

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DEMOLITION PLAN
3	ENVIRONMENTAL CONCEPT PLAN
4	SEDIMENT & EROSION CONTROL PLAN
5	DRAINAGE AREA MAP & S.W.M. DETAILS
6	S.W.M. DRAINAGE AREA MAPS (QUANTITY ANALYSIS)

ENVIRONMENTAL CONCEPT PLAN HARWOOD PARK

LOTS 1232, 1233, & 1249 THRU 1271
ZONING: R-12 (RESIDENTIAL: SINGLE DISTRICT)
TAX MAP No. 38 GRID No. 13 PARCEL No. 873
1ST. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

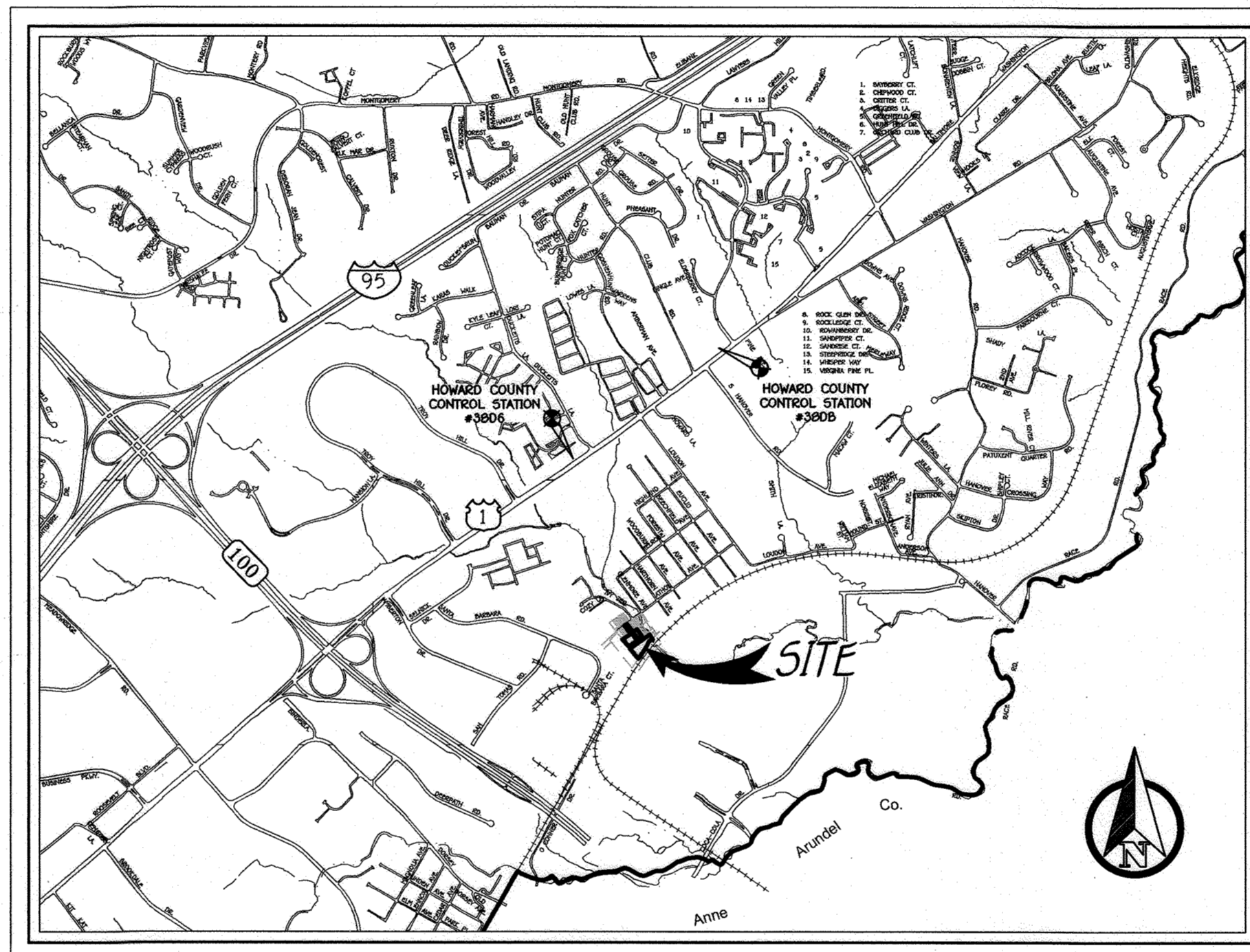
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE 11/29/23
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE

SITE ANALYSIS DATA CHART

- A. TOTAL AREA OF THIS SUBMISSION = 2.08 AC.
- B. LIMIT OF DISTURBED AREA = 1.76 AC.
- C. PRESENT ZONING DESIGNATION: R-12
- D. PROPOSED USE: SINGLE FAMILY ATTACHED HOUSING
- E. BUILDING COVERAGE OF SITE: 0.26 AC. (12.4%)
- F. PREVIOUS HOWARD COUNTY FILES:
- G. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0.09 AC.
- H. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.72 AC. (0.27 AC. 25% OR GREATER)
- I. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0.57 AC.
- J. TOTAL FOREST = 1.32 AC.
- K. TOTAL GREEN OPEN AREA = 1.37 AC. (66%)
- L. TOTAL IMPERVIOUS AREA = 0.71 AC. (34%)
- M. AREA OF ERODIBLE SOILS = 2.08 AC. (100%)

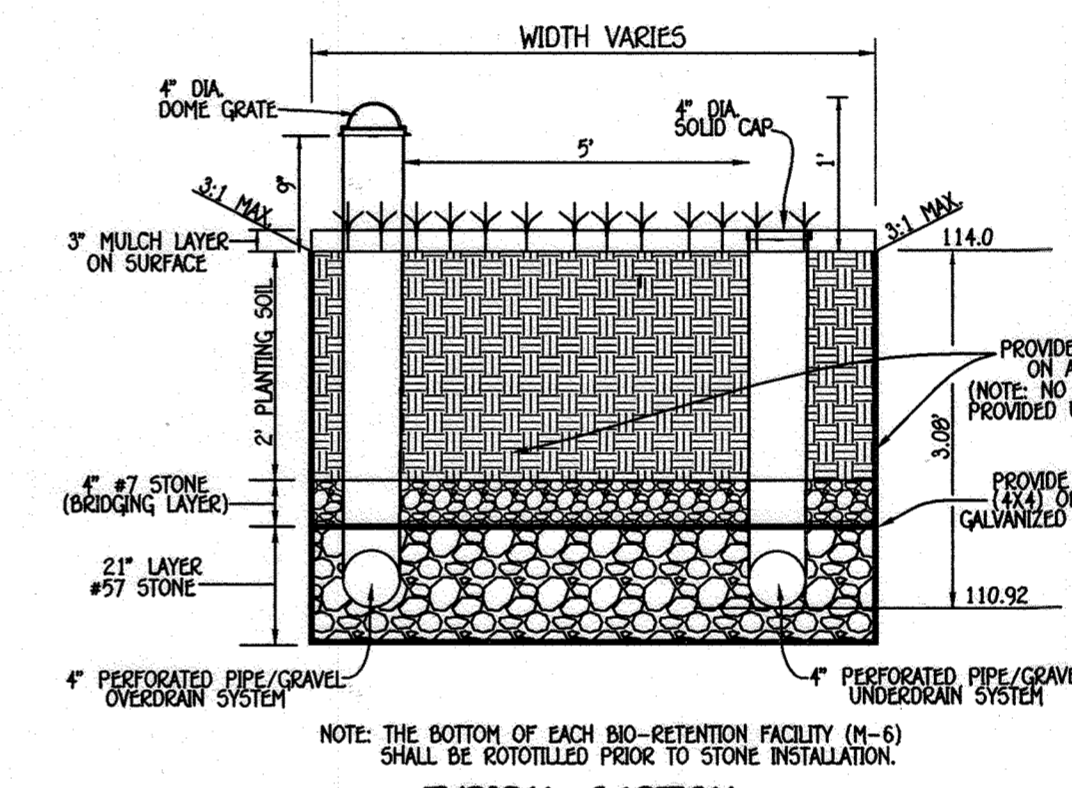
GENERAL NOTES

1. THE SUBJECT PROPERTY IS ZONED R-12 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.) BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON OR ABOUT JUNE, 2020.
2. CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, ON OR ABOUT JUNE, 2020.
3. COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL.
 STATIONS NO. 3806 AND NO. 3808:
 HOWARD COUNTY MONUMENT NO. 3806 N 560,767.681 E 169,821.313 ELEV. 53.202
 HOWARD COUNTY MONUMENT NO. 3808 N 170,208.976 E 422,631.184 ELEV. 58.562
4. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE H.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. THIS PLAN PROPOSES THE USE OF FIVE (5) FILTEREA PLUS UNITS, ONE (1) UNDERGROUND STORAGE FACILITY, AND ONE (1) M-6 MICRO-BIORETENTION.
5. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED FOR THIS PROJECT.
6. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
7. ENVIRONMENTAL FEATURES INCLUDE NON-JURISDICTIONAL WETLANDS AND WERE DELINEATED IN A REPORT BY FORENSIC ENVIRONMENTAL CONSULTANTS IN A REPORT DATED NOVEMBER 2, 2022.
8. LANDSCAPING WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.
9. SOIL BORING INFORMATION WILL BE PROVIDED AT THE NEXT PLAN STAGE OF THIS PROJECT.
10. APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR RED-LINE REVISION PROCESSES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
11. FUTURE PLAN SUBMISSIONS TO DEVELOP THIS SITE WILL REQUIRE A BROADER REVIEW FOR COMPLIANCE WITH ALL REGULATIONS INCLUDING, BUT NOT LIMITED TO SECTION 16.116 AND SECTION 16.1200 OF THE SUBDIVISION REGULATIONS. THE APPROVED ECP SHALL NOT BE CONSIDERED AS ANY RIGHT TO PROCESS A GRADING OR BUILDING PERMIT WITHOUT AN APPROVED SUBDIVISION OR SITE DEVELOPMENT PLAN AND MAY NOT BE USED AS JUSTIFICATION FOR ANY REQUIRED ALTERNATIVE COMPLIANCE ACTIONS.
12. THIS PLAN IS SUBJECT TO A DESIGN MANUAL WAIVER TO SECTION 2.3(A)(1)(c) OF HOWARD COUNTY VOLUME III DESIGN MANUAL COMPLETE STREETS AND BRIDGES FOR MINIMUM CURVE LENGTH AND THE SAME DESIGN MANUAL FOR A PRIVATE ROADWAY BUILT TO PUBLIC STANDARDS.
13. 10-YEAR & 100-YEAR STORMWATER MANAGEMENT HAS BEEN PROVIDED.
14. ROAD FRONTAGE IMPROVEMENTS WILL BE PROVIDED AT THE NEXT PLAN STAGE IF REQUIRED.



HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 3806 N 169,821.313 E 422,146.501 ELEVATION: 53.202
 HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 3808 N 170,208.976 E 422,631.184 ELEVATION: 58.562
 REFER TO HOWARD CO. ADC MAP 35

VICINITY MAP
SCALE: 1" = 2,000'



TYPICAL SECTION MICRO-BIORETENTION FACILITY (M-6)
NO NOT SCALE

OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

SWM NARRATIVE

INTRODUCTION:
 THIS REPORT WILL DEMONSTRATE HOW THE CRITERIA SET FORTH IN THE MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II (EFFECTIVE OCTOBER 2000, REVISED MAY 2009) WILL BE SATISFIED ON THIS PROJECT. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF "WOODS IN GOOD CONDITION" WILL BE ACCOMPLISHED THROUGH THE USE OF THE PRACTICES CONTAINED WITHIN CHAPTER 5 OF SAID MANUAL.

GENERAL SITE CONDITIONS:
 LOTS 1232, 1233, & 1249 THRU 1271 TOTAL ABOUT 2.08 ACRES AND CONSISTS OF ONE SINGLE FAMILY HOME. THE PROPERTY IS ZONED R-12 AND LOCATED ON TAX MAP 38 IN THE HARWOOD PARK AREA OF HOWARD COUNTY. THE SITE GENERALLY SLOPES FROM WEST TO EAST AND DRAINAGE TO A STREAM THAT RUNS UNDER THE RAILROAD TRACKS SOUTHEAST OF THE SITE. PUBLIC WATER AND SEWER WILL BE UTILIZED FOR THIS PROJECT. THE SOILS ON SITE ARE CLASS 'C' SOILS, RAC AND RAO RUSSETT FINE SANDY LOAM WITH MINUSCULE HA CLASS 'D' HARBOUR-COOROUS SILT LOAM IN THE LOO AT THE SEWER CONNECTION. THE SITE IS IRREGULAR IN SHAPE WITH AN EXISTING BUT UNDEVELOPED PUBLIC RIGHT-OF-WAY IN THE MIDDLE OF THE SITE. THERE ARE BOTH SMALL AND MATURE TREES INCLUDING 6 SPECIMEN TREES. THIS SITE IS IN THE DEEP RUN WATERSHED (02110906). THE RUNOFF FROM MOST OF THE PROPOSED HOUSE ROOFS & ROADWAY WILL BE TREATED BY 5 FILTEREA PLUS UNITS WITH ADDITIONAL PIPE STORAGE. A MICRO-BIORETENTION (M-6) WILL ALSO BE UTILIZED TO TREAT THE REMAINING ROOF RUNOFF. THE UNDERGROUND FILTEREA PIPE STORAGE IS ALSO PROPOSED TO CONTROL THE 10 YR & 100 YR STORMS.

- I. **NATURAL RESOURCE PROTECTION:**
 SIX SPECIMEN TREES EXIST ON OR NEAR THE SITE. THREE ARE PROPOSED TO BE REMOVED TO ALLOW CONSTRUCTION OF THE DEVELOPMENT. THE SITE INCLUDES AN EXISTING FORD STREAM, STREAM BUFFERS, WETLAND, WETLAND BUFFERS AND 100-YEAR FEMA FLOODPLAIN. AN ALTERNATIVE COMPLIANCE WILL BE SUBMITTED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT FOR THE REMOVAL OF SPECIMEN TREES AND NECESSARY DISTURBANCE OF THE STREAM BUFFER, WETLAND, AND WETLAND BUFFER TO OUTLIE THE STREAM BUFFER, WETLAND, AND WETLAND BUFFER.
- II. **MAINTENANCE OF NATURAL FLOW PATTERNS:**
 IT IS THE INTENT OF THE PROPOSED DESIGN TO DISCHARGE RUNOFF SIMILAR TO THE CHARACTERISTICS AND DIRECTION OF THIS SITE PRIOR TO ANY OF THE PROPOSED IMPROVEMENTS. THE EXISTING DISCHARGE POINT FOR THIS PROJECT IS LOCATED AT THE STREAM TO THE SOUTHWEST OF THE PROPERTY. ALTHOUGH THE PROPOSED SWM DESIGN CREATES CONCENTRATED POINTS OF DISCHARGE, RUNOFF WILL ENTER THE STREAM AT A NON-EROSIVE VELOCITY SIMILAR TO EXISTING CONDITIONS.
- III. **REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES**
 TO MINIMIZE IMPERVIOUS AREA, THIS PROJECT PROPOSES A NARROW ACCESS ROAD OF 24' TO BE UTILIZED FOR ACCESS TO THE PROPOSED HOUSES. ALL NEW IMPERVIOUS AREA WILL RECEIVE FULL ESD.
- IV. **INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:**
 DUE TO THE MINOR NATURE OF THIS PROJECT NO LARGE SCALE SEDIMENT CONTROL PRACTICES HAVE BEEN PROPOSED. HOWEVER, IT IS ANTICIPATED TO UTILIZE THE INTERIM CONDITION PIPE STORAGE LOCATION TO PROVIDE MINOR SEDIMENT TRAPPING. IMPACTS TO THE ISOLATED WETLAND AND REMOVAL OF 3 SPECIMEN TREES ARE UNAVOIDABLE FOR THE PROPOSED DEVELOPMENT. DIVERSION FENCE WILL BE USED TO MINIMIZE THE RUNOFF TO THESE AREAS DURING CONSTRUCTION.
- V. **IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES TO THE MAXIMUM EXTENT PRACTICABLE (MEP)**
 THIS SUBMISSION PROPOSES MULTIPLE MARYLAND STORMWATER DESIGN MANUAL CHAPTER 5 DEVICES TO MEET AND EXCEED THE REQUIRED ENVIRONMENTAL SITE DESIGN TO THE MAXIMUM EXTENT PRACTICABLE (ESD TO THE MEP).
- VI. **REQUEST FOR DESIGN MANUAL WAIVER:**
 NO WAIVERS RELATED TO STORMWATER MANAGEMENT ARE BEING REQUESTED AT THIS TIME. HOWEVER, THIS SITE IS SUBJECT TO APPROVAL OF AN ALTERNATIVE COMPLIANCE APPLICATION TO SECTION 16.1205(A)(3) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS FOR REMOVAL OF THREE SPECIMEN TREES AND SECTION 16.116(C)(1)(I) OF THE SAME REGULATIONS FOR NECESSARY DISTURBANCE OF THE STREAM BUFFER, WETLAND, AND WETLAND BUFFER.

STREET ADDRESS CHART

STREET ADDRESSES
6793 ATHOL AVENUE
6795 ATHOL AVENUE

LEGEND

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
X 448.9	SPOT ELEVATION
---	EXISTING STORM DRAIN
---	EXISTING CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING STREAM
---	EXISTING WETLANDS
---	15-24.9% STEEP SLOPES
---	25% OR GREATER STEEP SLOPES
---	FOREST CONSERVATION EASEMENT (REFORESTATION)
---	EXISTING TREE LINE
---	SOIL LINES AND TYPES
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	INDICATES EXISTING TREE TO BE REMOVED
---	INDICATES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE

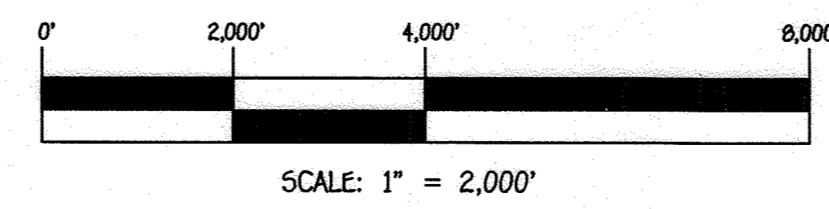
SITE MAP
NO SCALE

STORMWATER MANAGEMENT PRACTICES

LOT/PARCEL No.	UNDERGROUND STORAGE FACILITY (PIPE STORAGE)	FILTEREA INLET (NUMBER)	DRY WELLS M-5 (NUMBER)	MICRO-BIORETENTION M-6 (NUMBER)
1250	YES		NO	
1251	YES		NO	
1253	YES		NO	
1254	YES		NO	
1255	YES	YES (5 TOTAL)	NO	YES (1 TOTAL)
1256	YES		NO	
1257	YES		NO	
1258	YES		NO	
1265-1270	YES		NO	
1233	YES		NO	

STORMWATER MANAGEMENT INFORMATION

Lot No.	Facility Name & Number	Practice Type (Quantity)	Public	Private	HOA Maintained	Homeowner Maintained	Remarks
1250	ESD #1	(STORAGE FACILITY) - 1 EA.	--	X	X	--	
1251	FT-1		--	X	X	--	
1253	FT-2		--	X	X	--	
1254	FT-3	5 EA.	--	X	X	--	5 FILTEREA INLETS WITH
1255	FT-4		--	X	X	--	1 UNDERGROUND STORAGE
1256	FT-5		--	X	X	--	FACILITY AND
1257			--	X	X	--	1 MICRO-BIORETENTION
1258			--	X	X	--	
1265-1270	M6-1	(M-6) - 1 EA.	--	X	X	--	
1233			--	X	X	--	



OWNER & DEVELOPER:
 Harwood Park
 6308 IVY CROSS ROAD
 ELK RIDGE, MARYLAND 21075
 410-564-8809

TITLE SHEET
HARWOOD PARK
 LOTS 1232, 1233, & 1249 THRU 1271
 6793, 6795 ATHOL AVENUE
 ZONING: R-12
 1ST. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 TAX MAP 38 GRID 13 PARCEL 873
 DATE: NOVEMBER, 2023
 SHEET 1 OF 6

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELKTON, MD., MARYLAND 21828
 (410) 661-3995



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. 46091, EXPIRATION DATE: 5/14/25.
Luke A. Groom
 LUKE A. GROOM
 11-15-23
 DATE

- NOTES:**
- BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, ON OR ABOUT JUNE, 2020.
 - CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, ON OR ABOUT JUNE, 2020.
 - FLOODPLAIN BASED ON HOWARD COUNTY DIGITAL FLOOD INSURANCE RATE MAP CROSS SECTIONS ON OCTOBER 11, 2022.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 11/20/23

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 11/20/23

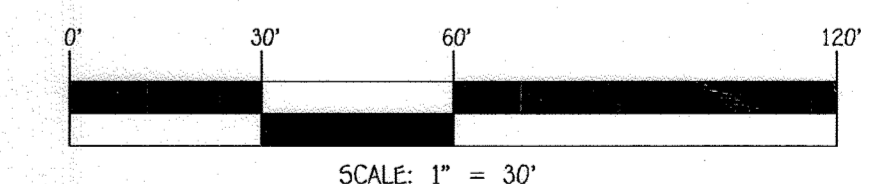
SOILS LEGEND

SOIL	NAME	CLASS	K VALUE
RaC	Russett fine sandy loam, 5 to 10 percent slopes	C	0.43
RaD	Russett fine sandy loam, 10 to 15 percent slopes	C	0.43
Ha	Hatboro-Codorus silt loams, 0 to 3 percent slopes	B/D	0.43

HIGHLY ERODIBLE SOILS DEFINED AS >15% SLOPE OR >3% SLOPE AND A K FACTOR OF > 0.35

TREE INVENTORY CHART

Number	Species	DBH	Condition
1	Red Oak	11.8"	Good, healthy
2	Loblolly Pine	19.4"	Good, healthy
3	Fire Cherry	9.1"	Good, healthy
4	Red Maple	Avg 14.0"	Multi-vole, healthy
5	White Oak	34.7"	Exceptional, broad crown
6	Scarlet Oak	30.0"	Fair, limb dye back TBR
7	Black Oak	36.3"	Poor, hollow dying TBR
8	Tulip Poplar	25.2"	Good, nice crown
9	Tulip Poplar	35.8"	Dead
10	Tulip Poplar	30.0"	Very Good, nice crown
11	Tulip Poplar	22.9"	Very Good, nice crown
12	Black Oak	23.3"	Very Good, healthy
13	Red Oak	26.1"	Good, healthy
14	Red Maple	24.8"	Good, healthy
15	Tulip Poplar	30.0"	Good, healthy
16/17	Red Oak	40" Double Vole	Excellent, broad crown TBR
18	Red Oak	29.2"	Poor, dead vole
19	Red Oak	24.5"	Good, healthy
20	White Ash	23.9"	Dead
21	Norway Spruce	25.8"	Good, healthy
22	Sugar Maple	22.9"	Good, healthy
23	Tulip Poplar	25.2"	Poor, limb dyeback
24	Silver Maple	26.7"	Good, healthy
25	Tulip Poplar	25.5"	Good, healthy
26	Tulip Poplar	28.6"	Good, healthy
27	Tulip Poplar	23.6"	Poor, limb dyeback
28	Tulip Poplar	28.7" Double Vole	Poor, 1 vole dying
29	Tulip Poplar	24.8"	Very Good
30	Tulip Poplar	25.7"	Very Good



DEMOLITION PLAN
HARWOOD PARK
 LOTS 1232, 1233, & 1249 THRU 1271
 6793, 6795 ATHOL AVENUE
 ZONING: R-12
 15TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 TAX MAP 38 GRID 13 PARCEL 873
 DATE: OCTOBER, 2023
 SHEET 2 OF 6

OWNER & DEVELOPER:
 Muhammad K. Alkadi
 6308 BY CROSS ROAD
 ELK RIDGE, MARYLAND 21075
 410-564-0609

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. 46091, EXPIRATION DATE: 5/14/23.

Luke A. Groom
 LUKE A. GROOM

10-31-23
 DATE



LEGEND

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
•	SPOT ELEVATION
—	EXISTING STORM DRAIN
—	EXISTING CABLE LINE
—	EXISTING GAS LINE
—	EXISTING OVERHEAD WIRE
—	EXISTING OVERHEAD ELECTRIC
—	EXISTING STREAM
—	EXISTING WETLANDS
—	15-24.9% STEEP SLOPES
—	25% OR GREATER STEEP SLOPES
—	FOREST OVERHANG BASHMENT (REFORMERED)
—	EXISTING TREE LINE
—	SOIL LINES AND TYPES
—	BIO RETENTION FACILITY (P-6) OR (P-4) AS NOTED
—	EXISTING TREE LINE
—	DEMOTES EXISTING TREE TO BE REMOVED
—	DEMOTES EXISTING TREES TO REMAIN
—	CRITICAL ROOT ZONE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALDWIN NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 410-461-2992

ROUTE ONE, HUNDRED
 BUSINESS, PARK
 BLOCK 'D',
 PARCEL 'E-1'
 P.B. 29, PG. 99
 ZONED: M-2

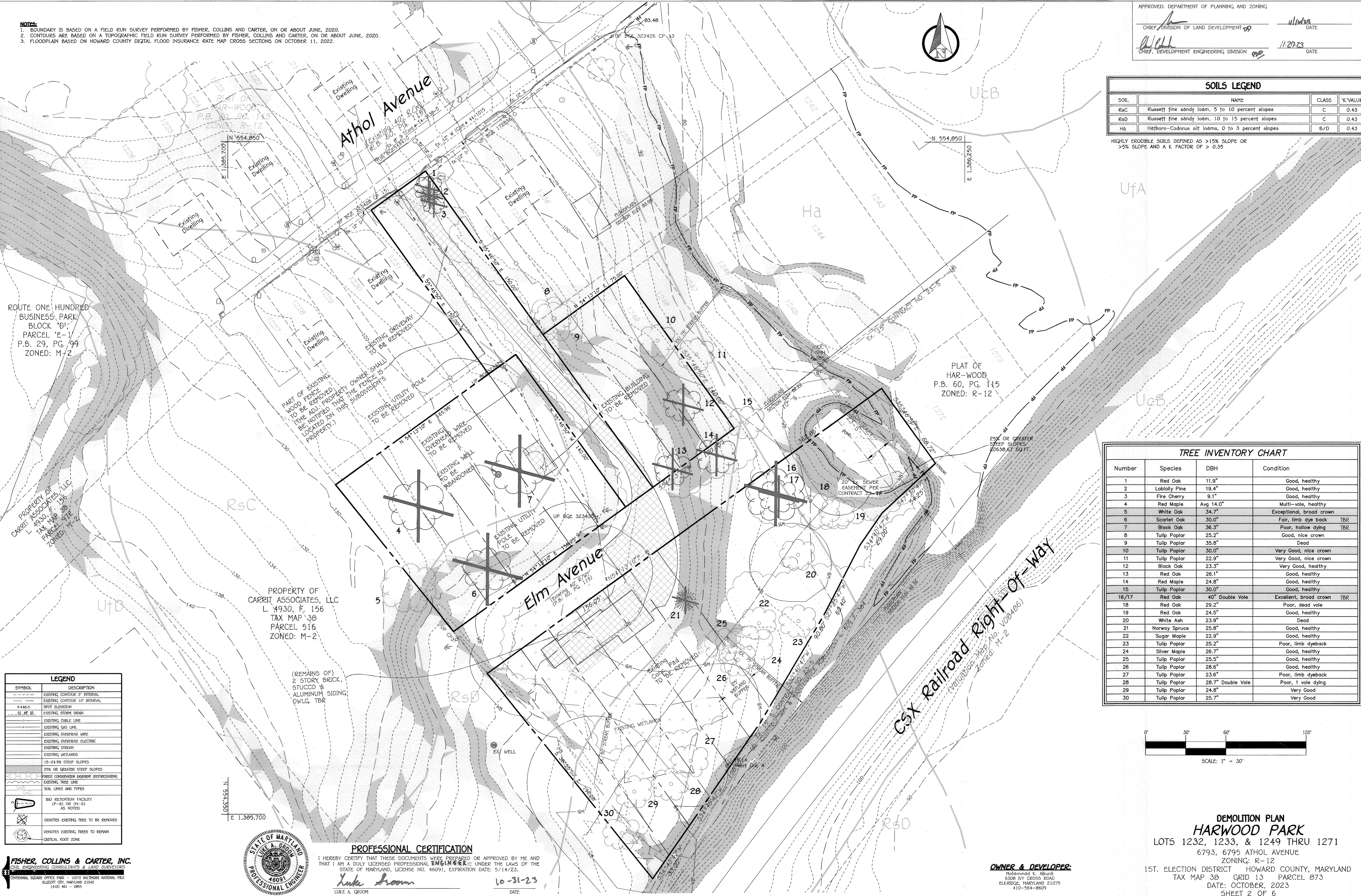
PROPERTY OF
 CARRIT ASSOCIATES, LLC
 L. 4930, F. 156
 TAX MAP 38
 PARCEL 874
 ZONED: M-2

PROPERTY OF
 CARRIT ASSOCIATES, LLC
 L. 4930, F. 156
 TAX MAP 38
 PARCEL 516
 ZONED: M-2

(REMAINS OF)
 2 STORY BRICK,
 STUCCO &
 ALUMINUM SIDING
 DWLG. TBR

PLAT OF
 HAR-WOOD
 P.B. 60, PG. 115
 ZONED: R-12

CSX Railroad Right-Of-Way
 (Regulation Map No. 100406)



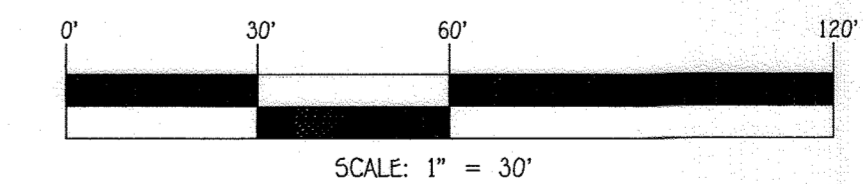
SEDIMENT CONTROL LEGEND

- SSF SUPER-SILT FENCE
- DF DIVERSION FENCE
- S.C.P. STABILIZED CONSTRUCTION ENTRANCE
- C.I.P. CURB INLET PROTECTION
- S.I.P. STANDARD INLET PROTECTION
- L.O.D. LIMIT OF DISTURBANCE
- EROSION CONTROL MATTING



SEDIMENT CONTROL NOTE:
TO THE EXTENT PRACTICAL, PROPOSED STORMWATER MANAGEMENT FACILITY LOCATIONS SHALL BE UTILIZED IN THE INTERIM CONDITION FOR SEDIMENT CONTROL. DESIGN OF THE SEDIMENT TRAP WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
----	EXISTING CONTOUR 10' INTERVAL
x-x-x-x	SPOT ELEVATION
CL #1-30	EXISTING STORM DRAIN
-	EXISTING CABLE LINE
—	EXISTING GAS LINE
—	EXISTING OVERHEAD WIRE
—	EXISTING OVERHEAD ELECTRIC
—	EXISTING STREAM
—	EXISTING WETLANDS
—	15-24.9% STEEP SLOPES
—	25% OR GREATER STEEP SLOPES
—	FOREST CONSERVATION FACILITY (REFORESTATION)
—	EXISTING TREE LINE
USDB	SOIL LINES AND TYPES
—	BIO RETENTION FACILITY (F-1) OR (F-2) AS NOTED
⊗	DENOTES EXISTING TREE TO BE REMOVED
⊙	DENOTES EXISTING TREES TO REMAIN
⊗	CRITICAL ROOT ZONE



SEDIMENT & EROSION CONTROL PLAN
HARWOOD PARK
LOTS 1232, 1233, & 1249 THRU 1271
6793, 6795 ATHOL AVENUE
ZONING: R-12
1ST. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TAX MAP 38 GRID 13 PARCEL 873
DATE: OCTOBER, 2023
SHEET 4 OF 6

OWNER & DEVELOPER:
Mohammad K. Akbari
6308 IVY CROSS ROAD
ELK RIDGE, MARYLAND 21075
410-564-8609

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 46091, EXPIRATION DATE: 5/14/23.
Luke A. Groom
LUKE A. GROOM
DATE: 10-31-23



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



PLAT OF HARWOOD
P.B. 60, PG. 115
ZONED: R-12

ROUTE ONE HUNDRED
BUSINESS PARK
BLOCK 17,
PARCEL "E-1"
P.B. 29, PG. 99
ZONED: M-2

PROPERTY OF
CARTER ASSOCIATES, INC.
L. 4930, F. 156
TAX MAP 38
PARCEL 516
ZONED: M-2

PROPERTY OF
CARTER ASSOCIATES, INC.
L. 4930, F. 156
TAX MAP 38
PARCEL 516
ZONED: M-2

PLAT OF
HARWOOD
P.B. 60, PG. 115
ZONED: R-12

CSX Railroad Right-Of-Way
Virginia Ave No. 102436
Zoned: M-2

SOILS LEGEND			
SOIL	NAME	CLASS	K VALUE
RaC	Russett fine sandy loam, 5 to 10 percent slopes	C	0.43
RaD	Russett fine sandy loam, 10 to 15 percent slopes	C	0.43
Ha	Hatboro-Codorus silt loams, 0 to 3 percent slopes	B/D	0.43

HIGHLY ERODIBLE SOILS DEFINED AS >15% SLOPE OR >5% SLOPE AND A K FACTOR OF > 0.35

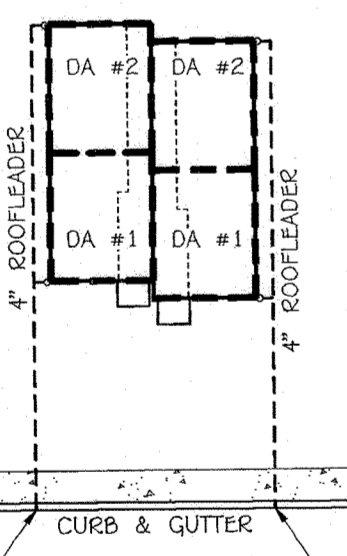
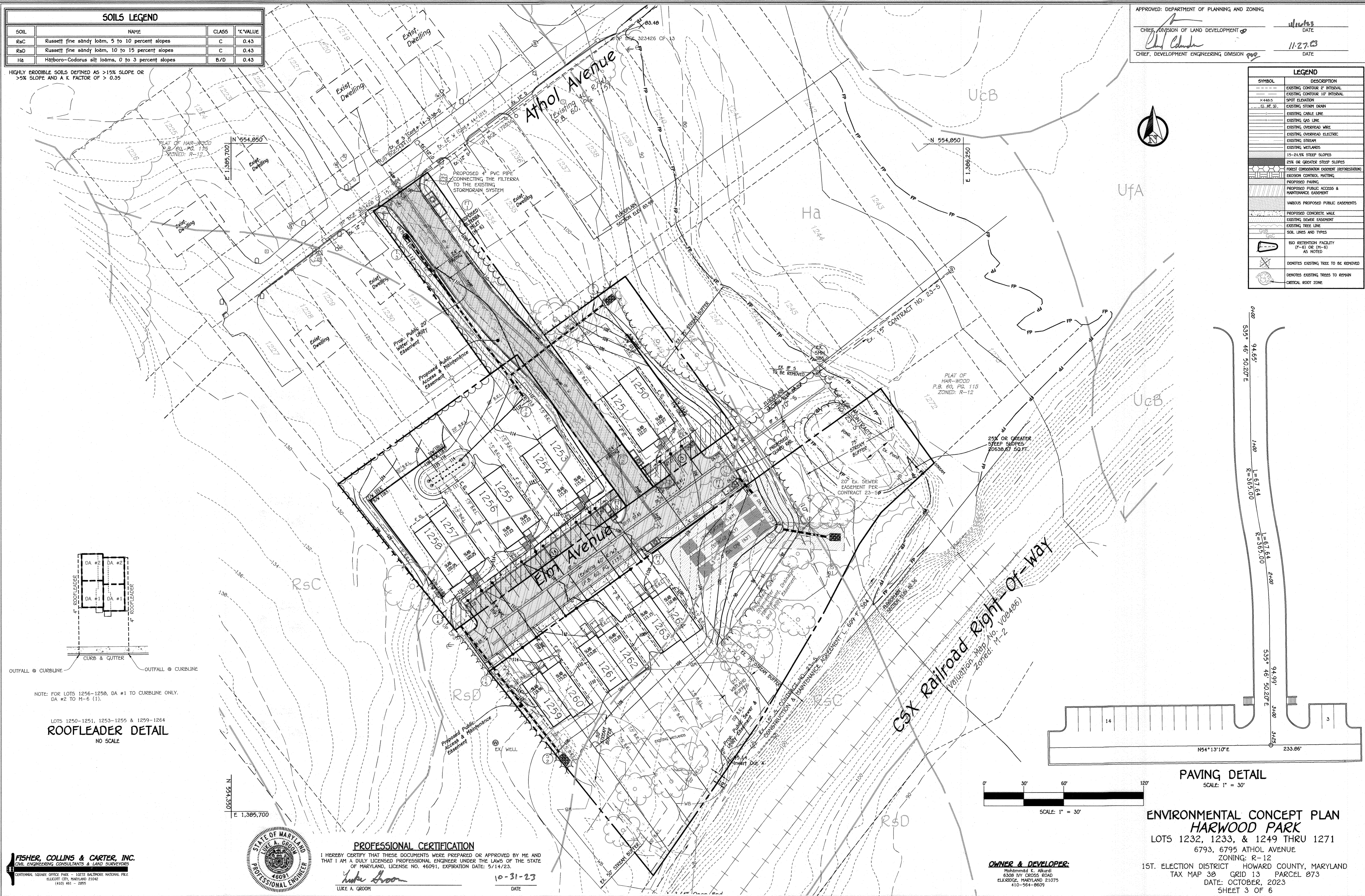
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION

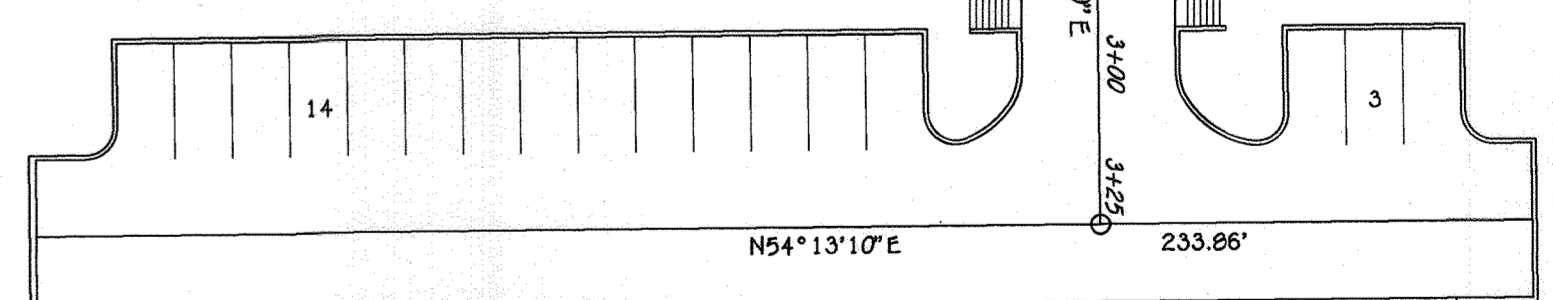
11-27-03
DATE

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
x 440.5	SPOT ELEVATION
---	EXISTING STORM DRAIN
---	EXISTING CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING STREAM
---	EXISTING WETLANDS
---	15-24.9% STEEP SLOPES
---	25% OR GREATER STEEP SLOPES
---	FOREST CONSERVATION EASEMENT (REFORESTATION)
---	EROSION CONTROL MATTING
---	PROPOSED PAVING
---	PROPOSED PUBLIC ACCESS & MAINTENANCE EASEMENT
---	VARIOUS PROPOSED PUBLIC EASEMENTS
---	PROPOSED CONCRETE WALK
---	EXISTING SEWER EASEMENT
---	EXISTING TREE LINE
---	SOIL LINES AND TYPES
---	BIO RETENTION FACILITY (7'-6" OR 14'-8") AS NOTED
---	DENOTES EXISTING TREE TO BE REMOVED
---	DENOTES EXISTING TREE TO REMAIN
---	CRITICAL ROOT ZONE

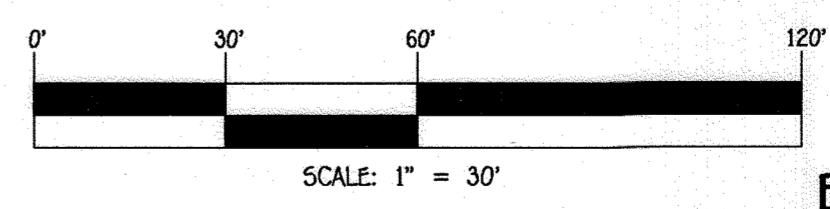


NOTE: FOR LOTS 1256-1258, DA #1 TO CURBLINE ONLY, DA #2 TO M-6 (1).

LOTS 1250-1251, 1253-1255 & 1259-1264
ROOFLEADER DETAIL
NO SCALE



PAVING DETAIL
SCALE: 1" = 30"



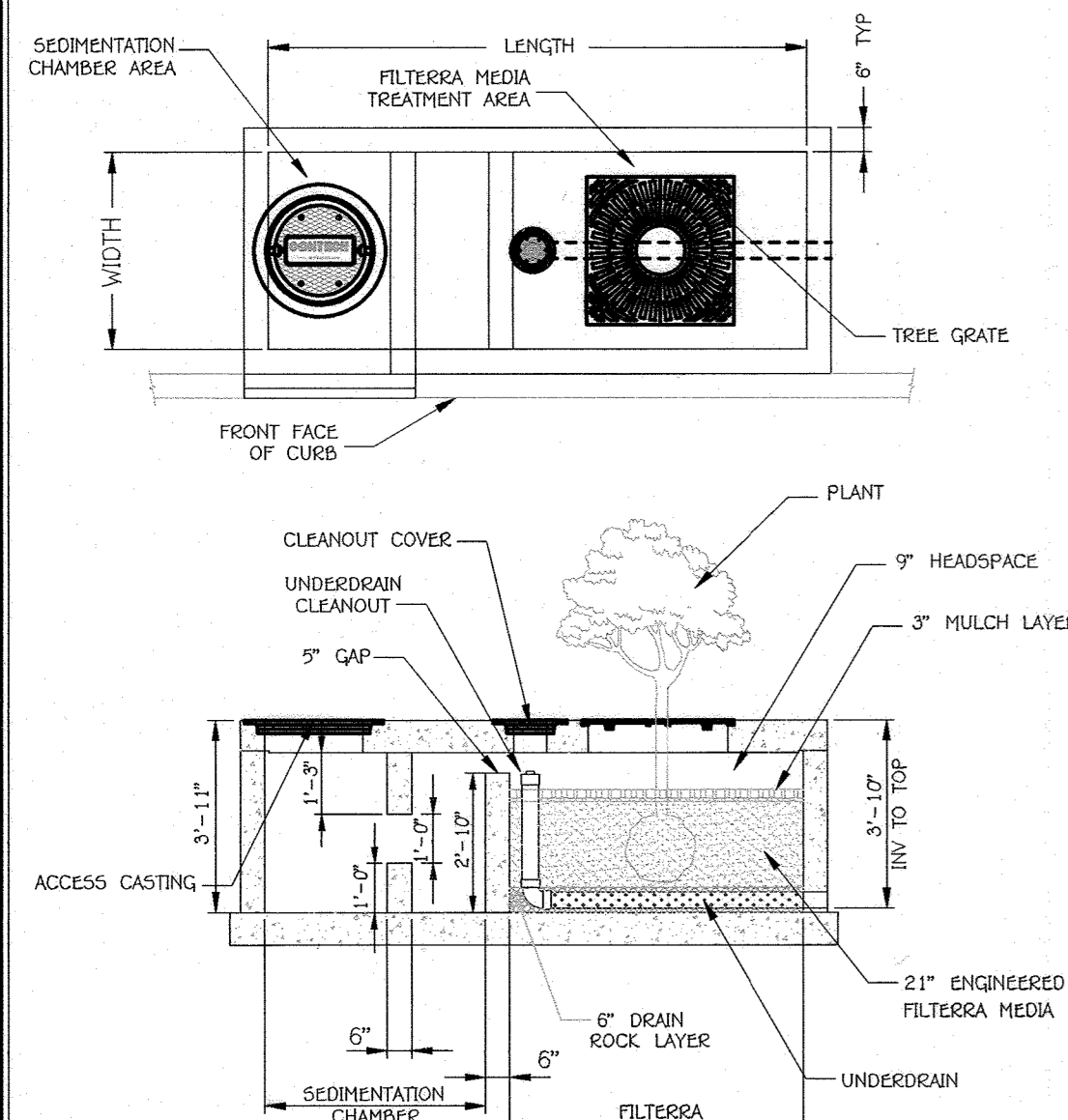
ENVIRONMENTAL CONCEPT PLAN
HARWOOD PARK
LOTS 1232, 1233, & 1249 THRU 1271
6793, 6795 ATHOL AVENUE
ZONING: R-12
15TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TAX MAP 3B GRID 13 PARCEL 873
DATE: OCTOBER, 2023
SHEET 3 OF 6

OWNER & DEVELOPER:
Mohammad K. Alkurd
6308 IVY CROSS ROAD
ELK RIDGE, MARYLAND 21075
410-364-8629

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



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 46091, EXPIRATION DATE: 5/14/23.
Luke A. Groom
LUKE A. GROOM
DATE: 10-31-23



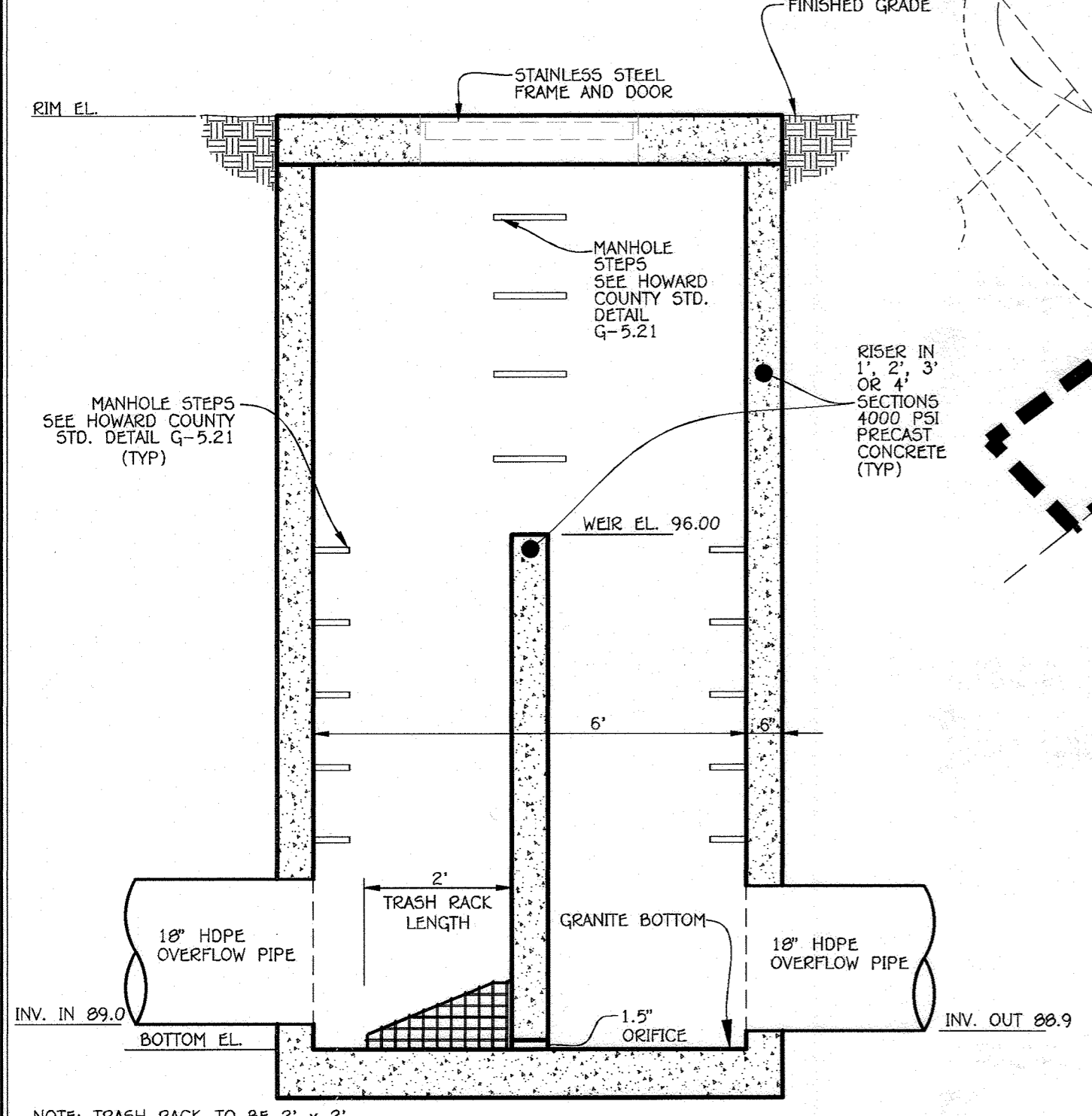
UNIT DESIGNATION	INSIDE VAULT DIMENSIONS	FILTERRA TREATMENT AREA	MAXIMUM DRAINAGE AREA TREATED (SF)	WQV STORAGE CAPACITY (CF)
FTSC 6' x 4'	12' x 4'	6' x 4'	5,216	103
FTSC 8' x 4'	16' x 4'	8' x 4'	7,144	141
FTSC 6' x 6'	12' x 6'	6' x 6'	7,847	155
FTSC 8' x 6'	16' x 6'	8' x 6'	10,734	212
FTSC 10' x 6'	19' x 6'	10' x 6'	12,630	250
FTSC 10' x 8'	20' x 8'	10' x 8'	18,178	360
FTSC 11' x 8'	22' x 8'	11' x 8'	20,000	398

NOTE:
 1. MAXIMUM DRAINAGE AREA TREATED ASSUMES 25% WQV AND FILTER SURFACE AREA REQUIREMENTS ARE BOTH MET.
 2. STORAGE CAPACITY ASSUMES 40% VOIDS IN UNDERDRAIN STONE AND 30% VOIDS IN MULCH AND MEDIA.
 3. ALL INFORMATION IS BASED ON STANDARD 3.8\"/>

SEDIMENTATION CHAMBER

FILTERRA: Operation and Maintenance

- Annual maintenance consists of a maximum of (2) scheduled visits. The visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands. The fall visit helps the system by removing excessive leaf litter.
- Each maintenance inspection consists of the following tasks:
 - Filterra unit inspection
 - Foreign debris, silt, mulch and trash removal
 - Filter media evaluation and recharge as necessary
 - Plant health evaluation and pruning or replacement as necessary
 - Replacement of mulch
 - Disposal of all maintenance refuse items
 - Maintenance records updated and stored



NOTE: TRASH RACK TO BE 2' x 2'
CONTROL MANHOLE (CS-1)
 NO SCALE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELKROTT CITY, MARYLAND 21042
 (410) 461-2999



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 LUKE A. GROOM
 DATE: 10-31-23

OWNER & DEVELOPER:
 Mohammad K. Alkurd
 6308 BIV CROSS ROAD
 ELDERIDGE, MARYLAND 21075
 410-564-8609

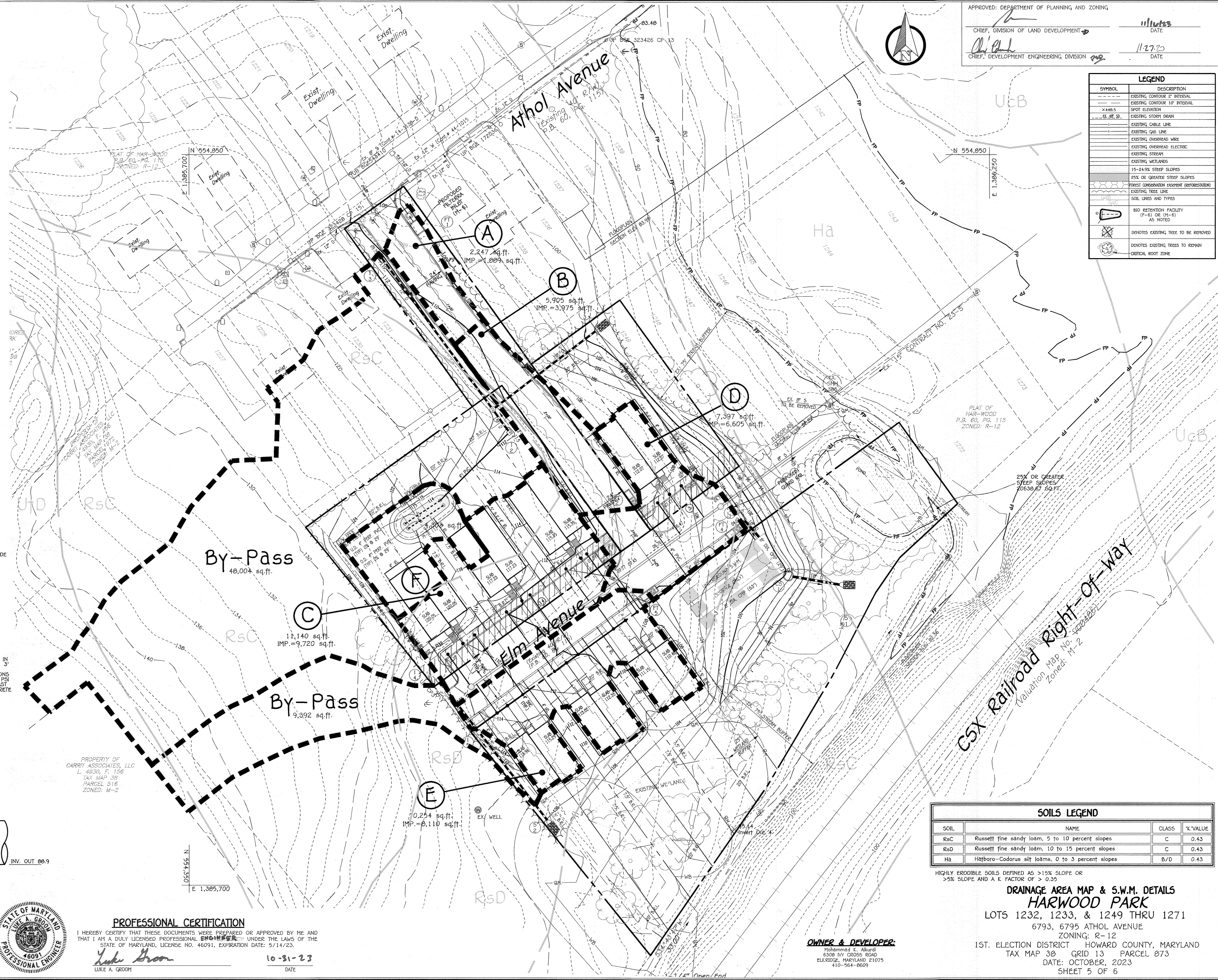
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
Ch. Ch.
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 11-27-23

LEGEND	
SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	SPOT ELEVATION
	EXISTING STORM DRAIN
	EXISTING GAS LINE
	EXISTING OVERHEAD WIRE
	EXISTING OVERHEAD ELECTRIC
	EXISTING STREAM
	EXISTING WETLANDS
	15-24% STEEP SLOPES
	25% OR GREATER STEEP SLOPES
	FOREST CONSERVATION EASEMENT (REFORESTATION)
	EXISTING TREE LINE
	SOIL LINES AND TYPES
	BID RETENTION FACILITY (F-4) OR (H-3) AS NOTED
	DENOTES EXISTING TREE TO BE REMOVED
	DENOTES EXISTING TREES TO REMAIN
	CRITICAL ROOT ZONE

SOILS LEGEND			
SOIL	NAME	CLASS	K _v VALUE
R5C	Russett fine sandy loam, 5 to 10 percent slopes	C	0.43
R5D	Russett fine sandy loam, 10 to 15 percent slopes	C	0.43
Ha	Hatboro-Codorus silt loams, 0 to 3 percent slopes	B/D	0.43

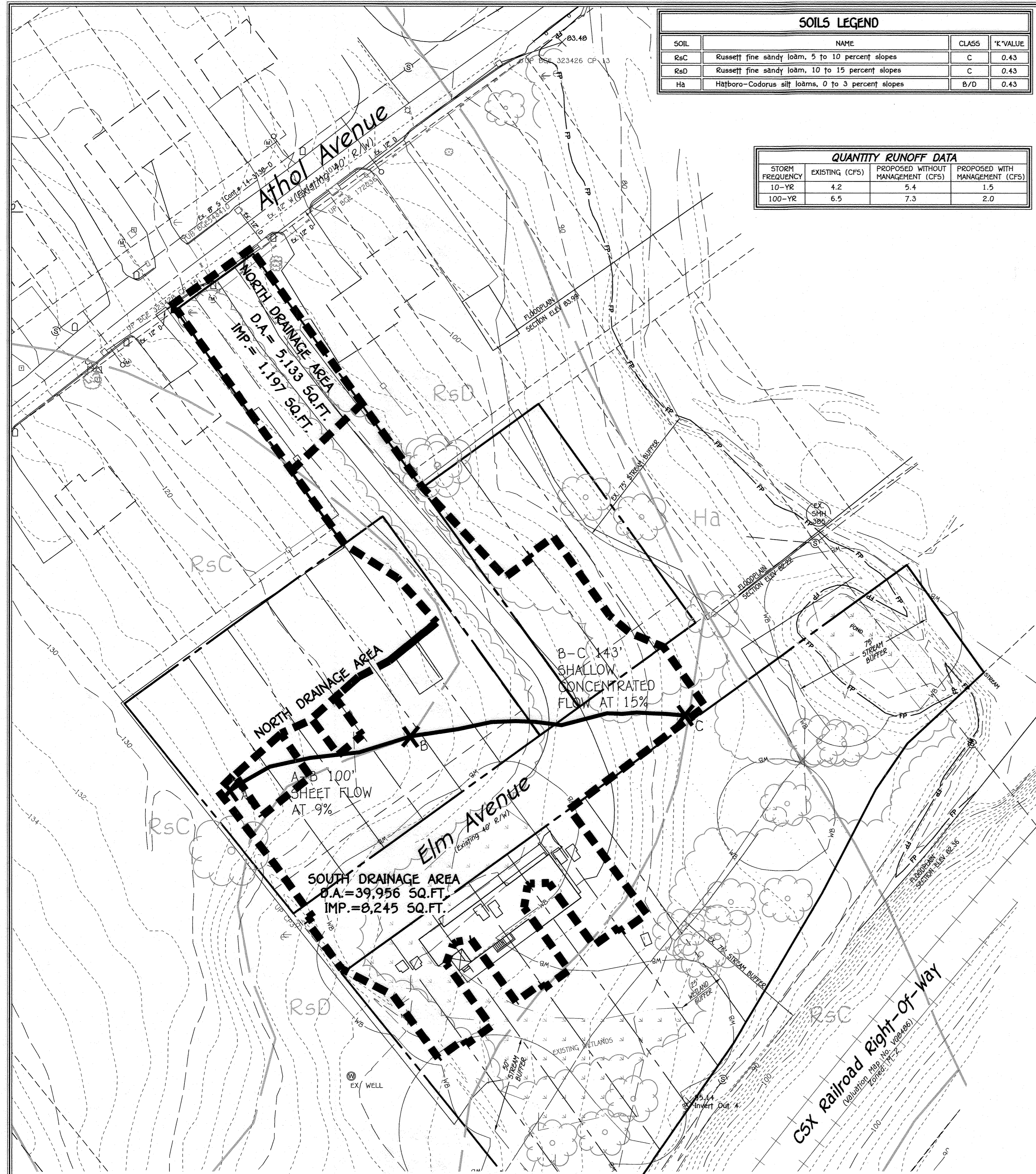
HIGHLY ERODIBLE SOILS DEFINED AS >15% SLOPE OR >5% SLOPE AND A K_v FACTOR OF > 0.35

DRAINAGE AREA MAP & S.W.M. DETAILS
HARWOOD PARK
 LOTS 1232, 1233, & 1249 THRU 1271
 6793, 6795 ATHOL AVENUE
 ZONING: R-12
 1ST. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 TAX MAP 38 GRID 13 PARCEL 873
 DATE: OCTOBER, 2023
 SHEET 5 OF 6

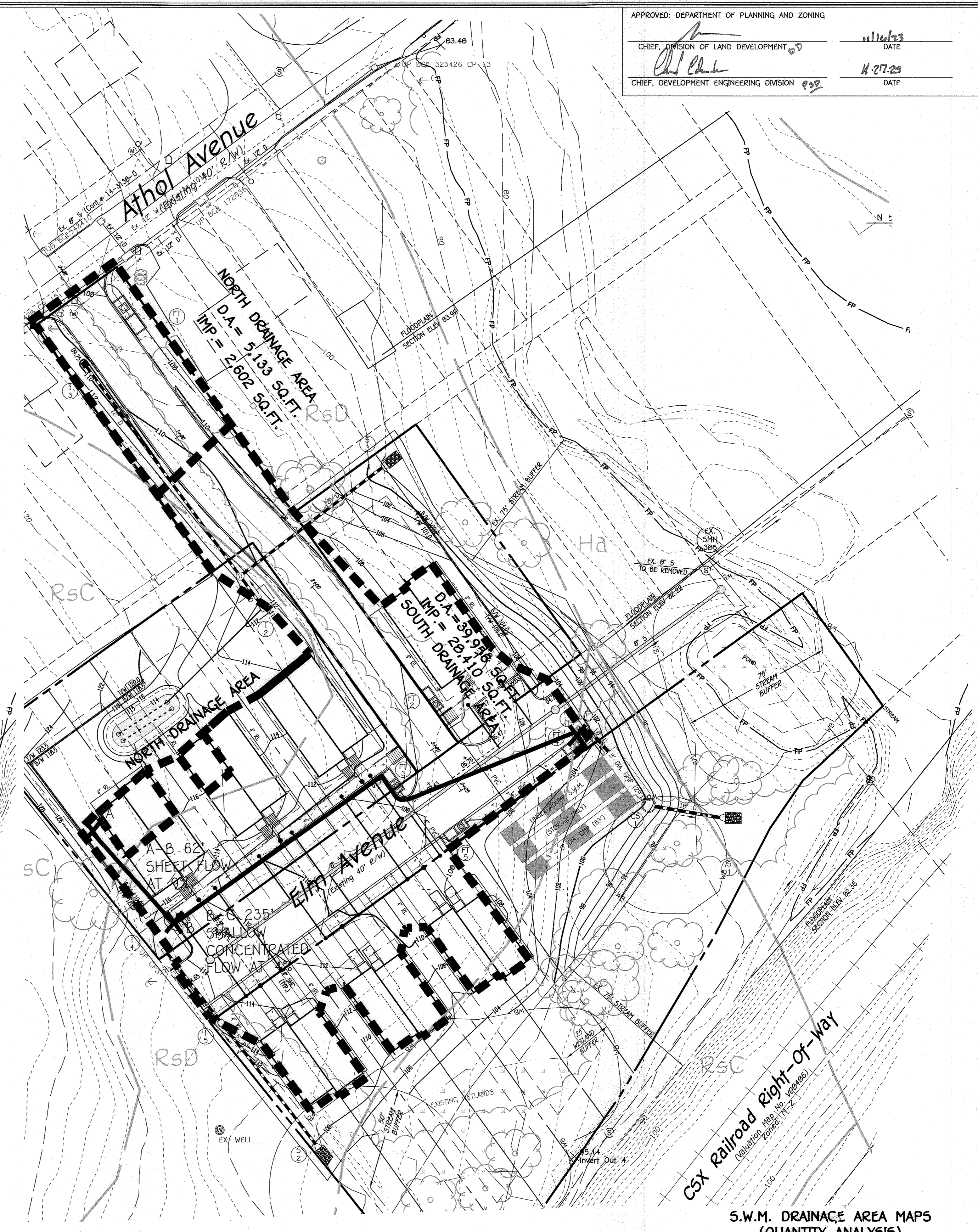


SOILS LEGEND			
SOIL	NAME	CLASS	K VALUE
R _s C	Russett fine sandy loam, 5 to 10 percent slopes	C	0.43
R _s D	Russett fine sandy loam, 10 to 15 percent slopes	C	0.43
H _a	Hatboro-Codorus silt loams, 0 to 3 percent slopes	B/D	0.43

QUANTITY RUNOFF DATA			
STORM FREQUENCY	EXISTING (CFS)	PROPOSED WITHOUT MANAGEMENT (CFS)	PROPOSED WITH MANAGEMENT (CFS)
10-YR	4.2	5.4	1.5
100-YR	6.5	7.3	2.0

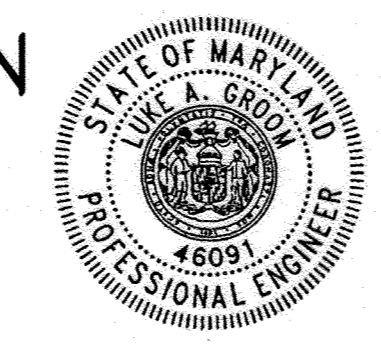
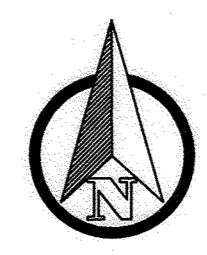


EXISTING CONDITION



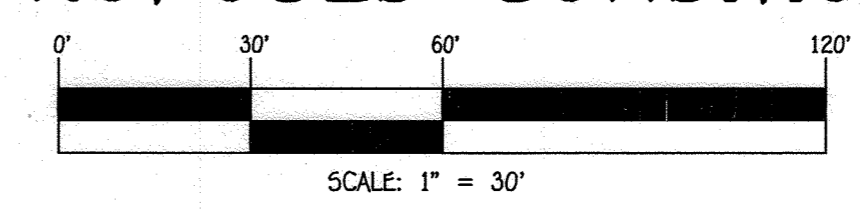
PROPOSED CONDITION

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FILE
 ELKROTT CITY, MARYLAND 21142
 (410) 461-2895



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 A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND,
 LICENSE NO. 46091, EXPIRATION DATE: 5/14/25.
 Luke A. Groom
 LUKE A. GROOM
 11-9-23
 DATE

OWNER & DEVELOPER:
 Mohammad E. Akurdi
 6300 Ivy Green Road
 Elkridge, Maryland 21075
 410-564-8609



S.W.M. DRAINAGE AREA MAPS
 (QUANTITY ANALYSIS)
HARWOOD PARK
 LOTS 1232, 1233, & 1244 THRU 1271
 6793, 6795 ATHOL AVENUE
 ZONING: R-12
 1ST. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 TAX MAP 38 GRID 13 PARCEL 873
 DATE: NOVEMBER, 2023
 SHEET 6 OF 6