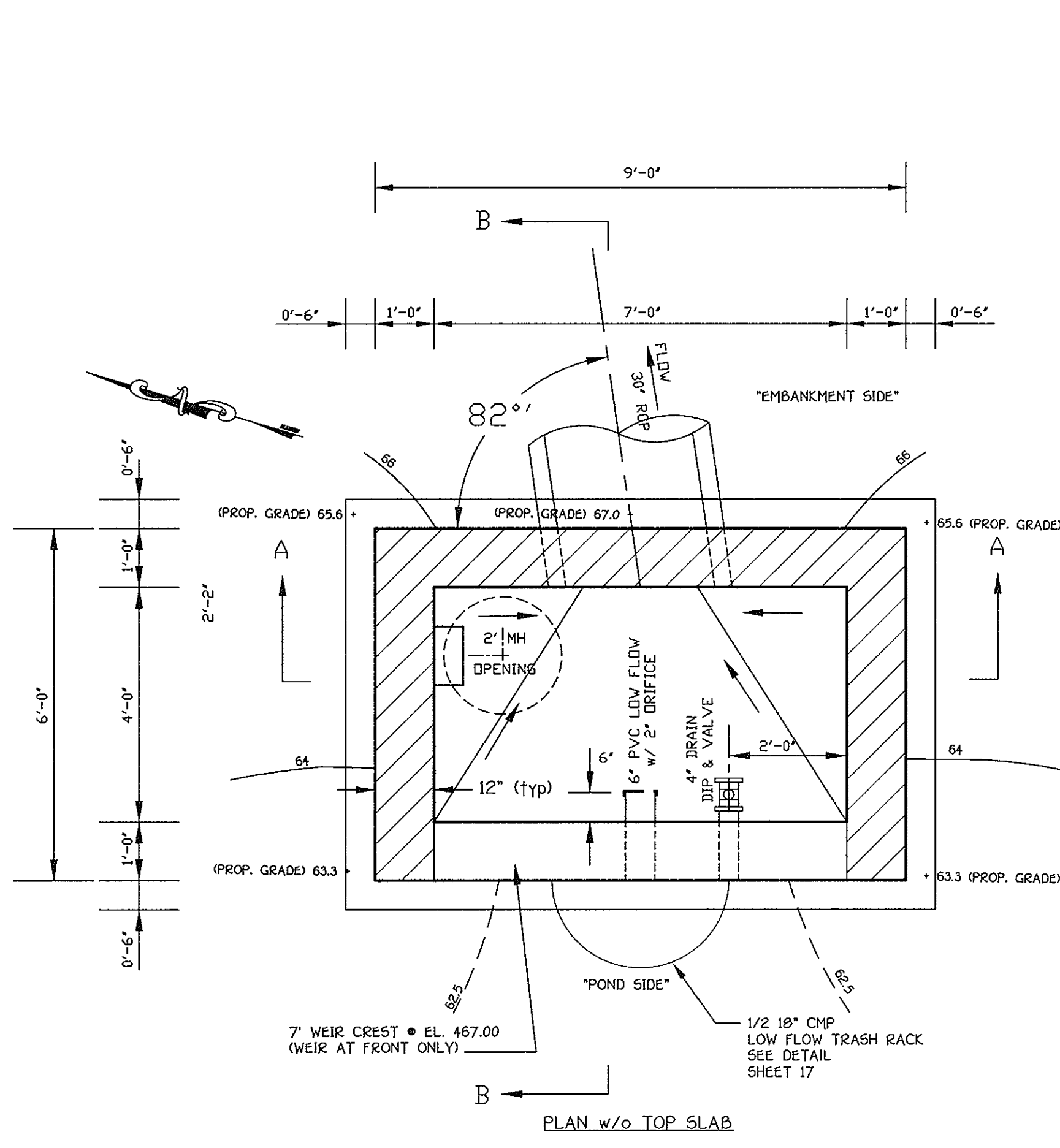
**STORMWATER MANAGEMENT POND PRINCIPAL SPILLWAY PROFILE**

**MOUNT HEBRON HIGH SCHOOL**  
 HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

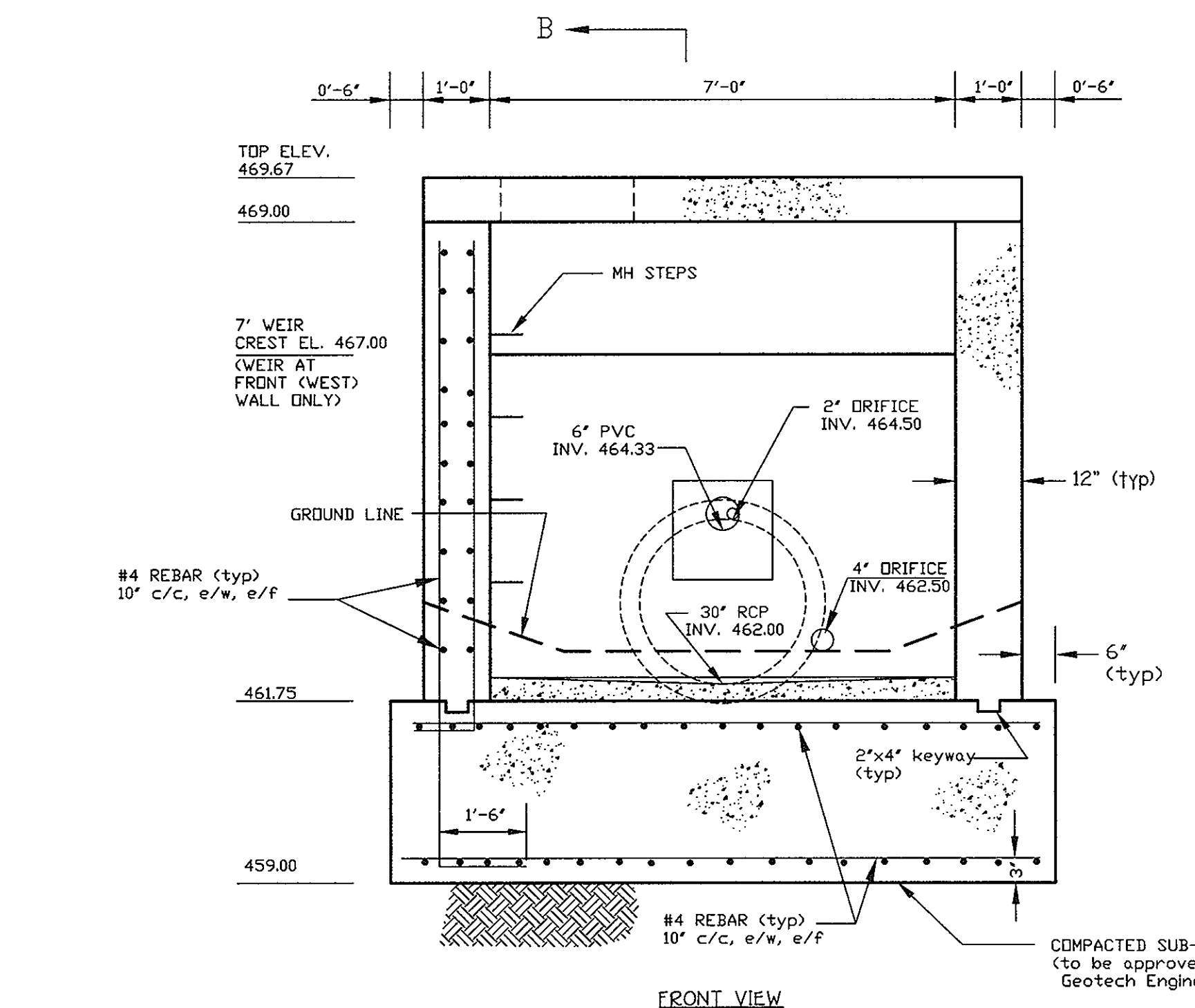
TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 15 OF 24 SDP-09-01

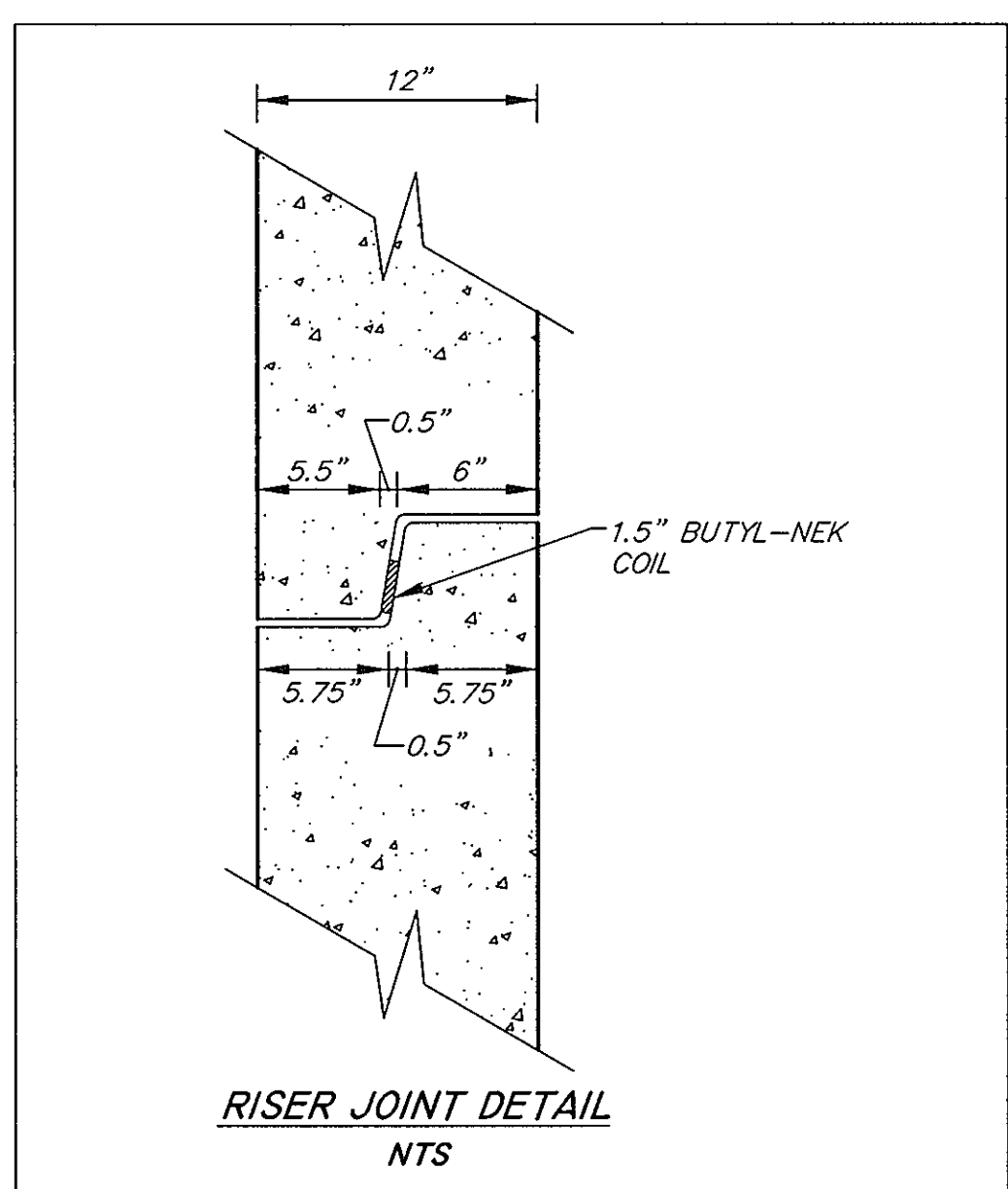
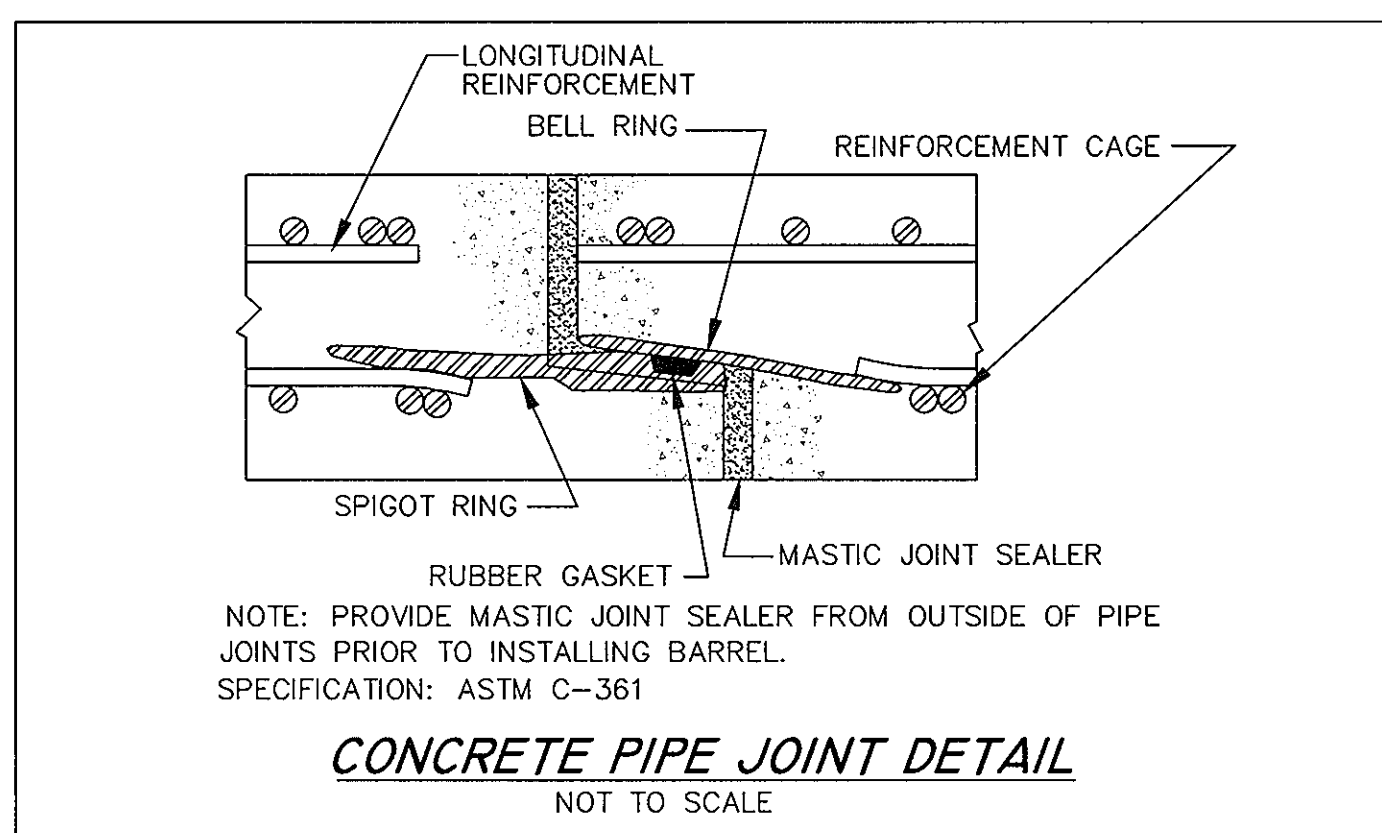
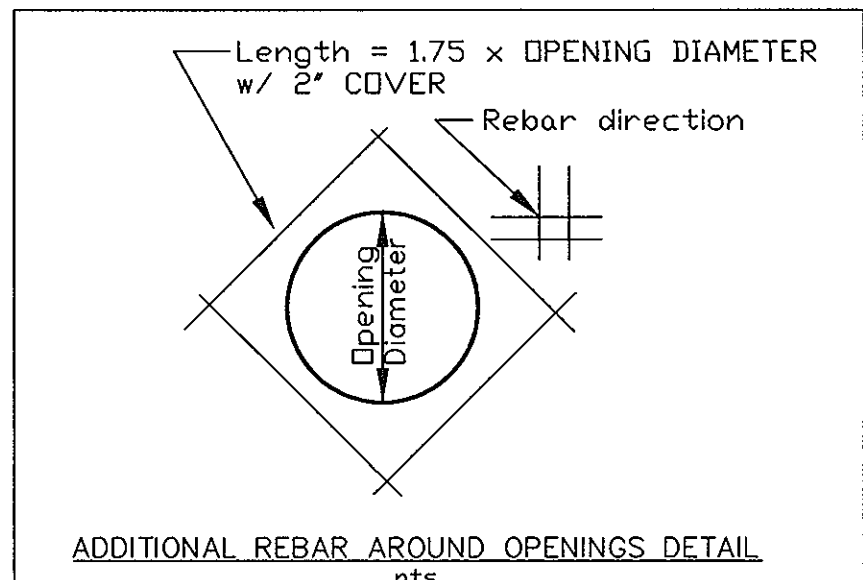
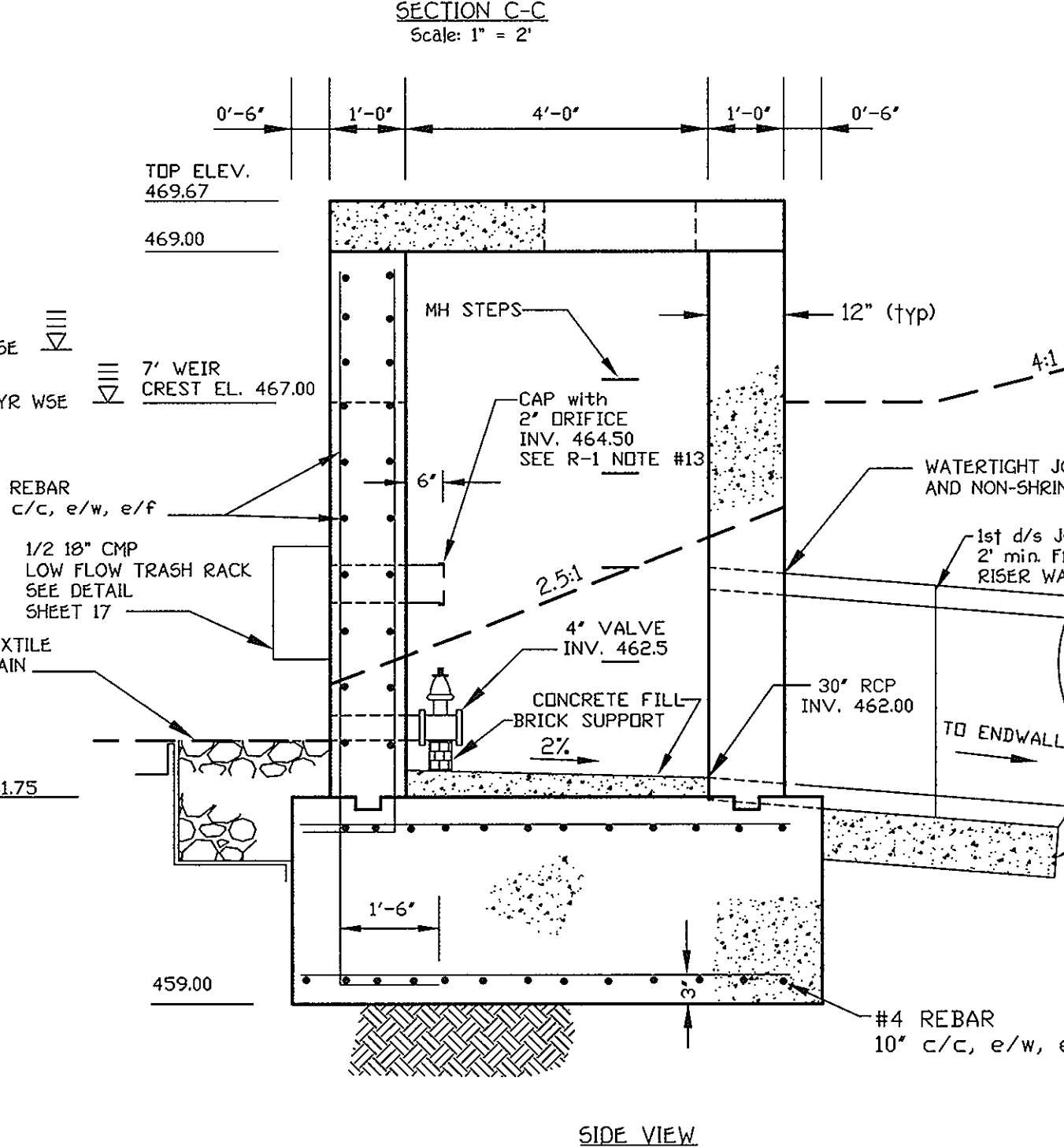
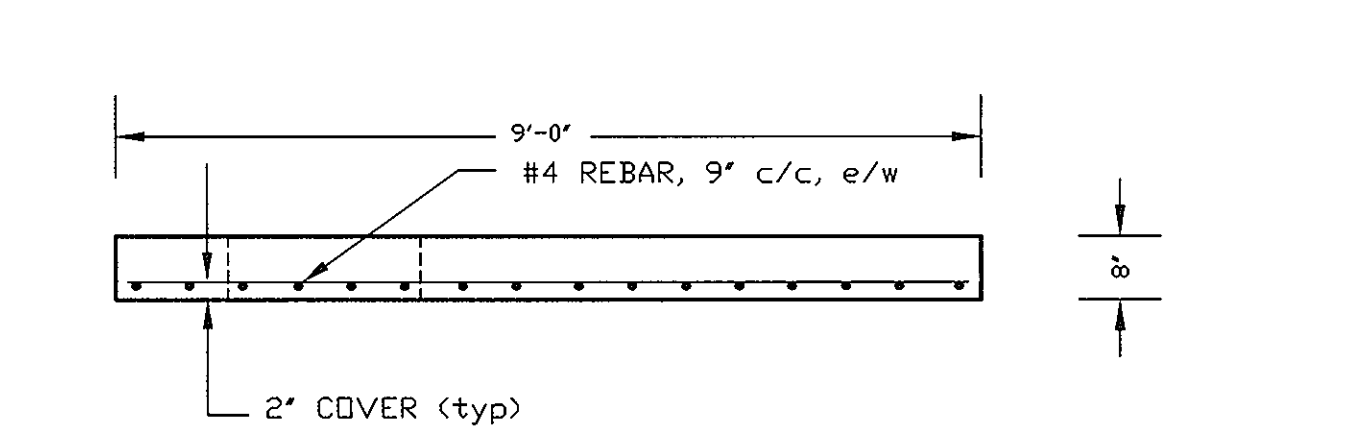
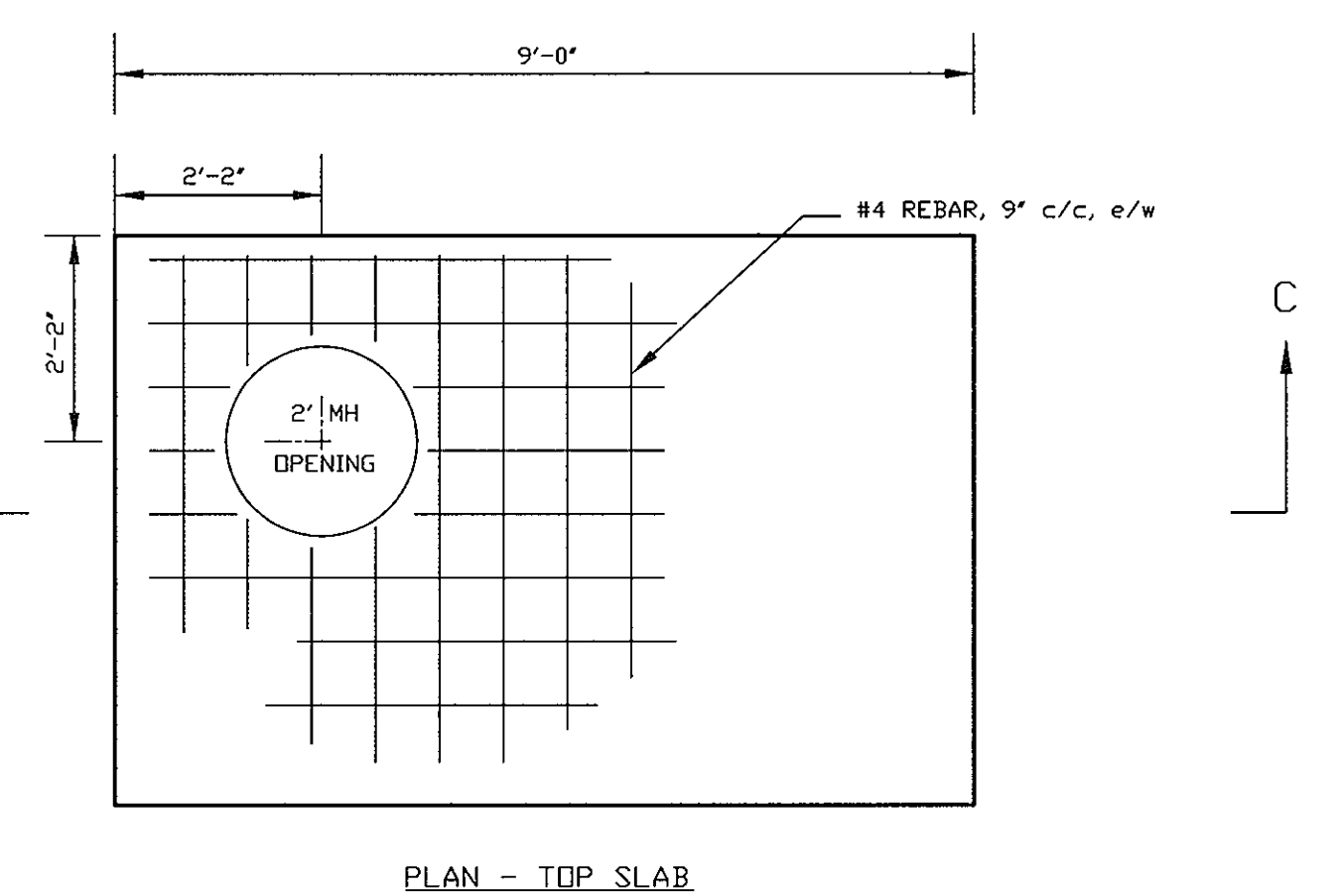
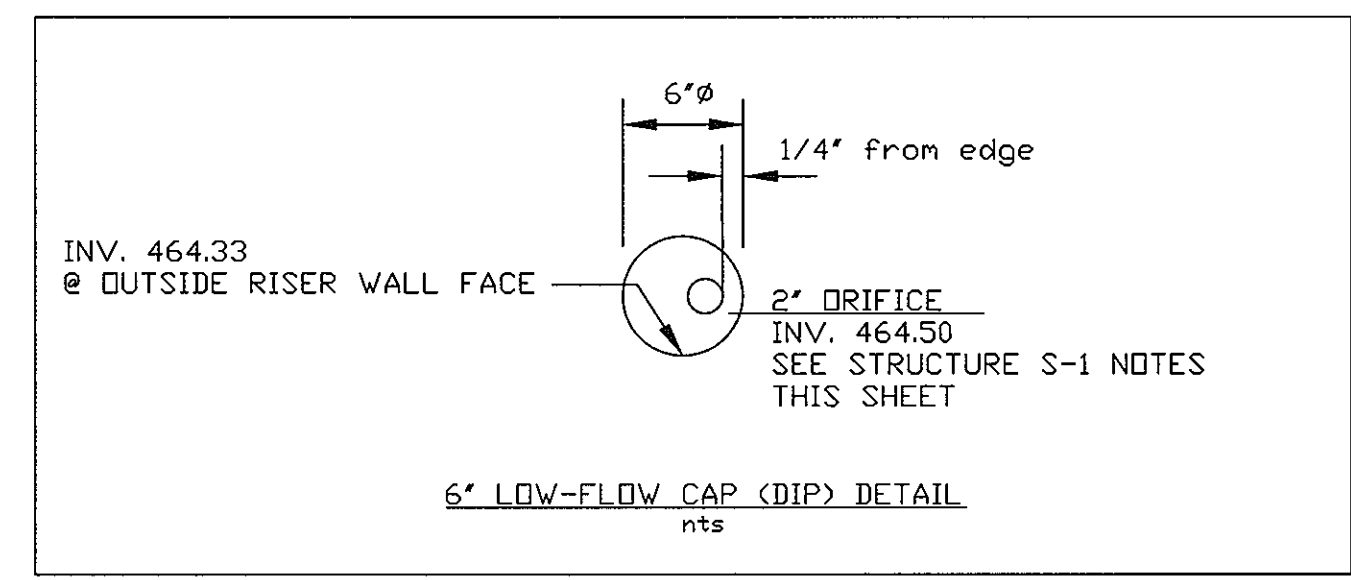




NOTE: The drawing is shown w/o the trash rack for clarity. Please refer to sheet 17 for a scaled trash rack detail.



**SWM RISER OUTFALL STRUCTURE (R-1) DETAIL**  
Scale: 1" = 2'

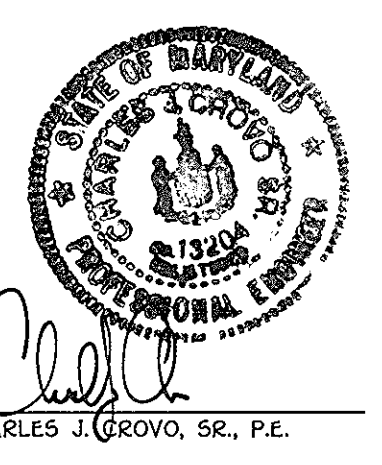


NOTES:  
1. Riser joints shall join evenly and be watertight. Parge joints after installation.  
2. The referenced joint and joint sealant material is used by Frederick Precast, Inc. Similar joints may be used with shop drawing approval by the engineer.

- STRUCTURE R-1 NOTES**
- Structure material for all walls and base shall be reinforced concrete MSHA mix No. 3.
  - Reinforcement shall be deformed steel and be free of rust and meet ASTM A615, grade 60, with 2" cover except as shown.
  - Reinforcement is partially shown, however, it is typical for each wall, base, and top slab.
  - Horizontal rebar shall extend into the adjacent wall with a 1'-6" L-shaped overlap.
  - Vertical rebar shall extend into base with a 1'-6" L-shaped overlap.
  - Place four (4) additional rebars at a 45 degree angle around all openings as shown on detail this sheet.
  - Chamfer exposed edges 1/2" x 1/2".
  - Slope riser bottom 2% min. towards outfall.
  - All connections must be watertight, including the 30" RCP barrel outfall, and 4" pond drain. If R-1 is precast, contractor shall install 6" thick concrete collar around the 30" RCP outfall, extending 12" beyond the O.D. and reinforced with WWF.
  - Provide steps per MSHA Std. Detail MD-383.92 or approved equal.
  - Place a standard 2 ft  $\phi$  Howard Co. sidewalk storm drain F&C in top slab.
  - The 6" low flow pipe shall be capped inside the SWM riser (R-1). A 2"  $\phi$  orifice shall be eccentrically located in the cap (see detail this sheet). The orifice is off-center so the cap can be rotated to achieve the exact designed invert elevation.
  - Apply non-shrink grout to seal collar(s) to riser.
  - If riser is supplied in sections, the joints shall be watertight per riser joint detail shown on this sheet. Bolt sections together at each joint with three (3) rustproof, 2" x 6" (1/4" thick) flat bar connections with 1/2" bolts embedded in to riser.
  - Use provided dimensions, do not scale drawings.
  - Install a 4" pond drain as shown. The drain shall consist of a flanged 4" iron gate valve (HoCo. specification 909.15.01) and 1 1/2"  $\phi$  DIP with flanged ends. Securely bolt valve to riser wall with at least three (3) stainless steel bolts uniformly spaced around the flange. All materials shall meet Howard County Standard specifications. The drain inlet in the pond shall rest on a riprap pad 2' square x 19" deep with filter fabric at soil/riprap interfaces. Keep valve closed.
  - Place a 2'-0" wide x 2'-6" high x 3'-0" collar around the low flow pipe adjacent to the riser. The riser shall be installed with 4 rebar "hooks" to help attached collar to riser, keeping it stable.
  - The pipe orifice openings in the front of structure R-1 shall have external protrusions to embed into the concrete riser wall to prevent the pipe from "slipping through" the wall when under pressure (i.e., the orifice pipes shall be embedded into the wall of the riser structure and not solely rely on concrete bonding to keep pipe in place.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION BASINS**

- Facility shall be inspected annually and after heavy storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly (i.e., 2" low flow orifice open; standing water should infiltrate into ground after two (2) consecutive non-rain days. If there is standing water after two (2) days, maintenance is required; see non-routine maintenance below).
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year. Other side slopes and maintenance access should be mowed as needed. Vegetation shall not exceed 18" height.
- Debris and litter must be removed during regular mowing operations and as needed to prevent clogging low flow orifice.
- Visible signs of erosion in the pond embankment and/or at the rip-rap or gabion outlet areas shall be repaired immediately (i.e. without an unreasonable long delay).
- 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 basin have been verified, the monitoring schedule can be reduced to an annual basis unless performance data indicates that a more frequent schedule is required.
- Structural components of the pond such as the earthen embankment, the concrete riser, and the pipes shall be repaired immediately upon the detection of any damage. The components shall be inspected during routine maintenance operations.
- Sediment shall be removed from the forebay and/or infiltration basin bottom when 3" of sediment has accumulated (or when deemed necessary for aesthetic reasons).
- The infiltration basin bottom shall be disced (rototilled) once every two (2) years to a 4" minimum depth and re-seeded.



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. 13204, Expiration Date: November 3, 2010.

**AS-BUILT CERTIFICATION**

I hereby certify that the Facility Shown on This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature: \_\_\_\_\_ P.E. No. \_\_\_\_\_  
Date: \_\_\_\_\_

CHARLES J. GROVO, SR., P.E. 5/13/09 DATE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
10722 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
410.461.2855

**DEVELOPER'S CERTIFICATE**

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: *Bruce Gist*  
Printed Name of Developer: **BRUCE GIST**  
Date: 5/11/09

**ENGINEER'S CERTIFICATE**

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: *Charles J. Grovo, Sr.*  
Printed Name of Engineer: **CHARLES J. GROVO, SR.**  
Date: 5/18/09

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature of Engineer: *Charles J. Grovo, Sr.*  
Printed Name of Engineer: **CHARLES J. GROVO, SR.**  
Date: 5/18/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Thomas S. Butler*  
Director - Department of Planning and Zoning  
Date: 6/29/09

Signature: *Charles J. Grovo, Sr.*  
Chief, Division of Land Development  
Date: 6/29/09

Signature: *David Edwards*  
Chief, Development Engineering Division  
Date: 6-9-9

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

ARCHITECT  
**SEAN**  
Soleman - E.M.T.  
1355 PICARD DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042
PROJECT	
MOUNT HEBRON HIGH SCHOOL	SECTION/AREA N/A
DEED REF. 545/131 406/222	BLOCK NO. 9,10,15 & 16
WATER CODE H03	SEWER CODE 1406900
ZONE R-20	TAX MAP 17
PARCEL 471	ELEC. DIST. SECOND
CENSUS TR. 6021.00	

**STORMWATER MANAGEMENT RISER STRUCTURE (R-1) DETAIL**

**MOUNT HEBRON HIGH SCHOOL**

HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 16 OF 24 SDP-09-01



Pond MD-378 - N.R.C.S. - JANUARY 2000 CONSTRUCTION SPECIFICATIONS FOR SMALL EARTHEN DAMS  
 These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

**Site Preparation**  
 Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.  
 Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.  
 All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

**Earth Fill**  
 Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.  
 Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.  
 Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.  
 The minimum required density shall not be less than 95% of maximum dry density with a moisture content within  $\pm 2\%$  of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).  
 Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.  
 Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

**Structure Backfill**  
 Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.  
 Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits.  
 Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent slumping of the pipe. When using flowable fill, the pipe shall be blumous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

**Rock Riprap**  
 Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.  
 Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

**Care of Water During Construction**  
 All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, in-still, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavation and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water pumps from which the water shall be pumped.

**Stabilization**  
 All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, soil or borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.  
**Erosion and Sediment Control**  
 Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

**AS-BUILT CERTIFICATION**  
 I hereby certify that the Facility shown on this Plan was Constructed As Shown on the "As-Built" Plans And Meets the Approved Plans And Specifications.

Signature \_\_\_\_\_ P.E. No. \_\_\_\_\_  
 Date \_\_\_\_\_  
 Certify Means to State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

**Embankment and Cut-off Trench Construction**  
 THE AREA OF THE PROPOSED SWM POND SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOF-ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR REPRESENTATIVE USING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFROLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.  
 A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL.

**STORMWATER MANAGEMENT POND NOTES**  
 1. The stormwater management pond shall be constructed to the latest edition of NRCS's Pond Standard MD-378.  
 2. The stormwater management pond shall be constructed/converted after ALL upstream areas have been stabilized (i.e., established vegetation or paved) including the pond slopes.

**Pipe Conduits**  
 All pipes shall be circular in cross section.  
**Reinforced Concrete Pipe** - All of the following criteria shall apply for reinforced concrete pipe:  
 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.  
 2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its out-side diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.  
 3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.  
 4. Backfilling shall conform to "Structure Backfill".  
 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.  
**Plastic Pipe** - The following criteria shall apply for plastic pipe:  
 1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.  
 2. Joints and connections to anti-seep collars shall be completely watertight.  
 3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.  
 4. Backfilling shall conform to "Structure Backfill".  
 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.  
**Drainage Diaphragms** - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

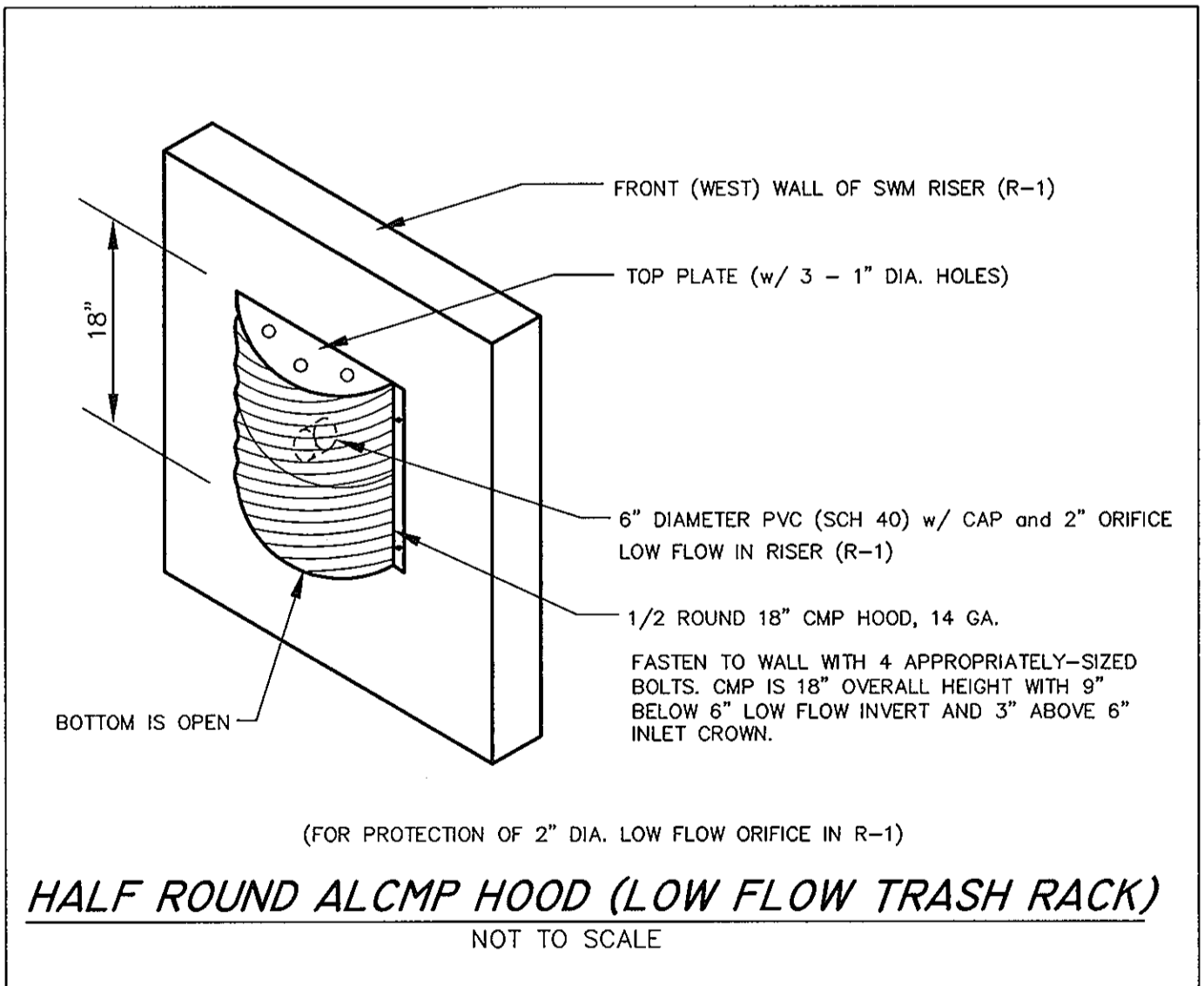
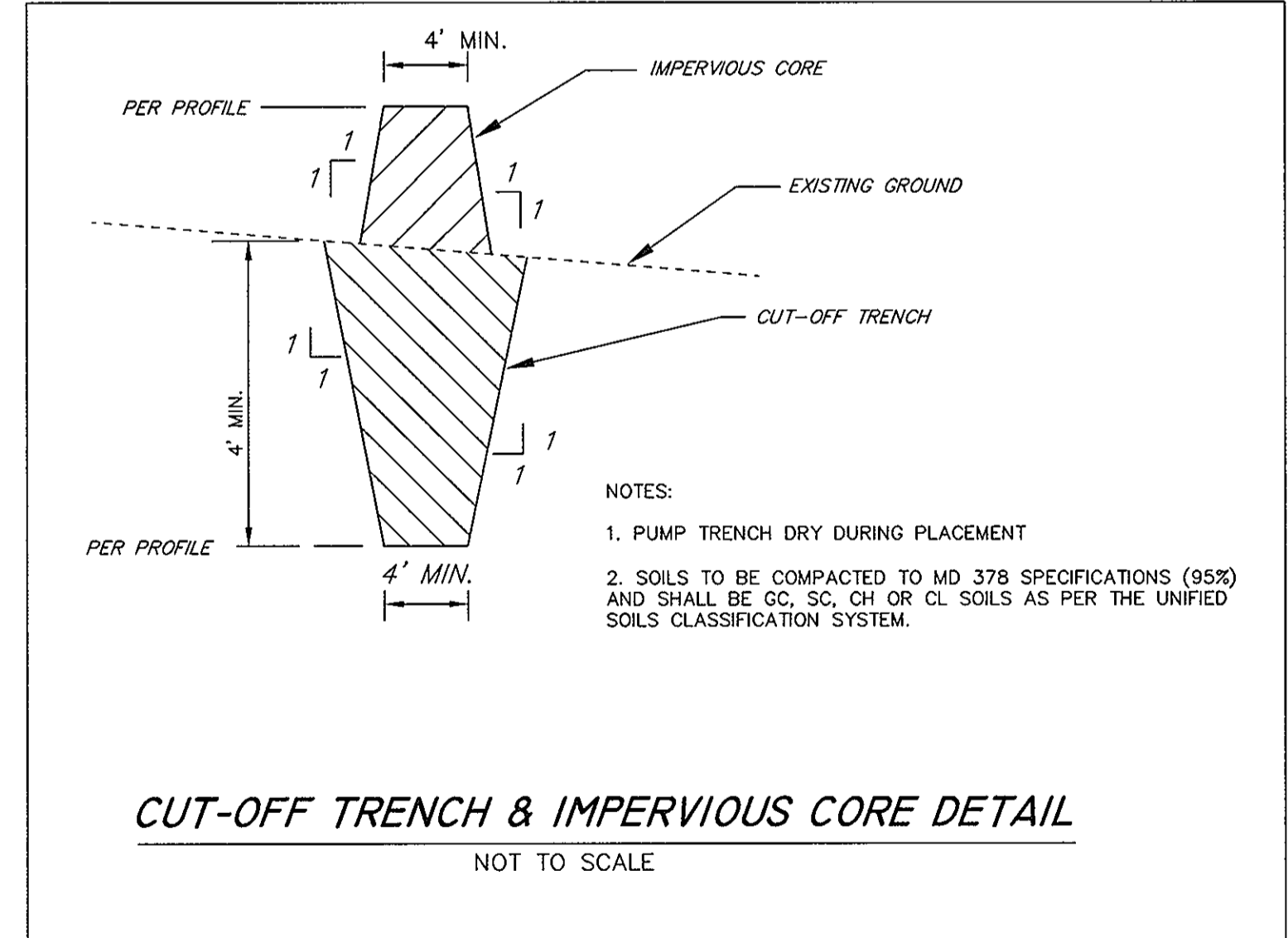
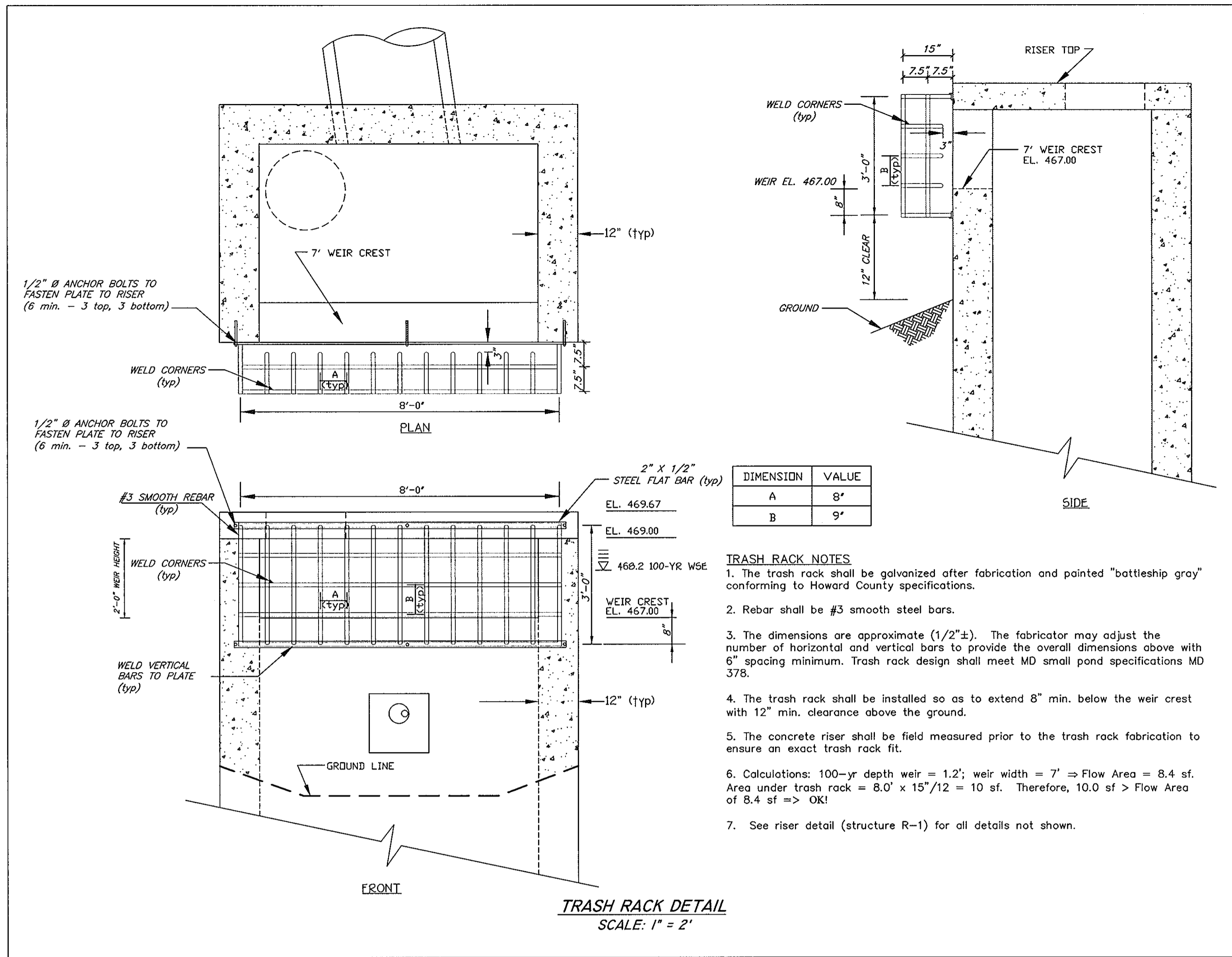
**Concrete**  
 Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

**Rock Riprap**  
 Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.  
 Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

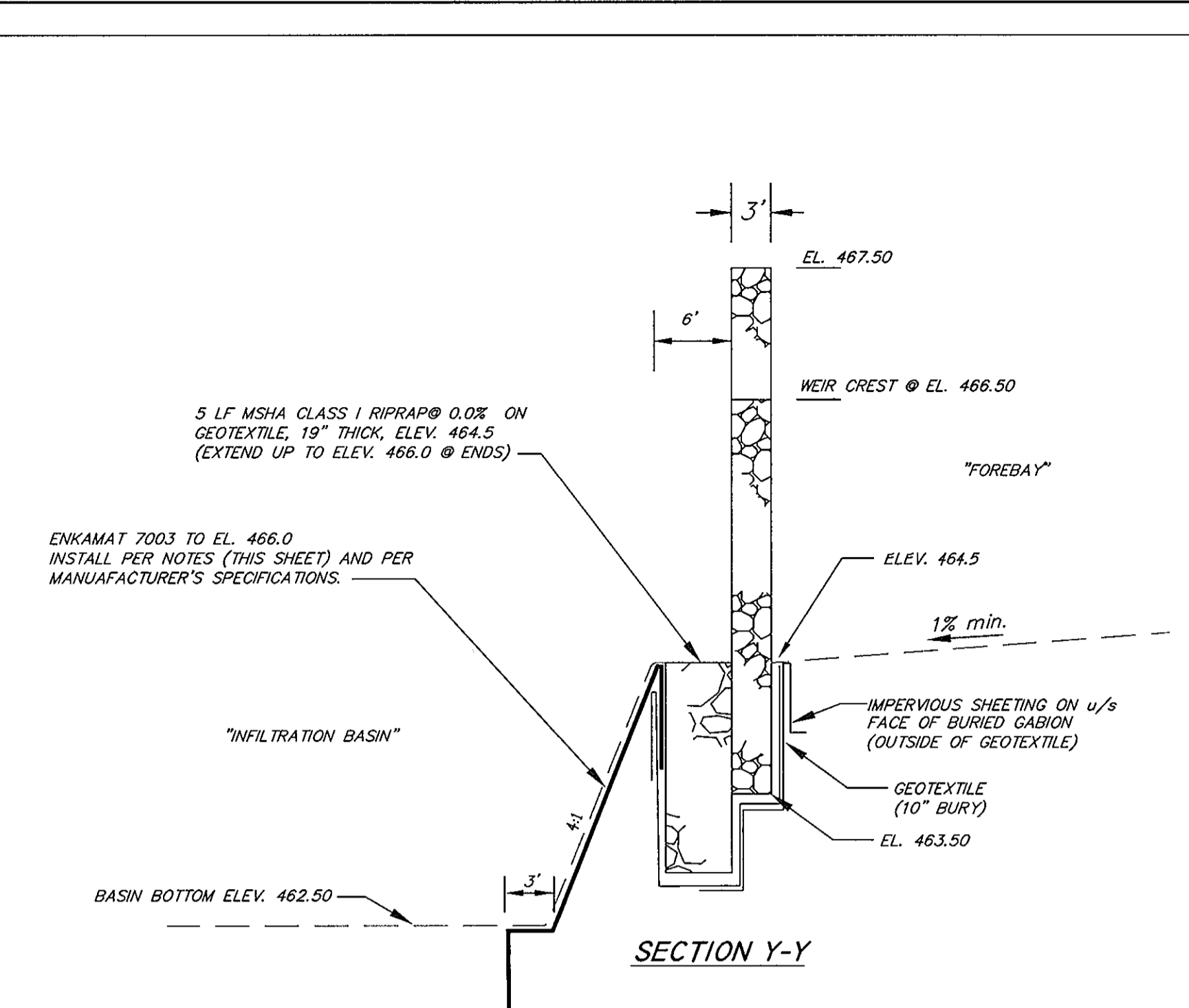
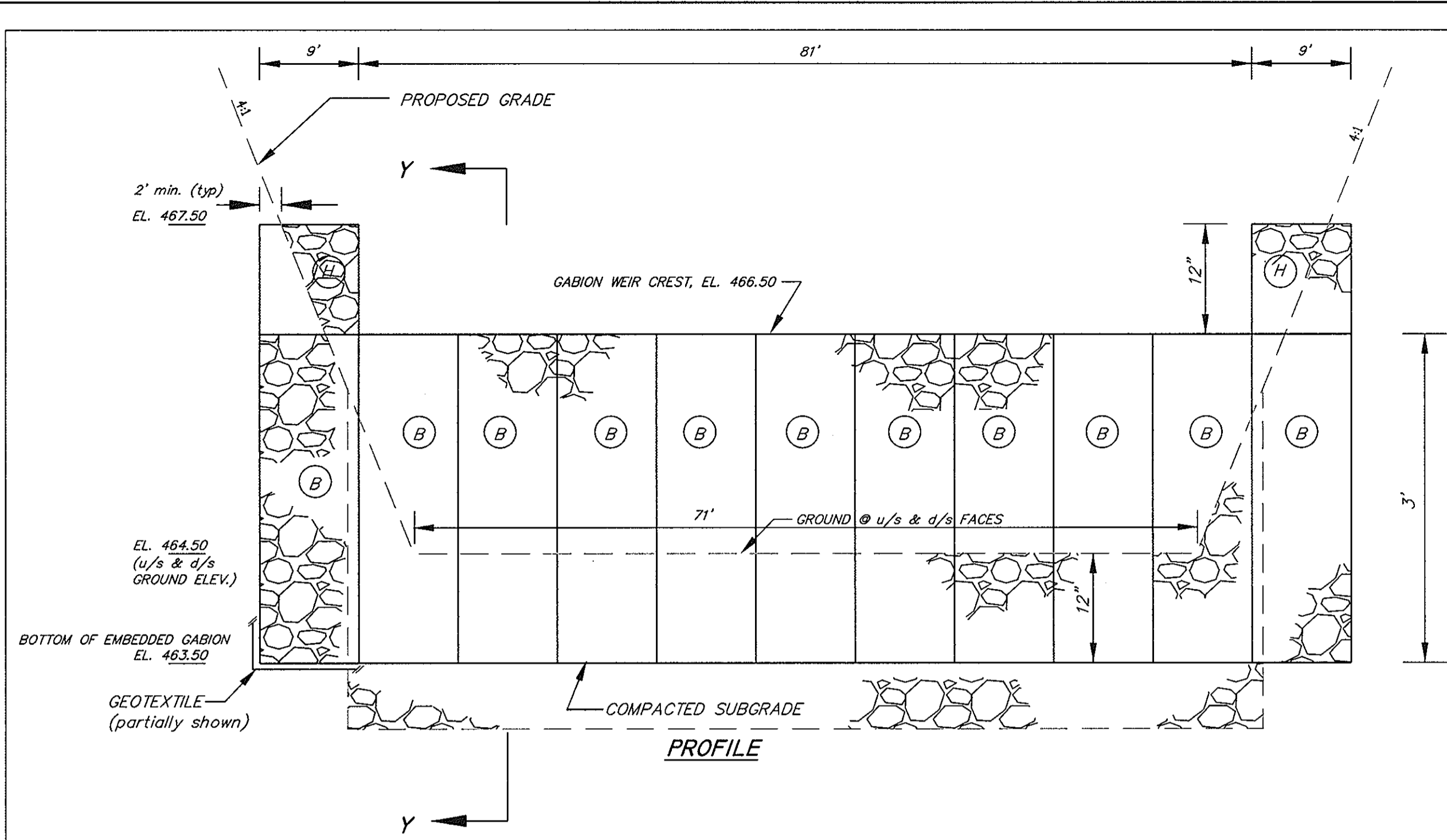
**Care of Water During Construction**  
 All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, in-still, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavation and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water pumps from which the water shall be pumped.

**Stabilization**  
 All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, soil or borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

**Erosion and Sediment Control**  
 Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.



<b>FISHER, COLLINS &amp; CARTER, INC.</b> CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS NATIONAL SQUARE OFFICE PARK - 1822 BALTIMORE NATIONAL FEE ELLICOTT CITY, MARYLAND 21042 (410) 461-2855	<b>DEVELOPER'S CERTIFICATE</b> 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.		<b>ENGINEER'S CERTIFICATE</b> 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.		PREPARED FOR HOWARD COUNTY PUBLIC SCHOOL SYSTEM 10910 Maryland Route 108 ELLICOTT CITY, Maryland 21042 Attention: Bruce Gist 410-313-6805	Address Chart Parcel Number: P. 471 Street Address: 9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042		<b>STORMWATER MANAGEMENT NOTES &amp; DETAILS (1)</b> <b>MOUNT HEBRON HIGH SCHOOL</b> HOWARD COUNTY BOARD OF EDUCATION, MT. HEBRON HIGH SCHOOL, PARKING LOTS AND SWM EXPANSIONS TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 10, 2009
	Signature Of Developer: <i>Bruce Gist</i> Printed Name Of Developer: BRUCE GIST Date: 5/24/09	Signature Of Engineer: <i>Charles J. Grovo, Sr.</i> Printed Name Of Engineer: CHARLES J. GROVO, SR. Date: 5/18/09	APPROVED DEPARTMENT OF PLANNING AND ZONING <i>Norma E. Swisher</i> Director - Department of Planning and Zoning Date: 6/29/09	ARCHITECT <b>SEAN SMOLEN - E.M.T.</b> 1355 PICCARD DRIVE, SUITE 200 ROCKVILLE, MD 20850 301-770-0177		PROJECT: MOUNT HEBRON HIGH SCHOOL SECTION/AREA: N/A PARCEL: 471 DEED REF.: 545/131, 406/222 BLOCK NO.: 9,10,15 & 16 ZONE: R-20 TAX MAP: 17 ELEC. DIST.: SECOND CENSUS TR.: 6021.00 WATER CODE: H03 SEWER CODE: 1406900	SHEET 17 OF 24 SDP-09-01	



FOREBAY GABION SCHEDULE		
LETTER CODE	QUANTITY	DIMENSIONS
(H)	2	9'x3'x1'
(B)	11	9'x3'x3'

- FOREBAY OUTFALL/GABION WEIR NOTES**
- Gabions shall be manufactured by Maccaferri Gabions Inc. or approved equal. The installation shall follow the manufacturer's specifications.
  - The gabion baskets shall be PVC coated and filled with clean 4" - 7" stone. Gabion stone shall be carefully placed as to create a tight interlocking stone wall with minimal voids.
  - One sheet of 8 mil or greater vinyl/plastic sheeting (or approved impervious equal) shall be carefully placed on the buried upstream (forebay side) face of the baskets and riprap next to the filter fabric. Use 2 ft overlap where applicable. Sheeting shall have NO tears or punctures after installation.
  - Gabions shall be placed on geotextile fabric (Mirafix 600x or approved equal) at all soil/gabion interfaces.
  - Gabions shall be carefully placed with no damaged wire. Earth foundation shall be firm. Fill soil around gabions shall be well-compacted.
  - Gabions shall be fastened together with appropriate wiring.

**FOREBAY OUTFALL/GABION WEIR DETAIL (G-1)**  
 SCALE:  
 HORZ: 1" = 10'  
 VERT: 1" = 1'

**ENKAMAT INSTALLATION NOTES**

The following notes outline the basic installation procedures for Enkamät (Turf Reinforcement Matting or TRM). The contractor shall contact Colbond, Inc. (800-365-7390) to obtain a detailed installation guide, specifications, and notes.

**SITE PREPARATION:** The area shall be uniformly graded and free of soil clumps, stones, debris, vehicle imprints, or anything that would prevent the Enkamät from lying flush to the ground surface. For this application, it is especially important that the TRM maintain an intimate contact with the ground due to the expected water flow from the forebay.

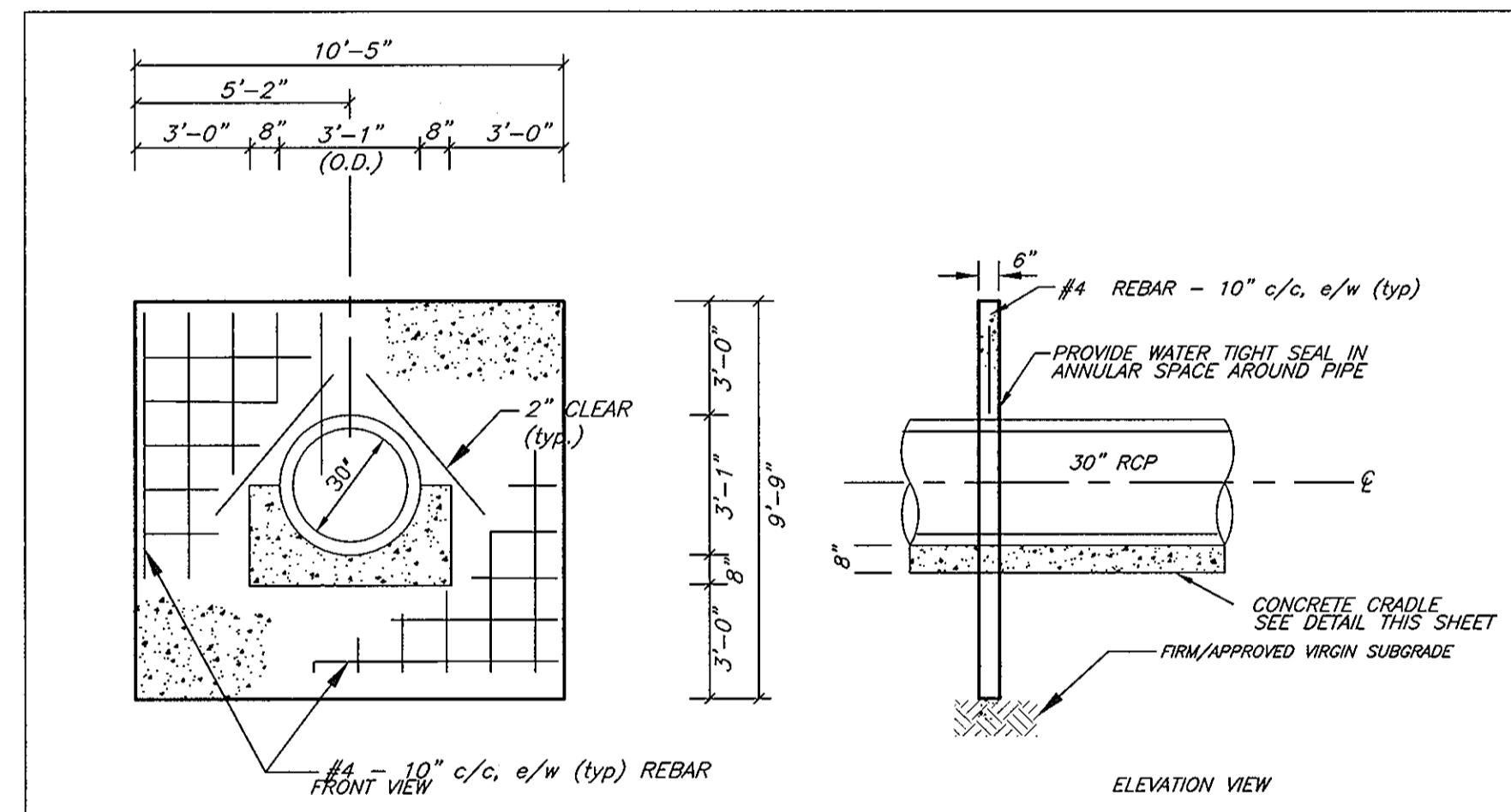
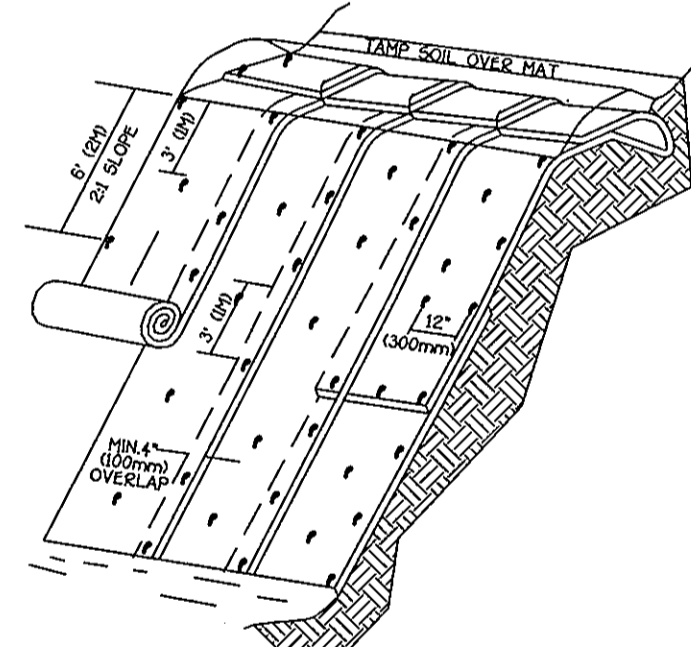
**ANCHOR TRENCH:** Anchor trenches are required to securely fasten the Enkamät to the ground surface. The anchor trench/intermediate check slots are then backfilled and compacted in a manner as to not damage the Enkamät.

**ENKAMAT INSTALLATION:** Roll the Enkamät down the slope. The overlap between rolls is 4 inches. The splice between rolls is 2 and 3 feet, shingle the roll in the direction of water flow. Install pins down the center of each mat (mat is 3.25 feet wide) staggering them between the outside pins with a spacing interval of 3 to 5 feet. Pin patterns will vary depending upon application, soil type, slope or channel/slope geometry, etc. A rule of thumb for estimating the required number of pins for a project is 2-3 pins per sq. yd. (for 3:1 and lesser slopes).

**ANCHORING/FASTENING DEVICES:** Wire (sod) staples (U-shaped), geotextile pins or (triangular) wooden stakes can be used as fasteners. Staples should be made from a minimum 11 gauge metal wire and metal pins should have a minimum diameter of 3/16" with a 1.5" steel washer at one end to form a head. Staple/pin length will vary (6"-10") according to soil conditions but should be a minimum 6" and have a ground penetration sufficient to resist pulling out once installed. Staples/pins should be installed flush with the soil surface. If wooden stakes are used, approximately 2" of the stake should remain above ground to secure the Enkamät. In some cases 12"-30" J-shaped pins are used that are made from re-bar with a minimum diameter of 1/4".

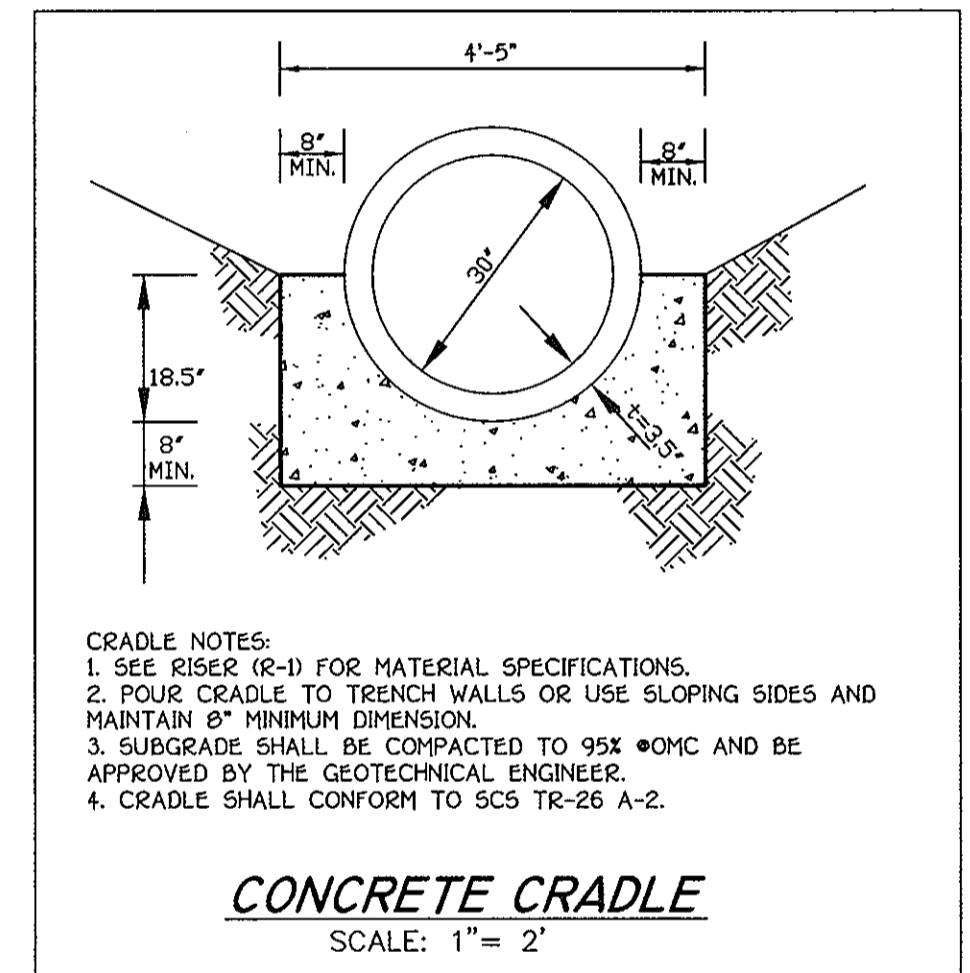
**SEEDING AND SOIL FILLING:** Prior to seeding, place 1/2" to 3/4" of fine soil and work into the open structure of the Enkamät. You may also seed before and after soil filling to create a better established root structure and increase vegetation strength. Check with your local seeding consultant to verify appropriate seed and fertilizer mixture.

**SOD INSTALLATION:** If covering Enkamät with sod, soil filling is required. Place sod in the direction of water flow. Periodically install a row or two perpendicular to the flow to reduce the possibility of water flowing along the seams of the sod. In most cases, you should pin the sod down to prevent movement.



- ANTI-SEEP COLLAR NOTES**
- LOWER HALF OF COLLAR SHALL BE POURED CONCURRENTLY WITH THE CRADLE POUR.
  - REBAR IS SHOWN SCHEMATICALLY AND SHALL BE PLACED THROUGHOUT THE ENTIRE COLLAR.
  - PROVIDE A WATER TIGHT SEAL IN ANNULAR SPACE BETWEEN PIPE AND COLLAR USING MASTIC SEALOR USE AN "A-LOK" JOINT SEAL PRODUCT.
  - LOCATE COLLAR 2" MINIMUM FROM JOINT AND MAINTAIN 13' MINIMUM SEPARATION FROM COLLAR TO COLLAR OR COLLAR TO RISER.
  - PLACE TWO (2) ADDITIONAL REBARS (4' MIN. LONG) AT RIGHT ANGLES TO REBAR GRID 2" FROM PIPE O.D.
  - COLLAR MATERIAL SPECIFICATIONS SHALL MEET THE SAME AS THAT FOR THE CONCRETE RISER (SWM OUTFALL) STRUCTURE.

**ANTI-SEEP CONCRETE COLLAR DETAIL**  
 SCALE: 1" = 4'



- CRADLE NOTES:**
- SEE RISER (R-1) FOR MATERIAL SPECIFICATIONS.
  - POUR CRADLE TO TRENCH WALLS OR USE SLOPING SIDES AND MAINTAIN 8" MINIMUM DIMENSION.
  - SUBGRADE SHALL BE COMPACTED TO 95% OMC AND BE APPROVED BY THE GEOTECHNICAL ENGINEER.
  - CRADLE SHALL CONFORM TO SC5 TR-26 A-2.

**CONCRETE CRADLE**  
 SCALE: 1" = 2'

**AS-BUILT CERTIFICATION**

I hereby certify that the facility shown on this plan was constructed as shown on the "As-Built" Plans and meets the approved plans and specifications.

Signature: \_\_\_\_\_ P.E. No. \_\_\_\_\_  
 Date: \_\_\_\_\_

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

**DEVELOPER'S CERTIFICATE**

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Signature of Developer: *Ben Gist* Date: *5/12/09*  
 Printed Name of Developer: **BEN GIST**

**ENGINEER'S CERTIFICATE**

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: *Charles J. Casano* Date: *5/18/09*  
 Printed Name of Engineer: **CHARLES J. CASANO, SR.**

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *Charles J. Casano* Date: *4/6/09*  
 Howard Soil Conservation District

APPROVED DEPARTMENT OF PLANNING AND ZONING

Signature: *Thomas J. Suddler* Date: *6/29/09*  
 Director - Department of Planning and Zoning

Signature: *Charles J. Casano* Date: *6/29/09*  
 Chief, Division of Land Development

Signature: *David Casano* Date: *6-9-09*  
 Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

ARCHITECT  
**SEAN**  
 S m o l e n = E m t  
 1355 PICARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLCOTT CITY, MD. 21042				
PROJECT					
MOUNT HEBRON HIGH SCHOOL	SECTION/AREA N/A PARCEL 471				
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE		SEWER CODE			
H03		1406900			

**STORMWATER MANAGEMENT NOTES & DETAILS (2)**

**MOUNT HEBRON HIGH SCHOOL**

HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

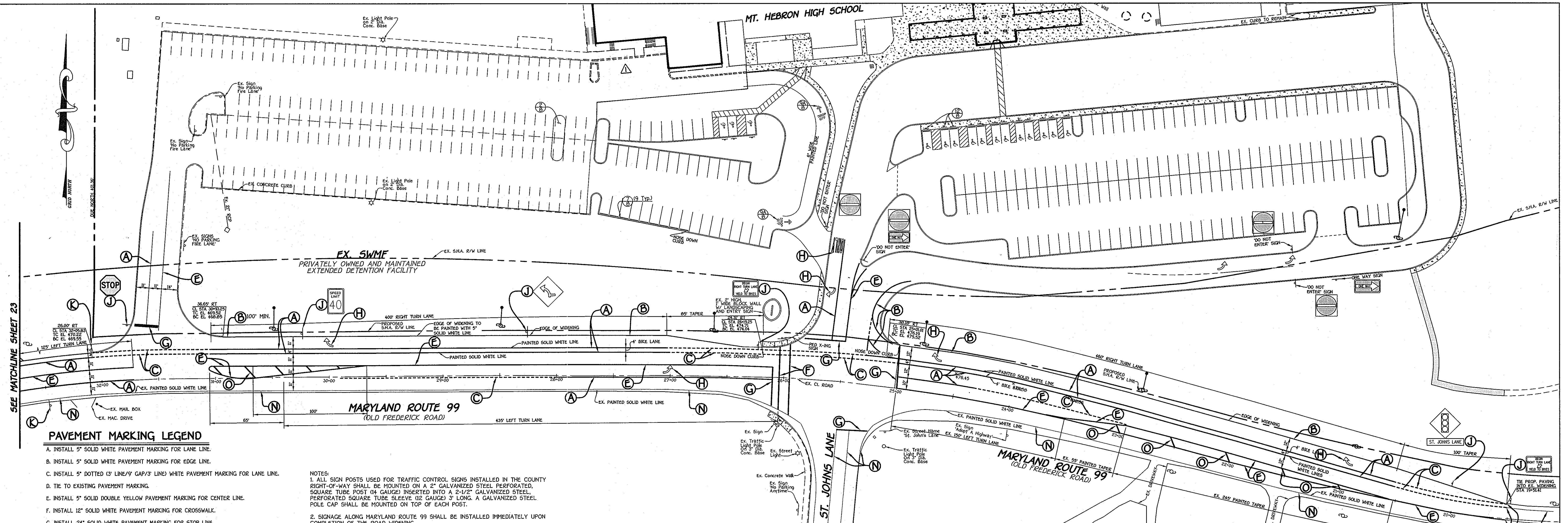
TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 18 OF 24 SDP-09-01



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. 13204, Expiration Date: November 3, 2010.

*Charles J. Casano, Sr., P.E.*  
 DATE: *5/18/09*



**PAVEMENT MARKING LEGEND**

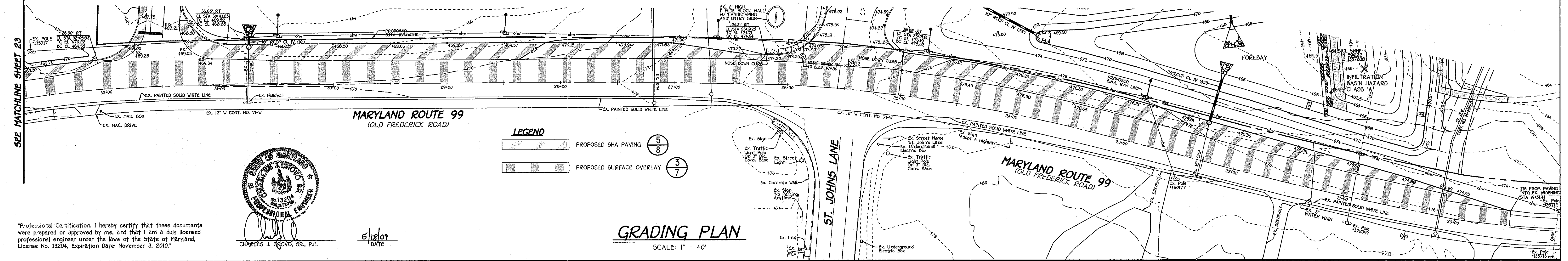
- A. INSTALL 5" SOLID WHITE PAVEMENT MARKING FOR LANE LINE.
- B. INSTALL 5" SOLID WHITE PAVEMENT MARKING FOR EDGE LINE.
- C. INSTALL 5" DOTTED (3" LINE/9" GAP/3" LINE) WHITE PAVEMENT MARKING FOR LANE LINE.
- D. TIE TO EXISTING PAVEMENT MARKING.
- E. INSTALL 5" SOLID DOUBLE YELLOW PAVEMENT MARKING FOR CENTER LINE.
- F. INSTALL 12" SOLID WHITE PAVEMENT MARKING FOR CROSSWALK.
- G. INSTALL 24" SOLID WHITE PAVEMENT MARKING FOR STOP LINE.
- H. INSTALL WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING SYMBOL.
- J. INSTALL GROUND MOUNTED SIGN.
- K. EXISTING GROUND MOUNTED SIGN TO REMAIN.
- L. REMOVE EXISTING GROUND MOUNTED SIGN.
- M. REMOVE EXISTING PAVEMENT MARKING BY GRINDING.
- N. USE EXISTING PAVEMENT MARKINGS.
- O. INSTALL 10" SOLID YELLOW PAVEMENT MARKING FOR HATCH LINE.

**NOTES:**

- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (2 GAUGE) 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- SIGNAGE ALONG MARYLAND ROUTE 99 SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE ROAD WIDENING.
- ALL PAINT FOR PARKING STRIPING, BUS LOOP STRIPING, HANDICAPPED SYMBOLS AND CROSSWALKS TO BE ACRYLIC OR LATEX PAINT ESPECIALLY FORMULATED AND MANUFACTURED FOR USE ON ASPHALTIC CONCRETE UNDER TRAFFIC CONDITIONS. ACCEPTABLE STRIPING PAINTS ARE "NON-REFLECTIONIZED" BY SHERWIN WILLIAMS OR "IRON-CLAD" BY BENJAMIN MOORE. PARKING STRIPES SHALL BE 4" WIDE WHITE UNLESS OTHERWISE NOTED. ACCESSIBLE SPACE STENCIL SHALL BE PAINTED BLUE IN ACCORDANCE WITH FEDERAL STANDARD 5952.
- ALL PAVEMENT MARKINGS WITHIN SHA RIGHT OF WAY SHALL BE "PERFORMED THERMOPLASTIC PAVEMENT MARKING LINES" OF APPROPRIATE WIDTH AND COLOR. PAVEMENT ARROWS SHALL BE "WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING" MATERIAL.

**PAVEMENT MARKING AND SIGN PLAN**

SCALE: 1" = 40'



**GRADING PLAN**

SCALE: 1" = 40'

- LEGEND**
- PROPOSED SHA PAVING (5/8)
  - PROPOSED SURFACE OVERLAY (3/7)

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. 13204, Expiration Date: November 3, 2010.



6/18/09 DATE

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 13272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 410-410-2895

DATE	DESCRIPTION
3/2/10	Revised exist. curb & sidewalk in front of building
REVISION BLOCK	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas E. Suttle</i>	6/28/09
Director - Department of Planning and Zoning	Date
<i>Cindy Hamer</i>	6/29/09
Chief, Division of Land Development	Date
<i>Paul Caruso</i>	6-9-9
Chief, Development Engineering Division	Date

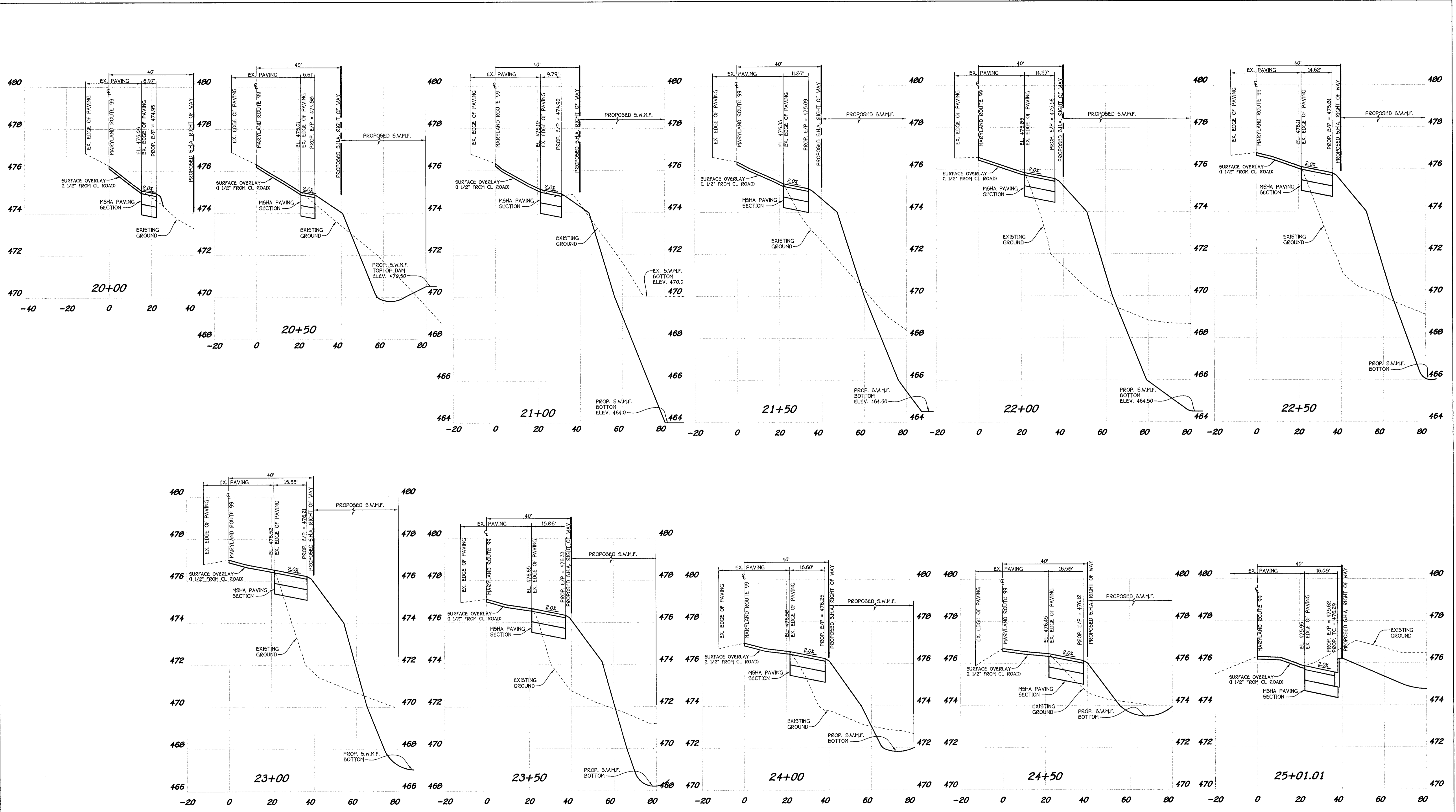
PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805



Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042
PROJECT	SECTION/AREA
MOUNT HEBRON HIGH SCHOOL	N/A
DEED REF.	BLOCK NO.
545/131	9,10,15 & 16
406/222	ZONE
	R-20
	TAX MAP
	17
	ELEC. DIST.
	SECOND
	CENSUS TR.
	6021.00
WATER CODE	SEWER CODE
H03	1406900

PAVEMENT MARKING AND GRADING PLAN AT MD. ROUTE 99 AND ST. JOHNS LANE	
<b>MOUNT HEBRON HIGH SCHOOL</b>	
HOWARD COUNTY BOARD OF EDUCATION, MT. HEBRON HIGH SCHOOL, PARKING LOTS AND SWM EXPANSIONS	
TAX MAP No. 17	GRID No. 9, 10, 15, 16
SECOND ELECTION DISTRICT	PARCEL No. 471
SCALE: 1" = 40'	HOWARD COUNTY, MARYLAND
	DATE: APRIL 10, 2009
SHEET 19 OF 24	SDP-09-01

**SDP 09-01**



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL FREE  
 ELLICOTT CITY, MARYLAND 21114  
 410-481-2855

"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. 13204, Expiration Date: November 3, 2010."



CHARLES J. CROVO, SR., P.E. DATE: 5/13/09

DATE	DESCRIPTION	REVISION BLOCK
APPROVED DEPARTMENT OF PLANNING AND ZONING		
<i>Thomas B. Stuller</i>	Director - Department of Planning and Zoning	6/29/09
<i>Charles J. Crovo, Sr.</i>	Chief, Division of Land Development	6/29/09
<i>John L. Edwards</i>	Chief, Development Engineering Division	6-9-9

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10310 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention Bruce Gist  
 410-313-6805

ARCHITECT  
**SEEM**  
 Smolen + Em  
 1355 PICCARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-0177

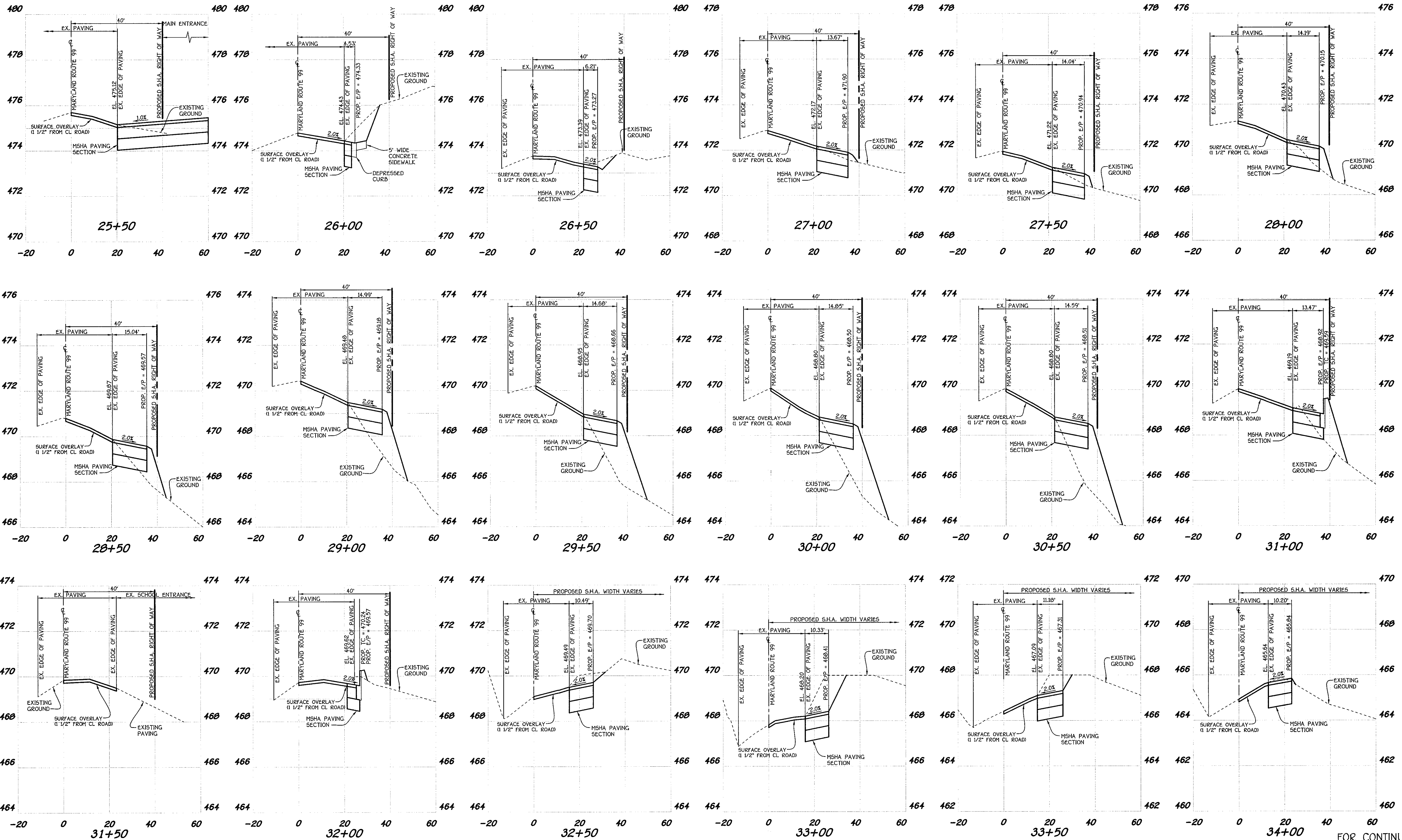
Address Chart					
Parcel Number	Street Address				
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042				
PROJECT	SECTION/AREA	PARCEL			
MOUNT HEBRON HIGH SCHOOL	N/A	471			
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00
WATER CODE	SEWER CODE				
H03	1406900				

MD. ROUTE 99 ROAD SECTIONS

**MOUNT HEBRON HIGH SCHOOL**  
 HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

TAX MAP No: 17 GRID No: 9, 10, 15, 16 PARCEL No: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: H=20', V=2" DATE: APRIL 10, 2009

SHEET 20 OF 24 SDP-09-01



FOR CONTINUATION OF CROSS SECTIONS SEE SHEET 23

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SOURCE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21114  
 410-461-2555



"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. 13204, Expiration Date: November 3, 2010."

CHARLES I. GROVO, SR., P.E.  
 5/18/09  
 DATE

DATE	DESCRIPTION
	REVISION BLOCK
	APPROVED: DEPARTMENT OF PLANNING AND ZONING
	<i>Morgan G. Suttle</i> Director - Department of Planning and Zoning
	<i>Charles I. Grovo, Sr.</i> Chief, Division of Land Development
	<i>Paul R. Windsor</i> Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

ARCHITECT  
**SEAN**  
 Solomon - E.M.R.  
 1355 PICCARD DRIVE, SUITE 200  
 ROCKVILLE, MD 20850  
 301-770-9177

Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042
PROJECT	SECTION/AREA
MOUNT HEBRON HIGH SCHOOL	N/A
DEED REF.	BLOCK NO.
545/131 406/222	9,10,15 & 16
WATER CODE	SEWER CODE
H03	1406900

MD. ROUTE 99 ROAD SECTIONS

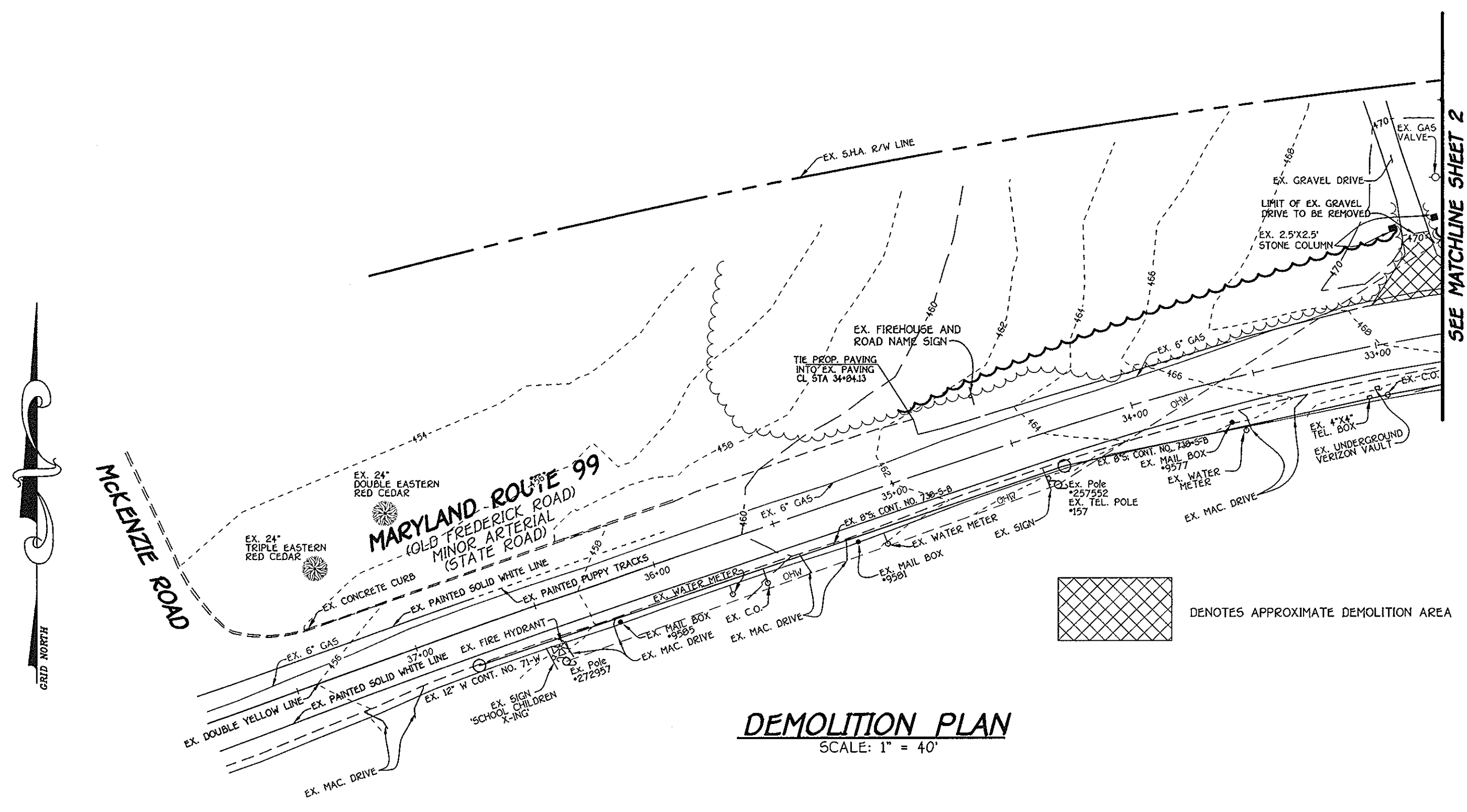
**MOUNT HEBRON HIGH SCHOOL**

HOWARD COUNTY BOARD OF EDUCATION,  
 MT. HEBRON HIGH SCHOOL,  
 PARKING LOTS AND SWM EXPANSIONS

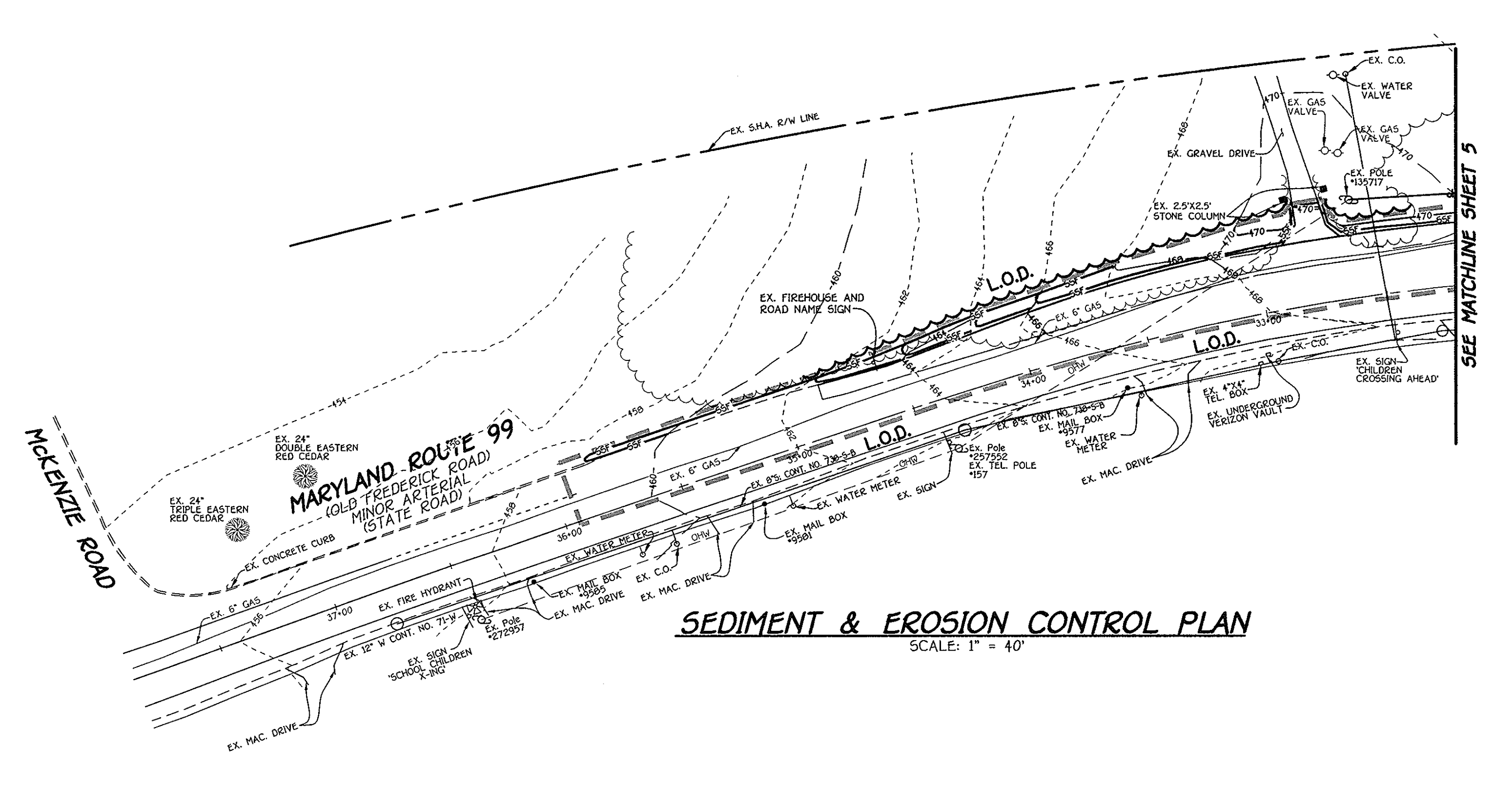
TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: H=20', V=2' DATE: APRIL 10, 2009

SHEET 21 OF 24 SDP-09-01

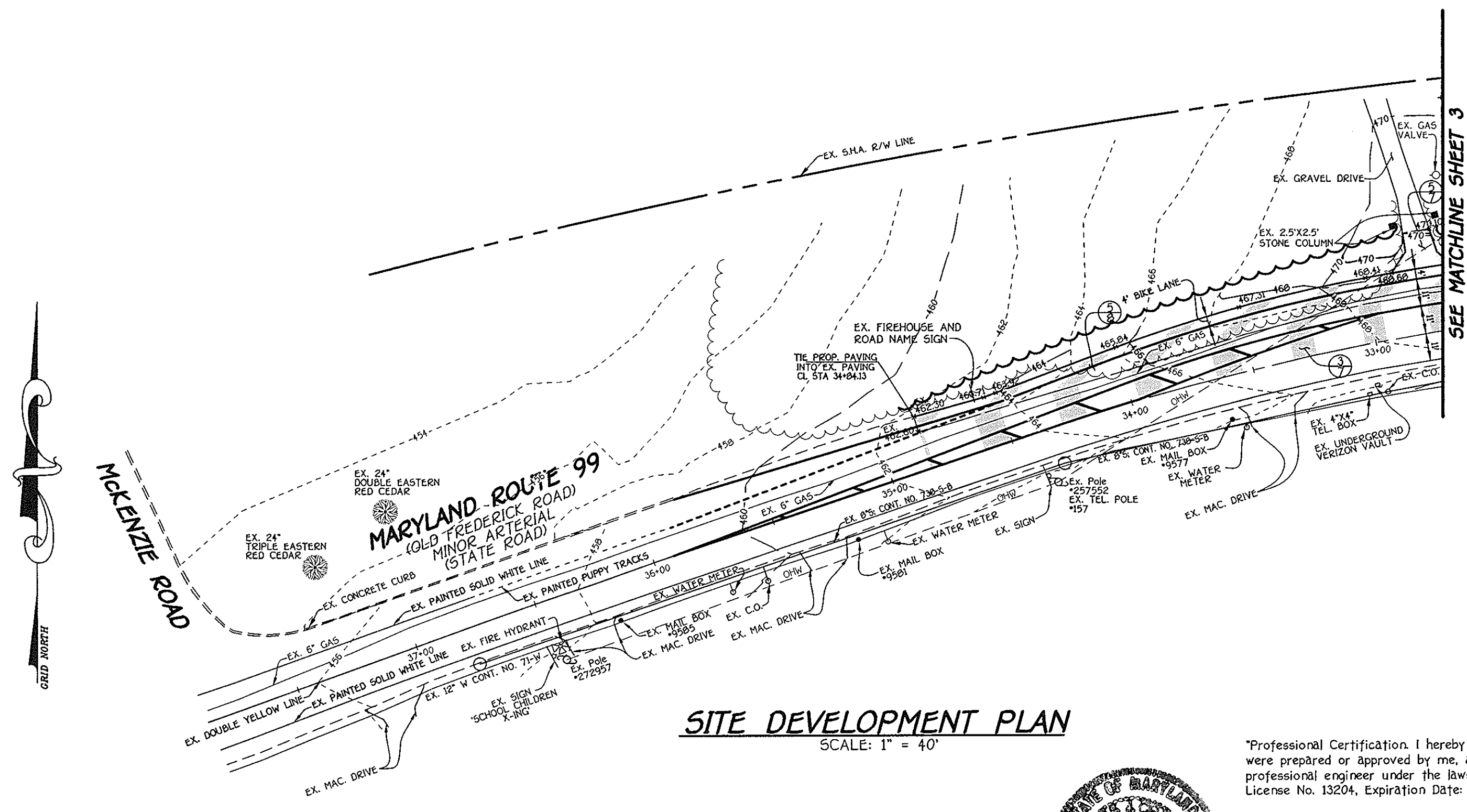
SDP09-01



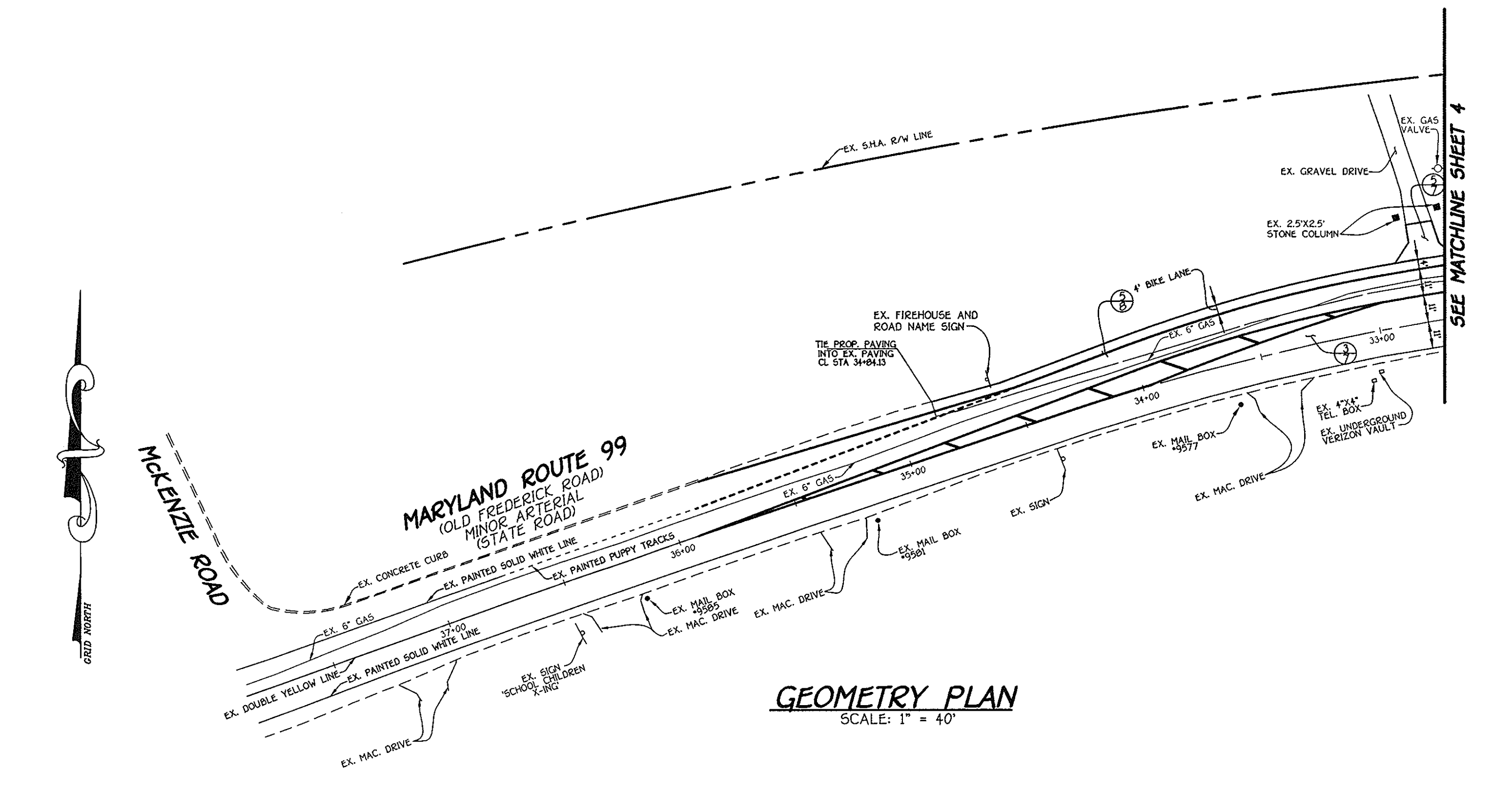
**DEMOLITION PLAN**  
SCALE: 1" = 40'



**SEDIMENT & EROSION CONTROL PLAN**  
SCALE: 1" = 40'

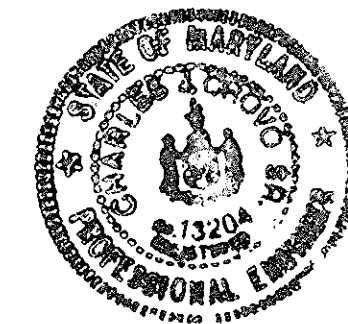


**SITE DEVELOPMENT PLAN**  
SCALE: 1" = 40'



**GEOMETRY PLAN**  
SCALE: 1" = 40'

"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. 13204, Expiration Date: November 3, 2010."



*Charles J. Grovo, Sr., P.E.*  
CHARLES J. GROVO, SR., P.E.  
5/18/09  
DATE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
4109 461 - 2955

**ENGINEER'S CERTIFICATE**  
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."  
Signature of Engineer: *Charles J. Grovo, Sr.*  
Date: 5/18/09

**DEVELOPER'S CERTIFICATE**  
"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."  
Signature of Developer: *ESW*  
Date: 5/18/09

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
Signature: *Howard SCB*  
Date: \_\_\_\_\_

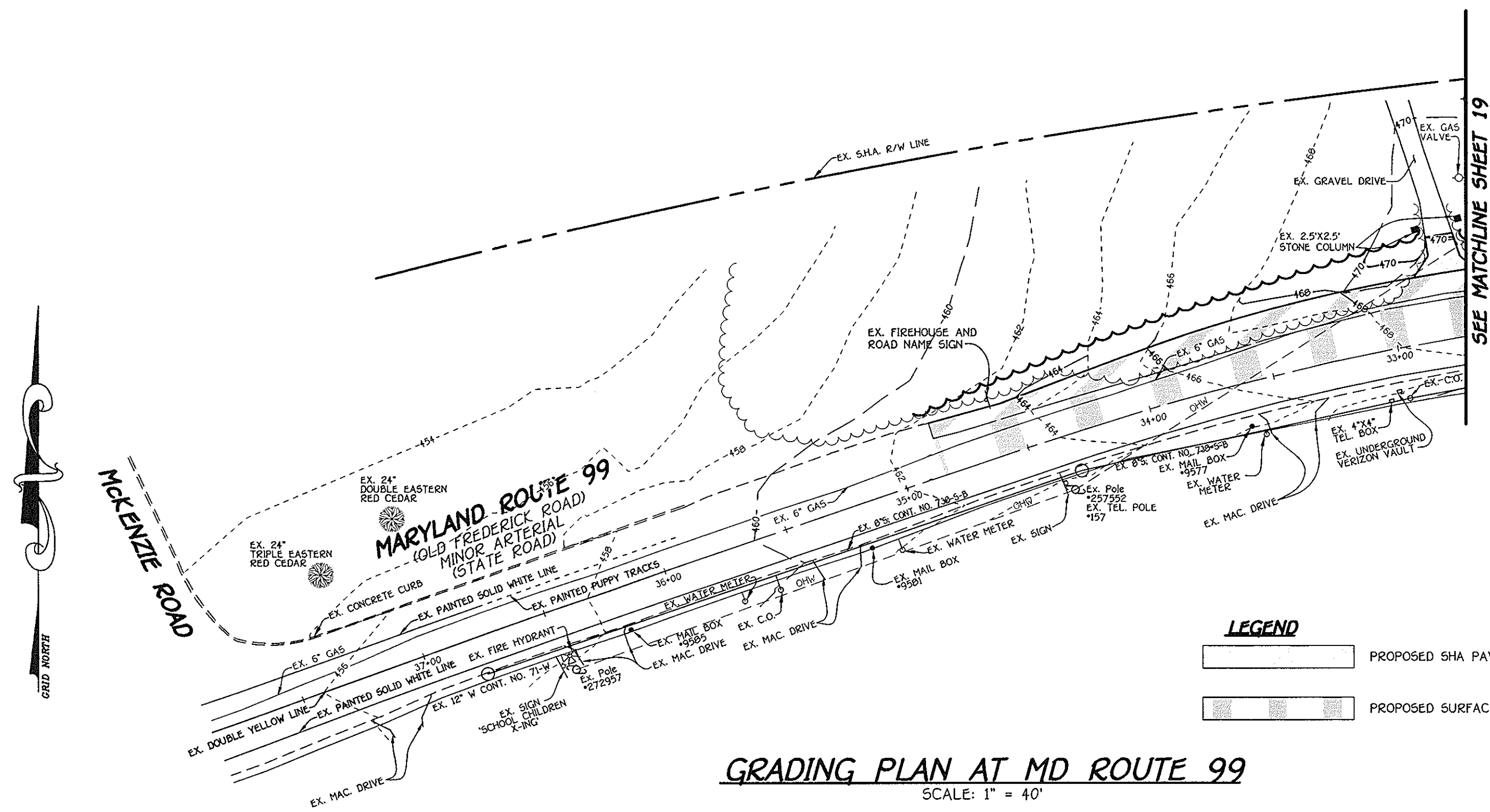
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Director: *Thomas J. Butler* Date: 6/29/09  
Chief, Division of Land Development: *Andy Harris* Date: 6/9/09  
Chief, Development Engineering Division: *Paul Chandra* Date: \_\_\_\_\_

PREPARED FOR:  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Elicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6005

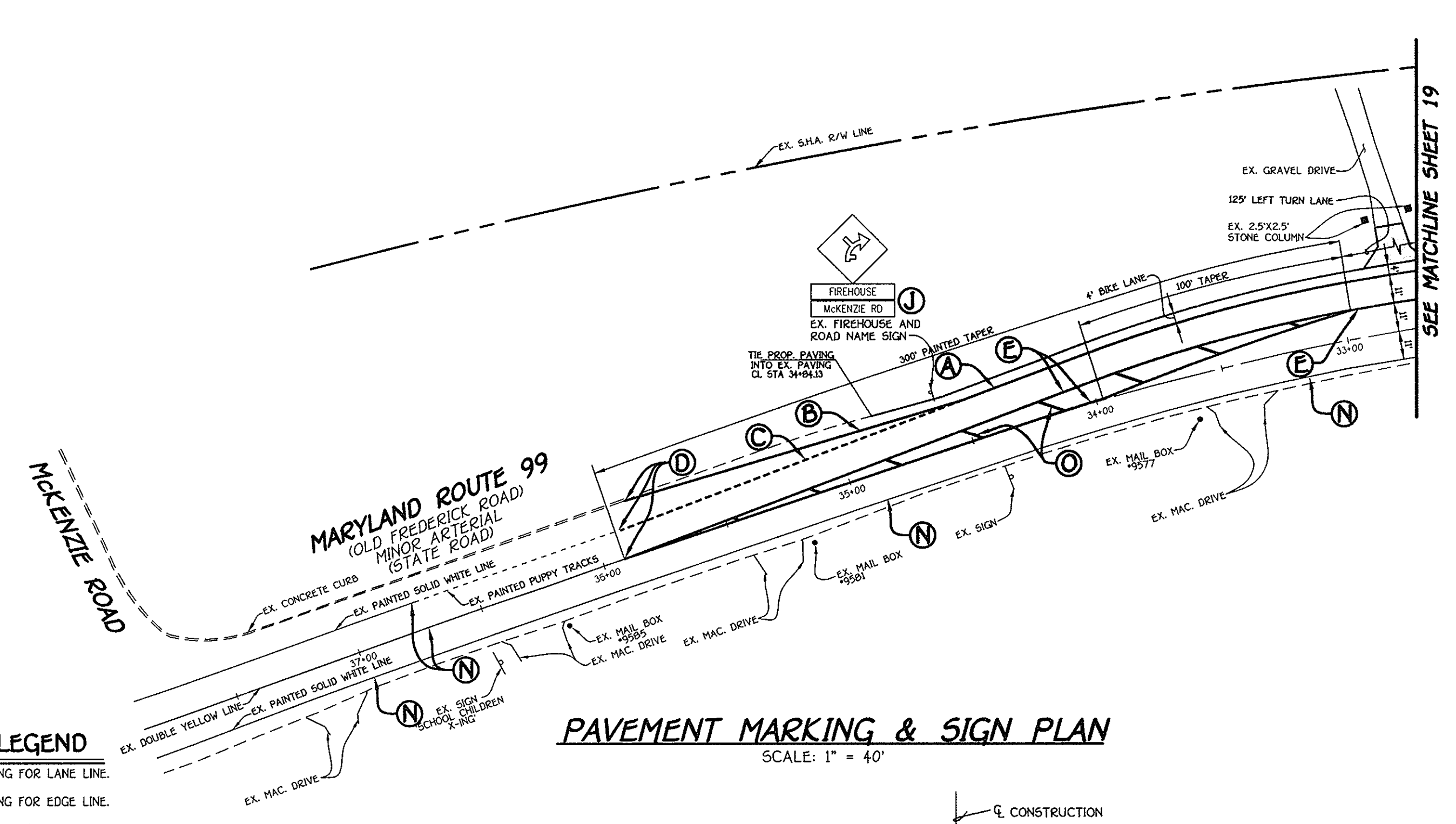


Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELICOTT CITY, MD. 21042
PROJECT	
MOUNT HEBRON HIGH SCHOOL	SECTION/AREA N/A
DEED REF. 545/131 406/222	BLOCK NO. 9,10,15 & 16
ZONE R-20	TAX MAP 17
ELEC. DIST. SECOND	CENSUS TR. 6021.00
WATER CODE H03	SEWER CODE 1406900

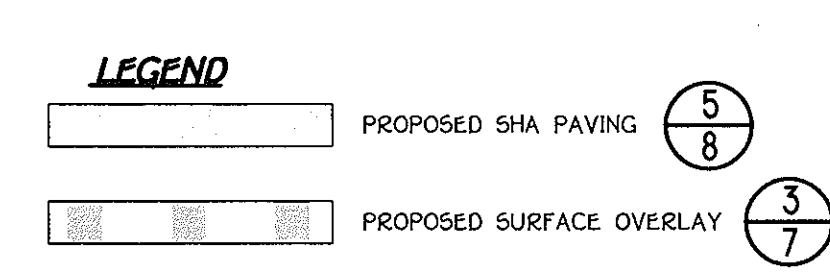
**PLAN VIEW OF MD ROUTE 99 EXTENSION**  
**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS  
TAX MAP No: 17 GRID No: 9, 10, 15, 16 PARCEL No: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 40' DATE: APRIL 10, 2009  
SHEET 22 OF 24 SDP-09-01



**GRADING PLAN AT MD ROUTE 99**  
SCALE: 1" = 40'

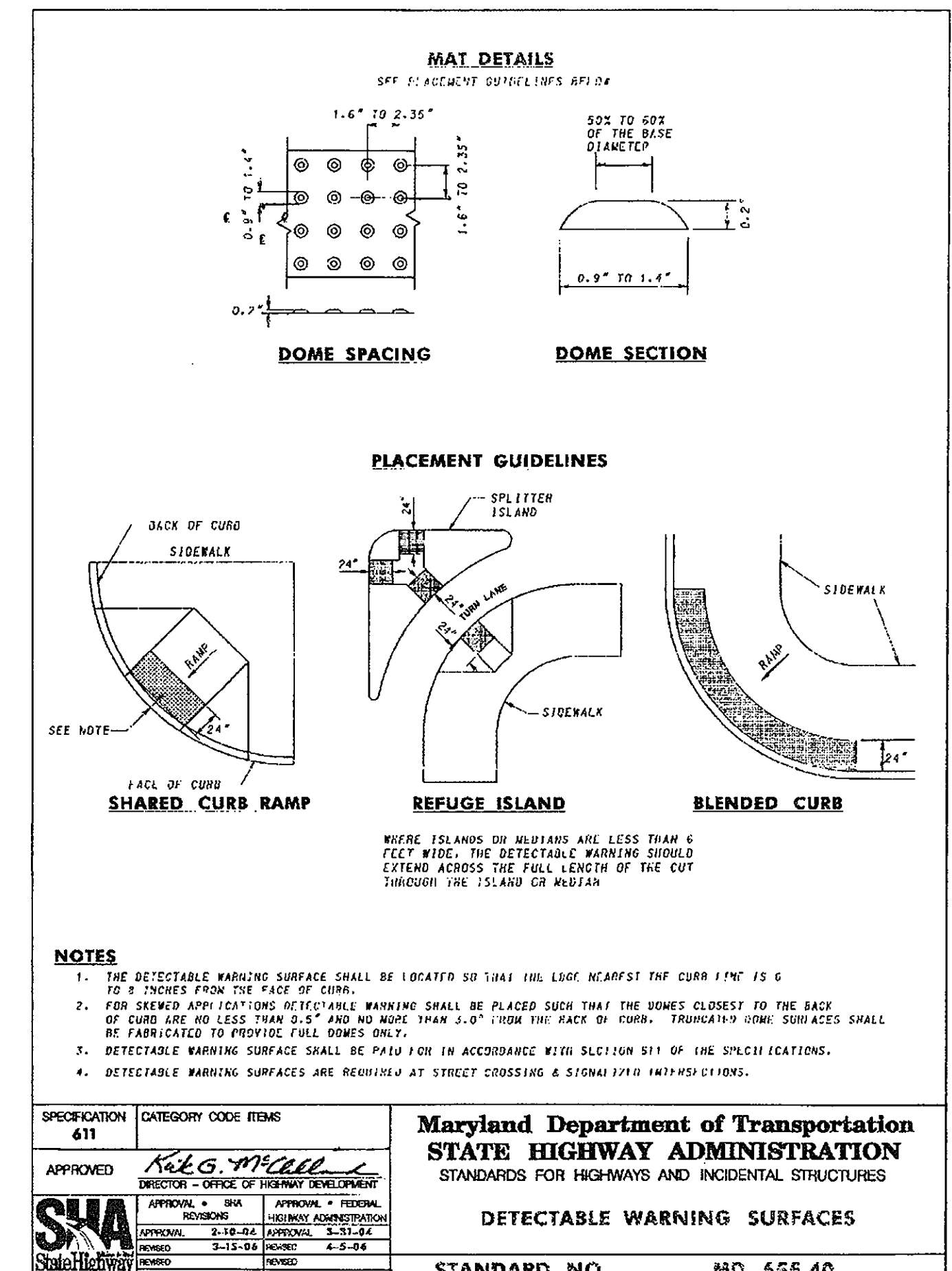
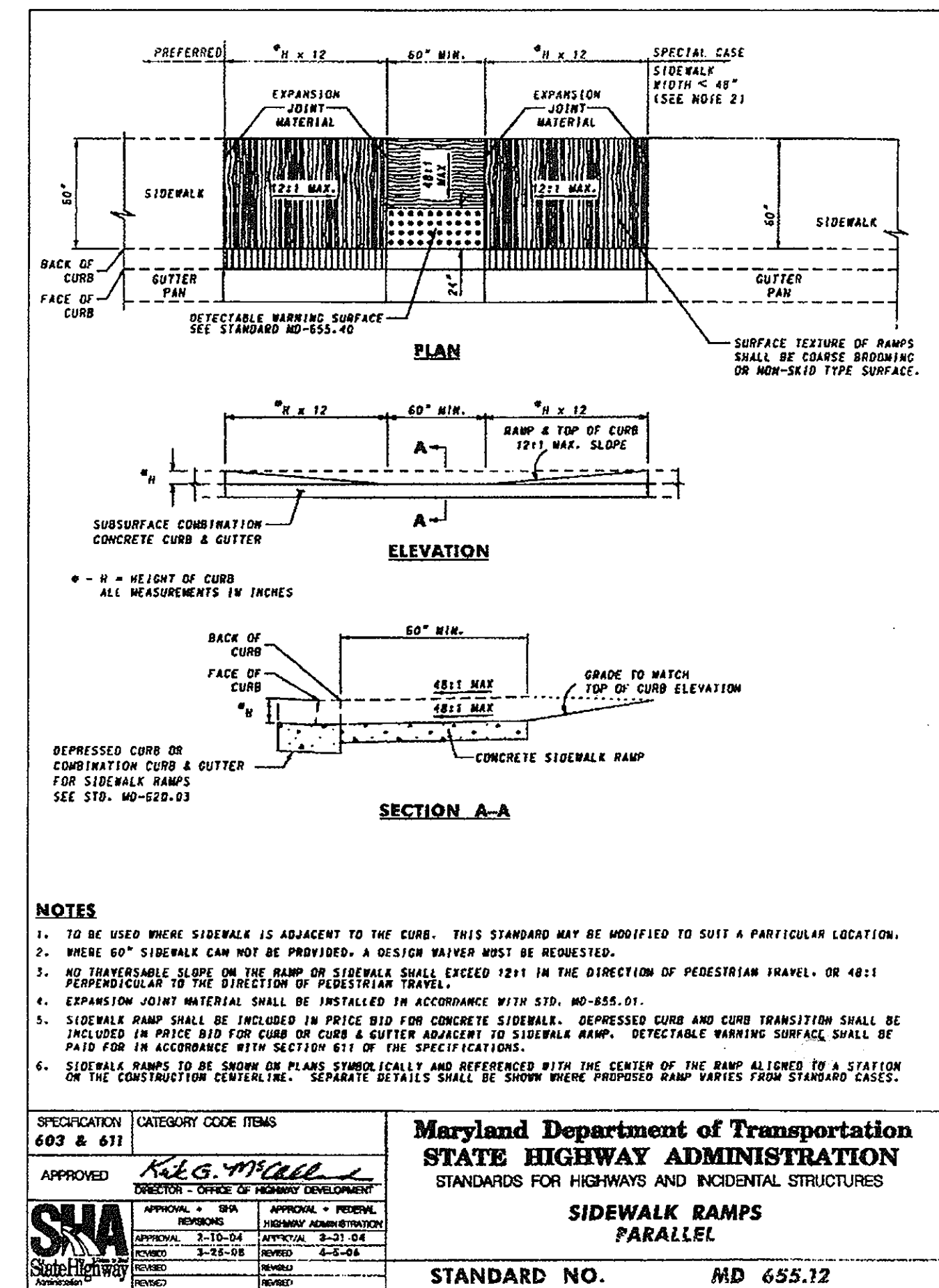
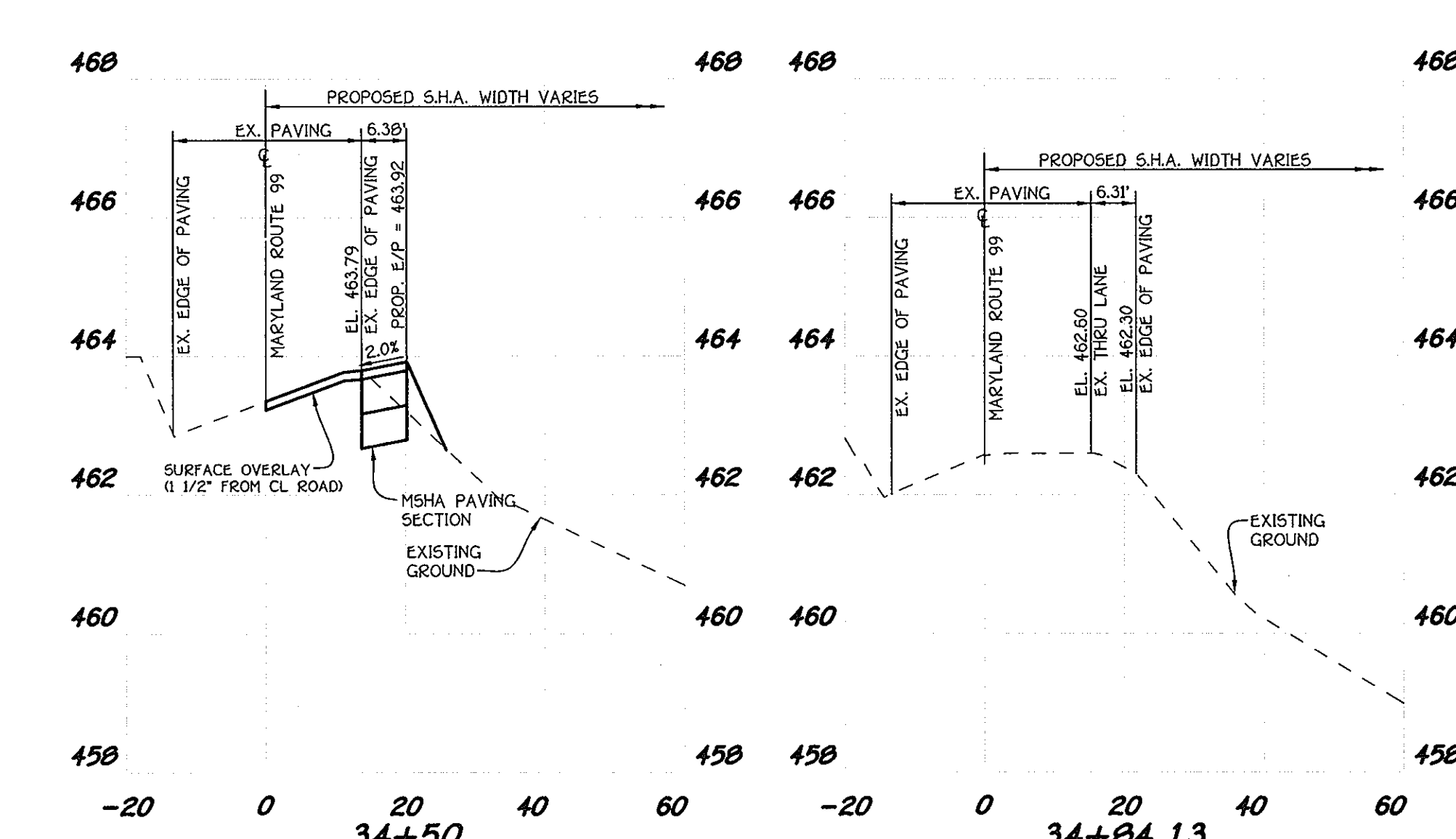
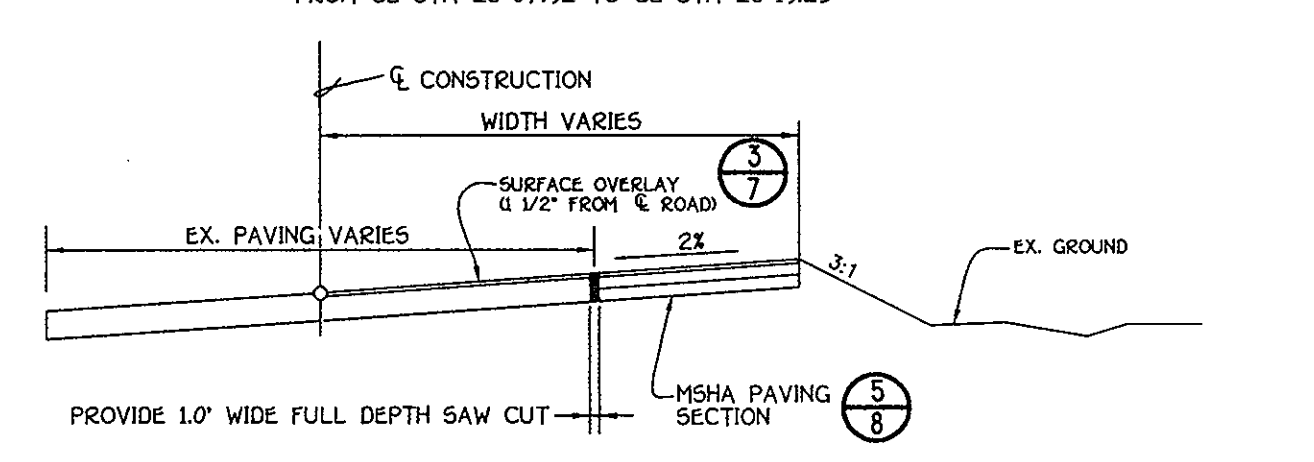
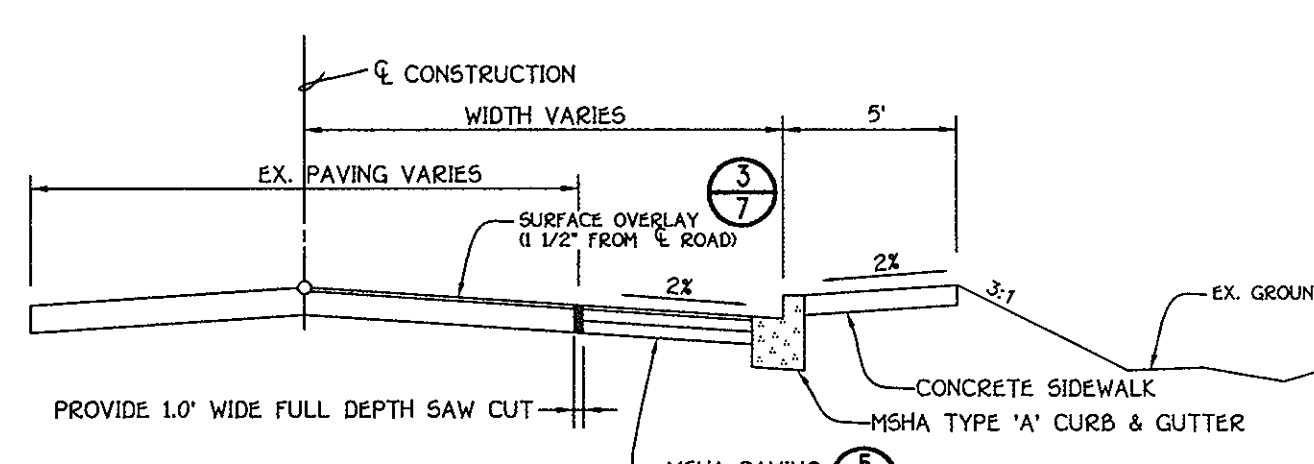
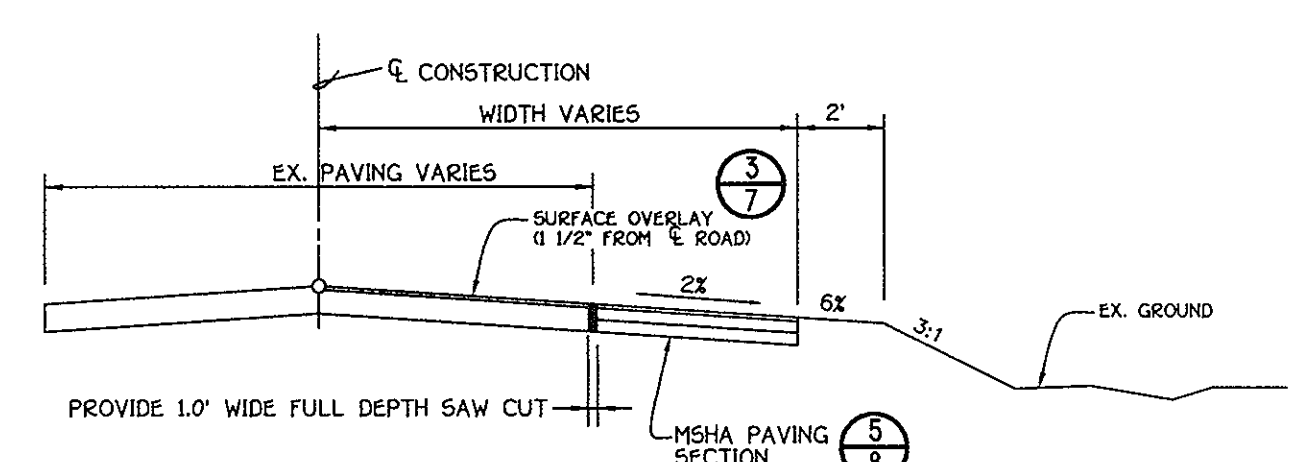


**PAVEMENT MARKING & SIGN PLAN**  
SCALE: 1" = 40'



**PAVEMENT MARKING LEGEND**

- A. INSTALL 5" SOLID WHITE PAVEMENT MARKING FOR LANE LINE.
- B. INSTALL 5" SOLID WHITE PAVEMENT MARKING FOR EDGE LINE.
- C. INSTALL 5" DOTTED (3' LINE/9' GAP/3' LINE) WHITE PAVEMENT MARKING FOR LANE LINE.
- D. TIE TO EXISTING PAVEMENT MARKING.
- E. INSTALL 5" SOLID DOUBLE YELLOW PAVEMENT MARKING FOR CENTER LINE.
- F. INSTALL 12" SOLID WHITE PAVEMENT MARKING FOR CROSSWALK.
- G. INSTALL 24" SOLID WHITE PAVEMENT MARKING FOR STOP LINE.
- H. INSTALL WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING SYMBOL.
- J. INSTALL GROUND MOUNTED SIGN.
- K. EXISTING GROUND MOUNTED SIGN TO REMAIN.
- L. REMOVE EXISTING GROUND MOUNTED SIGN.
- M. REMOVE EXISTING PAVEMENT MARKING BY GRINDING.
- N. USE EXISTING PAVEMENT MARKINGS.
- O. INSTALL 10" SOLID YELLOW PAVEMENT MARKING FOR HATCH LINE.



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
1000 S. BALTIMORE NATIONAL PARK  
ELLCOTT CITY, MARYLAND 21042  
410-461-2955

"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. 13204, Expiration Date: November 3, 2010."

*Charles J. Govo*  
CHARLES J. GOVO, SR., P.E.  
5/18/09  
DATE

**Maryland Department of Transportation**  
**STATE HIGHWAY ADMINISTRATION**  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

**Standard No. MD 655.40**  
**DETECTABLE WARNING SURFACES**

APPROVED DEPARTMENT OF PLANNING AND ZONING

*Thomas G. Suttler*  
Director - Department of Planning and Zoning  
Date: 6/29/09

*Condy Hanna*  
Chief, Division of Land Development  
Date: 6-9-9

*Paul Edwards*  
Chief, Development Engineering Division  
Date: 6-9-9

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

**ARCHITECT**  
**SEAN**  
S m o l e n = E m r  
1355 PICCARD DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-0177

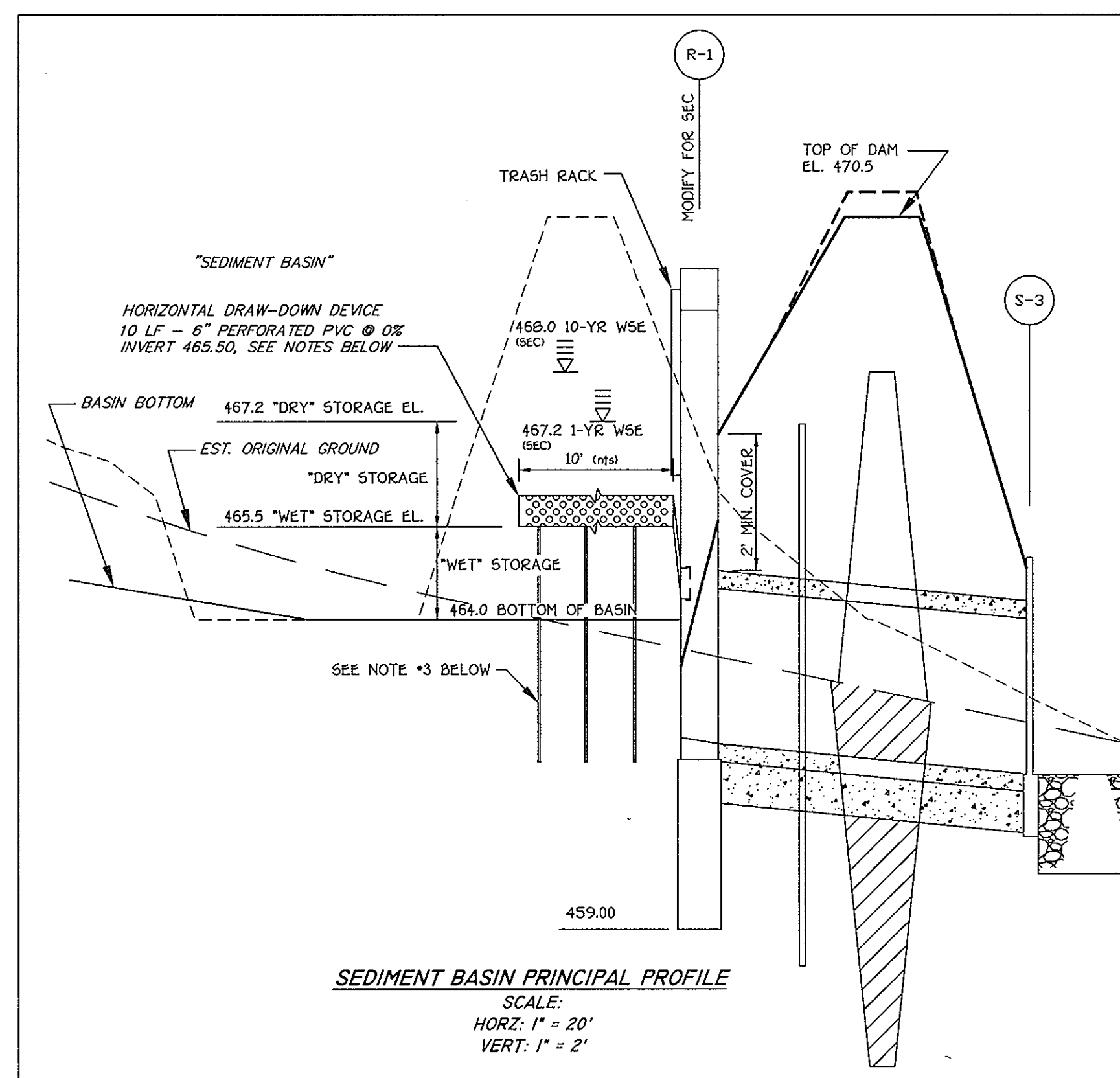
Address Chart	
Parcel Number	Street Address
P. 471	9440 OLD FREDERICK ROAD ELLCOTT CITY, MD. 21042
PROJECT	SECTION/AREA
MOUNT HEBRON HIGH SCHOOL	N/A
DEED REF. 545/131 406/222	BLOCK NO. 9,10,15 & 16 ZONE R-20 TAX MAP 17 ELEC. DIST. SECOND CENSUS TR. 6021.00
WATER CODE H03	SEWER CODE 1406900

**PLAN VIEW OF MD ROUTE 99 EXTENSION, CROSS SECTIONS AND TYPICAL ROADWAY SECTIONS**

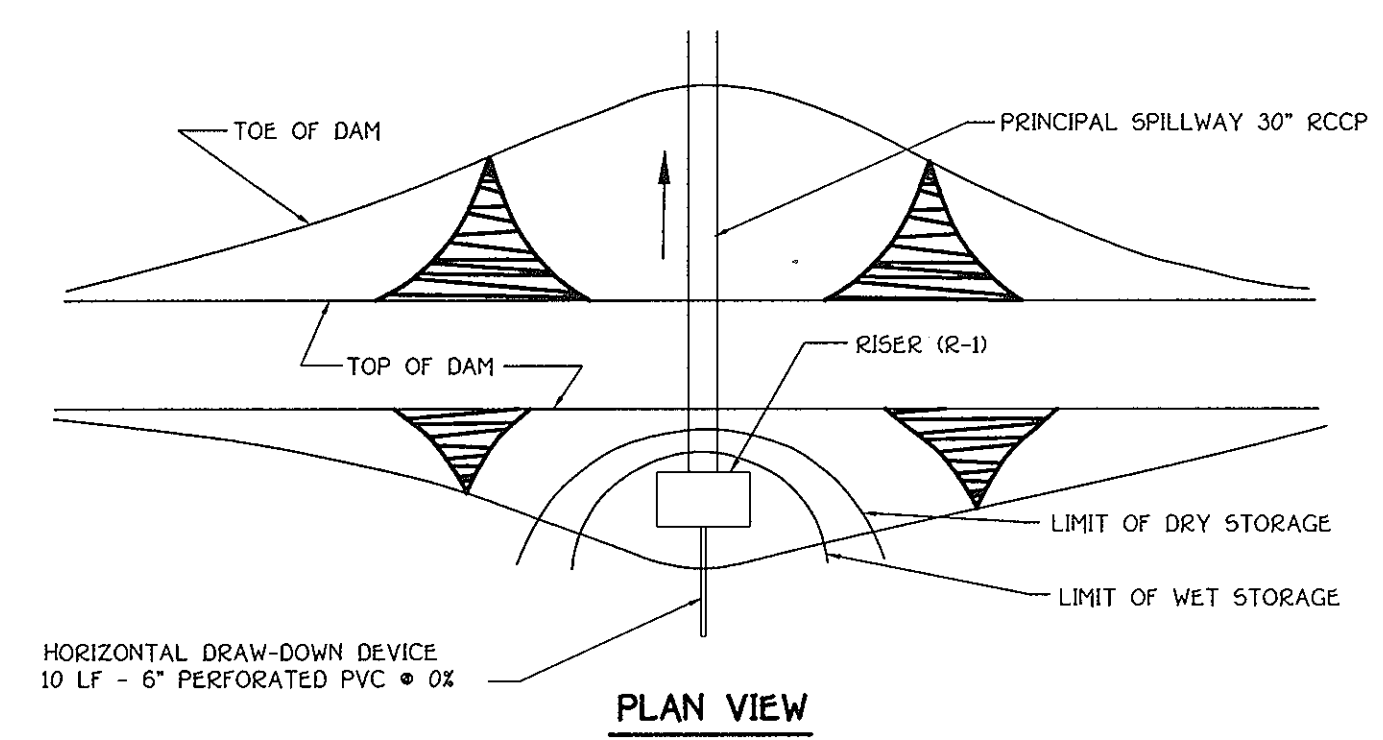
**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 40' DATE: APRIL 10, 2009

SHEET 23 OF 24 SDP-09-01



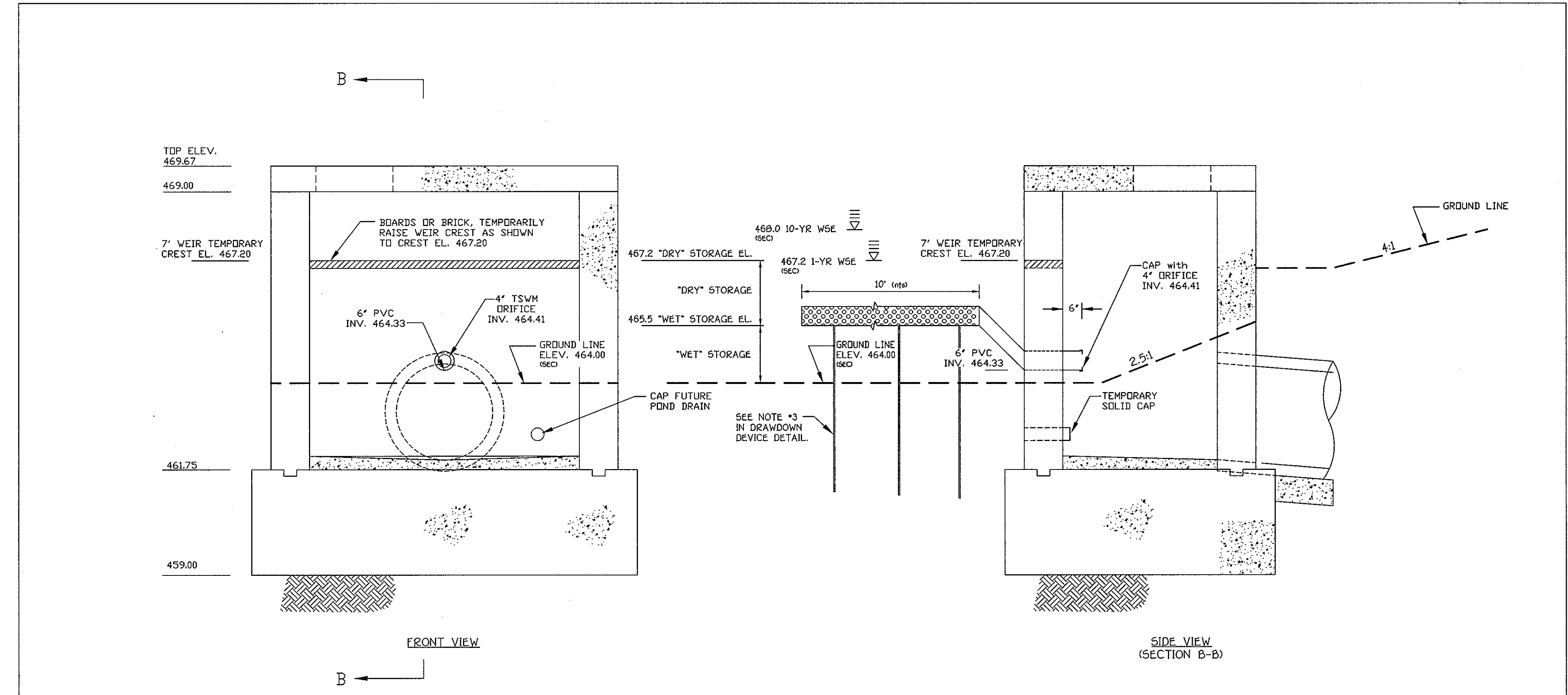
SEDIMENT BASIN PRINCIPAL PROFILE  
SCALE:  
HORIZ: 1" = 20'  
VERT: 1" = 2'



CONSTRUCTION SPECIFICATIONS

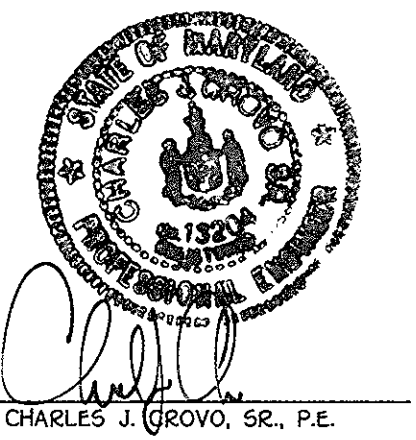
1. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 4 TIMES THE AREA OF THE INTERNAL ORIFICE. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. CONTRACTOR SHALL PROVIDE 10 LF MINIMUM OF PERFORATED PIPE AS SHOWN ABOVE TO MEET THIS AREA REQUIREMENT.
2. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
3. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATION. AN ACCEPTABLE PREVENTIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3" MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

SEC BASIN  
HORIZONTAL DRAW DOWN DEVICE DETAIL  
nts



SEDIMENT BASIN OUTFALL (R-1) DETAIL  
Scale: 1" = 2'

- SEDIMENT BASIN/RISER NOTES
1. THE LOW FLOW 6" / PERFORATED PIPE (i.e., DRAWDOWN DEVICE) SHALL BE PVC OR APPROVED EQUAL.
  2. CAP EACH END AND EVENLY SUPPORT PIPE ALONG THE ENTIRE LENGTH AND ADEQUATELY SECURE PIPE (WITH PLASTIC BANDING) TO KEEP PIPE FROM FLOATING.
  3. PROVIDE A 4" / ORIFICE AT INV. 464.41 IN THE 6" CAP IN THE RISER.
  4. PROVIDE A LOW FLOW PERFORATED PIPE LENGTH THAT HAS A MINIMUM TOTAL AREA OF 51 SQUARE INCHES IN THE PERFORATIONS. THIS IS EQUAL TO 4 TIMES THE 4" ORIFICE AREA (12.6 SQUARE INCHES). THE PERFORATED PIPE LENGTH MUST BE AT LEAST 10 LF.
  5. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC (GEOTEXTILE CLASS E). CHANGE FABRIC AS NECESSARY TO MAINTAIN STRONG FLOW OUT OF BASIN.
  6. REFER TO THE SWM PLANS AND THE SWM STRUCTURE R-1 DETAIL FOR ALL INFORMATION NOT SHOWN ON THIS DETAIL.
  7. INSTALL THE PERMANENT TRASH RACK ON THE RISER. REMOVE AND RE-INSTALL WHEN THE SEDIMENT BASIN IS CONVERTED TO A PERMANENT FACILITY.



"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. 13204, Expiration Date: November 3, 2010."

6/28/09  
DATE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
410-461-2855

**DEVELOPER'S CERTIFICATE**  
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: *Bruce Gist*  
Printed Name Of Developer: **BRUCE GIST**  
Date: 5/21/09

**ENGINEER'S CERTIFICATE**  
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: *Charles J. Grovo, Sr.*  
Printed Name Of Engineer: **CHARLES J. GROVO, SR.**  
Date: 5/19/09

These Plans For Small Pond Construction Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *Charles J. Grovo, Sr.*  
Date: 6/4/09  
Howard Soil Conservation District

APPROVED DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning: *Donna S. Butler*  
Date: 6/29/09

Chief, Division of Land Development: *Wally Hamant*  
Date: 6/29/09

Chief, Development Engineering Division: *Dave Edwards*  
Date: 6-9-9

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention Bruce Gist  
410-313-6805

ARCHITECT  
**SEAN Smolen - E.M.T.**  
1355 PICCARD DRIVE, SUITE 200  
ROCKVILLE, MD 20850  
301-770-9177

Address Chart						
Parcel Number	Street Address					
P. 471	9440 OLD FREDERICK ROAD ELLICOTT CITY, MD. 21042					
PROJECT	SECTION/AREA					
MOUNT HEBRON HIGH SCHOOL	N/A					
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.	PARCEL
545/131 406/222	9,10,15 & 16	R-20	17	SECOND	6021.00	471
WATER CODE	H03	SEWER CODE	1406900			

**TEMPORARY SEDIMENT BASIN PROFILES AND DETAILS**

**MOUNT HEBRON HIGH SCHOOL**  
HOWARD COUNTY BOARD OF EDUCATION,  
MT. HEBRON HIGH SCHOOL,  
PARKING LOTS AND SWM EXPANSIONS

TAX MAP No.: 17 GRID No.: 9, 10, 15, 16 PARCEL No.: 471  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 10, 2009

SHEET 24 OF 24 SDP-09-01