SITE DEVELOPMENT PLAN

MEADOWRIDGE 95

PARCEL 'A'

ZONED: M-1

TAX MAP No. 37 GRID No. 22 PARCEL Nos. 652 and 378

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

DESIGN NARRATIVE

Introduction:
This report will demonstrate how the criteria set forth in the Maryland Stormwater Design Manual, Volumes I and II (effective October 2000, revised May 2009) will be satisfied on this project. The goal of creating hydrology similar to that of "Woods in Good Condition" will be accomplished though the use of the practices contained within Chapter 5 of said manual. The achievement of this goal will remove the requirement of providing Channel Protection Volume.

General Site Conditions:
This property is located on Tax Map 37, Parcel No. 652 & 378 on the Howard County, Maryland Tax Map Database System and consists of 9.38 Acres of land. This site consist of two properties possessing approximately 300' of road frontage on Maryland Route 103 (Meadowridge Road). These properties share a common line running in a westerly direction for approximately 500'. At this point Parcel 652 extends approximately 650' into a larger wooded portion of the site. This wooded portion, where the a gravel storage area is being proposed, is estimated to be 6+ Acres in size. An elevation of 218 located in the area of the road frontage is lowest point of the site. The elevations increase from Maryland Route 103 to the west at a slope averaging 6% to a maximum elevation of 294 feet. There is an existing gravel area of approximately 44,905 SqFt. located on the eastern portion of the site. The adjoining property to the south contains a large warehouse and is part of the Meadowridge Business Park. To the north are several smaller formerly residential properties, which are now zoned M-1. There is also a portion of the northern boundary that is adjoined by the right-of-way of Interstate 95.

I. Natural Resource Protection:
The nature of this site and the needs of the future owner's business necessitate the need for the bulk of the improvements to be located outside of the pan handle area of the property. Limited by these constraints this design only allows for a small portion of the existing trees to be retained and placed into a Forest Conservation Easement. It should be noted that the topography is favorable to allowing the proposed Bio-retention facilities and Sand Filters to be located near the perimeter of the property allowing additional buffering to the surrounding properties.

II. Maintenance of Natural Flow Patterns:
It is the intent of the proposed design to discharge runoff similar to the characteristics and direction of this site prior to any of the proposed improvements. Originally the site flows from west to east on a gradual slope, creating sheet flow towards existing parcels 378 and 335. This existing flow accumulates in an existing SWM facility, which will be re-constructed to a submerged gravel wetland, located on the east side of Parcel 378, then proceeds through a culvert to cross Meadowridge Road. The proposed drainage on this site is designed to be diverted through several Bio-retention facilities, underground storage areas, and the submerged gravel wetland then piped through a storm drain system to a proposed structure located on the upstream side of the previous mentioned culvert, which has been shown to be replaced by two 14"x23" elliptical pipes. The proposed storm drain system has been designed to keep untreated stormwater from leaving the property. Although the rear of the existing parcels will see a reduction of drainage, resulting in a possible improvement in the quality in these parcels, the overall flow patterns of this area will be maintained. The runoff that previous drained to adjacent owners to the south and ultimately into the existing SWM pond will be captured by both storm drains and swales and discharged into the proposed SWM facilities. The proposed storm drains will be privately owned and maintained. Also, no drainage easements are required or have been proposed on this site. Though no specific waterway exists on-site, runoff from this site will enter an unnamed stream to the north. The existing site is partially wooded and the future site will discharge runoff with the characteristics of woods in good condition, with the receiving stream continuing to maintain the same characteristics as pre-construction.

III. Reduction of Impervious Areas through better site design, alternative surfaces and Nonstructural Practices
Only the areas necessary to meet County requirements and provide a safe and effective work environment for this type of construction contractor are being paved. Although the impervious areas have increased, the bulk of these impervious areas are being treated to provide the full ESDV. The only areas where treatment is not being provided is the area of road widening.

IV. Integration of Erosion and Sediment Controls into Stormwater Strategy:
This site will utilize areas designated as Sand Filters and Bio-Retention facilities as sediment traps during construction.

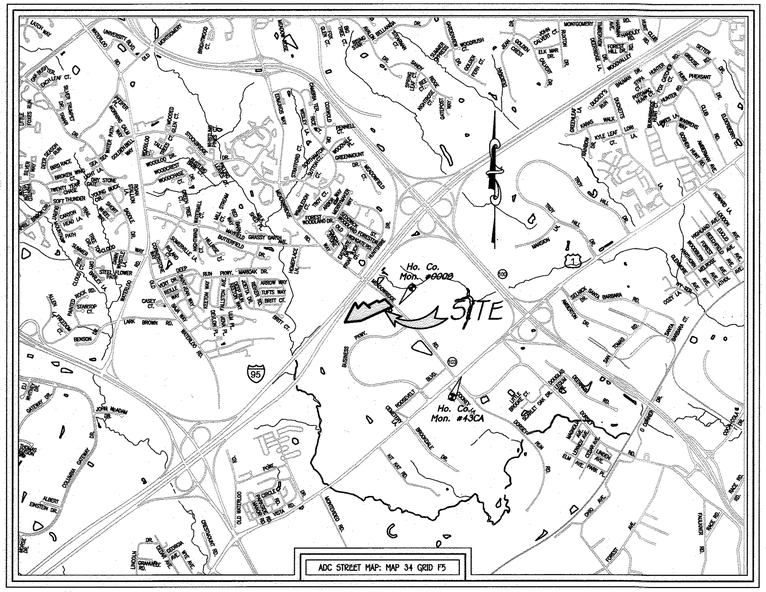
V. Implementation of ESD Planning Techniques and practices to the Maximum Extent Practicable (MEP)
This site will utilize three F-6 Bio-retention facilities, and two (M-6) Micro-Bioretention facilities and one (M-2) Submerged Gravel Wetland to treat all proposed impervious areas located on site. This type of commercial use requires a large unencumbered storage area which creates drainage areas exceeding the 1/2 acre limit required by Chapter V of the MDE Manual. Because this scenario was encountered, Chapter three facilities have been provided. In all cases quality treatment is being provided. All of the proposed facilities, excepting M-6(5) located within the State Highway Right-of-Way, will be owned and maintained by the owner of the subject property.

Request for Design Manual Waiver:
A waiver to Volume III section 2.9 C of the Design Manual to allow the use of a gravel storage lot has been provided as part of the submission of the SDP.

SITE ANALYSIS DATA CHART

A. TOTAL AREA OF THIS SUBMISSION = 9.38 Ac.+.
B. LIMIT OF DISTURBED AREA = 403,506 SqFt. or 9.26 Ac+.
C. PRESENT ZONING DESIGNATION = M-1
(PER 10/06/2013 COMPREHENSIVE ZONING PLAN).
D. PROPOSED USE: CONTRACTOR'S OFFICE, OUTDOOR AND INDOOR STORAGE FACILITY
EXISTING 2 STORY BUILDING USE: OFFICE 4,752 SqFt. (2,376 SqFt. per floor)
PROPOSED BUILDING USE:
OFFICE 1,137 SqFt.
STORAGE 12,519 SqFt.
E. TOTAL FLOOR SPACE OF BUILDING: 18,408 SqFt.
PROPOSED BUILDING: 13,656 SqFt.
EXISTING BUILDING: 4,752 SqFt. (2,376 SqFt. per floor)
F. PARKING REQUIRED:
OFFICE: 20 SPACES BASED ON A TOTAL OFFICE SPACE OF 5,889 SqFt.
@ (3.3 PER 1000 SqFt.)
STORAGE: 10 SPACES (0.75 SPACE PER 1,000 SqFt.)
G. PARKING PROVIDED: 31 SPACES (29 STANDARD, 2 HANDICAP)
H. OPEN SPACE ON SITE: N/A
I. RECREATIONAL AREA PROVIDED: N/A
J. BUILDING COVERAGE OF SITE: 16,032 SQ.FT. OR 0.37 Ac.+
K. PREVIOUS HOWARD COUNTY FILES: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
L. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE: 0.00 Ac.
M. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 Ac.
N. NET TRACT AREA = 9.38 Ac+
(TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA)
O. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 Ac+
P. TOTAL AREA OF FOREST = 4.30 Ac.+
Q. TOTAL GREEN OPEN AREA = 4.85 Ac.+
R. TOTAL IMPERVIOUS AREA = 4.53 Ac.+
S. AREA OF ERODIBLE SOILS = 9.38 Ac.+

0' 2000' 4000' 8000'
Scale: 1" = 2000'



VICINITY MAP
SCALE: 1" = 2000'

BENCHMARK INFORMATION

HOWARD COUNTY CONTROL STATION #000B - HORIZONTAL - NAD '83)
N 554,701.8067
E 1,377,647.6025
ELEVATION = 215.333 - VERTICAL - (NAVD '88)

HOWARD COUNTY CONTROL STATION #43CA - HORIZONTAL - (NAD '83)
N 552,686.1301
E 1,379,386.3784
ELEVATION = 191.601 - VERTICAL - (NAVD '88)

LEGEND

SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	EROSION CONTROL MATTING
LOD	LIMIT OF DISTURBANCE
18" SD	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
	PROPOSED STORMWATER MANAGEMENT
	EXISTING STORMDRAIN
	EXISTING SEWER
	EXISTING WATER
	EXISTING WATER, SEWER, & UTILITY EASEMENT
	PROPOSED FENCE
	EXISTING CONCRETE SURFACE
	PROPOSED CONCRETE SURFACE
SSF	SUPER SILT FENCE
▼	DENOTES POINTS OF INGRESS AND EGRESS
	EXISTING TO BE REMOVED
	PROPOSED GRAVEL
	PROPOSED PAVING
	EXISTING GRAVEL
	EARTH DIKE

STORMWATER MANAGEMENT SUMMARY TABLE

AREA ID	ESDV Req. Cu.Ft.	ESDV Pvd. Cu.Ft.	% Impervious	Remarks
F-6 (1)	2,478 (STORAGE)	2,872 (STORAGE)	81%	Bio-retention
F-6 (2)	1,671 (STORAGE)	1,849 (STORAGE)	90%	Bio-retention
F-6 (3)	2,107 (STORAGE)	2,302 (STORAGE)	77%	Bio-retention
F-6 (4)	2,299 (STORAGE)	2,471 (STORAGE)	92%	Bio-retention
M-2 (1)	16,674 (STORAGE)	17,509 (STORAGE)	88%	Submerged Gravel Wetland

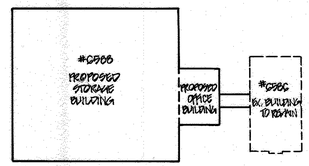
GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY AND UTILITIES HAVE BEEN TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. ON OR ABOUT MARCH 26, 2012.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 000B AND 43CA WERE USED FOR THIS PROJECT.
8. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER WILL BE PROVIDED FOR THIS SITE BY CONTRACT#44-3682-D, (DRAINAGE AREA=PATAPSCO). PUBLIC SEWER WILL BE PROVIDED FOR THIS PROJECT BY CONTRACT#10-1523-D, (DRAINAGE AREA=PATAPSCO).
9. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. WE ARE PROPOSING THE USE OF ONE AREA OF (N-2) NON-ROOFTOP DISCONNECTION CREDIT, TWO (M-6) MICRO-BIORETENTION FACILITY AND ONE (F-6) BIO-RETENTION FACILITIES, ONE (F-1) SURFACE SAND FILTER, AND ONE (F-2) UNDERGROUND SAND FILTER. ALL OF THE PROPOSED SWM DEVICES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE PROPERTY OWNER.
10. THERE ARE NO FLOODPLAIN, WETLANDS, STREAMS AND/OR ITS BUFFERS ON THIS SITE.
11. THE SUBJECT PROPERTY IS ZONED M-1 PER 10/06/13 COMPREHENSIVE ZONING PLAN.
12. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
13. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION HAS BEEN FULFILLED BY PROVIDING 0.60 ACRE OF ON-SITE FOREST RETENTION AND 0.20 ACRE OF ON-SITE PLANTING FOR A TOTAL OF 0.80 ACRES. THERE IS NO SURETY REQUIRED FOR ON-SITE FOREST RETENTION. SURETY FOR ON-SITE REFORESTATION @ $0.50/SQ. FT. FOR 8,630 SQ. FT. = $4,315.00 WAS POSTED UNDER F-14-122. THE REMAINING OBLIGATION OF 2.51 ACRES IS BEING PROVIDED OFF-SITE.
14. 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 43 SHADE TREES, 9 EVERGREEN TREES AND 20 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $14,700.00.
15. THE PROPOSED BUILDING SHALL BE PROVIDED WITH AN INSIDE COMBINED FIRE/DOMESTIC METER SETTING ARRANGEMENT. THE DOMESTIC METER SIZE SHALL BE 1".
16. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENT (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
17. 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 (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.
18. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, DATED JUNE, 2014, AND WAS APPROVED ON
19. WAIVER PETITION WP-15-045 TO WAIVE SECTION 16.1205(a)(7) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WAS APPROVED ON OCTOBER 6, 2014. SECTION 16.1205(a)(7) OF THE AMENDED FIFTH EDITION ON SITE FOREST RETENTION SPECIMEN TREES ARE CONSIDERED PRIORITY FOR AN ON-SITE RETENTION AND PROTECTION IN THE COUNTY. THE APPLICANT PROPOSES TO REMOVE ONE (10 SPECIMEN TREE (TREES HAVING A 30" DIAMETER AT BREAST HEIGHT).

APPROVAL WAS SUBJECT TO THE FOLLOWING FOUR (4) CONDITIONS:

1) REPLACEMENT MITIGATION FOR THE 1 SPECIMEN TREE (37" DBH GREEN ASH) TO BE REMOVED AT A 1-TO-1 RATIO REPLACEMENT TO BE PLANTED WITHIN OR NEAR THE PROPOSED FOREST CONSERVATION EASEMENT AREA.
2)THE FOREST REPLANTING (WITHIN THE FOREST CONSERVATION EASEMENT) ALONG THE I-95 RIGHT -OF-WAY MUST BE OF EVERGREEN TREES. PLEASE REVISE THE FOREST CONSERVATION PLAN FOR SDP-15-054 ACCORDINGLY.
3) ON THE LANDSCAPE PLAN, REVISE THE "P3" BUFFER WITH EVERGREEN TREES (AT A 2:1 SUBSTITUTION RATION FOR DECIDUOUS TREES). PLEASE REVISE THE LANDSCAPE PLAN FOR SDP-14-054 ACCORDINGLY.
4)ON THE FINAL PLAT AND THE SITE DEVELOPMENT PLAN, PROVIDE A BRIEF DESCRIPTION OF THIS WAIVER PETITION, WP-15-045, AS A GENERAL NOTE THAT INCLUDES THE WAIVER REQUEST, SECTION OF THE REGULATIONS, ACTIONS AND DATE OF THE WAIVER APPROVAL.

20. DESIGN MANUAL WAIVER TO DESIGN MANUAL VOLUME III, SECTION 2.9.C, WHICH REQUIRES THAT THE PAVING SECTION OF PARKING LOTS SHALL BE IN ACCORDANCE WITH STANDARD DETAILS, VOLUME IV, TO ALLOW GRAVEL TO BE USED FOR THE STORAGE AREA IN THE REAR OF THE PROPERTY WAS APPROVED ON SEPTEMBER 18, 2014.



ADDRESS CHART	
STREET ADDRESS	
PARCEL 'A'	6586 MEADOWRIDGE ROAD
PARCEL 'B'	C88B MEADOWRIDGE ROAD

NO.	REVISION	DATE
2	REVISED SHEET INDEX, DESIGN NARRATIVE & SWM SUMMARY TABLE	2/10/17
1	REVISED ADDRESS CHART TO REFLECT NEW BUILDING	2/20/15

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

STATE OF MARYLAND
ALDO MICHAEL VITUCCI
No. 20748
PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — DATE 1/21/15

Owner
WALTER F. GAINER, REVOCABLE TRUST
6586 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410) - 795 - 8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-795-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — DJ — 2-17-15 Date

Chief, Development Engineering Division — 2.13.15 Date

Director - Department of Planning and Zoning — 2/23/15 Date

PROJECT			SECTION	PARCEL NO.
MEADOWRIDGE 95			-	'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	97	FIRST	6012.02
WATER CODE			SEWER CODE	
N/A			N/A	

TITLE SHEET

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

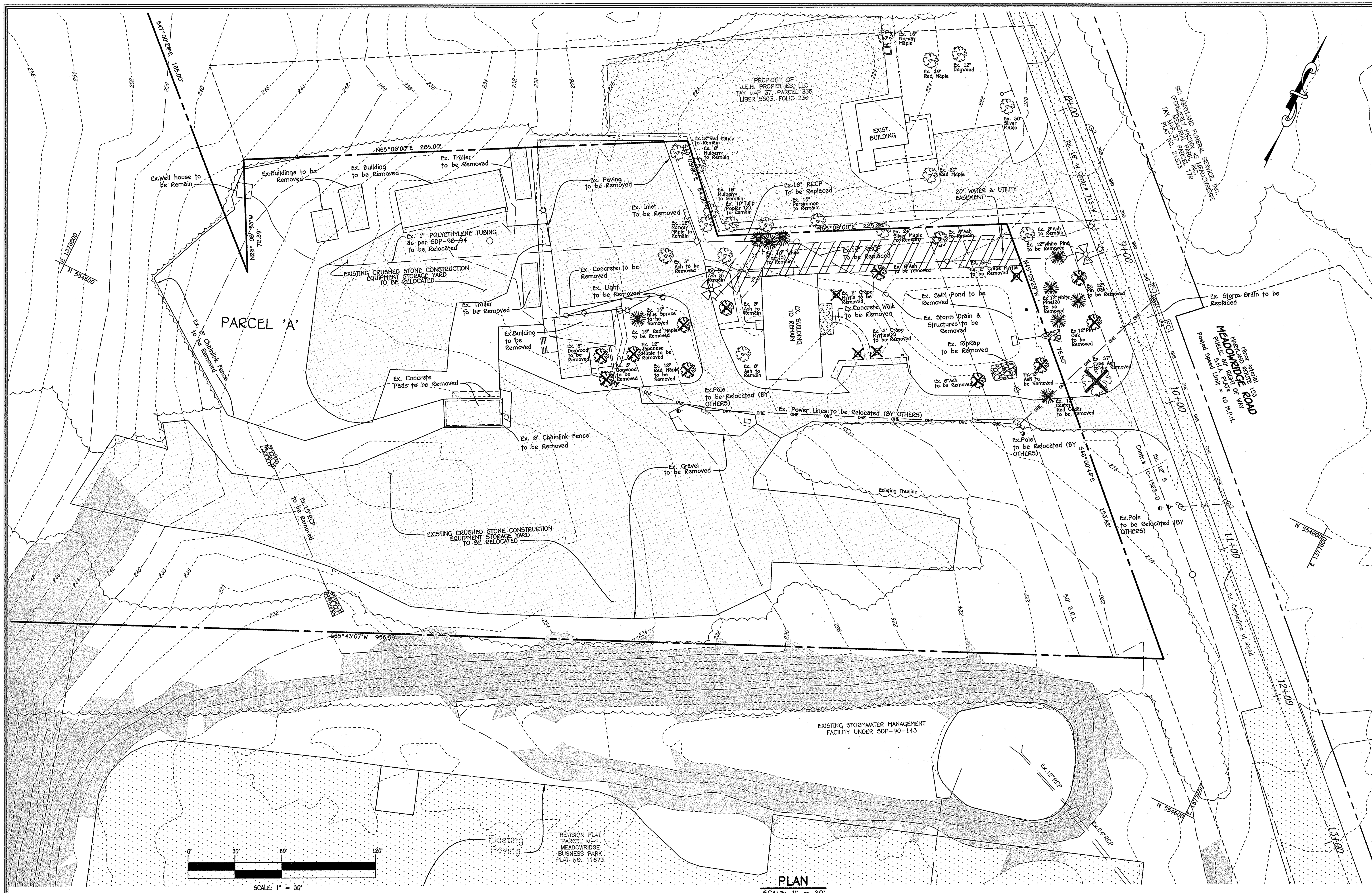
PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015
SHEET 1 OF 29

SDP-14-054



PLAN
SCALE: 1" = 30'

LEGEND

SYMBOL	DESCRIPTION
- - - - - -	EXISTING CONTOUR 2' INTERVAL
— — —	EXISTING CONTOUR 10' INTERVAL
———	PROPOSED CONTOUR 2' INTERVAL
———	PROPOSED CONTOUR 10' INTERVAL
	EROSION CONTROL MATTING
LOD	LIMIT OF DISTURBANCE
18" SD	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
	PROPOSED STORMWATER MANAGEMENT
	EXISTING STORMDRAIN
	EXISTING SEWER
	EXISTING WATER
	EXISTING WATER, SEWER, & UTILITY EASEMENT
— x — x —	PROPOSED FENCE
	EXISTING CONCRETE SURFACE
	PROPOSED CONCRETE SURFACE
—SSF—	SUPER SILT FENCE
▼	DENOTES POINTS OF INGRESS AND EGRESS
	EXISTING TO BE REMOVED
	PROPOSED GRAVEL
	PROPOSED PAVING
	EXISTING GRAVEL
▬ ➡	EARTH DIKE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE

STATE OF MARYLAND · ALDO MICHAEL VITUCCI · No. 20748 · PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — 1-21-15 (DATE)

Owner
APCO 14 LLC
c/o Asset Preservation, Inc.
1420 Rocky Ridge Drive-Suite 100
Roseville, Ca. 95661
Attn: Diane Fox
(916)-945-3530

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15
Chief, Development Engineering Division — Date 2-13-15
Director – Department of Planning and Zoning — Date 2/13/15

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	2	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015
SHEET 2 OF 21

SDP-14-054

LEGEND

SYMBOL	DESCRIPTION
230	EXISTING CONTOUR 2' INTERVAL
228	EXISTING CONTOUR 10' INTERVAL
228	PROPOSED CONTOUR 2' INTERVAL
230	PROPOSED CONTOUR 10' INTERVAL
×362.2	SPOT ELEVATION
	EXISTING SEWER LINE
	EXISTING STORM DRAIN LINE
	EXISTING WATER LINE
15"RCCP	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
8"W	PROPOSED WATER
	EXISTING CHAINLINK FENCE
	EXISTING WOOD PRIVACY FENCE
× × × × ×	AREA TO BE RESERVED TO THE MSHA
	EXISTING OVERHEAD WIRE
	EXISTING OVERHEAD ELECTRIC
	EXISTING TREE
LOD	LIMIT OF DISTURBANCE
	PROPOSED PAVING
	PROPOSED GRAVEL
	MSHA PROPOSED FULL DEPTH PAVEMENT
	MSHA PROPOSED OVERLAY
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PUBLIC FOREST CONSERVATION EASEMENT
	PROPOSED FENCE

0' 50' 100' 200'

Scale: 1" = 50'

PLAN
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REPLACEMENT SHEET RELOCATE swm 3 + 4	7/24/19
1	REPLACEMENT SHEET	2/10/17

STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748 PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/21.

ALDO M. VITUCCI, P.E. 7/25/19 DATE

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 8-21-19 Date
Chief, Development Engineering Division — 8.15.19 Date
Director - Department of Planning and Zoning — 8-21-19 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET
SITE DEVELOPMENT PLAN

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 3 OF 25

SDP-14-054

LEGEND

SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	EROSION CONTROL MATTING
LOD	LIMIT OF DISTURBANCE
18" SD	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
	PROPOSED STORMWATER MANAGEMENT
	EXISTING STORMDRAIN
	EXISTING SEWER
	EXISTING WATER
	EXISTING WATER, SEWER, & UTILITY EASEMENT
—x—x—x—	PROPOSED FENCE
	PROPOSED CONCRETE SIDEWALK
SSF	SUPER SILT FENCE
DF	DIVERSION FENCE
▼	DENOTES POINTS OF INGRESS AND EGRESS
	EXISTING TO BE REMOVED
	EXISTING GRAVEL
	PROPOSED GRAVEL
	PROPOSED PAVING
A-2	EARTH DIKE

SOILS LEGEND

SOIL	NAME	CLASS	Kw
RuB	Russett and Beltsville soils, 2 to 5 percent slopes	C	0.29
RuC	Russett and Beltsville soils, 5 to 10 percent slopes	C	0.32
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.33
UtD	Urban land–Udorthents complex, 0 to 15 percent slopes	D	0.28

SOIL TYPES TAKEN FROM MAP 19 OF THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND FOUND ON THE HSCD WEBSITE.

NOTE: SOILS ON SITE ARE CONSIDERED HIGHLY ERODIBLE SOILS. MORE STRINGENT STABILIZATION AND SEEDING REQUIREMENTS WILL BE REQUIRED.

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II #1

DRAINAGE AREA – INITIAL: 2.34 Ac.±
DRAINAGE AREA – INTERM: N/A
DRAINAGE AREA – FINAL: 3.27 Ac.±
TOTAL STORAGE REQUIRED: 11,772 CuFt.
TOTAL STORAGE PROVIDED: 12,529 CuFt.
WET STORAGE REQUIRED: 5,886 CuFt.
WET STORAGE PROVIDED: 5,886 CuFt.
DRY STORAGE REQUIRED: 5,886 CuFt.
DRY STORAGE PROVIDED: 5,886 CuFt.
EXISTING GROUND ELEVATION AT OUTLET: 252.0
TRAP BOTTOM ELEVATION: 247.0
TRAP BOTTOM DIMENSIONS: 23' X 93'
WEIR LENGTH: 14'
WEIR CREST (DRY STORAGE) ELEVATION: 250.80
CLEANOUT ELEVATION: 248.10
TOP OF EMBANKMENT ELEVATION: 252.0
SIDE SLOPES 2:1
EMBANKMENT TOP WIDTH: 4.0
OUTLET PROTECTION LENGTH: 27'
OUTLET PROTECTION DEPTH: 19"

BAFFLE DESIGN #1

TRAP BOTTOM DIMENSIONS: 23' X 93'
MINIMUM FLOW LENGTH INFLOW TO OUTFLOW: 23'X 2 =46'
BAFFLE #1 = 33 LF
FLOW LENGTH = L1 + L2 = 23'+23' = 46'

STONE OUTLET SEDIMENT TRAP ST-II; #2

DRAINAGE AREA – INITIAL (EXISTING): 6.64 Ac.±
DRAINAGE AREA – INTERM: N/A
DRAINAGE AREA – FINAL: 4.41 Ac.±
TOTAL STORAGE REQUIRED: 15,876 CuFt.
TOTAL STORAGE PROVIDED: 17,791 CuFt.
WET STORAGE REQUIRED: 7,938 CuFt.
WET STORAGE PROVIDED: 7,938 CuFt.
DRY STORAGE REQUIRED: 7,938 CuFt.
DRY STORAGE PROVIDED: 7,938 CuFt.
TRAP BOTTOM ELEVATION: 213.00
TRAP BOTTOM DIMIENSIONS: 50'± X 100'±(5,000 SqFt.)
WEIR CREST (DRY STORAGE) ELEVATION: 215.68'
OUTLET (WET STORAGE) ELEVATION: 214.40'
CLEAN OUT ELEVATION: 213.70'
TOP OF EMBANKMENT ELEVATION: 218.00'
SIDE SLOPES 2:1
EMBANKMENT TOP WIDTH: 4.0
OUTLET PROTECTION LENGTH: 30'
OUTLET PROTECTION WIDTH: 18'
OUTLET PROTECTION DEPTH: 19"

BAFFLE DESIGN #2 & #3

TRAP BOTTOM DIMENSIONS: 50' X 100'
MINIMUM FLOW LENGTH INFLOW TO OUTFLOW: 50'X 2=100'
BAFFLE #2 = 61 LF
FLOW LENGTH = L1 + L2 = 50'+50' = 100'
BAFFLE #3 = 26 LF
FLOW LENGTH = L3 + L4= 78'+22' = 100'

Note: THE EXISTING RISER, 18" RCP PIPE, & CONC. END SECTION ARE TO BE REMOVED WITH THE INSTALLATION OF S.O.S.T #1

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
1	REVISE SHEET NUMBER & OWNER	2/10/17

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE

"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."

Signature of Engineer ALDO M. VITUCCI, P.E. — Date 1/15/15

BUILDER/DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that 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

Signature of Developer — Date 1-14-15

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 1/22/15

Owner
WALTER F. GAINER REVOCABLE TRUST
6586 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410) - 755 - 8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15
Chief, Development Engineering Division — Date 2-13-15
Director – Department of Planning and Zoning — Date 2/13/15

PROJECT		SECTION	PARCEL NO.
MEADOWRIDGE 95		–	'A'

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02

WATER CODE	SEWER CODE
N/A	N/A

SEDIMENT AND EROSION CONTROL PLAN PHASE ONE

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015

SDP-14-054

LEGEND

SYMBOL	DESCRIPTION
230	EXISTING CONTOUR 2' INTERVAL
228	EXISTING CONTOUR 10' INTERVAL
228	PROPOSED CONTOUR 2' INTERVAL
230	PROPOSED CONTOUR 10' INTERVAL
	EXISTING SEWER LINE
	EXISTING STORM DRAIN LINE
	EXISTING WATER LINE
15"RCCP	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
8"W	PROPOSED WATER
	EXISTING CHAINLINK FENCE
	EXISTING WOOD PRIVACY FENCE
	EROSION CONTROL MATTING
	EXISTING OVERHEAD ELECTRIC
	EXISTING TREE
LOD	LIMIT OF DISTURBANCE
	PROPOSED PAVING
	PROPOSED GRAVEL
	MSHA PROPOSED FULL DEPTH PAVEMENT
	MSHA PROPOSED OVERLAY
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PUBLIC FOREST CONSERVATION EASEMENT
	PROPOSED FENCE
	SUPER SILT FENCE
	DIVERSION FENCE
	STEEP SLOPES (15%-24.9%)
	STEEP SLOPES (25% and GREATER)
	SOILS MAP
A-2	EARTH DIKE
SCE	STABLIZED CONSTRUCTION ENTRANCE

SOILS LEGEND

SOIL	NAME	CLASS	Kw
RuB	Russett and Beltsville soils, 2 to 5 percent slopes	C	0.29
RuC	Russett and Beltsville soils, 5 to 10 percent slopes	C	0.32
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.33
UtD	Urban land-Udorthents complex, 0 to 15 percent slopes	D	0.28

SOIL TYPES TAKEN FROM MAP 19 OF THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND FOUND ON THE HSCD WEBSITE.

PLAN
SCALE: 1" = 50'

Scale: 1" = 50'

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO.13204 — 10/28/19 Date

ASBUILT 10/28/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REPLACEMENT SHEET RELOCATE SWM 3 + 4	7/24/19
1	REPLACEMENT SHEET	11/7/16

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE

"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."

Signature of Engineer — ALDO M. VITUCCI, P.E. — 7/25/19 Date

BUILDER/DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that 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

Signature of Developer — 7/25/19 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 8/6/19 Date

Owner
Walter F. Gainer
Revocable Trust
6586 Meadowridge Road
Elkridge, Maryland 21075
(410)-755-8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 8/21/19 Date
Chief, Development Engineering Division — 8.15.19 Date
Director - Department of Planning and Zoning — 8-21-19 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET
SEDIMENT AND EROSION CONTROL PLAN PHASE TWO

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 5 OF 25

SDP-14-054

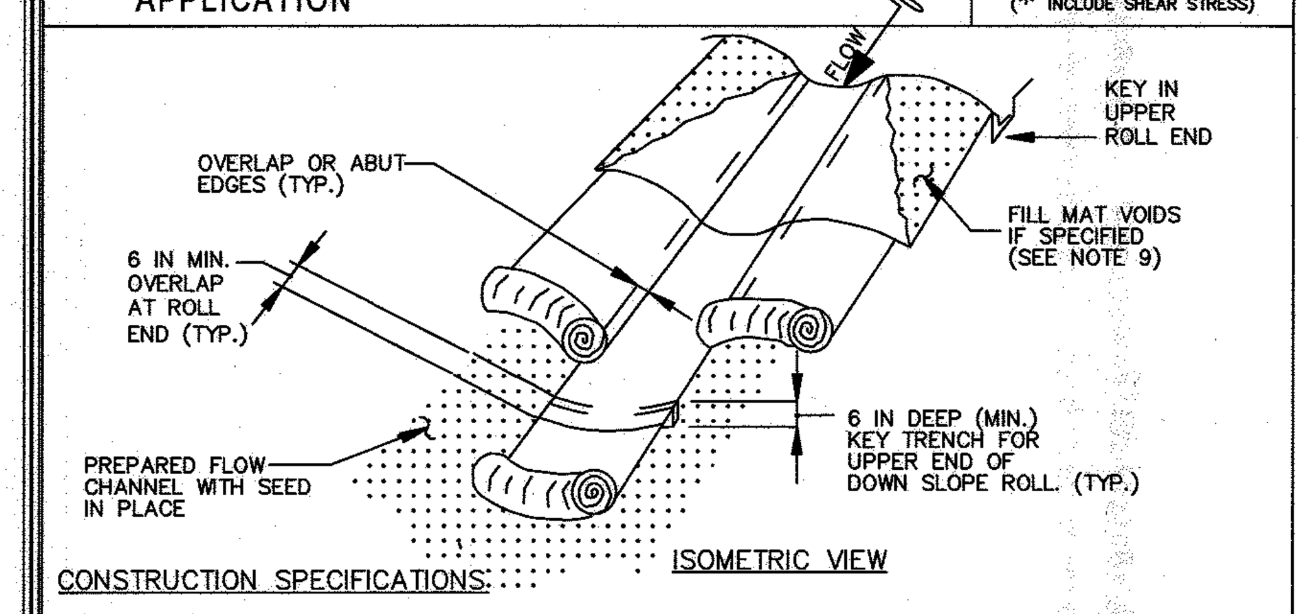
"AS-BUILT"

I:\2012\12040\dwg\12040 SDP Folder - Redline\6-9-19\12040-3001 SHEET 5 Sediment Erosion Control Phase Two REDLINE.dwg, Sheet 5, 7/24/2019 10:16:39 AM, 1:1

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL

PSSMC – * lb/ft²
(* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

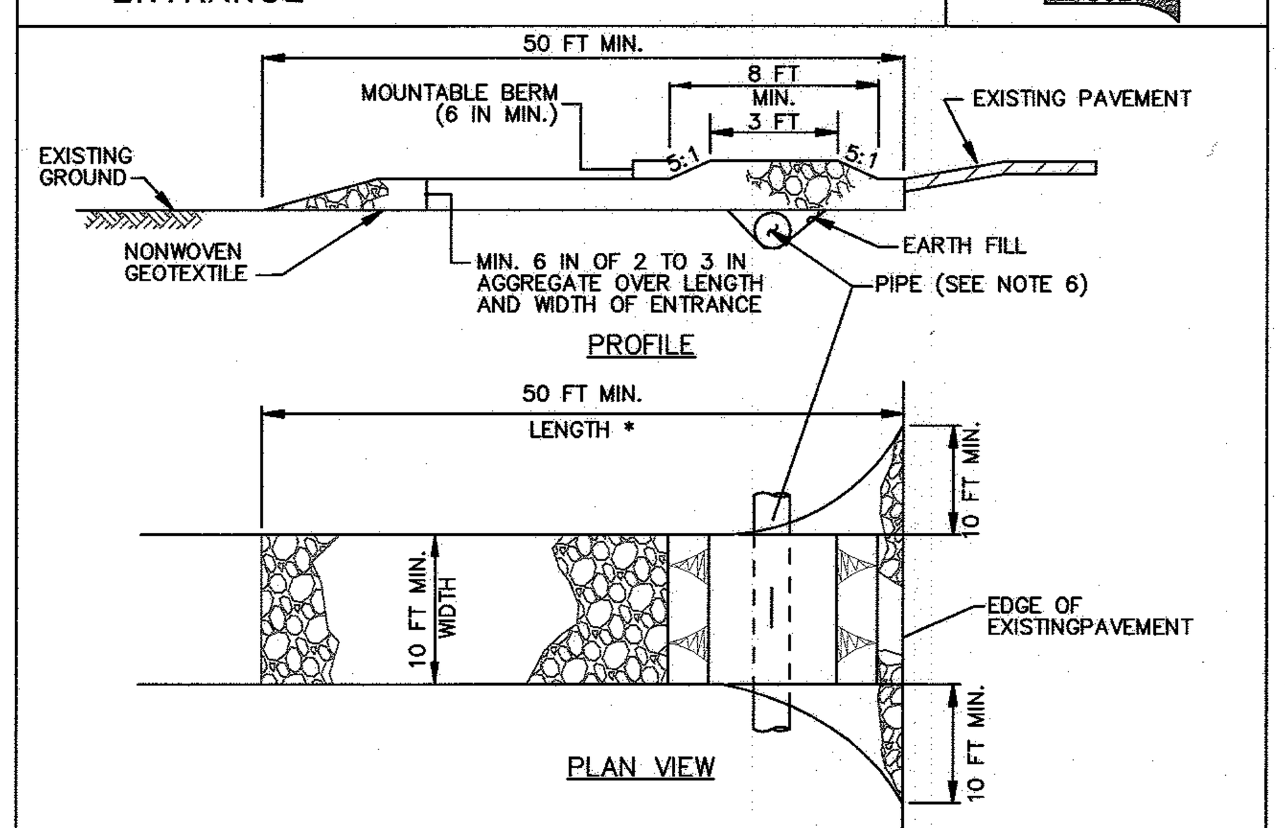
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL

SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.

4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

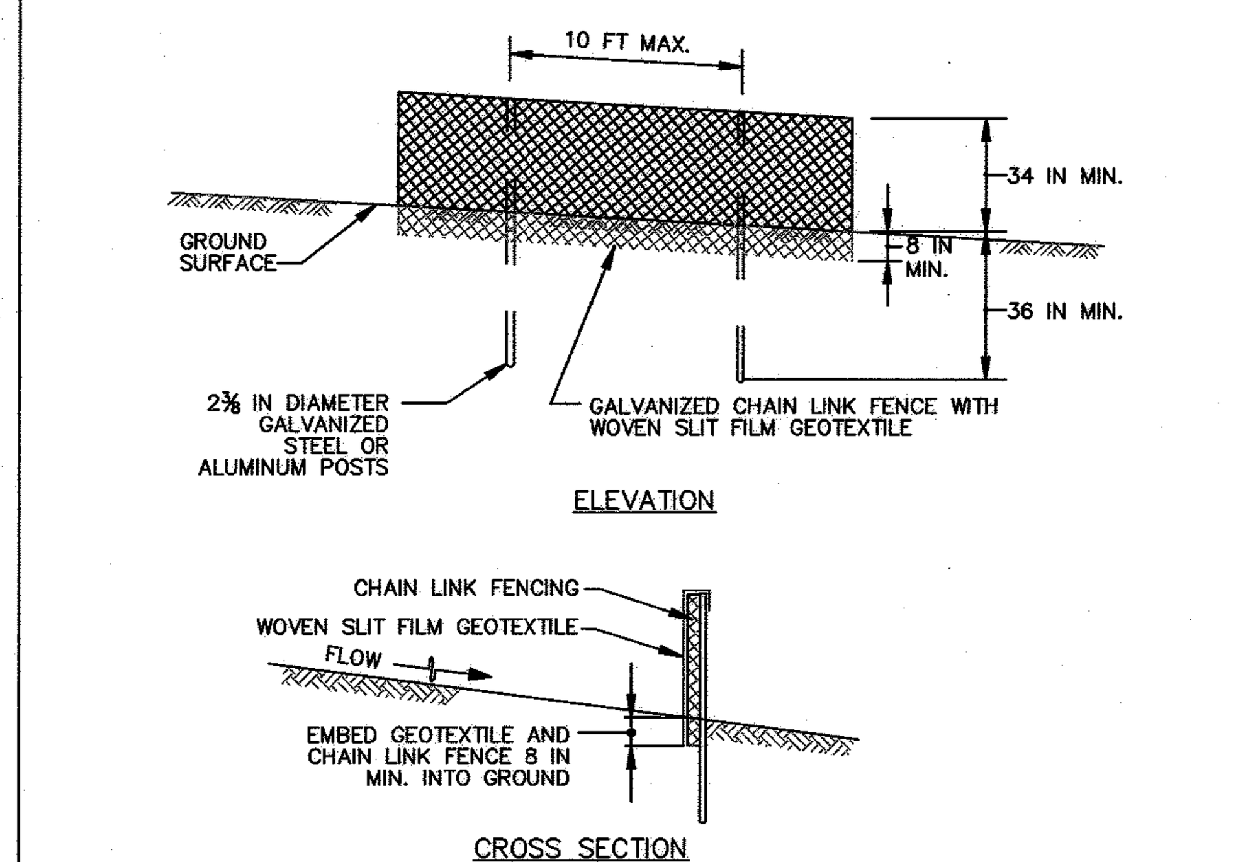
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL

|——SSF——|



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

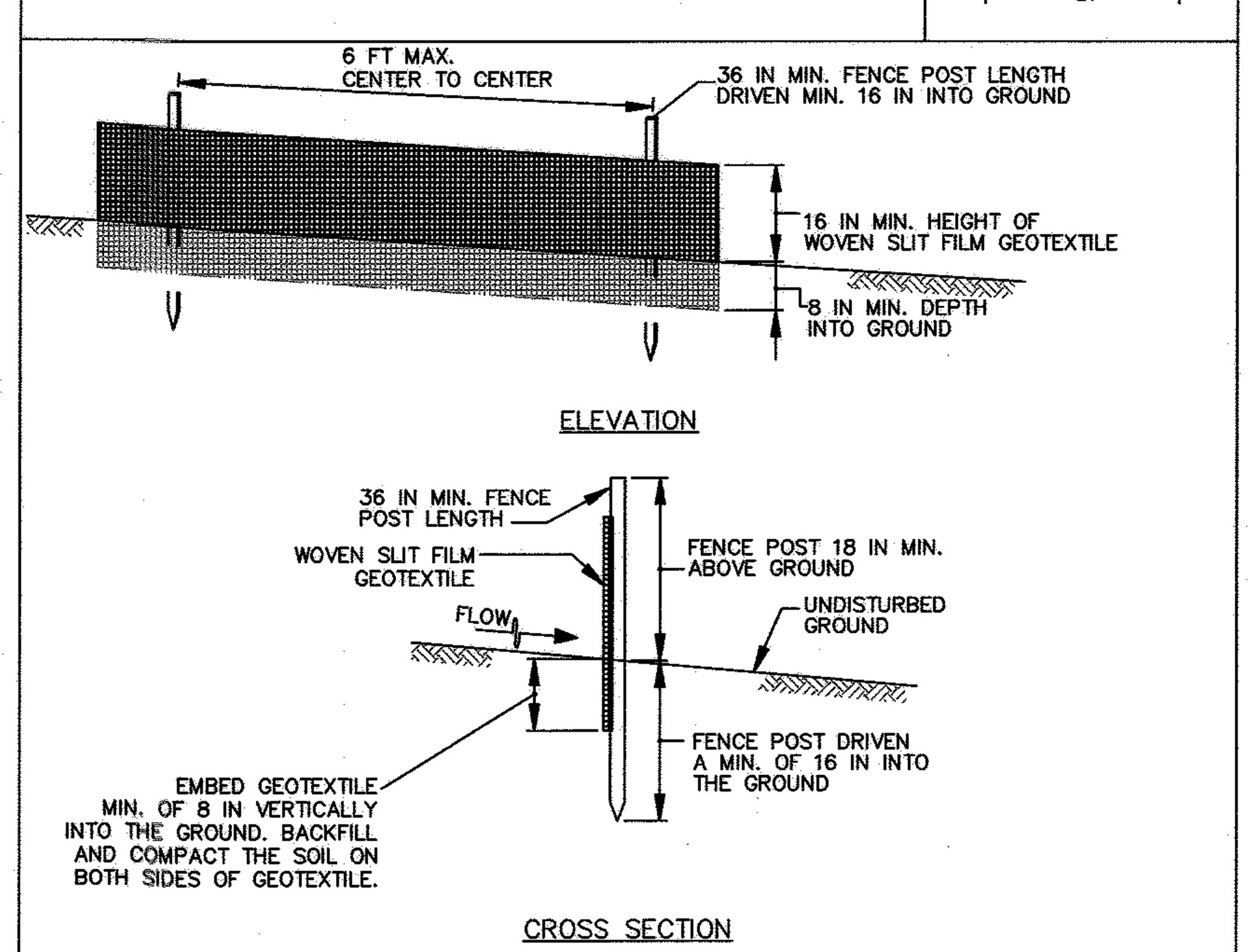
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

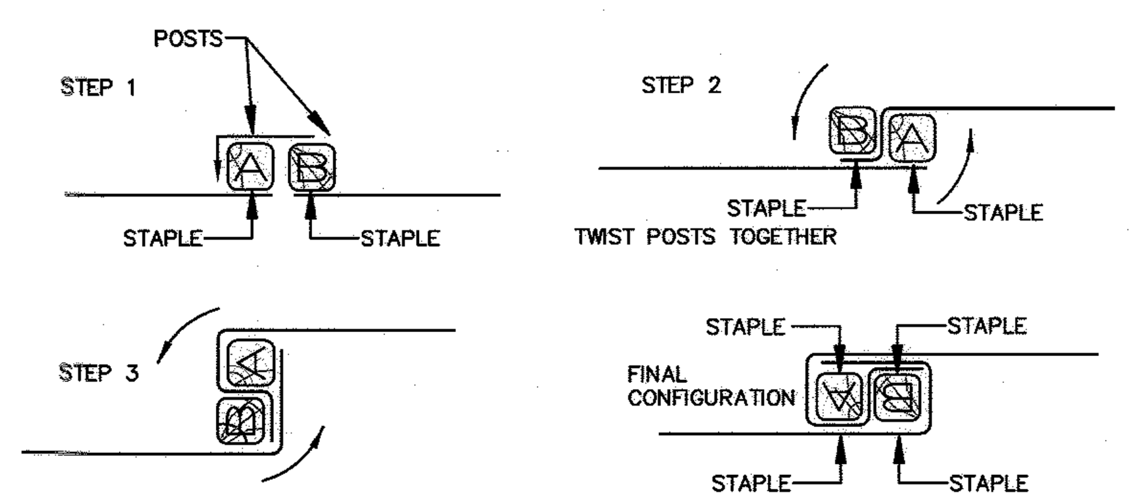
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL

|——SF——|





JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅟₁₆ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

I. SOIL PH BETWEEN 6.0 AND 7.0.
II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS. C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.

B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

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

6. TOPSOIL APPLICATION

A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT. (2 WEEKS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.
3. REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY.
4. CLEAR AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS. (2 DAYS)
5. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. AND PERIMETER CONTROLS SHOWN ON SHEETS 5 AND 6. (1 WEEK)
6. RAZE EXISTING STRUCTURES, REMOVE RISER, PIPES AND STRUCTURES SERVING AS OUTFALL FOR EXISTING SWM FACILITY. (2 WEEKS)
7. REVISE EXISTING SWM FACILITY TO PROPOSED STONE OUTLET SEDIMENT TRAP #2, ALSO INSTALL SEDIMENT TRAP #1. INSTALL EARTH DIKES TO TRAP #1 AND TRAP #2. (1 WEEK)
8. COMPLETE REMAINING CLEARING AND GRUBBING WITHIN INSTALLED PERIMETER CONTROLS. (2 DAYS)
9. GRADE SITE TO PROPOSED SUB-GRADE AND INSTALL WATER AND SEWER LINES. (9 WEEKS)
10. CONSTRUCT BUILDING AND INSTALL STORM DRAIN SYSTEM FROM I-13 TO S-2. (1 MONTH)
11. AFTER BUILDING IS CONSTRUCTED AND ITS SURROUNDING AREA STABILIZED AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TRAPS AND BRING AREAS TO SUBGRADE. (2 WEEKS)
12. COMMENCE INSTALLATION OF SWM FACILITIES AND STORM DRAIN SYSTEMS I-8 TO S-3 AND THE REMAINING STORM DRAIN SYSTEM DOWN TO M-4, INSTALL TEMPORARY 24" PIPE INTO SUBMERGED GRAVEL WETLAND. (3 WEEKS)
13. COMMENCE CONSTRUCTION OF WORK TO BE DONE WITHIN SHA RIGHT-OF-WAY IN ACCORDANCE WITH SHA ACCESS PERMIT (14PAHO019XX) AND UNDER THE DIRECTION OF SHA INSPECTOR WHILE WORK IS BEING PERFORMED.
14. CONSTRUCT CURB & GUTTER AND INSTALL ROAD BASE COURSE FOR ROAD ACCESS AND PARKING AREA. (2 WEEKS)
15. INSTALL FINISHED SURFACE COURSE, SIDEWALKS AND STREET TREES. (2 WEEKS)
16. OBTAIN APPROVAL OF APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO REMOVAL OF SEDIMENT CONTROLS. (3 DAYS)
17. REMOVAL OF CONTROLS AND STABILIZATION OF AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROLS.
18. NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE POND/BASIN ON ALL SEDIMENT AND EROSION STRUCTURES SHOWN HEREON.

WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED, ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TRAPPING DEVICE.

TEMPORARY SEEDING NOTES (B-4-4)

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.1):				Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
BARLEY	96	3/1 – 5/15, 8/15 – 10/15	1"	436 lb/ac (10 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
OATS	72		1"		
RYE	112		1"		

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.3): 8					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)

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 (410-313-1855).
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) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, b) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
5) 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.
6) SITE ANALYSIS:

TOTAL AREA OF SITE	9.38 ACRES
AREA DISTURBED	9.07 ACRES
AREA TO BE ROOFED OR PAVED	4.53 ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.73 ACRES
TOTAL CUT	1,172 CU.YDS.
TOTAL FILL	4,237 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A

7) ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8) ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
9) 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.
10) 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 WORKDAY, WHICHEVER IS SHORTER.
11) ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
12) A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 ACRE PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PROCEEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.
CONDITIONS WHERE PRACTICE APPLIES STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION. 8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	REVISED SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES AND SHEET NUMBER.	2/10/17

STATE OF MARYLAND · ALDO MICHAEL VITUCCI · No. 20748 · PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE

"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."

Signature of Engineer ALDO M. VITUCCI, P.E. — Date 1/21/15

BUILDER/DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that 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

Signature of Developer — Date 1-14-15

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 1/22/15

Owner

WALTER F. GAINER
REVOCABLE TRUST
6586 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410)-755-8720

Developer

W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15

Chief, Development Engineering Division — Date 2-13-15

Director - Department of Planning and Zoning — Date 2/17/15

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015
SHEET 6 OF 25

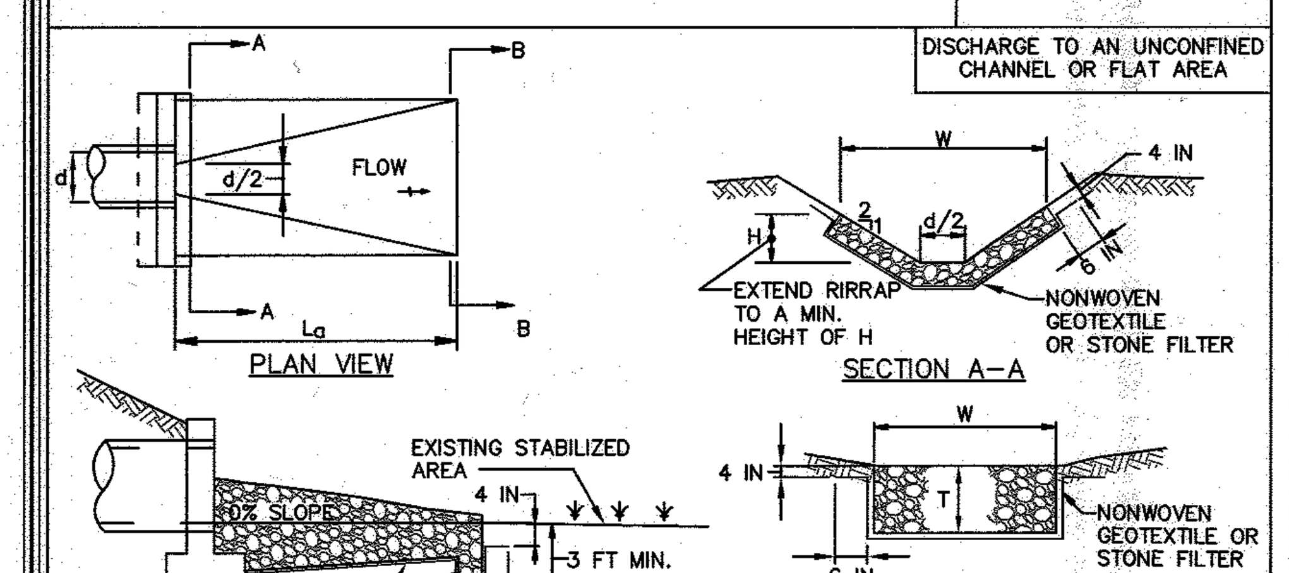
SDP-14-054

DETAIL D-4-1-C ROCK OUTLET PROTECTION III

STANDARD SYMBOL

ROPIII

DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

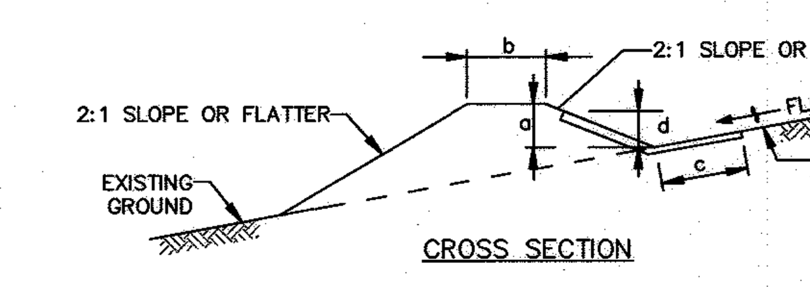
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

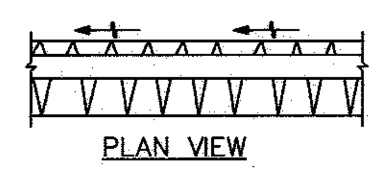
DETAIL C-1 EARTH DIKE

STANDARD SYMBOL

A–1

PLACE DESIGNATION (e.g. A–1) ON FLOW CHANNEL SIDE OF DIKE.





DIKE TYPE

	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A–1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A–2/B–2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

A–3/B–3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

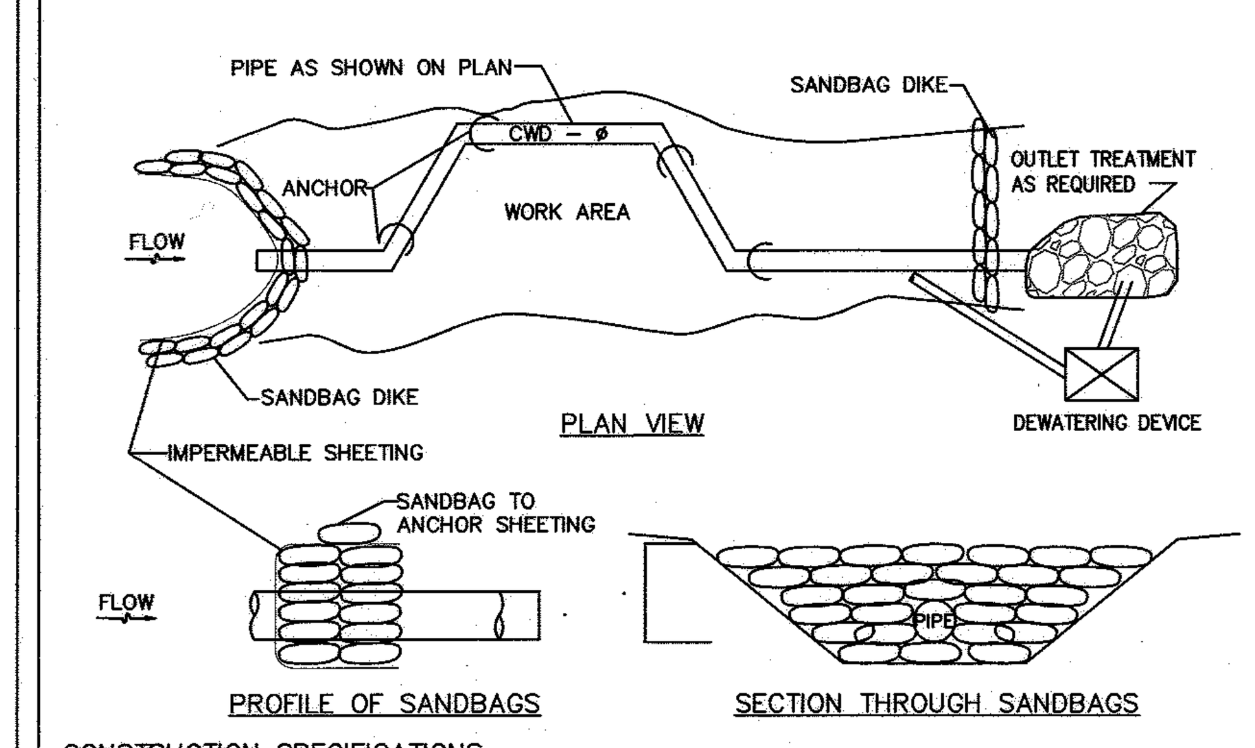
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C–6 CLEAR WATER DIVERSION PIPE

STANDARD SYMBOL

CWD – 12

DESIGNATION CWD–12 REFERS TO 12 INCH CLEAR WATER DIVERSION.



CONSTRUCTION SPECIFICATIONS

1. FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. MAKE ALL JOINTS WATERTIGHT.
2. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA–VIOLENT RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
3. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNTURING AND TEARING.
4. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
5. SET HEIGHT OF SANDBAG DIKE AT TWICE THE PIPE DIAMETER. MAINTAIN HEIGHT ALONG LENGTH OF SANDBAG DIKE. PLACE DOUBLE ROW OF SANDBAGS.
6. AT A MINIMUM, SECURELY ANCHOR DIVERSION PIPE AT EACH DOWNGRADE JOINT.
7. SET OUTLET END OF DIVERSION PIPE LOWER THAN INLET END.
8. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
9. DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
10. KEEP POINT OF DISCHARGE FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

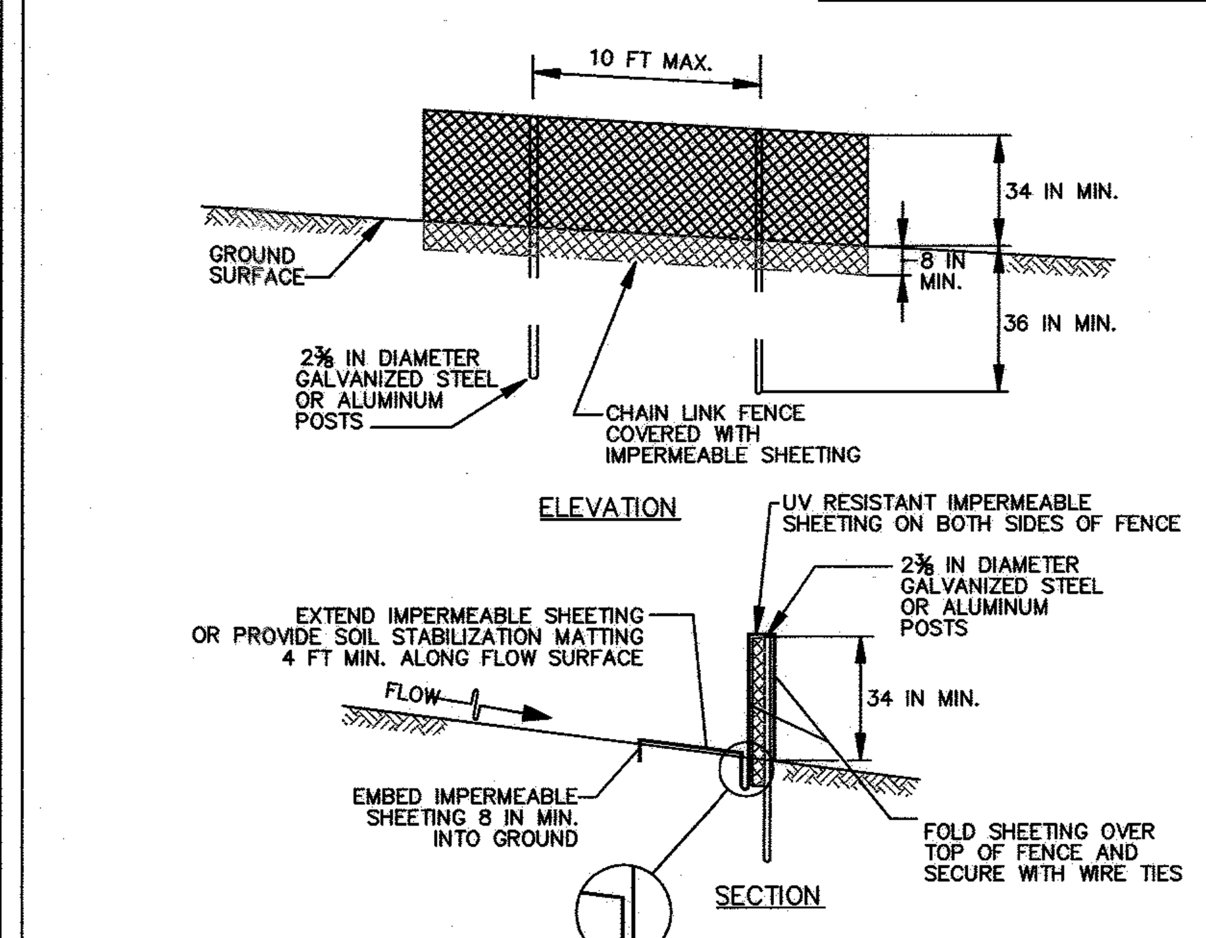
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL

DF

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

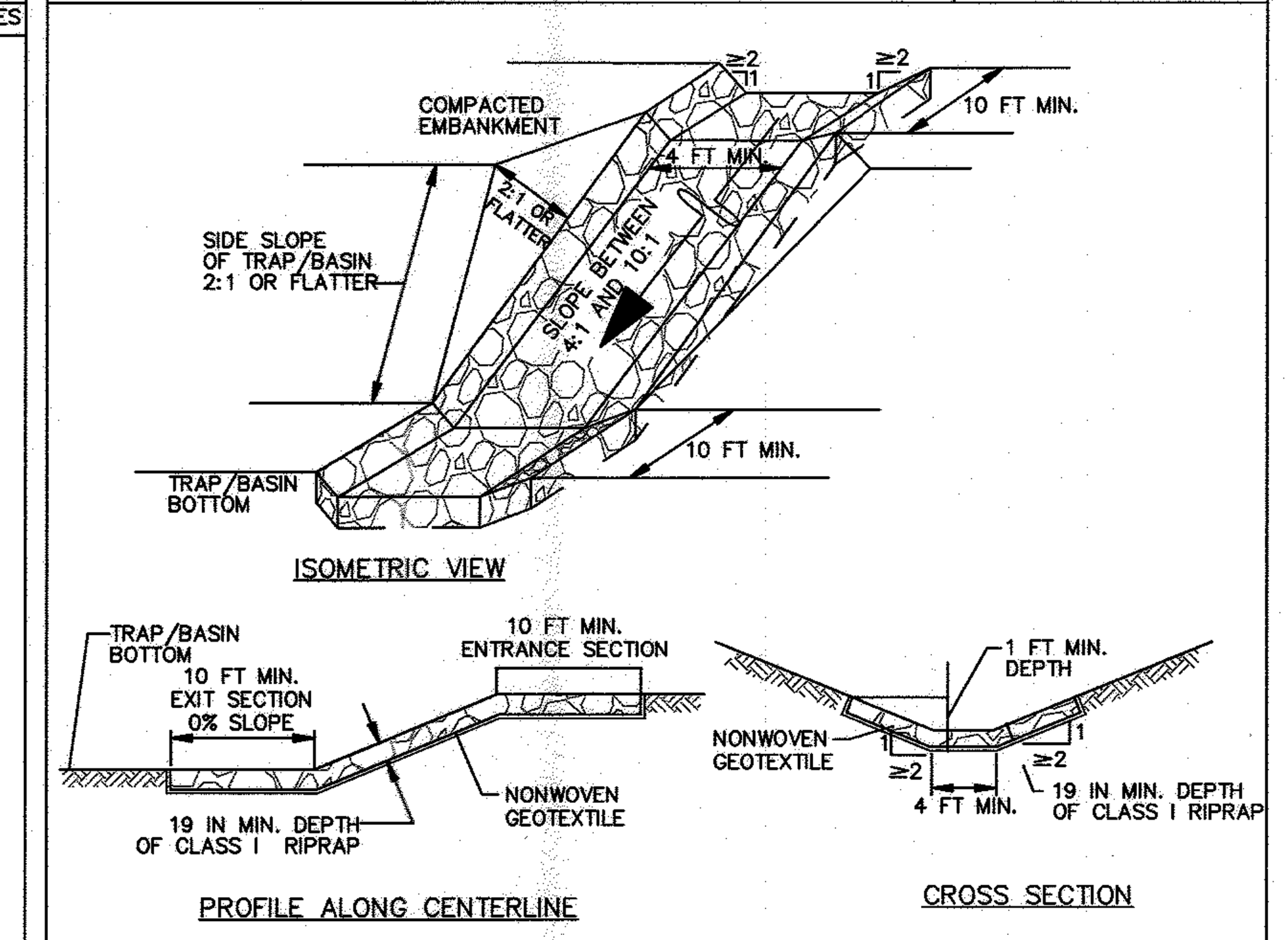
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL

RRP



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

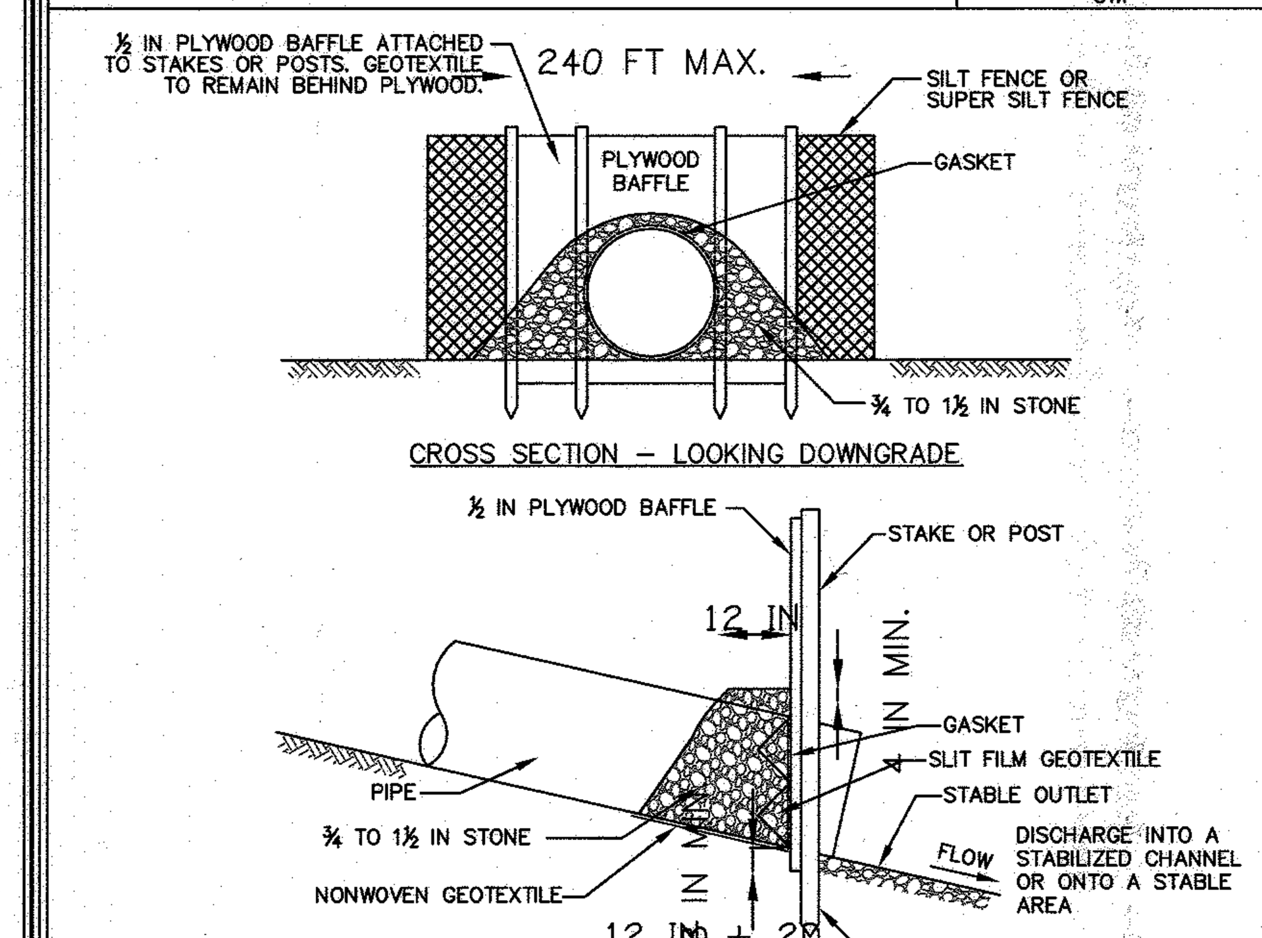
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-4 CLEAR WATER PIPE THROUGH SILT FENCE OR SUPER SILT FENCE

STANDARD SYMBOL

CWP



CONSTRUCTION SPECIFICATIONS

1. INSTALL SILT FENCE OR SUPER SILT FENCE IN ACCORDANCE WITH DETAIL E–1 OR DETAIL E–2.
2. AT THE PIPE LOCATION, CUT AND PULL BACK THE WOVEN SLIT FILM GEOTEXTILE AND CHAIN LINK FENCING. SECURE GEOTEXTILE TO PIPE WITH GASKET. INSTALL ADDITIONAL STAKES OR POSTS IF NECESSARY TO ACCOMMODATE THE INSTALLATION OF THE BAFFLE BOARD.
3. ENTRENCH ½ INCH PLYWOOD BAFFLE A MINIMUM OF 8 INCHES AND SECURE TO THE UPGRADE SIDE OF THE FENCE STAKES OR POSTS. BAFFLE SHOULD BE AT LEAST THE HEIGHT OF THE FENCE.
4. PLACE ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE BEHIND THE PLYWOOD BAFFLE ON NONWOVEN GEOTEXTILE AND EXTEND 12 INCH MIN. ALONG TOP OF PIPE AND TO A HEIGHT OF 4 INCHES ABOVE THE TOP OF PIPE.
5. USE NONWOVEN AND WOVEN SLIT FILM GEOTEXTILES AS SPECIFIED IN SECTION H–1 MATERIALS.
6. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN SEDIMENT REACHES 6 INCHES IN HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL BAFFLE, CHAIN LINK, AND GEOTEXTILE. REPLACE STONE IF DISPLACED. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

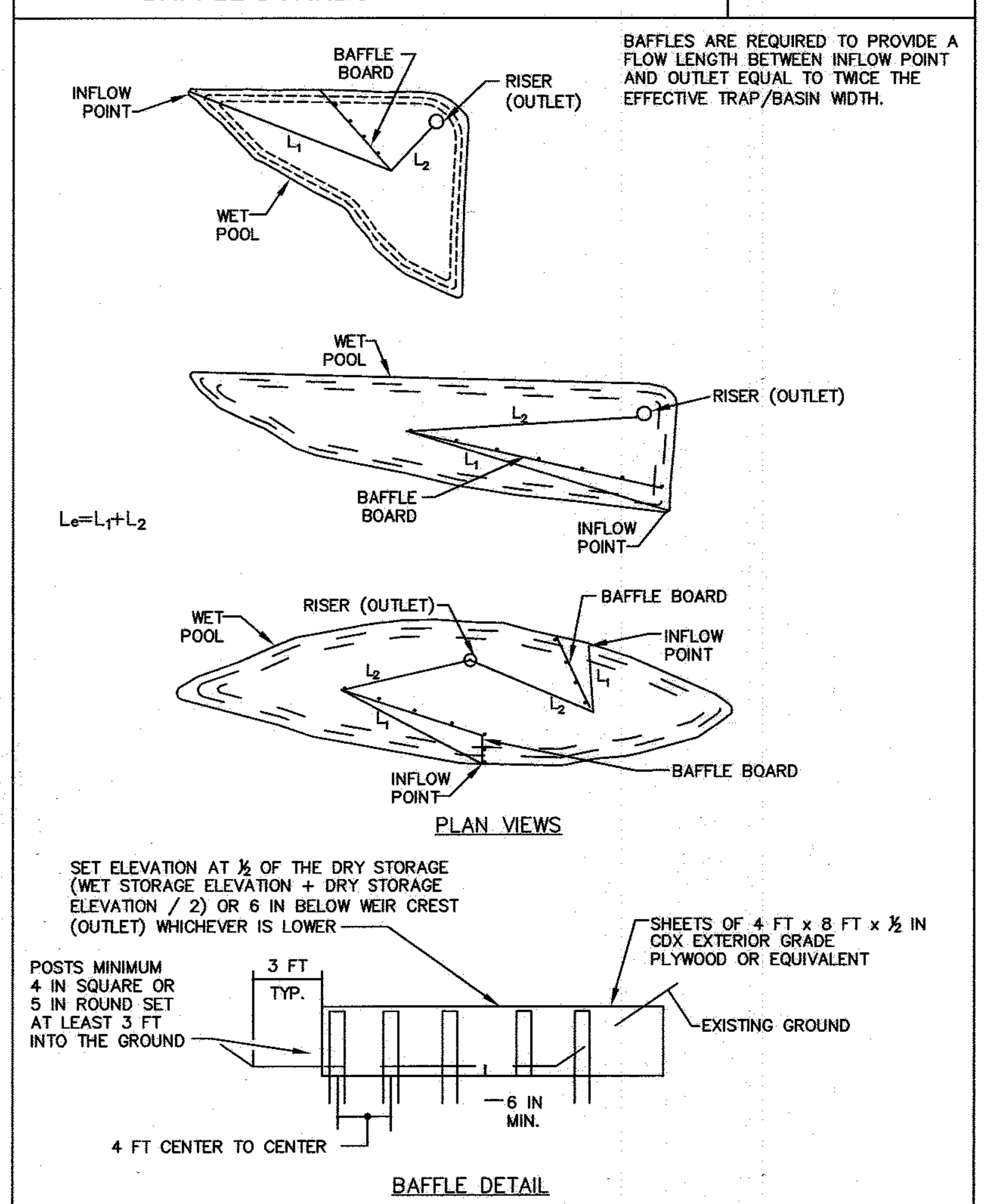
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-2-4 BAFFLE BOARDS

STANDARD SYMBOL

BB

BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

B-4-3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding
   1. Specifications
      a. All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re–testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
      b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
      c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keetp inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
      d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weedcontrol until sufficient time has elapsed (14 days min.) to permit dissipation of phyto–toxic materials.
   2. Application
      a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
         i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site–specific seeding summaries.
         ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
      b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
         i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
         ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
      c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
         i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P_2O_5 (phosphorus), 200 pounds per acre; K_2O (potassium), 200 pounds per acre.
         ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
         iii. Mix seed and fertilizer on site and seed immediately and without interruption.
         iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
   1. Mulch Materials (in order of preference)
      a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
      b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.
         i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate colot to facilitate visual inspection of the uniformly spread slurry.
         ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
         iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter–like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
         iv. WCFM material must not contain elements or compounds at concentration levels that will by phyto–toxic.
         v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
   2. Application
      a. Apply mulch to all seeded areas immediately after seeding.
      b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
      c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   3. Anchoring
      a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
         i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
         ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
         iii. Synthetic binders such as Acrylic DLR (Agro–Tack), DCA–70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
         iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4–15 feet wide and 300 to 3,000 feet long.

PERMANENT SEEDING NOTES (B–4–5)

A. SEED MIXTURES

1. GENERAL USE

A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA–NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 – CRITICAL AREA PLANTING.

C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46–0–0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE:
FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

II. KENTUCKY BLUEGRASS/PERENNIAL RYE:
FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

III. TALL FESCUE/KENTUCKY BLUEGRASS:
FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

IV. KENTUCKY BLUEGRASS/FINE FESCUE:
SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:
SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

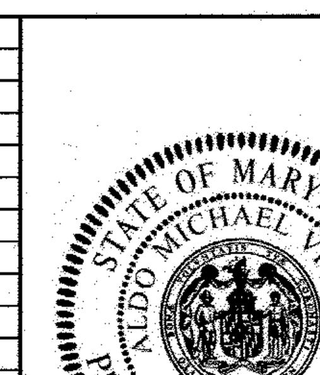
C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
1	REVISED SHEET NUMBER & OWNER	2/10/17



ENGINEER'S CERTIFICATE

"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."

Signature of Engineer ALDO M. VITUCCI, P.E. 1/21/15 Date

BUILDER/DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that 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

Signature of Developer 1-14-15 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD 1/22/15 Date

Owner
WALTER F. GAINER REVOCABLE TRUST
6586 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410)-795-8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development 2-17-15 Date

Chief, Development Engineering Division 2.13.15 Date

Director – Department of Planning and Zoning 2/13/15 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22

PARCEL NO.: 'A'

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015

SDP-14-054

LEGEND

SYMBOL	DESCRIPTION
230	EXISTING CONTOUR 2' INTERVAL
228	EXISTING CONTOUR 10' INTERVAL
228	PROPOSED CONTOUR 2' INTERVAL
230	PROPOSED CONTOUR 10' INTERVAL
×362.2	SPOT ELEVATION
	EXISTING SEWER LINE
	EXISTING STORM DRAIN LINE
	EXISTING WATER LINE
15"RCCP	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
8"W	PROPOSED WATER
	EXISTING CHAINLINK FENCE
	EXISTING WOOD PRIVACY FENCE
	AREA TO BE RESERVED TO THE MSHA
	EXISTING OVERHEAD WIRE
	EXISTING OVERHEAD ELECTRIC
	EXISTING TREE
LOD	LIMIT OF DISTURBANCE
	PROPOSED PAVING
	PROPOSED GRAVEL
	MSHA PROPOSED FULL DEPTH PAVEMENT
	MSHA PROPOSED OVERLAY
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PUBLIC FOREST CONSERVATION EASEMENT
	PROPOSED FENCE

DRAINAGE AREA DATA

DRAINAGE AREA LETTER	AREA	IMPERV. PERCENT
I-1	0.40 AC.	54%
I-2	0.16 AC.	60%
I-3	0.70 AC.	66%
I-4	1.72 AC.	89%
I-5	0.24 AC.	24%
I-6	0.14 AC.	82%
I-7	0.48 AC.	94%
I-8	0.37 AC.	98%
I-9	0.46 AC.	82%
I-10	0.81 AC.	27%
I-11	1.05 AC.	76%
I-12	0.17 AC.	57%
I-13	0.28 AC.	65%
I-14	0.58 AC.	100%

PLAN
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REPLACEMENT SHEET RELOCATE SWM 3 + 4	7/24/19
1	REPLACEMENT SHEET	11/7/16

STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748 PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/21.

ALDO M. VITUCCI, P.E. — DATE 7/25/19

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO. 13204 — Date 10/28/19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 8/21/19
Chief, Development Engineering Division — Date 8.15.19
Director - Department of Planning and Zoning — Date 8-21-19

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

PROJECT	SECTION	PARCEL NO.
MEADOWRIDGE 95	-	'A'

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02

WATER CODE	SEWER CODE
N/A	N/A

REPLACEMENT SHEET STORM DRAIN DRAINAGE AREA MAP

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

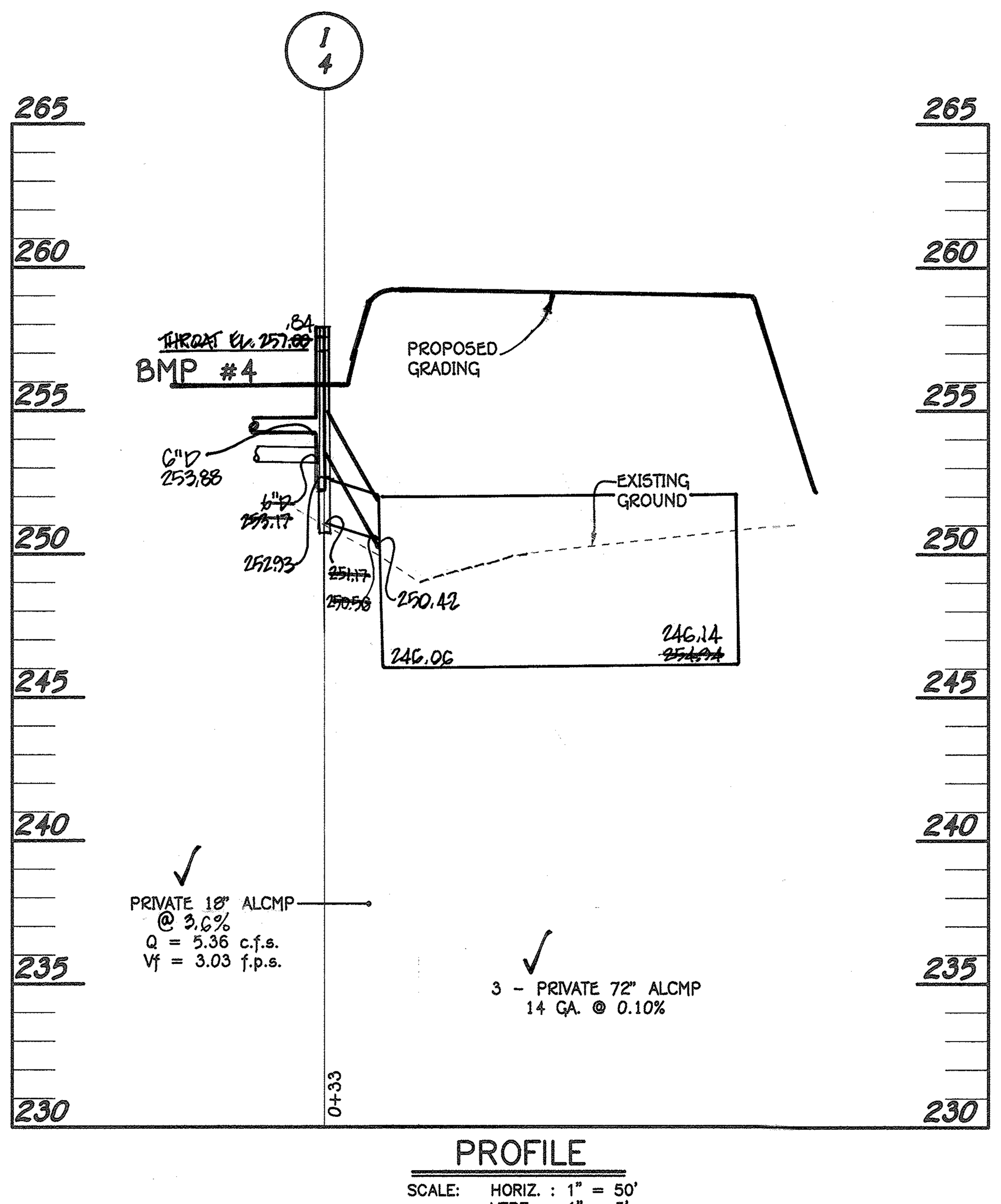
PARCEL 'A'

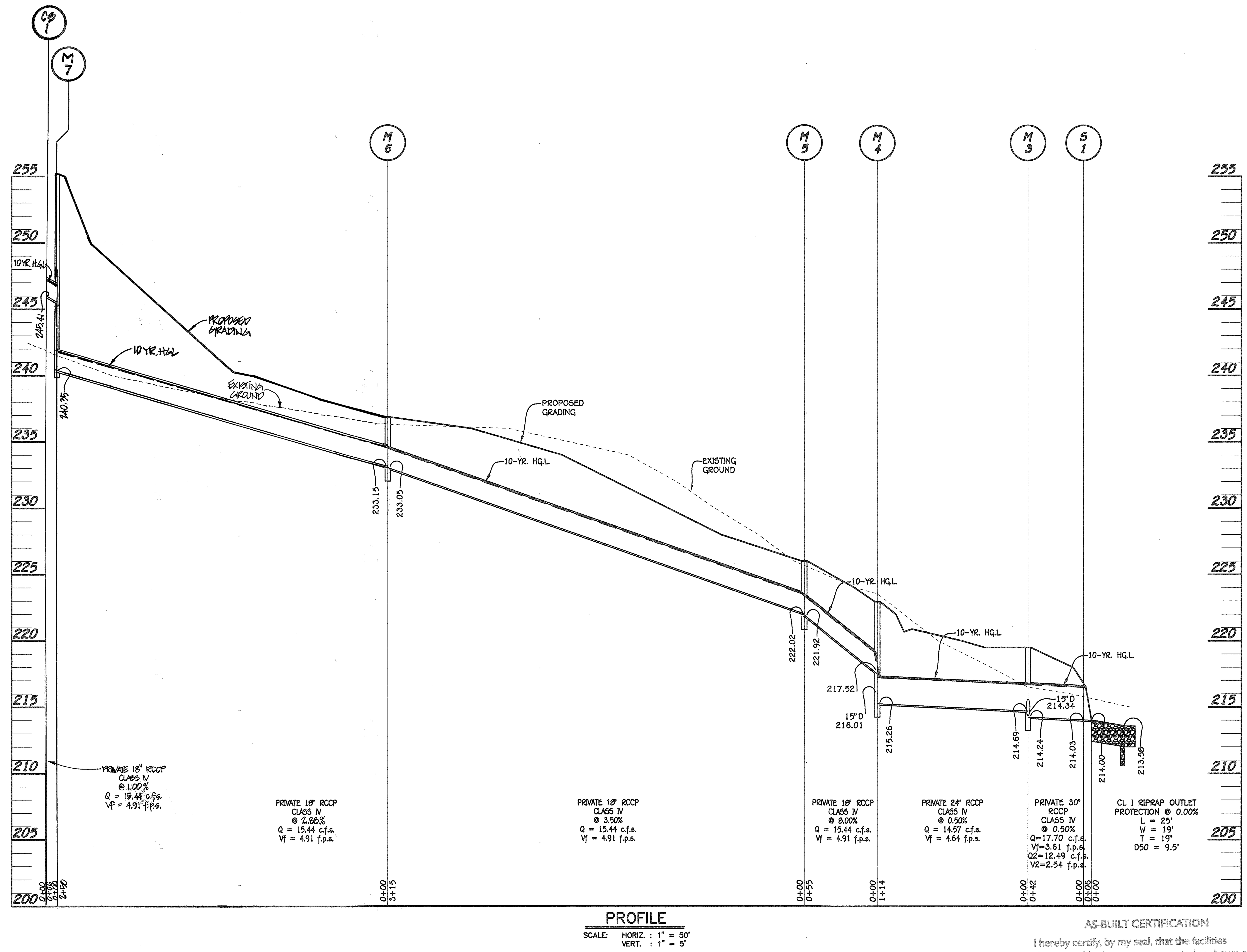
PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

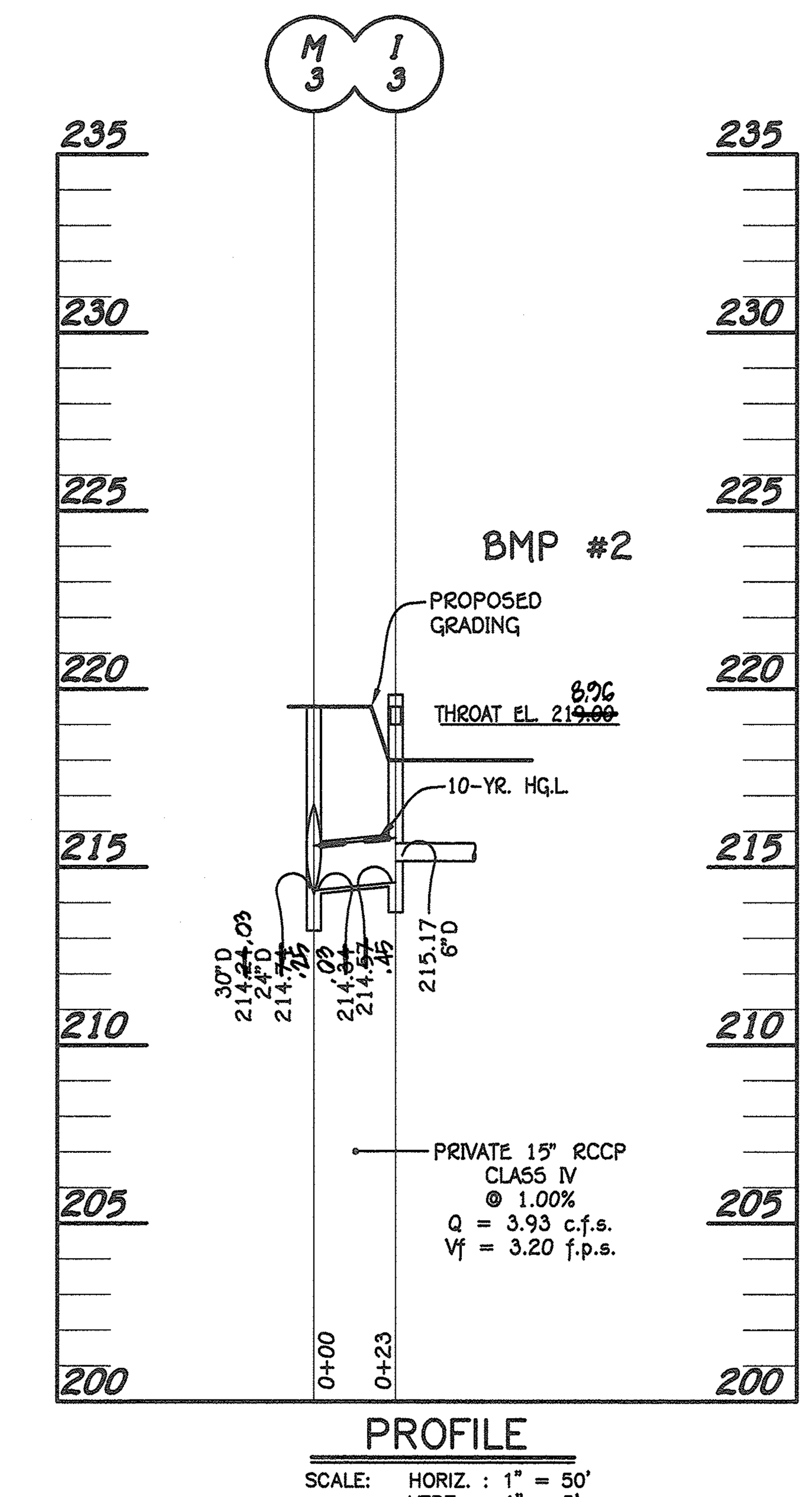
SCALE: AS SHOWN DATE: JAN. 30, 2017

SDP-14-054

"AS-BUILT"







AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO. 13204 — 10/28/19 Date

AS BUILT 10/28/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISED PROFILES @ I-4, & CS-1 TO M-7	7/18/19
1	REPLACEMENT SHEET	2/10/17

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — 2/9/17 DATE

0' 50' 100' 200'
Scale: 1" = 50'

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 3-9-17 Date

Chief, Development Engineering Division — 3-6-17 Date

Director - Department of Planning and Zoning — 3-9-17 Date

PROJECT	SECTION	PARCEL NO.
MEADOWRIDGE 95	-	'A'

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02

WATER CODE	SEWER CODE
N/A	N/A

REPLACEMENT SHEET STORM DRAIN PROFILES

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017

SDP-14-054

"AS-BUILT"

STRUCTURE SCHEDULE

STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV.IN	INV.OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-3	PRIVATE	219.~~83~~.79	215.17 (6")	214.~~57~~.45 (15")	N 554768.07 E 1377436.59	2.50'	D INLET	D-4.10
I-4	PRIVATE	257.~~00~~ * .84	253.17 (6")	~~251.17~~ 252.33 (18")	N 554673.36 E 1376794.56	2.50'	D INLET	D-4.10
I-5	PRIVATE	~~230.38~~ 229.38	225.67 (6")	225.~~57~~.44 (15")	N 554629.80 E 1377358.40	2.50'	D INLET	D-4.10
~~I-6~~	~~PRIVATE~~	~~257.50 *~~	~~256.58 (18")~~	~~256.48 (18")~~	~~N 554545.51 E 1376762.48~~	~~2.50'~~	~~D INLET~~	~~D-4.10~~
~~I-7~~	~~PRIVATE~~	~~257.50 *~~	~~257.26 (15")~~	~~257.01 (18")~~	~~N 554462.65 E 1376778.91~~	~~2.50'~~	~~D INLET~~	~~D-4.10~~
~~I-8~~	~~PRIVATE~~	~~257.50 *~~	-	~~257.09 (15")~~	~~N 554379.09 E 1376795.34~~	~~2.50'~~	~~D INLET~~	~~D-4.10~~
I-9	PRIVATE	224.60	217.18 (24")	217.08 (24")	N 554830.89 E 1377120.76	2.50'	A-5 INLET	D-4.01
I-10	PRIVATE	225.17 *	218.50 (18")	218.00 (24")	N 554833.05 E 1377120.89	2.50'	D INLET	D-4.10
I-11	PRIVATE	225.00 *	219.16 (18")	219.06 (18")	N 554650.94 E 1377035.49	2.50'	S INLET	D-4.22
I-12	PRIVATE	226.50 *	219.89 (15")	219.64 (18")	N 554582.04 E 1377100.01	2.58'	S INLET	D-4.22
I-13	PRIVATE	224.50 *	-	220.61 (15")	N 554652.20 E 1377224.71	2.50'	S INLET	D-4.22
I-14	PRIVATE	236.80 *	-	233.54 (15")	N 554493.37 E 1377034.52	2.50'	A-20 INLET	MODIFIED D-4.03
M-1	PRIVATE	222.00	216.38 (24")	216.28 (24")	N 554819.73 E 1377214.61	4'	STD. MANHOLE	G - 5.12
M-2	PRIVATE	226.00	216.80 (24")	216.70 (24")	N 554.792.00 E 1377157.05	4'	STD. MANHOLE	G - 5.12
M-3	PRIVATE	219.~~50~~.38	214.~~69~~.25 (24")/(15") 214.03	214.~~24~~.03 (30")	N 554787.13 E 1377424.13	5'	STD. MANHOLE	G - 5.13
M-4	PRIVATE	220.44	216.05 (15"), 217.52 (18")	215.26 (24")	N 554683.39 E 1377376.12	4'	STD. MANHOLE	G - 5.12
M-5	PRIVATE	226.00	222.02 (18")	221.92 (18")	N 554657.15 E 1377328.34	4'	STD. MANHOLE	G - 5.12
M-6	PRIVATE	237.12	233.15 (18")	233.05 (18")	N 554505.64 E 1377052.45	4'	STD. MANHOLE	G - 5.12
M-7	PRIVATE	255.27	245.41 (18")	240.35 (18")	N 554675.79 E 1376865.49	4'	STD. MANHOLE	G - 5.12
M-8	PRIVATE	233.58	230.33 (18")	228.70 (18")	N 554562.09 E 1377174.78	4'	STD. MANHOLE	G - 5.12
S-1	PUBLIC	216.50	-	214.00 (30")	N 554822.61 E 1377402.88	30"	CONC. END SECTION	MD-368.02
S-2	PRIVATE	217.50	-	216.00 (24")	N 554819.68 E 1377264.18	24"	CONC. END SECTION	D - 5.51
~~S-3~~	~~PRIVATE~~	~~257.50~~	-	~~256.00 (18")~~	N ~~554635.19~~ E ~~1376761.61~~	~~18"~~	~~CONC. END SECTION~~	~~D - 5.51~~
S-4	PRIVATE	229.75	-	228.50 (15")	N 554554.86 E 1377186.77	15"	CONC. END SECTION	D - 5.51
HW-1	PUBLIC	215.04	-	212.71	N 554892.84 E 1377449.70	-	TYPE 'C' HEADWALL	MD-355.03
HW-2	PUBLIC	215.67	-	213.45	N 554858.74 E 1377394.52	-	TYPE 'C' HEADWALL	MD-355.03
HW-4	PUBLIC	215.85	-	213.60 (18")	N 554847.65 E 1377376.24	15"	TYPE 'C' HEADWALL	MD-350.01
R-1	PRIVATE	-	-	213.80 (18")	N 554826.55 E 1377355.86	5'	MOD. INLET	SEE SHEET 25

* - DENOTES GRATE ELEVATION

I-1A	PUBLIC	216.00	215.22	214.80	N 554798.55 E 1377460.52	-	FLOW THRU (TYPE 1)	MD-374.68
I-2A	PUBLIC	215.92	215.09	214.69	N 554819.63 E 1377454.04	-	FLOW THRU (TYPE 1)	MD-374.68
I-3A	PUBLIC	215.99	215.16	214.80	N 554638.43 E 1377632.43		FLOW THRU (TYPE 1)	MD-374.68

PIPE SCHEDULE (PRIVATE)

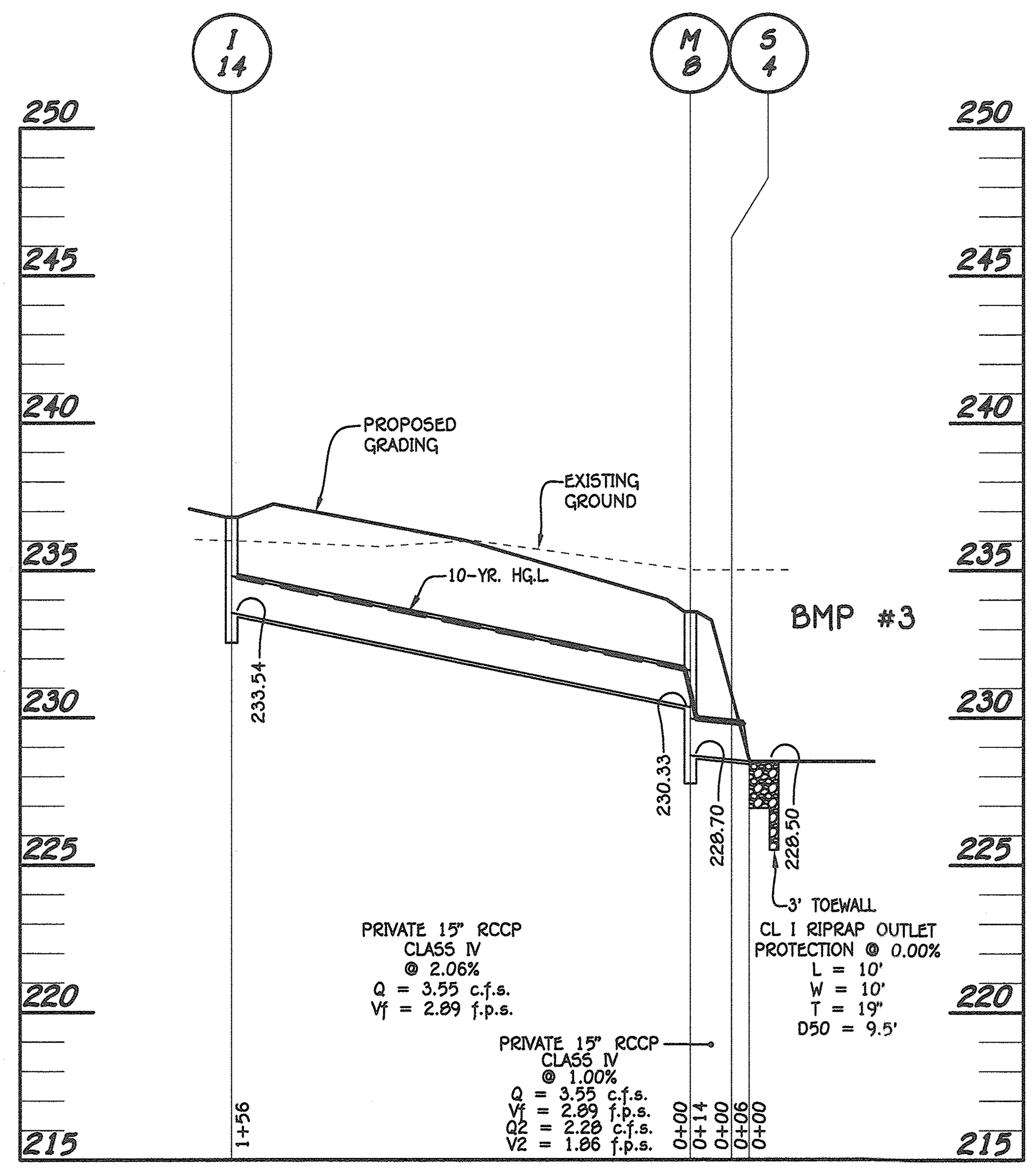
SIZE	CLASS	LENGTH
6"	PERF PVC	751 L.F.
6"	PVC SCH 40	149 L.F.
15"	RCCP, CLASS IV	439 L.F.
18"	RCCP, CLASS IV	1,002 L.F.
24"	RCCP, CLASS IV	445 L.F.
30"	RCCP, CLASS IV	42 L.F.
30"	ALCMP, 12 GA	236 L.F.
72"	ALCMP, 12 GA	518 L.F.
18"	ALCMP, 16 GA	33 L.F.
15"	ALCMP, 16 GA	22 L.F.
18"	ASTM C-361	27 L.F.
14"x23"	HERCP, CLASS IV	128 L.F.

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

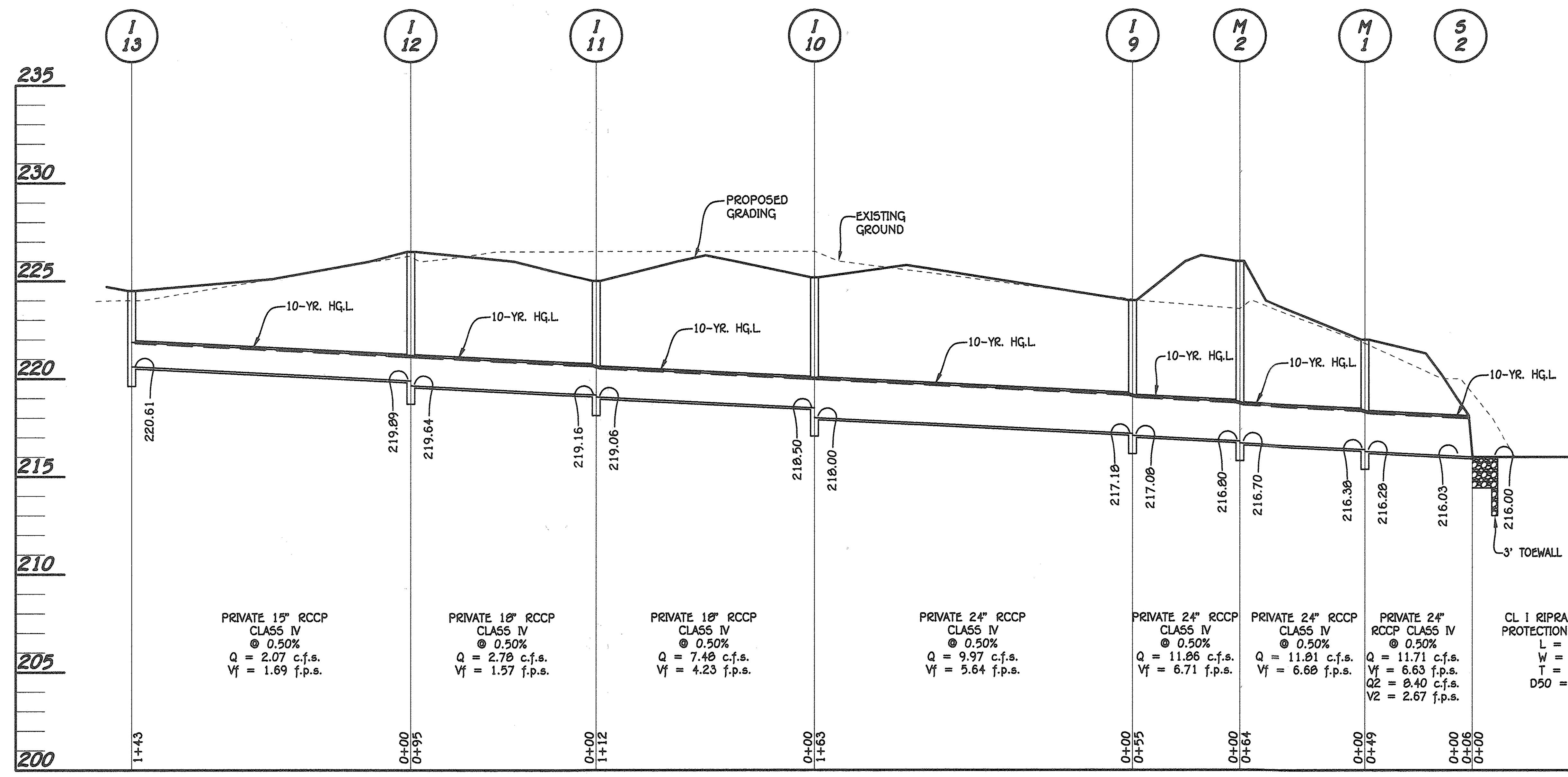
CHARLES J. CROUO, SR. NO. 13204 — 10/28/19 Date

AS BUILT 10/28/19



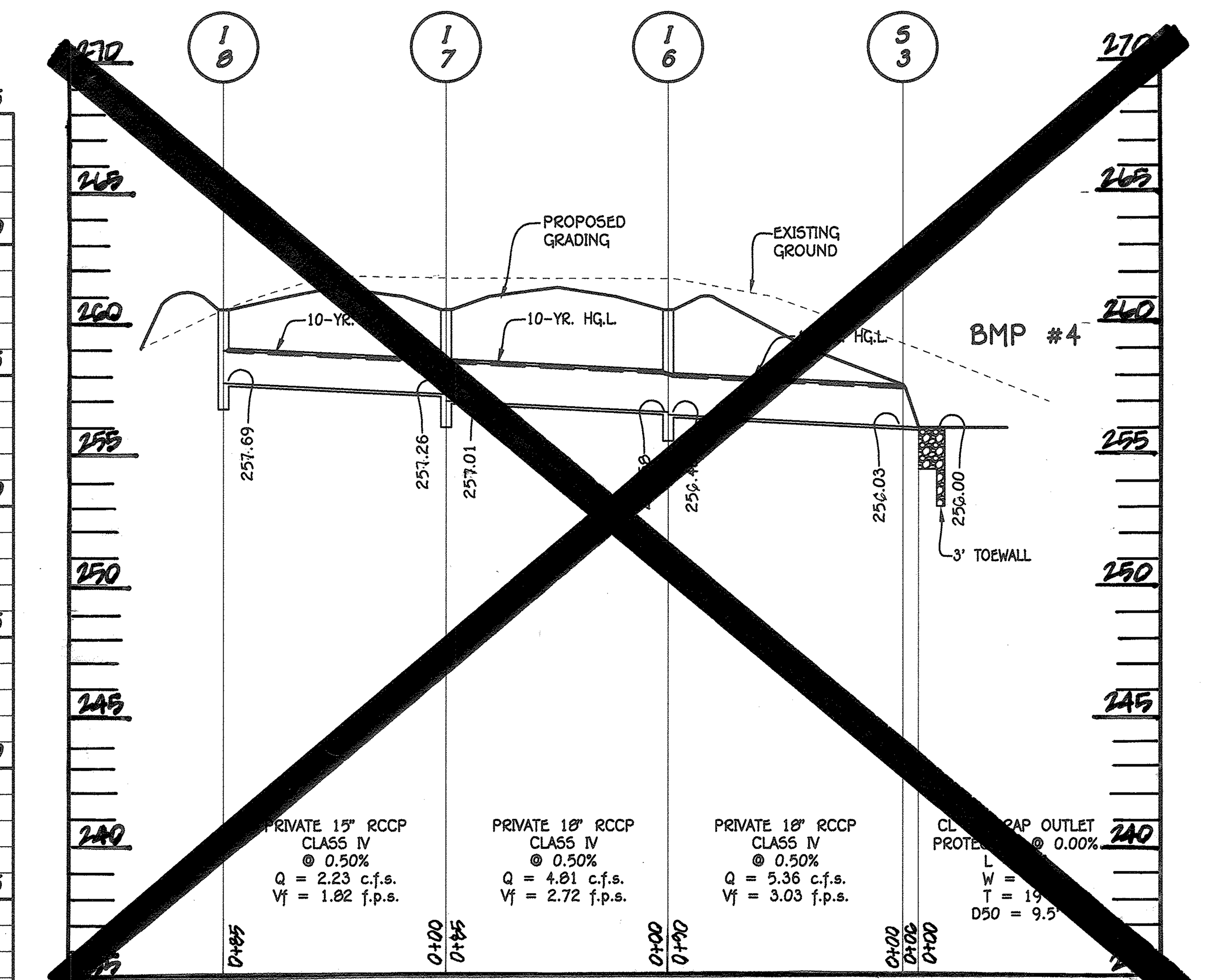
PROFILE

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



PROFILE

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



VERT. : 1" = 5'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISE STRUCTURE SCHEDULE & PROFILE I-8 TO S3	7/18/19
1	REPLACEMENT SHEET	2/10/17

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — 2/9/17 DATE

0' 50' 100' 200'

Scale: 1" = 50'

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 3-9-17 Date

Chief, Development Engineering Division — 3-6-17 Date

Director - Department of Planning and Zoning — 3-9-17 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET
STORM DRAIN PROFILES

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22

PARCEL NO.: 'A'

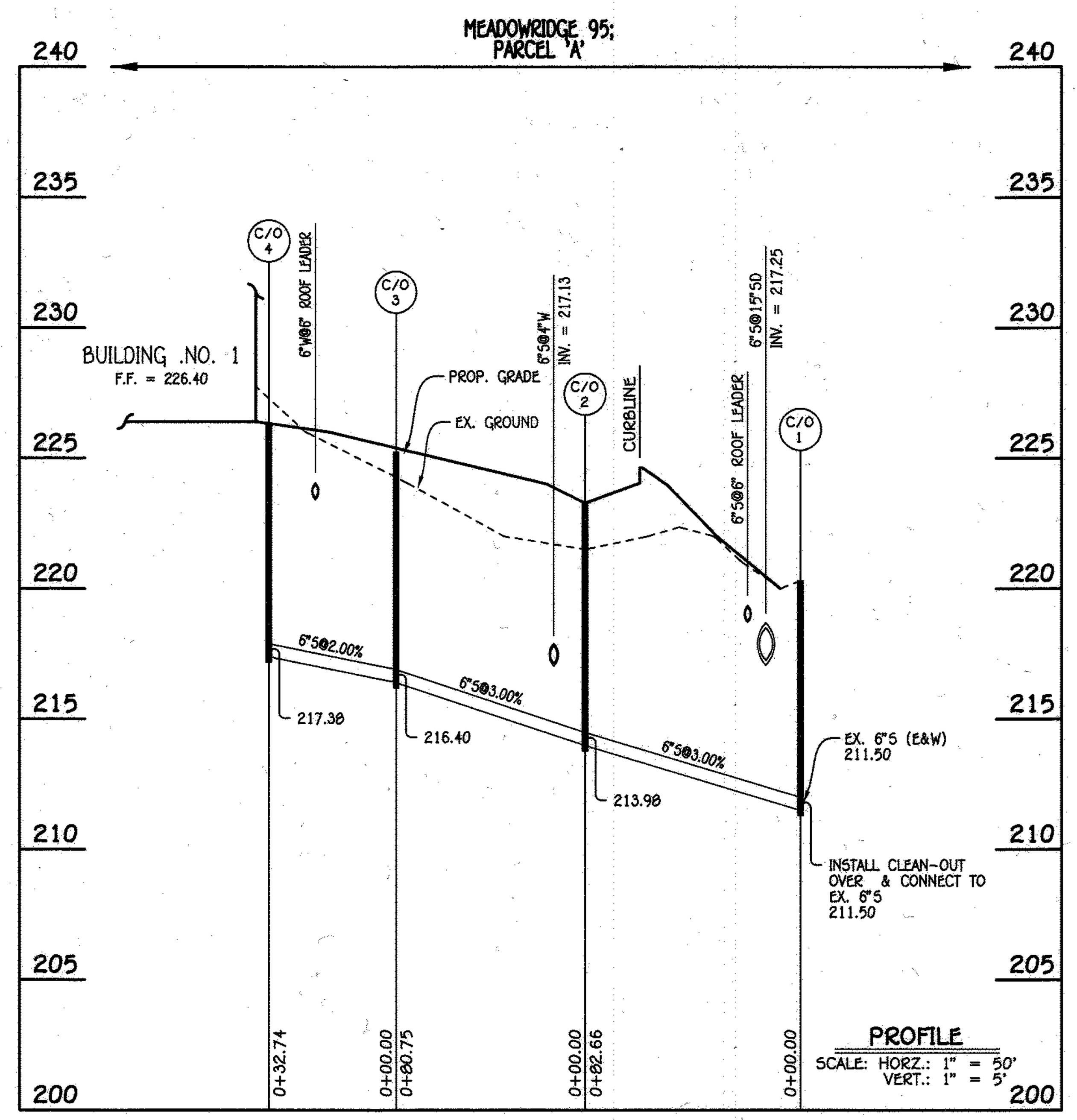
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017

SDP-14-054

"AS-BUILT"

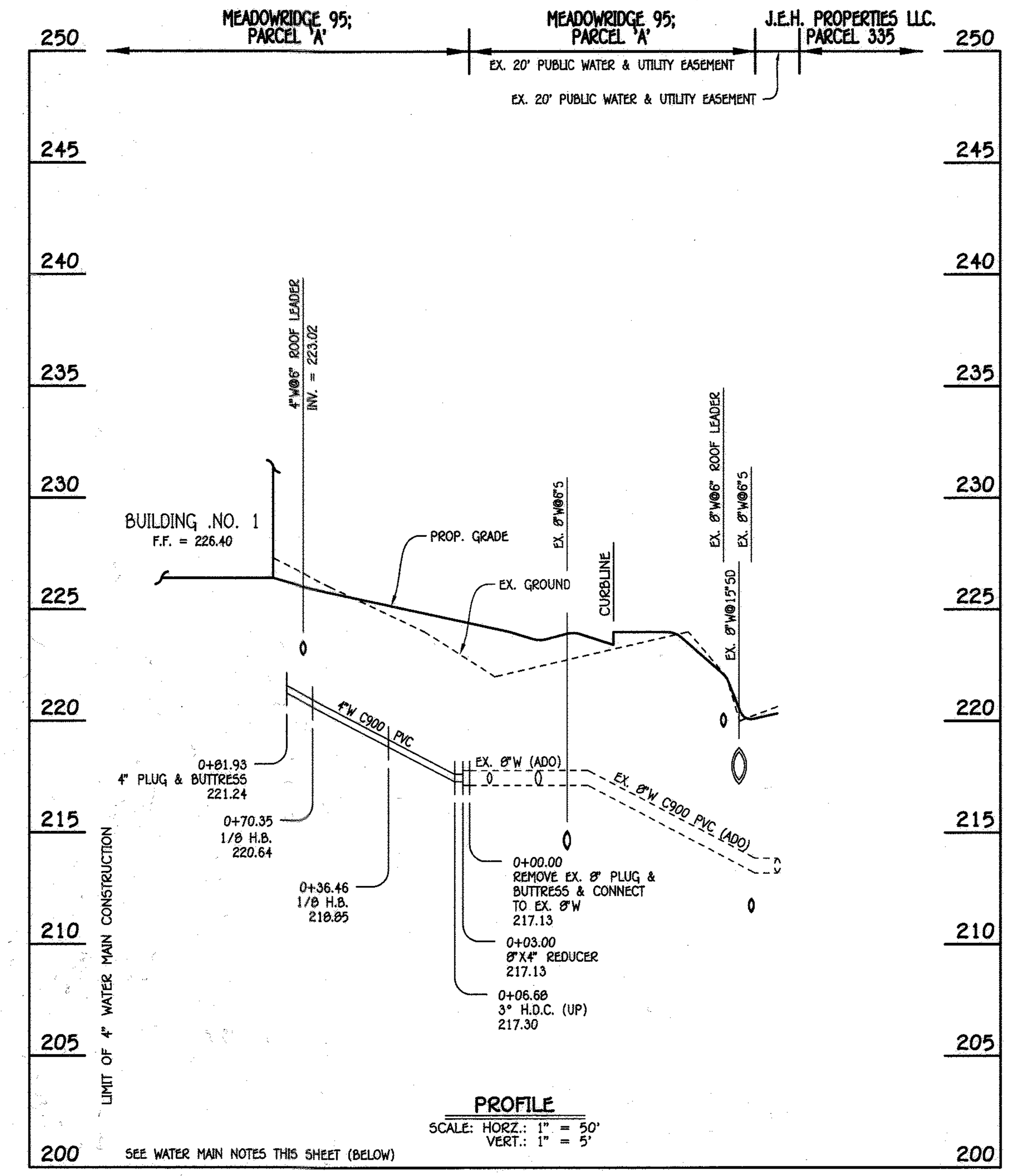
I:\2012\12040\dwg\12040 SDP Folder\12040-3001 SHEET 9 and 10 Storm Drain Profiles REPLACEMENT.dwg, 1:1



6" SEWER MAIN TO BUILDING NO. 1

CLEAN-OUT TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
1	554827.24	1377262.90	220.50
2	554755.10	1377303.25	223.28
3	554719.59	1377239.76	225.24
4	554721.44	1377190.92	226.32

NOTE: SET TOP OF CLEAN-OUTS FLUSH W/PROPOSED GRADE.



4" WATER MAIN: TO BUILDING NO. 1

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
4" WATER MAIN TO BUILDING NO. 1			
0+00.00	EX. 8" PLUG & BUTTRESS	554722.87	1377272.26
0+03.00	8"X4" REDUCER	554721.41	1377269.64
0+36.46	1/8 H.B.	554705.07	1377240.44
0+70.35	1/8 H.B.	554714.68	1377207.94
0+81.93	4" PLUG & BUTTRESS	554709.05	1377197.83

WATER MAIN NOTES:

1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.
2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	REVISED SHEET NUMBER & OWNER	2/10/17

STATE OF MARYLAND
ALDO MICHAEL VITUCCI
No. 20748
PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — DATE: 1/14/15

Owner
WALTER F. GAINER
REVOCABLE TRUST
6586 MEADOW RIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410)-755-8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date: 2-17-15

Chief, Development Engineering Division — Date: 2-13-15

Director - Department of Planning and Zoning — Date: 2/17/15

PROJECT			SECTION	PARCEL NO.	
MEADOWRIDGE 95			-	'A'	
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201 - 23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

SEWER & WATER MAIN EXTENSIONS PROFILES, CHARTS & NOTES

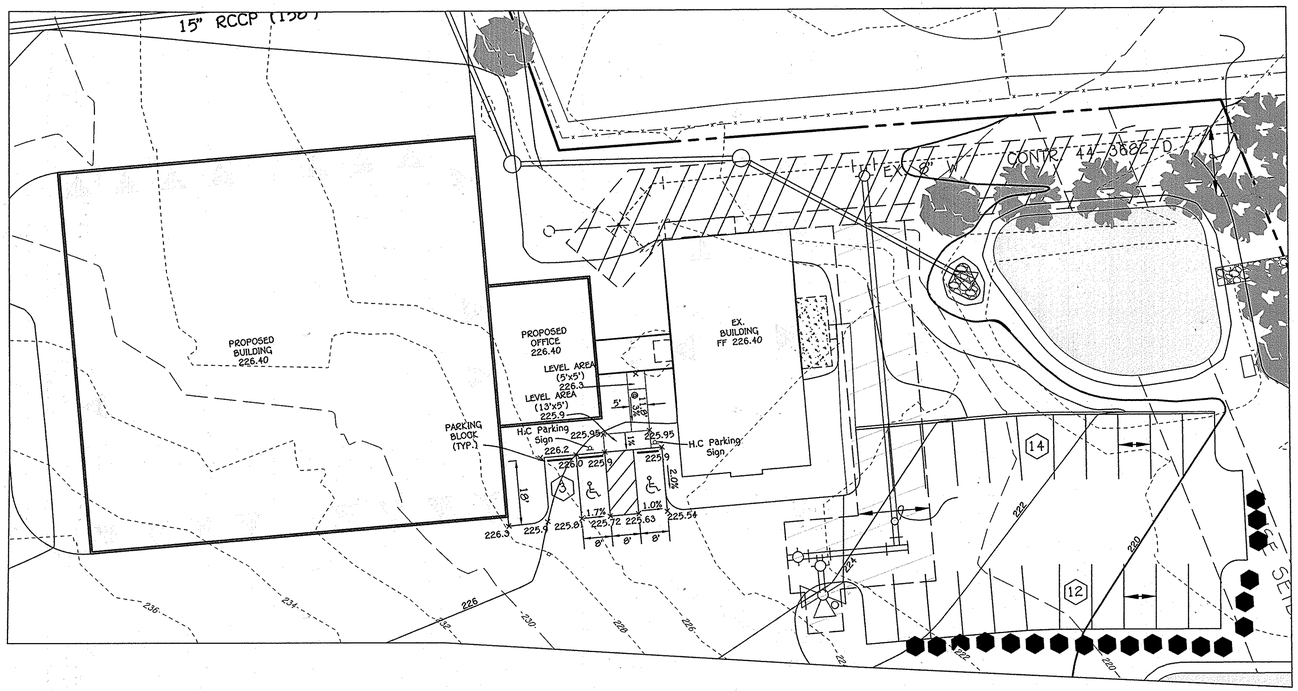
PROPOSED COMMERCIAL GARAGE & STORAGE AREA

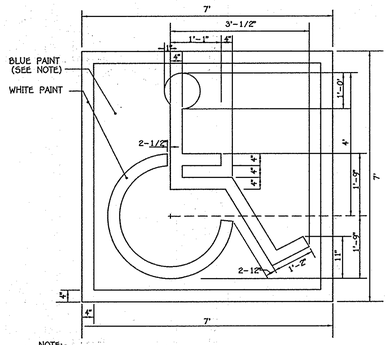
MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015

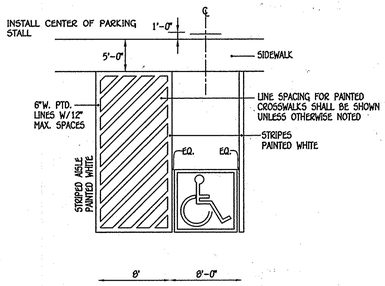




NOTE:
SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND (WHITE ON BLUE: COLOR NO. 105090 IN FED. STANDARD 5952-DOUBLE COAT TYP.)

HANDICAP SPACE STENCIL LAYOUT

SCALE: 1" = 20'



ACCESSIBLE SPACE LAYOUT

SCALE: 1" = 20'

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

HANDICAP PARKING SIGN DETAIL

NOT TO SCALE

0' 20' 40' 80'
Scale: 1" = 20'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — 1/23/15 DATE

Owner
APCO 14 LLC
c/o Asset Preservation, Inc.
1420 Rocky Ridge Drive-Suite 100
Roseville, Ca. 95661
Attn: Diane Fox
(916)-945-3530

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 2-17-15 Date

Chief, Development Engineering Division — 2-13-15 Date

Director - Department of Planning and Zoning — 2/13/15 Date

PROJECT		SECTION	PARCEL NO.
MEADOWRIDGE 95		-	'A'
PLAT	BLOCK NO. / ZONE	TAX/ZONE / ELEC. DIST.	CENSUS TR.
23201-23203	22 / M-1	2 / FIRST	6012.02
WATER CODE		SEWER CODE	
N/A		N/A	

HANDICAP PARKING DETAILS

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

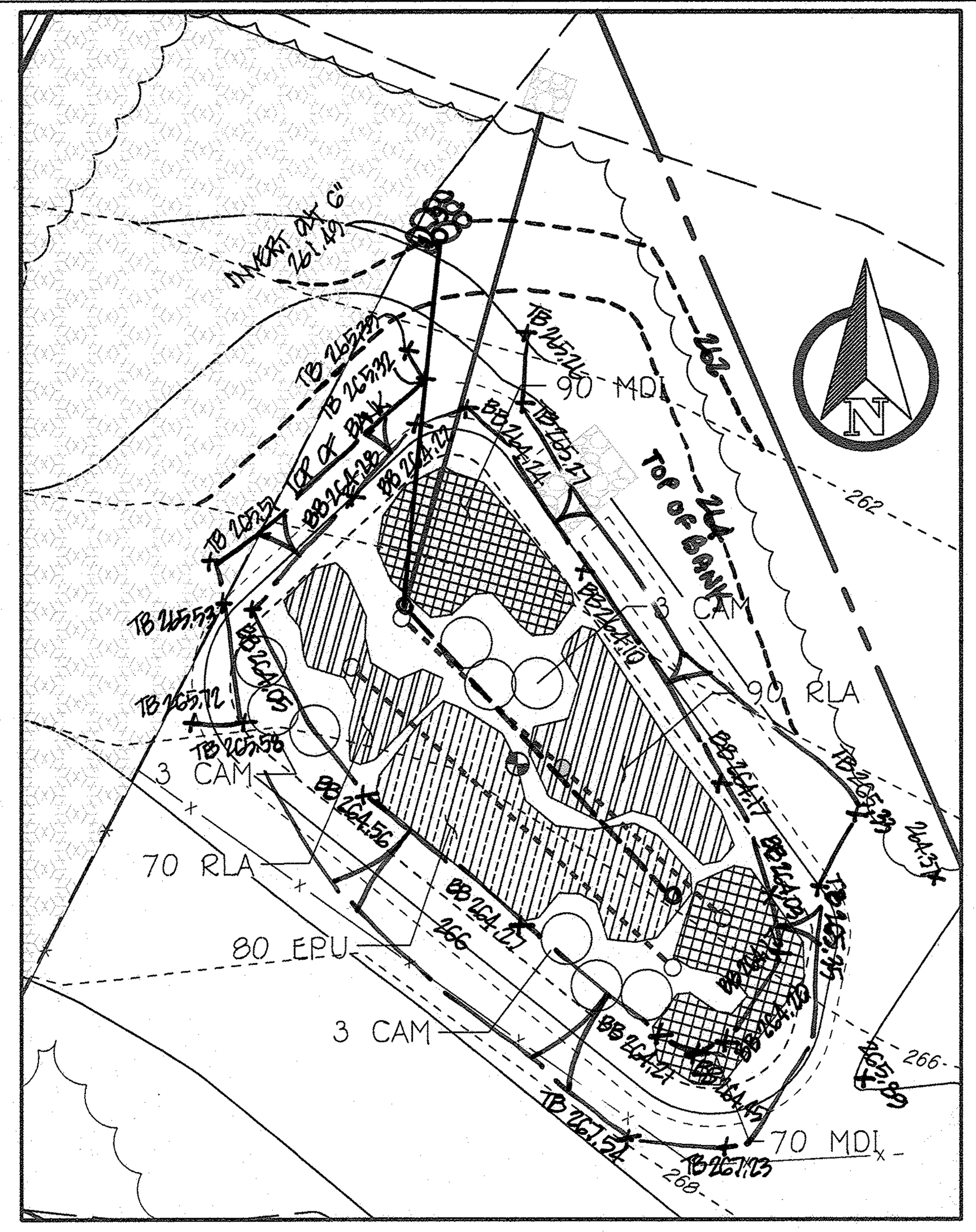
PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

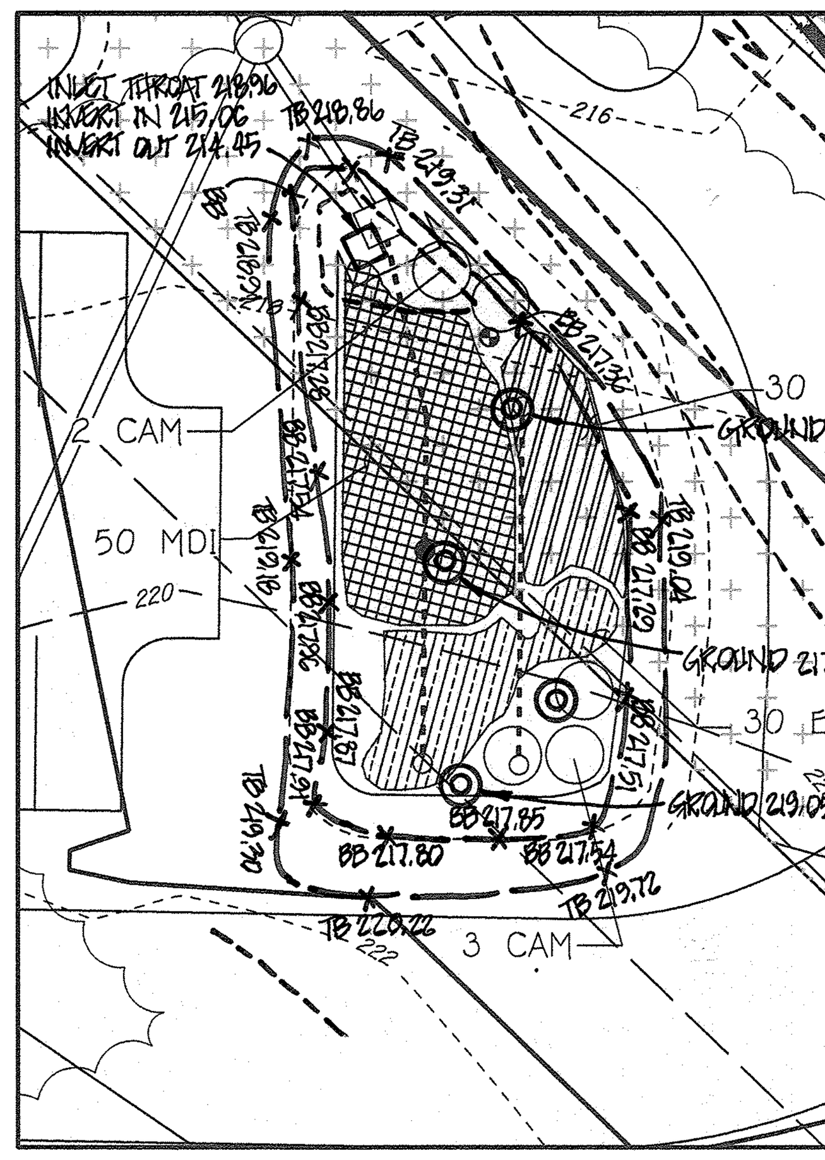
SCALE: AS SHOWN DATE: JANUARY, 2015
SHEET 12 OF 21

SDP-14-054



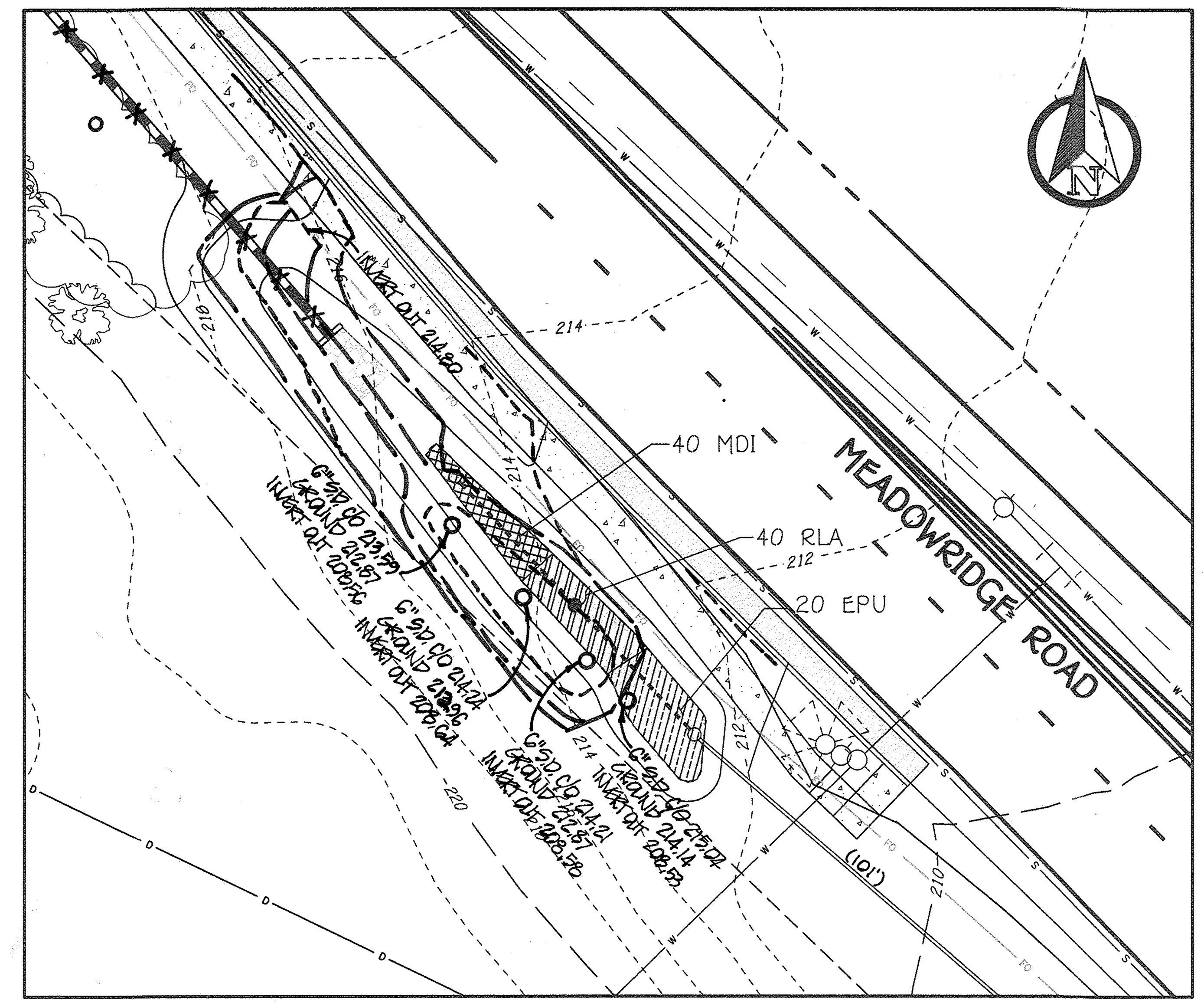
F-6 (1) - PLANTING PLAN

SCALE: 1" = 20'



F-6 (2) - PLANTING PLAN

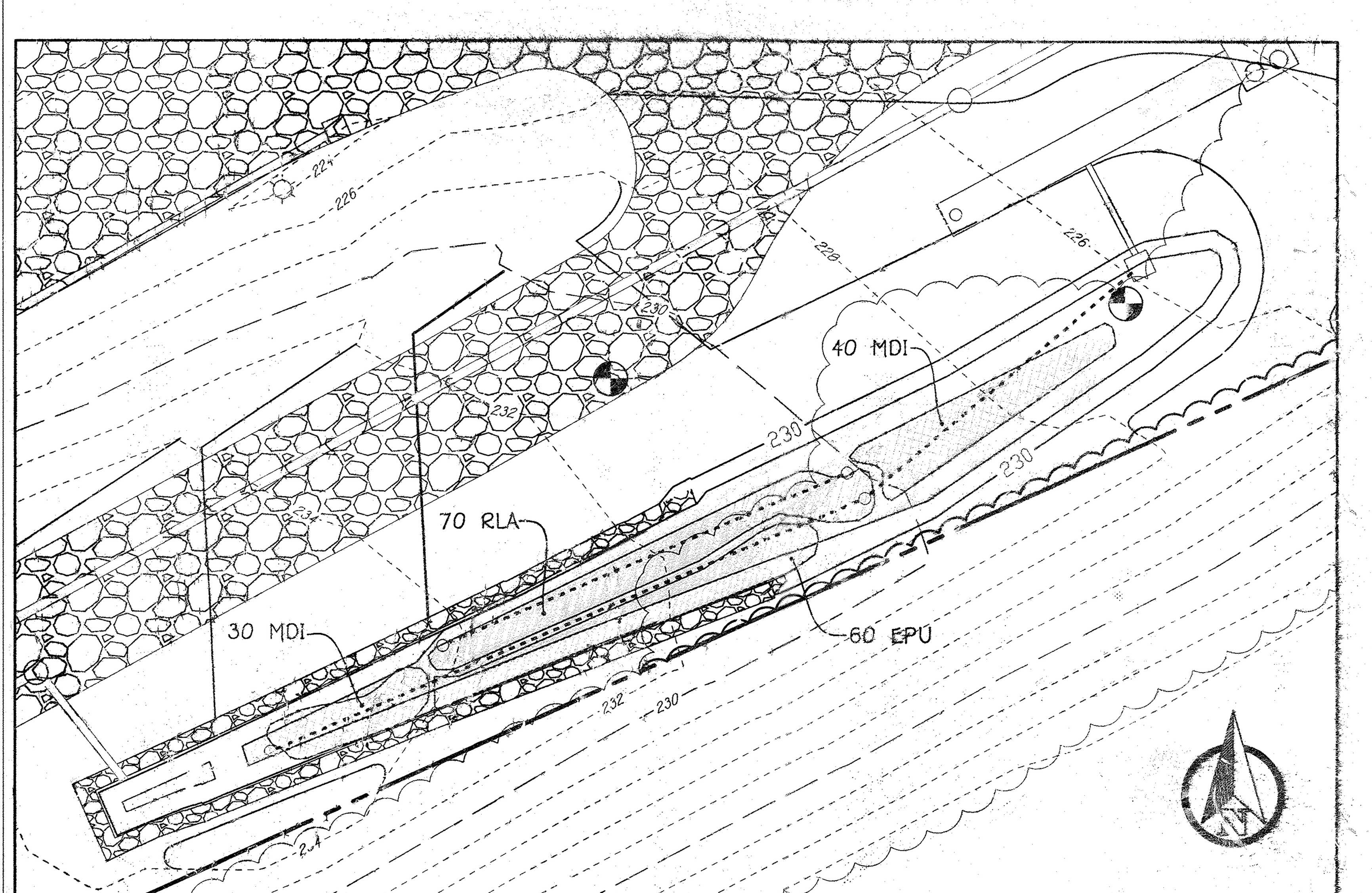
SCALE: 1" = 20'



MSHA
M-6 (5) - PLANTING PLAN

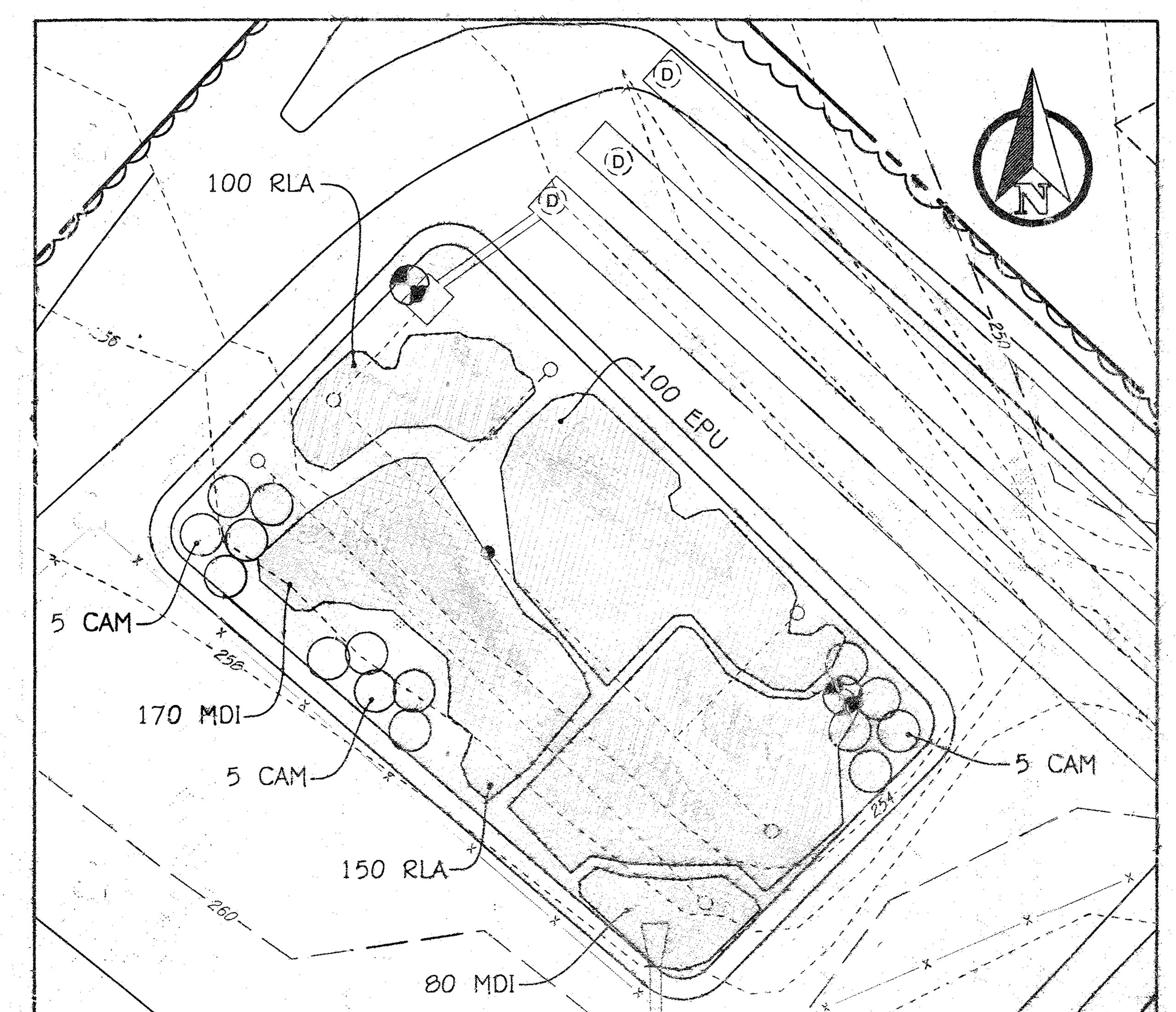
SCALE: 1" = 20'

MICRO BIO-RETENTION PLANT LIST							
BIO 1 QUANTITY	BIO 2 QUANTITY	BIO 3 QUANTITY	BIO 4 QUANTITY	BIO 5 QUANTITY	NAME	ID	MAXIMUM SPACING (FT.)
9	15	-	5	-	SILKY DOGWOOD (CORNUS AMOMUM)	CAM	PLANT AWAY FROM INFLOW LOCATION
160	250	70	30	25	CUTLEAF CONEFLOWER (RUDBECKIA LACINIATA)	RLA	1.5 FT. SPACING
160	250	70	50	25	SCARLET BEEBALM (MONARDA DIDYMA)	MDI	1.5 FT. SPACING
80	100	60	30	10	JOE-PYE-WEED (EUTROCHIUM PURPUREUM)	EPU	3.0 FT. SPACING



F-6 (3) - PLANTING PLAN

SCALE: 1" = 20'



F-6 (4) - PLANTING PLAN

SCALE: 1" = 20'

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (F-6) (FACILITY Nos. 1 Through 4)

1. 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 and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A.4.1 and 2.

2. The owner shall perform a plant in the spring and in the fall 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. Treat diseased trees ans shrubs and replace all deficient stakes and wires.

3. 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.

4. The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC), and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public.

Design Constraints:

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.
> Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance).
> Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.
> Test soil conditions to determine if soil amendments are necessary.
> Plants shall be located so that access is possible for structure maintenance.
> Stabilize heavy flow areas with erosion control mats or sod.
> Temporarily divert flows from seeded areas until vegetation is established.
> See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume [Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993]. Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Table A.3 Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P205)	75 lbs. per acre, minimum
Potassium (potash -1(K20)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	10 to 25 %
Silt	30 to 55 %
Sand	35 to 60%

Mulch Layer

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.
The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge
is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.

B.4.C Specifications for Micro-Bioretention, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or 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 micro-bioretention practice 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:

Soil Component - Loamy Sand or Sandy Loam (USDA 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 into the soil to increase or decrease pH.
There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. 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 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 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 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 micro-bioretention 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 invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 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 bioretention 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 moist during transport and on-site storage. The plant root ball should be planted so 1/8 th 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 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 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 (ASTMF 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is "slotted, 4 rigid pipe (e.g., PVC or 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 lethstck3"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 (1/4" 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".

The 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 beestabilized

0' 20' 40' 80'
Scale: 1" = 20'

AS BUILT
10/28/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISE PLANTING PLAN F-6(3) & F-6(4)	7/18/19
1	REPLACEMENT SHEET	2/10/17

STATE OF MARYLAND
ALDO MICHAEL VITUCCI
No. 20748
PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. 2/9/17 DATE

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CRAIG, SR. NO.13204 10/28/19 Date

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 3-9-17 Date

Chief, Development Engineering Division — 3-6-17 Date

Director - Department of Planning and Zoning — 3-9-17 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET
STORMWATER MANAGEMENT NOTES & DETAILS

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

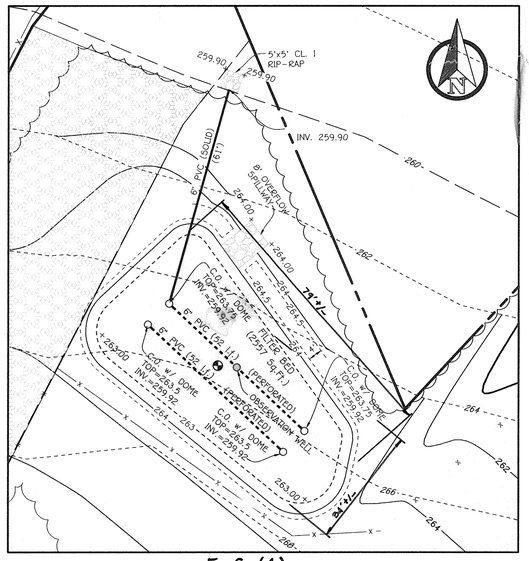
PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

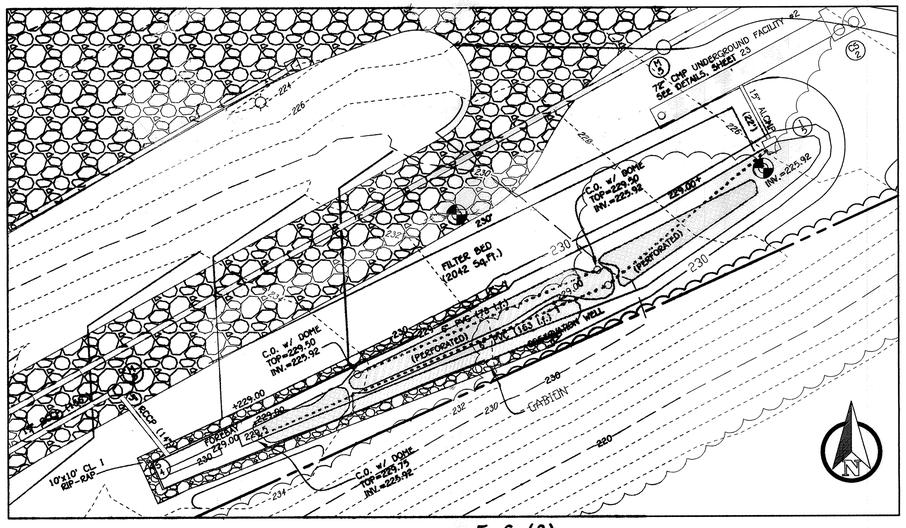
SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 13 OF 25

SDP-14-054

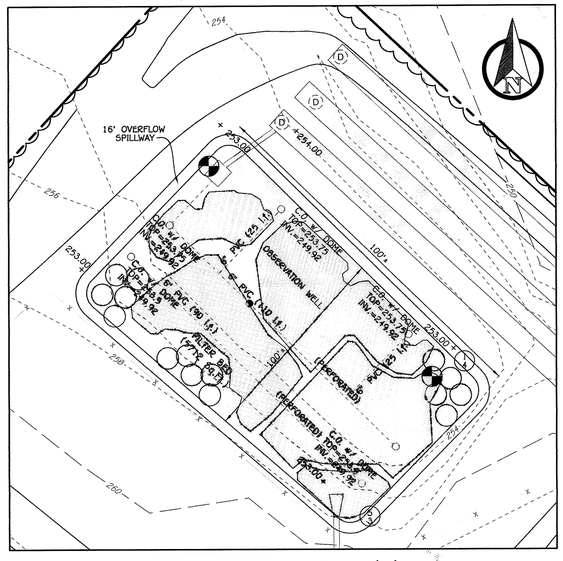
"AS-BUILT"



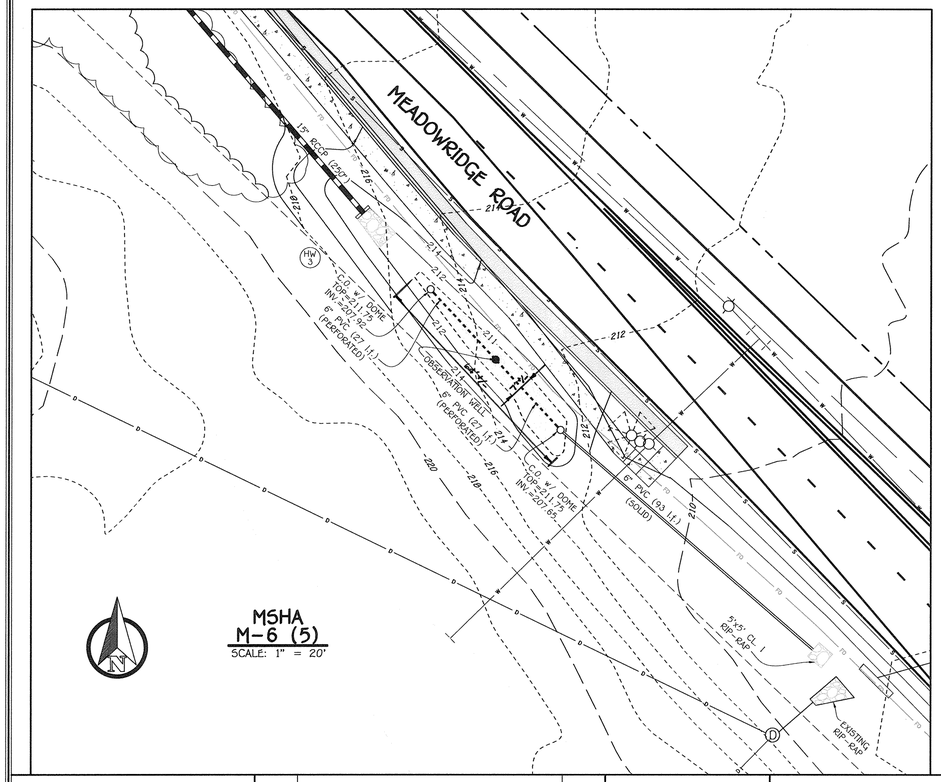
F-6 (1)
SCALE: 1" = 20'



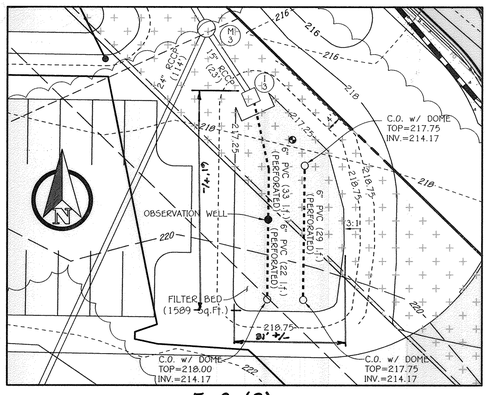
F-6 (3)
SCALE: 1" = 20'



F-6 (4)
SCALE: 1" = 20'



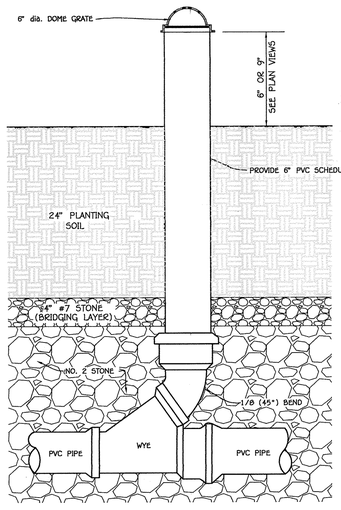
MSHA
M-6 (5)
SCALE: 1" = 20'



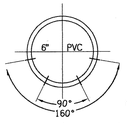
F-6 (2)
SCALE: 1" = 20'

– DENOTES FILTER AREA

0' 20' 40' 80'
Scale: 1" = 20'

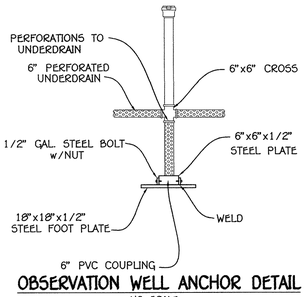


TYPICAL CLEAN-OUT DETAIL
NO SCALE

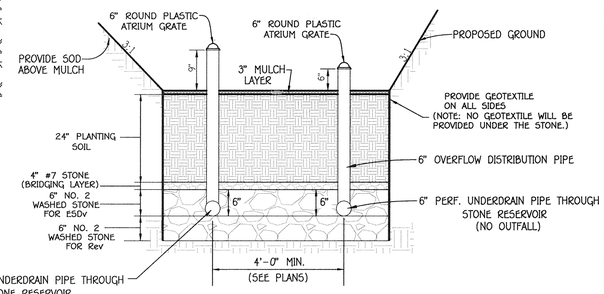


PIPE SIZE: 6"
HOLE SIZE: 3/8"
CENTER TO CENTER: 3"
ROWS OF HOLES: 2 @ 90°
2 @ 160° (+/-3°)

SCH40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE
NO SCALE



OBSERVATION WELL ANCHOR DETAIL
NO SCALE



MICRO BIO-RETENTION SECTION WITH 6" OVERFLOW DISTRIBUTION PIPE
NO SCALE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISE SWM F-6(2) & ADD DETAILS	7/18/19
1	REPLACEMENT SHEET	2/10/17

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — DATE 2/9/17

Owner
Walter F. Gainer Revocable Trust
9586 Meadowridge Road
Elkridge, Maryland 21075
(410)-755-8720

Developer
W.F. Wilson & Sons, Inc.
9586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 3-9-17
Chief, Development Engineering Division — Date 3-6-17
Director – Department of Planning and Zoning — Date 3-9-17

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET STORMWATER MANAGEMENT NOTES & DETAILS

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

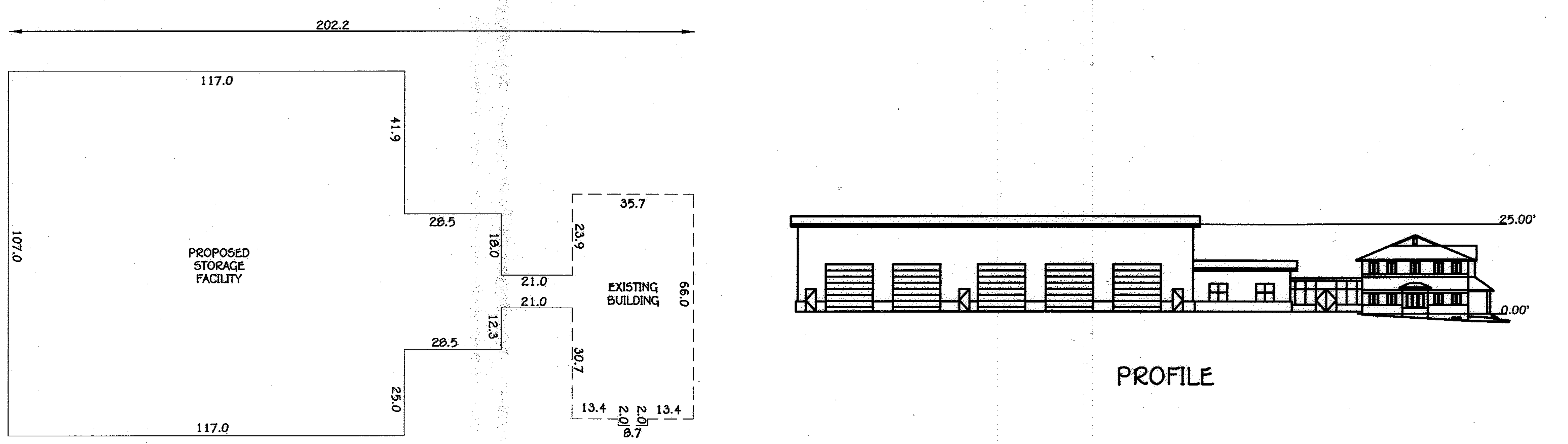
MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 14 OF 25

SDP-14-054

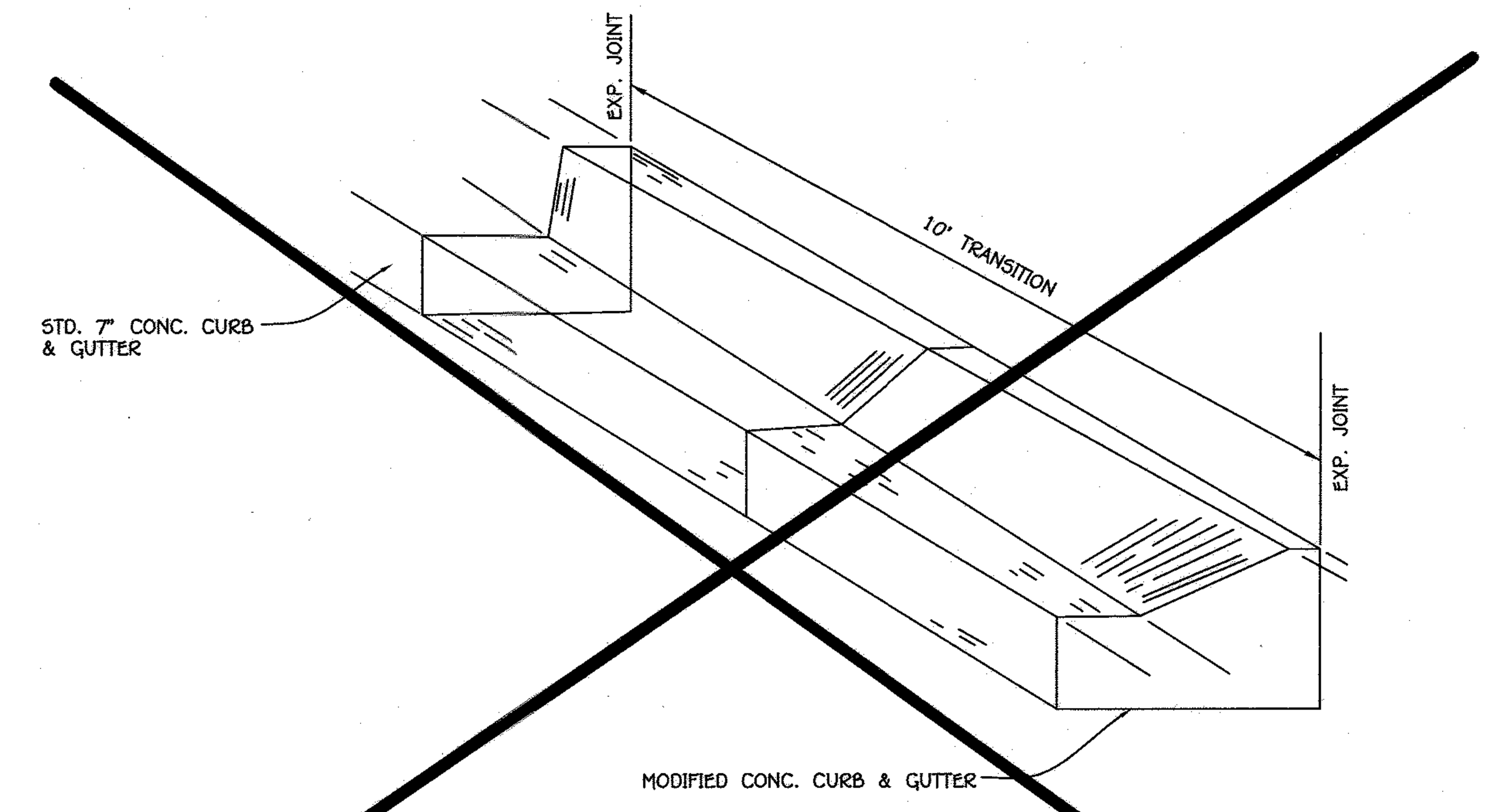


PLAN

PROFILE

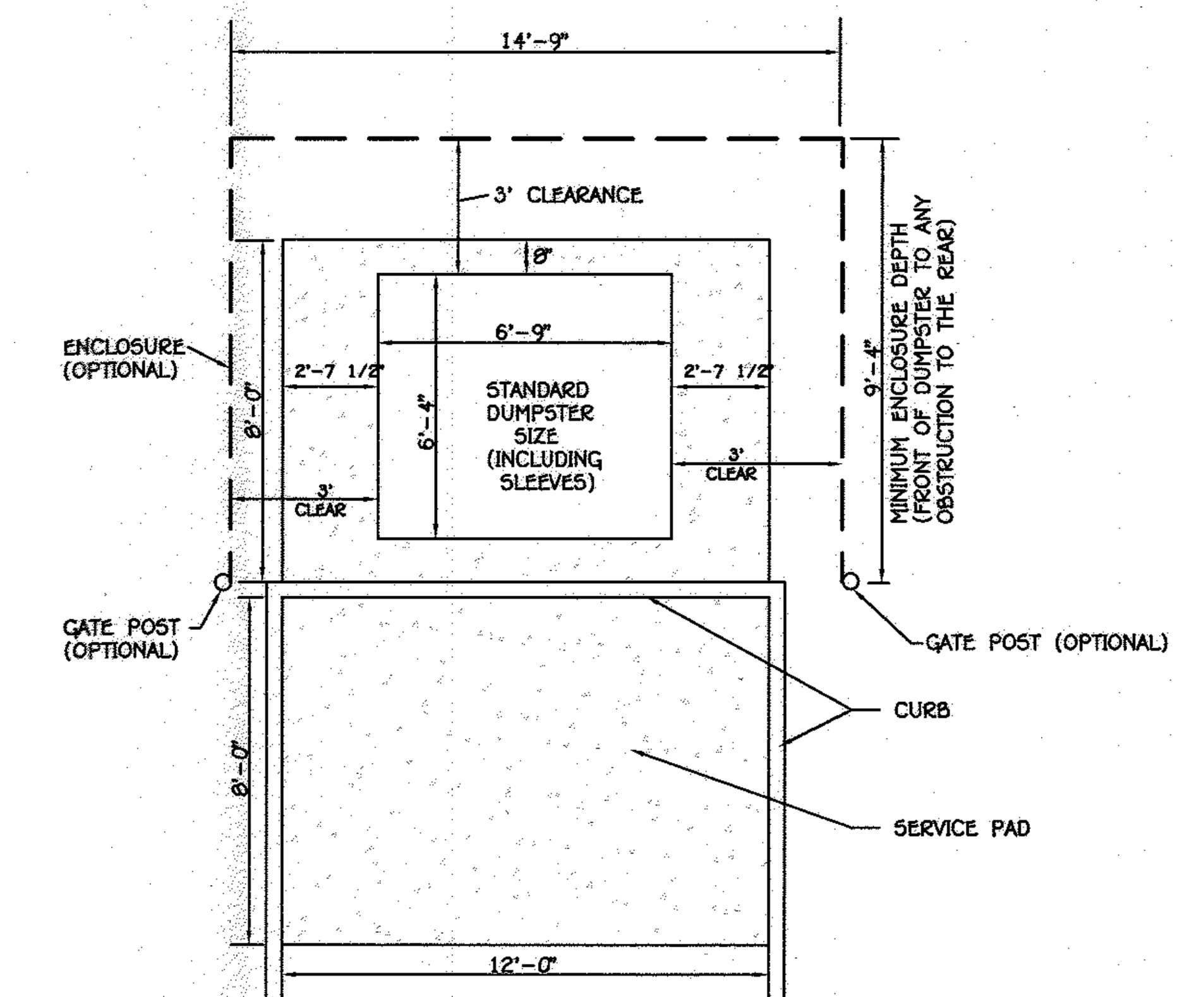
STORAGE FACILITY

SCALE: 1" = 30'



CONCRETE CURB & GUTTER TRANSITION

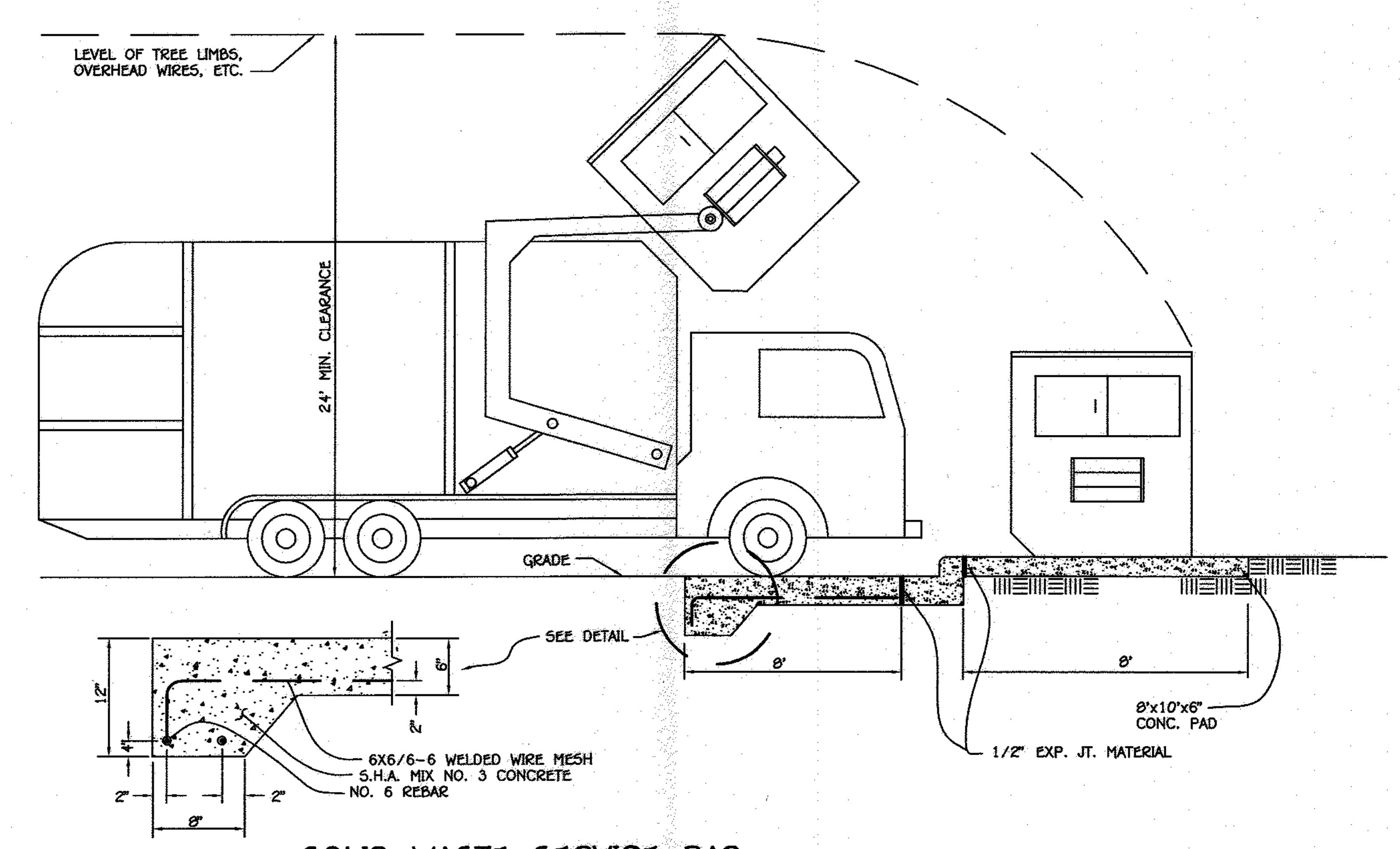
NO SCALE



SOLID WASTE CONTAINER w/ OPTIONAL ENCLOSURE

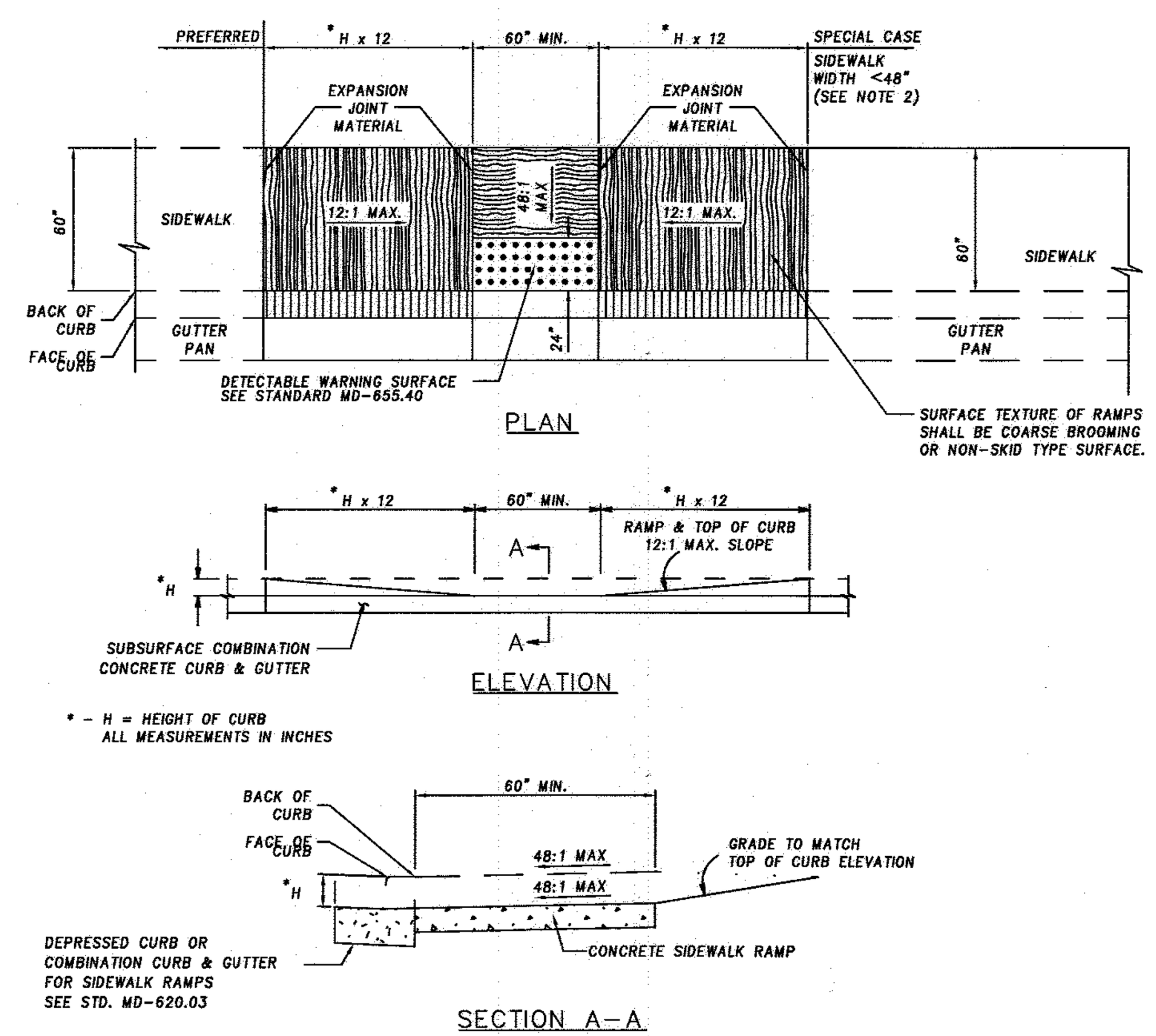
NOT TO SCALE

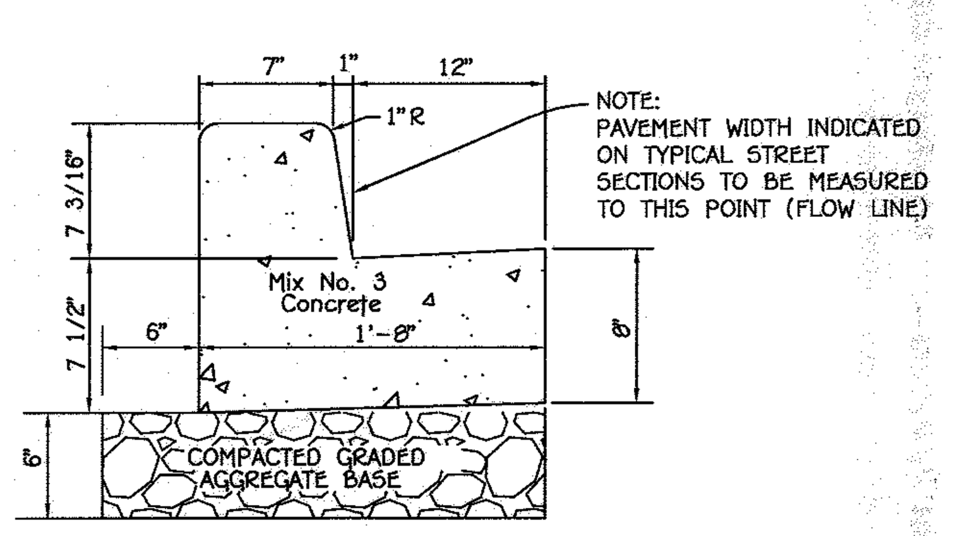
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22; LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0



SOLID WASTE SERVICE PAD

NOT TO SCALE



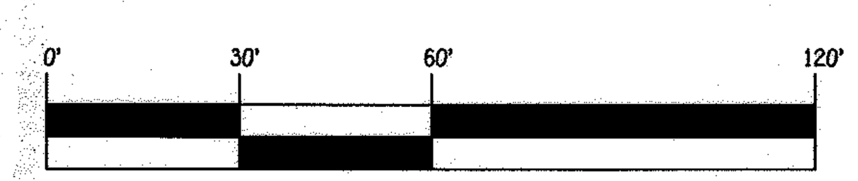


STD. 7" CONC. CURB AND GUTTER

NO SCALE R-3.01

NOTES

1. TO BE USED WHERE SIDEWALK IS ADJACENT TO THE CURB. THIS STANDARD MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION.
2. WHERE 60" SIDEWALK CAN NOT BE PROVIDED, A DESIGN WAIVER MUST BE REQUESTED.
3. NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. THE CROSS-SLOPE OF THE LANDING AREA CANNOT EXCEED GRADE OF ROADWAY
4. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STD. MD-655.01.
5. SIDEWALK RAMPS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.
6. TRANSITION PANELS TO TIE INTO EXISTING SIDEWALK MUST BE A MINIMUM OF 5' IN LENGTH



SCALE: 1" = 30'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	DELETED CURB DETAIL, REVISED SHEET NUMBER & OWNER	2/10/17

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — DATE 1/21/15

Owner	Developer
WALTER F. GAINER REVOCABLE TRUST 6586 MEADOWRIDGE ROAD ELKRIDGE, MARYLAND 21075 (410)-795-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-795-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15

Chief, Development Engineering Division — Date 2.13.15

Director - Department of Planning and Zoning — Date 2/17/15

PROJECT			SECTION	PARCEL NO.	
MEADOWRIDGE 95			-	'A'	
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

DETAIL SHEET

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22

PARCEL NO.: 'A'

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015

SHEET 15 OF 25

SDP-14-054

LEGEND
SYMBOL
DESCRIPTION
EXISTING CONTOUR 2' INTERVAL
EXISTING CONTOUR 10' INTERVAL
PROPOSED CONTOUR 2' INTERVAL
PROPOSED CONTOUR 10' INTERVAL
SPOT ELEVATION
EXISTING SEWER LINE
EXISTING STORM DRAIN LINE
EXISTING WATER LINE
PROPOSED STORM DRAIN PIPE
PROPOSED SEWER
PROPOSED WATER
EXISTING CHAINLINK FENCE
EXISTING WOOD PRIVACY FENCE
AREA TO BE RESERVED TO THE MSHA
EXISTING OVERHEAD WIRE
EXISTING OVERHEAD ELECTRIC
EXISTING TREE
LIMIT OF DISTURBANCE
PROPOSED PAVING
PROPOSED GRAVEL
MSHA PROPOSED FULL DEPTH PAVEMENT
MSHA PROPOSED OVERLAY
BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
PUBLIC FOREST CONSERVATION EASEMENT
PROPOSED FENCE
PROPOSED LANDSCAPING PLANTS
MARYLAND INTERSTATE I-95
SHA PLATS NO. 34721 AND 34723
(Vehicular Ingress and Egress is Restricted Along the Entire Right Of Way Line)
PROPOSED TREELINE
PROPOSED CHAIN LINK FENCE WITH PRIVACY SLATS SEE DETAIL SHEET 17
PROPOSED CHAIN LINK FENCE SEE DETAIL SHEET 17
#6580 PROPOSED STORAGE BUILDING FINISHED FLOOR 226.40
EX. BUILDING TO REMAIN #6586 FIRST FLOOR 226.40'
MEADOWRIDGE ROAD
PARCEL 'B' MEADOWRIDGE BUSINESS PARK TAX MAP 37, PARCEL 362 PLAT NO. 11673 ZONED: M-1
REVISION PLAT PARCEL M-1 MEADOWRIDGE BUSNESS PARK PLAT NO. 11673 ZONED: M-1
Existing Paving
Existing Building
P1
P2
P3
P4
0' 50' 100' 200'
Scale: 1" = 50'

PLAN

SCALE: 1" = 50'

ASBUILT 10/28/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
2	REPLACEMENT SHEET RELOCATE SWM 3 + 4	7/24/19
2	REVISE LANDSCAPING ALONG P1, P2 & P3	2/1/19
1	REPLACEMENT SHEET	11/7/16

STATE OF MARYLAND
ALDO MICHAEL VITUCCI
No. 20748
PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/21.

ALDO M. VITUCCI, P.E. — DATE 7/25/19

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO.13204 — Date 10/28/19

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 8-21-19

Chief, Development Engineering Division — Date 8.19.19

Director – Department of Planning and Zoning — Date 8-21-19

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201–23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET
LANDSCAPE PLAN

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 16 OF 25

SDP-14-054

"AS-BUILT"

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORCED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG, NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES. CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING, AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

PROTECTION OF EXISTING VEGETATION TO REMAIN SHALL BE ACCOMPLISHED BY THE TEMPORARY INSTALLATION OF 4 FOOT HIGH SNOW FENCE OR BLAZE ORANGE SAFETY FENCE AT THE DRIP LINE.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. ALL PLANTING IS TO BE COMPLETED WITHIN THE GROWING SEASON OF COMPLETION OF SITE CONSTRUCTION.

BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS

PLANT QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE.

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS (2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS – TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS – TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.

LANDSCAPE DEVELOPER'S CERTIFICATE

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

NAME _____ DATE 1-14-15

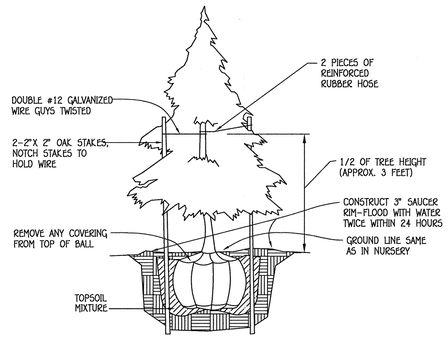
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

LANDSCAPING PLANT LIST (SCHEDULE A, B & C)

SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	16	ACER RUBRUM 'ARMSTRONG' RED MAPLE	2 1/2-3" CAL.	
	16	PRUNUS SARGENTII SARGENT CHERRY	2 1/2-3" CAL.	
	8	CEDRUS ATLANTICA/ ATLAS CEDAR	6'-8' HT.	
O	20	ABELIA X GRANDIFLORA GLOSSY ABELIA	18" - 24" SP.	

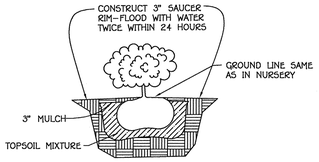
NOTE:

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 43 SHADE TREES, 8 EVERGREEN TREES AND 20 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $14,700.00.



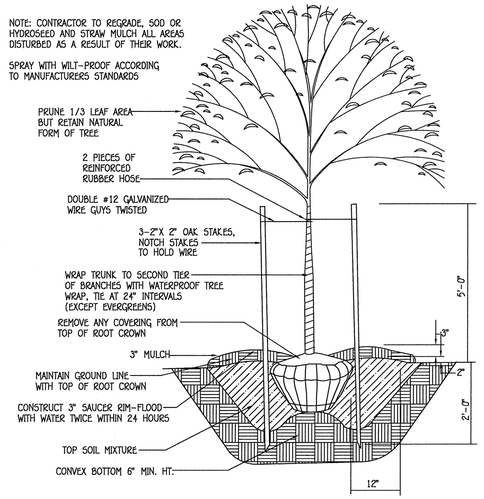
EVERGREEN PLANTING DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE



TREE PLANTING DETAIL

NOT TO SCALE

SCHEDULE A
PERIMETER LANDSCAPE EDGE

PERIMETER	P-1	P-2	P-3	P-4	TOTALS
CATEGORY	ADJACENT TO PERIMETER PROPERTIES Non-Res to All	ADJACENT TO ROADWAY Non-Res front	ADJACENT TO PERIMETER PROPERTIES Non-Res to All	ADJACENT TO ROADWAY Non-Res Rear	–
LANDSCAPE TYPE	A	B	A	C	–
LINEAR FEET OR ROADWAY FRONTAGE/PERIMETER	1413'	297'	1240'	622'	3571'
CREDIT FOR EXISTING VEGETATION (YES, NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	–	–	YES 35'	YES 622'	–
CREDIT FOR WALL, FENCE OR BERM (YES, NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR FUTURE FENCE @ 90' (SEE NOTE BELOW)	–	–	–	–
NUMBER OF PLANTS REQUIRED & PROVIDED SHADE TREES EVERGREEN TREES SHRUBS	5 – –	6 8 –	21 – –	– – –	32 8 –

NOTE: FENCE MUST BE INSTALLED PRIOR TO INSPECTION FOR LANDSCAPING

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

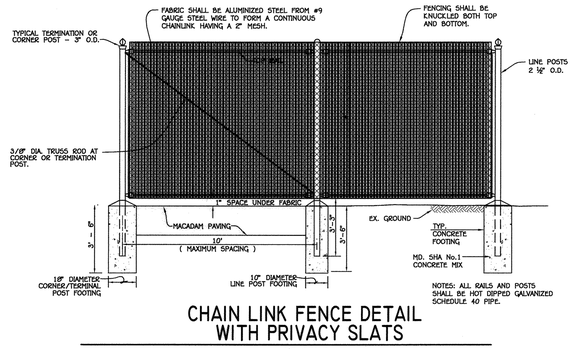
NUMBER OF PARKING SPACES	31
NUMBER OF TREES REQUIRED (1:20)	2
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTE)	– 20 SHRUBS

GENERAL LANDSCAPING NOTES

1. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
2. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS.
3. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE PROPERTY OWNER DURING THE CONSTRUCTION OF THE STORAGE BUILDING.
4. AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS LISTED HEREWITH AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

STREET TREE SCHEDULE

QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
296' / 40 = 7.4 8 TREES	ACER RUBRUM 'ARMSTRONG' ARMSTRONG COLUMNAR RED MAPLE	2 1/2"-3" CALIBER	PLACED WITHIN R/W OF MEADOWRIDGE ROAD (MD 103)



CHAIN LINK FENCE DETAIL WITH PRIVACY SLATS

NO SCALE

0' 50' 100' 200'

Scale: 1" = 50'

NO.	REVISION	DATE
4	REVISE LANDSCAPE PLANTING LIST & SCHEDULE 'A' CHART	2/1/17
1	REVISED SHEET NUMBER & ORDER	2/10/17

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — DATE 1/21/15

Owner

WALTER P. GAINER REVOCABLE TRUST
C/O% MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410)-795-8720

Developer

W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15

Chief, Development Engineering Division — Date 2-13-15

Director - Department of Planning and Zoning — Date 2/13/15

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT 23201-23203	BLOCK NO. 22	ZONE M-1	TAX/ZONE 27	ELEC. DIST. FIRST	CENSUS TR. 6012.02
WATER CODE N/A			SEWER CODE N/A		

LANDSCAPE PLAN

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22

PARCEL NO.: 'A'

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015

SHEET 17 OF 29

SDP-14-054

FOREST CONSERVATION WORKSHEET
VERSION 1.0

NET TRACT AREA	ACRES
A. TOTAL TRACT AREA	9.38
B. DEDUCTIONS (AREA WITHIN 100 YEAR FLOODPLAIN)	0
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0
D. NET TRACT AREA	9.38
LAND USE CATEGORY: MEDIUM DENSITY RESIDENTIAL	
E. AFFORESTATION THRESHOLD (NET TRACT AREA [C] x 15%)	1.41
F. CONSERVATION THRESHOLD (NET TRACT AREA [C] x 15%)	1.41
EXISTING FOREST COVER	
G. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	4.30
H. AREA OF FOREST ABOVE AFFORESTATION TRESHOLD	2.89
I. AREA OF FOREST ABOVE CONSERVATION TRESHOLD	2.89
BREAKEVEN POINT	
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	1.99
BREAKEVEN POINT	0
K. CLEARING PERMITTED WITHOUT MITIGATION	2.31
PROPOSED FOREST CLEARING	
L. TOTAL AREA OF FOREST TO BE CLEARED OR RETAINED OUTSIDE FCE	3.87
M. TOTAL AREA OF FOREST TO BE RETAINED	0.43
PLANTING REQUIREMENTS	
N. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION TRESHOLD	0.72
P. REFORESTATION FOR CLEARING BELOW THE CONSERVATION TRESHOLD	1.95
Q. CREDIT FOR RETENTION ABOVE THE CONSERVATION TRESHOLD	0.00
R. TOTAL REFORESTATION REQUIRED	2.68
S. TOTAL AFFORESTATION REQUIRED	0
T. TOTAL PLANTING REQUIREMENT	2.68

FCE PLANTING AREA #1 - 0.14 ACRE

QTY.	SPECIES	SIZE	SPACING	TOTAL FCA UNITS
6	ACER X FREMMANII 'AUTUMN BLAZE' - FREEMAN MAPLE	2-3' WHIP	11' O.C.	
6	CERCIS CANADENSIS - RED BUD	2-3' WHIP	11' O.C.	
6	CARPINUS CAROLINIANA - AMERICAN HORNBEAM	2-3' WHIP	11' O.C.	
7	LIRIODENDRON TULIPIFERA - TULIP POPLAR	2-3' WHIP	11' O.C.	
6	BETULA NIGRA 'HERITAGE' - RIVER BIRCH	2-3' WHIP	11' O.C.	
6	OSTRYA VIRGINIANA - AMERICAN HOPHORNBEAM	2-3' WHIP	11' O.C.	
6	ULMUS AMERICANA 'VALLEY FORGE' VALLEY FORGE AMERICAN ELM	2-3' WHIP	11' O.C.	
6	ACER CAMPESTRE - HEDGE MAPLE	2-3' WHIP	11' O.C.	
49 TOTAL WHIP PLANTINGS (2 PLANTING UNITS PER TREE) = 98 TOTAL FCA UNIT CREDIT				

WHIPS W/SHELTERS = 350/ACRE = 350 X 0.14 AC. = 49 WHIPS

FCE PLANTING AREA #2 - 0.05 ACRE

QTY.	SPECIES	SIZE	SPACING	TOTAL FCA UNITS
2	ACER X FREMMANII 'AUTUMN BLAZE' - FREEMAN MAPLE	2-3' WHIP	11' O.C.	
2	CERCIS CANADENSIS - RED BUD	2-3' WHIP	11' O.C.	
2	CARPINUS CAROLINIANA - AMERICAN HORNBEAM	2-3' WHIP	11' O.C.	
2	LIRIODENDRON TULIPIFERA - TULIP POPLAR	2-3' WHIP	11' O.C.	
2	BETULA NIGRA 'HERITAGE' - RIVER BIRCH	2-3' WHIP	11' O.C.	
2	OSTRYA VIRGINIANA - AMERICAN HOPHORNBEAM	2-3' WHIP	11' O.C.	
3	ULMUS AMERICANA 'VALLEY FORGE' VALLEY FORGE AMERICAN ELM	2-3' WHIP	11' O.C.	
3	ACER CAMPESTRE - HEDGE MAPLE	2-3' WHIP	11' O.C.	
18 TOTAL WHIP PLANTINGS (2 PLANTING UNITS PER TREE) = 36 TOTAL FCA UNIT CREDIT				

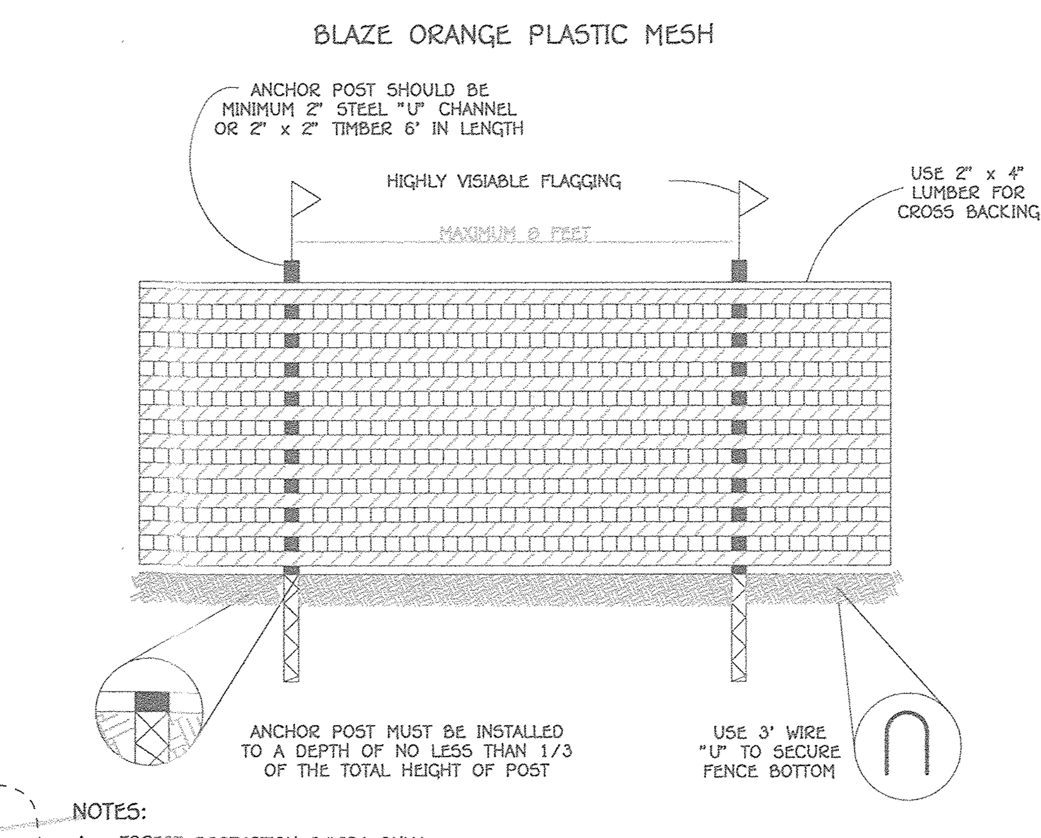
WHIPS W/SHELTERS = 350/ACRE = 350 X 0.05 AC. = 18 WHIPS
TOTAL UNIT CREDIT 98 (PLANTING AREA #1) + 36 (PLANTING AREA #2) = 134

SPECIMEN TREE CHART

TAG	SPECIES, SIZE (DBH)	COMMENT	STATUS
#2468	GREEN ASH 37"	FAIR CONDITION, MANY BROKEN BRANCHES	TO BE REMOVED

THE ABILITY TO REMOVE THE 37" GREEN ASH TREE WAS PROVIDED UNDER WAIVER PETITION WP-15-045. SEE GENERAL NOTE 19 FOR THE CONDITIONS OF APPROVAL.

- DENOTES LOCATION OF PROPOSED 3" - 4" CALIPER WHITE OAK TO REPLACE THE REMOVED SPECIMEN TREE



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL
NOT TO SCALE

ON-SITE SIGNAGE

FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1991.

TREES FOR YOUR FUTURE

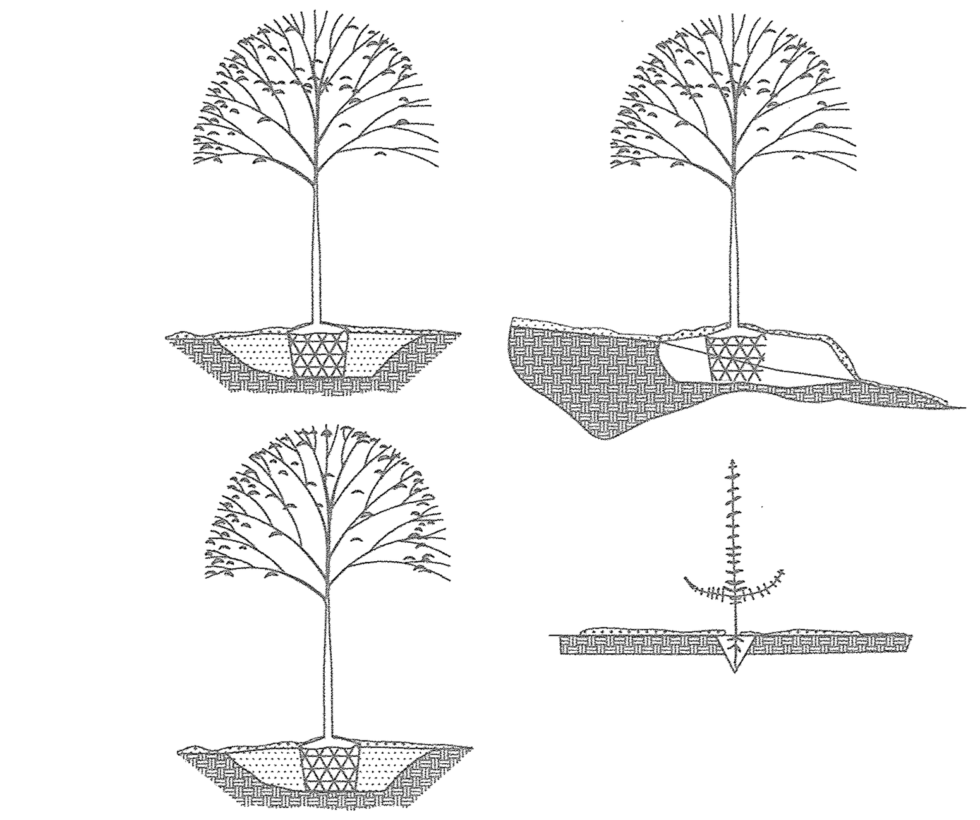
15" MINIMUM
11" MINIMUM

AFFORESTATION PROJECT

CAUTION!
THIS AREA CONTAINS NEW TREES.
PLEASE HELP US PROTECT AND CARE FOR THIS YOUNG FOREST.

TREES FOR YOUR FUTURE

15" MINIMUM
11" MINIMUM



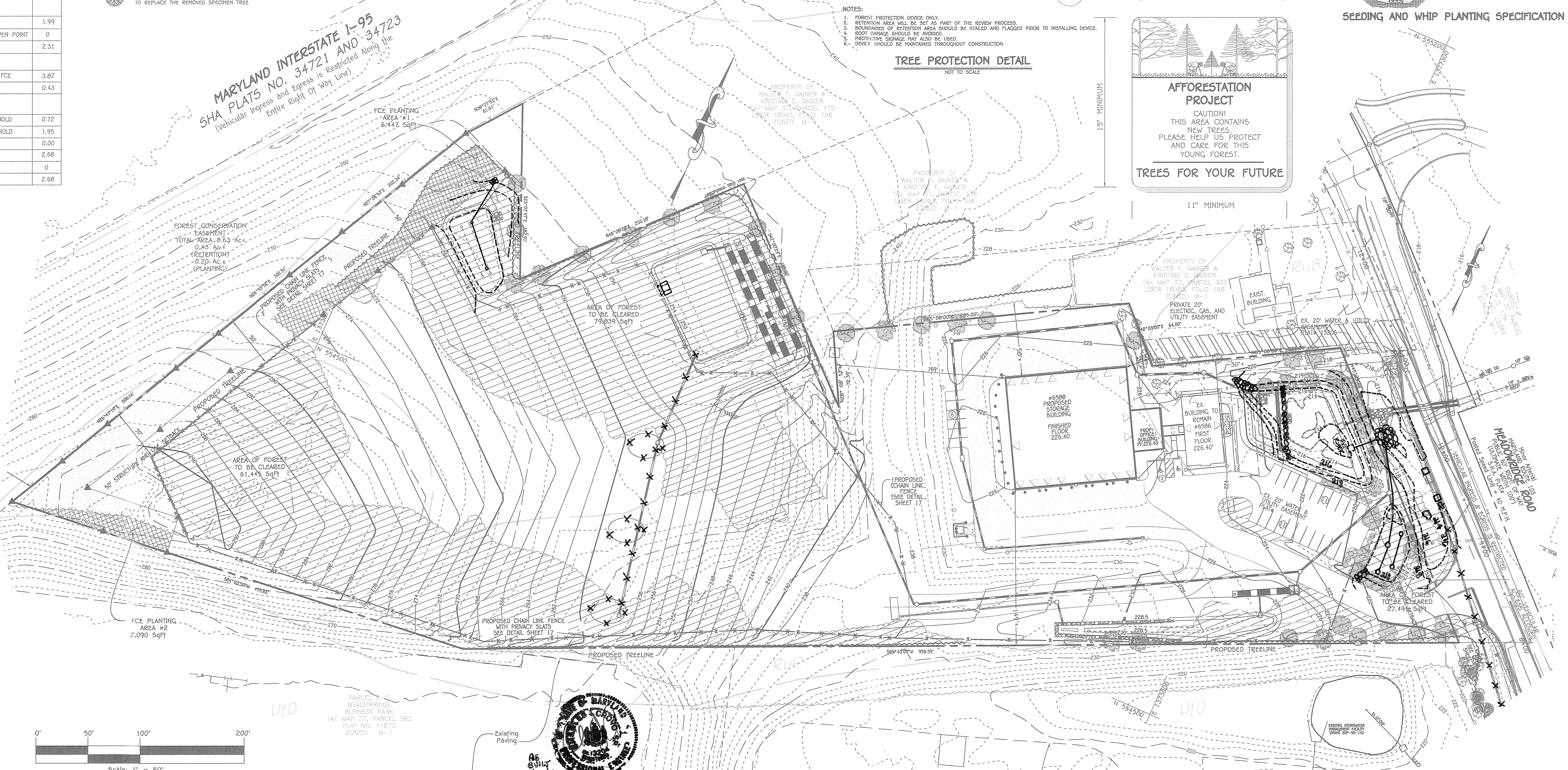
SEEDING AND WHIP PLANTING SPECIFICATION

FOREST CONSERVATION NOTES

1. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
2. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
3. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
4. PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
5. ANY FOREST CONSERVATION EASEMENTS (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
6. THE TOTAL FOREST CONSERVATION OBLIGATION OF 2.68 ACRES HAVE BEEN MET BY 0.43 ACRES OF ON SITE RETENTION AND 0.20 ACRES OF ON-SITE PLANTING. THE REMAINING OBLIGATION OF 2.48 ACRES SHALL BE PROVIDED OFF-SITE.

LEGEND

SYMBOL	DESCRIPTION
230	EXISTING CONTOUR 2' INTERVAL
228	EXISTING CONTOUR 10' INTERVAL
228	PROPOSED CONTOUR 2' INTERVAL
230	PROPOSED CONTOUR 10' INTERVAL
×362.2	SPOT ELEVATION
	EXISTING SEWER LINE
	EXISTING STORM DRAIN LINE
	EXISTING WATER LINE
15"RCCP	PROPOSED STORM DRAIN PIPE
8"S	PROPOSED SEWER
8"W	PROPOSED WATER
	EXISTING CHAINLINK FENCE
	EXISTING WOOD PRIVACY FENCE
× × × × ×	AREA TO BE RESERVED TO THE MSHA
	EXISTING OVERHEAD WIRE
	EXISTING OVERHEAD ELECTRIC
	EXISTING TREE
LOD	LIMIT OF DISTURBANCE
	PROPOSED PAVING
	PROPOSED GRAVEL
	MSHA PROPOSED FULL DEPTH PAVEMENT
	MSHA PROPOSED OVERLAY
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PUBLIC FOREST CONSERVATION EASEMENT
	PROPOSED FENCE
	EXISTING TREELINE
	PROPOSED TREELINE
	AREA OF FOREST TO BE CLEARED
	AREA FOR FCE PLANTING
	PROPOSED LANDSCAPING PLANTS



0' 50' 100' 200'
Scale: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REPLACEMENT SHEET RELOCATE SWM 3 + 4	7/24/19
1	REPLACEMENT SHEET	11/7/16

STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748 PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/21.

ALDO M. VITUCCI, P.E. 7/25/19 DATE

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO. 13204 10/28/19 Date

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 8-21-19 Date
Chief, Development Engineering Division — 8-15-19 Date
Director - Department of Planning and Zoning — 8-21-19 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

REPLACEMENT SHEET
FOREST CONSERVATION PLAN

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 18 OF 25

SDP-14-054

"AS-BUILT"

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Topsoil
	Poorly graded gravel
	Low-high plasticity clays
	High plasticity clay
	Medium plasticity clay
	Silty sand
	Silt
	Poorly graded sand with silt
	Elastic silt
Misc. Symbols	
	24 hr water reading
	Water encountered during drilling

Symbol	Description
	Water level at completion
	Depth to caving
Soil Samplers	
	Standard penetration test
Monitor Well Details	
	temporary screened water monitoring pipe, removed after 24 hour water reading

Notes:

1. Borings performed on April 4, 2014.
2. Surface Elevations for borings provided by Fisher, Collins & Carter.
3. Groundwater levels are reported on the boring logs.
4. Results of tests conducted on the samples are reported on the logs.
5. Temporary water monitoring standpipes were installed in most of the borings to prevent caving for more accurate water readings.
6. These logs are subject to the limitations, conclusions and recommendations as provided in the geotechnical report.

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property
Contracted With: W.F. Wilson & Sons
Project Location: Elkridge, Maryland
Boring Location: N: 554646.93 E: 1376525.37
BORING NO. B-1
JOB NO. 14126
Page 1 of 1

Surf. Elev.: 285.0 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev.	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth	Sample Data: Type	Blow Counts	#	Recovery	Condition	Boring & Sample Notes
285.0		0						
	1' of Topsoil (0.0–0.1)							
284	Tan, wet, very loose, non-plastic, SAND and gravel (Possible FILL) (0.1–1.0) USC: (SP)*							
	Gray, moist, stiff, medium to highly plastic, lean to fat CLAY with silt (1.0–16.0) USC: (CL-CH)*	3	1	1 2	1	12	I	
281			2	3 5 7	2	12	I	
	—, very stiff at 5.0'	6	3	5 7 8	3	8	I	
278								
		9	4	7 10 11	4	16	I	
275	Boring Terminated at 10 Ft. (16.0)							
		12						
272								
		15						
269								
		18						
266								

* Visual Description - In general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

Water	Caved
Encountered: Dry	
Completion: Dry	Pipe
On: at	
On: 4/24 at: 1.0'	Pipe

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property
Contracted With: W.F. Wilson & Sons
Project Location: Elkridge, Maryland
Boring Location: N: 554732.51 E: 1376826.25
BORING NO. B-2
JOB NO. 14126
Page 1 of 1

Surf. Elev.: 254.1 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev.	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth	Sample Data: Type	Blow Counts	#	Recovery	Condition	Boring & Sample Notes
254.1		0						
	2" of Topsoil (0.0–0.2)							
252	Tan, moist, soft to medium stiff, highly plastic, fat CLAY, little fine sand (0.2–4.5) USC: (CH)*							
		3	1	1 1 3	1	1	L	Wood in tip of spoon
249			2	2 3 5	2	8	I	
	Tan to gray brown, moist, very stiff, medium plastic, medium to fine sandy lean CLAY (4.5–7.5) USC: (CL)*	6	3	3 5 5	3	10	I	
246								
	Tan gray, moist, medium dense, non-plastic, silty SAND, trace clay (7.5–12.0) USC: (SM)*	9	4	3 5 6	4	12	I	
243								
	—, wet at 10.0'	12	5	3 5 6	5	14	I	Water in tip of spoon
240	Boring Terminated at 12 Ft. (12.0)							
		15						
237								
		18						

* Visual Description - In general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

Water	Caved
Encountered: 11.5'	
Completion: 8.0'	Pipe
On: at	
On: 4/24 at: 7.5'	Pipe

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property
Contracted With: W.F. Wilson & Sons
Project Location: Elkridge, Maryland
Boring Location: N: 554873.04 E: 1376788.39
BORING NO. B-3
JOB NO. 14126
Page 1 of 1

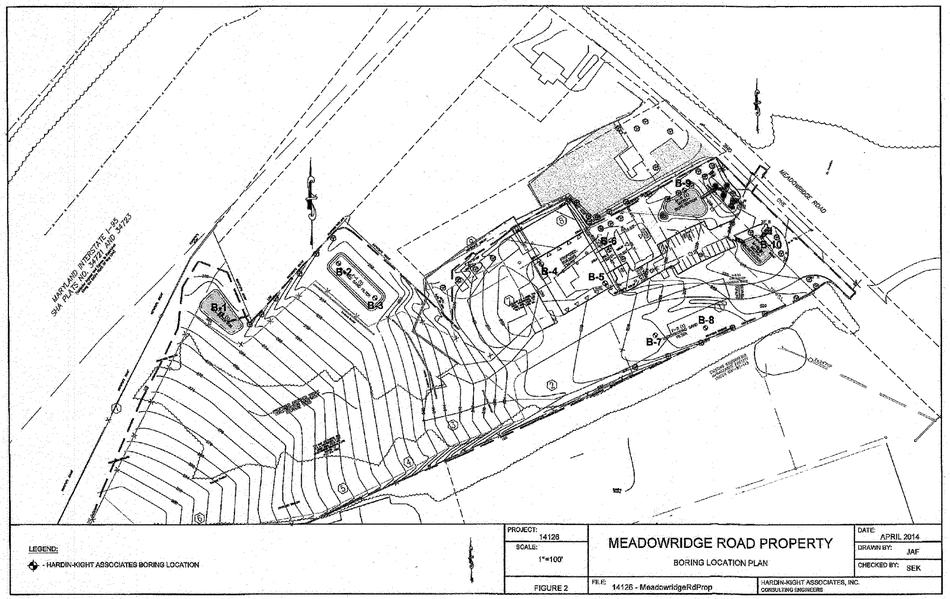
Surf. Elev.: 221.2 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev.	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth	Sample Data: Type	Blow Counts	#	Recovery	Condition	Boring & Sample Notes
221.2		0						
	2" of Topsoil (0.0–0.2)							
219	Tan, moist, soft, medium plastic, fine sandy, clayey SILT (0.2–2.0) USC: (ML)*							
		3	1	1 1 3	1	8	I	
216	Gray, mottled orange, moist, stiff, highly plastic, fine sandy fat CLAY (2.0–7.0) USC: (CH)*		2	2 3 4	2	10	I	
		6	3	5 6 7	3	12	I	
213	Tan to gray, mottled orange brown, moist to wet, medium dense, SAND with silt (7.0–12.0) USC: (SP-SM)*							
		9	4	4 5 6	4	8	I	
210								
		12	5	5 6 8	5	12	I	
207	Boring Terminated at 12 Ft. (12.0)							
		15						
204								
		18						

* Visual Description - In general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

Water	Caved
Encountered: 10.0'	
Completion: 9.9'	Pipe
On: at	
On: 4/24 at: 9.5'	Pipe



LEGEND:
- HARDIN-KIGHT ASSOCIATES BORING LOCATION

PROJECT: 14126	MEADOWRIDGE ROAD PROPERTY	DATE: APRIL 2014
SCALE: 1"=100'	BORING LOCATION PLAN	DRAWN BY: JAF
		CHECKED BY: SEK
FIGURE 2	FILE: 14126 - MeadowridgeRdProp	HARDIN-KIGHT ASSOCIATES, INC. CONSULTING ENGINEERS

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	REVISED OWNER NUMBER & OWNER	2/10/17

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — DATE 4/21/15

Owner
WALTER F. GAINER REVOCABLE TRUST
6986 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410) - 795 - 8720

Developer
W.F. Wilson & Sons, Inc.
6986 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15
Chief, Development Engineering Division — Date 2-13-15
Director - Department of Planning and Zoning — Date 2/13/15

PROJECT		SECTION	PARCEL NO.
MEADOWRIDGE 95		-	'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE
23201-23208	22	M-1	57
ELEC. DIST.	CENSUS TR.		
FIRST	6012.02		
WATER CODE	SEWER CODE		
N/A	N/A		

BORING DETAIL SHEET 1

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015
SHEET 19 OF 25

SDP-14-054

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-4
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 1
Boring Location: N: 554730.98 E: 1377075.13

Surf. Elev.: 228.4 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: PS
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev. 228.4	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	7" of Topsoil	0.0–0.6
	3" of GAB USC: (GP)*	0.6–0.8
	Orange brown, moist, medium stiff, highly plastic, fat CLAY, little fine sand USC: (CH)* ---, tan brown, mottled orange brown and black, stiff at 2.5'	0.8–7.0
	Orange brown, mottled tan, moist, very stiff, medium plastic, silty lean CLAY, some fine sand USC: (CL)*	7.0–9.5
	Orange, moist, stiff, slightly plastic, clayey SILT, some fine sand USC: (ML)*	9.5–12.5
	Tan to green, moist, very stiff, slightly plastic, fine sandy, clayey elastic SILT USC: (MH)*	12.5–15.0
	Boring Terminated at 15 Ft.	15.0

#	Blow Counts	Recovery	Condition
1	3-3-4	6	I
2	3-5-7	8	I
3	3-5-8	6	I
4	4-5-7	18	I
5	6-8-10	18	I
6	6-10-9	18	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.
BOC - Backfilled on completion

	Water	Caved
Encountered	13.0'	
Completion	Dry	11.0'
On at		
On 4/24 at	BOC	

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-5
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 1
Boring Location: N: 554698.97 E: 1377183.97

Surf. Elev.: 228.9 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: PS
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: 11.0' | Offset Direction: SW | | Date Finished: 4-4-14

Elev. 228.9	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	6" of Topsoil	0.0–0.5
	Brown, moist, medium stiff, slightly plastic, sandy SILT, trace clay, trace gravel, trace organics (Possible FILL) USC: (ML)*	0.5–2.0
	Orange brown, moist, very stiff, medium plastic, silty lean CLAY USC: (CL)* ---, tan, mottled gray and black, trace rock fragments at 5.0'	2.0–7.0
	Tan to orange brown, mottled black, moist, hard, medium plastic, clayey SILT, trace fine sand and rock fragments USC: (ML)*	7.0–12.5
	Green, moist, dense, non to slightly plastic, SILT with fine sand, trace to little clay USC: (ML)*	12.5–15.0
	Boring Terminated at 15 Ft.	15.0

#	Blow Counts	Recovery	Condition
1	1-4-3	8	I
2	5-6-6	6	I
3	4-7-9	18	I
4	6-14-18	16	I
5	5-6-9	6	I
6	8-14-14	14	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.
BOC - Backfilled on completion

	Water	Caved
Encountered	Dry	
Completion	Dry	2.0'
On at		
On 4/24 at	BOC	

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-6
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 1
Boring Location: N: 554755.44 E: 1377191.47

Surf. Elev.: 225.2 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: PS
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: 20.0' | Offset Direction: E | | Date Finished: 4-4-14

Elev. 225.2	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	4" of Topsoil	0.0–0.3
	Brown, moist, medium stiff, highly plastic, fat CLAY with fine sand USC: (CH)* ---, stiff, sandy fat CLAY at 2.5'	0.3–4.5
	Brown to gray, moist, stiff, medium plastic, silty lean CLAY, trace fine sand USC: (CL)*	4.5–7.0
	Brown to tan, moist, very stiff, highly plastic, fat CLAY, trace fine sand USC: (CH)*	7.0–9.5
	Tan brown to orange brown, moist, medium stiff, medium plastic, silty lean CLAY, thin layers of silty black rock fragments USC: (CL)*	9.5–15.0
	Boring Terminated at 15 Ft.	15.0

#	Blow Counts	Recovery	Condition
1	1-1-4	8	I
2	4-5-7	14	I
3	4-5-8	16	I
4	4-6-8	18	I
5	3-4-6	18	I
6	5-6-7	16	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

	Water	Caved
Encountered	Dry	
Completion		
On at 2 hours	Dry	8.8'
On at		

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-7
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 2
Boring Location: N: 554610.81 E: 1377270.38

Surf. Elev.: 231.0 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev. 231.0	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	3" of Topsoil	0.0–0.3
	3" of GAB USC: (GP)*	0.3–0.5
	Gray to black, moist, medium dense, non- plastic, SAND and gravel, asphalt fragments (FILL) USC: (GP)*	0.5–2.0
	Orange brown to tan brown, moist, stiff, medium plastic, silty lean CLAY USC: (CL)* ---, orange brown, mottled green gray, very stiff at 7.5' ---, stiff at 10.0'	2.0–13.0
	Tan brown, mottled olive green, moist, stiff, slightly to medium plastic, clayey elastic SILT, little fine sand USC: (MH)* ---, orange brown, trace rock	13.0–

#	Blow Counts	Recovery	Condition
1	8-8-4	6	I
2	6-8-8	3	I
3	5-7-7	3	I
4	5-8-8	8	I
5	4-6-8	14	I
6	4-6-8	12	I
7	7-10-14	18	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

	Water	Caved
Encountered	Dry	
Completion	Dry	Pipe
On at		
On 4/24 at	11.9'	Pipe

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-7
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 2 of 2

Elev. 231.0	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	fragments	–20.0
	Boring Terminated at 20 Ft.	20.0

* Visual Description - in general accordance with ASTM D 2488

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-8
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 1
Boring Location: N: 554623.47 E: 1377356.04

Surf. Elev.: 226.9 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev. 226.9	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	2" of Topsoil	0.0–0.2
	Brown to orange brown, moist, soft, medium plastic, silty lean CLAY USC: (CL)* ---, tan brown, medium stiff at 2.5' ---, green gray, mottled orange, very stiff at 5.0'	0.2–9.5
	Gray green, mottled orange, moist, stiff, highly plastic, fat CLAY with fine sand USC: (CH)*	9.5–15.0
	Boring Terminated at 15 Ft.	15.0

#	Blow Counts	Recovery	Condition
1	2-2-2	8	I
2	3-3-6	3	I
3	5-7-8	10	I
4	4-4-7	14	I
5	4-4-8	18	I
6	5-5-7	18	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

	Water	Caved
Encountered	Dry	
Completion	2.5'	
On at		
On 4/24 at	Dry	9.4'

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-9
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 1
Boring Location: N: 554857.04 E: 1377320.75

Surf. Elev.: 215.1 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Topo | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: ≅ +3 | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: 25.0' | Offset Direction: NW | | Date Finished: 4-4-14

Elev. 218.1±	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	2" of Topsoil	0.0–0.2
	Brown, moist, soft, medium plastic, silty lean CLAY, trace fine sand USC: (CL)* ---, tan brown to orange brown, medium stiff at 2.5' ---, orange brown, mottled green gray and black, stiff, trace black rock fragments at 5.0' ---, very stiff at 7.5'	0.2–13.0
	Boring Terminated at 13 Ft.	13.0

#	Blow Counts	Recovery	Condition
1	2-1-2	8	I
2	3-4-5	6	I
3	3-5-5	10	I
4	6-9-12	18	I
5	8-9-9	14	I
6	6-10-10	8	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

	Water	Caved
Encountered	Dry	
Completion	10.5'	Pipe
On at		
On 4/24 at	4.2'	Pipe

Hardin-Kight Associates, Inc.
7524 WB&A Road, Suite 100
Glen Burnie, Maryland 21061

Office: (410) 553-0802
Fax #: (410) 553-0808

Record of Soil Exploration

Project Name: Meadowridge Road Property — BORING NO. B-10
Contracted With: W.F. Wilson & Sons — JOB NO. 14126
Project Location: Elkridge, Maryland — Page 1 of 1
Boring Location: N: 554756.22 E: 1377448.26

Surf. Elev.: 217.0 | Hammer Wt. 140 lb. | Rock Core Dia.: -- | Foreman: Dane
Elev. from: Survey | Hammer Drop: 30" | Hole Diameter: 6" | Inspector: JAF
Offset Elev.: | Sampler Size: 2" split spoon | Boring Method: HSA | Date Started: 4-4-14
Offset Dist.: | Offset Direction: | | Date Finished: 4-4-14

Elev. 217.0	Soil Description (Color, Moisture, Density, Plasticity, Size Proportions)	Depth
	2" of Topsoil	0.0–0.2
	Brown, moist, soft, highly plastic, fat CLAY with silt USC: (CH)* ---, brown mottled gray, medium stiff at 2.5'	0.2–4.5
	Orange brown to tan, moist, medium stiff, medium plastic, silty lean CLAY USC: (CL)*	4.5–7.0
	Orange brown, moist, very stiff, medium plastic, clayey SILT, trace fine sand USC: (ML)*	7.0–10.0
	Boring Terminated at 10 Ft.	10.0

#	Blow Counts	Recovery	Condition
1	1-1-3	8	I
2	3-3-5	10	I
3	2-3-5	12	I
4	5-9-9	14	I

* Visual Description - in general accordance with ASTM D 2488 and AASHTO M145

Notes: Surface Elevation and Coordinates provided by Fisher, Collins & Carter, Inc.

	Water	Caved
Encountered	Dry	
Completion		
On at		
On 4/24 at	4.4'	Pipe

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	REVISED SHEET NUMBER & OWNER	2/10/17

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/15.

ALDO M. VITUCCI, P.E. — 1/21/15 DATE

Owner
WALTER F. GAINER
REVOCABLE TRUST
6586 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410)-755-8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

	Date
Chief, Division of Land Development	2-17-15
Chief, Development Engineering Division	2-13-15
Director - Department of Planning and Zoning	2/17/15

PROJECT	SECTION	PARCEL NO.
MEADOWRIDGE 95	-	'A'

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02

WATER CODE	SEWER CODE
N/A	N/A

BORING DETAIL SHEET 2

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

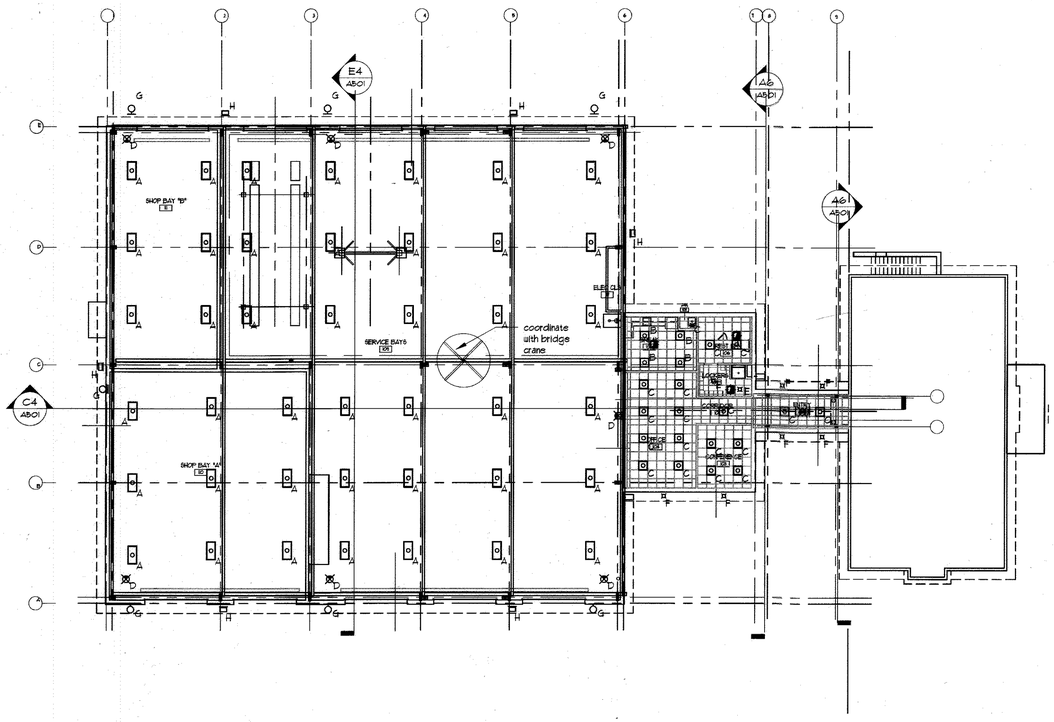
PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015

SDP-14-054

LIGHTING LEGEND

- HIGHBAY FLUORESCENT
- FLUORESCENT 2 X 4
- RECESSED FIXTURE
- WALL MOUNTED FIXTURE
- EMERGENCY EXIT LIGHT
- WALL PACK FLOOD
- EXHAUST FAN
- HVAC SUPPLY DIFFUSER
- HVAC RETURN



D4 REFELCED CEILING PLAN- PROPOSED
1/16"= 1'-0"

LIGHT FIXTURE SCHEDULE

TYPE	ITEM	MANUFACTURER	ITEM NO.	LAMP/ VOLTAGE	SIZE	FINISH	REMARKS	SWITCH CONTROL (MATCH ADJ. FINISH SCHEDULED)	LOCATION
A	LED HIGHBAY	LIGHTOLIER	IBZ SERIES	FLUORESCENT	18X48	POWDER COAT	PROVIDE EMERGENCY LIGHTING WHERE REQUIRED BY APPLICABLE CODE. PROVIDE	DIMMABLE	MAINTENANCE BAYS
B	2X2 TROFFEIR	LITHONIA	2RTLED	LED	2' X 2'	POWDER COAT	PROVIDE EMERGENCY LIGHTING WHERE REQUIRED BY APPLICABLE CODE. PROVIDE	DECORA ROCKER	ADMINISTRATIVE, LOCKERS, CORRIDOR
C	2X2 TROFFEIR	LITHONIA	2RTLED	LED	2' X 2'	POWDER COAT	PROVIDE EMERGENCY LIGHTING WHERE REQUIRED BY APPLICABLE CODE. PROVIDE	DECORA ROCKER	ADMINISTRATIVE, LOCKERS, CORRIDOR
D	SURFACE MOUNT	LITHONIA	WC-1-11-MMVOLT-GEB10IS	FLUORESCENT	---	---	---	---	JAN. CLOSET
E	DOWNLIGHT	LITHONIA	SEE ELECTRICAL DOC'S	TRT	8" APERTURE	---	---	DECORA ROCKER	JAN. CLOSET
F	DOWNLIGHT	LITHONIA	SEE ELECTRICAL DOC'S	DTT	6" APERTURE	---	---	---	EXTERIOR

RELECTED CEILING PLAN NOTES

1. HARDWIRED SMOKE DEVICES FURNISHED AS REQUIRED BY CODE. ALL LOCATIONS TO BE MARKED IN THE FIELD AND APPROVED BY ARCHITECT. FINISH ALL SMOKE DEVICES AND SPRINKLER ESCUTCHEONS WHITE.
2. PRIOR TO ROUGH-IN, THE CONTRACTOR SHALL WALK THROUGH W/ ARCHITECT TO LOCATE AND CONFIRM THE LOCATION AND HEIGHT OF ALL ELECTRICAL LOCATIONS, SWITCHES AND LIGHT FIXTURES.
3. VERIFY ALL LIGHT FIXTURE COMPONENT PARTS & DIMMING REQUIREMENTS PRIOR TO PROCUREMENT, ROUGH-IN AND INSTALLATION. ALSO NOTE THAT ALL FIXTURES AND THEIR DIMMING BALLAST MUST BE COMPATIBLE. IN ADDITION ALL RECESSED LIGHT FIXTURES AT THE RECEPTION, DISPLAY AND CONFERENCE ROOMS MUST BE DIMMABLE.
4. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES & LONG LEAD ITEMS, PRIOR TO PROCUREMENT, ROUGH-IN AND INSTALLATION.
5. VERIFY ALL LIGHT FIXTURES, HOUSING FINISHES AND DROPS WITH THE ARCHITECT, PRIOR TO PROCUREMENT, ROUGH-IN, AND INSTALLATION.
6. CONTRACTOR TO COORDINATE THE LOCATION OF ALL LIGHT FIXTURES AND ELECTRICAL REQUIREMENTS AND SWITCHES LOCATIONS WITH ELEVATIONS AND APPROVED CASEWORK SHOP DRAWINGS, PRIOR TO ROUGH-IN, PROCUREMENT AND INSTALLATION.
7. ALL SWITCHING TO BE GANGED TOGETHER IN A SINGLE PLATE. ALL FACE PLATES AND THERMOSTAT HOUSINGS TO MATCH THE WALL FINISH AT WHICH IT OCCURS.
8. CONTRACTOR SHALL INSTALL CEILING GRID AND LIGHTS IN ALL SPACES UNLESS OTHERWISE NOTED. THE SPECIFIED 9/16" CEILING GRID AND LIGHT FIXTURE FASTENING HARDWARE MUST BE COMPATIBLE AND COORDINATED PRIOR TO PROCUREMENT AND INSTALLATION.
9. COORDINATE THE AVAILABLE FIXTURE CLEARANCE SPECIFICATION DEPTH WITH THE PRODUCT SPECIFICATION AND WITH THE CEILING HEIGHTS NOTED ON THE REFLECTED CEILING PLAN IN CONJUNCTION WITH THE HVAC SPECIFICATIONS, SPRINKLER LINES AND DROPS PRIOR TO ROUGH-IN PROCUREMENT AND INSTALLATION.
10. ALL INDIVIDUAL OFFICE AND ROOM LIGHT SWITCHING SHALL BE DECOR ROCKER SWITCHES AND FACE PLATES. FINISH THE DEVICES TO MATCH THE WALL FINISH SURFACE AT WHICH IT OCCURS. MOUNT SWITCHES PER ADA HEIGHT AND LOCATION AND AS PER CODE COMPLIANCE.
11. CONTRACTOR IS RESPONSIBLE FOR ALL ELEMENTS OF THE ARCHITECTURAL INTERIOR LIGHTING SYSTEM AND MUST COORDINATE WITH THE ENGINEERING DOCUMENTS. CONTRACTOR MUST REFER TO ALL ISSUED DRAWING AND SPECIFICATION DOCUMENTS IN ITS ENTIRETY AS A WHOLE PACKAGE. CONTRACTOR TO ISSUED ALL DRAWINGS AND SPECIFICATIONS SHEETS TO EACH SUB FOR PRICING AND COMPLETION OF THE WORK.
12. ALL DOWNLIGHTS, WALL WASHERS AND SPRINKLER IN ACOUSTICAL TILE, SHALL BE CENTERED IN BOTH DIRECTIONS, UNLESS OTHERWISE NOTED.
14. LIGHT FIXTURES ARE SHOWN FOR LOCATION PURPOSES ONLY. REFERENCE THE ELECTRICAL DRAWINGS FOR ALL OTHER INFORMATION. COORDINATE THE LOCATION OF ALL LIGHTING, SWITCHING, CIRCUITS AND LOADS. COORDINATE WITH THE HVAC SYSTEM COMPONENTS, AV EQUIPMENT, SPRINKLERS LOCATIONS, LIGHT FIXTURE HOUSINGS. THE LOCATION OF ALL LIGHT FIXTURES MUST TAKE PRECEDENCE OVER THE ABOVE AS NOTED. REFER ANY CONFLICTS TO THE ARCHITECT FOR RESOLUTION.
15. ALL EXPOSED SYSTEMS SHALL BE CLEANED AND PAINTED.

HVAC AND SECURITY ALARM NOTES

1. CONTRACTOR MUST INSTALL BUILDING HVAC SYSTEM AS REQUIRED TO MEET THE LATEST CITY, COUNTY, STATE, AND NATIONAL CODES.
2. CONTRACTOR MUST PROVIDE A BALANCED SYSTEM REPORT AND BALANCE THE SYSTEMS TO THE OWNER'S AND ENGINEER'S REQUIREMENTS AT THE COMPLETION OF THE WORK. THE BALANCE REPORT MUST BE COMPLETED AND SIGNED OFF BY THE OWNER AND ENGINEER'S PRIOR TO RELEASE OF THE FINAL PAYMENTS.
3. CONTRACTOR IS TO PROVIDE ALL REQUIRED SYSTEMS AND AS PER THE PERMIT AND BUILDING INSPECTOR'S COMMENTS SHOWN OR NOT SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS.
4. CONTRACTOR WILL COORDINATE WITH ALL OF THE OWNERS, VENDORS AND CONSULTANTS TO FACILITATE THE FURNITURE, DEMOUNTABLE PARTITION SYSTEMS, AV AND SECURITY INSTALLATIONS.
5. THE CONTRACTOR IS TO PROVIDE/CREATE SHOP DRAWINGS FOR ISSUE, AND INSTALL THE SPRINKLER SYSTEM AND HEADS, AS REQUIRED FOR THE TENANT SPACE TO MEET CITY AND NATIONAL CODE COMPLIANCE.
6. CONTRACTOR MUST PREPARE AND SUBMIT SHOP DRAWINGS TO THE FIRE MARSHAL'S OFFICE AS REQUIRED.
7. CONTRACTOR TO COORDINATE ALL DOORS, ELECTRICAL AND HARDWARE SUBMITTALS WITH THE SECURITY VENDOR AND INSTALLER PRIOR TO ROUGH-IN, PROCUREMENT AND INSTALLATION.
8. CONTRACTOR TO INSTALL THE SECURITY SYSTEM AS PER ALL CITY AND COUNTY CODES, AND AS PER THE CODE, THE INSPECTOR'S INSTALLATION CRITERIA, AND VERIFY THAT THE SYSTEM IS OPERATIONAL ACCORDING TO THE OWNER'S STANDARDS.
9. CONTRACTOR SHALL PROVIDE ALL REQUIRED SYSTEMS THE COORDINATION OF THE EXISTING BUILDING'S CONDITIONS AND COORDINATE THE EXISTING BUILDING SYSTEMS WITH THE NEW BUILDING SYSTEMS, AS SHOWN OR NOT SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS TO COMPLETE THE DESIGN INTENT OF THE CONTACT DOCUMENTS AND THE OWNER/ARCHITECT.
10. COORDINATE ALL LIGHT CONTROLS AND ZONING SYSTEMS WITH THE OWNER/ARCHITECT, AV, FURNITURE AND SECURITY CONSULTANTS PRIOR TO ROUGH-IN, PROCUREMENT AND INSTALLATION.
11. WEEKEND ACCESS WILL BE PROVIDED VIA AN ENERGY MANAGEMENT SYSTEM. EMERGENCY LIGHTING, ZONE SWITCHING, TIMERS, HVAC AND ELECTRICAL SYSTEMS ALL MUST BE INCLUDED IN THIS SCOPE.

NO.	REVISION	DATE
1	REVISED SHEET NUMBER & OWNER	2/10/17

Owner
WALTER F. GAINER REVOCABLE TRUST
6586 MEADOWRIDGE ROAD
ELKRIDGE, MARYLAND 21075
(410)-795-8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 2-17-15

Chief, Development Engineering Division — Date 2-13-15

Director - Department of Planning and Zoning — Date 2/19/15

PROJECT			SECTION	PARCEL NO.
MEADOWRIDGE 95			–	'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23301-23303	22	M-1	37	FIRST	6012.02
WATER CODE		SEWER CODE		
N/A		N/A		

PROPOSED COMMERCIAL GARAGE & STORAGE AREA
MEADOWRIDGE 95
PARCEL 'A'
PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY, 2015
SHEET 21 OF 25
SDP-14-054

ALT BREEDING SCHWARZ
ARCHITECTS
Architecture ■ Planning
Interior Design
209 MAIN STREET
ANNAPOLIS, MARYLAND 21401
410.268.1213
FAX 410.268.2965

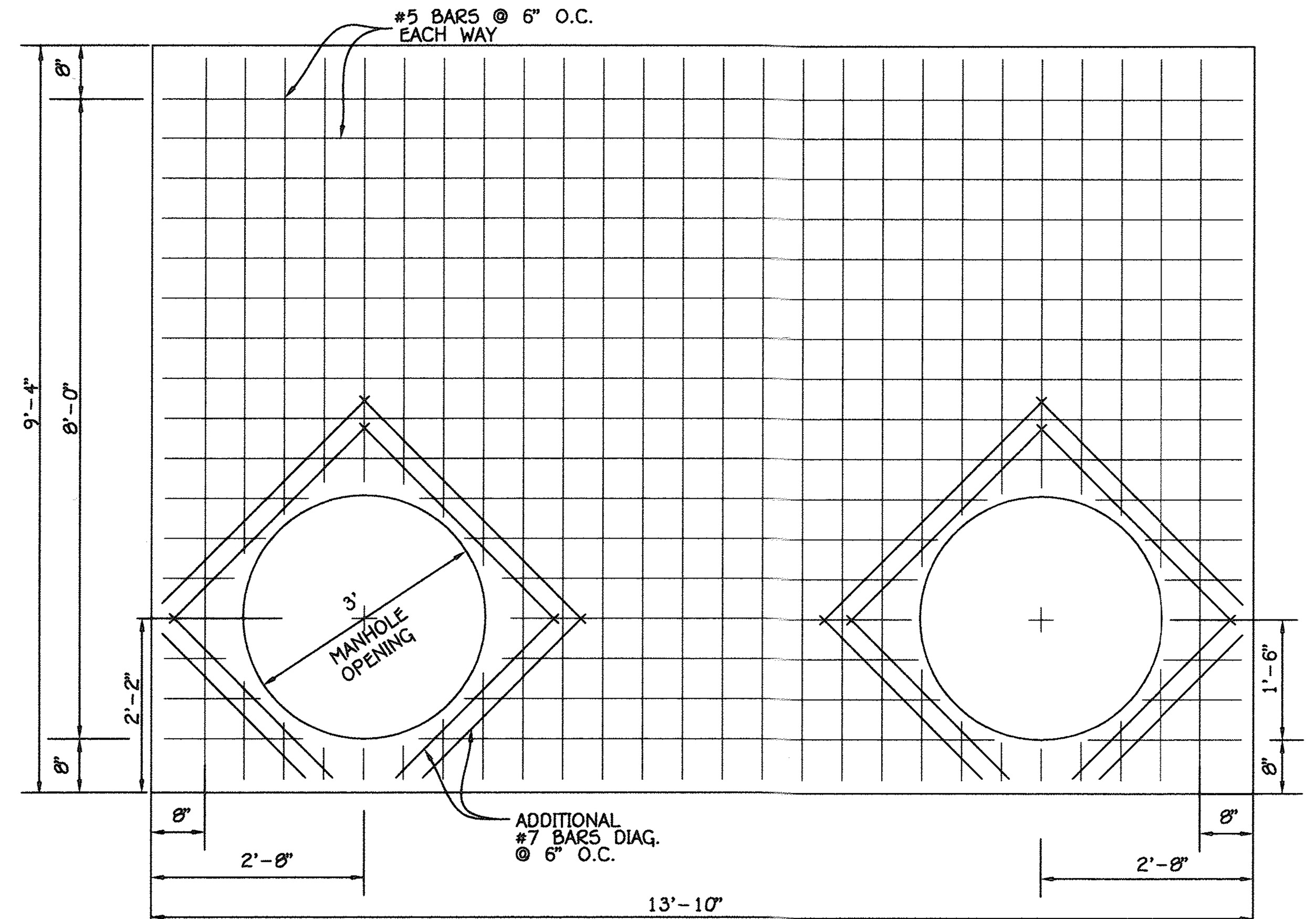
Reflected Ceiling Plan
proposed

W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075

SCALE: 1/8"= 1'-0"
DATE: 22 September 2014
REVISION:

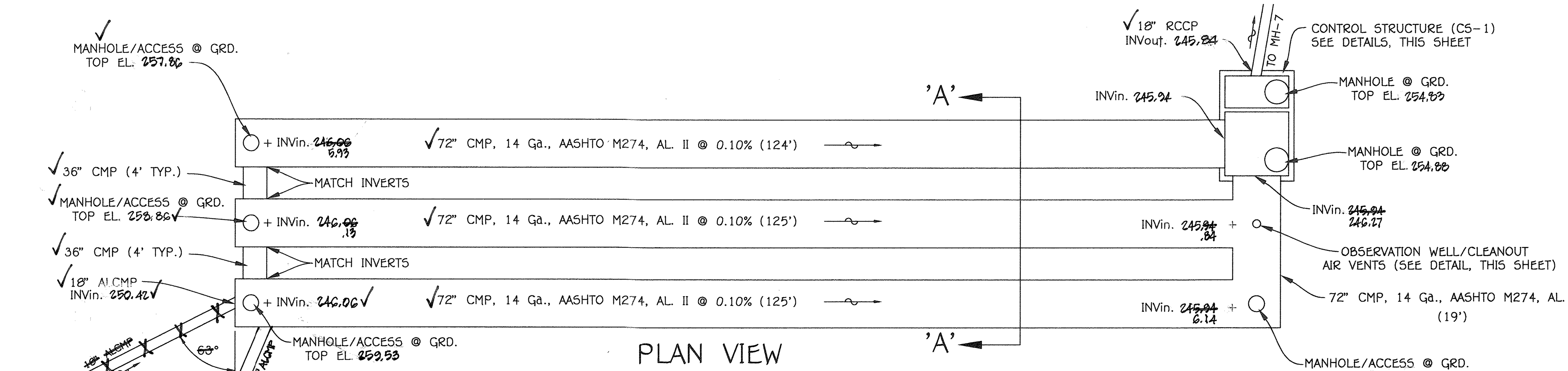
SHEET NUMBER: A102

f:\wf wilson\drawings\04 construction documents\a102 reflected ceiling plan.dwg



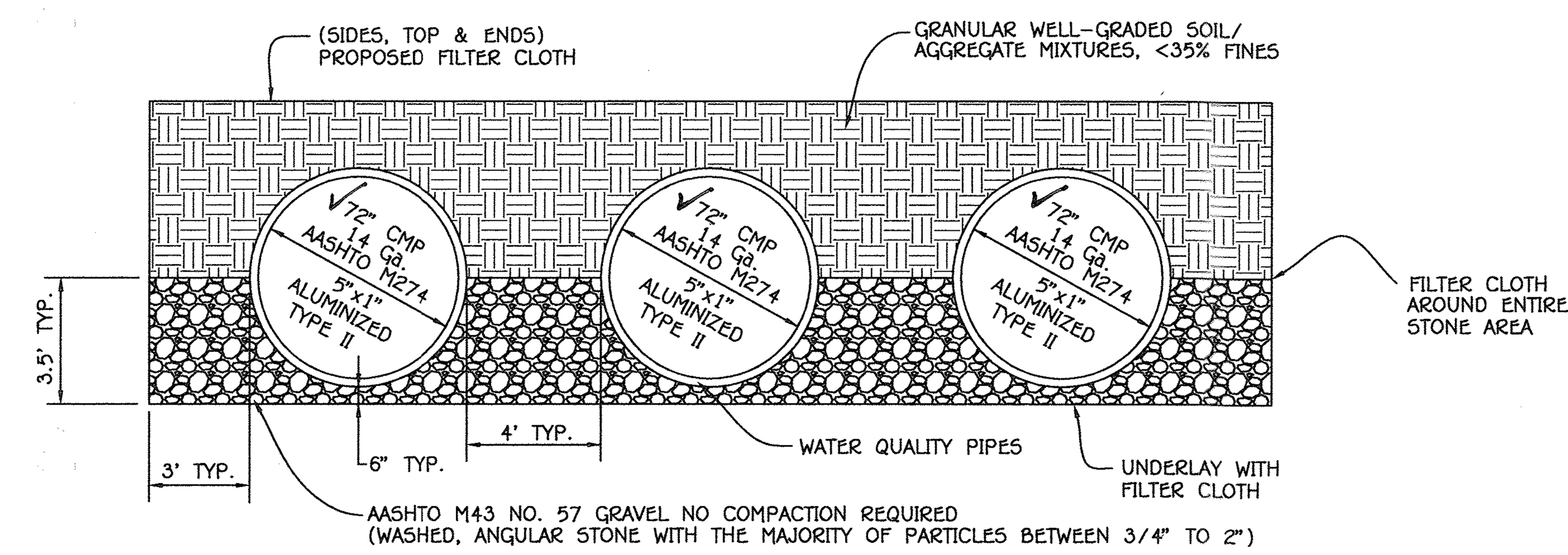
(CS-1)
TOP SLAB DETAIL

SCALE: 1" = 2'



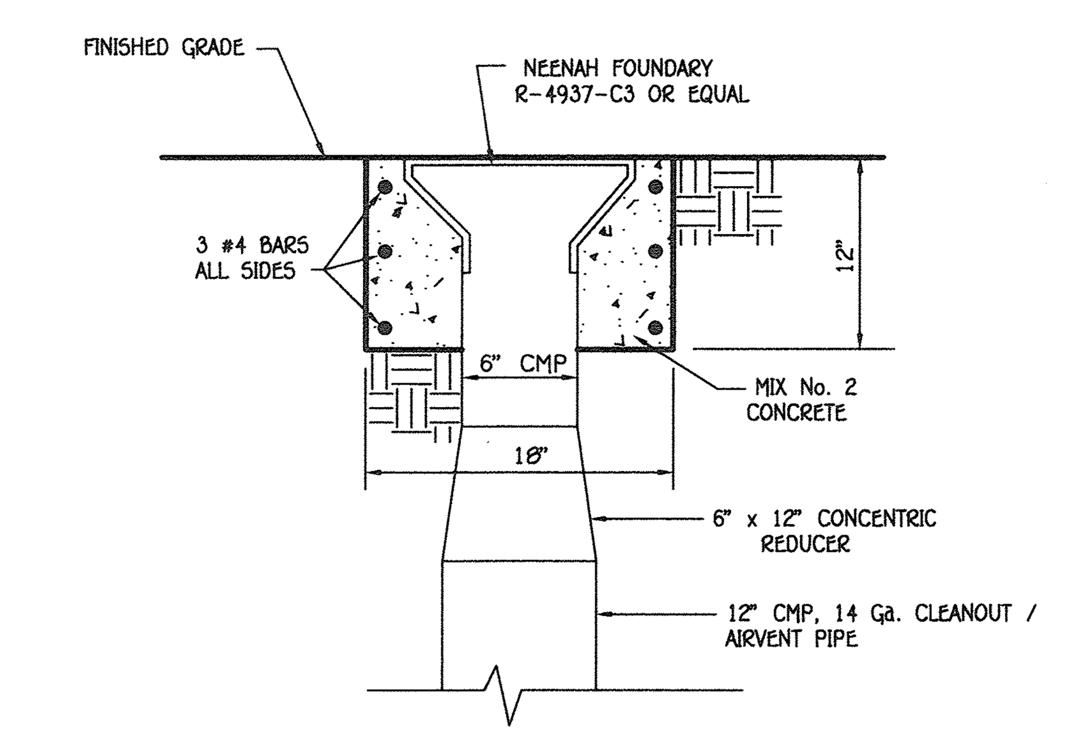
PLAN VIEW
UNDERGROUND S.W.M. FACILITY #1

SCALE: 1" = 10'



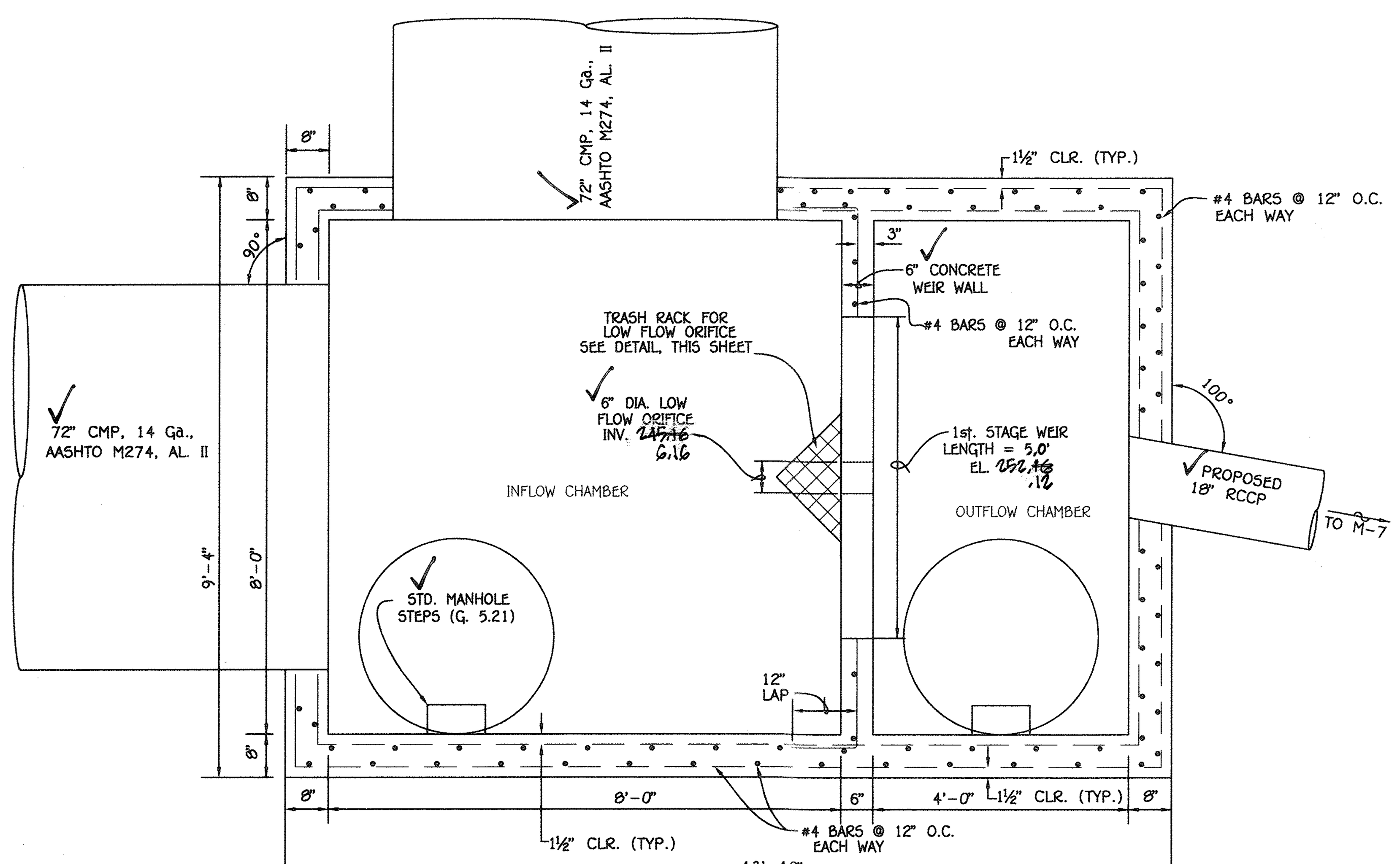
SECTION 'A-A'

SCALE: 1" = 5'



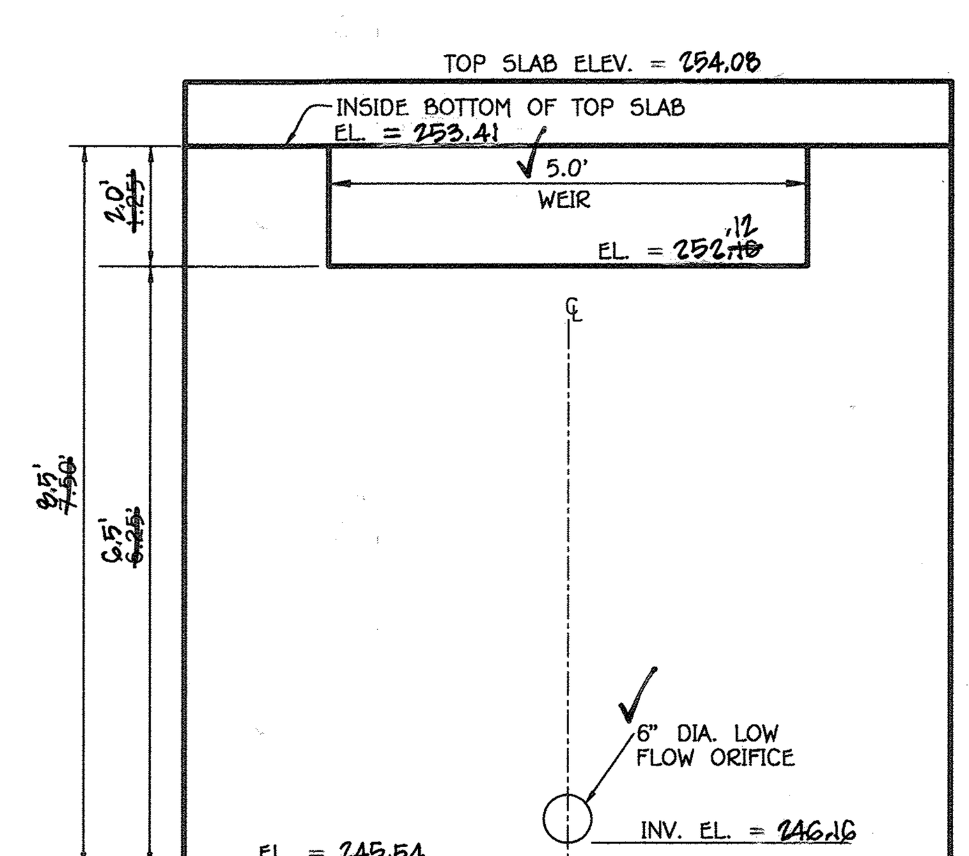
OBSERVATION WELLS CLEANOUT / AIR VENTS

NO SCALE



CONTROL STRUCTURE (CS-1) PLAN VIEW

SCALE: 1" = 2'

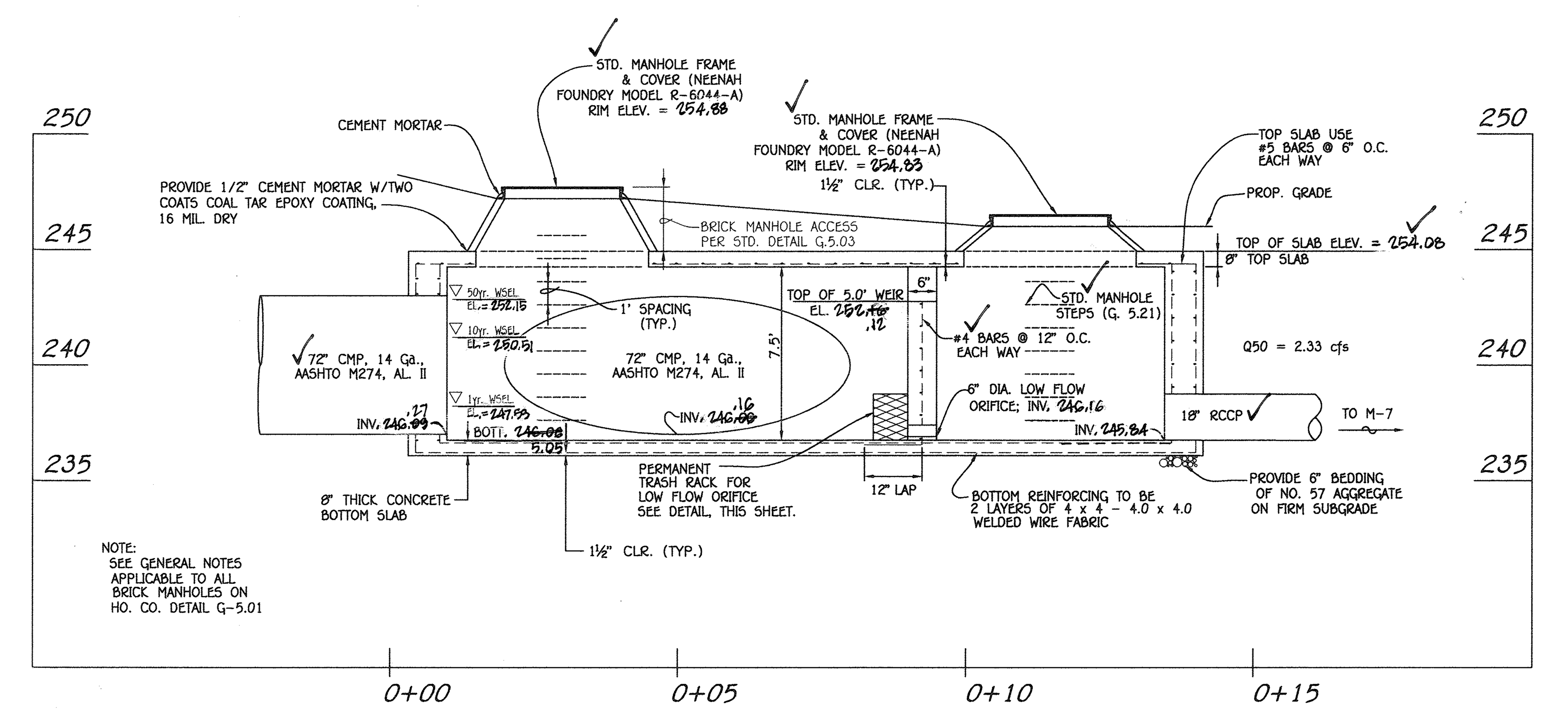


FRONT VIEW OF CONTROL WALL

SCALE: 1" = 2'

NOTES:

1. CONCRETE SHALL BE MSHA MIX No. 6 (FC > 4,500 P.S.I.).
2. REINFORCING STEEL: GRADE 60
3. FACE FORMS FOR WALLS OF OUTLET STRUCTURE SHALL UTILIZE L.M. SCOFIELD CO. T-9055 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE ROUGH BROOM FINISH ON TOP OF SLAB.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL EXPOSED METAL SURFACES SHALL BE PAINTED IN ACCORDANCE WITH SECTION 6.07.03.60 OF THE MSHA STANDARDS AND SPECS.
7. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.
8. ALL FILTER FABRIC SHALL BE POLY FILTER-X OR EQUAL.
9. ALL EXPOSED EDGES OF CONCRETE TO BE CHAMFERED 1/2" x 1/2".



CONTROL STRUCTURE (CS-1) PROFILE

SCALE: HOR. : 1" = 2'
VER. : 1" = 5'

AS BUILT 10/22/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	REVISED DETAILS TO REFLECT NEW ELEVATIONS	7/18/19

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — 2/14/17 DATE

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO. 13204 — 10/28/19 Date

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-755-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 3-9-17 Date
Chief, Development Engineering Division JP — 3-6-17 Date
Director - Department of Planning and Zoning — 3-9-17 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

STORMWATER MANAGEMENT NOTES AND DETAILS (UNDERGROUND S.W.M. FACILITY #1)

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

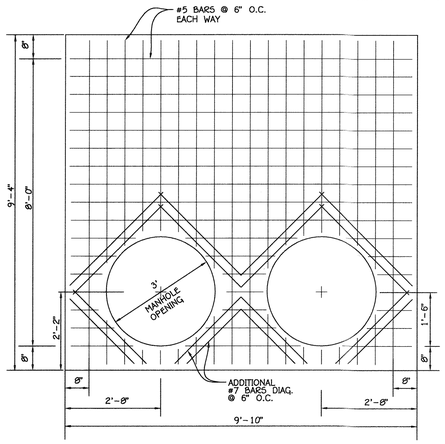
PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 22 OF 25

SDP-14-054

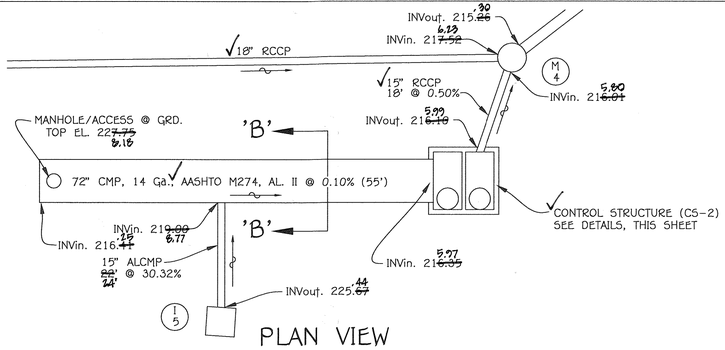
"AS-BUILT"

I:\2012\12040\dwg\12040 SDP Folder\12040-3001 SHEET 22-25 SWM Notes & Details Plan REPLACEMENT.dwg, 1:1



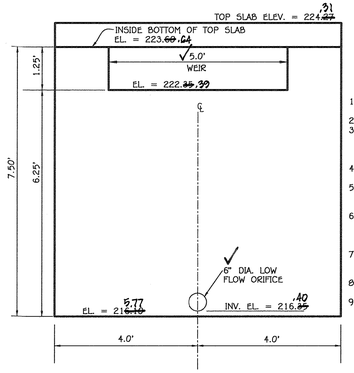
(CS-2) TOP SLAB DETAIL

SCALE: 1" = 2'



PLAN VIEW UNDERGROUND S.W.M. FACILITY #2

SCALE: 1" = 10'



FRONT VIEW OF CONTROL WALL

SCALE: 1" = 2'

NOTES:

1. CONCRETE SHALL BE MSHA MIX No. 6 (FC > 4,500 P.S.I.).
2. REINFORCING STEEL: GRADE 60
3. FACE FORMS FOR WALLS OF OUTLET STRUCTURE SHALL UTILIZE LM. SCOFIELD CO. T-9055 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE ROUGH BROOM FINISH ON TOP OF SLAB.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL EXPOSED METAL SURFACES SHALL BE PAINTED IN ACCORDANCE WITH SECTION 6.07.03.60 OF THE MSHA STANDARDS AND SPECS.
7. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.
8. ALL FILTER FABRIC SHALL BE POLY FILTER-X OR EQUAL.
9. ALL EXPOSED EDGES OF CONCRETE TO BE CHAMFERED 1/2" x 1/2".

MAINTENANCE NOTES WATER QUALITY STRUCTURE WASTE

1. Water quality structures will require periodic cleaning. Owners of these facilities will have to clean them as needed.
2. Maintenance of these facilities will consist of cleaning out the stormceptor and disposal of the waste and repair of the facility as needed. Periodic inspections of these facilities will be made by the owner.
3. The disposal of the liquid and solid matter shall be as follows:
   A. All liquid material in the stormceptor shall be pumped into a suitable tank truck and disposed of at an approved sanitary district discharge manhole or be taken to an approved sewage treatment plant for discharge.
   B. The solid material shall be landfilled in an approved sanitary landfill.
4. The inlet pipes and structural parts shall be repaired as needed.
5. Stormceptor inlet and outlet assembly shall be periodically inspected. Blockages shall be removed and disposed of as required in 3B above.

OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

1. Stormceptor water quality structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Stormceptor unit inspected yearly or as required by Howard County, utilizing the Stormceptor Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 9 of Technical Manual) then cleaning of the unit is required.
2. Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills, contact appropriate regulatory agencies.
3. Maintenance of Stormceptor units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Stormceptor will be repaired as needed.
5. Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.

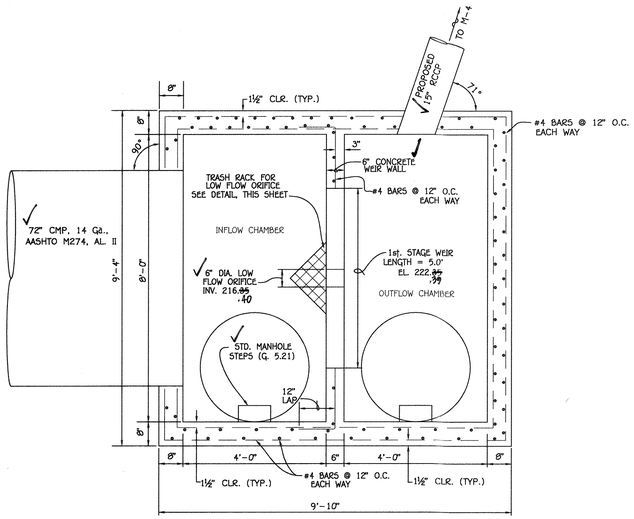
OPERATION AND MAINTENANCE SCHEDULE FOR H.O.A. OWNED AND MAINTAINED UNDERGROUND S.W.M. FACILITY

A. H.O.A. ROUTINE MAINTENANCE RESPONSIBILITIES:

1. THE UNDERGROUND S.W.M. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. MAINTENANCE OF THE 66-INCH PIPES SHALL BE PERFORMED BY FLUSHING THE SYSTEM THROUGH THE CLEAN-OUTS PROVIDED AND BY VACUUMING AT MANHOLE M-10. THE DISCHARGE ORIFICE OF THE UNDERGROUND S.W.M. FACILITY SHALL BE TEMPORARILY BLOCKED DURING SAID MAINTENANCE OPERATION.
3. DISPOSAL OF MATERIAL SHALL BE IN ACCORDANCE WITH SIMILAR B.M.P. THAT RANGE FROM DISPOSAL IN A SANITARY LANDFILL TO INCINERATION IN A LICENSED FACILITY. PETROLEUM WASTE PRODUCTS SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.

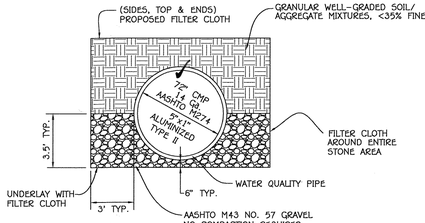
B. H.O.A. NON-ROUTINE MAINTENANCE:

1. STRUCTURAL COMPONENTS OF THE UNDERGROUND FACILITY SUCH AS THE STORMCEPTOR, MANHOLES, PIPES AND ORIFICE SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT INSPECTION.
2. PROBLEMS IDENTIFIED DURING INSPECTION WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS SHALL ALSO BE BROUGHT TO THE ATTENTION OF THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TO INSURE THAT PUBLIC SAFETY IS MAINTAINED. BLOCKED DURING SAID MAINTENANCE OPERATION.



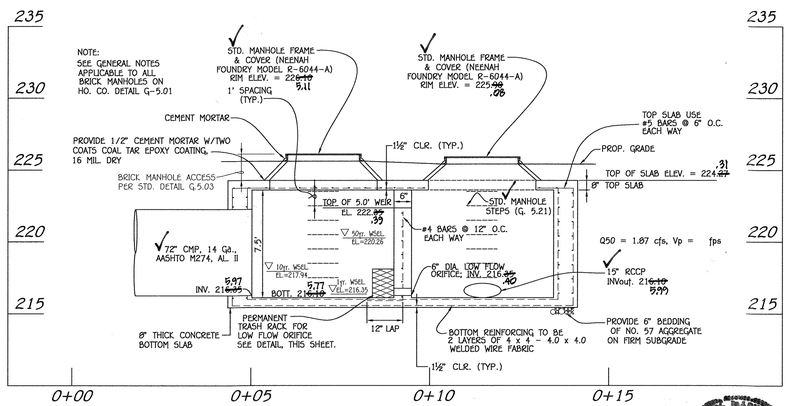
CONTROL STRUCTURE (CS-2) PLAN VIEW

SCALE: 1" = 2'



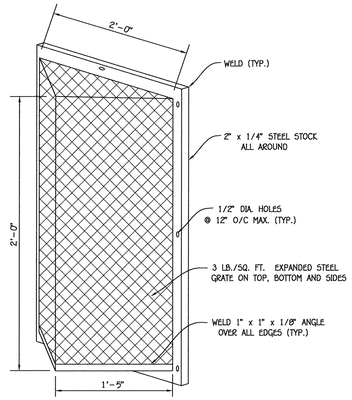
SECTION 'B-B'

SCALE: 1" = 5'



CONTROL STRUCTURE (CS-2) PROFILE

SCALE: HOR. : 1" = 2'
VER. : 1" = 5'



NOTES:

1. TRASH RACK TO BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.

LOW FLOW TRASH RACK DETAIL

NO SCALE

AS BUILT 10/28/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — DATE 2/4/17

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES V. BROOKS, JR. NO. 13104 — Date 10/28/19

Owner	Developer
Walter F. Gainer Revocable Trust 6586 Meadowridge Road Elkridge, Maryland 21075 (410)-795-8720	W.F. Wilson & Sons, Inc. 6586 Meadowridge Road Elkridge, Maryland 21075 Attn: Walt Gainer (410)-795-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 3-9-17

Chief, Development Engineering Division — Date 3.6.17

Director - Department of Planning and Zoning — Date 3-9-17

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE		SEWER CODE			
N/A		N/A			

STORMWATER MANAGEMENT NOTES AND DETAILS (UNDERGROUND S.W.M. FACILITY #2)

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-049

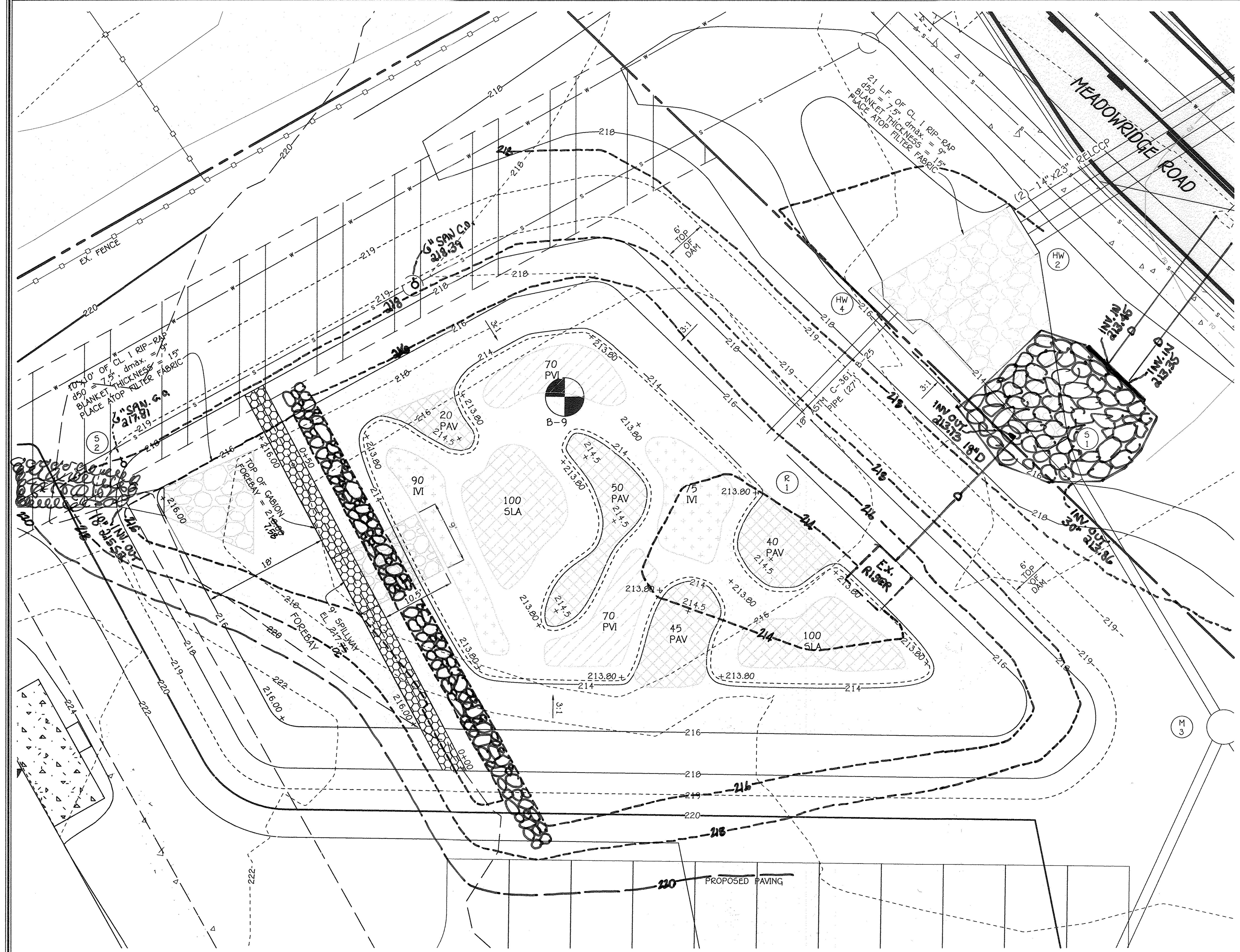
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 23 OF 25

SDP-14-054

"AS-BUILT"

f:\2012\12040\dwg\12040 SDP Folder\12040-3001 SHEET 22-25 SWM Notes & Details Plan REPLACEMENT.dwg, 1:1



PLAN – SUBMERGED GRAVEL WETLAND (M-2)

SCALE: 1" = 10'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNER AND MAINTAINED SUBMERGED GRAVEL WETLAND (M-2)

1. DURING THE FIRST YEAR OF OPERATION, THE OWNER SHALL INSPECT THE FACILITY AFTER EVERY HEAVY STORM AND REPLACE VEGETATION AS NEEDED.

2. THE OWNER SHALL REMOVE SEDIMENT ACCUMULATED IN THE PRETREATMENT AREAS AS NECESSARY.

3. SIGNS OF UNEVEN FLOW WITHIN THE WETLAND MAY MEAN THAT THE GRAVEL OR UNDERDRAIN IS CLOGGED. THE GRAVEL OR UNDERDRAIN SHALL BE REMOVED, CLEANED, AND REPLACED, AS NEEDED.

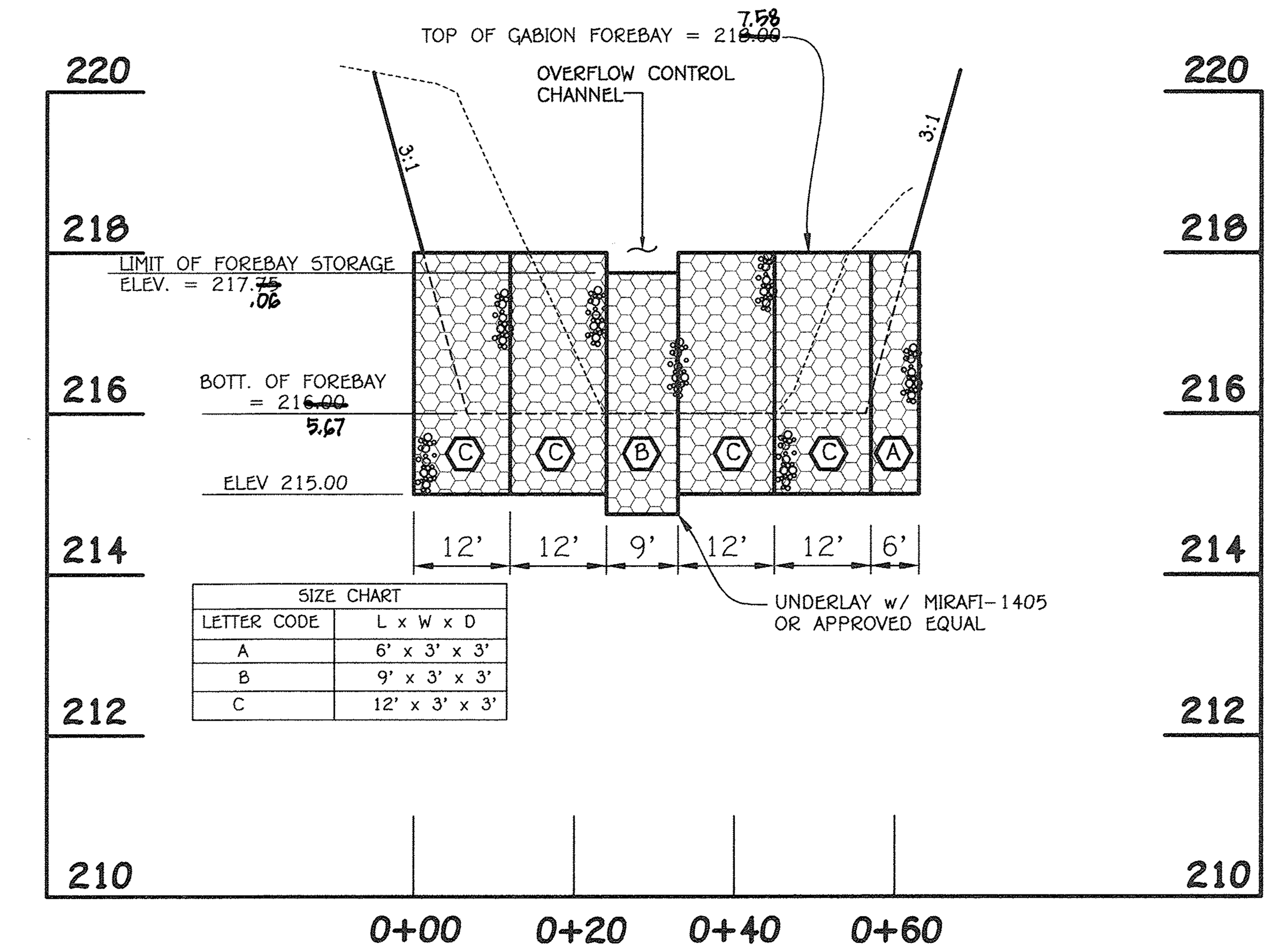
4. THE OWNER SHALL ENSURE A DENSE STAND OF WETLAND VEGETATION IS MAINTAINED THROUGH THE LIFE OF THE FACILITY AND REPLACE VEGETATION AS NEEDED.

5. THE OWNER SHALL ENSURE THE INLETS AND OUTLETS TO EACH GRAVEL WETLAND CELL ARE FREE FROM DEBRIS

6. THE OWNER SHALL REPAIR EROSION AT INFLOW POINTS AND ENSURE FLOW SPLITTERS AREA FUNCTIONAL TO PREVENT STORM WATER FROM BYPASSING THE FACILITY.

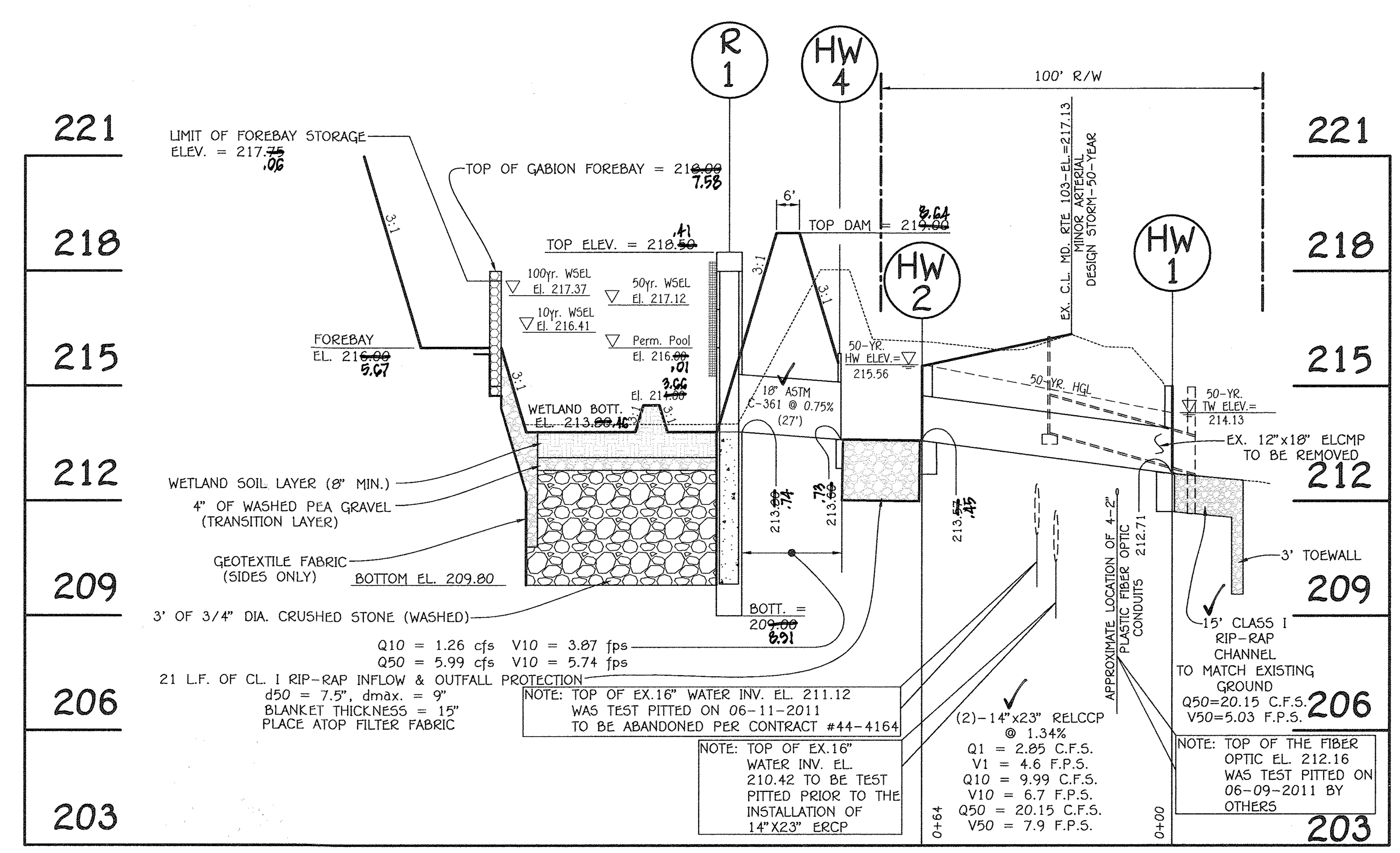
WETLAND PLANT LIST

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	SPACING
IVI	165	IRIS VIRGINICA BLUE FLAG IRIS	BARE ROOT OR PLUG	1.5' SPACING
PAV	155	PANICUM VIRGATUM RED SWITCHGRASS	BARE ROOT OR PLUG	3' SPACING
PVI	140	PELTANDA VIRGINICA ARROW ARUM	BARE ROOT OR PLUG	2' SPACING
SLA	200	SAGGITARIA LATIFOLIA ARROWHEAD	BARE ROOT OR PLUG	1' SPACING



GABION FOREBAY PROFILE

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



PROFILE THRU SUBMERGED GRAVEL WETLAND (M-2)

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'

Wetland Soil

The surface infiltration rates of the gravel wetland soil should be similar to a low hydraulic conductivity wetland soil (0.1-0.01 ft/day = 3.5 x 10-5 cm/sec to 3.5 x 10-6 cm/sec)). This soil can be manufactured using compost, sand, and some fine soils to blend to a high % organic matter content soil (>15% organic matter). Avoid using clay contents in excess of 15% because of potential migration of fines into subsurface gravel layer. Do not use geotextiles between the horizontal layers of this system as they will clog due to fines and may restrict root growth.

AS BUILT 10/28/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE

STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748 PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — DATE 2/14/17

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR. NO. 13204 — Date 10/28/19

Owner
Walter F. Gainer
Revocable Trust
6586 Meadowridge Road
Elkridge, Maryland 21075
(410)-755-8720

Developer
W.F. Wilson & Sons, Inc.
6586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 3-9-17
Chief, Development Engineering Division — Date 3-6-17
Director – Department of Planning and Zoning — Date 3-9-17

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			–		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

STORMWATER MANAGEMENT NOTES AND DETAILS (SUBMERGED GRAVEL WETLAND) (M-2)

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

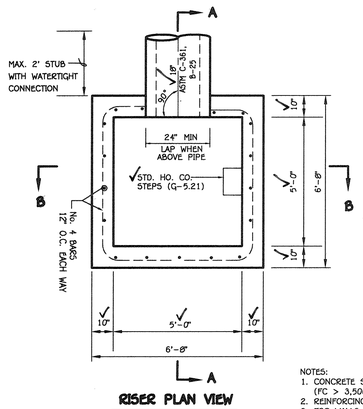
PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045
ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 24 OF 25

SDP-14-054

"AS-BUILT"

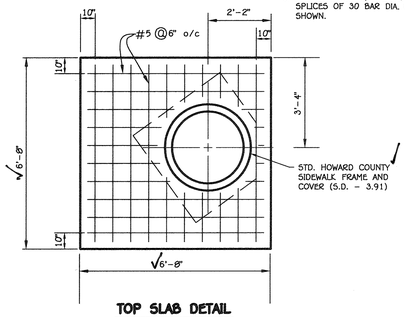
I:\2012\12040\dwg\12040 SDP Folder\12040-3001 SHEET 22-25 SWM Notes & Details Plan REPLACEMENT.dwg, 1:1



RISER PLAN VIEW

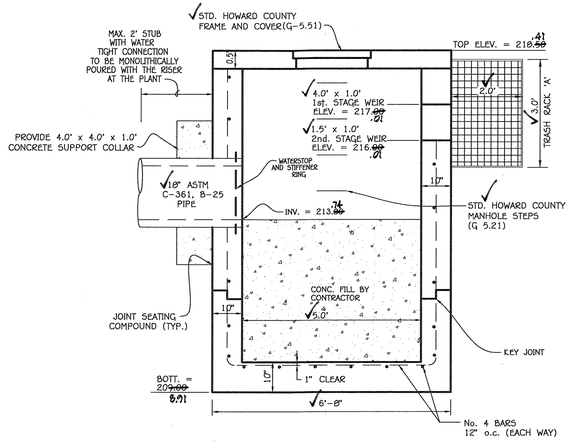
NO SCALE

NOTES:
1. CONCRETE SHALL BE MSHA MIX No. 3 (FC > 3,500 P.S.I.)
2. REINFORCING STEEL: GRADE 60
3. FOR WALLS OF STRUCTURE SHALL UTILIZE L.M. SCOFIELD CO. T-9055 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE ROUGH BROOM FINISH.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.



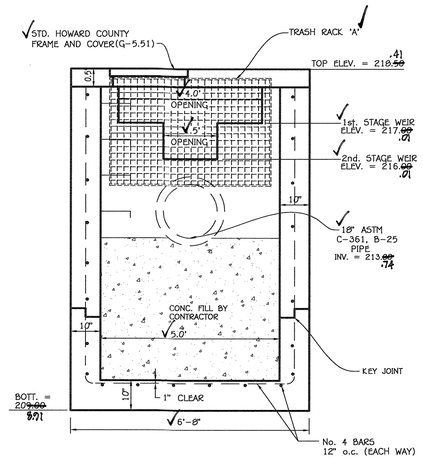
TOP SLAB DETAIL

NO SCALE



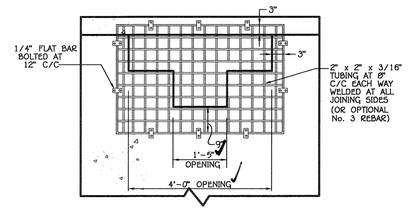
R 1 **PROFILE VIEW A CONCRETE RISER DETAIL**

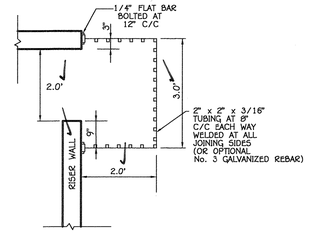
SCALE : 1" = 2'



R 1 **PROFILE VIEW B CONCRETE RISER DETAIL**

SCALE : 1" = 2'





TRASH RACK 'A' DETAIL

(NO SCALE)

NOTES:
1. FIELD MEASURE THE STRUCTURE DIMENSIONS TO INSURE EXACT FIT OF TRASH RACK.
2. GALVANIZE ENTIRE TRASH RACK AFTER FABRICATION.
3. PAINT BATTLESHIP GRAY.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

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. 20748, EXPIRATION DATE: 2/22/17.

ALDO M. VITUCCI, P.E. — 2/14/17 DATE

STATE OF MARYLAND — CHARLES J. CROVO, SR. — No. 19024 — REGISTERED PROFESSIONAL ENGINEER

AS BUILT 10/28/19

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

CHARLES J. CROVO, SR., NO. 19024 — 10/28/19 Date

Owner
Walter F. Gainer Revocable Trust
9586 Meadowridge Road
Elkridge, Maryland 21075
(410)-755-8720

Developer
W.F. Wilson & Sons, Inc.
9586 Meadowridge Road
Elkridge, Maryland 21075
Attn: Walt Gainer
(410)-755-8720

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 3-9-17 Date

Chief, Development Engineering Division — 3.6.17 Date

Director - Department of Planning and Zoning — 3-9-17 Date

PROJECT			SECTION		PARCEL NO.
MEADOWRIDGE 95			-		'A'
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23201-23203	22	M-1	37	FIRST	6012.02
WATER CODE			SEWER CODE		
N/A			N/A		

STORMWATER MANAGEMENT NOTES AND DETAILS (SUBMERGED GRAVEL WETLAND) (M-2)

PROPOSED COMMERCIAL GARAGE & STORAGE AREA

MEADOWRIDGE 95

PARCEL 'A'

PREVIOUS FILE NUMBERS: WP-88-32, F-88-156, ECP-13-064, F-14-122, WP-15-045

ZONED: M-1 TAX MAP NO.: 37 GRID NO.: 22
PARCEL NO.: 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JAN. 30, 2017
SHEET 25 OF 25

SDP-14-054

"AS-BUILT"

I:\2012\12040\dwg\12040 SDP Folder\12040-3001 SHEET 22-25 SWM Notes & Details Plan REPLACEMENT.dwg, 1:1