

SURVEY INFORMATION AND DATUM
 The existing topography within the limit of disturbance is taken from field run survey prepared by Shanaberger and Lane, dated September 18, 2007.

The courses and coordinates shown hereon are based on Howard Co Geodetic Control, which are based on Maryland State Plane Coordinate System, NAD 83 (Horizontal control) and NAVD83 (Vertical Control). Howard County Traverse Points were used, as noted below:

Point	Northing	Eastng	Elevation
41 FC	532305.0496	1362485.1291	186.433
41 FD	535271.4137	1365054.1235	201.251

EXISTING VEGETATION:
 The specimen trees were not surveyed and are shown in their approximate locations based on visual review.

FOREST STAND DESCRIPTIONS

KEY	COMMUNITY TYPE	ACREAGE	DOMINANT VEG.	CONDITION	Ave SIZE	AGE
F1	Disturbed Mesic	1.45:	Acer rubrum, Prunus serotina, Liriodendron tulipifera Ulmus rubra, Rosa multiflora, Rubus phoenicolasius, Toxicodendron radicans, Lonicera japonica, Vitis sp.	Fair/Poor	6-12" CAL.	20-30 YRS
F2	Mixed Oak	1.80:	Quercus alba, Quercus falcata, Acer rubrum, Fagus grandiflora, Nyssa sylvatica, Kalmia latifolia	Fair/Good	20-30" CAL.	70-85 YRS

KEY SPECIES SIZE CONDITION

A	White Oak	33" cal	F. Good
B	S. Red Oak	30" cal	Fair
C	White Oak	30" cal	Fair
D	White Oak	35" cal	Poor
E	Tulip Poplar	36" cal	Fair
F	White Oak	40" cal	F. Good
G	White Oak	39" cal	Fair
H	White Oak	38" cal	Fair
I	White Oak	32" cal	Poor
J	Scarlet Oak	35" cal	Fair
K	White Oak	29" cal	Fair
L	Linden	29" cal	Fair
M	Walnut	21" cal	Fair

- Notes:**
- No rare, threatened, or endangered species or their habitat were observed within the study area.
 - Surrounding land use consists primarily of industrial development.
 - Property is zoned M-2.
 - Project site is approximately 3.50 acres.
 - Forest Stand Delineation - Forest stand field work was performed by Eco-Science Professionals, Inc on February 12, 2004.
 - Wetland Delineation - Wetland delineation field work was performed by Eco-Science Professionals, Inc on May 30, 2008.

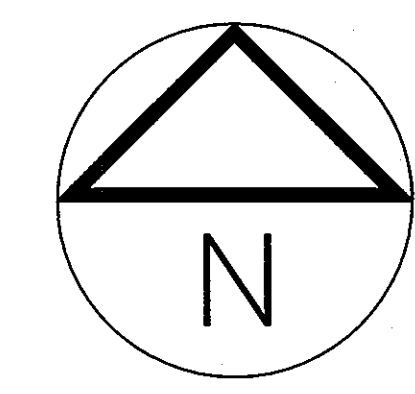
- Soils Notes:**
- Soils on site include UaF - Udorthents, Highway, 0-65% slopes
 - Udorthents are not identified as hydric soils.

WETLAND SYSTEM
 Cowardin Symbol: R4SBI/PFO6A
 Dominant Vegetation: Magnolia virginiana, Yiburnum dentatum, Impatiens capensis

SOILS INFORMATION
 UaF - Udorthents, Highway, 0-65% slopes
 This soil group is on uplands and is highly disturbed. Udorthents are not identified as hydric soils.

FOREST PRODUCTIVITY - HOWARD COUNTY, MD

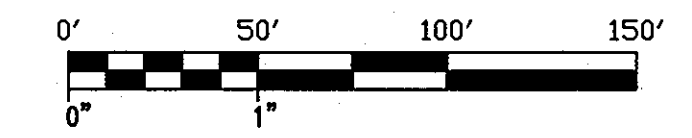
Map unit symbol and Soil Name	Common Trees	Site Index	Vol Wood Fiber	Trees to Manage
UaF - Udorthents, Highway, 0-65% slopes	---	---	---	---



COUNCIL RESOLUTION 99-2010
 APPROVED REDUCED STANDARD SETBACKS

NOTE: REMOVAL OF THE HASLUP HOUSE FOUNDATIONS SHALL NOT BE DONE UNTIL APPROVAL FROM THE MARYLAND HISTORICAL TRUST AND MARYLAND STATE HIGHWAY ADMINISTRATION IS OBTAINED.

- EXISTING CONDITIONS**
- Building
 - Contour
 - Fence
 - Proposed Area
 - Property Line
 - Stream Line
 - Spot Elevation
 - Streambank
 - Water Line
 - Specimen Tree
 - Wetland
 - Slope 15-24%
 - Slope 25% for more than 10 vertical ft
 - Slope >25% less than 10 vertical ft
 - Ex. Wetland
- EXISTING UTILITIES**
- Sanitary Line
 - Sanitary Cleanout
 - Sanitary Manhole
 - Water Valve
 - Water Meter
 - Fire Dept Connection
 - Fire Hydrant
 - Gas Molehole
 - Underground Gas Line
 - Utility Pole
 - Overhead Electric Line
 - Underground Electric Line
 - Underground Fiber Optic Service



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 Howard County Health Department
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

Tesseract
 TESSERACT SITES, INC
 401 Washington Ave, Suite 303
 Towson, Maryland, 21284
 P: 410.321.7600
 F: 410.321.7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park, Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

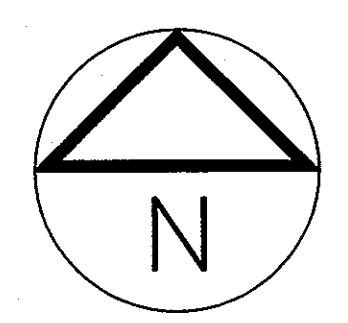
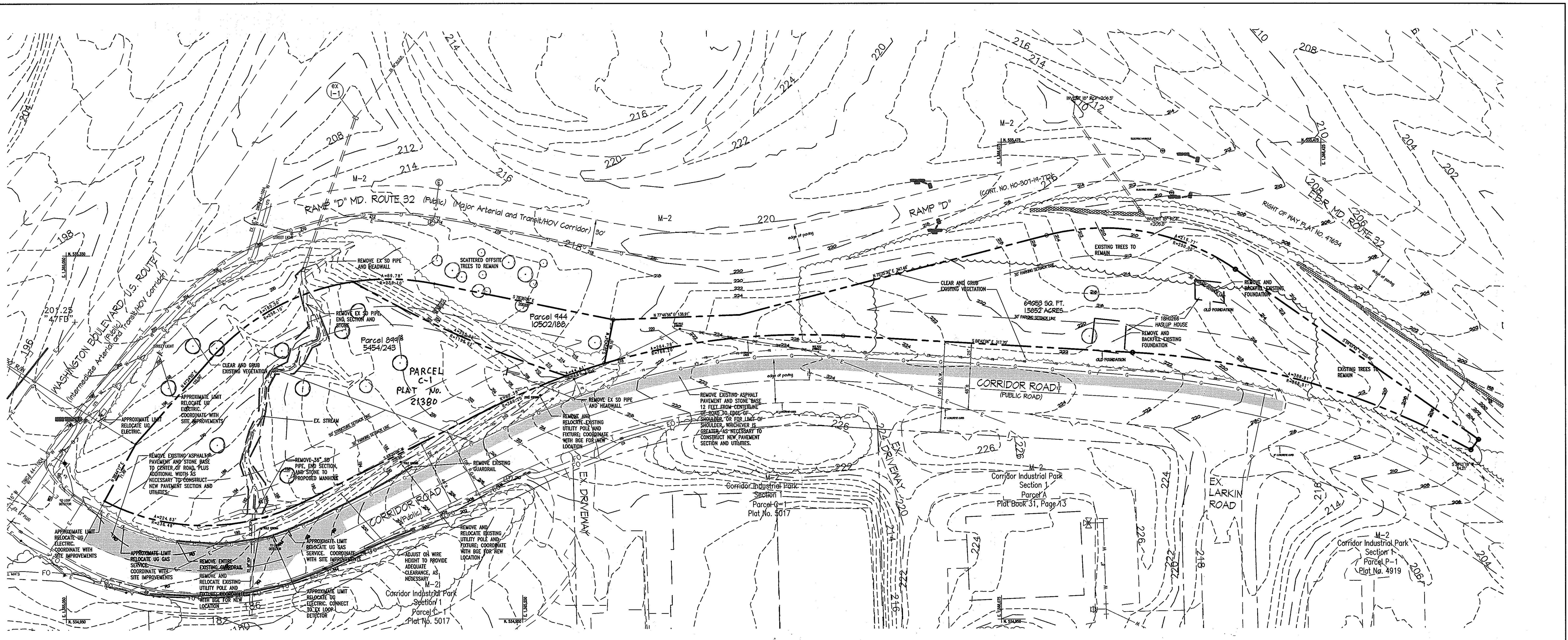
Existing Conditions, Wetlands, and Forest Stand Delineation Plan

DATE	ZONE	DRAWING	PROJECT	CONTRACT
08/12	M-2	47	10502/188	67H

PLAT: 21380
 CONDS TRACT: 028902

Date: 10/22/2010
 Proj. #: 08016
 Scale: 1"=50'

2 of 33



LEGEND

Sawcut and Remove Existing Pavement

GENERAL NOTES:

EXISTING CONDITIONS SHOWN HEREON ARE FROM THE BEST AVAILABLE RECORDS INCLUDING FIELD SURVEY, FIELD OBSERVATION, AND DOCUMENTATION. THE CORRECTNESS AND COMPLETENESS OF THE INFORMATION SHOWING EXISTING CONDITIONS IS NOT GUARANTEED. BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE GENERAL ACCURACY OF THE EXISTING CONDITIONS SHOWN ON THE PLAN, INCLUDING INFORMATION REGARDING UTILITIES IDENTIFIED BY MISS UTILITY, AND SHALL NOTIFY THE INSPECTOR OF ANY DISCREPANCIES OR CONDITIONS WHICH MAY CAUSE CONFLICTS WITH THE PROPOSED IMPROVEMENTS.

IN GENERAL, ALL EXISTING IMPROVEMENTS WITHIN THE PROPERTY BOUNDARIES ARE TO BE REMOVED. CERTAIN UTILITIES IN THE ROAD RIGHT-OF-WAY SHALL BE REMOVED AND/OR RELOCATED AND THE CONTRACTOR SHALL VERIFY DEMOLITION WORK IN THE RIGHT-OF-WAY WITH THE INSPECTOR PRIOR TO BEGINNING WORK.

THE CONTRACTOR SHALL REMOVE ALL DEBRIS, TRASH, AND EXTRANEOUS MATERIAL, WHETHER OR NOT RESULTING FROM HIS WORK EFFORTS FROM WITHIN THE LIMIT OF WORK AND DISPOSE OF IT OFFSITE IN AN APPROVED FACILITY AS PART OF THIS CONTRACT.

ALL AREAS OF ASPHALT TO BE REMOVED SHALL BE SAWCUT.

CLEAR AND GRUB AS NECESSARY TO CONSTRUCT IMPROVEMENTS. SEE FOREST CONSERVATION PLAN FOR ADDITIONAL INFORMATION REGARDING TREE REMOVAL AND PROTECTION.

PROPOSED SANITARY SEWER AND WATER CONNECTIONS EXTEND BEYOND THE LIMITS OF THIS SHEET. PROPOSED SEWER EXTENDS SOUTHWEST ALONG THE TRAVEL LANE OF WASHINGTON BOULEVARD (ROUTE 1) TO CONNECT WITH THE EXISTING SEWER. SEE PUBLIC UTILITY DRAWINGS FOR LIMITS OF EXTENSION AND ASSOCIATED WORK.

SEE NOTES ON DRAWING 1 FOR ADDITIONAL REQUIREMENTS.



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Corridor Industrial Park, Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Demolition Plan

OWNER:	MARYLAND STATE HIGHWAY ADMINISTRATION	PLAT:	21380
PROJECT:	707 WIRTH CALVEY STREET BALTIMORE, MD 21202	DATE:	10/22/2010
DATE:	10/22/2010	SCALE:	1"=50'

OWNER AND DEVELOPER
HOWARD COUNTY, MD
4250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-313-6194

ENGINEER
Tesseract SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21282
CONTACT: JEFFREY SCHWAB
410-321-7600

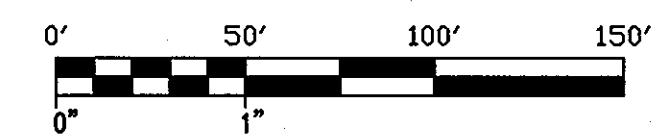
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
David P. Peter Bailewson 10/20/11
County Health Officer
Howard County Health Department

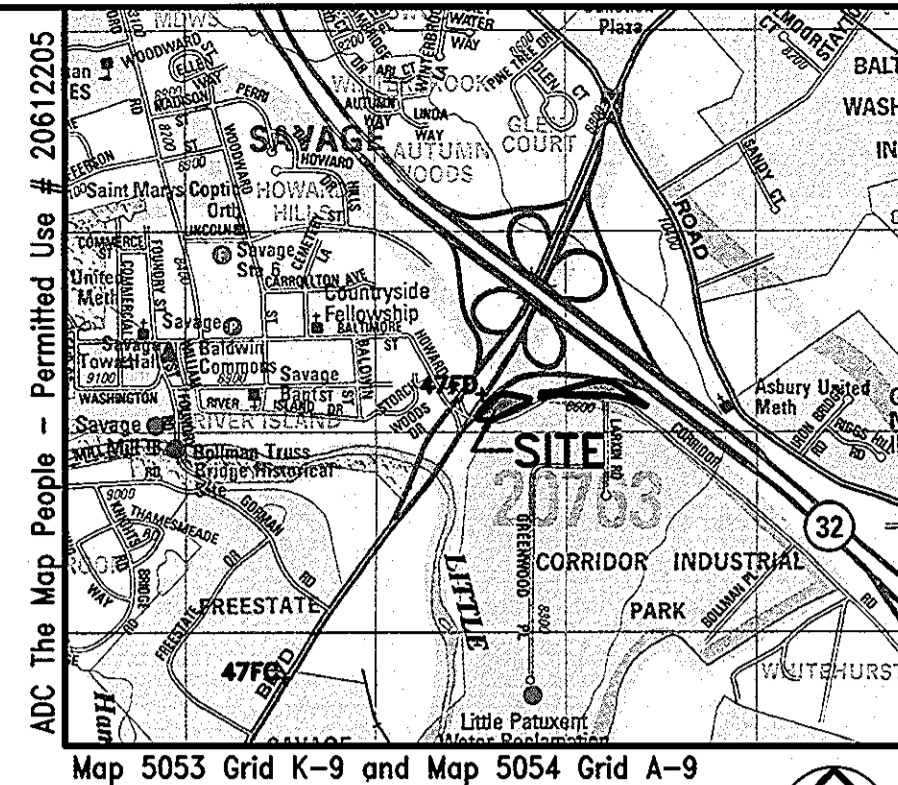
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Deussen 10/27/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Ken Shulman 11/2/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas J. Butler 11/2/11
DIRECTOR

NOTE: REMOVAL OF THE HASLUP HOUSE FOUNDATIONS SHALL NOT BE DONE UNTIL APPROVAL FROM THE MARYLAND HISTORICAL TRUST AND MARYLAND STATE HIGHWAY ADMINISTRATION IS OBTAINED.





Vicinity Map
Scale: 1" = 2000'

LEGEND

EXISTING CONDITIONS

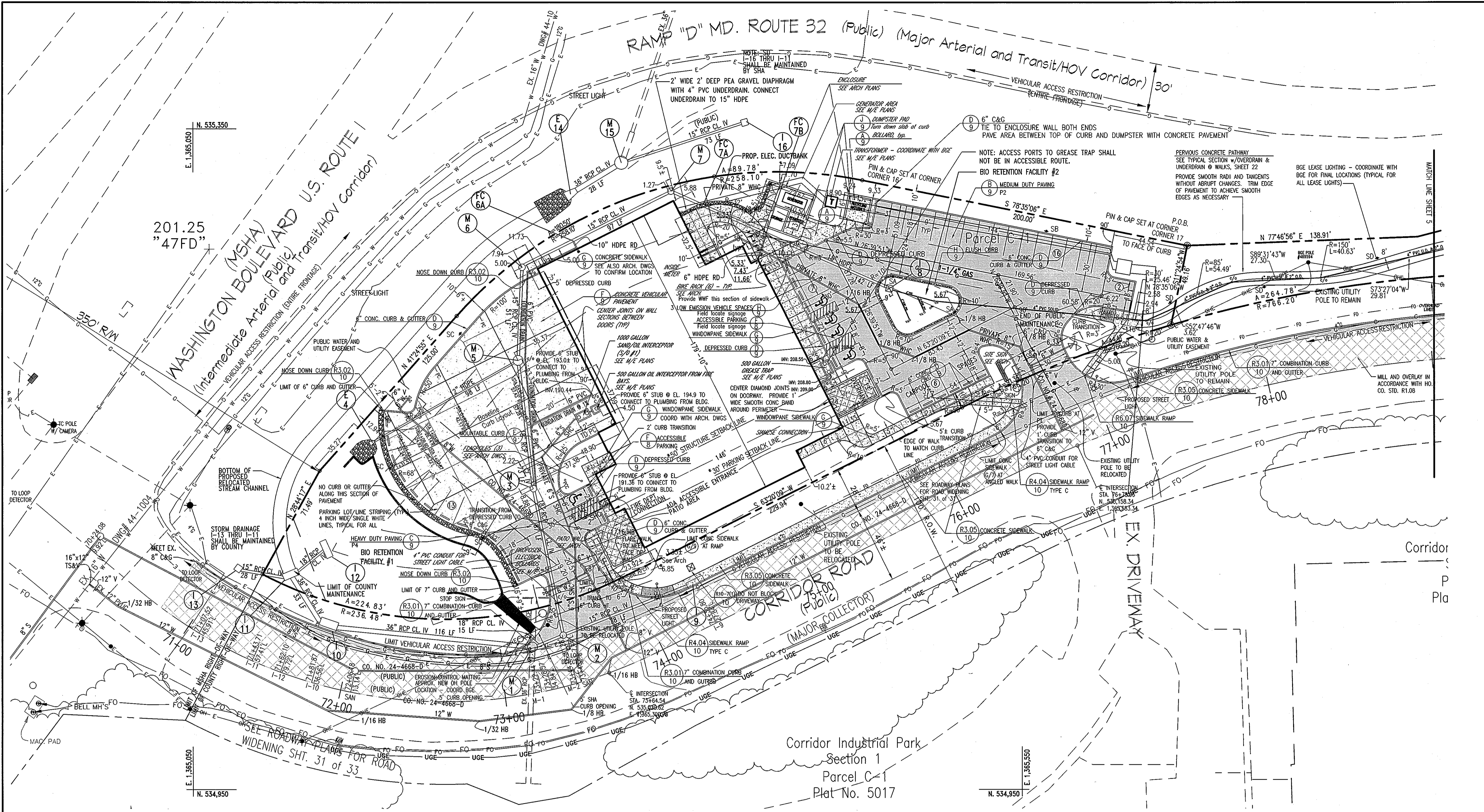
- Building
- Contour
- Fence
- Paved Area
- Property Line
- Sewer Line
- Spot Elevation
- Storm Drain
- Water Line
- Specimen Tree
- Woods Line
- Ex. Wetland

EXISTING UTILITIES

- Sanitary Line
- Sanitary Cleanout
- Sanitary Manhole
- Water Line
- Water Valve
- Water Meter
- Fire Dept. Connection
- Fire Hydrant
- Gas Manhole
- Underground Gas Line
- Utility Pole
- Overhead Electric Lines
- Underground Electric Lines
- Underground Fiber Optic Service

PROPOSED CONDITIONS

- Concrete Pavement
- Asphalt Pavement
- Proposed Building
- Proposed Storm Drain
- Proposed Sanitary Sewer
- Proposed Water Line
- Site Light
- Street Light

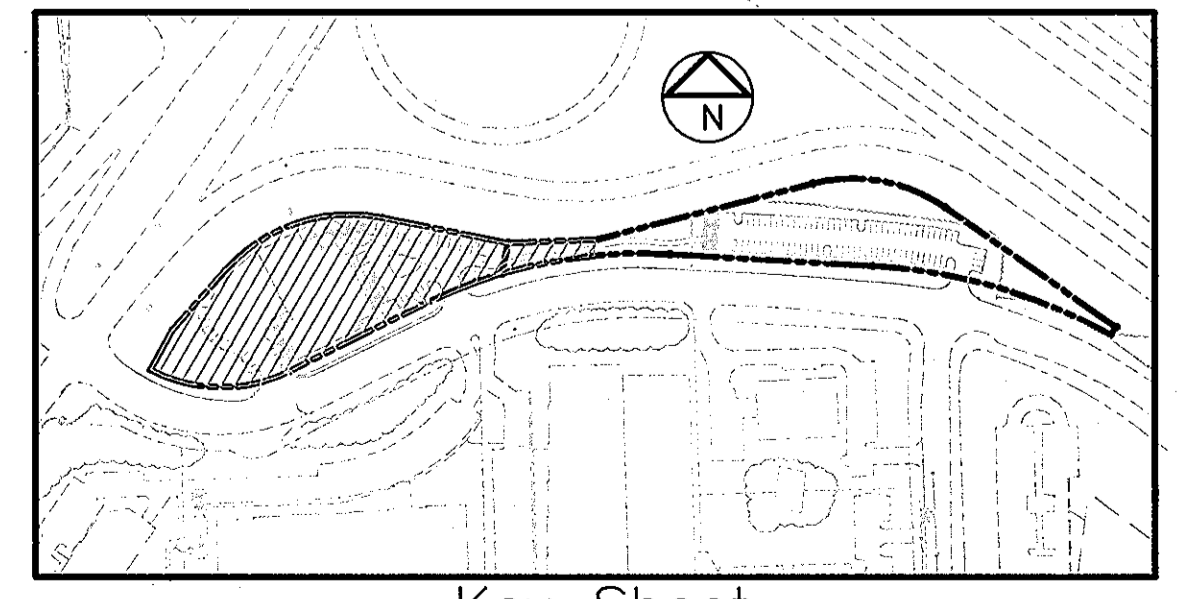


Corridor Industrial Park
Section 1
Parcel C-1
Plat No. 5017

* COUNCIL RESOLUTION 99-2010 APPROVED REQUESTS FOR REVISED STRUCTURE AND USE SETBACKS. SEE ALSO NOTE 33 ON SHEET 1 OF 33.

This project is subject to Howard County Council Resolution 99-2010, dated July 24, 2010, which approved the following requests:

1. A 3 foot minimum structure and use setback from Route 1 and Route 32 rights of way and the Corridor Road right of way for a primary fire station structure.
2. A 0 foot minimum structure and use setback from Route 1 and Route 32 rights of way for parking uses.
3. A 0 foot minimum structure and use setback from Corridor Road right of way for parking uses.
4. A 0 foot minimum structure and use setback for pathways and sidewalks connecting the parking lots to the fire station.
5. A 0 foot minimum structure and use setback for the front entrance patio wall from the Corridor Road right of way.
6. A 0 foot minimum structure and use setback for the dumpster wall from the Route 32 right of way.
7. A 0 foot minimum structure and use setback for the BGE transformer from the Route 32 and Route 1 rights of way.



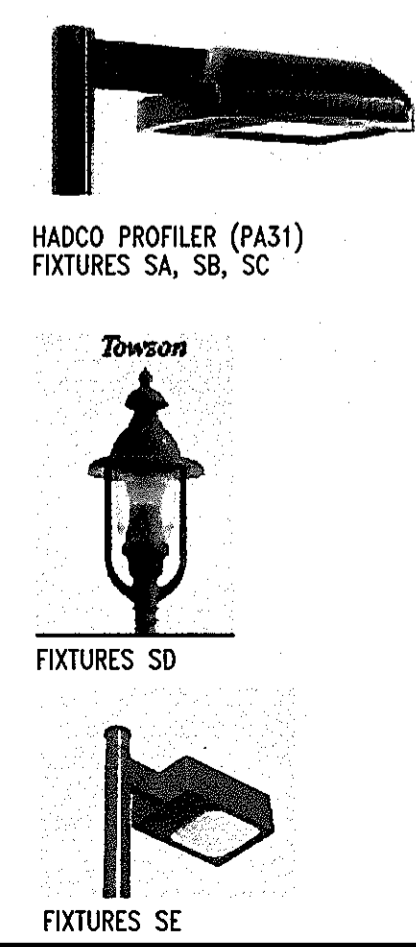
Key Sheet
Scale: 1"=300'

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
B. Wilson for Peter Brilewson 1/7/2011
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John DeMunn 1/7/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kat Shulman 1/12/10
CHIEF, DIVISION OF LAND DEVELOPMENT

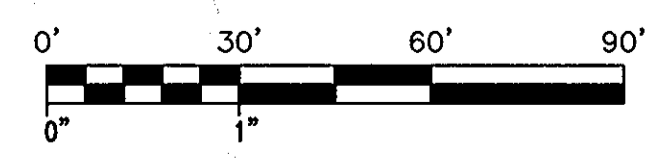
Thomas J. Butler 1/12/10
DIRECTOR



SYMBOL	LOCATION	TYPE	STYLE	HEIGHT	SHIELD	LUMENS	COLOR
SA	PARKING LOT	METAL HALIDE	HADCO PROFILER PA31 TYPE 3 OPTICS, SINGLE ARM	20' POLE	FULL CUT OFF	23,000, 250W	BRONZE
SB	PARKING LOT	METAL HALIDE	HADCO PROFILER PA31 TYPE 4 OPTICS, SINGLE ARM	20' POLE	FULL CUT OFF	13,000, 150W	BRONZE
SC	PARKING LOT	METAL HALIDE	HADCO PROFILER PA31 FORWARD THROW OPTICS, SINGLE ARM	20' POLE	FULL CUT OFF	23,000, 250W	BRONZE
SD	PATHWAY	METAL HALIDE	BGE LEASE LIGHT	12' POLE		8500	BRONZE
SE	PARKING LOT	METAL HALIDE	BGE LEASE LIGHT	23' POLE		36,800	BRONZE
	STREET LIGHTS	HIGH PRESSURE SODIUM	COBRA /12' ARM	30' POLE	CUT OFF	250 WATT	

PROPOSED PUBLIC STREET LIGHTS:

STATIONS	OFFSET
74+14	37' LEFT
77+05	35' LEFT
80+78	30' LEFT
84+84	30' LEFT



Tesseract
TESSERACT SITES, INC.
401 Washington Ave. Suite 303
Towson, Maryland, 21284

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Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Site and Layout Plan

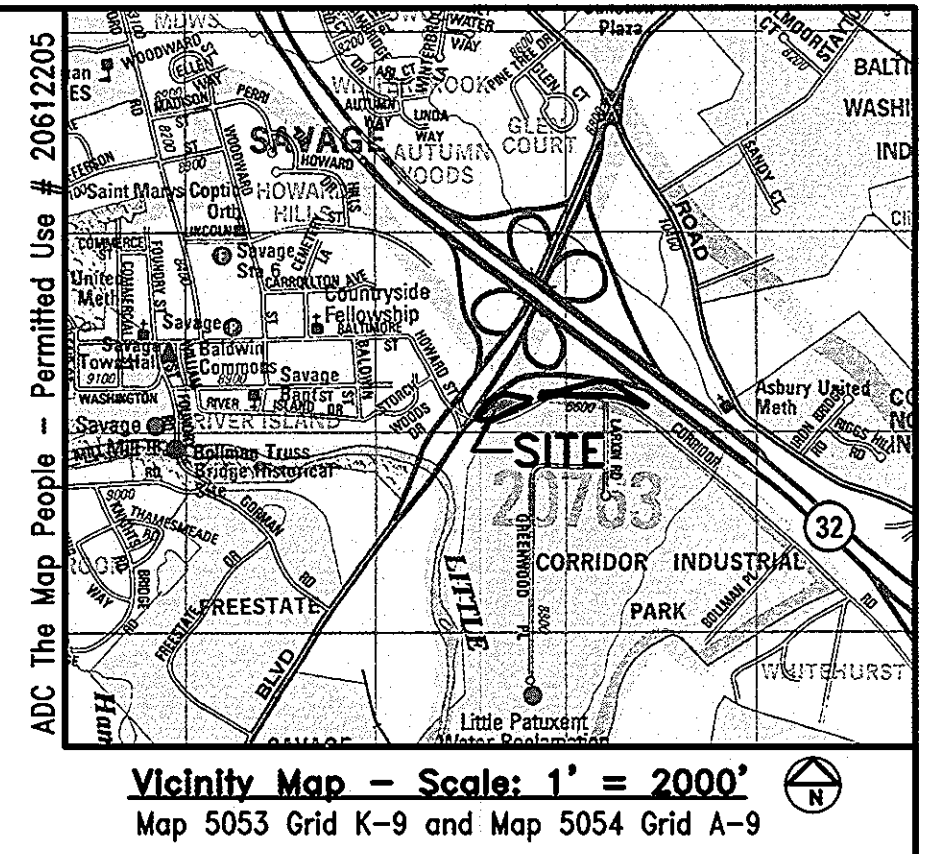
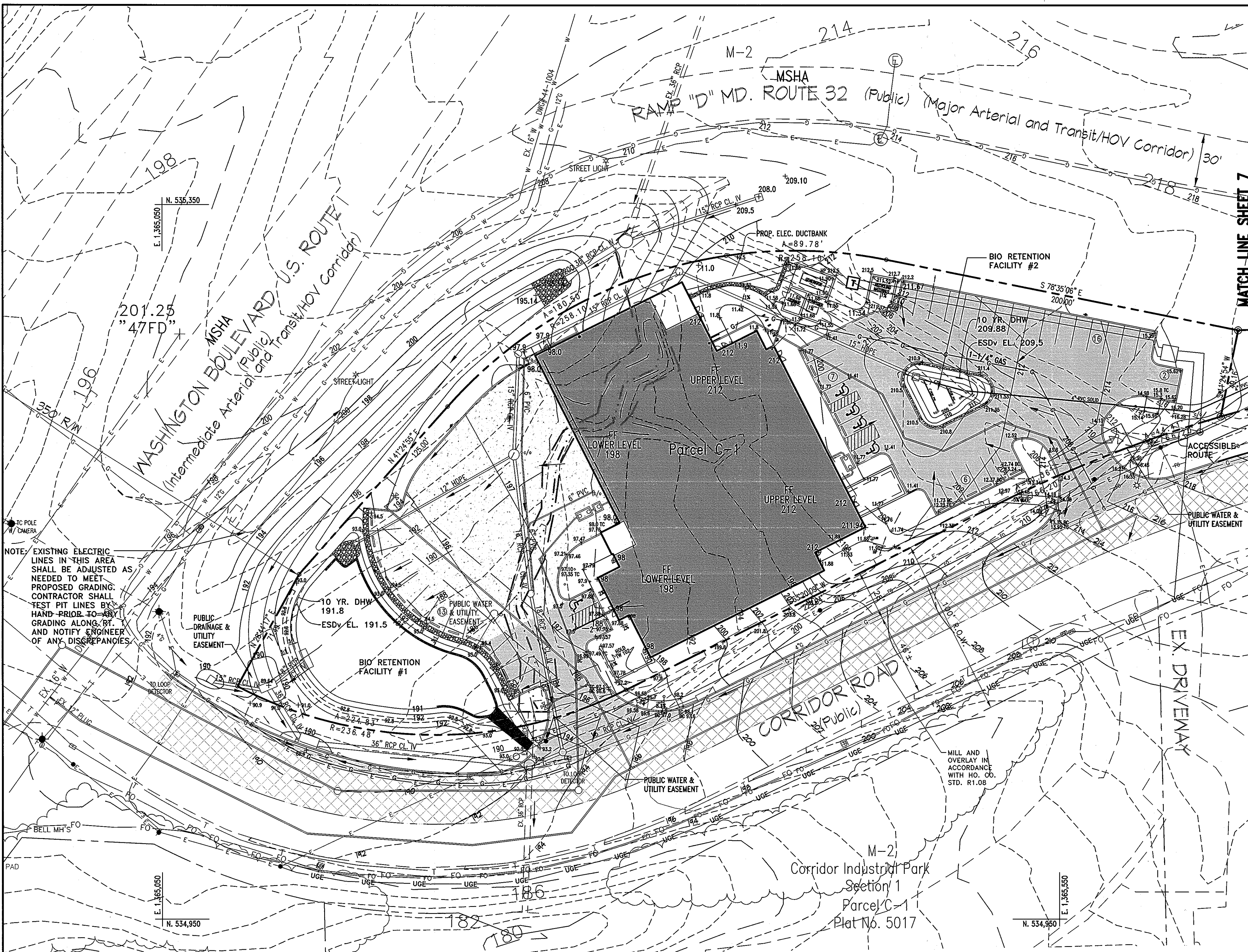
OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION
101 NORTH CALVERT STREET
BALTIMORE, MD 21202
410-545-0300

OWNER AND DEVELOPER: HOWARD COUNTY, MD
4250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-513-6194

ENGINEER: TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21284
CONTACT: JEFFREY SCHWAB
410-321-1600

Date: 10/22/2010
Proj. #: 08016
Scale: 1"=300'

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EARTHWORK & GRADING

ALL EXCAVATION IS UNCLASSIFIED; ACHIEVING PROPOSED GRADES IS PART OF LUMP SUM. The Lump Sum contract price includes: excavation to required subgrade of all materials, whether wet or dry, natural or man-made, regardless of the character; all stripping and stockpiling of topsoil; grading; haul-off of excess earth, topsoil and unsuitable materials; on-site and off-site borrow; protecting soils from moisture and drying soils; and placement and compaction; all aspects of earthwork shall be completed as necessary to achieve the final grades indicated by the contours and spot elevations shown on the Final Grading Plan.

GENERAL REQUIREMENTS. Grading shall achieve positive drainage away from buildings and toward drainage facilities (swales, gutters, inlets, etc.) and aesthetically pleasing vertical curves and lines. Transitions between existing and proposed pavement shall be smooth and joints flush. The profile slope (longitudinal slope) of roads, curbs, and walks shall be formed by series of straight lines and parabolic vertical curves that transition smoothly into the next line; a series of broken tangents (lines with differing slopes) is not an acceptable method of forming roads, curbs or walks. Likewise, the graded slopes shall be rounded at top and bottom:



MINIMUM & MAXIMUM SLOPES ON UNPAVED AREAS. Unless expressly noted otherwise on the plan, unpaved areas shall have a minimum slope of 2% and a maximum slope of 3:1.

MINIMUM SLOPES ON PAVEMENTS: Unless otherwise expressly noted on the plan (by arrow with the percent slope labeled), all proposed asphalt pavement shall have minimum slope of 1.7% and all concrete pavement shall have a minimum slope of 1% in the direction indicated by proposed contours.

MAXIMUM SLOPES FOR WALKS AND PATHS: The longitudinal slopes of walks, paths and other pedestrian surfaces shall not exceed 5% and the cross slope of all paths shall be 2.0%.

DRAINAGE ACROSS WALKS AND PATHS: All unpaved surfaces adjacent to the high side of the paved surface shall be 3/4" higher than the paved surface to prevent water from accumulating along the edge of the path and all unpaved surfaces along the lower side of a paved surface shall be 3/4" lower than the paved surface to permit free drainage of the paved surface.

TOLERANCES: While achieving the design intent (aesthetic and functional) of the grading required by the Final Grading Plan and the General Notes, the grading tolerance for lawn and other unpaved areas is 0.1' elevation, for curbs and pavements is 0.05' elevation.

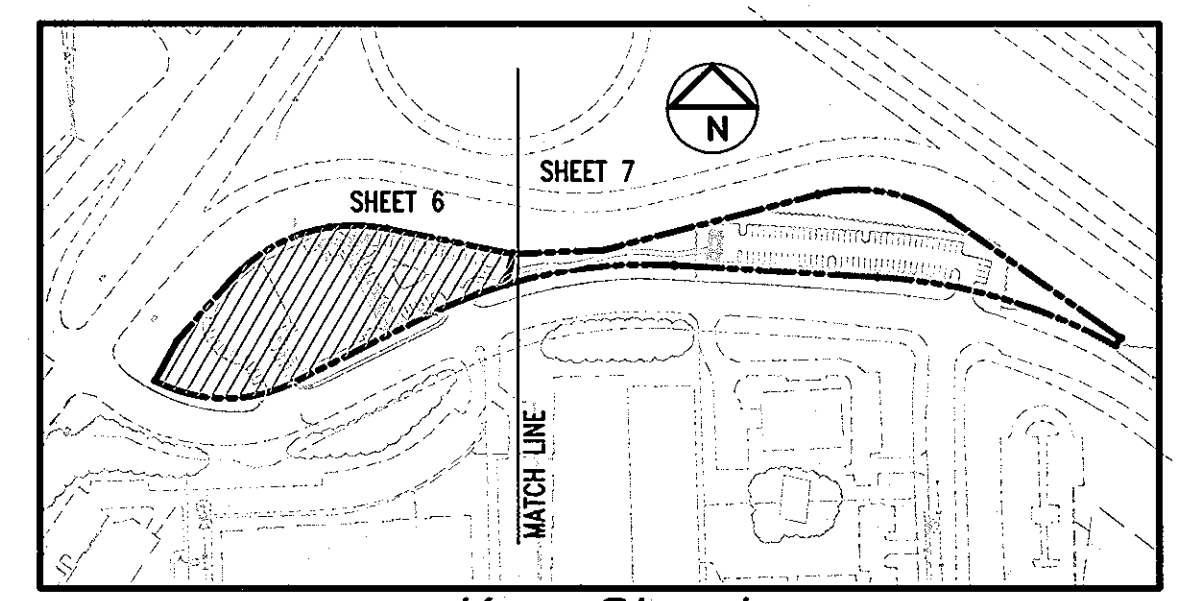
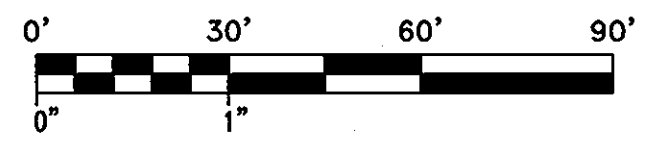
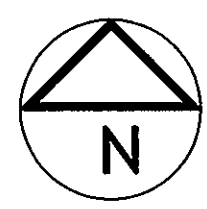
NOTE: EXISTING ELECTRIC LINES IN THIS AREA SHALL BE ADJUSTED AS NEEDED TO MEET PROPOSED GRADING. CONTRACTOR SHALL TEST PIT LINES BY HAND PRIOR TO ANY GRADING ALONG PIT AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
B. Wilson for Peter Beilenson 1/7/2011
 County Health Officer
 Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 12/12/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 1/12/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 1/12/11
 DIRECTOR



Key Sheet
 Scale: 1"=300'

Tesseract
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 401 Washington Ave, Suite 303
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 P. 410.321.7600
 F. 410.321.7601

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**Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station**
 Savage, Maryland

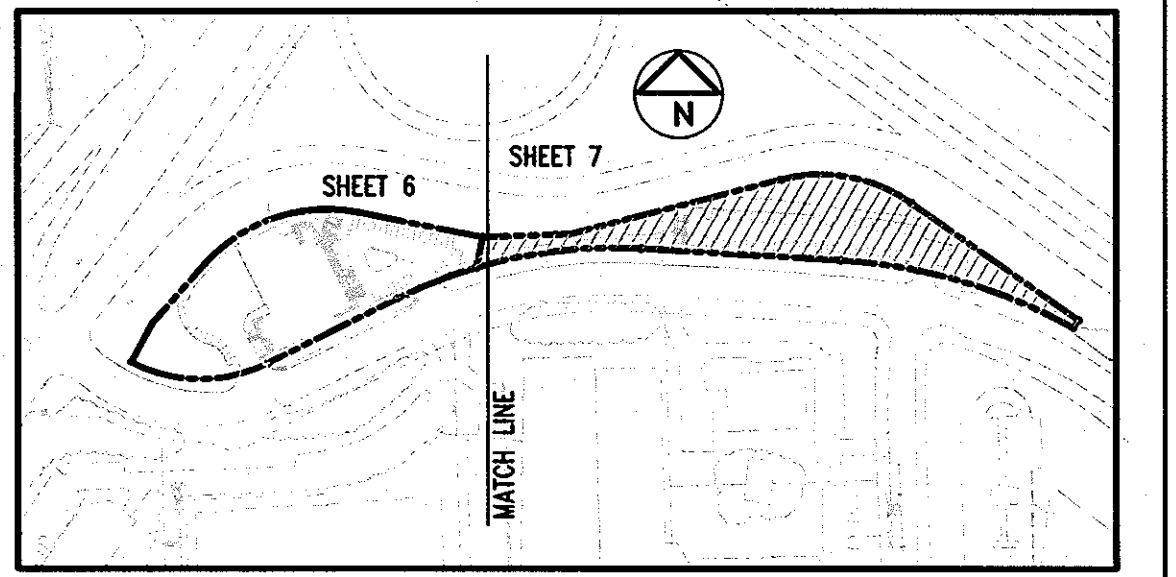
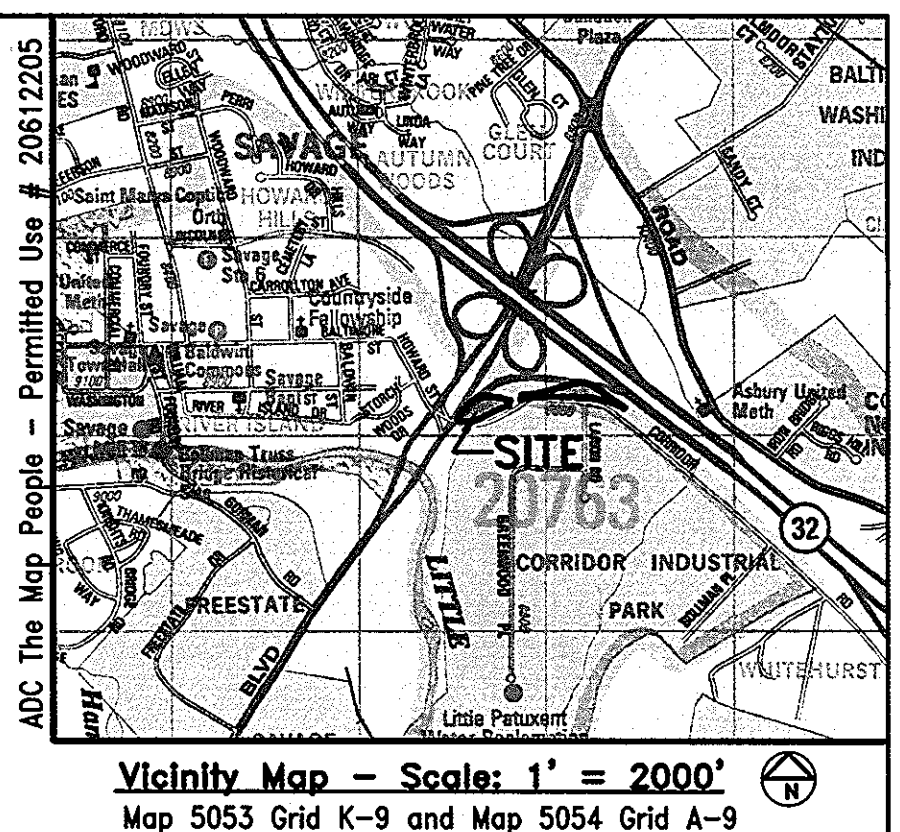
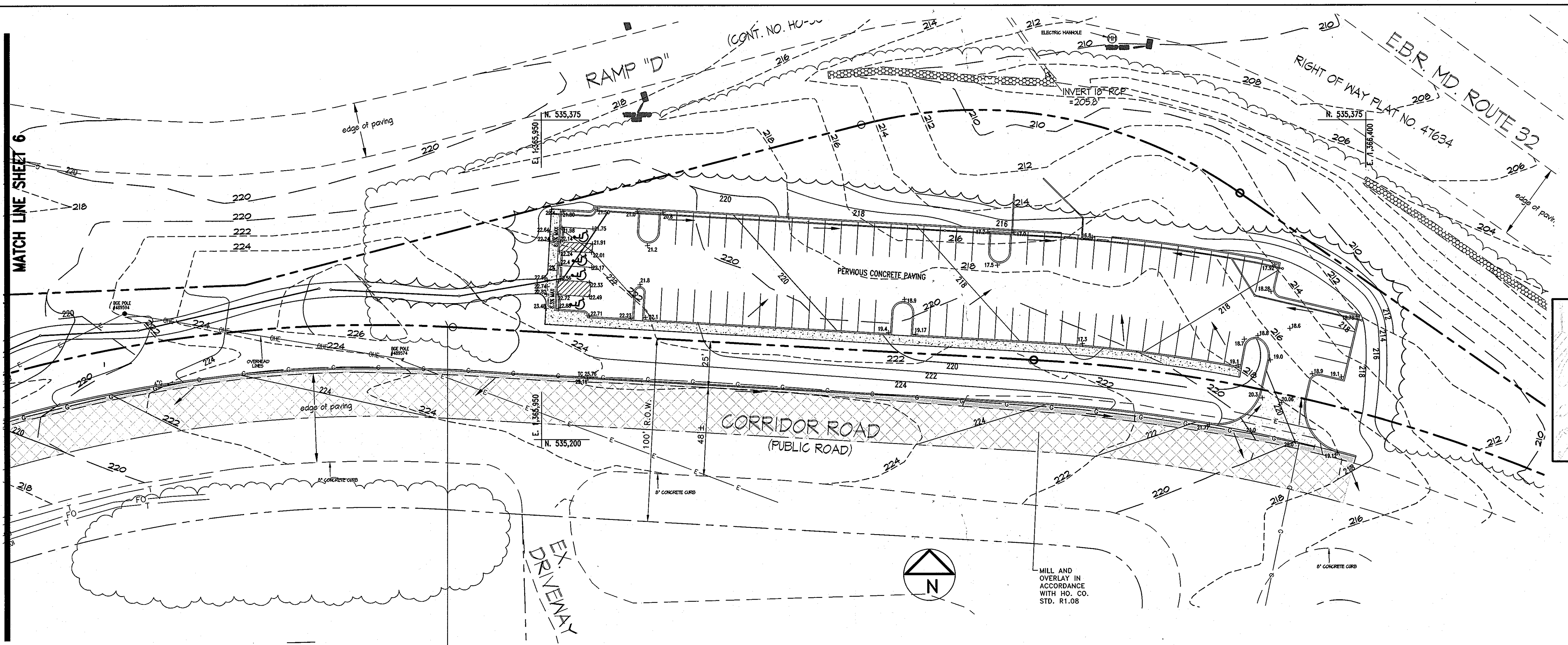
Grading Plan

DATE: 10/22/2010	PROJECT: 08016
SCALE: 1"=30'	

OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION
 107 NORTH CALVERT STREET
 BALTIMORE, MD 21202
 410-545-0800

OWNER AND DEVELOPER: HOWARD COUNTY
 4250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-318-6194

ENGINEER: TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21202
 CONTACT: JEFFREY SCHNAB
 410-321-1600

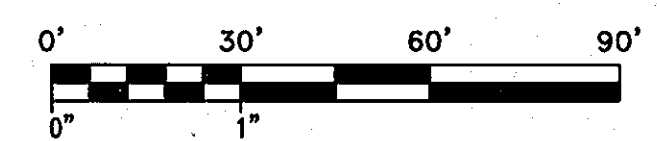


APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
Peter Bilensohn 1/7/2011
 County Health Officer
 Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John D. ... 12/17/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

W. ... 1/12/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas J. Butler 1/12/11
 DIRECTOR



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**Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland**

Grading Plan

PROJECT: C-1	DATE: 10/22/2010
OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION	PROJ. #: 08016
707 NORTH CALVERT STREET BALTIMORE MD 21202 410-545-0300	SCALE: 1" = 30'

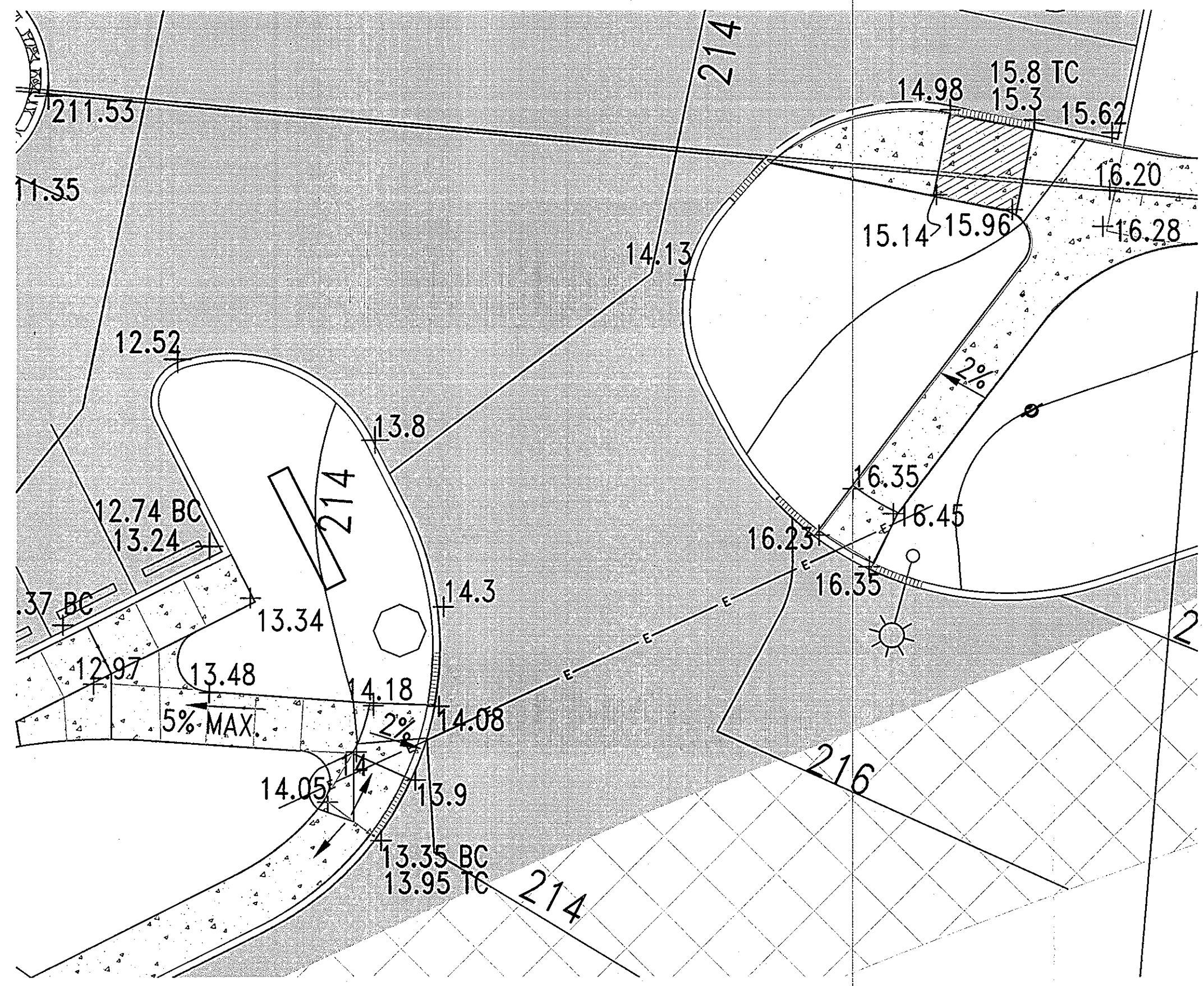
OWNER AND DEVELOPER
 HOWARD COUNTY, MD
 4250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
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ENGINEER
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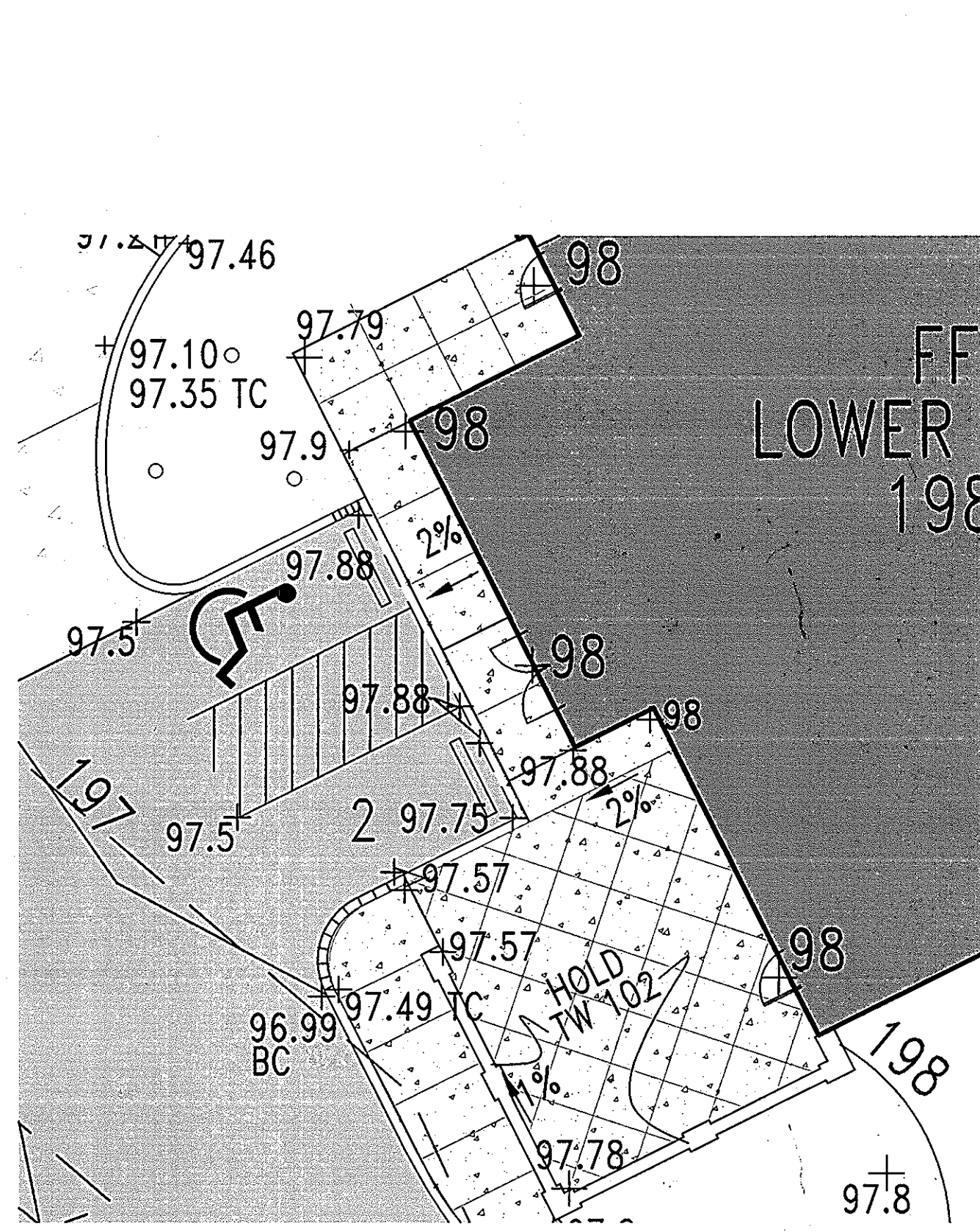
STATE OF MARYLAND
 PROFESSIONAL ENGINEER

7 of 33

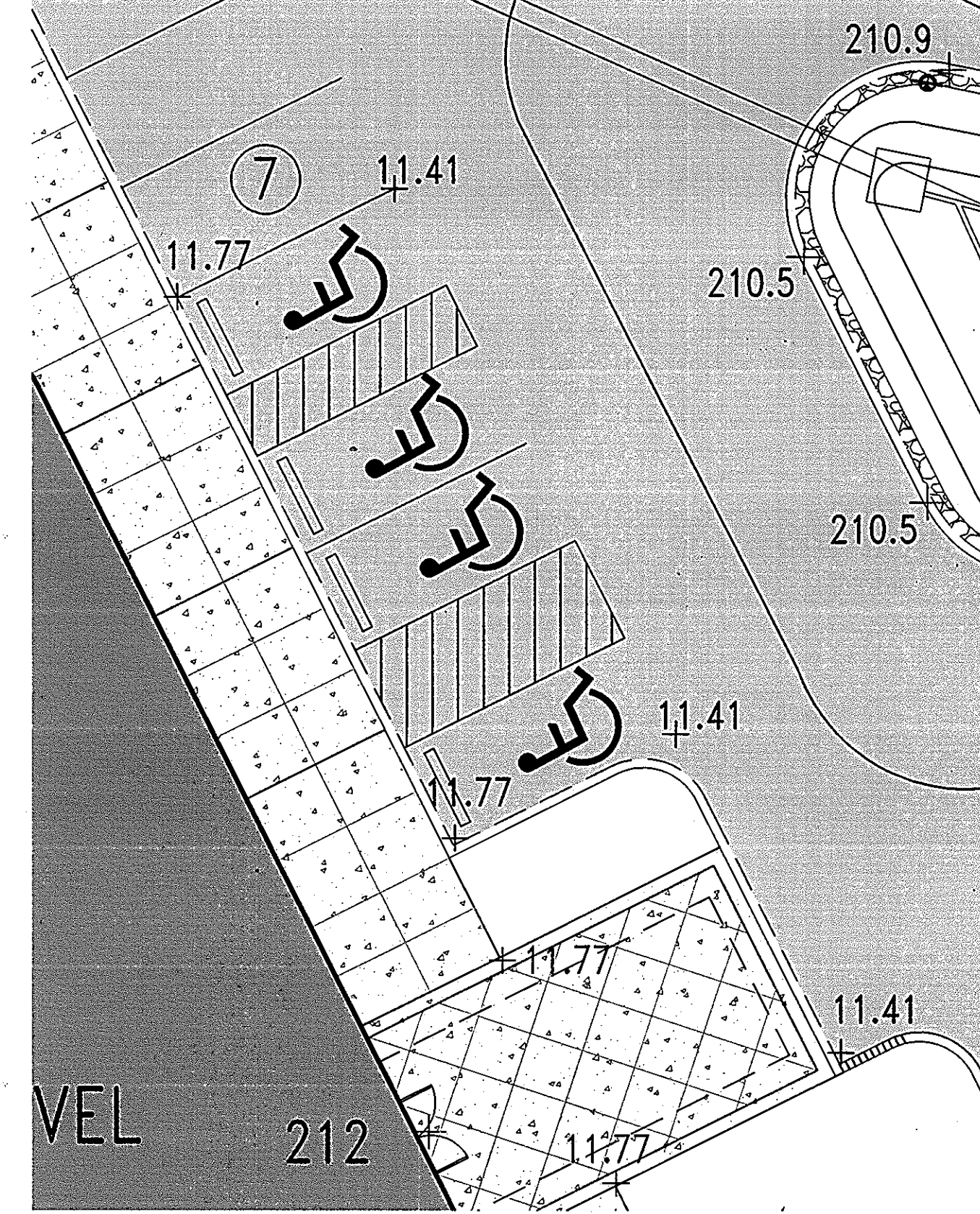
SDP 10-084



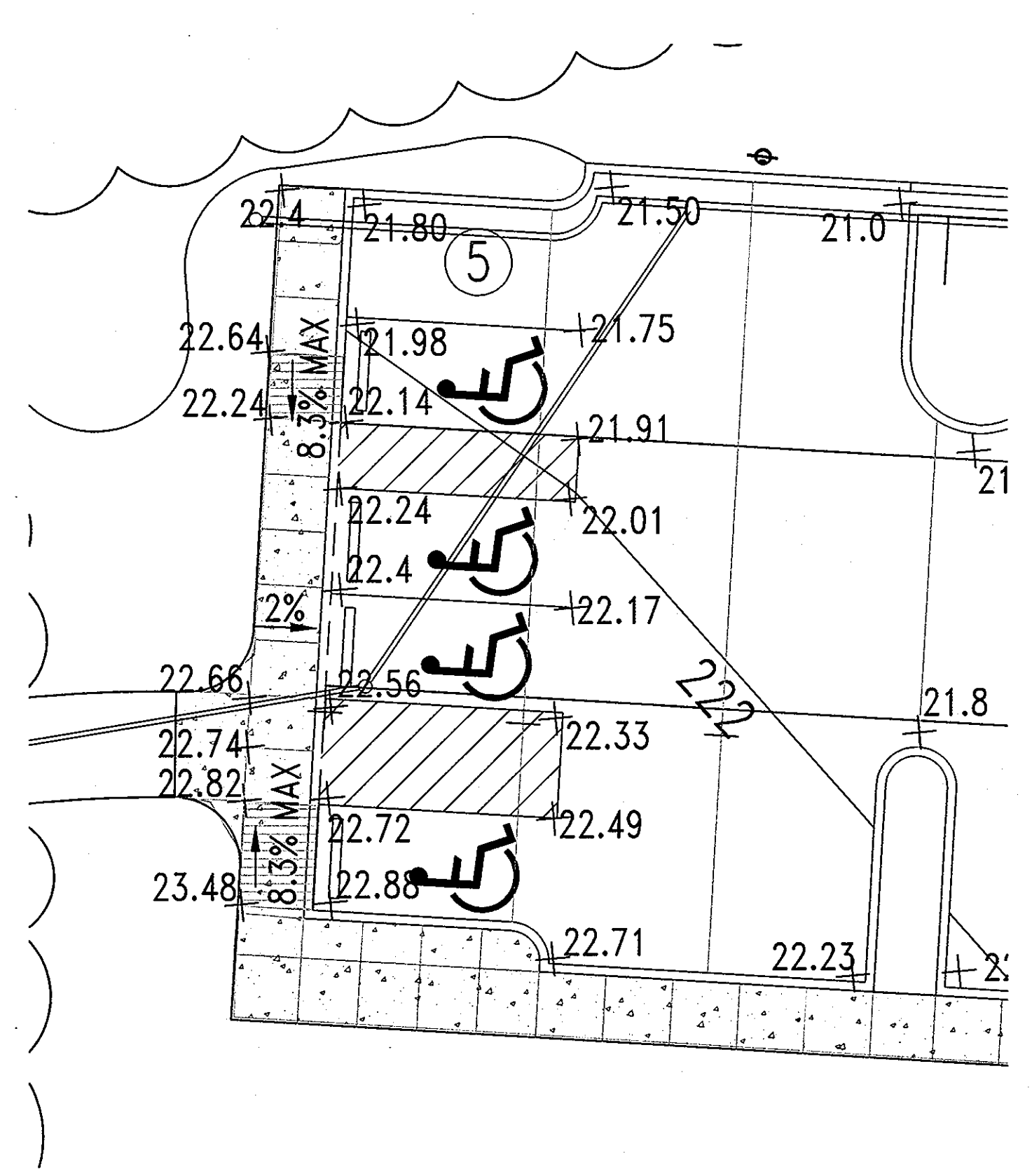
A Handicap Ramp Northwest Parking Entrance 1" = 10'



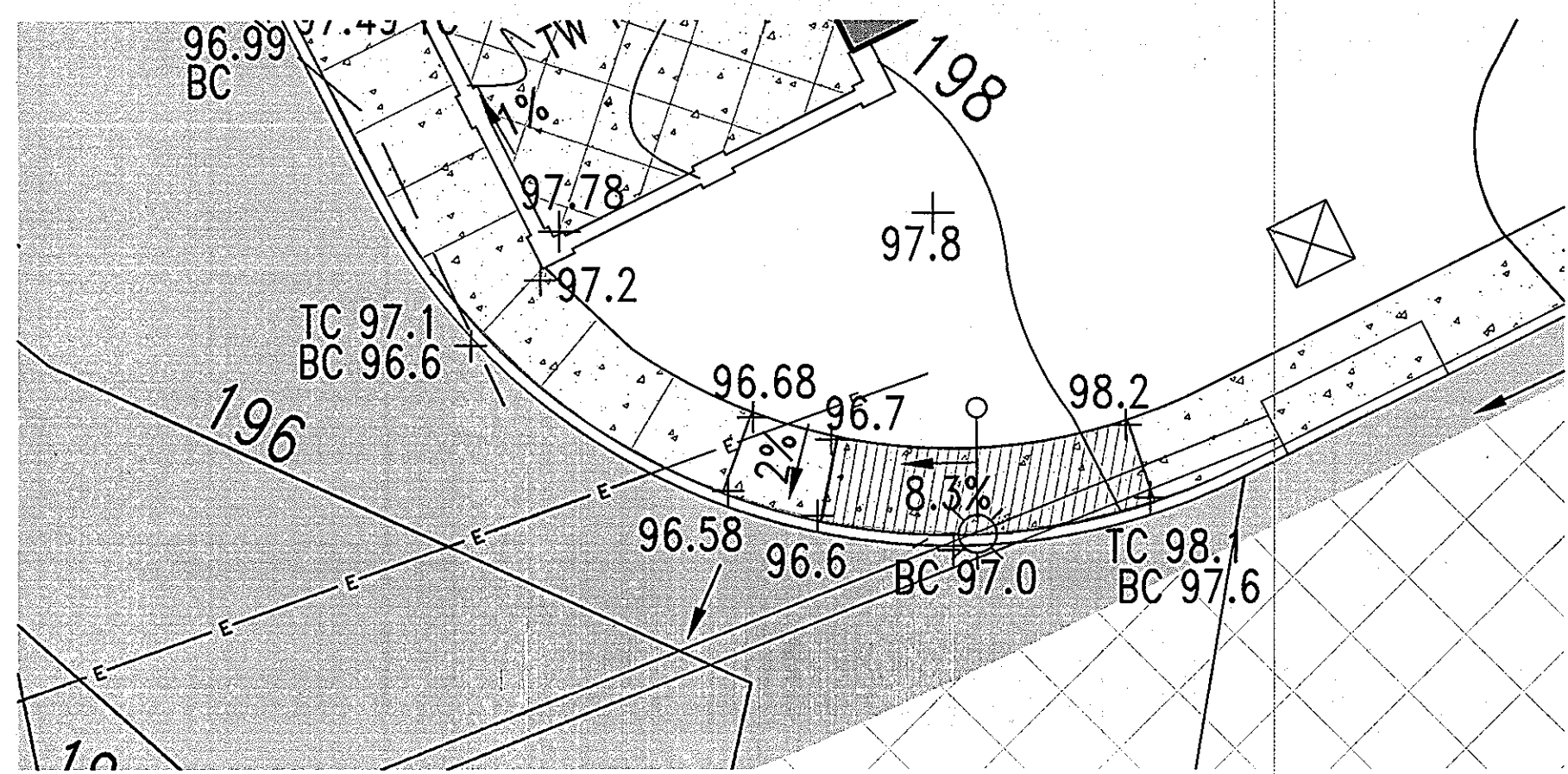
B Accessible Parking Northwest Building Entrance 1" = 10'



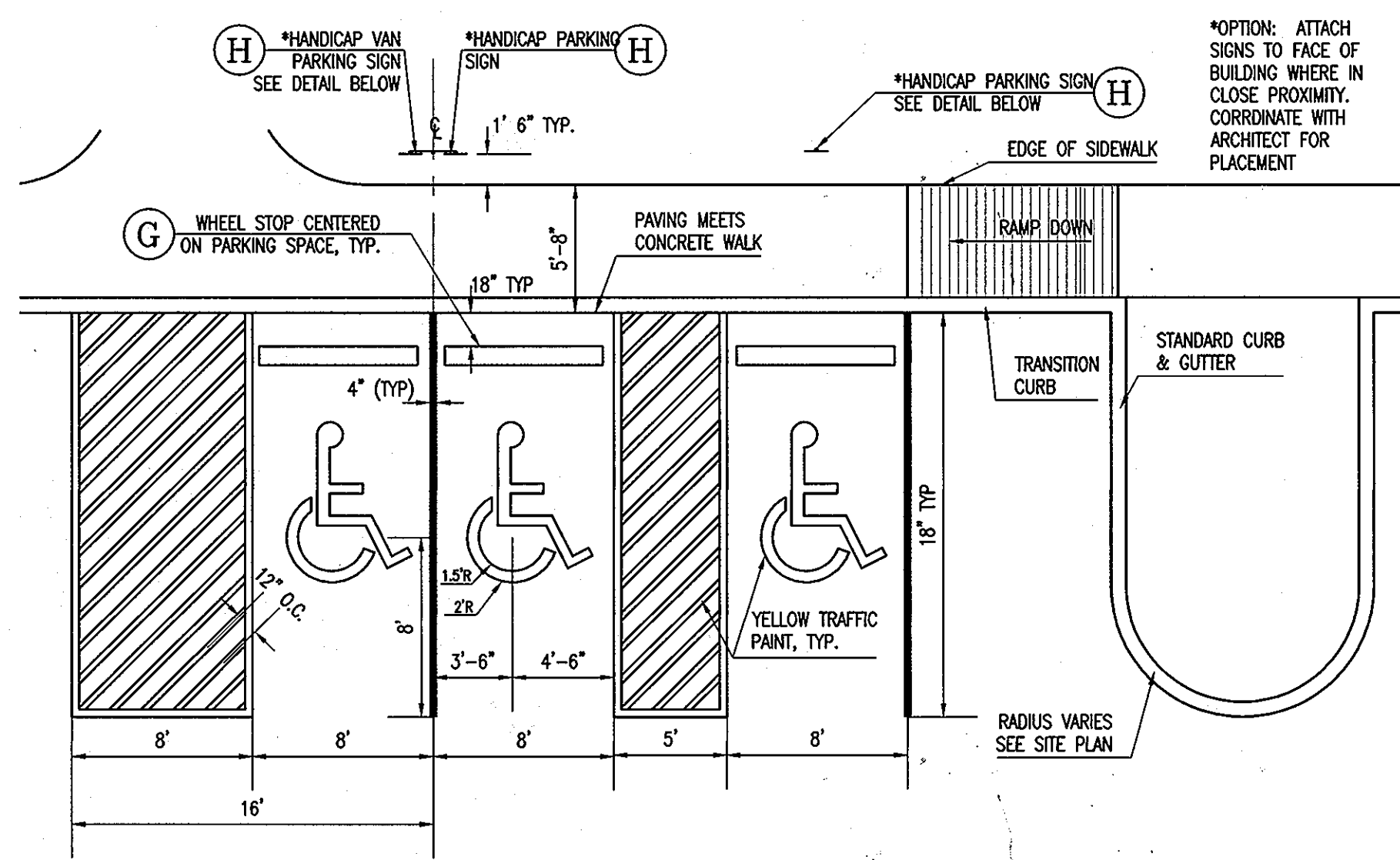
C Accessible Parking Northeast Building Entrance 1" = 10'



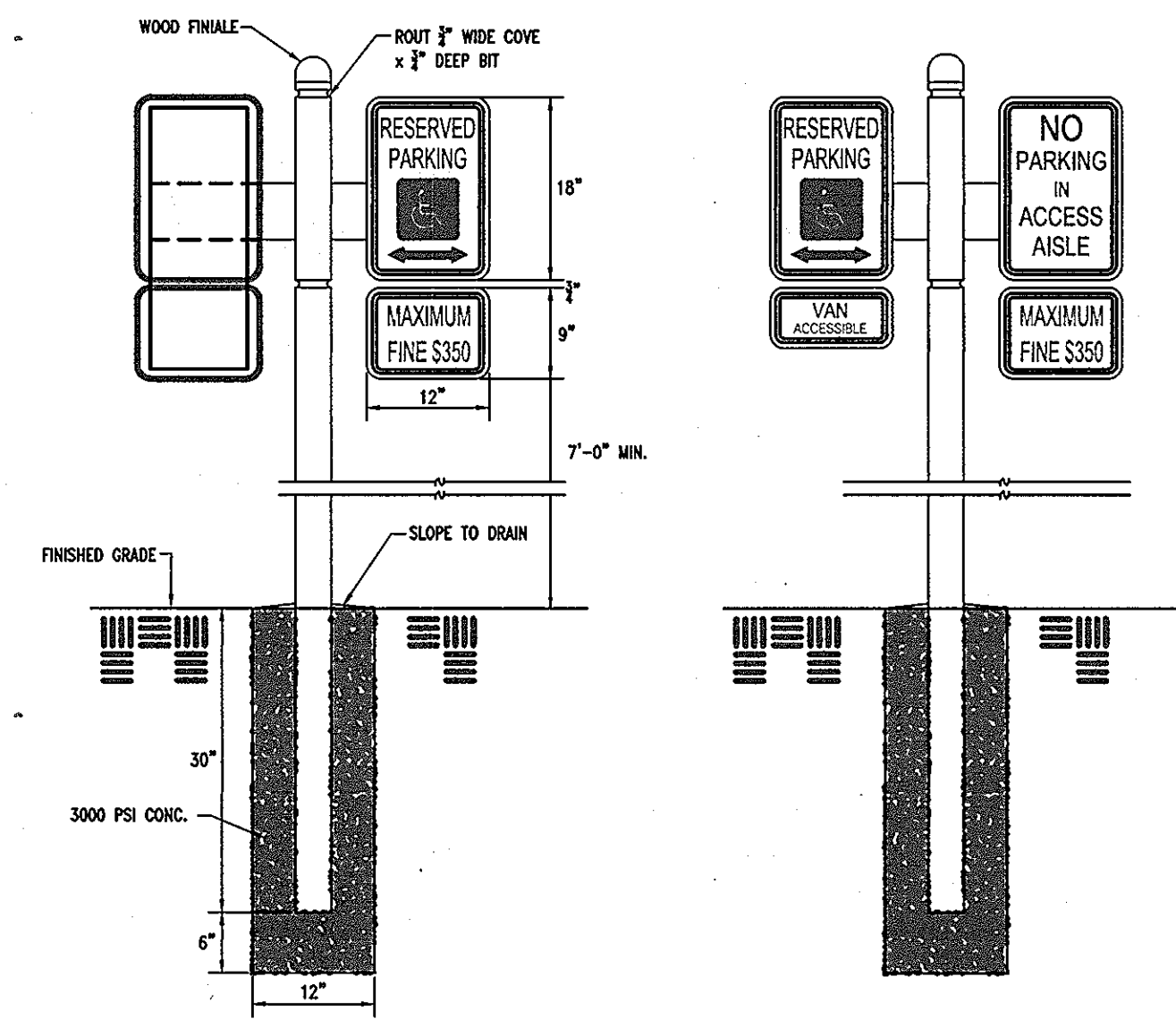
D Accessible Parking Park and Ride Lot 1" = 10'



E Handicap Ramp Northeast Parking Entrance 1" = 10'



F Accessible Parking Typical: Van & Standard NOT TO SCALE



NOTES:

- ATTACH 2x6 CROSS ARM TO 4x4 POST USING FOUR #4 x 4" GALV. LAG SCREW BOLTS. FASTENED THROUGH 2x6 AND INTO 4x4 SO THAT NO SCREWS ARE VISIBLE IN 4x4 POST.
- ATTACH 2x8 SIGN MOUNT BOARD TO 2x6 CROSS ARM USING 4 GALV. DECKING SCREWS #8 x 2 1/2".
- ALL MEMBERS SHALL BE SQUARE WITH ONE ANOTHER AND THE POST SHALL BE SET PLUMB.
- ATTACH METAL SIGNS TO SIGN MOUNT BOARD.
- STAIN OR PAINT LUMBER. ARCHITECT TO SELECT COLOR.

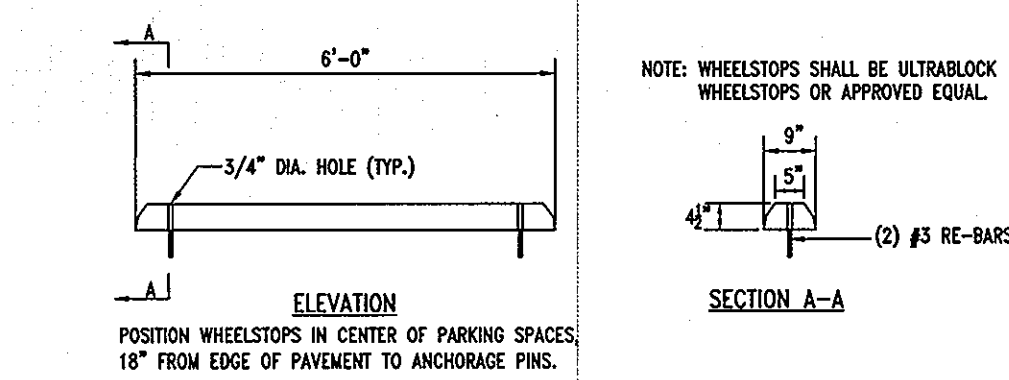
Handicap Parking Signs NOT TO SCALE

SIGN SIZE	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	I	J	K	L
STD.	12	18	1/2	11	2	2	1/2	6	2	4		

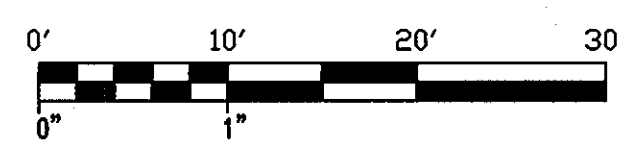
SIGN SIZE	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	I	J	K	L
STD.	5	4	1	3	1	4	1	3	1			

COLORS - HANDICAP AND FINE SIGN
 LEGEND AND BORDER - GREEN
 WHITE SYMBOL ON BLUE
 BACKGROUND ON BLUE
 BACKGROUND - WHITE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
B. Wilson for Peter Brilleman 1/7/2011
 County Health Officer
 Howard County Health Department
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John D. Sullivan 12/17/10
 CHIEF, DEVELOPING ENGINEERING DIVISION
Veronica DeLuz 1/12/11
 CHIEF, DIVISION OF LAND DEVELOPMENT
Thomas J. Sullivan 1/12/11
 DIRECTOR



G PreCast Concrete Wheelstop NOT TO SCALE



Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave, Suite 303 P. 410.321.7609
 Towson, Maryland, 21284 F. 410.321.7601

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. 14230, Expiration Date: 12/06/10.

Corridor Industrial Park, Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

Site Details

DATE/PROJECT: C-1	USER/APP: 5434/243	PLANS: 21380
DATE: 10/12	LINE: M-2	DRAWING NO: 67H
		CROSS TABLE: 608902

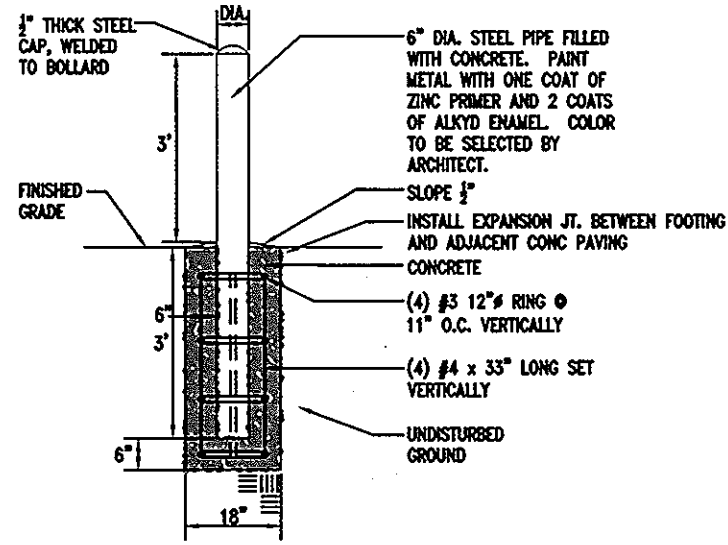
OWNER AND DEVELOPER: HOWARD COUNTY, MD
 4250 BENJAMIN ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK / 410-315-6191

ENGINEER: TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21202
 CONTACT: JEFFREY SCHWAB / 410-321-7600

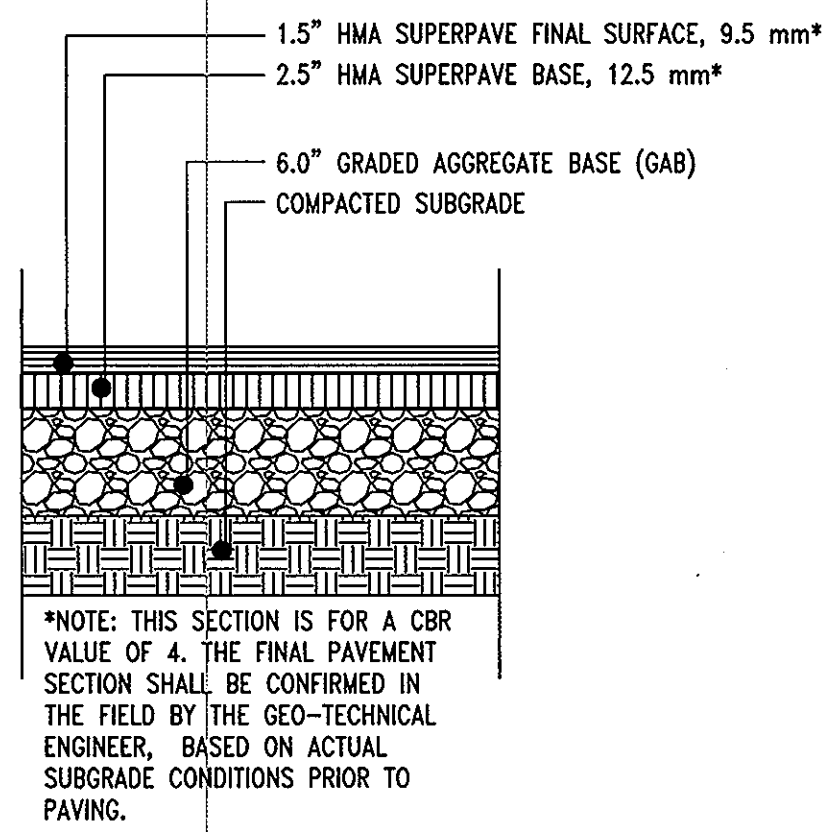
Date: 10/22/2010
 Proj. #: 08016
 Scale: AS SHOWN

8 of 33

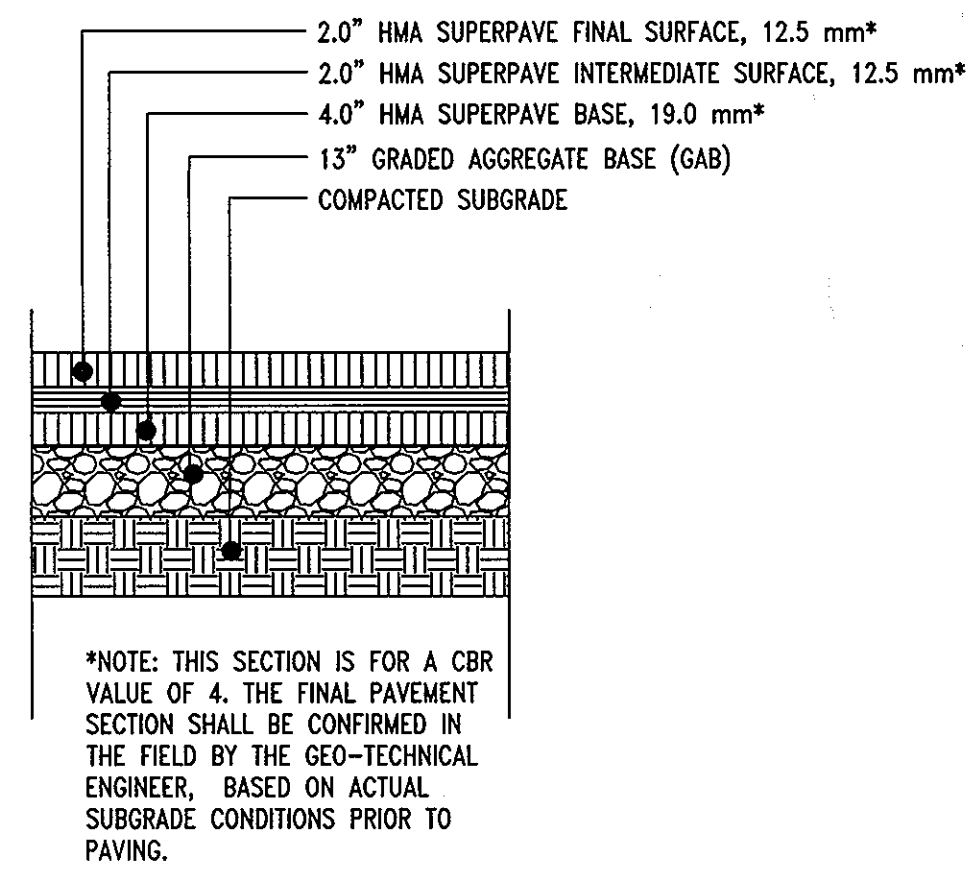
REINFORCEMENT	QUANTITY	SIZE	DIMENSION	SPACING
HORIZONTAL	4	#4	12" LONG	EQUAL
VERTICAL	4	#4	12" LONG	EQUAL



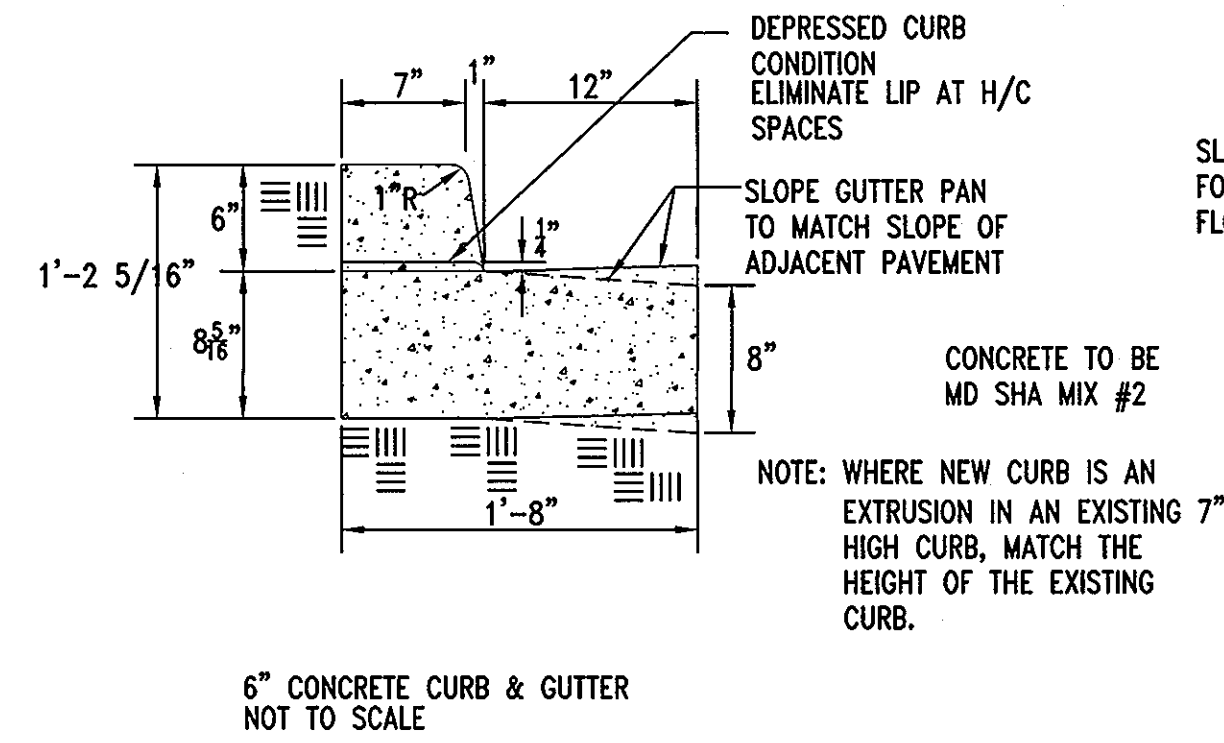
A Bollard
NOT TO SCALE



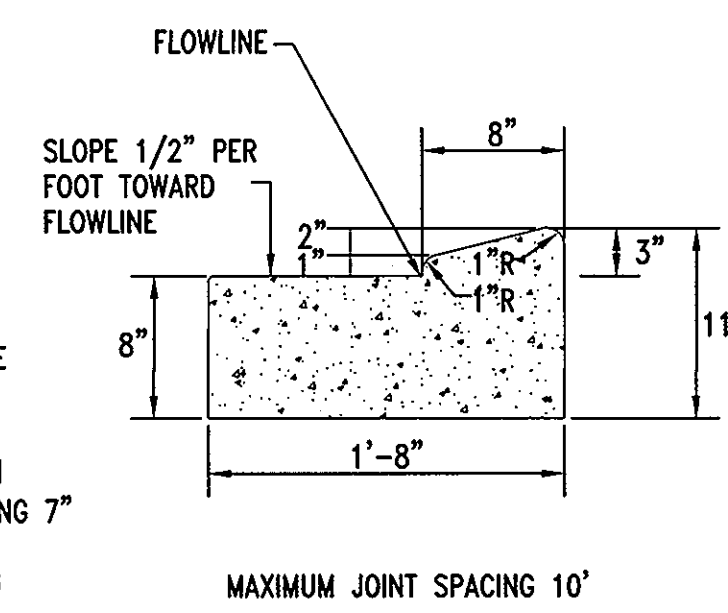
B Medium-duty Paving Section (P2)
NOT TO SCALE
COMPACTION LEVEL 1
BINDER TYPE PG 64-22



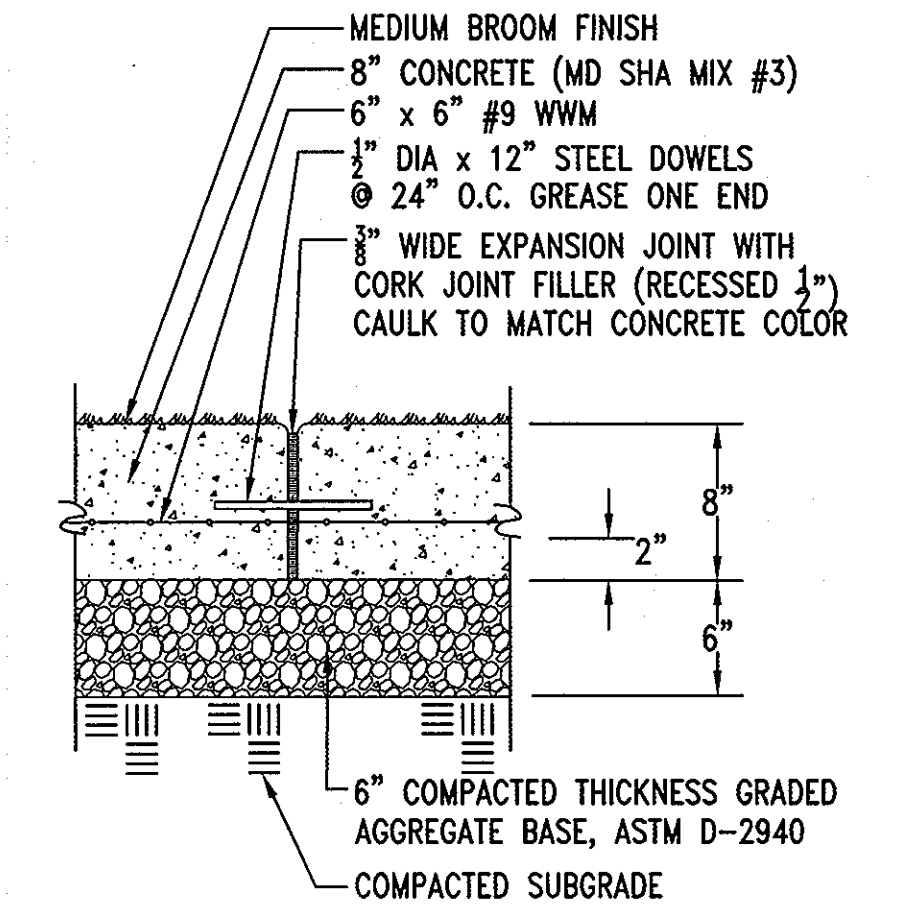
C Heavy Duty Paving Section (P4)
NOT TO SCALE
COMPACTION LEVEL 1
BINDER TYPE PG 64-22



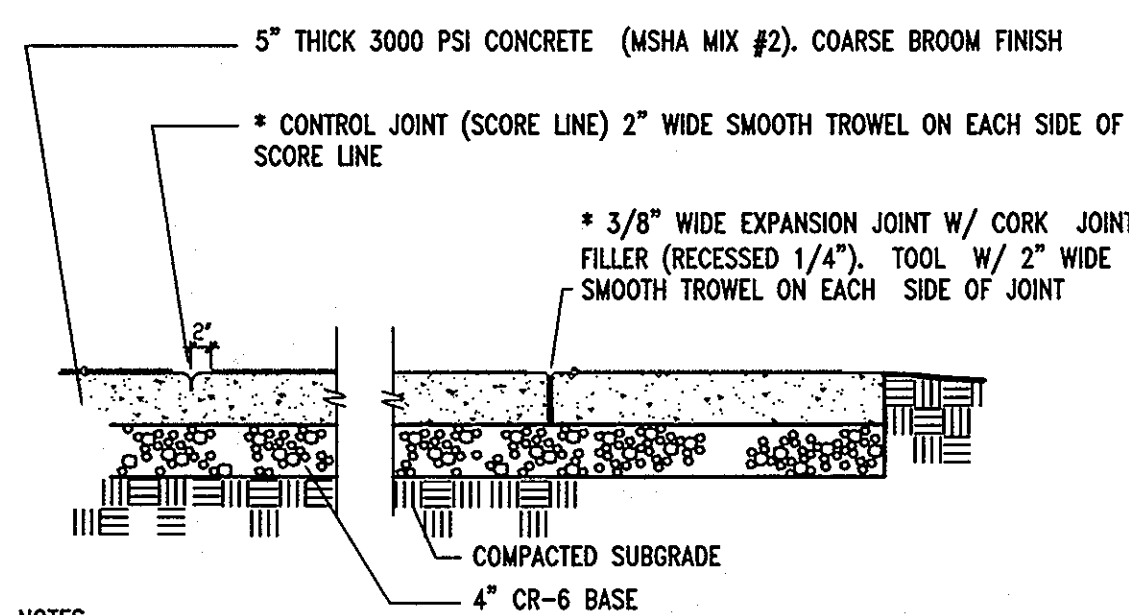
D 6" Curb and Gutter
Full Height and Depressed Curb
for on-site applications



E Mountable Curb and Gutter
for on-site applications
PER MD STATE HWY ADMIN. STD DETAIL 620.02-01 TYPE C
NOT TO SCALE



F Concrete Vehicular Pavement
NOT TO SCALE
NOTE: REFER TO MD 572.22 DETAIL FOR DOWEL INSTALLATION, TYP.

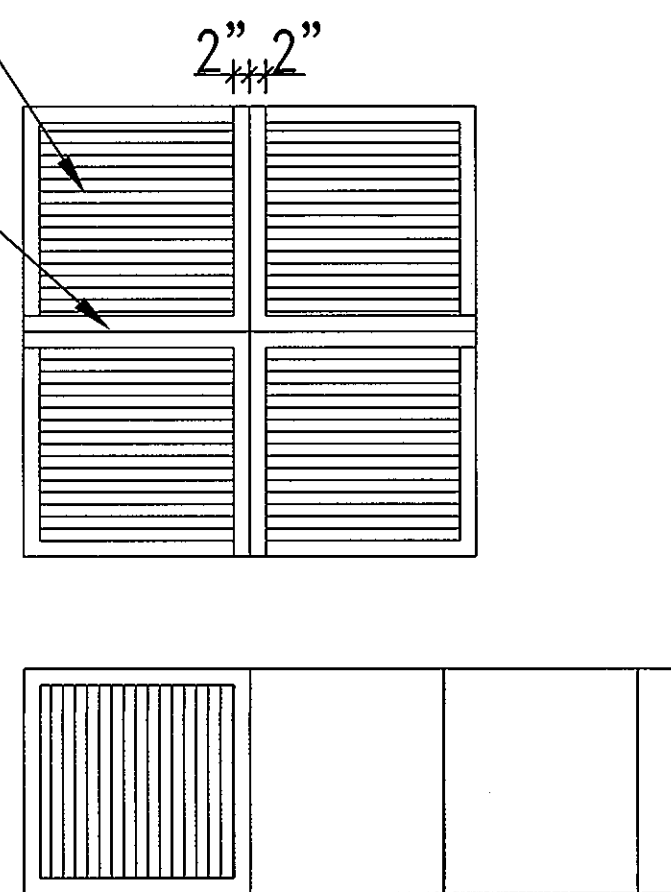


- NOTES
- EXPANSION JOINTS ACROSS THE SIDEWALK APPROXIMATELY 16' APART.
 - 1/2" PRE-FORMED CORK MATERIAL IN EXPANSION JOINTS TO BE 1/4" BELOW SURFACE OF SIDEWALK.
 - CONCRETE TO BE MSHA MIX 2 (3000 PSI)
 - WHEN SIDEWALK ABUTS BACK OF STREET CURB, WALK SHALL BE 1/4" ABOVE TOP OF CURB WITH 1/2" PRE-FORMED CORK EXPANSION JOINT BETWEEN THEM.
 - WHERE INTEGRAL COLOR IS CALLED FOR ON THE PLANS, CONTRACTOR SHALL SUBMIT FULL RANGE SAMPLES FROM THE SELECTED PIGMENT SUPPLIER FOR COLOR SELECTION AND APPROVAL BY THE ARCHITECT

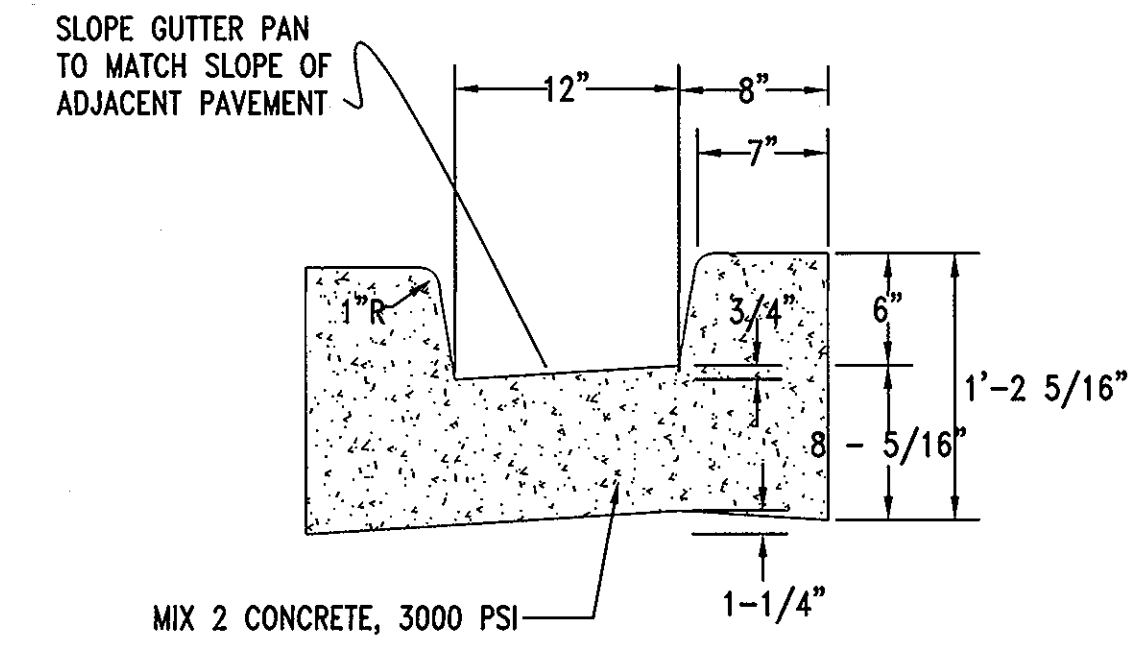
* SEE SITE PLAN ENLARGEMENTS FOR SCORING PATTERNS. BEFORE POURING CONCRETE, CONFIRM SCORING PATTERN TO TESSERACT SITES, INC. THE SCORING PLAN SHALL SHOW EXPANSION JOINTS HIGHLIGHTED IN RED AND CONTROL JOINTS HIGHLIGHTED IN YELLOW.

CONSTRUCTION JOINTS: THE EDGE OF EACH CONCRETE POUR SHALL COINCIDE WITH AND BECOME AN EXPANSION JOINT. NO OTHER CONSTRUCTION JOINT IS PERMITTED.

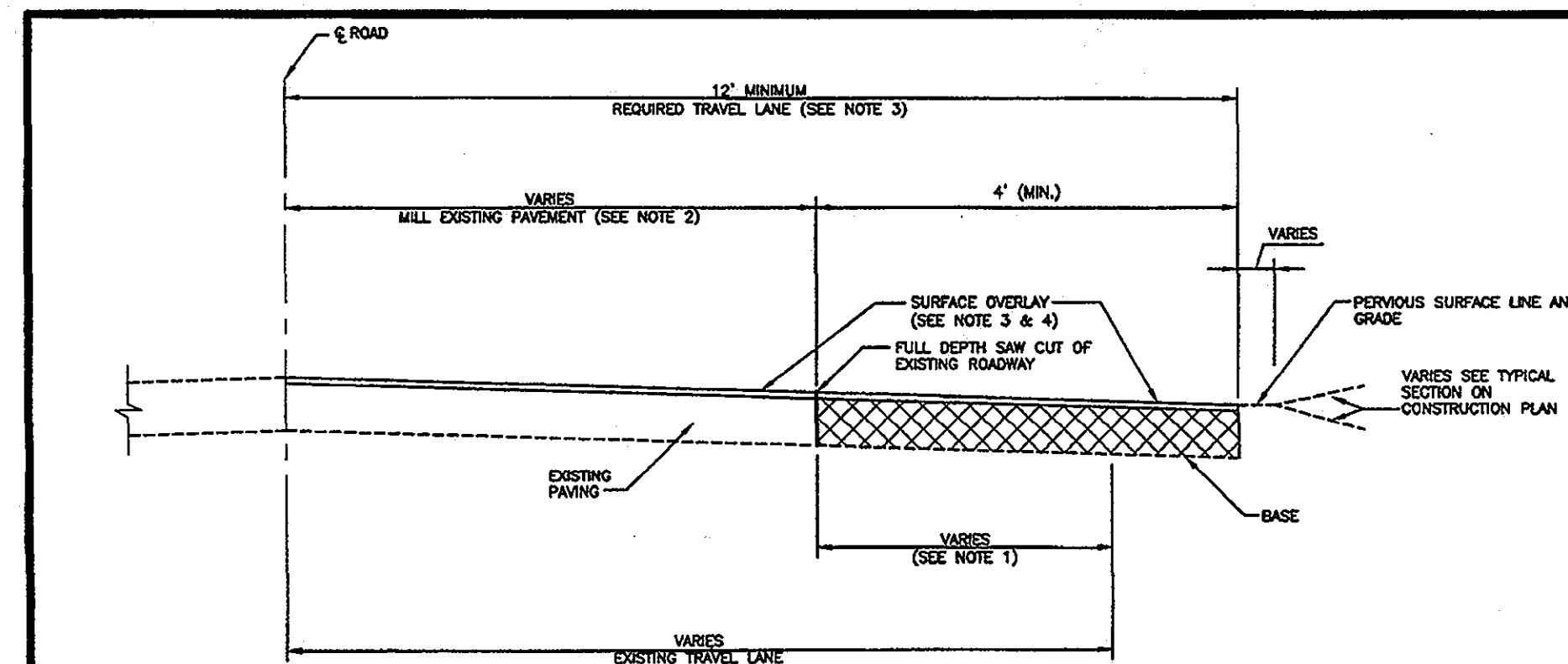
G Concrete Sidewalk - Windowpane
NOT TO SCALE



H Curb-Flush
PER HOWARD COUNTY DPW DETAIL R-3.07
NOT TO SCALE

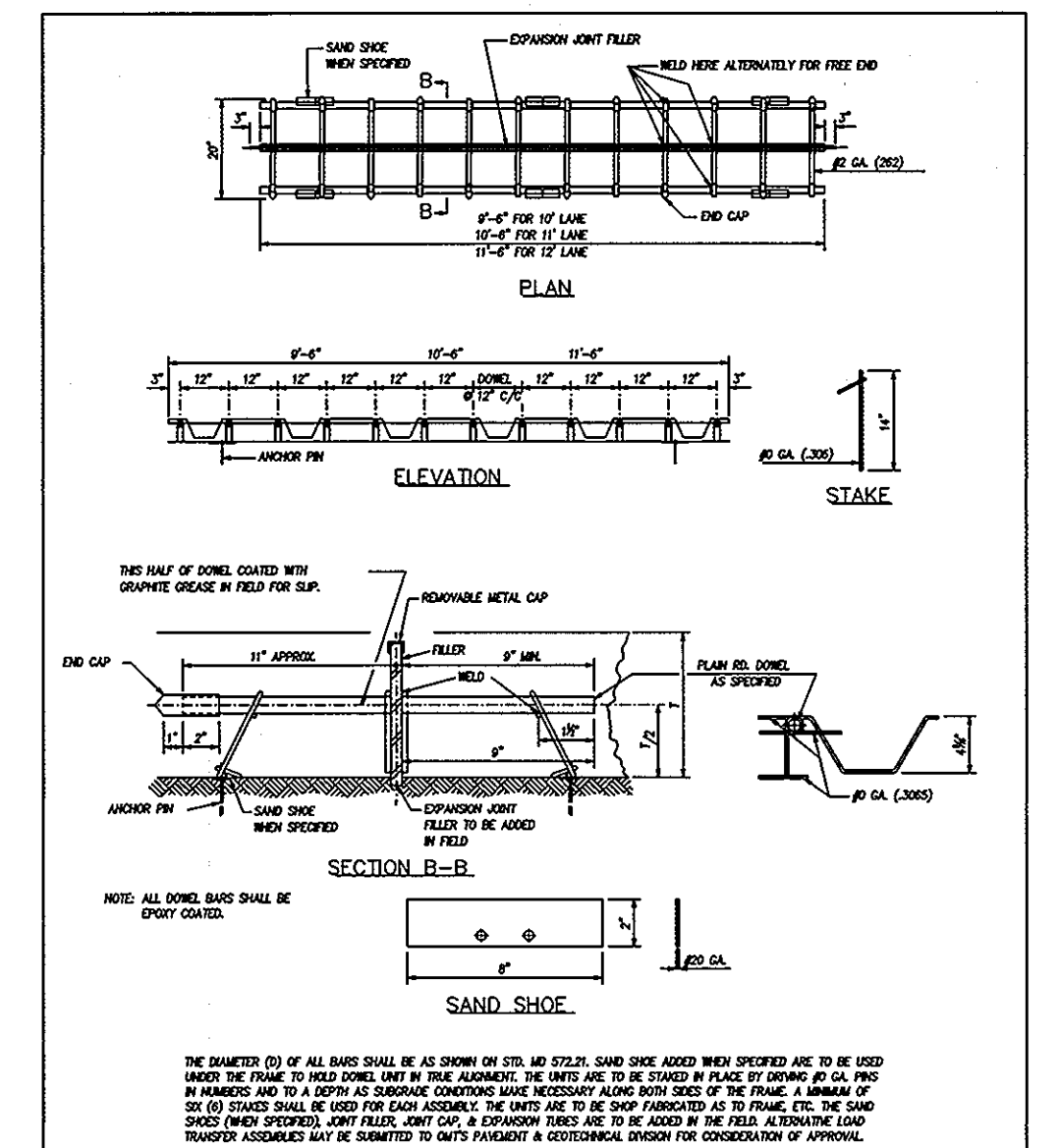


I MONOLITHIC GUTTER
NOT TO SCALE



- NOTES:
- WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE A MINIMUM OF 1' FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4' OF WIDENING FROM FACE OF GUTTER PAN.
 - THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED AT DEPTH OF 1 1/2" (MINIMUM).
 - THE RESURFACING SHALL BE PLACED TO THE CENTERLINE OF THE ROADWAY.
 - RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION.

Howard County, Maryland Department of Public Works	Existing Roadway Widening Strip	Detail R-1.08
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APPROVED	DATE	DESIGNED	DATE	CHECKED	DATE
SHA	12/12/10	AS	12/12/10	AS	12/12/10

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES
REINFORCED CONCRETE PAVEMENT
LOAD TRANSFER ASSEMBLY -
EXPANSION JOINTS
STANDARD NO. MD 572.22

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

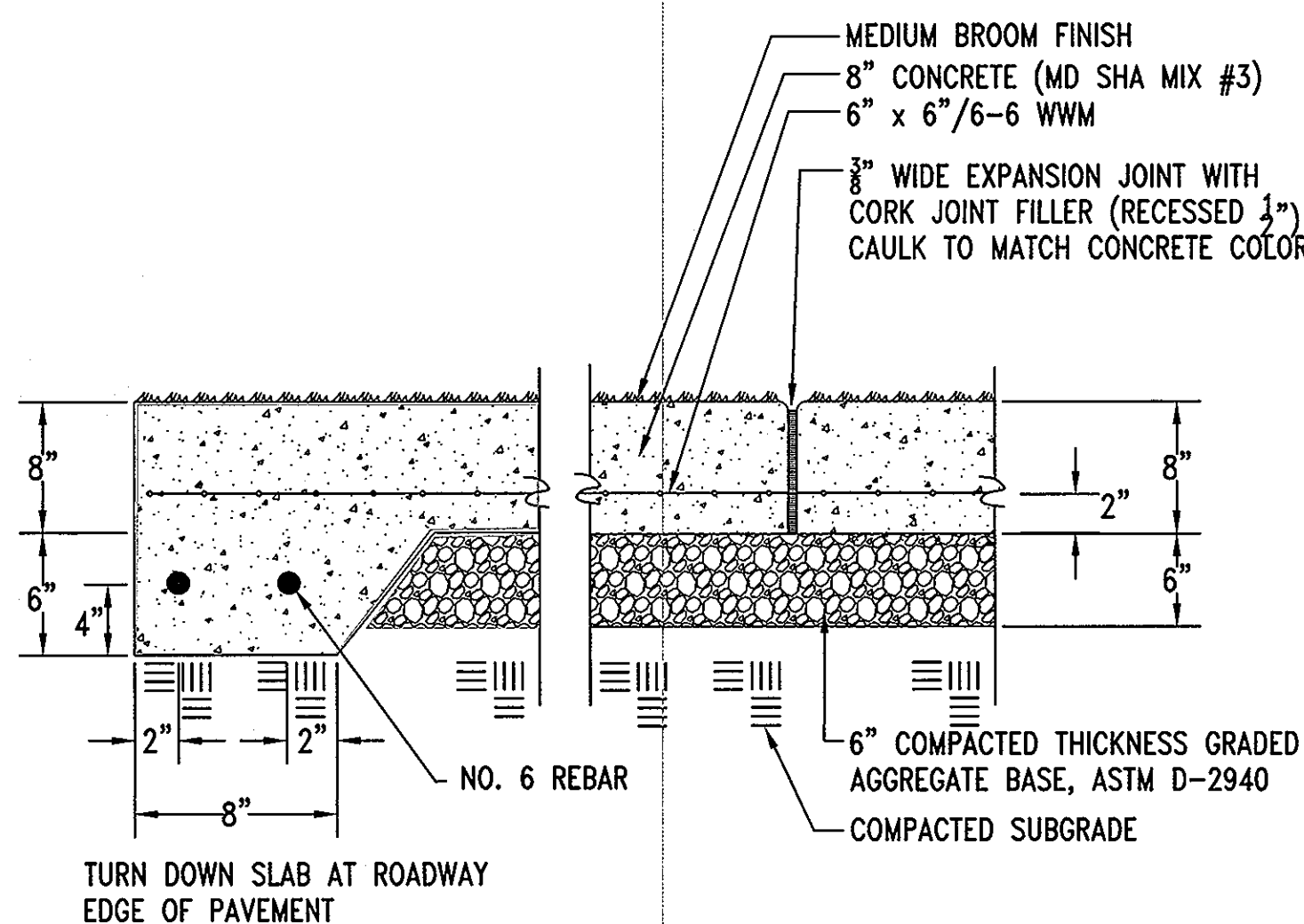
Peter B. Silen 12/20/11
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

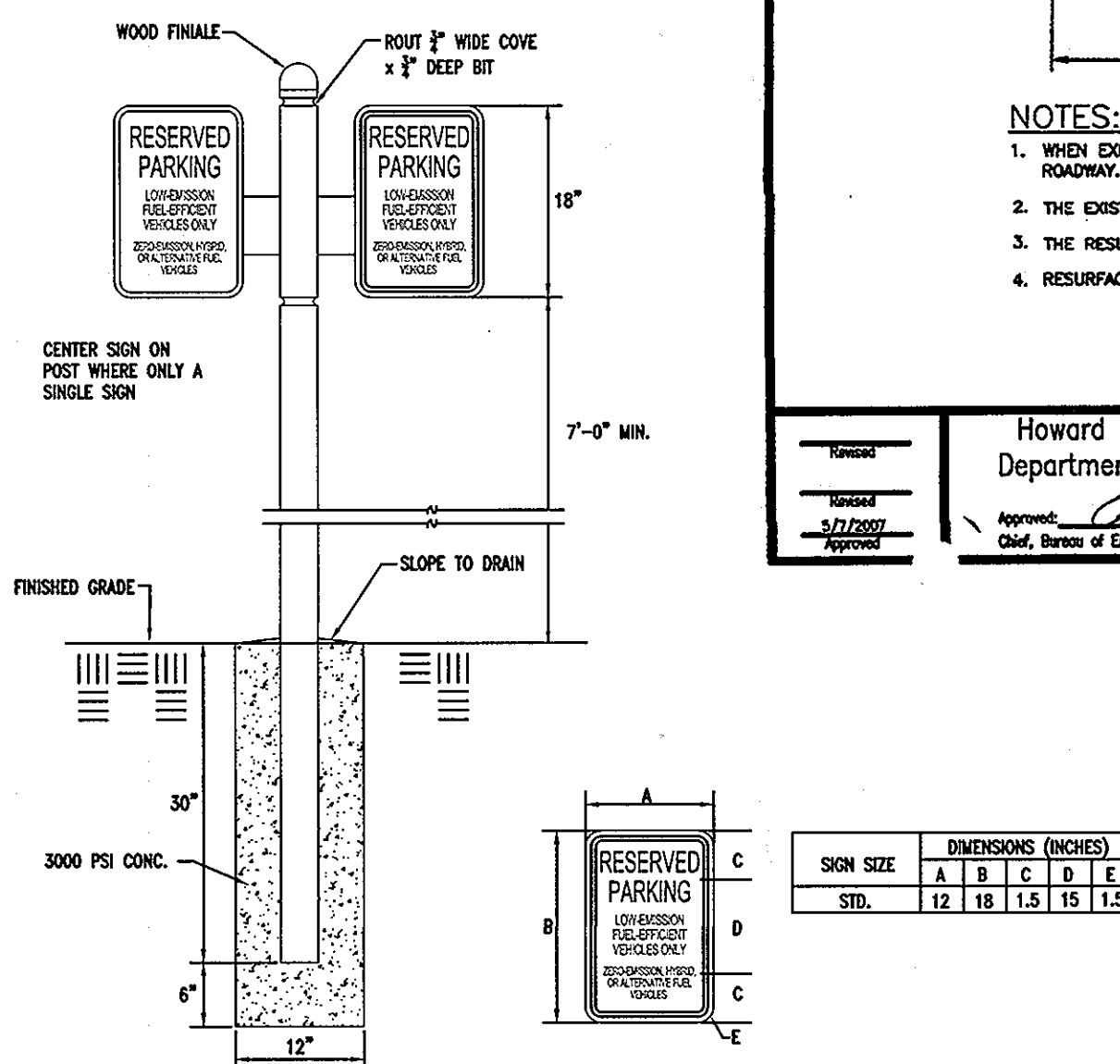
David Williams 12/12/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Keith Shadlock 1/14/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas E. Butler 1/14/11
DIRECTOR



J Dumpster Pad
NOT TO SCALE



H Reserved Parking Signs - Low Emission Vehicles
NOT TO SCALE

OWNER
MARYLAND STATE HIGHWAY ADMINISTRATION
107 NORTH CALVERT STREET
BALTIMORE, MD 21202
410-545-0300

OWNER AND DEVELOPER
HOWARD COUNTY, MD
4250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-313-6194

ENGINEER
TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21286
CONTACT: JEFFREY SCHWAB
410-321-7600

Tesseract
TESSERACT SITES, INC.
401 Washington Ave. Suite 303
Towson, Maryland, 21286
P. 410.321.7600
F. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

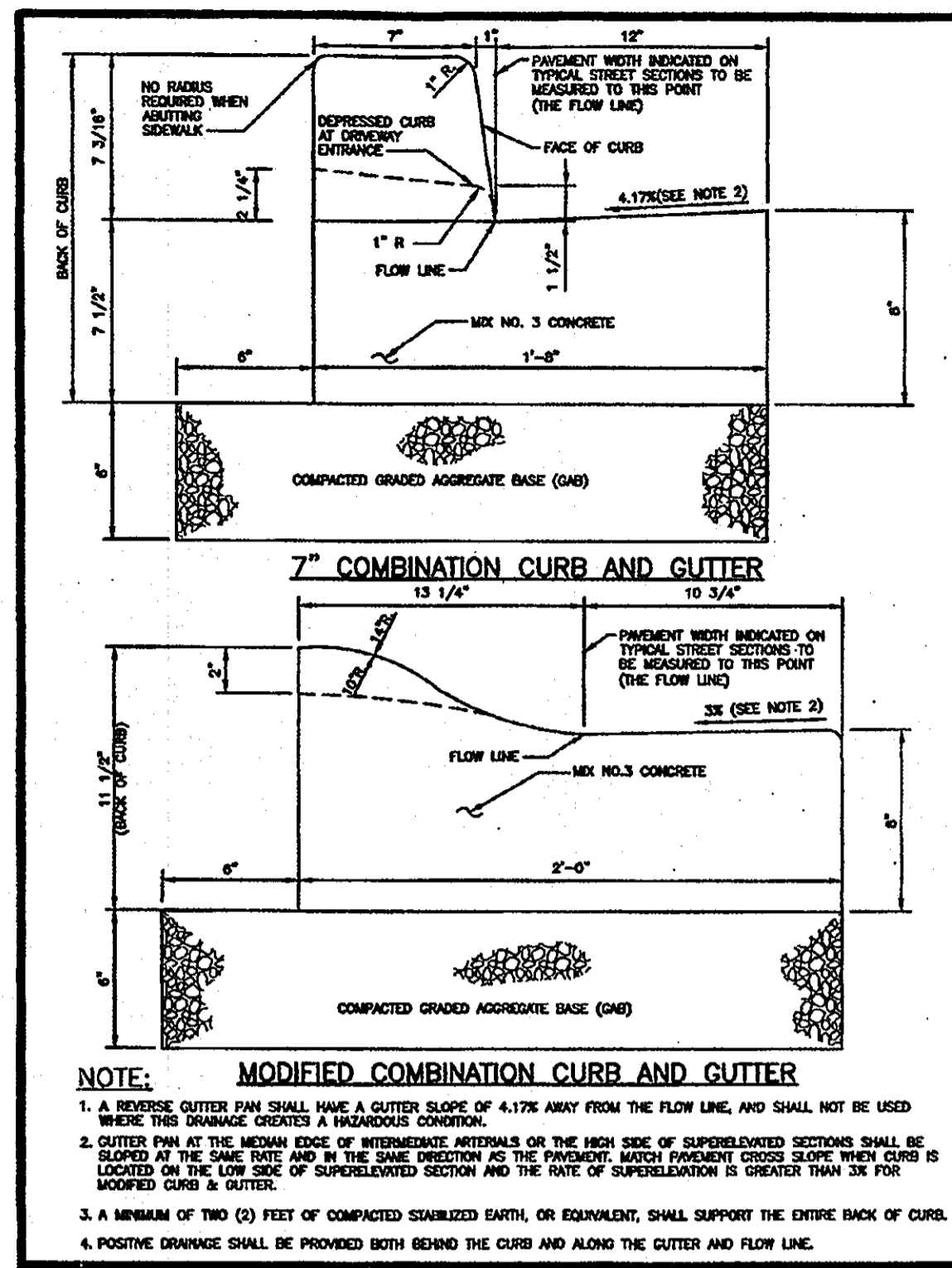
Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Site Details

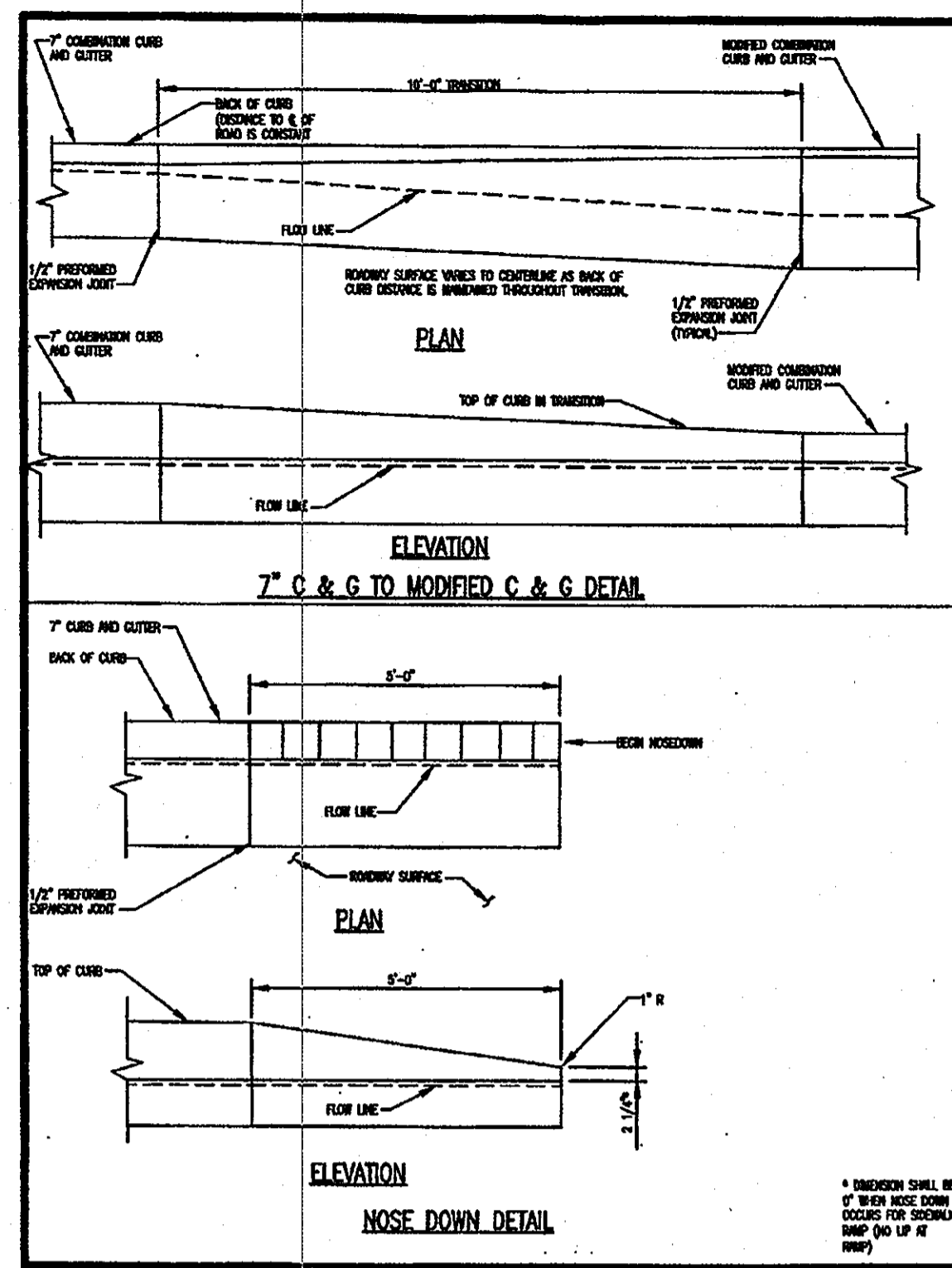
PROJECT: C-1	LEAD/OWNER: 5454/243	PLAT: 21380
DATE: 12,12	ZONE: M-2	ELECTRICAL: 6TH
CONTRACTOR: 47	CONTRACTOR: 6TH	CONTRACTOR: 608902

Date: 10/22/2010
Proj. #: 08016
Scale: AS SHOWN

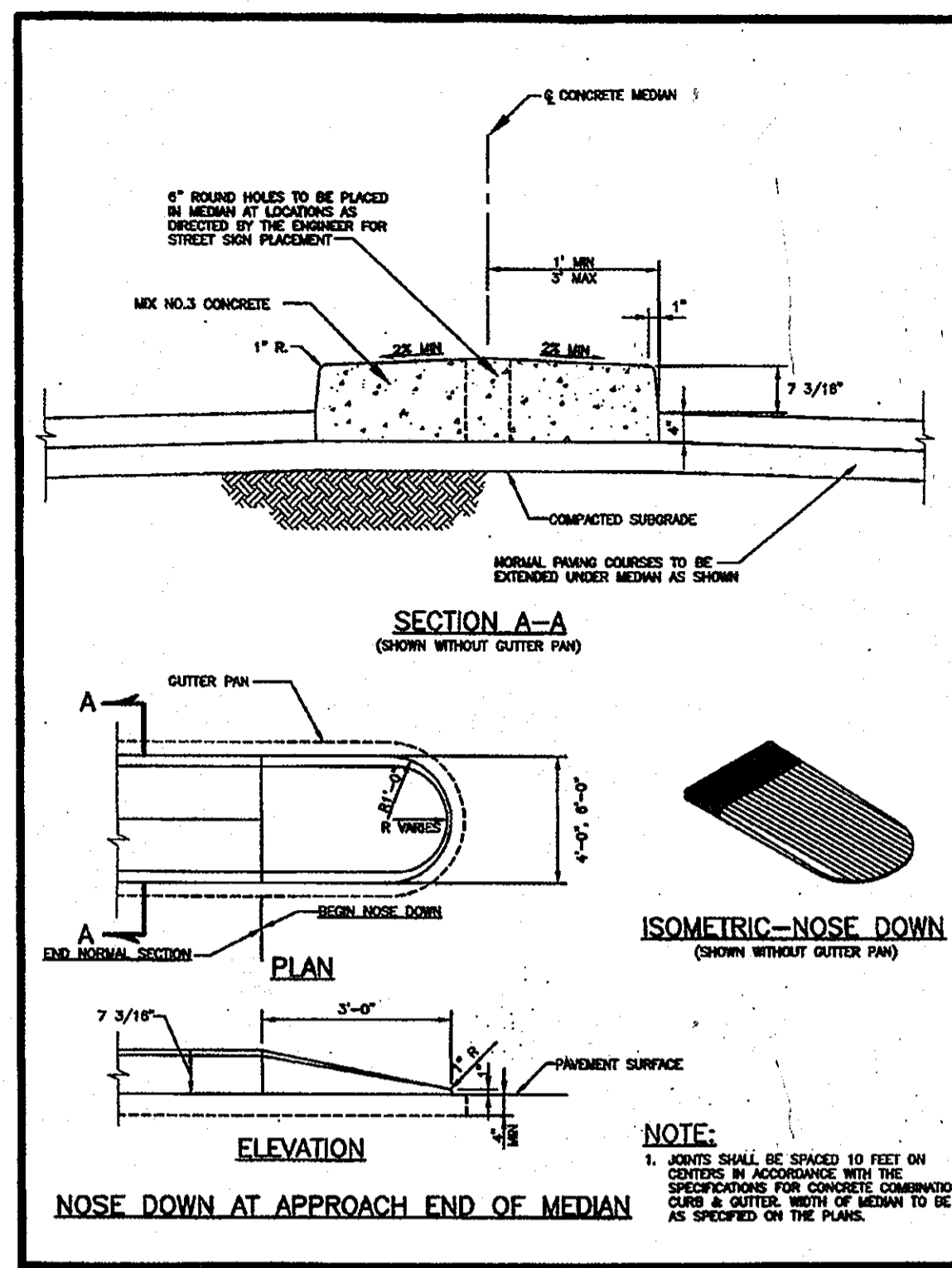
9 of 33



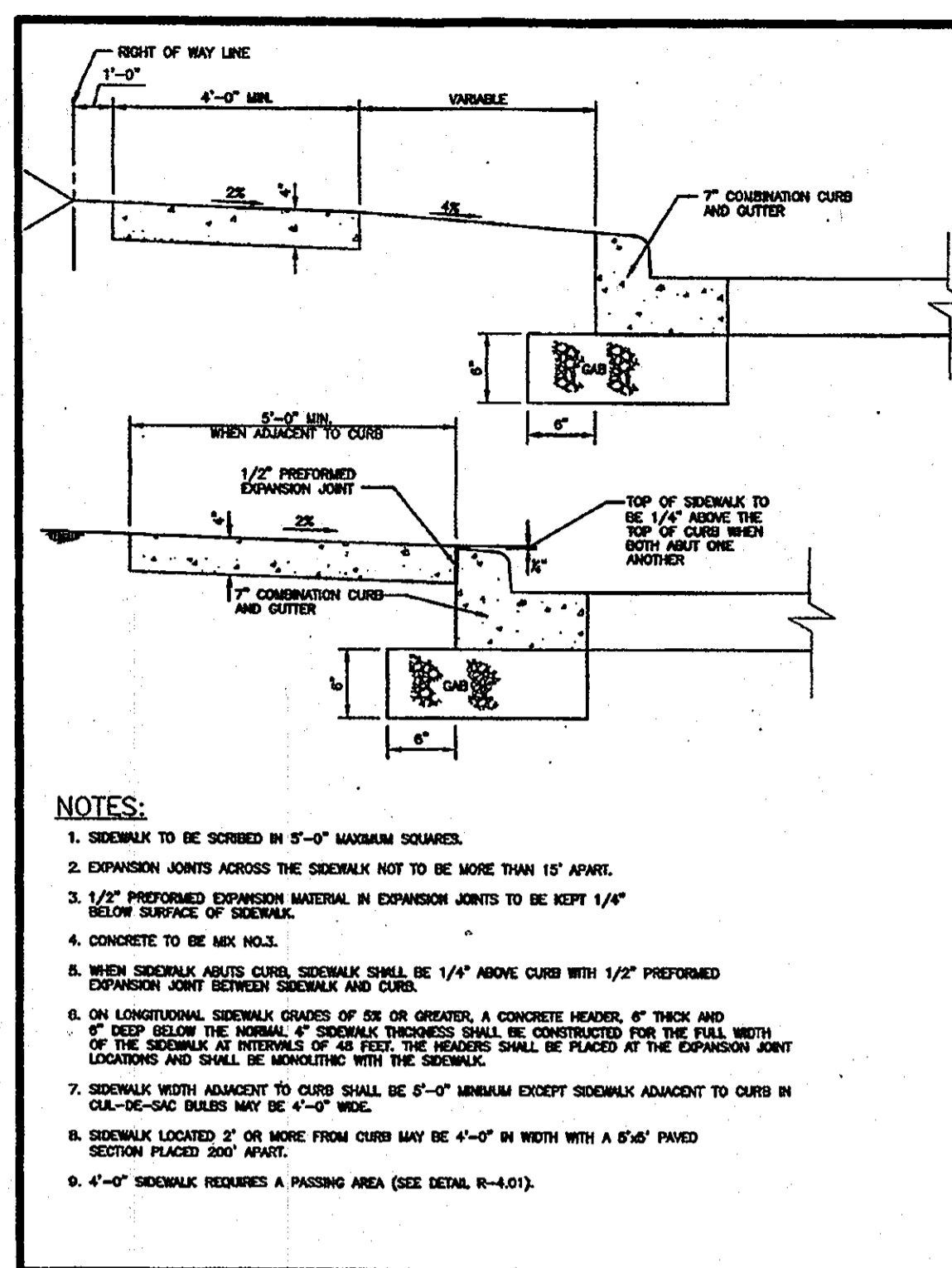
Project: Howard County, Maryland Department of Public Works	Detail: CURB AND GUTTER 7" & Modified	Sheet: R-3.01
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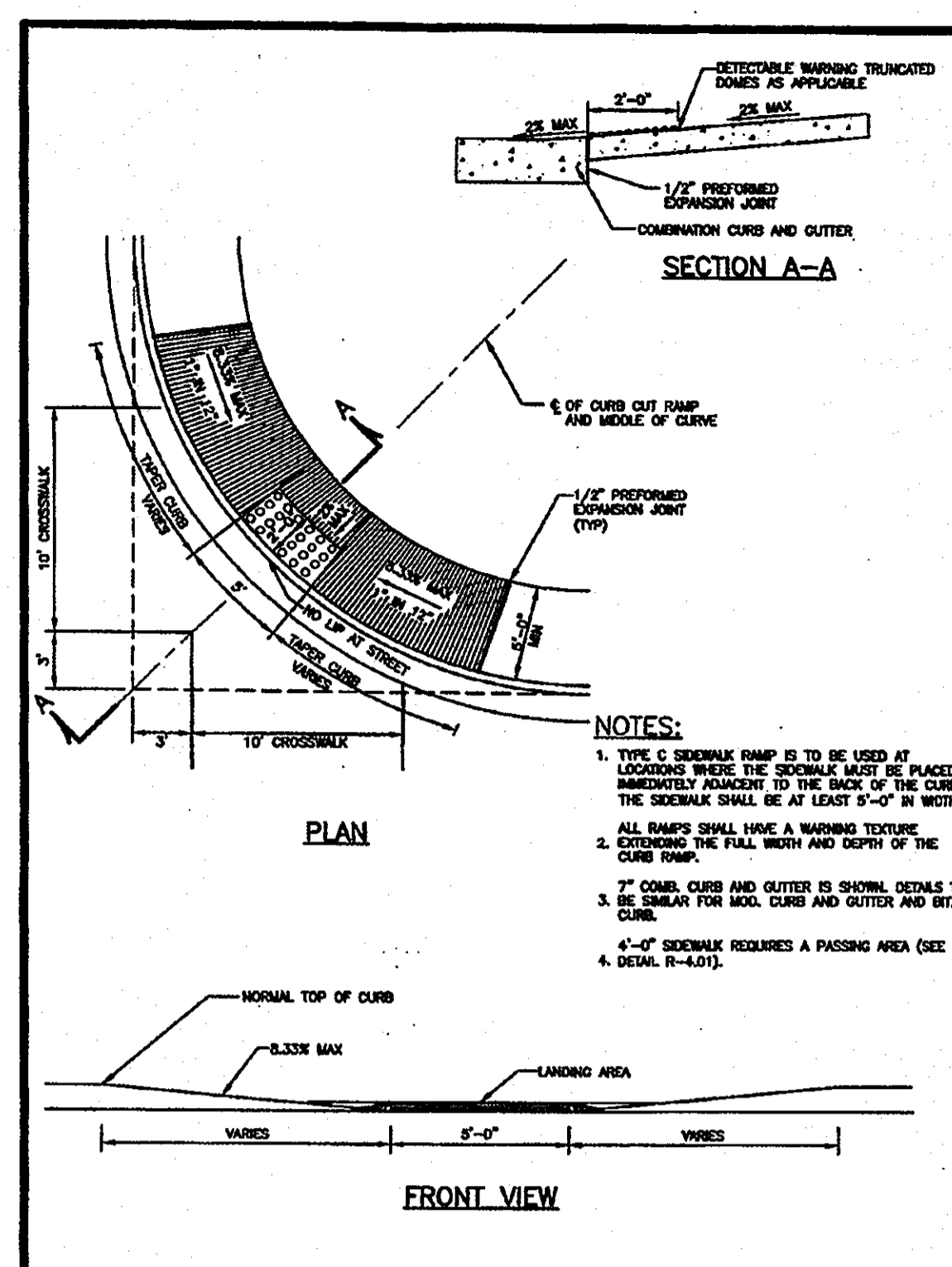
Project: Howard County, Maryland Department of Public Works	Detail: CURB AND GUTTER 7" Transition to Modified & Nose Down	Sheet: R-3.02
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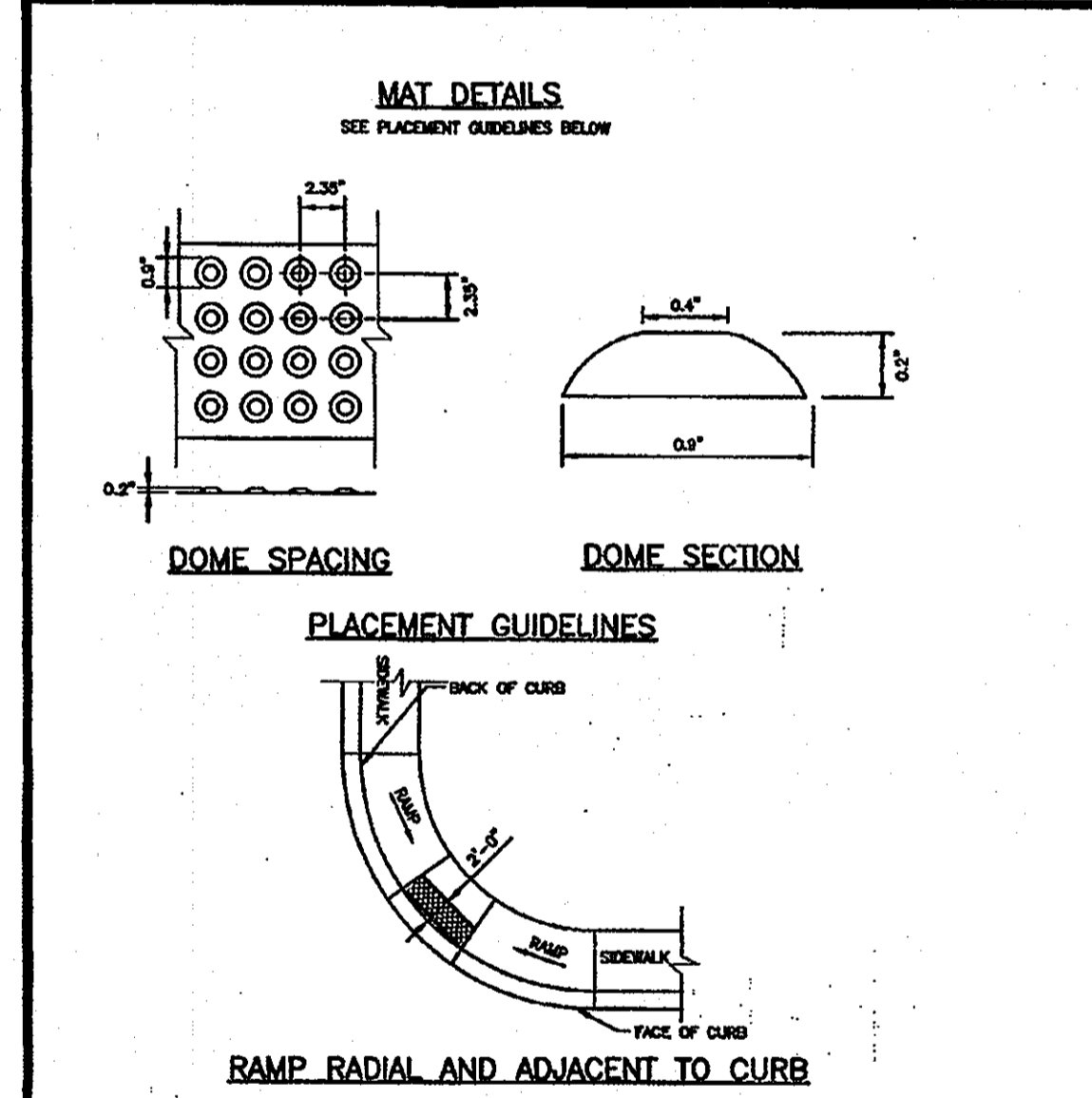
Project: Howard County, Maryland Department of Public Works	Detail: Monoolithic Concrete Median	Sheet: R-3.04
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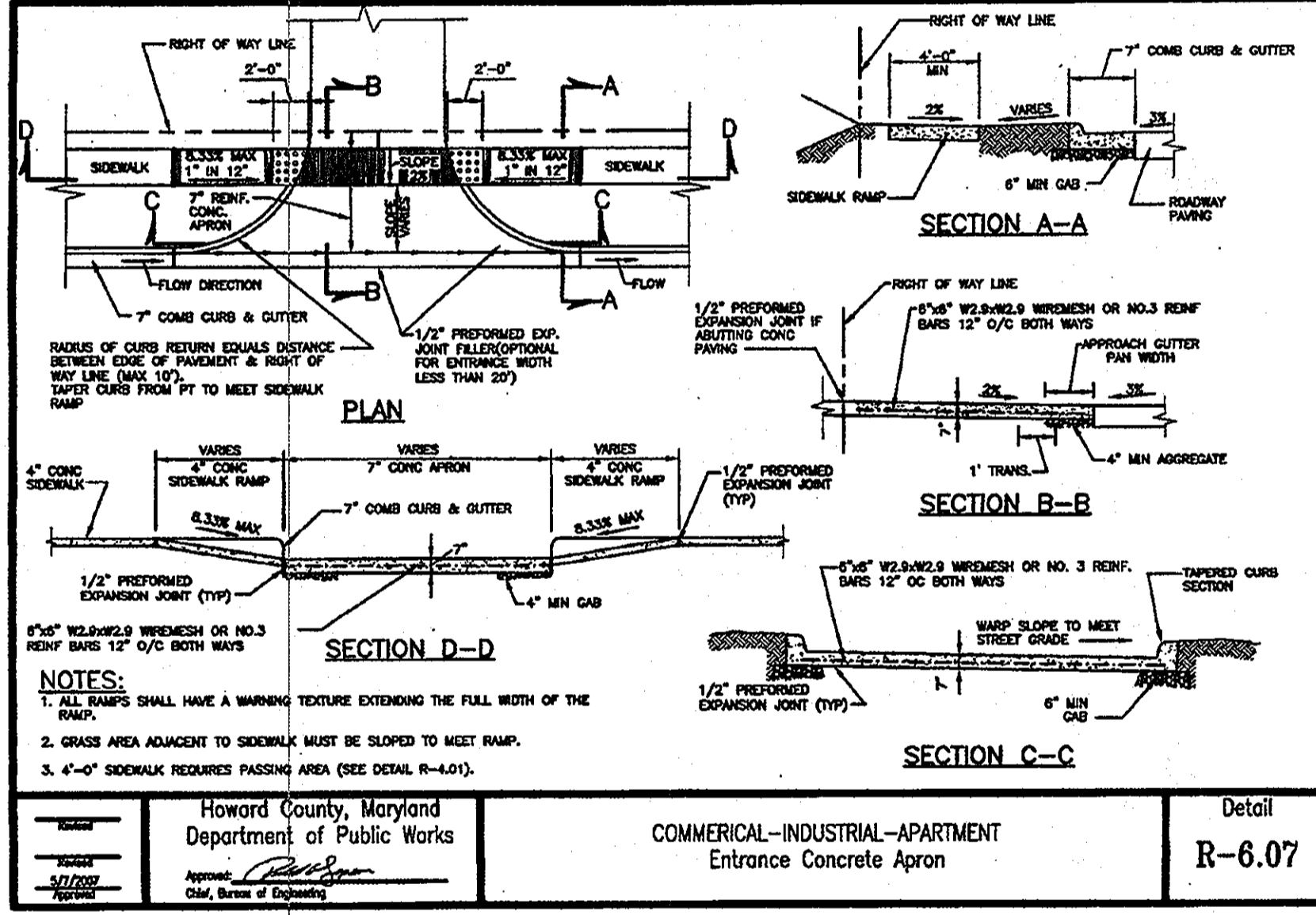
Project: Howard County, Maryland Department of Public Works	Detail: Concrete Sidewalk	Sheet: R-3.05
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Project: Howard County, Maryland Department of Public Works	Detail: SIDEWALK RAMP Type C	Sheet: R-4.04
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Project: Howard County, Maryland Department of Public Works	Detail: SIDEWALK RAMP Detectable Warning Truncated Domes	Sheet: R-4.07
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Project: Howard County, Maryland Department of Public Works	Detail: COMMERCIAL-INDUSTRIAL-APARTMENT Entrance Concrete Apron	Sheet: R-6.07
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DO NOT BLOCK DRIVEWAY ENTRANCE

* SPACING BETWEEN "DO" AND "NOT" REDUCED TO FIT
** ALTERNATE MESSAGE FOR LINE 3

SIGN SIZE	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
STD	24	30	3/8	5/8	4-1/2	6*	3-1/2	8*	2-1/2	4*	1-1/2

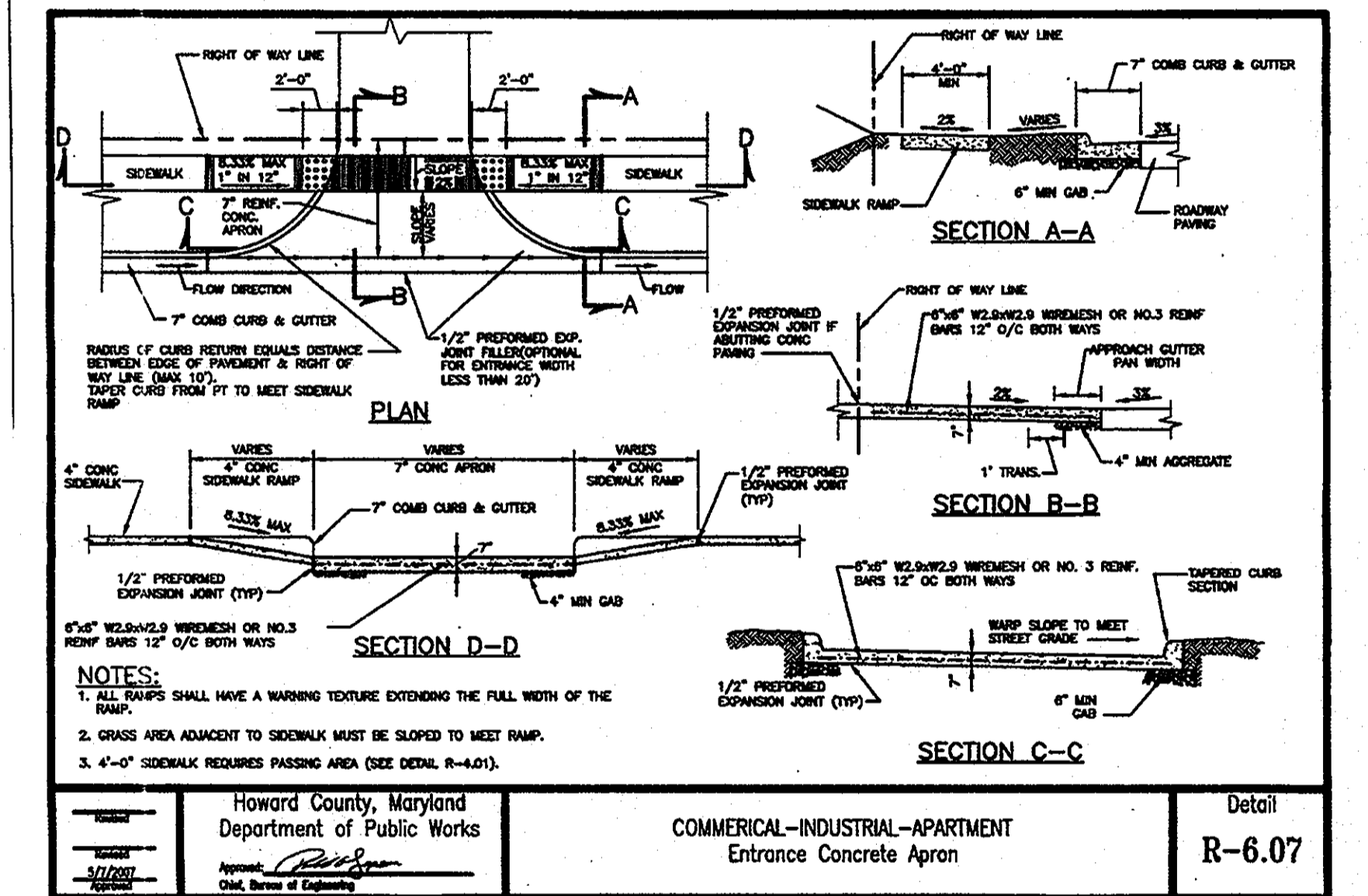
REFERENCES: MUTCD SECTION - 2B.45

COLORS: LEGEND - BLACK, BACKGROUND - WHITE

APPROVED: *[Signature]* Director - Office of Traffic and Safety

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
MARYLAND STANDARD HIGHWAY SIGNS
DO NOT BLOCK DRIVEWAY ENTRANCE

SIGN NUMBER: R10-7(1)



Project: Howard County, Maryland Department of Public Works	Detail: COMMERCIAL-INDUSTRIAL-APARTMENT Entrance Concrete Apron	Sheet: R-6.07
---	---	---------------

Tesseract

TESSERACT SITES, INC.
401 Washington Ave, Suite 303
Towson, Maryland, 21284
p. 410.321.7600
f. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Site Details

10 of 33

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

[Signature] 11/7/11
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 12/12/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

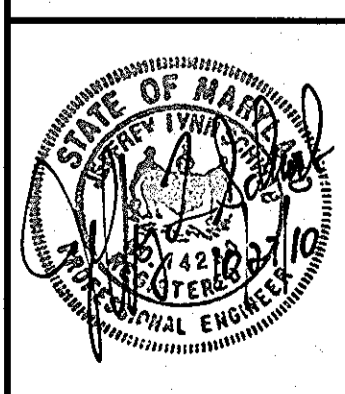
[Signature] 1/12/11
CHIEF, DIVISION OF LAND DEVELOPMENT

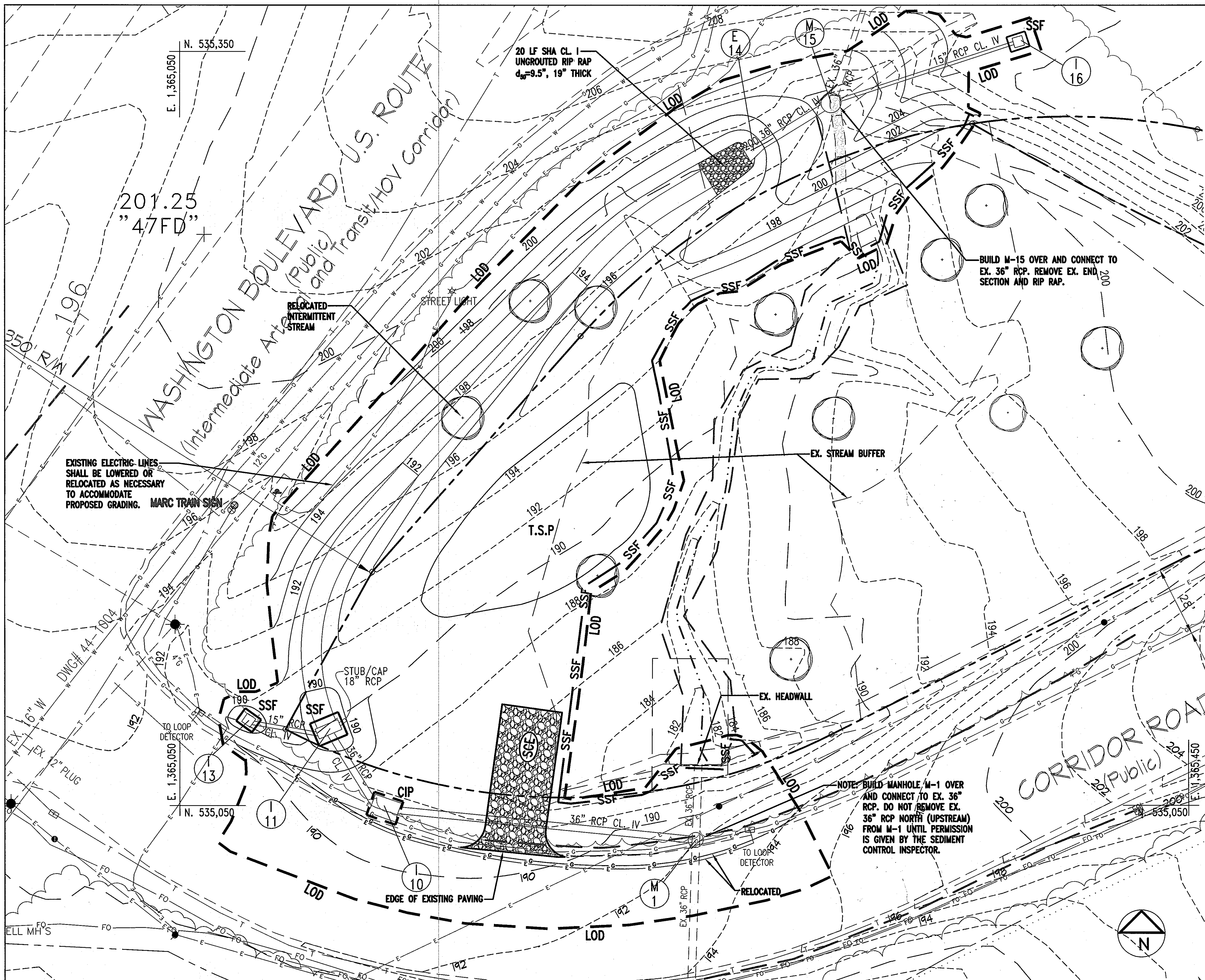
[Signature] 1/12/11
DIRECTOR

OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION
707 NORTH CALVERT STREET
BALTIMORE, MD 21202
410-545-0300

OWNER AND DEVELOPER: HOWARD COUNTY, MD
9250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-913-6194

ENGINEER: TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21202
CONTACT: JEFFREY SCHWAB
410-321-7600





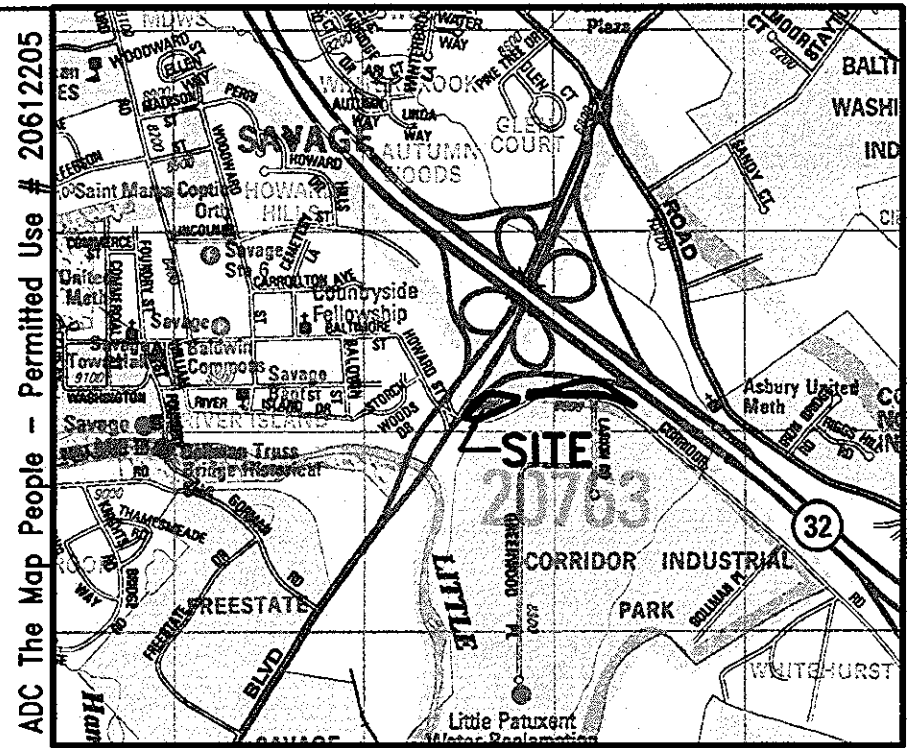
PHASE 1 SEQUENCE

- 1.) OBTAIN GRADING PERMIT, SHA UTILITY PERMIT, AND JOINT FEDERAL STATE PERMIT. 7 DAYS
- 2.) CLEAR & GRUB ONLY THAT AREA REQUIRED TO INSTALL PROPOSED SEDIMENT AND EROSION MEASURES. 2 DAYS
- 3.) INSTALL SEDIMENT & EROSION CONTROL MEASURES AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINING AREA WITHIN L.O.D. FOR PHASE 1. 2 DAYS
- 4.) RELOCATE EXISTING ELECTRIC AND GAS MAINS AND IMMEDIATELY STABILIZE AREAS DISTURBED BY THIS PROCESS. 7 DAYS
- *5.) INSTALL STORM DRAINAGE M-1 THROUGH 1-13, AND IMMEDIATELY STABILIZE DISTURBED AREAS & INSTALL INLET PROTECTION. 14 DAYS
- 6.) EXCAVATE TO CREATE THE "RELOCATED INTERMITTENT STREAM" (AREA BETWEEN I-11 AND E-14) AND TEMPORARILY STOCKPILE MATERIAL IN AREA SHOWN. 7 DAYS
- 7.) FINE GRADE RELOCATED STREAM AND STABILIZE STREAM BOTTOM AND BANKS WITH SOD. 7 DAYS
- 8.) IN THE AREA WHERE M-15 WILL BE INSTALLED, REMOVE THE EXISTING END SECTION AND EXISTING RIP RAP. THEN INSTALL STORM DRAINAGE E-14 TO I-16 AND NEW RIP RAP. 7 DAYS
- 9.) AFTER EXISTING STREAM RELOCATION IS FUNCTIONAL, REMOVE EXISTING HEADWALL AND 36" RCP TO M-1. 2 DAYS
- 10.) STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS. 7 DAYS
- 11.) UPON STABILIZATION OF THE SITE AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT & EROSION CONTROL MEASURES AND STABILIZE AREAS DISTURBED BY THIS PROCESS. 7 DAYS
- 12.) PROCEED TO PHASE II SEQUENCE.

HOWARD SOIL CONSERVATION DISTRICT STANDARD 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 (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:

Total Area of Site	3.50 Acres
Area Disturbed	5.50 Acres (LOD polyline)
Area to be roofed* or paved	3.82 Acres (calculated)
*0.494 ac is a green roof	
Area to be vegetatively stabilized	1.68 Acres (measured)
Total Cut	4,300 Cu. Yds.
Total Fill	28,000 Cu. Yds.
Offsite waste/borrow area location:	To Be Determined.
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.



Vicinity Map - Scale: 1" = 2000'
Map 5053 Grid K-9 and Map 5054 Grid A-9

LEGEND

- Silt Fence — SF —
- Super Silt Fence — SSF —
- Super Silt Fence with Tree Protection Flagging — SSF TP —
- At Grade Inlet Protection — ACIP —
- Curb Inlet Protection — CIP —
- Standard Inlet Protection — SIP —
- Super Silt Fence Inlet Protection — SSF I —
- Limit of Disturbance — LOD —
- Temporary Stockpile Area — T.S.P. —
- Stabilized Construction Entrance — SCE —
- Ex. Contours — 196, 200, 196
- Prop. Contour — 196

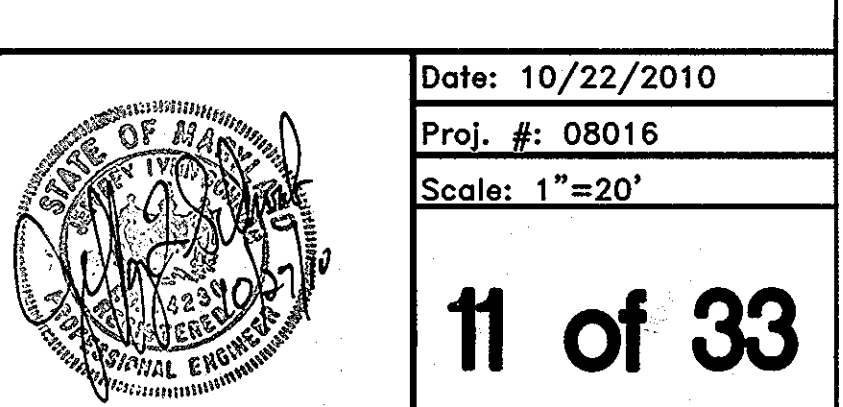
Phase 1 Limit of Disturbance: 43,520 S.F. = 1.00 Ac.



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. 14230, Expiration Date: 12/08/10.

Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland
Sediment & Erosion Control Plan
(Phase 1)

PROJECT:	21380
DATE:	10/22/2010
PROJECT NO.:	08016
SCALE:	1"=20'



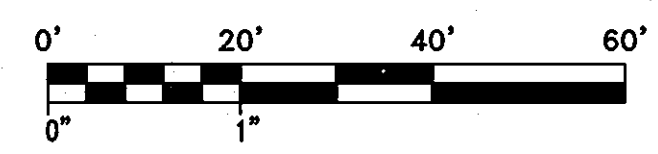
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 10/27/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 10/27/10
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 10/27/10
 DIRECTOR

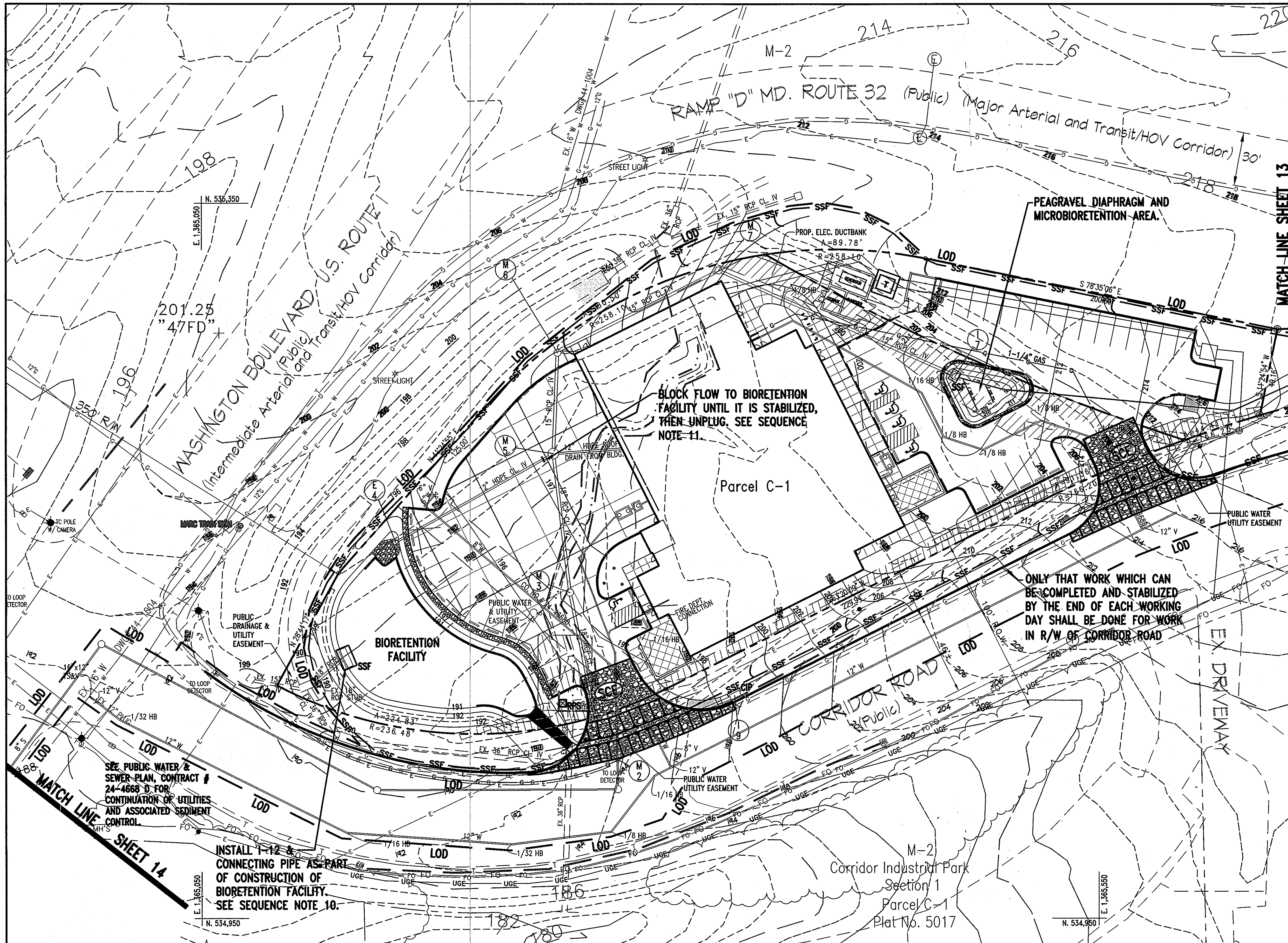
BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] 10/27/10
 SIGNATURE OF THE DEVELOPER
 David Loudermilk

BY THE ENGINEER:
 "I CERTIFY THAT HIS PLAN FOR EROSION AND SEDIMENT 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 HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] 10/27/10
 SIGNATURE OF THE ENGINEER
 Jeffrey Schwab P.E.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 10/27/10
 HOWARD SOIL CONSERVATION DISTRICT

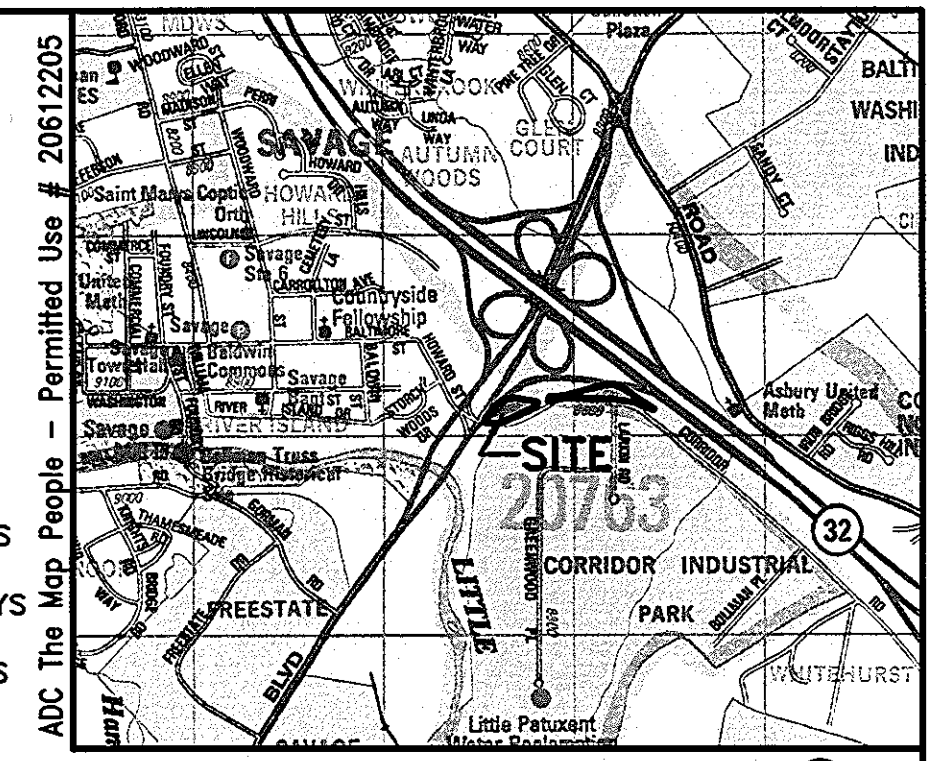
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 [Signature] 11/7/2011
 County Health Officer
 Howard County Health Department





PHASE 2 SEQUENCE

- 1.) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CLEAR & GRUB ONLY THAT AREA REQUIRED TO INSTALL PHASE 2 PROPOSED SEDIMENT AND EROSION MEASURES. 7 DAYS
- 2.) INSTALL PHASE 2 SEDIMENT CONTROL MEASURES (SHOWN ON THIS SHEET AND ON SHEET 13) AND TREE PROTECTION FENCE. 7 DAYS
- 3.) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB AREA WITHIN L.O.D. FOR PHASE 2. 2 DAYS
- 4.) ROUGH GRADE SITE. 21 DAYS
- 5.) BEGIN BUILDING CONSTRUCTION; CONSTRUCT BUILDING. 180 DAYS
- 6.) INSTALL THE PARKING LOT SHOWN ON SHEET 13 (INCLUDING POROUS PAVEMENT AND ALL STORM WATER MANAGEMENT COMPONENTS ASSOCIATED WITH THIS PARKING LOT) AND FINE GRADE AND STABILIZE THE DISTURBED AREA AROUND THE PARKING LOT IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS. 14 DAYS
- 7.) INSTALL UTILITIES (EXCEPT FOR I-12 & CONNECTING PIPE), DURING INSTALLATION OF STORM DRAIN SYSTEM, INSTALL TEMPORARY CAP/BLOCK IN 12" HDPE TO PREVENT DRAINAGE FROM M-5 TO THE BIORETENTION FACILITY. 90 DAYS
- 8.) INSTALL ALL REMAINING CURB & GUTTER AND PAVEMENTS SHOWN ON THIS SHEET. 45 DAYS
- 9.) FINE GRADE AND STABILIZE ALL REMAINING DISTURBED AREAS OTHER THAN THE STORM WATER MANAGEMENT FACILITIES' AREAS. 7 DAYS
- 10.) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, INSTALL REMAINING STORM WATER MANAGEMENT FACILITIES (PEAGRAVEL DIAPHRAGM, MICRO-BIORETENTION, AND BIORETENTION AREA, INCLUDING STORM DRAIN INLET I-12 AND PIPE TO I-11); FINE GRADE AND STABILIZE IN ACCORDANCE WITH THE APPROVED STORM WATER MANAGEMENT DRAWINGS. 30 DAYS
- 11.) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, UNLOCK THE 18" HDPE SO THAT DRAINAGE MAY FLOW FROM M-5 TO BIORETENTION FACILITY. 1 DAY
- 12.) UPON STABILIZATION OF THE SITE AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT & EROSION CONTROL MEASURES AND STABILIZE AREAS DISTURBED BY THIS PROCESS. 7 DAYS



Vicinity Map - Scale: 1" = 2000'
Map 5053 Grid K-9 and Map 5054 Grid A-9

LEGEND

- Silt Fence — SF —
- Super Silt Fence — SSF —
- Super Silt Fence with Tree Protection Fencing — SSF TP —
- At Grade Inlet Protection — AGIP —
- Curb Inlet Protection — CIP —
- Standard Inlet Protection — SIP —
- Super Silt Fence Inlet Protection — SSF I —
- Limit of Disturbance — LOD —
- Temporary Stockpile Area — T.S.P. —
- Stabilized Construction Entrances w/ Mountable Berm — SCE —
- Ex. Contours — —
- Prop. Contour — 196 —

Phase 1 Limit of Disturbance: 43,500 S.F. = 1.0 Ac.
Phase 2 Limit of Disturbance: 195,000 S.F. = 4.5 Ac.
Total Limit of Disturbance: 238,500 S.F. = 5.5 Ac.

Tesseract
Tesseract Sites, Inc.
401 Washington Ave, Suite 303
Towson, Maryland, 21284
P: 410.321.7600
F: 410.321.7601

Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Sediment & Erosion Control Plan (Phase 2)

LOT/PHASE: C-1	PERMIT NO: 18,12	ZONE: M-2	DATE: 10/22/2010	PLANS: 21380
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Date: 10/22/2010
Proj. #: 08016
Scale: 1"=30'



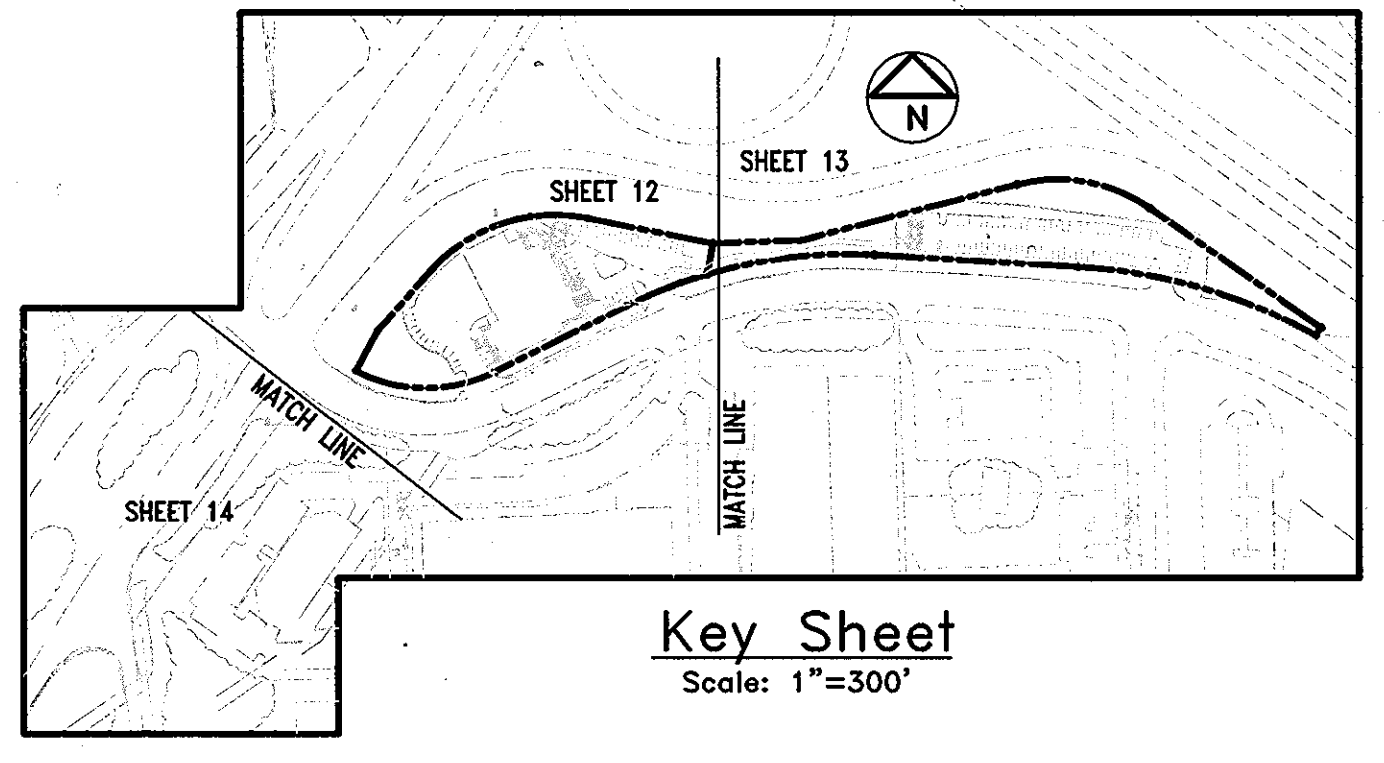
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
B. Wilson for Peter B. Jensen 11/7/2011
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John DeWitt 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Kurt Schneider 11/21/10
CHIEF, DIVISION OF LAND DEVELOPMENT
Thomas F. Suller 1/12/11
DIRECTOR

BY THE DEVELOPER:
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
David Loudermilk 10/27/10
SIGNATURE OF THE DEVELOPER
David Loudermilk

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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 HOWARD SOIL CONSERVATION DISTRICT."
Jeffrey L. Schwab 10/27/10
SIGNATURE OF THE ENGINEER
Jeffrey L. Schwab P.E.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Roberts 12/14/10
HOWARD SOIL CONSERVATION DISTRICT

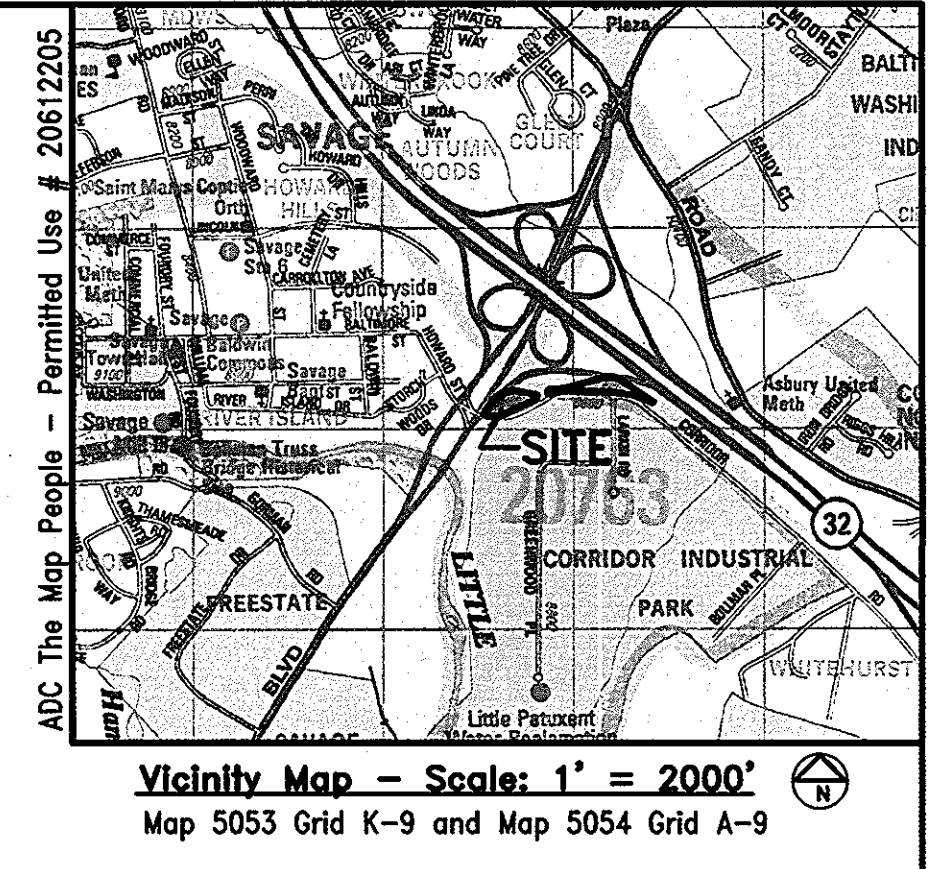
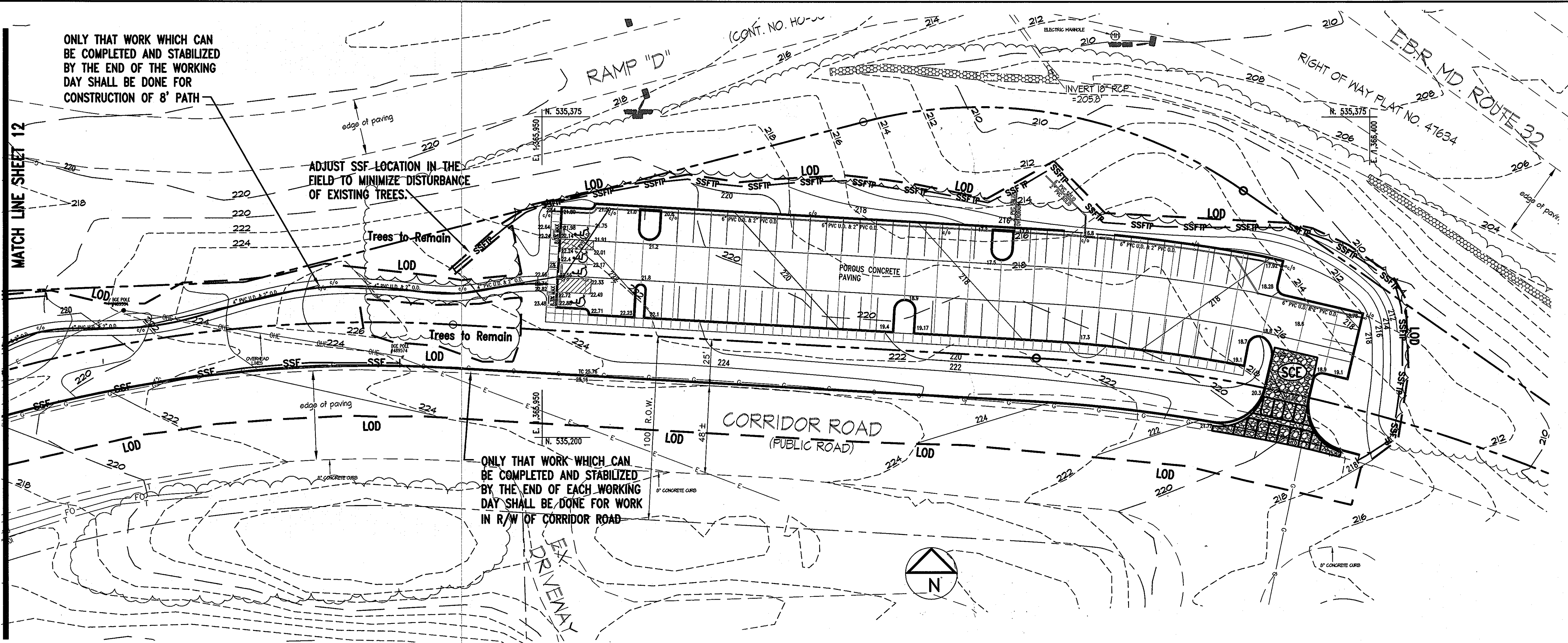


ONLY THAT WORK WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF THE WORKING DAY SHALL BE DONE FOR CONSTRUCTION OF 8' PATH

ADJUST SSF LOCATION IN THE FIELD TO MINIMIZE DISTURBANCE OF EXISTING TREES.

ONLY THAT WORK WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY SHALL BE DONE FOR WORK IN R/W OF CORRIDOR ROAD

MATCH LINE SHEET 12



HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

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

1. Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000) sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:

Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
Option 2 -- Use sod. Option 3 -- Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseeds.

TEMPORARY SEEDING NOTES

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

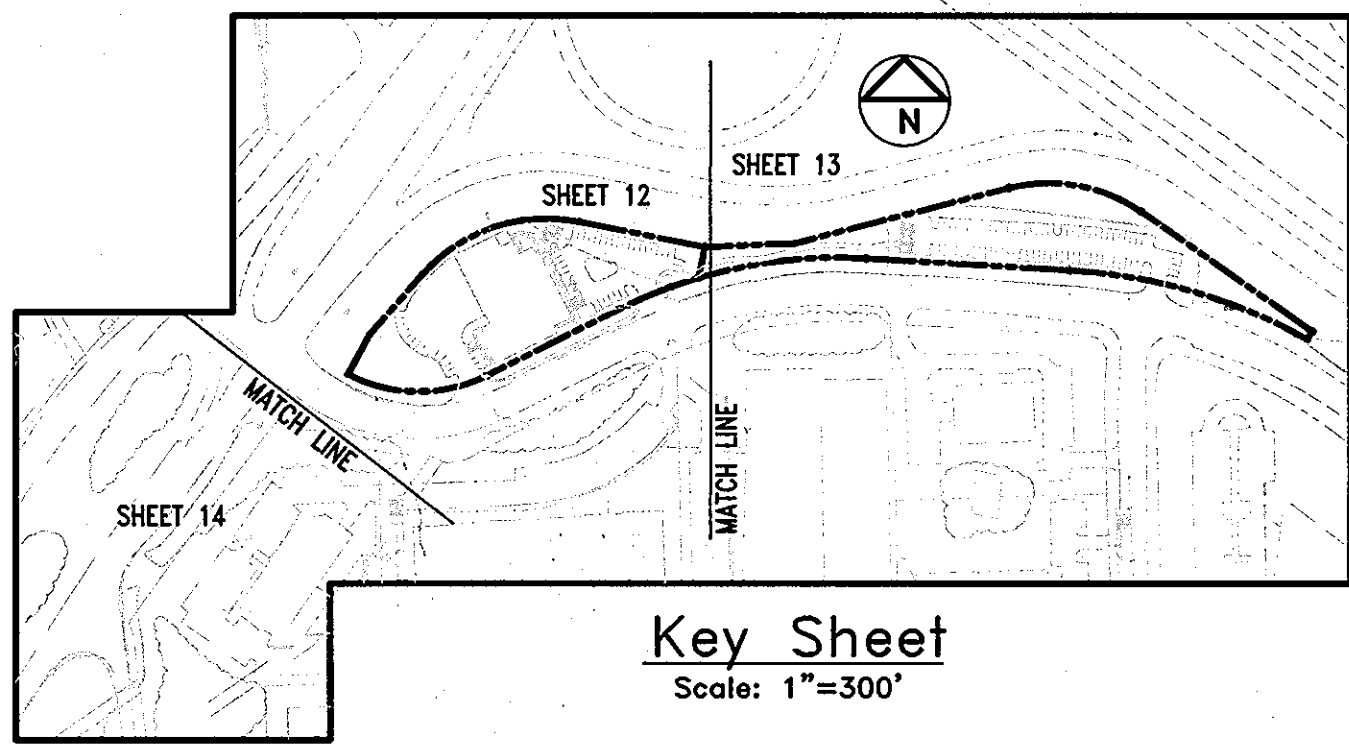
Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

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

Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulchings: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.



LEGEND

- Silt Fence — SF
- Super Silt Fence — SSF
- Super Silt Fence with Tree Protection Fencing — SSF TP
- At Grade Inlet Protection — AGIP
- Curb Inlet Protection — CIP
- Standard Inlet Protection — SIP
- Super Silt Fence Inlet Protection — SSF
- Limit of Disturbance — LOD
- Temporary Stockpile Area — T.S.P.
- Stabilized Construction Entrance w/ Mountable Berm — SCE
- Ex. Contours — 196
- Prop. Contour — 196

See sheet 13 for Limit of Disturbance areas

Tesseract
TESSERACT SITES, INC.
401 Washington Ave, Suite 303
Towson, Maryland, 21284
P. 410.321.7600
F. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park, Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Sediment & Erosion Control Plan (Phase 2)

LOT/PROJECT: C-1	LIBRARY: 5454/243	PLANS: 21380
DATE: 18.12	ZONE: M-2	ISSUE DATE: 6/11
DATE: 18.12	ZONE: M-2	ISSUE DATE: 6/11

Date: 10/22/2010
Proj. #: 08016
Scale: 1"=30'

13 of 33

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 1/12/11
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 1/12/11
DIRECTOR

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 10/27/10
SIGNATURE OF THE DEVELOPER
David Loudermilk

BY THE ENGINEER:

"I CERTIFY THAT HIS PLAN FOR EROSION AND SEDIMENT 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 HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 12/14/10
SIGNATURE OF THE ENGINEER
Jeffrey L. Schwab P.E.

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

[Signature] 12/14/10
HOWARD SOIL CONSERVATION DISTRICT

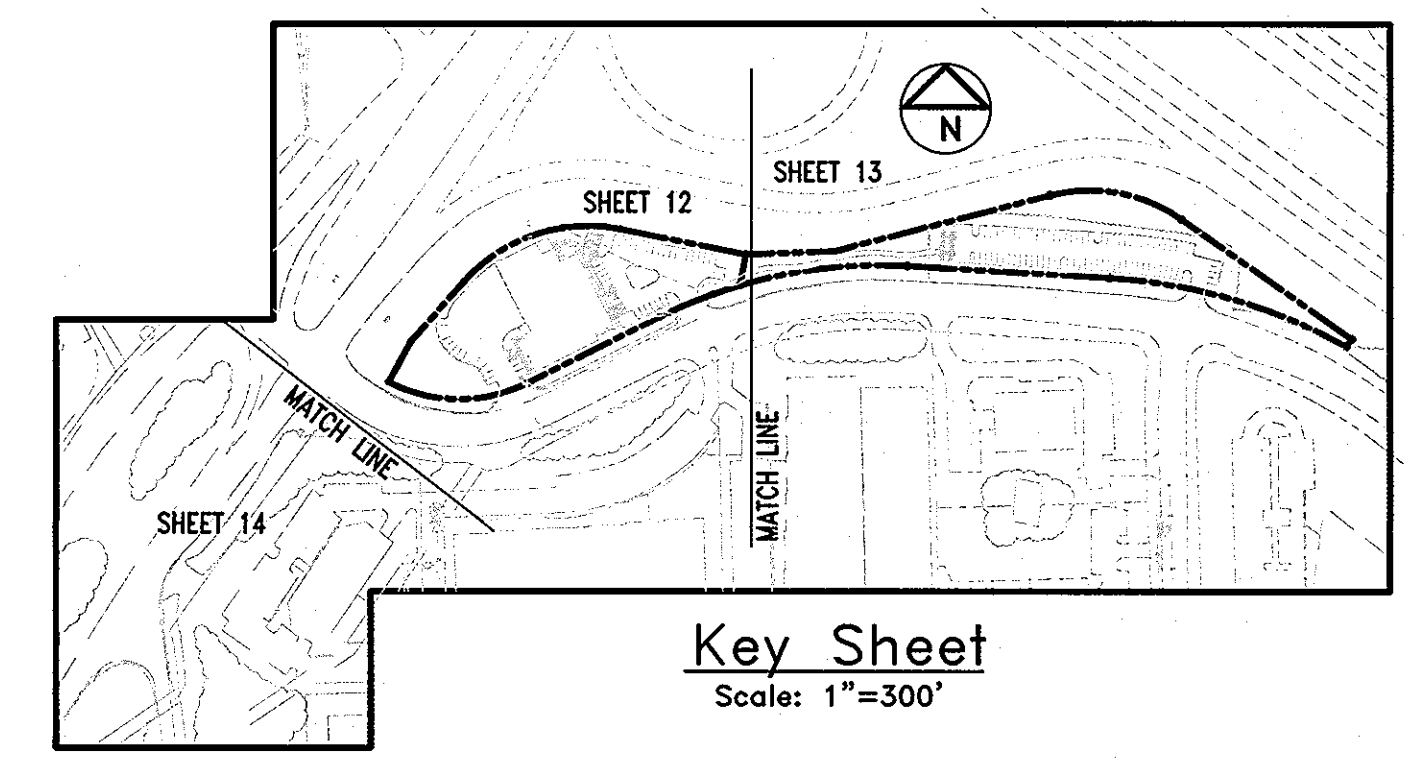
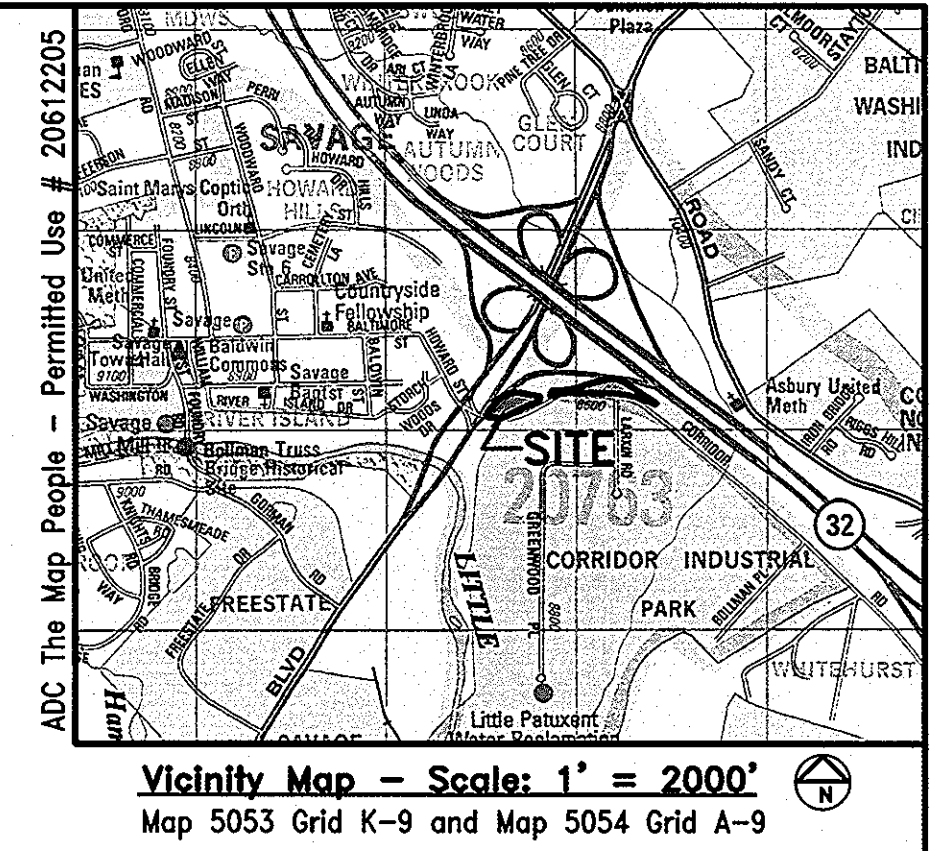
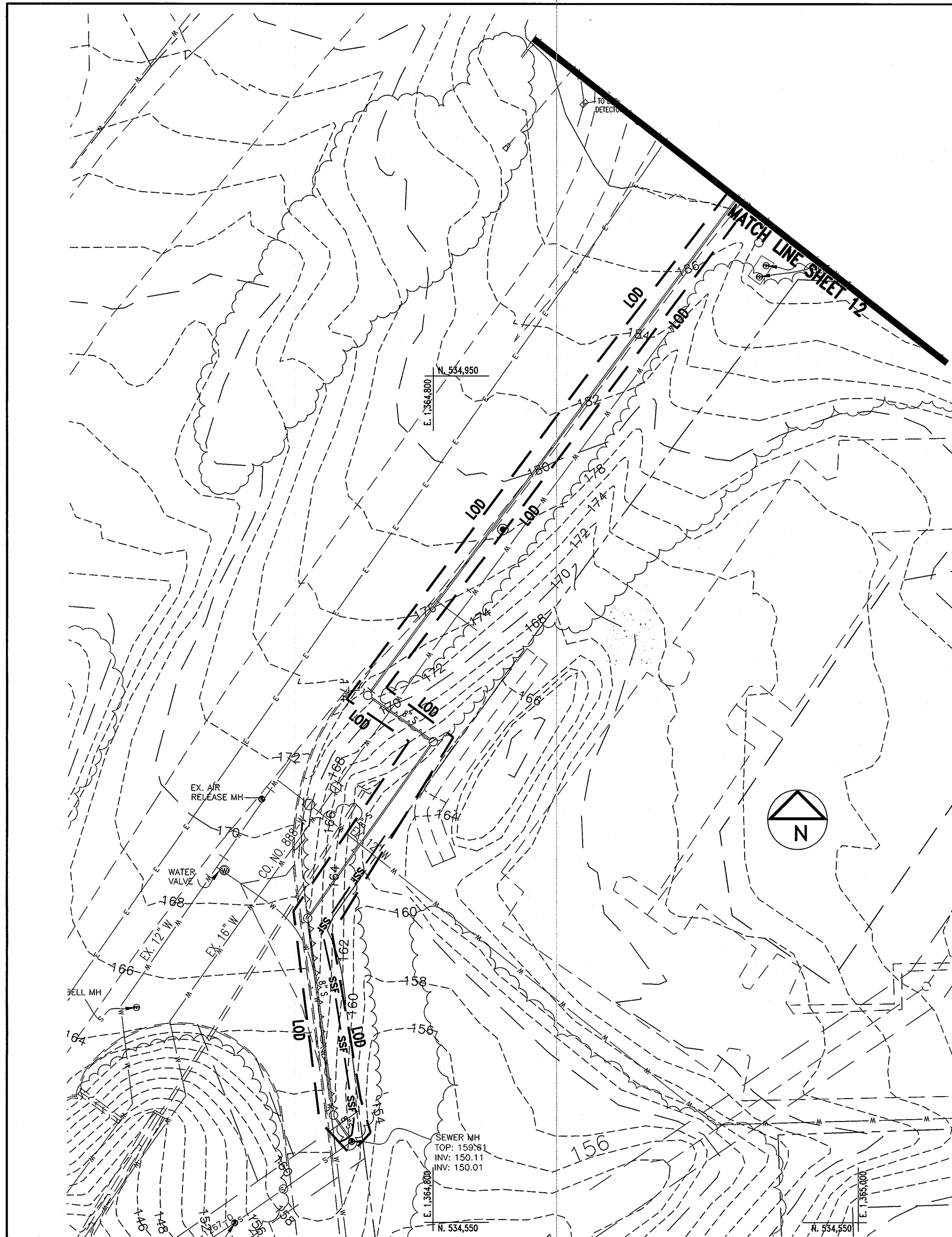
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

[Signature] 1/7/2011
County Health Officer
Howard County Health Department

OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION
707 NORTH CALVERTY STREET
BALTIMORE, MD 21202
410-545-6300

OWNER AND DEVELOPER: TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21286
CONTACT: DAVID LOUDERMILK
410-319-6194

ENGINEER: TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21286
CONTACT: JEFFREY SCHWAB
410-321-7600



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

William D. ... 12/17/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Vest ... 1/2/11
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Thomas ... 1/20/11
 DIRECTOR DATE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

David Loudermilk 10/27/10
 SIGNATURE OF THE DEVELOPER DATE
 David Loudermilk

BY THE ENGINEER:

"I CERTIFY THAT HIS PLAN FOR EROSION AND SEDIMENT 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 HOWARD SOIL CONSERVATION DISTRICT."

John ... 10/27/10
 SIGNATURE OF THE ENGINEER DATE
 Jeffrey U. ... P.E.

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

John ... 12/14/10
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

Balton for Peter ... 1/7/2011
 County Health Officer DATE
 Howard County Health Department



See sheet 13 for Limit of Disturbance areas

Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave, Suite 303
 Towson, Maryland, 21284
 P: 410.321.7600
 F: 410.321.7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

**Sediment & Erosion Control Plan
 (Phase 2)**

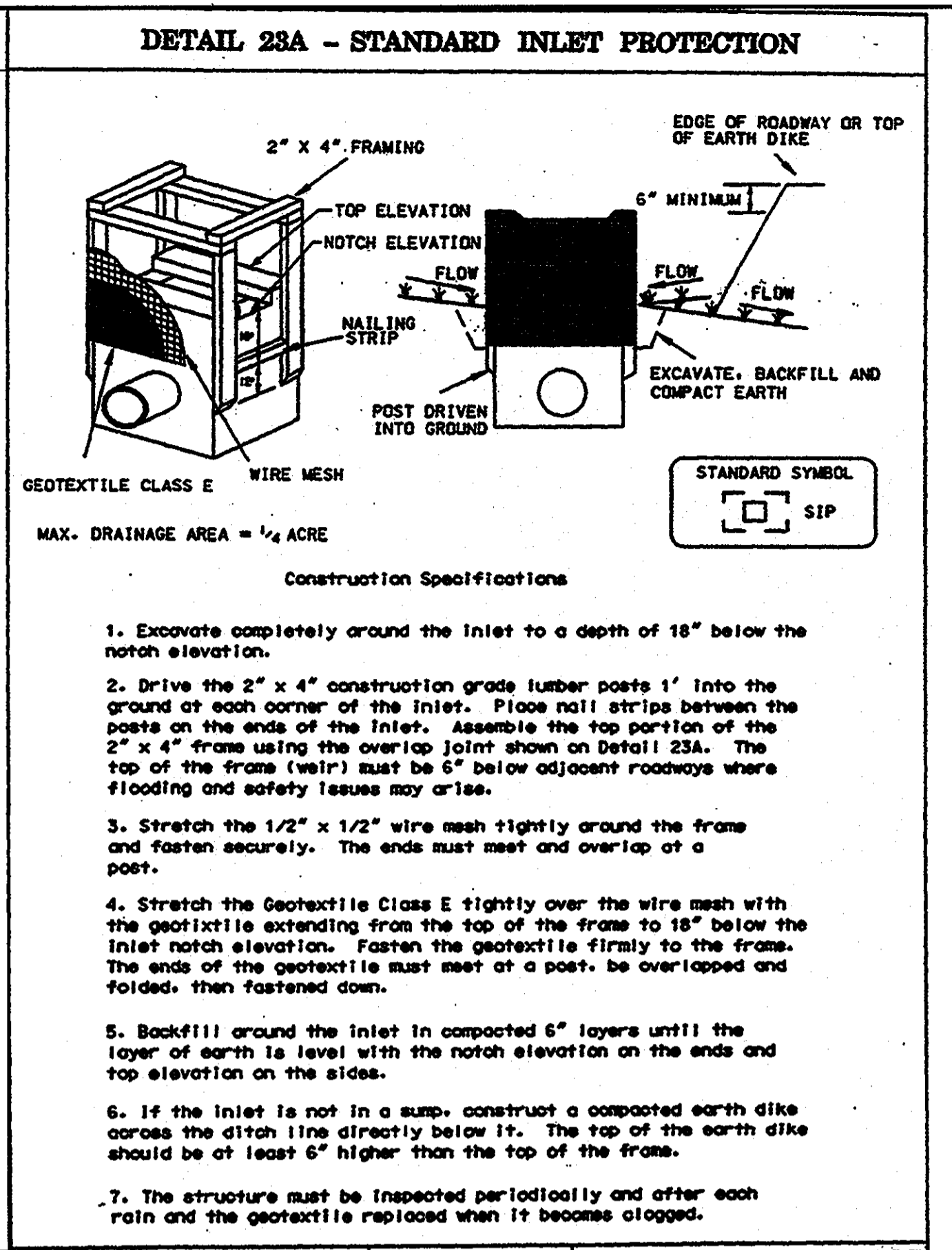
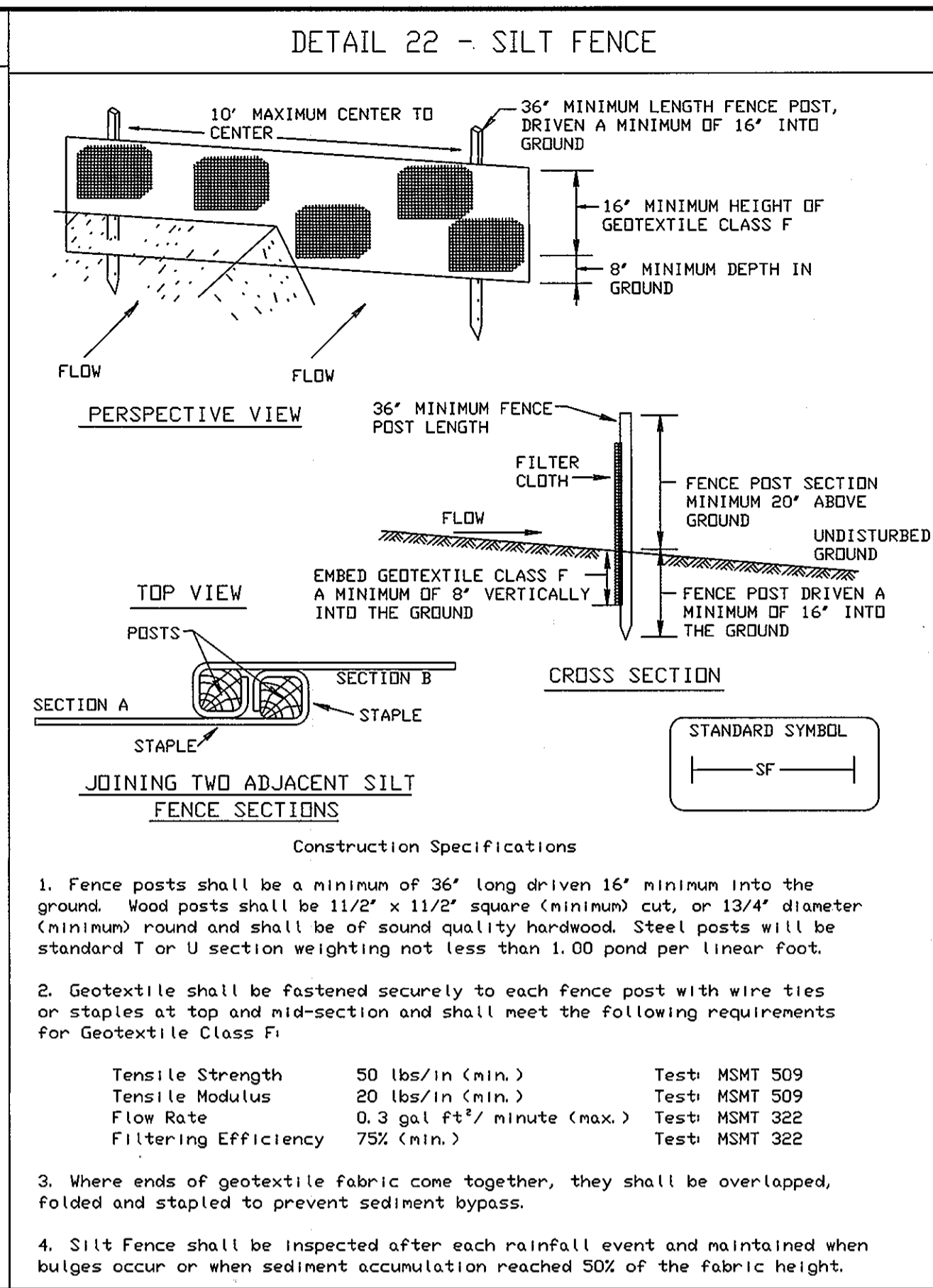
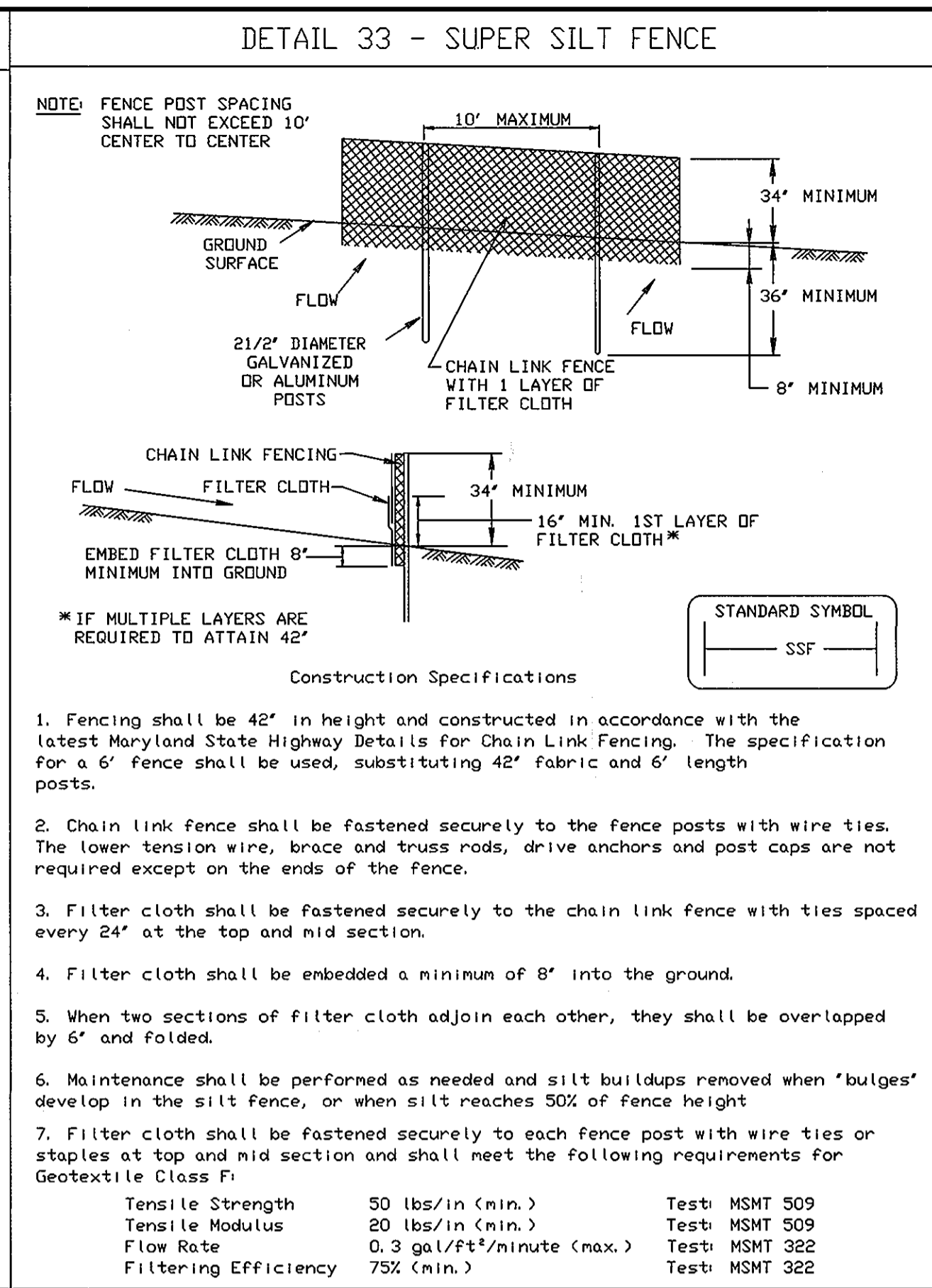
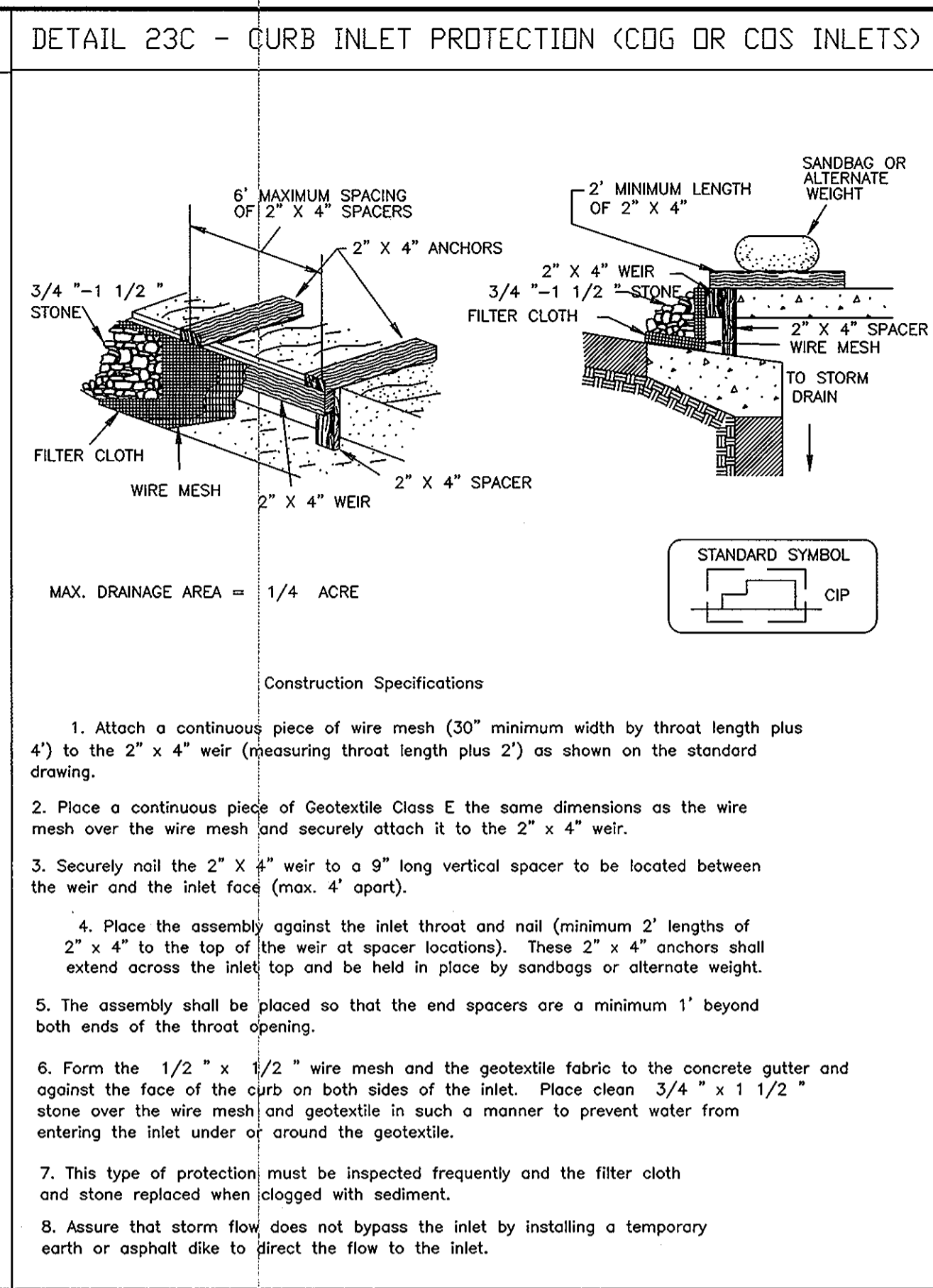
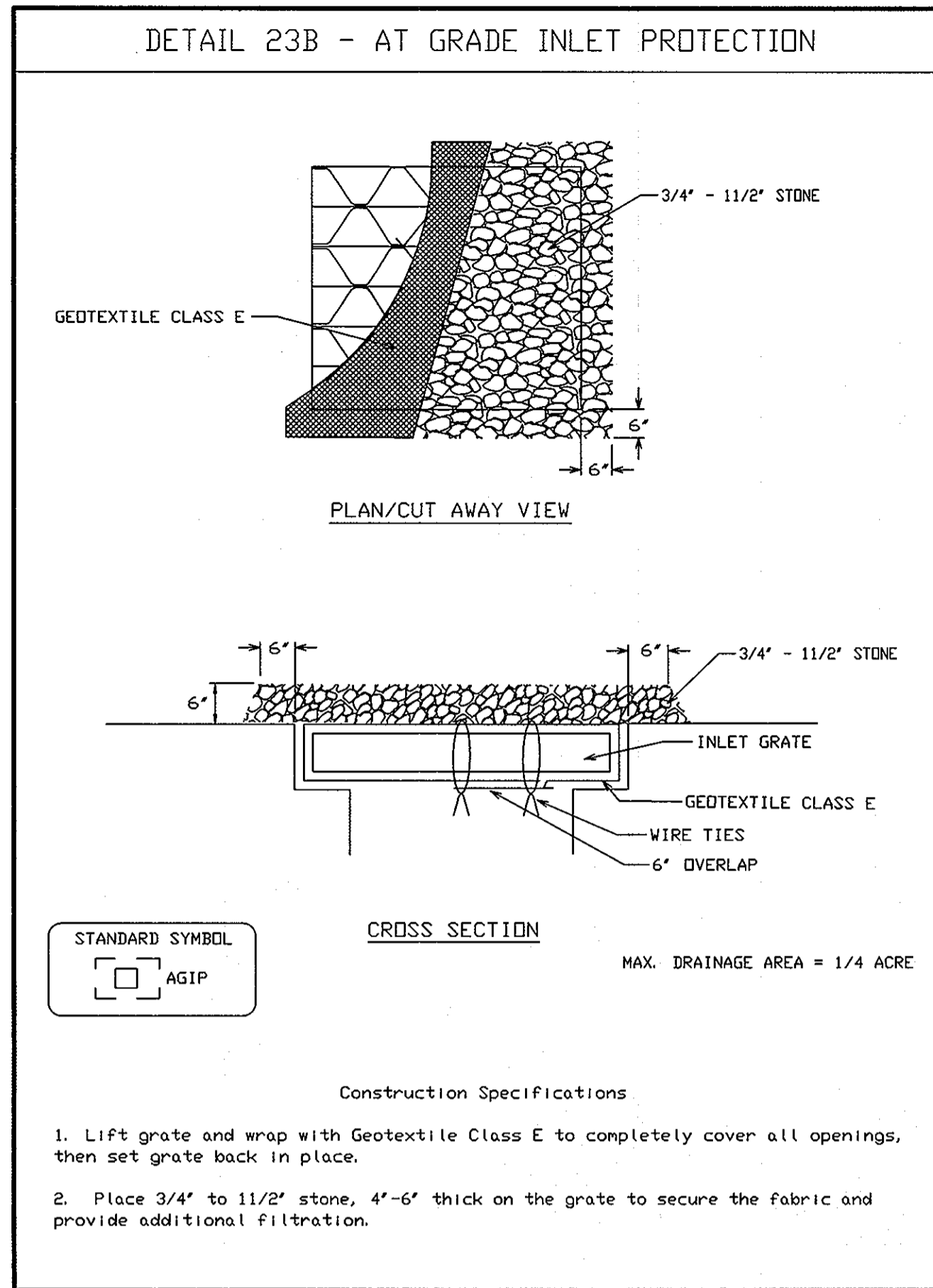
LOT/PARCEL: C-1	LIBRARY FILE: 5454/263	PLAT: 21380
DATE: 18,12	DATE: 10/22/10	DATE: 10/22/10

OWNER AND DEVELOPER:
 MARYLAND STATE HIGHWAY ADMINISTRATION
 4250 BENDIX ROAD
 COLLEMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-319-6194

ENGINEER:
 TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21202
 CONTACT: JEFFREY SCHWAB
 410-521-7600

Date: 10/22/2010
 Proj. #: 08016
 Scale: 1"=30'

14 of 33



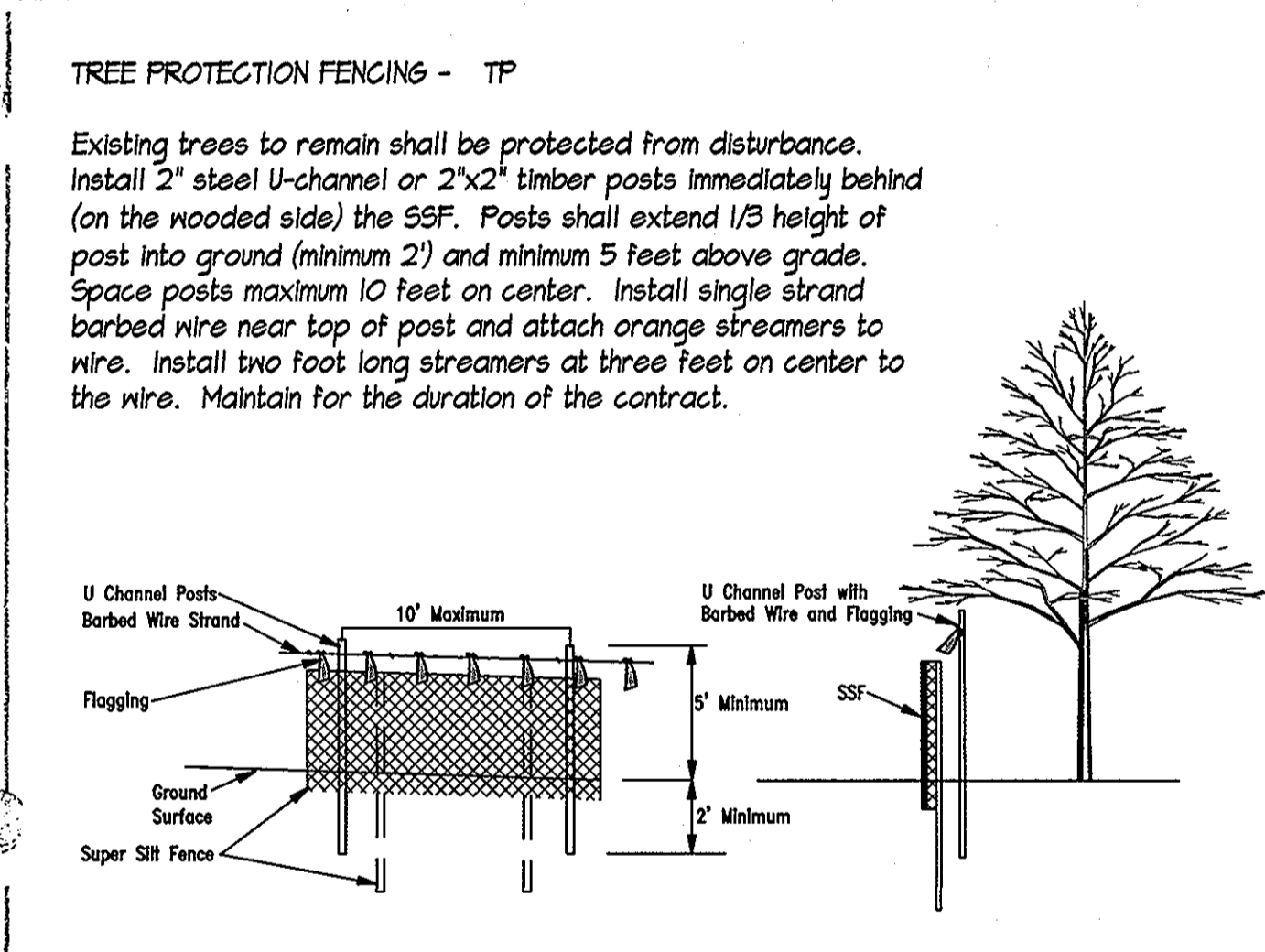
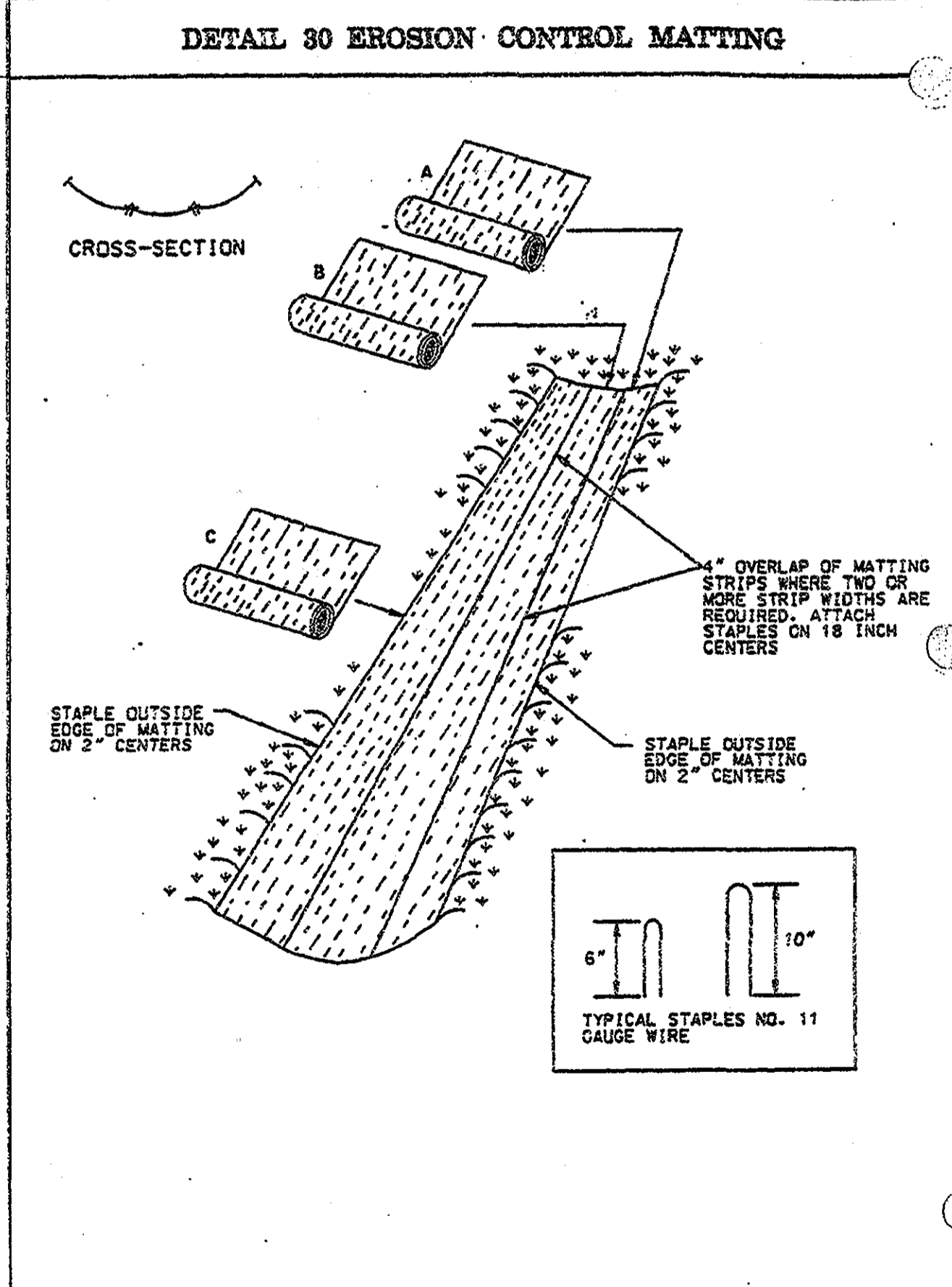
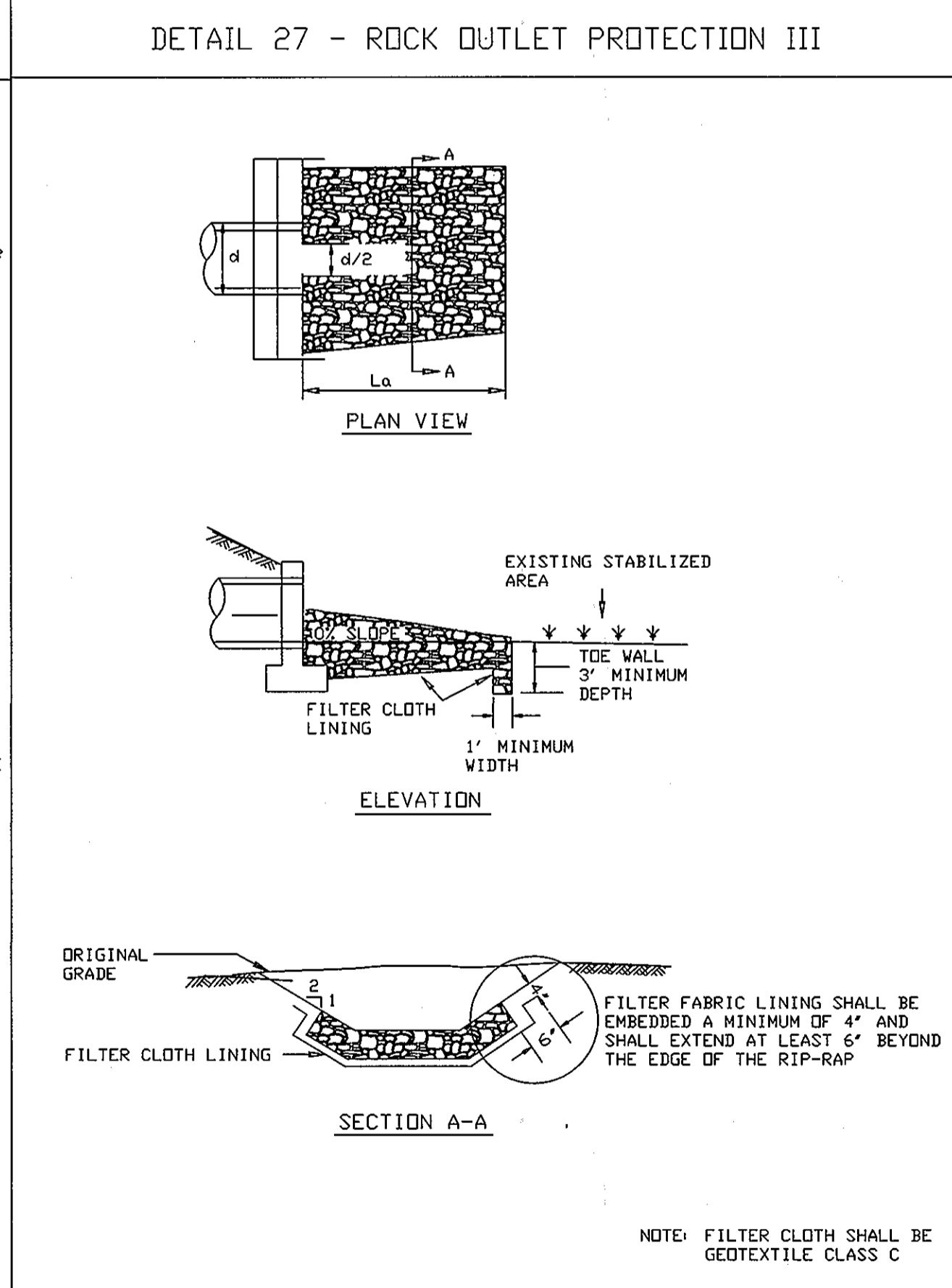
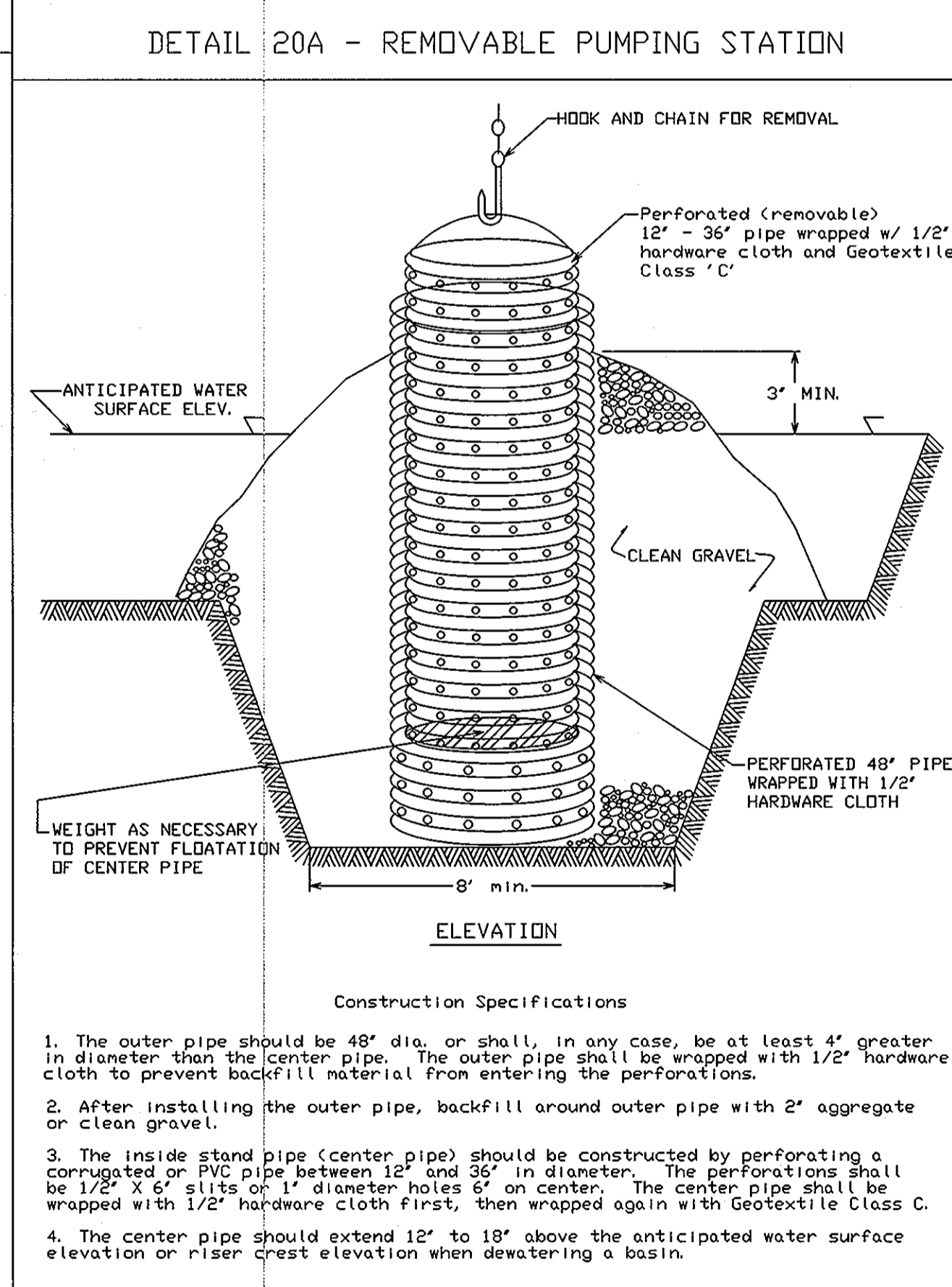
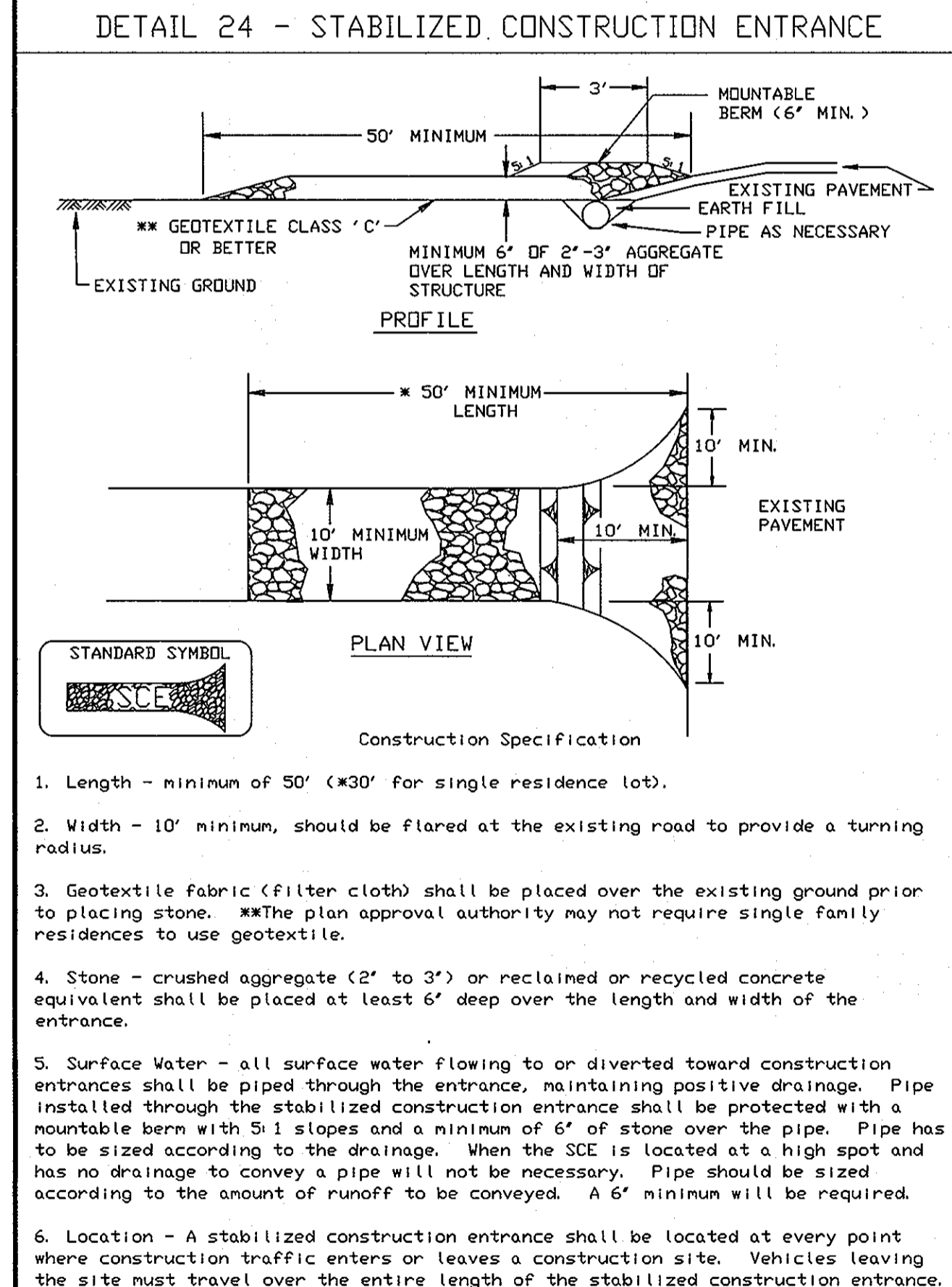
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5B MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-26-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-28-5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

1/21/10 DATE

1/21/10 DATE

1/21/10 DATE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

1/21/10 DATE

1/21/10 DATE

BY THE ENGINEER:

"I CERTIFY THAT HIS PLAN FOR EROSION AND SEDIMENT 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 HOWARD SOIL CONSERVATION DISTRICT."

1/21/10 DATE

1/21/10 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

1/21/10 DATE

Tesseract
TRESSERACT SITES, INC.

401 Washington Ave, Suite 303
Towson, Maryland, 21284
p. 410.321.7600
f. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Sediment & Erosion Control Details

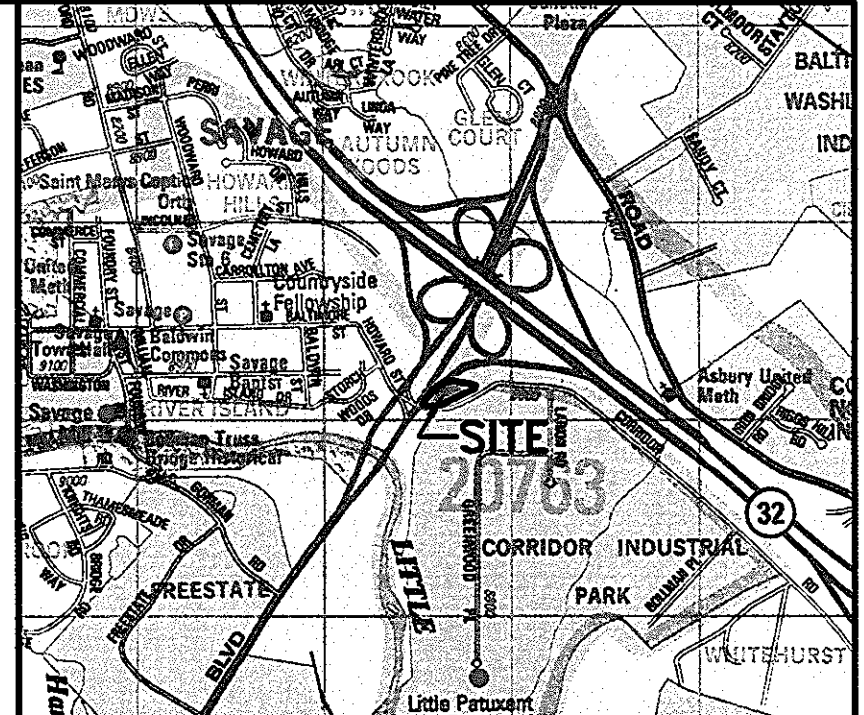
OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION	PROJECT: 144/2043	DATE: 10/02/10	PLANS: 21380
101 HARTY CALVERT STREET BALTIMORE, MD 21142 410-545-0300	DATE: 12/18/12	SCALE: M-2	DATE: 6/11/10

OWNER AND DEVELOPER: HOWARD COUNTY, MD
4250 BENOIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-519-6194

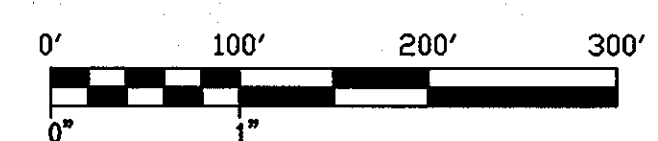
ENGINEER: TRESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21282
CONTACT: JEFFREY SCHWAB
410-321-7600

Date: 10/22/2010
Proj. #: 08016
Scale: AS SHOWN

15 of 33



Vicinity Map
Scale: 1" = 2000'



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
By Deponent Peter Brilenson 1/7/2011
 County Health Officer
 Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John P. ... 1/7/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kate ... 1/11/10
 CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas E. ... 1/12/10
 DIRECTOR

OWNER:
 MARYLAND STATE HIGHWAY ADMINISTRATION
 707 NORTH CALVERT STREET
 BALTIMORE, MD 21202
 410-518-0300

OWNER AND DEVELOPER:
 HOWARD COUNTY, MD
 1250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-315-6134

ENGINEER:
 TESSERACT SITES, INC.
 401 WASHINGTON AVE., SUITE 303
 TOWSON, MD 21286
 CONTACT: JEFFREY SCHWAB
 410-321-7600

Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave, Suite 303
 Towson, Maryland, 21286
 P. 410.321.7600
 F. 410.321.7699

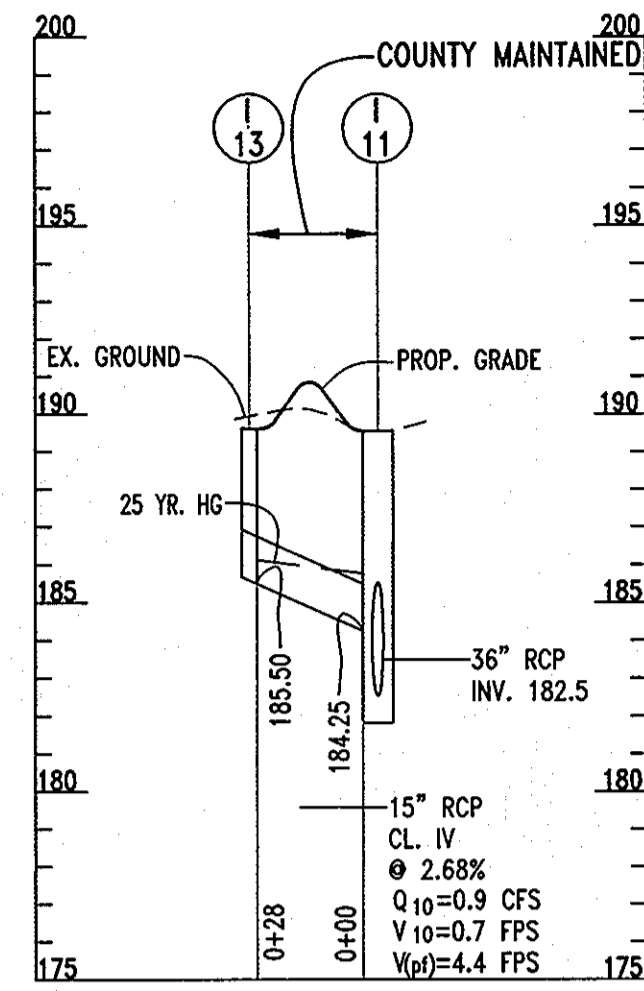
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

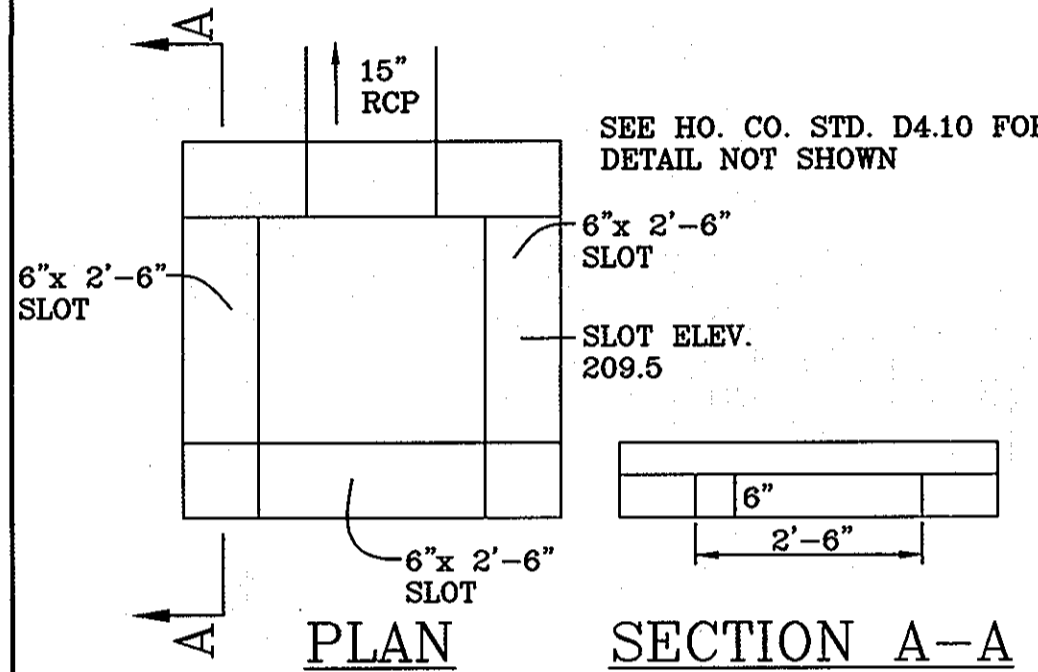
Storm Drain Drainage Area Map

DATE: 10/22/2010
Proj. #: 08016
Scale: 1"=100'

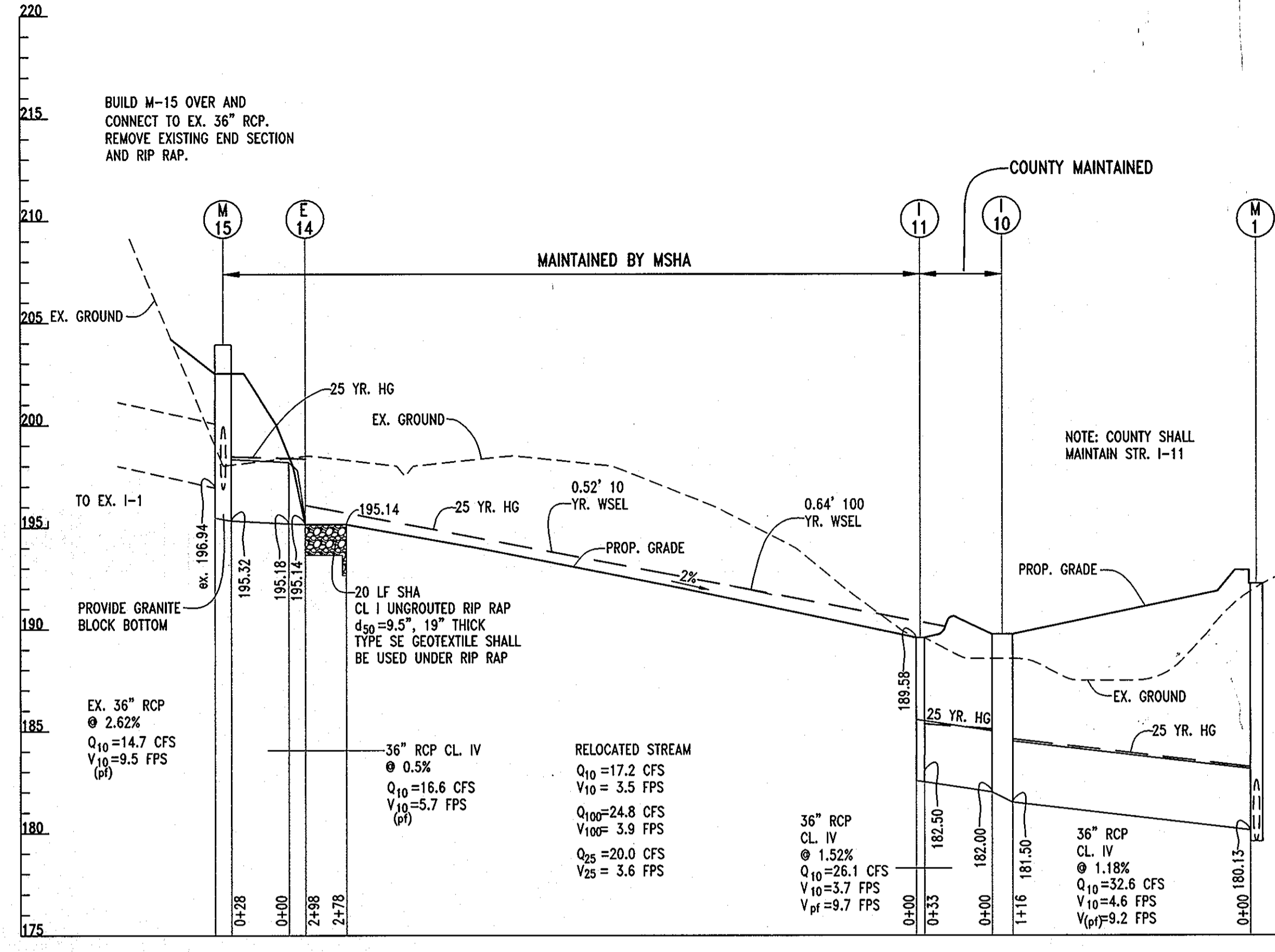
16 of 33



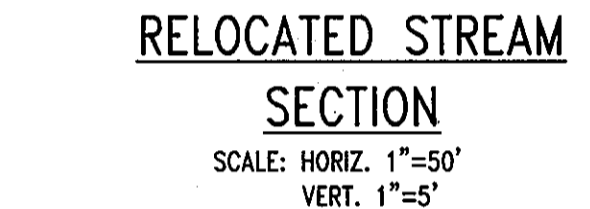
PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



MODIFIED SLOTS I-8 (D INLET)
NOT TO SCALE

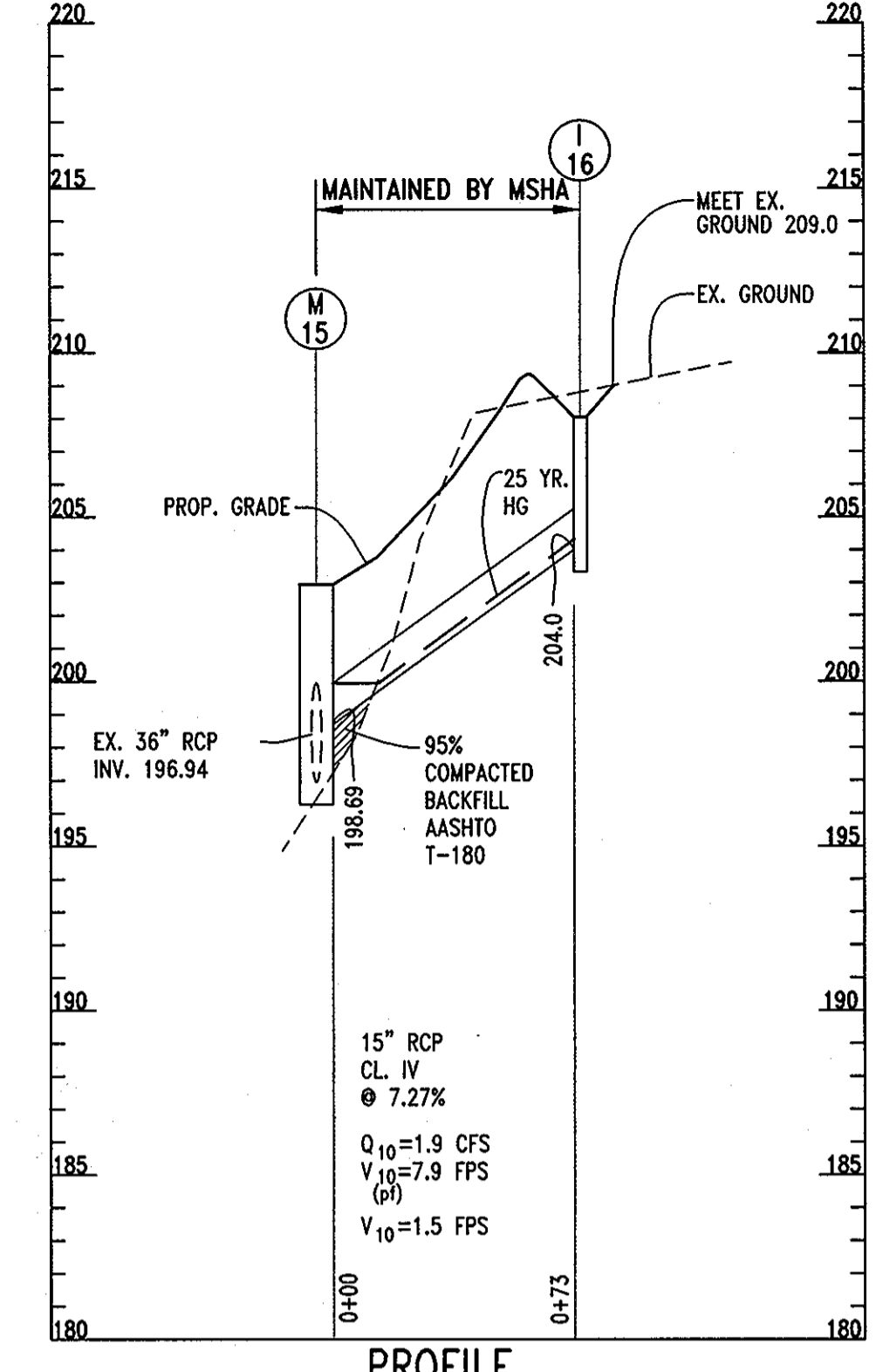


PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



RELOCATED STREAM SECTION
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

NO.	TYPE	TOP EL.	INV. IN.	INV. OUT.	LOCATION	REMARKS
M-15	PRECAST MH 96" DIA	203.0	EX. 196.94 198.69	195.32	SEE PLAN	SHA STD. MD 384.09
E-14	CONC. END SECTION 36" DIA.	-	195.18	195.14	SEE PLAN	SHA STD. MD 368.01
I-16	K-INLET (SINGLE OPENING)	208.0	-	204.0	SEE PLAN	SHA STD. MD 378.11



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

SIZE	TYPE	LF
15"	RCP CL IV	73
36"	RCP CL IV	28

SIZE	TYPE	LF
6"	PVC	124
12"	HDPE	98
15"	HDPE	239
15"	RCP CL IV	157
18"	RCP CL IV	175
36"	RCP CL IV	149

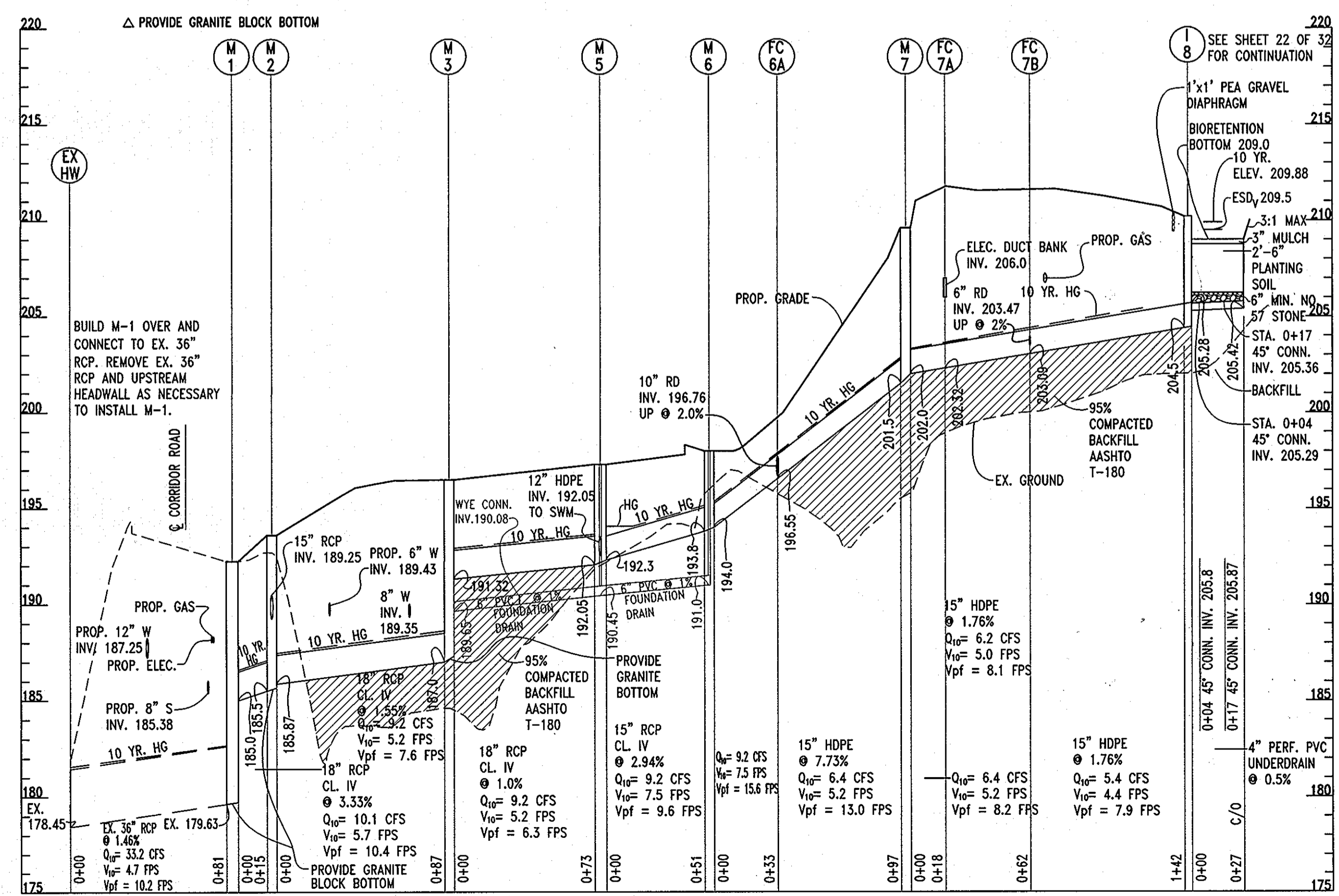
† INVERTS SHALL BE FULLY DEVELOPED EXCEPT FOR M-1, M-2, & M-5
 △ PROVIDE GRANITE BLOCK BOTTOM
 * MODIFIED SEE DETAIL
 # DIVERSION STRUCTURE SEE DETAIL
 □ PROVIDE SLOTS IN 3 SIDES SEE DETAIL FOR MODIFIED SLOTS
 X STANDARD INLET FRAME & GRATE SHA STD. MD 379.05

NO.	HO.CO. DET	UPPER EL.	LOWER EL.	INV. IN.	INV. OUT.	LOCATION	TYPE
I-9	D-4.03	199.79	199.07	-	194.0	74435.85 CORRIDOR ROAD 36" LI.	A-10 INLET W=2'-6"
I-10	D-4.03	189.9	-	182.0	181.5	71482.23 CORRIDOR ROAD 32.82' LI.	A-10 INLET W=6'-0"
I-8	D-4.10	210.35	-	205.78	204.5	SEE PLAN	D INLET 2'-6" SQ.
I-12	D-4.04	192.50	-	185.5	184.5	SEE PLAN	A-10 INLET W=6'-0"
M-7	G-5.12	209.5	-	202.0	201.5	SEE PLAN	PRECAST MH 48" RD
M-6	G-5.12	198.0	-	194.0	193.8	SEE PLAN	SHALLOW PRECAST MH 48" RD
M-5	MSHA STD. MD 384.05	197.3	-	192.3	192.05	SEE PLAN	PRECAST MH 72" RD
M-3	G-5.12	196.8	-	189.65 191.32	187.0	SEE PLAN	SHALLOW PRECAST MH 48" RD
M-2	G-5.12	193.6	-	189.25 185.87	185.5	75445.71 CORRIDOR ROAD 28.64' LI.	PRECAST MH 48" RD
M-1	MSHA STD. MD 384.05	192.3	-	185.0 185.0	EX. 179.65	73422.28 CORRIDOR ROAD 23.70' LI.	PRECAST MH 72" RD
E-4	PER MANUFACTURER	-	-	191.03	191.0	SEE PLAN	HDPE END SECT. 12" DIA.
5' CURB OPENING	MSHA STD. MD 374.68	193.7	193.4	-	-	SEE PLAN	-
FC 7A	PER MANUFACTURER	-	-	202.32	202.32	SEE PLAN	15" x 6" HDPE T
I-13	MSHA STD. MD 378.11	189.5	-	-	185.0	SEE PLAN	K-INLET (SINGLE OPENING)
I-11	MSHA STD. MD 374.26	189.58	-	184.0 184.25	182.50	SEE PLAN	PRECAST TRIPLE WR-INLET
FC 6-A	PER MANUFACTURER	-	-	196.76	196.55	SEE PLAN	15" x 10" HDPE T
FC 7-B	PER MANUFACTURER	-	-	203.47	203.09	SEE PLAN	15" x 6" HDPE T

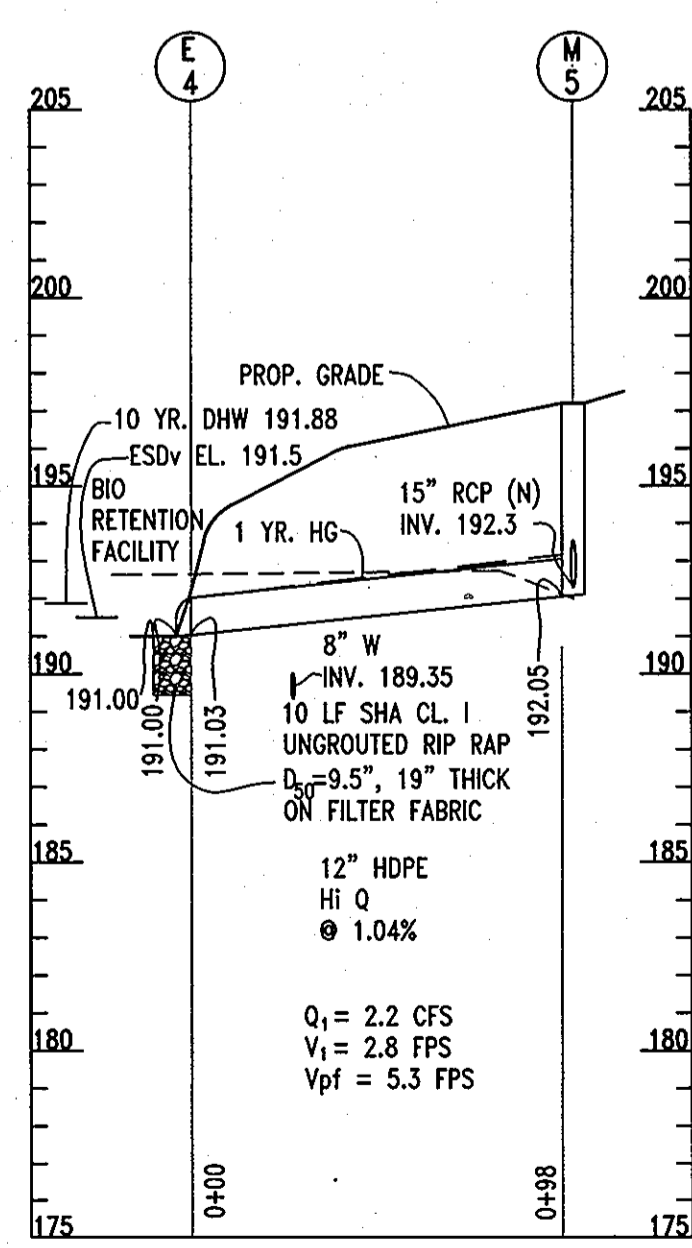
OWNER
 MARYLAND STATE HIGHWAY ADMINISTRATION
 707 BRYANT CLEVELAND STREET
 BALTIMORE, MD 21202
 410-545-0300

OWNER AND DEVELOPER
 HOWARD COUNTY, MD
 4250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-315-6194

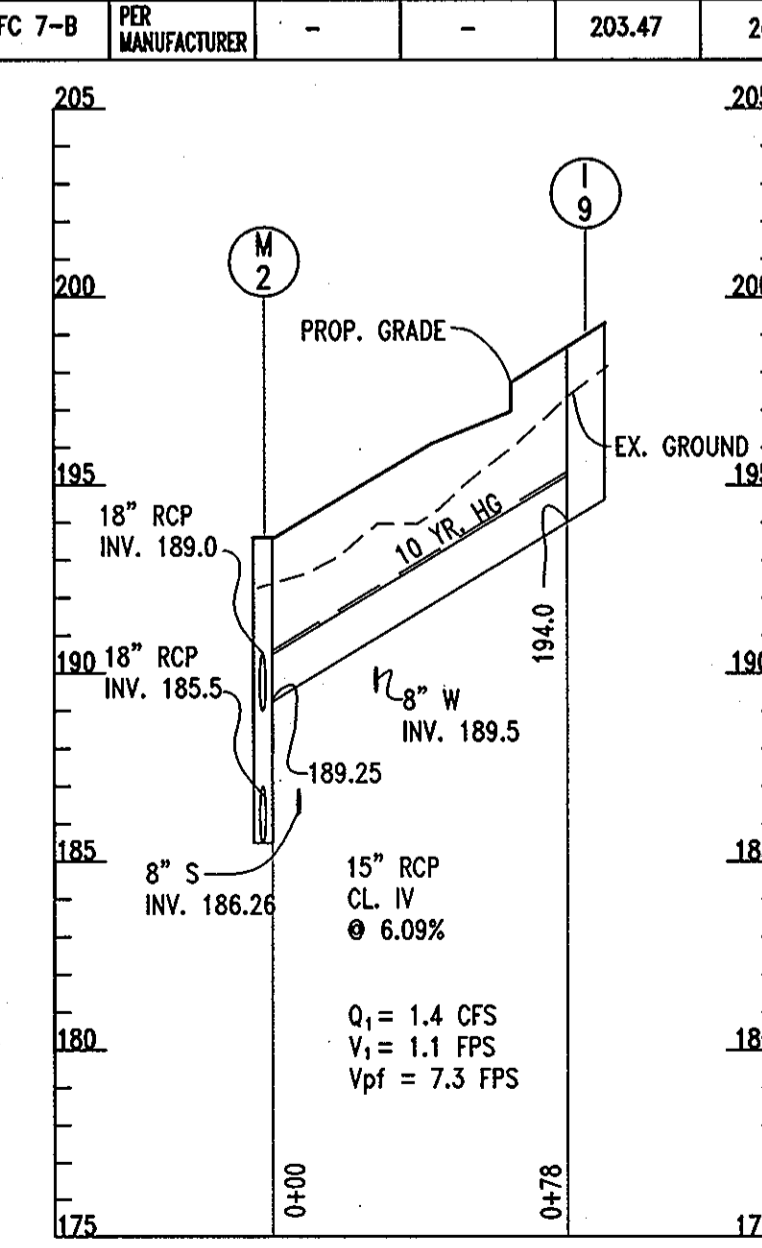
ENGINEER
 TESSERACT SITES, INC.
 401 WASHINGTON AVE., SUITE 303
 TOWSON, MD 21286
 CONTACT: JEFFREY SCHWAB
 410-321-7600



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



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



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

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 County Health Officer
 Howard County Health Department
 DATE: 11/7/2011

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 11/17/10

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 11/21/11

DIRECTOR
 DATE: 11/21/11

Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave., Suite 303
 Towson, Maryland, 21204
 p. 410.321.7600
 f. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

**Corridor Industrial Park, Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland**

Storm Drainage Profiles

PROJECT: C-1
 SHEET: 18,12
 DATE: 11/21/11

DATE: 10/22/2010
 PROJ. #: 08016
 SCALE: AS SHOWN

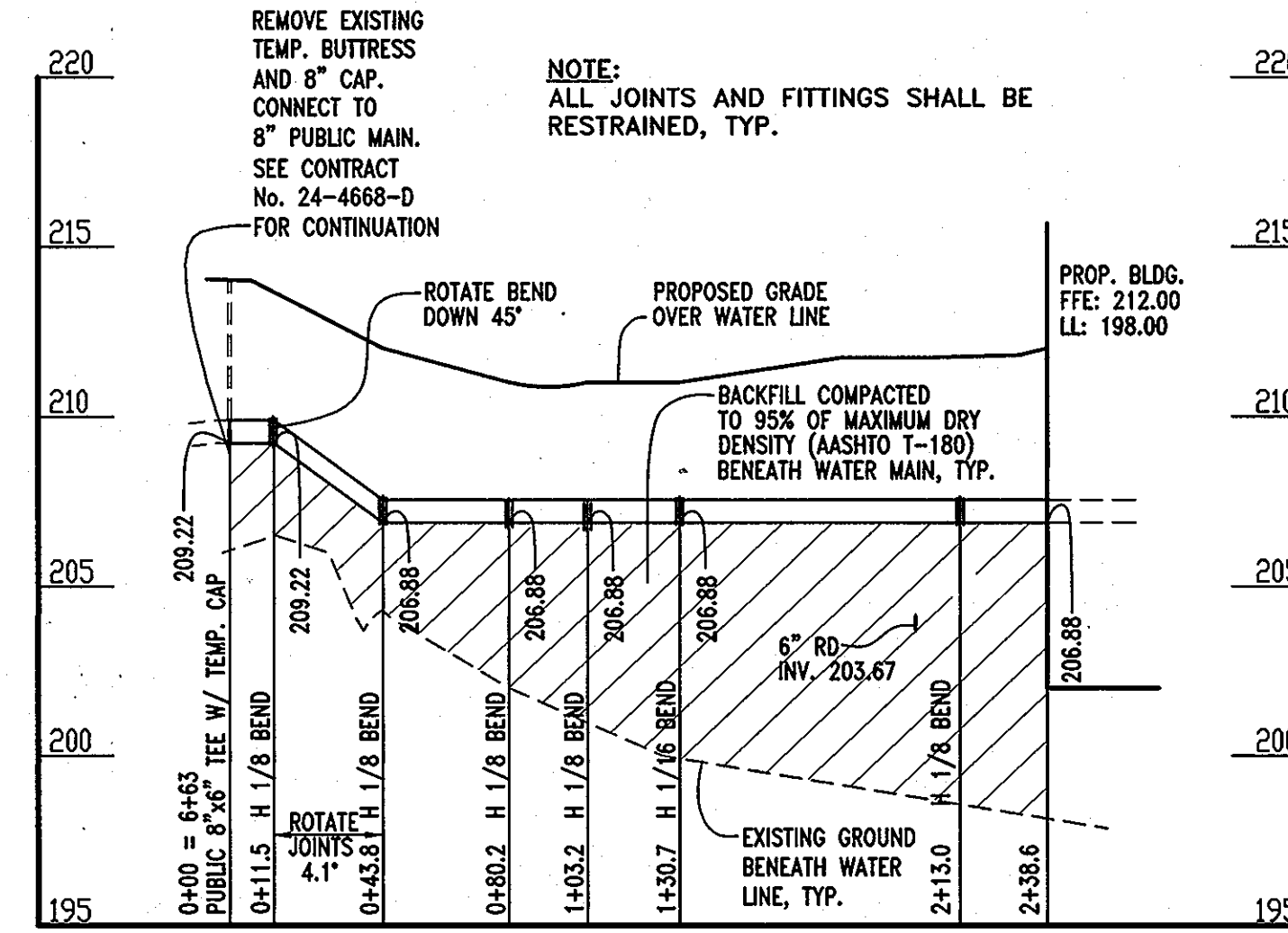
17 of 33

Table with 2 columns: LEED 2009 for New Construction and Major Renovation. Includes categories like LEED 2009 for New Construction, LEED 2009 for Major Renovation, and LEED 2009 for Existing Buildings.

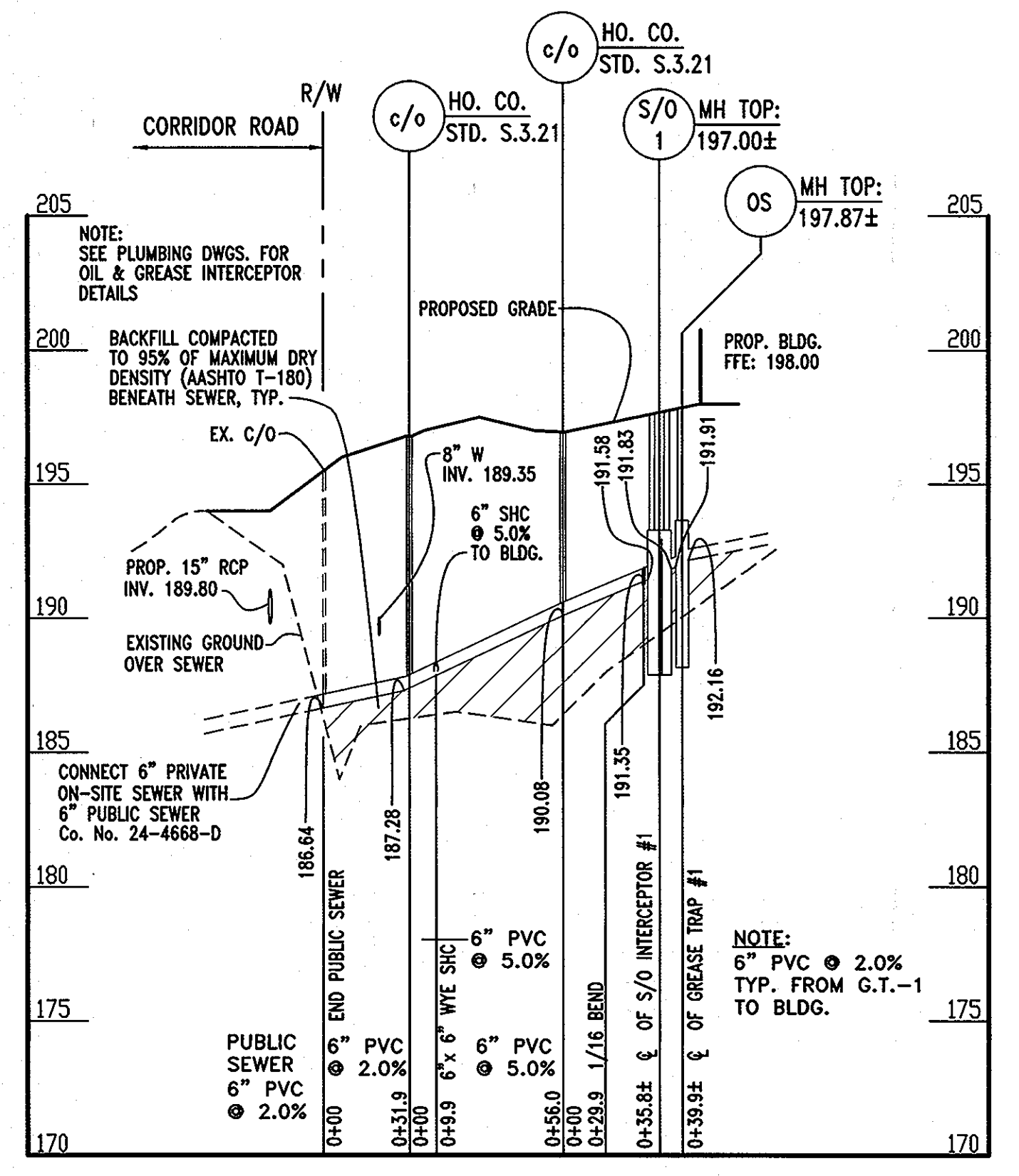
Table with 2 columns: LEED 2009 for New Construction and Major Renovation. Includes categories like LEED 2009 for New Construction, LEED 2009 for Major Renovation, and LEED 2009 for Existing Buildings.

George Benson, P.E., CBCP, LEED AP
Principal

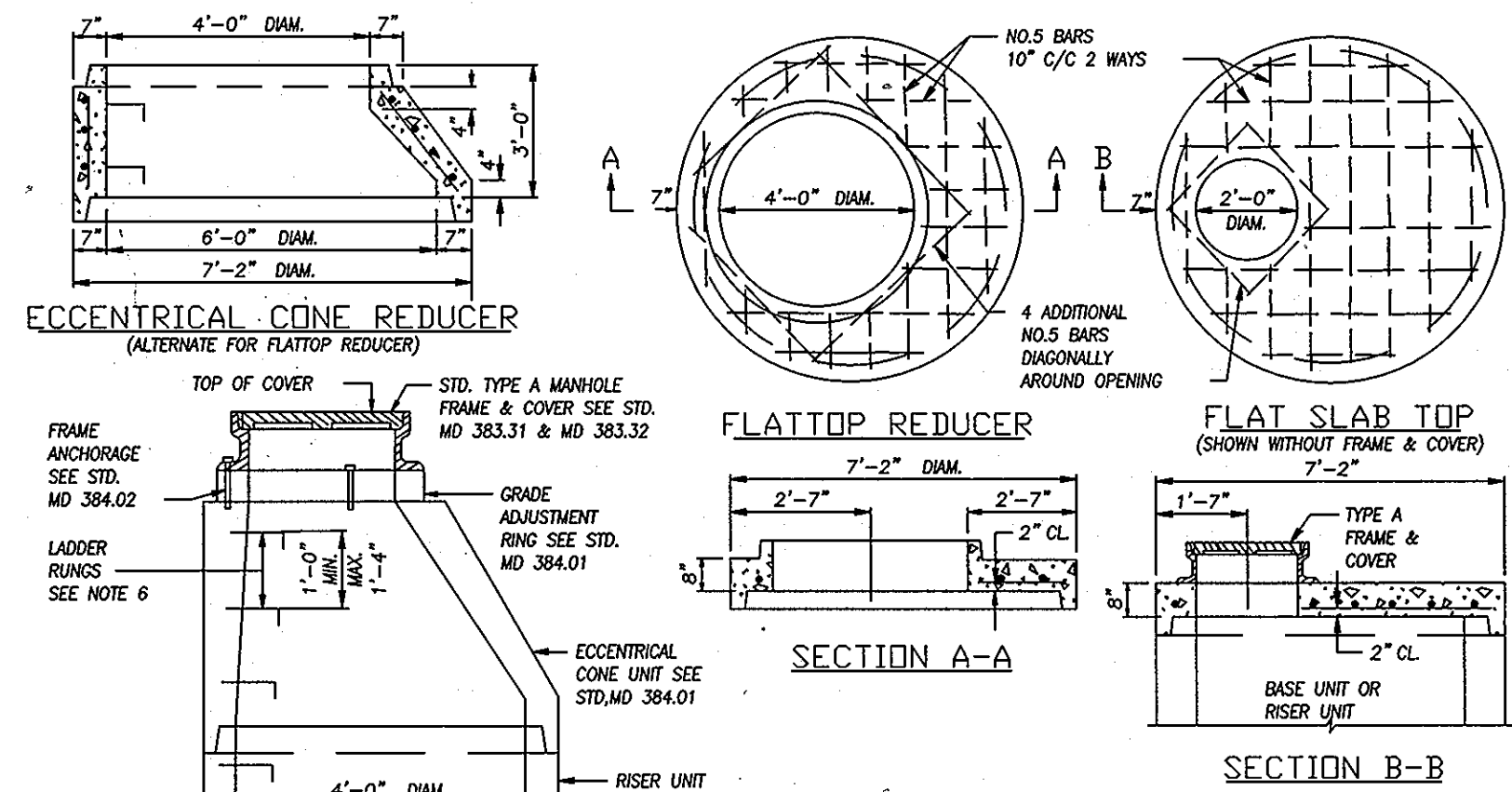
George Benson, P.E., CBCP, LEED AP
Principal



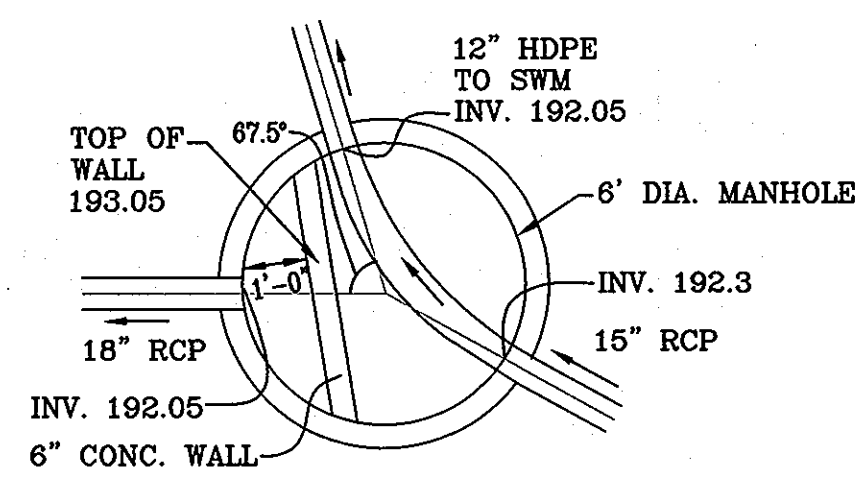
8" ON-SITE WATER PROFILE (PRIVATE)
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



6" ON-SITE SANITARY SEWER PROFILE (PRIVATE)
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



- NOTES: 1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASHTO M 199. 2. CONCRETE SHALL BE MIX NO. 6 (4500PSI). 3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRIC CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.19 IN. / FT. FOR THE 72" DIAMETER MANHOLES WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82 REINFORCEMENT BARS SHALL MEET ASTM A 615, GRADE 60. 4. BASE REINFORCEMENT TO BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN. / FT. THE BASE SHALL BE CAST MONOLITHIC WITH THE BASE UNIT OR JOINED PER MANUFACTURER'S DESIGN. 5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATER TIGHT (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING ASHTO M 198, TYPE B. 6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.01 OR 383.02. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE. 7. WHEN THE DISTANCE BETWEEN THE MULTIPLE OPENINGS IN THE BASE UNIT OR IN ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS. 8. LET HOLES OR LET EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING. 9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER. 10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS. 11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE, GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.



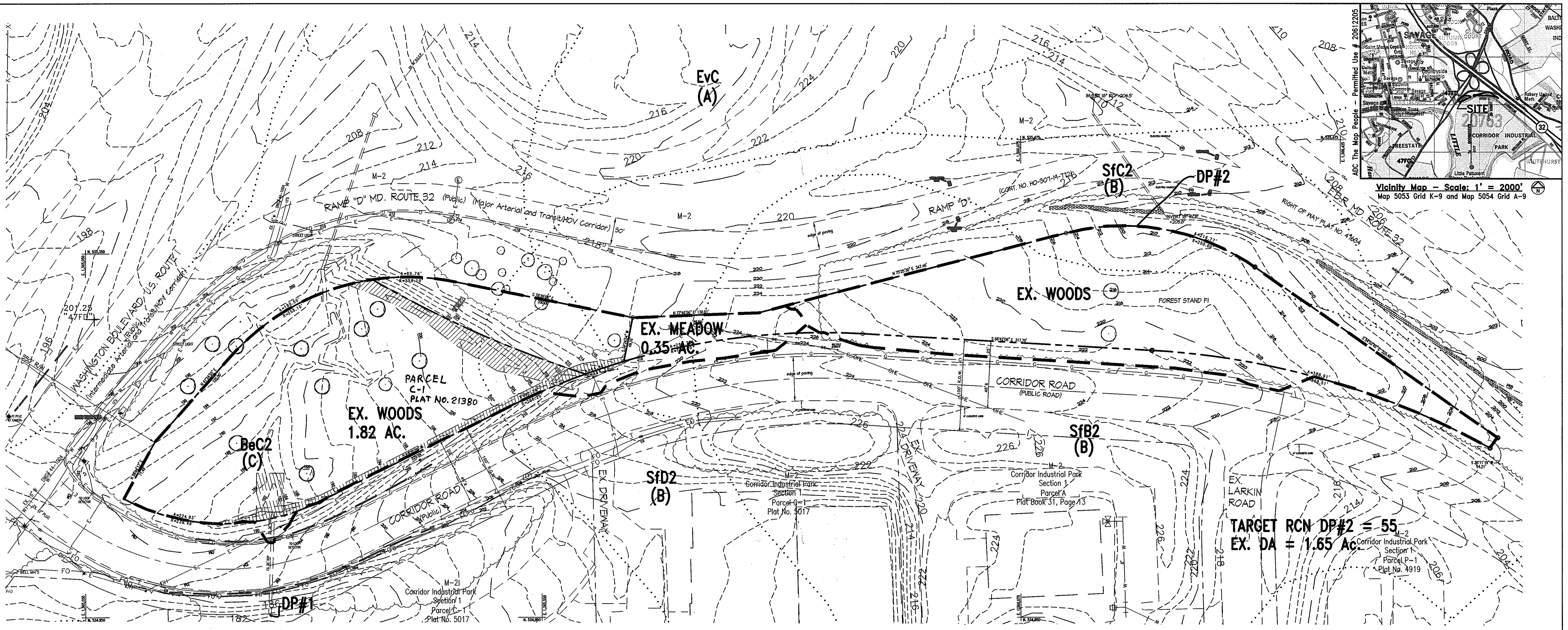
MANHOLE M5 - DIVERSION MANHOLE
NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
Brian P. Peterson 1/7/2010
County Health Officer
Howard County Health Department
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John DeLeonardis 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Kevin DeLeonardis 1/2/11
CHIEF, DIVISION OF LAND DEVELOPMENT
Thomas J. Scullin 1/12/11
DIRECTOR

- PRIVATE ON-SITE WATER MAIN GENERAL NOTES
a. All water mains shall be PVC C900 Water Main.
b. Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
c. Valves adjacent to tees shall be strapped to tees.
d. All pipe and fittings shall have restrained joints, typ.
e. The Contractor shall not operate any water main valves on the existing public water system.
f. All water house connections shall be for inside meter setting unless otherwise noted on the drawings or in the specifications.
PRIVATE ON-SITE SEWER GENERAL NOTES
a. All sewer pipe shall be SDR 35 (ASTM D3034) P.V.C. unless otherwise noted.
b. All manholes shall be 4'-0" inside diameter unless otherwise noted. Precast Manhole Ho. Co. Std. No. G5.12 to be used.

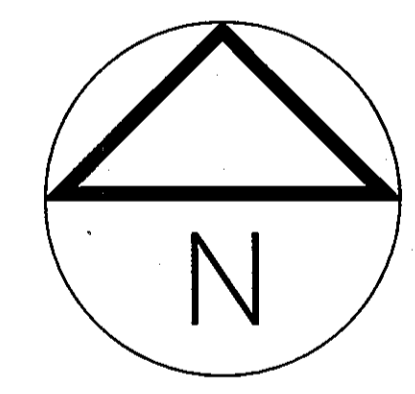
OWNER
MARYLAND STATE HIGHWAY ADMINISTRATION
1707 MARINE AVENUE STREET
BALTIMORE, MD 21202
410-545-0360
OWNER AND DEVELOPER
HOWARD COUNTY, MD
4250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-313-6194
ENGINEER
TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21286
CONTACT: JEFFREY SCHWAB
410-321-7600

Tesseract
TESSERACT SITES, INC.
401 Washington Ave, Suite 303
Towson, Maryland, 21286
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. 14230, Expiration Date: 12/09/10.
Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland
Water and Sewer Profiles
21380
Date: 10/22/2010
Proj. #: 08016
Scale: AS SHOWN
18 of 33
SDP 10-084



EX. DA DP#1 = 2.17 AC.
TARGET RCN = 66

TARGET RCN DP#2 = 55
EX. DA = 1.65 AC.



EXISTING CONDITIONS	
Building	[Symbol]
Outline	[Symbol]
Fence	[Symbol]
Prop. Area	[Symbol]
Property Line	[Symbol]
Center Line	[Symbol]
Spot Elevation	[Symbol]
Shrubbery	[Symbol]
Water Line	[Symbol]
Specimen Tree	[Symbol]
Woods Line	[Symbol]
Slope 15-24%	[Symbol]
Slope Steep 25% or more	[Symbol]
Slope >25% less than 10 vertical feet	[Symbol]
Ex. Wetland	[Symbol]

EXISTING UTILITIES	
Sanitary Sewer	[Symbol]
Sanitary Sewer	[Symbol]
Water Line	[Symbol]
Water Valve	[Symbol]
Water Meter	[Symbol]
Fire Dept Connection	[Symbol]
Fire Hydrant	[Symbol]
Gas Mainline	[Symbol]
Underground Gas Line	[Symbol]
Utility Pole	[Symbol]
Overhead Electric Line	[Symbol]
Underground Electric Line	[Symbol]
Underground Fiber Optic Service	[Symbol]



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
B. Wilson for Peter Beilman 1/17/11
 County Health Officer
 Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
W. J. DeLoach 1/17/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

W. J. DeLoach 1/12/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

M. S. Sullivan 1/12/11
 DIRECTOR

TESSERACT SITES, INC.
 401 Washington Ave, Suite 303
 Towson, Maryland, 21284
 P. 410-321-7600
 F. 410-321-7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

Existing SWM DA Map

LOT/PARCEL: C-1	LEGAL: 545/243 1050/188	PLAT: 21380
GRID: 18,12	ZONE: M-2	DATE: 10/22/10

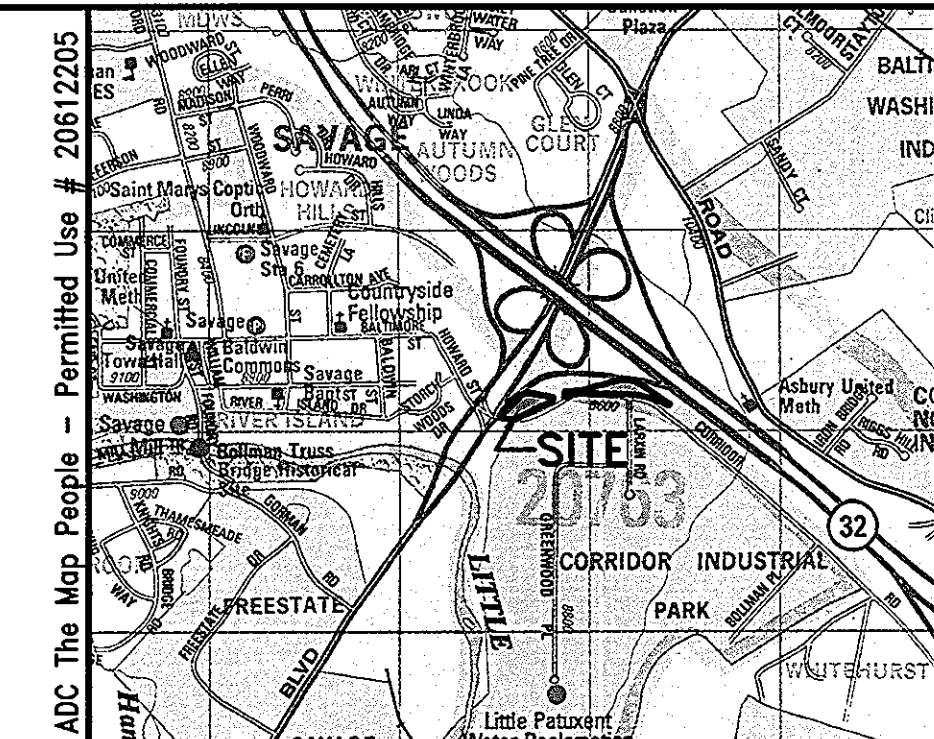
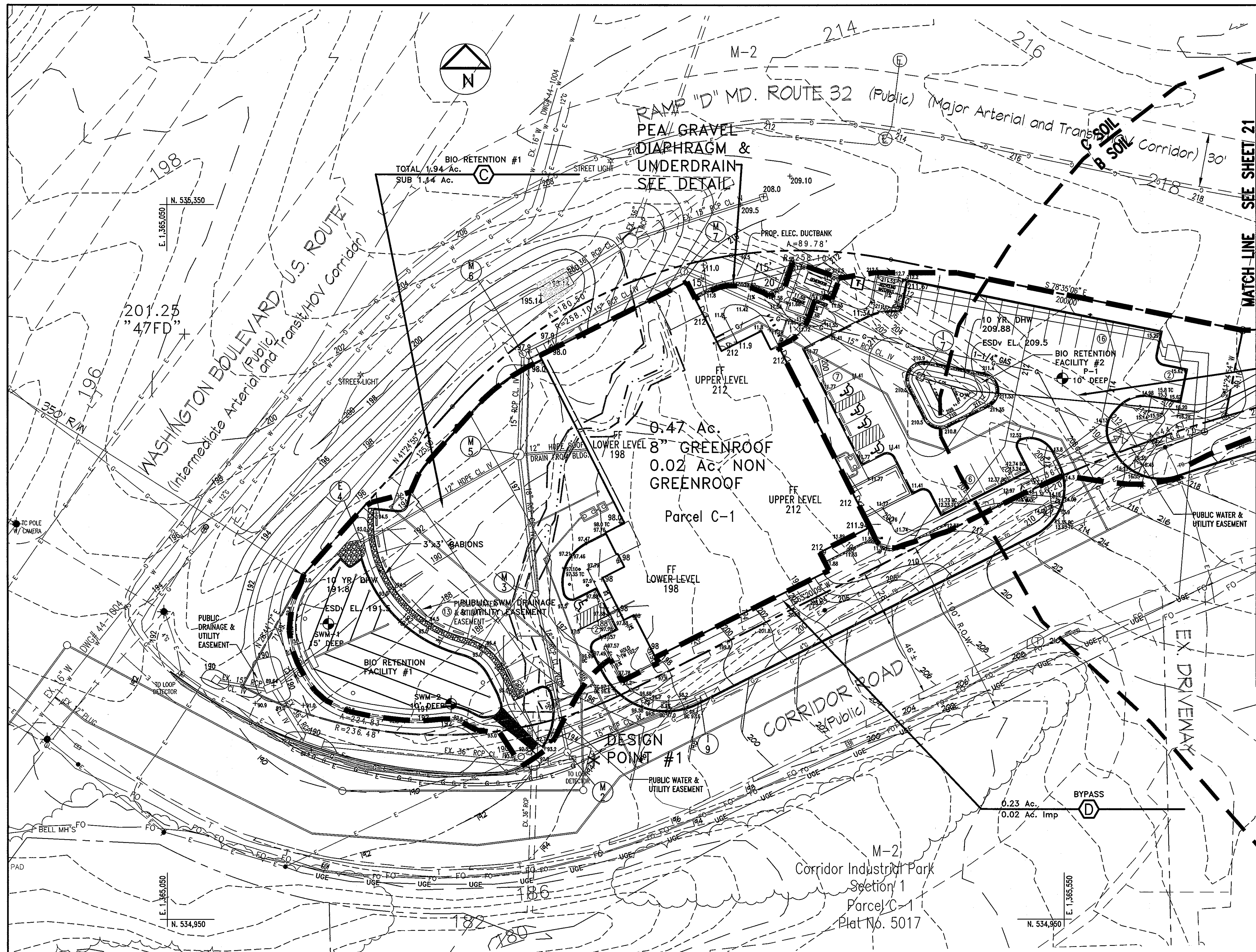
Date: 10/22/2010
 Proj. #: 08016
 Scale: 1"=50'

19 of 33

OWNER AND DEVELOPER
 HOWARD COUNTY, MD
 4250 BENDIX ROAD
 COLLEMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-318-6184

ENGINEER
 TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21202
 CONTACT: JEFFREY SCHWAB
 410-321-7600

SDP 10-084



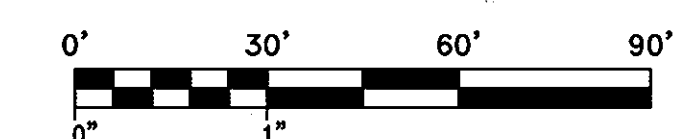
Locality Map - Scale: 1" = 2000'
Map 5053 Grid K-9 and Map 5054 Grid A-9

FACILITY AND DESIGN POINT SUMMARIES

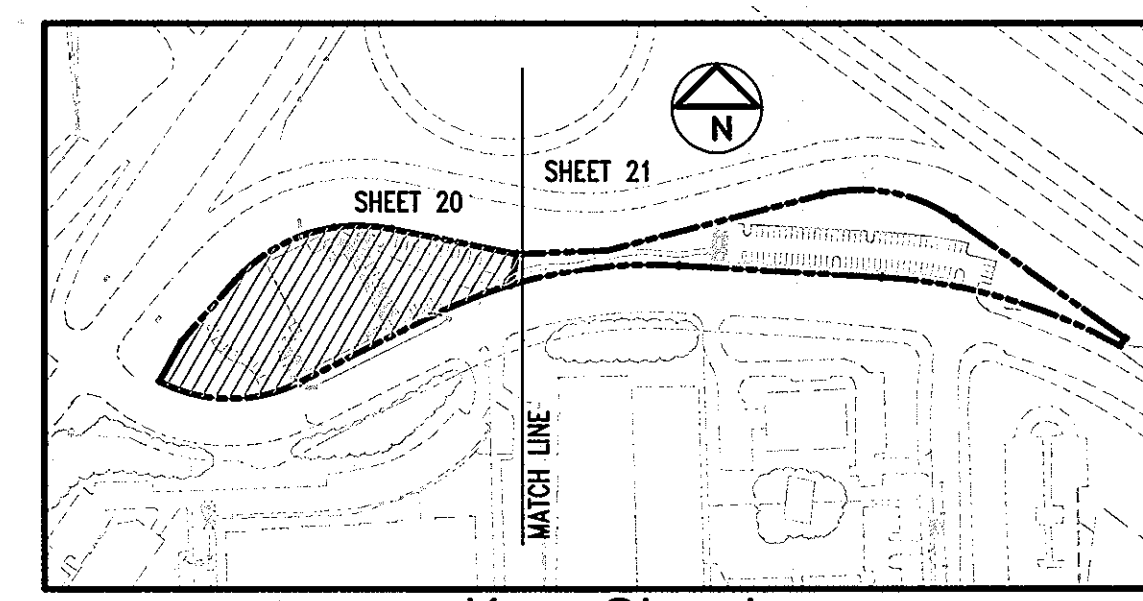
DESIGN POINT SUMMARY

DP	Target RCN	DA	Prop RCN	Prop RCN w/ adj	Pe	ESDv feet	ESDv Prev
#1	66	2.17 ac	88	83	1.8"	6098 cf	6116 cf
#2	55	1.65 ac	75	58	1.0"	359 cf	#

Met by Pervious Concrete Paving curve number reduction and additional storage for impervious area



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 Approved by Peter Brakerson, County Health Officer, Howard County Health Department, 1/7/2011
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Approved by [Signature], Chief, Development Engineering Division, 12/17/10
 Approved by [Signature], Chief, Division of Land Development, 1/12/11
 Approved by [Signature], Director, 1/12/11



Key Sheet
Scale: 1"=300'

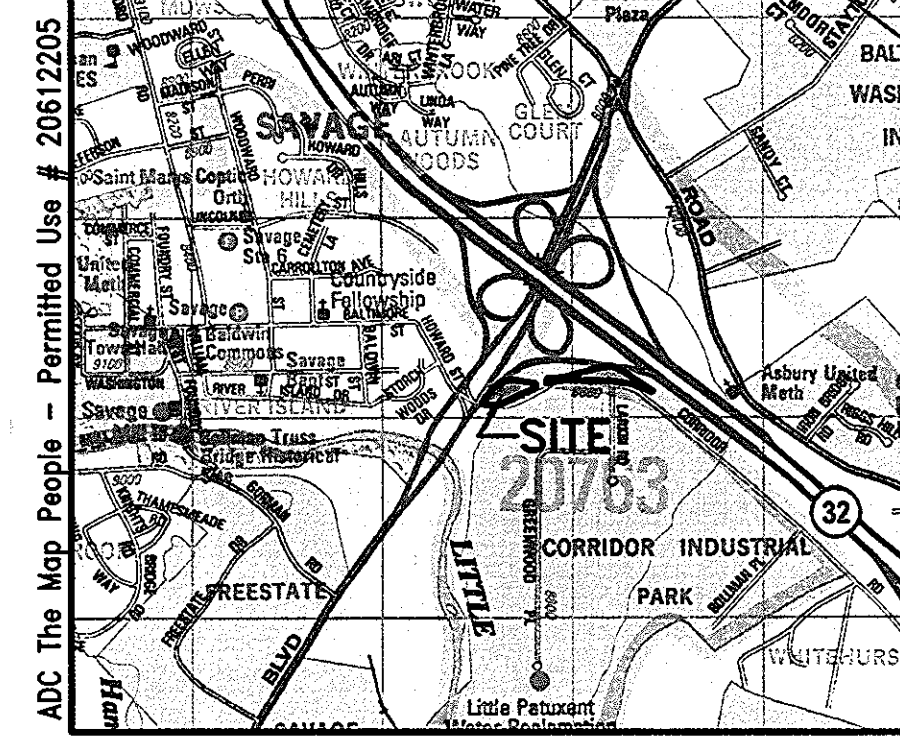
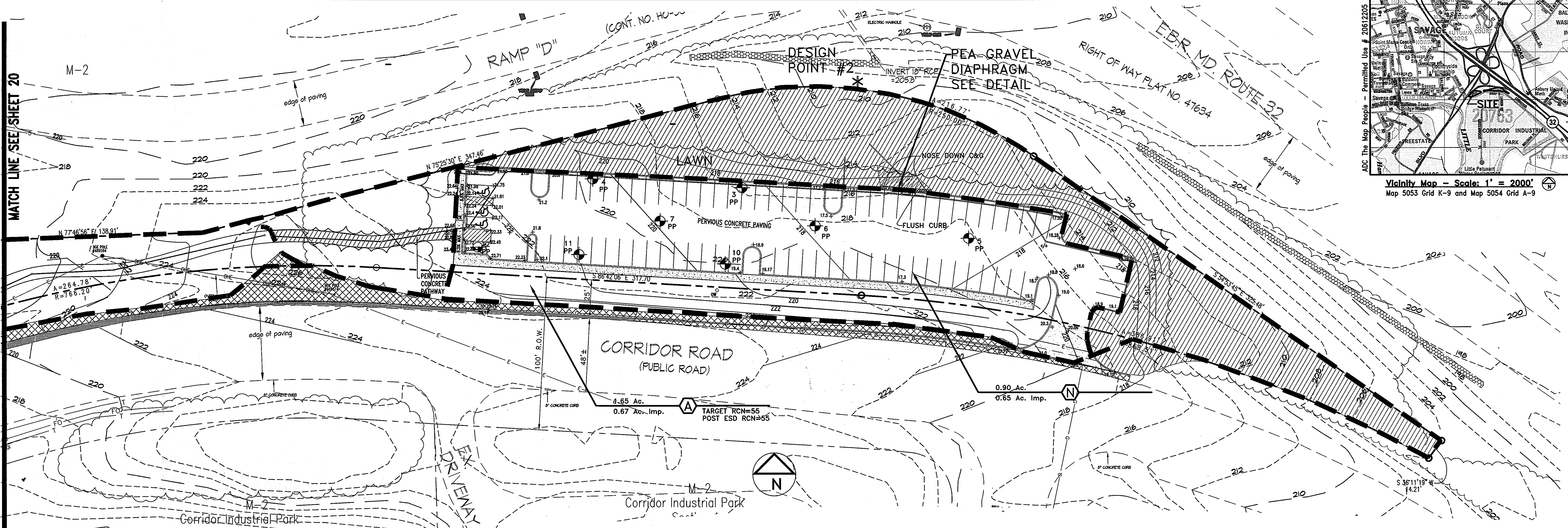
OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION, 107 NORTH CALVERT STREET, BALTIMORE, MD 21202
 OWNER AND DEVELOPER: HOWARD COUNTY, MD, 4250 BENDIX ROAD, COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK, 410-313-6194
 ENGINEER: TESSERACT SITES, INC., 401 WASHINGTON AVE, SUITE 303, TOWSON, MD 21286
 CONTACT: JEFFREY SCHNAB, 410-321-1600

Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave. Suite 303, P. 410.321.7600
 Towson, Maryland, 21284, F. 410.321.7601
 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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park, Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland
 Proposed Conditions
 Stormwater Management DA Map

DATE: 10/22/2010
 PROJ. #: 08016
 SCALE: 1"=30'

20 of 33



Vicinity Map - Scale: 1" = 2000'
Map 5053 Grid K-9 and Map 5054 Grid A-9

MATCH LINE SEE SHEET 20

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

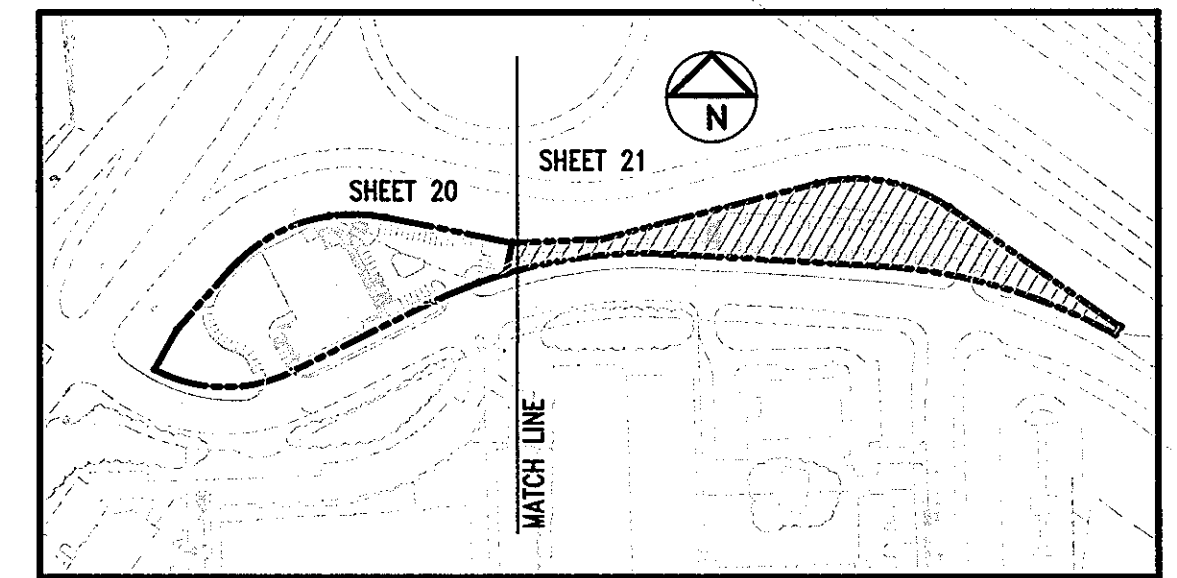
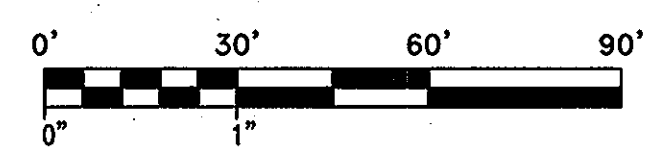
Andriana for Peter Rielemann 11/7/2011
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

William Williams 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kent Seelwiler 1/11/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Mona S. Buttle 1/12/11
DIRECTOR



Key Sheet
Scale: 1" = 300'

Tesseract
TESSERACT SITES, INC.
401 Washington Ave, Suite 303
Towson, Maryland, 21284
P: 410-321-7600
F: 410-321-7601

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. 14230, Expiration Date: 12/09/10.

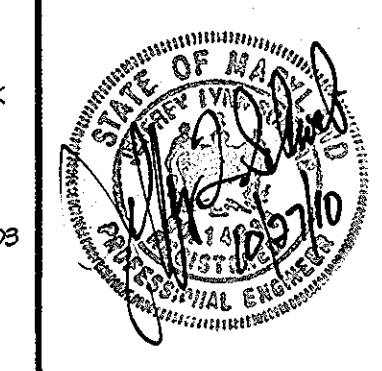
Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Proposed Conditions
Stormwater Management DA Map

ORDER:	MARYLAND STATE HIGHWAY ADMINISTRATION	PROJECT:	21380
DATE:	10/22/2010	DATE:	10/22/2010
PROJECT:	21380	DATE:	10/22/2010
PROJECT:	21380	DATE:	10/22/2010

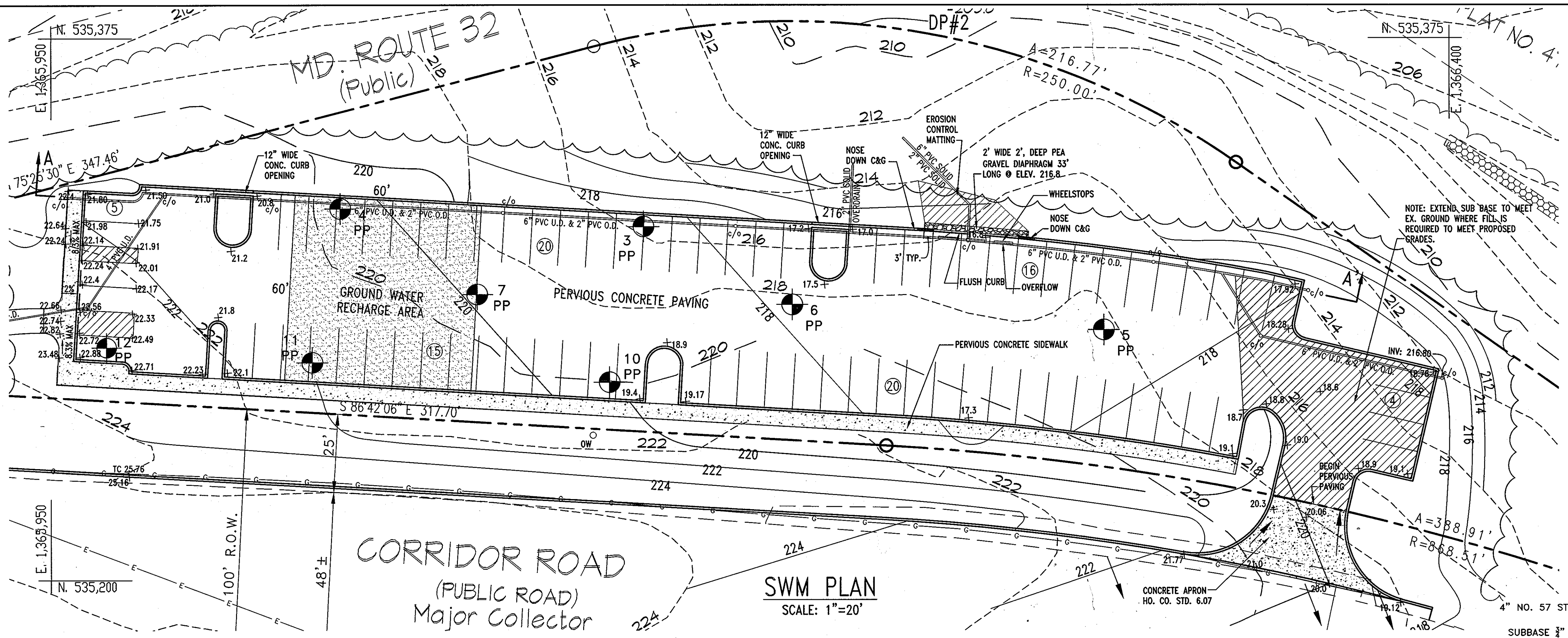
OWNER AND DEVELOPER
HOWARD COUNTY, MD
4250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-313-6134

ENGINEER
TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21286
CONTACT: JEFFREY SCHWAB
410-521-1600



Date: 10/22/2010
Proj. #: 08016
Scale: 1" = 30'

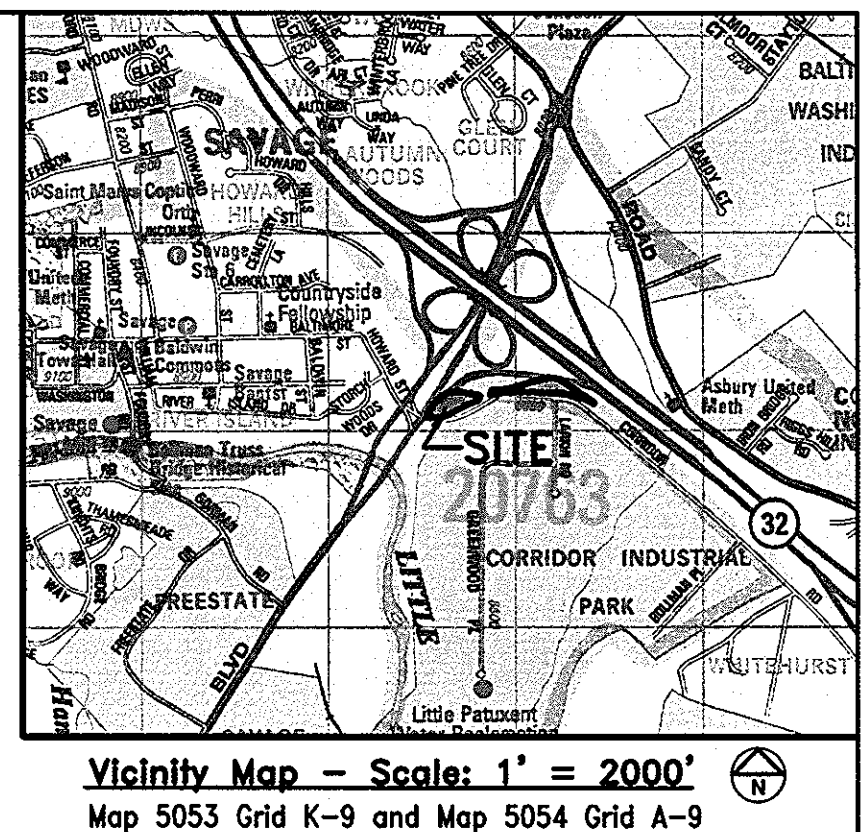
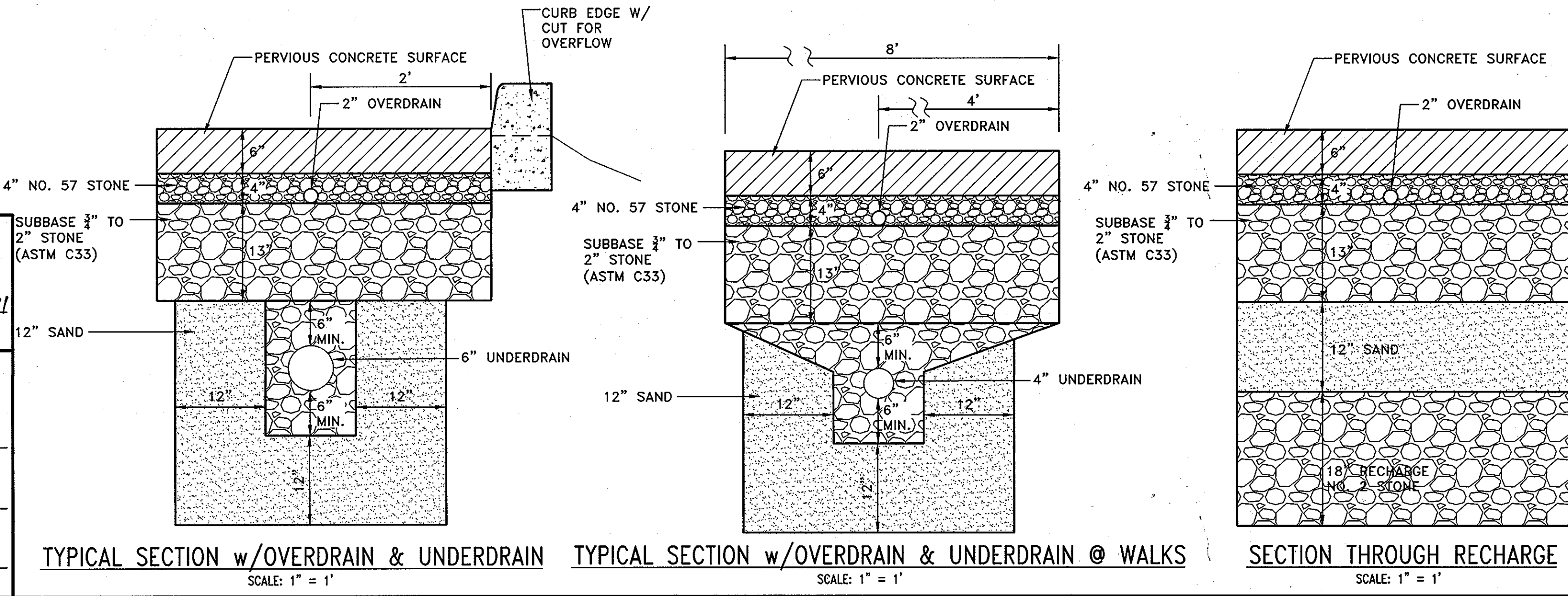
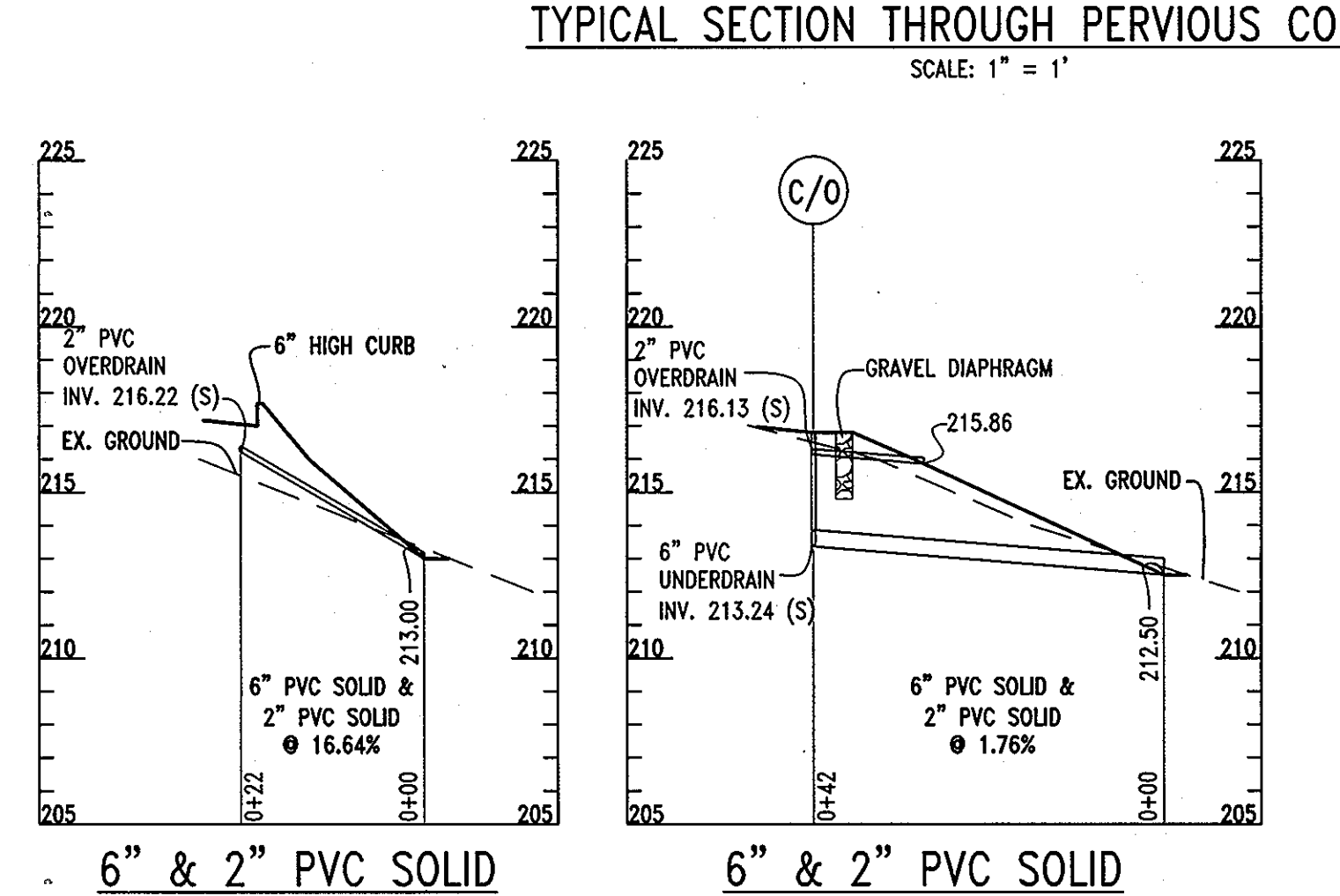
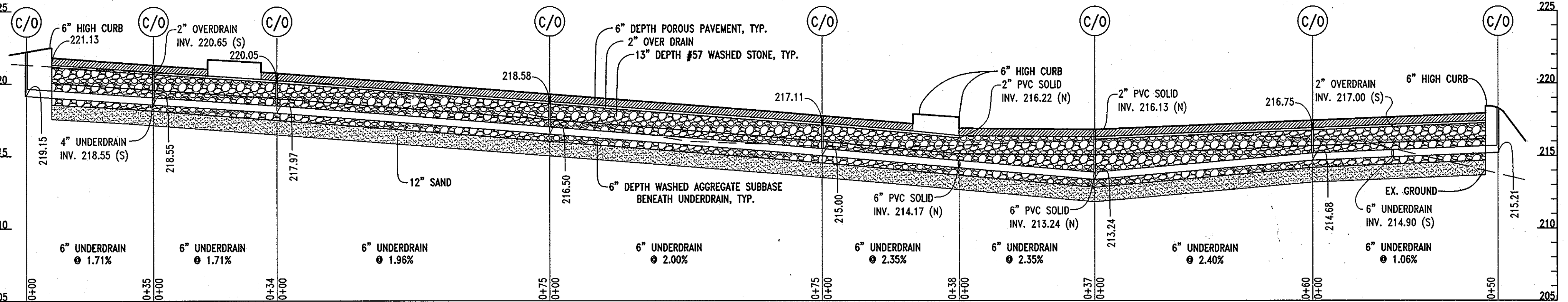
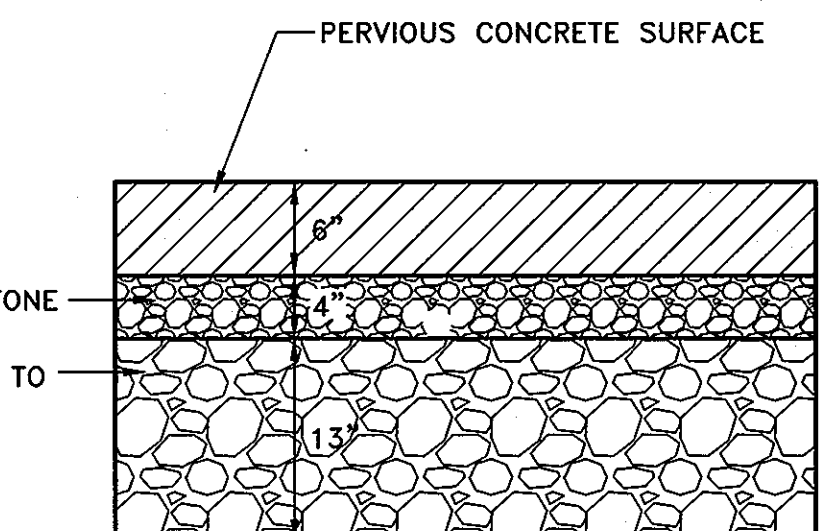
21 of 33



DESIGN POINT #2 SUMMARY TABLE

DA	PROP. RCN	TARGET RCN	PE REQ.	ADJ. RCN	PE REQ. #	ESDV REQ.	ESDV PROV.
1.65	75	55	1.8"	58	1.0"	559 CF	708 CF

AFTER CREDIT FOR PERVIOUS CONCRETE PAVING



- LEGEND
- Ex. Contour
 - Ex. Storm Drain
 - Ex. 100-Yr Floodplain
 - Existing Soils
 - Ex. Forest Conservation Buffer
 - Boring Location
 - Prop. Contour
 - Prop. Storm Drain
 - Sections Thru SWM

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

Robert P. Steiner 11/20/11
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

John D. ... 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Walt ... 1/2/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas & Buttle 1/2/11
DIRECTOR

Tesseract
Tesseract Sites, Inc.
401 Washington Ave. Suite 303
Towson, Maryland, 21284
P. 410.321.7600

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. 14230, Expiration Date: 12/09/10.

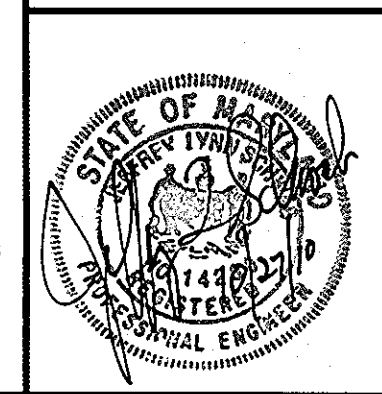
Corridor Industrial Park, Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

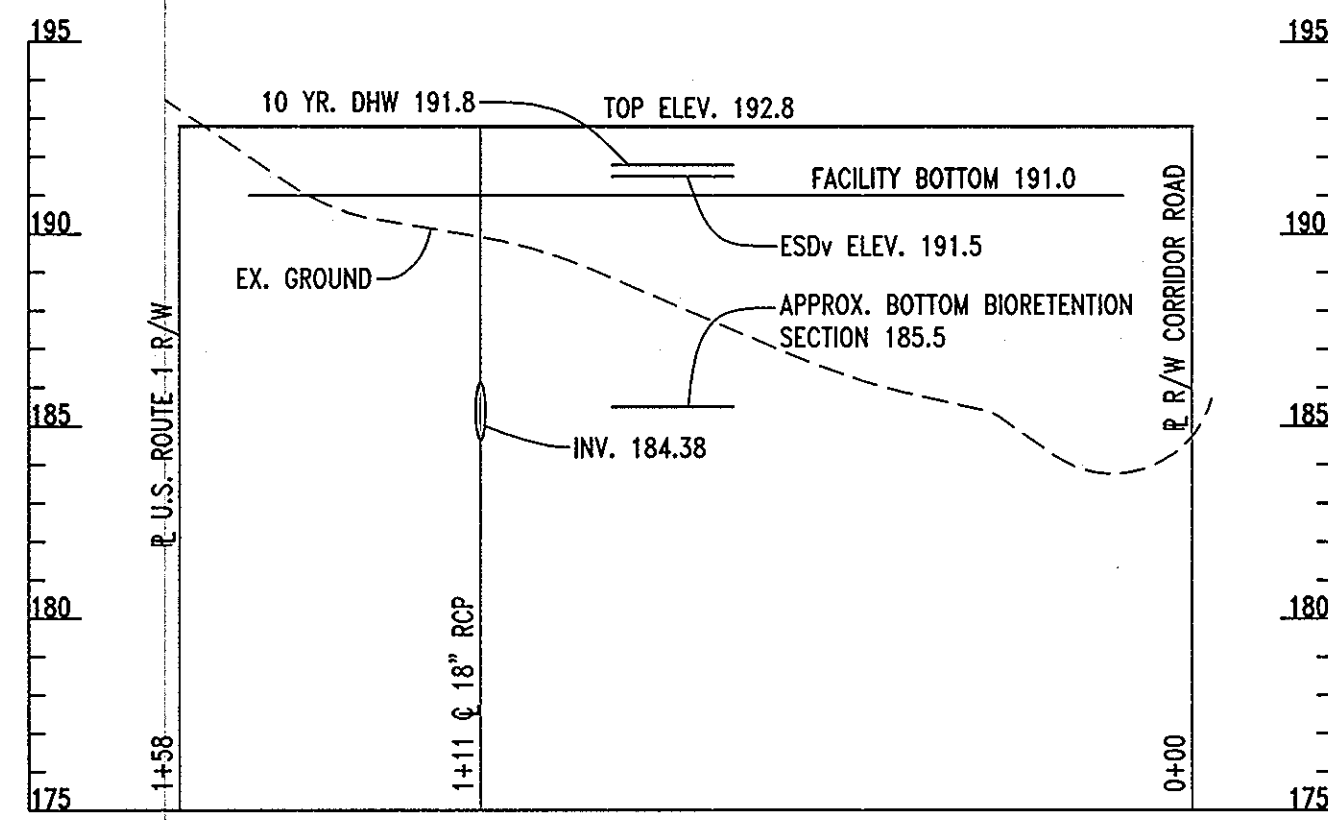
SWM Pervious Concrete Paving

DATE: 10/22/2010	PROJECT: 08016	SCALE: 1"=20'
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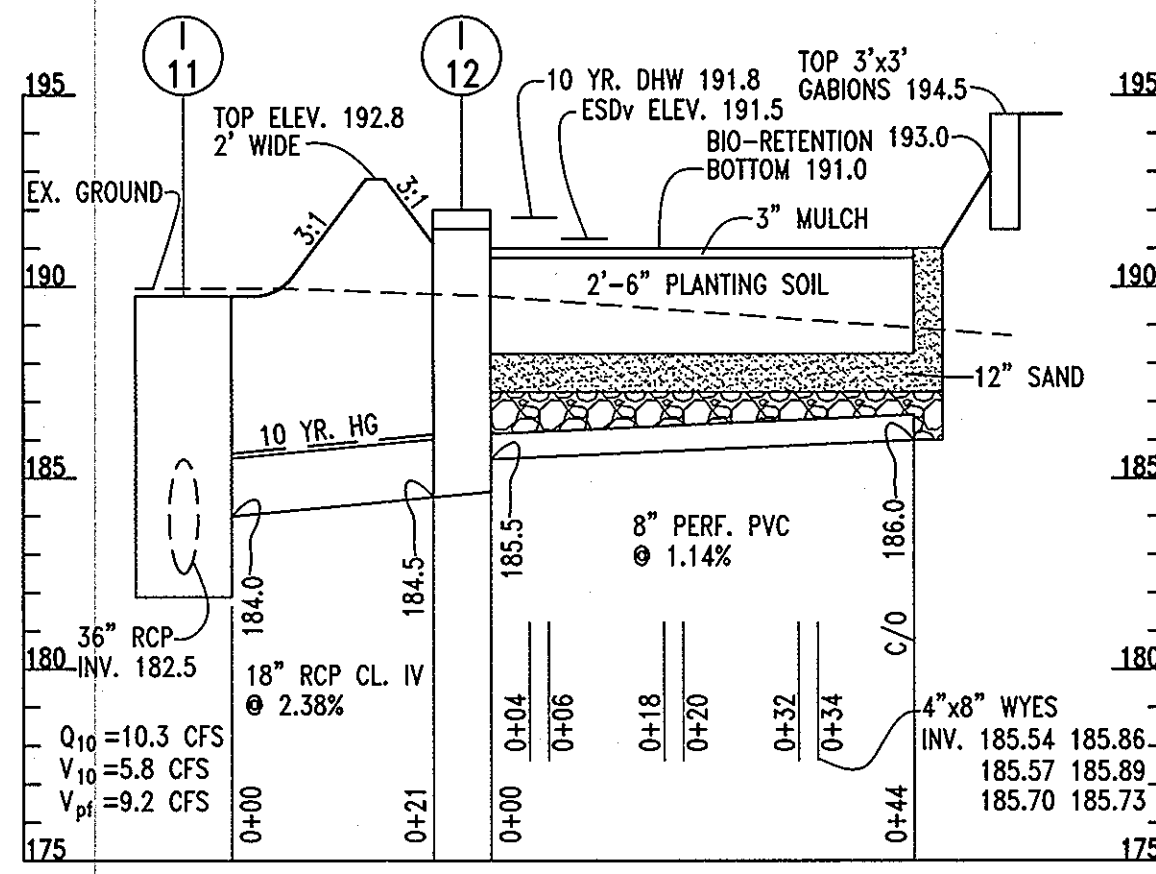
DATE: 10/22/2010
Proj. #: 08016
Scale: 1"=20'

22 of 33

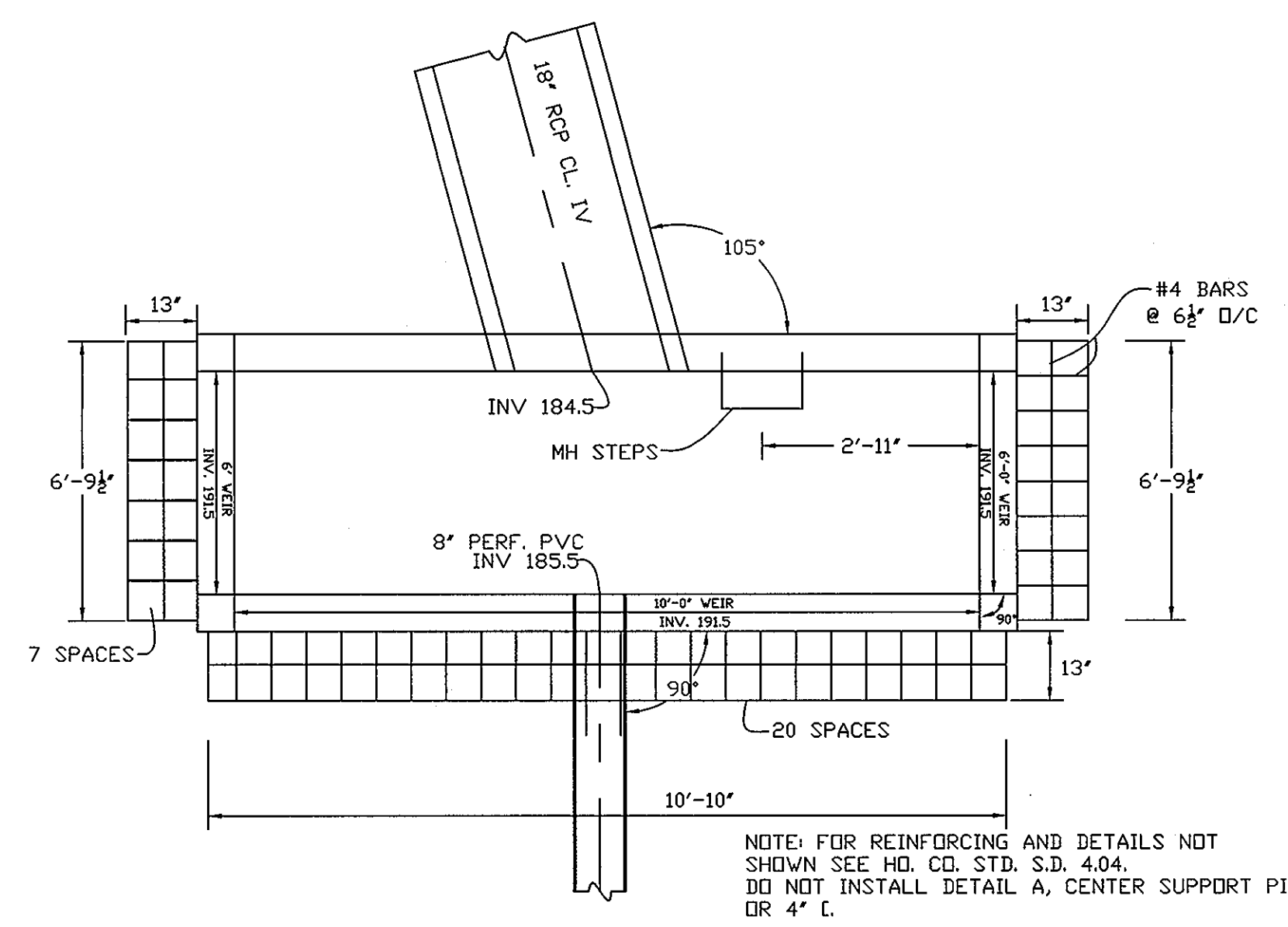




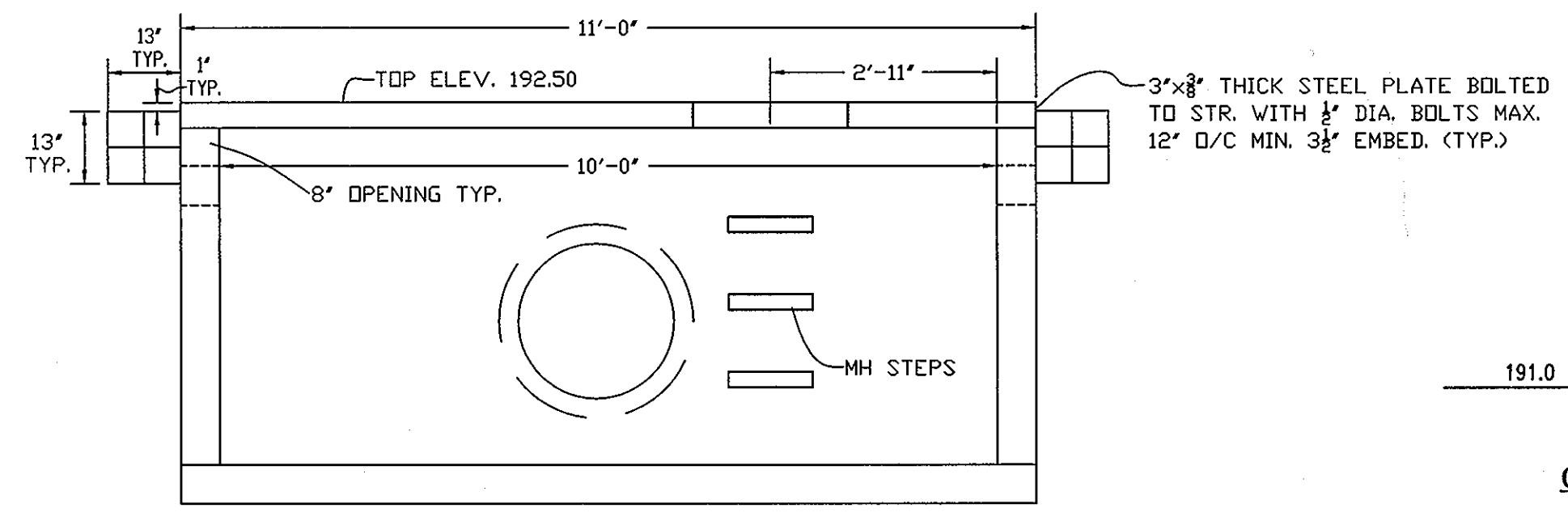
CENTERLINE PROFILE BIO-RETENTION FACILITY
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



OVERFLOW FOR BIO-RETENTION FACILITY
SCALE: HORIZ. 1"=20'
VERT. 1"=5'



STRUCTURE I-12
NOT TO SCALE

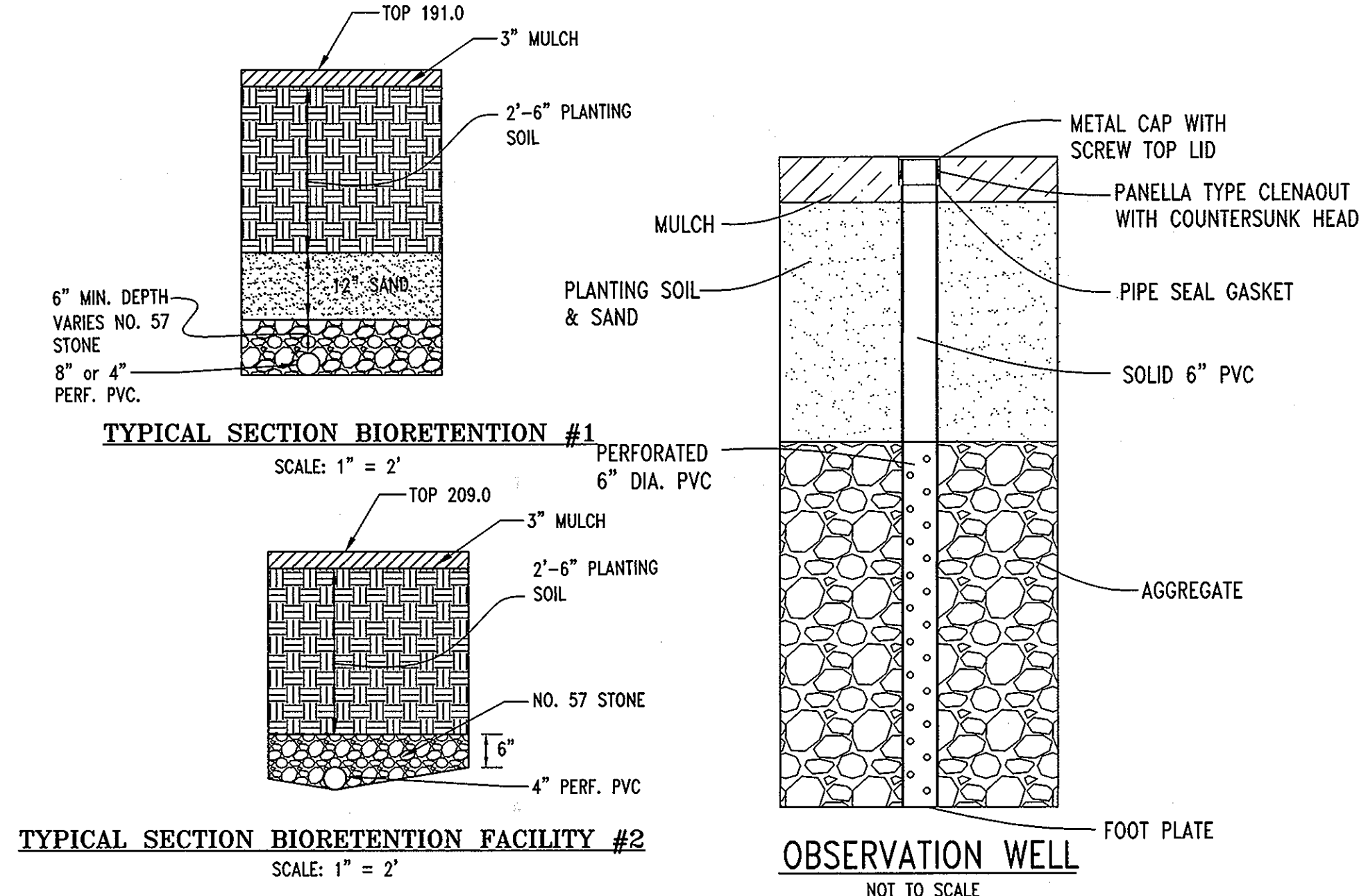


STRUCTURE I-12
NOT TO SCALE

TRASH RACK NOTES

1. ALL MATERIALS SHALL BE HOT DIPPED GALVANIZED.
2. #4 BARS SHALL BE WELDED AT CROSS-POINTS AND WHERE BAR MEETS STEEL CONNECTION PLATE.
3. TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.

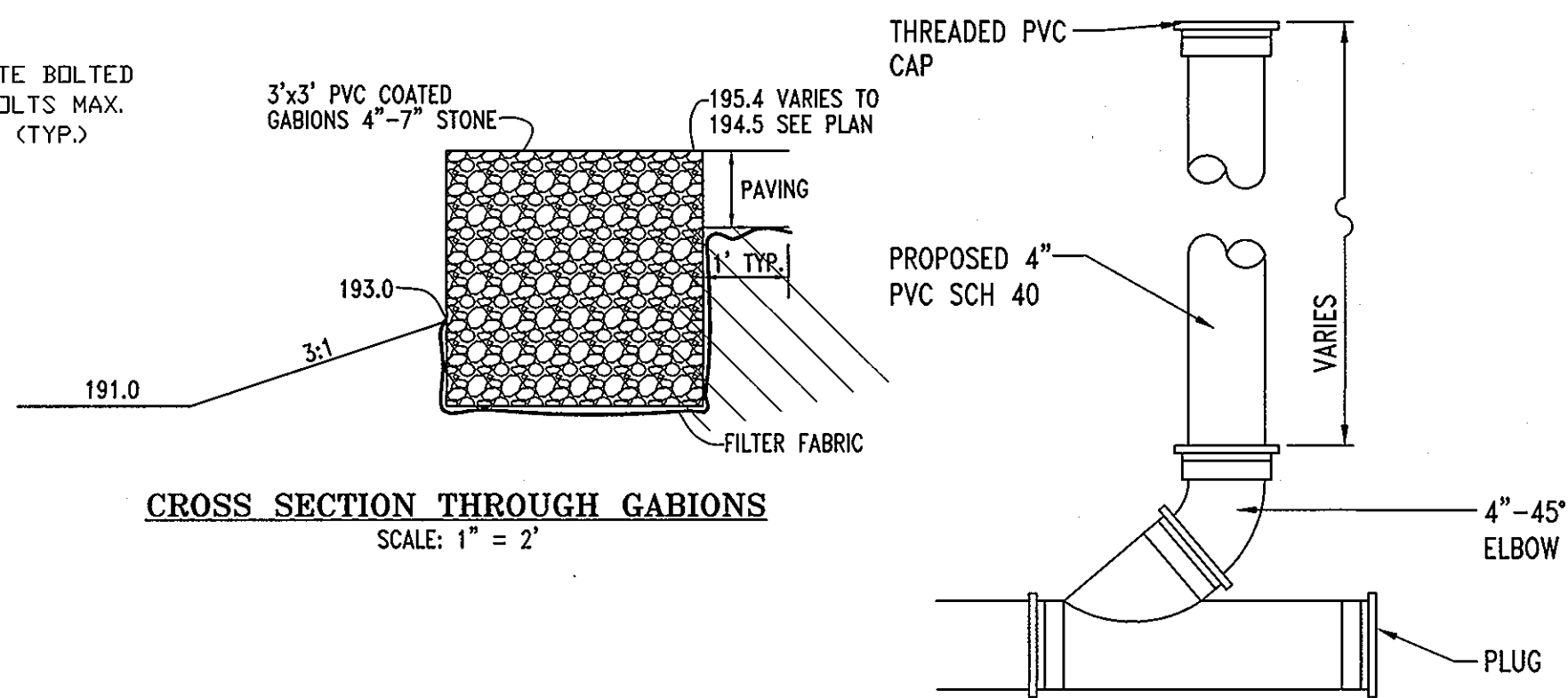
NOTE: CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PRECAST INLET FOR REVIEW AND APPROVAL BY HOWARD COUNTY PRIOR TO FABRICATION OF I-12



TYPICAL SECTION BIORETENTION #1
SCALE: 1" = 2'

TYPICAL SECTION BIORETENTION FACILITY #2
SCALE: 1" = 2'

OBSERVATION WELL
NOT TO SCALE

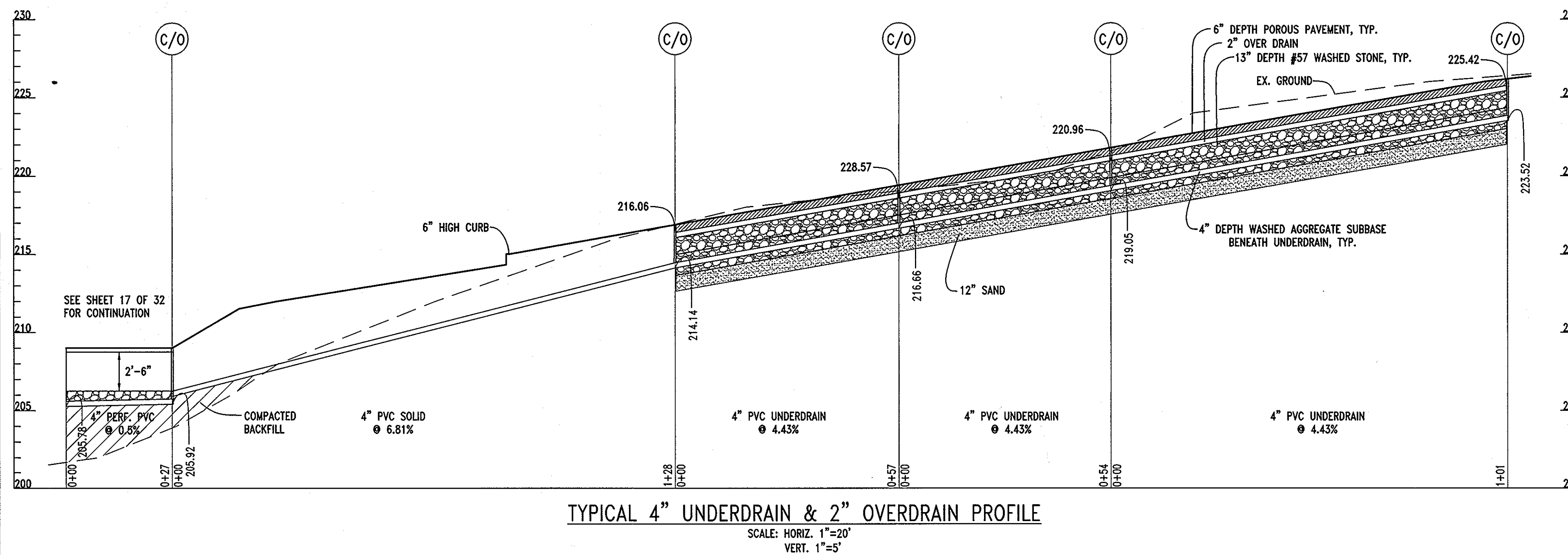
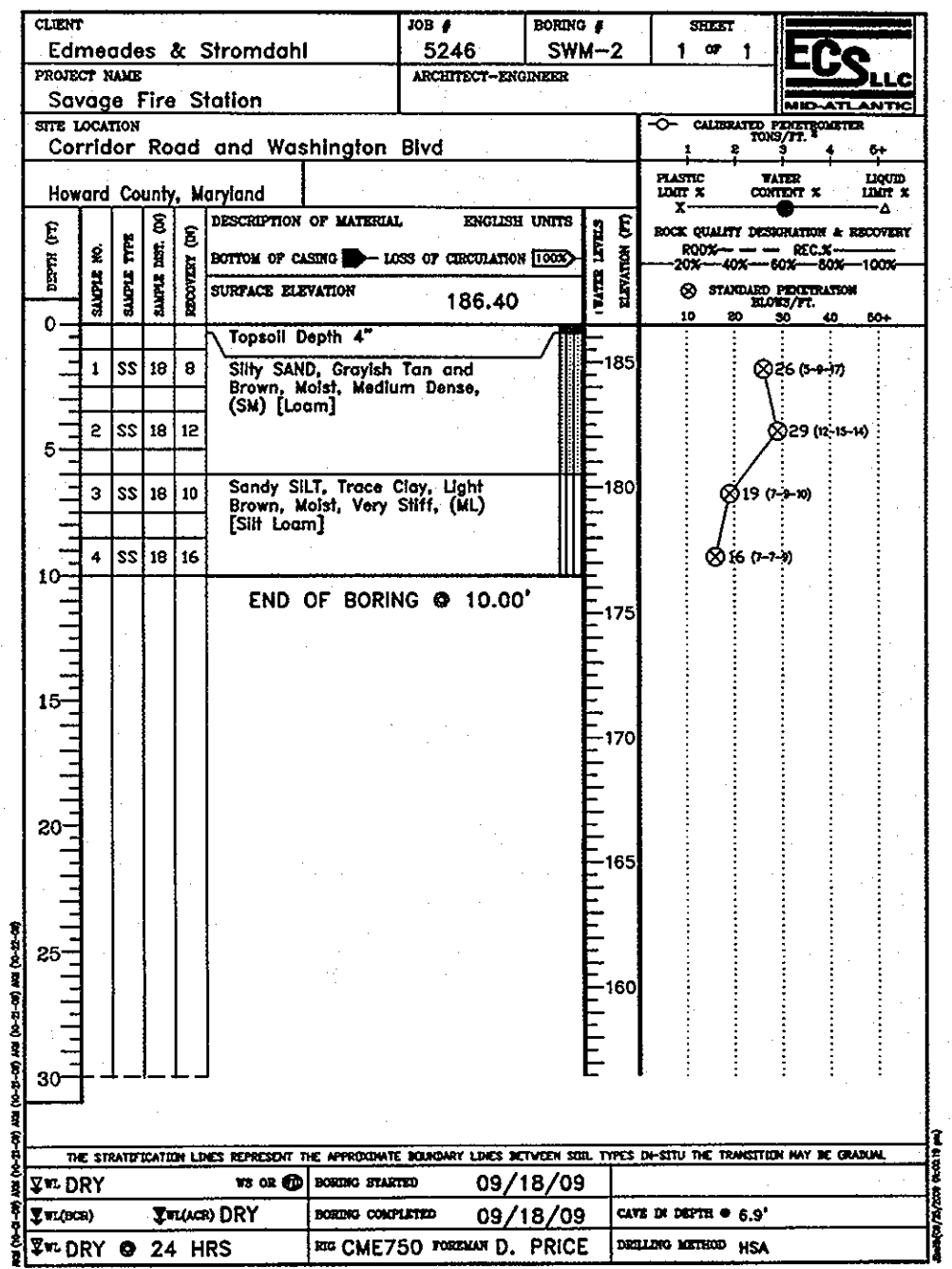
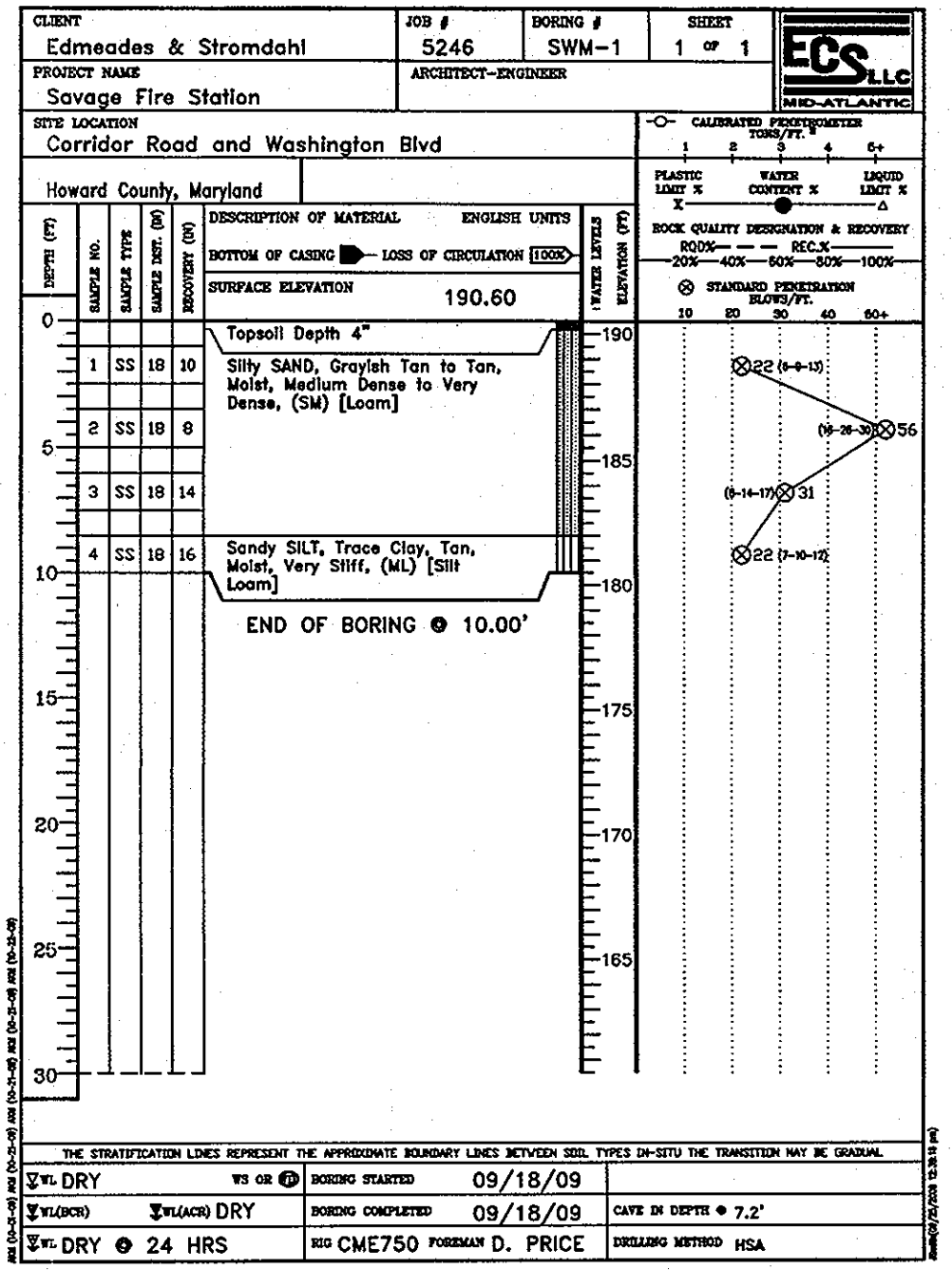


CROSS SECTION THROUGH GABIONS
SCALE: 1" = 2'

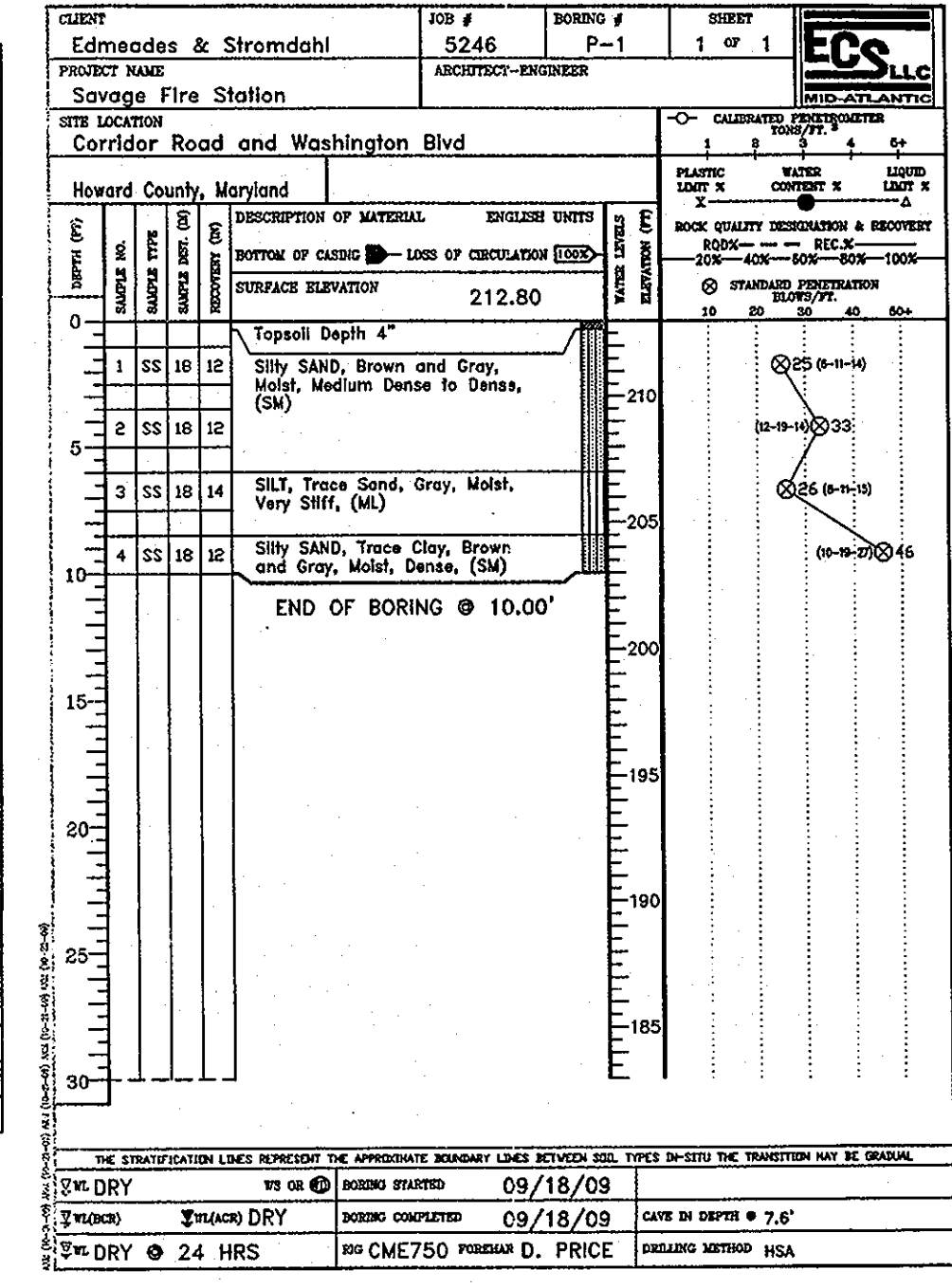
CLEANOUT DETAIL
NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (F-6)

1. Annual maintenance of plant material, mulch layer and soil layer is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 years.
4. Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.



TYPICAL 4" UNDERDRAIN & 2" OVERDRAIN PROFILE
SCALE: HORIZ. 1"=20'
VERT. 1"=5'



OWNER
MARYLAND STATE HIGHWAY ADMINISTRATION
707 NORTH CALVEAT STREET
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410-543-0300

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401 WASHINGTON AVE, SUITE 303
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APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
William P. Peter 1/7/2011
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Jeffrey Schwab 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kevin Sheeloch 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas E. Butler 1/2/11
DIRECTOR

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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. 14230, Expiration Date: 12/09/10.

**Corridor Industrial Park, Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland**

**SWM Bioretention
Details & Profiles**

PROJECT: C-1
DATE: 12/12/10
JOB NO: 5454/243
DATE ZONE MAP: 10/02/188
DATE ZONE MAP: 47
SHEET NO: 21380
SHEET TOTAL: 67th
DATE: 10/22/2010
Proj. #: 08016
Scale: AS SHOWN

23 of 33

TABLE B.3.2 MATERIALS SPECIFICATIONS FOR BIORETENTION			
Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
planting soil [2.5' to 4' deep]	sand 35%-60%, silt 30-55%, clay 10-25%	n/a	USDA soil types loamy sand, sandy loam or loam
mulch	shredded hardwood		aged 6 months, minimum
geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	n/a	for use as necessary beneath underdrains only
underdrain gravel	AASHTO M-43	0.375" to 0.75"	
underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
poured in place concrete (if required)	MSHA Mix No. 3; f'c = 3500psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
sand [1' deep]	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

B.3.B Specifications for Bioretention

1. Material Specifications

The allowable materials to be used in bioretention area detailed in Table B.3.2.

2. Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4% (by weight)
magnesium	35lb./ac
phosphorus (phosphate - P2O5)	75 lb./ac
potassium (potash - K2O)	85 lb./ac
soluble salts	not to exceed 500 ppm

All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. A topsoil is imported, then a texture analysis shall be performed for each location where the top soil was excavated.

Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

3. Compaction

It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoers to remove original soil. If bioretention rubber tires with large lugs or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3.

5. Plant Installation

Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention areas during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grading surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be easily spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend soil. Rototill urea fertilizer at a rate of 2 pounds per 100 square feet.

6. Underdrains

Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The ends of underdrain pipes are not terminating in an observation well shall be capped.

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%.

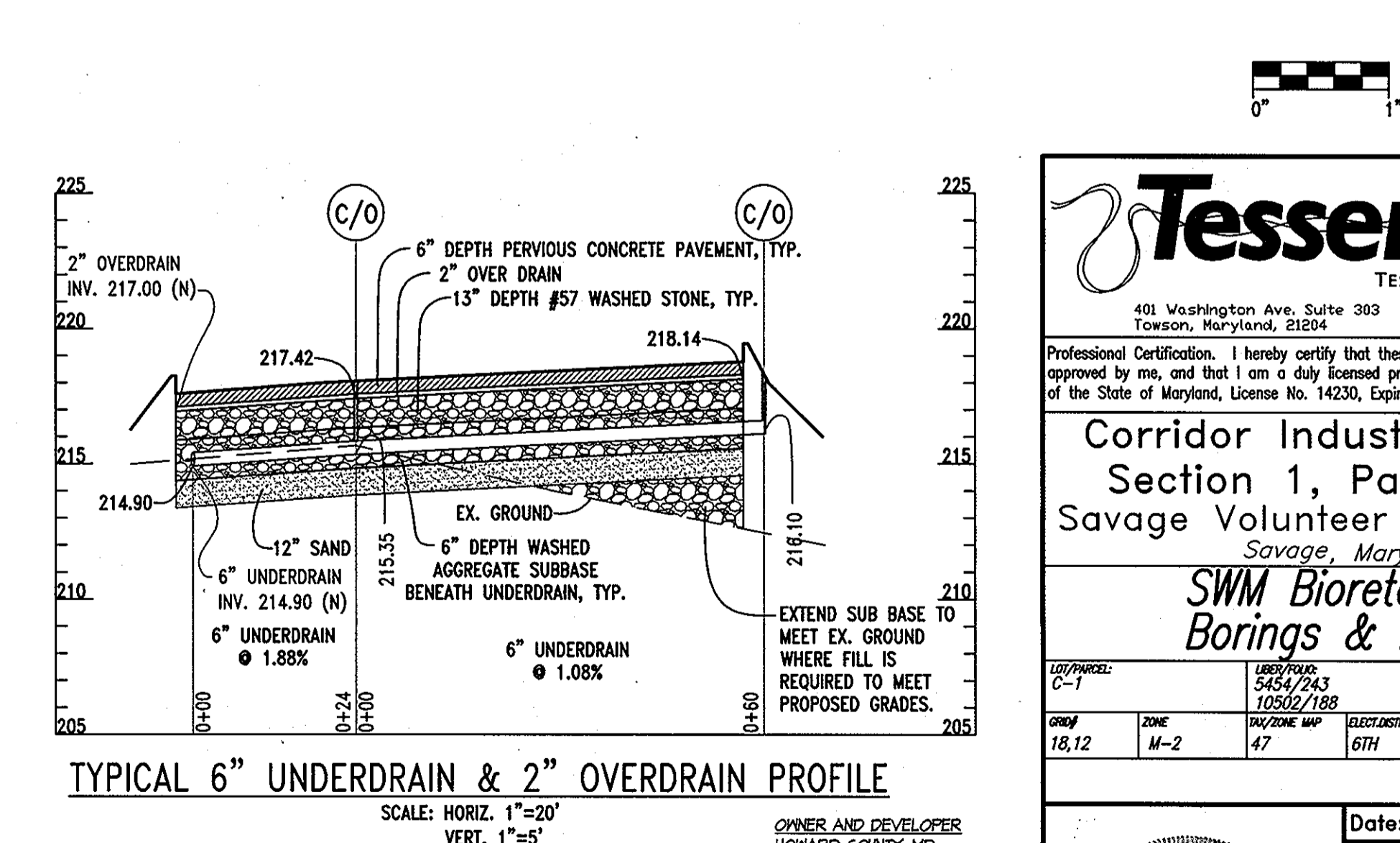
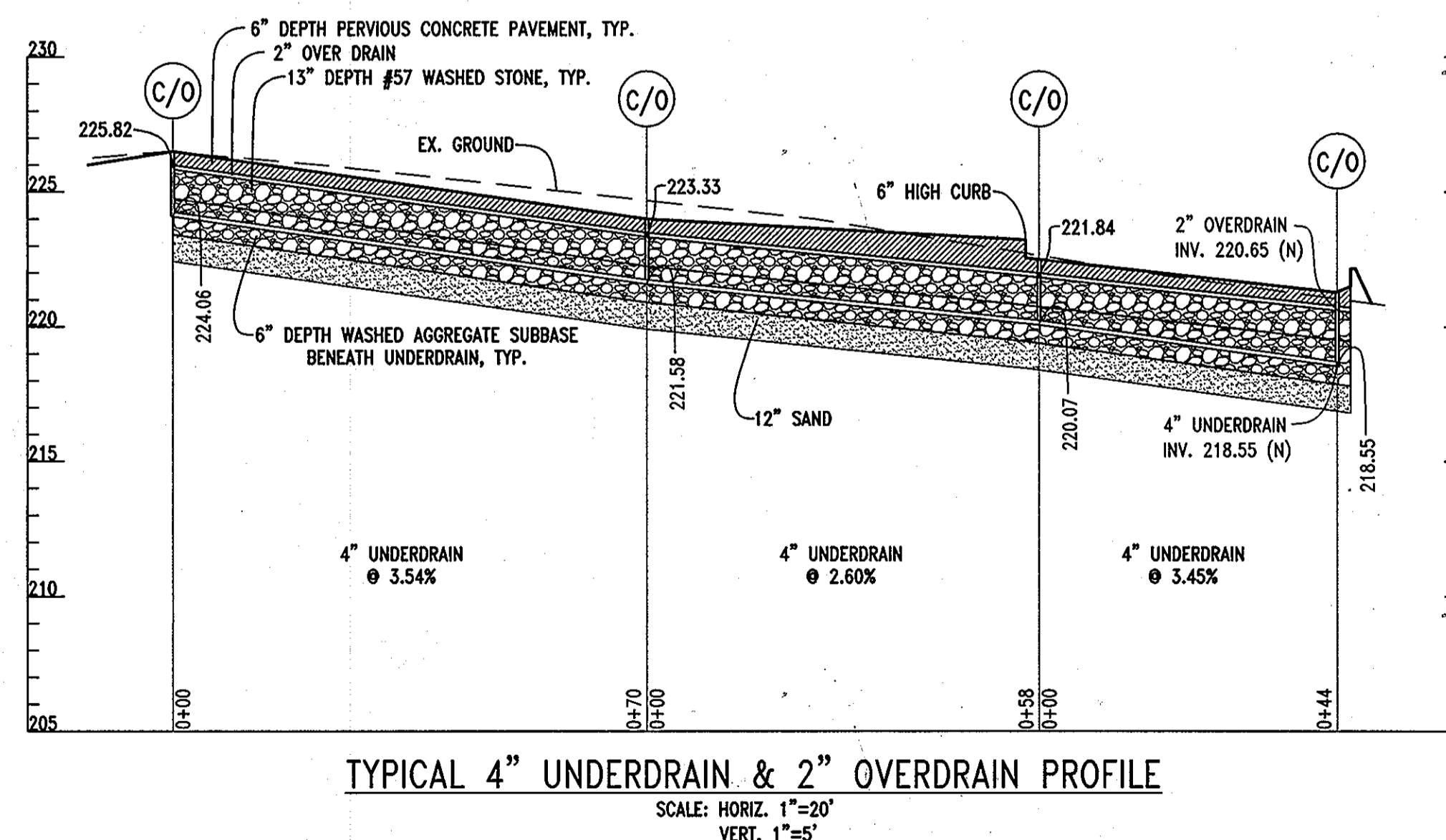
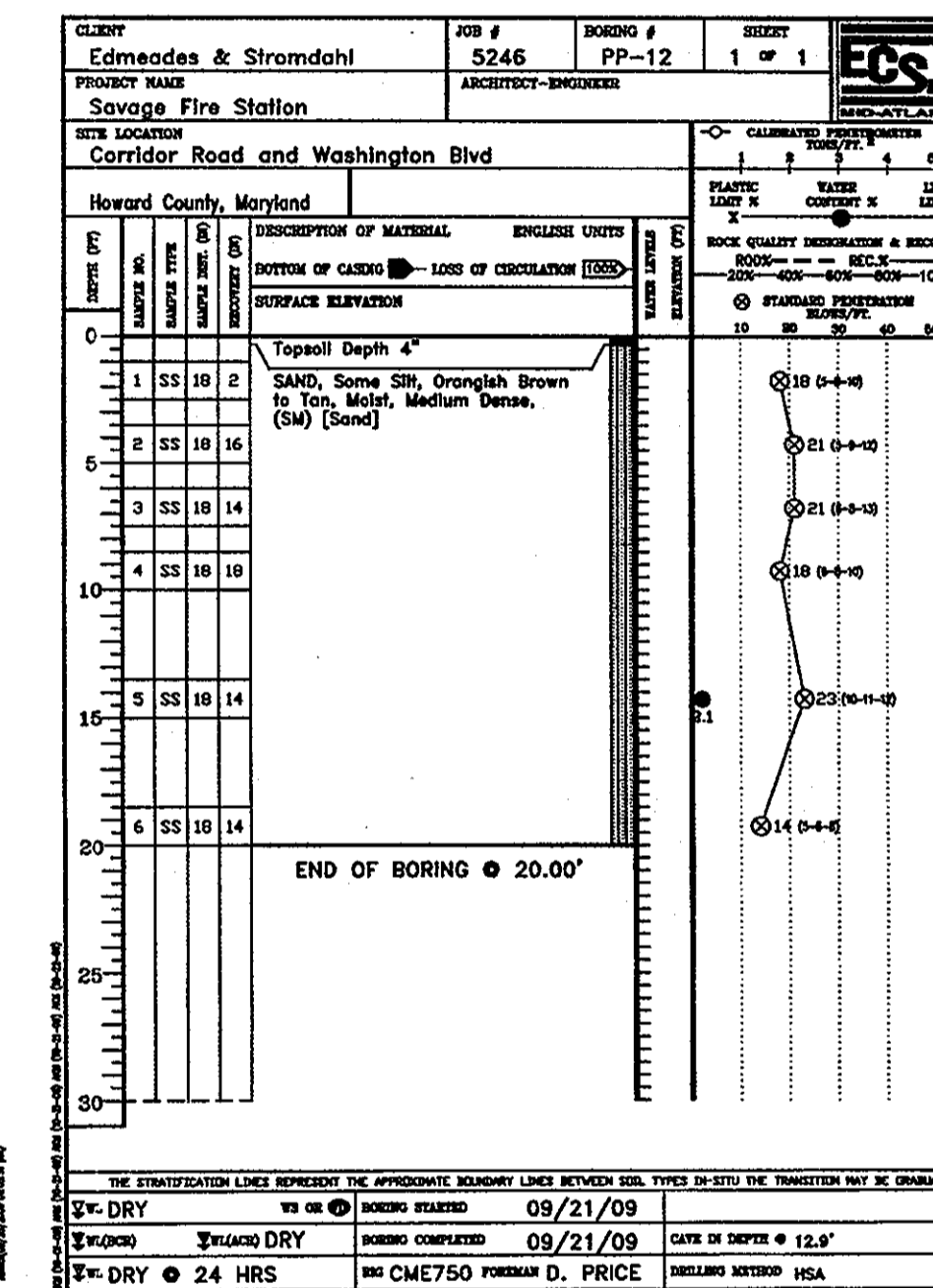
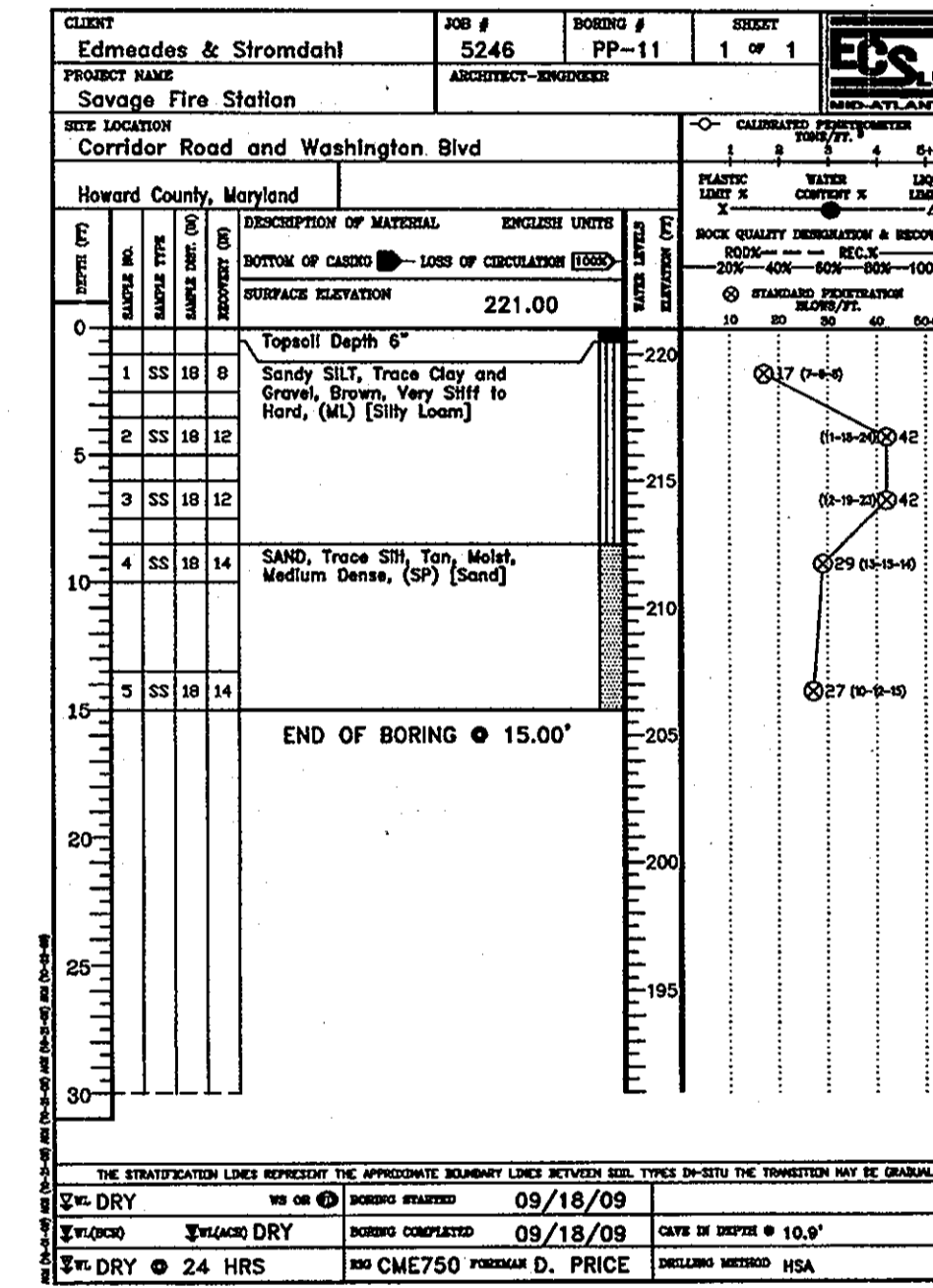
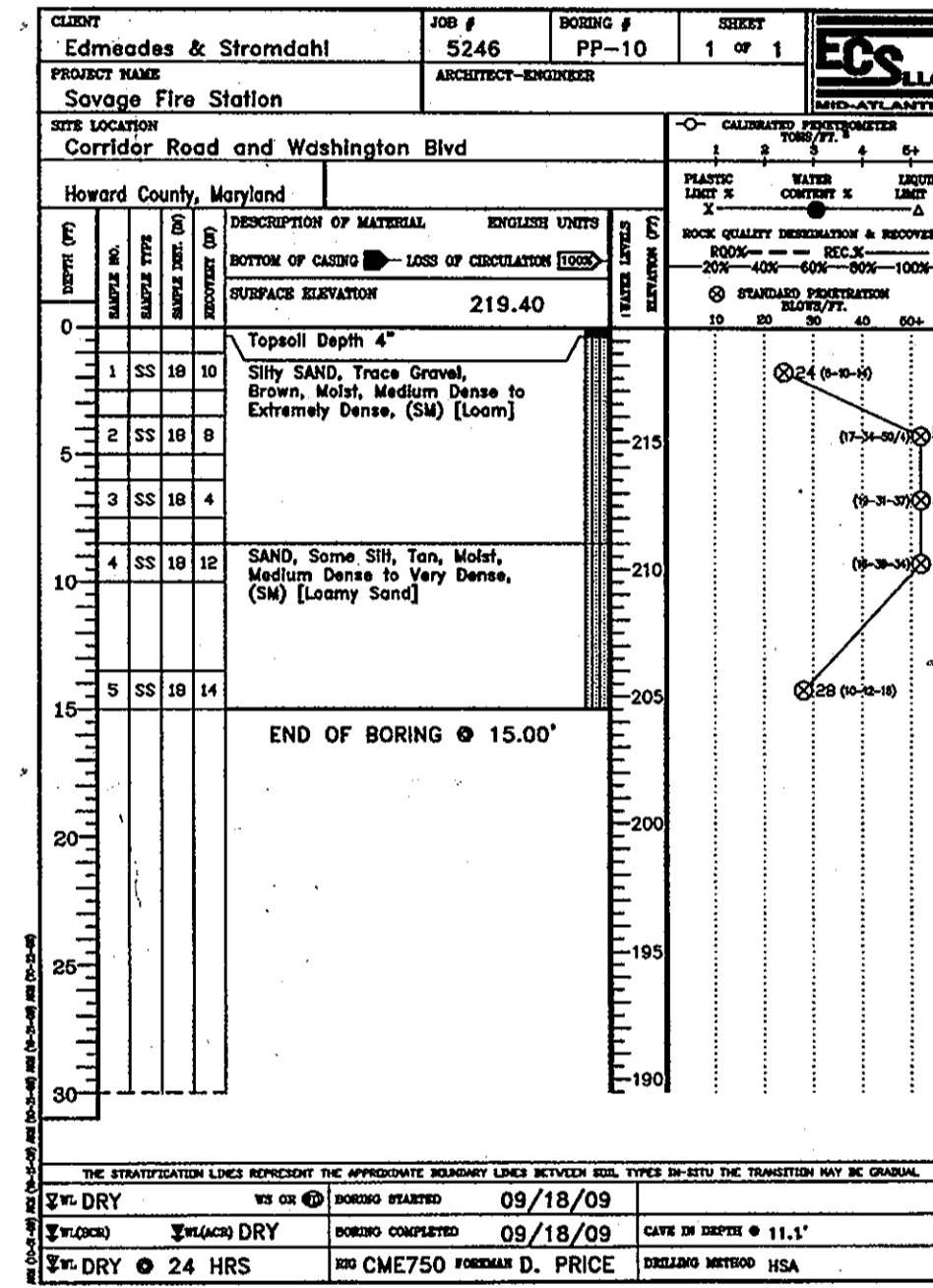
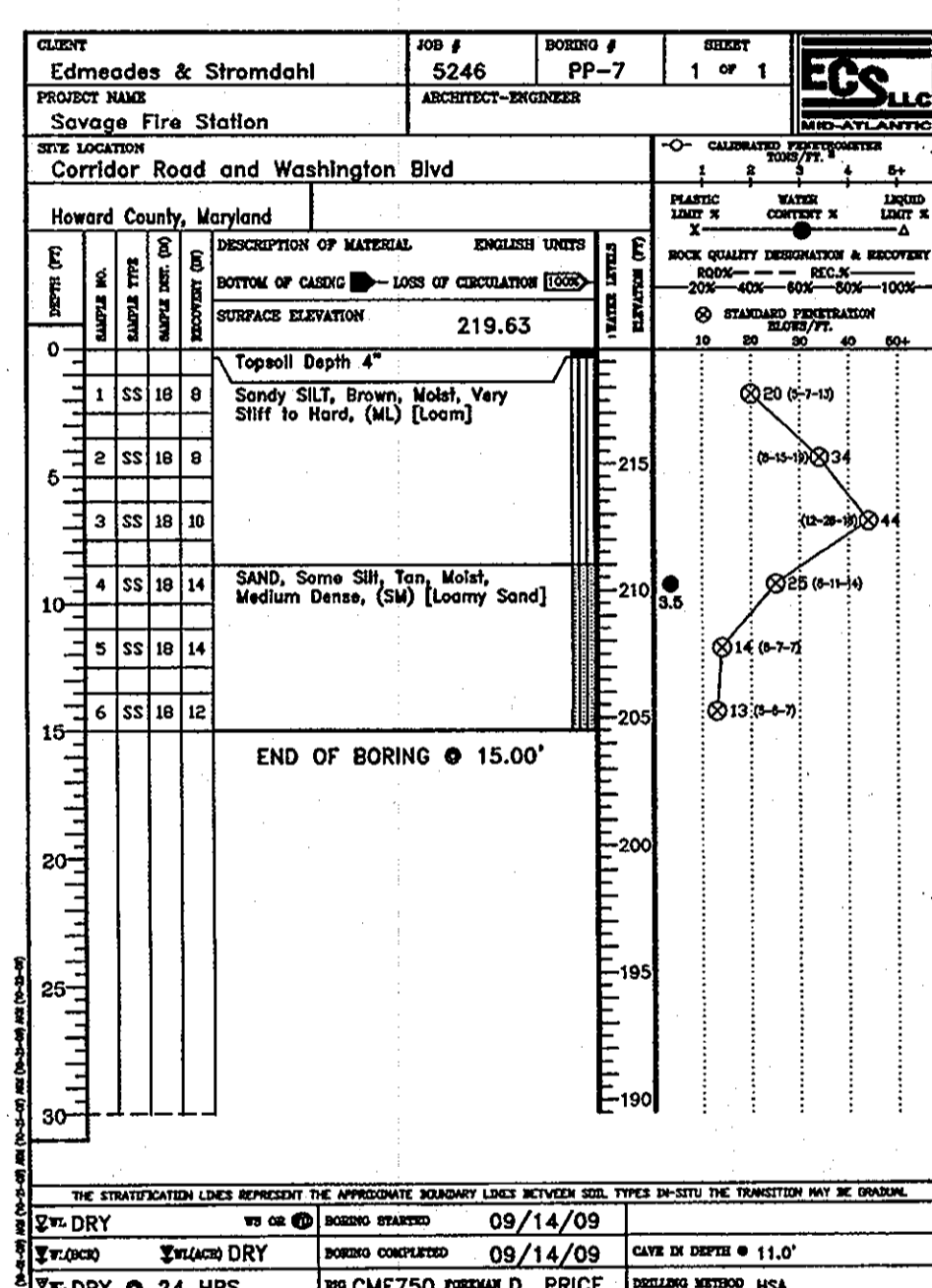
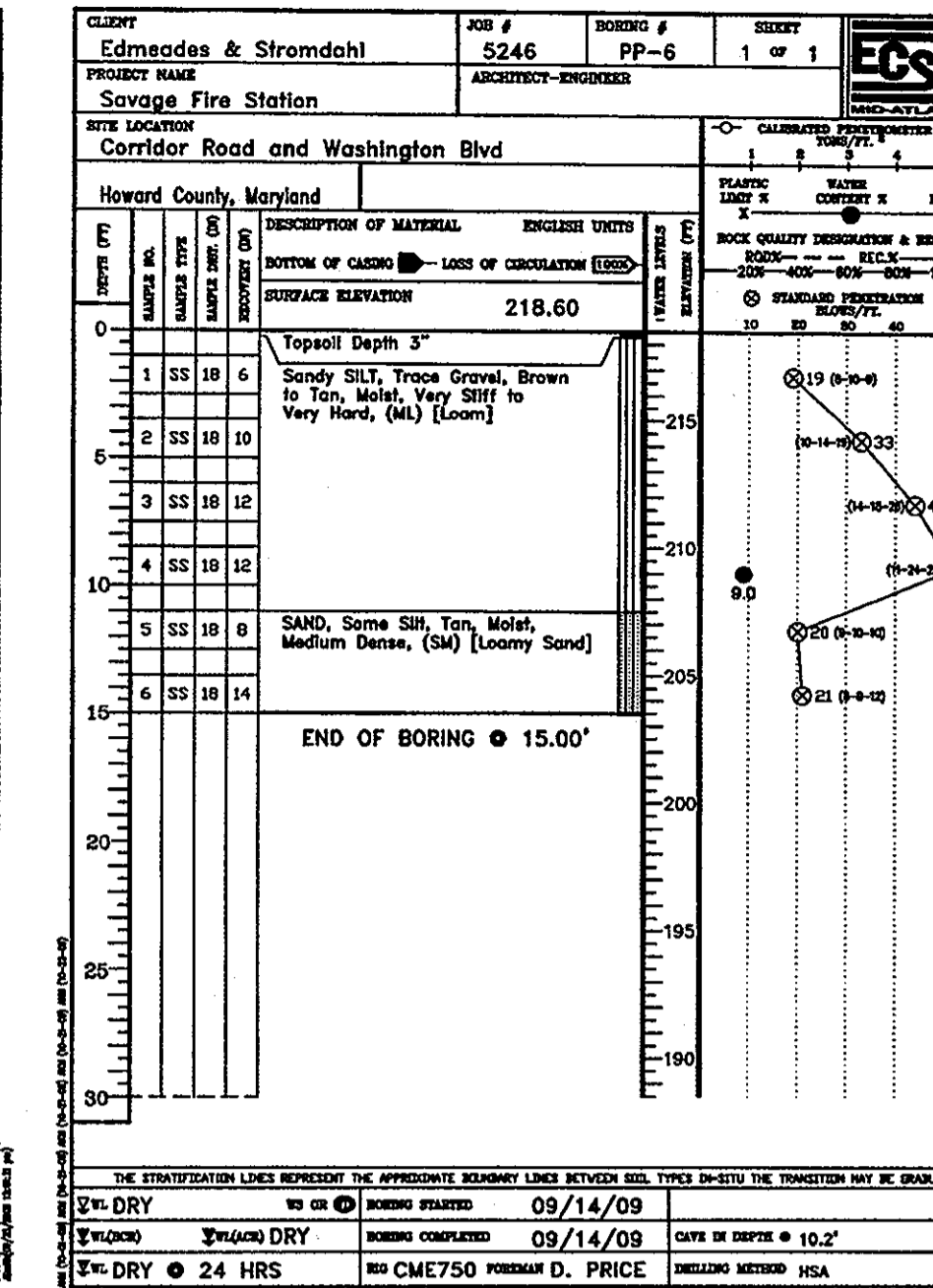
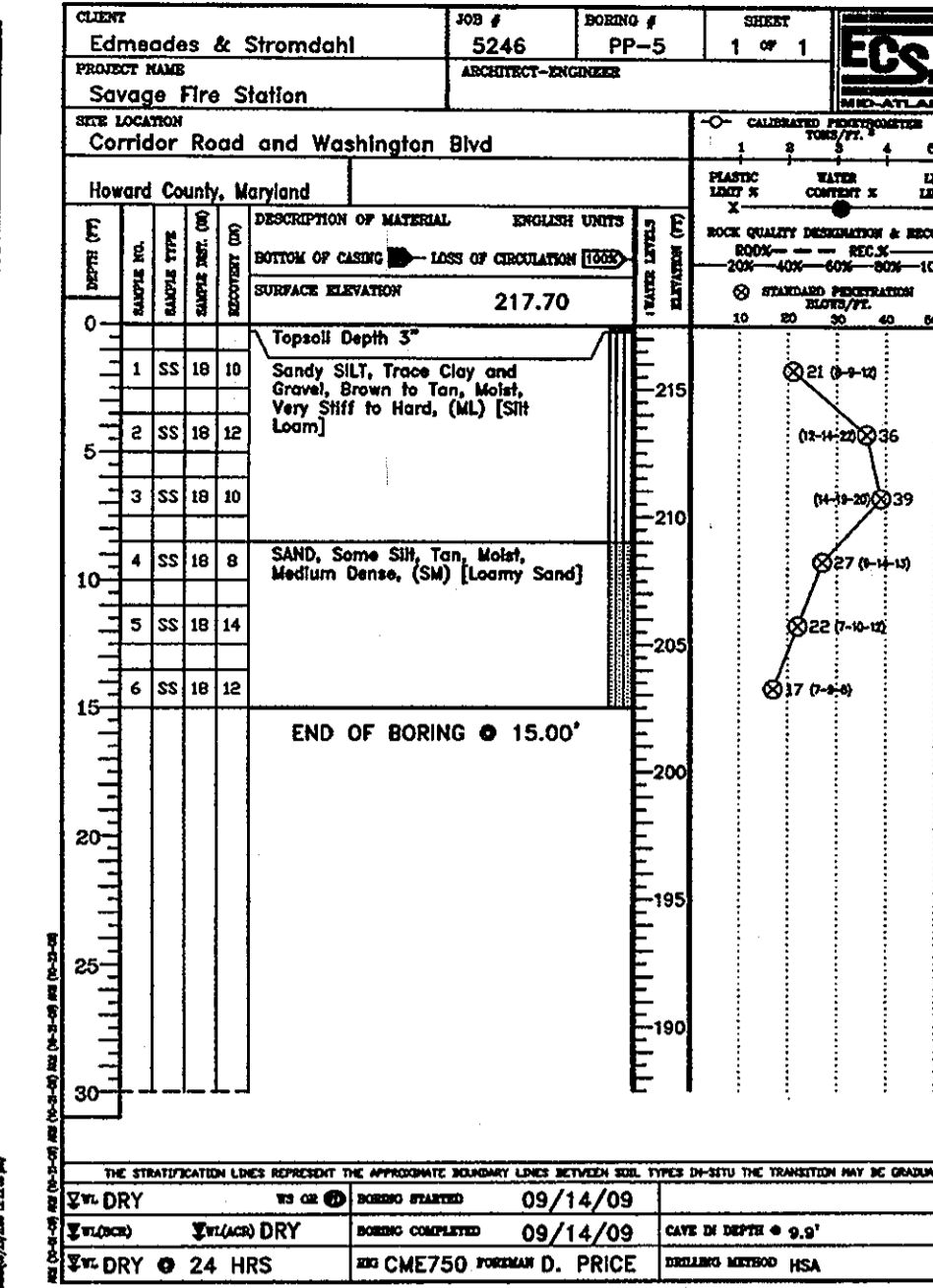
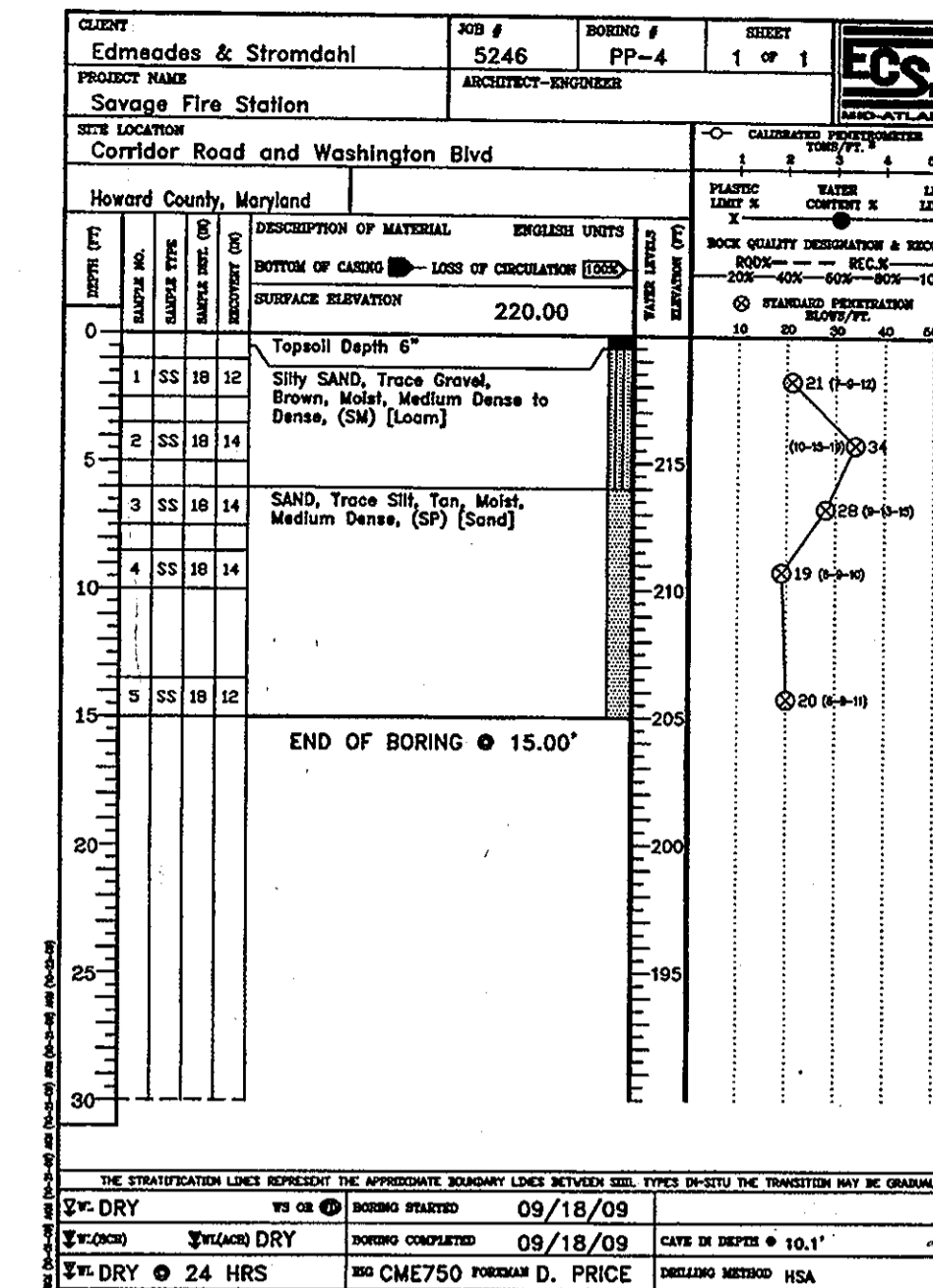
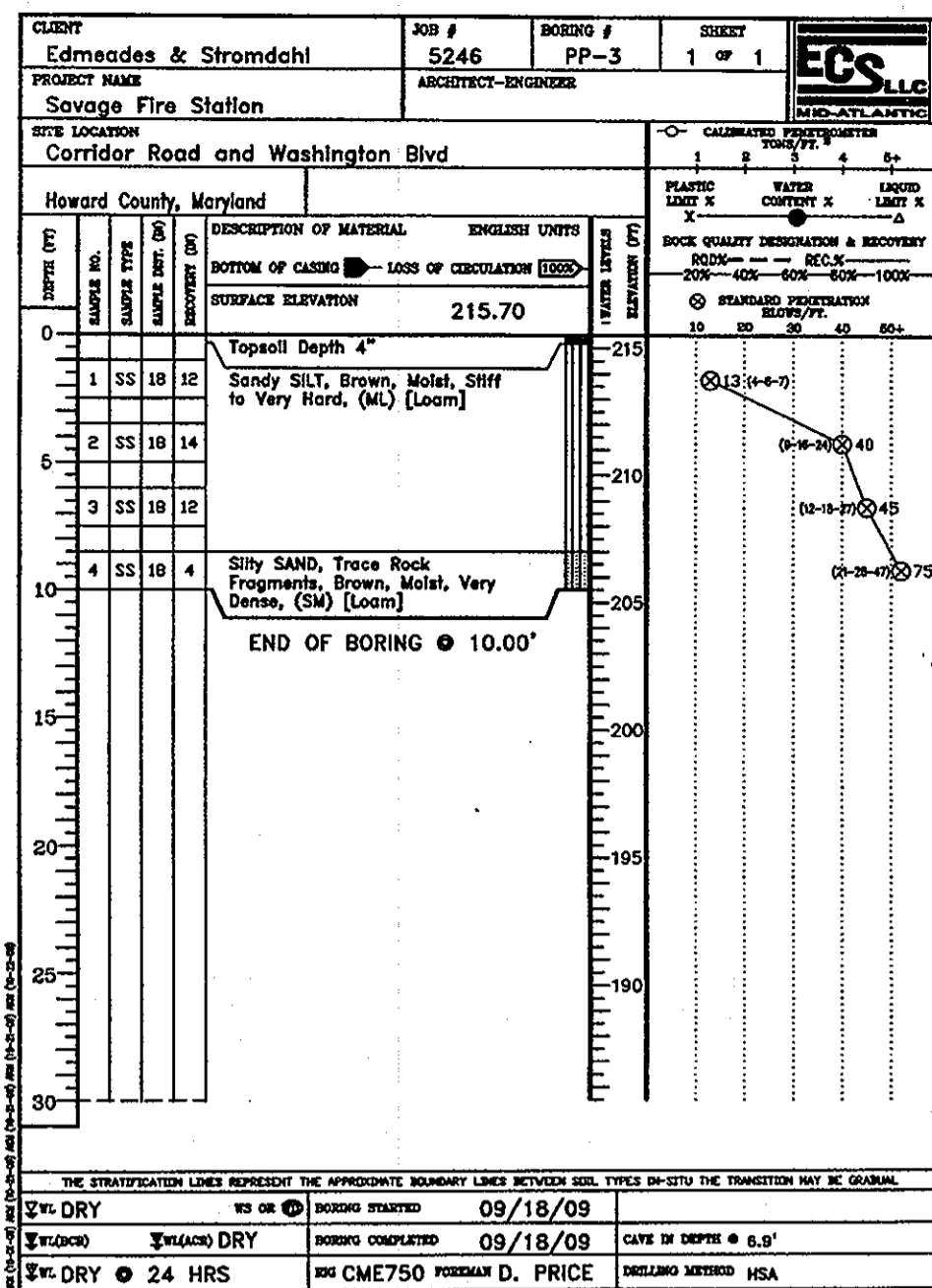
7. Miscellaneous

The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

12/17/10
 Chief, Development Engineering Division
 1/12/11
 Chief, Division of Land Development
 1/28/11
 Director

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 1/7/2011
 County Health Officer
 Howard County Health Department



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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. 14230, Expiration Date: 12/08/10.

Corridor Industrial Park, Section 1, Parcel C-1
Savage Volunteer Fire Station
 Savage, Maryland
SWM Bioretention Borings & Notes

PROJECT: C-1
 DATE: 12/17/10
 DRAWING NO: 10502/188
 SHEET: 2138D

OWNER AND DEVELOPER: HOWARD COUNTY, MD
 4250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-318-6194

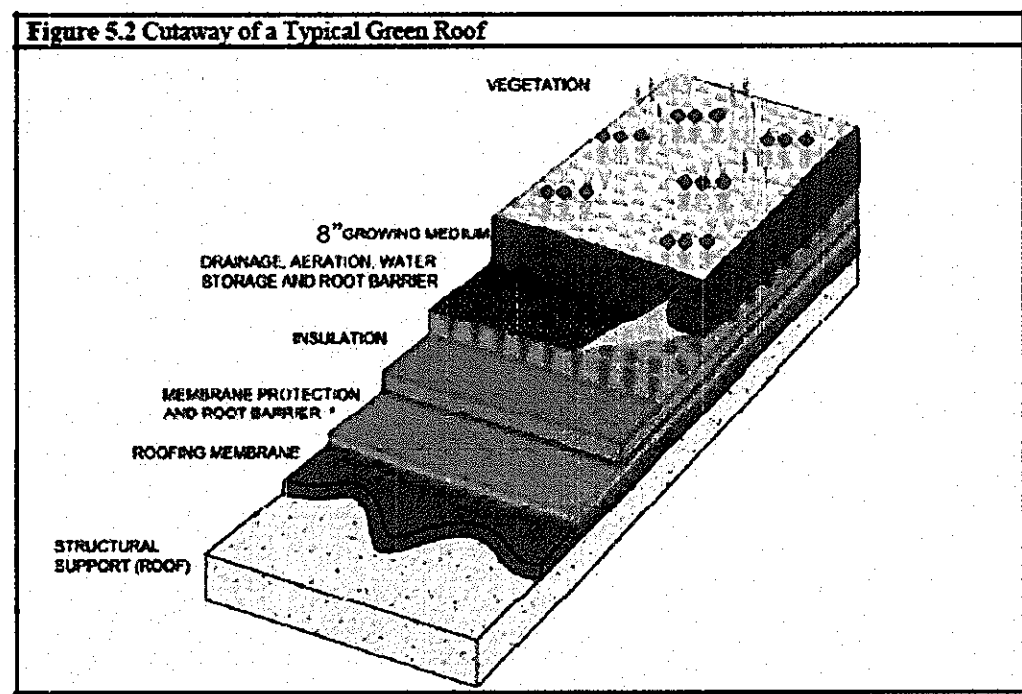
ENGINEER: TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21282
 CONTACT: JEFFREY SCHMIDT
 410-321-1600

Date: 10/22/2010
 Proj. #: 08016
 Scale: n/a

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Treatment: Green roof systems shall meet the following conditions:

- Planting media shall be non-soil engineered mixes conforming to the specifications found in Appendix B.4. Media layers should be between two to six inches thick. Dual media systems may be applied where green roof assemblies are four inches or thicker.
- Individual layers (e.g., root barriers, drainage mats, separation geotextiles) shall conform to the specifications found in Appendix B.4.



Structure:

- The roof structure shall be capable of bearing the maximum predicted dead and live loads associated with green roof systems. Standardized media weights and procedures (e.g., ASTM E-2397-05, E-2399-05) shall be used to establish the dead load bearing capacity of the roof.
- Green roofs with pitches steeper than 2:12 shall include supplemental measures (e.g., slope bars, rigid stabilization panels, reinforcing mesh) to enhance stability and prevent media sliding.

Construction Criteria:

The following items should be addressed during construction of projects with green roofs:

- Waterproofing Installation:** Measures shall be taken to prevent membrane damage during green roof installation. Any flaws, irregularities, or conditions that may cause leaks or roof damage shall be identified and repaired. The waterproofing membrane should be visually inspected and tested for water tightness prior to installation of the planting mix.

- Slope Stabilization Measures:** Where required, slope stabilization measures should be placed prior to green roof installation. In some situations, slope stabilization may be integrated into the roof structure.

- Green Roof Installation:** Green roof systems should be installed according to the manufacturer's instructions. Generally, root-barrier layers, walkways, and irrigation systems should be installed first.

Inspection:

- The following certifications shall be required during construction:

- Prior to placement of the waterproofing, drainage, and treatment materials, certification that the constructed roof meets the load bearing capacity specified on the approved plans.
- After its installation and prior to placement of the planting media and stock, certification regarding the water tightness of the waterproofing membrane.

- Regular inspections shall be made during the following stages of construction:

- During placement of the waterproofing membrane.
- During placement of the drainage system.
- During placement of the planting media.
- Upon installation of the plant material.
- Before issuing use and occupancy approvals (new construction only).
- During the second growing season to ensure adequate vegetation survival.

Maintenance Criteria Schedule Green Roof

The green roof system shall be operated and maintained in accordance with the recommendations of the green roof system distributor, and the information provided herein.

Weeding - At a minimum, remove unwanted plant material on an annual basis.
Replacement of Plant Material - Replace failed plant material when the affected area exceeds five percent (5%) of the planted roof area.

Irrigation - At a minimum, newly installed plant material shall be irrigated for the first growing season. Saturate the green roof at least once a week. After vegetation is established and following the first growing season, irrigation should be provided periodically during dry periods.

Fertilization - Slow release fertilizer shall be applied in the spring on an annual basis.
Drainage Inspections - Inspect downspouts and drainage channels and courses for clogs and other problems after each significant rainfall.

Inspection for Leaks - Inspect the green roof area for leaks after each significant rainfall.

B.4.A Green Roof Specifications

1. Material Specifications

Because there is significant variation in green roof assemblies and methods, providing comprehensive specifications is not feasible. Material specifications for green roofs will vary based on each roofing system and specific information should be obtained from the appropriate manufacturer or retailer. The following information and specifications, which include acceptable materials for generic applications, is not exclusive or limiting.

2. Planting Media

Planting media should be a soil-like mixture with an organic content of 15% or less. The grain size distribution is necessary for to attain proper moisture content, permeability, nutrient management and non-capillary porosity, and soil structure. Grain size guidelines vary for single and dual media green roof assemblies.

The planting media shall be tested and meet the following criteria:

- Non-Capillary Pore Space at Field Capacity, 0.333 bar (TMECC 03.01, A) $\geq 15\%$ (volume)
- Moisture Content at Field Capacity (TMECC 03.01, A) $\geq 12\%$ (volume)
- Maximum Media Water Retention (FLL) $\geq 30\%$ (volume)
- Alkalinity, CaCO₃ equivalents (MSA) $\leq 2.5\%$
- Total Organic Matter by Wet Combustion (MSA) $\leq 3-15\%$ (dry wt.)
- pH (RCSTP) 6.5 - 8.0
- Soluble Salts (DTPA saturated media extraction - RCSTP) ≤ 6 mmhos/cm
- Cation Exchange Capacity (MSA) ≥ 10 meq/100 g
- Saturated Hydraulic Conductivity (FLL):
 - Single Media Assemblies ≥ 0.05 in/min
 - Dual Media Assemblies ≥ 0.30 in/min
- Mineral Fraction Grain Size Distribution (ASTM D422):

	Single Media	Dual Media
Clay Fraction (2 micron)	0	0
% Passing #200 Sieve	$\leq 5\%$	5 - 15%
% Passing #60 Sieve	$\leq 10\%$	10 - 25%
% Passing #18 Sieve	5 - 50%	20 - 50%
% Passing 1/4 inch Sieve	20 - 70%	55 - 90%
% Passing 3/8 inch Sieve	75 - 100%	90 - 100%

3. Green Roof Layers

Root Barriers - should be thermoplastic membranes with minimum thickness of 30 mils. Membranes certified for use as root barriers are recommended. However, only FLL currently offers a recognized certification test. Many FLL-certified materials are locally available.

Granular Drainage Media - should be a non-carbonate mineral aggregate meeting the following specifications:

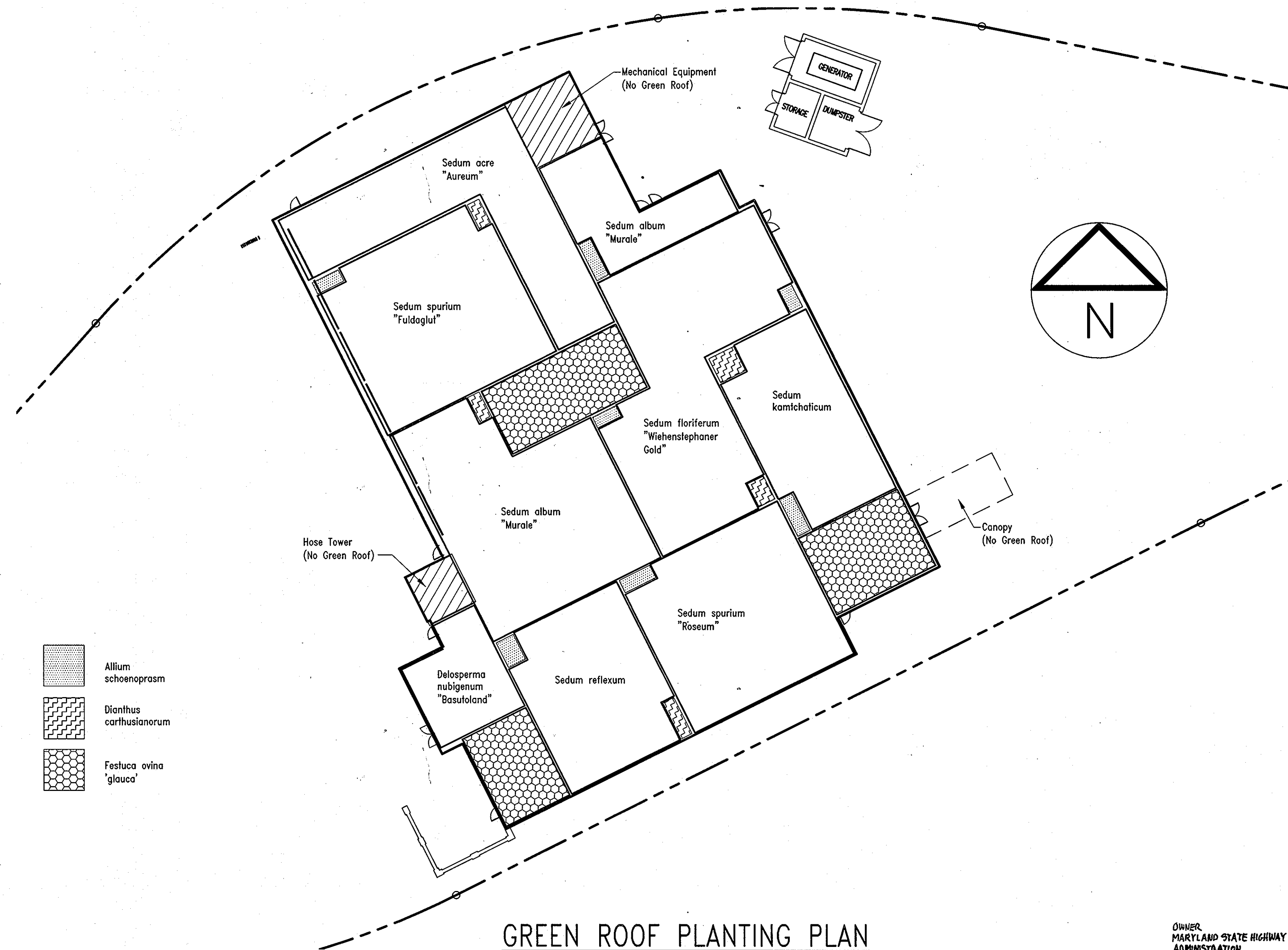
- Saturated Hydraulic Conductivity ≥ 25 inches/minute
- Total Organic Matter (by wet combustion) $\leq 1\%$
- Abrasion Resistance (ASTM C131-96) $\leq 25\%$ loss
- Soundness (ASTM C88 or T103 or T103-91) $\leq 5\%$ loss
- Porosity (ASTM C29) $\geq 25\%$
- Alkalinity, CaCO₃ equivalents (MSA) $\leq 1\%$
- Grain Size Distribution (ASTM C136)
 - Percent Passing #18 Sieve $\leq 1\%$
 - Percent Passing #18 Sieve $\leq 30\%$
 - Percent Passing 3/8 inch Sieve $\leq 80\%$

Separation Fabric - should be a lightweight, non-woven geotextile that is easily penetrated by roots while providing a durable separation between drainage and growth media layers. Separation fabrics should meet the following:

- Unit Weight (ASTM D3776) ≤ 4.25 ounces per square yard
- Grab Tensile Strength (ASTM D4632) ≤ 90 lbs.
- Mullen Burst Strength (ASTM D4632) ≥ 155 lbs/ft²
- Permittivity (ASTM D4491) ≥ 2 sec-1

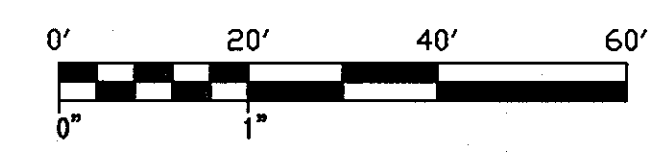
QUAN	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	COND.
280		Allium schoenoprasum	Chives	quart	12" oc.
1470		Delosperma nubigenum 'Basutoland'	Delosperma	plug
224		Dianthus carthusianorum	Garden Pink	pint	12" oc.
2055		Festuca ovina 'Glaucia'	Dwarf Blue Fescue	pint	12" oc.
4630		Sedum acre 'Aureum'	-	plug
7060		Sedum album 'Murale'	-	plug
6110		Sedum floriferum 'Wiehensephaner Gold'	-	plug
3130		Sedum kamtschaticum	-	plug
3450		Sedum reflexum	-	plug
5050		Sedum spurium 'Fudaglut'	-	plug
4720		Sedum spurium 'Roseum'	-	plug

Plugs shall be a minimum 2 inches deep x 1 1/2 inches square. Planting configuration and quantities may be adjusted to accommodate pre-planted tray modules, as necessary. Sedum may be blended rather than planted as individual plant areas.



	Allium schoenoprasum
	Dianthus carthusianorum
	Festuca ovina 'Glaucia'

GREEN ROOF PLANTING PLAN
 SCALE: 1"=20'
 0.47 AC GREEN ROOF, 8 INCHES THICK



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

B. Wilson for Peter B. Silenow 1/7/2011
 County Health Officer
 Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

John DeMunn 12/17/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Scott Sheppard 1/12/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas E. Butler 1/12/11
 DIRECTOR

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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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland
Green Roof
 Details and Specifications

PROJECT: C-1	ISSUE NO: 0543/243 10/22/188	DATE: 21380
DATE: 18,12	ZONE: M-2	MAP: 47
ELECTRICTY: 67H	GENUS TRACT: 606902	

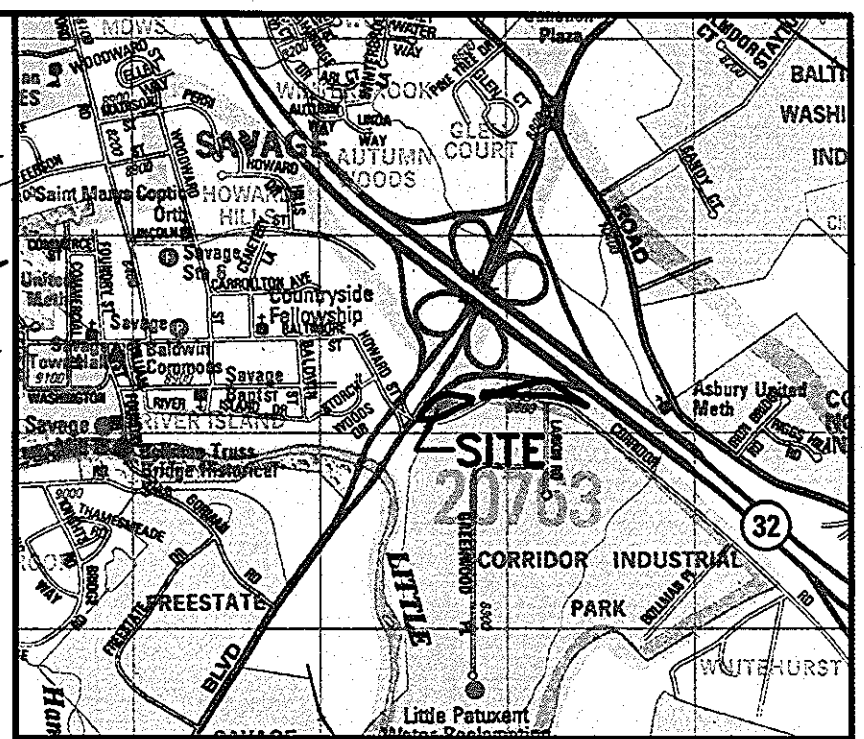
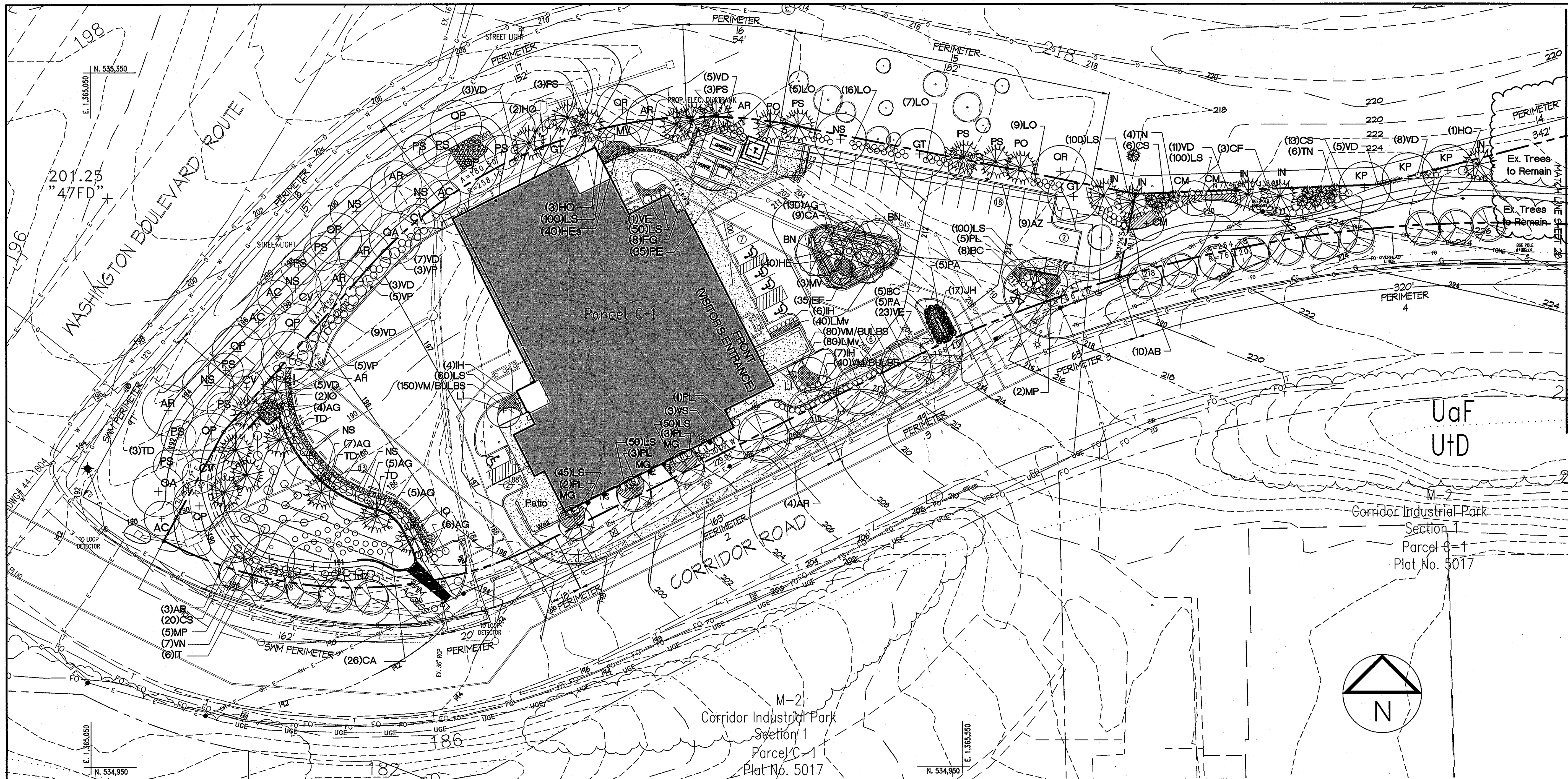
OWNER AND DEVELOPER
 MARYLAND STATE HIGHWAY ADMINISTRATION
 707 NORTH CALVERT STREET
 BALTIMORE, MD 21202
 410-543-0800

ENGINEER
 TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21202
 CONTACT: JEFFREY SCHNAB
 410-321-7600

Date: 10/22/2010
 Proj. #: 08016
 Scale: n/g

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SDP 10-084



Vicinity Map - Scale: 1" = 2000'
Map 5053 Grid K-9 and Map 5054 Grid A-9

LEGEND

- Prop. Street Tree
- Prop. Internal Parking Lot Tree
- Prop. Shade Tree
- Prop. Flowering Tree
- Prop. Evergreen
- Prop. Hedge/shrubs
- Ex. Treeline
- Ex. Specimen Tree
- Ex. Shade Tree (non-specimen)

0' 30' 60' 90'

Locations of existing specimen trees shown are approximate.

Requests will be submitted for relief for the following conditions:

- A Perimeter Landscape Edge as little as 0' and generally between 5 and 10' wide, in lieu of the specified 20' wide Landscape Perimeter
- Stormwater Management within the Landscape Perimeter
- Sidewalks, interior drives, and utility lines running parallel with the Landscape Perimeter and constraining more than 25% of the Landscape Perimeter
- Relocation of Perimeter Landscaping to various areas throughout the site

SCHEDULE A - PERIMETER LANDSCAPING

Perimeter	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	11*	12*	13*	14*	15*	16*	17*	18*	TOTAL
Linear ft Edge (ft/w)	38	163	164	320	388	18	31	190	14	220	122	213	158	342	182	54	152	157	
Credit (Ex Veg) Linear Feet	N	N	N	N	N	N	N	Y	Y	N	Y	N	Y	N	N	N	N	N	
Credit (wall, fence, berm) - Linear ft	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	
Plants Required																			
Shade	1	3	4	5	10	0	1	0	0	0	3	0	4	6	5	1	3	4	59
Ornamental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Evergreen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
Shrubs	7	-	41	-	37	5	-	-	-	-	31	0	40	-	46	-	-	39	246
Plants Provided																			
Shade	-	-	-	1	1	1	1	-	-	2	-	2	5	4	1	3	1	1	22
Ornamental	-	-	-	3	10	-	-	-	-	-	-	-	-	-	-	-	-	-	16
Evergreen	-	-	-	7	10	-	1	-	-	5	-	4	15	4	3	4	1	1	37
Shrubs	4	18	35	7	97	5	3	-	-	14	-	40	3	37	5	41	1	1	314

FOOTNOTES:

Perimeter 1 Substitution of 12 LF wall for 3 shrubs; Alternative Compliance for 1 shade tree requested due to reduced building, parking, and sidewalk setbacks and utility conflicts, and need for adequate sight triangles, and for 3 shrubs

Perimeter 2 10:1 substitution of 10 shrubs for one shade tree; Alternative Compliance requested for 2 shade and 4 evergreen due to reduced building setback and utility conflicts

Perimeter 3 2:1 substitution of 2 ornamental trees for one Shade tree; Alternative Compliance requested for 3 shade trees due to reduced setbacks and utility conflicts, and for 6 shrubs due to signage and sight lines to sign

Perimeter 4 Alternative Compliance for 4 shade trees requested due to limitations from existing utilities and narrow property width

Perimeter 5 2:1 substitution of 10 Ornamental for 5 Shade Trees, 10:1 substitution of 40 shrubs for 4 Shade tree

Perimeter 11 2:1 substitution of 2 Evergreens for 1 Shade, and Alternative Compliance for 2 Evergreens in place of 17 shrubs

Perimeter 13 2:1 substitution of 4 Evergreen for 2 Shade

Perimeter 14 2:1 substitution of 2 ornamental for 1 shade tree

Perimeter 15 Substitution of 2 Evergreens for 1 Shade; Alternative Compliance requested for substitution of 1 Evergreen for 10 shrubs

Perimeter 16 Alternative Compliance requested for 2 evergreens due to reduced dumpster area setback

Perimeter 18 Alternative Compliance requested for 3 shade trees due to reduced parking setback and adjacent off-site plantings

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Name: David Loudermilk Date: 12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

B. Wilson 1/7/2011
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kevin ... 12/10/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kevin ... 1/12/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Thomas ... 1/12/11
DIRECTOR

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING

REQUIRED	PROVIDED
Number of Parking Spaces	128
Number of Trees Required @ 1/20	6
Number of Trees Provided	5
Shade Trees	1 (2 Cm trees)
Other (2:1)	4
Total	5
Add Planting Provided: 1 Ornamental, 9 Shrubs	

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING

REQUIRED	PROVIDED
Linear Feet of Perimeter	400
Number of Trees Required	8
Shade Trees	8
Evergreen Trees	10
Plants Provided	
Shade Trees	6
Evergreen Trees	9
Shrubs (10:1)	87 shrubs
10:1 Substitution of 20 shrubs for 2 Shade Trees, and 10:1 Substitution of 10 shrubs for 1 Evergreen	

TOTAL PLANTING (EXCLUDING STREET TREES)

PROVIDED

33 Shade Trees @ \$300 = \$9,900
45 Evergreen Trees @ \$150 = \$6,750
20 Ornamental Trees @ \$150 = \$3,000
401 Shrubs @ \$30 = \$12,030
Total Bond Amount = \$31,680

STREET TREES

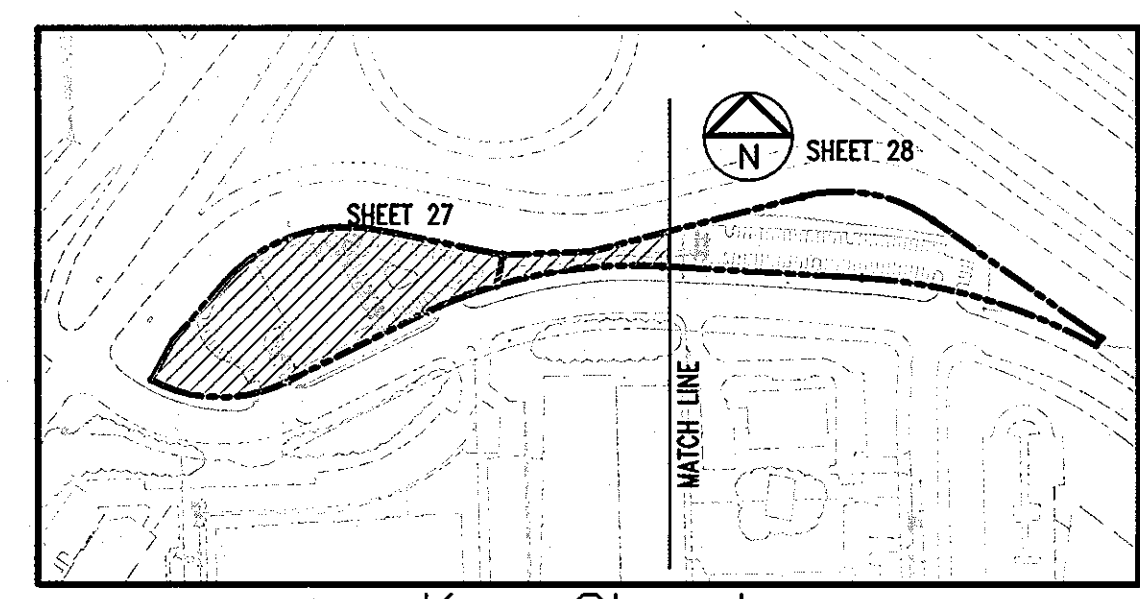
Required: Corridor Road 1474 LF @ 30' for small trees or 40' for lg/med trees
Route 1 Ramp NONE

PROVIDED: Corridor Road 271 LF

Credit for Existing Trees to Remain (Onsite and within RW):
Corridor Road 271 LF

Total Required: 844 LF Large/Med Trees - 180 LF Trees to Remain @ 1/40 = 17 Trees
630 LF Small Trees - 90 LF Trees to Remain @ 1/30 = 18 Trees

Provided: Medium or Large Trees 16
Small Trees 18
Alternative compliance requested for one large tree.



Key Sheet
Scale: 1" = 300'

OWNER AND DEVELOPER
HOWARD COUNTY, MD
4250 BENDIX ROAD
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-318-6194

CLIENT
MARYLAND STATE HIGHWAY ADMINISTRATION
101 NORTH CALVERT STREET
BALTIMORE, MD 21202
410-548-0300

ENGINEER
TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21286
CONTACT: JEFFREY SCHWAB
410-321-7600

Tesseract
TESSERACT SITES, INC.
401 Washington Ave. Suite 303 P. 410.321.7600
Towson, Maryland, 21286 F. 410.321.7601

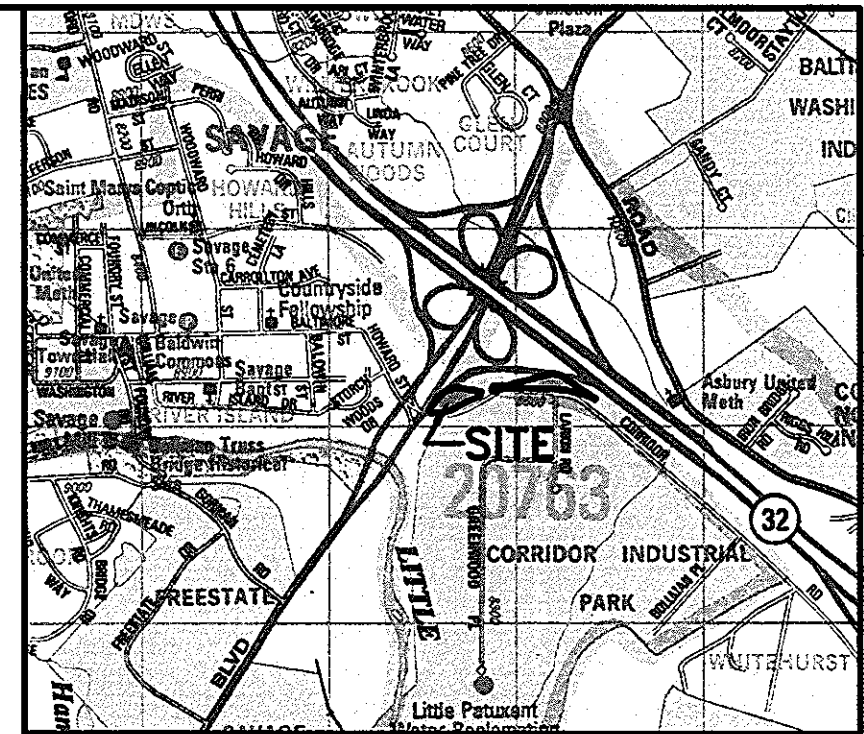
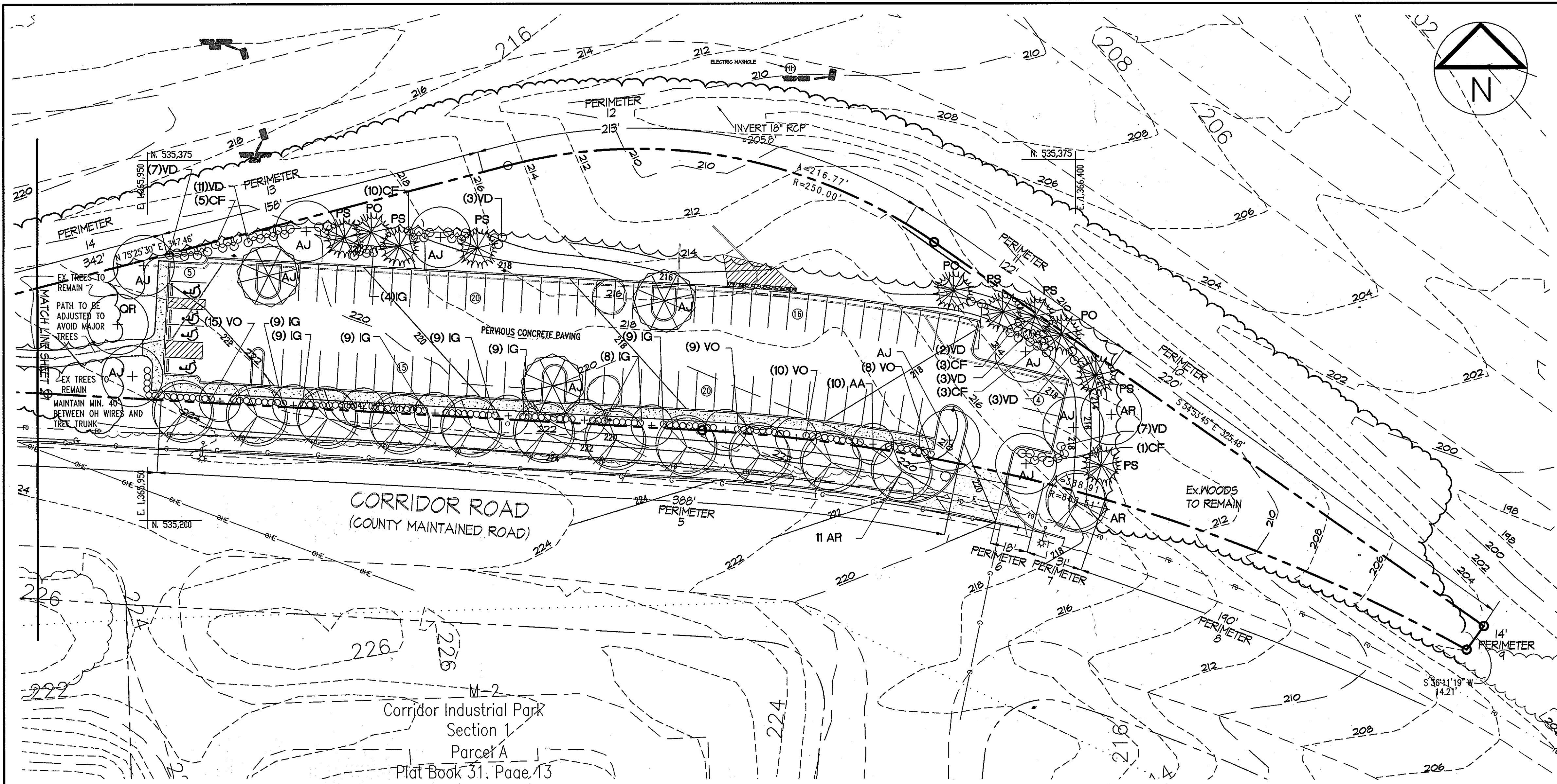
Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Landscape Plan

LOT/Parcel	Zone	Area	Perimeter	Plants
C-1	M-2	5454/243	10502/188	21380
18,12	M-2	74206	674	606902

Date: 10/22/2010
Proj. #: 08016
Scale: 1" = 30'

27 of 33



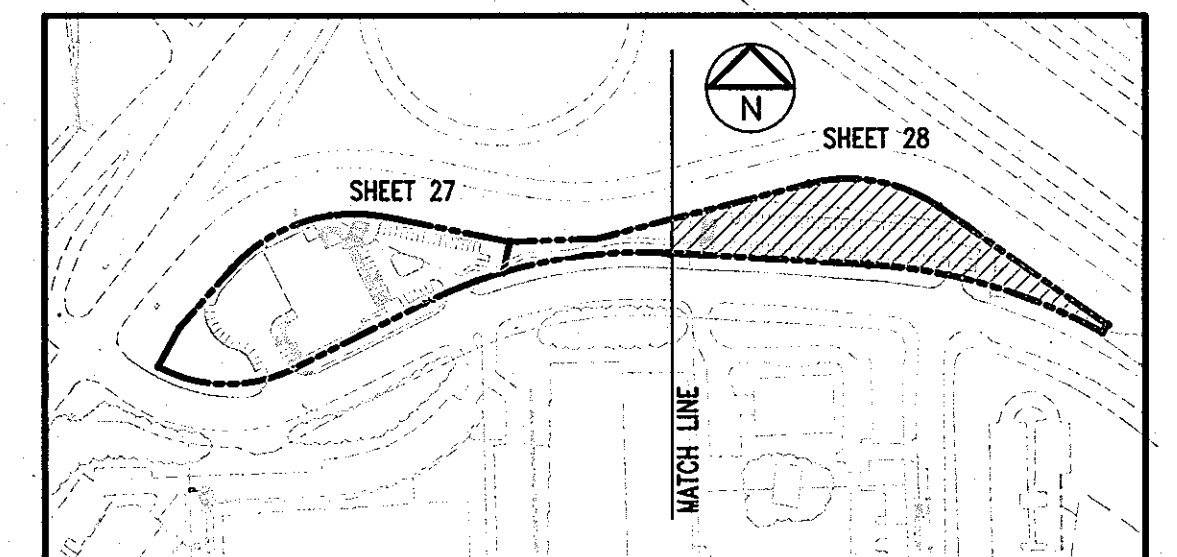
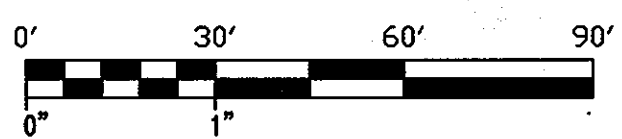
Vicinity Map - Scale: 1" = 2000'
 Map 5053 Grid K-9 and Map 5054 Grid A-9

- LEGEND**
- Prop. Street Tree
 - Prop. Internal Parking Lot Tree
 - Prop. Shade Tree
 - Prop. Flowering Tree
 - Prop. Evergreen
 - Prop. Hedge/shrubs
 - Ex. Treeline
 - Ex. Speciman Tree
 - Ex. Shade Tree (non-speciman)

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
R. Wilson for Peter Biseman 1/7/2011
 County Health Officer
 Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Victor S. Schloboch 1/12/11
 CHIEF, DIVISION OF LAND DEVELOPMENT
Marcus F. Suller 1/12/11
 DIRECTOR

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/we further certify that upon completion a Letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.
David Loudermilk 1/29/10
 Name: David Loudermilk Date:



Key Sheet
 Scale: 1"=300'

OWNER
 MARYLAND STATE HIGHWAY ADMINISTRATION
 707 NORTH CALVERT STREET
 BALTIMORE, MD 21202
 410-545-0300

OWNER AND DEVELOPER
 HOWARD COUNTY, MD
 4250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-319-6194

ENGINEER
 TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21286
 CONTACT: JEFFREY SCHWAB
 410-521-1600

Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave. Suite 303 P. 410.321.7600
 Towson, Maryland, 21284 F. 410.321.7601

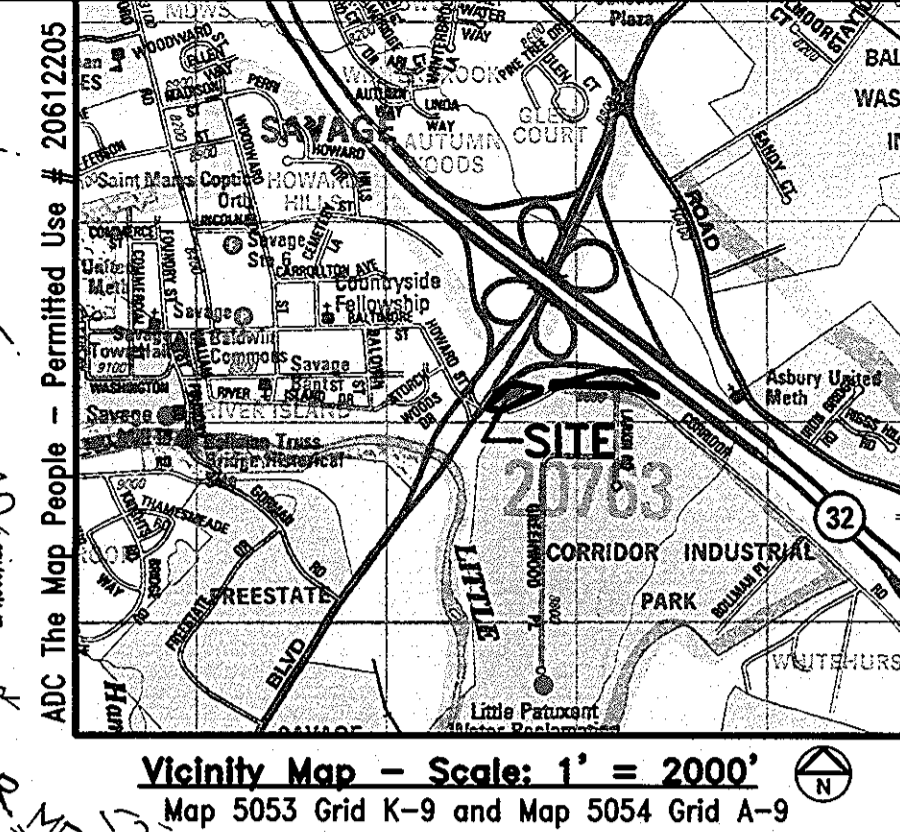
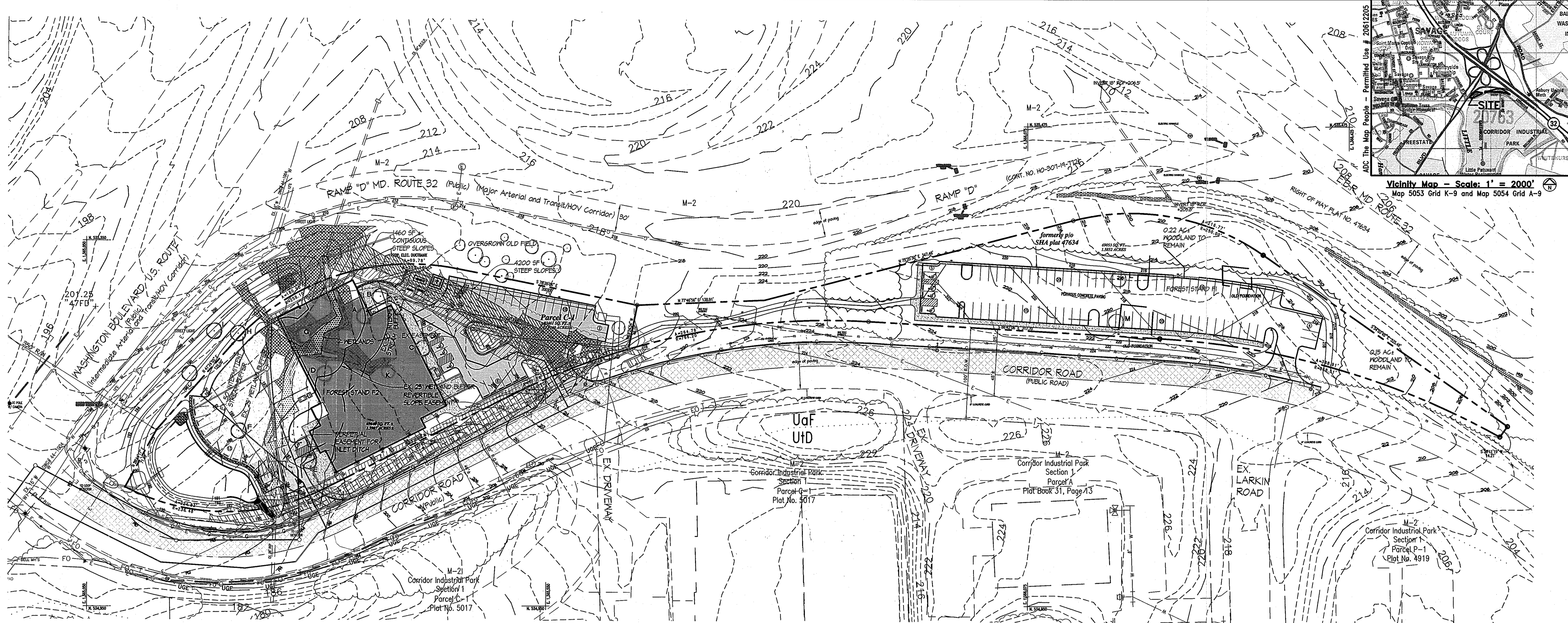
Corridor Industrial Park,
 Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

LAND/PLAT:		LIBER/PLAT:		PLAT:
C-1		5434/243	10502/188	21380
ZONE:	NO ZONE MAP:	ELECTRICITY:	CONTRACT:	
18,12	M-2	47	6TH	605902

Date: 10/22/2010
 Proj. #: 08016
 Scale: 1"=300'

28 of 33

Rev 4-6-10 per BGE



- GENERAL NOTES**
- GROSS TRACT AREA: 3.50 ACRES
 - NET TRACT AREA: 3.50 ACRES
 - THERE IS NO PROPOSED OPEN SPACE FOR THIS DEVELOPMENT.
 - ALL EXISTING VEGETATION WILL BE REMOVED EXCEPT FOR SMALL PATCHES NORTH AND EAST OF THE POROUS PAVING PARKING LOT.
 - FOREST CONSERVATION REQUIREMENTS WILL BE MET THROUGH PAYMENT OF A "FEE IN LIEU."

FOREST CONSERVATION WORKSHEET

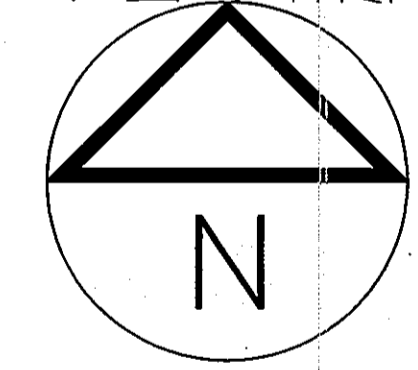
I. BASIC SITE DATA	
Gross Site Area	3.5 Acres
Area within 100 Year Floodplain	0.0
Area within Agricultural Use or Preservation Parcel	0.0
Net Tract Area	3.5 Acres
Land Use Category - Institutional	20%
II. INFORMATION FOR CALCULATIONS	
A. Net Tract Area	3.5
B. Reforestation Threshold (20% x 3.5)	0.7
C. Afforestation Minimum (15% x 3.5)	0.5
D. Existing Forest on Net Tract Area	3.3 Ac
E. Forest to be Cleared	3.3
F. Forest Areas to be Retained	0.0

IV. REFORESTATION CALCULATIONS	
A. Net Tract Area	3.5 Acres
B. Reforestation Threshold	0.7
C. Existing Forest on Net Tract Area	3.3
D. Forest Areas to be Cleared	3.3
E. Forest Areas to be Retained	0.0
F. Forest Areas Cleared ABOVE Reforestation Threshold	2.6
G. Forest Areas Cleared BELOW Reforestation Threshold	0.7
Alternative 2	
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:	
Reforestation for clearing above threshold	2.6 x 1/4 = 0.7
Reforestation for clearing below threshold	0.7 x 2 = 1.4
Total Reforestation Required	2.1
Since clearing occurred below the threshold, no forest retention credit can be applied.	

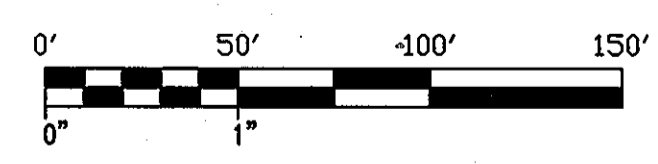
INVASIVE SPECIES REMOVAL

In accordance with the terms of the Waiver Petition 10-126, the Contractor shall remove invasive species from the existing woodland area to remain on the property. Work shall be performed under the supervision of a Maryland licensed Arborist. The contractor shall remove the following invasive species, either by physical removal or chemical elimination, as directed by the arborist. Removal work shall be performed in a manner that does not damage or destroy desirable plant material that is to remain.

- Rosa multiflora
- Lonicera japonica
- Allium vineale



- EXISTING CONDITIONS**
- Building
 - Contour
 - Fence
 - Panel Line
 - Property Line
 - Sewer Line
 - Spot Elevation
 - Stormdrain
 - Water Line
 - Specimen Tree
 - Woods Line
 - Slopes 15-24.2%
 - Slopes 24.2% or more
 - Slopes 24.2% less than 10 vertical ft
 - Ex. Wetland
- EXISTING UTILITIES**
- Sanitary Line
 - Sanitary Manhole
 - Water Line
 - Water Valve
 - Water Meter
 - Fire Dept Connection
 - Fire Hydrant
 - Gas Manhole
 - Underground Gas Line
 - Utility Pole
 - Overhead Electric Line
 - Underground Electric Line
 - Underground Fiber Optic Service



THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PAYMENT OF A FEE-IN-LIEU TO MEET FOREST CONSERVATION REQUIREMENTS.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

B. Wilson for Peter Bisilenski 11/7/2011
County Health Officer
Howard County Health Department

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

David L. ... 12/17/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

... 11/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT

... 11/21/11
DIRECTOR

OPTION I: FEE-IN-LIEU	FOREST CONSERVATION DATA SUMMARY
FILE NUMBER: SDP 10-084	Project/Subdivision Name: Savage Volunteer Fire Station
FEE-IN-LIEU AMOUNT: 2.1 ac x 49560 x \$0.75 = \$60,607	Net Tract Area: 3.50 acres
COMMENT: Fee-in-Lieu for 2.1 acres of Reforestation	

Tesseract
Tesseract Sites, Inc.
401 Washington Ave, Suite 303
Towson, Maryland, 21284
p. 410.321.7600
f. 410.321.7601

Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland

Forest Conservation Plan

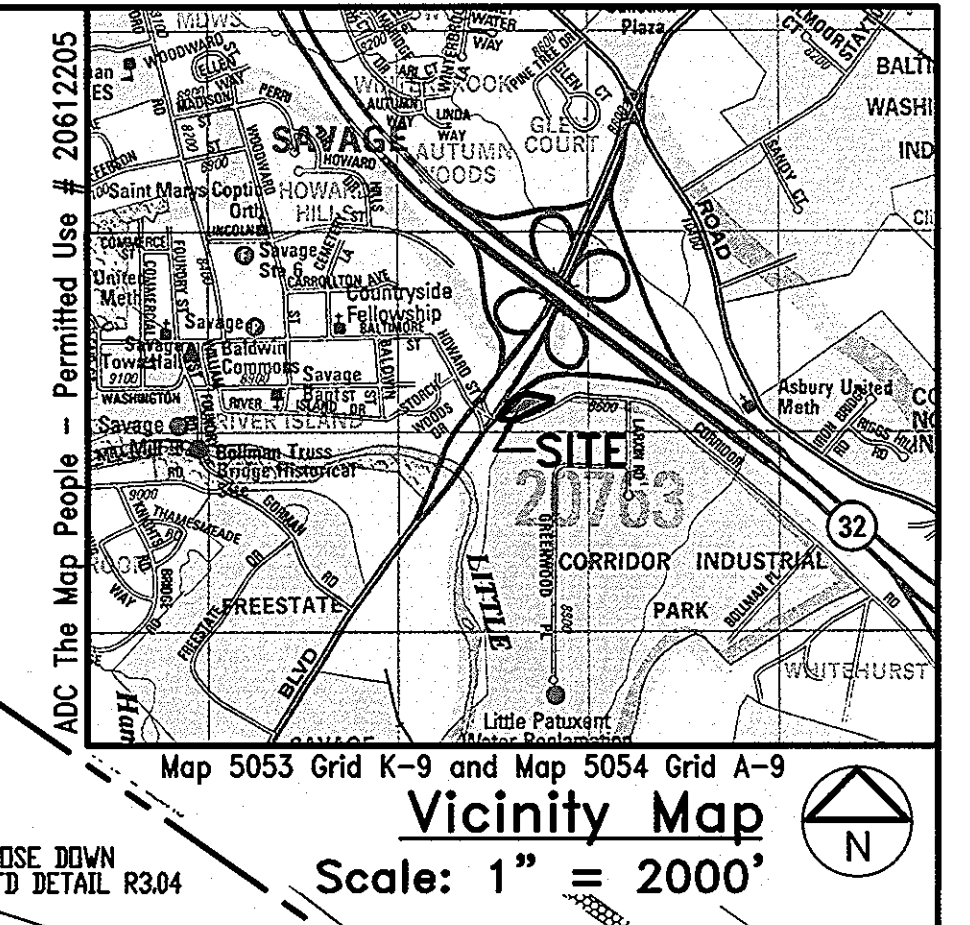
LOT/PARCEL: C-1	LIBRARY/PROJECT: 504/243	PLAT: 21380
DATE: 10/22/2010	PROJECT #: 08016	SCALE: 1"=50'

OWNER: MARLAND STATE HIGHWAY ADMINISTRATION
401 WASHINGTON AVE, SUITE 303
BALTIMORE, MD 21202
410-943-0300

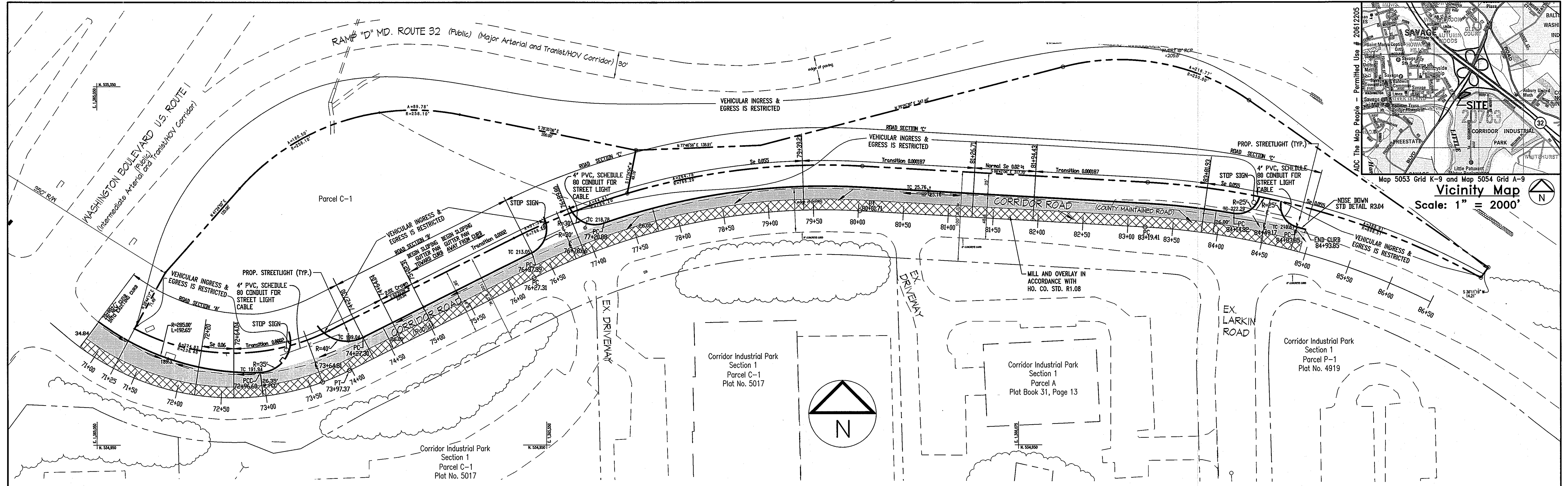
OWNER AND DEVELOPER: TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
COLUMBIA, MD 21045
CONTACT: DAVID LOUDERMILK
410-321-6194

ENGINEER: TESSERACT SITES, INC.
401 WASHINGTON AVE, SUITE 303
TOWSON, MD 21202
CONTACT: JEFFREY SCHNAB
410-321-7600

30 of 33

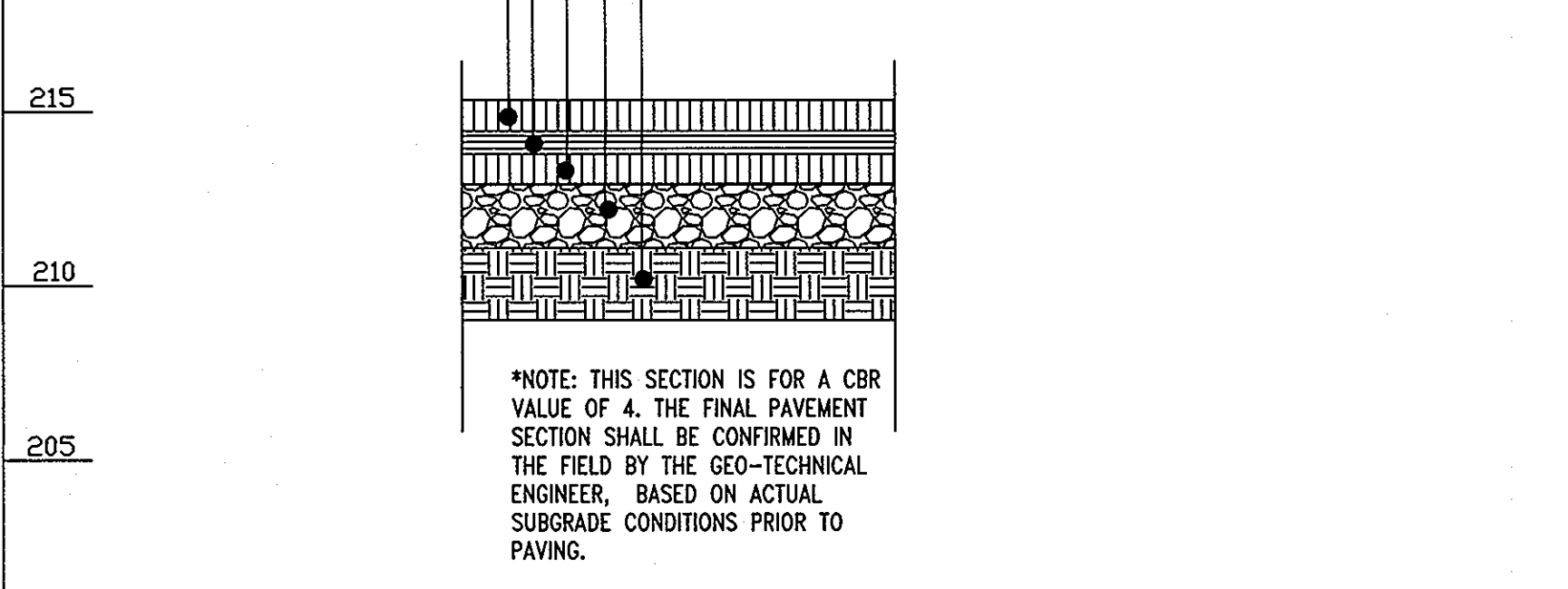


Vicinity Map
Scale: 1" = 2000'



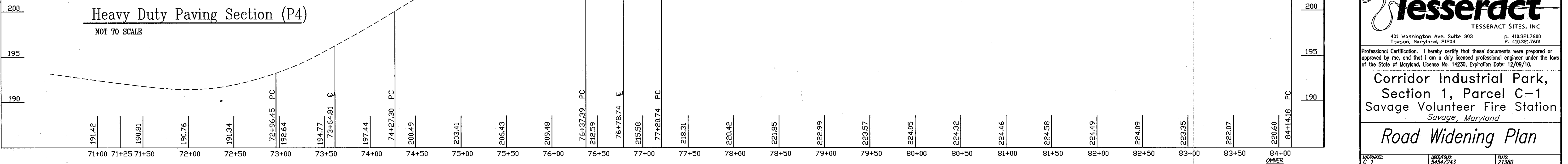
- 2.0" HMA SUPERPAVE FINAL SURFACE, 12.5 mm* - PG 64-22 LEVEL 2
- 2.0" HMA SUPERPAVE INTERMEDIATE SURFACE, 12.5 mm* - PG 64-22 LEVEL 2
- 4.0" HMA SUPERPAVE BASE, 19.0 mm* - PG 64-22 LEVEL 2
- 13" GRADED AGGREGATE BASE (GAB)
- COMPACTED SUBGRADE

- WEDGE & OVERLAY
- HEAVY DUTY PAVING



*NOTE: THIS SECTION IS FOR A CBR VALUE OF 4. THE FINAL PAVEMENT SECTION SHALL BE CONFIRMED IN THE FIELD BY THE GEO-TECHNICAL ENGINEER, BASED ON ACTUAL SUBGRADE CONDITIONS PRIOR TO PAVING.

Heavy Duty Paving Section (P4)
NOT TO SCALE



PROPOSED PUBLIC STREET LIGHTS:
250 WATT HIGH PRESSURE SODIUM
COBRA STYLE FIXTURE WITH CUT OFF
LENS MOUNTED AT 30' ON A BRONZE
FIBER GLASS POLE USING A 12' ARM

STATIONS	OFFSET
74+14	37' LEFT
77+05	35' LEFT
80+78	30' LEFT
84+84	30' LEFT

STREET LIGHTS WILL BE INSTALLED BY HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 12/1/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 11/21/11
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 1/12/11
 DIRECTOR DATE

THE STATIONING, RATES OF SUPERELEVATION, AND TRANSITION STATIONS THAT ARE SHOWN ON THIS PLAN ARE BASED ON ROAD DRAWING F-84-176.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 [Signature] 1/7/2011
 County Health Officer DATE
 Howard County Health Department

OWNER AND DEVELOPER
 MARYLAND STATE HIGHWAY ADMINISTRATION
 107 NORTH CALVERT STREET
 BALTIMORE, MD 21202
 410-545-0300

OWNER
 HOWARD COUNTY, MD
 4250 BENDIX ROAD
 COLUMBIA, MD 21045
 CONTACT: DAVID LOUDERMILK
 410-315-6194

ENGINEER
 TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21286
 CONTACT: JEFFREY SCHWAB
 410-321-7600

Tesseract
 TESSERACT SITES, INC
 401 Washington Ave. Suite 303 P. 410.321.7600
 Towson, Maryland, 21204 F. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

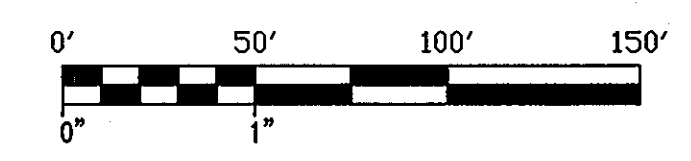
**Corridor Industrial Park, Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland**

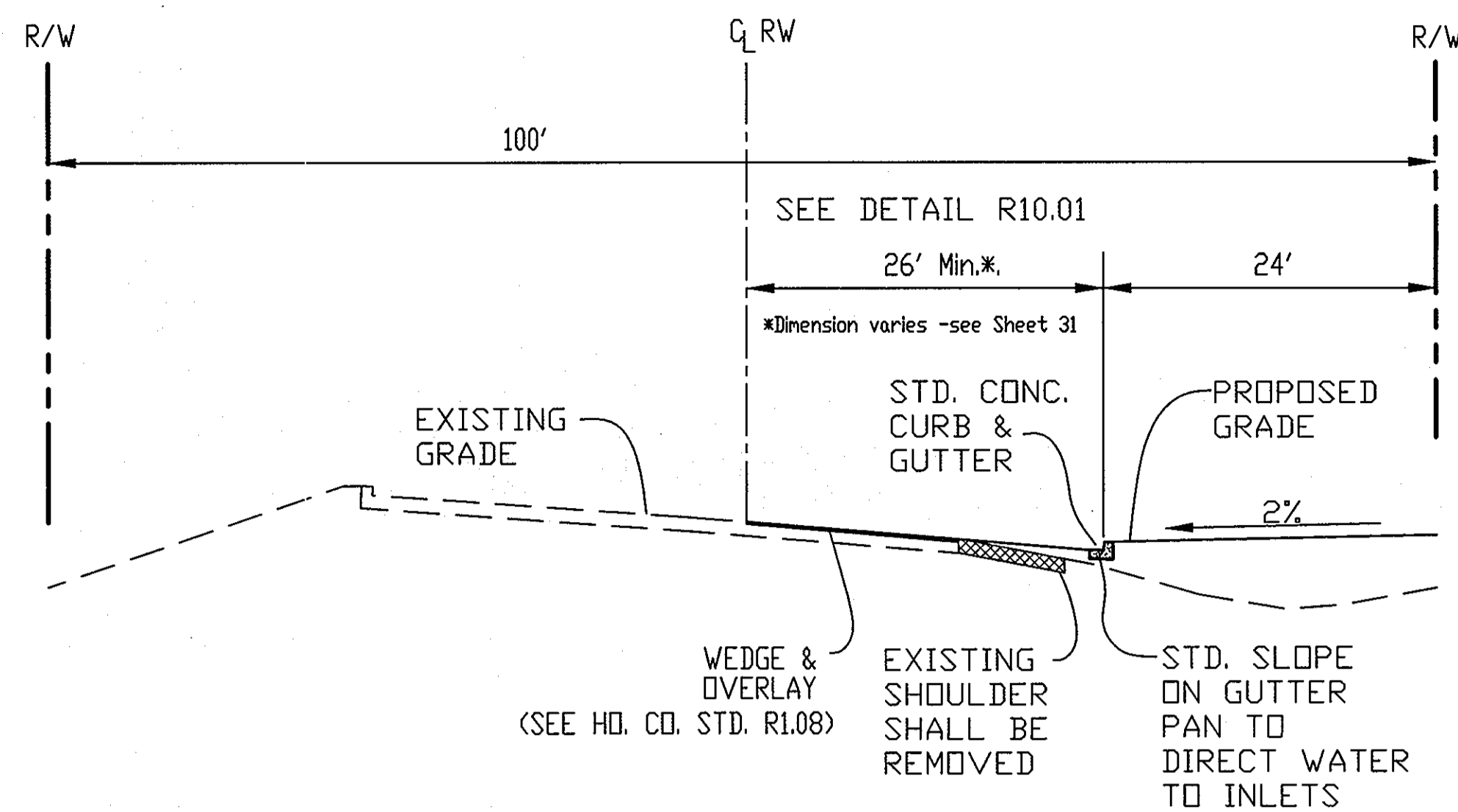
Road Widening Plan

LOI/PROJ: C-1	LEAD/PROP: 5454/243	PLAT: 21380
DATE: 10/12	DATE: 10/02/10	DATE: 06/02
ZONE: M-2	DATE: 07	DATE: 06/02

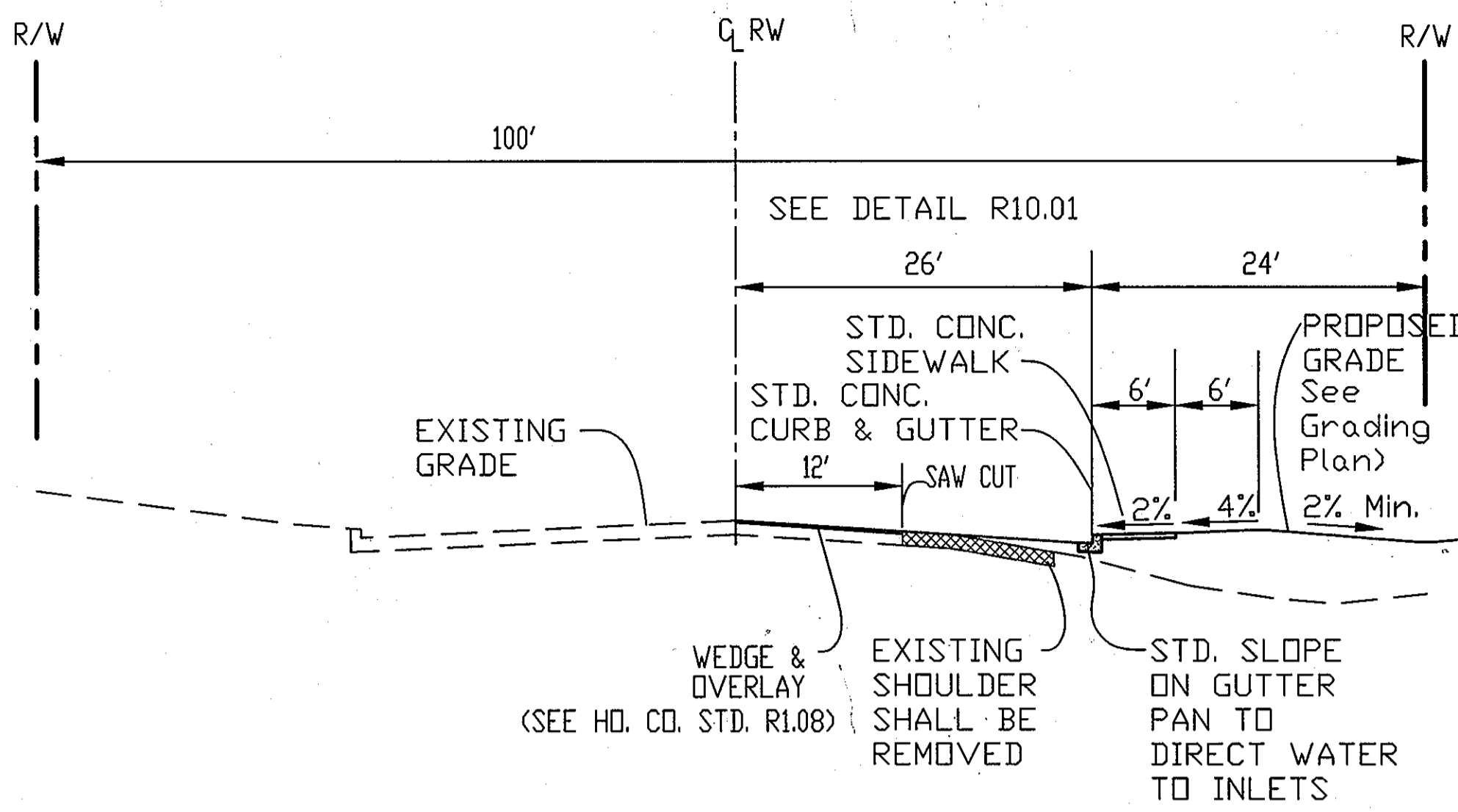
Date: 10/22/2010
 Proj. #: 08016
 Scale: 1"=50'

31 of 33

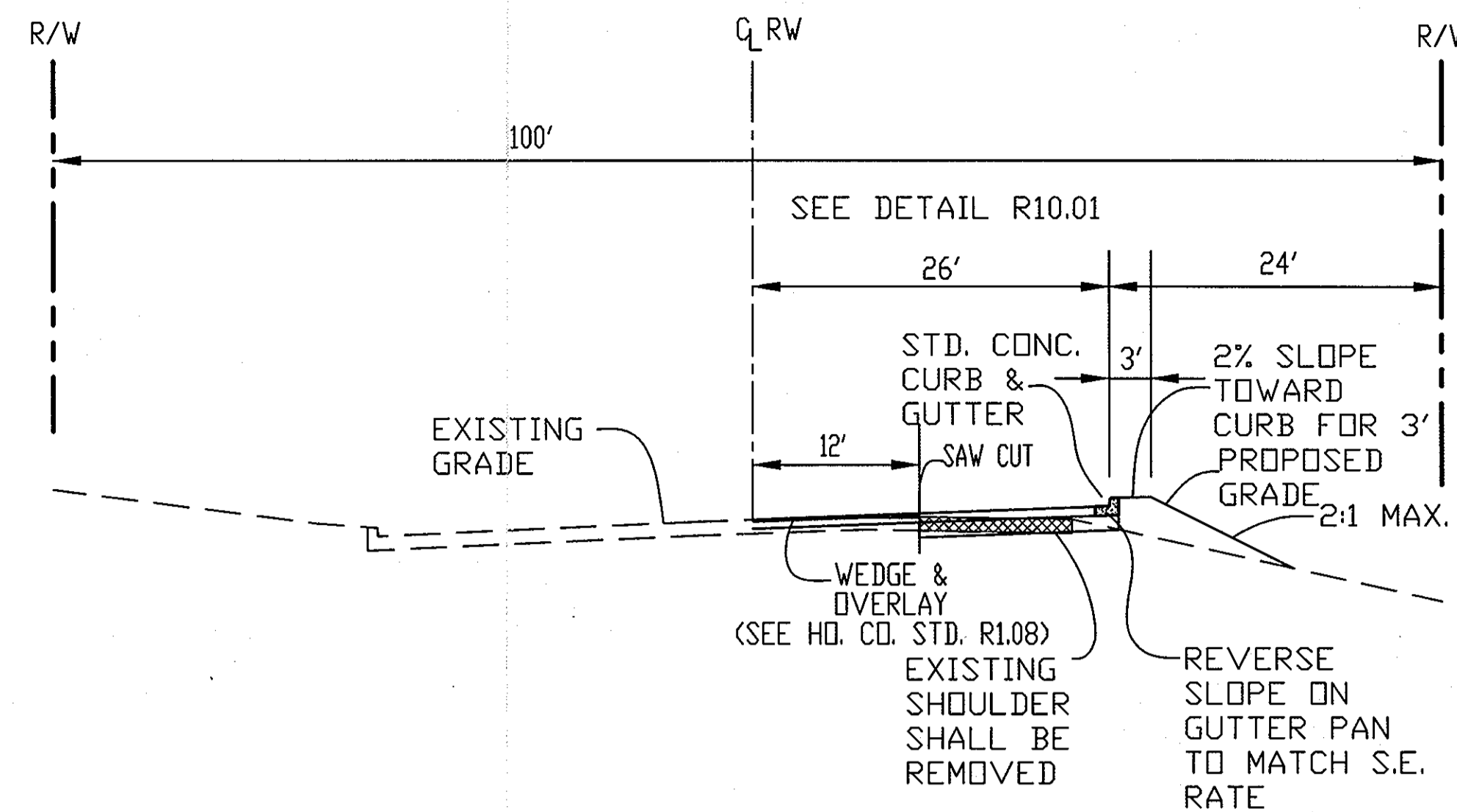




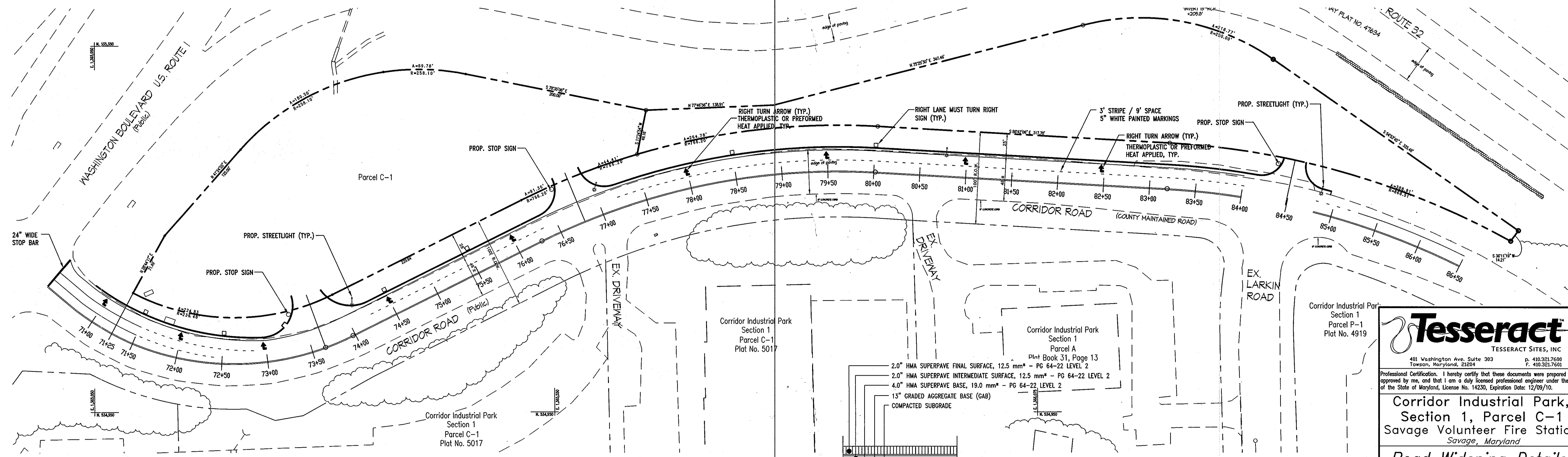
CORRIDOR ROAD - TYPICAL SECTION 'A'
 FROM STA 70+80 TO 74+27.30
 MAJOR COLLECTOR
 ZONED M-2
 DESIGN SPEED 40 MPH



CORRIDOR ROAD - TYPICAL SECTION 'B'
 FROM STA 74+27.30 TO 76+37.39
 MAJOR COLLECTOR
 ZONED M-2
 DESIGN SPEED 40 MPH

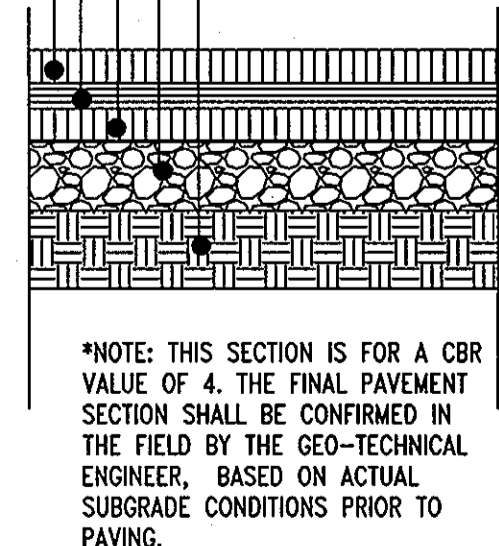


CORRIDOR ROAD - TYPICAL SECTION 'C'
 FROM STA 76+37.39 TO 84+93
 MAJOR COLLECTOR
 ZONED M-2
 DESIGN SPEED 40 MPH



Road Striping Plan
 SCALE: 1"=50'

- 2.0" HMA SUPERPAVE FINAL SURFACE, 12.5 mm* - PG 64-22 LEVEL 2
- 2.0" HMA SUPERPAVE INTERMEDIATE SURFACE, 12.5 mm* - PG 64-22 LEVEL 2
- 4.0" HMA SUPERPAVE BASE, 19.0 mm* - PG 64-22 LEVEL 2
- 13" GRADED AGGREGATE BASE (GAB)
- COMPACTED SUBGRADE

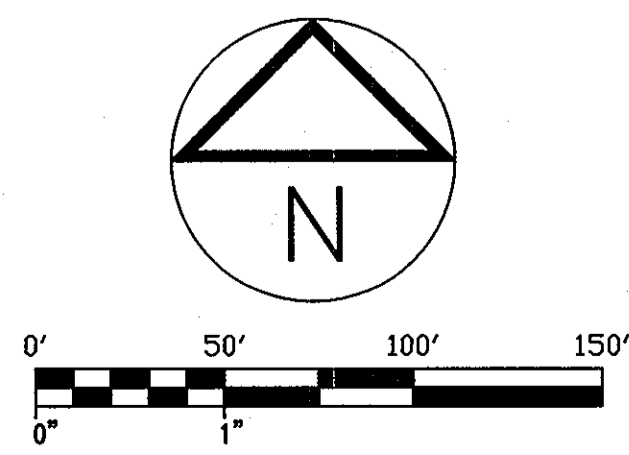


Heavy Duty Paving Section (P4)
 NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Howard County Department of Planning & Zoning
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 County Health Officer
 Howard County Health Department



Tesseract
 TESSERACT SITES, INC.
 401 Washington Ave, Suite 303
 Towson, Maryland, 21284
 P. 410-321-7600
 F. 410-321-7601

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. 14230, Expiration Date: 12/09/10.

Corridor Industrial Park, Section 1, Parcel C-1
 Savage Volunteer Fire Station
 Savage, Maryland

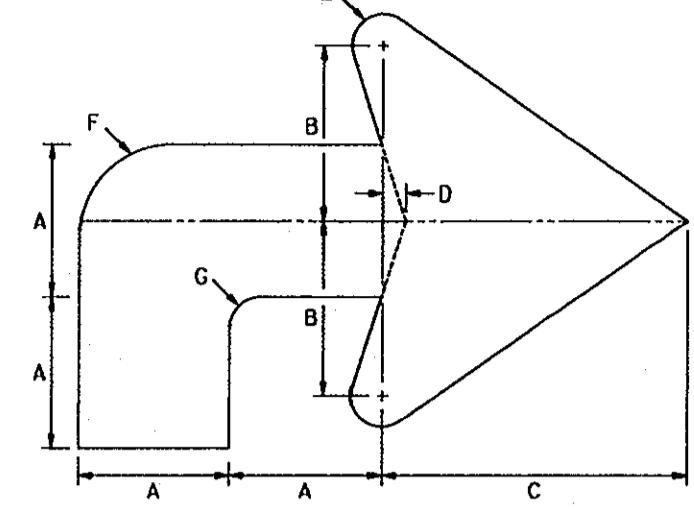
Road Widening Details

OWNER: MARYLAND STATE HIGHWAY ADMINISTRATION
 707 NORTH CALVEY STREET
 BALTIMORE, MD 21202
 410-345-0300

OWNER AND DEVELOPER: HOWARD COUNTY, MD
 9250 BENDIX ROAD
 COLUMBIA, MD 21048
 CONTACT: DAVID LOUDERMILK
 410-313-6134

ENGINEER: TESSERACT SITES, INC.
 401 WASHINGTON AVE, SUITE 303
 TOWSON, MD 21202
 CONTACT: JEFFREY SCHWAB
 410-321-7600

PROJECT: C-1	DATE: 10/22/2010
DATE: 10/22/2010	PROJ. #: 08016
SCALE: 1"=10'	



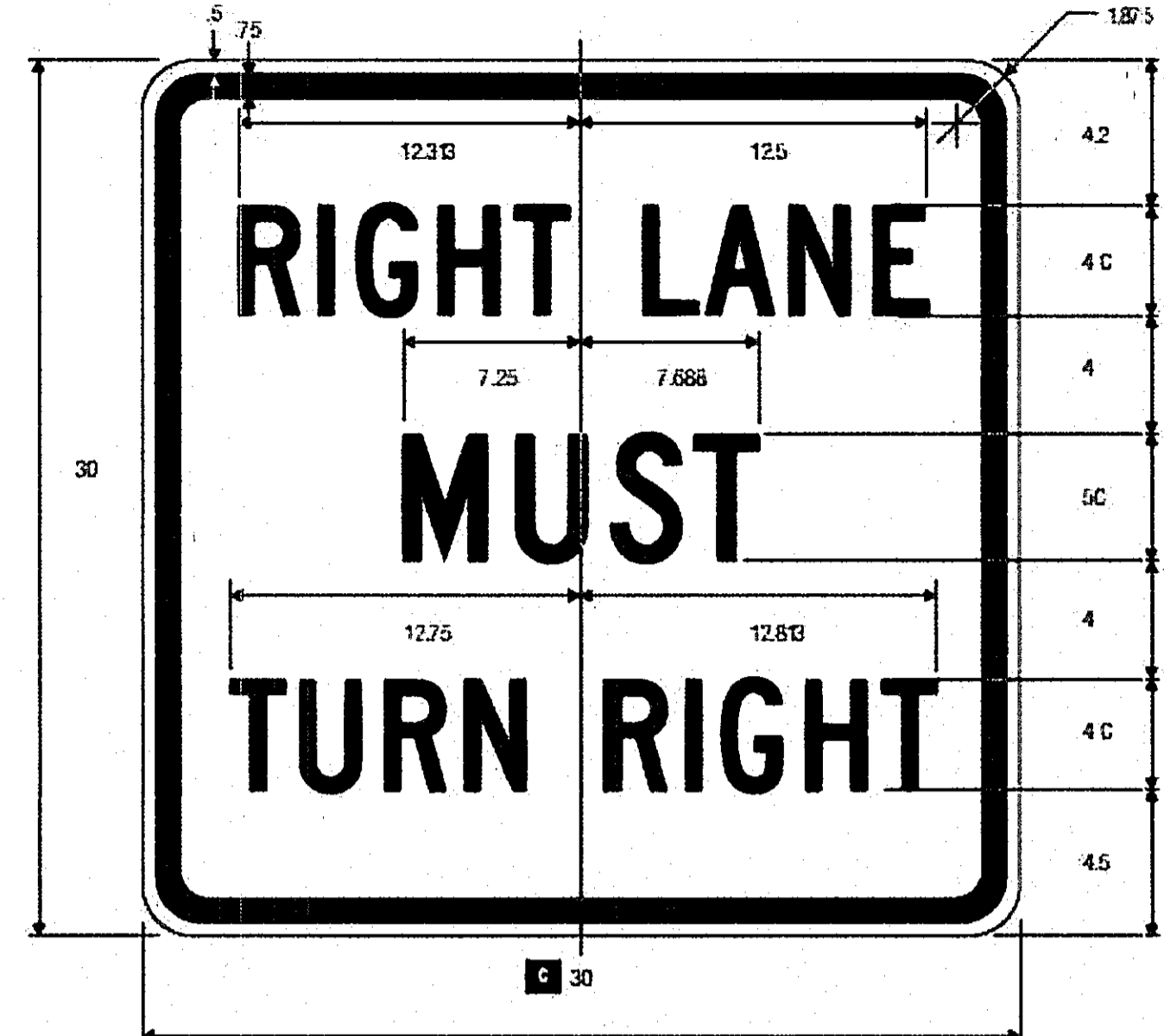
NOTE: ARROW SHALL NOT BE USED ON SIGNS ALONG MAINLINE SECTIONS OF EXPRESSWAYS/FREEWAYS.

CAPITAL LETTER SIZE	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	G
6/4 IN.	2-1/2	2-7/8	5-1/16	3/8	1/2	1-1/2	1/2
8/6 IN.	3-1/2	4	7-1/8	9/16	11/16	2	3/4
10.67 IN.	4-3/8	5-5/8	9-7/8	3/4	1	3	1
13.33 IN.	5-3/4	6-5/8	11-1/16	7/8	1-1/8	3-1/2	1-1/8
16 IN.	7	8	14-3/16	1-1/16	1-3/8	4-1/4	1-1/2
20 IN.	8	9-3/16	16-1/4	1-1/4	1-5/8	4-3/4	1-3/4

REFERENCES
MD MUTCD SECTION - 2D.08

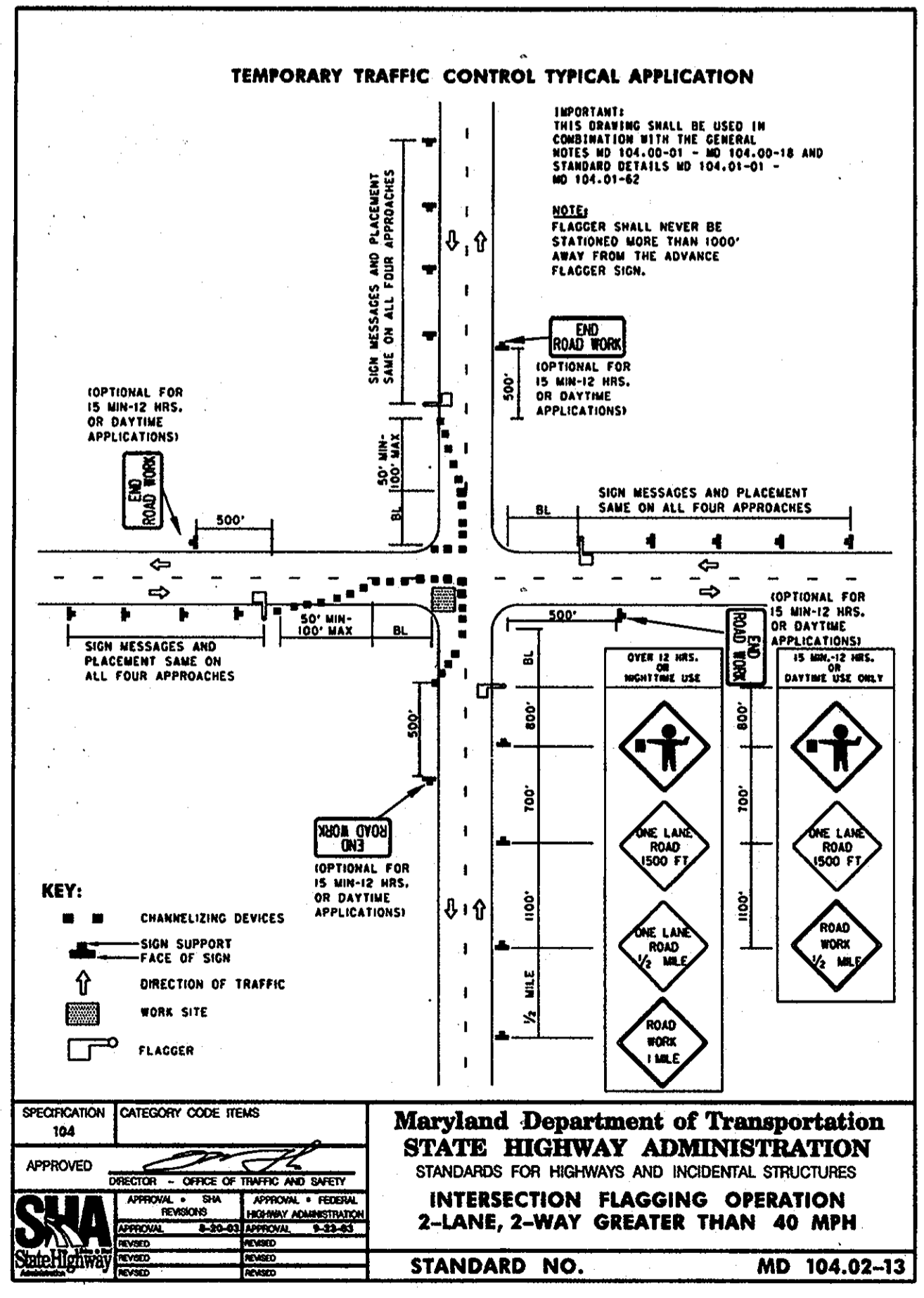
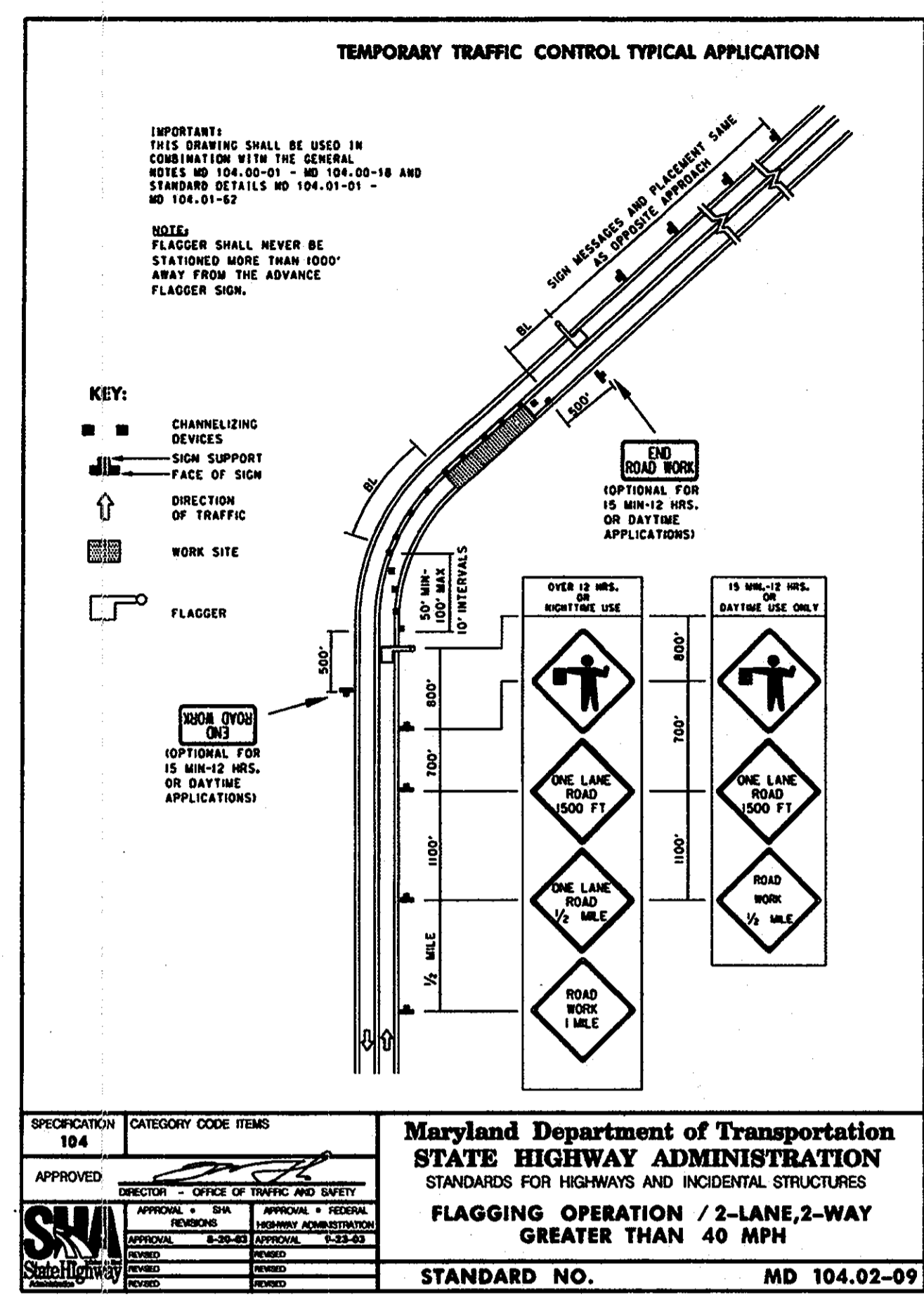
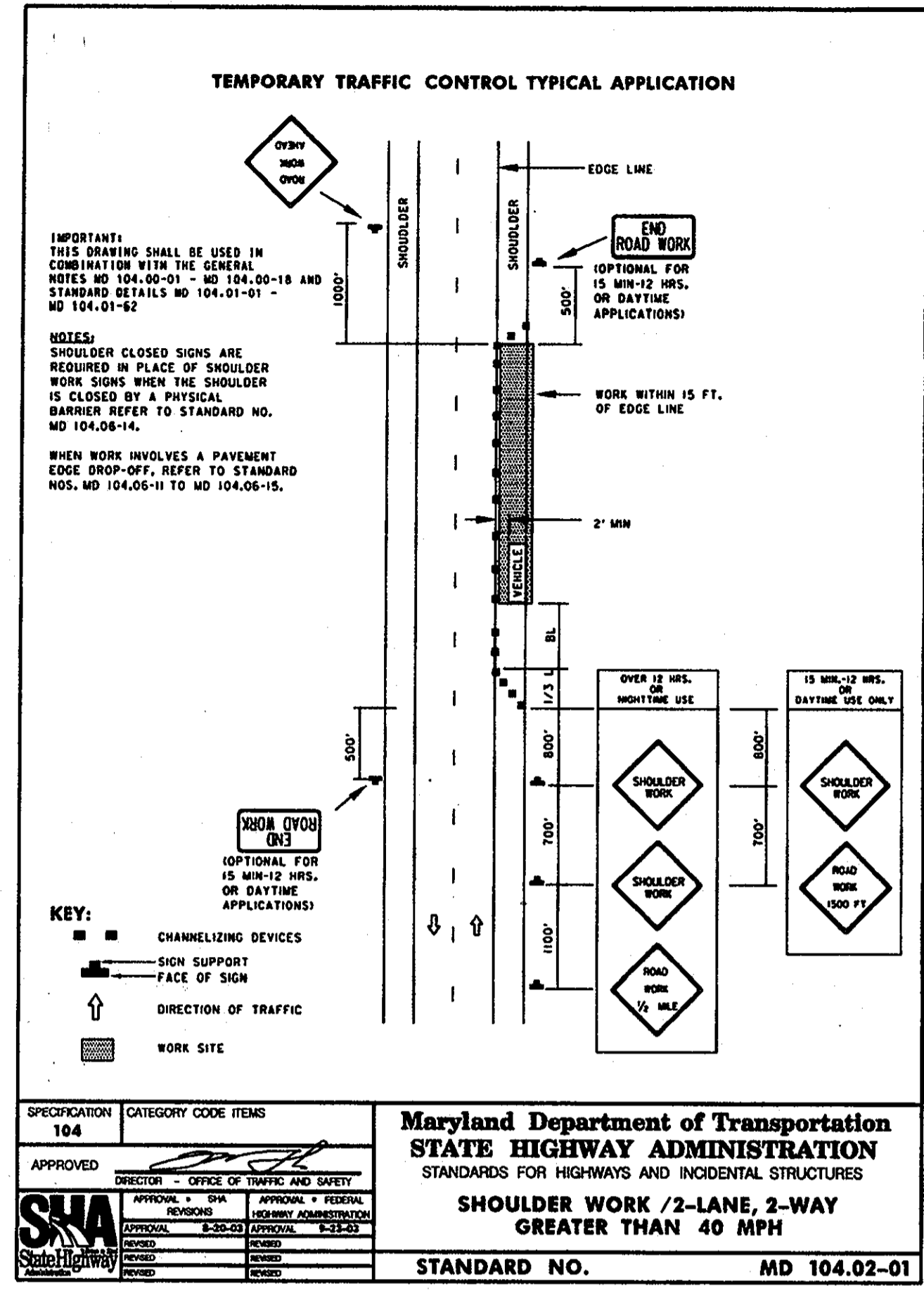
APPROVED	Tom Hicks (signature on file)	DIRECTOR - OFFICE OF TRAFFIC AND SAFETY
APPROVAL #	SHW	APPROVAL # FEDERAL HIGHWAY ADMINISTRATION
REVISION		REVISION
REVISION		REVISION
REVISION		REVISION

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
MARYLAND STANDARD HIGHWAY SIGNS
ARROW DETAILS - ADVANCE GUIDE
SIGN NUMBER: R3-7R
ARROWDET-2



R3-7R
MANDATORY MOVEMENT LANE CONTROL

COLORS: LEGEND - BLACK
BACKGROUND - WHITE (RETROREFLECTIVE)



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
12/17/10
DATE
1/2/11
DATE
1/2/11
DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
1/7/2011
DATE
County Health Officer
Howard County Health Department

Tesseract
Tesseract Sites, Inc.
401 Washington Ave. Suite 303
Towson, Maryland, 21284
P. 410.321.7600
F. 410.321.7601

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. 14230, Expiration Date: 12/09/10.

**Corridor Industrial Park,
Section 1, Parcel C-1
Savage Volunteer Fire Station
Savage, Maryland**

Road Widening Details

OWNER MARYLAND STATE HIGHWAY ADMINISTRATION 707 DEATH CALVERT STREET BALTIMORE, MD 21302 410-545-0300	DESIGNER Tesseract Sites, Inc. 401 WASHINGTON AVE, SUITE 303 TOWSON, MD 21284 CONTACT: JEFFREY SCHWAB 410-321-7600
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DATE: 10/22/2010
Proj. #: 08016
Scale: AS SHOWN

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SDP 10-084