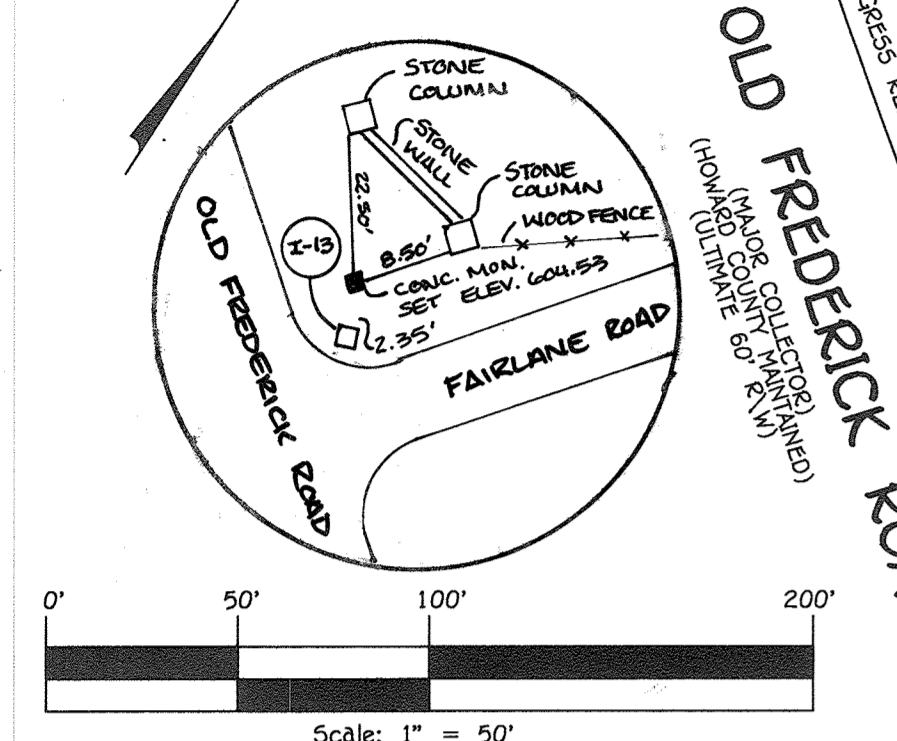


CENTERLINE CURVE DATA							
CURVE #	ROAD NAME	STATION	RADIUS	LENGTH	DELTA	CHD LGTH	CHORD
C1	FAIRLANE ROAD	4+74.38 TO 6+64.77	120.00'	190.39'	47°44'47"	171.04'	N84°40'25"E
C2	FAIRLANE ROAD	6+95.58 TO 9+52.65	170.00'	257.07'	33°42'12"	233.27'	N86°48'24"E



NO.	DESCRIPTION	DATE
REVISIONS		
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
	<i>Meunier</i>	3/7/16
	CHIEF, DIVISION OF LAND DEVELOPMENT & DPW Bureau of Highways	DATE
	<i>Chelton</i>	3-18-16
	CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>Verschneider</i>	3-31-16
	CHIEF, BUREAU OF HIGHWAYS & DPZ, DIVISION OF LAND DEVELOPMENT	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.
 Date: 2/6/20

FAIRLANE FARM PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK
 ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

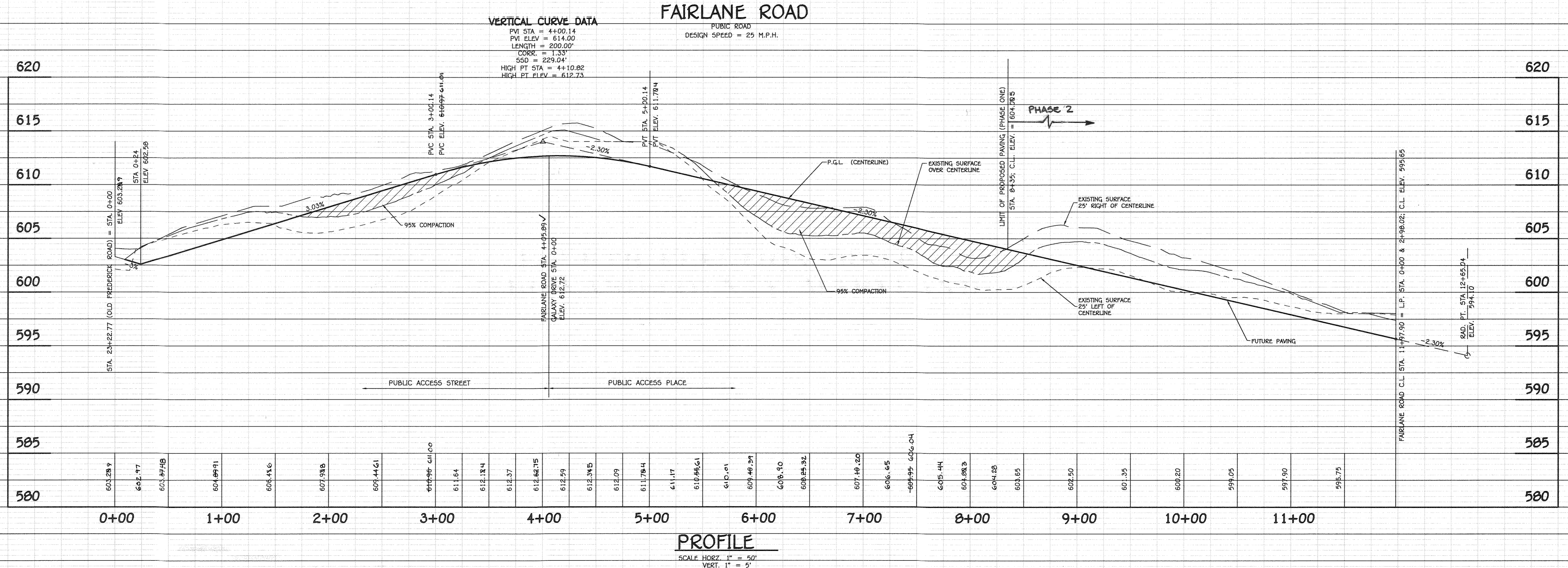
FAIRLANE ROAD PLAN AND PROFILE

OWNER	DEVELOPER
Estate of F.J. Schulte c/o Diane Schulte Personal Representative 2215 Darnell Road Woodbine, Md 21797 410-977-1322	Land Design & Development 3300 Dorney Hill Drive Suite 102 Ellicott City, Maryland 21042 (410)-977-0422

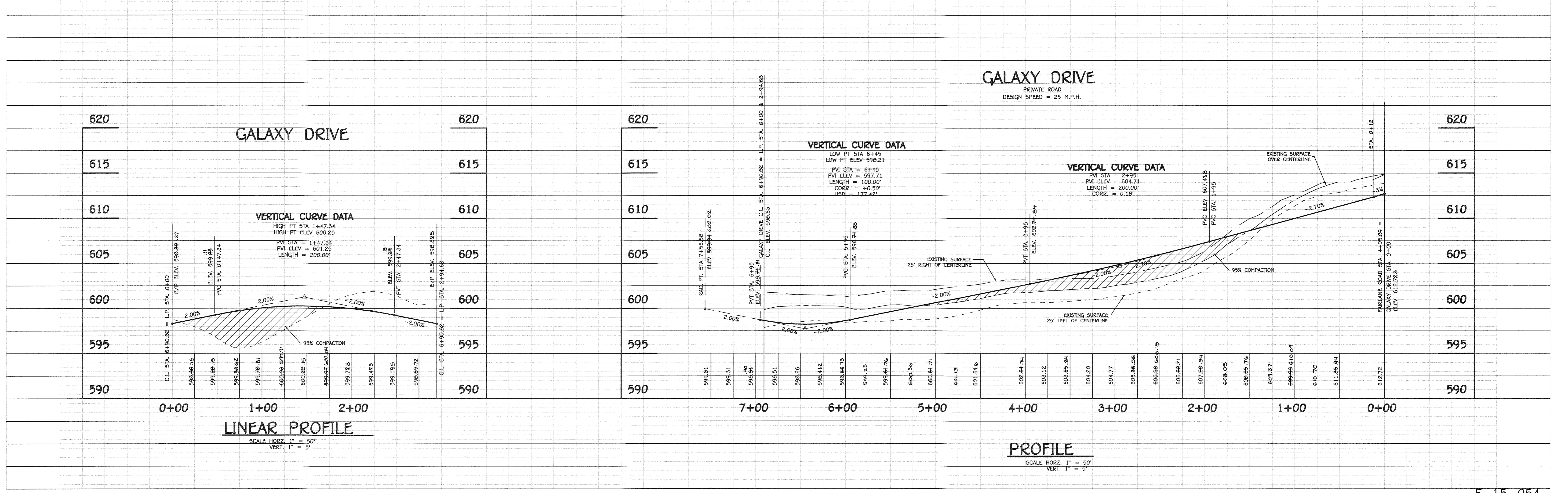
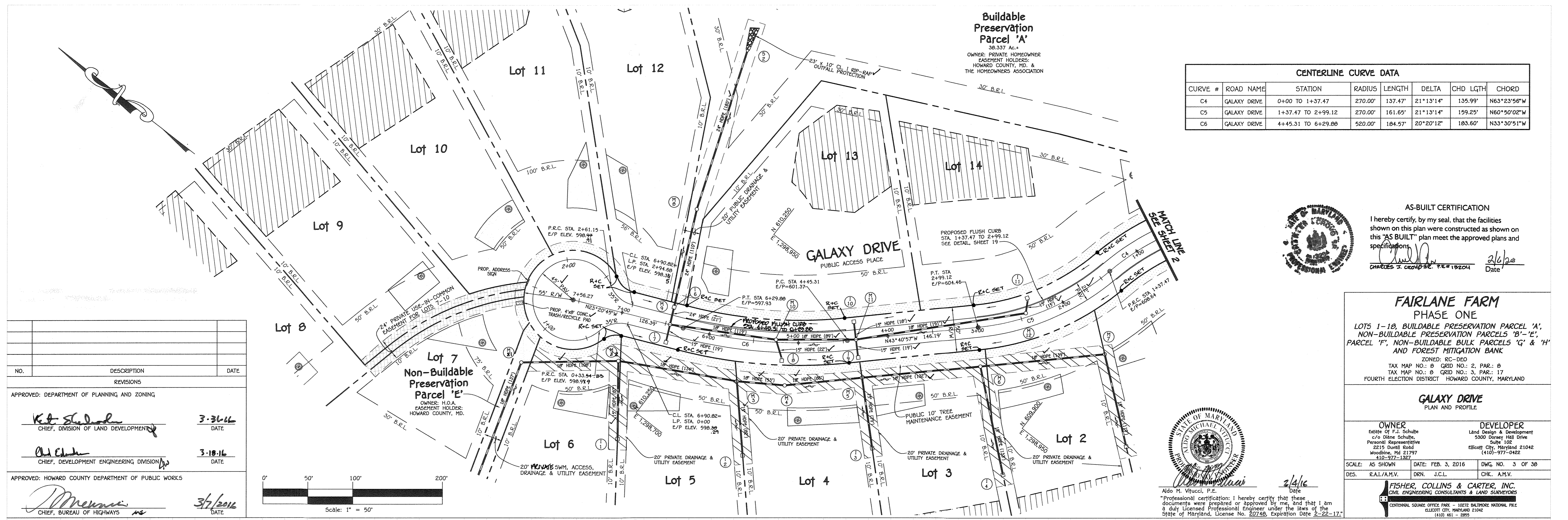
SCALE: AS SHOWN DATE: FEB. 3, 2016 DWG. NO. 2 OF 38
 DES. R.A.I./A.M.V. DRN. J.C.L. CHK. A.M.V.

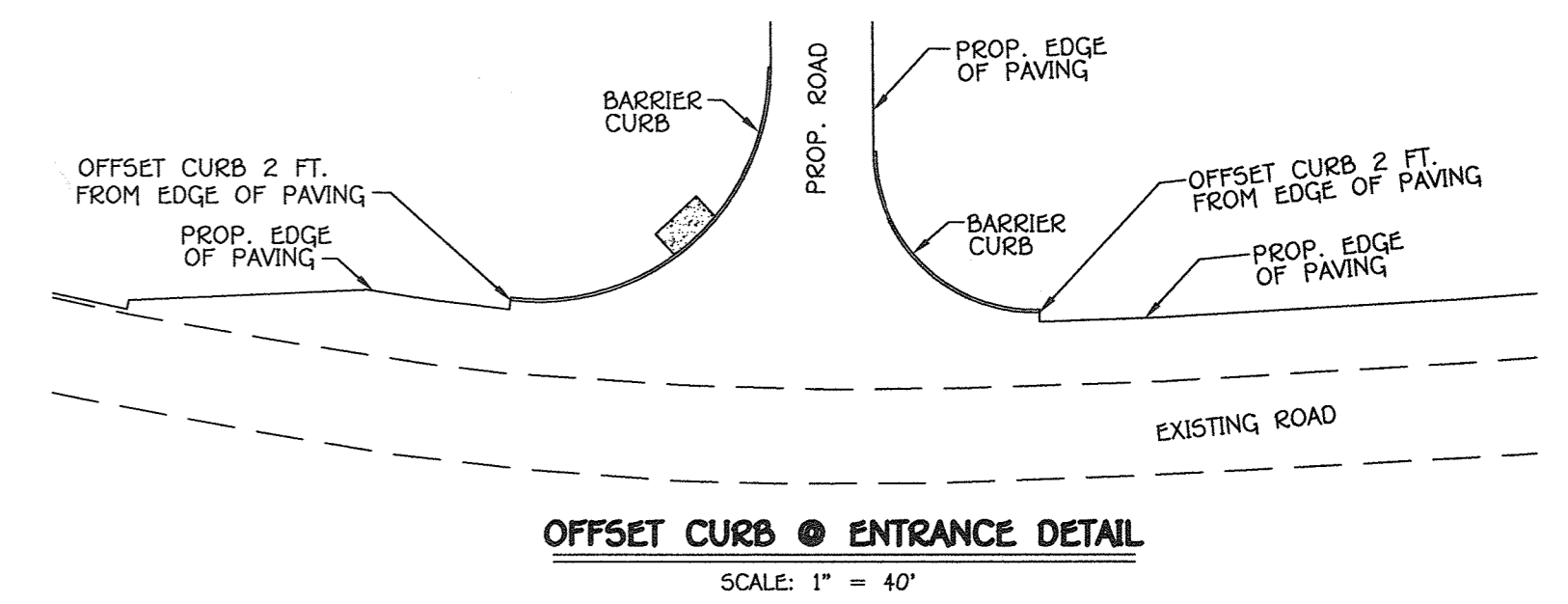
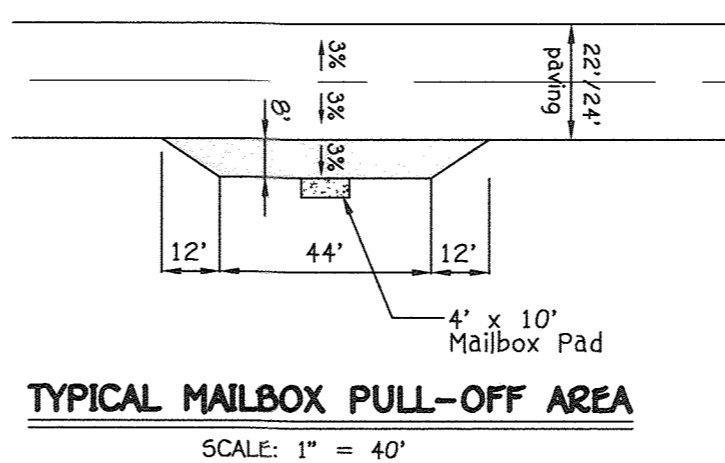
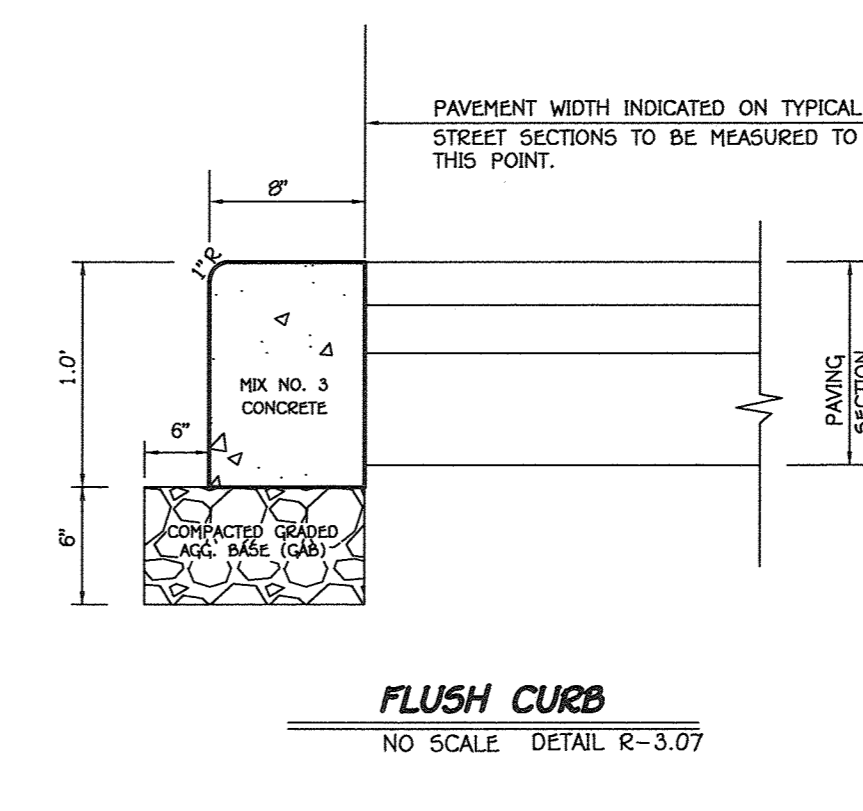
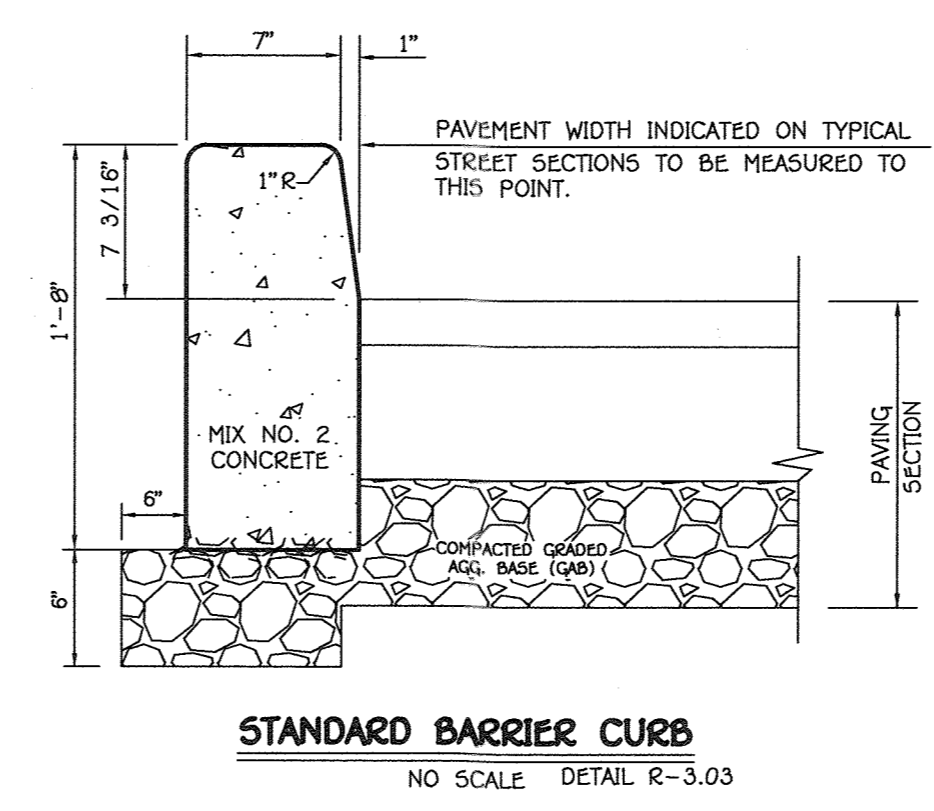
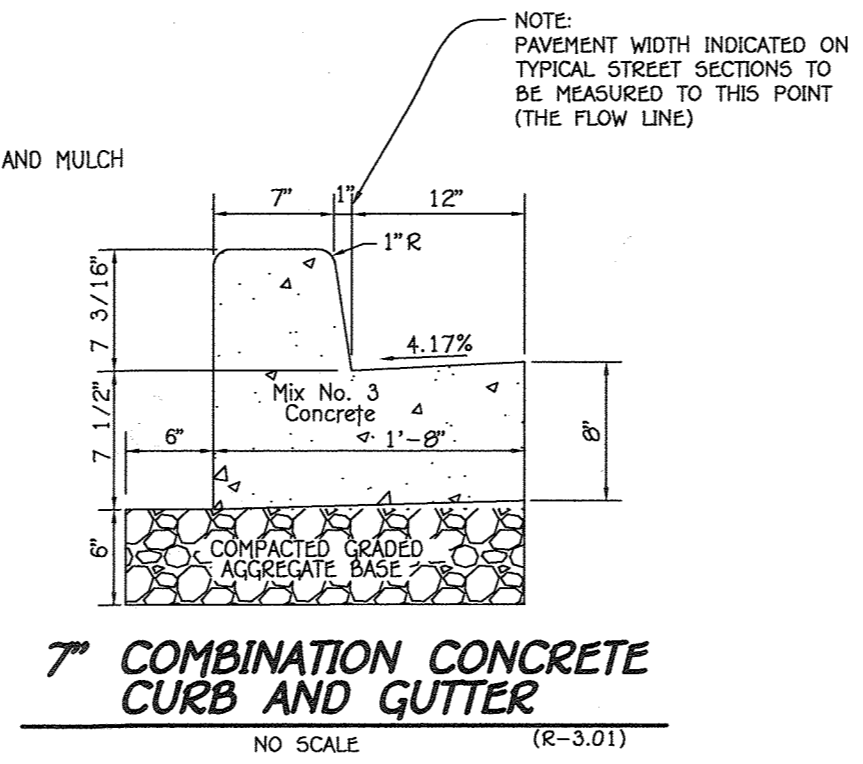
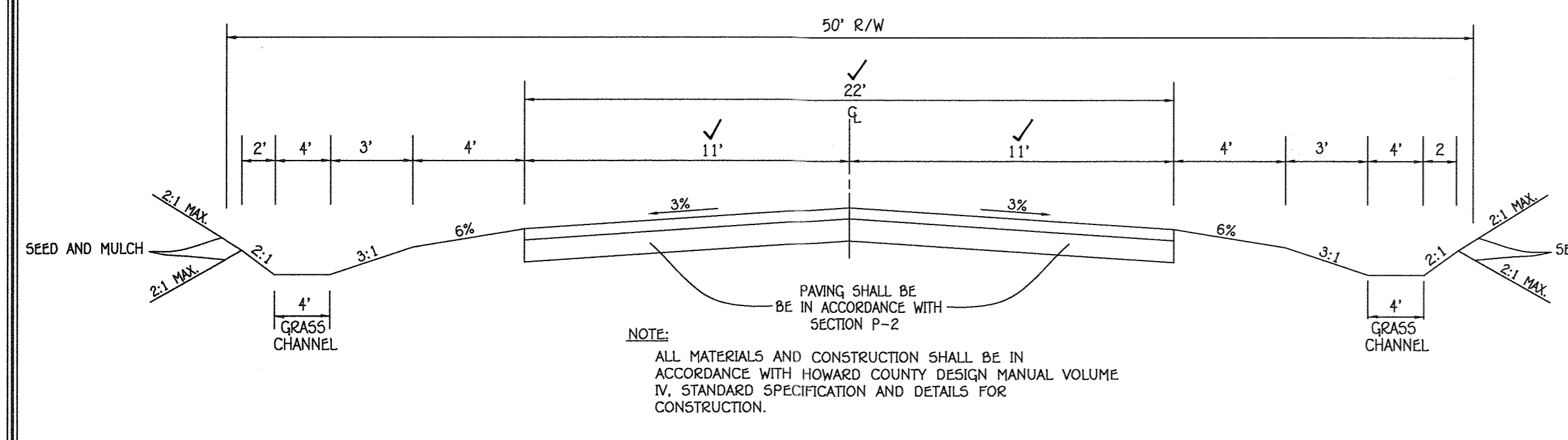
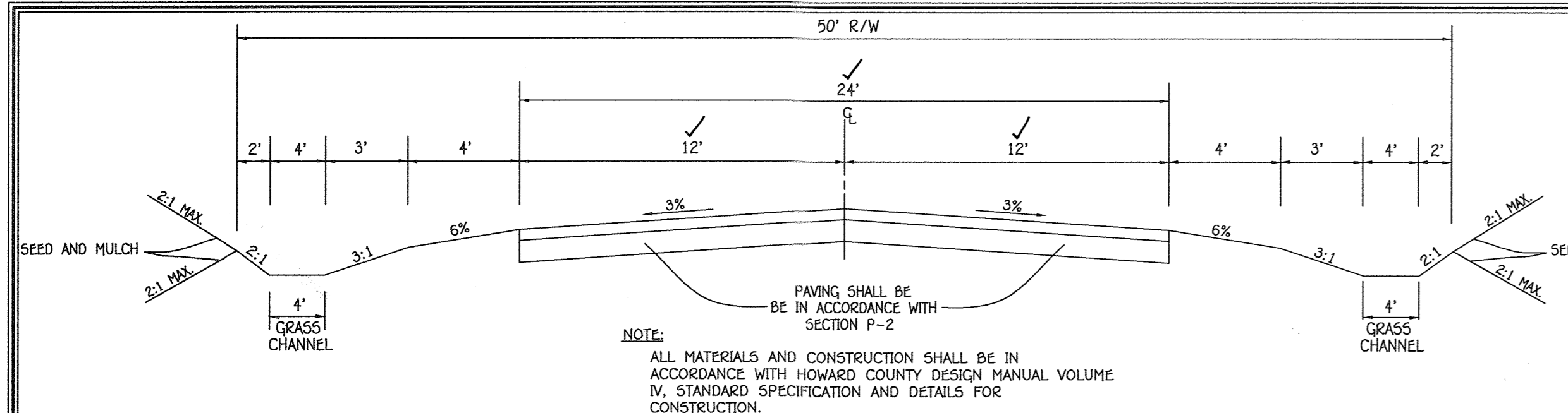
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 NATIONAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 5895

NOTES: 1. SEE SHEET 34 & 35 FOR OLD FREDERICK ROAD WIDENING AND STRIPING PLANS
 2. SEE SHEET 36 - 38 FOR OLD FREDERICK ROAD CROSS SECTIONS.



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



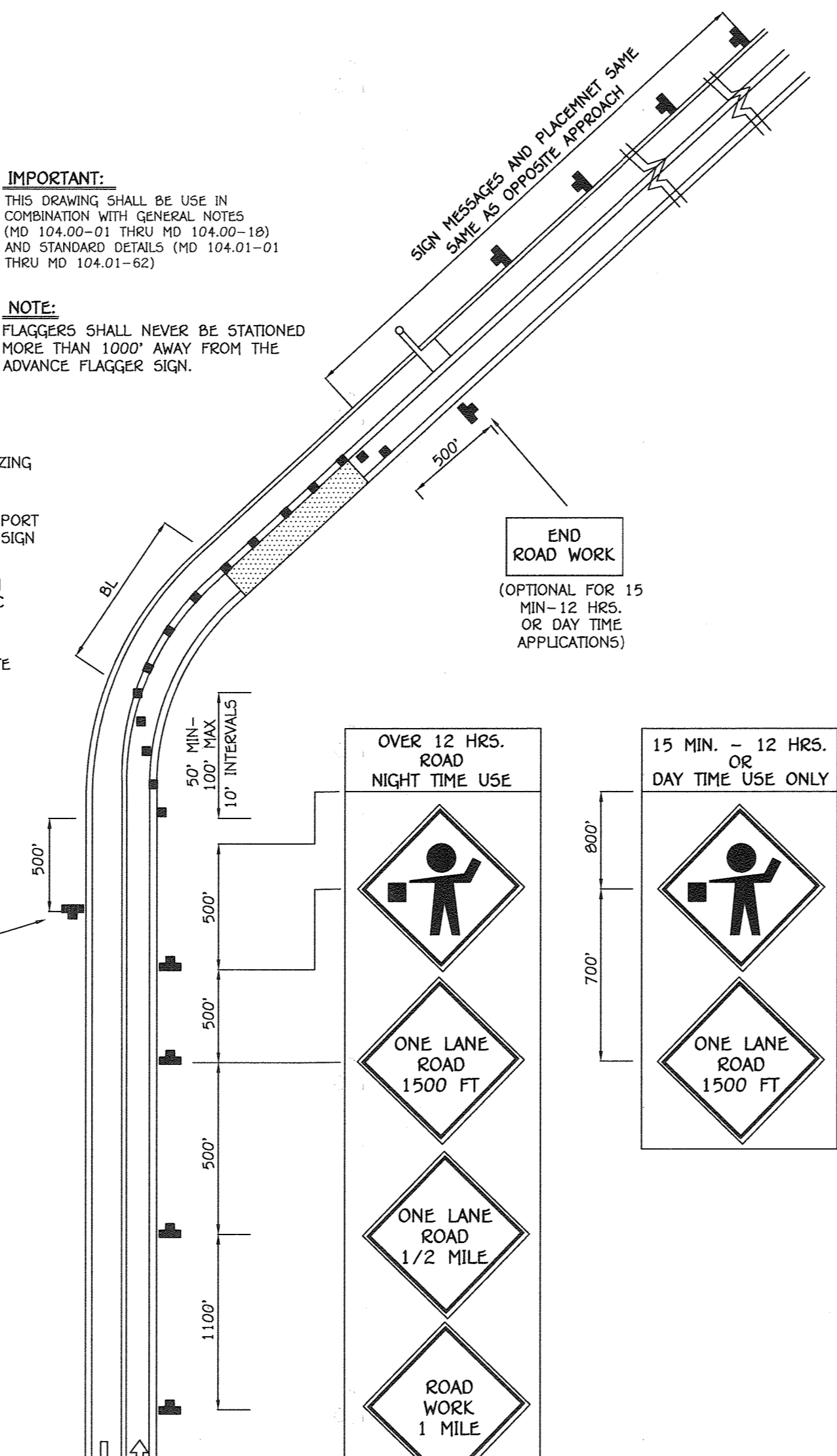
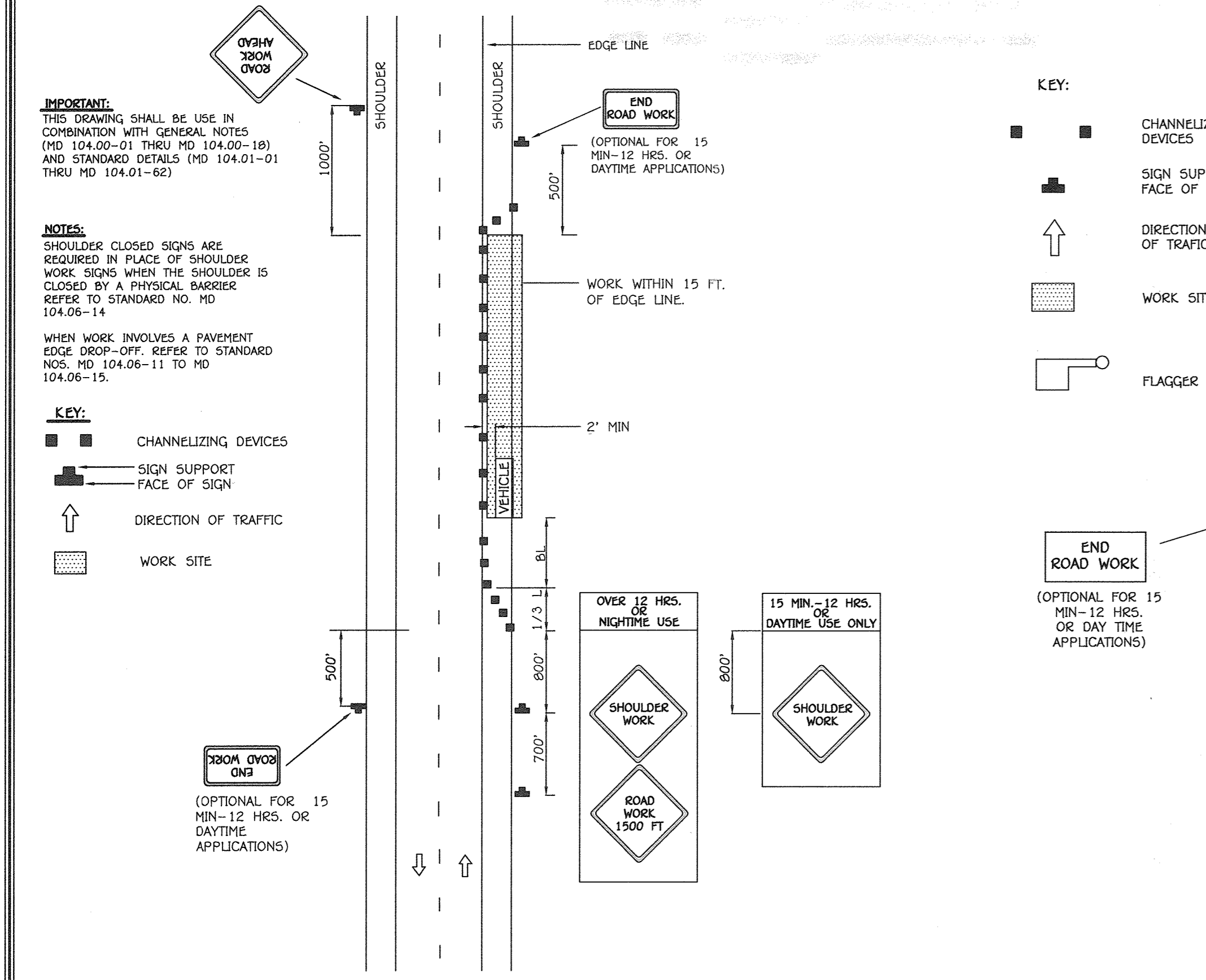


APPROVED: DEPARTMENT OF PUBLIC WORKS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING

3/7/2011 DATE
 3-31-16 DATE
 3-18-16 DATE

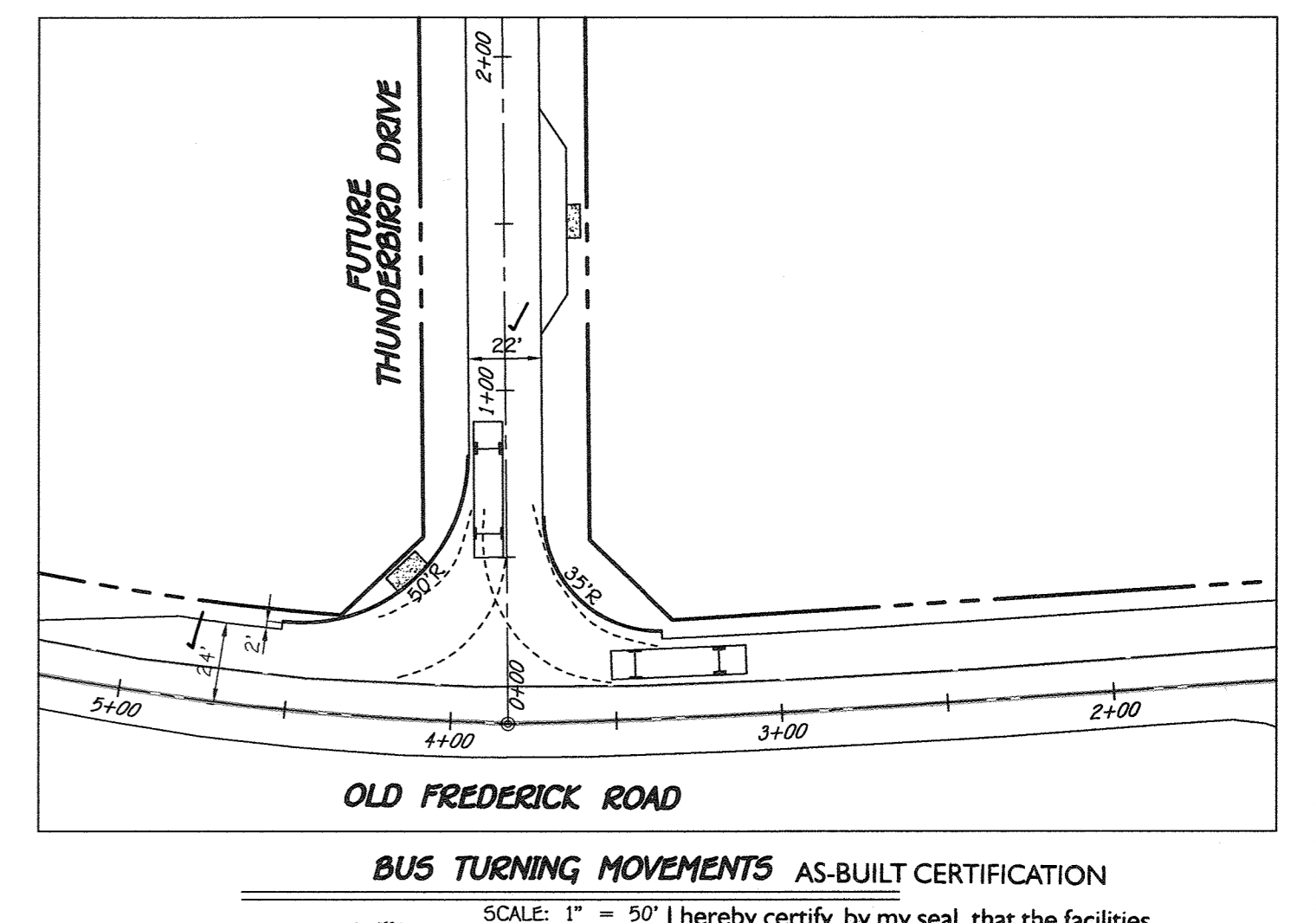
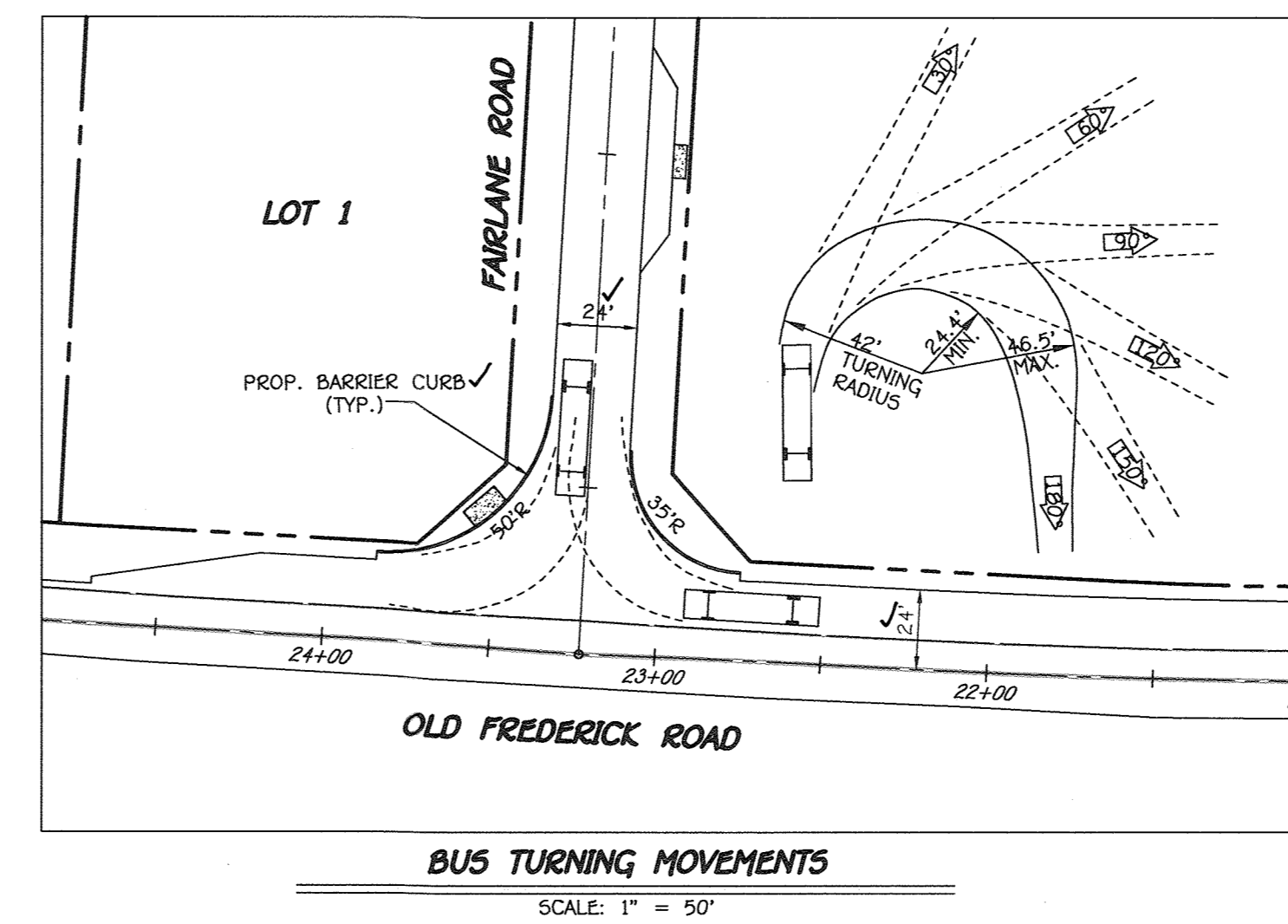
REVISIONS

NO.	DESCRIPTION	DATE



SECTION NUMBER ROAD AND STREET CLASSIFICATION CALIFORNIA BEARING RATIO (CBR) 3 TO <5 5 TO <7 ≥7 3 TO <5 5 TO <7 ≥7

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)			MIN HMA WITH GAB			HMA WITH CONSTANT GAB					
		3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7			
P-2	PARKING DRIVE ASILES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)											
		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



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10270 BALTIMORE NATIONAL PIKE
 ELLSWORTH CITY, MARYLAND 21046
 (410) 461-2295

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duval Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 ALDO M. VITUCCI, P.E.
 3/4/16 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 8-22-17."

ROADWAY DETAILS & MOT PLAN
**FAIRLANE FARM
 PHASE ONE**
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 4 OF 38

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 phosphorus and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide aeration 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 Bokabaite, Inc. (ET&B), 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, clumps, 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 (ramped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

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 - P2O5)	75 lbs. per acre, minimum
Potassium (potash - K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	0 to 5%
Silt	30 to 55%
Sand	35 to 60%

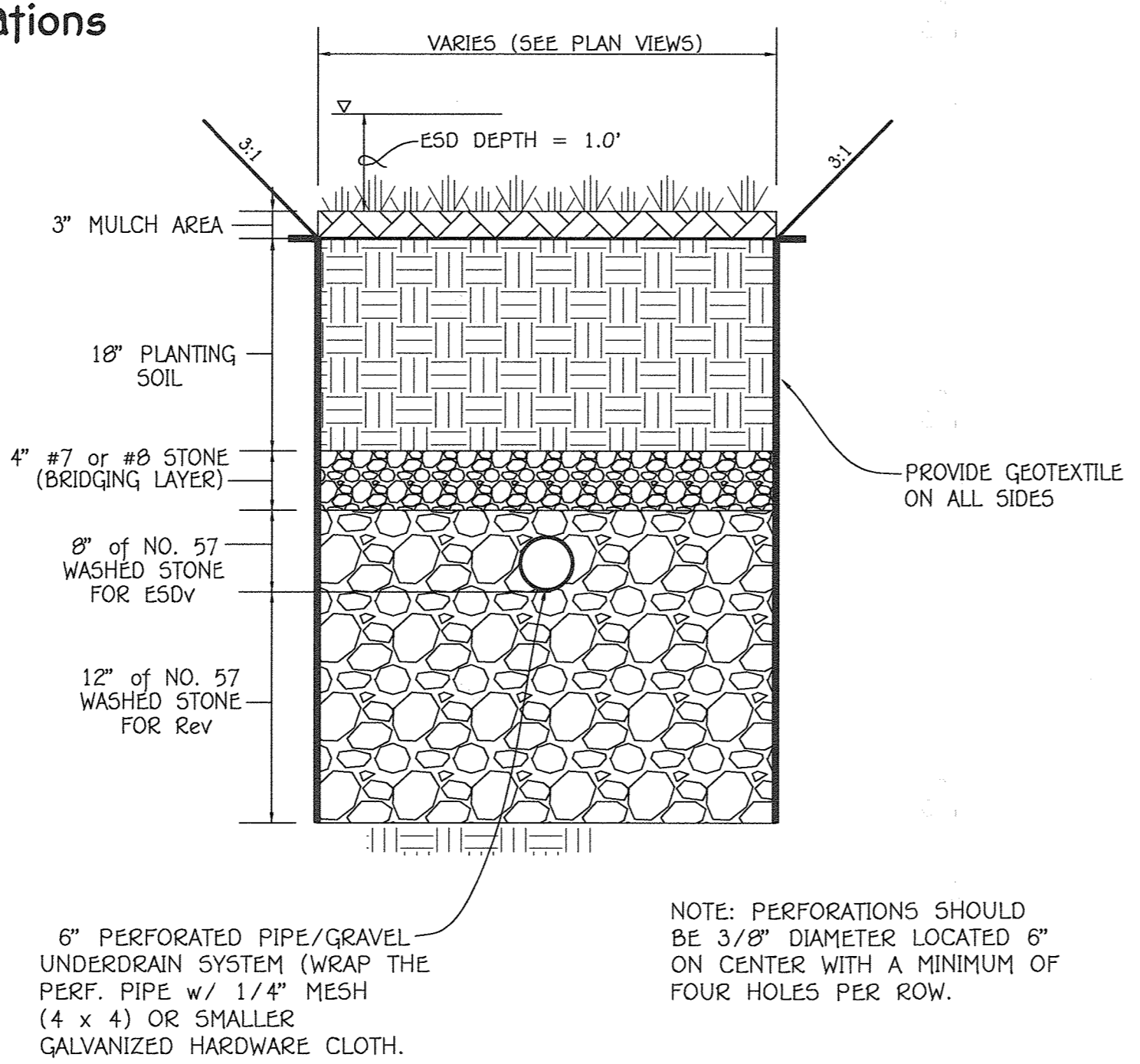
Mulch Layer

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.

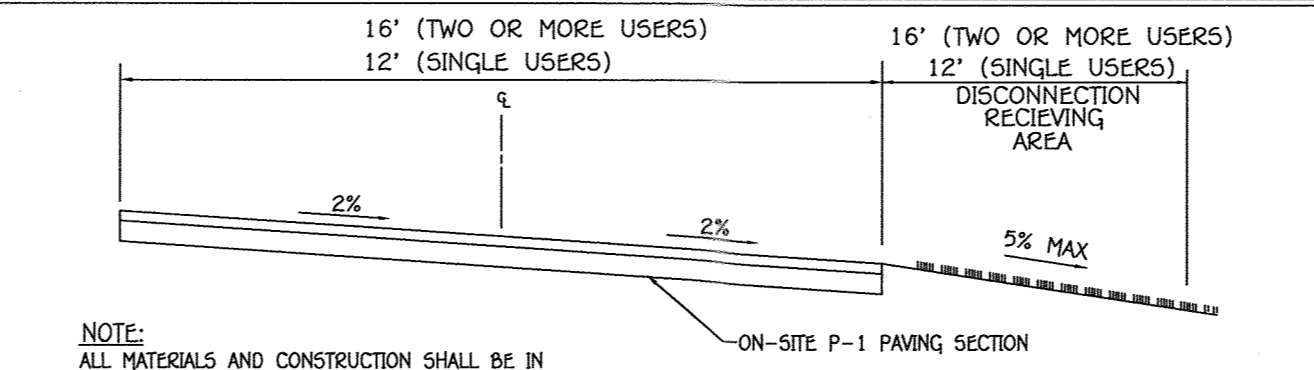
The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to 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 drier 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 ET&B, 1993 or Clayton and Schueler, 1997.



Micro Bio-Retention (M-6) Section
NO SCALE



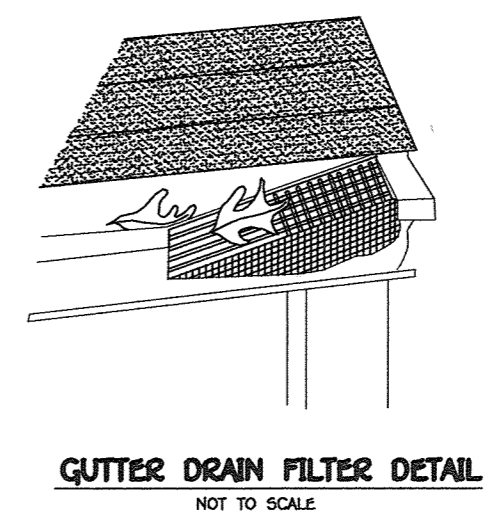
Typical Private Drive Cross Slope Section
NOT TO SCALE

Operation & Maintenance Schedule For Privately Owned And Maintained Disconnection Of Nonrooftop Runoff (N-2)

1. Maintenance Of Areas Receiving Disconnection Runoff Is Generally No Different Than That Required For Other Lawn Or Landscaped Areas. The Areas Receiving Runoff Should Be Protected From Future Compaction Or Development Of Impervious Area. In Commercial Areas, Foot Traffic Should Be Discouraged As Well.

Operation and Maintenance Schedule For Privately Owned And Maintained Bio-Retention Areas (M-6)

1. The HOA 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 HOA 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 one at a time and replace all deficient shrubs and vines.
3. The HOA 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 HOA shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

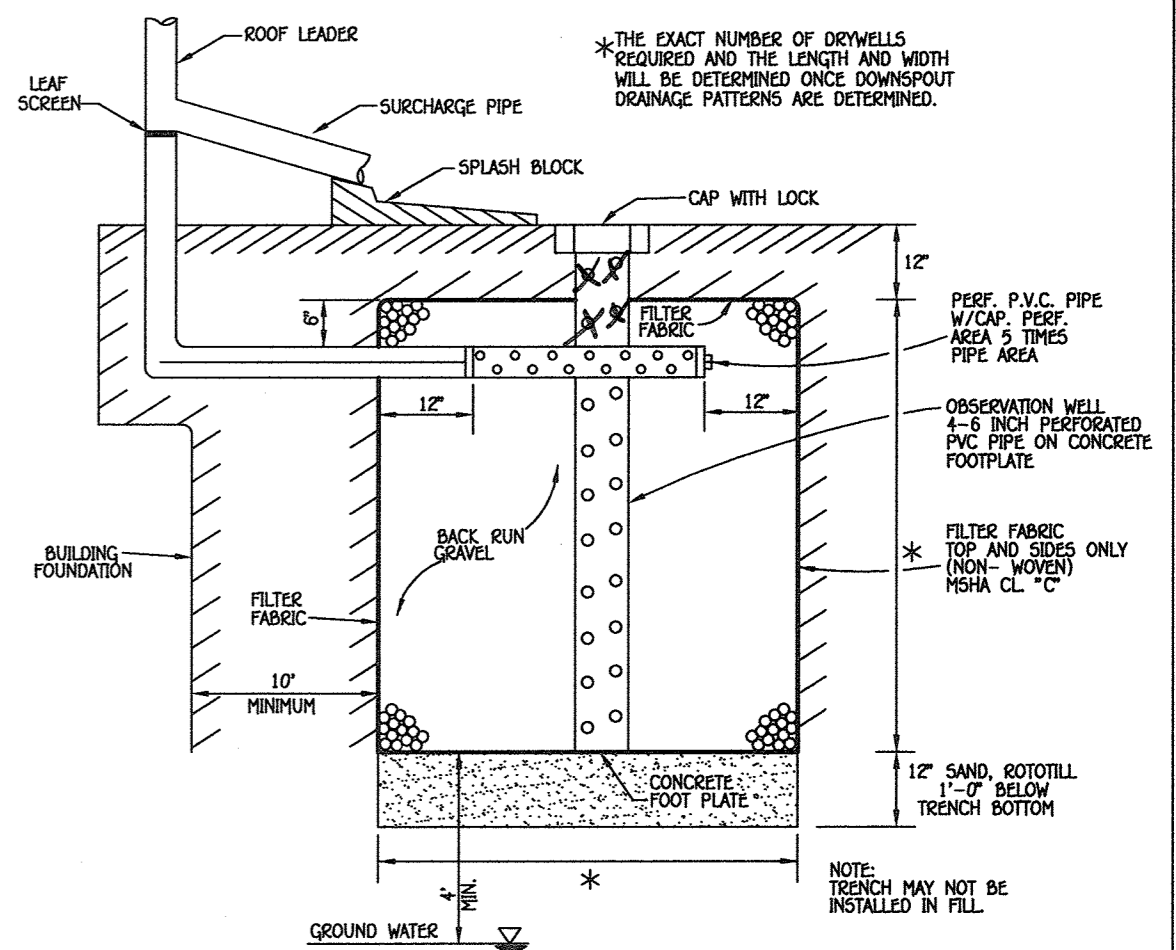


Gutter Drain Filter Detail
NOT TO SCALE

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

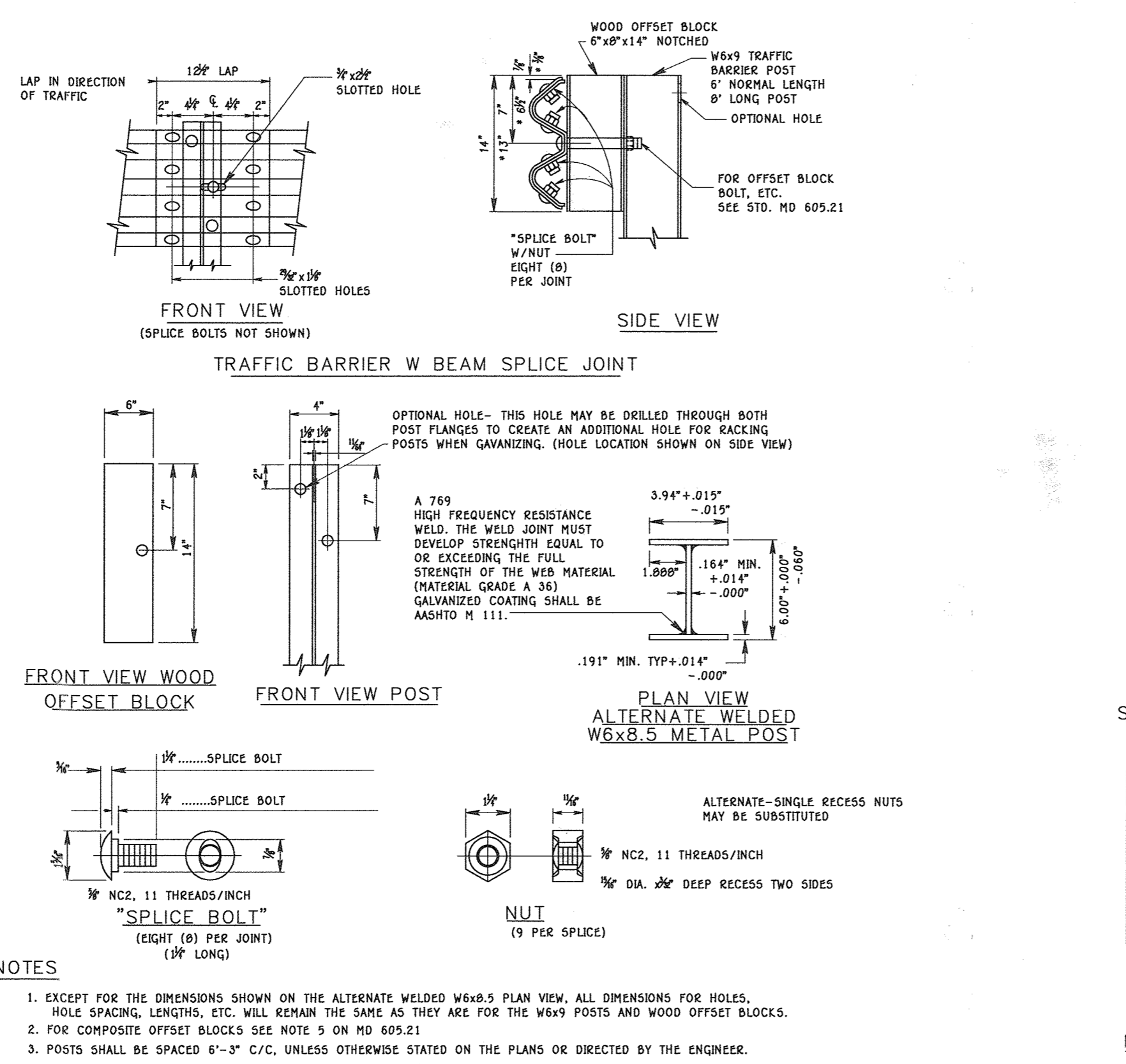
DATE: 3/7/2016
 DATE: 3-31-16
 DATE: 3-18-16

NO.	DESCRIPTION	DATE

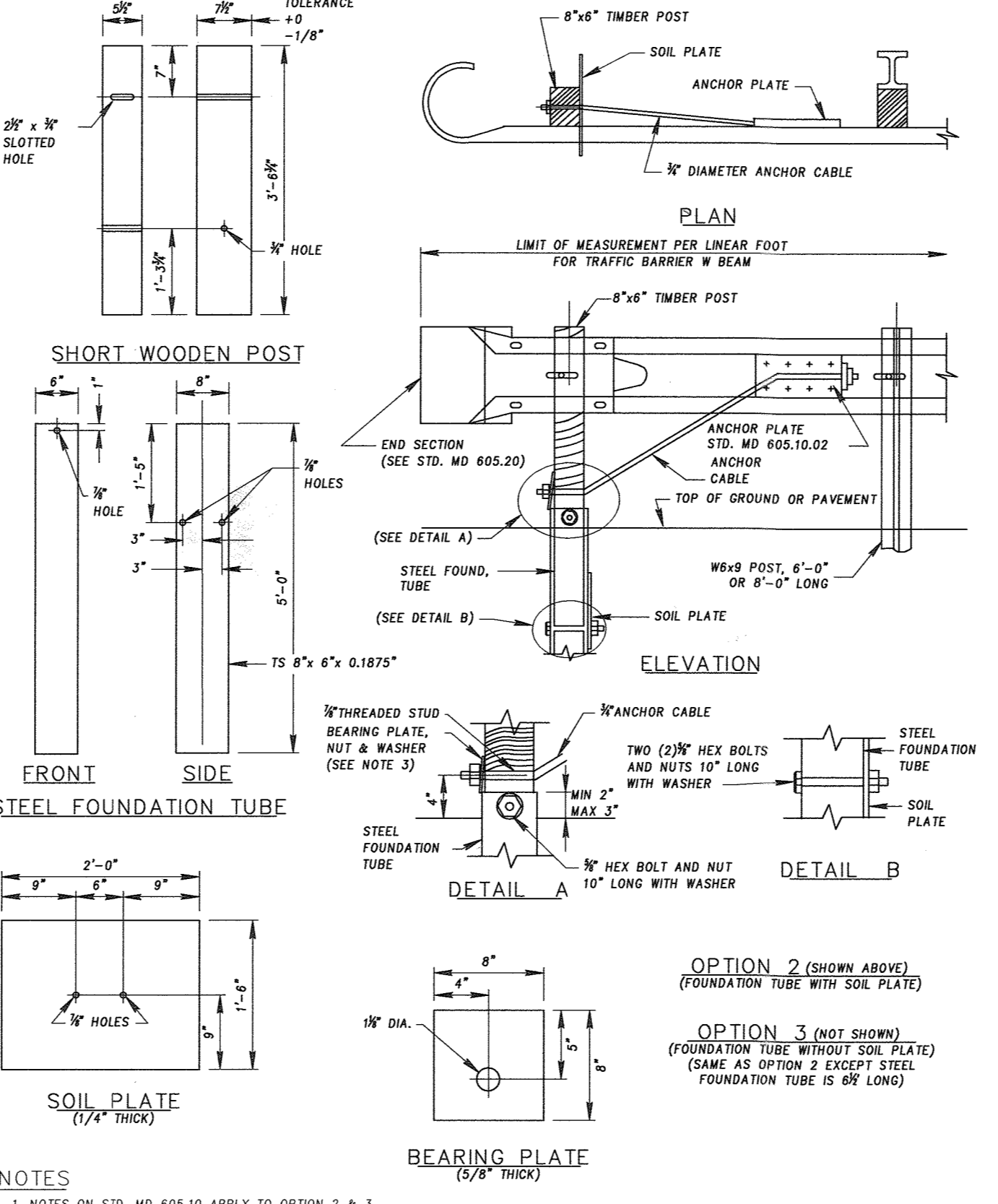


OPERATION AND MAINTENANCE SCHEDULE FOR DRYWELLS (M-5)

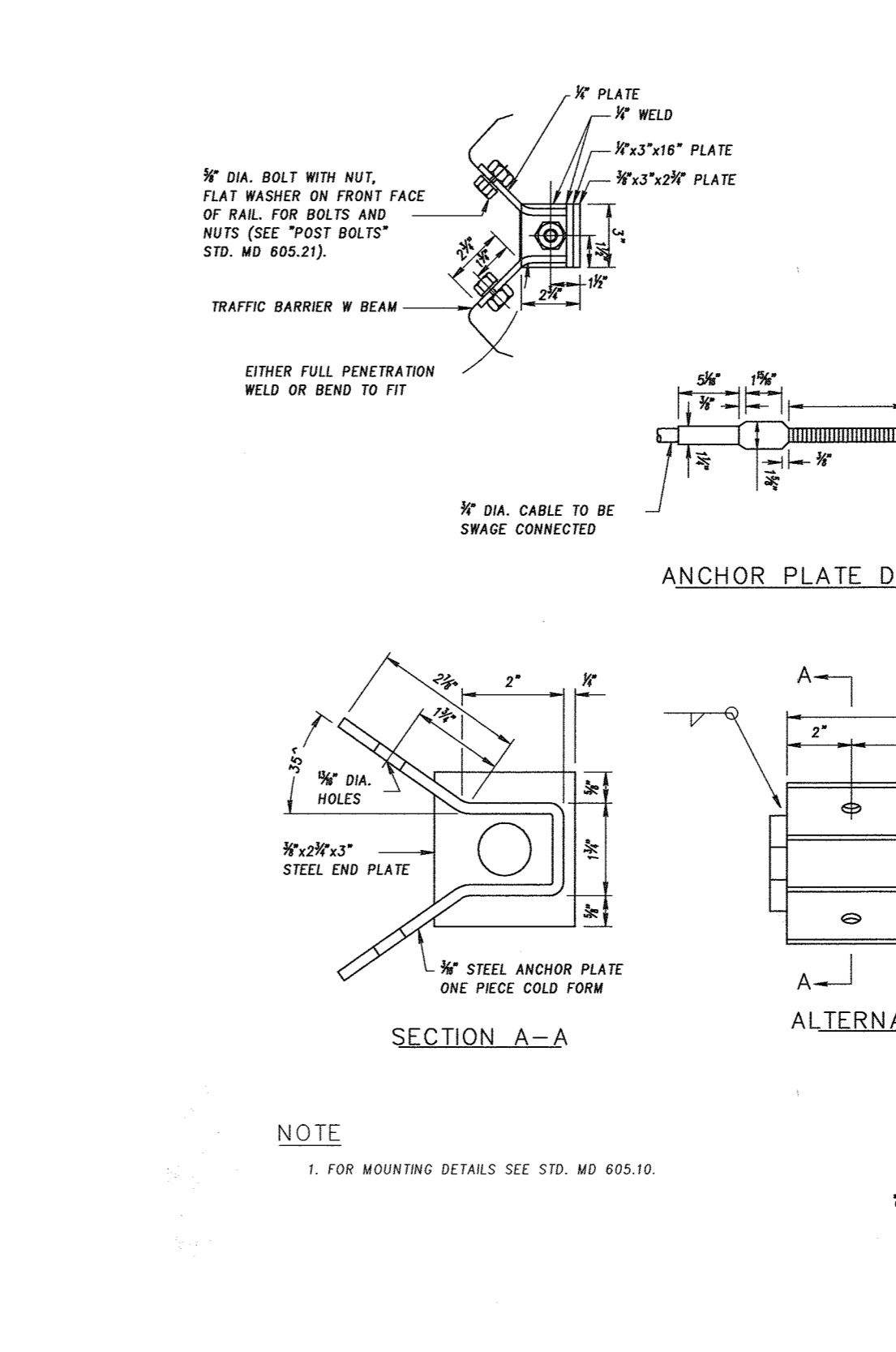
- A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY TWO (72) HOUR PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- F. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAS BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



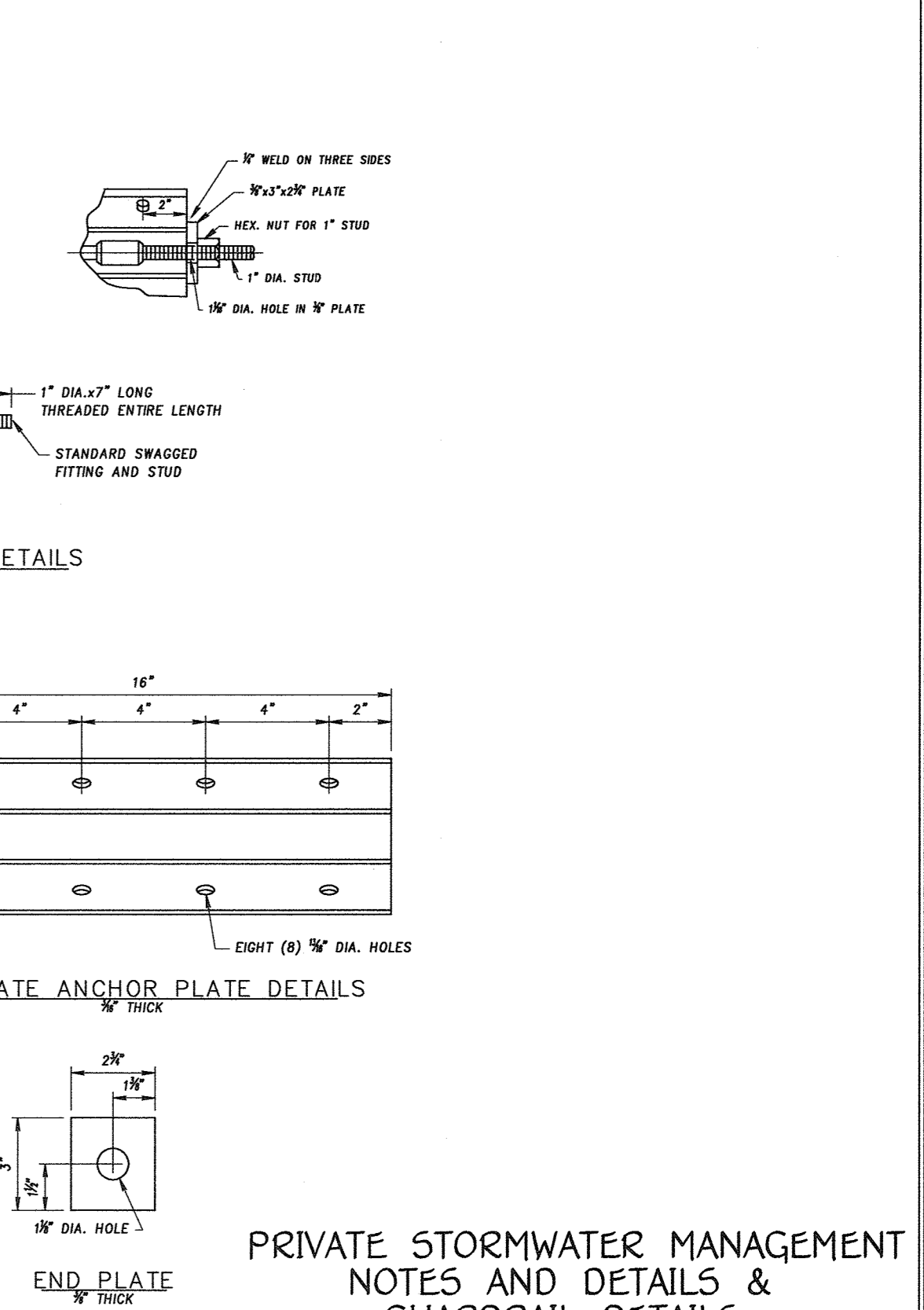
TRAFFIC BARRIER W BEAM METAL POST, W BEAM SPLICE AND WOOD OFFSET BLOCK
NOT TO SCALE MD 605.23



STEEL FOUNDATION TUBE
NOT TO SCALE MD 605.23

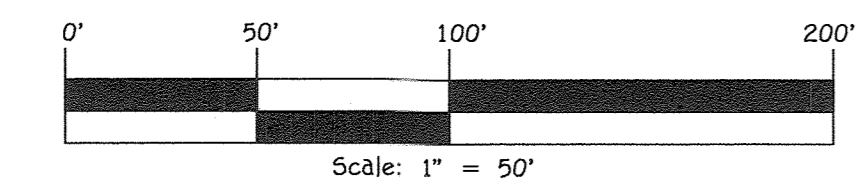


ANCHOR PLATE DETAILS
NOT TO SCALE MD 605.23



ALTERNATE ANCHOR PLATE DETAILS
NOT TO SCALE MD 605.23

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FLE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2095



OWNER
 Estate of F.J. Schulte
 c/o Diane Schulte
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 CHARLES S. CEDENO SE., P.E., #18264
 Date: 2/16/20



AIDA H. VINUOCO, P.E.
 "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. 202249, Expiration Date 2-22-17"

PRIVATE STORMWATER MANAGEMENT NOTES AND DETAILS & GUARDRAIL DETAILS
FAIRLANE FARM
 PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 5 OF 38

DESIGN CERTIFICATION
 I hereby certify that this plan has been designed in accordance with current Maryland Erosion and Sediment Control Laws, Regulations and Standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Designer's Signature: *Aldo M. Vitucci* Date: 2/4/16
 Printed Name: Aldo M. Vitucci MD Registration No. 20740
 P.E., K.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER CERTIFICATION
 I/we certify that any clearing, grading, construction or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls and that the responsible personnel involved in the construction project will have a certificate of training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE.

Owner/Developer's Signature: *Joseph R. Ritter* Date: 2/4/16
 Printed Name & Title: Joseph R. Ritter, Principal

Approved: This Plan is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.
 Howard Soil Conservation District: *John L. Roberts* Date: 3/1/16

Approved: Department of Planning And Zoning
 Chief, Division Of Land Development: *Walt Schulz* Date: 3-31-16

Chief, Development Engineering Division: *Paul Clark* Date: 3-18-16

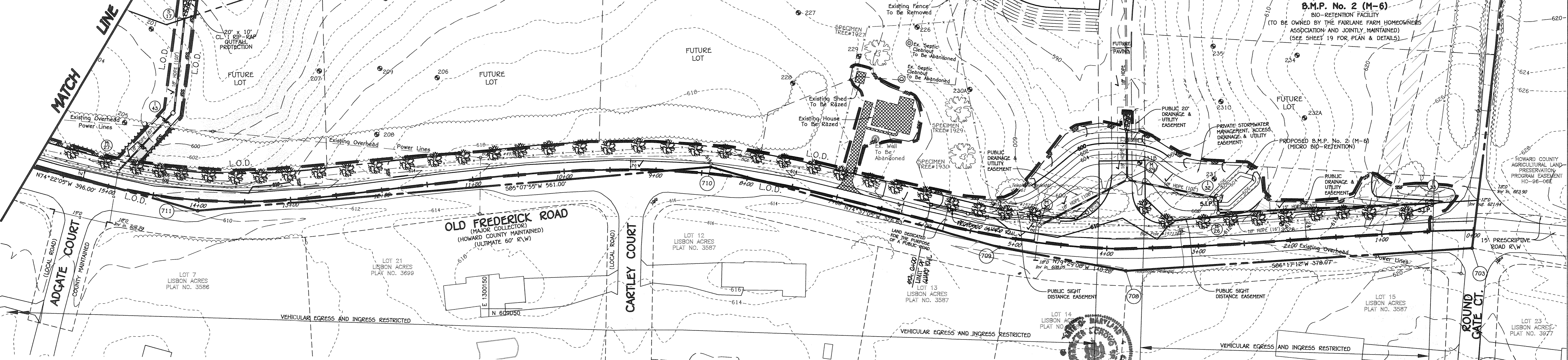
Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways: *Melvin* Date: 3/7/2016

REVISIONS

NO.	DESCRIPTION	DATE

SEDIMENT CONTROL LEGEND

- SSP - SUPER-SILT FENCE
- DF - DIVERSION FENCE
- SF - SILT FENCE
- SC - STABILIZED CONSTRUCTION ENTRANCE
- S.I.P. (A) - STANDARD INLET PROTECTION INLET TYPE 'A' OR 'B'
- L.O.D. - LIMIT OF DISTURBANCE
- R.P.S. - REMOVABLE PUMPING STATION
- F.B. - FILTER BAG
- TYPE A-2 - EARTH DIKE



--- DENOTES EXISTING FENCE TO BE REMOVED

x - x - x DENOTES EXISTING FENCE TO REMAIN

--- DENOTES EXISTING SLOPES 15% TO 24.9%

--- DENOTES EXISTING SLOPES 25% AND GREATER

CONTRACTOR NOTES:

- CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOODPLAIN, STREAMS, WETLANDS & THEIR BUFFERS.
- SHOULD THE STOCKPILE EXCEED 15 FT. IN HEIGHT IT MUST BE BENCHED.
- EARTH DIKES CROSSING THE ROADWAYS ARE TO BE CONNECTED TO MACADAM BERMS AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ANY ROADSIDE SWALE OR DITCH LOCATED IN FILL SHALL BE COMPACTED TO 95% COMPACTIO TO AVOID EROSION IN THESE AREAS.

ROOFLEADER NOTE:
 A OVERFLOW OUTFALL (SURCHARGE) SHALL BE PROVIDED AT EACH DOWNSPOUT PRIOR TO CONNECTION TO THE UNDERGROUND ROOFLEADER. SEE DETAIL SHEET 21.

HOUSE CONSTRUCTION:
 THIS HOWARD (SCD) STANDARD SEDIMENT CONTROL PLAN MAY NOT BE USED TO OBTAIN PERMITS FOR HOUSE CONSTRUCTION FOR THIS PROJECT.

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.

Professional Engineer Seal: *Charles J. Crane* Date: 2/6/20
 License No. 19204

PHASE II GRADING & SEDIMENT CONTROL PLAN FAIRLANE FARM PHASE ONE

LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

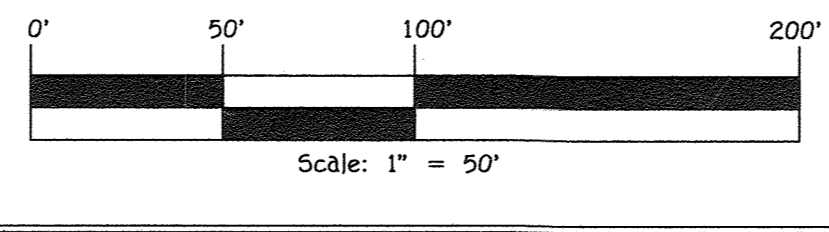
ZONED: RC-DEO
 TAX MAP NO.: B GRID NO.: 2, PAR.: 8
 TAX MAP NO.: B GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 6 OF 30

Professional Engineer Seal: *Aldo M. Vitucci* Date: 2/4/16
 License No. 20740

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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 Suite 102
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 (410)-977-0422



DESIGN CERTIFICATION

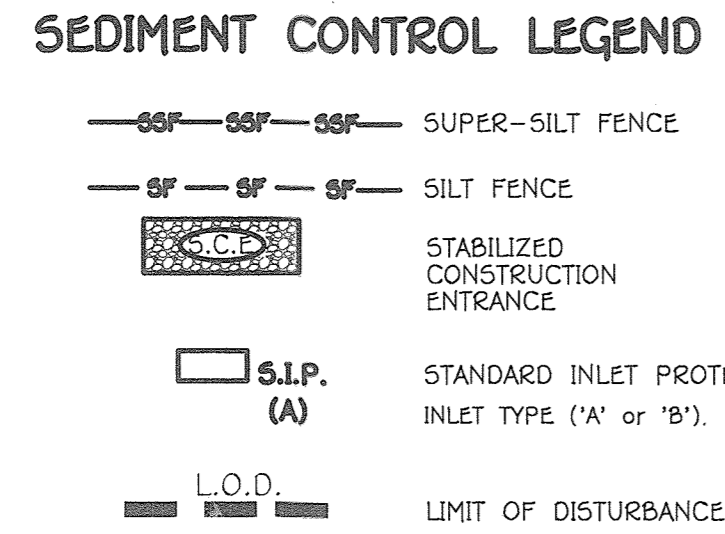
I hereby certify that this plan has been designed in accordance with current Maryland laws, regulations and standards, that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, and that I am the author of this plan. My registration number is 20149.

OWNER/DEVELOPER CERTIFICATION

"I/We Certify that any Clearing, Grading, Construction or Development will be Done Pursuant to This Approved Erosion and Sediment Control Plan, including Inspecting and Maintaining Controls and that the Responsible Personnel Involved in the Construction Project will Have a Certificate of Training at a Maryland Department of the Environment (MDE) Approved Training Program for the Control of Erosion and Sediment Prior to Beginning the Project. I Certify Right-of-entry for Periodic On-site Evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

REVISIONS

NO.	DESCRIPTION	DATE
1	EXPAND L.O.D. TO INCLUDE PART OF SEPTIC FIELDS	7/26/17
2	REV SWM ON LOTS 13-14	11/20/17



STOCKPILE NOTE:

SHOULD THE STOCKPILE EXCEED 15 FT. IN HEIGHT IT MUST BE BENCHED.

STONE/GRIPAP OUTLET SEDIMENT TRAP ST-II TRAP NO. 6

DRAINAGE AREA - INITIAL	0.90	ACRES
DRAINAGE AREA - INTERIM	1.94	ACRES
DRAINAGE AREA - FINAL	6.984	CF
TOTAL STORAGE REQUIRED	16,449	CF
WET STORAGE REQUIRED	3,492	CF
WET STORAGE PROVIDED	3,492	CF
DRY STORAGE REQUIRED	3,492	CF
DRY STORAGE PROVIDED	3,492	CF
EXISTING GROUND ELEVATION AT OUTLET (WEIR STORAGE ELEVATION)	593.00	FT
TRAP BOTTOM ELEVATION	589.00	FT
TRAP BOTTOM DIMENSIONS	100 x 30	FT x FT
WEIR LENGTH	8	FT
WEIR CREST (DRY STORAGE) ELEVATION	591.00	FT
SOIL SLOPE	2:1	HV RATIO
CLEANOUT ELEVATION	589.35	FT
TOP OF EMBANKMENT ELEVATION	592.00	FT
EMBANKMENT TOP WIDTH	4	FT
OUTLET PROTECTION - LENGTH	39	FT
OUTLET PROTECTION - DEPTH	19	IN

CONTRACTOR NOTES:

- CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOODPLAIN, STREAMS, WETLANDS & THEIR BUFFERS.
- SHOULD THE STOCKPILE EXCEED 15 FT. IN HEIGHT IT MUST BE BENCHED.
- EARTH DIKES CROSSING THE ROADWAYS ARE TO BE CONNECTED TO HACKSAY BEAMS AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ANY ROADSIDE SWALE OR DITCH LOCATED IN FILL SHALL BE COMPACTED TO 95% COMPACTION TO AVOID EROSION IN THESE AREAS.

HOUSE CONSTRUCTION:

THIS HOWARD (SCD) STANDARD SEDIMENT CONTROL PLAN MAY NOT BE USED TO OBTAIN PERMITS FOR HOUSE CONSTRUCTION FOR THIS PROJECT.

DRIVEWAY CULVERTS

LOT	SLOPE	Q10 (cfs)	DN PIPE SIZE
2	2.67	0.52	STANDARD
3	2.50	1.11	STANDARD
4	2.00	0.27	STANDARD
5	2.00	0.85	STANDARD
6	4.00	0.27	STANDARD
7	T.O.V.C	U.I.C. DR.	NO PIPE
8	T.O.V.C	U.I.C. DR.	NO PIPE
9	T.O.V.C	U.I.C. DR.	NO PIPE
10	T.O.V.C	U.I.C. DR.	NO PIPE
11	0.36	0.27	STANDARD
12	4.00	1.52	STANDARD
13	AT 1-10	DOWNHILL	NO PIPE
14	AT 1-11	DOWNHILL	NO PIPE
15	1.74	1.25	STANDARD
16	N/A	U.I.C. DR.	NO PIPE
17	N/A	U.I.C. DR.	NO PIPE
18	N/A	U.I.C. DR.	NO PIPE

ALL Q's HAVE BEEN EXTRAPOLATED FROM THE 10-YEAR STORM DRAIN COMPUTATIONS
 STANDARD = HOWARD COUNTY STANDARD 12" OR 14"x14" ARCH PIPE
 T.O.V.C = LOCATED NEAR THE TOP OF A VERTICAL CURVE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10270 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 481-2295

OWNER
 Estate of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodline, Md. 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

ROOFLEADER NOTE:

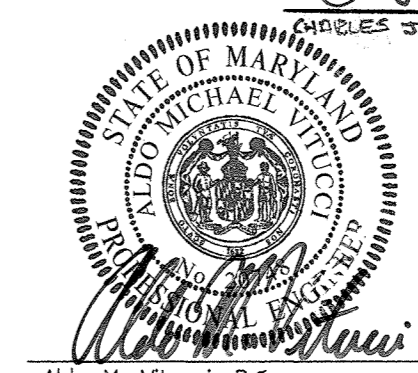
A OVERFLOW OUTFALL (SURCHARGE) SHALL BE PROVIDED AT EACH DOWNSPOUT PRIOR TO CONNECTION TO THE UNDERGROUND ROOFLEADER. SEE DETAIL SHEET 21.

BAFFLE DESIGN

TOP OF BAFFLE EL. 590.00
 $W = (A/2)^2 = (3,522/2)^2 = 42'$
 $L = \text{req'd} = W \times 2 = 84'$
 BAFFLE #1 L1 + L2 = 114'

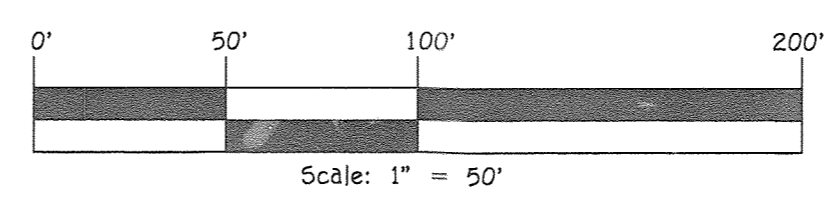
AS-BUILT CERTIFICATION

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.

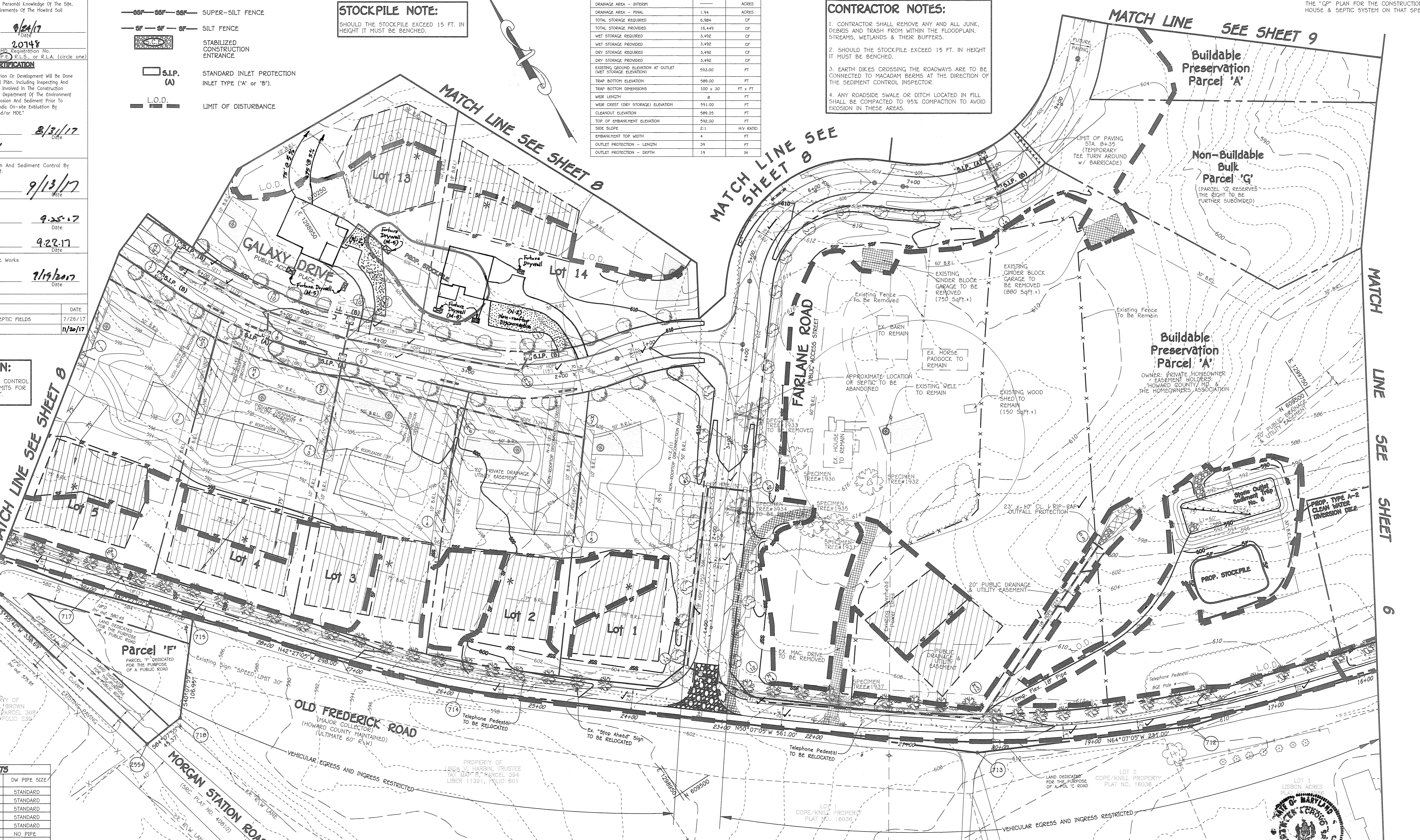


REVISED
 PHASE I
GRADING & SEDIMENT CONTROL PLAN
FAIRLANE FARM
 PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: B GRID NO. 2, PAR. 8
 TAX MAP NO.: B GRID NO. 3, PAR. 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: AUGUST 23, 2017
 SHEET 7 OF 38



* NOTE: THE SILT FENCE SHOWN WITHIN EACH PRIVATE SEPTIC FIELD IS TO BE INSTALLED WITH THE "GP" PLAN FOR THE CONSTRUCTION OF THE HOUSE & SEPTIC SYSTEM ON THAT SPECIFIC LOT.



ROOFLEADER NOTE:
 A OVERFLOW OUTFALL (SURCHARGE) SHALL BE PROVIDED AT EACH DOWNSPOUT PRIOR TO CONNECTION TO THE UNDERGROUND ROOFLEADER. SEE DETAIL SHEET 21.

--- x --- x --- DENOTES EXISTING FENCE TO BE REMOVED
 --- x --- x --- DENOTES EXISTING FENCE TO REMAIN

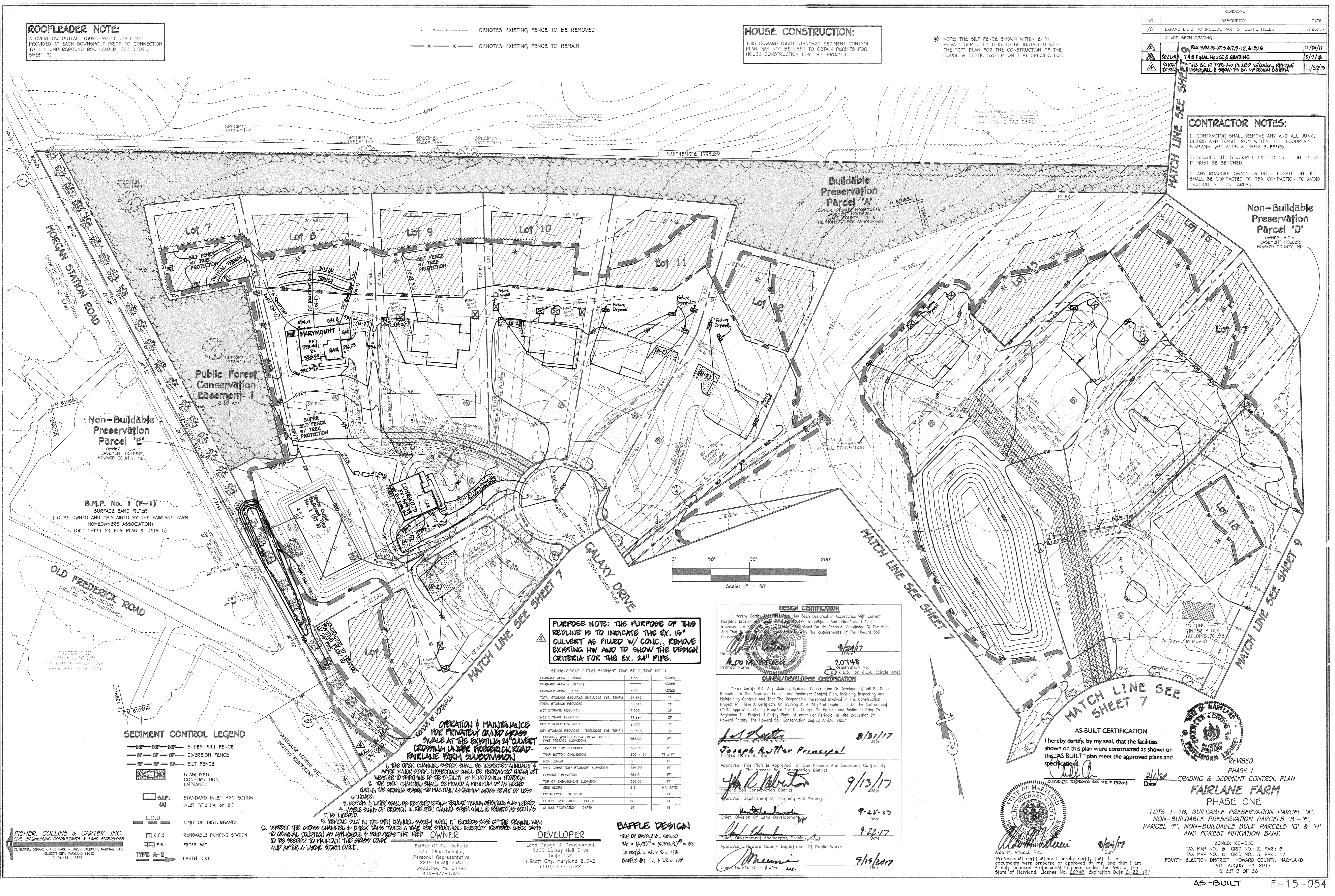
HOUSE CONSTRUCTION:
 THIS HOWARD (SCD) STANDARD SEDIMENT CONTROL PLAN MAY NOT BE USED TO OBTAIN PERMITS FOR HOUSE CONSTRUCTION FOR THIS PROJECT.

* NOTE: THE SILT FENCE SHOWN WITHIN EACH PRIVATE SEPTIC FIELD IS TO BE INSTALLED WITH THE "GP" PLAN FOR THE CONSTRUCTION OF THE HOUSE & SEPTIC SYSTEM ON THAT SPECIFIC LOT.

NO.	DESCRIPTION	DATE
1	EXPAND L.O.D. TO INCLUDE PART OF SEPTIC FIELDS & ADD BEEM GRADING	7/26/17
2	REV. LOTS 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	11/20/17
3	REV. LOTS 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	5/7/18
4	REV. LOTS 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	11/29/18

CONTRACTOR NOTES:
 1. CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOODPLAIN, STREAMS, WETLANDS & THEIR BUFFERS.
 2. SHOULD THE STOCKPILE EXCEED 15 FT. IN HEIGHT IT MUST BE BENCHED.
 3. ANY ROADSIDE SWALE OR DITCH LOCATED IN FILL SHALL BE COMPACTED TO 95% COMPACTION TO AVOID EROSION IN THESE AREAS.

Non-Buildable Preservation Parcel 'D'
 OWNER: H.D.A. EASEMENT HOLDER: HOWARD COUNTY, MD.



PURPOSE NOTE: THE PURPOSE OF THIS REDLINE IS TO INDICATE THE EX. 15" CULVERT AS FILLED W/ CONG. REMOVE EXISTING HW AND TO SHOW THE DESIGN CRITERIA FOR THE EX. 24" PIPE.

STONE/RIEPAK OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1	
DRAINAGE AREA - INITIAL	4.55 ACRES
DRAINAGE AREA - INTERIM	ACRES
DRAINAGE AREA - FINAL	5.00 ACRES
TOTAL STORAGE REQUIRED (INCLUDES 1 YR. TEMP.)	24,246 CF
TOTAL STORAGE PROVIDED	25,515 CF
WET STORAGE REQUIRED	6,000 CF
WET STORAGE PROVIDED	11,992 CF
DRY STORAGE REQUIRED	9,200 CF
DRY STORAGE PROVIDED (INCLUDES 1 YR. TEMP.)	20,523 CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	582.00 FT
TRAP BOTTOM ELEVATION	580.00 FT
TRAP BOTTOM DIMENSIONS	1.05 x 5.4 FT x FT
WEIR LENGTH	20 FT
WEIR CREST (DRY STORAGE) ELEVATION	585.00 FT
CLEANOUT ELEVATION	581.0 FT
TOP OF ENHANCEMENT ELEVATION	586.00 FT
SIDE SLOPE	2:1 HV RATIO
ENHANCEMENT TOP WIDTH	6 FT
OUTLET PROTECTION - LENGTH	20 FT
OUTLET PROTECTION - DEPTH	19 IN

DESIGN CERTIFICATION
 I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations and standards. That it represents a true and correct copy of the original design as prepared by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-28-19.

9/24/17
 Date
 Joseph R. Wittke
 Principal
 Printed Name & Title

OWNER/DEVELOPER CERTIFICATION
 I/We certify that any clearing, grading, construction or development will be done pursuant to this approved Erosion and Sediment Control Plan, including inspecting and maintaining controls and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control of erosion and sediment prior to beginning the project. I certify that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-28-19.

8/31/17
 Date
 Joseph R. Wittke
 Principal
 Printed Name & Title

Approved: This Plan is Approved For Soil Erosion and Sediment Control By the Howard Soil Conservation District.
 9/13/17
 Date
 Howard Soil Conservation District

Approved: Department of Planning and Zoning
 9-25-17
 Date
 Chief, Division of Land Development

Approved: Howard County Department of Public Works
 9/19/2017
 Date
 Chief, Bureau of Highways

SEDIMENT CONTROL LEGEND

- x --- x --- SUPER-SILT FENCE
- x --- x --- DIVERSION FENCE
- x --- x --- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STANDARD INLET PROTECTION INLET TYPE 'A' OR 'B'
- L.O.D. LIMIT OF DISTURBANCE
- R.P.S. REMOVABLE PUMPING STATION
- F.B. FILTER BAG
- TYPE A-2 EARTH DICE

OPERATION & MAINTENANCE FOR PRIVATELY OWNED GRASS SWALE AT THE EXISTING 24" CULVERT CROSSING UNDER PROPOSED ROAD-FARLANE FROM SUBDIVISION

- THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY & AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED WITHIN 14 DAYS TO DETERMINE IF THE FACILITY IS FUNCTIONALLY PROPER.
- THE OPEN CHANNEL SHALL BE MAINTAINED TO A MINIMUM OF 10% OPEN CHANNEL CAPACITY TO MAINTAIN A MINIMUM OPEN CHANNEL DEPTH OF 10% OF ITS DEPTH.
- WEEDS & LITTER SHALL BE REMOVED FROM CHANNELS AS NECESSARY.
- WEEDS & LITTER SHALL BE REMOVED FROM CHANNELS AS NECESSARY.
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- WEEDS & LITTER SHALL BE REMOVED FROM CHANNELS AS NECESSARY.

BAFFLE DESIGN
 TOP OF BAFFLE EL. 583.00
 We = (h/12)^3 = (6.92/12)^3 = 99
 Le req'd = We x 2 = 118
 BAFFLE #1 L1 + L2 = 119

DEVELOPER
 Land Design & Development
 5300 Dorsey Hill Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

OWNER
 Estate of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SOURCE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

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.

9/24/17
 Date
 Aldo M. Vitucci, P.E.
 Professional certification: I hereby certify that the 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 2-28-19.

FAIRLANE FARM PHASE ONE
 LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

PHASE I GRADING & SEDIMENT CONTROL PLAN
 REVISED
 DATE: AUGUST 23, 2017
 SHEET 8 OF 38

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SHEET 8 OF 38

DESIGN CERTIFICATION

I hereby certify that this Plan has been designed in accordance with current Maryland Erosion and Sediment Control Laws, Regulations and Standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Designer's Signature: *Aldo M. Vitucci* Date: 2/4/16
 Printed Name: Aldo M. Vitucci HD Registration No. 20745
 P.E., R.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER CERTIFICATION

"I/We certify that any clearing, grading, construction or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls and that the responsible personnel involved in the construction project will have a Certificate of Training from a Maryland Department of the Environment (MDE) Approved Training Program for the Control of Erosion and Sediment Prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner/Developer's Signature: *Joseph Ruffolo* Date: 2/4/16
 Printed Name & Title: Joseph Ruffolo, Principal

Approved: This Plan is Approved For Soil Erosion and Sediment Control By the Howard Soil Conservation District.
 Signature: *John B. Davis* Date: 3/1/16
 Title: District Engineer

Approved: Department of Planning and Zoning
 Chief, Division of Land Development: *W. J. ...* Date: 3-31-16
 Chief, Development Engineering Division: *...* Date: 3-18-16

Approved: Howard County Department of Public Works
 Chief, Bureau of Highways: *M. ...* Date: 3/7/2016

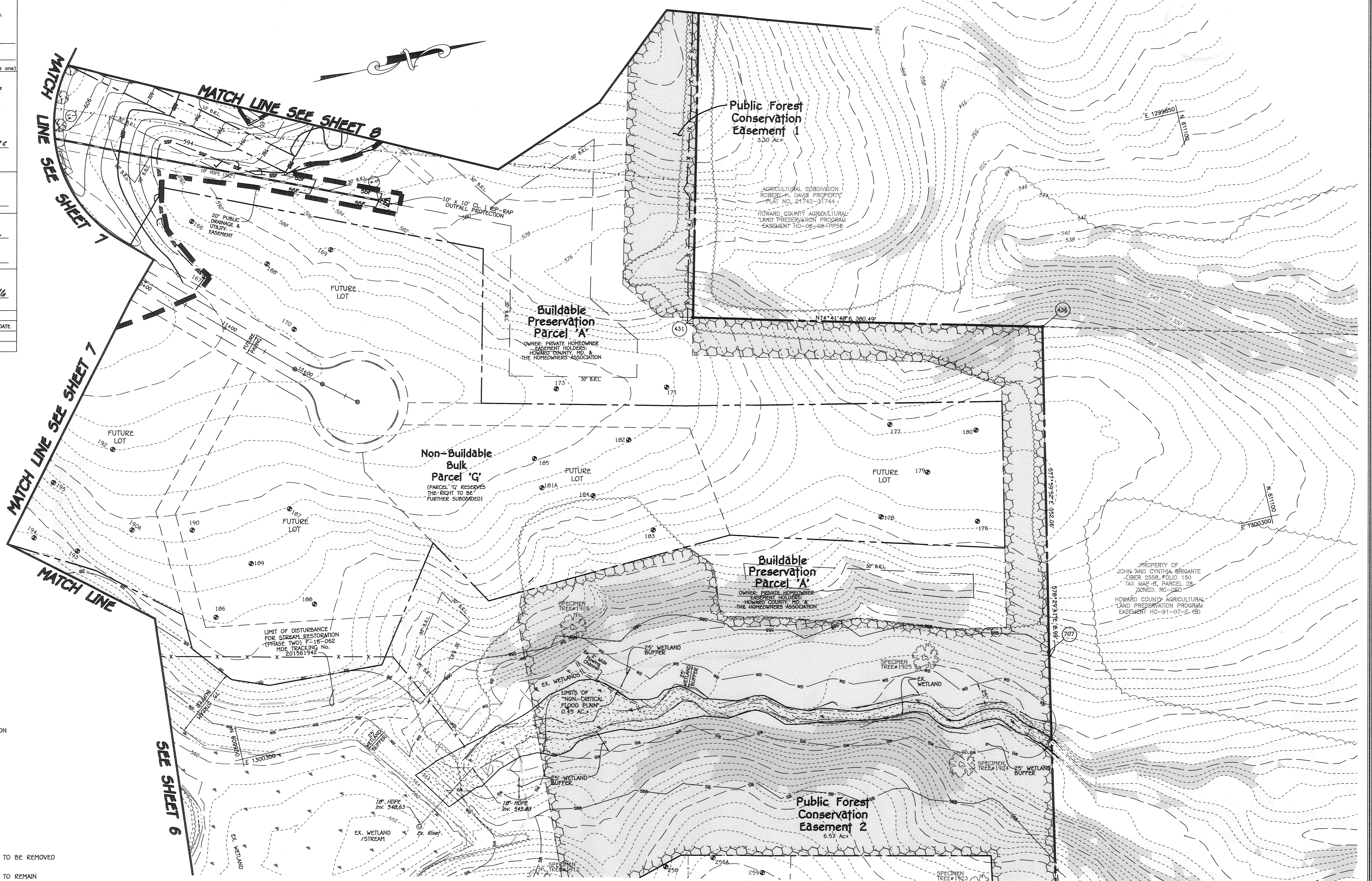
NO.	REVISIONS	DESCRIPTION	DATE

CONTRACTOR NOTES:

- CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOODPLAIN, STREAMS, WETLANDS & THEIR BUFFERS.
- SHOULD THE STOCKPILE EXCEED 15 FT. IN HEIGHT IT MUST BE BENCHED.
- EARTH DIKES CROSSING THE ROADWAYS ARE TO BE CONNECTED TO MACADAM BERMS AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ANY ROADSIDE SWALE OR DITCH LOCATED IN FILL SHALL BE COMPACTED TO 95% COMPACTION TO AVOID EROSION IN THESE AREAS.

SEDIMENT CONTROL LEGEND

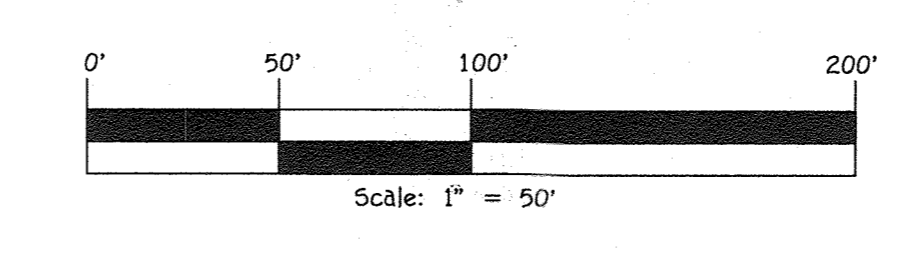
- S.S.F.—S.S.F.—S.S.F.— SUPER-SILT FENCE
- S.F.—S.F.—S.F.— SILT FENCE
- [Symbol] STABILIZED CONSTRUCTION ENTRANCE
- [Symbol] S.I.P. (A) STANDARD INLET PROTECTION INLET TYPE ('A' or 'B')
- [Symbol] L.O.D. LIMIT OF DISTURBANCE
- DENOTES EXISTING FENCE TO BE REMOVED
- x-x- DENOTES EXISTING FENCE TO REMAIN
- [Symbol] DENOTES EXISTING SLOPES 15% TO 24.9%
- [Symbol] DENOTES EXISTING SLOPES 25% AND GREATER



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



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.

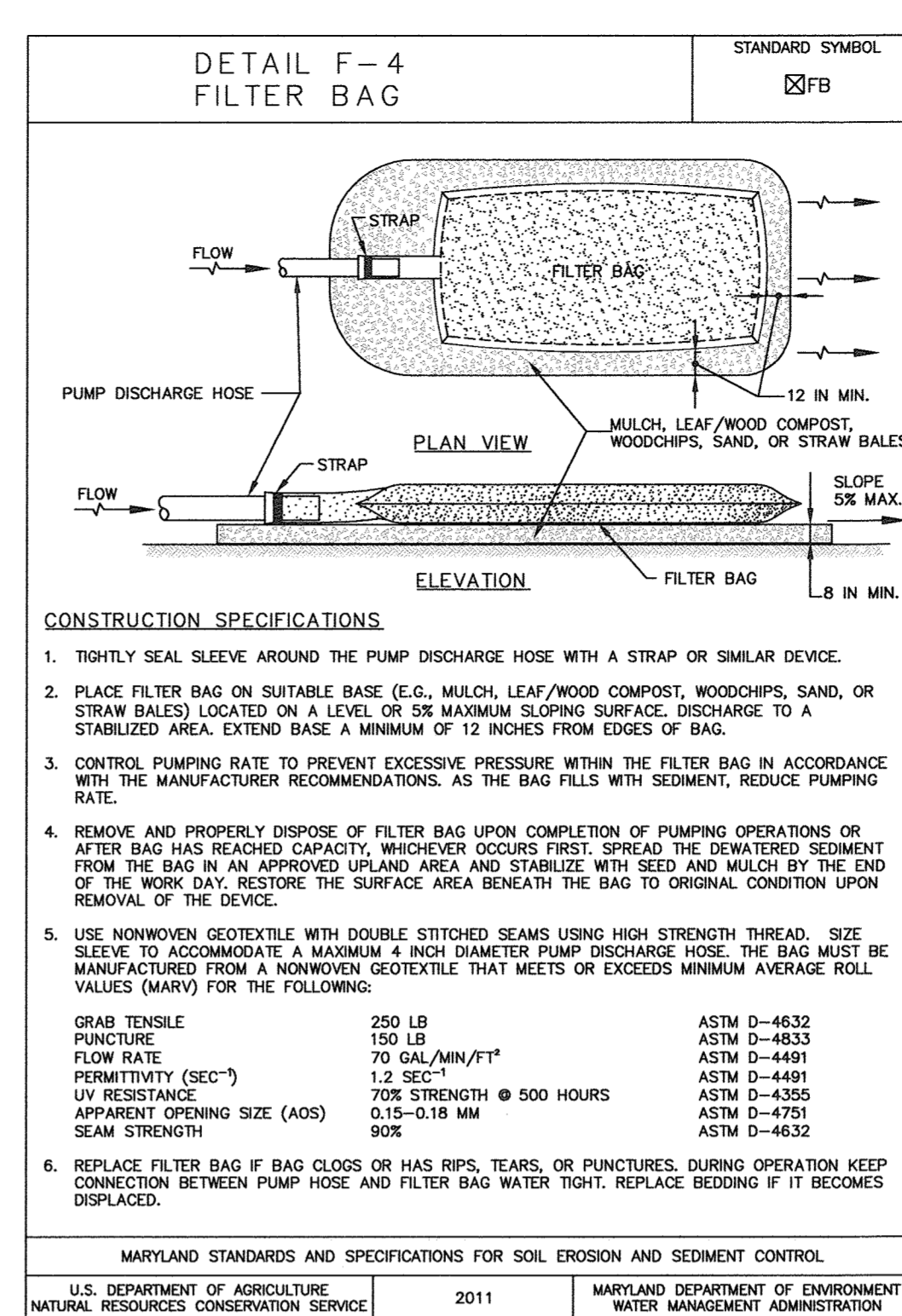
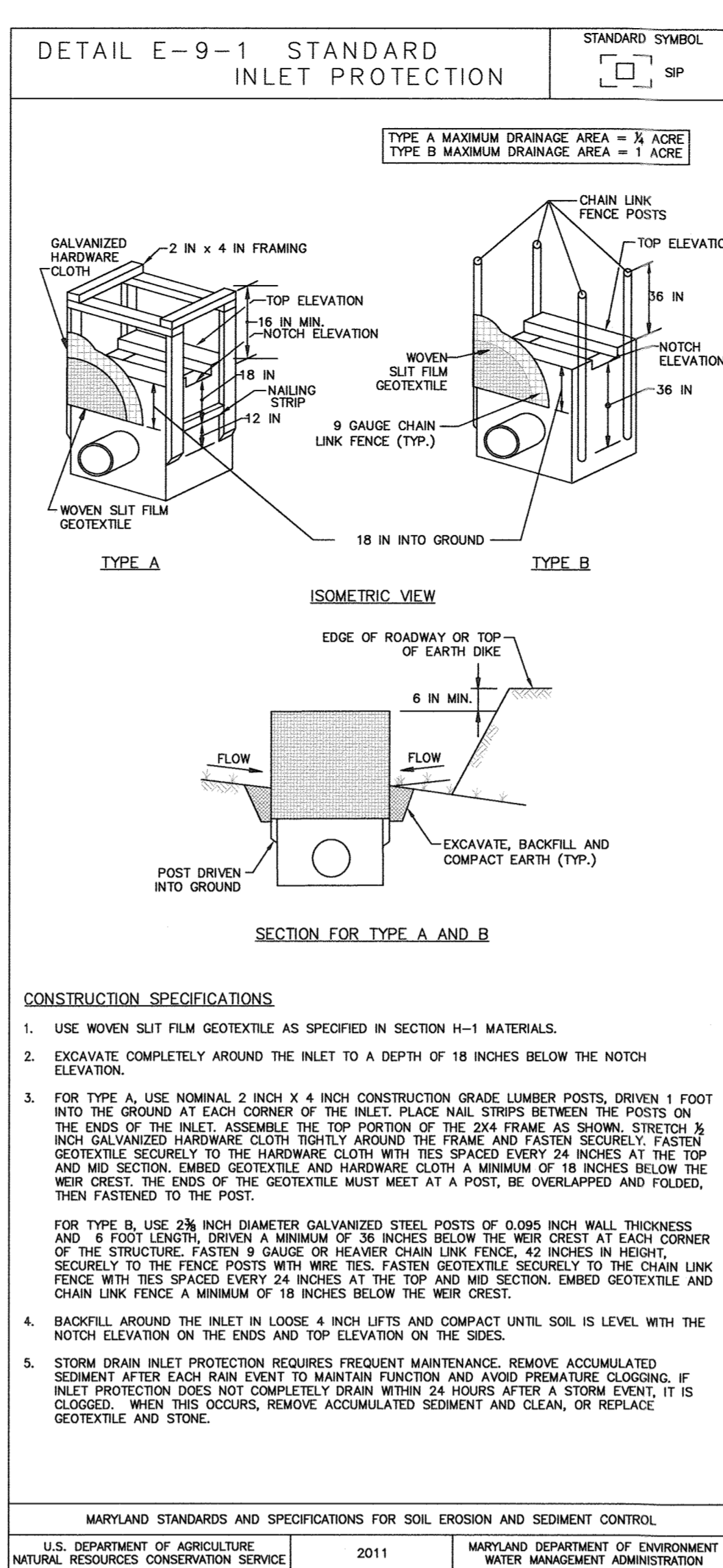
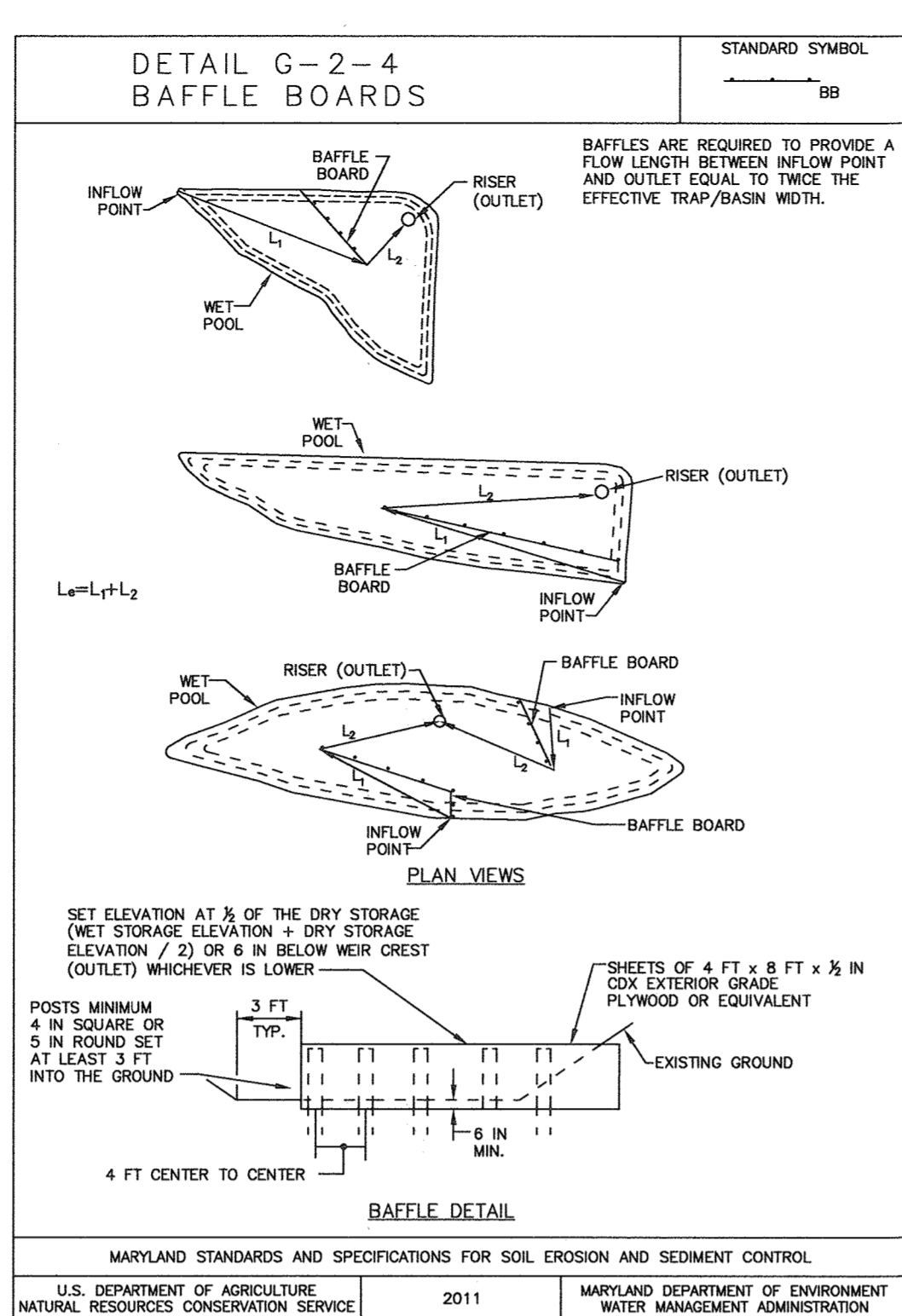
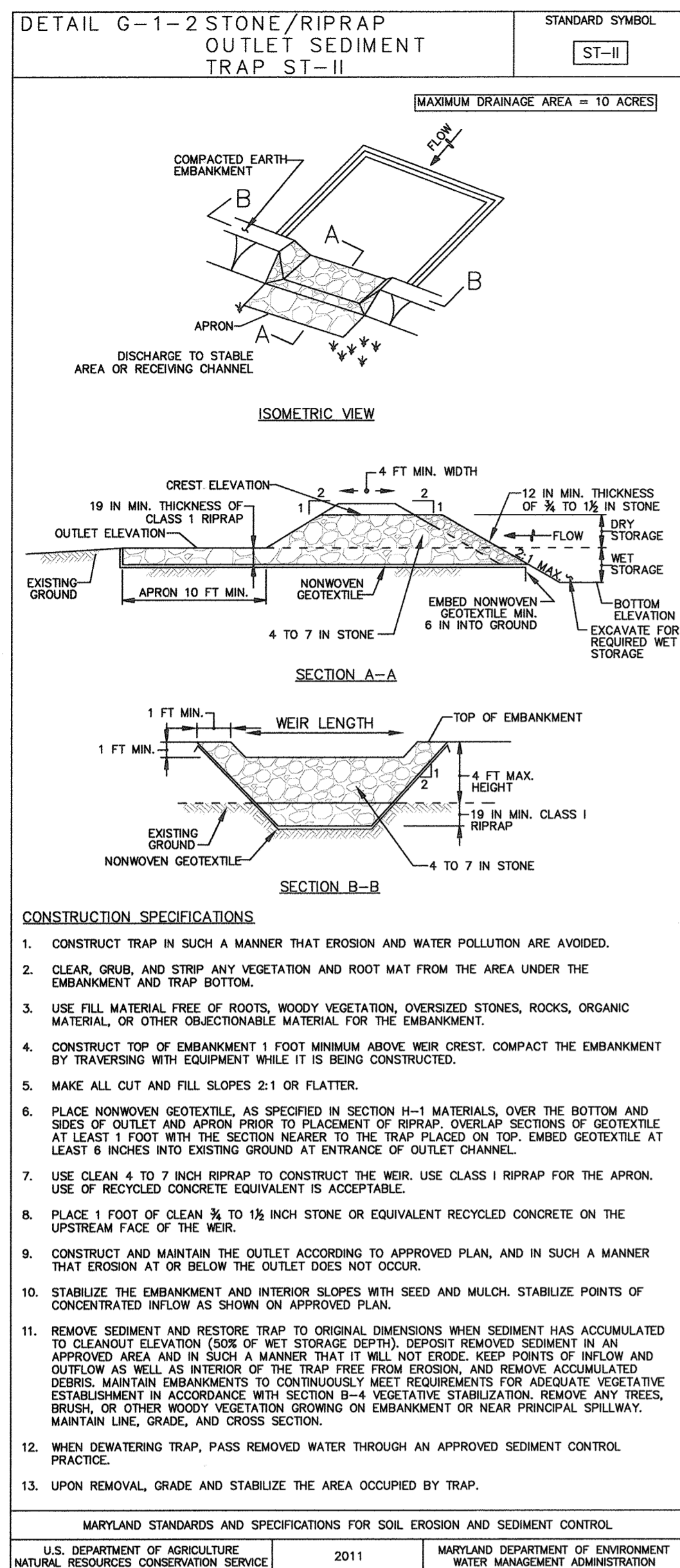
Signature: *Aldo M. Vitucci* Date: 2/4/16
 License No. 20745, P.E. #19204



PHASE I GRADING & SEDIMENT CONTROL PLAN
FAIRLANE FARM
PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A';
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E';
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 9 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 9 OF 30

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. 20745, Expiration Date 2-22-17.



DESIGN CERTIFICATION

I hereby certify that this plan has been designed in accordance with current Maryland Erosion and Sediment Control Laws, Regulations and Standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Designer's Signature: *Aldo M. Vitucci* Date: 2/4/16
 Printed Name: Aldo M. Vitucci P.E. Registration No. 20749 P.E., R.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER CERTIFICATION

"I/We certify that any clearing, grading, construction or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls and that the responsible personnel involved in the construction project will have a certificate of training from a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/Developer's Signature: *Joseph R. Rutter* Date: 2/4/16
 Printed Name & Title: Joseph R. Rutter, Principal

Approved: This Plan is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

How'd Soil Conservation District: *J. R. Rutter* Date: 3/1/16

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development: *Kevin Blanton* Date: 3-31-16

Chief, Development Engineering Division: *David Clark* Date: 3-18-16

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways: *Michael M. Williams* Date: 3/2/2016

REVISIONS		
NO.	DESCRIPTION	DATE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PLACE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2899

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

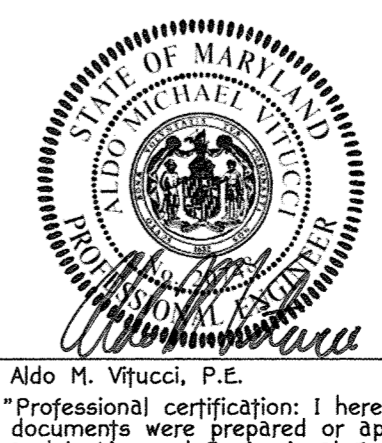
DEVELOPER
 Land Design & Development
 5300 Dorsey Hill Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

Signature: *Charles S. Clark* Date: 2/4/16
 CHARLES S. CLARK SE. P.E. # 13204



Signature: *Aldo M. Vitucci* Date: 2/4/16
 ALDO M. VITUCCI, P.E.

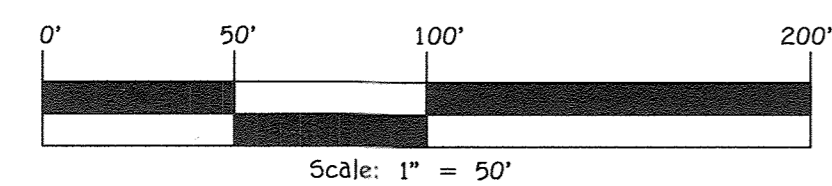
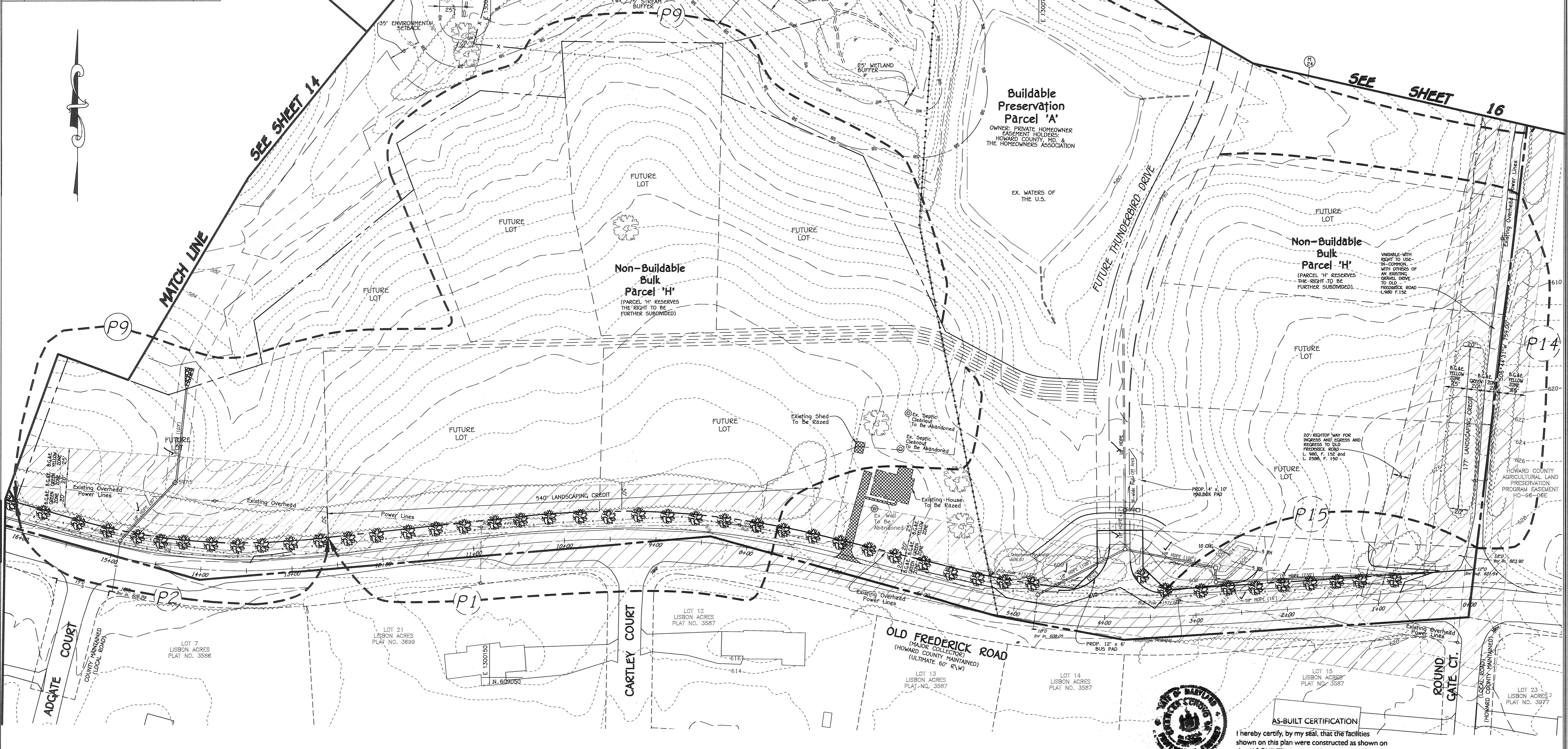
SEDIMENT AND EROSION CONTROL NOTES & DETAILS

FAIRLANE FARM PHASE ONE

LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 12 OF 38

Approved: Department Of Planning And Zoning	<i>Kathleen</i>	3-21-16
Chief, Division Of Land Development		Date
Approved: Chief, Development Engineering Division	<i>John</i>	3-18-16
Chief, Development Engineering Division		Date
Approved: Howard County Department Of Public Works	<i>Meloni</i>	3/7/2016
Chief, Bureau Of Highways		Date
REVISIONS		
NO.	DESCRIPTION	DATE

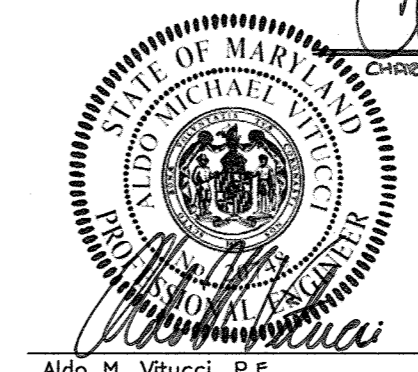


FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10775 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER	DEVELOPER
Estate Of F.J. Schulte c/o Diane Schulte, Personal Representative 2215 Duwell Road Woodbine, Md 21797 410-977-1327	Land Design & Development 5300 Dorsey Hill Drive Suite 102 Ellicott City, Maryland 21042 (410)-977-0422

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

John Rutter
 NAME DATE 2/4/16



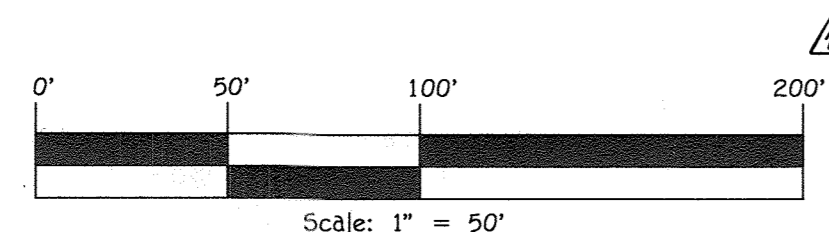
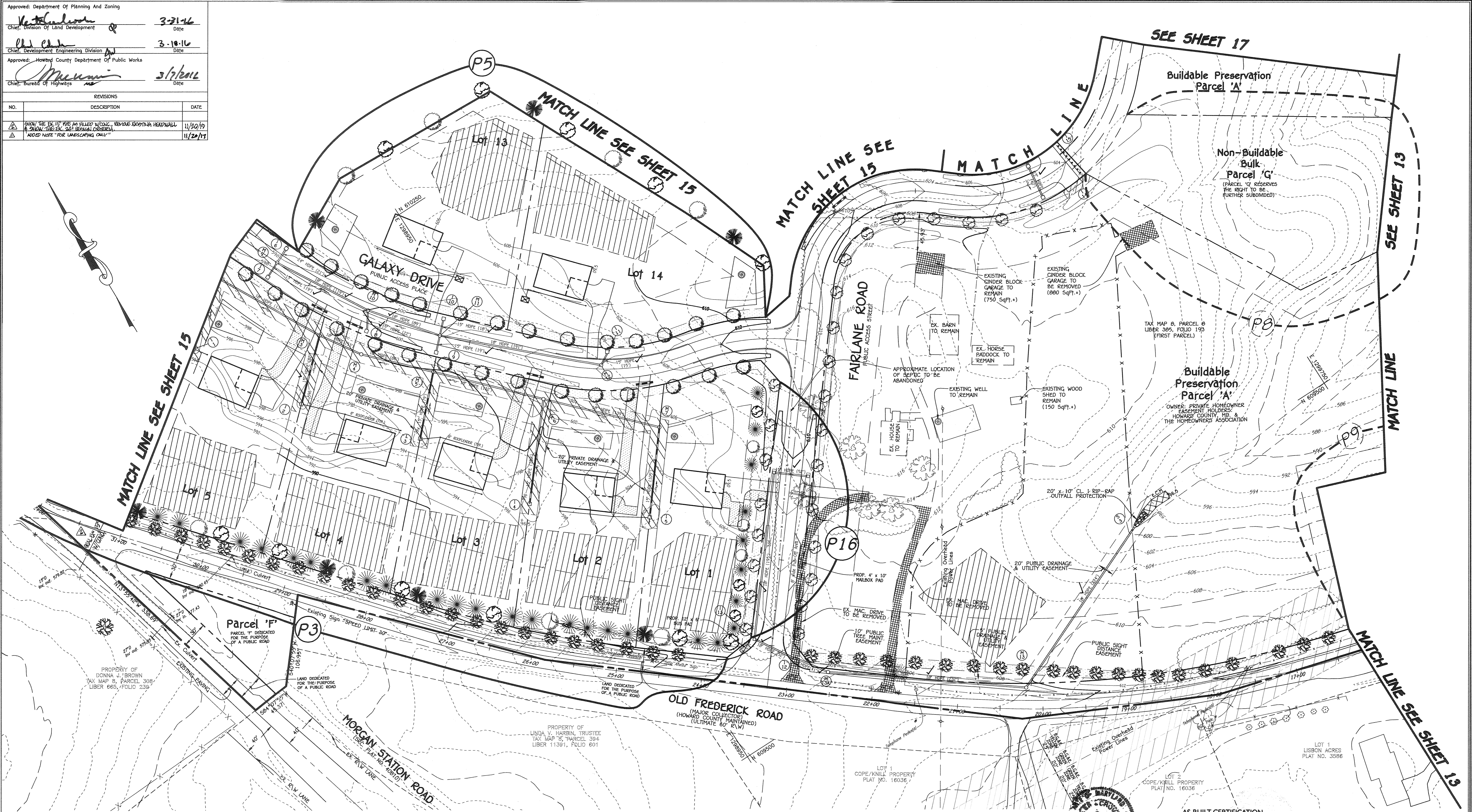
AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

Aldo M. Vitucci
 Date 2/4/16

STREET TREE & LANDSCAPE PLAN
FAIRLANE FARM
PHASE ONE
 LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'- 'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2 PAR: 8
 TAX MAP NO.: 8 GRID NO.: 3 PAR: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 13 OF 38

Approved: Department Of Planning And Zoning	<i>K. Anderson</i>	3-31-16
Chief, Division Of Land Development		Date
Approved: Development Engineering Division	<i>Ch. Chen</i>	3-18-16
Chief, Development Engineering Division		Date
Approved: Howard County Department Of Public Works	<i>M. M...</i>	3/17/2016
Chief, Bureau Of Highways		Date
REVISIONS		
NO.	DESCRIPTION	DATE
1	SHOW THE EX. 15" PIPE AS FILLED W/ CONC. REMOVE SMOOTH-TOE HEADWALL & SHOW THE EX. 24" PIPE AS REMOVED CRITERIA.	11/20/17
2	ADD NOTE FOR LANDSCAPING ONLY.	11/20/17



PURPOSE NOTE: THE PURPOSE OF THIS REDLINE IS TO INDICATE THE EX. 15" CULVERT AS FILLED W/ CONC., REMOVE EXISTING HW AND TO SHOW THE DESIGN CRITERIA FOR THE EX. 24" PIPE

NOTE: THIS SHEET IS FOR LANDSCAPING INFORMATION ONLY

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL PKE.
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

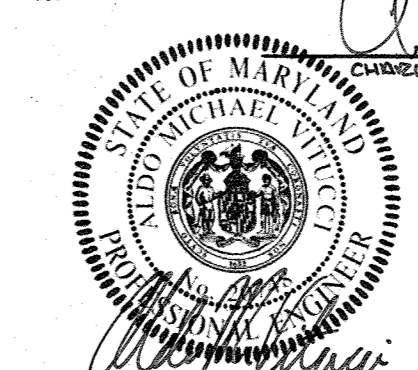
DEVELOPER'S / BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN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

[Signature] 2/4/16
 NAME 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.

[Signature] 2/4/16
 Date

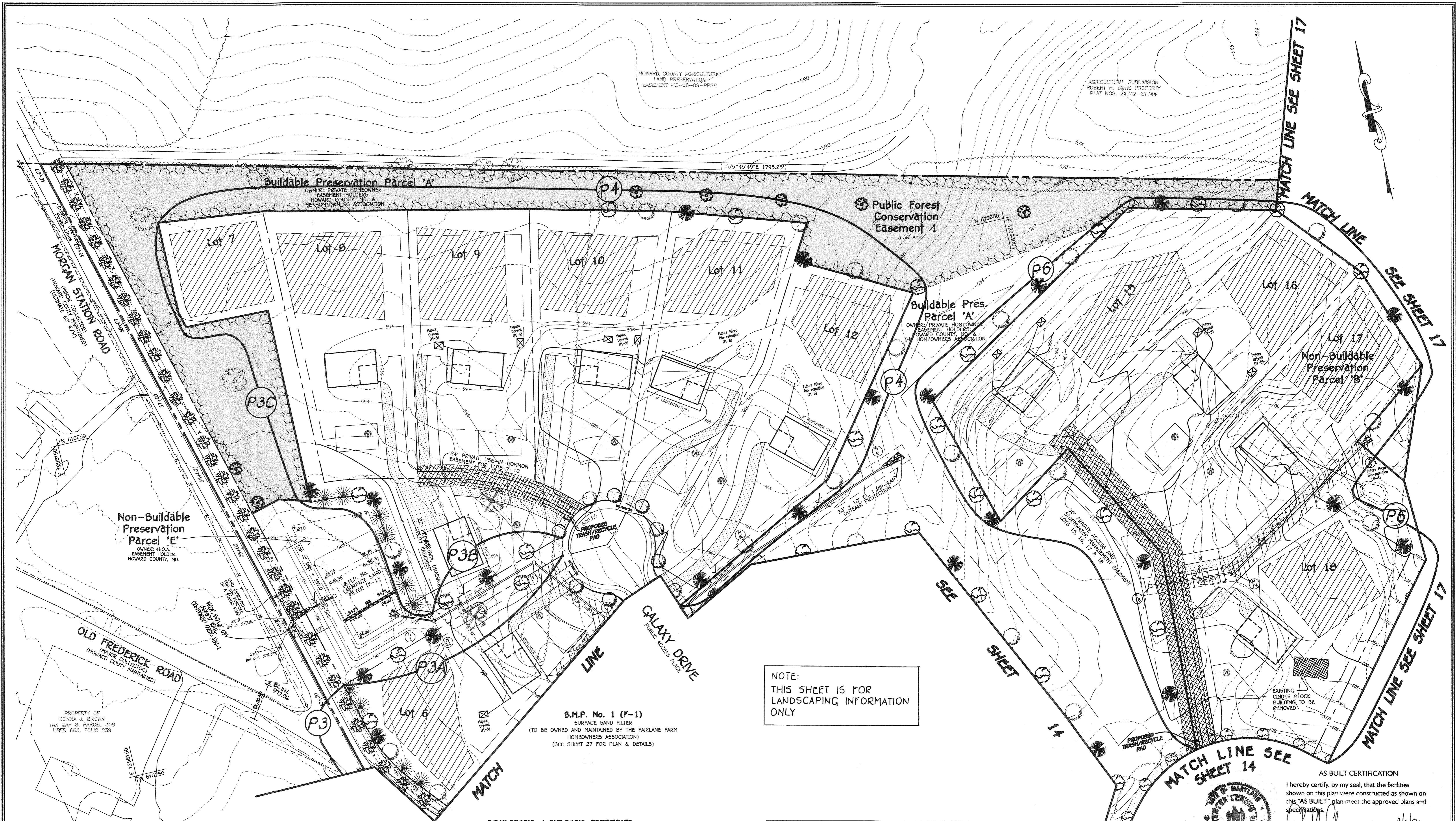


AS-BUILT CERTIFICATION
 I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-17.

[Signature] 2/4/16
 Date

**STREET TREE & LANDSCAPE PLAN
 FAIRLANE FARM
 PHASE ONE**
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 9 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 14 OF 38



NOTE:
THIS SHEET IS FOR
LANDSCAPING INFORMATION
ONLY

B.M.P. No. 1 (F-1)
SURFACE SAND FILTER
(TO BE OWNED AND MAINTAINED BY THE FAIRLANE FARM
HOMEOWNERS ASSOCIATION)
(SEE SHEET 27 FOR PLAN & DETAILS)

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

NAME: Paul Kutter DATE: 2/4/16

OWNER
Estate Of F.J. Schulte
c/o Diane Schulte,
Personal Representative
2215 Duvall Road
Woodbine, Md 21797
410-977-1327

DEVELOPER
Land Design & Development
5300 Dorsey Hall Drive
Suite 102
Ellicott City, Maryland 21042
(410)-977-0422

Approved: Department Of Planning And Zoning		
<i>Keith Robinson</i>	3-31-16	Date
Chief, Division of Land Development		
<i>M. White</i>	3-18-16	Date
Chief, Development Engineering Division		
Approved: Howard County Department Of Public Works		
<i>McLennan</i>	3/7/2016	Date
Chief, Bureau Of Highways		
REVISIONS		
NO.	DESCRIPTION	DATE
Δ	ADDED NOTE "FOR LANDSCAPING ONLY"	11/20/17



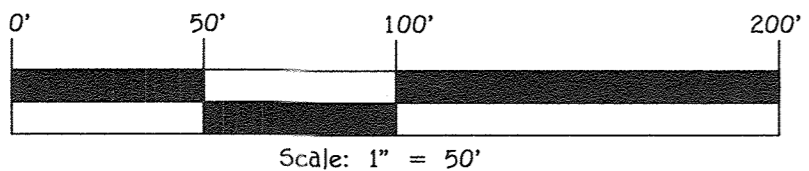
Aldo M. Vitucci, P.E.
2/4/16
Date
Professional certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-17.

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 S. Casco 2/6/20
Date
CHARLES S. CASCO SE. P.E. # 13204

**STREET TREE & LANDSCAPE PLAN
FAIRLANE FARM
PHASE ONE**
LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B'- 'E',
PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
AND FOREST MITIGATION BANK

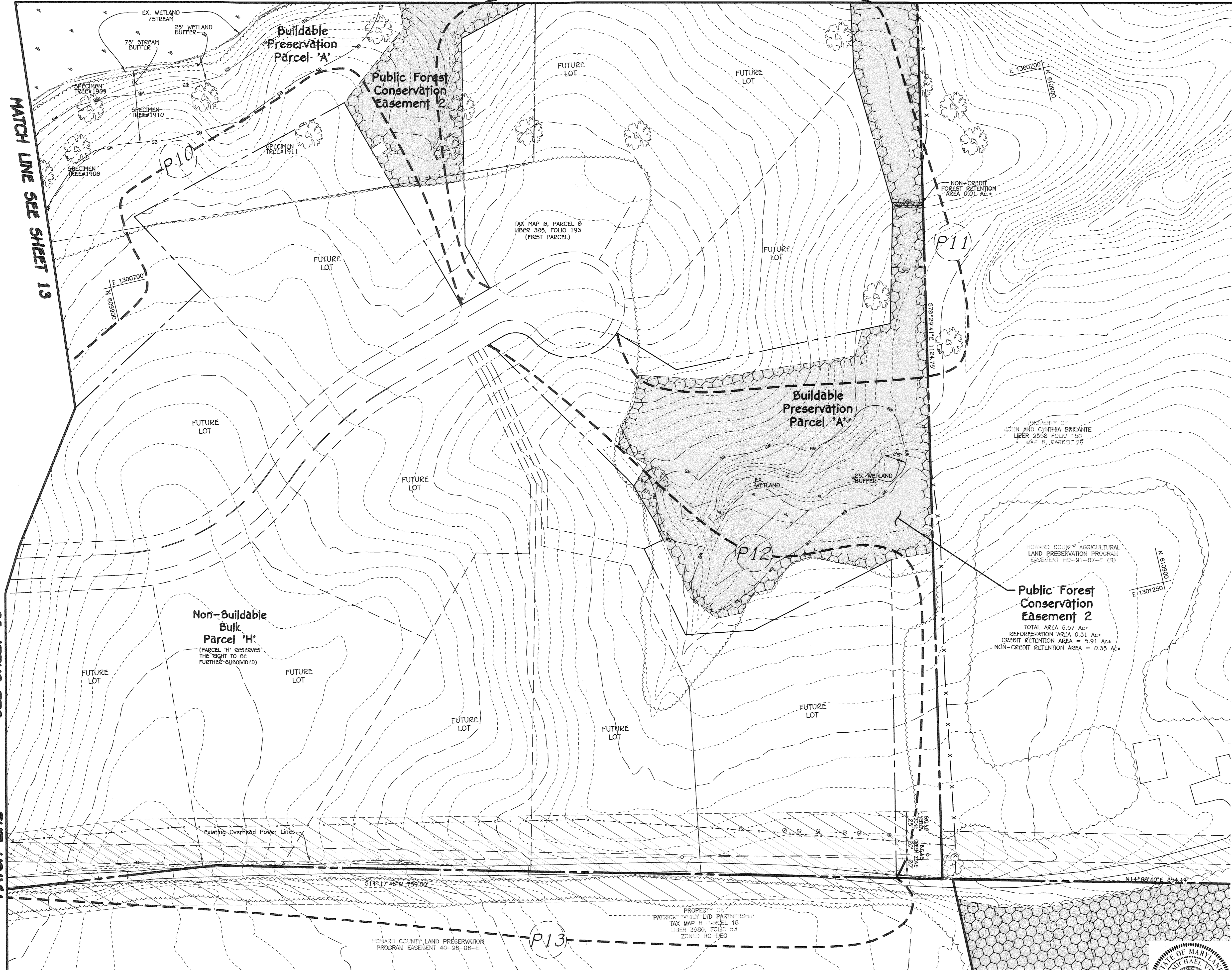
ZONED: RC-DEC, 2. PAR.: 8
TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 3, 2016
SHEET 15 OF 38

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10275 BALTHAZORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2895



MATCH LINE SEE SHEET 17

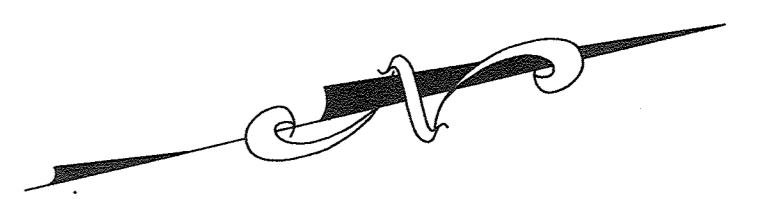
Approved: Department Of Planning And Zoning		
Chief, Division Of Land Development	<i>Kurt Shulman</i>	3-31-16
Chief, Development Engineering Division	<i>W. Ch...</i>	3-18-16
Approved: Howard County Department Of Public Works		
Chief, Bureau Of Highways	<i>M...</i>	3/1/2016
REVISIONS		
NO.	DESCRIPTION	DATE



MATCH LINE SEE SHEET 13

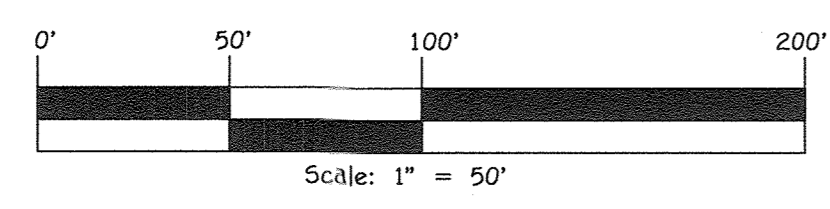
SEE SHEET 13

MATCH LINE



HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM EASEMENT HO-31-07-E (B)
 TOTAL AREA 6.57 AC±
 REFORESTATION AREA 0.31 AC±
 CREDIT RETENTION AREA = 5.91 AC±
 NON-CREDIT RETENTION AREA = 0.35 AC±

Non-Buildable Bulk Parcel 'H'
 (PARCEL 'H' RESERVES THE RIGHT TO BE FURTHER SUBDIVIDED)



HOWARD COUNTY LAND PRESERVATION PROGRAM EASEMENT 40-02-06-E

PROPERTY OF PATRICK FAMILY LTD PARTNERSHIP
 TAX MAP 8 PARCEL 18
 LIBER 380, FOLIO 53
 ZONED RC-DEO

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

[Signature] 2/4/16
 DATE



AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
[Signature] 2/6/16
 CHARLES J. ... Date

STREET TREE & LANDSCAPE PLAN
FAIRLANE FARM
 PHASE ONE
 LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

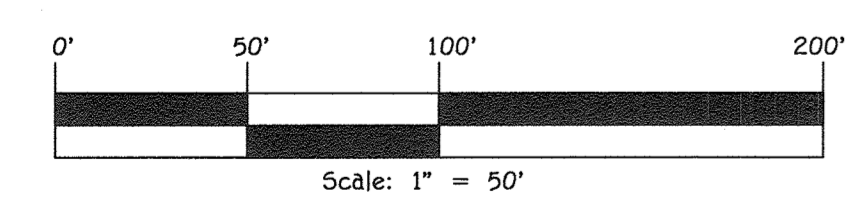
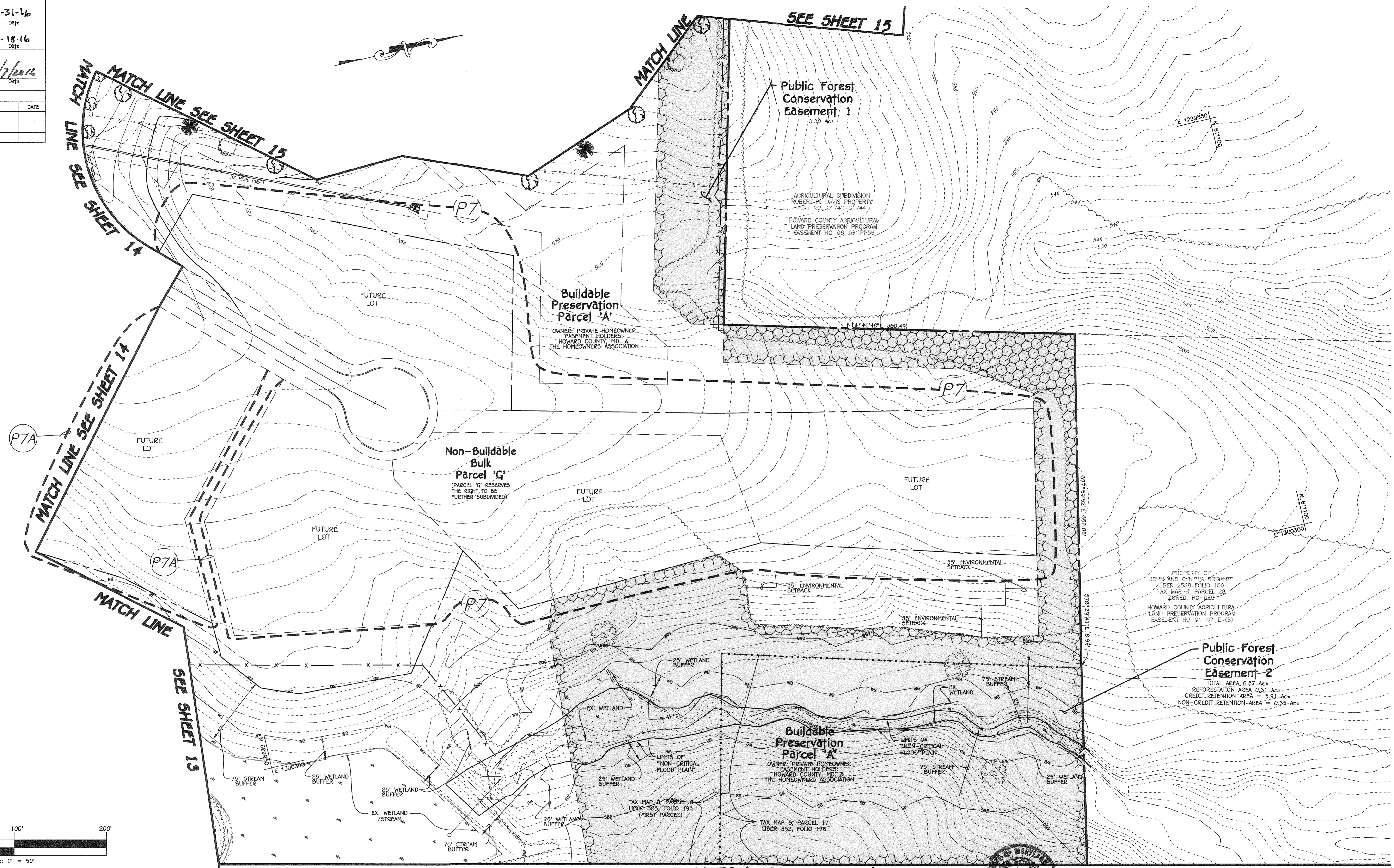
ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 16 OF 38

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-3999

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duval Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

Approved: Department of Planning And Zoning		
<i>Veronica</i>	3-31-16	Date
Chief, Division Of Land Development		
<i>Chad</i>	5-18-16	Date
Chief, Development Engineering Division		
Approved: Howard County Department Of Public Works		
<i>Murphy</i>	3/2/2016	Date
Chief, Bureau Of Highways		
REVISIONS		
NO.	DESCRIPTION	DATE



MATCH LINE SEE SHEET 16



AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 Date: 2/6/16
 Date of Issue: 02/20/16, PE # 132024

**STREET TREE & LANDSCAPE PLAN
 FAIRLANE FARM
 PHASE ONE**
 LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

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John Raitt
 DATE: 2/6/16

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10775 BALTIMORE NATIONAL PIKE
 ELIJAH CITY, MARYLAND 21042
 (410) 461 - 2895

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

Aldo M. Vitucci, P.E.
 Date: 2/6/16
 "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."

F:\2005\05106\05106\Fairlane\13-18 Landscape Planning\2/3/2016 2:22:54 PM 11

Approved: Department of Planning And Zoning
 Chief, Division Of Land Development
 Date: 3-31-16

Approved: Chief, Development Engineering Division
 Date: 3-18-16

Approved: Howard County Department of Public Works
 Chief, Bureau of Highways
 Date: 3/1/2016

REVISIONS

NO.	DESCRIPTION	DATE

SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE

PERIMETER CATEGORY	P-1	P-2	P-3	P-3A	P-3B	P-3C	P-4	P-5	P-6	P-7	P-7A	P-8	P-9	P-10	P-11	P-12	P-13	P-14	P-15	P-16	TOTALS (PHASE ONE)	TOTALS (PHASE TWO)
LANDSCAPE TYPE	B	NONE	B	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A	B	B	-	-
LINEAR FEET OR ROADWAY FRONTAGE/PERIMETER	850'	348'	910'	301'	178'	695'	1432'	739'	2036'	2556'	805'	850'	1612'	932'	1324'	951'	1238'	712'	366'	300'	-	-
CREDIT FOR EXISTING VEGETATION (YES, NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES (540')	-	-	-	-	YES (497')	YES (525') F.C.E.	-	-	YES (170') F.C.E.	-	-	-	YES (400') F.C.E.	YES (1119') F.C.E.	YES (442')	-	YES (177')	-	-	-	-
CREDIT FOR WALL, FENCE OR BERM (YES, NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS REQUIRED																						
SHADE TREES	6	-	18	5	3	5	15	12	34	40	13	14	27	9	3	8	21	9	7	6	98	157
EVERGREEN TREES	8	-	23	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	9	8	37	17
SHRUBS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED																						
SHADE TREES	6	-	18	5	3	5	15	12	34	40	13	14	27	9	3	8	4	5	7	6	98	136
EVERGREEN TREES	8	-	23	-	-	6	-	-	-	-	-	-	-	-	-	-	17	-	9	8	37	34
SHRUBS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	25
SUBSTITUTIONS (Ornamental)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	8	-	-	-	-

TRASH/RECYCLE PAD LANDSCAPING

LINEAR FEET OF PERIMETER	LOTS 7-10 PAD: 12 l.f.	LOTS 15-18 PAD: 12 l.f.	LOTS 20-21 PAD: 12 l.f.	LOTS 25-30 PAD: 12 l.f.	LOTS 40-43 PAD: 12 l.f.
NUMBER OF SHRUBS PROVIDED:	7	7	7	7	7

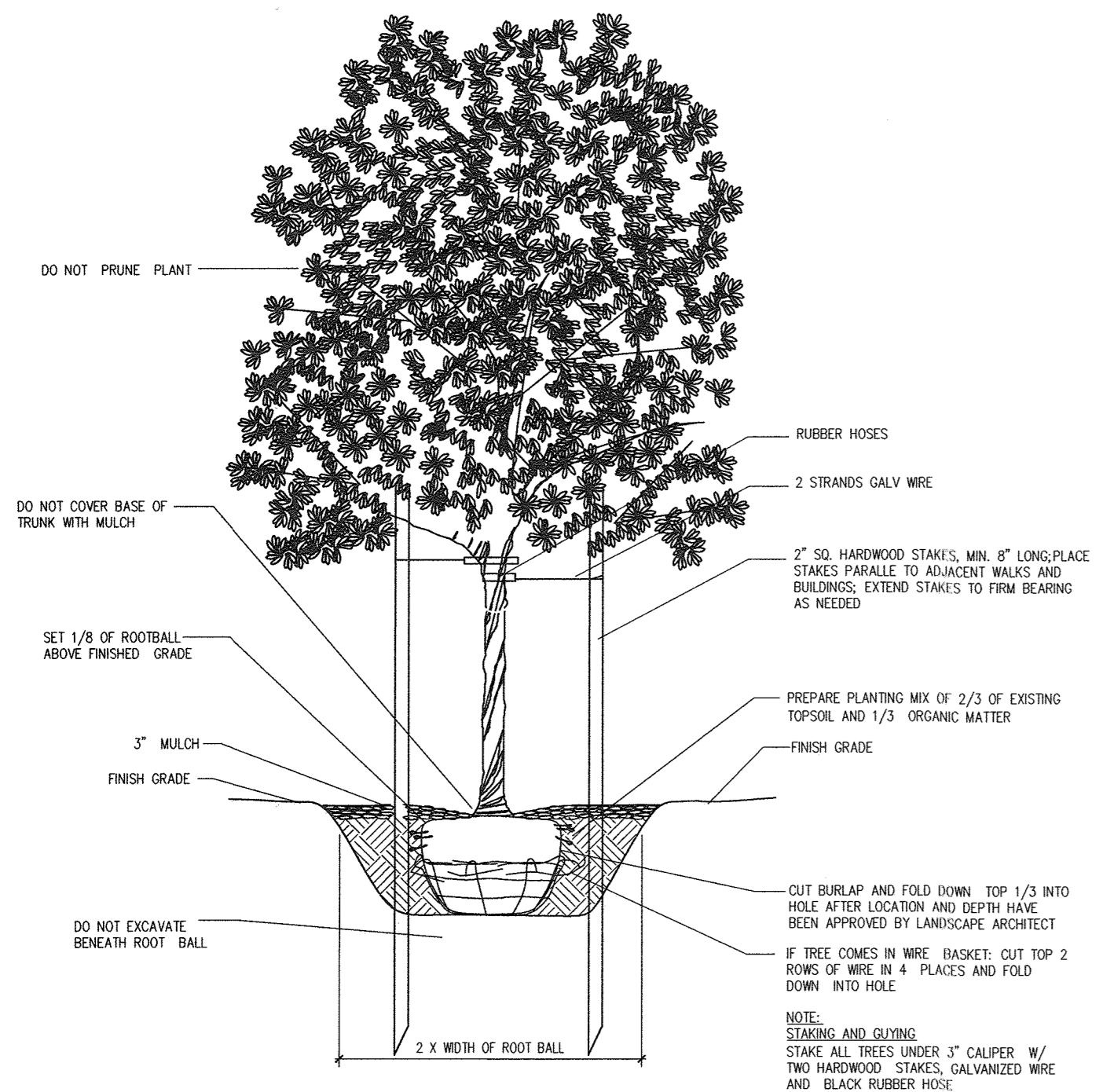
NOTES: 1. THE TRASH/RECYCLE PAD LANDSCAPING WILL BE MAINTAINED BY THE USERS OF THE PRIVATE USE-IN-COMMON MAINTENANCE AGREEMENT.
 2. THE LANDSCAPING SHALL BE INSTALLED AROUND THE PERIMETER OF THE PAD EXCLUDING THE SIDE ADJACENT TO THE PUBLIC ROAD RIGHT-OF-WAY.

STREET TREE SCHEDULE

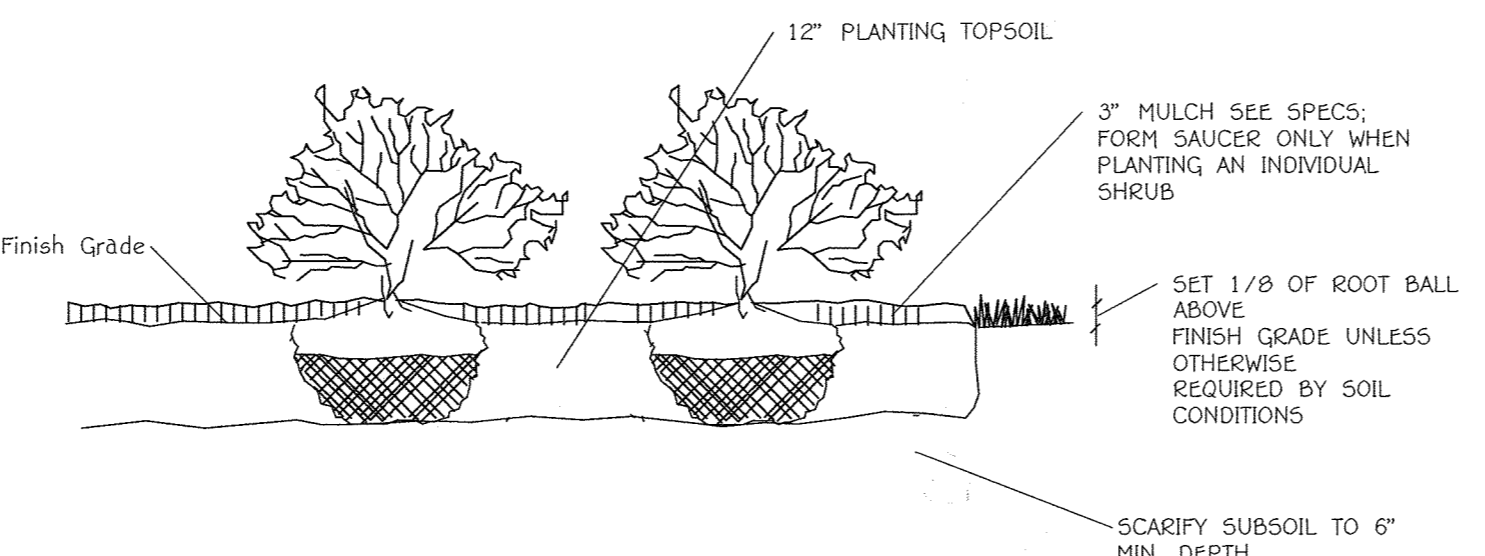
QTY. REQ'D.	QTY. PROV'D.	SIZE	BOTANICAL AND COMMON NAME	COMMENTS
* ROW LENGTH = 1265' 2530'/40 = 63.25 64 TREES	35 TREES (PHASE ONE)	2 1/2" - 3" CAL.	CLADRASITIS LUTEA YELLOWWOOD	40' APART ON PUBLIC R/W (Fairlane Road)
ROW LENGTH = 757' 1,514'/40 = 37.85 38 TREES	38 TREES	2 1/2" - 3" CAL.	ACER RUBRUM "OCTOBER GLORY" RED MAPLE	40' APART ON PUBLIC R/W (Galaxy Drive)
ROW LENGTH = 3717' 3717'/30 = 123.90 124 TREES	124 TREES	2 1/2" - 3" CAL.	CERCIS CANADENSIS EASTERN REDBUD	30' APART ON PUBLIC R/W (Old Frederick Road/Morgan Station Road)

NOTE: FINAL PLACEMENT OF STREET TREES WILL OCCUR IN THE FIELD AND BE PLACED A MINIMUM OF 30 FEET FROM ALL SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB, BE LOCATED WITHIN CONSIDERATION OF UNDERGROUND UTILITIES AND STRUCTURES AND MAINTAIN A MINIMUM 5 FEET DISTANCE ON CENTER FROM A DRAIN INLET STRUCTURE, 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET AWAY FROM A DRIVEWAY.

* DENOTES ENTIRE RIGHT-OF-WAY LENGTH (PHASE ONE AND PHASE TWO)



DECIDUOUS TREE - TYPICAL PLANTING DETAIL



SHRUB AND HEDGEROW - TYPICAL PLANTING DETAIL

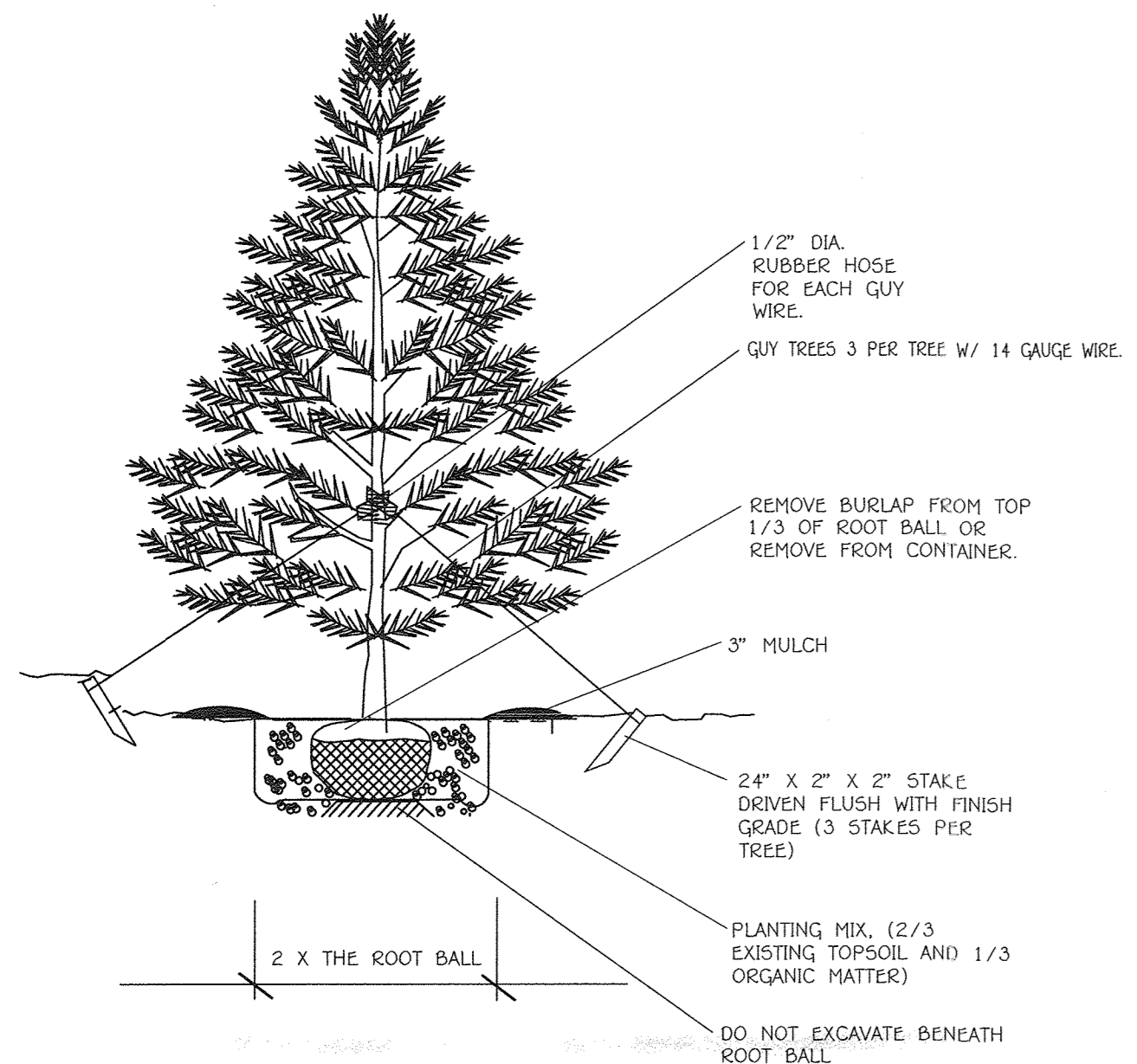
RECYCLE SYMBOL - DENOTES PROPOSED 3" - 4" CALIPER TREE LOCATION (SEE SHEET 15) (TO REPLACE THE REMOVED SPECIMEN TREES)

TREES TO BE PLANTED:

- 2 RED OAK TREE
- 2 WHITE OAK TREES
- 2 BLACK OAK TREE
- 1 BLACK GUM TREE

NOTES:

- "Should any tree designated for preservation for which landscaping credit is given, die prior to release of bonds, the developer 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. The replacement tree must be a minimum of 2.5 inches in caliper and installed as required in the Howard County Landscape Manual."
- "At the time of plant installation, all shrubs and trees listed and approved on the landscape plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the applicable plans".
- "The Owner, tenants and/or their agents shall be responsible for maintenance of the required perimeter 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 the other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced".
- 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 105 Shade (includes the mitigation trees required per the WP-14-107), 37 Evergreen Trees & 14 Shrubs Has Been Posted As Part Of The Developer's Agreement In The Amount Of \$37,470.00.



EVERGREEN TREE - TYPICAL PLANTING DETAIL

- ### PLANTING SPECIFICATIONS
- CLEAR & GRUB ALL PLANTING AREAS AS INDICATED ON THE DRAWINGS.
 - PROVIDE PROTECTION FOR TREES, SHRUBS, AND PERENNIALS/GROUND COVERS THAT ARE TO BE PRESERVED.
 - CONTRACTOR SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
 - ALL PLANTING SHALL BE DONE AS PER PLANTING DETAILS AND SPECIFICATIONS.
 - NO CHANGES SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR LANDSCAPE ARCHITECT.
 - PRIOR TO CONSTRUCTION OF PLANTING BEDS, THE CONTRACTOR SHALL STAKE OUT PLANTING BED LINES IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANTING BED LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
 - INSTALL ALL REQUIRED PLANTING AND LAWN SOILS AS PER DETAILS AND SPECIFICATIONS, AND ALL SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE PLANTED IN PLANTING BEDS PREPARED AS REQUIRED BY THE DETAILS AND SPECIFICATIONS.
 - MAINTAIN POSITIVE DRAINAGE OUT OF PLANTING BEDS AT A MINIMUM 2% SLOPE AND MAINTAIN POSITIVE DRAINAGE OF ALL LAWN AREAS, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL GRADES, DIMENSIONS, AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER.
 - ALL PLANT BEDS SHALL BE CONTAINED WITH A SPACED EDGE UNLESS OTHERWISE NOTED ON DRAWINGS.
 - IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE DRAWINGS AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE DRAWINGS SHALL APPLY. REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING.
 - ALL PLANTS SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION.
 - PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. PRIOR TO PLANTING, THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANT LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
 - ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED OR SOODED; SEE PLAN FOR LOCATIONS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND MAINTAINING ALL PLANTS DURING THE WARRANTY PERIOD; REFER TO SPECIFICATIONS.

PERIMETER PLANT LIST FOR SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE & TRASH/RECYCLE PAD LANDSCAPING

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE
RECYCLE SYMBOL	37	ACER RUBRUM "OCTOBER GLORY" RED MAPLE	2 1/2" - 3" CAL.
RECYCLE SYMBOL	31	PRUNUS SARGENTII SARGENT CHERRY	2 1/2" - 3" CAL.
RECYCLE SYMBOL	30	CLADRASITIS LUTEA YELLOWWOOD	2 1/2" - 3" CAL.
RECYCLE SYMBOL	37	PINUS STROBUS EASTERN WHITE PINE	6" - 8" HT.
RECYCLE SYMBOL	14	AZALEA 'EXBURY' EXBURY AZALEA (red, pink, yellow, orange, white)	18" - 24" SPREAD

* DENOTES APPROVED TREE TO BE PLANTED UNDER OR WITHIN 20' OF OVERHEAD LINES

ESD SHRUBS/PERENNIALS (B.M.P. No. 2)

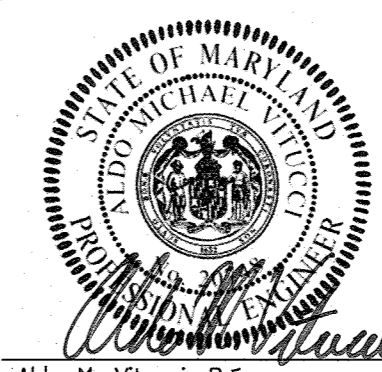
QTY.	SYM.	BOTANICAL/COMMON NAME	SIZE	CONT.	REMARKS
10	CHG	Chelone glabra White Turtlehead	#1	Cont.	24" o.c.
5	IGS	Ilex glabra "Shamrock" Inkberry	24"-30" Ht.	Cont.	30" o.c./Male Cultivar
5	ITH	Itea virginica "Little Henry" Dwarf Virginia Sweetspire	18" - 24" Ht.	3 Gal.	30" o.c. min.



AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

Charles S. Cecchi, P.E. 2/16/16
 Date



LANDSCAPE NOTES & DETAILS

FAIRLANE FARM PHASE ONE

LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 18 OF 38

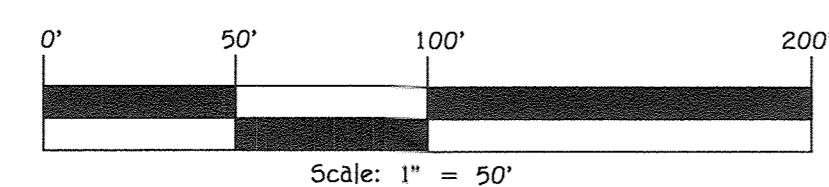
DEVELOPER'S / BUILDER'S CERTIFICATE

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

Jodi R. [Signature] 2/14/16
 DATE

OWNER: Estate of F.J. Schulte
 c/o Diane Schulte, Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER: Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21046
 (410) 461 - 2995

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 phosphorus 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 (0.87 in/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 - P2O5)	75 lbs. per acre, minimum
Potassium (potash - K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	0 to 5%
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 Clayton 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 (50%-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 restructure 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 seeds 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, pesticides, 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 inch diameter, slotted or perforated rigid plastic pipe (ASTM F 756, Type P5 28, or ASTM 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 center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x) galvanized hardware cloth.

Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.

The main collector pipe shall be at a minimum 0.5% slope.

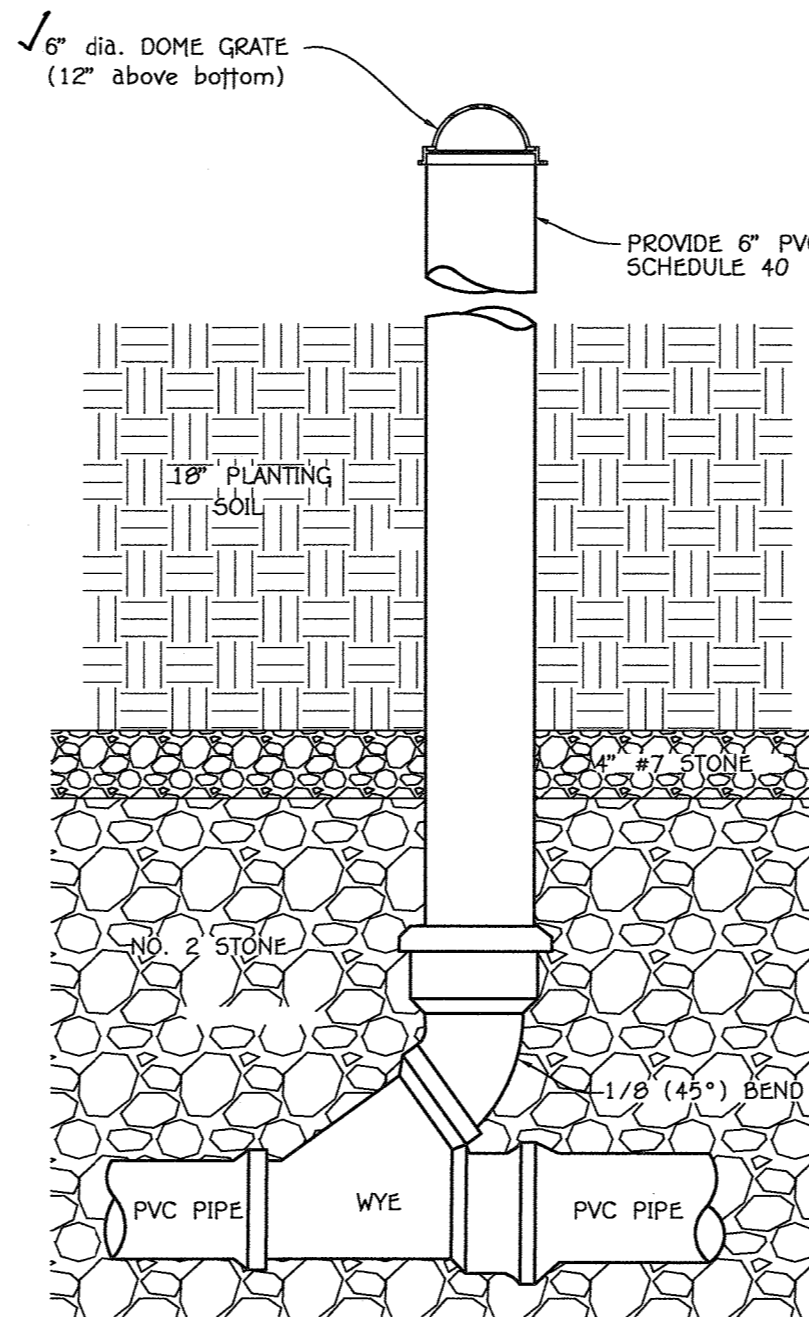
A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.

A 4" layer of pea gravel (1/4" 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".

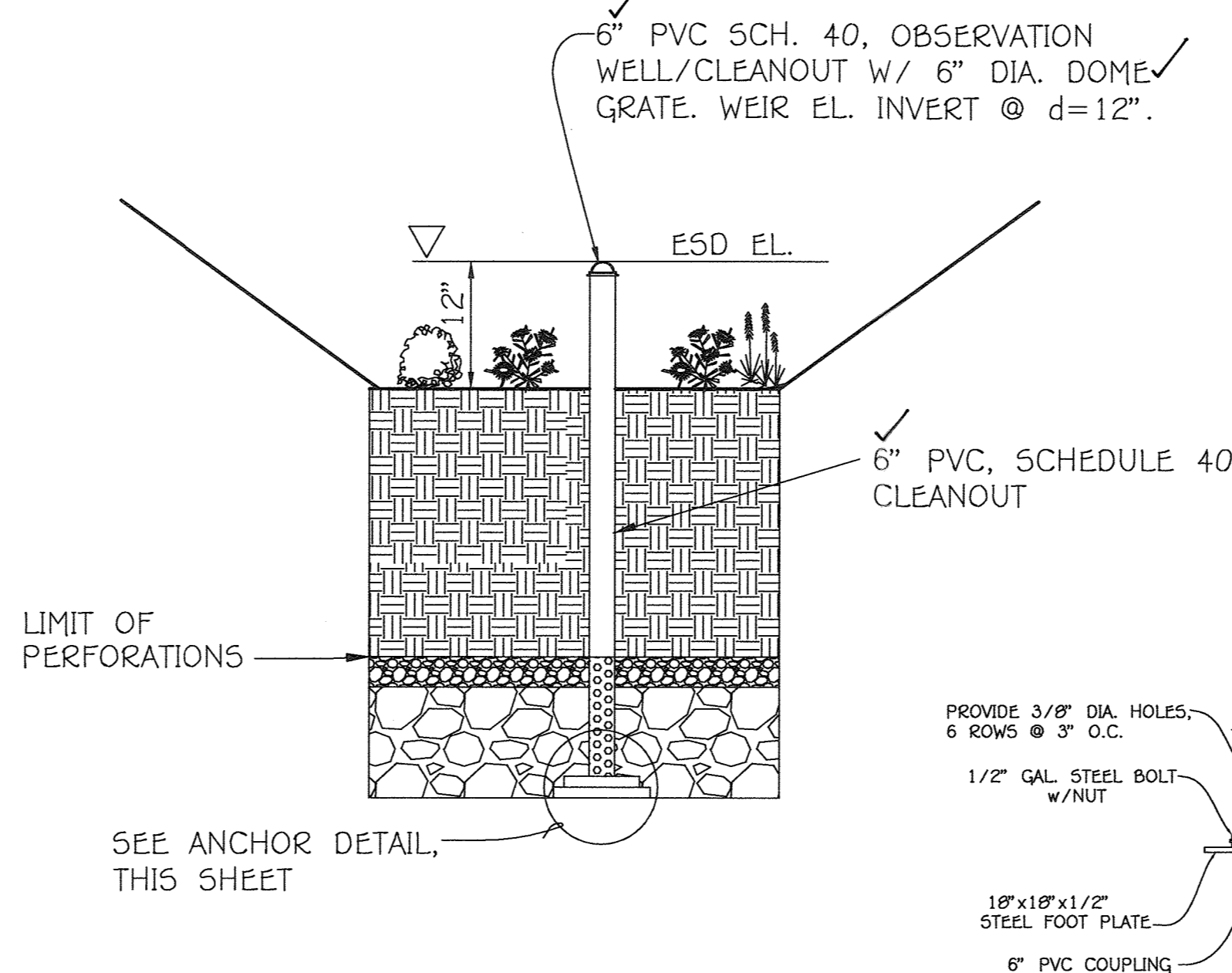
The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

These practices may not be constructed until all contributing drainage area has been stabilized.



Typical Clean-Out Detail
NO SCALE



SECTION @ OBSERVATION WELL LOCATION
NOT TO SCALE

NOTES:
UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 756, TYPE P5 28 OR ASTM M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (E.G., PVC OR HDPE).

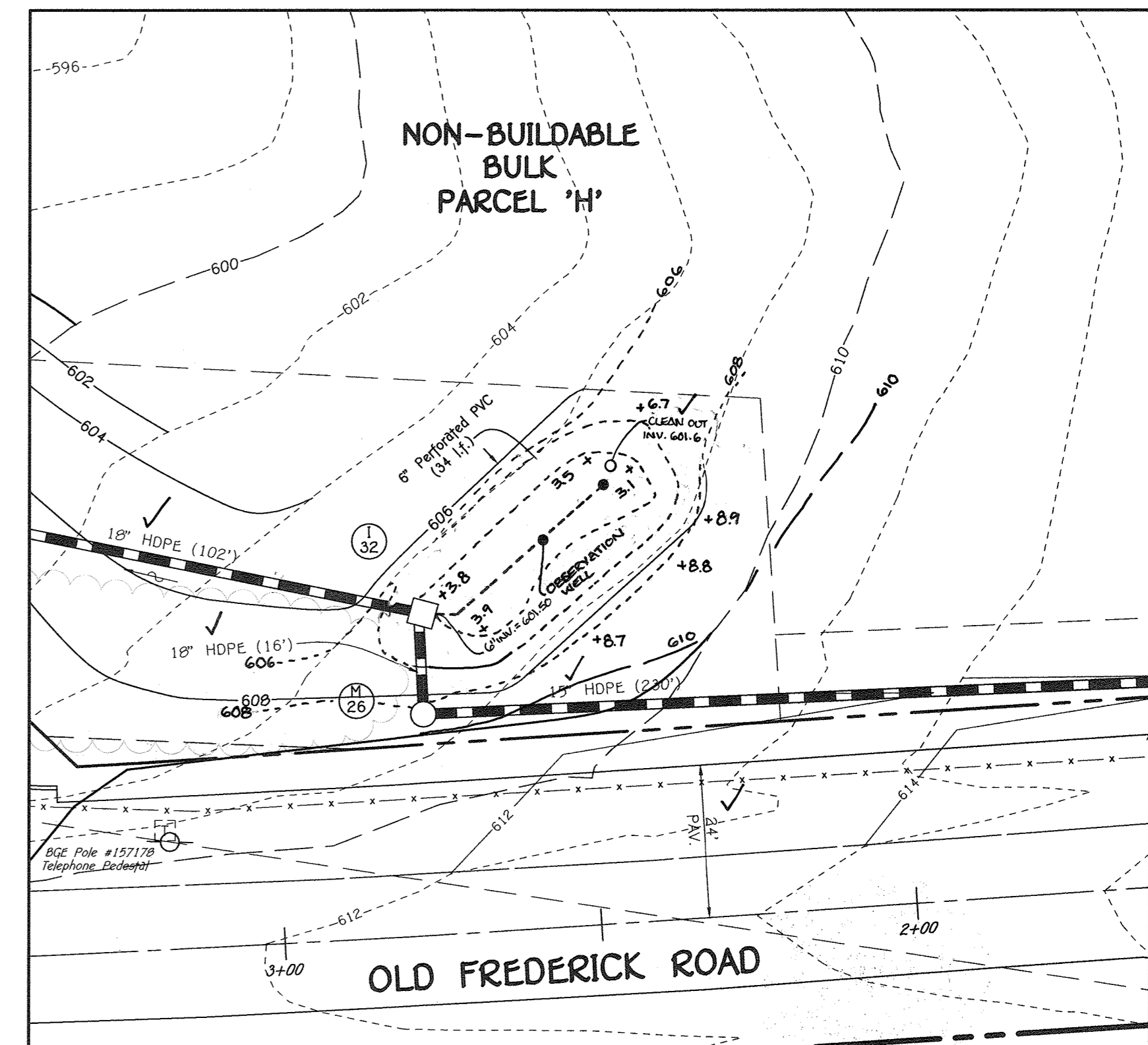
PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4 X 4) GALVANIZED HARDWARE CLOTH.

GRAVEL THICKNESS SHALL BE (NO. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

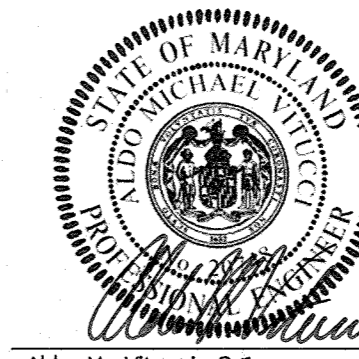
A 4" LAYER OF PEA GRAVEL (1/4" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE PLANTING MEDIA AND NO. 2 STONE TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".



PROPOSED BIO-RETENTION FACILITY (M-6)
BMP No. 2 PLAN VIEW
SCALE: 1" = 20'



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.
Date: 2/16/20
Charles J. Davis, P.E. License No. 19824



I hereby certify, by my seal, 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. 20246, Expiration Date 2-22-17.
Date: 2/16/20
Aldo M. Vrucci, P.E.

STORMWATER MANAGEMENT NOTES AND DETAILS (MICRO BIO-RETENTION)

FAIRLANE FARM PHASE ONE
LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

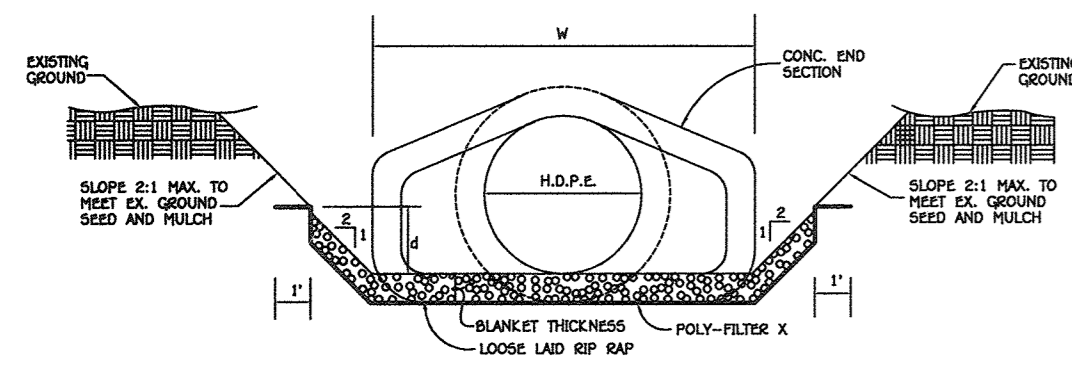
ZONED: RC-DEO
TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2016
SHEET 19 OF 38

STRUCTURE SCHEDULE									
STRUCTURE NO.	TOP ELEVATION	IN/IN	IN/OUT	LOCATION	ROAD STA.	OFFSET	TYPE AND WIDTH	REMARKS	
I-1	593.56	23		GALAXY DRIVE	6+70	137.2'	PC YARD INLET	D - 4.14	
I-2	595.56	21		GALAXY DRIVE	5+99.4	122.9'	PC YARD INLET	D - 4.14	
I-3	593.56	40		GALAXY DRIVE	4+30	147.9'	PC YARD INLET	D - 4.14	
I-4	593.56	5		GALAXY DRIVE	2+81.74	166.6'	L YARD INLET	D - 4.14	
I-5	601.58			GALAXY DRIVE	2+08.6	148.6'	L YARD INLET	D - 4.14	
I-6	596.64	50		GALAXY DRIVE	6+15.44	20'	TYPE 'D'	D - 4.10	
I-7	596.64	54		GALAXY DRIVE	6+15.44	20'	TYPE 'D'	D - 4.10	
I-8	598.69	58		GALAXY DRIVE	5+18.54	20'	TYPE 'D'	D - 4.10	
I-9	600.36			GALAXY DRIVE	4+35.68	20'	TYPE 'D'	D - 4.10	
I-10	600.36			GALAXY DRIVE	4+35.68	20'	TYPE 'D'	D - 4.10	
I-11	604.77	65		GALAXY DRIVE	2+35.70	20'	TYPE 'D'	D - 4.10	
I-12	602.25	57		FAIRLANE ROAD	0+30	204.4'	TYPE 'D'	D - 4.10	
I-13	603.55	60		FAIRLANE ROAD	0+54.45	21.1'	TYPE 'D'	D - 4.10	
I-14	602.87	60		FAIRLANE ROAD	597.95	18'	TYPE 'D'	D - 4.10	
I-15	602.87	16		FAIRLANE ROAD	599.00	18'	TYPE 'D'	D - 4.10	
I-16	606.50	17		FAIRLANE ROAD	603.25	18'	TYPE 'D'	D - 4.14	
I-16A	603.55	26		FAIRLANE ROAD	598.55	18'	TYPE 'D'	D - 4.14	
I-32	605.08	9		FAIRLANE ROAD	601.23	18'	TYPE 'D'	D - 4.22	
I-33	619.36	29		OLD FREDERICK ROAD	0+46.27	302.1'	TYPE 'D'	D - 4.10	
I-35	585.75	00		MORGAN STATION ROAD	33+99.07	68.4'	TYPE 'S'	D - 4.22	
I-41	607.88	18		FAIRLANE ROAD	601.97	18'	TYPE 'D'	D - 4.10	
I-42	607.88			FAIRLANE ROAD	2+44.87	18'	TYPE 'D'	D - 4.10	
I-43	597.86	25		FAIRLANE ROAD	593.66	18'	TYPE 'D'	D - 4.14	
M-1	597.45	32		FAIRLANE ROAD	595.95	18'	TYPE 'D'	D - 4.14	
M-1A	588.00	24		FAIRLANE ROAD	584.80	18'	TYPE 'D'	D - 4.14	
M-2	598.80	87		GALAXY DRIVE	6+91.62	60.6'	TYPE 'G'	G - 5.13	
M-3	599.00	87		GALAXY DRIVE	5+63.79	46.6'	TYPE 'G'	G - 5.13	
M-4	599.00	46		GALAXY DRIVE	5+44.15	42.1'	TYPE 'G'	G - 5.12	
M-5	600.00	80		GALAXY DRIVE	599.34	48'	TYPE 'G'	G - 5.13	
M-6	602.58	5		GALAXY DRIVE	3+01.74	48.5'	TYPE 'G'	G - 5.13	
M-7	605.90	15		GALAXY DRIVE	1+08.73	78.9'	TYPE 'G'	G - 5.12	
M-8	604.80	12		GALAXY DRIVE	8+18.72	101.1'	TYPE 'G'	G - 5.12	
M-9	598.28	8		GALAXY DRIVE	6+45.94	88.4'	TYPE 'G'	G - 5.13	
M-10	600.00	12		GALAXY DRIVE	5+25.19	88.4'	TYPE 'G'	G - 5.13	
M-11	605.00	09		GALAXY DRIVE	4+35.6.46		TYPE 'G'	G - 5.13	
M-12	605.00	10		GALAXY DRIVE	2+43.81	58.9'	TYPE 'G'	G - 5.12	
M-13	608.00	26		OLD FREDERICK ROAD	20+80.43	24.9'	TYPE 'G'	G - 5.12	
M-14	604.15	42		OLD FREDERICK ROAD	22+54.9.51	29.8'	TYPE 'G'	G - 5.12	
M-26	600.00	47		OLD FREDERICK ROAD	2+78.7.51	84.8'	TYPE 'G'	G - 5.12	
M-27	609.00	27		OLD FREDERICK ROAD	14+98.4.62	17.8'	TYPE 'G'	G - 5.12	
M-29	608.19	3		FAIRLANE ROAD	0+75.26	4.3'	TYPE 'G'	G - 5.12	
M-30	609.54	10		FAIRLANE ROAD	605.88	18'	TYPE 'G'	G - 5.12	
S-1	585.86	1		FAIRLANE ROAD	584.80	18'	TYPE 'S'	A.D.S. OR EQUAL	
S-2	593.88	9		FAIRLANE ROAD	591.68	24'	TYPE 'S'	A.D.S. OR EQUAL	
S-3	598.14	22		FAIRLANE ROAD	596.44	18'	TYPE 'S'	A.D.S. OR EQUAL	
S-4	588.70	10		FAIRLANE ROAD	586.60	18'	TYPE 'S'	A.D.S. OR EQUAL	
S-5	587.81	44		FAIRLANE ROAD	585.81	18'	TYPE 'S'	A.D.S. OR EQUAL	
S-6	596.60	8		FAIRLANE ROAD	594.50	18'	TYPE 'S'	A.D.S. OR EQUAL	
S-16	581.85	58		MORGAN STATION ROAD	580.80	15'	TYPE 'S'	A.D.S. OR EQUAL	
S-17	593.88	06		FAIRLANE ROAD	591.68	18'	TYPE 'S'	A.D.S. OR EQUAL	
HW-1	583.15	16		FAIRLANE ROAD	579.85	24'	TYPE 'C'	D - 5.21	
HW-2	584.19	5		FAIRLANE ROAD	582.48	18'	TYPE 'C'	D - 5.21	
HW-3	582.83	1		FAIRLANE ROAD	580.83	15'	TYPE 'C'	D - 5.21	

* - DENOTES THROAT ELEVATION
TYPE 'D' INLETS TO BE OPEN ON TWO (2) SIDES

SIZE	CLASS	LENGTH
6"	PVC SCH 40 (PERFORATED)	144 L.F.
15"	HDPE	979 L.F.
18"	HDPE	3,005 L.F.
24"	HDPE	314 L.F.

NOTE: HDPE PIPE MAY BE SUBSTITUTED WITH RCP, CL IV PIPE.

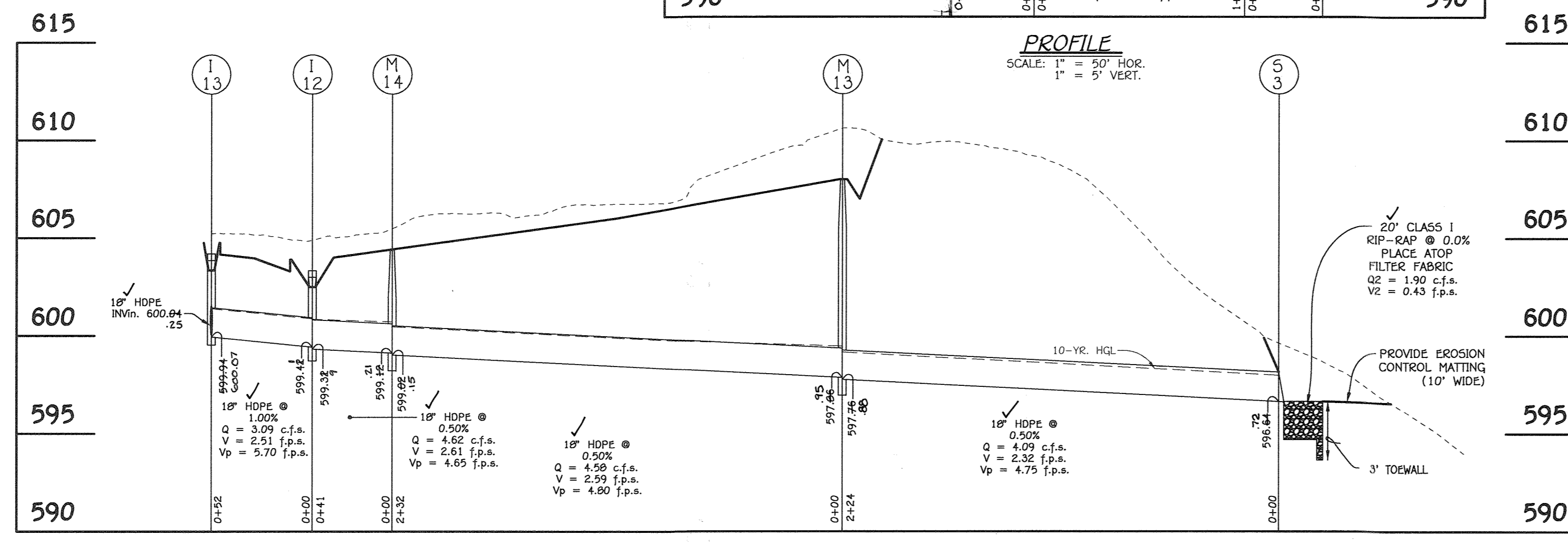


PIP-BAP CHANNEL DETAIL

STRUCTURE	AREA	VERTED PERCENT	e	e 2/8	s	s 1/8	w	d	n	v	v (ft-s)	Q (c.f.s.)	Q (c.f.s.)	Q (c.f.s.)	Q (c.f.s.)	Q (c.f.s.)	Q (c.f.s.)	Q (c.f.s.)
S-1	12.71	14.7	0.8646	0.2492	0.5000	0.0707	10'	1.09'	0.04	0.75	9.49	9.5'	19'	19'				
S-2	12.85	14.74	0.8718	0.2533	0.5000	0.0707	10'	1.09'	0.04	0.76	9.60	9.5'	19'	19'				
S-3	5.62	12.28	0.4576	0.0998	0.5000	0.0707	10'	0.51'	0.04	0.49	2.70	9.5'	19'	19'				
S-4	7.47	12.95	0.5768	0.1109	0.5000	0.0707	10'	0.88'	0.04	0.58	4.26	9.5'	19'	19'				
S-5	4.32	11.79	0.3884	0.0747	0.5000	0.0707	10'	0.40'	0.04	0.43	1.83	9.5'	19'	19'				

CONSTRUCTION SPECIFICATIONS FOR RIP-BAP OUTFALLS

- The subgrade for the filter, riprap or gation shall be prepared to the required lines and grades. Any fill required to the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from puncturing, cutting or tearing. Any damage other than an occasional hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps shall be made by joining two pieces of cloth which shall be a minimum of one foot.
- Stone for the riprap or gation outlets may be placed by equipment, both shall be constructed to the full counter thickness to one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gation outlets shall be delivered and stored in a manner that will insure that it is reasonably homogeneous with the smaller sizes and meets the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Final placement will be required to the extent necessary to prevent damage to the permanent works.



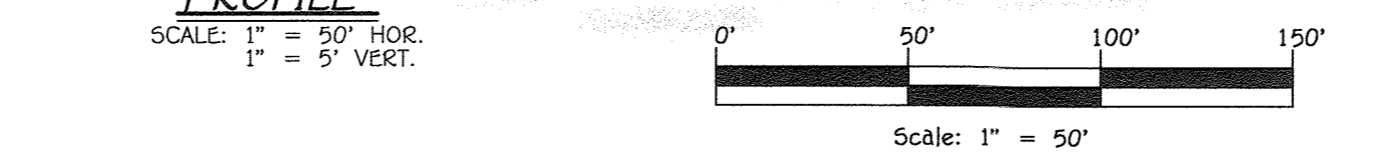
PROFILE SCALE: 1" = 50' HOR. 1" = 5' VERT.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2888

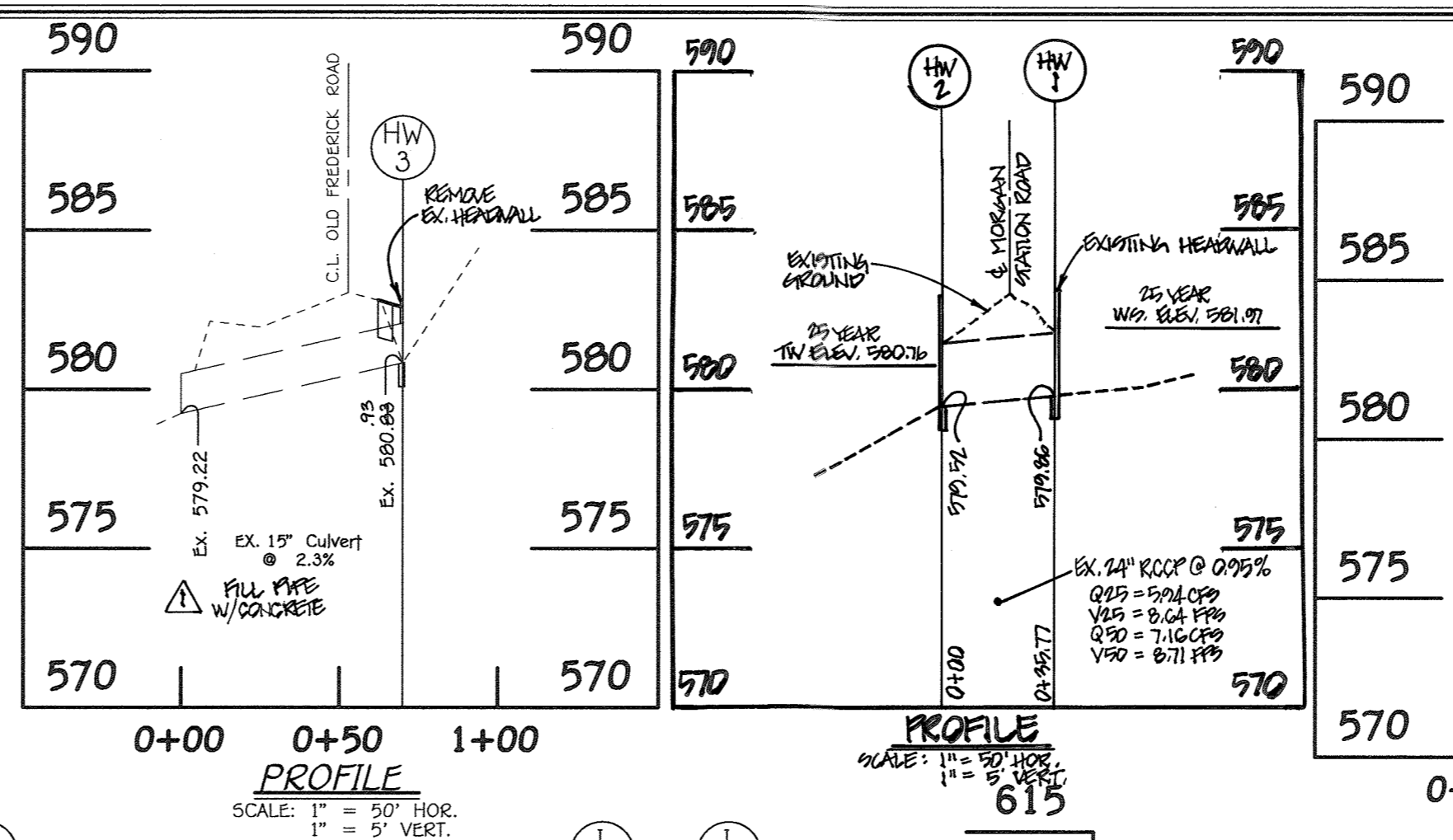
OWNER
Estate Of F.J. Schulte
c/o Diane Schulte,
Personal Representative
2215 Duvall Road
Woodbine, Md 21797
410-577-1327

DEVELOPER
Land Design & Development
5300 Dorsey Hall Drive
Suite 102
Ellicott City, Maryland 21042
(410)-977-0422

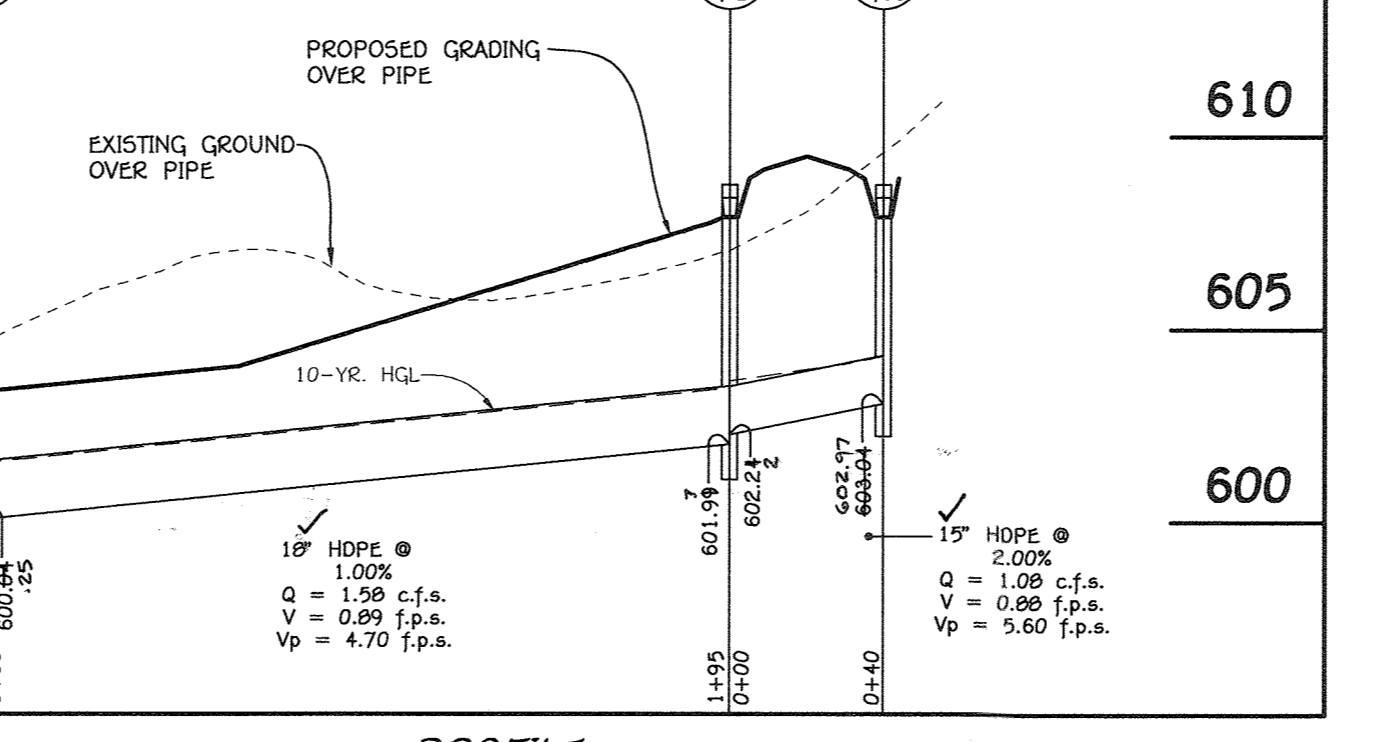
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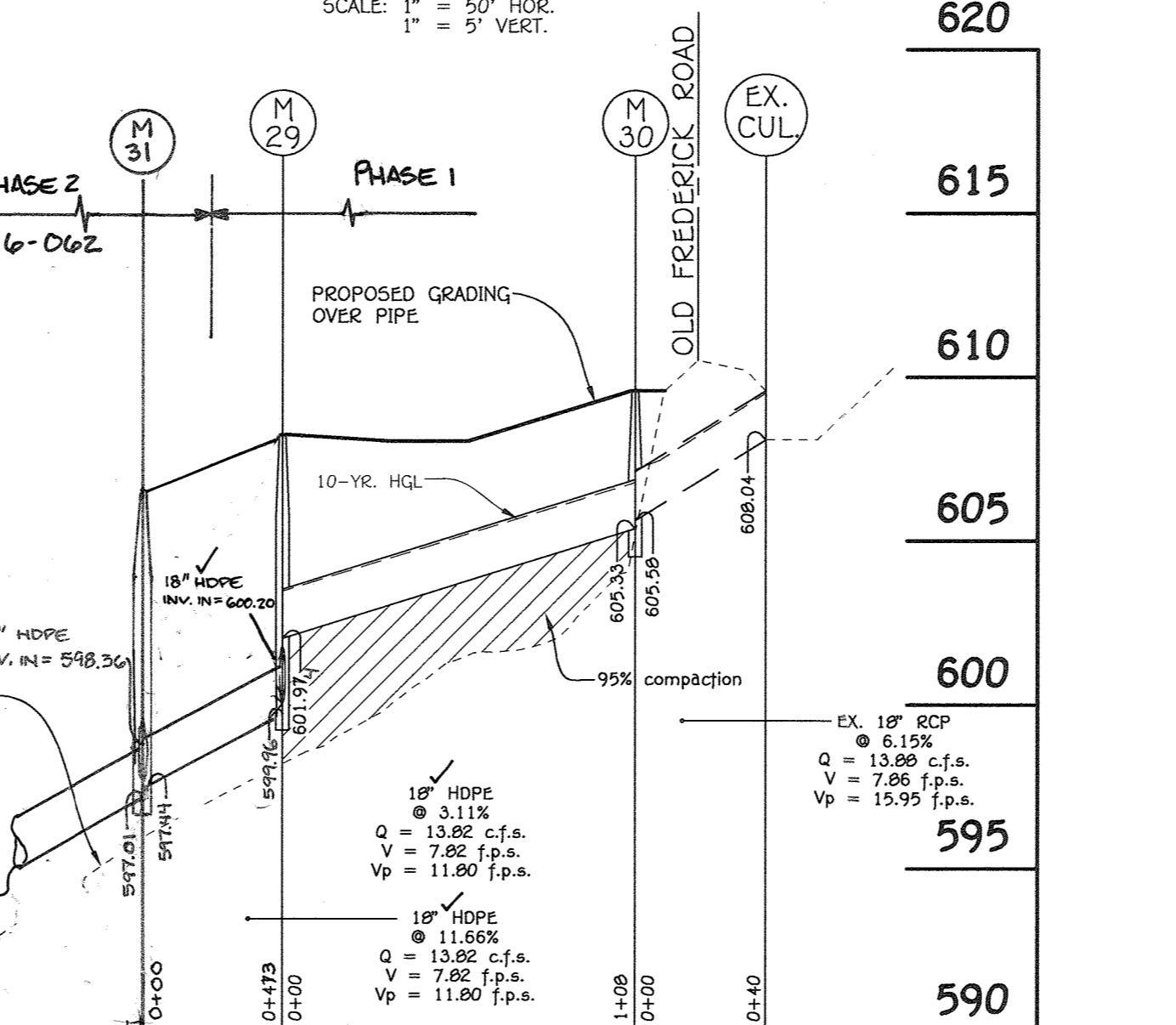
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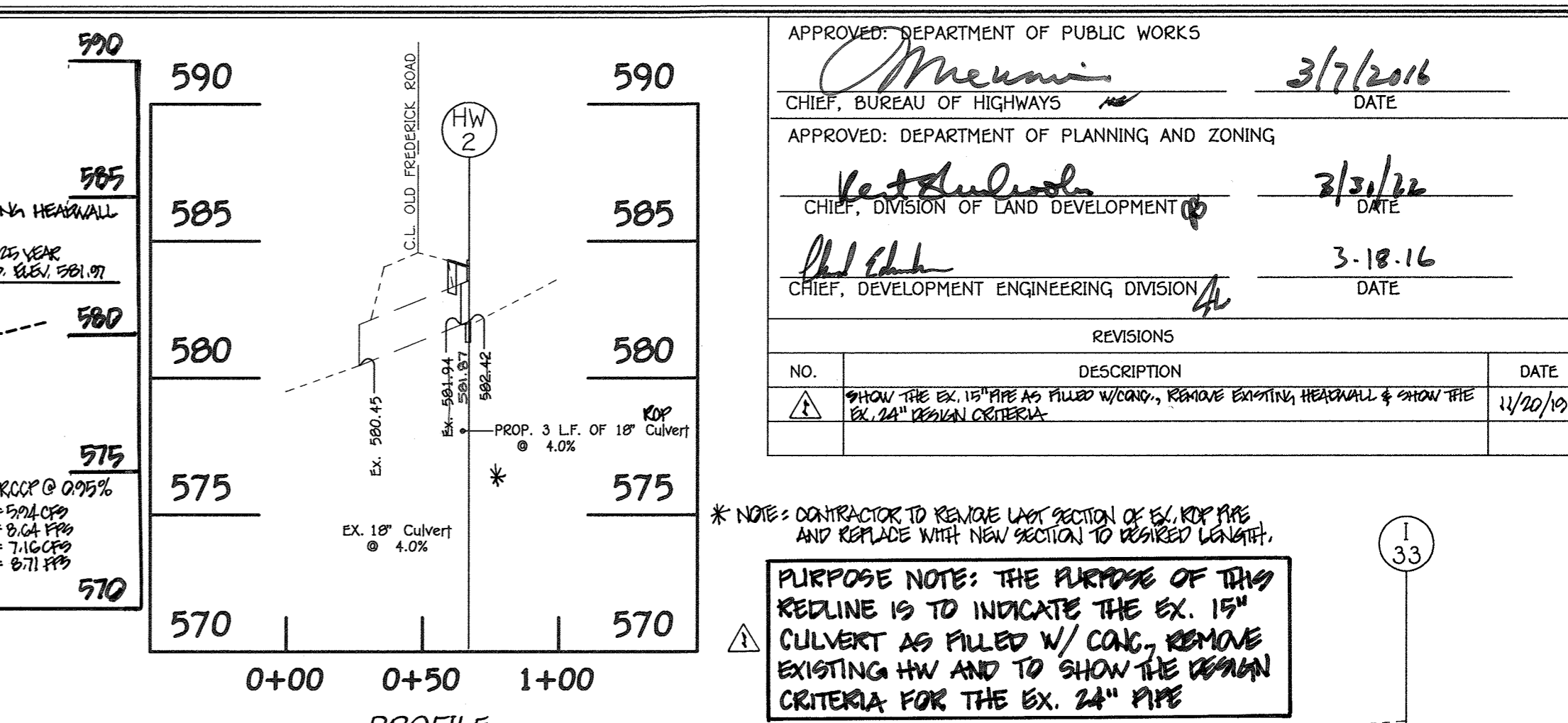
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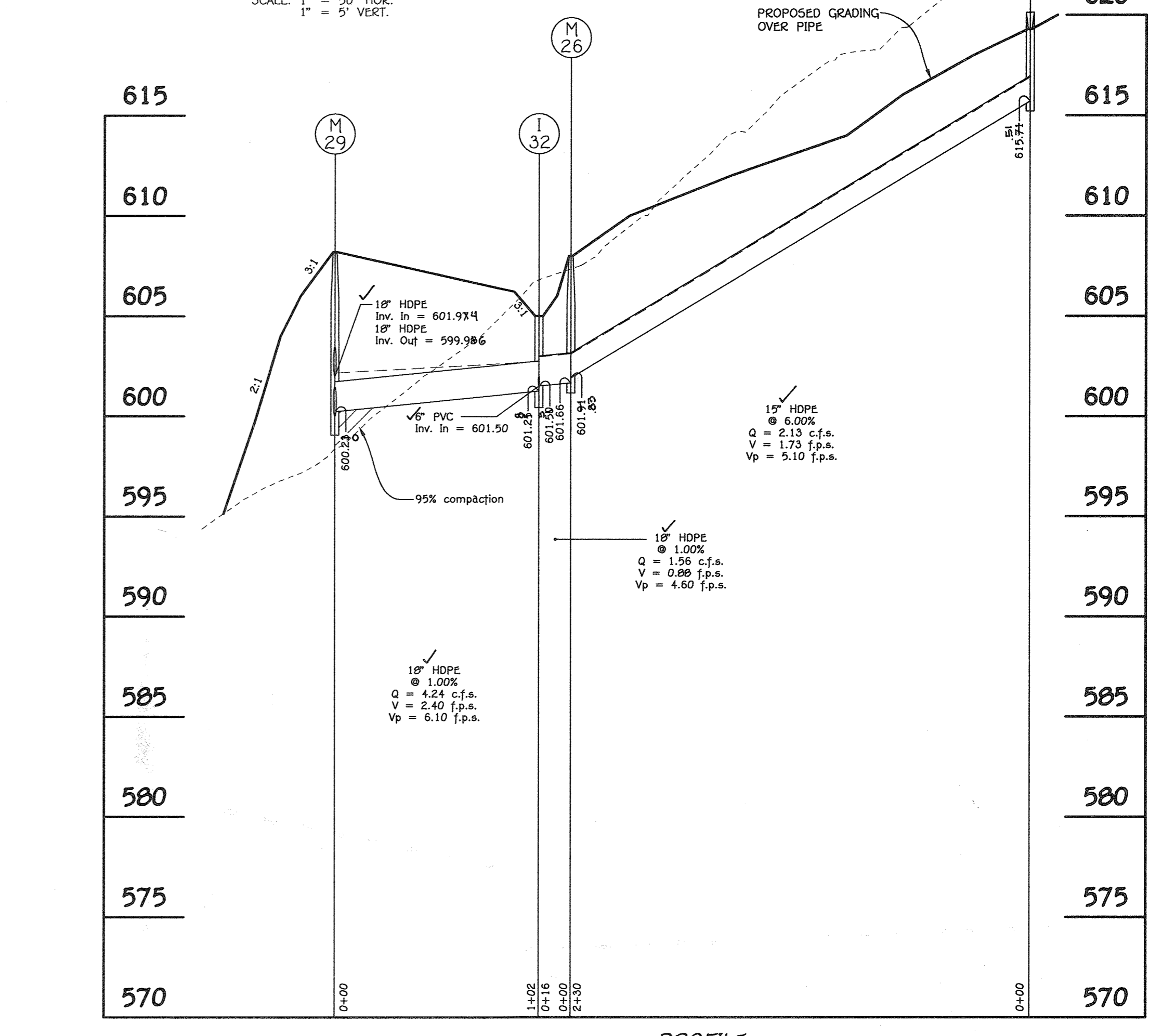
PROFILE SCALE: 1" = 50' HOR. 1" = 5' VERT.



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



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



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

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

NO.	DESCRIPTION	DATE
1	SHOW THE EX. 18" PIPE AS FILLED W/CONC. REMOVE EXISTING HEADWALL & SHOW THE EX. 24" DESIGN CRITERIA.	11/20/09

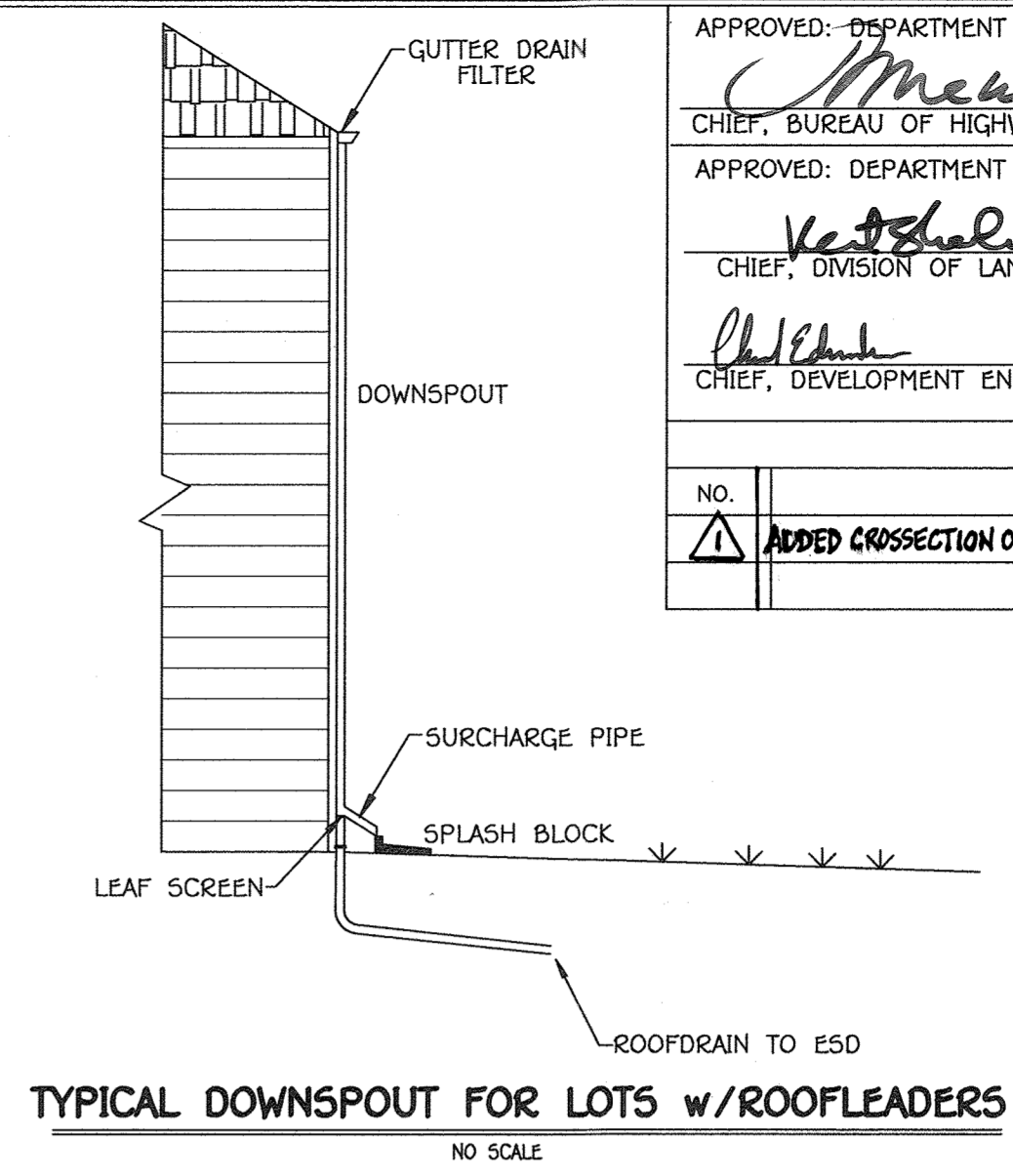
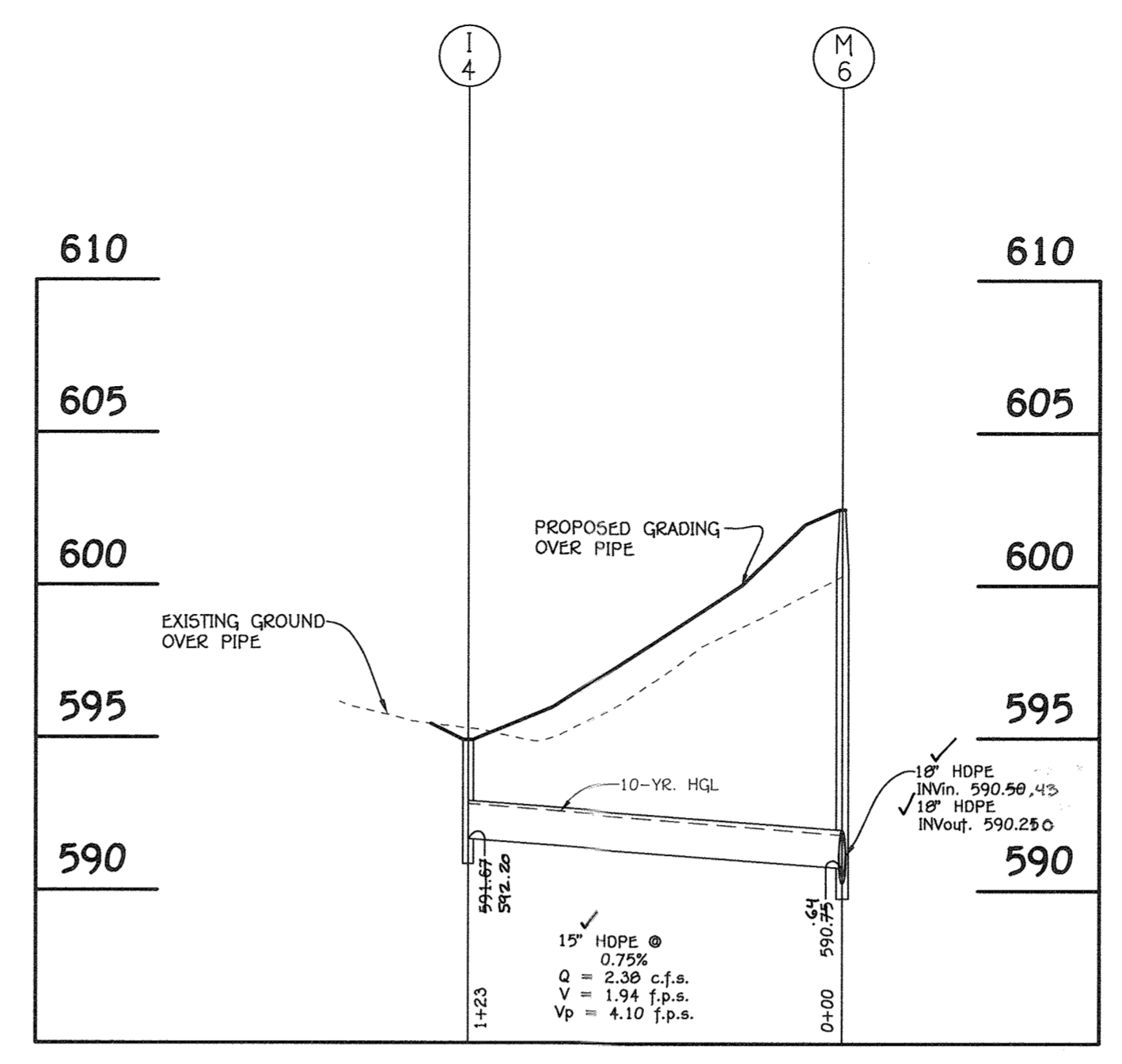
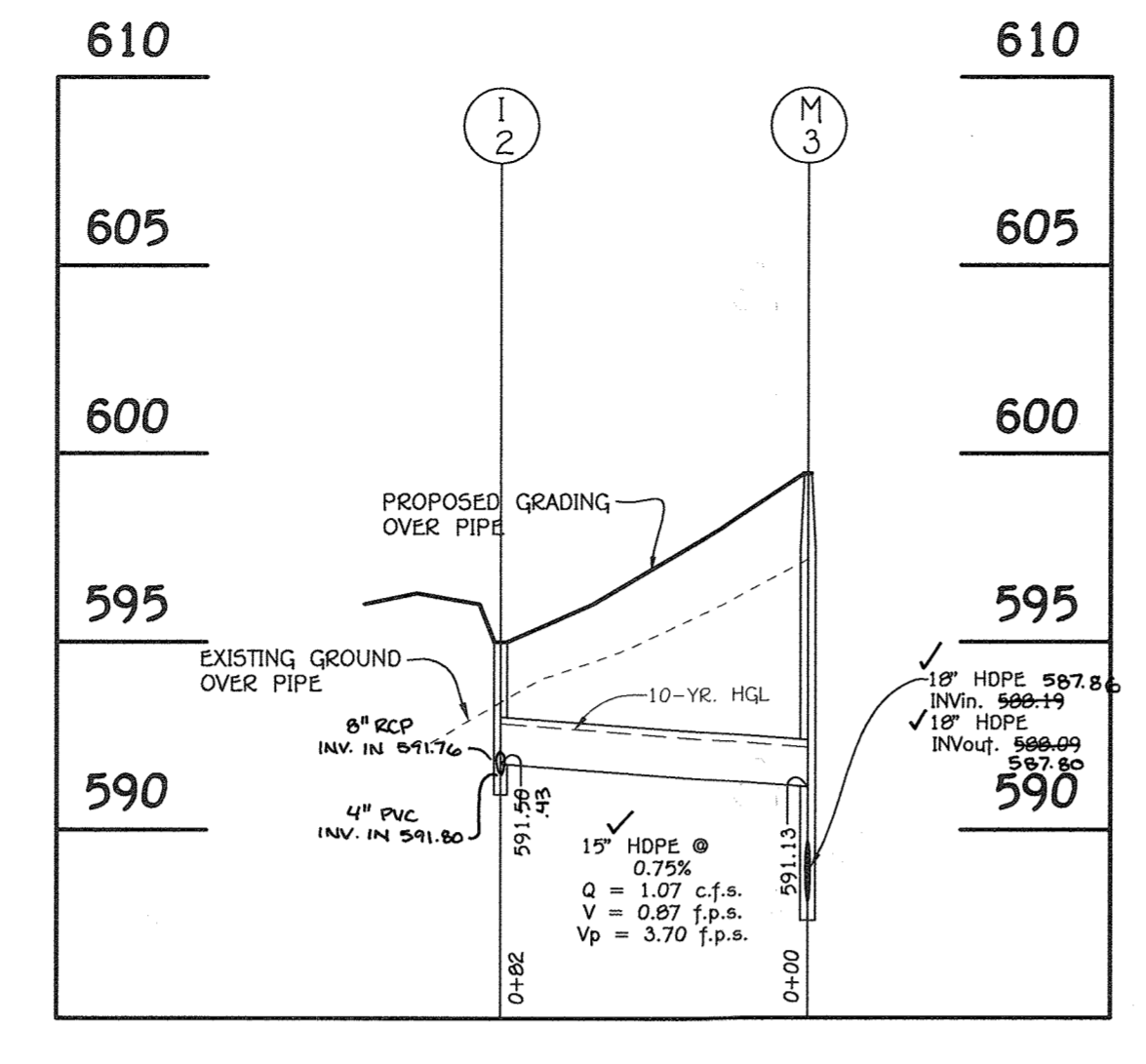
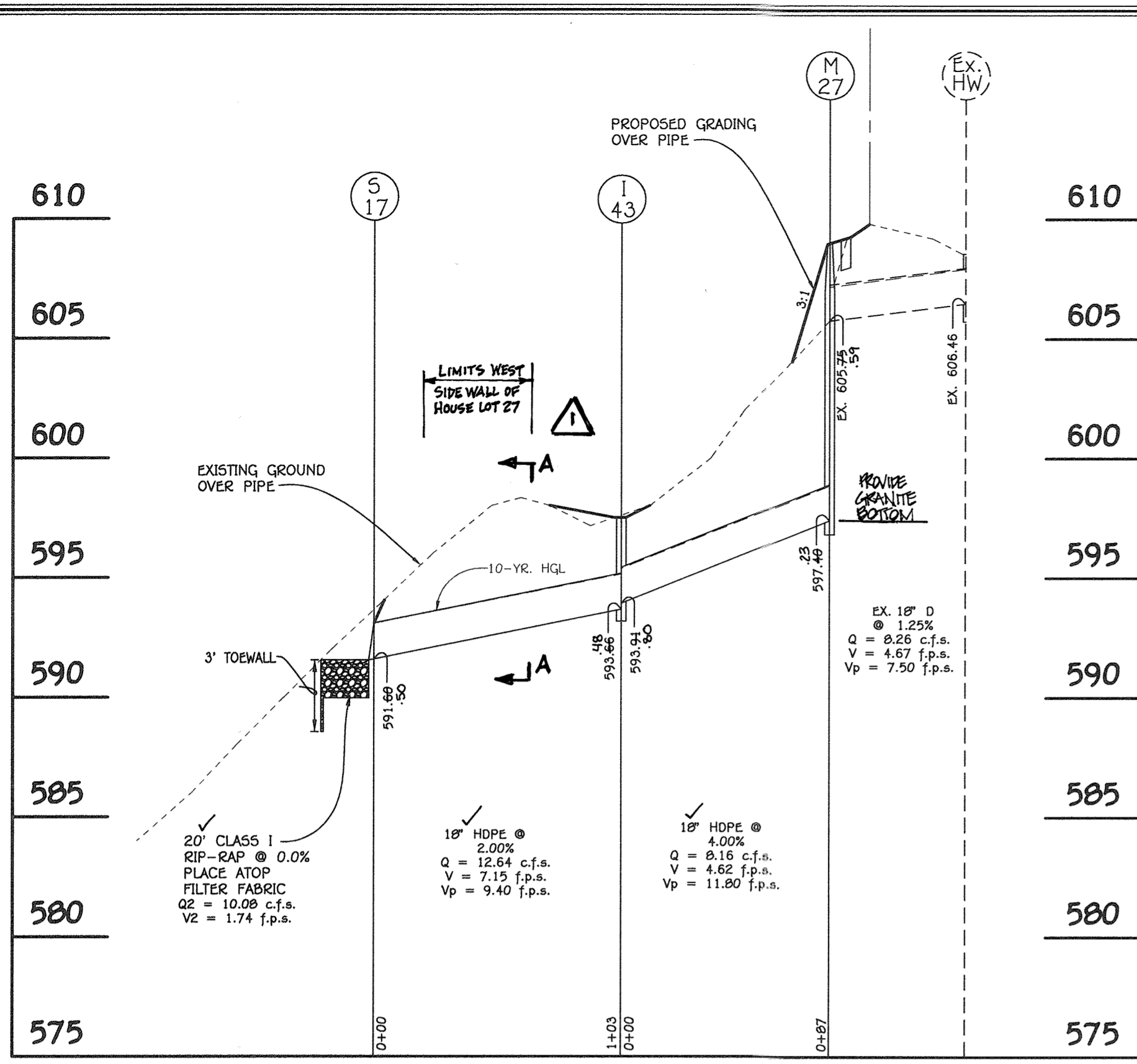
* NOTE: CONTRACTOR TO REMOVE LOWER PORTION OF EX. 18" PIPE AND REPLACE WITH NEW SECTION TO RESPECT COORDINATE.
PURPOSE NOTE: THE PURPOSE OF THIS REDEFINE IS TO INDICATE THE EX. 15" CULVERT AS FILLED W/ CONC. REMOVE EXISTING HW AND TO SHOW THE DESIGN CRITERIA FOR THE EX. 24" PIPE

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.
CHARES F. BOVO, P.E. RE-119204
Date: 2/1/20

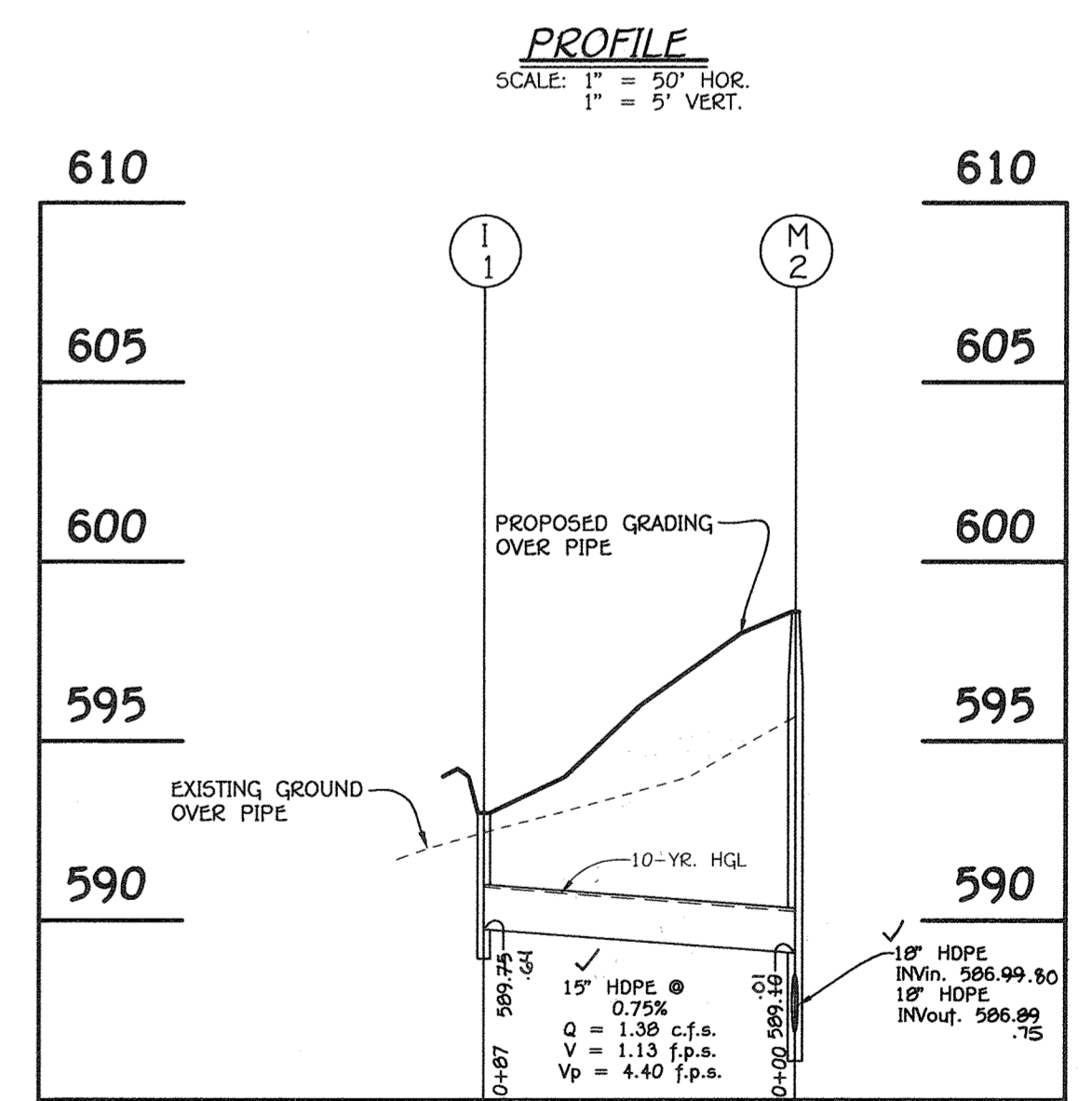
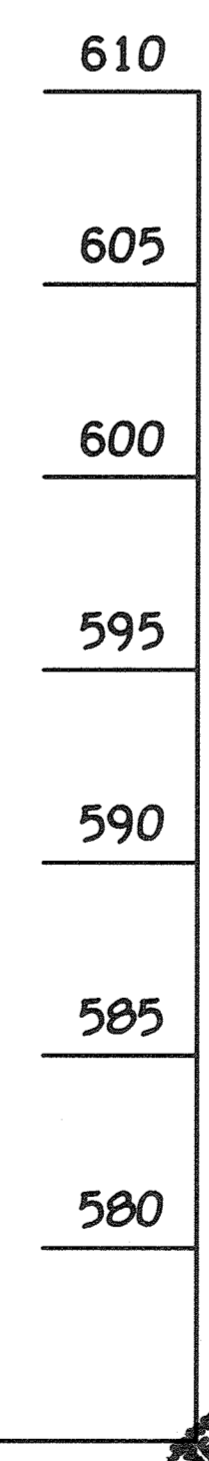
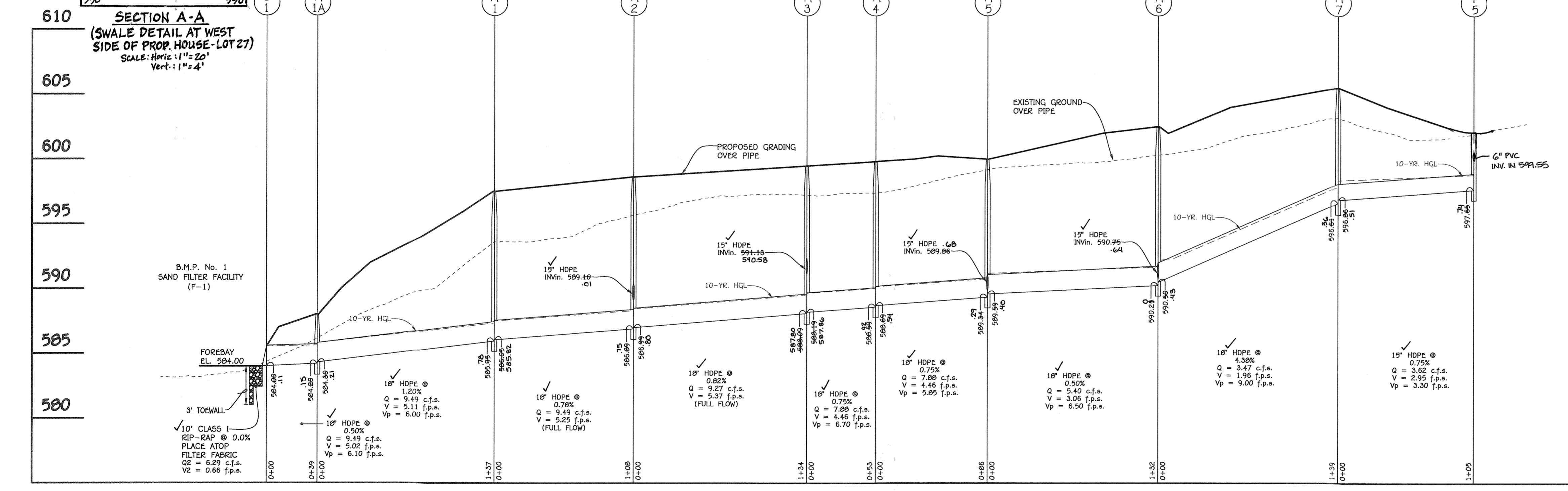
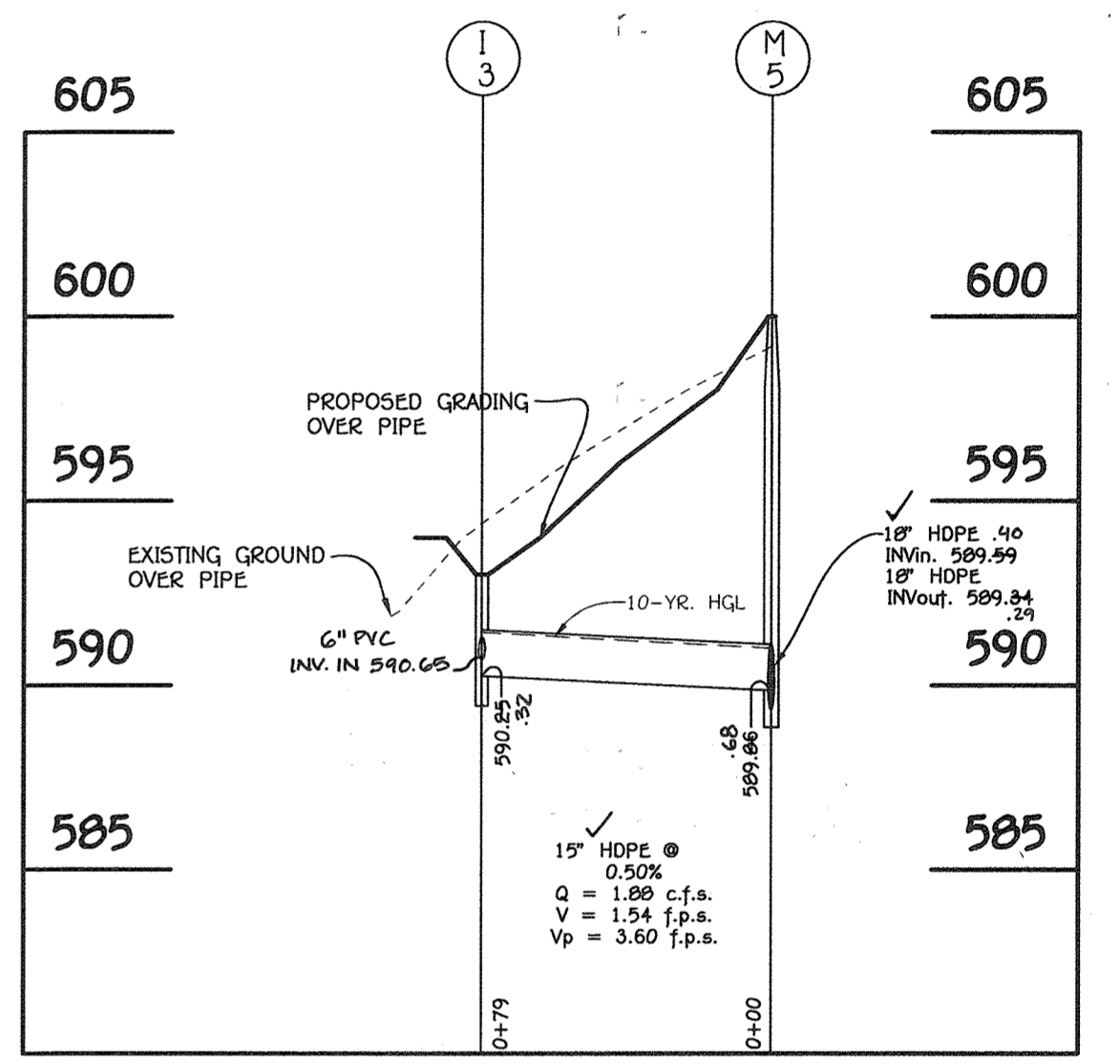
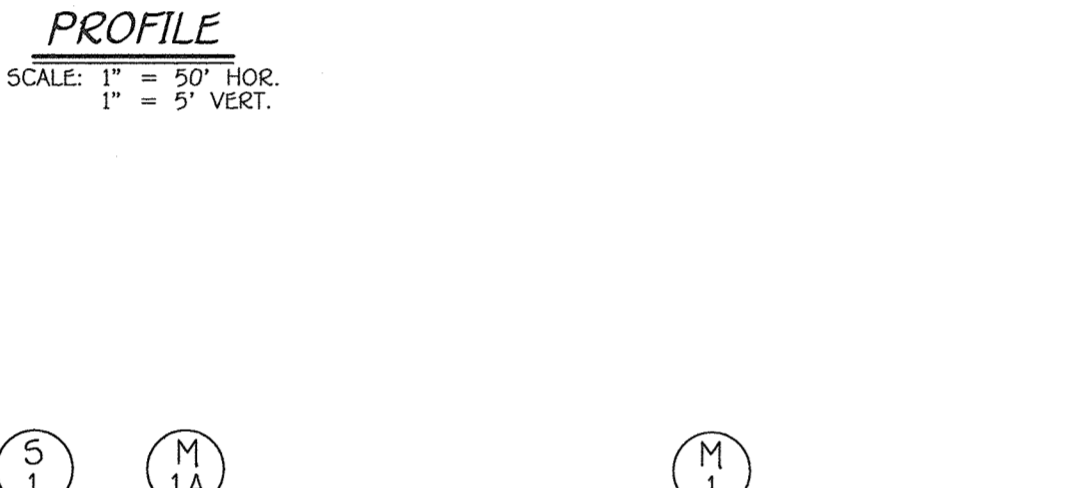
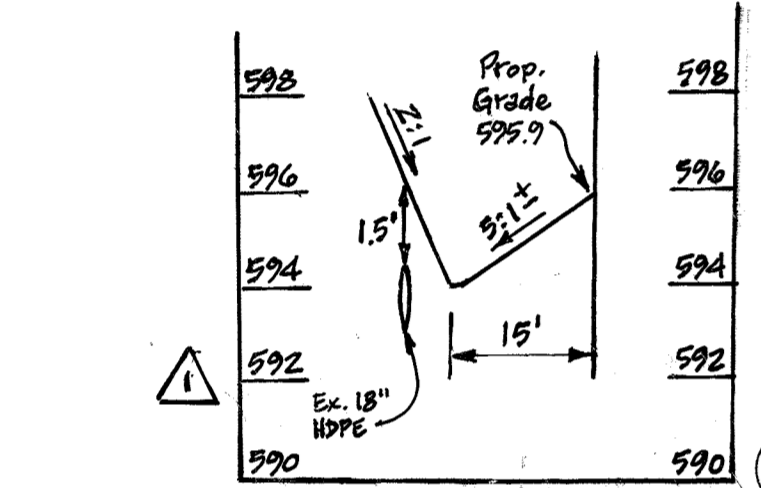
STORM DRAIN PROFILES FAIRLANE FARM PHASE ONE
LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'- 'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK
ZONED: RC-DEO
TAX MAP NO.: 0 GRID NO.: 2, PAR.: 0
TAX MAP NO.: 0 GRID NO.: 3, PAR.: 17
FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 3, 2016
SHEET 20 OF 38

AS-BUILT F-15-054

C:\2005\05106p\proj\Fairlane\Profiles\F-15-054.dwg Plotted on 2/1/2016 9:11:17 AM, 11



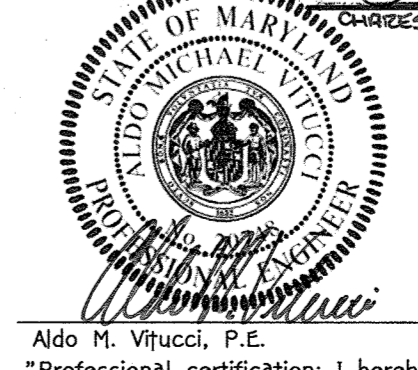
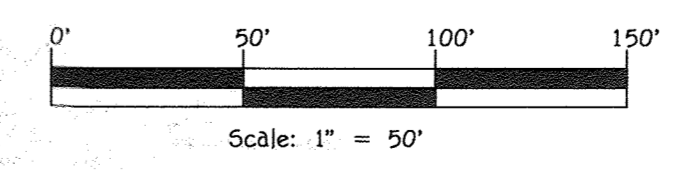
APPROVED: DEPARTMENT OF PUBLIC WORKS		
CHIEF, BUREAU OF HIGHWAYS	<i>M. McManis</i>	3/7/2016
DATE		
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>V. Schuler</i>	3/3/16
DATE		
APPROVED: DEPARTMENT OF DEVELOPMENT ENGINEERING DIVISION		
CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>P. Chisholm</i>	3-18-16
DATE		
REVISIONS		
NO.	DESCRIPTION	DATE
1	ADDED CROSSSECTION OF SWALE AT LOT 27	5/3/19



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLETTT CITY, MARYLAND 21042
 (410) 481-2955

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



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.
 Date: 3/4/16
 Signature: *Aldo M. Vitucci*
 Signature: *Charles J. Quinn*

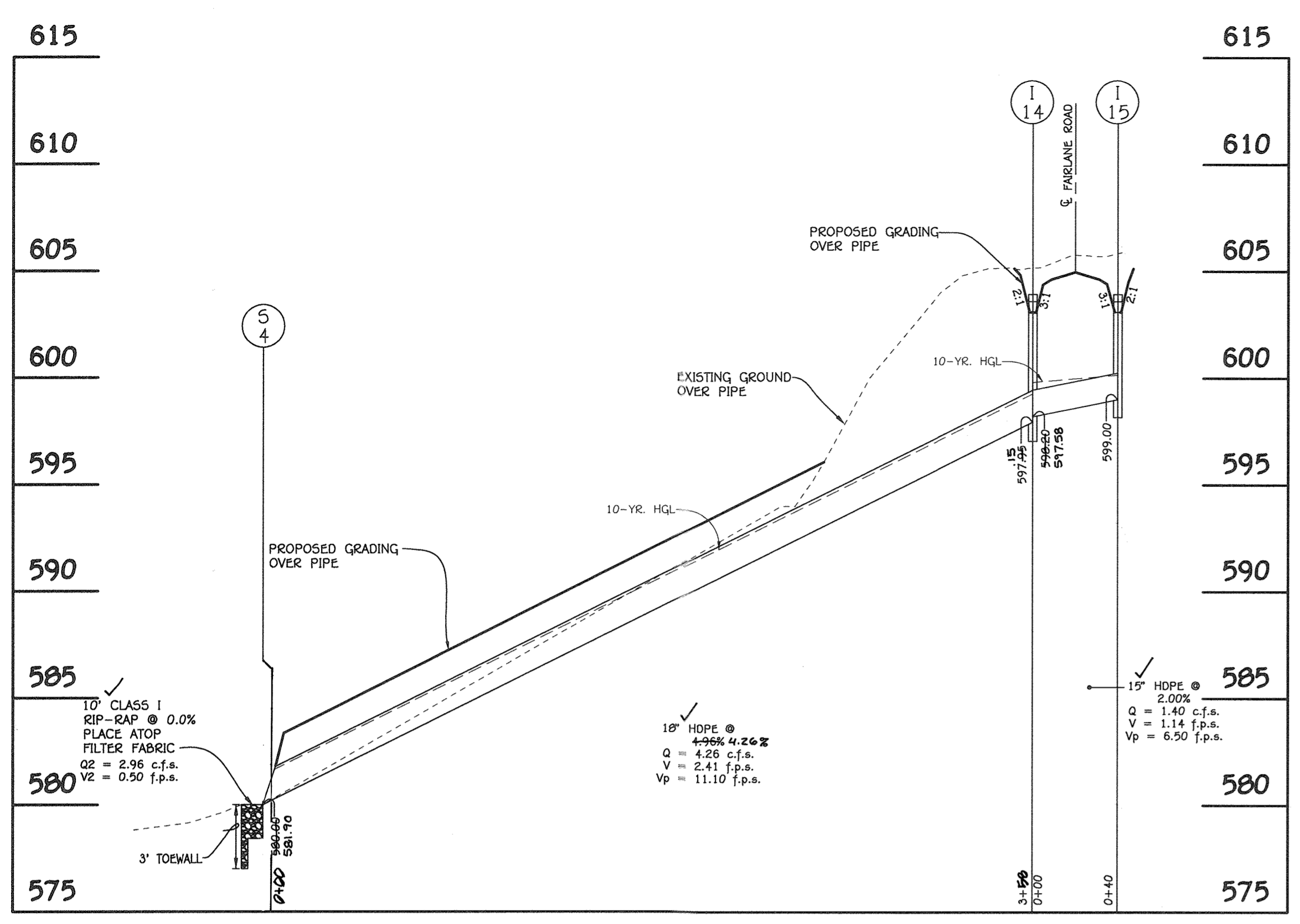
**STORM DRAIN PROFILES
 FAIRLANE FARM
 PHASE ONE**

LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

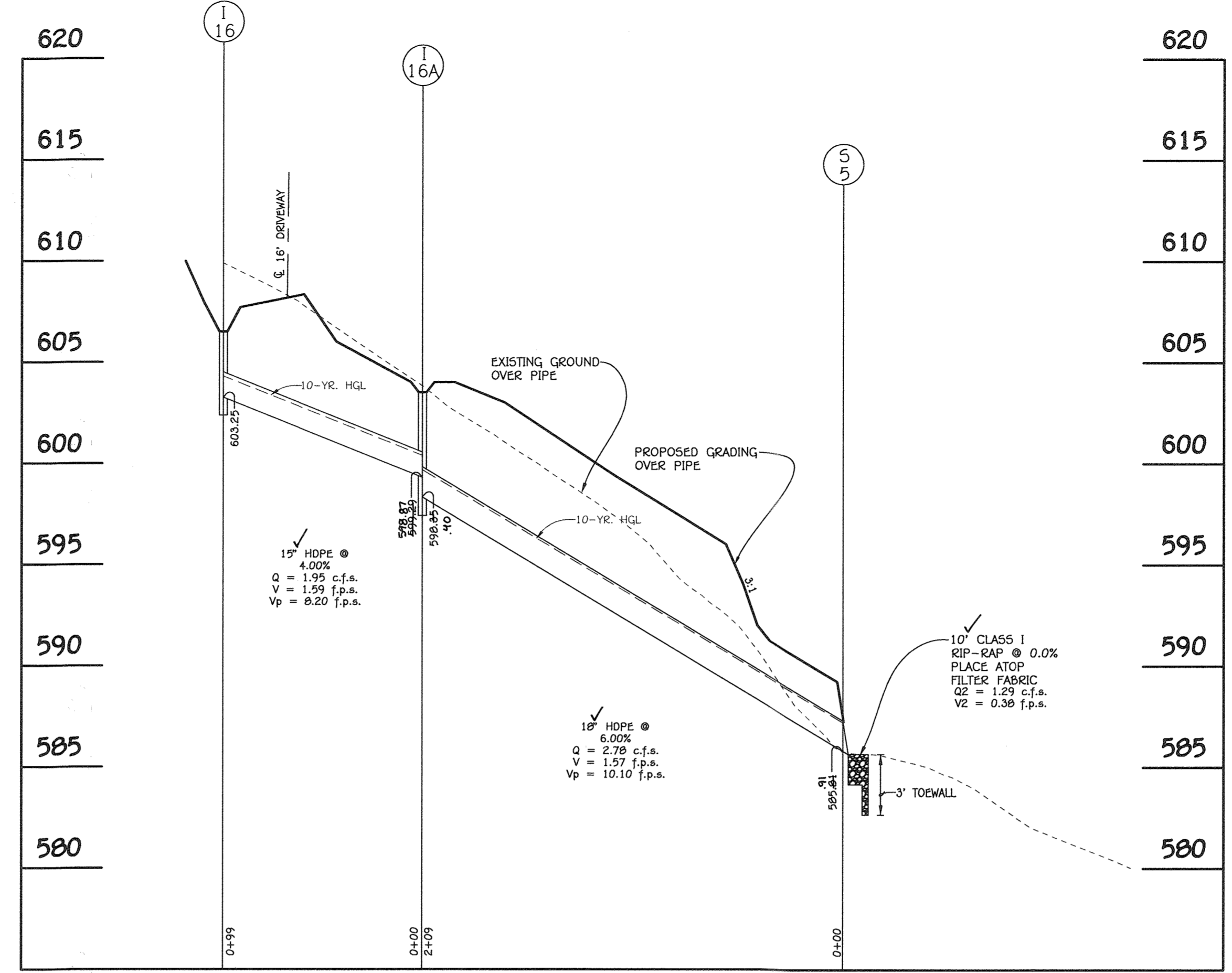
ZONED: RC-DEO
 TAX MAP NO.: 0 GRID NO.: 2, PAR.: 0
 TAX MAP NO.: 0 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 21 OF 30

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways *M. Meunier* 3/7/2016 DATE
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development *West* 3/3/16 DATE
 Chief, Development Engineering Division *W. C. ...* 3-18-16 DATE

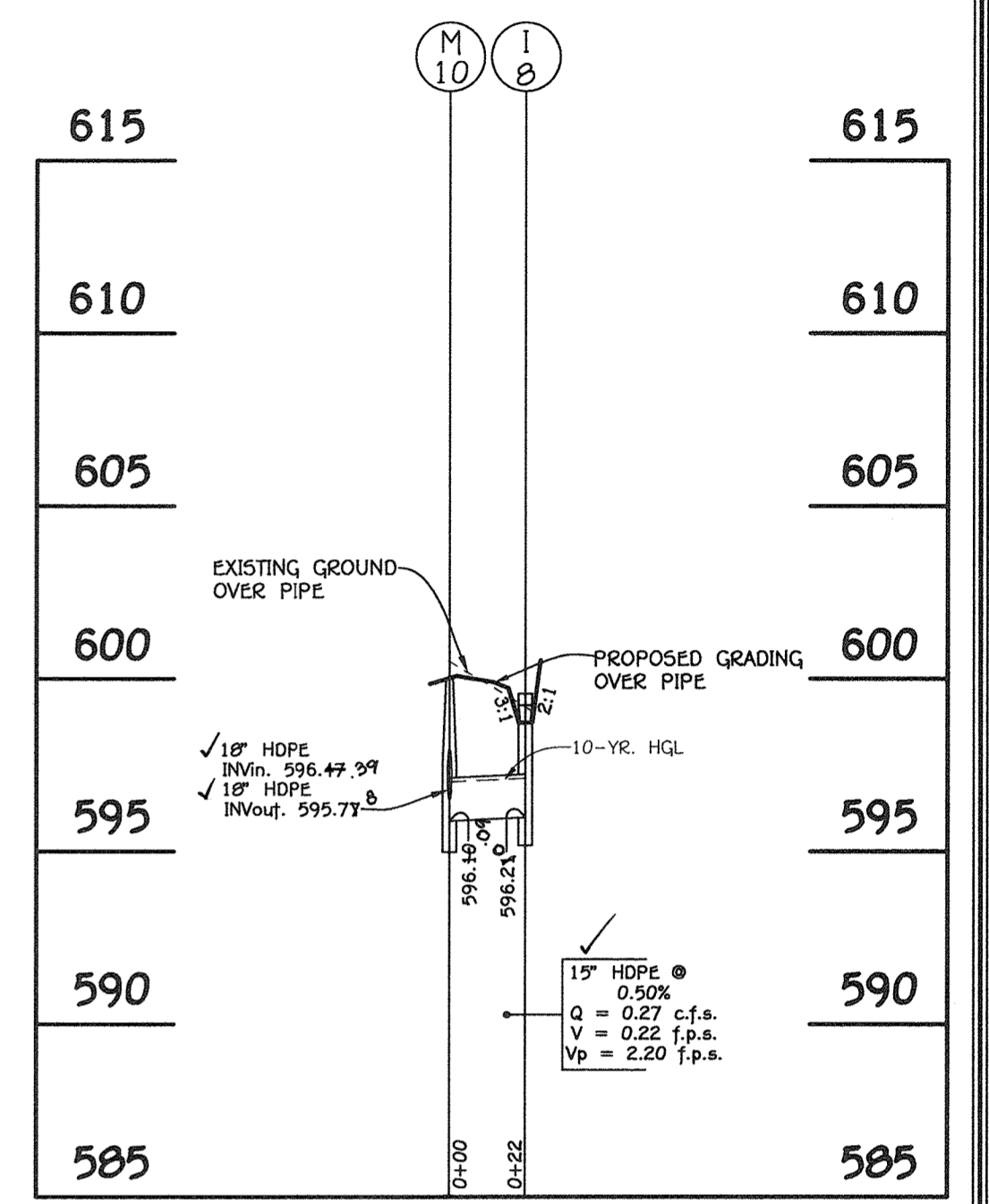
REVISIONS		
NO.	DESCRIPTION	DATE



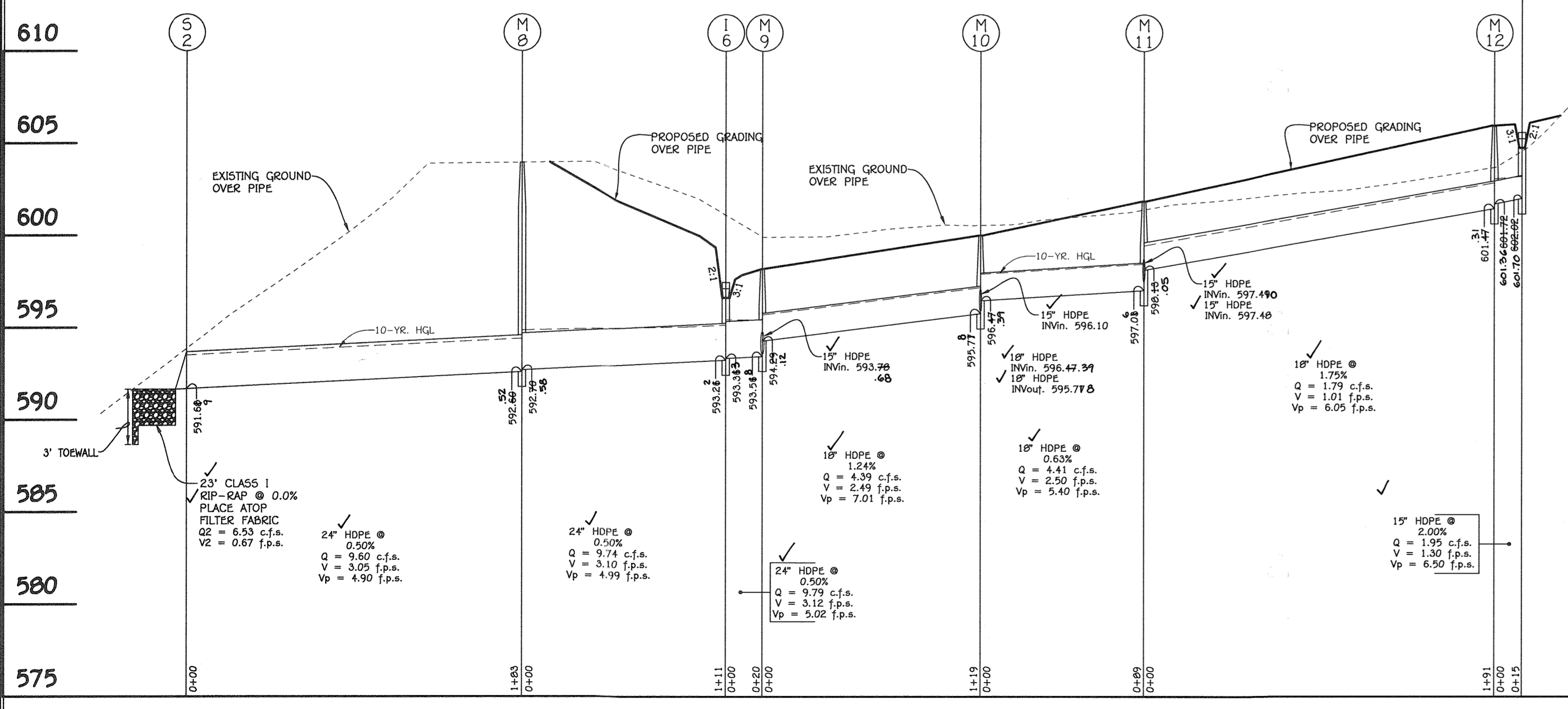
PROFILE
 SCALE: 1" = 50' HOR.
 1" = 5' VERT.



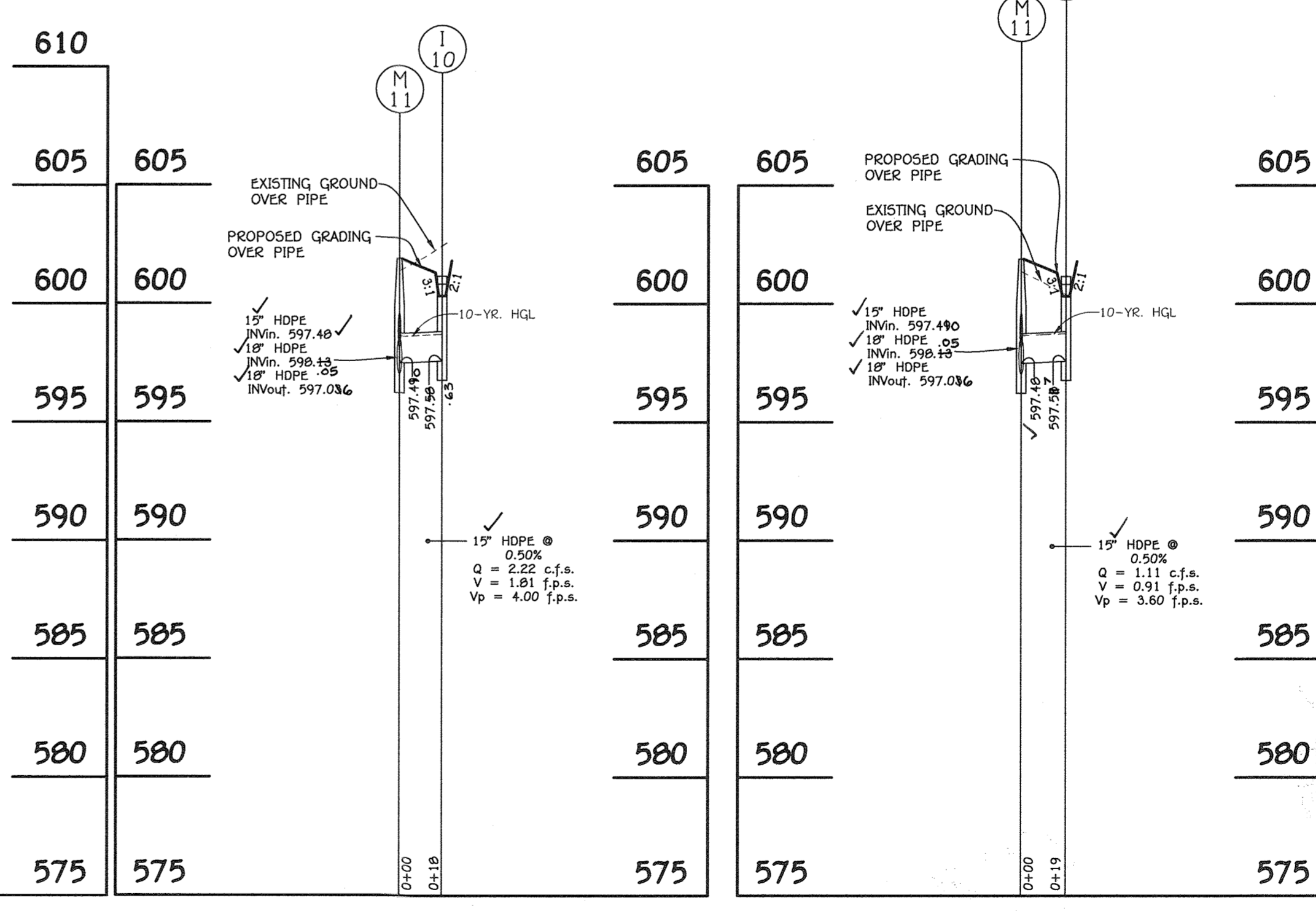
PROFILE
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 1" = 5' VERT.



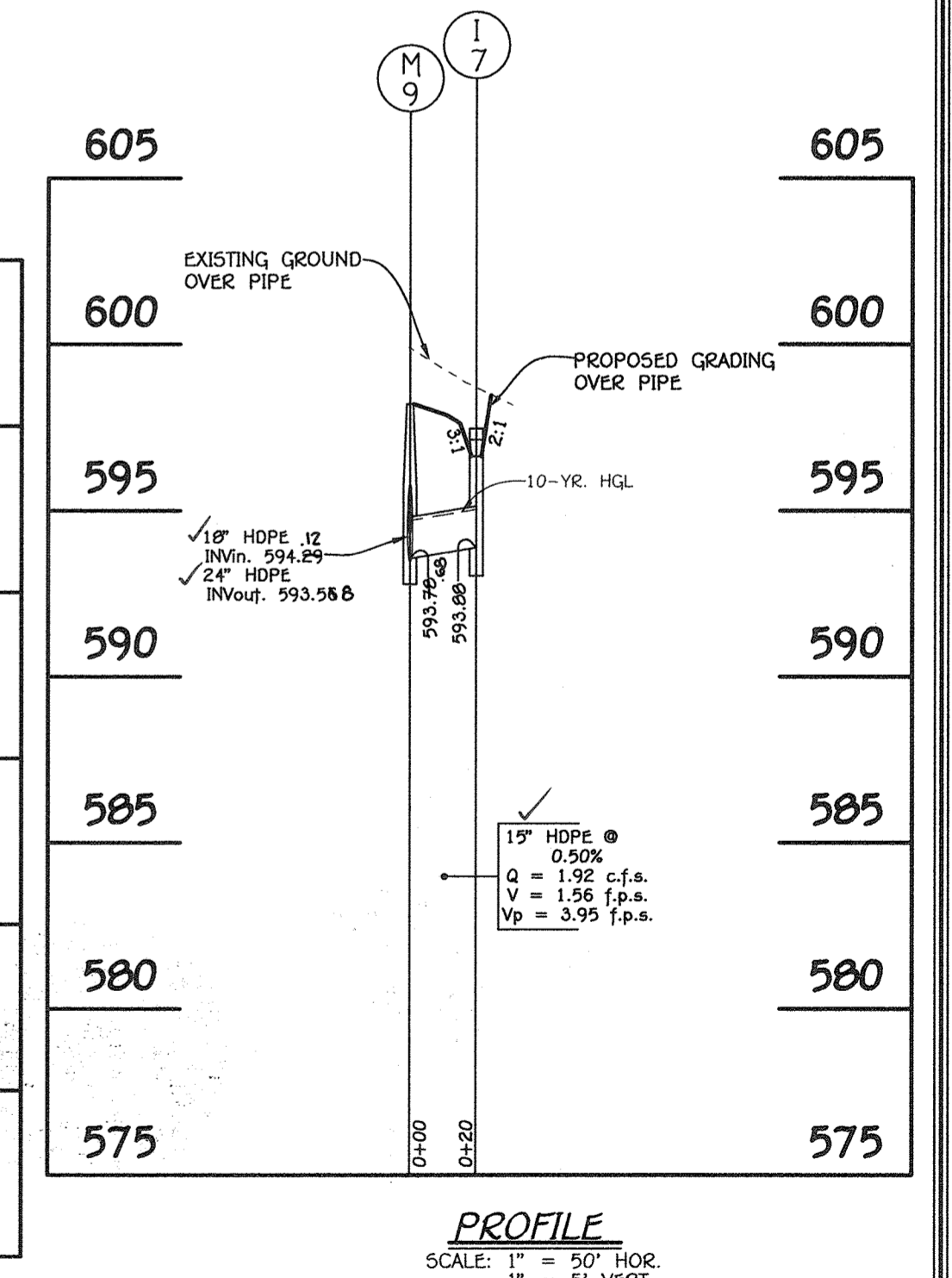
PROFILE
 SCALE: 1" = 50' HOR.
 1" = 5' VERT.



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



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



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

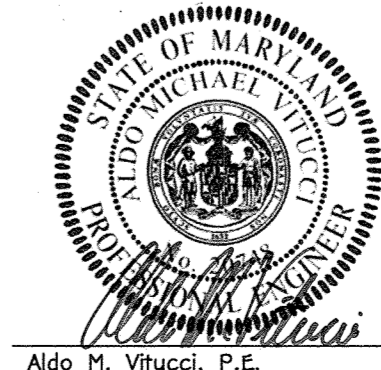
FISHER, COLLINS & CARTER, INC.
 CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



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. Corno Sr. P.E. 19204 Date: 2/16/16



Aldo M. Vitucci, P.E.
 "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."

STORM DRAIN PROFILES
 FAIRLANE FARM
 PHASE ONE
 LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK
 ZONED: RC-DEO
 TAX MAP NO.: 0 GRID NO.: 2, PAR.: 0
 TAX MAP NO.: 0 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 22 OF 30

Sand Filter Specifications

1. Material Specifications for Sand Filters
The allowable materials for sand filter construction are detailed in Table B.3.1.
2. Sand Filter Testing Specifications

Underground sand filters, facilities within sensitive groundwater aquifers, and filters designed to serve urban hot spots are to be tested for water tightness prior to placement of filter media. Entrances and exits should be plugged and the system completely filled with water to demonstrate water tightness. Water tightness means no leakage for a period of 8 hours.

All overflow weirs, multiple orifices and flow distribution slots are to be field-tested to verify adequate distribution of flows.

3. Sand Filter Construction Specifications

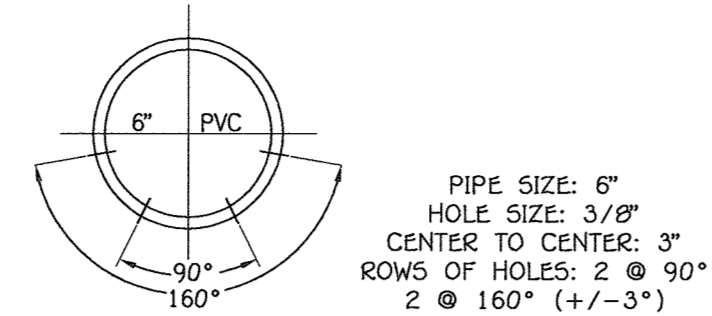
Provide sufficient maintenance access (i.e., 12-foot-wide road with legally recorded easement). Vegetated access slopes are to be a maximum of 10% ; gravel slopes to 15% ; paved slopes to 25%.

Absolutely no runoff is to enter the filter until all contributing drainage areas have been stabilized. Surface of filter bed is to be level.

All underground sand filters should be clearly delineated with signs so that they may be located when maintenance is due.

Surface sand filters may be planted with appropriate grasses; see MAA Approved Species List.

"Pocket" sandfilters (and residential bio-retention facilities treating areas larger than an acre) shall be sized with a stone "window" that covers approximately 10% of the filter area. This "window" shall be filled pea gravel (3/4 inch stone).



SCH 40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE
NO SCALE

NOTES:
UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 750, TYPE P5 20 OR AASHTO-M-270) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HOPEL).

PERFORATIONS SHALL 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 4 x 4) GALVANIZED HARDWARE CLOTH.

GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

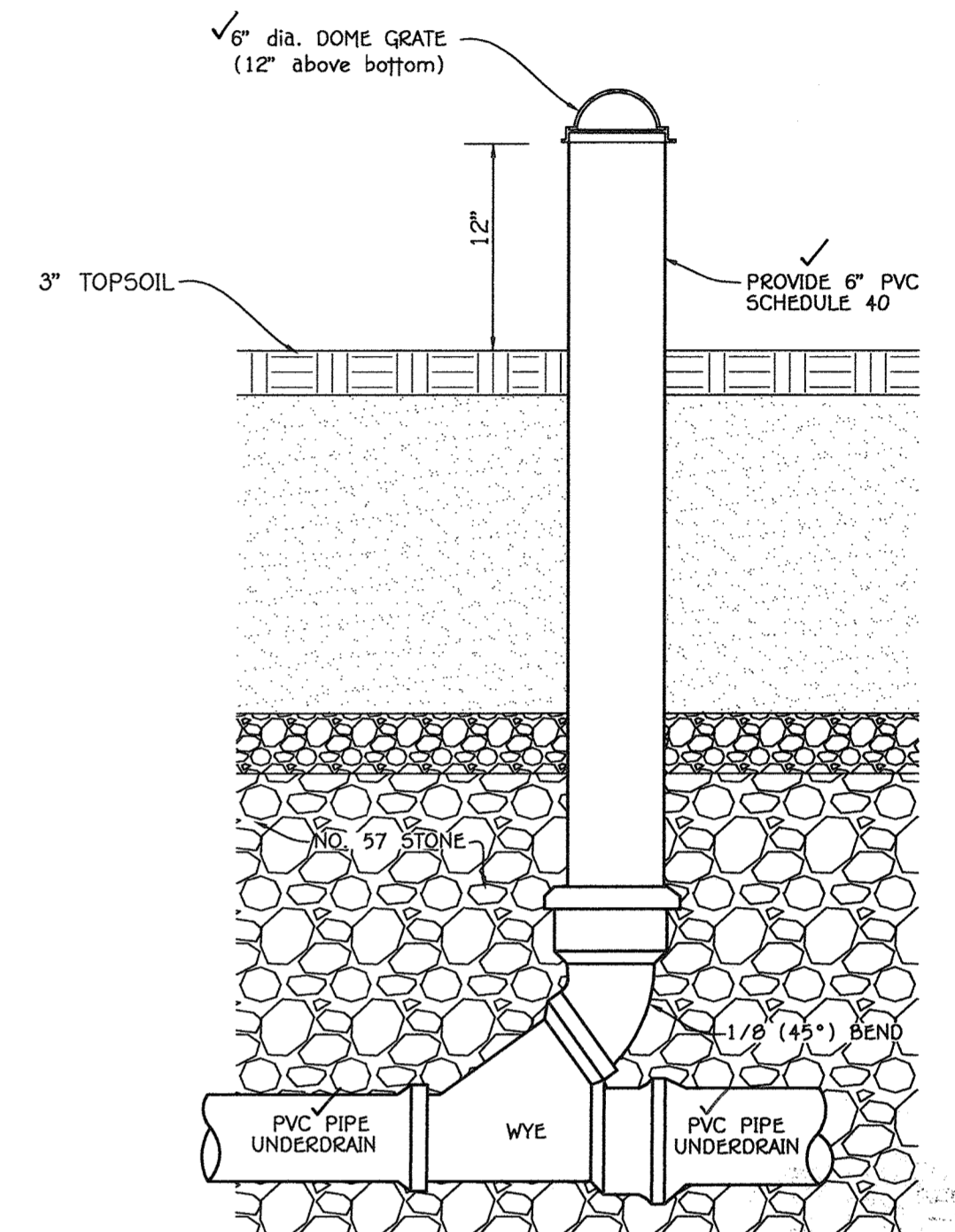
A RIGID, NON PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE SAND MEDIA AND NO. 57 STONE TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

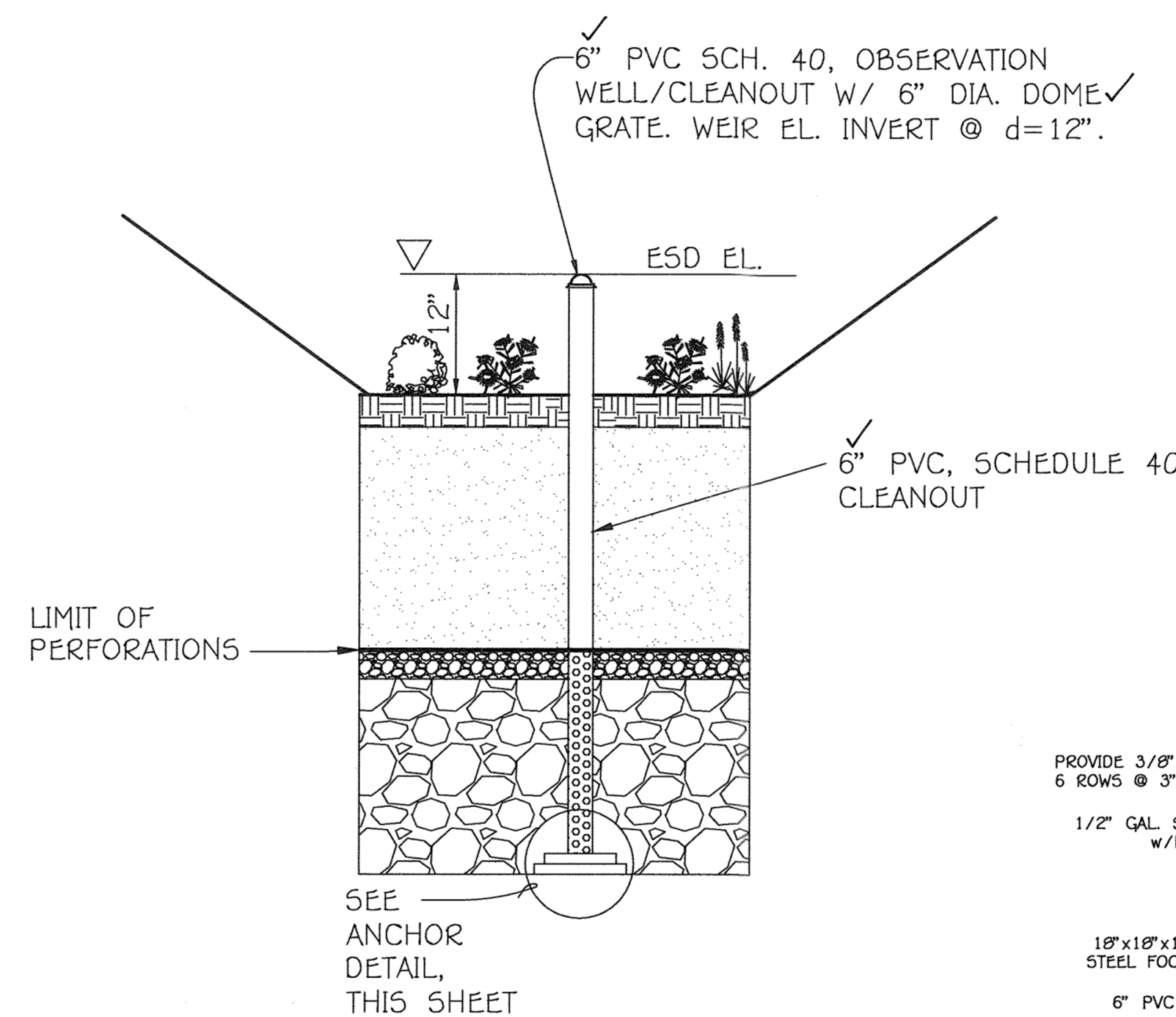
Operation And Maintenance Schedule For Homeowners Association Owned & Maintained Surface Sand Filter (F-1)

1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
7. FILTER MATERIAL MUST BE REPLACED WHEN WATER REMAINS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 24 HOURS FOLLOWING A 1 OR 2 YEAR STORM EVENT OR MORE THAN 48 HOURS AFTER A 10 YEAR STORM EVENT.
8. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

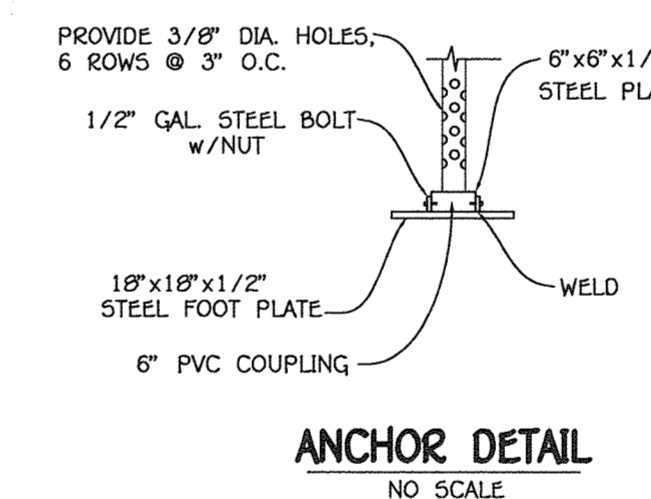
APPROVED: DEPARTMENT OF PUBLIC WORKS		
CHIEF, BUREAU OF HIGHWAYS	3/7/2016 DATE	
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DIVISION OF LAND DEVELOPMENT	3/31/16 DATE	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	3-18-16 DATE	
REVISIONS		
NO.	DESCRIPTION	DATE



Typical Clean-Out Detail
NO SCALE



SECTION @ OBSERVATION WELL LOCATION
NOT TO SCALE



ANCHOR DETAIL
NO SCALE

Table B.3.1 Material Specifications for Sand filters

Material	Specifications/Test Method	Size	Notes
sand	clean AASHTO-M-6 of ASTM-C-concrete sand	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
peat	ash content: < 15% pH range: 5.2 to 4.9 loose bulk density 0.12 to 0.15 g/cc	N/A	The material must be reed-sedge hemic peat, shredded, uncompacted, uniform, and clean.
leaf compost		N/A	
underdrain gravel	AASHTO-M-43	0.375" to 0.75"	
geotextile fabric (if required)	ASTM-D-4833 (puncture strength lb.) ASTM-D-4632 (Tensile Strength lb.)	0.08" thick equivalent opening size of #80 sieve	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "separate" sand filter layers.
impermeable liner (if required)	ASTM-D-4833 (thickness) ASTM-D-412 (tensile strength 1,100 lb., elongation 200%) ASTM-D-624 (Tear resistance - 150 lb./in) ASTM-D-471 (water adsorption: +0 to -2% mass)	30 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.
underdrain piping	F 750, Type P5 20 or AASHTO-M-270	4" - 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
concrete (cast-in-place)	MSHA Standards and Specs. Section 902, Mix No. 3, f'c = 3500 psi, normal weight, air-entrained; reinforcing to meet ASTM-615-60	N/A	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or precast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland
concrete (pre-cast)	per pre-cast manufacturer	N/A	SEE ABOVE NOTE
non-rebar steel	ASTM A-36	N/A	structural steel to be hot-dipped galvanized ASTM-A-123

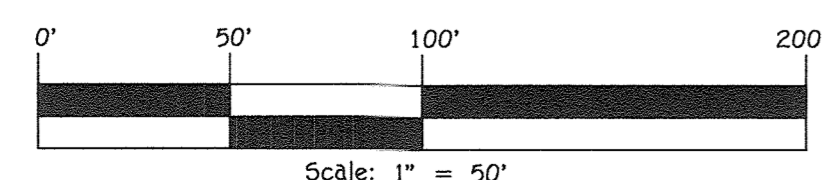


AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.
Date: 2/6/16
CHARLES J. CROVO P.E. PE#1418204

STORMWATER MANAGEMENT NOTES AND DETAILS (SURFACE SAND FILTER)
FAIRLANE FARM PHASE ONE
LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK



Aldo M. Vrucci, P.E.
Date: 2/4/16
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. 20248, Expiration Date 2-22-17.

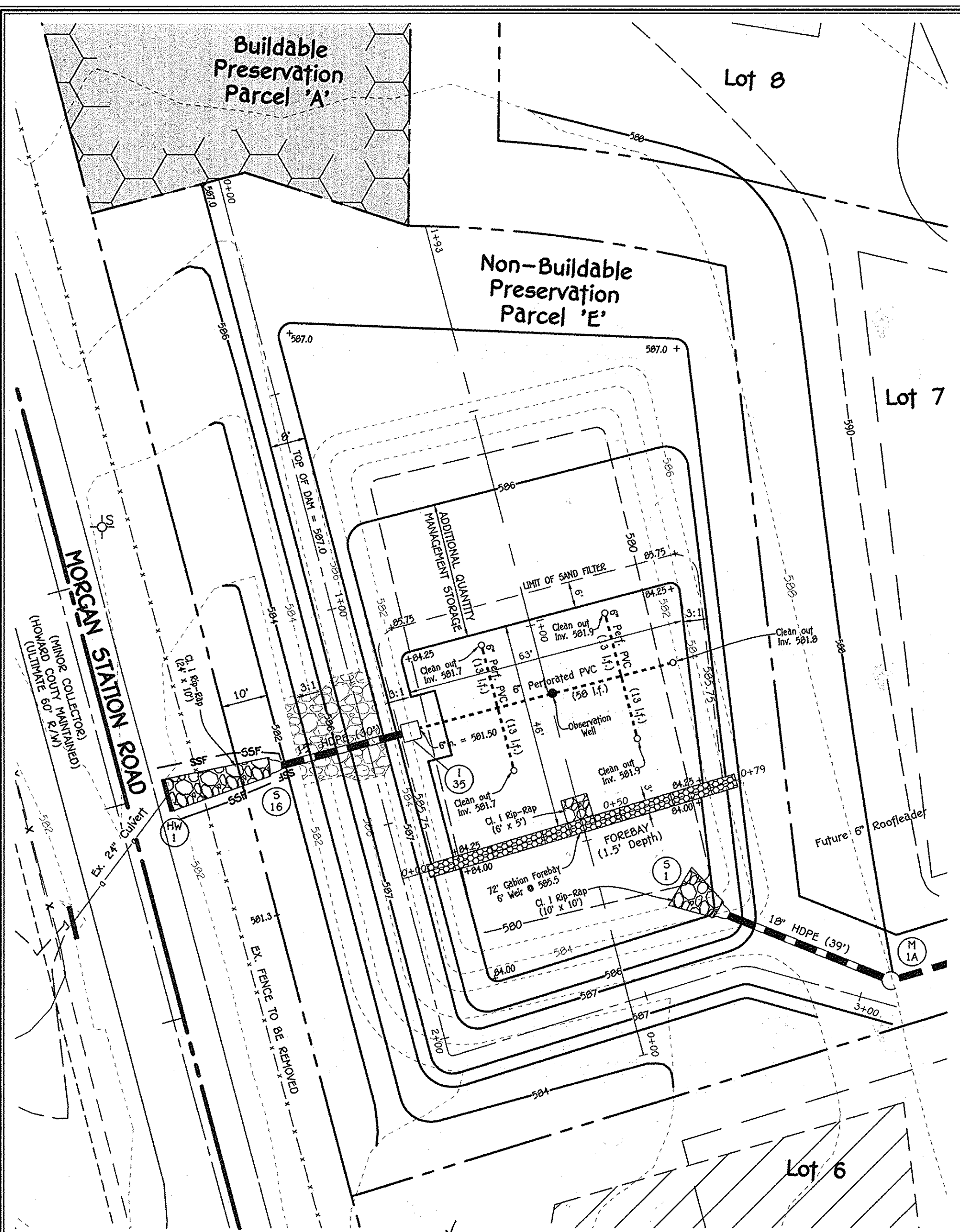


OWNER

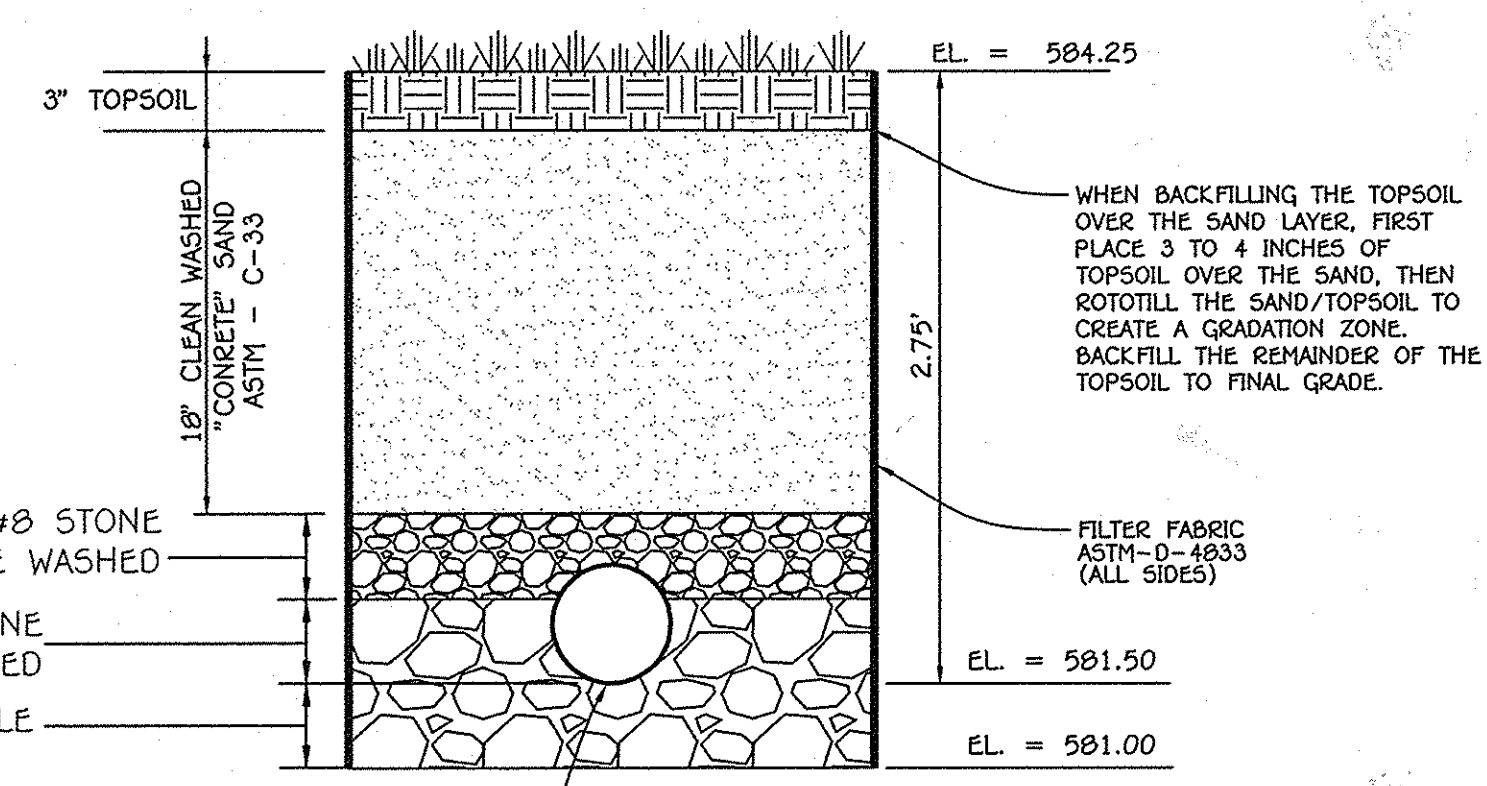
Estate Of F.J. Schulte
c/o Diane Schulte
Personal Representative
2215 Duvall Road
Woodbine, Md 21797
410-977-1327

DEVELOPER

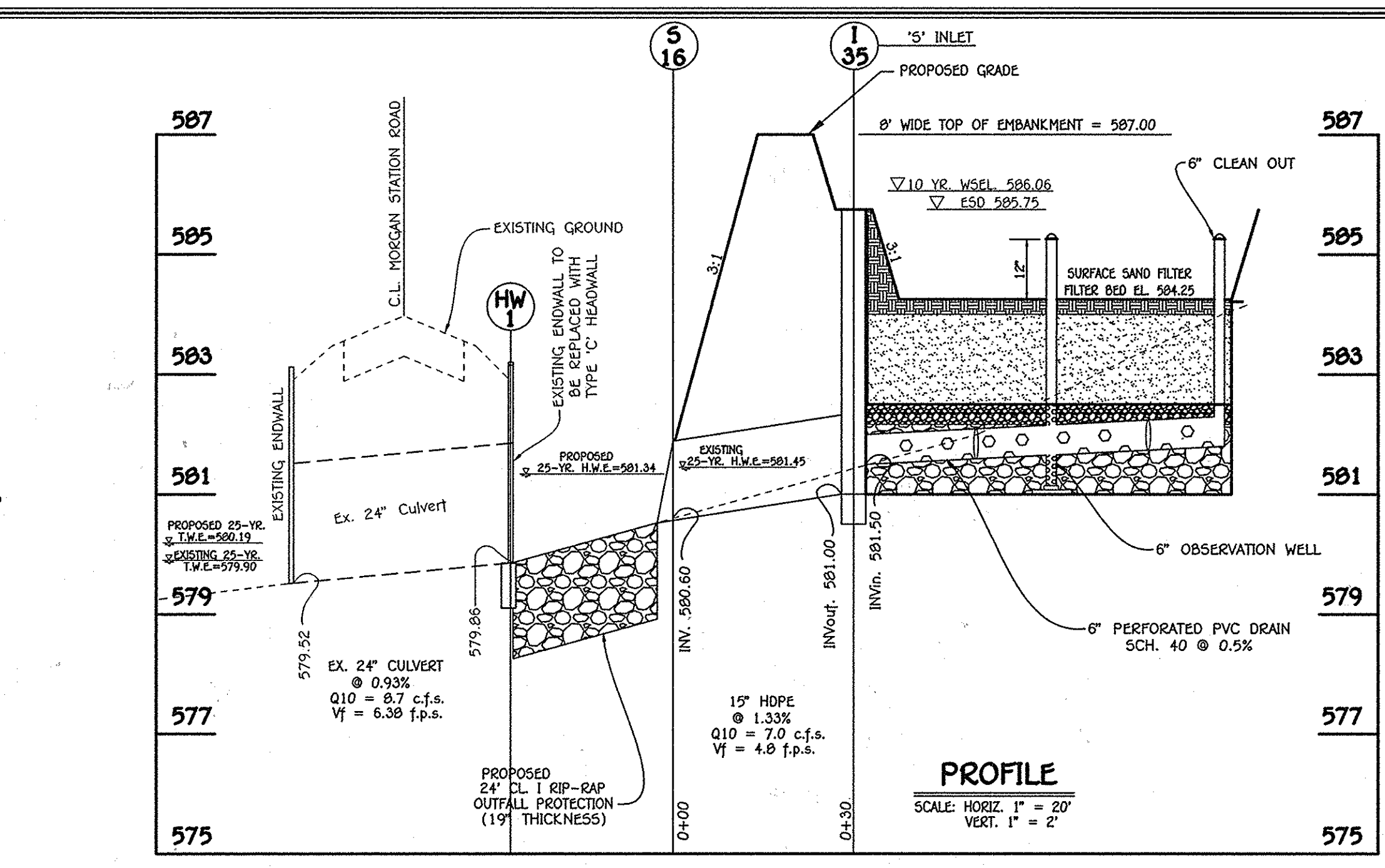
Land Design & Development
5300 Dorsey Hall Drive
Suite 102
Ellicott City, Maryland 21042
(410)-977-0422



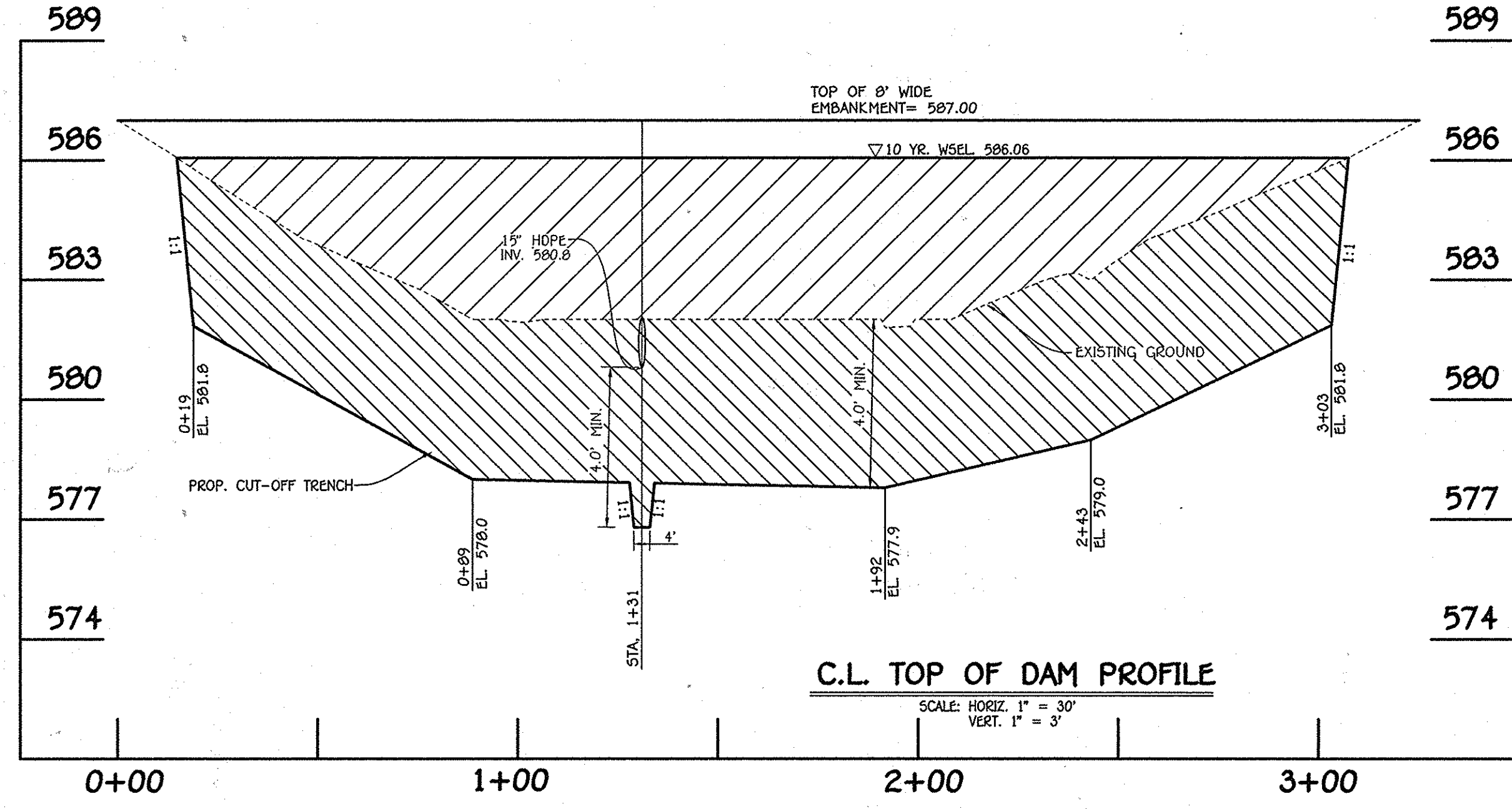
**PROPOSED SURFACE SAND FILTER (F-1)
BMP No. 1 PLAN VIEW**
SCALE: 1" = 20'



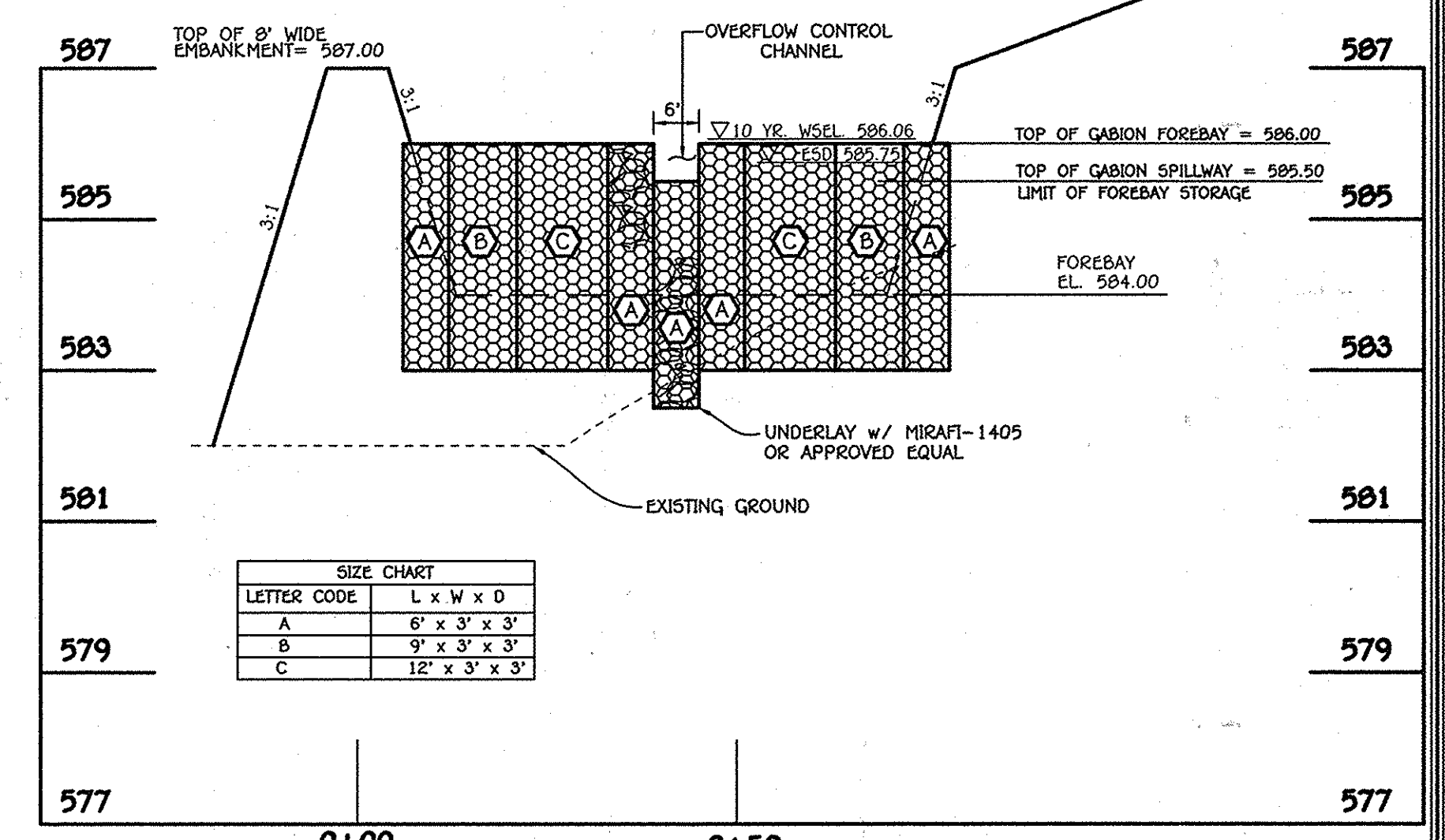
TYPICAL SECTION - SURFACE SAND FILTER (F-1)
NO SCALE



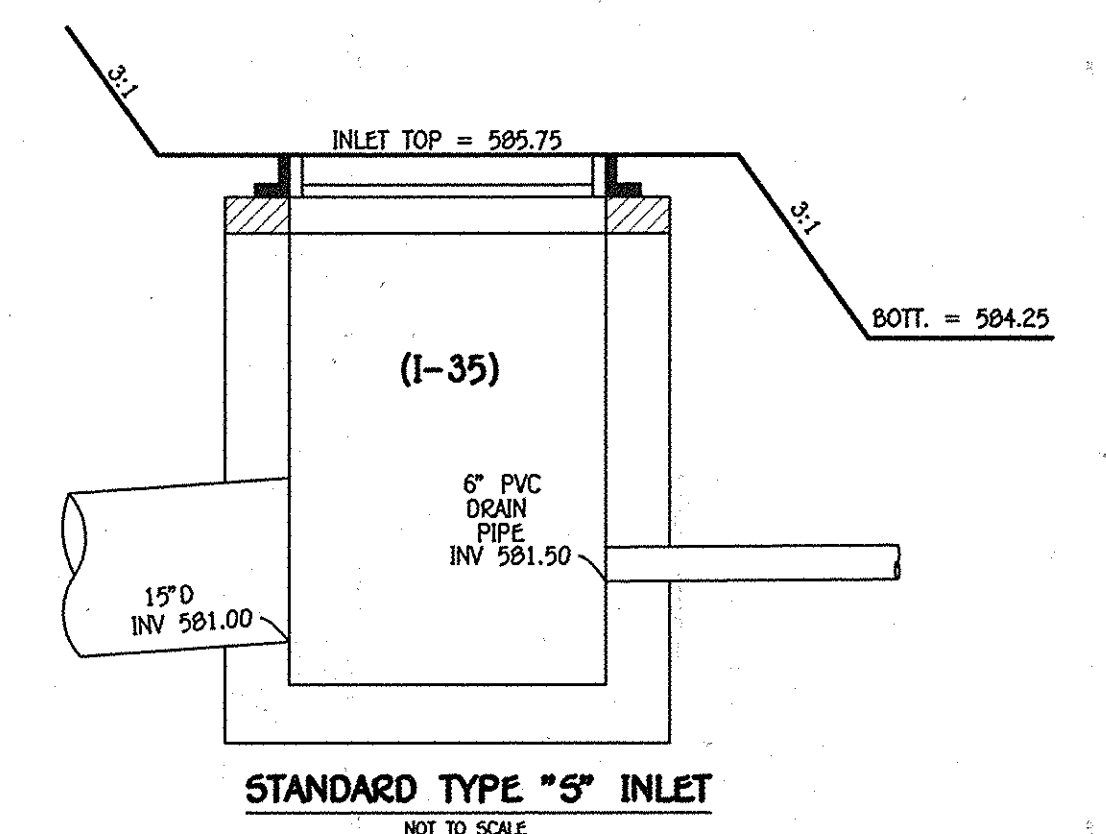
PROFILE
SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



C.L. TOP OF DAM PROFILE
SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



GATION FOREBAY PROFILE
SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



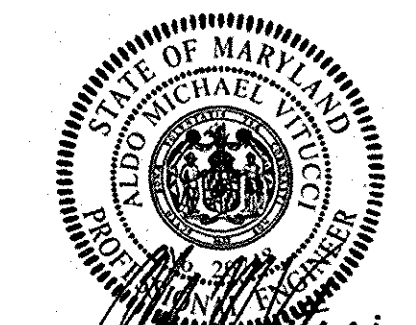
**Operation And Maintenance Schedule For
Homeowners Association Owned & Maintained
Surface Sand Filter (F-1)**

1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
7. FILTER MATERIAL MUST BE REPLACED WHEN WATER REMAINS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 24 HOURS FOLLOWING A 1 OR 2 YEAR STORM EVENT OR MORE THAN 48 HOURS AFTER A 10 YEAR STORM EVENT.
8. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

**STORMWATER MANAGEMENT PLAN AND DETAILS
B.M.P. No. 1 (F-1)**

**FAIRLANE FARM
PHASE ONE**

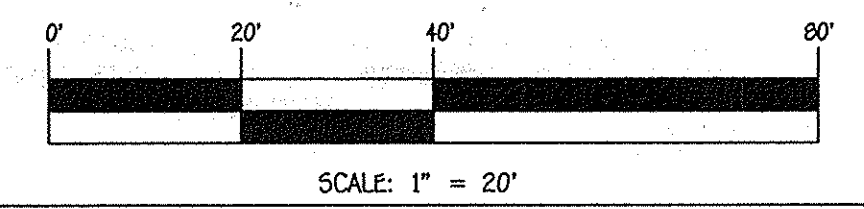
LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B'- 'E',
PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
AND FOREST MITIGATION BANK



Aldo M. Vitucci, P.E.
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. 20749, Expiration Date 2-22-12.

ZONED: RC-DEO
TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 3, 2016
SHEET 24 OF 30

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SOURCE OFFICE PARK - 10726 BALTIMORE NATIONAL PIKE
CLAYTON CITY, MARYLAND 21114
(410) 461-2995

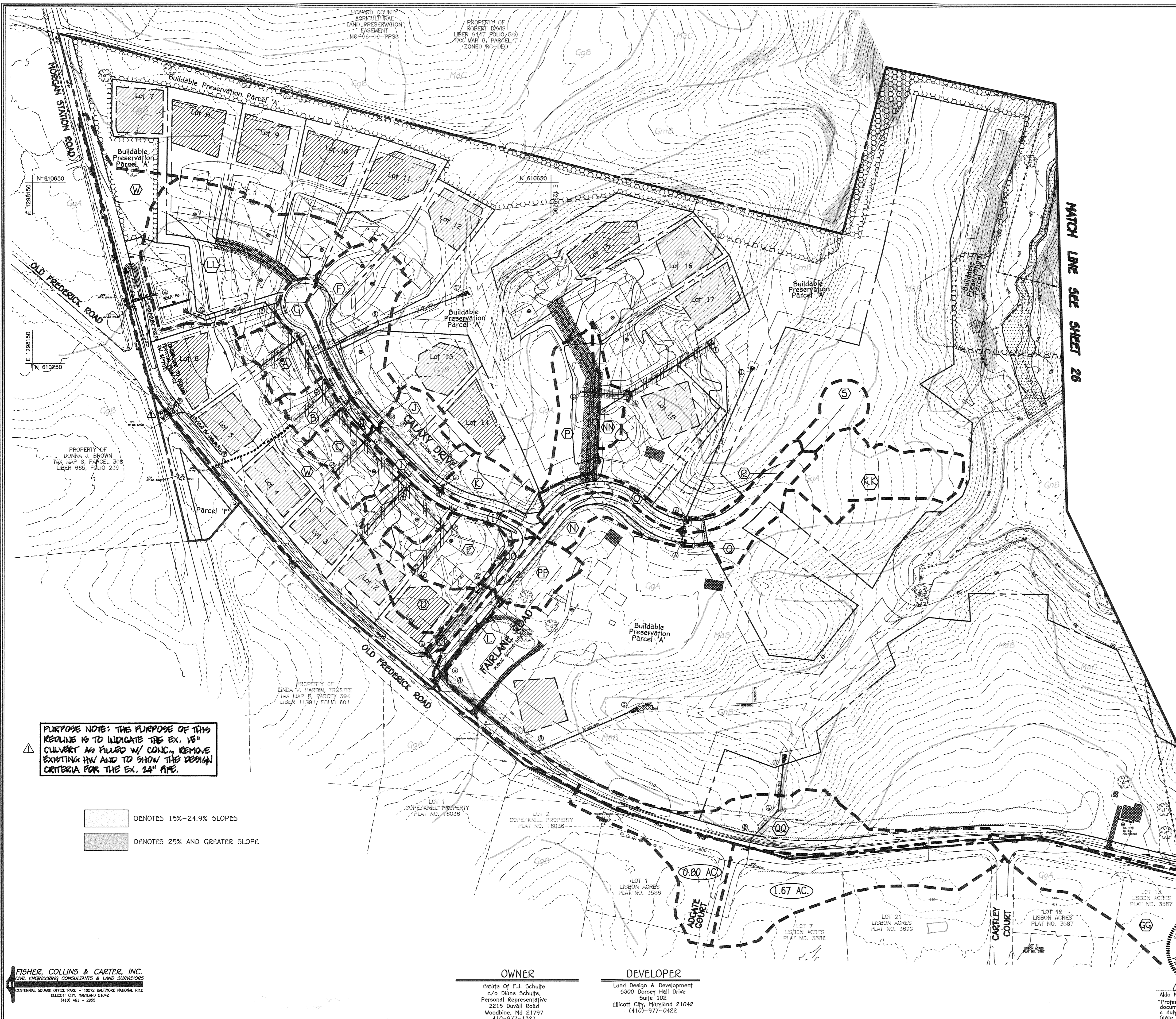


OWNER
Estate Of F.J. Schulte
c/o Diane Schulte,
Personal Representative
2215 Duvall Road
Woodbine, Md 21797
410-977-1327

DEVELOPER
Land Design & Development
5300 Dorsey Hall Drive
Suite 102
Ellicott City, Maryland 21042
(410)-977-0422

SECTION THRU SURFACE SANDFILTER

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



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

3/7/2016
 DATE
 3/3/16
 DATE
 3-18-16
 DATE

REVISIONS

NO.	DESCRIPTION	DATE
1	SHOW THE EX. 18" PIPE AS FILLED W/ CONC., REMOVE EXISTING HEADWALL & SHOW 24" DESIGN CRITERIA	11/20/15

SOILS LEGEND

SOIL	NAME	CLASS	K _w
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.28
MaB	Manor loam, 3 to 8 percent slopes	B	0.27
MaC	Manor loam, 8 to 15 percent slopes	B	0.27
GmB	Glenville silt loam, 3 to 8 percent slopes	C	(e) 0.43
GgB	Glenelig loam, 3 to 8 percent slopes	B	0.27
GnB	Glenville-Balle silt loams, 0 to 8 percent slopes	C	(e) 0.43
GgA	Glenville loam, 0 to 3 percent slopes	B	0.31
OcC	Occoquan loam, 8 to 15 percent slopes	B	0.28
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	(e) 0.34

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

NOTES:

- * Hydric soils and/or contains hydric inclusions
- ** May contain hydric inclusions
- † Generally only within 100-year floodplain areas
- (e) highly erodible soil

DRAINAGE AREA DATA

STRUCTURE NO.	DRAINAGE AREA	AREA	C'	ZONED	% IMP.
I-1	A	0.43 AC.	0.33	RC-DEO	13%
I-2	B	0.24 AC.	0.46	RC-DEO	31%
I-3	C	0.52 AC.	0.37	RC-DEO	19%
I-4	D	0.86 AC.	0.28	RC-DEO	6%
I-5	E	0.65 AC.	0.57	RC-DEO	46%
I-6	F	1.26 AC.	0.42	RC-DEO	29%
I-7	G	0.32 AC.	0.62	RC-DEO	53%
I-8	H	0.06 AC.	0.48	RC-DEO	34%
I-9	I	0.29 AC.	0.39	RC-DEO	27%
I-10	J	0.95 AC.	0.41	RC-DEO	22%
I-11	K	0.47 AC.	0.35	RC-DEO	15%
I-12	L	0.42 AC.	0.44	RC-DEO	28%
I-13	M	0.13 AC.	0.55	RC-DEO	44%
I-14	N	0.46 AC.	0.41	RC-DEO	24%
I-15	O	0.29 AC.	0.50	RC-DEO	37%
I-16	P	0.63 AC.	0.32	RC-DEO	11%
I-16A	NN	0.23 AC.	0.32	RC-DEO	12%
I-17	Q	0.38 AC.	0.42	RC-DEO	25%
I-18	R	0.22 AC.	0.47	RC-DEO	33%
I-19	S	0.20 AC.	0.95	RC-DEO	100%
I-20	T	2.78 AC.	0.24	RC-DEO	0%
I-21	U	0.34 AC.	0.24	RC-DEO	0%
I-22	V	0.78 AC.	0.42	RC-DEO	29%
I-23	W	0.32 AC.	0.41	RC-DEO	24%
I-24	X	0.74 AC.	0.44	RC-DEO	28%
I-25	Y	0.70 AC.	0.41	RC-DEO	24%
I-26	Z	0.27 AC.	0.44	RC-DEO	28%
I-27	AA	1.33 AC.	0.52	RC-DEO	40%
I-28	BB	0.46 AC.	0.24	RC-DEO	0%
I-29	CC	0.16 AC.	0.47	RC-DEO	32%
I-30	DD	0.13 AC.	0.43	RC-DEO	27%
I-31	EE	0.90 AC.	0.40	RC-DEO	7%
I-32	FF	0.57 AC.	0.38	RC-DEO	27%
I-33	HH	0.43 AC.	0.58	RC-DEO	48%
I-34	II	5.93 AC.	0.51	RC-DEO	38%
I-35	LL	2.41 AC.	0.49	RC-DEO	35%
I-36	KK	1.03 AC.	0.68	RC-DEO	63%
I-37	BMP#3	3.29 AC.	0.32	RC-DEO	35%
I-38	JJ	1.06 AC.	0.28	RC-DEO	5%
Ex. Culvert	GG	3.61 AC.	0.51	RC-DEO	38%
I-39	MM	0.07 AC.	0.63	RC-DEO	53%
I-40	JJ	1.00 AC.	0.42	RC-DEO	25%
I-41	OO	0.10 AC.	0.66	RC-DEO	59%
I-42	PP	0.41 AC.	0.31	RC-DEO	10%
I-43	QQ	1.34 AC.	RC-DEO	22%	

PURPOSE NOTE: THE PURPOSE OF THIS REVISION IS TO INDICATE THE EX. 18" CULVERT AS FILLED W/ CONC., REMOVE EXISTING HW AND TO SHOW THE DESIGN CRITERIA FOR THE EX. 24" PIPE.

□ DENOTES 15%-24.9% SLOPES
 ■ DENOTES 25% AND GREATER SLOPE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SOURCE OFFICE PARK - 10722 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorset Hill Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 ADO M. VFUCCI, P.E.
 Date: 3/1/16

"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."



AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 CHARLES J. CRANDALL
 Date: 3/1/16

OVERALL STORM DRAIN DRAINAGE AREA MAP & SOILS MAP FAIRLANE FARM PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 9 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 25 OF 36

THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET F-15-054

APPROVED: DEPARTMENT OF PUBLIC WORKS	<i>M. Vitucci</i>	3/7/2016
CHIEF, BUREAU OF HIGHWAYS		DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	<i>V. Staloch</i>	3/2/16
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
APPROVED: DEPARTMENT OF DEVELOPMENT ENGINEERING DIVISION	<i>M. Vitucci</i>	3-18-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE
REVISIONS		
NO.	DESCRIPTION	DATE



MATCH LINE SEE SHEET 25

DENOTES 15%-24.9% SLOPES
 DENOTES 25% AND GREATER SLOPE

SOILS LEGEND				
SOIL	NAME	CLASS	Kw	
GpB	Gladstone loam, 3 to 8 percent slopes	B	0.28	
MaB	Manor loam, 3 to 8 percent slopes	B	0.27	
MaC	Manor loam, 8 to 15 percent slopes	B	0.27	
GmB	Glenville silt loam, 3 to 8 percent slopes	C	(e) 0.43	
GgB	Glenville loam, 3 to 8 percent slopes	B	0.27	
GpB	Glenville-Balle silt loams, 0 to 8 percent slopes	C	(e) 0.43	
GgA	Glenville loam, 0 to 3 percent slopes	B	0.31	
OcC	Occoquan loam, 8 to 15 percent slopes	B	0.28	
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	(e) 0.34	

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

NOTES:

- * Hydric soils and/or contains hydric inclusions
- ** May contain hydric inclusions
- † Generally only within 100-year floodplain areas
- (e) highly erodible soil

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SOURCE OFFICE PARK - 10272 BALDORNE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER	DEVELOPER
Estate Of F.J. Schulte c/o Diane Schulte, Personal Representative 2215 Duxell Road Woodbine, Md 21797 410-977-1327	Land Design & Development 5300 Dorsey Hall Drive Suite 102 Ellicott City, Maryland 21042 (410)-977-0422



Aldo M. Vitucci, P.E.
 Date: 3/4/16
 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.

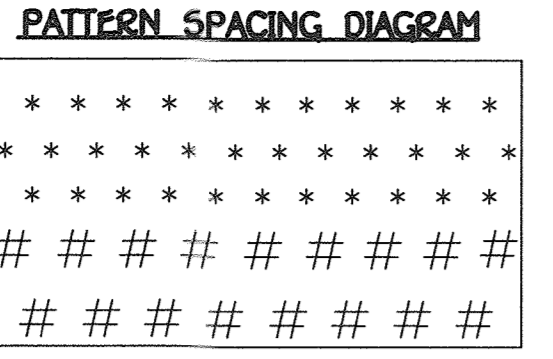


AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
[Signature]
 CAROLLES T. FROVIS SE. PE#18264 Date: 2/6/20

OVERALL STORM DRAIN DRAINAGE AREA MAP & SOILS MAP FAIRLANE FARM PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A'; NON-BUILDABLE PRESERVATION PARCELS 'B'-'E'; PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 28 OF 38

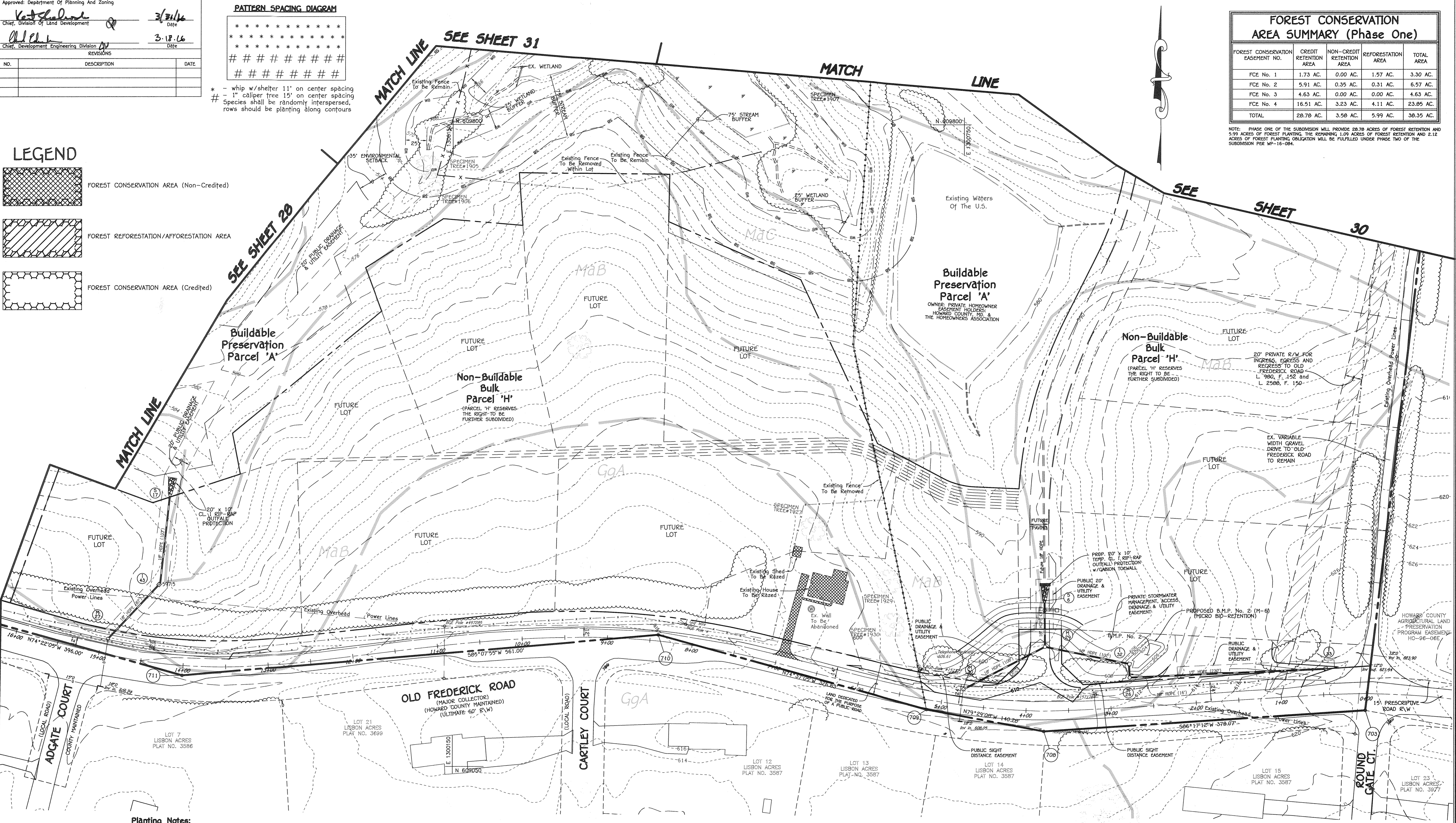
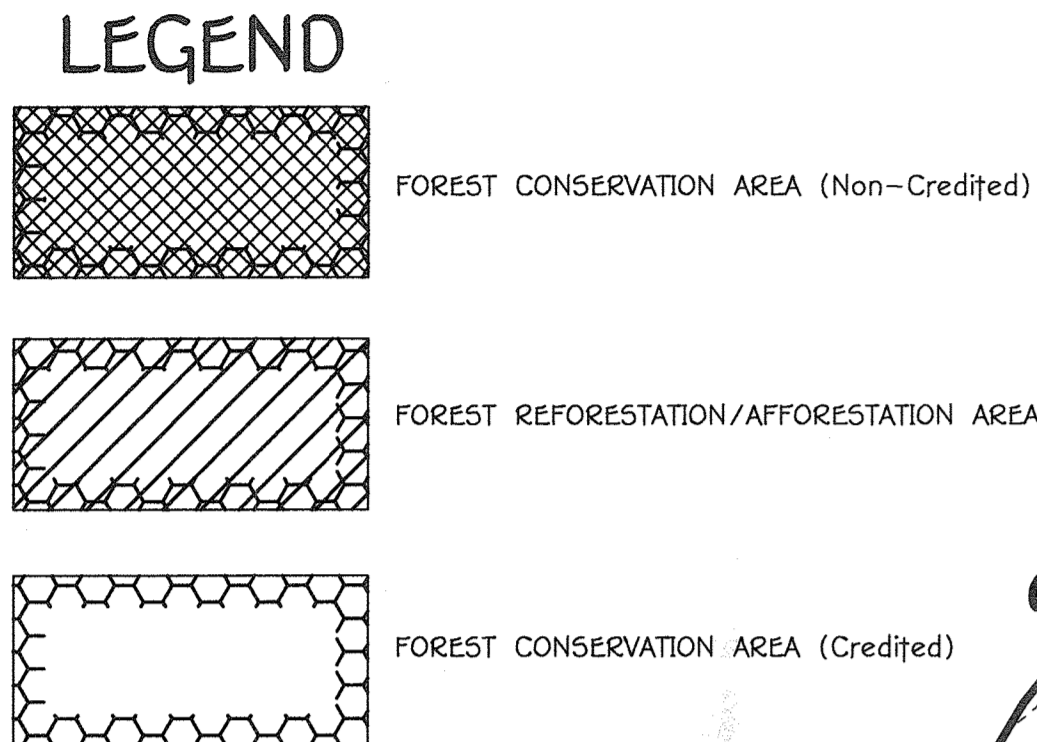
Approved: Department of Planning and Zoning
 Chief, Division of Land Development
 Date: 3/31/16
 Date: 3-18-16
 Chief, Development Engineering Division
 REVISIONS
 NO. DESCRIPTION DATE



* - whip w/shelter 11' on center spacing
 # - 1" caliper tree 15' on center spacing
 Species shall be randomly interspersed.
 rows should be planting along contours

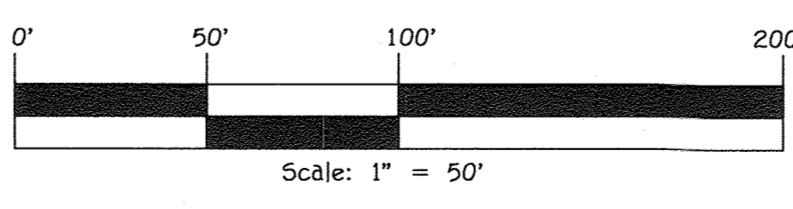
FOREST CONSERVATION AREA SUMMARY (Phase One)				
FOREST CONSERVATION EASEMENT NO.	CREDIT RETENTION AREA	NON-CREDIT RETENTION AREA	REFORESTATION AREA	TOTAL AREA
FCE No. 1	1.73 AC.	0.00 AC.	1.57 AC.	3.30 AC.
FCE No. 2	5.91 AC.	0.35 AC.	0.31 AC.	6.57 AC.
FCE No. 3	4.63 AC.	0.00 AC.	0.00 AC.	4.63 AC.
FCE No. 4	16.51 AC.	3.23 AC.	4.11 AC.	23.85 AC.
TOTAL	28.78 AC.	3.58 AC.	5.99 AC.	38.35 AC.

NOTE: PHASE ONE OF THE SUBDIVISION WILL PROVIDE 28.78 ACRES OF FOREST RETENTION AND 5.99 ACRES OF FOREST PLANTING. THE REMAINING 1.09 ACRES OF FOREST RETENTION AND 2.12 ACRES OF FOREST PLANTING OBLIGATION WILL BE FULFILLED UNDER PHASE TWO OF THE SUBDIVISION PER WP-16-084.



Planting Notes:

Planting units defined by the spacing requirements established in the FCA Manual. One plant unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 300 whip w/shelters, or 200 1" caliper trees, or 100 2" caliper trees. By conversion it has been determined that 1 seedling or whip without shelter = 1 unit, whip with shelter = 2 units, 1" caliper tree = 3.5 units and 2" caliper tree = 7 units. The use of plant units simplifies the plant density calculations when mixing stock size.
 * - These species should not be planted within the wetland limits.
 1" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing. Whip spacing to be placed on 11 foot centers, shelters will be required per Howard County policy.
 Planting shall be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance.
 Multiflor rose/heavy brush removal/control may be required prior to installation of planting.
 All whips are required to be installed with tree shelters per Howard County FCA requirements.



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2295

OWNER
 Estate of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative,
 2215 Durvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 Date: 2/6/20
 Charles S. Gano, P.E. #18284





**FOREST CONSERVATION PLAN
 FAIRLANE FARM
 PHASE ONE**
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK
 ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 27 OF 38

THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Approved: Department of Planning And Zoning
 Chief, Division of Land Development *V. J. Schulte* 3/21/16 Date
 Chief, Development Engineering Division *C. J. Schulte* 3-18-16 Date

NO.	DESCRIPTION	DATE

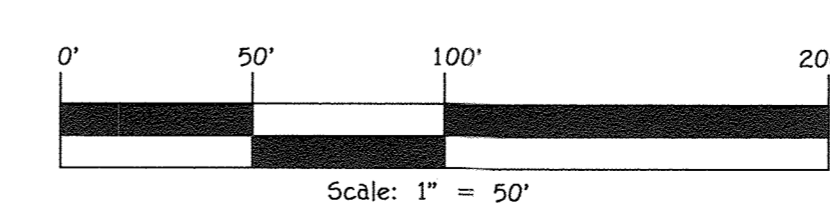
 DENOTES EXISTING SLOPES 15% TO 24.9%
 DENOTES EXISTING SLOPES 25% AND GREATER



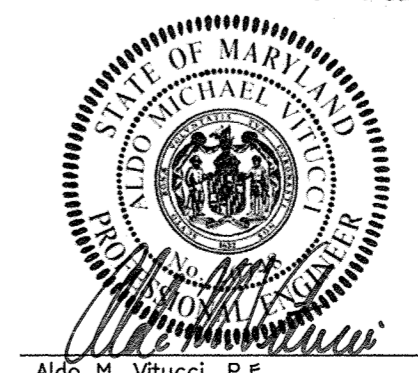
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
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 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



AS-BUILT-CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
Aldo M. Vrucci 2/16/16 Date
 DIOCEDES S. COVINO SR. P.E. #152041



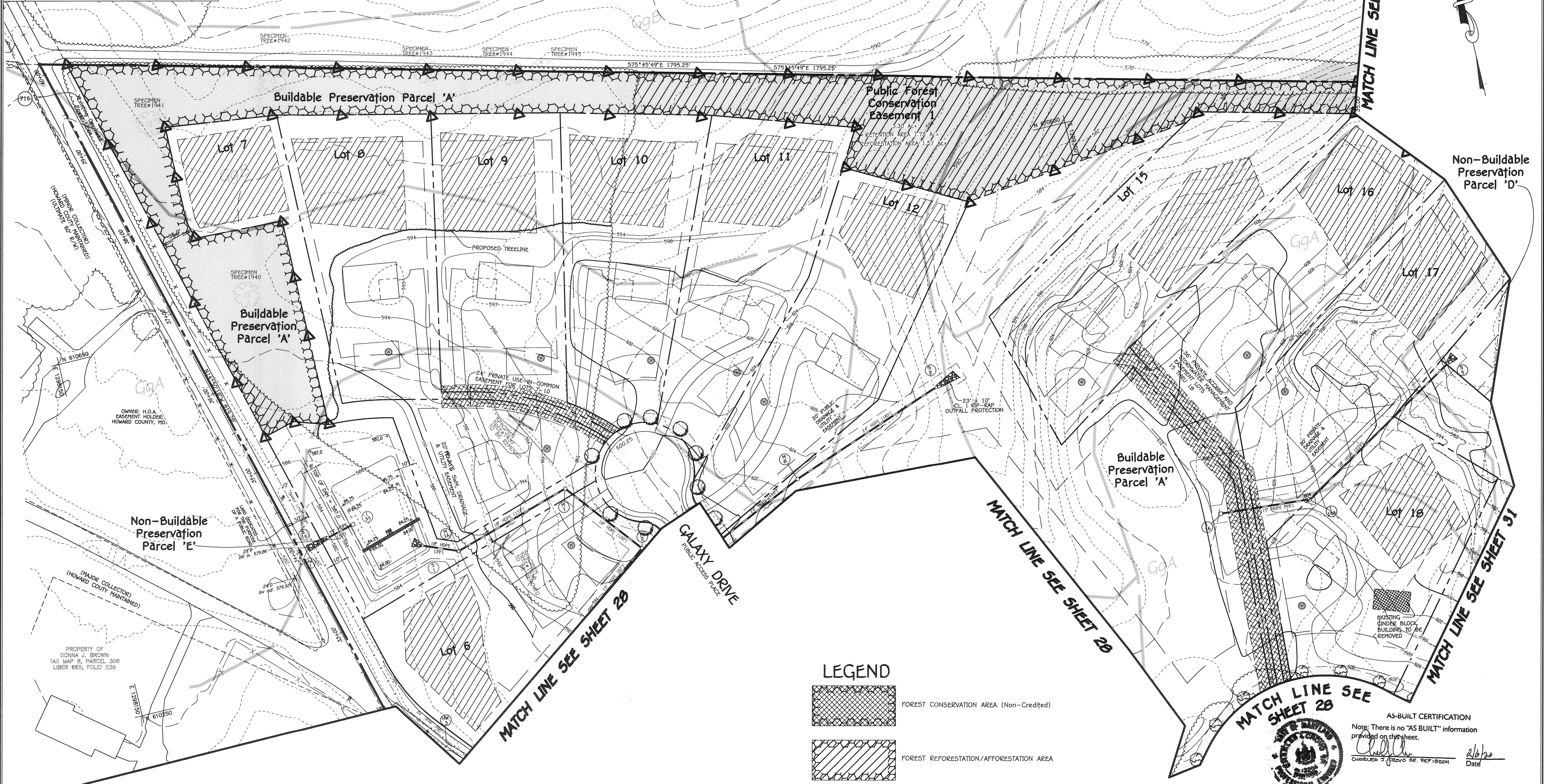
FOREST CONSERVATION PLAN
FAIRLANE FARM
 PHASE ONE
 LOTS 1-14, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 28 OF 38

THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Approved: Department of Planning And Zoning
 Chief, Division of Land Development
 Date: 3/2/16
 Chief, Development Engineering Division
 Date: 2-18-16

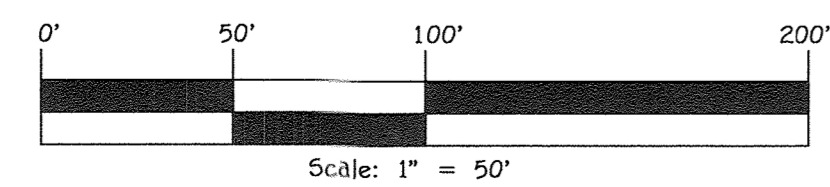
NO.	DESCRIPTION	DATE



LEGEND

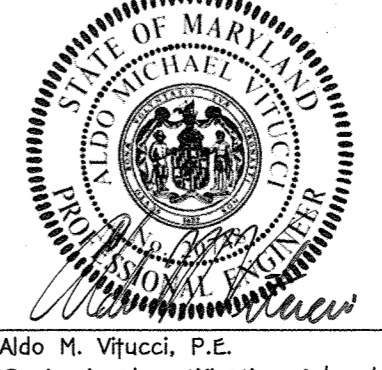
- FOREST CONSERVATION AREA (Non-Credited)
- FOREST REFORESTATION/AFFORESTATION AREA
- FOREST CONSERVATION AREA (Credited)

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
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AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 Date: 3/4/16

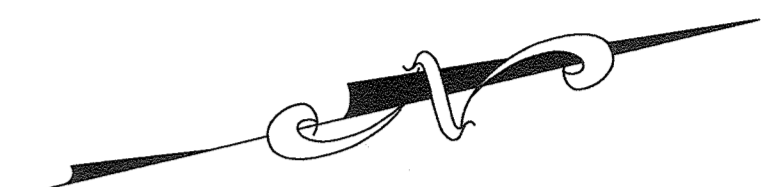
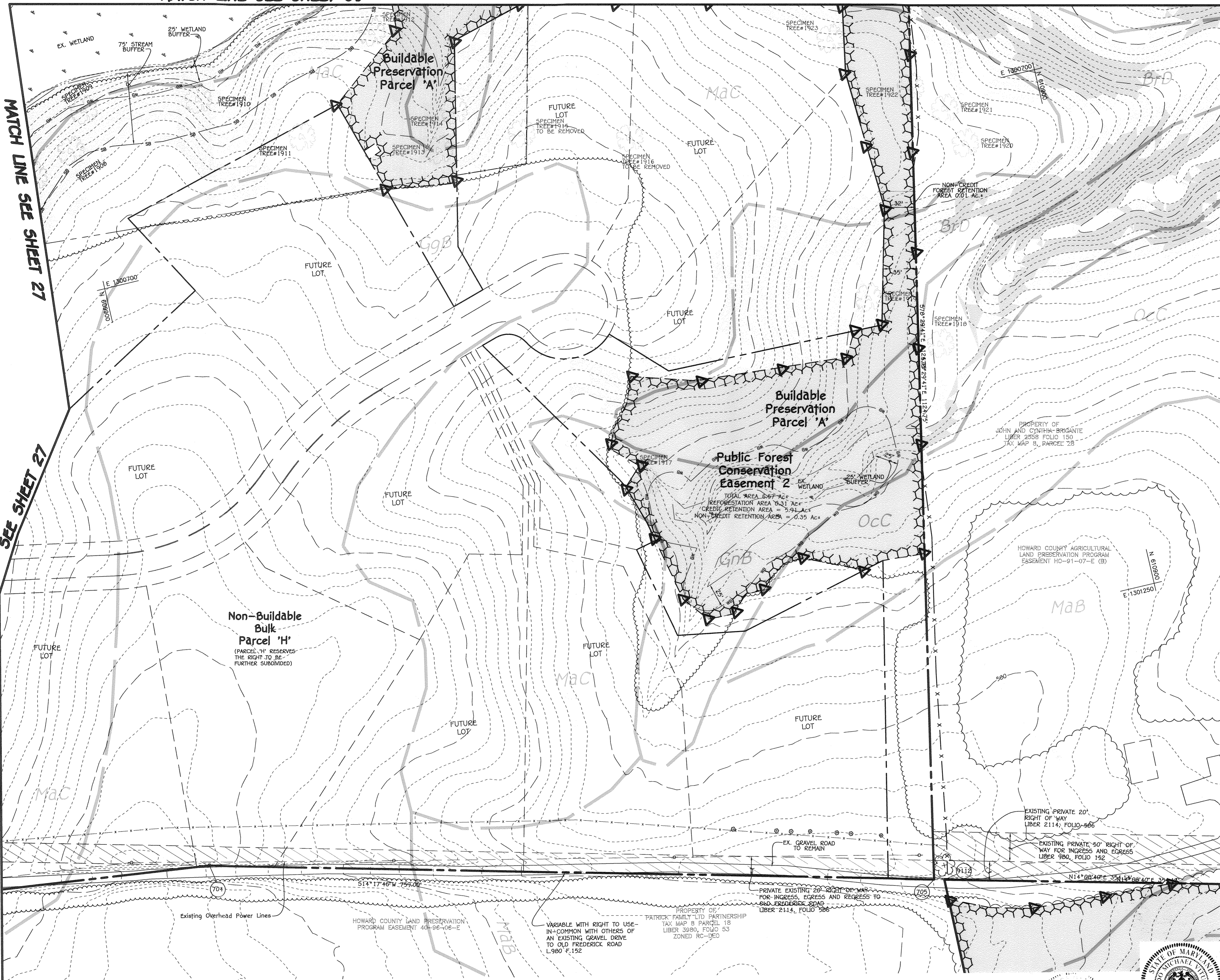
FOREST CONSERVATION PLAN
FAIRLANE FARM
PHASE ONE
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 5, 2016
 SHEET 29 OF 39

THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

MATCH LINE SEE SHEET 31

Approved: Department of Planning And Zoning		
Chief, Division of Land Development	<i>3/2/16</i>	Date
Chief, Development Engineering Division	<i>3.18.16</i>	Date
REVISIONS		
NO.	DESCRIPTION	DATE

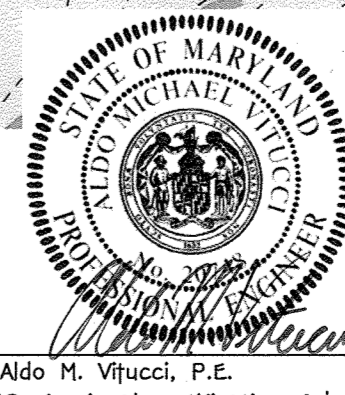


DENOTES EXISTING SLOPES 15% TO 24.9%
 DENOTES EXISTING SLOPES 25% AND GREATER

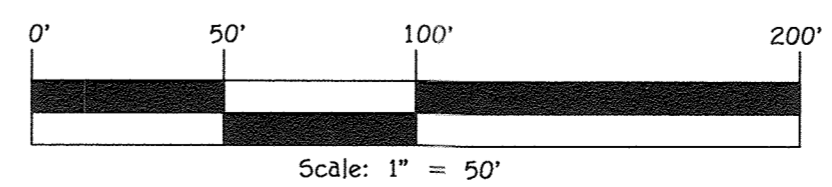


AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
Charles S. Davis
 CHARLES S. DAVIS, P.E. #19204 Date: *2/1/16*

FOREST CONSERVATION PLAN
FAIRLANE FARM
PHASE ONE
 LOTS 1-10, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'H', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK
 ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 30 OF 38



Aldo M. Vifucci, P.E.
 Date: *2/1/16*
 "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."



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELKLOTT CITY, MARYLAND 21042
 (410) 461-1295

OWNER	DEVELOPER
Estate Of F.J. Schulte c/o Diane Schulte Personal Representative 2215 Duvall Road Woodbine, Md 21797 410-977-1327	Land Design & Development 5300 Dorsey Hill Drive Suite 102 Ellicott City, Maryland 21042 (410)-977-0422



THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

E:\2005\05106.dwg\F:\Plan\27-33 For plans.dwg, 2/4/2016 10:02:51 AM, 11

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Chief, Development Engineering Division
 REVISIONS
 NO. DESCRIPTION DATE

FCE Planting Area # 1 - 1.57 acres

Planting units required: 1100 (950 whipps)
 Planting units provided: 1101 (463 whipps and 50 trees)

Qty	Species	Size	Spacing	Total FCA Units
25	Acer x Fraxinifolia 'Autumn Blaze' - Freeman Maple	1" cal.	15' o.c.	
25	Ulmus Americana 'Valley Forge' Valley Forge American Elm	1" cal.	15' o.c.	
50 Total 1" caliper trees (3.5 planting units per tree) = 175 Total FCA unit credit				
65	Acer x Fraxinifolia 'Autumn Blaze' - Freeman Maple	2-3" whip	11' o.c.	
65	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
50	Carpinus caroliniana - American Hornbeam	2-3" whip	11' o.c.	
50	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
55	Ostrya virginiana - River Birch	2-3" whip	11' o.c.	
55	Ostrya virginiana - American Hophornbeam	2-3" whip	11' o.c.	
55	Ulmus Americana 'Valley Forge' Valley Forge American Elm	2-3" whip	11' o.c.	
55	Acer campestre - Hedge Maple	2-3" whip	11' o.c.	
463 Total whip plantings (2 planting units per tree) = 926 Total FCA unit credit				
Total Unit Credit (175 + 926) = 1101				

1" CAL. TREES = 200/ACRE (50 TREES/200' = 0.25 AC.)
 WHIPS w/shelters = 350/ACRE = 350 x 1.32 AC. = 463 WHIPS
 3.5 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip

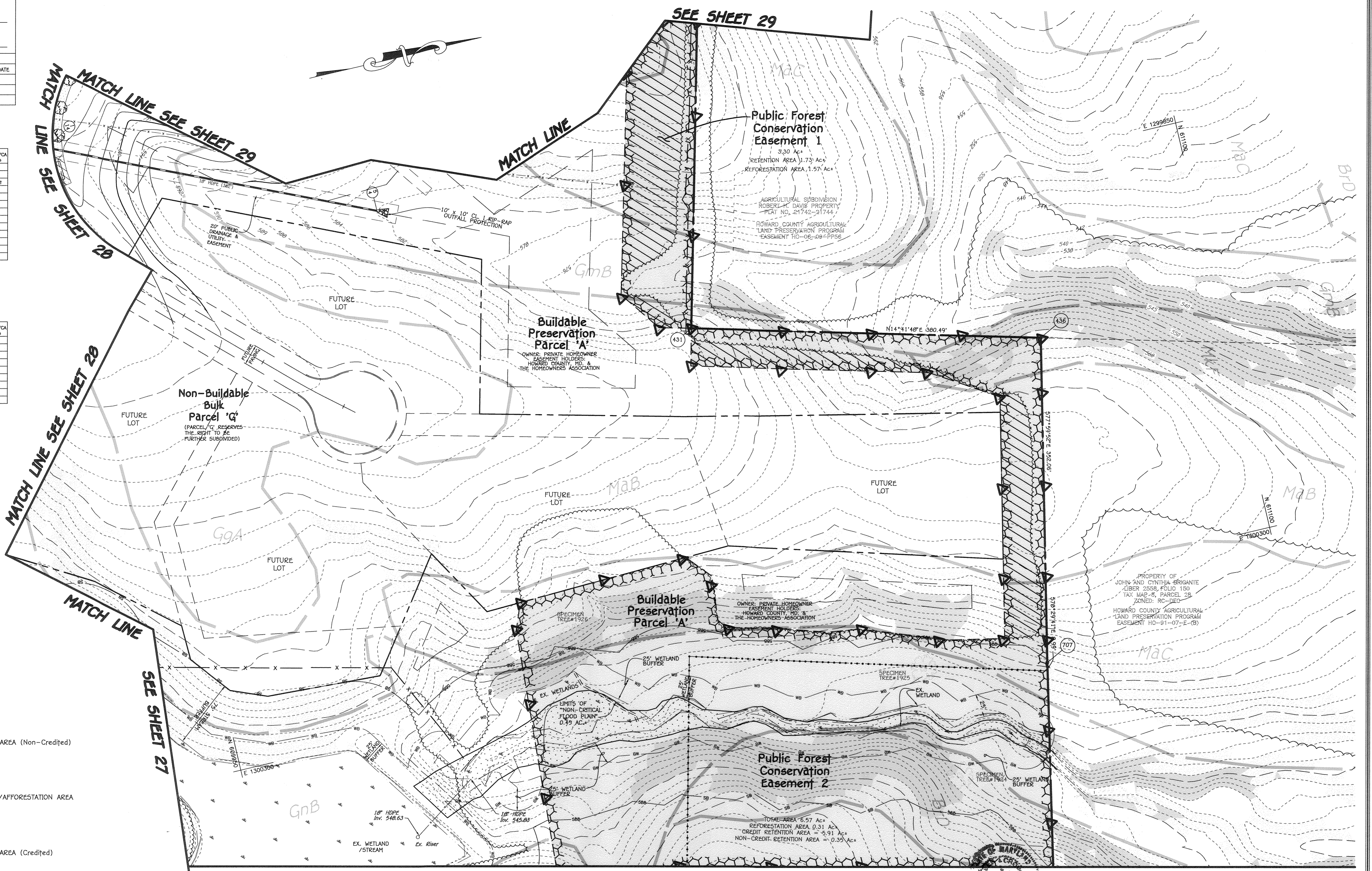
FCE Planting Area # 2 - 0.31 acres

Planting units required: 210 (109 whipps)
 Planting units provided: 210 (109 whipps)

Qty	Species	Size	Spacing	Total FCA Units
10	Acer x Fraxinifolia 'Autumn Blaze' - Freeman Maple	2-3" whip	11' o.c.	
13	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
13	Carpinus caroliniana - American Hornbeam	2-3" whip	11' o.c.	
13	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
13	Ostrya virginiana - River Birch	2-3" whip	11' o.c.	
13	Ostrya virginiana - American Hophornbeam	2-3" whip	11' o.c.	
13	Ulmus Americana 'Valley Forge' Valley Forge American Elm	2-3" whip	11' o.c.	
13	Acer campestre - Hedge Maple	2-3" whip	11' o.c.	
109 Total whip plantings (2 planting units per tree) = 210 Total FCA unit credit				
WHIPS w/shelters = 350/ACRE = 350 x 0.31 AC. = 108.5 WHIPS 3.5 Planting units = 1 - 1" Cal. Tree 2 Planting units = 1 Whip				

LEGEND

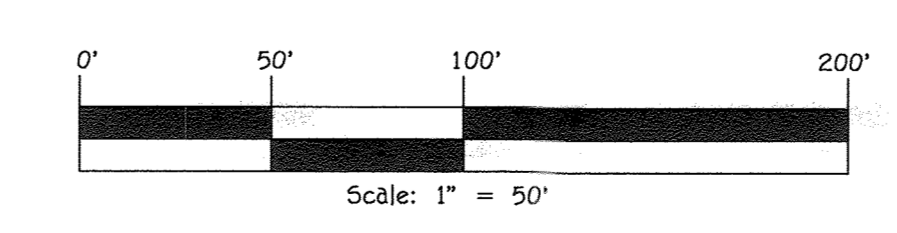
- FOREST CONSERVATION AREA (Non-Credited)
- FOREST REFORESTATION/AFFORESTATION AREA
- FOREST CONSERVATION AREA (Credited)



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2855

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 9300 Dornier Hill Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.

Charles S. Egan
 CHARLES S. EGAN, P.E., P.S.
 Date: 3/4/16

**FOREST CONSERVATION PLAN
 FAIRLANE FARM
 PHASE ONE**

LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DD
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 31 OF 38

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Chief, Development Engineering Division
 REVISIONS
 NO. DESCRIPTION DATE

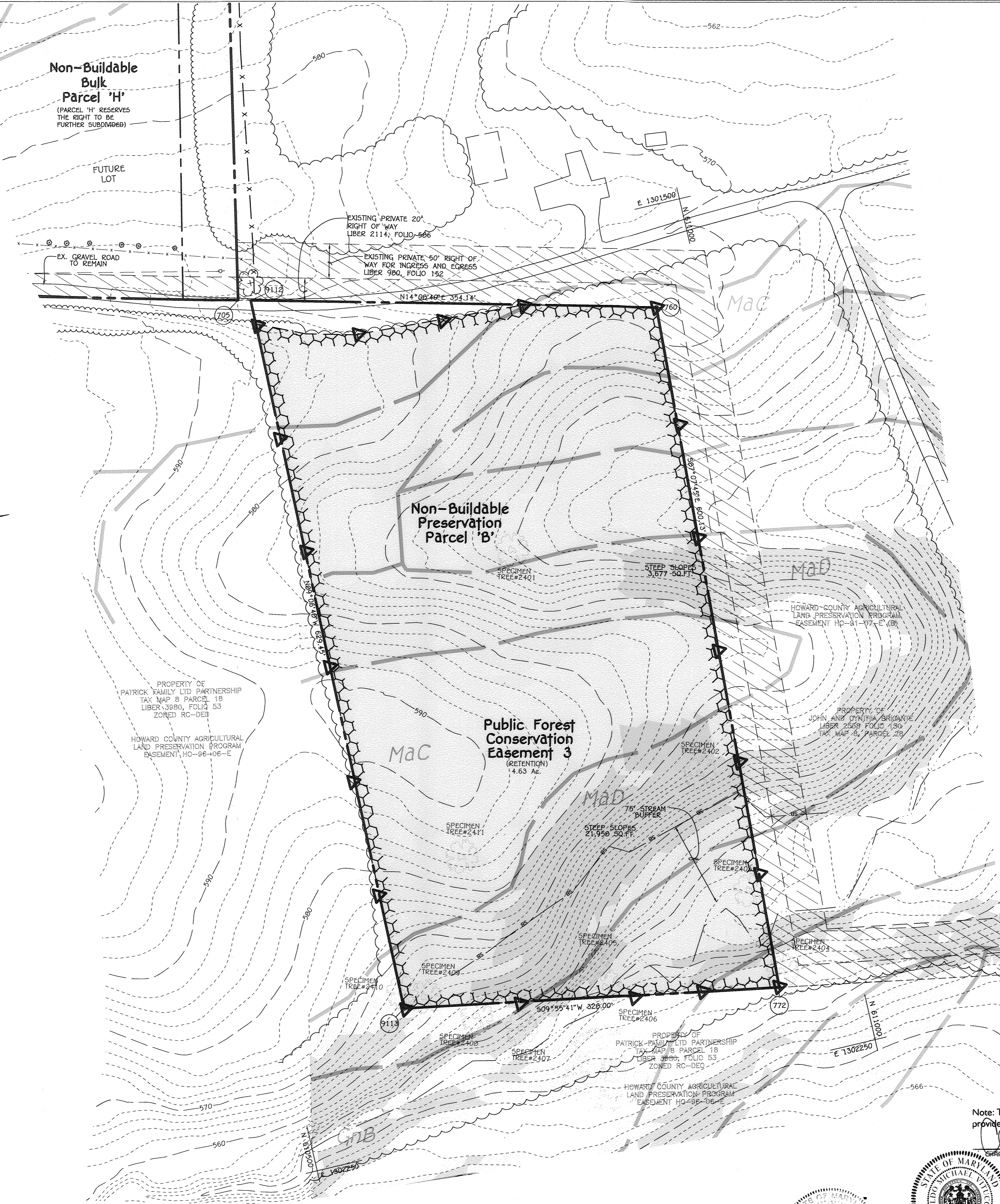
- Notes:
- Any Forest Conservation Easement (fce) Area Shown Herein is Subject To Protective Covenants Recorded In The Land Records Of Howard County Which Restrict Disturbance And Use Of These Areas.
 - The Forest Conservation Easements Have Been Established To Fulfill The Requirements Of Section 16.1200 Of The Howard Code And Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation Easement Are Allowed.
 - Limits Of Disturbance Shall Be Restricted To Areas Outside The Limit Of Temporary Fencing Or The Fce Boundary, Whichever Is Greater. No Stockpiles, Parking Areas, Equipment Cleaning Areas, Etc. Shall Occur Within Areas Designated As Forest Conservation Easement.
 - Passive Recreational Activities, Including Horseback Riding On Unmarked Trails, Are Permitted Within The Forest Conservation Easements If Approved By The County, And If They Are Consistent With And Do Not Interfere With Forest Conservation Management, Do Not Cause Harm To Protected Forest Resources Or Do No Destroy The Forest Ecological System, Be Advised, If The Unmarked Horseback Riding Trails Do Not Adhere To The Above Requirements, Release Of The Forest Conservation Surety May Be Delayed Until The Forest Conservation Easements Are In Acceptable Condition.
 - Board On Board, Chain Link, Panel And Picket Fences Are Not Permitted Within The Forest Conservation Easements. The Existing Fencing Shown On The Plans Is An Open Wood Fencing That Allows Flora And Fauna To Freely Move Through The Easement. Any Alteration Of The Fencing, Like Wire Mesh, Is Not Permitted Because It Will Block The Forest Area From Wildlife And Natural Regeneration.
 - Part Of The Forest Conservation Obligation For This Site Has Been Met By 28.78 Acres Of Credited Retention And 5.99 Acres Of Reforestation. Surety In The Amount Of \$130,468.00 For The Reforestation Plantings Will Be Bonded With The Upw Developer's Agreement.

Construction Period Protection Program

- A. Forest Protection Techniques**
- Soil Protection Area (Critical Root Zone)**
 The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of its roots may be found. The majority of trees responsible for filter and nutrient uptake are located just below the soil surface. The limit of disturbance (LOD) line depicted on the plan shows the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will install in the field flagging of the LOD to ensure that the Critical Root Zone for the Forest Retention Area is determined in accordance with the In-Field Edge Determination Guidelines in Appendix C of the Forest Conservation Manual. Eco-Science Professionals, or another qualified professional, will also assess the condition of the new forest edge to determine if selective thinning or pruning is needed to improve the condition of the edge.
 - Fencing and Signage**
 All forest retention areas will be protected from unauthorized intrusion by appropriate signage and fencing. Signage and fencing will be installed prior to any construction activity. Installation of these devices will be supervised by Eco-Science Professionals or another qualified professional. The fence shall be at least 100 feet from the LOD line and shall be constructed of 50 foot of existing line. Signage will be placed along the edge of the FCE every 100 feet. Fencing will consist of black orange mesh fence or equal. See Forest Conservation Plan for standard specifications.
- B. Pre-Construction Meeting**
 Upon setting of limits of disturbance and installation of all signage, a pre-construction meeting will be held between the developer, contractor and appropriate County leadership. The purpose of the meeting will be to verify that all tree protection measures outlined in the FCP are in place, that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the FCP.
- C. Storage Facilities/Equipment Cleaning**
 All equipment storage, parking, utility facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Washing of equipment will be prohibited from all forest retention areas. Wastewater resulting from equipment cleaning will be contained to prevent runoff into wetlands, streams and other environmentally sensitive areas.
- D. Sequence of Construction**
 The following timetable represents the proposed timetable for construction of the proposed project. The construction start date for this project has not been finalized. The actual project start date is predicated on the issuance of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be completed in the order listed.
- Install all tree protection signage, fencing, and sediment control devices.
 - Hold pre-construction meeting between developer, contractor and County Inspector.
 - Grade site and construct improvements. Stabilize all disturbed areas in accordance with grading plan.
 - Remove sediment control. Replace any forest retention signage in poor condition.
 - Hold post-construction meeting with County Inspectors to assure compliance with FCP.
- E. Construction Monitoring**
 Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan. This will include inspections to ensure that signage is properly installed and that all unauthorized intrusions have been made into forest retention areas.
- F. Activities Permitted During Construction**
 The forest conservation plan will allow the following activities within forest resources during the construction phase of the project:
- Passive recreation (birdwatching, hiking, etc.)
- These activities will not damage or negatively impact the forest resources on the property.
- G. Post-Construction Meeting**
 Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County. The meeting will be held to verify that all forest conservation measures have been properly installed and that all post construction protection measures (permitted signage) have been installed.
- Post-Construction Management Plan**
 The post-construction management plan will further ensure that all Forest Conservation Easement Areas are maintained. The developer will be responsible for implementation of the post-construction management plan.
- The following items will be incorporated into the plan for the subject property:
- A. Signage**
 Signage indicating the limits of the forest retention areas shall be maintained.

Planting/Soil Specifications

- Installation of bare-root plant stock shall take place between March 15 - April 20; b&b/container stock March 15 - May 30 or September 15 - November 15. Fall planting of B&B stock is not recommended.
 - Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
 - Bare-root plants shall be installed so that the top of root mass is level with the top of existing grade. Roots shall be dipped in an anti-desiccant gel prior to planting. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
 - Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications, for woody plants. Herbaceous plants shall be fertilized with Osmocote 0-6-12.
 - Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
 - All non-organic debris associated with the planting operation shall be removed from the site by the contractor.
- Sequence of Construction**
- Sediment control shall be installed in accordance with general construction plan for site.
 - Plants shall be installed as per plant schedule and the Planting/Soil Specifications for the project.
 - Upon completion of the planting, signage shall be installed as shown.
 - Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.
- Maintenance of Plantings**
- Maintenance of plantings shall last for a period of 2 years.
 - Plantings must receive 2 gallons of water, either through precipitation or watering, weekly during the 1st growing season, as needed. During second growing season, once a month during May-September, if needed.
 - Invasive exotic and noxious weeds will be removed, as required, from planting areas mechanically and/or with limited herbicide application (see groundcover note where appropriate). Old field successional species will be retained.
 - Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
 - Dead branches will be pruned from plantings.
- Guarantee Requirements**
- A 75 percent survival rate of forestation plantings will be required at the end of 2 growing seasons. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season. Wild trees arising from natural regeneration may be counted up to 50 percent towards the total survival number if they are healthy, native species at least 12 inches tall.
- Surety for Forestation**
- The developer shall post a surety (bond, letter of credit) to ensure that forestation plantings are completed. See GENERAL NOTE 29, SHEET 1.
- Planting Notes**
 When planting plants shall be installed within 24 hours of delivery. If installation cannot be performed within this time frame, plant stock shall be watered and protected from desiccation. Application of herbicide, Round-up or equivalent, may be used to reduce plant competition from old field successional growth at the time of installation. Mowing, re-application of herbicide, or a combination thereof, may be used to control unwanted, competing vegetation. Planting shall be installed within one year or two growing seasons of subdivision approval. Plantings shall be installed in accordance with the time schedule included in Note 1 of the planting /seeding specifications.
- Forest Easement Metes And Bounds**
 See Record Plats Titled "Fairlane Farm Lots 1 Thru 18, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' Thru 'E', Parcel 'F', Non-Buildable Bulk Parcels 'G' & 'H', Sheets 1 Thru 8 For Forest Conservation Easement Metes And Bounds.



**FOREST CONSERVATION WORKSHEET
 VERSION 1.0
 (ENTIRE PROJECT)**

NET TRACT AREA	ACRES
A. TOTAL TRACT AREA	136.60
B. DEDUCTIONS (AREA WITHIN 100 YEAR FLOODPLAIN)	6.01
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	----
D. NET TRACT AREA	132.59
LAND USE CATEGORY: MEDIUM DENSITY RESIDENTIAL	
E. AFFORESTATION THRESHOLD (NET TRACT AREA (D) x 20%)	26.5
F. CONSERVATION THRESHOLD (NET TRACT AREA (D) x 25%)	33.2
EXISTING FOREST COVER	
G. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	38.95
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	12.5
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	5.8
BREAK-EVEN POINT	
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	34.35
BREAK-EVEN POINT	
K. CLEARING PERMITTED WITHOUT MITIGATION	4.6
PROPOSED FOREST CLEARING	
L. TOTAL AREA OF FOREST TO BE CLEARED OR RETAINED OUTSIDE FCE	9.08
M. TOTAL AREA OF FOREST TO BE RETAINED	29.87
PLANTING REQUIREMENTS	
N. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD	1.45
P. REFORESTATION FOR CLEARING BELOW THE CONSERVATION THRESHOLD	6.66
Q. CREDIT FOR RETENTION ABOVE THE CONSERVATION THRESHOLD	----
R. TOTAL REFORESTATION REQUIRED	8.11
S. TOTAL AFFORESTATION REQUIRED	----
T. TOTAL PLANTING REQUIREMENT	8.11

NOTE: PHASE ONE OF THE SUBDIVISION WILL PROVIDE 28.78 ACRES OF FOREST RETENTION AND 5.99 ACRES OF FOREST PLANTING. THE REMAINING 1.09 ACRES OF FOREST RETENTION AND 2.12 ACRES OF FOREST PLANTING OBLIGATION WILL BE FULFILLED UNDER PHASE TWO OF THE SUBDIVISION PER W-15-054.

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

11" MINIMUM
 ON-SITE SIGNAGE

**FOREST CONSERVATION PLAN
 FAIRLANE FARM
 PHASE ONE**

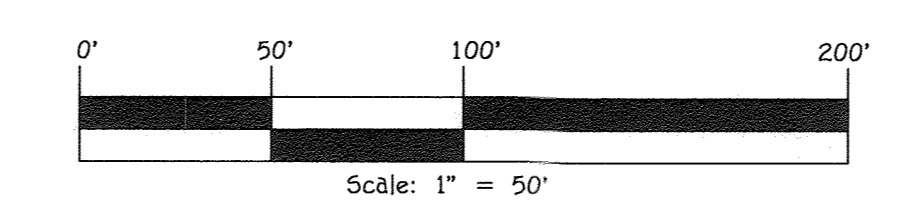
LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: B GRID NO.: 2, PAR.: 8
 TAX MAP NO.: C GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT: HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 32 OF 38

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21142
 (410) 461-2922

OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

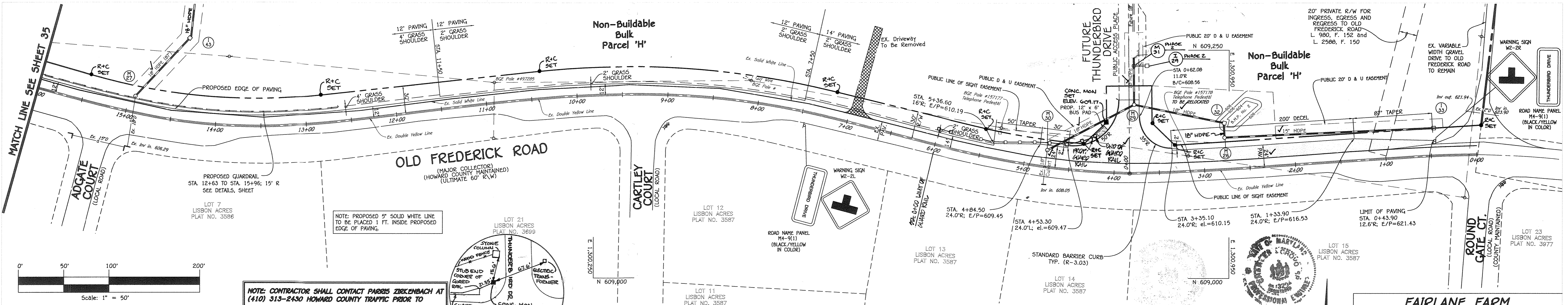
DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
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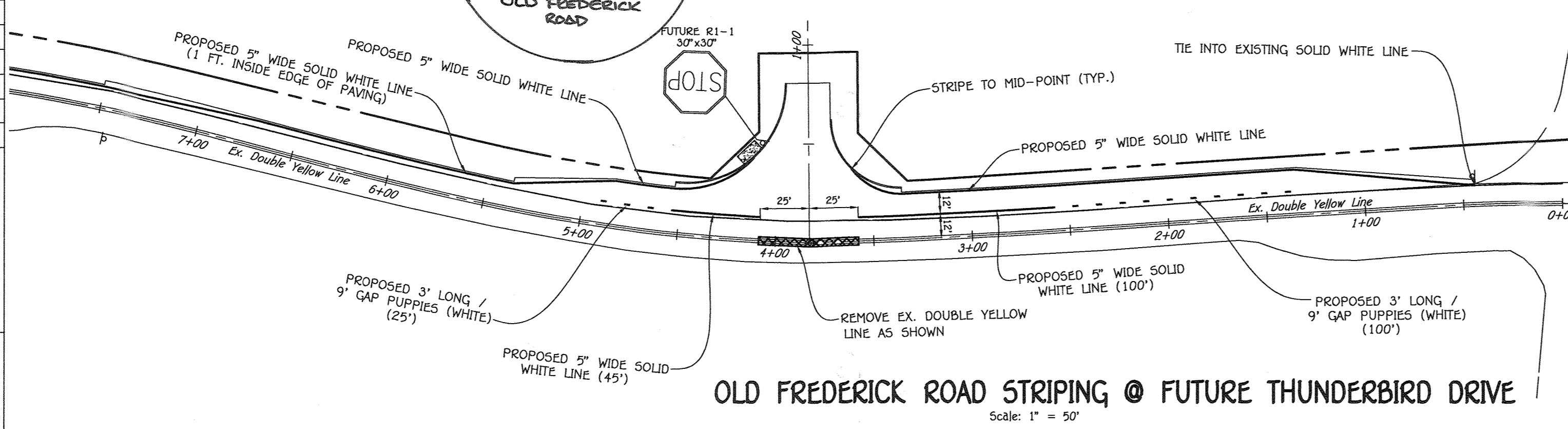
Professional seal of Stephen J. Schulte, a Professional Engineer in the State of Maryland, License No. 22748, Expiration Date 2-22-17.

Professional seal of Aldo H. Vitucci, P.E., a Professional Engineer in the State of Maryland, License No. 22748, Expiration Date 2-22-17.

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 Signature: [Handwritten]
 Date: 2/16/16



NOTE: CONTRACTOR SHALL CONTACT PARRIS ZIRKENBACH AT (410) 313-2430 HOWARD COUNTY TRAFFIC PRIOR TO STARTING ANY PAVEMENT MARKINGS.



- NOTES:**
1. ALL PAVEMENT MARKING LINES SHALL BE INSTALLED USING APPROVED HIGHWAY PAINT.
 2. EXISTING PAVEMENT MARKINGS SHALL BE REMOVED BY GRINDING.
 3. ALL PAVEMENT MARKINGS SHALL BE 5" WIDE UNLESS NOTED OTHERWISE.
 4. ALL RELOCATED SIGNS ARE TO BE INSTALLED ON NEW 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POSTS (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVES (12 GAUGE) 3' LONG WITH A GALVANIZED STEEL CAP ON THE TOP OF POST.

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.

[Signature]
 Date: 3/16/16

Professional Seal:
 A. M. V. JUCCI, P.E.
 STATE OF MARYLAND
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 License No. 20749, Expiration Date 2-22-17.

FAIRLANE FARM
 PHASE ONE

LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

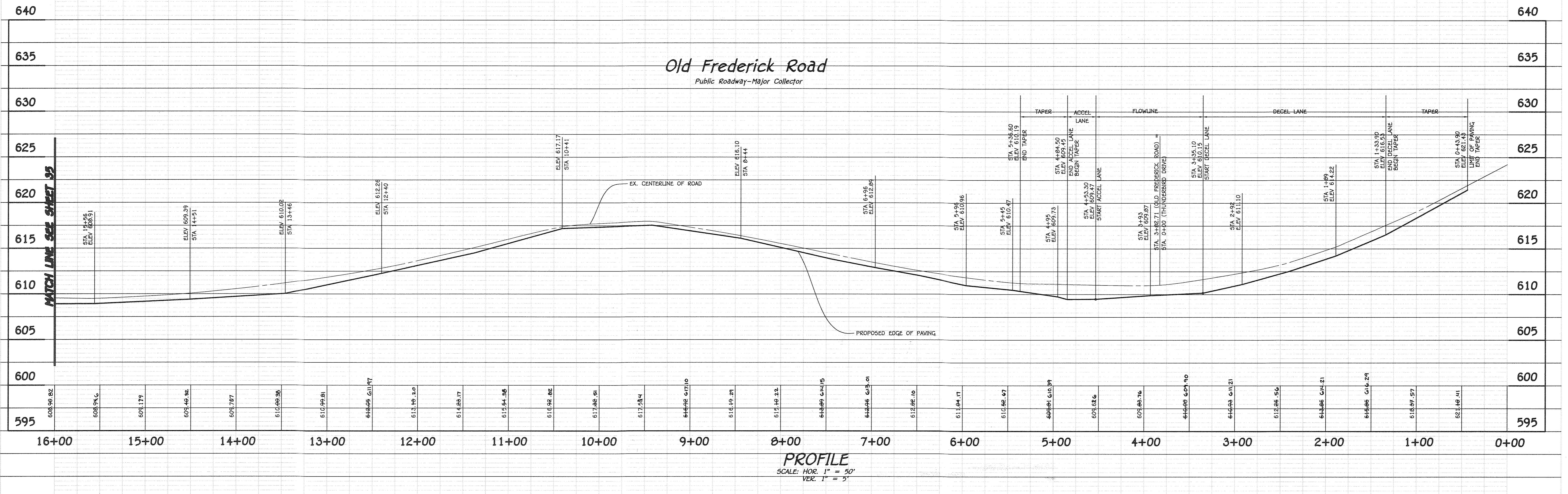
OLD FREDERICK ROAD WIDENING PLAN AND PROFILE

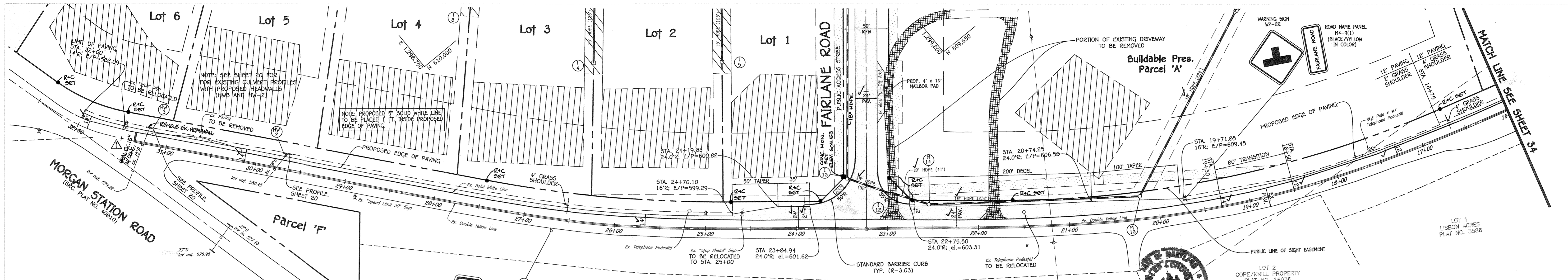
OWNER: Estate of F.J. Schulte, c/o Diane Schulte, Personal Representative, 2215 Duvall Road, Woodbine, Md 21797, 410-977-1387

DEVELOPER: Land Design & Development, 5300 Dorsey Hall Drive, Suite 102, Ellicott City, Maryland 21042, (410)-977-0482

SCALE: AS SHOWN DATE: FEB. 3, 2016 DWG. NO. 34 OF 38
 DES. RAL/A.M.V. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10672 BALTIMORE NATIONAL PIKE, ELICOTT CITY, MARYLAND 21042, (410) 461-2995





NO.	DESCRIPTION	DATE
1	SHOW THE EX. 18" PIPE AND FILLING W/ CONC. REMOVE EXISTING HEADWALL & SHOW THE EX. 24" BEAM CRITERIA	11/20/19

REVISIONS

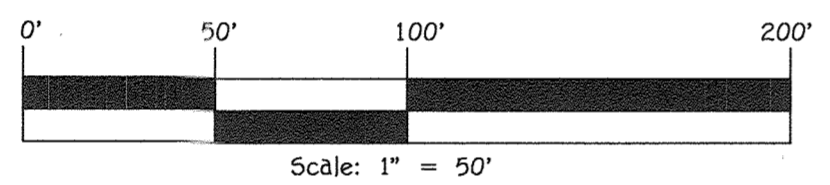
APPROVED: DEPARTMENT OF PLANNING AND ZONING

V. Schaefer 3/21/16
CHIEF, DIVISION OF LAND DEVELOPMENT

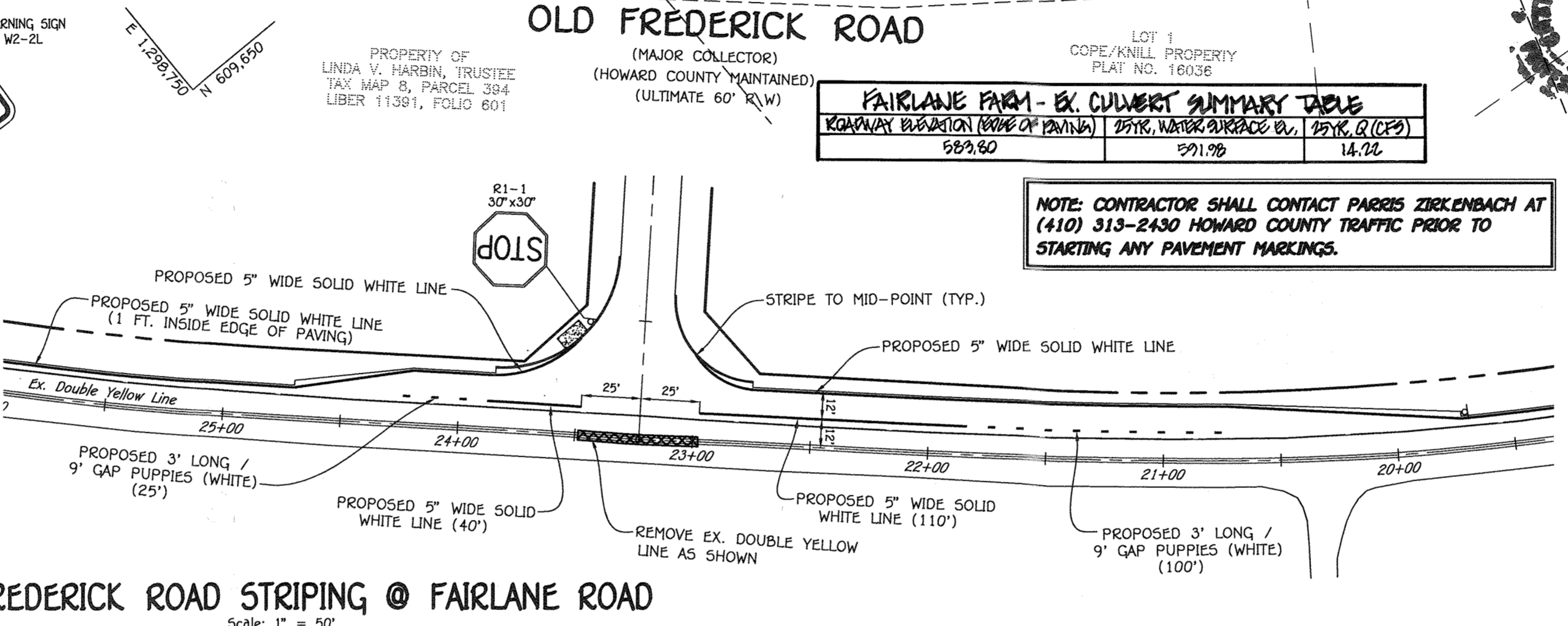
D. Chubb 3.18.16
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

M. Munn 3/12/2016
CHIEF, BUREAU OF HIGHWAYS



PURPOSE NOTE: THE PURPOSE OF THIS REDLINE IS TO INDICATE THE EX. 15" CULVERT AS FILLED W/ CONC., REMOVE EXISTING HW AND TO SHOW THE DESIGN CRITERIA FOR THE EX. 24" PIPE.



FAIRLANE FARM - EX. CULVERT SUMMARY TABLE	CONCRETE	PIPE	WATER SURFACE ELEV.	DATE
982.60	971.98	14.72		

NOTE: CONTRACTOR SHALL CONTACT PARRIS ZIRKENBACH AT (410) 313-2430 HOWARD COUNTY TRAFFIC PRIOR TO STARTING ANY PAVEMENT MARKINGS.



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 S. Cokyo 2/16/20
Date



AS-BUILT 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 2/16/20
Date

FAIRLANE FARM PHASE ONE

LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B'-'E', PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H' AND FOREST MITIGATION BANK

ZONED: RC-DEO

TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

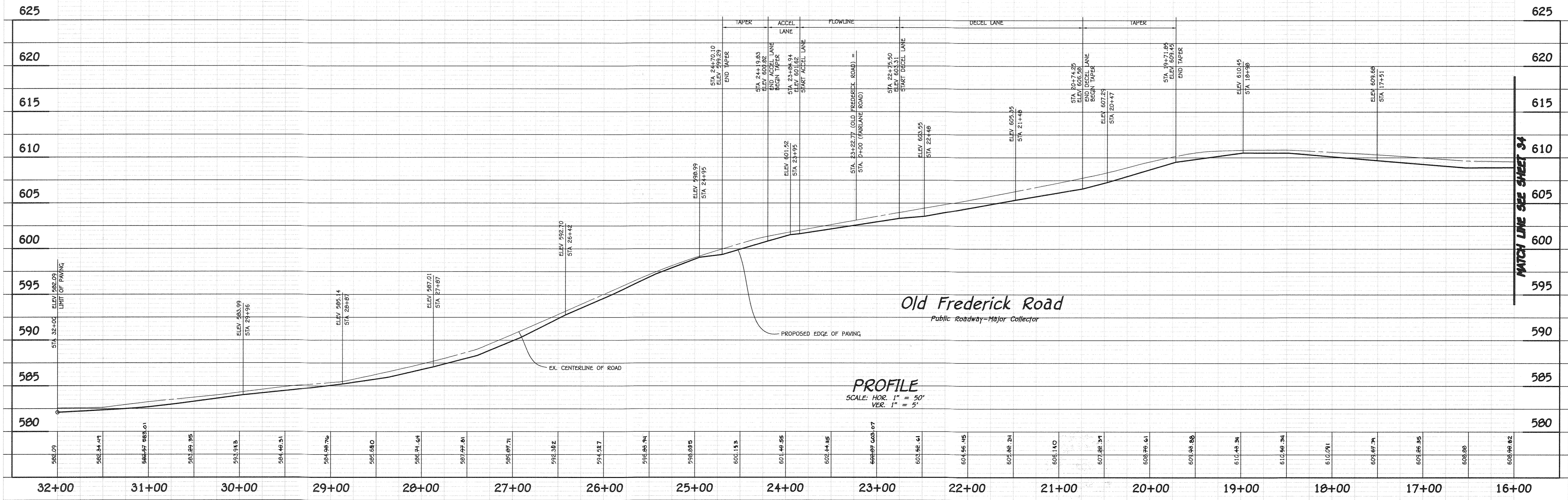
OLD FREDERICK ROAD WIDENING PLAN AND PROFILE

OWNER: Estate of P.J. Schulte, c/o Diane Schulte, Personal Representative, 2215 Duval Road, Woodbine, Md 21797, 410-977-1327

DEVELOPER: Land Design & Development, 5300 Dorsey Hill Drive, Suite 102, Ellicott City, Maryland 21042, (410)-977-0422

SCALE: AS SHOWN DATE: FEB. 3, 2016 DWG. NO. 35 OF 38
DES. R.A.I./A.M.V. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL Pk., ELICOTT CITY, MARYLAND 21042, (410) 461-5895



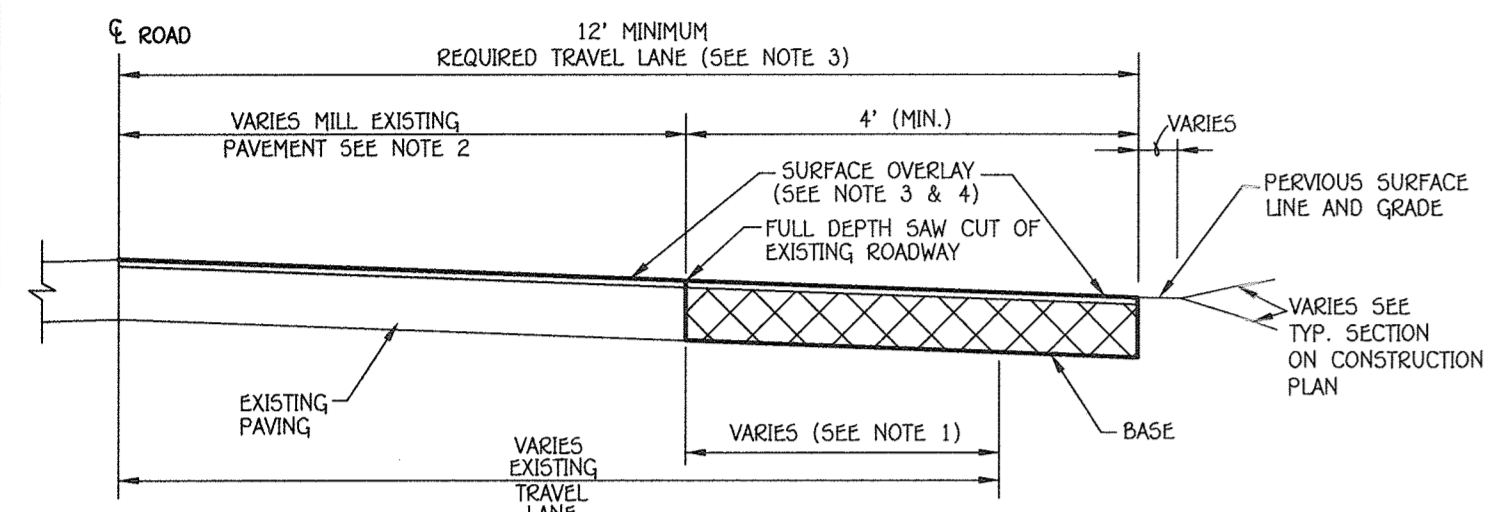
APPROVED: DEPARTMENT OF PUBLIC WORKS
 M. M. M. DATE: 3/2/2016
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 V. S. S. DATE: 3/3/16
 CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 P. C. C. DATE: 3-18-16

REVISIONS

NO.	DESCRIPTION	DATE

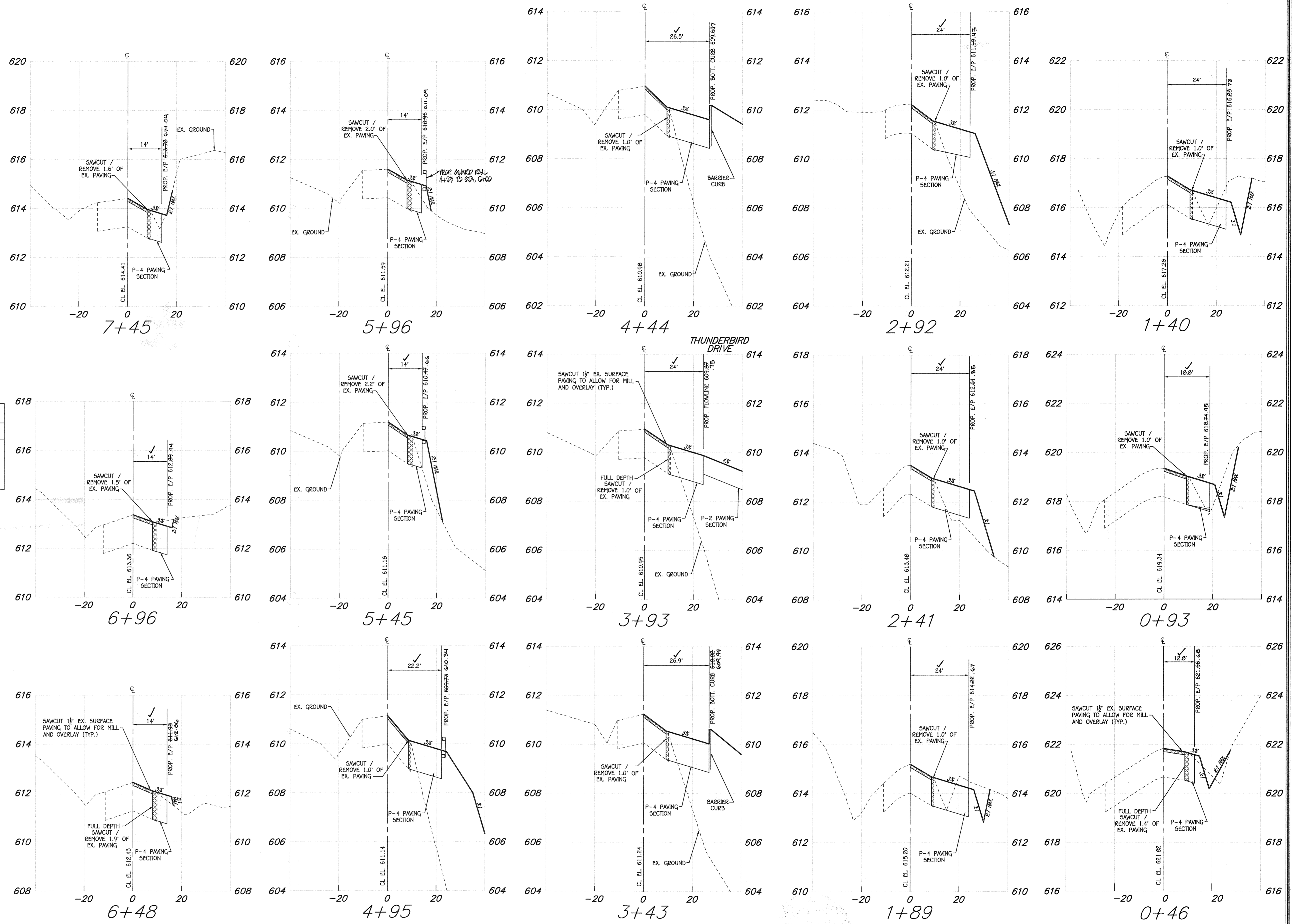
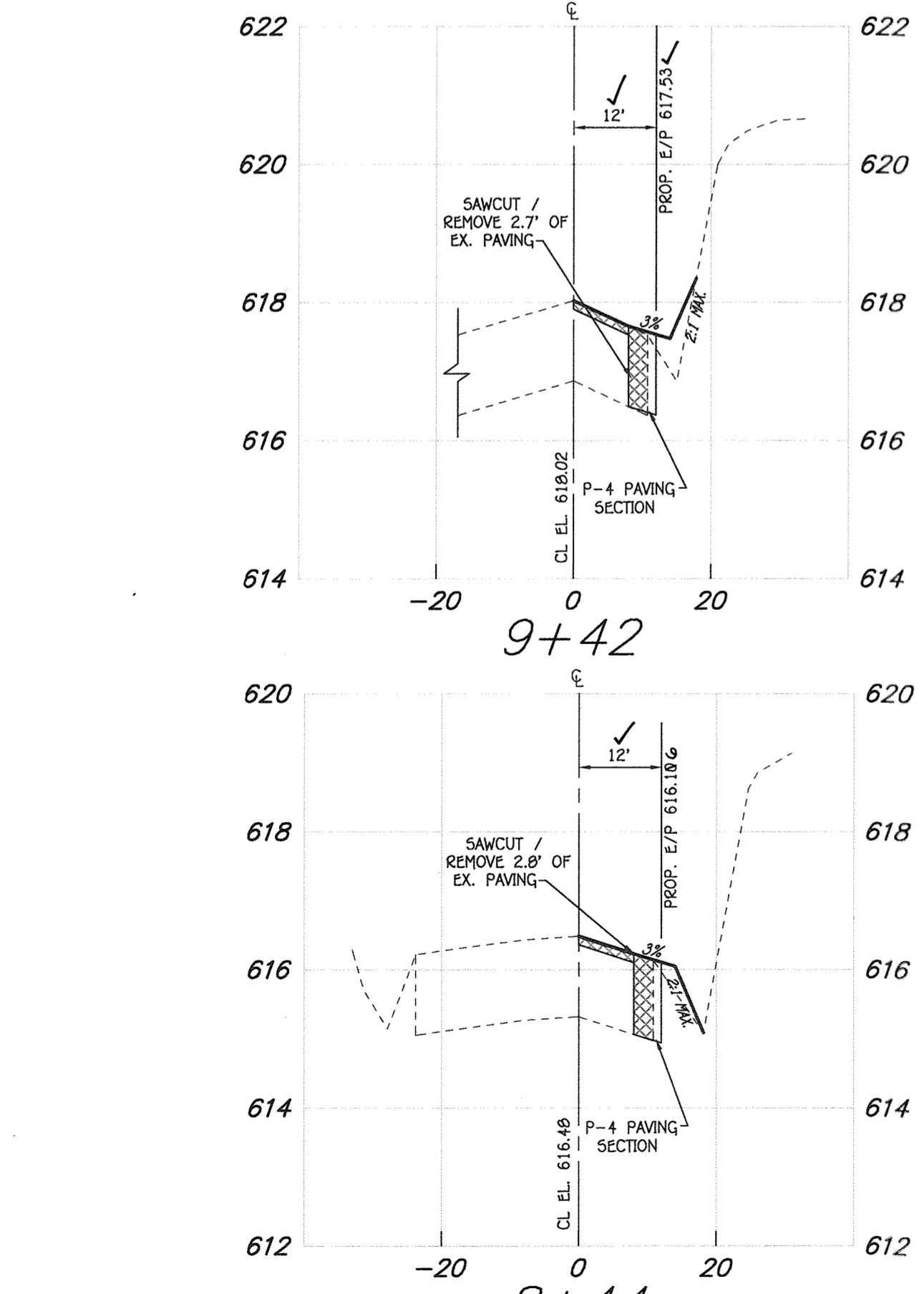


- NOTES:
- WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE A MINIMUM OF 1' FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4' OF WIDENING FROM FACE OF GUTTER PAV.
 - THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED AT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

EXISTING ROADWAY WIDENING STRIP (R-1.00)
 NO SCALE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5			5 TO <7			≥7		
			MIN	HMA WITH GAB	HMA WITH CONSTANT GAB	MIN	HMA WITH GAB	HMA WITH CONSTANT GAB	MIN	HMA WITH GAB	HMA WITH CONSTANT GAB
P-4	MINOR COLLECTORS: NON-RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 12.5 MM PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	MAJOR COLLECTORS:	HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE	4.0	4.0	3.0	6.0	5.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)	13.0	7.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0

NOTE: SEE SHEET 30 FOR TYPICAL WIDENING SECTIONS.



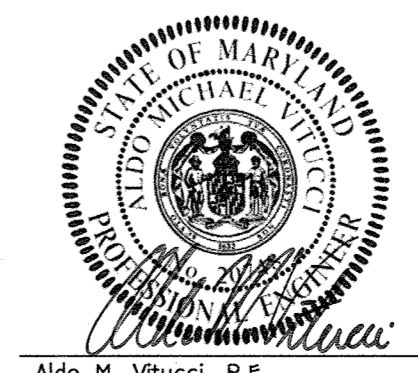
CROSS SECTIONS

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

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 T. CLAYDON, P.E. #192204
 Date: 2/6/20



Aldo M. Vitucci, P.E.
 Date: 2/4/16
 "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."

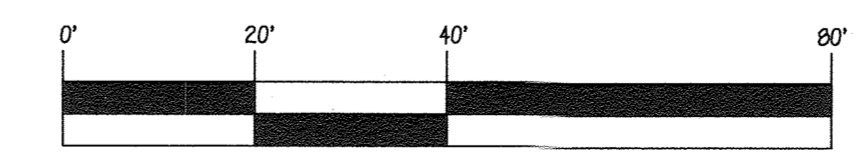
**OLD FREDERICK ROAD CROSS SECTIONS
 FAIRLANE FARM
 PHASE ONE**
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 9 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 36 OF 38

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER
 Estate of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422



SCALE: 1" = 20'

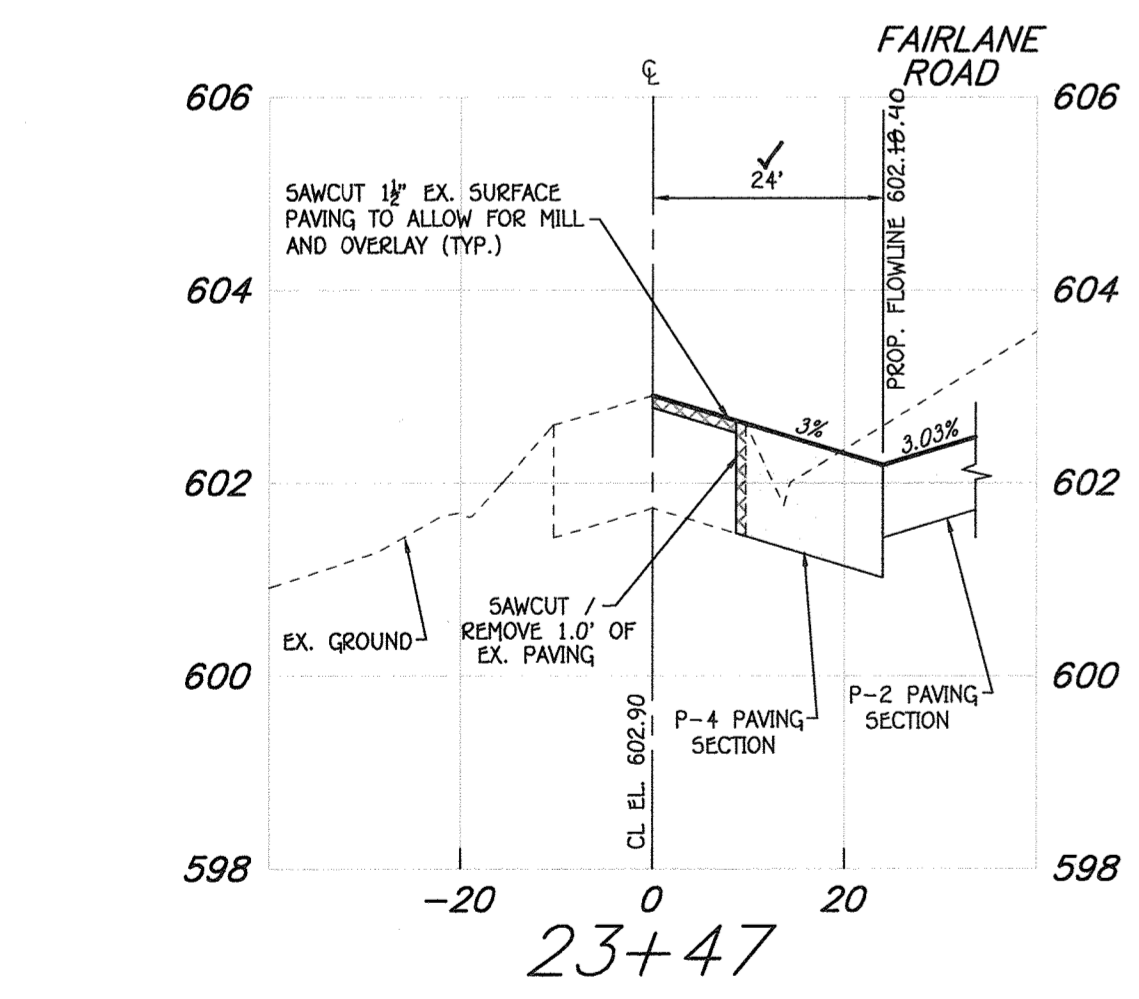
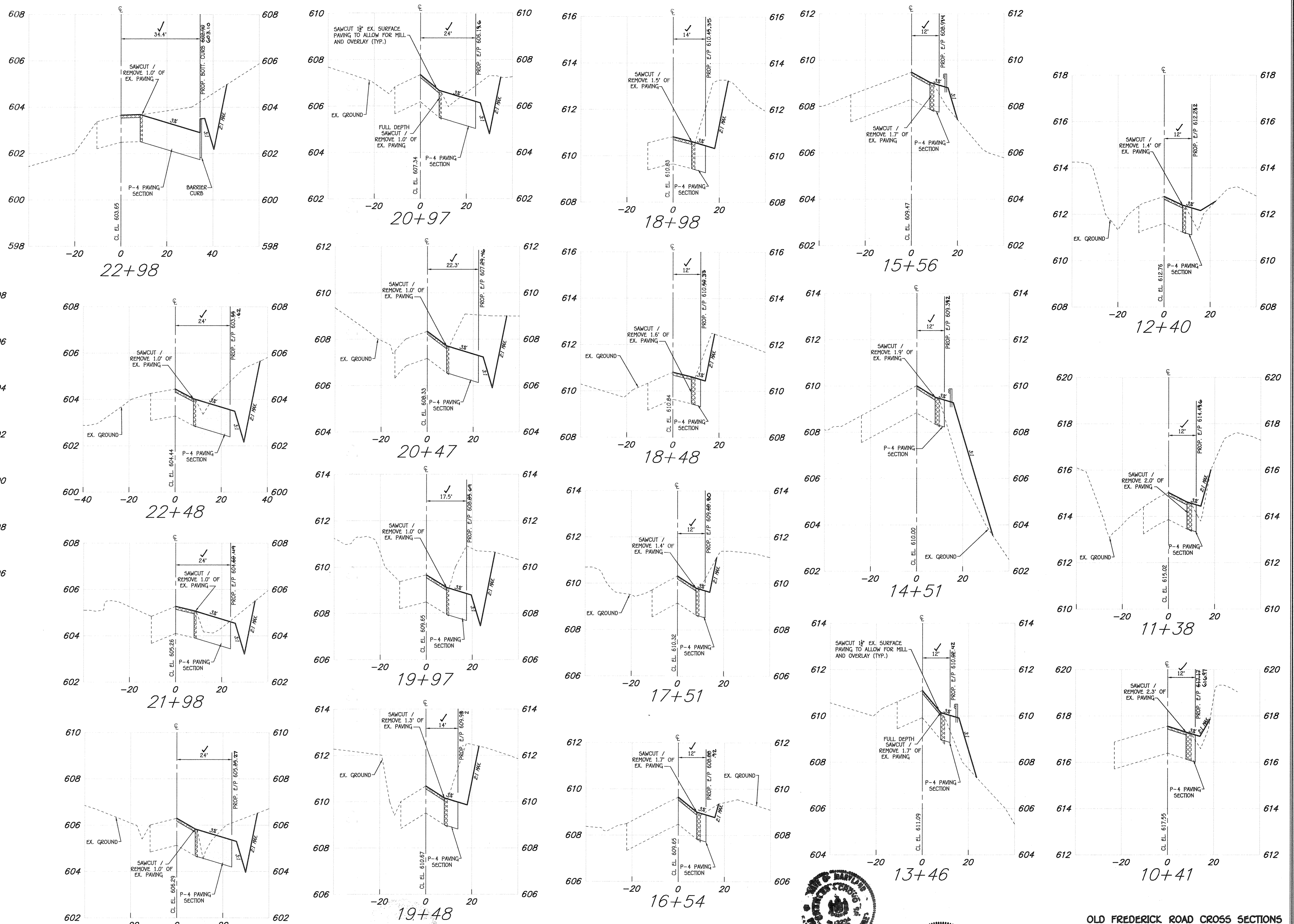


APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE 3/7/16

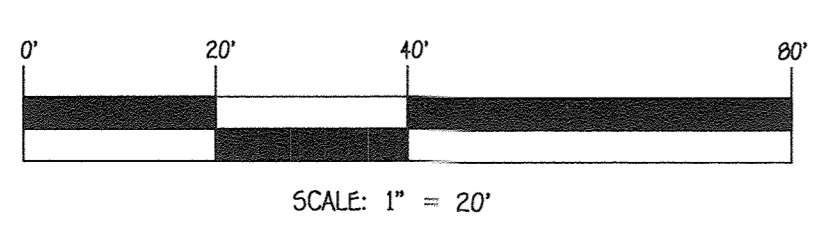
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 3/2/16

APPROVED: DEPARTMENT OF ENGINEERING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE 3-18-16

NO.	DESCRIPTION	DATE



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



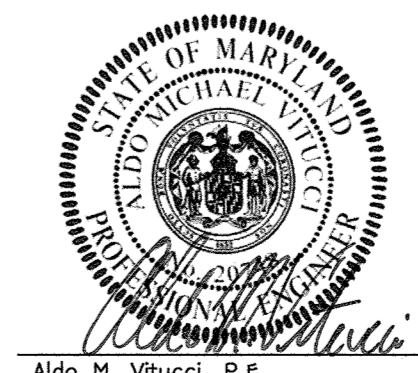
OWNER
 Estate Of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

CROSS SECTIONS

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

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.
 Date 2/16/16
 CHARLES J. CARNO, P.E., P.E.P. 15204



**OLD FREDERICK ROAD CROSS SECTIONS
 FAIRLANE FARM
 PHASE ONE**
 LOTS 1-18, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B'-'E',
 PARCEL 'F', NON-BUILDABLE BULK PARCELS 'G' & 'H'
 AND FOREST MITIGATION BANK

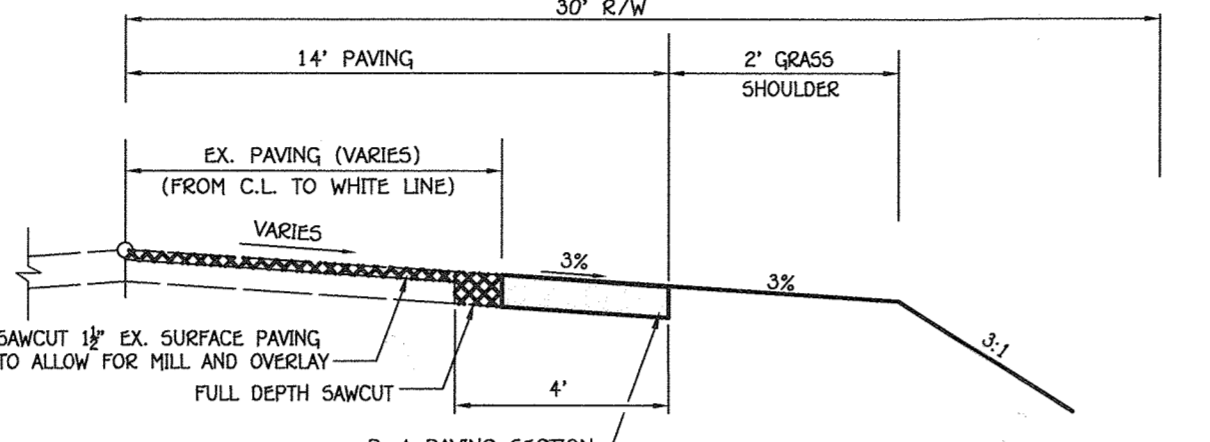
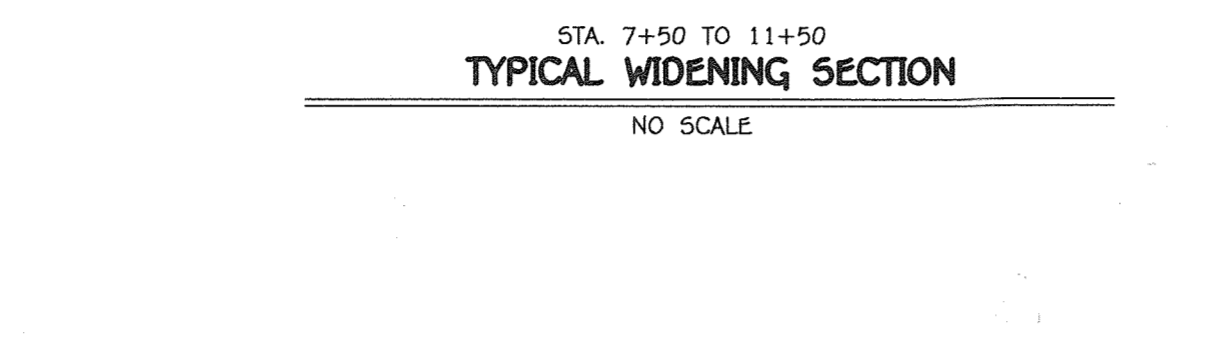
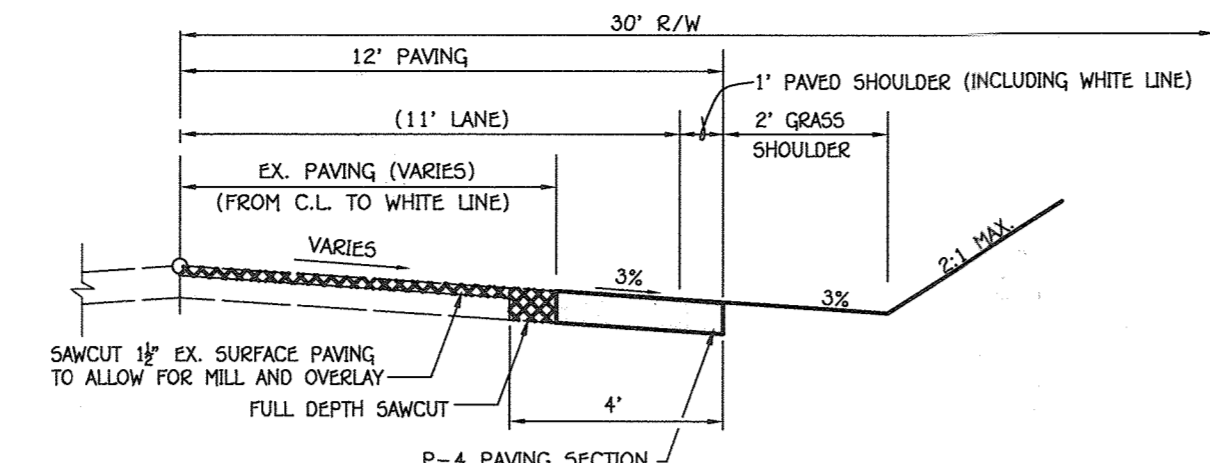
ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 9 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 37 OF 38

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS *M. M. ...* 3/2/2016 DATE

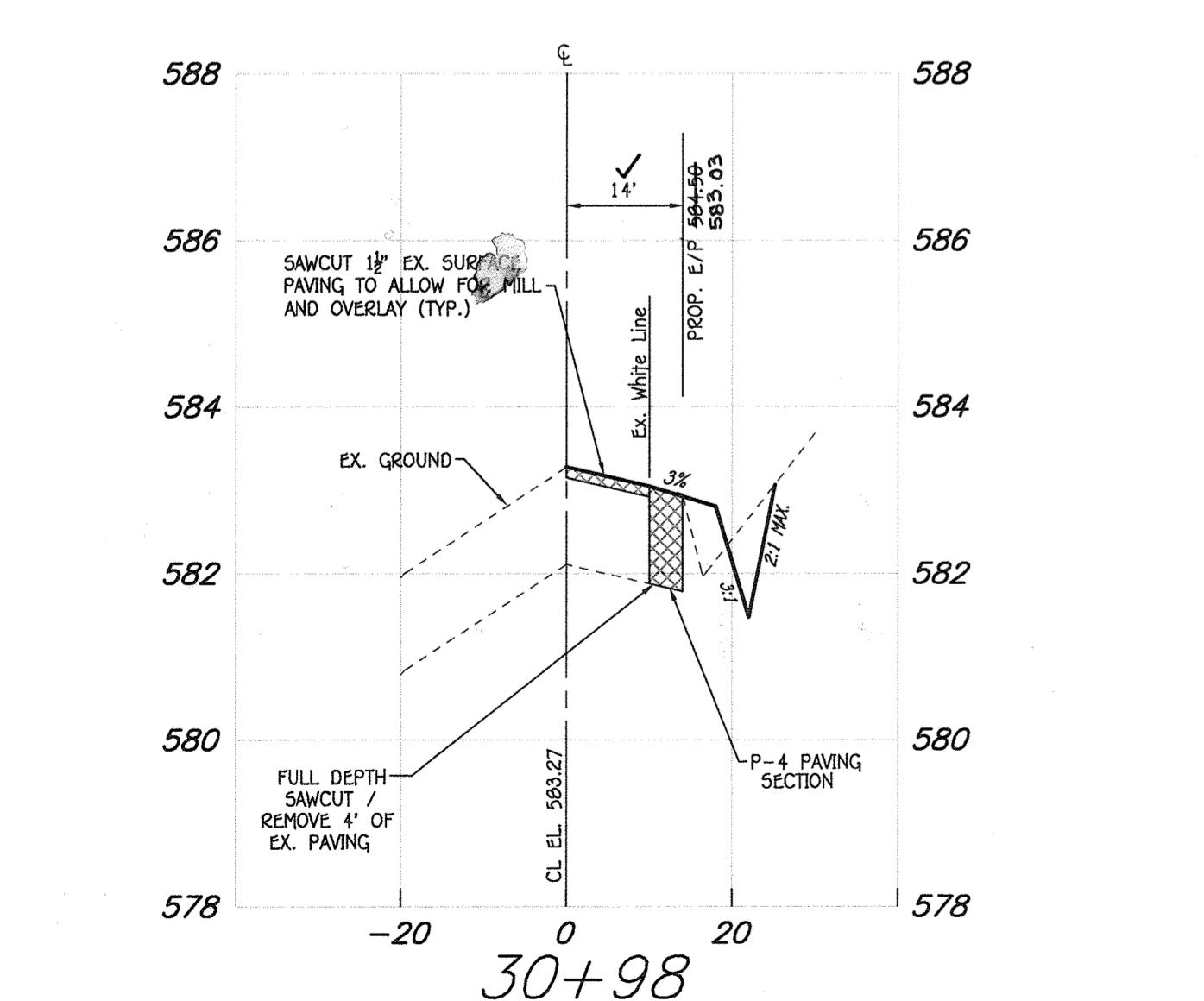
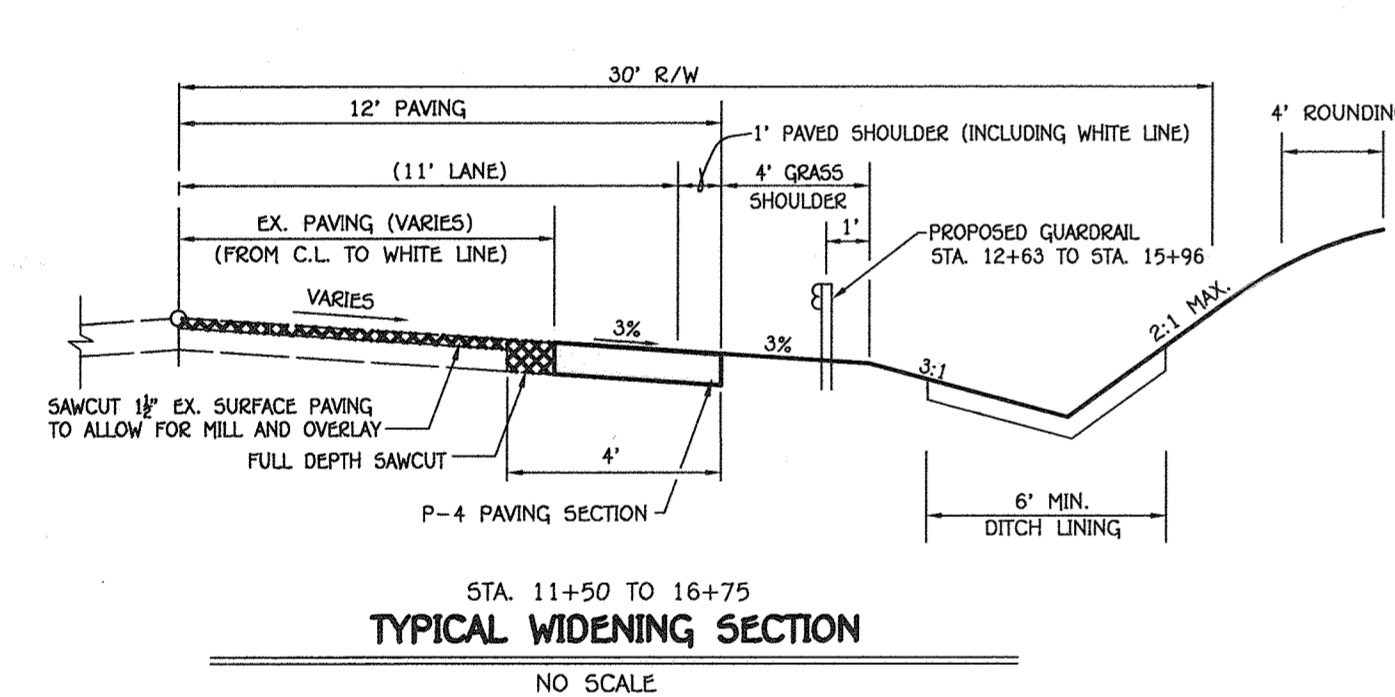
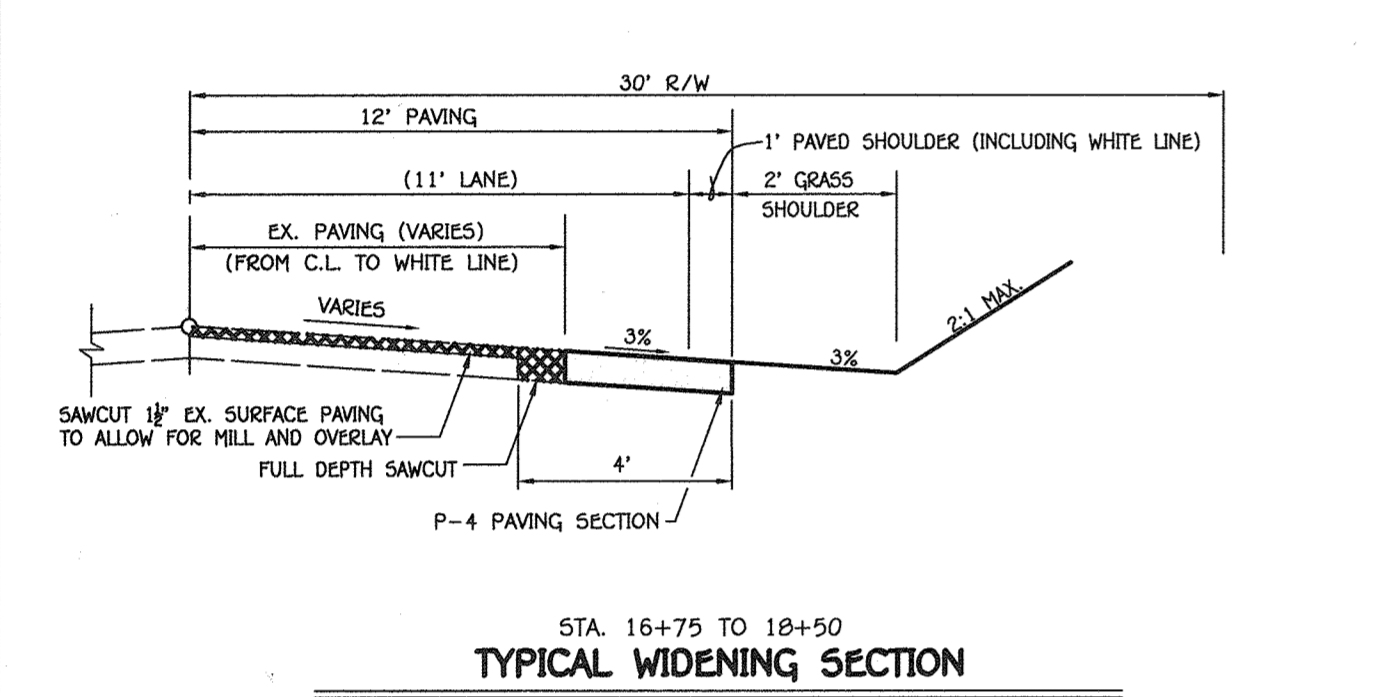
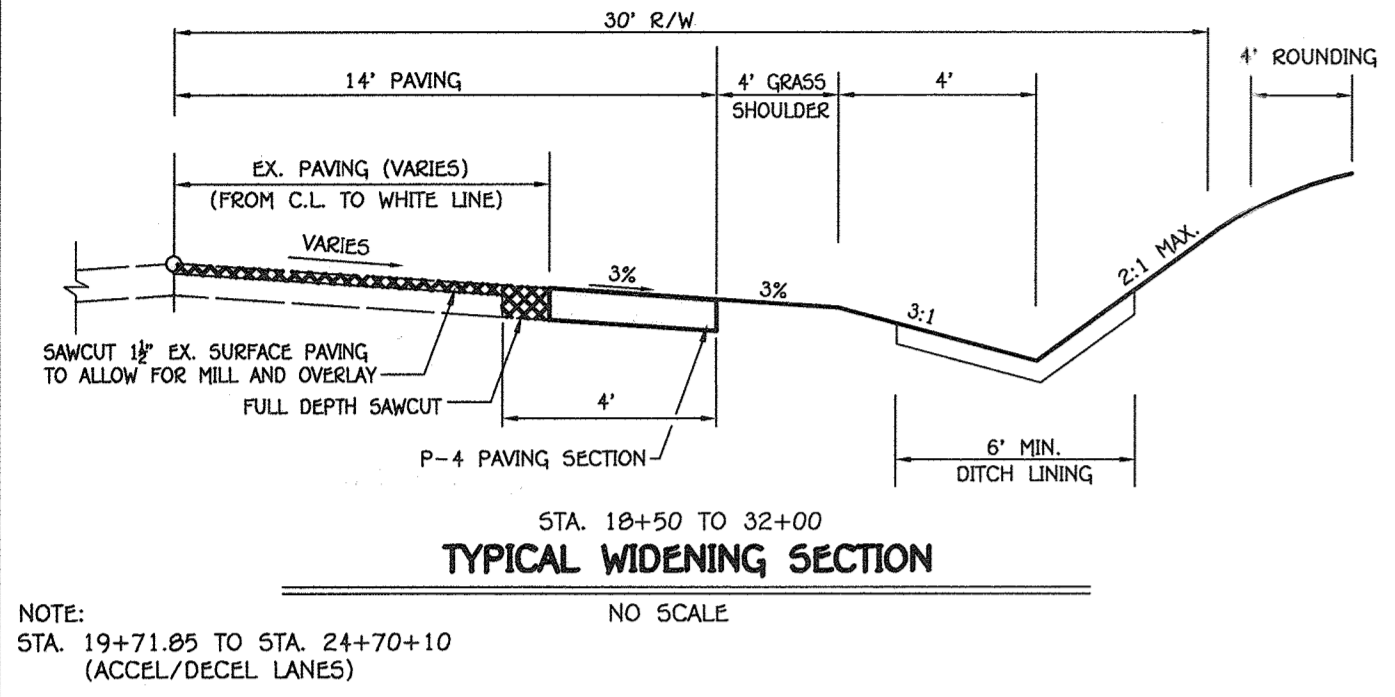
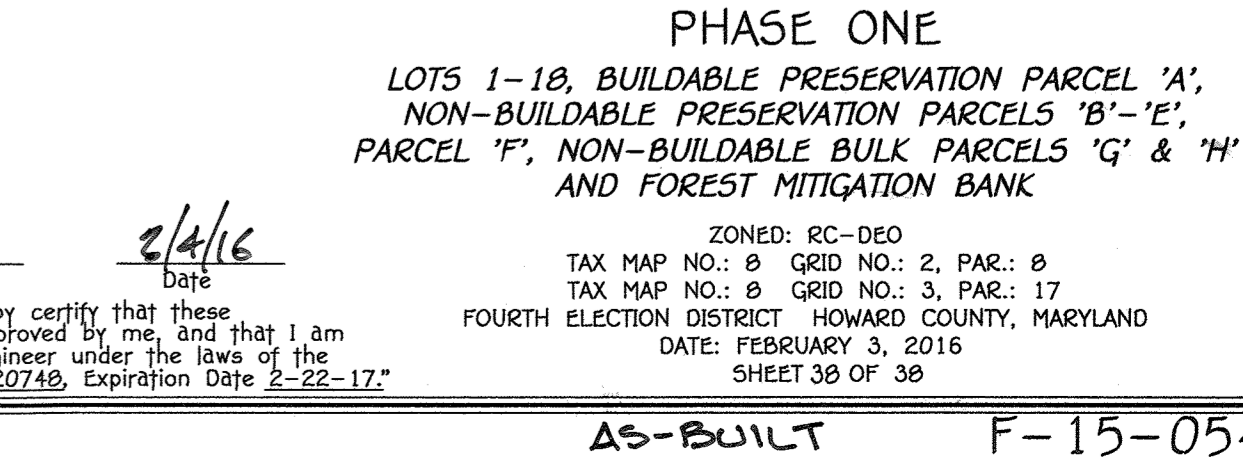
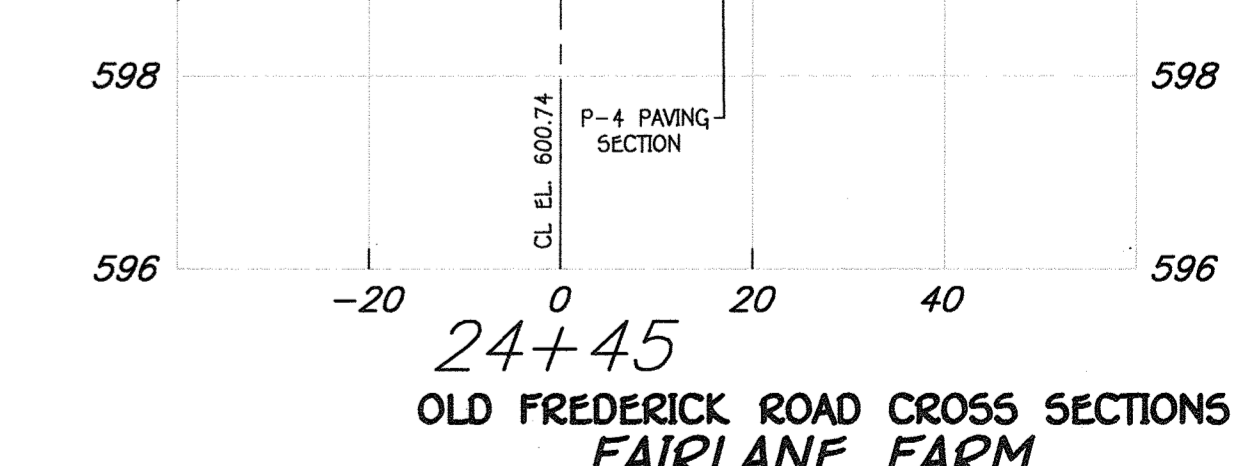
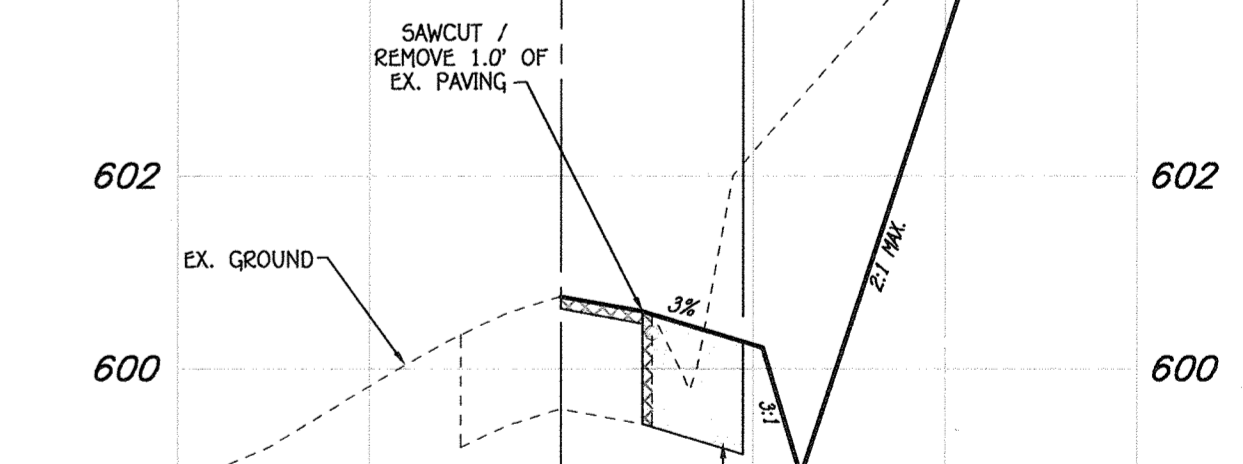
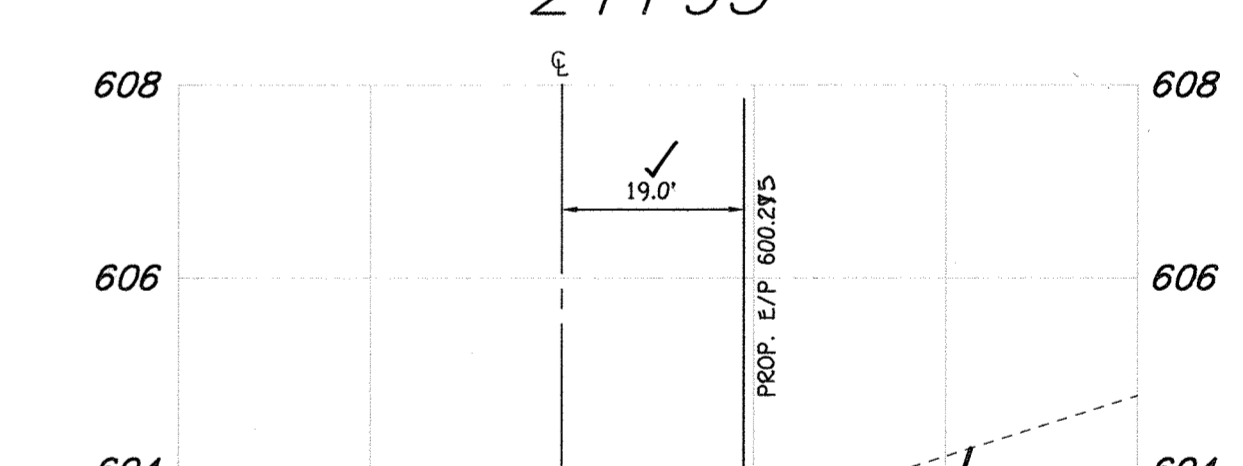
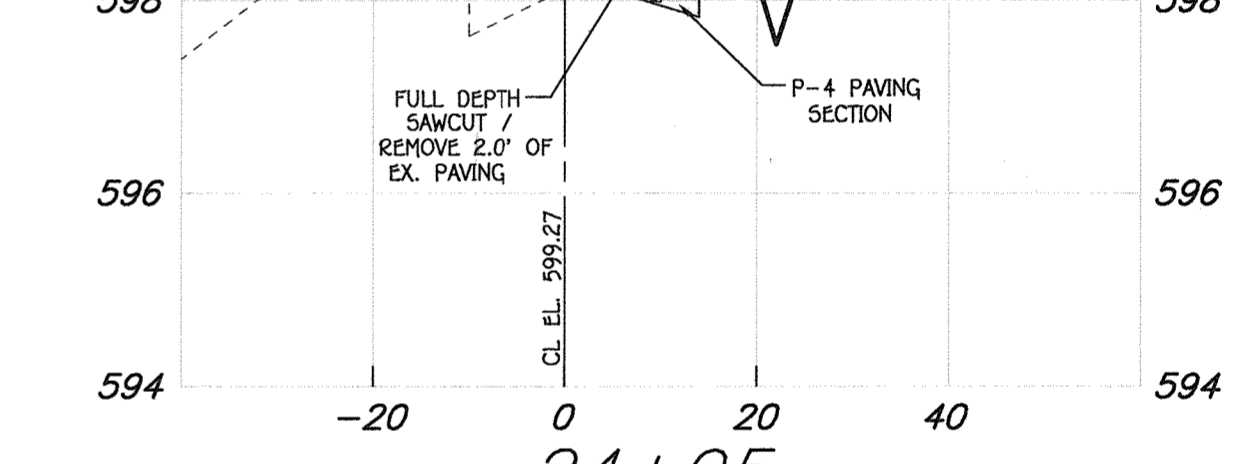
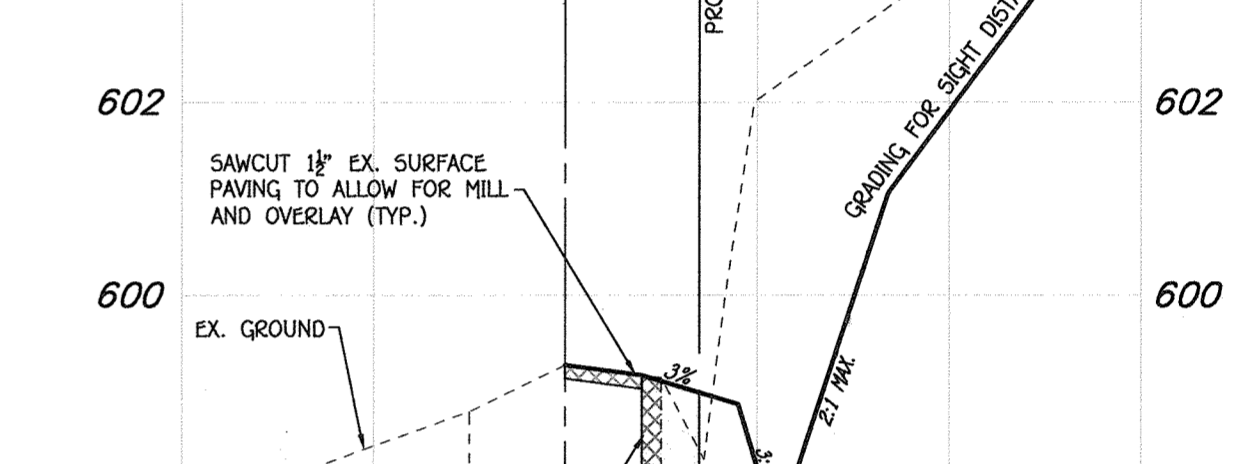
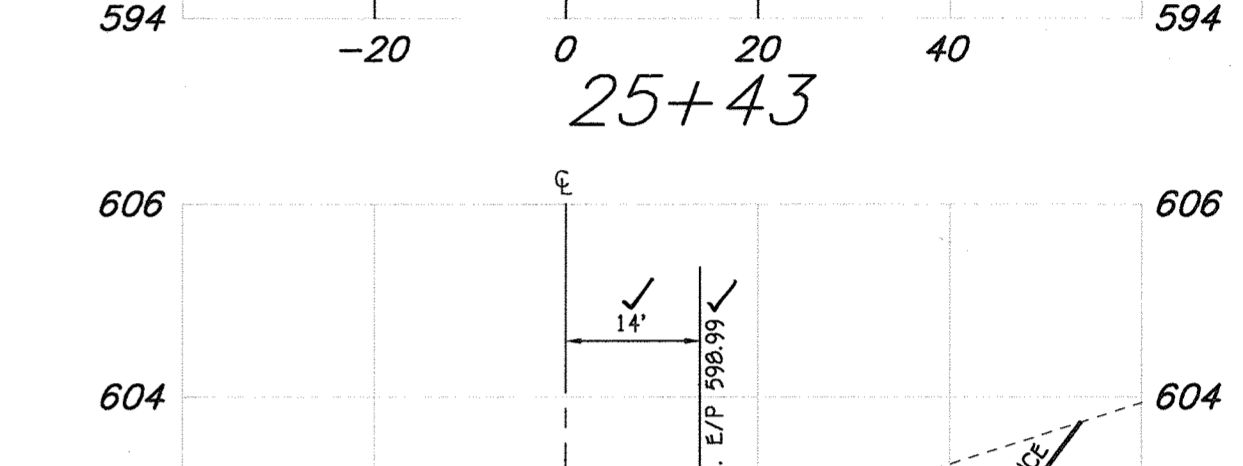
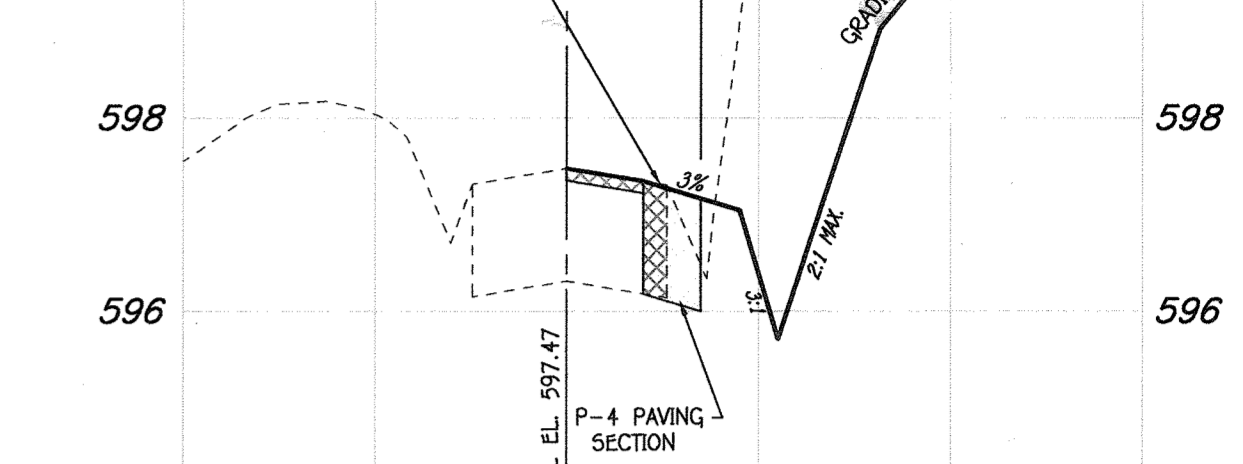
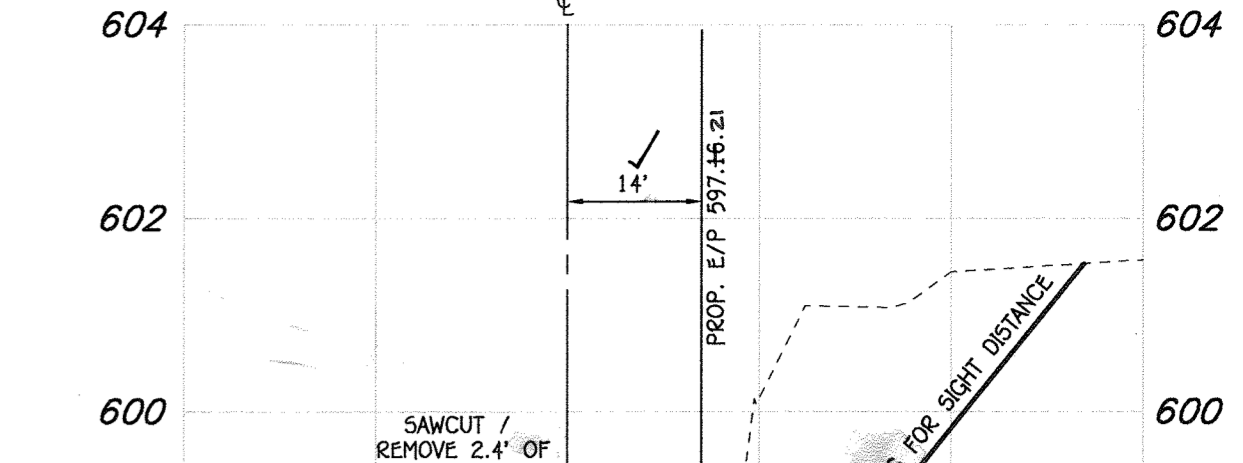
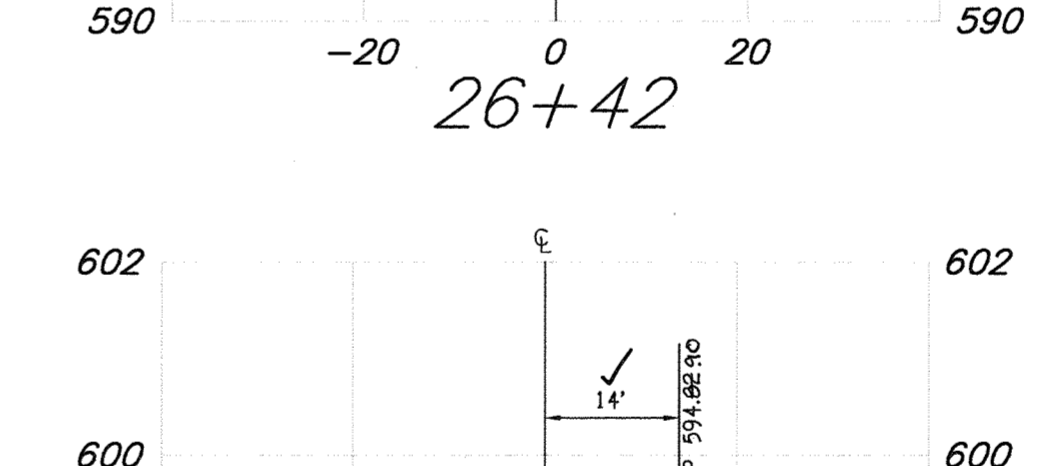
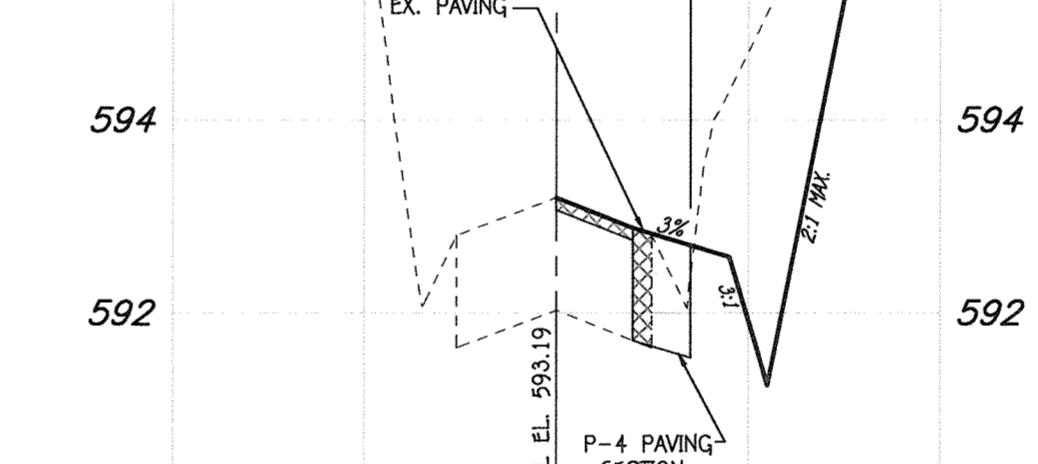
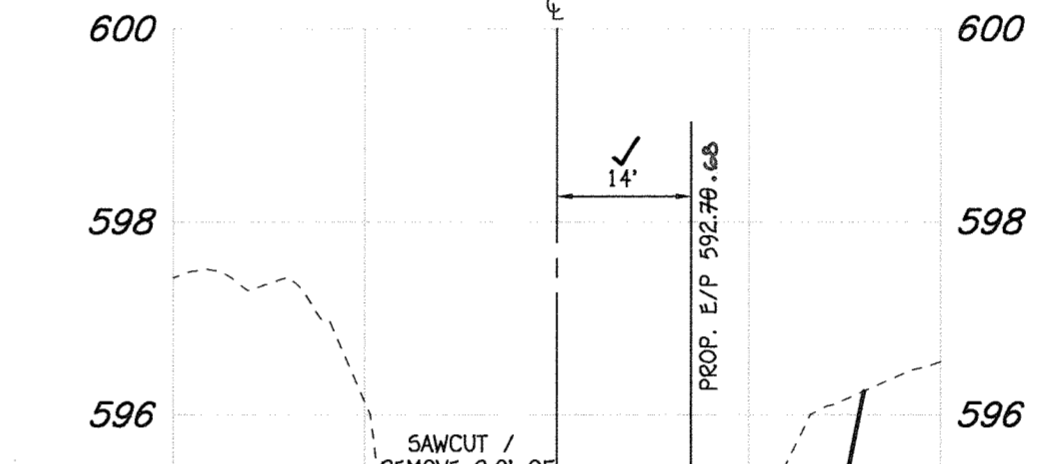
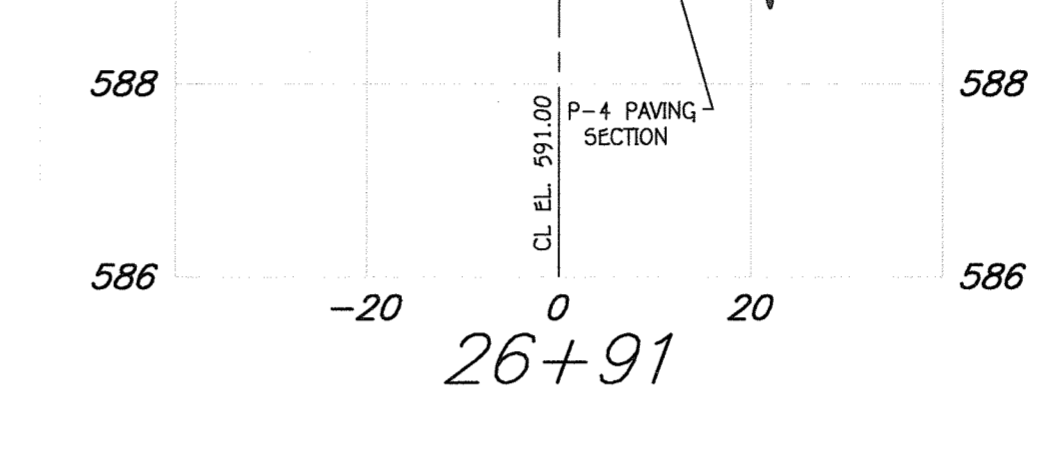
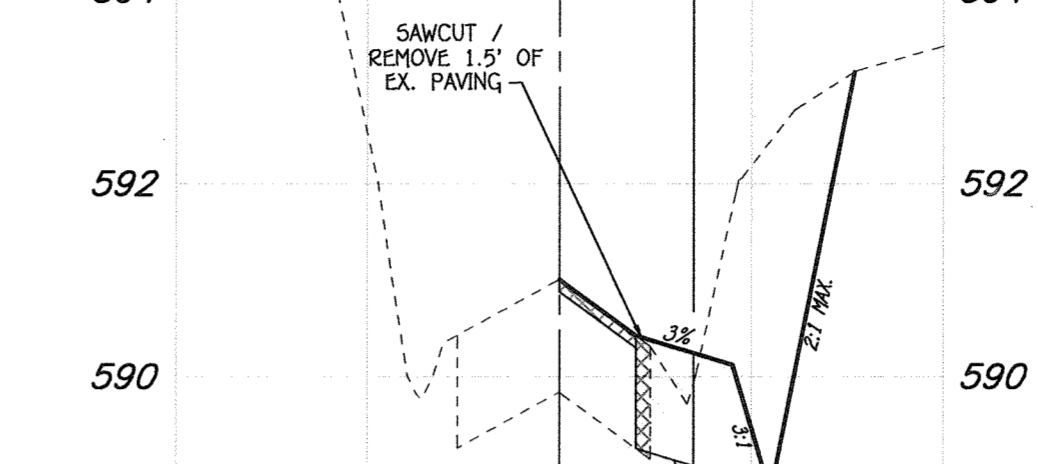
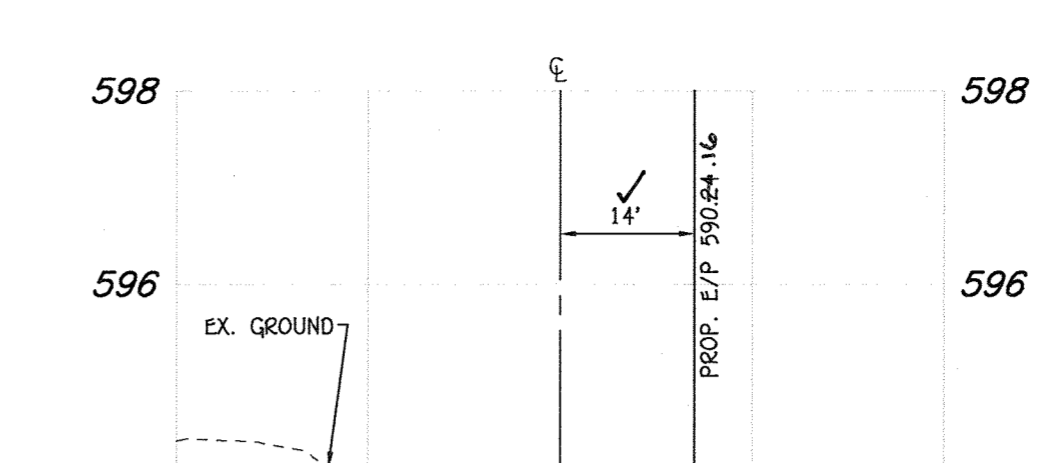
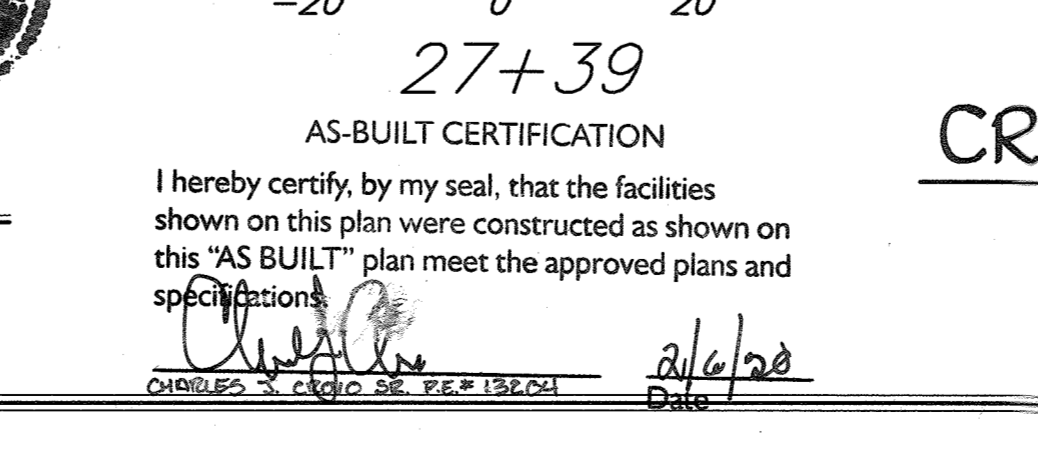
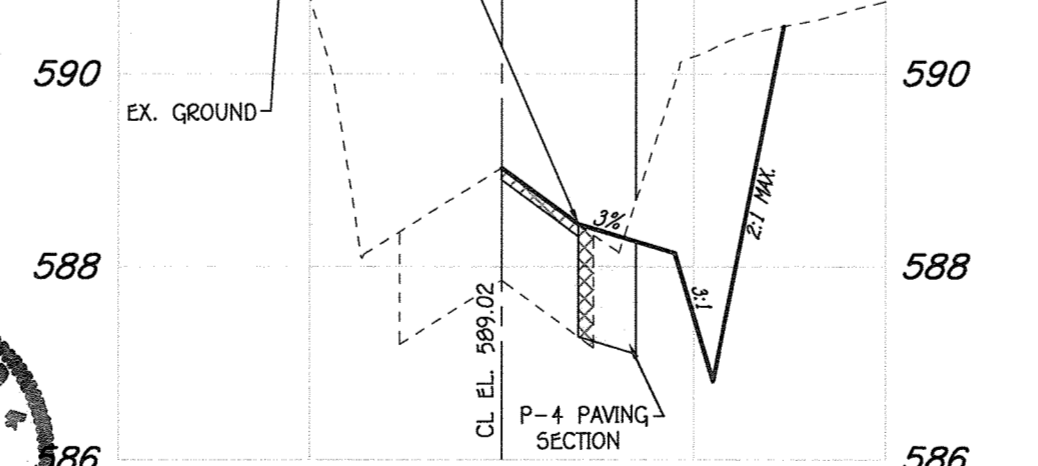
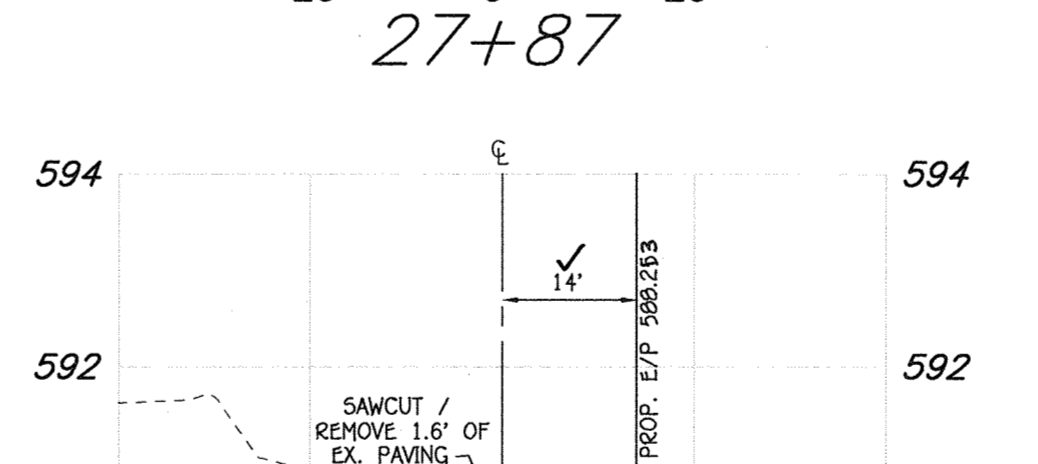
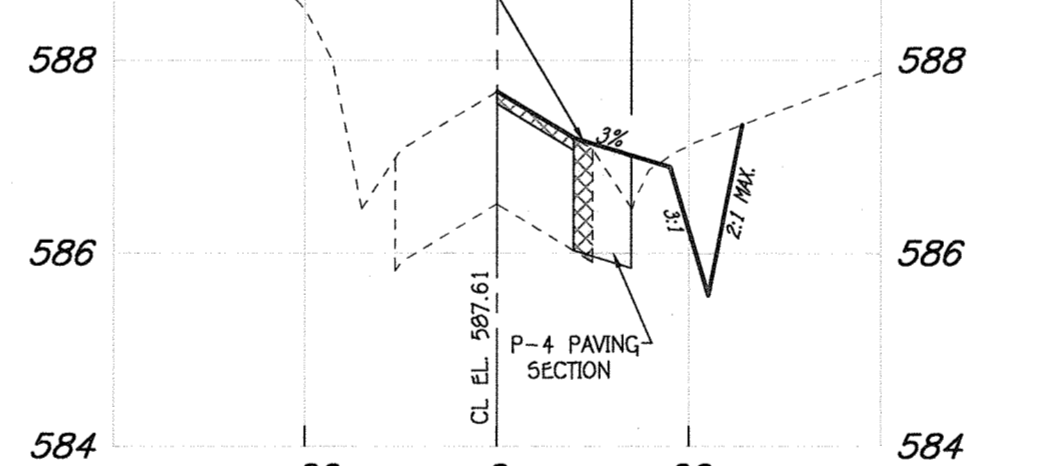
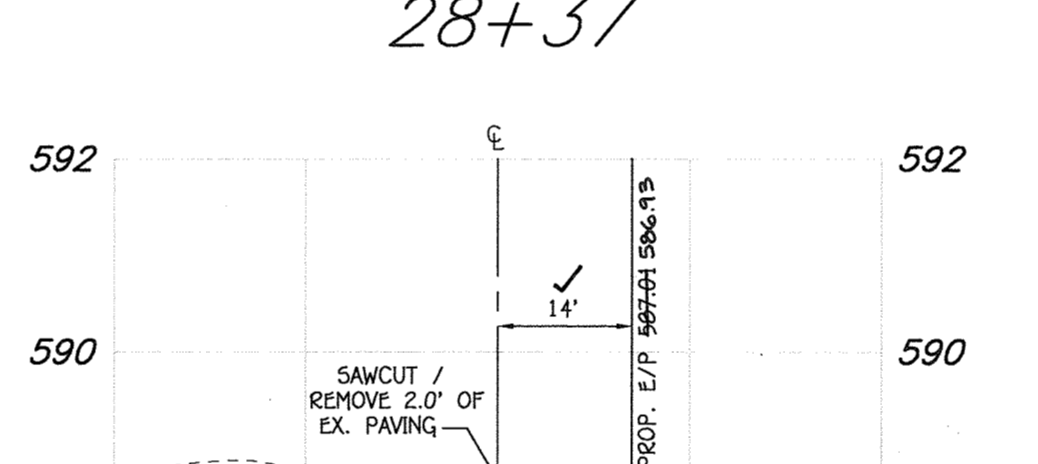
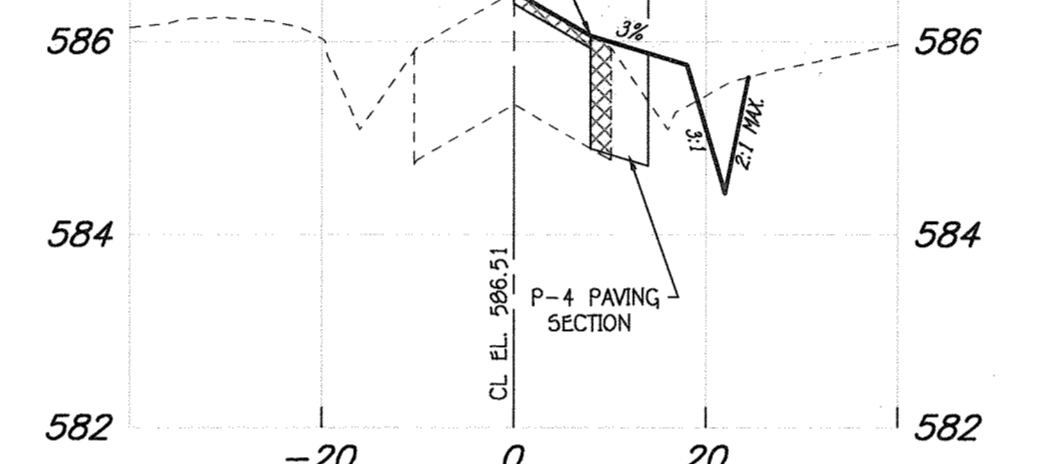
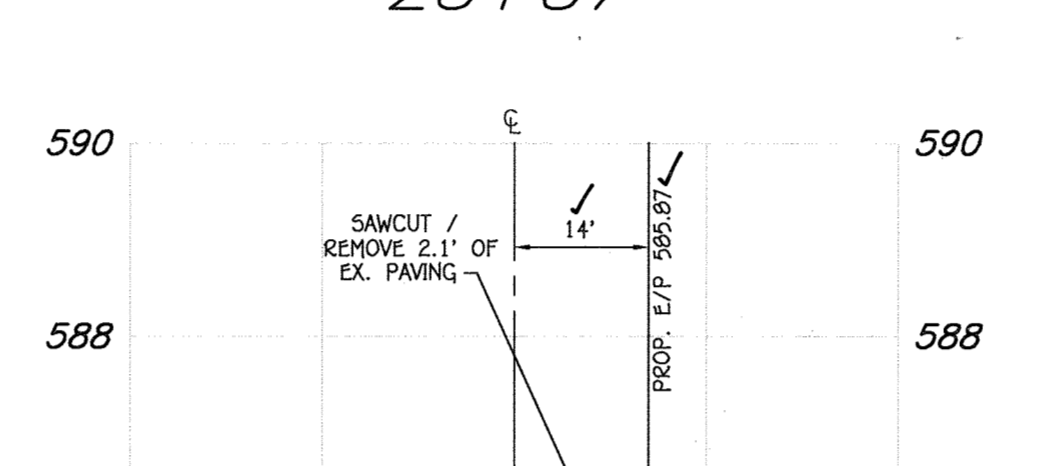
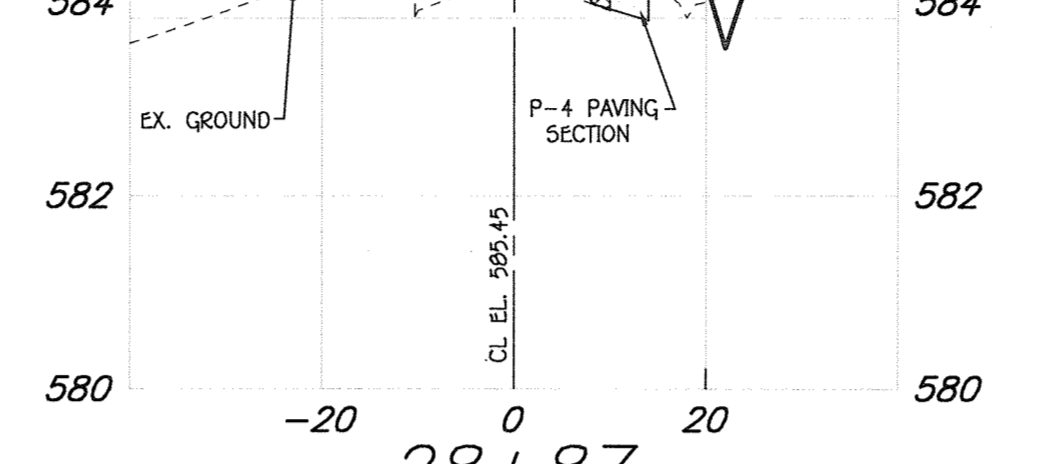
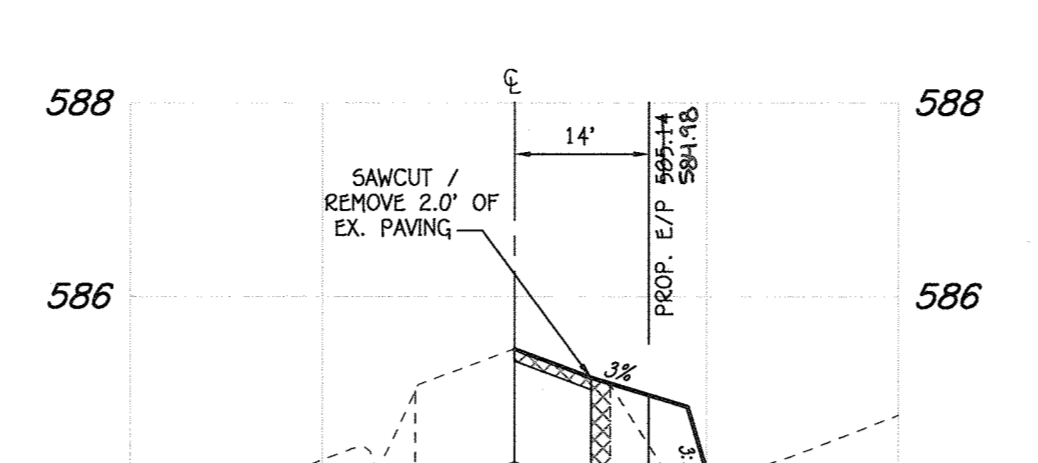
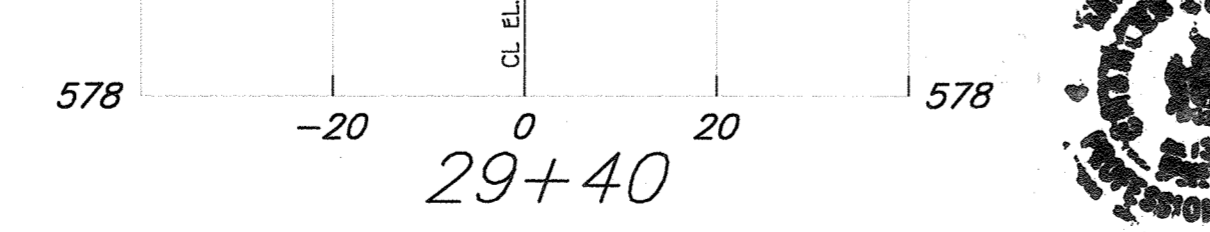
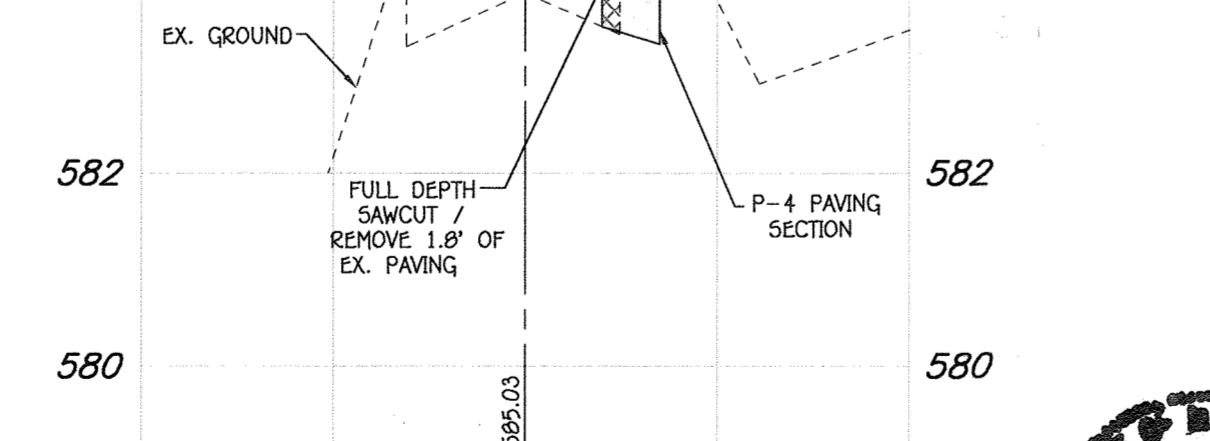
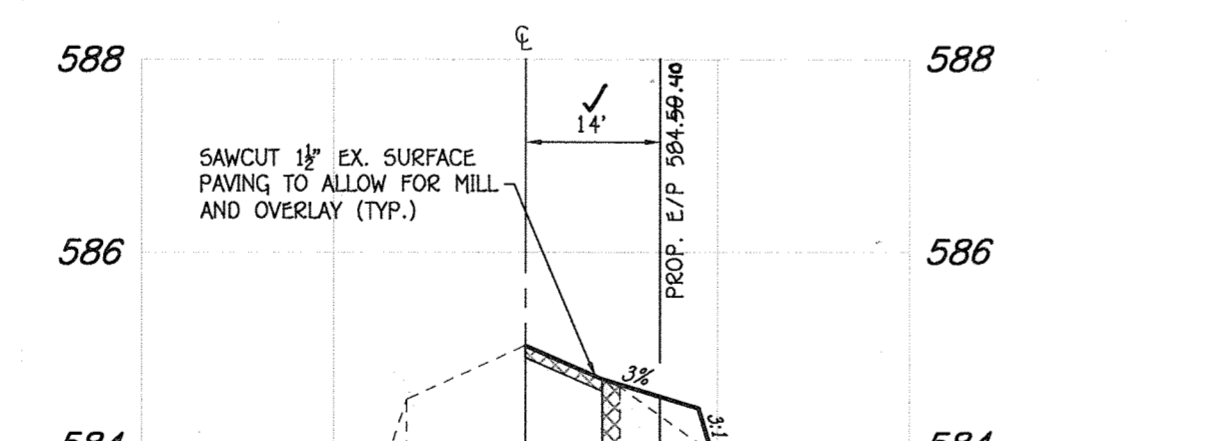
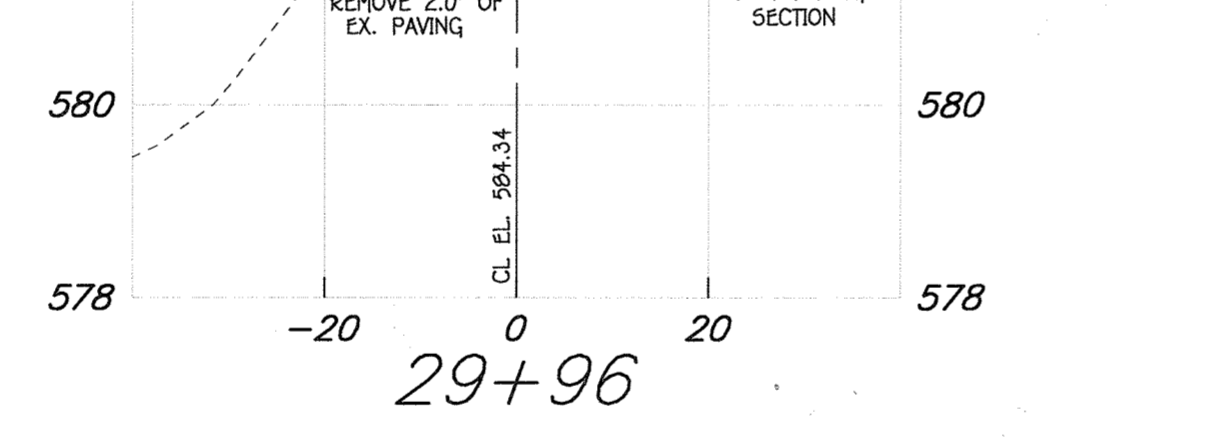
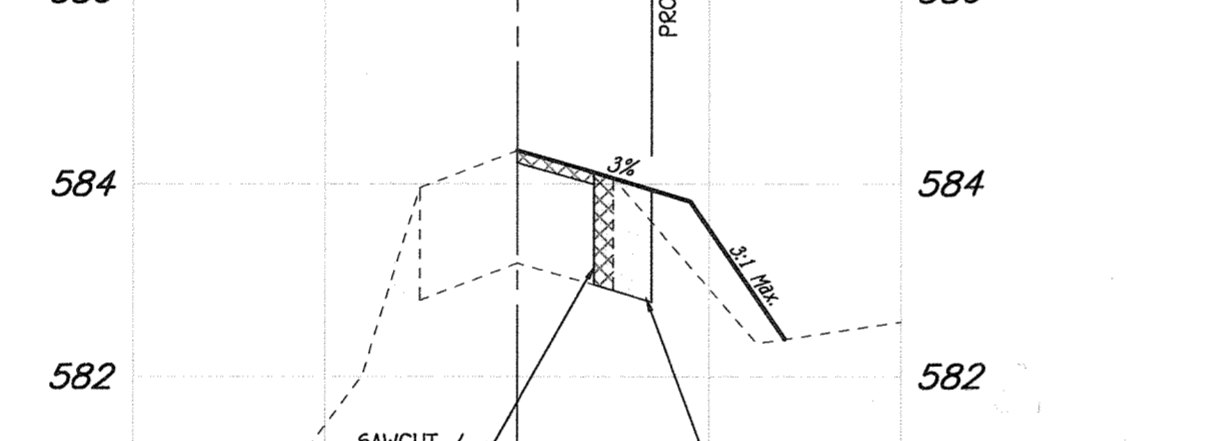
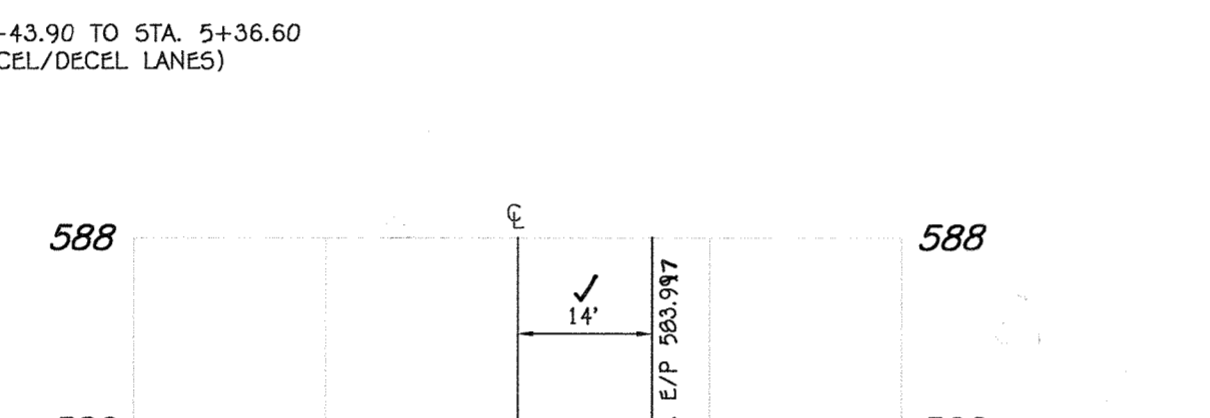
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT *V. ...* 3/3/16 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION *C. ...* 3.18.16 DATE

NO.	REVISIONS DESCRIPTION	DATE



NOTE:
 STA. 0+43.90 TO STA. 5+36.60
 (ACCEL/DECEL LANES)



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2995

OWNER
 Estate of F.J. Schulte
 c/o Diane Schulte,
 Personal Representative
 2215 Duvall Road
 Woodbine, Md 21797
 410-977-1327

DEVELOPER
 Land Design & Development
 5300 Dorsey Hall Drive
 Suite 102
 Ellicott City, Maryland 21042
 (410)-977-0422

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.
 Date: 2/4/16

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

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 A. M. VNUCCI, P.E.
 2/4/16
 "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."

ZONED: RC-DEO
 TAX MAP NO.: 8 GRID NO.: 2, PAR.: 8
 TAX MAP NO.: 8 GRID NO.: 3, PAR.: 17
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: FEBRUARY 3, 2016
 SHEET 38 OF 38

AS-BUILT F-15-054