

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY STANDARDS AND SPECIFICATIONS. ALL WORK AND MATERIALS SHALL COMPLY WITH O.S.H.A. STANDARDS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 MISS UTILITY: 1-800-257-7777
 VERIZON: 1-800-743-0033
 BUREAU OF UTILITIES: 410-313-4900
 M&T: 1-800-252-1133
 B.G.A.E. (CONSTRUCTION SERVICES): 410-837-8713
 B.G.A.E. (EMERGENCY): 410-885-0123
 STATE HIGHWAY ADMINISTRATION: 410-531-5333
 COLONIAL PIPELINE CO.: 410-795-1390
- SITE ANALYSIS:**
 TOTAL PROJECT AREA: 3.4802 AC.
 PRESENT ZONING: B-2
 USE OF STRUCTURE:
 BUILDING A: AUTOMOBILE SALES AND SERVICE
 TOTAL BUILDING COVERAGE (FOOTPRINT AREA): 16,100 SF (0.37 AC. OR 10.62% OF GROSS AREA)
 BUILDING A (LOWER LEVEL): 16,100 SF
 SERVICE: 11,550 SF
 PARTS: 620 SF
 SALES: 3,380 SF
 BUILDING A (MEZZANINE): 2,440 SF
 PAVED PARKING LOT/AREA ON SITE: 97,016 SF (2.23 AC. OR 64.08% OF GROSS AREA)
 AREA OF LANDSCAPE ISLAND: 20,629 SF (0.47 AC. OR 13.50% OF GROSS AREA)
 LIMIT OF DISTURBED AREA: 3.37 AC
 CUT: 14,625 CY FILL: 295 CY
- PROJECT BACKGROUND:**
 LOCATION: CLARKSVILLE, MD.; TAX MAP 34, BLOCK 6, PARCEL 365, PARCEL E-7.
 ZONING: B-2
 SUBDIVISION: HOLWECK SUBDIVISION
 SECTION/AREA: N/A
 SITE AREA: 3.4802 AC.
 DEED/PLAT REFERENCES: L9929/F90, L14177/F86, PLAT 16013, PLAT 18119, PLAT 23575
 DPZ REFERENCES: F-94-38, SP-93-14, WP-93-90, ZB-947M, F-95-075, ZB-1008M, F-01-29, WP-00-070, WP-01-020, F-01-025, F-03-202, WP-03-41, WP-03-112, F-06-079, WP-06-108, WP-07-004, ECP-14-033
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER UTILITIES PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3,500 P.S.I.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON 52% TEST PRIOR TO CONSTRUCTION.
- COORDINATES AND ELEVATIONS ARE BASED ON MARYLAND COORDINATE SYSTEM - NAD83(1991) AS PROJECTED BY HOWARD COUNTY GEOTECHNICAL STATIONS 34C2 (UPDATED 0044), AND 0013.
- THE PROPERTY LINES SHOWN HEREON IS BASED ON A FIELD-RUN BOUNDARY SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. DATED MARCH 20, 2010.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM A FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED AUGUST 24, 2006.
- TEST PIT REPORT PREPARED BY ROBERT H. VOGEL ENGINEERING, DATED APRIL 25, 2014.
- THE GEOTECHNICAL ENGINEER TO CONFIRM PAVING SECTION PRIOR TO CONSTRUCTION. ALL PAVING TO BE PER GEOTECHNICAL RECOMMENDATIONS.
- ALL CURB AND GUTTER TO BE HOWARD COUNTY STANDARD DETAIL 3.01 UNLESS OTHERWISE NOTED.
- WHERE DRAINAGE DITCHES ARE SHOWN, CONTRACTOR TO REVERSE THE GUTTER PAN.
- ALL ELEVATIONS ARE TO FLOWLINE/BOTTOM OF CURB UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- CONTRACTOR RESPONSIBLE FOR CONSTRUCTING ALL HANDICAP RAMPS AND HANDICAP ACCESS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
- PUBLIC WATER AVAILABLE THROUGH 44-3323-D. PUBLIC SEWER AVAILABLE THROUGH 30-3667-D.
- TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, DATED FEBRUARY 20, 2014; APPROVED 06/17/14.
- THE SUBJECT PROPERTY IS ZONED B-2 IN ACCORDANCE WITH THE 10/06/13 COMPREHENSIVE ZONING PLAN.
- THERE ARE NO WETLANDS, STREAMS, THEIR BUFFERS, STEEP SLOPES, 100-YEAR FLOODPLAIN OR FOREST CONSERVATION EASEMENTS LOCATED ON THIS PROJECT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- ALL STORMDRAIN PIPE BEDDING IS TO BE CLASS "C", AS REQUIRED BY ASHTO-180.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSSED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN IN THE AMOUNT OF \$8,450 FOR THE REQUIRED 13 SHADE TREES, 3 EVERGREEN TREES, AND 70 SHRUBS.
- FOREST CONSERVATION REQUIREMENTS FOR PARCEL E-7 ARE PROVIDED IN CONJUNCTION WITH F-01-029. THE REQUIREMENT WAS FULFILLED WITH THE PURCHASE OF 5.28 ACRES OF AFFORESTATION CREDIT AT THE WINKLER FOREST MITIGATION BANK.
- THERE ARE NO SPECIMEN OR CHAMPION TREES WITHIN THE LOD.
- ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.
- THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- EXISTING AUTO DRIVE IS CLASSIFIED AS A LOCAL ROAD.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THE PROPOSED BUILDING WILL HAVE AN INSIDE MEETING SETTING. THE BUILDING WILL ALSO HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- A KNOX BOX IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5" IN HEIGHT AND NO MORE THAN 6' Laterally FROM THE DOOR. ITS LOCATION IS SHOWN ON THESE PLANS. THE BOX SHALL BE ELECTRONICALLY SUPERVISED THE DOOR. ITS LOCATION IS SHOWN ON THESE PLANS. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE ALARM SYSTEM).
- LANDSCAPING NOT PERMITTED WITHIN 7'-11/2" OF EACH SIDE OF THE FIRE DEPARTMENT CONNECTION. PROVIDE A CLEAR UNOBSTRUCTED ACCESS PATH TO THE FIRE DEPARTMENT CONNECTION. NFPA-1 13.1.4
- FIRE LANES SHOULD BE PROVIDED IN THIS SITE TO ALLOW EMERGENCY VEHICLE ACCESS. EITHER FIRE LANE SIGNAGE SHOULD BE INSTALLED, OR THE CURB SHOULD BE PAINTED IN RED AND STENCILED TO IDENTIFY THE ROAD AS A FIRE LANE.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- ALL EXTERIOR LIGHTING TO BE IN ACCORDANCE WITH ZONING SECTION 134.0 OF THE HOWARD COUNTY ZONING REGULATIONS.
- THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
- TRASH COLLECTION AND RECYCLABLES TO BE PRIVATE.
- SIGNAGE SHALL BE PROVIDED ON THE BUILDING IDENTIFYING THE BUILDING ADDRESS.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- STORMWATER MANAGEMENT FOR THIS PROJECT IS BEING PROVIDED BY ENVIRONMENTAL SITE DESIGN UTILIZING MICRO-BIORETENTION (M-6) FACILITIES AND PERVIOUS PAVING (A-2) WITH ADDITIONAL STONE DEPTH) TO ACCOMMODATE THE TOTAL ESQ VOLUME REQUIRED. SWM FACILITIES TO BE PRIVATELY OWNED AND MAINTAINED.
- THE EXISTING TRAILER SHALL BE REMOVED, IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS, PRIOR TO CONSTRUCTION.
- IN ACCORDANCE WITH SECTION 16.156 AND 16.128 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON MAY 30, 2023 FOR THE DEVELOPER TO PROVIDE INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED NONRESIDENTIAL BUILDING EXPANSION ASSOCIATED WITH REDLINE REVISION #5.
- THE SERVICE BUILDING ADDITION, REDLINE REVISION #5, SHALL NOT HAVE ANY TRAFFIC IMPACTS.
- THE NEW CAR DELIVERY, REDLINE REVISION #6, SHALL NOT HAVE ANY TRAFFIC IMPACTS.
- THERE ARE NO NEW IMPERVIOUS AREAS ASSOCIATED WITH THE NEW CAR DELIVERY CANOPY, REDLINE REVISION #6.

ANTWERPEN HYUNDAI

PARCEL E-7, HOLWECK SUBDIVISION

ZONED: B-2

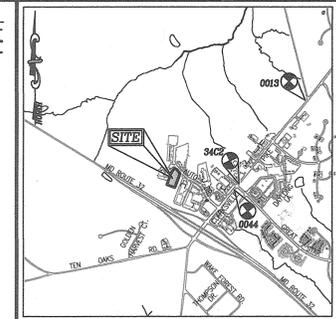
SITE DEVELOPMENT PLAN

LEGEND

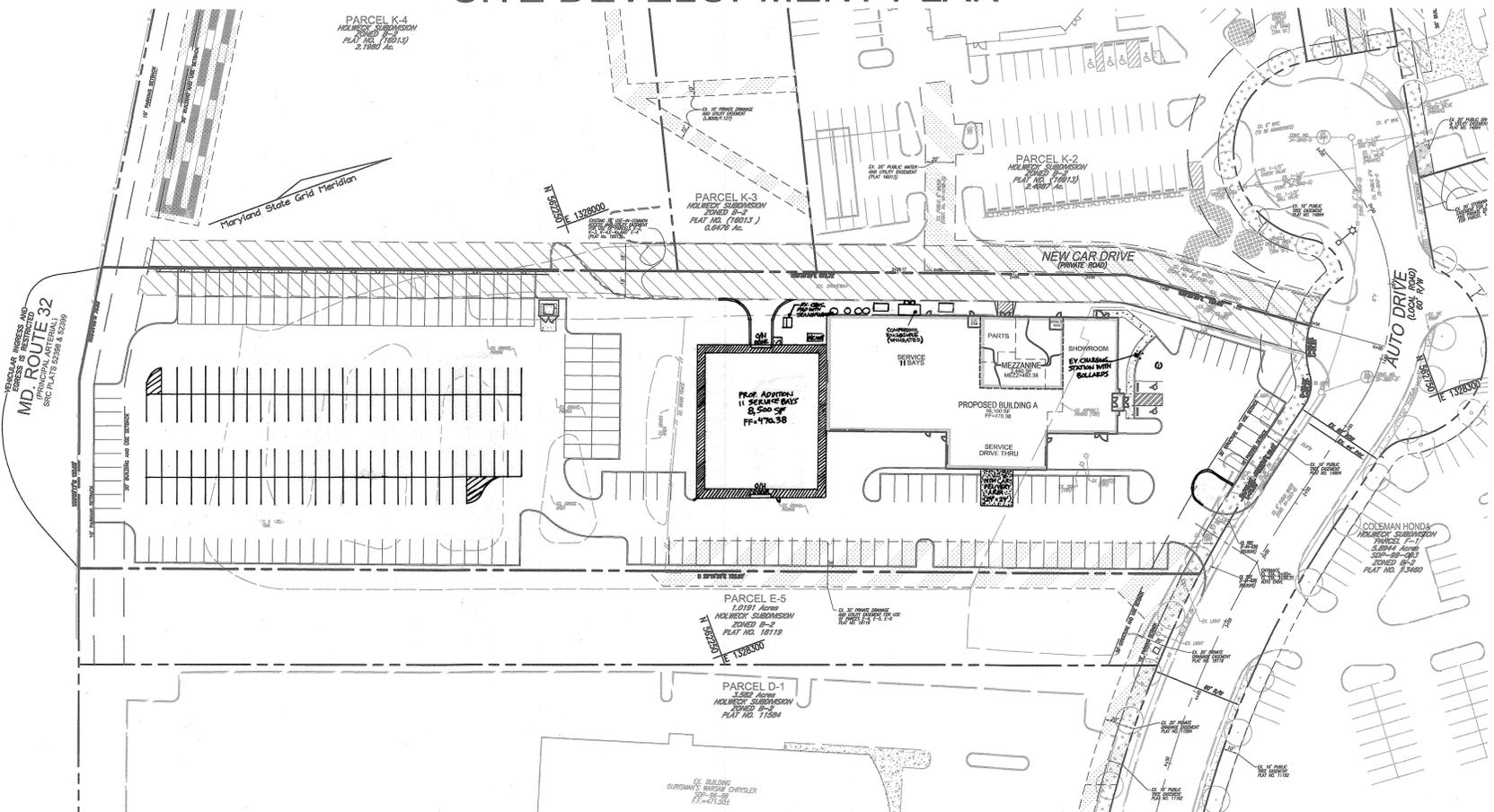
RIGHT-OF-WAY LINE
 PROPERTY LINE
 ADJACENT PROPERTY LINE

BENCHMARKS

HOWARD COUNTY BENCHMARK 34C2 (DESTROYED)
 N 56231.798 E 1329750.722
 UPDATED HOWARD COUNTY BENCHMARK 0044 (CONC. MON.)
 N 562176.474 E 1329641.868 ELEV. 485.252
 HOWARD COUNTY BENCHMARK 0013 (CONC. MON.)
 N 561285.946 E 1331309.715 ELEV. 484.671



VICINITY MAP
 SCALE: 1"=2000'
 ADC MAP COORDINATE: 31/D1



LOCATION MAP
 SCALE: 1"=50'

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 11
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GRADING, SEDIMENT AND EROSION CONTROL PLAN; SOILS MAP	4 OF 11
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LANDSCAPE PLAN	9 OF 11
RETAINING WALL	10 OF 11
RETAINING WALL	11 OF 11

AS-BUILT CERTIFICATION FOR PSWMA
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOSING OF THE UNDERGROUND SWM FACILITY.
 P.E. NAME: [Signature] DATE: 3/20/18



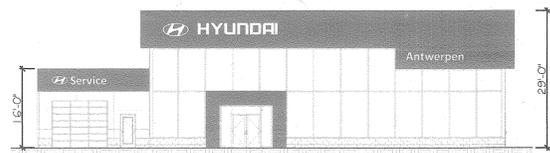
OWNER/PETITIONER
 ANTOY LLC
 12440 AUTO DRIVE
 CLARKSVILLE, MD. 21029
 (410) 531-5700

NO.	REVISION	DATE
6	REVISE PLAN TO ADD NEW CAR DELIVERY CANOPY	12-8-23
5	REVISE PLAN TO ADD BUILDING EXPANSION AND EV CHARGING STATION	6-27-23
4	REVISE PLAN TO ADD COMPRESSOR ENCLOSURE AND MECHANICAL EQUIPMENT	01/17/18
3	REVISE PLAN TO RELOCATE PROPERTY SIGN AND REMOVE 10 DAY SPACE	2/1/17
2	REVISE PLAN TO SHOW AS-BUILT CONDITION AT MH-1	8/9/16
1	REVISE PLAN TO MODIFY THE BUILDING, PARKING LOT, UTILITIES AND SWM.	04/07/16

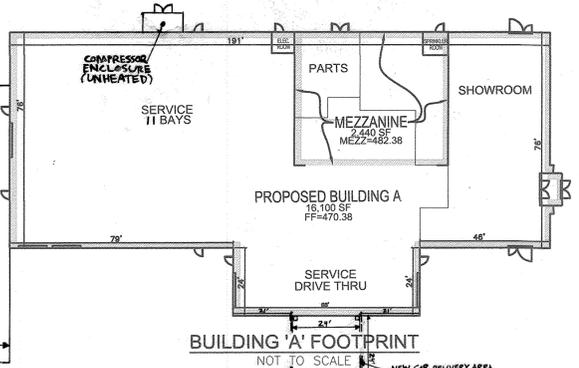
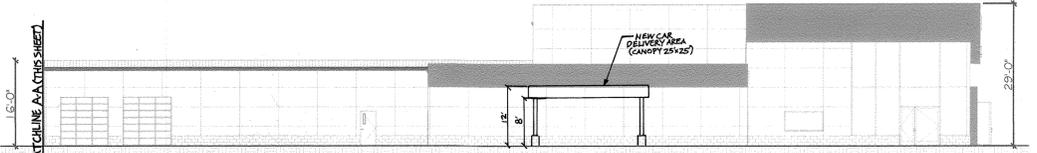
PARKING TABULATION

REQUIRED	NOT REQUIRED
BUILDING A: 24698 SF	
SALES/SHOWROOM OFFICE/PARTS: 4,600 SF	
@ 2 SPACES/1000 SF	10 SPACES
SERVICE BAYS: 22 BAY AUTOMOBILE SERVICE AREA	
@ 3 SPACES/SERVICE BAY	66 SPACES
BUILDING A (MEZZANINE) - 2,440 SF	
STORAGE - SPACES NOT REQUIRED	
COMPRESSOR ENCLOSURE (98 SF) - SPACES NOT REQUIRED	
AUTOMOTIVE DISPLAY: 3000 SF	
@ 1 SPACE/1000 SF	4 SPACES
TOTAL SPACES REQUIRED:	80 SPACES
TOTAL SPACES PROVIDED:	81 SPACES INCLUDING 2 HANDICAP SPACES
TOTAL DISPLAY SPACES PROVIDED:	29 SPACES
TOTAL CAR STORAGE SPACES PROVIDED:	178 SPACES

BUILDING 'A' EAST ELEVATION
 NOT TO SCALE



BUILDING 'A' SOUTH ELEVATION
 NOT TO SCALE



STORMWATER MANAGEMENT INFORMATION

LOT/PARCEL #	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBIC	PRIVATE	HOA MAINTAINS	MISC.
Parcel E-7	SWMF #1	A-2 Permeable Pavement	X		Owner	
Parcel E-7	SWMF #2	A-2 Permeable Pavement	X		Owner	
Parcel E-7	SWMF #3	A-2 Permeable Pavement	X		Owner	
Parcel E-7	SWMF #4	M-6 Micro-Bio-retention	X		Owner	
Parcel E-7	SWMF #5	F-6 Bio-retention	X		Owner	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 6-1-16
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE: 6-9-16
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE: 6-9-16
 DIRECTOR

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 [Signature] DATE: 6/7/2016
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART

BUILDING NO.	STREET ADDRESS
A	12440 AUTO DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NUMBER
HOLWECK SUBDIVISION	N/A	E-7
PLAT OR L/F	GRID NO.	ZONING
PLAT 23575	6	B-2
TAX MAP NO.	ELECT. DIST.	CENSUS TR.
34	5TH	6051.01
WATER CODE: J07	SEWER CODE: 6653500	

REVISED SITE DEVELOPMENT PLAN
COVER SHEET
 ANTWERPEN HYUNDAI
 PARCEL E-7, HOLWECK SUBDIVISION
 PLAT 23575
 ZONED: B-2
 PARCEL 365
 HOWARD COUNTY, MARYLAND

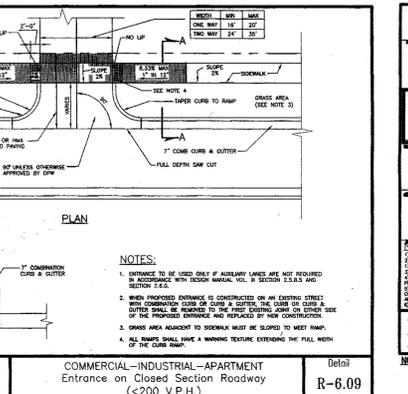
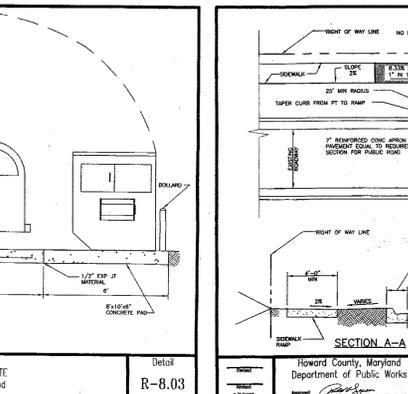
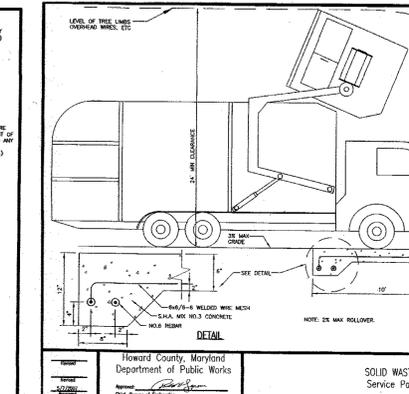
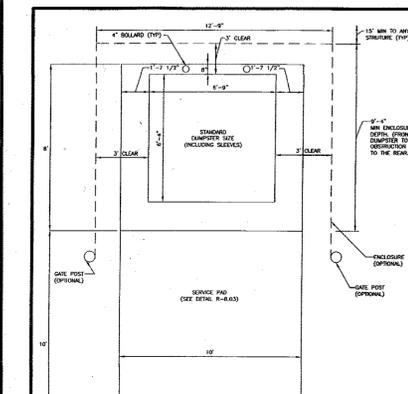
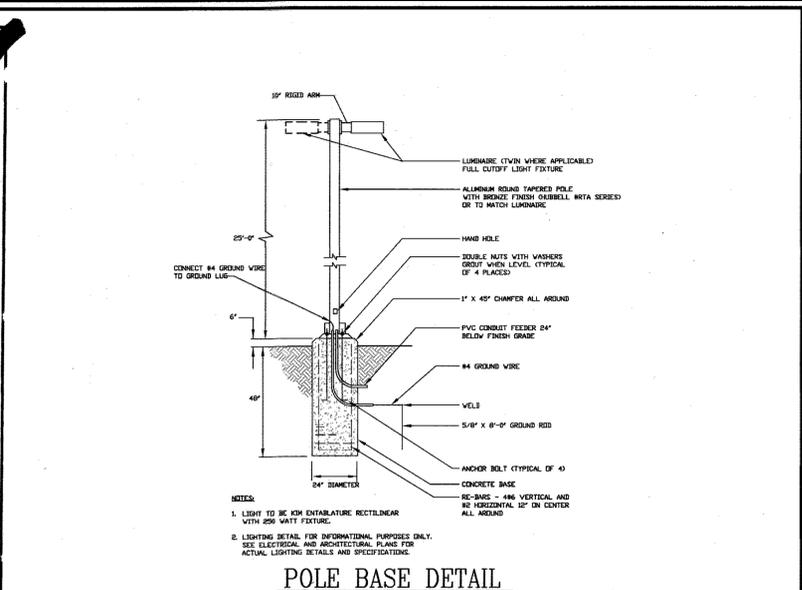
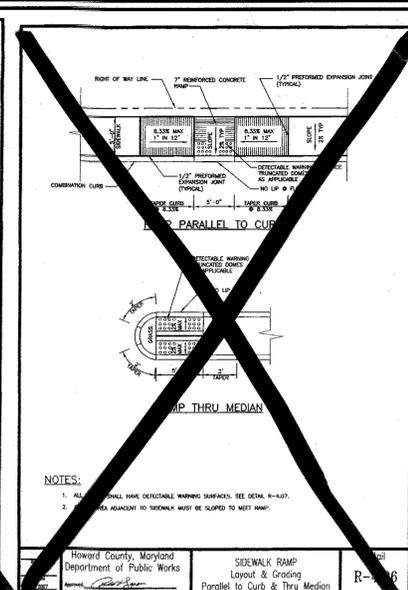
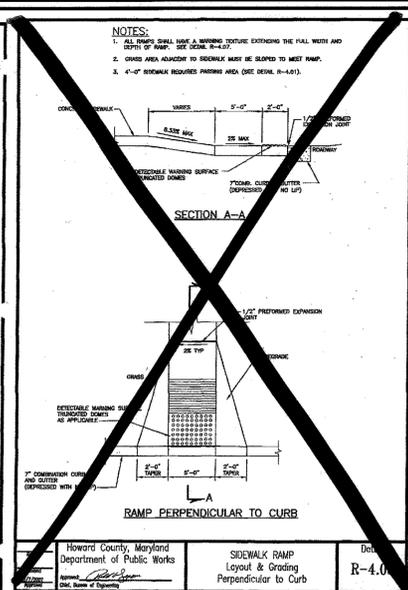
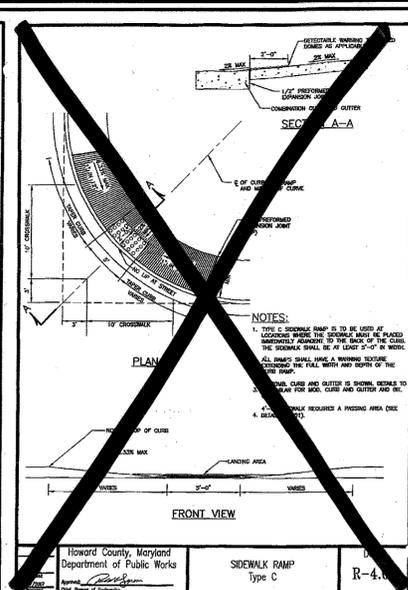
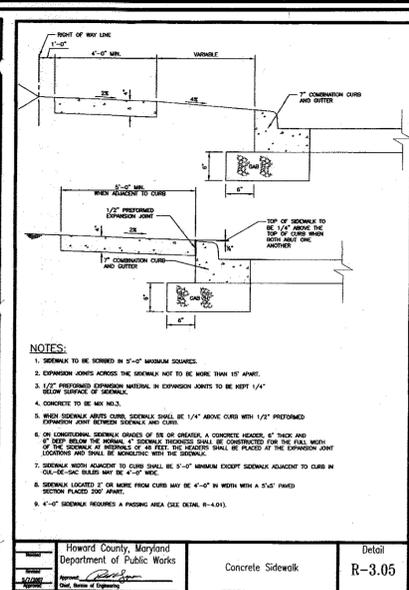
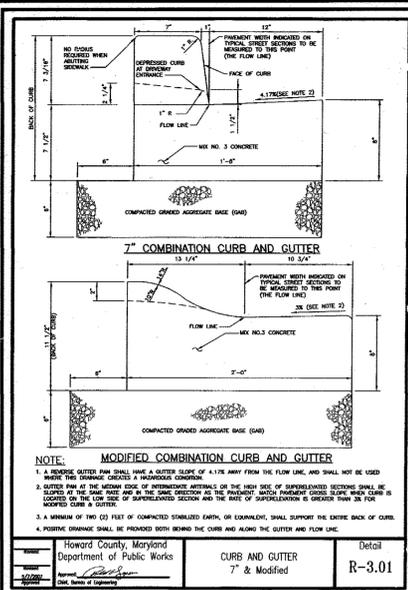
TAX MAP 34, BLOCK 06
 5TH ELECTION DISTRICT

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

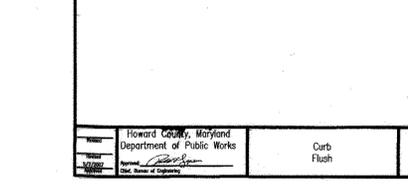
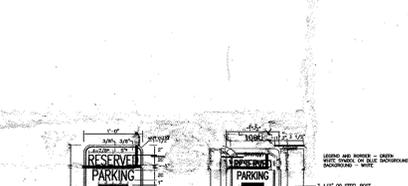
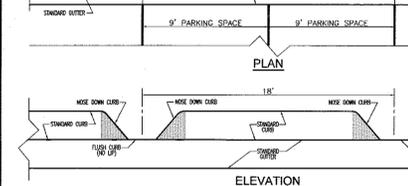
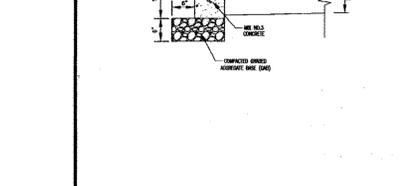
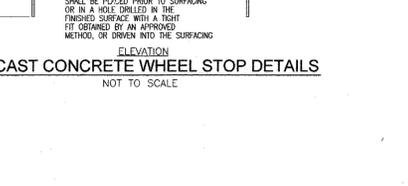
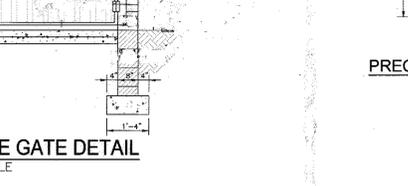
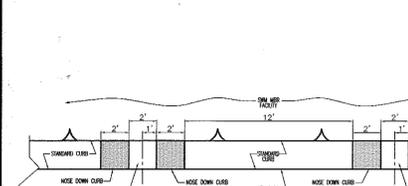
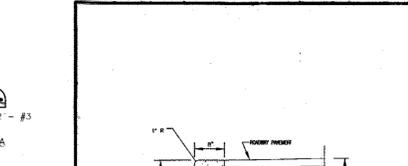
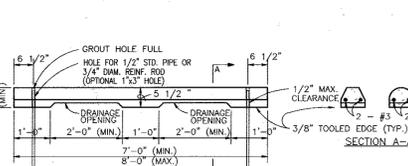
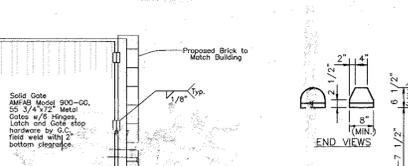
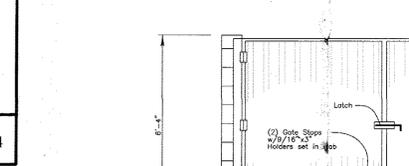
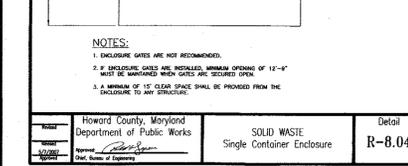
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND UNDER LICENSE NO. 16193 EXPIRATION DATE: 08-27-2018

DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHV
 DATE: MAY 2016
 SCALE: AS SHOWN
 W.O. NO.: 12-48

1 SHEET OF 11



PAVING SECTIONS	CLASSIFICATION	CALIFORNIA BURNING RATE (CBR)			
		3 TO 12 IN. (30 TO 300 MM)	12 TO 18 IN. (300 TO 450 MM)	18 TO 24 IN. (450 TO 600 MM)	24 TO 30 IN. (600 TO 750 MM)
P-1	PAVING SECTION WITH 12\"/>	1.3	1.5	1.3	1.3
P-2	PAVING SECTION WITH 12\"/>	1.3	1.5	1.3	1.3
P-3	PAVING SECTION WITH 12\"/>	1.3	1.5	1.3	1.3
P-4	PAVING SECTION WITH 12\"/>	1.3	1.5	1.3	1.3



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 10-8-15 DATE

Chief, Division of Land Development 12-30-15 DATE

Director 12-30-15 DATE

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Director 12-30-15 DATE

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Chief, Development Engineering Division 10-8-15 DATE

Chief, Division of Land Development 12-30-15 DATE

Director 12-30-15 DATE

OWNER/PETITIONER
ANTOY LLC
12420 AUTO DRIVE
CLARKSVILLE, MD. 21029
(410) 531-5700

REVISION: REVISE PLAN TO MODIFY THE BUILDING, PARKING LOT, UTILITIES, AND STORMWATER MANAGEMENT. DATE: 4/7/16

SITE DEVELOPMENT PLAN
SITE DETAILS
ANTWERPEN HYUNDAI
PARCEL E-7, HOLWECK SUBDIVISION
PLAT 23575
ZONED: B-2
TAX MAP 34 BLOCK 06 PARCEL 365
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

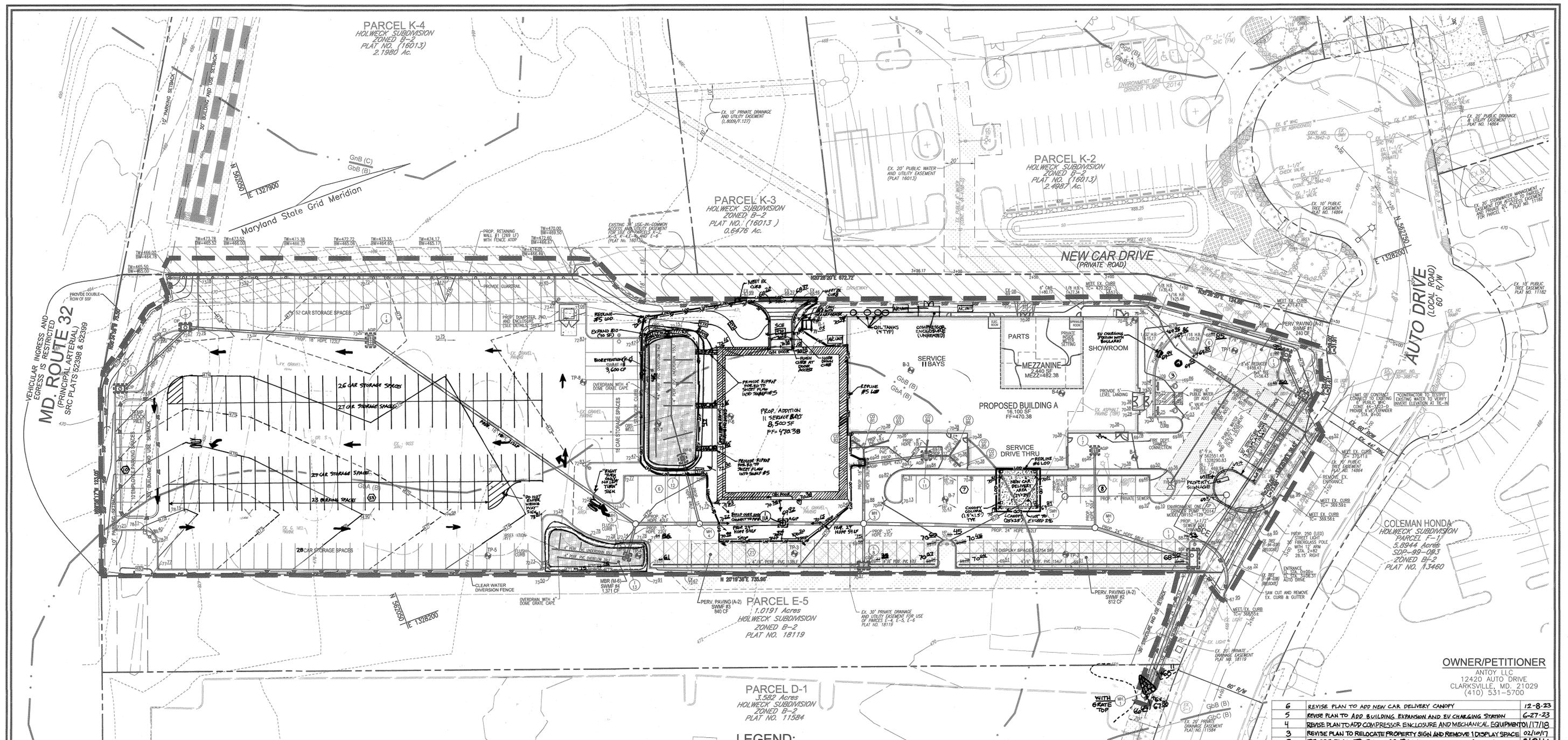
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 06-27-2016

DESIGN BY: DZE
DRAWN BY: DZE/ZKG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-48

3 SHEET OF 11

AS-BUILT FEBRUARY 2018



SOILS LEGEND
HOWARD COUNTY SOILS MAP #16

SYMBOL	NAME / DESCRIPTION	GROUP
GbA	GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES	B
GbB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B

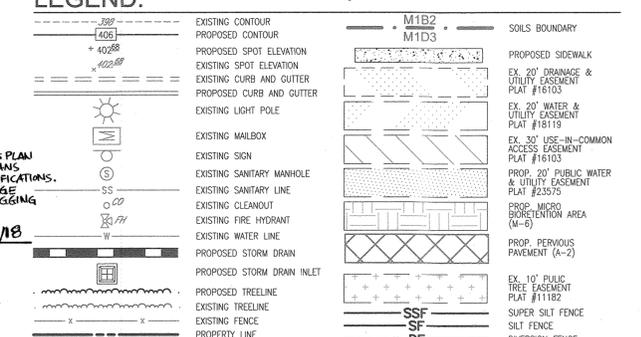
SEDIMENT CONTROL NOTE:
SEDIMENT CONTROLS INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY.

AS-BUILT CERTIFICATION FOR PSWM
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

PE NAME: 16193 RE: 3/20/18 DATE

LEGEND:

	EXISTING CONTOUR		M1B2 SOILS BOUNDARY
	PROPOSED SPOT ELEVATION		M1D3 SOILS BOUNDARY
	EXISTING CURB AND GUTTER		PROPOSED SIDEWALK
	EXISTING LIGHT POLE		EX. 20' DRAINAGE & UTILITY EASEMENT
	EXISTING MAILBOX		EX. 30' USE-IN-COMMON ACCESS EASEMENT
	EXISTING SIGN		PROP. 20' PUBLIC WATER & UTILITY EASEMENT
	EXISTING SANITARY MANHOLE		PROP. MICRO BIORETENTION AREA
	EXISTING SANITARY LINE		PROP. PEROUS PAVEMENT
	EXISTING CLEANOUT		EX. 10' PUBLIC TREE EASEMENT
	EXISTING FIRE HYDRANT		EXISTING FENCE
	EXISTING WATER LINE		PROPERTY LINE
	PROPOSED STORM DRAIN		RIGHT-OF-WAY LINE
	PROPOSED STORM DRAIN INLET		STABILIZED CONSTRUCTION ENTRANCE
	EXISTING TREE LINE		LOD
	EXISTING TREELINE		CIP
	EXISTING FENCE		AGIP
	PROPERTY LINE		SFOP
	RIGHT-OF-WAY LINE		LOD
	STABILIZED CONSTRUCTION ENTRANCE		CIP
	LOD		AGIP
	CIP		SFOP
	AGIP		LOD
	SFOP		LOD



NO.	REVISION	DATE
6	REVISE PLAN TO ADD NEW CAR DELIVERY CANOPY	12-8-23
5	REVISE PLAN TO ADD BUILDING EXPANSION AND EV CHARGING STATION	6-27-23
4	REVISE PLAN TO ADD COMPRESSOR ENCLOSURE AND MECHANICAL EQUIPMENT	11/7/18
3	REVISE PLAN TO RELOCATE PROPERTY SIGN AND REMOVE 1 DISPLAY SPACE	02/10/17
2	REVISE PLAN TO SHOW AS-BUILT CONDITIONS AT MH-1	01/11/16
1	REVISE PLAN TO MODIFY THE BUILDING, PARKING LOT, UTILITIES AND SWM.	04/07/16

OWNER/PETITIONER
ANTOY LLC
12420 AUTO DRIVE
CLARKSVILLE, MD. 21029
(410) 531-5700

REVISED SITE DEVELOPMENT PLAN
GRADING, SEDIMENT AND EROSION CONTROL PLAN; SOILS MAP
ANTWERPEN HYUNDAI
PARCEL E-7, HOLWECK SUBDIVISION
PLAT 23575
ZONED: B-2

TAX MAP 34 BLOCK 06
5TH ELECTION DISTRICT
PARCEL 365
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
DESIGN BY: DZE
DRAWN BY: DZE/KG
CHECKED BY: RHV
DATE: MAY 2016
SCALE: AS SHOWN
W.O. NO.: 12-48

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 08-27-2018.

4 SHEET OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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

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 THE HOWARD SOIL CONSERVATION DISTRICT.

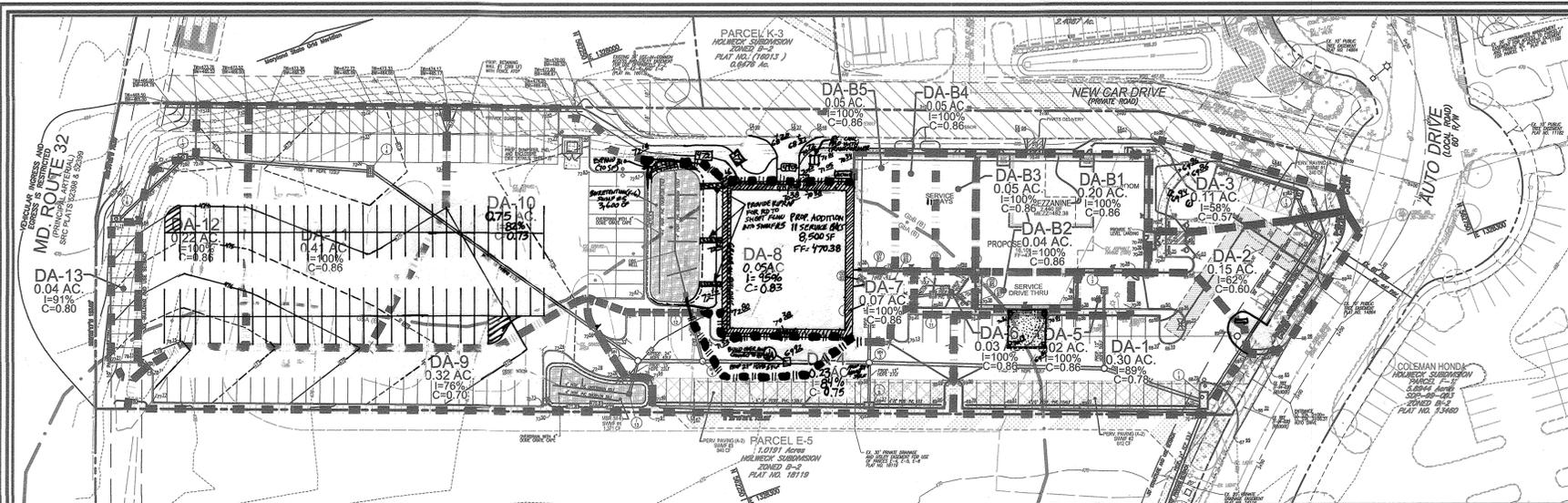
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: John P. Robertson 5/24/16
HOWARD S.C.D. DATE

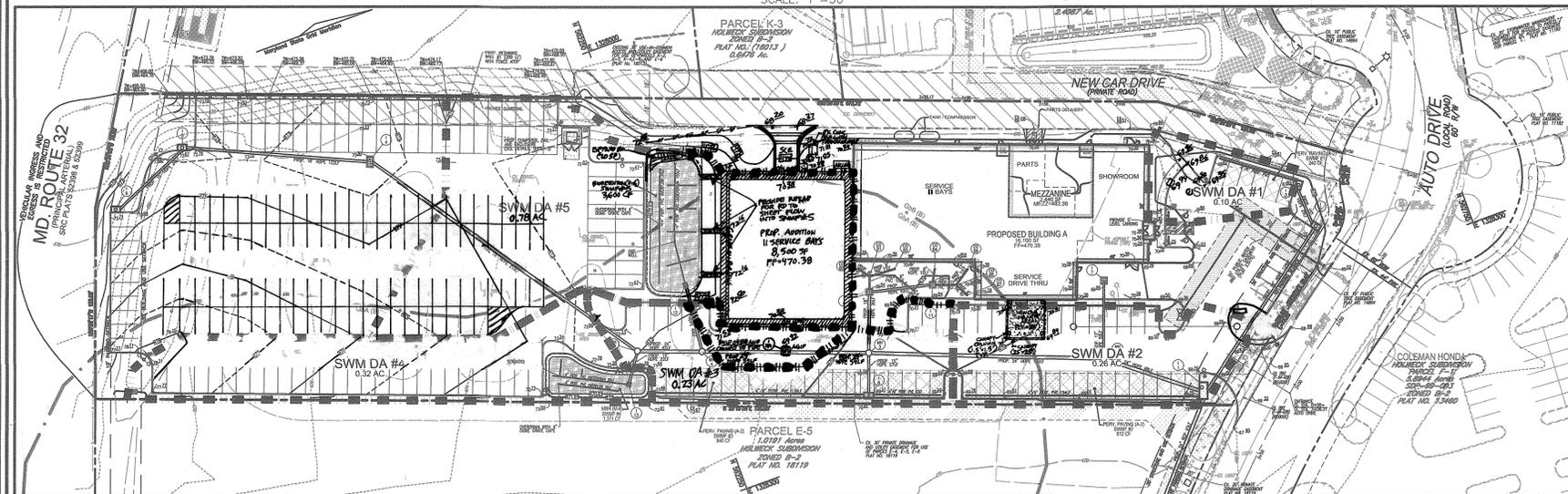
APPROVED: Robert H. Vogel 5/24/16
PROFESSIONAL ENGINEER DATE

SCALE 1"=30'

AS-BUILT FEBRUARY 2018 SDP-14-061



STORMDRAIN DRAINAGE AREA MAP
SCALE: 1"=50'



SWM DRAINAGE AREA MAP
SCALE: 1"=50'

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- EX. 20" DRAINAGE & UTILITY EASEMENT (PLAT #16103)
- EX. 30" WATER & UTILITY EASEMENT (PLAT #16119)
- EX. 10" UTILITY COMMON ACCESS EASEMENT (PLAT #23575)
- PROF. MICRO BIOTRETENTION AREA (M-5)
- PROF. PERVIOUS PAVEMENT (A-2)
- DRAINAGE DIVIDE
- EX. 10" PUBLIC FREE EASEMENT (PLAT #11182)

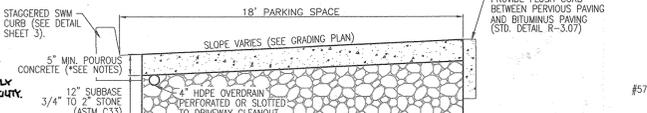
Appendix B.4 Construction Specifications for Environmental Site Design Practices

Material	Specification	Notes
Planting soil	See Appendix A, Table A.4	Plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand (60-65%) & compost (35-40%) or sandy loam (20%), coarse sand (20%) & compost (40%)	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D2970)	
Mulch	shredded hardwood	aged 6 months, minimum, no pine or wood chips
Flag gravel (diaphragm)	per ASTM A2448	
Curbs	ornamental stone, washed cobble	min. 2" to 3"
Gravel (underdrains and infiltration basins)	AASHTO M-43	NO. 20 (20 to 40) sieve
Underdrain piping	7.75" IPS PS 28 or AASHTO M-278	4" PERFORATED PIPE, 3/8" PER" @ 4" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES, SEE NECESSARY UNDERDRAIN PIPES. PERFORATED PIPES SHALL BE WRAPPED WITH 14-INCH POLYETHYLENE FILM.
Placed in place concrete (if required)	MIRA Mix No. 3, 5", 3500 psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM A645-00	on-site testing of placed-in-place concrete required; 28 day strength and slump test; all concrete design (base-to-slab or pre-cast) not using previously approved State or local standards require design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland. Design to include meeting AASHTO 19.9.09 vertical loading (16 to 18-20), allowable horizontal loading (based on soil pressure), and analysis of potential cracking.
Seed	AASHTO M-6 or ASTM C-33	0.02" to 0.04"

ANTWERPEN HYUNDAI
P.E. # 2.60
ESD=(PerXvA)/12
Rv=0.05+0.009xI
V min=1.0" rainfall (1.0kRvA)/12
V max=1.5" rainfall (2.6kRvA)/12

DA	% IMPERV	Rv	DA	ESDV	MINIMUM VOLUME	MAXIMUM VOLUME	PERVIOUS PROVIDED*	ESD FACILITY SURFACE AREA	AREA SF	PERV AREA	IMP AREA	
1	67	0.65	0.10	598	230	598	240	PERV CONC.	972	4233.35	1400.71	2832.64
2	91	0.87	0.26	2087	803	2087	812	PERV CONC.	2,754	11119.02	1033.62	10085.40
3	85	0.82	0.23	1722	662	1722	840	PERV CONC.	3,402	9495.17	1624.91	8280.63
4	76	0.74	0.32	2234	859	2234	1371	MBR	1,028	1403.35	3338.20	10675.35
5	78	0.75	0.75	5535	2121	5535	3600	BIOTRETEN	2,700	32515.10	5913.90	26576.92
TOTAL ESDV BY SUBAREA				12,176	4683	12,176	6063	10,856	71786.19	13336.45	58150.04	
				1.65	0.31	1.91						

Volume provided in DA#1 includes Pervious Paving SWM#21 (191 CF) with 0.42 ft. of additional stone under the pervious paving (50 CF).
Volume provided in DA#2 includes Pervious Paving SWM#2 (540 CF) with 0.42 ft. of additional stone under the pervious paving (173 CF).
Volume provided in DA#3 includes Pervious Paving SWM#3 (667 CF) with 0.33 ft. of additional stone under the pervious paving (174 CF).



ESD Facility	Add. Depth of Stone Storage (ft.)
Pervious Paving #1: DME A	0.17
Pervious Paving #2: DME A	0.33
Pervious Paving #3: DME A	0.17

PERVIOUS PAVING NOTE:

- PAVEMENT CROSS SECTION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER
- PERVIOUS CONCRETE SECTION TO CONFORM TO APPENDIX B.4.B (SPECIFICATIONS FOR PERVIOUS PAVEMENTS) AND DESIGNED BY THE PROJECT GEOTECHNICAL ENGINEER.
- UNDERDRAINS/OVERDRAINS SHALL CONNECT INTO A TRAFFIC BEARING CLEANOUT AS SHOWN ON THE PLANS.

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIOTRETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE 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 MICRO-BIOTRETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDERANCE 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:
• SOIL COMPONENT LOAMY SAND OR SANDY LOAM SOIL TEXTURAL CLASSIFICATION.
• ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
• CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
• PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIOTRETENTION PRACTICES AND THE REQUIRED BACKFILL WHEN POSSIBLE. USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TIRE TREADS. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, 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 ALLEVATED AT THE BASE OF THE BIOTRETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL FLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGHOUT 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 BIOTRETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIOTRETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIOTRETENTION BASIN.

HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIOTRETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARCH TRACKS.

4. **PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIOTRETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. **PLANT INSTALLATION**
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE 2" TO 3" SHREDDED OR CHIPPED HARDWOOD MULCH. IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIOTRETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE 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 EQUALLY 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.

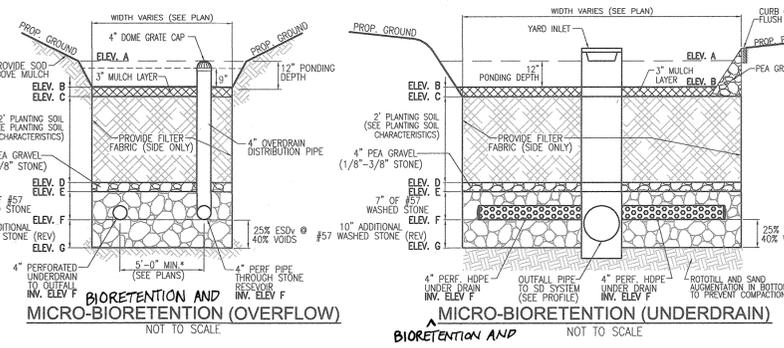
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIOTRETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDS THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. **UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
• PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HDPE).
• PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH.
• GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
• THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
• A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
• A 4" LAYER OF PEA GRAVEL (1/2" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5% OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. **MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

DRAINAGE AREA #	AREA TREATED	FACILITY NUMBER	PERVIOUS PAVEMENT (A-2)	PERVIOUS PAVEMENT (A-3)	BIOTRETENTION (M-3)	LANDSCAPE INFILTRATION (M-3)	SWALE (M-5)	TRENCH (M-6)	BIOTRETENTION UNDERDRAIN (M-5)	BIOTRETENTION OVERFLOW (M-5)	ESDV VOLUME
1	4233	SWM#1	191	122	0	0	0	0	0	0	313
		SUBTOTAL 1	191	50	0	0	0	0	0	0	240
2	11119	SWM#2	540	273	0	0	0	0	0	0	812
		SUBTOTAL 2	540	273	0	0	0	0	0	0	812
3	9405	SWM#3	667	174	0	0	0	0	0	0	840
		SUBTOTAL 3	667	174	0	0	0	0	0	0	840
4	14014	SWM#4	0	0	0	0	0	0	0	0	1371
		SUBTOTAL 4	0	0	0	0	0	0	0	0	1371
5	32515	SWM#5	0	0	0	0	0	0	0	0	3600
		SUBTOTAL 5	0	0	0	0	0	0	0	0	3600
TOTALS:			1397	496	0	0	0	0	0	0	6863
TOTAL AREA			71786	1.65	AC						



MICROBIOTRETENTION NOTES:

- ONLY THE SIDES OF MICROBIOTRETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICROBIOTRETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
- WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.
- PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR CROPPED PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS).

MBR Facility	ESD Facility Surface Area	Volume Provided	Ponding Depth (ft.)	Top of Planting Soil (ft.)	Bottom of Planting Soil (ft.)	Bottom of Stone (ft.)	Bottom of Stone (ft.)	Depth of Stone (ft.)	Invert of 4" Underdrain (ft.)	Depth of Additional Stone (ft.)	Bottom of Additional Stone (ft.)
4	1028	1371	471.44	270.00	470.00	468.58	468.23	0.58	467.85	467.85	468.42
5	2700	3600	471.44	270.00	470.00	468.58	468.08	0.58	467.47	467.47	468.04

B.4.B SPECIFICATIONS FOR PERVIOUS PAVEMENTS & REINFORCED TURF

THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS AND ARE NOT EXCLUSIVE OR LIMITING. THE DESIGNER IS RESPONSIBLE FOR DEVELOPING SPECIFICATIONS FOR INDIVIDUAL PROJECTS AND SPECIFIC CONDITIONS.

1. **PERVIOUS CONCRETE SPECIFICATIONS**
DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED. APPLICATIONS MAY BE DESIGNED USING EITHER STANDARD PAVED PROCEDURES (E.G., AASHTO, ACI 308.9R, ACI 308R) OR USING STRUCTURAL VALUES DERIVED FROM FLEXIBLE PAVEMENT DESIGN PROCEDURES.

MIX & INSTALLATION - TRADITIONAL PORTLAND CEMENTS (ASTM C 150, C 1157) MAY BE USED IN PERVIOUS CONCRETE APPLICATIONS. PHOSPHORUS ADMIXTURES MAY ALSO BE USED. MATERIALS SHOULD BE TESTED (E.G., TRIAL BATCHING) PRIOR TO CONSTRUCTION SO THAT CRITICAL PROPERTIES (E.G., SETTING TIME, RATE OF STRENGTH DEVELOPMENT, POROSITY, PERMEABILITY) CAN BE DETERMINED.

AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (3/4 IN. TO NO. 4), NO. 8 (3/8 IN. TO NO.16) AND NO. 89 (3/8 IN. TO NO.50) SIEVES. SINGLE-SIZED AGGREGATE (10 TO 1 INCH) MAY ALSO BE USED.

WATER CURE - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCLUSION OF CHEMICAL ADMIXTURES. WATER QUALITY SHOULD MEET ACI 308 AS A GENERAL RULE. POTABLE WATER SHOULD BE USED ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR AASHTO M 157 MAY ALSO BE USED.

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE. USE OF ADMIXTURES MUST MEET ASTM A 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR ENTRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S RECOMMENDATIONS. BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

2. **PERVIOUS INTERLOCKING CONCRETE PAVEMENTS (PICP)**
PAVER BLOCKS - BLOCKS SHOULD BE EITHER 32 IN. OR 4 IN. THICK, AND MEET ASTM C 936 OR CSA A231.2 REQUIREMENTS. APPLICATIONS SHOULD HAVE 20% OR MORE (40% PREFERRED) OF THE SURFACE AREA OPEN. INSTALLATION SHOULD FOLLOW MANUFACTURER'S INSTRUCTIONS, EXCEPT THAT INFILL AND BASE COURSE MATERIALS AND DIMENSIONS SPECIFIED IN THIS APPENDIX SHALL BE FOLLOWED.

INFILL MATERIALS AND LEVELING COURSE - OPENINGS SHALL BE FILLED WITH ASTM C-33 GRADED SAND OR SANDY LOAM. PICP BLOCKS SHALL BE PLACED ON A ONE-INCH THICK LEVELING COURSE OF ASTM C-33 SAND.

BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

3. **REINFORCED TURF**
REINFORCED GRASS PAVEMENT (RGP) - WHETHER USED WITH GRASS OR GRAVEL, THE RGP THICKNESS SHALL BE AT LEAST 1-3/4" THICK WITH A LOAD CAPACITY CAPABLE OF SUPPORTING THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED.

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIOTRETENTION (M-6), RAIN GARDENS (M-7), BIOTRETENTION SWALE (M-8), AND ENHANCED FILTERS (M-9)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. 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 PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TRIM DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH YEAR.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERVIOUS PAVEMENT (A-2)

- THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
- THE OWNER SHALL PERIODICALLY CLEAN GRASS PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE.
- THE OWNER SHALL USE DICERS IN MODERATION. DICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.
- THE OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE INCH ABOVE THE SURFACE. PLOWING KNOW PILES AND SNOWMELT SHOULD NOT BE DIRECTED TO PERVIOUS PAVEMENT.

TEST PIT #	DEPTH	COMMENTS
1	9.5'	No Water (bottom trench)
2	9'	No Water (bottom trench)
3	9'	No Water (bottom trench)
4	10'	No Water (bottom trench)
5	10'	No Water (bottom trench)
6	9.5'	No Water (bottom trench)
7	9.5'	No Water (bottom trench)
8	10.5'	No Water (bottom trench)

OWNER/PETITIONER
ANTON, LLC
12420 AUTO DRIVE
CLARKSVILLE, MD, 21029
(410) 531-5700

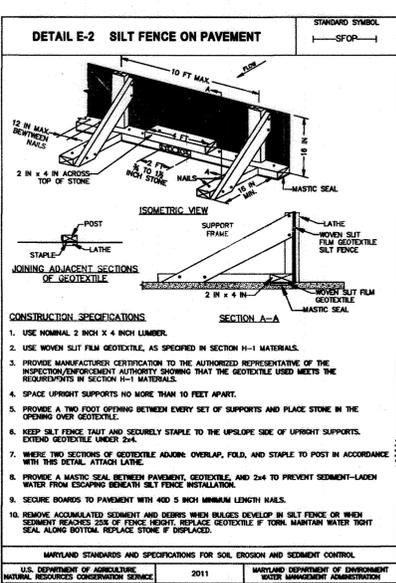
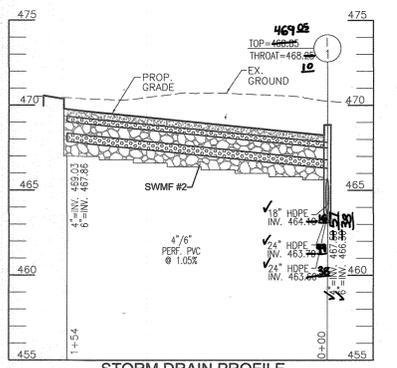
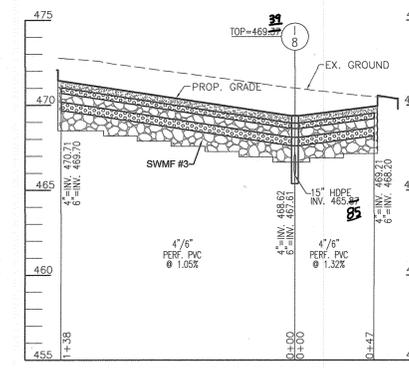
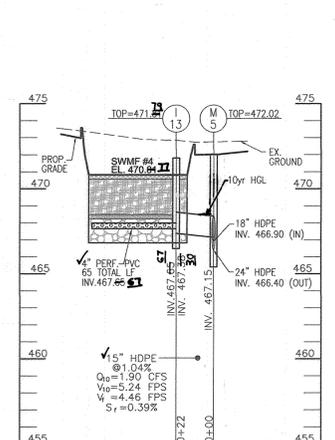
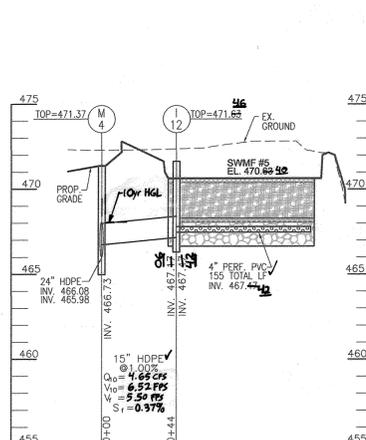
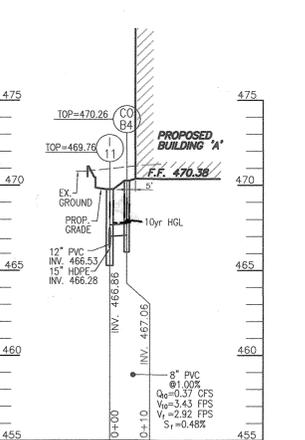
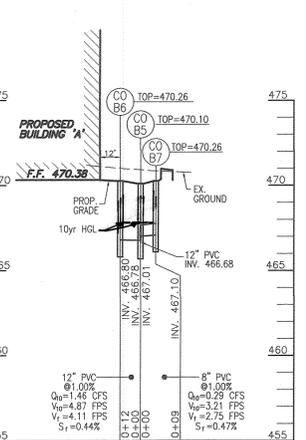
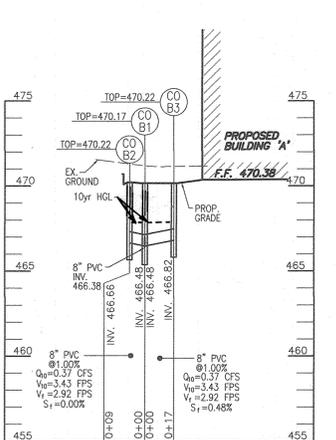
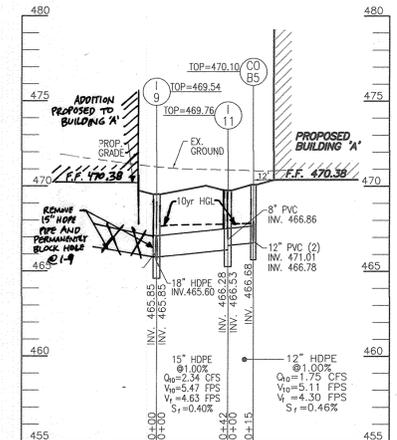
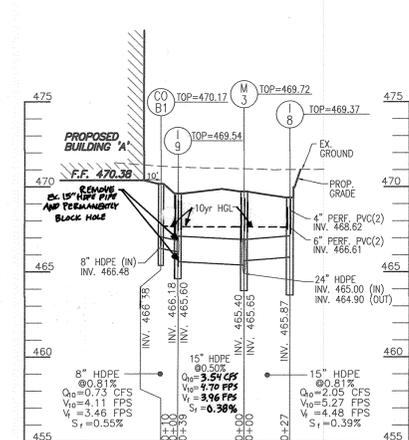
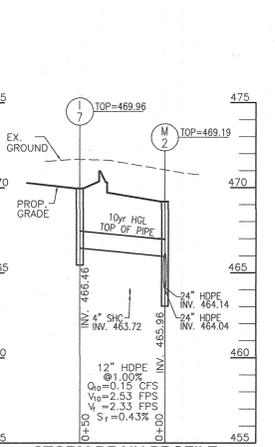
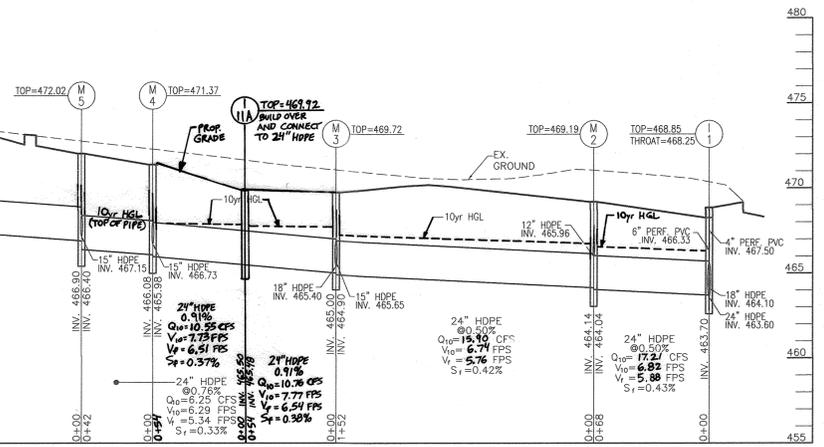
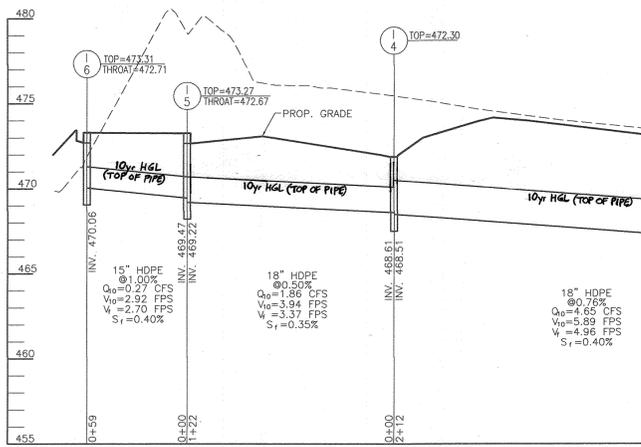
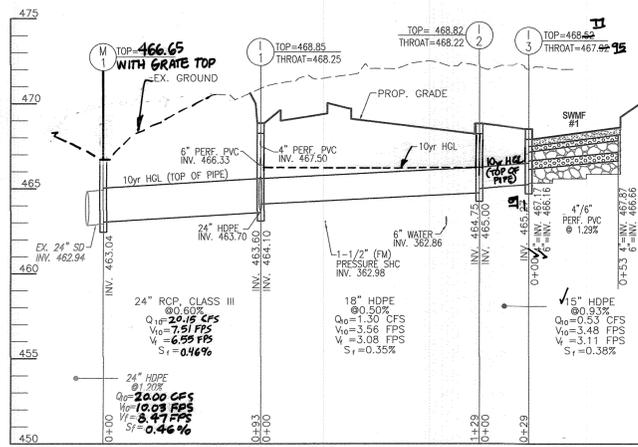
6	REVISE PLAN TO ADD NEW CAR DELIVERY CANOPY	12-8-23
5	REVISE PLAN TO ADD BUILDING EXPANSION AND EV CHARGING STATION	6-27-23
3	REVISE PLAN TO RELOCATE PROPERTY SIGN AND REMOVE 1 DISPLAY SPACE	2/10/19
1	REVISE PLAN TO MODIFY THE BUILDING, PARKING LOT, UTILITIES AND SWM.	04/07/16
NO.	REVISION	DATE

REVISED SITE DEVELOPMENT PLAN
DRAINAGE AREA MAPS;
SWM NOTES AND DETAILS

ANTWERPEN HYUNDAI
PARCEL E-7, HOLWECK SUBDIVISION
PLAT 23575
ZONED: B-2
TAX MAP 34 BLOCK 06
5TH ELECTION DISTRICT
PARCEL 365
HOWARD COUNTY, MARYLAND

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

PROFESSIONAL CERTIFICATE
DESIGN BY: DZE
DRAWN BY: DZE/KG
CHECKED BY: RHY
DATE: MAY 2016
SCALE: AS SHOWN
W.O. NO.: 12-48
6 SHEET OF 11



AS-BUILT CERTIFICATION FOR PSMW

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

P.E. NAME: 16193 DATE: 3/20/18

NO.	TYPE	LOCATION	TOP ELEV.	THROAT ELEV.	INV. IN	INV. OUT	COMMENTS
I-1	TYPE "A-10" INLET	N 562548.7 E 1328342.4	468.85	468.22	463.70	463.60	HO. CO. STD. D-403
I-2	TYPE "A-5" INLET	N 562653.6 E 1328267.4	468.82	468.22	465.00	464.75	HO. CO. STD. D-401
I-3	TYPE "A-5" INLET	N 562652.2 E 1328238.7	468.52	467.92	466.14	465.27	HO. CO. STD. D-401
I-4	DOUBLE "S" INLET	N 562092.5 E 1328018.6	-	472.30	468.61	468.51	HO. CO. STD. D-423
I-5	TYPE "A-5" INLET	N 561980.5 E 1327970.4	473.27	472.67	469.47	469.22	HO. CO. STD. D-401
I-6	TYPE "A-5" INLET	N 561926.5 E 1327993.1	472.71	-	-	470.06	HO. CO. STD. D-401
I-7	"S" INLET	N 562512.6 E 1328253.3	469.96	-	-	466.46	HO. CO. STD. SD-422
I-8	DOUBLE "WR" INLET	N 562344.6 E 1328269.8	469.37	-	-	465.87	HO. CO. STD. D-435
I-9	"S" INLET	N 562367.7 E 1328208.0	469.54	-	-	465.60	HO. CO. STD. SD-422
I-11	"S" INLET	N 562407.7 E 1328217.6	469.76	-	-	465.58	HO. CO. STD. SD-423
I-11A	"S" INLET	N 562393.8 E 1328216.0	469.72	-	-	465.58	HO. CO. STD. SD-423
I-12	YARD INLET	N 562257.3 E 1328162.9	469.76	-	-	467.47	HO. CO. STD. SD-414
I-13	YARD INLET	N 562200.8 E 1328210.5	471.81	-	-	467.65	HO. CO. STD. SD-414
MH-1	4'-0" STANDARD PRECAST MANHOLE	N 562489.1 E 1328413.0	466.65	-	-	463.04	HO. CO. STD. G-512
MH-2	4'-0" STANDARD PRECAST MANHOLE	N 562495.4 E 1328300.5	469.19	-	-	464.14	HO. CO. STD. G-512
MH-3	4'-0" STANDARD PRECAST MANHOLE	N 562353.9 E 1328244.7	469.72	-	-	464.90	HO. CO. STD. G-512
MH-4	4'-0" STANDARD PRECAST MANHOLE	N 562252.9 E 1328207.1	471.37	-	-	465.98	HO. CO. STD. G-512
MH-5	4'-0" STANDARD PRECAST MANHOLE	N 562213.6 E 1328192.3	472.02	-	-	466.40	HO. CO. STD. G-512
SMH-1	4'-0" STANDARD PRECAST MANHOLE	N 562484.0 E 1328274.4	469.69	-	-	463.76	HO. CO. STD. G-512
GP-2014	ENVIRONMENT ONE GRINDER PUMP	N 562583.6 E 1328310.6	469.75	-	-	461.83	466.87
CO-B1	CLEANOUT	N 562371.2 E 1328198.6	470.17	-	-	466.48	466.38 HO. CO. STD. S-222
CO-B2	CLEANOUT	N 562365.9 E 1328191.4	470.22	-	-	466.66	HO. CO. STD. S-222
CO-B3	CLEANOUT	N 562387.9 E 1328199.6	470.22	-	-	466.82	HO. CO. STD. S-222
CO-B4	CLEANOUT	N 562412.3 E 1328208.7	470.26	-	-	467.06	HO. CO. STD. S-222
CO-B5	CLEANOUT	N 562421.9 E 1328222.9	470.10	-	-	466.78	HO. CO. STD. S-222
CO-B6	CLEANOUT	N 562432.0 E 1328216.1	470.26	-	-	466.80	HO. CO. STD. S-222
CO-B7	CLEANOUT	N 562426.3 E 1328231.4	470.26	-	-	467.10	HO. CO. STD. S-222

NOTE: 1. TOP ELEVATIONS ARE AT CENTER TOP OF HEADPIECE FOR TYPE "A-10", CENTER TOP OF MANHOLE FOR TYPE "D" INLET, AND TOP OF MANHOLE COVER FOR PRECAST MANHOLES.
2. FOR TOP SLOPE SLOPES SEE GRADING PLAN.
3. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT AND ROOF DRAIN DETAILS.
4. ALL CUSTOM AND NON-STANDARD STRUCTURES TO BE DESIGNED BY A QUALIFIED STRUCTURAL ENGINEER.

SIZE	TYPE	LENGTH	SIZE	TYPE	LENGTH
6"	DIP (PRIVATE)	116 LF	24"	HDPE (SD)	370 LF
6"	DIP (PUBLIC)	81 LF	24"	RCP, CLASS III (SD)	93 LF
8"	DIP (PUBLIC)	59 LF	8"	PVC (SD)	45 LF
4"	PVC (SEWER)	118 LF	12"	PVC (SD)	27 LF
1-1/2"	FM (SEWER)	17 LF	4"	PERF. PVC (SWM)	571 LF
12"	HDPE (SD)	50 LF	6"	PERF. PVC (SWM)	238 LF
15"	HDPE (SD)	260 LF	-	-	-
18"	HDPE (SD)	502 LF	-	-	-

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Johnson 6-1-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Ket Schuch 6-9-16
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Valerie J. Ginn 6-9-16
DIRECTOR DATE

BY THE DEVELOPER:

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

B. Dalon 4/5/16
SIGNATURE OF DEVELOPER DATE

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 THE HOWARD SOIL CONSERVATION DISTRICT."

John R. Roberts 5/24/16
SIGNATURE OF ENGINEER DATE

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

John R. Roberts 5/24/16
HOWARD S.C.D. DATE

OWNER/PETITIONER

ANTOY LLC
12420 AUTO DRIVE
CLARKSVILLE, MD. 21029
(410) 531-5700

NO.	REVISION	DATE
5	REVISE PLAN TO ADD BUILDING EXTENSION AND EV CHARGING STATION	6-27-23

SITE DEVELOPMENT PLAN

STORM DRAIN PROFILES

ANTWERPEN HYUNDAI
PARCEL E-7, HOLWECK SUBDIVISION
PLAT

TAX MAP 34 BLOCK 06 ZONED: B-2 PARCEL 365
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

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

PROFESSIONAL CERTIFICATE

DESIGN BY: DZE

DRAWN BY: DZE/KG

CHECKED BY: RHV

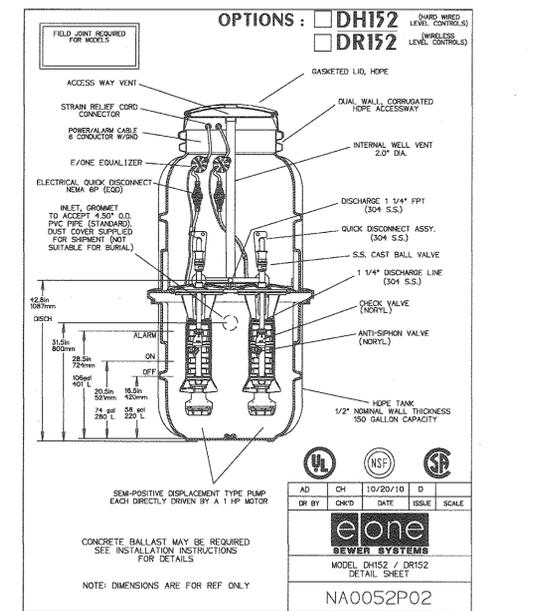
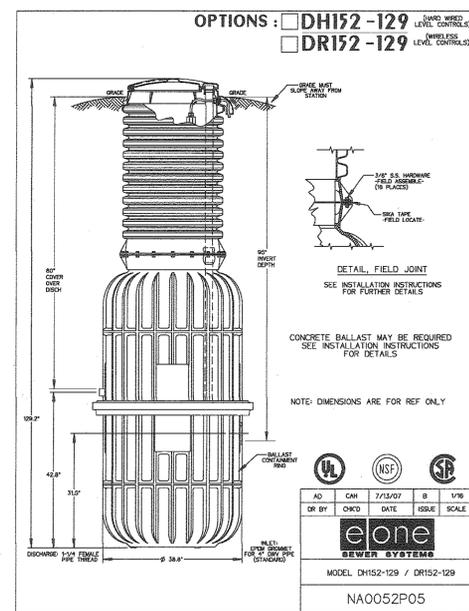
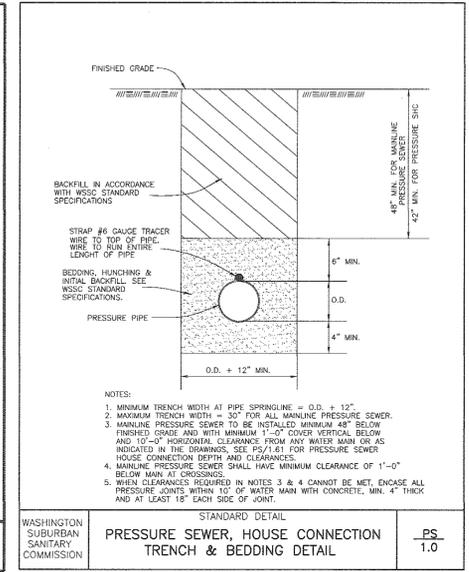
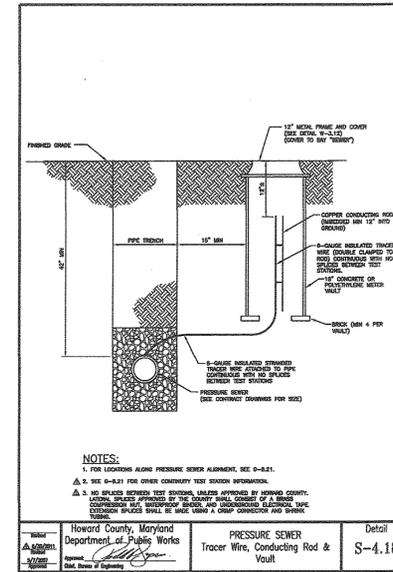
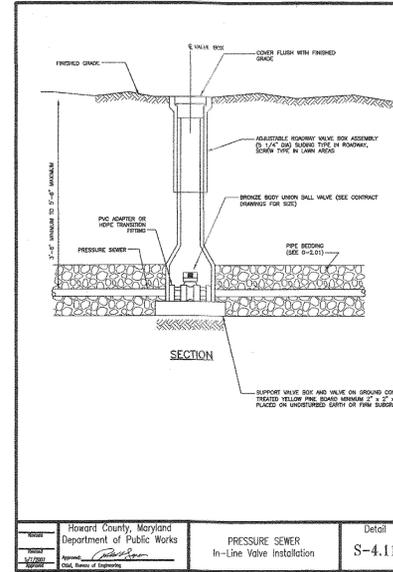
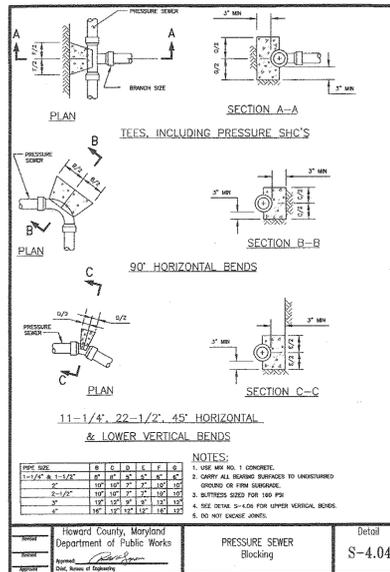
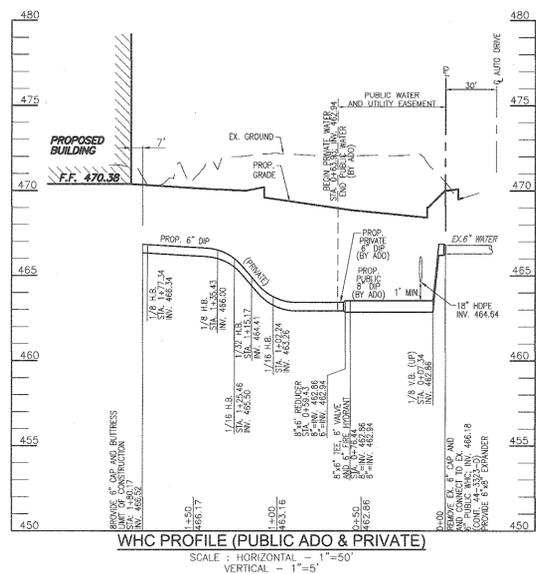
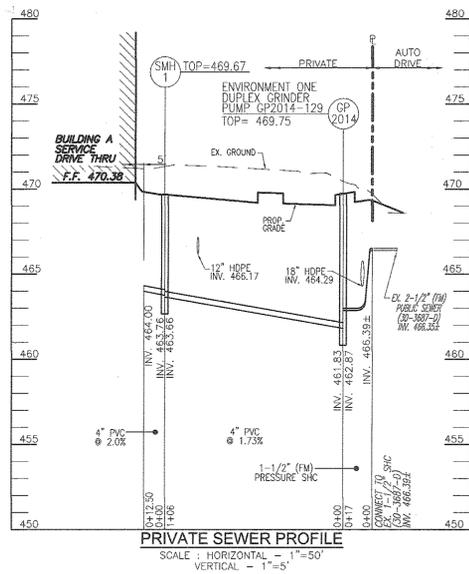
DATE: MARCH 2015

SCALE: AS SHOWN

W.O. NO.: 12-48

7 SHEET OF 11





AS-BUILT CERTIFICATION FOR PSWM
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT LOGGING OF THE UNDERGROUND SWM FACILITY.

P.E. NAME: J.P.E. DATE: 2/20/18
 P.E. # 16193

NO AS-BUILT INFORMATION ON THIS SHEET



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: 6-1-16
 Chief, Division of Land Development: 6-9-16
 Director: 6-9-16

OWNER/PETITIONER
 ANTOY LLC
 12420 AUTO DRIVE
 CLARKSVILLE, MD. 21029
 (410) 531-5700

1	REVISE PLAN TO MODIFY THE BUILDING, PARKING LOT, UTILITIES AND SWM.	04/07/16
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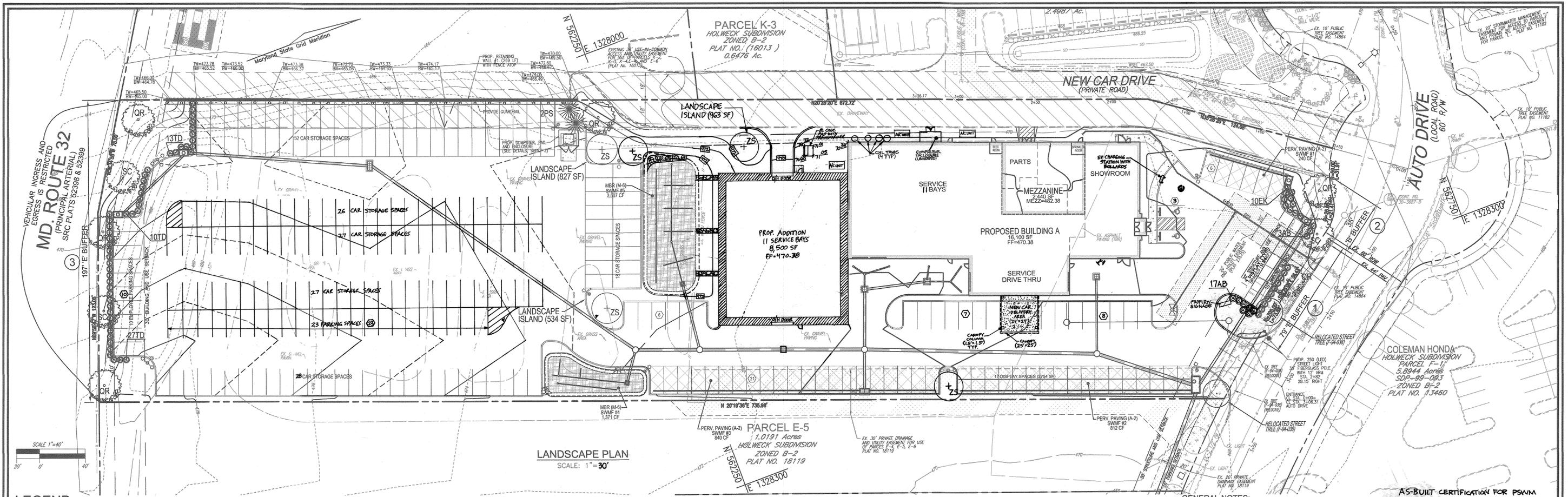
REVISED SITE DEVELOPMENT PLAN
 UTILITY DETAILS AND PROFILES
 ANTWERPEN HYUNDAI
 PARCEL E-7, HOLWECK SUBDIVISION
 PLAT 23575
 ZONED: B-2
 TAX MAP 34, BLOCK 06
 5TH ELECTION DISTRICT
 PARCEL 365
 HOWARD COUNTY, MARYLAND

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

PROFESSIONAL CERTIFICATE
 DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHY
 DATE: MAY 2016
 SCALE: AS SHOWN
 W.O. NO.: 12-48

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE JURISDICTION OF THE STATE OF MARYLAND LICENSE NO. 16193 EXPIRATION DATE: 06-27-2018

8 SHEET OF 11



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPOSED TREELINE
- EXISTING TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED SIDEWALK

- EX. 20' DRAINAGE & UTILITY EASEMENT PLAT #18119
- EX. 20' WATER & UTILITY EASEMENT PLAT #18119
- EX. 30' USE-IN-COMMON ACCESS EASEMENT PLAT #16103
- PROP. 20' PUBLIC WATER & UTILITY EASEMENT PLAT #23575
- PROP. MICRO BIORETENTION AREA (M-6)
- PROP. PERVIOUS PAVEMENT (A-2)
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- LANDSCAPE PERIMETER
- EX. 10' PUBLIC TREE EASEMENT PLAT #11182

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER AND ROWWAYS (REQUIRED)				DUMPS/STER D
	1	2	3	4	
PERIMETER/FRONTAGE DESIGNATION	E	B	E	D	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	79'	35'	197'	21'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	79	35	197	21	TOTALS
SHADE TREES	1-49	2	1-50	1	1-80
EVERGREEN TREES	1-40	1*	1-40	1	1-81
SHRUBS	14	20	1-4	50	70
NUMBER OF PLANTS PROVIDED	2	1	5	1	9
SHADE TREES	-	-	-	-	2
EVERGREEN TREES	-	-	-	-	2
EX SHADE TREES	-	-	-	-	2
OTHER TREES (2:1 SUBSTITUTION)	20	10*	50	-	80
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	* 10 SHRUBS PLANTED IN SUBSTITUTION OF 1 EVERGREEN TREE IN PERIMETER 2.				

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT
QR	6	QUERCUS RUBRA NORTHERN RED OAK	2 1/2" - 3" CAL.	B & B
SC	3	PRUNUS SARGENTII SARGENT CHERRY	2 1/2" - 3" CAL.	B & B
ZS	4	PRUNUS SEROTINA 'VILLAGE GREEN' VILLAGE GREEN JAPANESE ZELCOVA	2 1/2" - 3" CAL.	B & B
PS	2	PRUNUS STRIBILIS EASTERN WHITE PINE	6" - 8" HT.	B & B
AB	20	AZALEA 'BLAW'S PINK' BLAW'S PINK AZALEA	18" - 24" SPREAD	B & B
EX	10	EUNYMIS KNAUTHSCHOWUS 'MANHATTAN' MANHATTAN EUNYMIS	2 1/2" - 3" HT.	B & B
TD	50	TAXUS MEDIA 'DENSIFORMIS' DENSIFORMIS YEW	2 1/2" - 3" HT.	B & B

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PROPOSED PARKING SPACES	95
NUMBER OF TREES REQUIRED (1/20 SPACES)	5
NUMBER OF TREES PROVIDED	5
SHADE TREES	5
OTHER TREES (2:1 SUBSTITUTION)	5

BIORETENTION PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
IG	13	ILEX GLABRA 'SHAMROCK' INKBERRY HOLLEY	1 GALLON	
IV	17	ITEA VIRGINICA 'HENRY'S GARNETT' VIRGINIA SWEETSPICE	1 GALLON	
HQ	19	HYDRANGEA QUERCIFOLIA OAKLEAF HYDRANGEA	1 GALLON	
LR	25	LEUCODHEON RACEMOSA FETTERBUSH	1 GAL.	
PV	32	PANICUM VIRGATUM SWITCHGRASS	1 GAL.	
BA	128	BAPTISIA AUSTRALIS FALSE INDIGO	4" POT	
AG	128	ACORUS GRAMINEUS 'OGON' GOLDEN VARIEGATED SWEET FLAG	1 OT.	

GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 18.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, THE REQUIRED FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DECORATOR'S AGREEMENT IN THE AMOUNT OF \$4,500 FOR THE REQUIRED 13 SHADE TREES, 3 EVERGREEN TREES, AND 70 SHRUBS.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DECORATOR'S AGREEMENT IN THE AMOUNT OF \$4,500 FOR THE REQUIRED 13 SHADE TREES, 3 EVERGREEN TREES, AND 70 SHRUBS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO DIGGING. IF PLANT QUANTITIES DIFFER FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- NO SUBSTITUTION SHALL BE MADE WITHOUT PRIOR APPROVAL FROM HOWARD COUNTY DEPT AND THE OWNER OR HIS REPRESENTATIVE.
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIAL TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

AS-BUILT CERTIFICATION FOR PSWM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

DATE: 1/6/18
 NAME: [Signature]
 TITLE: [Title]



NO AS-BUILT INFORMATION ON THIS SHEET

OWNER/PETITIONER
 ANTOY LLC
 12420 AUTO DRIVE
 CLARKSVILLE, MD. 21029
 (410) 531-5700

NO.	REVISION	DATE
6	REVISE PLAN TO ADD NEW CAR DELIVERY CANOPY	12-8-23
5	REVISE PLAN TO ADD BUILDING EXPANSION AND BY CHARGING STATION	6-27-23
4	REVISE PLAN TO ADD COMPRESSOR ENCLOSURE AND MECHANICAL EQUIPMENT	01/17/19
3	REVISE PLAN TO RELOCATE PROPERTY SIGN AND REMOVE 1 DISPLAY SPACE	02/10/17
1	REVISE PLAN TO MODIFY THE BUILDING, PARKING LOT, UTILITIES AND SWM.	04/07/16

REVISED SITE DEVELOPMENT PLAN

LANDSCAPE PLAN, NOTES AND DETAILS

ANTWERPEN HYUNDAI
 PARCEL E-7, HOLWECK SUBDIVISION
 PLAT 23575
 ZONED: B-2

TAX MAP 34 BLOCK 06
 5TH ELECTION DISTRICT

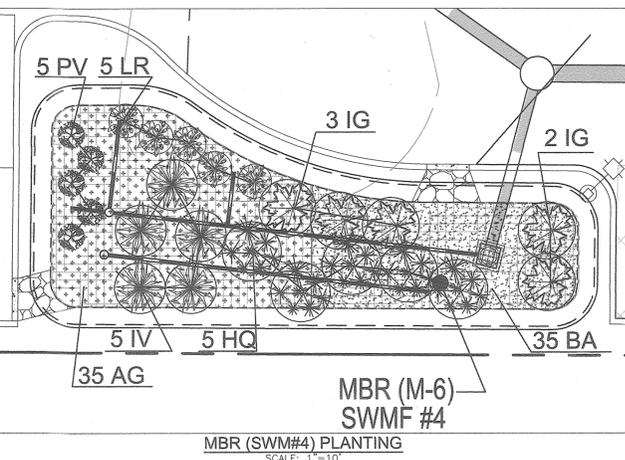
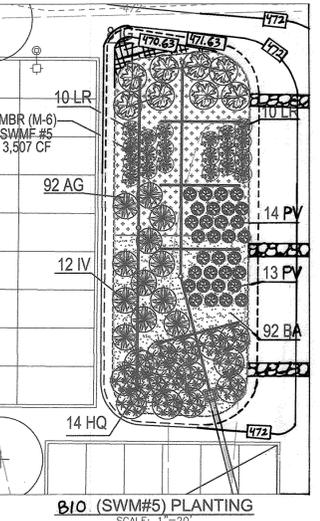
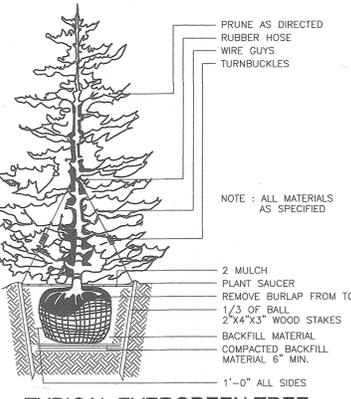
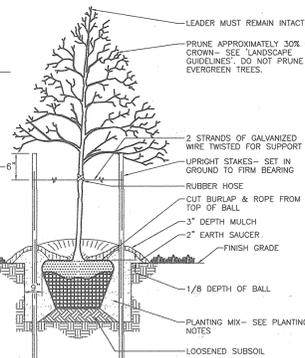
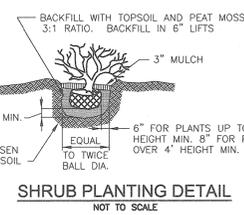
PARCEL 365
 HOWARD COUNTY, MARYLAND

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

PROFESSIONAL CERTIFICATE
 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. 18193, EXPIRATION DATE: 08-27-2018.

DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHV
 DATE: MAY 2016
 SCALE: AS SHOWN
 W.O. NO.: 12-48

9 SHEET OF 11



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

6-1-16
 DATE

6-9-16
 DATE

6-9-16
 DATE

TREE PLANTING AND STAKING
 DECIDUOUS TREES UP TO 2-1/2" CALIPER
 NOT TO SCALE

TYPICAL EVERGREEN TREE PLANTING DETAIL
 NOT TO SCALE

BIO (SWM#5) PLANTING
 SCALE: 1"=20'

MBR (SWM#4) PLANTING
 SCALE: 1"=10'

RETAINING WALL SPECIFICATION GUIDELINES

PART 1: GENERAL

- 1.01 Description**
- Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.
 - Work includes furnishing and installing concrete modular block retaining wall units to the lines and grades shown on the construction drawings and as specified herein.
 - Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and reinforced backfill to the lines and grades shown on the construction drawings.
 - Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction drawings.
- 1.02 Reference Standards**
- ASTM C 90 Load Bearing Concrete Masonry Units.
 - ASTM C 140 Sampling and Testing Concrete Masonry Units.
 - ASTM D 448 Sizes of Aggregate for Road and Bridge Construction.
 - ASTM D 698 Laboratory Compaction Characteristics using Standard Effort.
- 1.03 Delivery, Storage and Handling**
- Contractor shall check the materials upon delivery to assure that proper materials have been received.
 - Contractor shall prevent excessive mud, wet cement, epoxy, and similar materials (which may affix themselves) from coming in contact with the materials.
 - Contractor shall protect the materials from damage and exposure to sunlight. Damaged materials shall not be incorporated into the retaining wall structure and backfill.
- 1.04 Quality Assurance**
- Owner will be responsible for soil testing and construction observations for quality control during earthwork and retaining wall construction operations.

PART 2: MATERIALS

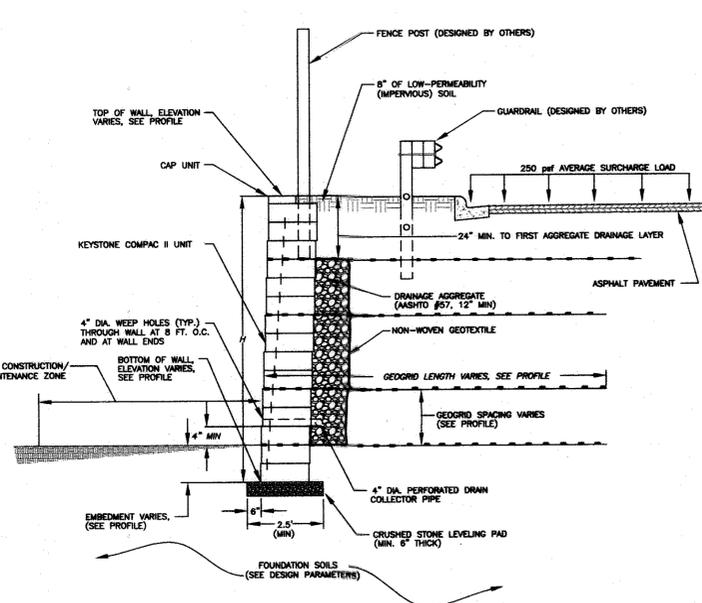
- 2.01 Definitions**
- Modular Wall Units - KEYSTONE modular concrete facing and corner units, machine made from portland cement, water, and mineral aggregates.
 - Structural Geogrid - a structural geogrid formed by a regular network of integrity connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.
 - Unit Fill/Drainage Aggregate - drainage aggregate, such as No. 57 Stone, which is placed within the cells of the modular concrete units and immediately behind the units to a width of at least 12 inches.
 - Reinforced Backfill - Compacted soil which is within the reinforced soil volume as shown on the plans.
 - Excavation Face - The interface between the reinforced backfill and the retained fill. During construction, measures shall be taken to avoid developing a shear plane at this interface.
 - Retained Backfill - On-site material located behind the reinforced zone of soil.
- 2.02 Concrete Units**
- Concrete segmental units shall conform to the requirements of NCHA TEK 2-4 and have a minimum 28-day compression strength of 4,000 psi. The units shall also pass 150 freeze thaw cycles in water with less than 1% weight loss for samples tested in accordance with ASTM C-1262.
 - Wall Face Units for general wall construction shall be KEYSTONE Compac II Units. Sculptured face or straight (flat) face may be used.
 - Top of wall Cap Units shall be KEYSTONE Cap Units with fiberglass connecting pins.
 - KEYSTONE Compac II Units shall be tan in color, based on manufacturer's availability.
- 2.03 Fiberglass Connecting Pins**
- Connecting pins shall be 1/2" diameter thermo-set isophthalic polyester resin-pultruded fiberglass reinforcement rods supplied by the unit manufacturer.
- 2.04 Construction Adhesive**
- Construction adhesive for top of wall cap blocks shall be KEYSTONE KapSealTM. Material shall conform to ASTM 2339 and shall be supplied by the block unit supplier.
- 2.06 Soil Fill Materials**
- Base Leveling and Pad Material
 - Material shall consist of crushed stone (GA S/B) as shown on the construction drawing. The leveling pad shall be, at a minimum, 6-inches thick. MSHA No. 57 Stone or pea gravel is not permitted.
 - Unit Fill/Drainage Aggregate
 - Fill for units shall be free draining crushed stone or gravel, with a maximum aggregate size of 1/2" to 3/4" and no more than 5% passing the No. 50 sieve and conforming to ASTM D 448. Gradation of the unit fill shall be approved by the Geotechnical Engineer. Pea gravel shall not be used. MSHA No. 57 stone may be used.
 - Reinforced Backfill
 - Material shall consist of soil classified as SM or more granular soils per USCS with minimum soil parameters as indicated under design parameters. The backfill material shall contain no particles greater than 2.5 inches in diameter. The backfill material shall contain at least 30 percent by weight retained on the US Standard No. 200 sieve. Other backfill materials may be approved by the Geotechnical Engineer.
 - Impervious Soil
 - Material may be imported or site excavated soils exhibiting a USCS designation of a lean clay (CL) or clayey sand (SC). The material shall contain no less than 40 percent by weight passing the US Standard No. 200 sieve and exhibit a plasticity index no less than 4 and no greater than 20. Other materials may be approved by the Geotechnical Engineer.
 - Sample Submittal
 - The contractor shall submit samples and material specifications of the proposed backfill soils (unit fill, pad material, reinforced backfill) to the Geotechnical Engineer for approval.
 - Soil must meet or exceed the friction angle specified in design parameters.
- 2.07 Structural Geogrid**
- The geogrid identified for the retaining wall consists of the following:
 - Mirafi 5XT.
 - The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation.
- 2.08 Geotextile**
- A non-woven geotextile shall be utilized as shown on the plans to provide a filter between the unit fill/drainage aggregate and the reinforced backfill.
 - The geotextile shall consist of a Mirafi 140N.
 - Where geogrids are located, the geotextile shall be placed as illustrated on the plans. At junctions and ends, the geotextile shall be overlapped at least 12 inches. The geotextile shall be placed so that intimate contact is made between the geotextile and the backfill material.
 - Ripped or otherwise damaged material shall not be used. The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation.

PART 3: INSTALLATION

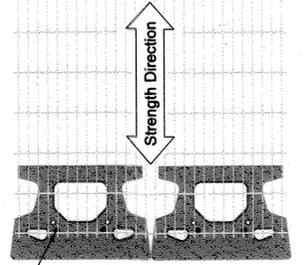
- 3.01 Excavation**
- Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.
 - All existing topsoil, roots and other soft or unstable materials shall, at a minimum, be removed from the footprint of the retained soil mass.
 - If groundwater is encountered during the excavation of the backslope, a backslope drainage system shall be utilized. The system shall tie into the internal wall drainage system to provide adequate release of any water which accumulates behind the reinforced zone.
- 3.02 Foundation Preparation**
- Foundation shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Geotechnical Engineer.
 - The required bearing pressure beneath the footing of the wall must be verified in the field by a Geotechnical Engineer.
 - Unsuitable soils shall be removed and replaced with approved material.
 - Over-excavated areas shall be backfilled with approved, compacted backfill material or as approved by the Geotechnical Engineer.
- 3.03 Base Leveling Pad**
- Leveling pad materials shall be placed upon an approved foundation as shown on the construction drawings to a minimum thickness of 6 inches.
 - Aggregate material shall be compacted to provide a dense, level surface on which to place the first course of modular units. Compaction shall be to at least 95% of the maximum dry density as determined by the Standard Proctor Compaction Test (ASTM D 698). Leveling pad shall be prepared and placed to ensure complete contact of retaining wall unit with base.
- 3.04 Unit Installation**
- The first course of concrete modular units shall be carefully placed on the base leveling pad. Each unit shall be checked for level (in both directions) and alignment.
 - Install fiberglass connecting pins and fill all voids in and around the modular units with unit fill material. Tamp or rod unit fill to ensure that all voids are completely filled.
 - Sweep excess material from top of units and install the next course. Ensure that the units of each course are completely filled, backfilled and compacted prior to proceeding to next course.
 - Place each subsequent course, ensuring that pins protrude into adjoining courses a minimum of 1 inch. Two pins are required per unit. Pull each unit forward to obtain the desired offset (as noted on the plans), away from the fill zone, locking against the pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height. Wall construction shall not exceed 2 courses in height before reinforced backfill is placed.
 - Follow wall erection and unit fill placement closely with any other backfilling required. Compaction of all soils shall be to 95% of the maximum dry density as determined in accordance with ASTM D 698.
 - As appropriate where the wall changes elevation, units can be stepped with the grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.
- 3.05 Geogrid Installation**
- The geogrid type and length (direction perpendicular to the wall face) shall conform to those indicated on the construction drawings. Geogrid shall be laid continuously at the proper elevations and orientation as shown on the construction drawings or as directed by the Geotechnical Engineer.
 - Correct orientation (roll direction) of the geogrid shall be verified by the Contractor.
 - The geogrid shall be connected to the modular wall units by placing the geogrid over fiberglass pins and into the grid back to the fill side.
 - A filtering, non-woven geotextile shall be located between the drainage aggregate/unit fill and the reinforced backfill. The geotextile shall be rolled out, unrolled, and placed over the geogrid or necessary to ensure continuous grid placement.
 - The geogrid shall be pulled taut to set the geogrid against the fiberglass pins and to eliminate loose folds in the material. The fill surface shall be level. To tension the geogrid, backfill shall be placed over geogrid from immediately behind the wall to the back end of the geogrid.
 - No geogrid overlap will be allowed in any direction perpendicular to the wall face except at corners or angled locations. The geogrid shall overlap rather than provide no covers. A minimum of 4 inches of soil cover is required between overlapping layers of geogrid.
- 3.06 Drainage Installation**
- Provide 4-inch weep holes every 8 feet along the wall.
- 3.07 Fill Placement**
- Backfill material shall be placed in 8 inch loose lifts and compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.
 - Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid. Backfill shall be placed in horizontal layers. The excavation face shall be stepped or notched to provide compaction of backfill on a level surface and to increase the interface between the retained soil and the reinforced backfill.
 - Only hand-operated compaction equipment shall be allowed within 5 feet of the back surface of the KEYSTONE or equivalent units.
 - Backfill shall be placed from immediately behind the wall towards the excavation face/retained soils and compacted to the specifications presented herein with appropriate compaction equipment.
 - Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 8 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles shall not be permitted over the geogrid.
 - Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds (less than 10 mph). Avoid sudden braking and sharp turning.
 - The suitability of the fill material must be confirmed by a Geotechnical Engineer.
 - The upper 8 inches of wall backfill shall consist of impervious soil, compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.
- 3.08 Cap Installation**
- Provide permanent mechanical connection to wall units with KEYSTONE KapSealTM.
 - Apply adhesive to surface of lower unit and place cap unit adhesive.
 - Place Cap Units over projecting pins from the units below. Pull forward to setback position.
 - Backfill and compact to finished grade.

DESIGN PARAMETERS

Configuration:	Soil Parameters:	Minimum Friction Angle	Minimum Unit Weight (pcf)
Battered face wall (4 DEG.)	Soil Type		
10'-6" / 3,000	Reinforced fill (Dr. SC or more granular)	30	120
Maximum Exposed Wall Height / Minimum Allowable Bearing Pressure (psf):	Retained soils	28	120
Backslope Angle: Varies (3H:1V maximum)	Foundation soils	28	120
Toe Slope Angle: Varies (10H:1V maximum)			
Wall Embedment: Varies (12 inches minimum) (See Profile)			

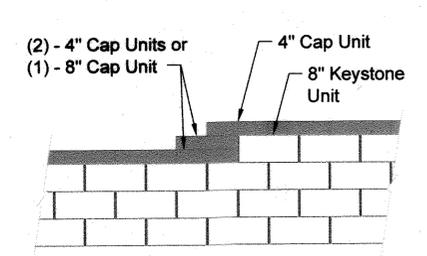


Typical Reinforced Wall Section Standard Unit - 1" Setback



Geogrid is to be Placed on Level Backfill and Extended Over the Fiberglass Pins. Place Next Unit. Pull Grid Taut and Backfill. Stake as required.

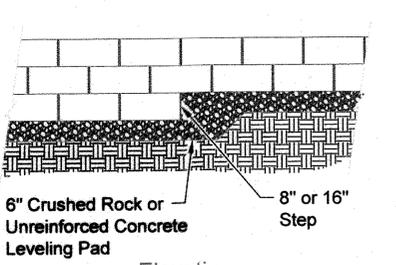
Grid & Pin Connection



Compac II Elevation

Note:
1. Secure all cap units with Keystone Kapseal or equal.

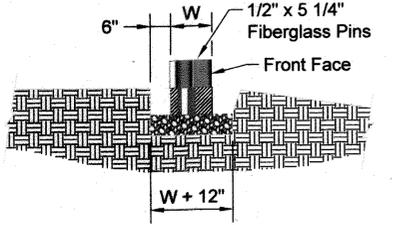
Top of Wall Steps



Compac II Unit

* Dimensions May Vary by Region

Note:
1. The leveling pad is to be constructed of crushed stone or 2000 psi ± unreinforced concrete.



Leveling Pad Detail

Cap Unit Elevation

Cap Unit Plan

Straight Split Cap Unit Option

OWNER/PETITIONER

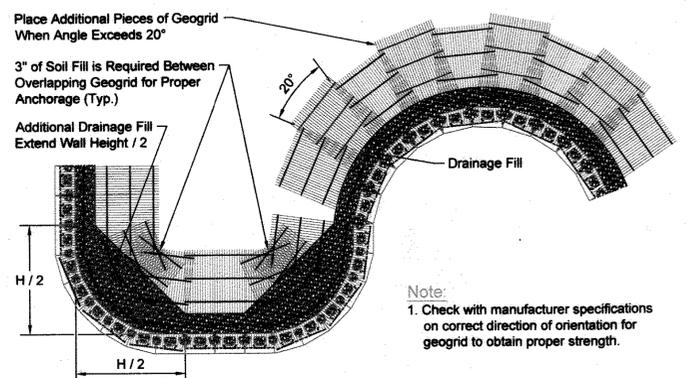


AS-BUILT CERTIFICATION FOR PSWM

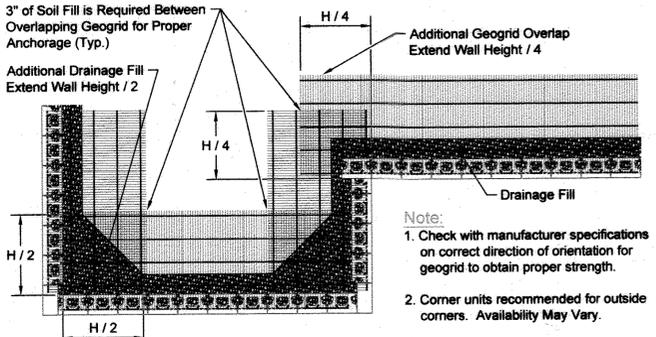
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOSURES OF THE UNDERGROUND SWM FACILITY.

DATE: 16/93
PE #:
DATE: 3/20/18

NO AS-BUILT INFORMATION ON THIS SHEET



Geogrid Installation on Curves



Geogrid Installation at Corners

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: 10-8-15
 Chief, Division of Land Development: 12-29-15
 Director: 12-30-15

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN

ANTWERPEN HYUNDAI
PARCEL E-7, HOLWECK SUBDIVISION

TAX MAP 34, BLOCK 06, 5TH ELECTION DISTRICT
 PARCEL 365, HOWARD COUNTY, MARYLAND

1340 CHARWOOD ROAD
 SUITE A
 HANOVER, MARYLAND 21078
 PHONE: (410) 859-4300
 FAX: (410) 859-4324

PROFESSIONAL CERTIFICATE

DESIGN BY: [Signature]
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 02/20/18
 SCALE: AS SHOWN
 SHEET NO. 11 OF 11