PLAN APPROVAL INFORMATION

RELATED INFORMATION	REQUIRED	NOT REQUIRED	COUNTY I.D. NUMBER	COMMENTS/SHEET NO.
1. CONCURRENT PROCESSING		√		
2. MODIFIED PROCESSING		√		
3. MAXIMUM DENSITY ADJUSTMENTS BASED ON Z.O. 2-308		√		
4. AFFORDABLE DWELLING UNITS		√		
5. WORK FORCE UNITS		√		
6. R.P.A. DELINEATION		√		
7. FLOOD PLAIN STUDY		√		
8. DRAINAGE STUDY		√		
9. BATHYMETRIC SURVEY (SW-10)		√		
10. CHESAPEAKE BAY ACT EXCEPTION		√		
11. WATER QUALITY IMPACT ASSESSMENT		√		
12. SOILS REPORT	√			TO BE APPROVED PRIOR TO SECOND SUBMISSION
13. ONSITE EASEMENTS	√			SEE SHEETS C-0404 AND C-0405 FOR EASEMENTS
14. OFFSITE EASEMENTS	√			SEE SHEETS C-0404 AND C-0405 FOR EASEMENTS
15. NOTARIZED LETTERS OF PERMISSION	√			
16. ARCHITECTURAL REVIEW BOARD APPROVAL		√		
17. RETURN PLAN TO B.O.S. PRIOR TO APPR.		√		
18. RETURN PLAN TO P.C. PRIOR TO APPR.		√		
19. ADJACENT PROPERTY OWNER NOTICES	√			TO BE DISTRIBUTED FOLLOWING SUBMISSION
20. OFFSITE UTILITY WORK NOTICES		√		
21. MAJOR UNDERGROUND UTILITY NOTICES		√		
22. REZONING/SPECIAL EXCEPTION/SPECIAL PERMIT APPROVAL	√		RZ 2016-HM-010 SE 2016-HM-007	SEE APPROVED GDP/SE PLAT AT END OF SITE PLAN SET
23. B.O.S./B.Z.A. CLERK LETTER/RESOLUTION	√		RZ 2016-HM-010	SEE SHEETS C-1501-4 FOR CLERK'S LETTER/RESOLUTION
24. REZONING PROFFERS/CONDITIONS	√		RZ 2016-HM-010	SEE SEPARATE PACKAGE FOR PROFFER/CONDITION COMPLIANCE
25. REZONING DEVELOPMENT PLAN	√		RZ 2016-HM-010	SEE APPROVED GDP/SE PLAT AT END OF SITE PLAN SET
26. B.Z.A. VARIANCE APPROVAL		√		
27. WETLANDS/WATERS OF THE U.S. PERMIT	√			TO BE APPROVED PRIOR TO SECOND SUBMISSION
28. STATE REGULATED DAM PERMIT		√		DATE SENT TO ACOE: PERMIT RECEIVED: PERMIT NO.
29. LOCATED IN DAM BREAK INUNDATION ZONE (STATE REGULATED DAMS) 2 EXTRA PLAN SETS REQUIRED		√		PERMIT RECEIVED: PERMIT NO. DAM NAME: DAM NO.:
30. FEMA LETTER OF MAP REVISION		√		
31. VEGETATED ROOF NOTE		√		DATE CLOMR RECEIVED:
32. OVERLAY DISTRICT INFORMATION		√		
33. TREE BANKING		√		
34. TREE FUND		√		
35. GREEN PROJECT CERTIFICATION FOR GREEN PRIORITY PLAN REVIEW	√			CERTIFICATION IN PROCESS. SEE SHEET C-1505 FOR CHECKLIST
36. STREET LIGHTS		√		
MODIFICATIONS/WAIVERS				
FRONT YARD SETBACK (ZO 3-207.2B, 4-507.1A)	√		RZ 2016-HM-010	SEE SHEETS C-1501-4 FOR CLERK'S LETTER/RESOLUTION
TRANSITIONAL SCREENING, BARRIER (ZO 13-303, 13-304)	√		RZ 2016-HM-010	SEE SHEETS C-1501-4 FOR CLERK'S LETTER/RESOLUTION
WEST OX TRAIL MODIFICATION (ZO 17-201.2)	√		RZ 2016-HM-010	SEE SHEETS C-1501-4 FOR CLERK'S LETTER/RESOLUTION
WEST OX FRONTAGE IMP. WAIVER (ZO 17-201.4)	√		RZ 2016-HM-010	SEE SHEETS C-1501-4 FOR CLERK'S LETTER/RESOLUTION
UNDERGROUND DETENTION MODIFICATION (PFM 6-1306.3H)	√			SEE SHEET C-1505 FOR MODIFICATION REQUEST

SOLID WASTE AND RECYCLING: ALL PROPERTIES ARE REQUIRED TO RECYCLE. DESIGNS FOR ALL PROPERTIES MUST PROVIDE ADEQUATE CONTAINERS/STRUCTURES FOR THE SEPARATE MANAGEMENT OF RECYCLABLES AND TRASH.

SINGLE-FAMILY DETACHED AND TOWNHOUSE DEVELOPMENTS

I CERTIFY THAT THE SITE DEPICTED ON THIS PLAN IS (CHECK APPLICABLE STATEMENT):
___ IN A SANITARY DISTRICT WHERE TRASH AND RECYCLING COLLECTION IS CONDUCTED BY FAIRFAX COUNTY AND THAT I HAVE INFORMED THE PROPERTY OWNER OF THIS CONDITION.
___ NOT IN A SANITARY DISTRICT AND TRASH AND RECYCLING COLLECTION WILL BE CONDUCTED BY A PRIVATE COMPANY.

NON-RESIDENTIAL PROPERTIES, INCLUDING BUSINESSES, SCHOOLS AND INSTITUTIONS, AND MULTI-FAMILY PROPERTIES, INCLUDING CONDOMINIUMS AND APARTMENTS.

I CERTIFY THAT (ALL STEPS MUST BE COMPLETED):
_√_ I HAVE COMPLETED A WASTE STREAM CALCULATION WORKSHEET FOR THIS PROPERTY.
_√_ I HAVE INDICATED ON THE PLAN THE LOCATION AND TYPE OF TRASH AND RECYCLING CONTAINERS AND STRUCTURES. SEE SHEET NUMBER C-0403.
_√_ THE TRASH AND RECYCLING MANAGEMENT CONTAINERS/STRUCTURES ON THIS PLAN ARE ADEQUATE TO MEET THE MINIMUM RECYCLING REQUIREMENT AS DESCRIBED ON THE WASTE STREAM CALCULATION WORKSHEET.

SANITARY SEWER INFORMATION

WASTEWATER TREATMENT PLANT BLUE PLAINS
___ THIS SITE IS SUBJECT TO _____ SANITARY SEWER REIMBURSEMENT CHARGES.
___ THIS SITE IS SERVED BY ONSITE SEWAGE TREATMENT SYSTEM(S).

INFORMATION REGARDING ACTIVITIES IN A RESOURCE PROTECTION AREA

ACTIVITY	YES/NO
CONSTRUCTION ACTIVITIES IN A RESOURCE PROTECTION AREA (IF YES, INDICATE TYPE BELOW)	NO
REDEVELOPMENT PRINCIPAL STRUCTURE	NO
REDEVELOPMENT ACCESSORY STRUCTURE	NO
PUBLIC ROADS	NO
PRIVATE ROADS	NO
DRIVEWAYS	NO
STORMWATER OUTFALL	NO
OTHER (INDICATE TYPE):	NO

TREE PRESERVATION

TREE PRESERVATION TARGET DEVIATIONS OR MODIFICATIONS ARE BEING REQUESTED.

YES ☑ NO ☐ N/A ☐

SEE SHEET C-1207 FOR PRESERVATION DEVIATION REQUEST

POTENTIAL FOR WETLANDS

IS THE DISTURBED AREA LOCATED IN A WETLANDS AREA DEPICTED ON THE NATIONAL WETLANDS INVENTORY MAP? YES ☑ NO ☐

IS THE DISTURBED AREA LOCATED IN AN ESTIMATED WETLANDS AREA DEPICTED ON THE COUNTY POTENTIAL WETLAND AREA MAP? YES ☑ NO ☐

IF YES, TO EITHER OF THE TWO QUESTIONS ABOVE, PROVIDE EVIDENCE OF APPROVED PERMIT OR VERIFICATION THAT NO PERMIT FROM THE ARMY CORPS OF ENGINEERS IS REQUIRED BEFORE PLAN IS APPROVED.

NOTES AND CONDITIONS

1. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE COUNTY OF FAIRFAX.
2. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE FAIRFAX COUNTY CODE AND IN THE PUBLIC FACILITIES MANUAL AS AMENDED. FAILURE TO COMPLY WITH THE FAIRFAX COUNTY CODE, THE PUBLIC FACILITIES MANUAL, THE APPROVED PLANS, AND THE PROVISIONS OF THE DEVELOPMENT AGREEMENT AND PERMIT SHALL BE DEEMED A VIOLATION.
3. WATER DISTRIBUTION NOTE: ALL FIRE PROTECTION SYSTEMS WHICH ARE INSTALLED IN COMPLIANCE WITH THESE PLANS AND COUNTY OF FAIRFAX ORDINANCES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES. WHEN NECESSARY TO TEMPORARILY REDUCE OR DISCONTINUE THE PROTECTION IN ORDER TO MAKE TESTS, REPAIRS, ALTERATIONS OR ADDITIONS, NOTIFY THE FAIRFAX COUNTY PUBLIC SAFETY COMMUNICATIONS CENTER AT 703-691-2131.
4. A PERMIT MUST BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION, NORTHERN VIRGINIA DISTRICT, BEFORE ANY CONSTRUCTION IS STARTED ON ANY EXISTING STATE ROUTE. CONTACT THE VIRGINIA DEPARTMENT OF TRANSPORTATION THREE WORKING DAYS BEFORE EXCAVATION IN ANY STATE RIGHT OF WAY AT 703-383-2888.
5. CONTRACTORS SHALL NOTIFY THE "MISS UTILITY" NOTIFICATION CENTER AT 1-800-552-7001 FOR ANY PROPOSED EXCAVATION, DEMOLITION, OR BLASTING AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION DEMOLITION, OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT. IN ADDITION, NAMES AND TELEPHONE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION AS REQUIRED BY SECTION 63-2-2 OF THE FAIRFAX COUNTY CODE.
6. THE COUNTY INSPECTOR SHALL BE NOTIFIED WHEN ANY IMPROVEMENTS PERTINENT TO HIS INSPECTION DUTIES ARE BEING INSTALLED. SPECIFIC REQUIREMENTS ARE:
   A. THE COUNTY SITE INSPECTOR IS TO BE NOTIFIED AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION.
   B. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED WHEN REQUESTING RESIDENTIAL OR NON-RESIDENTIAL USE PERMITS.
   C. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED WHEN REQUESTING TESTS PERTAINING TO SANITARY SEWER ACCEPTANCE.

PROFESSIONAL SEAL AND SIGNATURE — COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 7/18/17 — PROFESSIONAL ENGINEER — DATE

PROFESSIONAL SEAL AND SIGNATURE — COMMONWEALTH OF VIRGINIA — YUNHUI FAN Lic. No. 001316 — 7/10/2017 — LANDSCAPE ARCHITECT — DATE

PROFESSIONAL SEAL AND SIGNATURE — DATE

DESIGNATED PLANS EXAMINER (DPE) CERTIFICATE

1ST SUBMISSION REVIEWED & RECOMMENDED FOR SUBMISSION

D.P.E. SIGNATURE & PRINTED NAME

DATE: 7/8/17 REG. NO.: 276

2ND SUBMISSION REVIEWED & RECOMMENDED FOR APPROVAL

D.P.E. SIGNATURE & PRINTED NAME

DATE: _____ REG. NO.: _____

POST SUBMISSION CONFERENCE DATE: _____

ZONING REQUIREMENTS (PER RZ 2016-HM-010 AND SE 2016-HM-007)

1) ZONING R-2 C-5
2) AVERAGE LOT AREA 18,000 N/A (SQ. FT.)
3) MIN. LOT AREA 15,000 40,000 (SQ. FT.)
4) MIN. LOT WIDTH 100 200 (FT.)
5) MAX. BUILDING HEIGHT 60 40 (FT.)
6) NUMBER OF FLOORS N/A N/A (COMMERCIAL/INDUSTRIAL ONLY)
7) MIN. YARD REQUIREMENTS: (R-2/C-5)
FRONT 35/40 (FT.) SIDE 15/NONE (FT.) REAR 25/20 (FT.)
8) MAXIMUM FAR 0.17
9) MAXIMUM DENSITY N/A (D.U./AC.)
10) OPEN SPACE REQUIRED 55 % 193,400 (SQ. FT.)
11) ANGLE OF BULK PLANE: FRONT 45° SIDE 40° REAR 40° (R-2)
FRONT 45° SIDE N/A REAR N/A (C-5)
(SEE DETAILS ON SHEET C-0201)
12) OVERLAY DISTRICT(S) NONE

SITE PLAN (SP) TABULATIONS

1) SITE AREA 351,640 (ACRES) 8.07 (SQ. FT.)
2) AREA OF STREET DEDICATION 5,815 (SQ. FT.)
3) USE PRIVATE SCHOOL OF SPECIAL EDUCATION
4) NUMBER OF LOTS 2 (CONSOLIDATION OF SCHOOL LOTS PROPOSED)
5) AREA OF LOTS 351,639 (SQ. FT.)
6) DENSITY N/A (D.U./AC.)
7) EXISTING BUILDING GROSS FLOOR AREA 11,266 (SQ. FT.)
8) PROPOSED BUILDING GROSS FLOOR AREA 48,000 (SQ. FT.)
9) EXISTING BUILDING NET FLOOR AREA 9,013 (SQ. FT.)
10) PROPOSED BUILDING NET FLOOR AREA 38,400 (SQ. FT.)
11) TOTAL FLOOR AREA RATIO (FAR) FOR ENTIRE SITE 0.17
12) PROPOSED BUILDING HEIGHT 40 (FT.)
13) PROPOSED NUMBER OF FLOORS 2 COMMERCIAL/INDUSTRIAL ONLY
14) TOTAL HANDICAPPED PARKING REQUIRED 7
15) TOTAL HANDICAPPED PARKING PROVIDED 7
16) TOTAL HANDICAPPED VAN SPACES REQUIRED 1
17) TOTAL HANDICAPPED VAN SPACES PROVIDED 2
18) TOTAL PARKING SPACES REQUIRED 226
19) TOTAL PARKING SPACES PROVIDED 233
20) LOADING SPACES REQUIRED 2
21) LOADING SPACES PROVIDED 2
22) OPEN SPACE PROVIDED 56 % 194,195 (SQ. FT.)

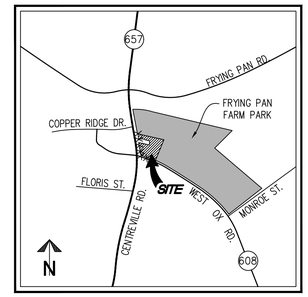
FIRE MARSHAL NOTES

AVAILABLE FIRE FLOW 2,700 (GAL./MIN.)
SOURCE OF FIRE FLOW INFO. FAIRFAX WATER
TYPE OF CONSTRUCTION - USBC IIB
USE GROUP CLASSIFICATION - USBC A - ASSEMBLY, E - EDUCATION
BUILDING HEIGHT 40 (FT.)
BUILDING TO BE FULLY SPRINKLERED YES ☑ NO ☐

IF YES, CHECK APPROPRIATE STANDARD: NFPA 13 ☑ ; NFPA 13D ☐ ; NFPA 13R ☐
SEE PFM CHAPTER 9, PART 2 FOR FULL INFORMATION REQUIRED. FIRE FLOW REQUIREMENTS TO BE DETERMINED BY THE FIRE PREVENTION DIVISION.
[SEE PUBLIC WATER AGENCY NOTES ON SHEET C-0201.]

VICINITY MAP

SCALE: 1" = 2,000'



SIDEWALK MAINTENANCE: XXXX-VDOT, 0000-FFX CO
TRAIL MAINTENANCE: 0000-FFX CO
ALL OTHER WALKS/TRAILS TO BE OWNER MAINTAINED

TAX MAP REFERENCE NUMBER(S)

MAP PAGE #	DOUBLE CIRCLE #	BLOCK (SINGLE CIRCLE #)	LOT/PARCEL(S) #
025-1	01	---	0016
025-1	01	---	0017
025-1	01	---	0019
025-1	01	---	0020
025-1	01	---	0021

GEOCONCEPTS ENGINEERING INC. MAP DATA

SCALE: 1"=200'

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS
11	CATLETT GRAVELLY SILT LOAM	GOOD	FAIR	MEDIUM	I
18	CHANTILLY-CATLETT COMPLEX	GOOD	FAIR	MEDIUM	IVB
22	CHANTILLY-MANASSAS COMPLEX	MARGINAL	POOR	MEDIUM	IVB
27	CHANTILLY SYCOLINE KELLY COM	POOR	POOR	HIGH	IVA
34	DULLES SILT LOAM	POOR	POOR	MEDIUM	III
95	URBAN LAND	N/A	N/A	N/A	IVB

IS THE SITE LOCATED ON NATURALLY OCCURRING ASBESTOS (NOA) SOIL? YES ☐ NO ☑
AREAS THAT MAY CONTAIN NOA SOIL ARE SHOWN ON THE OFFICIAL COUNTY SOILS MAP ON THE DIGITAL MAP VIEWER ON THE COUNTY WEBSITE. ASBESTOS IS REGULATED BY THE VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY. SAFETY PRECAUTIONS AND LINKS TO REGULATIONS REGARDING THESE SOILS OR FILL ORIGINATING FROM THEM CAN BE FOUND ON THE NORTHERN VIRGINIA SOIL AND WATER CONSERVATION DISTRICT WEBSITE:
WWW.FAIRFAXCOUNTY.GOV/NVSWCD

STORMWATER INFORMATION

COUNTY STORMWATER PERMIT REQUIRED? YES ☑ NO ☐ VPDES PERMIT COVERAGE REQUIRED YES ☑ NO ☐

SWM FACILITIES DESIGNED USING:

TECHNICAL CRITERIA 5 ☐ (OLD)
TIME LIMITS ☐ VPDES PERMIT NO. (IF TIME LIMITS): _____
GRANDFATHERED ☐ DEQ MEMO 14-2014 ☐
NEW DEVELOPMENT ☐ REDEVELOPMENT ☐

TECHNICAL CRITERIA 4 ☑ (NEW)
TYPE OF DEVELOPMENT: NEW DEVELOPMENT ☐ REDEVELOPMENT ☐
NEW+REDEVELOPMENT (i.e. REDEVELOPMENT WITH A NET INCREASE IN IMPERVIOUS AREA) ☑

HIGH DENSITY POLYETHYLENE (HDPE) PIPE USED ON THIS PROJECT YES ☐ NO ☑

WATER QUALITY OPTION: NONE ☐
NON-POINT NUTRIENT CREDITS ☑ COMPREHENSIVE SWM PLAN ☐
OFF-SITE FACILITY ☐ EXISTING ONSITE FACILITY ☐

SWM FACILITIES (PROPOSED ONLY)

FACILITY ID NO.	FACILITY TYPE	PURPOSE (QUALITY/ QUANTITY)	AREA TREATED (ACRES)	LATITUDE (DECIMAL DEGREE)	LONGITUDE (DECIMAL DEGREE)	WATERSHED	RECEIVING WATERS	MAINTENANCE AGREEMENT Y/N	VAHU6 CODE	LENGTH/AREA OF FACILITY	UNIT (FT/SF)	NO. OF BLDG. SERVED (FOR ROOFTOP DISCONNECT)
4	HYDRODYNAMIC SEPARATOR	QUALITY	6.35	38.93°	-77.4°	HORSEPEN CREEK	FRYING PAN BRANCH	YES	02070008	71	SF	
5	STORMTECH W/ ISOLATOR ROW	QUALITY/QUANTITY	6.35	38.93°	-77.4°	HORSEPEN CREEK	FRYING PAN BRANCH	YES	02070008	15,340	SF	
21	BIORETENTION FACILITY	QUALITY/QUANTITY	0.98	38.94°	-77.4°	HORSEPEN CREEK	FRYING PAN BRANCH	YES	02070008	2,435	SF	
PP	PERMEABLE PAVEMENT	QUALITY/QUANTITY	0.95	38.93°, 38.94°	-77.4°	HORSEPEN CREEK	FRYING PAN BRANCH	YES	02070008	14,993	SF	

DISTURBED AREA (DA) WITHIN WATERSHED(S):
WATERSHED 1 HORSEPEN CREEK DA= 7.45 (ACRES) WATERSHED 2 _____ DA=_____ (ACRES) TOTAL DISTURBED AREA=_____ (ACRES)

ENGINEER'S/SURVEYOR'S CERTIFICATE:

OWNER INFORMATION:

SEE SHEET C-0201

DEVELOPER INFORMATION

(√) DEVELOPER
( ) CONTRACT OWNER
( ) LESSEE

(√) A CORPORATION
( ) A PARTNERSHIP
( ) AN INDIVIDUAL

HEMANTH BALASUNDARAM, SCIMORES ACADEMY LLC
NAME

(732) 397-0766
PHONE

8250 WESTPARK DR. #461, McLEAN VA 22102
ADDRESS

hbol@scimores.com
EMAIL

WETLANDS PERMITS CERTIFICATION

I HEREBY CERTIFY THAT ALL WETLANDS PERMITS REQUIRED BY LAW WILL BE OBTAINED PRIOR TO COMMENCING WITH LAND DISTURBING ACTIVITIES.

SIGNATURE

OWNER/DEVELOPER HEMANTH BALASUNDARAM MANAGING PRINCIPAL
NAME TITLE

NOTE: PERMITS MUST BE PRESENTED TO THE COUNTY INSPECTOR PRIOR TO LAND DISTURBANCE.

DATE	RECOMMEND APPROVAL (SIGNATURE & PRINTED NAME)
	STREETLIGHT REVIEW - DPWES
	PUBLIC WATER AGENCY
	SANITARY SEWER REVIEW - DPWES
	URBAN FOREST MANAGEMENT REVIEW - DPWES
	FAIRFAX COUNTY FIRE MARSHAL
	FAIRFAX COUNTY HEALTH DEPARTMENT
	VIRGINIA DEPARTMENT OF TRANSPORTATION
	GEOTECHNICAL REVIEW, DPWES
	STORMWATER REVIEW, DPWES
	PLAN REVIEWER - DPWES
	DIRECTOR, SITE DEVELOPMENT & INSPECTIONS DIVISION, LDS, - DPWES

APPROVED

DATE _____ BY _____
DIRECTOR, DEPT. OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES

THIS PLAN SHALL EXPIRE WITHOUT NOTICE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE COUNTY CODE. REVISIONS DO NOT EXTEND THE APPROVAL PERIOD. THE APPROVAL PERIOD IS INDEPENDENT OF THE AGREEMENT EXPIRATION DATE.

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE PUBLIC SANITARY SEWER

CERTIFICATE OF NO CHANGE (FOR SUBMISSION OTHER THAN THE FIRST)

I HEREBY CERTIFY THAT NO CHANGES HAVE BEEN MADE THAT WOULD AFFECT PRIOR APPROVAL BY THE

FIRE MARSHAL DATED _____
WATER AUTHORITY DATED _____
HEALTH DEPARTMENT DATED _____
VDOT DATED _____
DPWES-SAN. SEWER DATED _____
DPWES-STREETLIGHTS DATED _____
UFMD DATED _____

SHEET INDEX

SEE SHEET C-0201

DESIGN ENGINEER / SURVEYOR
WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com
PROJECT MANAGER: BILL PRODO

THE FLORIS CONSERVATORY FOR FINE ARTS A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

COUNTY NUMBER
_____-SP-___-1

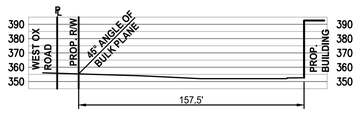
PLAN REVIEWER _____

SHEET 1 OF 91

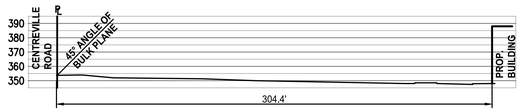
REVISED: 3/16

C-0101

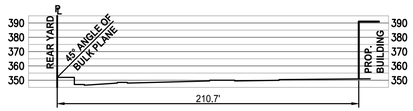
PROPOSED BUILDING - WEST OX ROAD - FRONT ABP



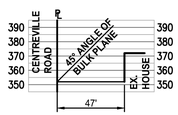
PROPOSED BUILDING - CENTREVILLE ROAD - FRONT ABP



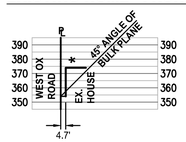
PROPOSED BUILDING - REAR ABP



EXISTING HOME - FRONT ABP

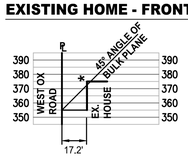


EXISTING HOME - FRONT ABP



∗ WAIVER GRANTED WITH GDP/SE

EXISTING HOME - FRONT ABP



∗ WAIVER GRANTED WITH GDP/SE

ZONING TABULATION

ZONE: R-2, RESIDENTIAL DISTRICT AND C-5, NEIGHBORHOOD RETAIL COMMERCIAL DISTRICT

R-2 ZONE

	REQUIRED R-2	PROVIDED R-2
MIN LOT AREA:	15,000 SF	258,865 SF
MIN LOT WIDTH:	100 FT	128 FT
MAX BLD HT:	60 FT	40 FT
YARD REQUIREMENTS:		
FRONT	45' ABP; 35'	17.2 FT*; 157.5 FT
SIDE	40' ABP; 15'	71.27 FT
REAR	40' ABP; 25'	209.64 FT
GFA:		51,600 GFA (PROPOSED BUILDING AND EXISTING HOUSES)
FAR:	0.20	0.20 (SEE BLDG. AREA/FAR TABULATION)

C-5 ZONE

	REQUIRED C-5	PROVIDED C-5
MIN LOT AREA:	40,000 SF	92,774 SF
MIN LOT WIDTH:	200 FT	240 FT
MAX BLD HT:	40 FT	40 FT
YARD REQUIREMENTS:		
FRONT	45' ABP; 40'	4.2 FT*; 36.2 FT*; 46.9 FT; 304.03 FT
SIDE	NONE	N/A
REAR	20'	N/A
GFA:		7,666 GFA (EXISTING HOUSE/CHURCH)
FAR:	0.30	0.083 (SEE BLDG. AREA/FAR TABULATION)
OPEN SPACE:	20%	±80%

* WAIVER TO PERMIT EXISTING STRUCTURES WITHIN THE MINIMUM FRONT YARD SETBACK APPROVED WITH RZ 2016-HM-010

PARKING TABULATION

USE: PRIVATE SCHOOL OF SPECIAL EDUCATION

RATE: 2 SPACES/3 EMPLOYEES, PLUS A SUFFICIENT NUMBER OF SPACES TO ACCOMMODATE ALL PERSONS WHO MAY BE AT THE ESTABLISHMENT AT ANY ONE TIME UNDER NORMAL OPERATING HOURS

(100 EMPLOYEES/3 X 2 = 67 SPACES)
(330 STUDENTS UNDER 16 X 0.3 = 99 SPACES)
(35 STUDENTS OVER 16 X 1 = 35 SPACES)

USE: CHURCH

RATE: 1 SPACE/4 SEATS

(100 SEATS/4 = 25 SPACES)

TOTAL PARKING REQUIRED: 226 SPACES

TOTAL PARKING PROVIDED: 233 SPACES (INCL. 7 HC)

BUILDING AREA/FAR TABULATION

R-2 ZONE

PROP. PRIVATE SCHOOL OF SPECIAL EDUCATION	48,000 GFA
EXISTING HOME (ALONG WEST OX RD)*	1,900 GFA
EXISTING HOME (ALONG CENTREVILLE RD)*	1,700 GFA
TOTAL GROSS FLOOR AREA:	±51,600 GFA

FAR CALCULATION: 51,600 GFA/258,865 SF = 0.20 FAR

C-5 ZONE

EXISTING HOME (ALONG WEST OX RD)*	1,550 GFA
EXISTING CHURCH	6,116 GFA
TOTAL GROSS FLOOR AREA:	7,666 GFA

FAR CALCULATION: 7,666 GFA/92,774 SF = 0.083 FAR

TOTAL GFA/FAR

PROP. PRIVATE SCHOOL OF SPECIAL EDUCATION	48,000 GFA
EXISTING HOME (ALONG WEST OX RD)*	1,900 GFA
EXISTING HOME (ALONG CENTREVILLE RD)*	1,700 GFA
EXISTING HOME (ALONG WEST OX RD)*	1,550 GFA
EXISTING CHURCH	6,116 GFA
TOTAL GROSS FLOOR AREA:	59,266 GFA

FAR CALCULATION: 59,266 GFA/351,639 SF = 0.17 FAR

*EXISTING HOMES TO BE CONVERTED TO NON-RESIDENTIAL USE IN ULTIMATE CONDITION; THEREFORE COUNTED AS FLOOR AREA AT HTIS TIME.

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-- GDP - SE PLAT (14 SHEETS)

ENGINEER'S/SURVEYOR'S CERTIFICATE (PARCEL 16):

THIS PROPERTY IS IN THE NAME OF SAREENA CORPORATION
AS RECORDED IN DEED BOOK 23859 PAGE 1025 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA.

OWNER INFORMATION

(V) OWNER ( ) TRUSTEE
( ) A CORPORATION ( ) A PARTNERSHIP (V) AN INDIVIDUAL

SAREENA CORPORATION	
NAME	(732) 397-0766 PHONE
1372 LANCIA DRIVE, MCLEAN VA 22102	hbol@scimores.com
ADDRESS	EMAIL

ENGINEER'S/SURVEYOR'S CERTIFICATE (PARCEL 17):

THIS PROPERTY IS IN THE NAME OF EDEN KOREAN PRESBYTERIAN CHURCH OF WASHINGTON
AS RECORDED IN DEED BOOK 19162 PAGE 0959 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA.

OWNER INFORMATION

( ) OWNER (V) TRUSTEE
( ) A CORPORATION ( ) A PARTNERSHIP ( ) AN INDIVIDUAL

EDEN KOREAN PRESBYTERIAN CHURCH OF WASHINGTON	
NAME	(732) 397-0766 PHONE
2629 CENTREVILLE RD, HERNDON VA 20171	hbol@scimores.com
ADDRESS	EMAIL

ENGINEER'S/SURVEYOR'S CERTIFICATE (PARCEL 19):

THIS PROPERTY IS IN THE NAME OF WEST CHURCH ROAD LLC
AS RECORDED IN DEED BOOK 18414 PAGE 0398 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA.

OWNER INFORMATION

(V) OWNER ( ) TRUSTEE
(V) A CORPORATION ( ) A PARTNERSHIP ( ) AN INDIVIDUAL

WEST CHURCH ROAD LLC	
NAME	(732) 397-0766 PHONE
1209 OCCANECCHI TRL, EBONY VA 23845	hbol@scimores.com
ADDRESS	EMAIL

ENGINEER'S/SURVEYOR'S CERTIFICATE (PARCEL 20):

THIS PROPERTY IS IN THE NAME OF JUMEAN NEHAD ET UX, HAKIM INSAF
AS RECORDED IN DEED BOOK 07055 PAGE 0131 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA.

OWNER INFORMATION

(V) OWNER ( ) TRUSTEE
( ) A CORPORATION ( ) A PARTNERSHIP (V) AN INDIVIDUAL

JUMEAN NEHAD ET UX, HAKIM INSAF	
NAME	(732) 397-0766 PHONE
8043 KIDWELL TOWN CT, VIENNA VA 22182	hbol@scimores.com
ADDRESS	EMAIL

ENGINEER'S/SURVEYOR'S CERTIFICATE (PARCEL 21):

THIS PROPERTY IS IN THE NAME OF SCIMORES ACADEMY LLC
AS RECORDED IN DEED BOOK 24935 PAGE 1777 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA.

OWNER INFORMATION

(V) OWNER ( ) TRUSTEE
(V) A CORPORATION ( ) A PARTNERSHIP ( ) AN INDIVIDUAL

SCIMORES ACADEMY LLC	
NAME	(732) 397-0766 PHONE
8250 WESTPARK DR. #461, McLEAN VA 22102	hbol@scimores.com
ADDRESS	EMAIL

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 7/18/17 PROFESSIONAL ENGINEER

DRAWN: BP / SO / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE: NONE

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SHEET INDEX, CERTIFICATES & TABULATIONS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

CONSTRUCTION NOTES

CONTRACTOR AND DEVELOPER ARE ADVISED THAT ANY ELECTRONIC FILES ASSOCIATED WITH THE PREPARATION OF THESE PLANS WILL NOT BE RELEASED TO OTHERS FOR USE IN CONSTRUCTION STAKEOUT OR RELATED SERVICES.

1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN IN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.

2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES BY MISS UTILITY TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED IF THIS INSTANCE OCCURS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.

4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.

5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC. WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR CAUSING EXISTING UTILITIES TO BE DISCONNECTED.

6. THE DEVELOPER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.

7. FINISHED GRADES SHOWN FOR FINISHED TOP OF CURB GRADES ON EXISTING ROADS SHALL BE FIELD ADJUSTED AS REQUIRED TO CONFORM TO THE INTENT OF THE TYPICAL SECTION USING THE EXISTING EDGE OF PAVEMENT AS THE CONTROL POINT. A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING RIGHT-OF-WAY TO THE FACE OF CURB TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF WATER ON THE ROADWAY. THE EXISTING PAVEMENT SHALL BE RECAPPED AND/OR REMOVED AND REPLACED AS REQUIRED TO ACCOMPLISH THIS REQUIREMENT. CURB FORMS SHALL BE INSPECTED AND APPROVED FOR HORIZONTAL AND VERTICAL ALIGNMENT BY FAIRFAX COUNTY INSPECTORS PRIOR TO PLACING OF CONCRETE.

8. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE COUNTY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY FAIRFAX COUNTY.

9. EXISTING WELLS SHALL BE PERMANENTLY ABANDONED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD REQUIREMENTS.

10. ALL OVER HEAD POLE LINES SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES AND AT THE DEVELOPERS EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY ELOCATIONS.

11. SUBBASE MATERIAL SHOWN ON THE TYPICAL STREET SECTION SHALL CONFORM TO VDOT SPECIFICATIONS SECTION 209. PAVEMENT THICKNESS AS SHOWN ON THE PLAN ARE BASED ON AN ASSUMED SOIL SUPPORT VALUES (S.S.V.) OF 10 UNLESS OTHERWISE NOTED. A QUALIFIED SOILS TESTING FIRM SHALL BE ENGAGED BY THE CONTRACTOR TO DETERMINE THE ACTUAL S.S.V. IN ACCORDANCE WITH "A DESIGN GUIDE FOR SUBDIVISION PAVEMENTS IN VIRGINIA" BY N.K. VASWANI, OCTOBER 1973, VHRC 73-R21 AS AMENDED. SOIL SUPPORT VALUES SHALL BE OBTAINED AT EACH CHANGE IN SUBGRADE SOILS AND AT A MAXIMUM SPACING OF 500 FEET WHERE SUBGRADE SOILS REMAIN CONSTANT. S.S.V. SHALL BE FURNISHED TO THE ENGINEER AND THE ENGINEER SHALL REVISE THE PAVEMENT DESIGN THICKNESS TO SHOW THE ACTUAL DEPTH OF PAVEMENT MATERIAL REQUIRED AND SHALL SUBMIT THE REVISION TO THE FAIRFAX COUNTYFOR REVIEW AND APPROVAL. THE CONTRACTOR IS ADVISED NOT TO BRING THE AREA SUBJECT TO THIS REVISION TO FINISHED GRADE UNTIL AFTER THE REVISED PAVEMENT SECTION IS APPROVED.

12. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSION, DETAILS, AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.

13. THE CONTRACTOR IS TO VERIFY INVERT, SIZE AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.

14. NO UNDERGROUND SOILS INVESTIGATION HAS BEEN PERFORMED BY WALTER L. PHILLIPS, INC. ALL SOILS INFORMATION PRESENTED AS PART OF THIS SITE PLAN HAS BEEN PREPARED BY OTHERS AND IS INCLUDED AS REQUIRED FOR FAIRFAX COUNTY SITE PLAN APPROVAL.

15. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONTRACTOR.

16. ALL PROPOSED SIDEWALK, CG-6, CG-2 OR CG-6R IS TO BE CONSTRUCTED WITH A MINIMUM 4" AGGREGATE BASE.

17. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION.

18. DAMAGE TO ANY EXISTING ENTRANCES, CURB AND GUTTER, PAVEMENT OR OTHER EXISTING STRUCTURES NOT PROPOSED TO BE DISTURBED WITH THIS EVELOPMENT , WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE REPAIRED TO THE SATISFACTION OF FAIRFAX AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION AND ANY ADJOINING OWNERS THAT MAY BE AFFECTED.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB.

20. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.

21. SEE ARCHITECTURAL AND/OR LANDSCAPE DRAWINGS FOR DIMENSIONS AND DETAILS FOR ALL RETAINING WALLS. ALL ON-SITE RETAINING WALLS ARE SUBJECT TO A SEPARATE BUILDING PERMIT TO BE OBTAINED BY OWNER. THIS PLAN IS FOR APPROXIMATE LOCATION AND PROPOSED GRADING ONLY. GEOTECHNICAL AND STRUCTURAL DESIGN TO BE ACCOMPLISHED BY OTHERS. RETAINING WALLS SHOWN ON THIS PLAN ARE FOR THE PURPOSES OF DEMONSTRATING THE PROPOSED TOP AND BOTTOM ELEVATIONS AND LOCATION OF THE WALLS ONLY. RETAINING WALLS ARE TO BE MAINTAINED BY THE HOA.

22. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS MAY BE REQUIRED.

23. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE GOVERNING AGENCY.

24. A MINIMUM PERMISSIBLE GRADE OF 1.00% IS REQUIRED FOR PAVEMENT TO ASSURE POSITIVE DRAINAGE. IF THERE IS EXISTING PAVEMENT WHICH IS TO REMAIN DISTURBED DURING CONSTRUCTION AND IS LESS THAN 1.00%, THEN THE CONTRACTOR IS TO CHECK TO MAKE SURE THE SITE AREA WILL HAVE ADEQUATE DRAINAGE.

25. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.

26. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.

27. NO EVIDENCE OF GRAVES OR BURIAL SITES HAS BEEN FOUND ON THIS PROPERTY.

28. THERE ARE NO MAPPED RESOURCE PROTECTION AREAS ON THIS PROPERTY.

29. ALL TRASH IS COLLECTED INSIDE THE BUILDING AND REMOVED DAILY. NO EXTERIOR TRASH ENCLOSURE IS REQUIRED OR PROVIDED.

30. THE CONTRACTOR WILL REDUCE GLARE FROM CONSTRUCTION LIGHTING TO THE EXTENT POSSIBLE WITHOUT VIOLATING APPLICABLE LAWS, REGULATIONS OR POLICIES IN ACCORDANCE WITH PROFFER 44.

31. THE CONTRACTOR IS HEREBY NOTIFIED THAT THE CONSTRUCTION OF THIS PLAN WILL BE SUBJECT TO A CONSTRUCTION CONGESTION MANAGEMENT PLAN IN ACCORDANCE WITH PROFFER 75.

32. THE OWNER AND CONTRACTOR ARE RESPONSIBLE FOR COMPLIANCE WITH ALL ASPECTS OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT, BOTH OF WHICH ARE SEPARATE DOCUMENTS FROM THIS PLAN. VSMP AND SWPPP COMPLIANCE REQUIRES CONFORMANCE WITH THE ENDANGERED SPECIES ACT. THIS MAY INCLUDE BUT MAY NOT BE LIMITED TO OBTAINING WRITTEN CONFIRMATION FROM THE U.S. FISH AND WILDLIFE SERVICES THAT NO ENDANGERED SPECIES ARE PRESENT ON THE PROJECT SITE, AND/OR ENSURING THAT LAND CLEARING IS PERFORMED WITHIN PERMITTED DATE RANGES. CONFIRMATION IS REQUIRED PRIOR TO START OF CONSTRUCTION.

SITE ACCESSIBILITY NOTES

1. ALL BUILDINGS AFFECTED BY THE WORK OF THIS PLAN SHALL HAVE AT LEAST ONE "ACCESSIBLE ROUTE" EACH TO THE STREET, SIDEWALK AND ALL "ACCESSIBLE" PARKING SPACES SERVING THE BUILDING THAT CONFORMS TO "ACCESSIBLE ROUTE" STANDARDS REQUIRED BY THE VIRGINIA CONSTRUCTION CODE AND DEPARTMENT OF JUSTICE "DOJ" ADA STANDARDS FOR ACCESSIBLE DESIGN. THESE STANDARDS INCLUDE, BUT ARE NOT LIMITED TO: MAXIMUM WALK LONGITUDINAL SLOPE = 1:20 AND MAXIMUM RAMP SLOPE = 1:12. ALL WALKS WILL BE BROOM-FINNISHED CONCRETE UNLESS OTHERWISE SPECIFIED ON THESE DRAWINGS AND/OR THE ARCHITECTURAL PLANS.

2. A MINIMUM OF ONE IN SIX "ACCESSIBLE" PARKING SPACES SHALL BE "VAN ACCESSIBLE" IN ACCORDANCE WITH DOJ ADA STANDARDS SECTION 208). ALL ACCESSIBLE SPACES SHALL BE DESIGNATED WITH APPROPRIATE SIGNAGE (SEE FFX. CO. PFM PLATES NO. 32A-7 AND 32B-7).

3. THE SLOPE OF PAVEMENT AND GUTTERS (IF APPLICABLE) WITHIN "ACCESSIBLE" PARKING SPACES AND THEIR LOADING AREAS SHALL NOT EXCEED 2% IN ANY DIRECTION.

4. ALL ACCESSIBLE RAMPS, OTHER THAN CURB RAMPS, SHALL HAVE HANDRAILS ON BOTH SIDES CONFORMING TO DOJ ADA STANDARDS SECTION 505.

5. LANDINGS OR WALKS OUTSIDE ACCESSIBLE BUILDING ENTRIES MUST HAVE A MAXIMUM 1:48 (2%) SLOPE FOR THE FULL WIDTH OF THE DOORWAY AND EXTENDING TO 60" PERPENDICULAR TO THE DOOR.

6. WALKWAY AND RAMP CROSS SLOPES SHALL NOT EXCEED A MAXIMUM SLOPE OF 2% ALONG ACCESSIBLE ROUTES AND SIDEWALKS.

VDOT GENERAL NOTES

1. THESE PLANS WERE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF (SELECT ONE):

   ☐ VDOT SUBDIVISION STREET REQUIREMENTS (SSR 24VAC-30-91 EFFECTIVE JANUARY 1, 2005 AND VDOT ROAD DESIGN MANUAL APPENDIX B) REVISED 7/14/10

   ☐ VDOT SECONDARY STREET ACCEPTANCE REQUIREMENTS (SSAR 24VAC-30-92 EFFECTIVE MARCH 9, 2009 AND VDOT ROAD DESIGN MANUAL APPENDIX B1). SCHEMATIC STREET LAYOUT AND COMPUTATIONS OF CONNECTIVITY INDEX ARE PROVIDED WITH THESE PLANS PER 24VAC30-92-60.

   ☒ VDOT SECONDARY STREET ACCEPTANCE REQUIREMENTS (SSAR 24VAC-30-92 EFFECTIVE DECEMBER 31, 2011 AND VDOT ROAD DESIGN MANUAL APPENDIX B1). SCHEMATIC STREET LAYOUT WITH PHASING DIAGRAM FOR STREET ACCEPTANCE ARE PROVIDED WITH THESE PLANS PER 24VAC30-92-60.

2. METHODS AND MATERIALS USED SHALL CONFORM TO CURRENT COUNTY/TOWN AND VDOT STANDARDS AND SPECIFICATIONS.

3. ALL UTILITIES, INCLUDING ALL POLES, ARE TO BE RELOCATED AT THE DEVELOPER'S EXPENSE, PRIOR TO CONSTRUCTION.

4. OPEN CUTTING OF PAVED OR SURFACE TREATED ROADS IS NOT PERMITTED. ALL UTILITIES WHICH WILL BE PLACED UNDER EXISTING STREETS ARE TO BE BORED OR JACKED. ANY EXCEPTIONS, DUE TO EXTENUATING CIRCUMSTANCES, ARE TO BE ADDRESSED AT THE PERMIT STAGE.

5. ANY TYPE OF REVERSE CURB (SPILL CURB, CG-6R, ETC.) AND TRANSITION TO THESE CURBS SHALL NOT BE USED WITH THE PUBLIC RIGHT OF WAY.

6. THE DEVELOPER IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS AND UTILITIES WHICH OCCUR AS A RESULT OF PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO EXISTING RIGHT OF WAY.

7. A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY.

8. STANDARD GUARDRAILS AND/OR HANDRAILS SHALL BE INSTALLED AT HAZARDOUS LOCATIONS AS DESIGNATED DURING FIELD REVIEW BY THE COUNTY/TOWN INSPECTOR OR VDOT.

9. THE DEVELOPER IS RESPONSIBLE FOR ALL TRAFFIC CONTROL. THE DEVELOPER SHALL SUBMIT A SIGNING, STRIPING AND/OR SIGNALIZATION PLANT TO THE VDOT LAND DEVELOPMENT SECTION A MINIMUM OF THIRTY DAYS PRIOR TO PERMIT APPLICATION.THE DEVELOPER SHALL NOT COMMENCE CONSTRUCTION OF ANY PAVEMENT COURSE WITHOUT AN APPROVED STRIPING PLAN.

10. PAVEMENT DESIGN IS BASED ON AN ASSUMED CBR VALUE OF 10 (USE CBR VALUE OF 6 IN LOUDOUN CO). SOIL TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED THICKNESS OF THE PAVEMENT INCLUDING LAYERS OF ASPHALT AND SUBBASE PRIOR TO SUBBASE PLACEMENT.

11. A 4" (MIN.) LAYER OF STONE IS REQUIRED BENEATH CURB AND GUTTER (MAY BE SHOWN ON TYPICAL SECTION IN LIEU OF A NOTE).

12. ADDITIONAL DITCH LININGS OR SILTATION AND EROSION CONTROL MEASURES SHALL BE PROVIDED, AT THE DEVELOPER'S EXPENSE, AS DETERMINED NECESSARY BY VDOT AND/OR THE COUNTY/TOWN DURING FIELD REVIEW. ALL COSTS SHALL BE ASSUMED BY THE DEVELOPER.

13. THE ENTIRE SURFACE OF THE ROADWAY (OLD AND NEW PORTIONS) SHALL BE OVERLAID AND RE-STRIPED AS REQUIRED BY VDOT PERSONNEL. OVERLAY OF EXISTING PAVEMENT SHALL BE MINIMUM OF 1.25" DEPTH; ANY COSTS ASSOCIATED WITH PAVEMENT OVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO OBTAIN REQUIRED DEPTH, SHALL BE ASSUMED BY THE DEVELOPER.

14. DEVELOPER IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ANY TRAFFIC SIGNAL INSTALLATION OR MODIFICATION WHICH WILL BE NECESSARY AS A RESULT OF DEVELOPMENT OF THIS SITE.

15. ALL RIGHT OF WAY DEDICATED TO PUBLIC USE SHALL BE CLEAR AND UNENCUMBERED.

16. THE COUNTY/TOWN SHALL OBTAIN A PERMIT FOR ALL SIDEWALKS WITHIN THE RIGHT OF WAY THAT DO NOT QUALIFY FOR VDOT MAINTENANCE.

17. TRAFFIC CONTROL DEVICES OR ADVISORY SIGNS, SUCH AS MULTIWAY STOPS, SPEED LIMITS, WATCH FOR CHILDREN, PEDESTRIAN TRAFFIC ETC., SHALL NOT BE INSTALLED UNLESS SPECIFICALLY SHOWN ON THESE PLANS OR A VDOT APPROVED PLAN REVISION. SPEED STUDY CERTIFIED BY PROFESSIONAL ENGINEER SHOULD BE SUBMITTED FOR VDOT APPROVAL PRIOR TO THE STREET ACCEPTANCE FOR ANY ROAD TO BE POSTED OTHER THAN THE STATUTORY SPEED LIMIT. SHOULD UNAPPROVED SIGNS BE NOTED AT RECOMMENCED UNTIL A DETERMINATION IS MADE REGARDING THE APPROVAL OF ANY ADDITIONAL SIGNS. IMMEDIATE REMOVAL OF SUCH SIGNS SHALL NOT NEGATE THE NEED FOR THE SUBMISSION OF A REVISION.

18. LANDSCAPING AND IRRIGATION SYSTEMS SHALL NOT BE INSTALLED WITHIN THE PUBLIC RIGHT OF WAY EXCEPT AS SHOW ON THESE PLANS OR A VDOT APPROVED REVISION.

19. BEGINNING JULY 1, 2009 ALL LAND USE PERMIT APPLICATIONS ARE REQUIRED TO PROVIDE AT LEAST ONE (1) PERSON WHO, AT MINIMUM IS VERIFIED BY VDOT IN BASIC WORK ZONE TRAFFIC CONTROL FOR ALL PERMITTED ACTIVITIES WITHIN STATE MAINTAINED RIGHT OF WAY WHICH INVOLVES INSTALLING, MAINTAINING, OR REMOVING WORK ZONE TRAFFIC CONTROL DEVICES. THIS PERSON SHALL BE RESPONSIBLE FOR THE PLACEMENT, MAINTENANCE AND REMOVAL OF ALL WORK ZONE TRAFFIC CONTROL DEVICES.

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

DRAWN: BP / SD / TT
CHECKED: AV / BP

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/8/17
PROFESSIONAL ENGINEER

SCALE: NONE
DATE: 7/18/2017

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SITE NOTES

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0202

GeoConcepts Engineering, Inc.

Light Duty Flexible Pavement Section

Flexible Pavement Layers	Thickness
SM-9.5A (Flexible Asphalt Concrete)	1.5 inches
BM-25.0A (Flexible Asphalt Concrete)	3.0 inches
Non-Stabilized Compacted Crushed Stone (VDOT #21A)	6 inches

Heavy Duty Flexible Pavement Section

Flexible Pavement Layers	Thickness
SM-9.5A (Flexible Asphalt Concrete)	1.5 inches
BM-25.0A (Flexible Asphalt Concrete)	6.5 inches (in two lifts)
Non-Stabilized Compacted Crushed Stone (VDOT #21A)	8 inches

Hardstand Rigid Concrete Section

Continuous Reinforced Concrete Pavement (CRCP)	
Concrete Flexural Strength (psi)	690
Concrete Thickness	8 inches
Minimum Percent Steel Reinforcement Required	0.5%
Non-Stabilized Compacted Crushed Stone (VDOT #21A)	6 inches

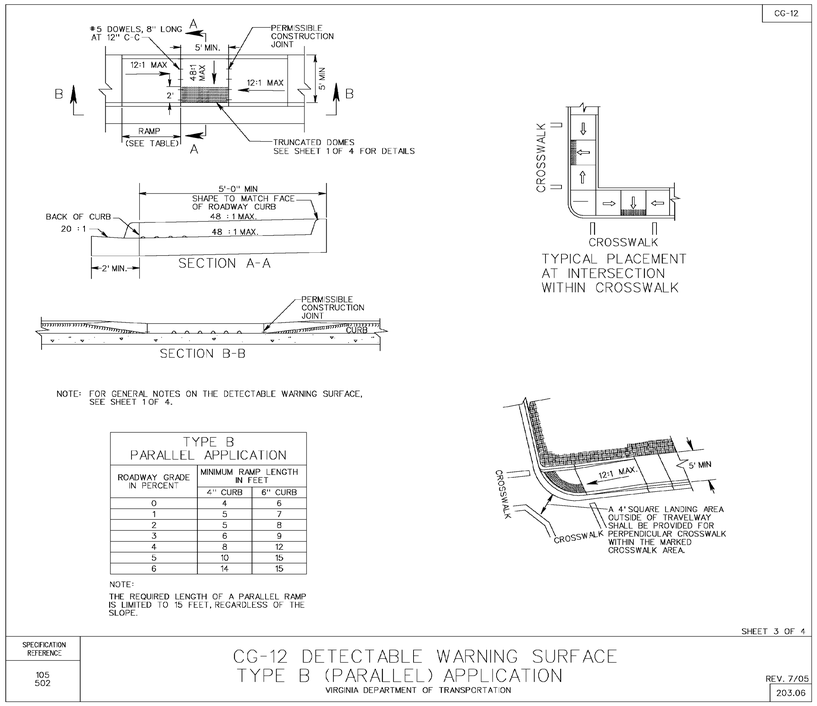
Porous Asphalt Pavement Section

Porous Asphalt Pavement Layers	Thickness
Porous Asphalt Surface	1.5 inches
Porous Asphalt Base	3.0 inches
Porous Aggregate Base (VDOT #57)	6 inches

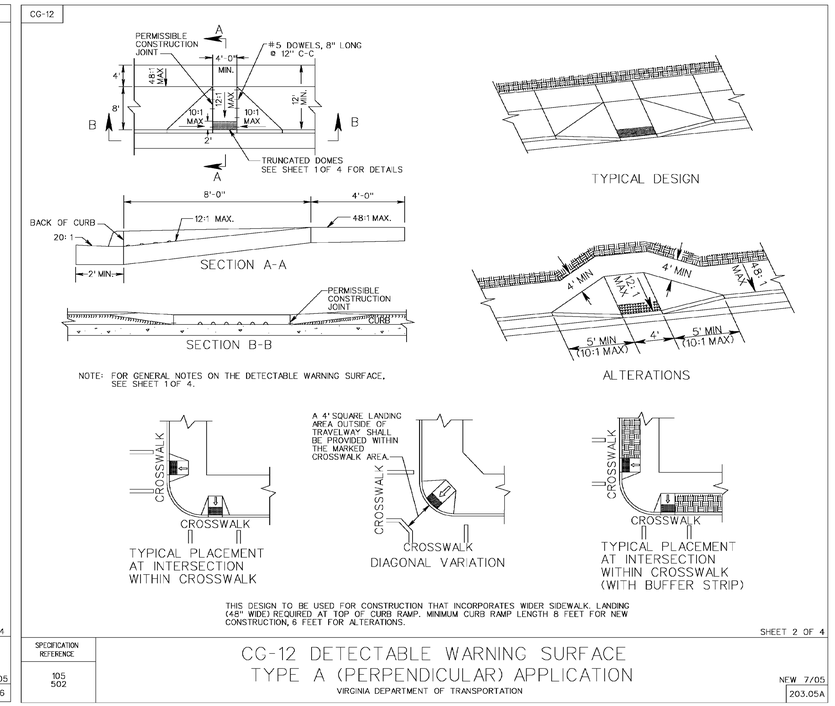
Construction traffic activity on partially constructed pavement sections may result in subgrade and pavement failures due to the reduced support qualities of a partially constructed pavement section and the relatively heavy loads associated with construction traffic. Accordingly, consideration should be given to the construction of designated haul roads where the thickness of the granular subbase and/or asphalt base course has been increased to account for the heavier-loaded construction traffic. We suggest that placement of the asphalt surface course not occur until all the major construction has been completed for pavement areas subjected to construction traffic. To minimize damage to light duty pavement areas during and after construction, consideration should be given to restricting access by construction and any future commercial (non-passenger vehicle) traffic onto the light duty pavement areas, where possible.

The overall grading design should include suitable storm inlets, pavement underdrains, and diversion structures for collecting surface runoff and to limit excessive ponding on paved surfaces. Specific surface drainage recommendations are beyond the scope of our services.

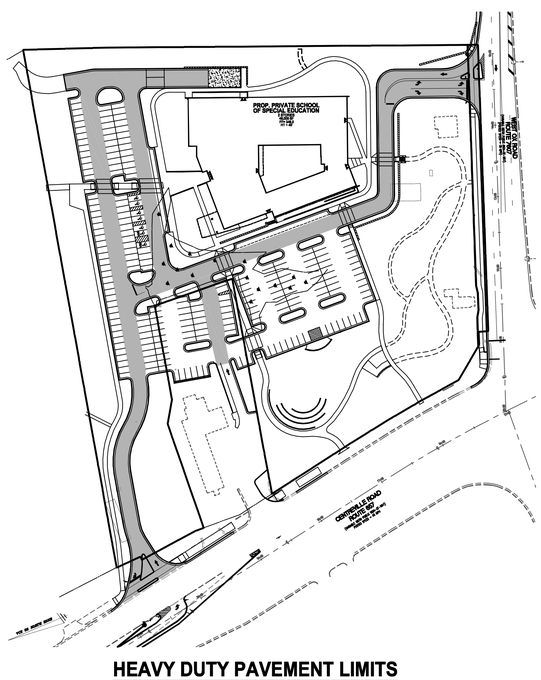
PAVEMENT SECTIONS



VDOT CG-12B DETAIL

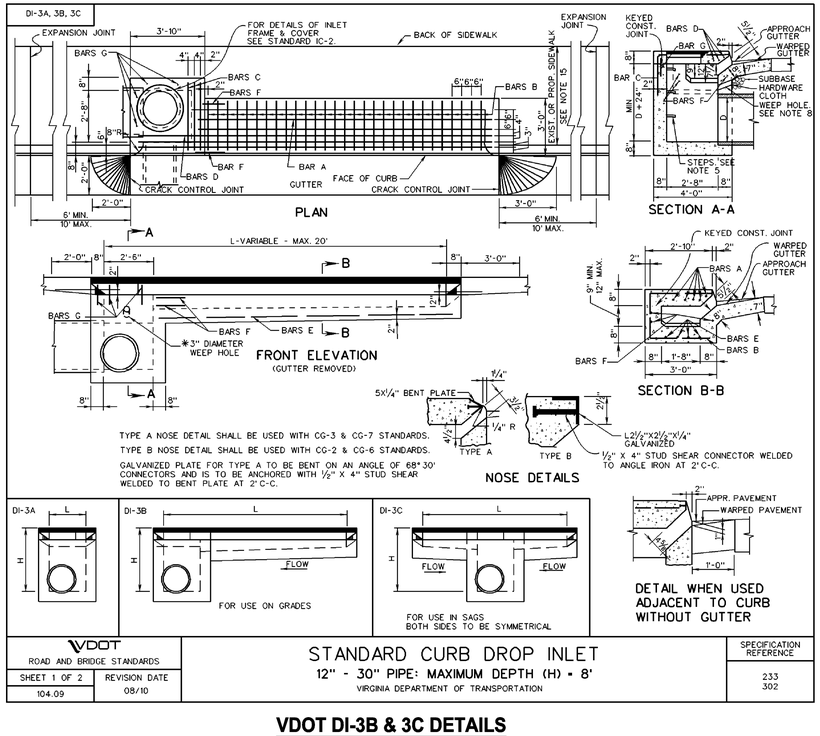


VDOT CG-12A DETAIL

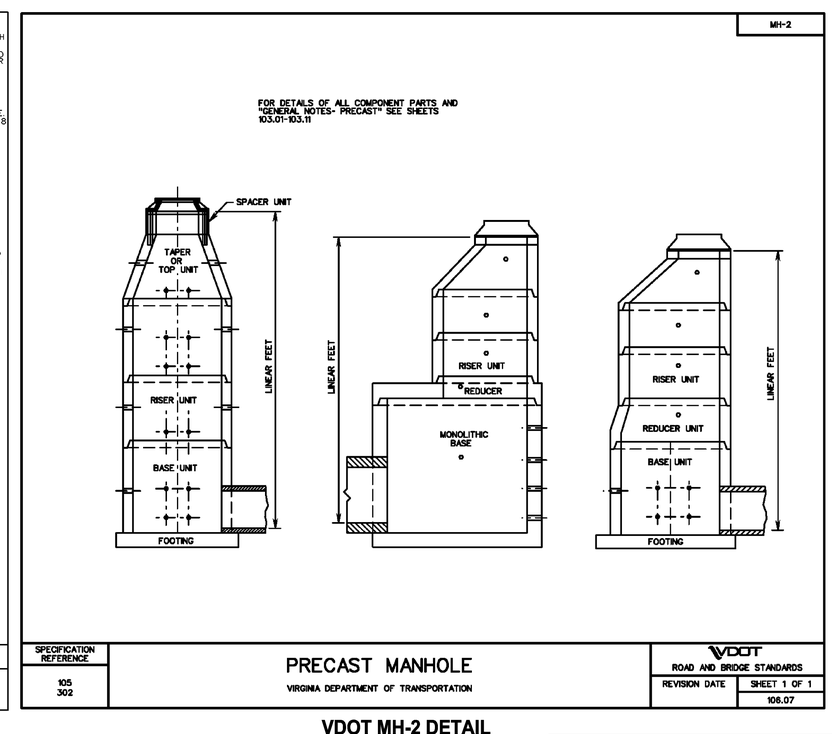


HEAVY DUTY PAVEMENT LIMITS

NOTE: SHADED AREAS SHALL RECEIVE HEAVY DUTY PAVEMENT



VDOT DI-3B & 3C DETAILS



VDOT MH-2 DETAIL

NOTE:
ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AT TIME OF PLAN PREPARATION. CONTRACTOR IS RESPONSIBLE FOR USING CURRENT DETAILS AT TIME OF CONSTRUCTION.

WALTER L. PHILLIPS INCORPORATED
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Landscape Architects • Arborists
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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/8/17
PROFESSIONAL ENGINEER

DRAWN: BP / SD / TT
CHECKED: AV / BP
SCALE: NONE
DATE: 7/18/2017

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	APPROVED	REV. BY	DATE

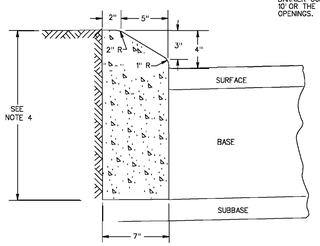
DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

CG-3

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (12" DEPTH) OR INCREASED AS MUCH AS 3" (18" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE THE DEPTH IS TO BE 15" AS SHOWN.NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-3 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-7 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL.
6. WHEN THIS STANDARD IS TO BE TIED INTO EXISTING BARRIER CURB, THE TRANSITION IS TO BE MADE WITHIN 10' OR THE CHANGE IN STANDARDS MADE AT REGULAR OPENINGS.



REV. 9/06
201.02

STANDARD 4" CURB

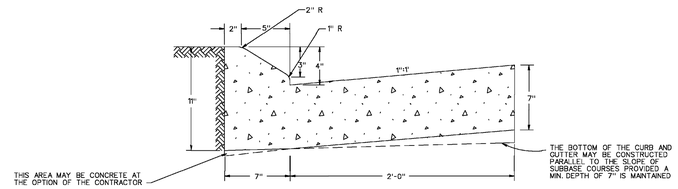
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
105
502

CG-7

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-7 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL.
6. WHEN THIS STANDARD IS TO BE TIED INTO EXISTING BARRIER CURB, THE TRANSITION IS TO BE MADE WITHIN 10' OR THE CHANGE IN STANDARDS MADE AT REGULAR OPENINGS.
7. WHEN COMBINATION MOUNTABLE CURB AND GUTTER IS USED, THE STANDARD ENTRANCE GUTTERS OR STANDARD CONNECTION FOR STREET INTERSECTIONS ARE TO HAVE THE MOUNTABLE CURB CONFIGURATION INCORPORATED.



REV. 9/06
201.04

COMBINATION 4" CURB & GUTTER

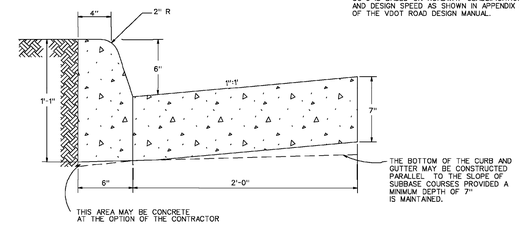
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
105
502

CG-6

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL.



REV. 9/06
201.03

COMBINATION 6" CURB & GUTTER

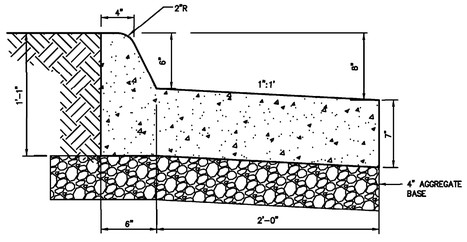
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
105
502

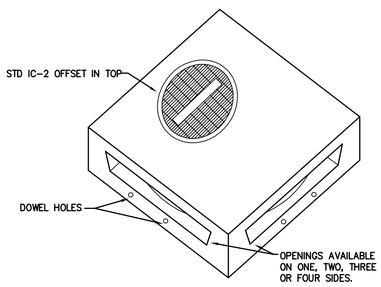
CG-6R

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMB. CURB & GUTTER HAVING A RADIUS OF 300' OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED ASSHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL.

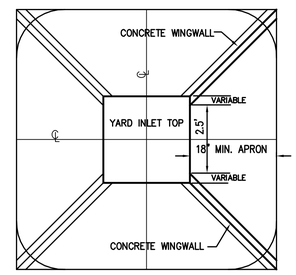


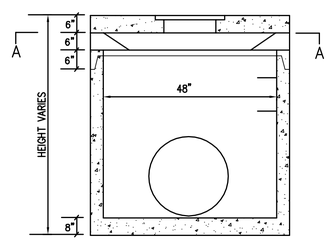
TYPICAL CG-6R 6" CURB & GUTTER (SPILL)



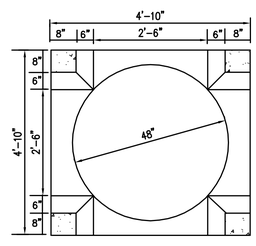
NOTES:

1. DESIGN IN ACCORDANCE WITH ASTM C-478.
2. CONCRETE TO BE 4000 PSI MINIMUM COMPRESSIVE STRENGTH.
3. REINFORCING MEETS ALL REQUIREMENTS OF ASTM A-185 (WIRE MESH) AND ASTM A-615 (REBAR).
4. CONCRETE APRONS REQUIRED IN FRONT OF ALL THROAT OPENINGS.
5. DOWEL OPENINGS PROVIDED AROUND THROAT OPENINGS FOR ATTACHMENT OF APRONS.
6. STEPS PROVIDED WHEN STRUCTURE HEIGHT IS GREATER THAN 4'-0".
7. TWO LIFT HOLES FOR HANDLING PURPOSES PROVIDED FOR EACH UNIT 180° APART OR AN APPROVED ALTERNATE METHOD.
8. INLET INVERTS TO BE CONSTRUCTED AS REQUIRED, IN THE FIELD.
9. PIPE OPENING PROVIDED AS REQUIRED WITH MIN. 4" AND MAX 8" OPENING LARGER THAN PIPE O.D.
10. JOINTS TO BE TONGUE AND GROOVE AND/OR O-RING.
11. GRADE AND SLOPE ADJUSTMENTS MADE IN FIELD USING MORTAR OR BRICK AND MORTAR.

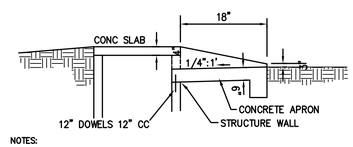




SECTION



SECTION A-A



NOTES:

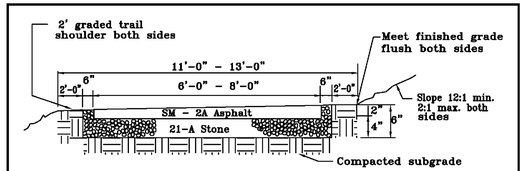
CONCRETE APRONS TO BE BUILT ON ALL YARD INLETS. REINFORCING SHALL BE 6" X 6" NO. 6 WIRE MESH. ALL CONCRETE SHALL BE CLASS A3. LENGTH OF APRON MAY BE INCREASED TO 36" IF FIELD CONDITIONS WARRENT. WHEN APRONS ARE ON ADJACENT SIDES OF INLET, THE ADJOINING WINGWALLS WILL BE OMITTED AND APRON SHALL HAVE 1.5' RADIUS. WHEN INLET IS LARGER THAN 5' X 5', OPPOSITE CONCRETE APRONS SHALL BE BUILT ON CENTERLINE OF INLET; TWO ADJACENT APRONS SHALL BE BUILT ADJOINING THE COMMON CORNER, AND IF THERE ARE THREE OR FOUR CONCRETE APRONS ON ONE INLET, THEN ALL APRONS SHALL BE BUILT ON CENTERLINE OF INLET. THE CONCRETE APRON MAY BE POURED-IN-PLACE OR PRECAST.

CONCRETE APRON

YARD INLET (YI-1) AND CONCRETE APRON DETAIL

NOT TO SCALE

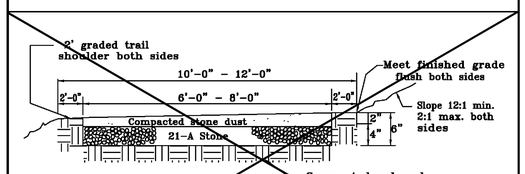
FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



TYPE I

Suitable for bicycle and general pedestrian use. 8' is the required minimum width for bikeways and 6' the required minimum for walkways. Wider sections may be required in heavily traveled areas.

Where soil is well drained and compactable, the stone base may be eliminated and this section replaced by a 3 1/2" full-depth asphalt section. Construction of this substitute section is subject to the approval of the Director.



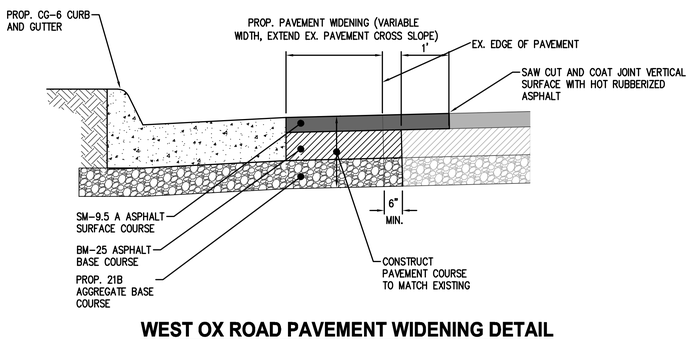
TYPE II

Suitable for equestrian use, hiking and all-terrain (mountain) bicycle use in gently sloped topography. Susceptible to washout and sheet erosion on grades greater than 5%.

Depth of stone base depends on soil type, stability and drainage.

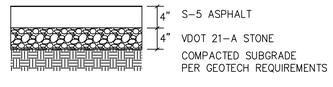
Ref. Sec. 8-0202.1B, 8-0203.1B	TRAIL CROSS-SECTIONS	PLATE NO.	STD. NO.
Rev. 1-00, 2011 Reprint		4-8	

TRAIL SECTION DETAIL



WEST OX ROAD PAVEMENT WIDENING DETAIL

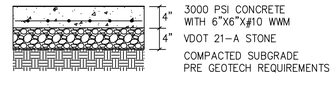
N.T.S.



ALL MATERIALS MUST MEET REQMTS. OF VDOT ROAD AND BRIDGE SPECIFICATIONS. SEE PLAN FOR SLOPE AND PITCH.

ASPHALT SIDEWALK DETAIL

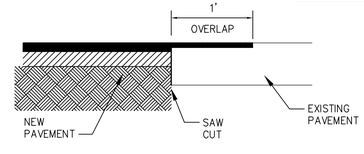
NOT TO SCALE



ALL MATERIALS MUST MEET REQMTS. OF VDOT ROAD AND BRIDGE SPECIFICATIONS. SEE PLAN FOR SLOPE AND PITCH.

CONCRETE SIDEWALK DETAIL

NOT TO SCALE



SAW CUT DETAIL

N.T.S.

NOTE: SEE PLANS FOR TRAIL WIDTHS

NOTE:
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COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 7/8/17 PROFESSIONAL ENGINEER

DRAWN: BP / SD / TT
CHECKED: AV/BP
SCALE: NONE
DATE: 7/18/2017

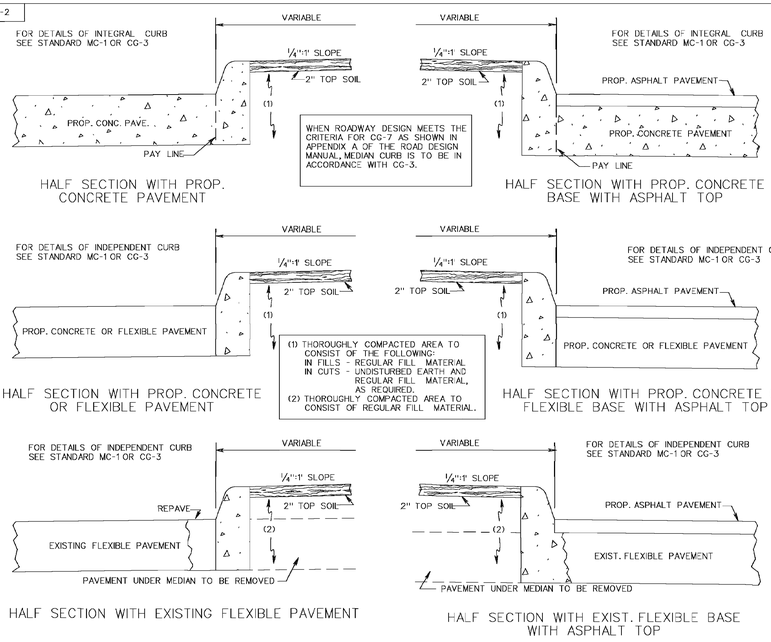
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

MS-2



HALF SECTION WITH PROP. CONCRETE PAVEMENT

HALF SECTION WITH PROP. CONCRETE BASE WITH ASPHALT TOP

HALF SECTION WITH PROP. CONCRETE OR FLEXIBLE PAVEMENT

HALF SECTION WITH PROP. CONCRETE OR FLEXIBLE BASE WITH ASPHALT TOP

HALF SECTION WITH EXISTING FLEXIBLE PAVEMENT

HALF SECTION WITH EXIST. FLEXIBLE BASE WITH ASPHALT TOP

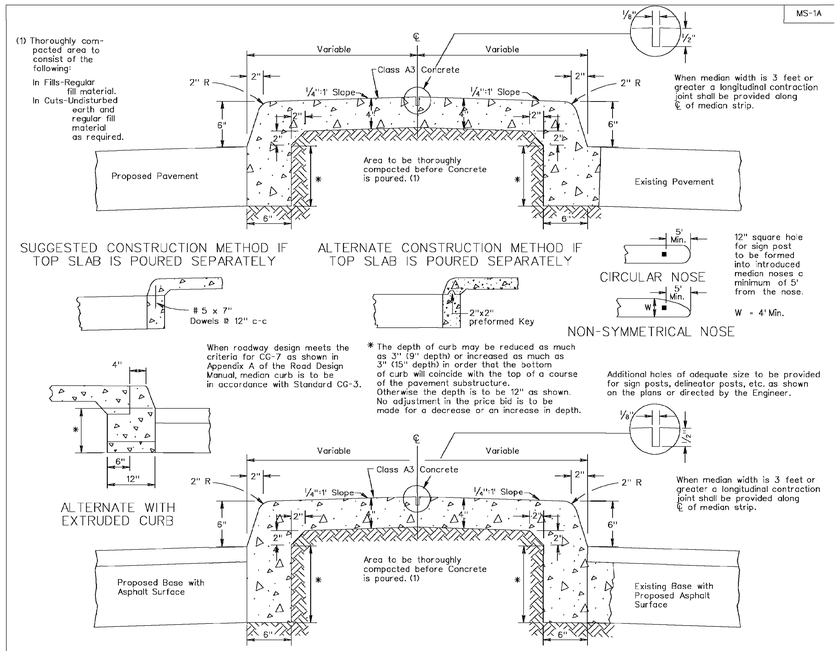
STANDARD RAISED GRASS MEDIAN STRIPS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE: 502

REV. 9/06 — 202.04

MS-1A



SPECIFICATION REFERENCE: 502

STANDARD SOLID CONCRETE RAISED MEDIAN STRIP

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 9/05 — 202.03

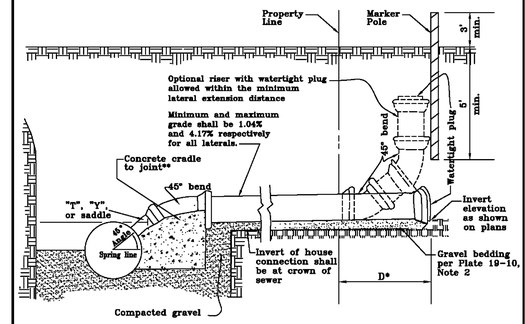
FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

TO AVOID CONFLICTS WITH OTHER UNDERGROUND SERVICE UTILITIES, THE MINIMUM LATERAL EXTENSION DISTANCE (D)* SHALL BE:

Single-Family Detached	20 ft beyond the property line or within 5 ft of the minimum yard requirement, whichever distance is less.
Single-Family Townhouse	5 ft beyond the property line or sanitary sewer easement, whichever distance is greater.

NOTES:

1. Gravel bedding beyond the concrete cradle shall conform to Note 2 of Plate 19-10.
2. Lateral pipe material shall be as specified in Section 10-0103.8 or in the International Plumbing Code.
3. CI Saddles shall be as made by Richmond Foundry, Pioneer Foundry, or approved equal.
4. A long sweep, 90-degree bend may be used as an alternate to two 45-degree bends.



FOR PLAN VIEW, SEE PLATE 23-10

*Not applicable to Planned Development Districts

**Hand mixing allowed per VDOT specifications

Ref. Sec. 10-0104.5A, Plate 23-10

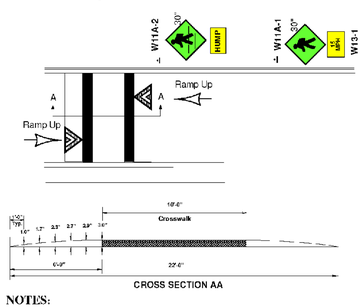
Rev. 1-00, 6-01, 2011 Reprint

HOUSE LATERAL CONSTRUCTION DETAIL

PLATE NO.	STD. NO.
24-10	DPW-11

TRAFFIC CALMING MEASURE

Figure A-4. RAISED CROSSWALK



NOTES:

1) Signs and Markings shall be in accordance with the MUTCD.

2) Advance signing at each location is optional when part of an area wide scheme.

3) Cross-section shows approximate elevation for 3" (maximum) raised crosswalk.

4) Design Options: can be combined with chicker.

5) Raised Crosswalks should be located mid-block (edge of ramp at least 20' from intersection) and shall not be placed over manholes, watergates, junction chambers, etc.

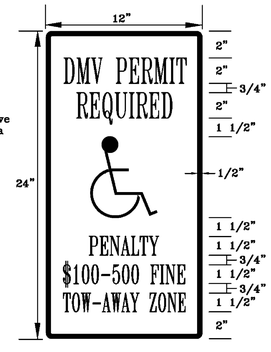
6) Raised Crosswalk material and placement to be approved by Engineer.

7) Engineer to modify design to accommodate field conditions (ex. drainage and curb cuts) while conforming to VDOT's Road and Bridge Standards and Specification manuals, AASHTO publications and acceptable engineering practices.

Virginia Department of Transportation — Rev. 2001

NOTE: REFER TO LANDSCAPE ARCHITECTURE DRAWINGS FOR CROSSWALK MATERIALS.

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



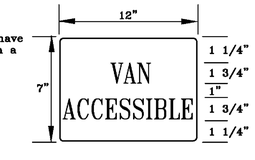
Note: Sign shall have white lettering on a blue background.

Ref. Sec. 7-0802.4

Rev. 1-00, 2011 Reprint

ACCESSIBLE PARKING SIGNS

PLATE NO.	STD. NO.
32A-7	



Note: Sign shall have white lettering on a blue background.

Ref. Sec. 7-0802.4

Rev. 1-00, 2011 Reprint

VAN ACCESSIBLE PARKING SIGNS

PLATE NO.	STD. NO.
32B-7	

NOTE:
ACCESSIBLE PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

BOLT TO STEEL TUBE W/3/8" CADMIUM PLATED BOLTS, NUTS AND WASHERS.

2"x2" x.186" STEEL TUBE EXTEND INTO CONC. FILLED PIPE 2'-0". PROVIDE WELDED WATERTIGHT CAP. PAINT IN ACCORDANCE WITH GENERAL NOTES

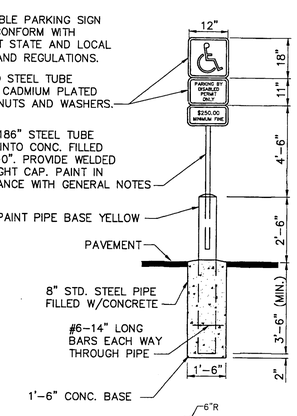
PAINT PIPE BASE YELLOW

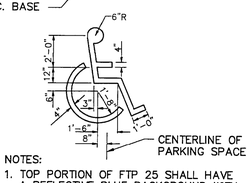
PAVEMENT

8" STD. STEEL PIPE FILLED W/CONCRETE

#6-14" LONG BARS EACH WAY THROUGH PIPE

1'-6" CONC. BASE

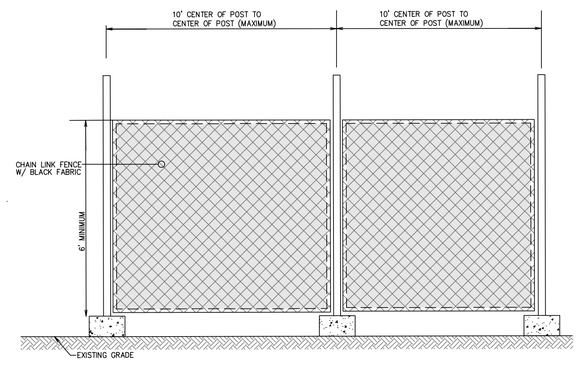




NOTES:

1. TOP PORTION OF FTP 25 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. ONE SIGN REQUIRED FOR EACH PARKING SPACE

HANDICAP PARKING DETAILS



PORTABLE HISTORIC PROTECTION FENCING DETAIL

PER PROFFER 28

NOT TO SCALE

HISTORIC PROTECTION FENCING NARRATIVE:

HISTORIC PROTECTION FENCING IS SHOWN ON SHEETS C-0303 THROUGH C-0310 AND C-0601 THROUGH C-0613. FENCING IS SHOWN AROUND THE PERIMETER OF HISTORIC BUILDING OR GROUPS OF BUILDINGS EXPOSED TO CONSTRUCTION ACTIVITY. FENCING SHALL BE PLACED A MINIMUM OF 6' FROM HISTORIC RESOURCES, HOWEVER 12' IS DESIRABLE AND FENCING WILL BE PLACED AT THAT DISTANCE WHEN POSSIBLE. IN COORDINATION WITH INSPECTOR, FENCING CAN BE ADJUSTED AS NECESSARY DURING CONSTRUCTION ACTIVITIES AND MAY NOT BE PRESENT IN ALL AREAS SHOWN AT ALL TIMES DURING CONSTRUCTION. AT A MINIMUM, CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HISTORIC PROTECTION FENCING IS PRESENT WHEN WORKING WITH HEAVY EQUIPMENT AROUND HISTORIC STRUCTURES. ADDITIONALLY, HISTORIC FENCING SHALL BE PLACED SO AS TO EXTEND AT LEAST 50' IN EITHER DIRECTION FROM LOCATION OF CONSTRUCTION ACTIVITY AND ALONG CONSTRUCTION ACCESS WAY. ACCESS THROUGH HISTORIC PROTECTION FENCE SHALL BE PROHIBITED IN IMMEDIATE AREAS ADJACENT TO CONSTRUCTION ACTIVITY WHERE HEAVY EQUIPMENT IS BEING OPERATED. CONTRACTOR SHALL COORDINATE WITH INSPECTOR PRIOR TO CONSTRUCTION ACTIVITIES, TO ENSURE ADEQUATE PROTECTION OF HISTORIC STRUCTURES IS PROVIDED AND MAINTAINED THROUGHOUT THE DURATION OF SITE WORK.

SEE SHEET C-1523 FOR APPROVED NOTICE FROM ARB AND DPZ PER PROFFER 28.

NOTE:
ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AT TIME OF PLAN PREPARATION. CONTRACTOR IS RESPONSIBLE FOR USING CURRENT DETAILS AT TIME OF CONSTRUCTION.

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

DRAWN: BP/SD/JT — CHECKED: AV/BP

SCALE: NONE — DATE: 7/18/2017

COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 7/18/17 — PROFESSIONAL ENGINEER

REVISION APPROVED BY			
NO.	DESCRIPTION	DATE	REV. BY	APPROVED

DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

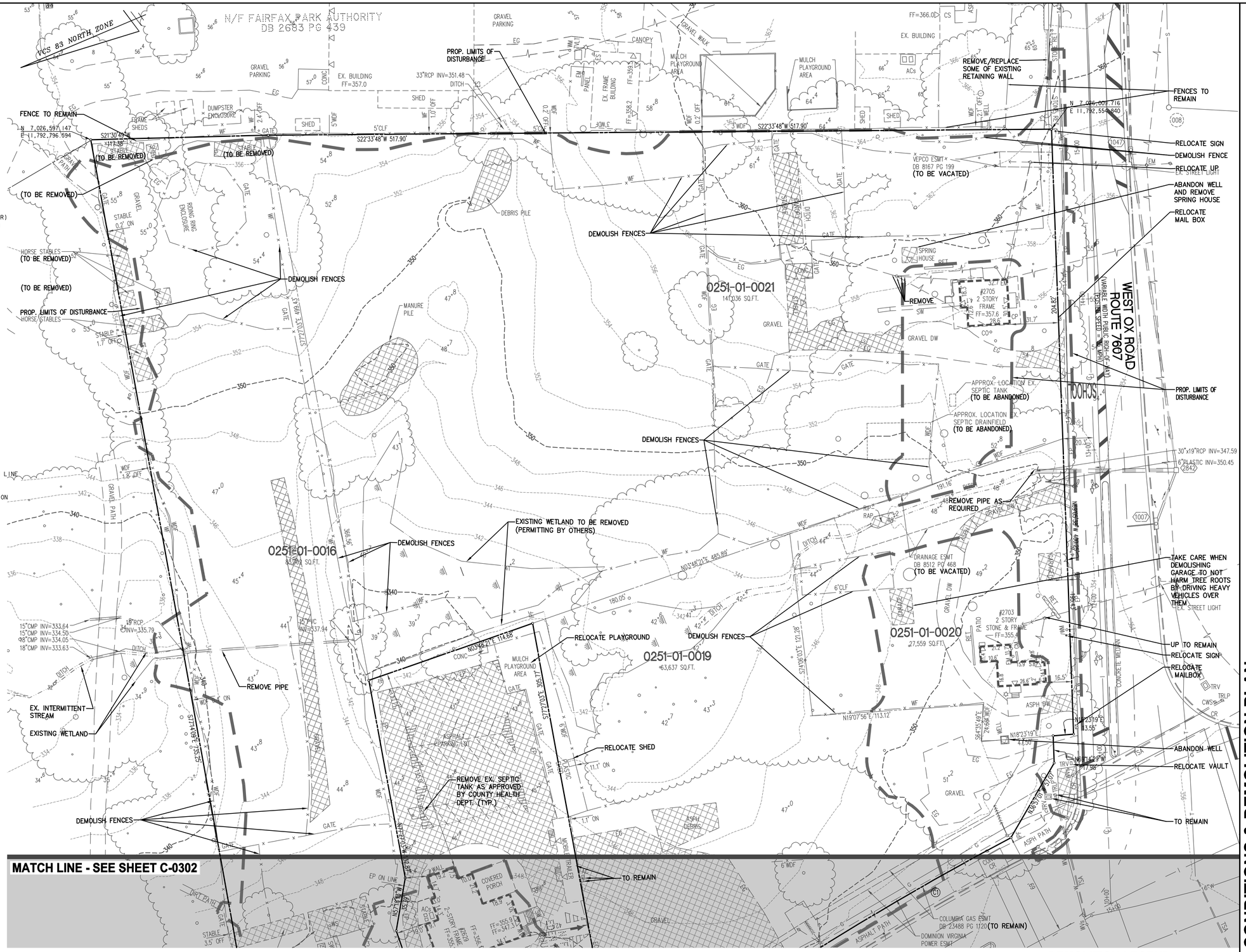
SHEET: C-0205

LEGEND

AC..... AIR CONDITIONER
APPROX.LOC..... APPROXIMATE LOCATION
ASPH..... ASPHALT
BRL..... BUILDING RESTRICTION LINE
CLF..... CHAIN LINK FENCE
CMP..... CORRUGATED METAL PIPE
CO..... CLEANOUT
CONC..... CONCRETE
CP..... COVERED PORCH
CR..... CONCRETE RAMP
CWS..... CROSSWALK SIGNAL
DB..... DEED BOOK
DW..... DRIVEWAY
EG..... EDGE OF GRAVEL
EM..... ELECTRIC METER
EP..... EDGE OF PAVEMENT
ESMT..... EASEMENT
EVLT..... ELECTRIC VAULT
FC..... HEADER CURB
FF..... FIRST/FINISH FLOOR ELEVATION
GM..... GAS METER
GP..... GUY POLE
GV..... GAS VALVE
HC..... HANDICAPPED RAMP
INV..... INVERT
IPF..... IRON PIN FOUND (PROPERTY CORNER)
IPS..... IRON PIN SET (PROPERTY CORNER)
MW..... MONITORING WELL
N/F..... NOW OR FORMERLY
PG..... PAGE
RCP..... REINFORCED CONCRETE PIPE
RD..... ROOF DRAIN
RET..... RETAINING WALL
SD..... STORM SEWER STRUCTURE
SMH..... SANITARY SEWER STRUCTURE
SQ.FT..... SQUARE FEET
SW..... SIDEWALK
TCB..... TRAFFIC CONTROL BOX
TRLP..... TRAFFIC LIGHT/SIGNAL POLE
TRV..... TRAFFIC VAULT
TSA..... TRAFFIC SIGNAL ARM
TVLT..... TELECOMMUNICATIONS VAULT
WDF..... WOODEN FENCE
WF..... WIRE FENCE
WM..... WATER METER
WS..... WATER SPIGOT
WV..... WATER VALVE
WW..... WINDOW WELL
..... FIRE HYDRANT
..... DOORWAY/ENTRANCE
..... UTILITY POLE
..... LIGHT POLE
—X— ..... FENCE
..... GUY WIRE
..... OVERHEAD WIRES
—E— ..... UNDERGROUND ELECTRIC LINE
—G— ..... UNDERGROUND GAS LINE
—S— ..... UNDERGROUND SANITARY LINE
—T— ..... UNDERGROUND TELECOMMUNICATIONS LINE
—W— ..... UNDERGROUND WATER LINE
..... TREE
..... LIMITS OF TREE CANOPY/VEGETATION
..... CURB AND GUTTER
..... ELECTRIC TRANSFORMER
..... SPOT ELEVATION
..... SIGN
..... ELECTRIC MANHOLE
..... TELECOMMUNICATIONS MANHOLE
..... PRIVATE MAILBOX

NOTES:

1. SEE SHEET C-0302 FOR SURVEY NOTES.
2. ABANDON WELLS AND SEPTIC SYSTEMS IN ACCORDANCE WITH VIRGINIA AND COUNTY REGULATIONS.
3. ALL ITEMS WITHIN LIMITS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.



30 0 15 30 60 120
1 INCH = 30'

DEMOLITION LEGEND

—//— ITEM(S) TO BE REMOVED

ITEM(S) TO BE DEMOLISHED

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DRAWN: BP/SD/TT
CHECKED: AV/BP
DATE: 7/18/2017
SCALE: 1" = 30'

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

EXISTING CONDITIONS & DEMOLITION PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0301

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0301.dwg

LEGEND

AC..... AIR CONDITIONER
APPROX.LOC..... APPROXIMATE LOCATION
ASPH..... ASPHALT
BRL..... BUILDING RESTRICTION LINE
CLF..... CHAINLINK FENCE
CMP..... CORRUGATED METAL PIPE
CO..... CLEANOUT
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N/F..... NOW OR FORMERLY
PG..... PAGE
RCP..... REINFORCED CONCRETE PIPE
RD..... ROOF DRAIN
RET..... RETAINING WALL
SD,(23)..... STORM SEWER STRUCTURE
SMH,(23)..... SANITARY SEWER STRUCTURE
SQ.FT..... SQUARE FEET
SW..... SIDEWALK
TCB..... TRAFFIC CONTROL BOX
TRLP..... TRAFFIC LIGHT/SIGNAL POLE
TRV..... TRAFFIC VAULT
TSA..... TRAFFIC SIGNAL ARM
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—T— ..... UNDERGROUND TELECOMMUNICATIONS LINE
—W— ..... UNDERGROUND WATER LINE
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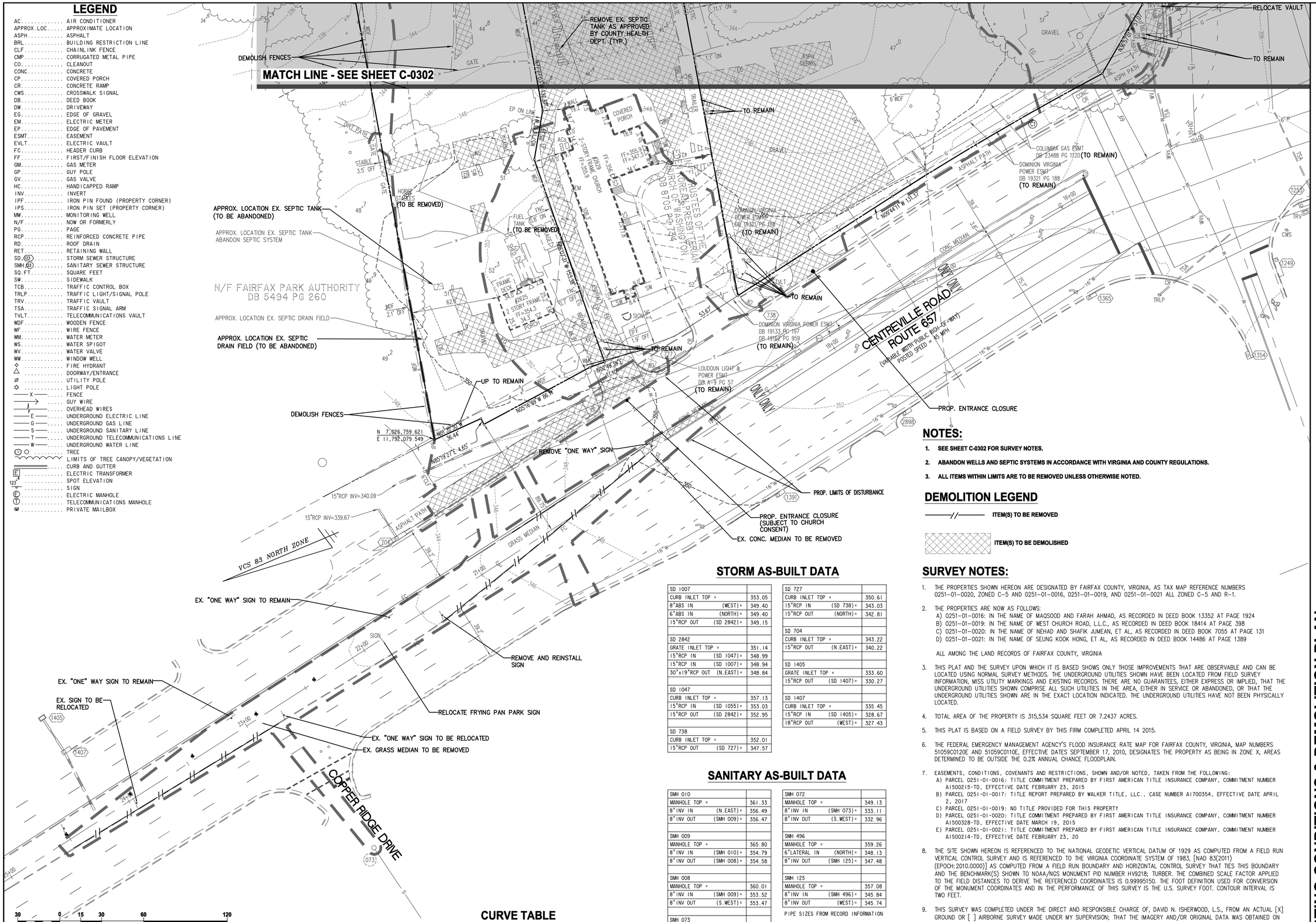
..... ELECTRIC TRANSFORMER
123 ..... SPOT ELEVATION
..... SIGN
..... ELECTRIC MANHOLE
..... TELECOMMUNICATIONS MANHOLE
..... PRIVATE MAILBOX



NOTES:

1. SEE SHEET C-0302 FOR SURVEY NOTES.
2. ABANDON WELLS AND SEPTIC SYSTEMS IN ACCORDANCE WITH VIRGINIA AND COUNTY REGULATIONS.
3. ALL ITEMS WITHIN LIMITS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.

DEMOLITION LEGEND

——//—— ITEM(S) TO BE REMOVED

ITEM(S) TO BE DEMOLISHED

STORM AS-BUILT DATA

SD 1007	
CURB INLET TOP =	353.05
8"ABS IN (WEST)=	349.40
6"ABS IN (NORTH)=	349.40
15"RCP OUT (SD 2842)=	349.15
SD 2842	
GRATE INLET TOP =	351.14
15"RCP IN (SD 1047)=	348.99
15"RCP IN (SD 1007)=	348.94
30"x19"RCP OUT (N.EAST)=	348.84
SD 1047	
CURB INLET TOP =	357.13
15"RCP IN (SD 1055)=	353.03
15"RCP OUT (SD 2842)=	352.95
SD 738	
CURB INLET TOP =	352.01
15"RCP OUT (SD 727)=	347.57

SD 727	
CURB INLET TOP =	350.61
15"RCP IN (SD 738)=	343.03
15"RCP OUT (NORTH)=	342.81
SD 704	
CURB INLET TOP =	343.22
15"RCP OUT (N.EAST)=	340.22
SD 1405	
GRATE INLET TOP =	333.60
15"RCP OUT (SD 1407)=	330.27
SD 1407	
CURB INLET TOP =	335.45
15"RCP IN (SD 1405)=	328.67
18"RCP OUT (WEST)=	327.43

SANITARY AS-BUILT DATA

SMH 010	
MANHOLE TOP =	361.33
8"INV IN (N.EAST)=	356.49
8"INV OUT (SMH 009)=	356.47
SMH 009	
MANHOLE TOP =	365.80
8"INV IN (SMH 010)=	354.79
8"INV OUT (SMH 008)=	354.58
SMH 008	
MANHOLE TOP =	360.01
8"INV IN (SMH 009)=	353.52
8"INV OUT (S.WEST)=	353.47
SMH 073	
MANHOLE TOP =	341.30
8"INV OUT (SMH 072)=	335.34

SMH 072	
MANHOLE TOP =	349.13
8"INV IN (SMH 073)=	333.11
8"INV OUT (S.WEST)=	332.96
SMH 496	
MANHOLE TOP =	359.26
6"LATERAL IN (NORTH)=	348.13
8"INV OUT (SMH 125)=	347.48
SMH 125	
MANHOLE TOP =	357.08
8"INV IN (SMH 496)=	345.84
8"INV OUT (WEST)=	345.74

PIPE SIZES FROM RECORD INFORMATION

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	2069.00'	174.24'	4°49'31"	87.17'	174.19'	N07°19'25"W

SURVEY NOTES:

1. THE PROPERTIES SHOWN HEREON ARE DESIGNATED BY FAIRFAX COUNTY, VIRGINIA, AS TAX MAP REFERENCE NUMBERS 0251-01-0020, ZONED C-5 AND 0251-01-0016, 0251-01-0019, AND 0251-01-0021 ALL ZONED C-5 AND R-1.
2. THE PROPERTIES ARE NOW AS FOLLOWS:
   A) 0251-01-0016: IN THE NAME OF MAQSOOD AND FARAH AHMAD, AS RECORDED IN DEED BOOK 13352 AT PAGE 1924
   B) 0251-01-0019: IN THE NAME OF WEST CHURCH ROAD, L.L.C., AS RECORDED IN DEED BOOK 18414 AT PAGE 398
   C) 0251-01-0020: IN THE NAME OF NEHAD AND SHAFIK JUMEAN, ET AL, AS RECORDED IN DEED BOOK 7055 AT PAGE 131
   D) 0251-01-0021: IN THE NAME OF SEUNG KOOK HONG, ET AL, AS RECORDED IN DEED BOOK 14486 AT PAGE 1389

   ALL AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA
3. THIS PLAT AND THE SURVEY UPON WHICH IT IS BASED SHOWS ONLY THOSE IMPROVEMENTS THAT ARE OBSERVABLE AND CAN BE LOCATED USING NORMAL SURVEY METHODS. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, MISS UTILITY MARKINGS AND EXISTING RECORDS. THERE ARE NO GUARANTEES, EITHER EXPRESS OR IMPLIED, THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED.
4. TOTAL AREA OF THE PROPERTY IS 315,534 SQUARE FEET OR 7.2437 ACRES.
5. THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM COMPLETED APRIL 14 2015.
6. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR FAIRFAX COUNTY, VIRGINIA, MAP NUMBERS 51059C0120E AND 51059C0110E, EFFECTIVE DATES SEPTEMBER 17, 2010, DESIGNATES THE PROPERTY AS BEING IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
7. EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS, SHOWN AND/OR NOTED, TAKEN FROM THE FOLLOWING:
   A) PARCEL 0251-01-0016: TITLE COMMITMENT PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NUMBER AI500215-TD, EFFECTIVE DATE FEBRUARY 23, 2015
   B) PARCEL 0251-01-0017: TITLE REPORT PREPARED BY WALKER TITLE. LLC., CASE NUMBER AI700354, EFFECTIVE DATE APRIL 2, 2017
   C) PARCEL 0251-01-0019: NO TITLE PROVIDED FOR THIS PROPERTY
   D) PARCEL 0251-01-0020: TITLE COMMITMENT PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NUMBER AI500328-TD, EFFECTIVE DATE MARCH 19, 2015
   E) PARCEL 0251-01-0021: TITLE COMMITMENT PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NUMBER AI500214-TD, EFFECTIVE DATE FEBRUARY 23, 20
8. THE SITE SHOWN HEREON IS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER HV9218; TURBER. THE COMBINED SCALE FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995150. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.
9. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF, DAVID N. ISHERWOOD, L.S., FROM AN ACTUAL [X] GROUND OR [ ] AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON APRIL 14, 2015; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
10. THIS SURVEY WAS PERFORMED AT THE REQUEST OF SCIMORES CORPORATION.

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

DRAWN: BP/SD/TT
CHECKED: AV/BP
DATE: 7/18/2017
SCALE: 1" = 30'

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	DATE	APPROVED

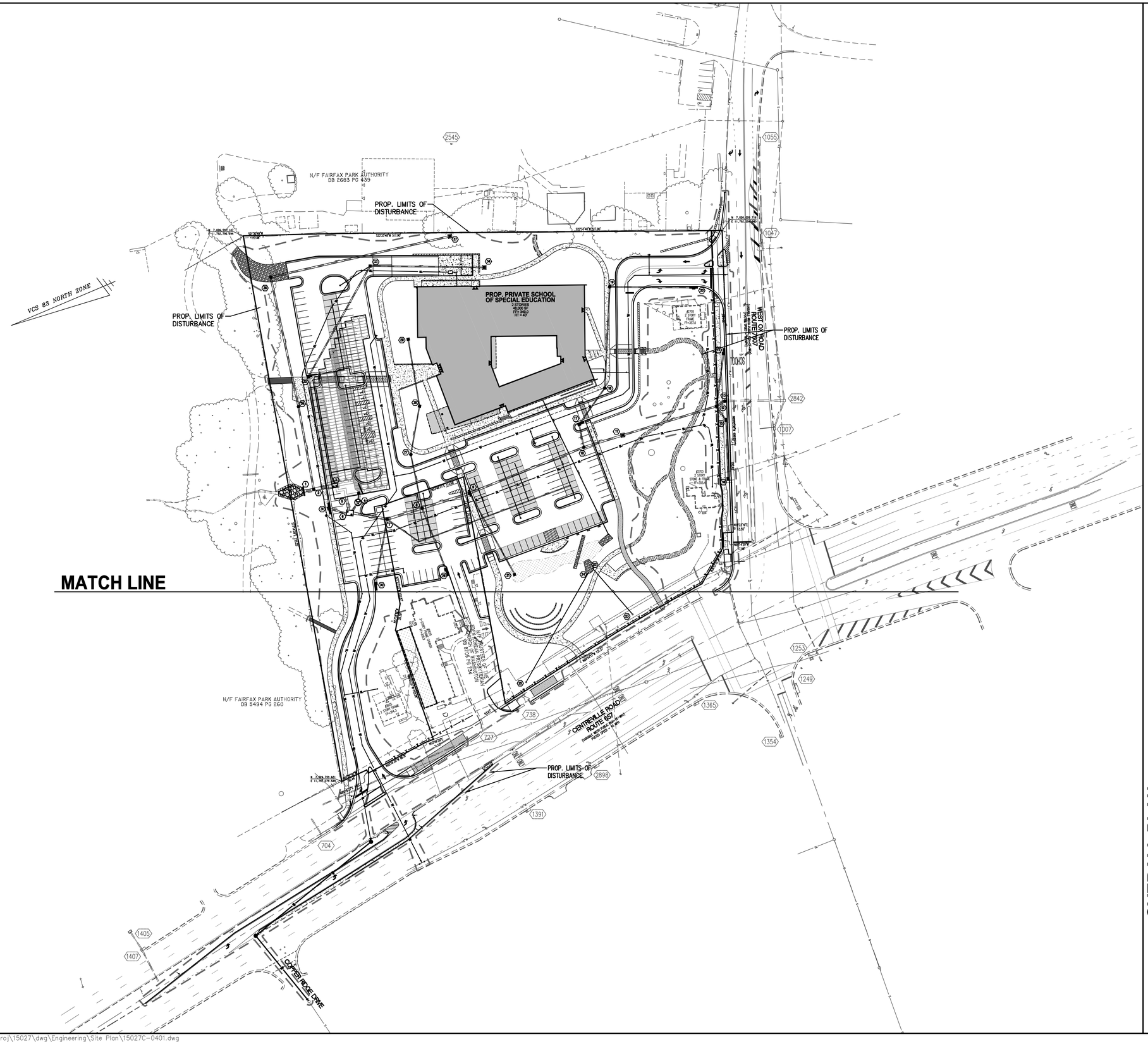
EXISTING CONDITIONS & DEMOLITION PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0302

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
c	PLUG	c
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
X X X	FENCE	X X X
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
260 264	CONTOURS	260 264
+264 50	SPOT ELEVATION	+264 50
	DRAINAGE FLOW DIRECTION	
TC	TOP OF CURB	TC
BC	BOTTOM OF CURB	BC
TW	TOP OF WALL	TW
BW	BOTTOM OF WALL	BW
HP	HIGH POINT	H.P.
	LIMITS OF CLEARING AND GRADING	



60 0 30 60 120 240
(IN FEET)
1 INCH = 60'

OVERALL PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

WALTER L. PHILLIPS INCORPORATED
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DRAWN:	BP / SD / TT
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SCALE:	1" = 60'
DATE:	7/18/2017

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0401.dwg

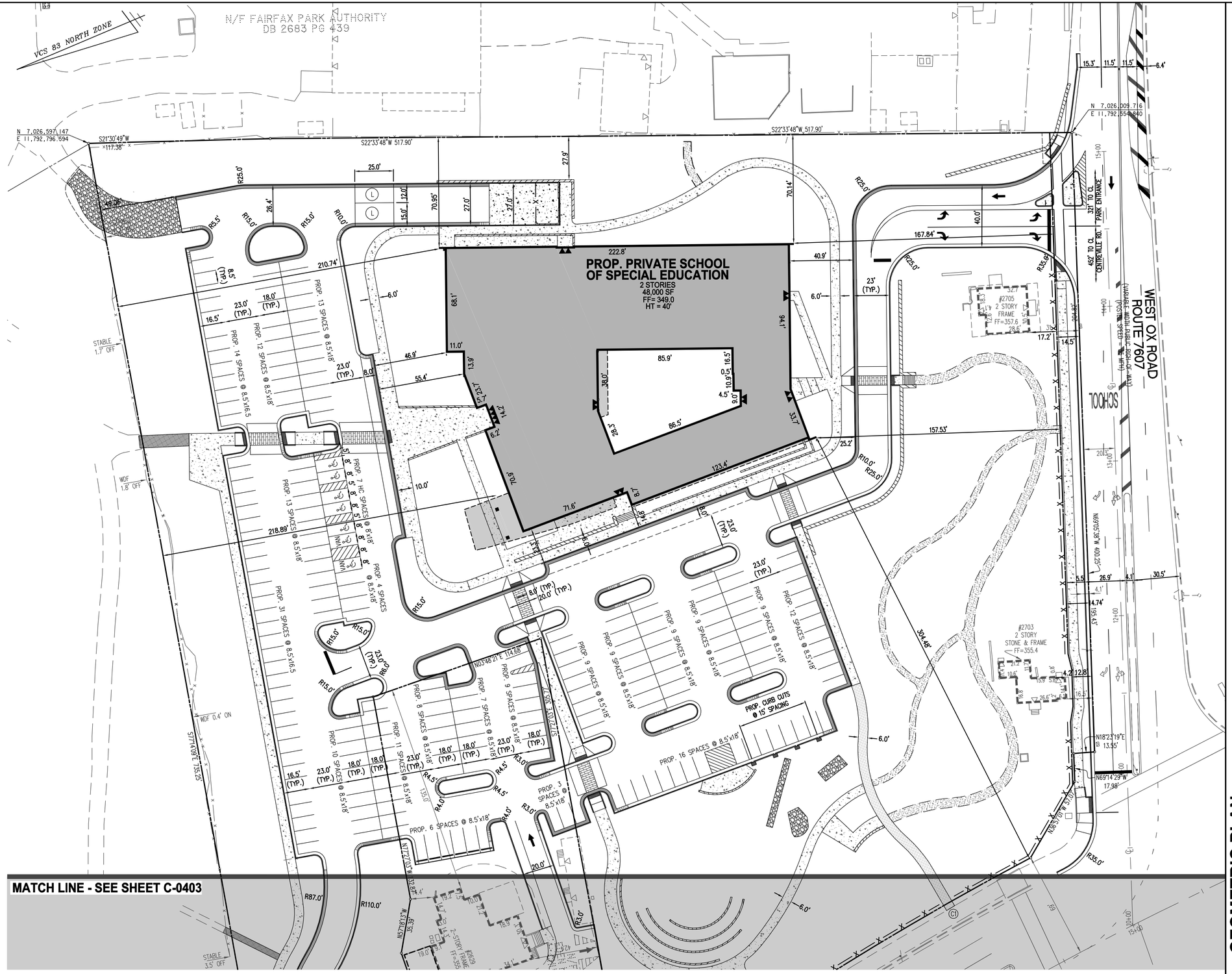
SHEET: C-0401

LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
LP/S	LIGHT POLE WITH SIGNALS	LP/S
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
c	PLUG	c
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
	FENCE	
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
	TEST PIT	

NOTES:

1. ALL RADII 5' UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSION SHOWN FOR COORDINATION PURPOSES. REFER TO ARCHITETURAL PLANS FOR CONSTRUCTION



30 0 15 30 60 120
1 INCH = 30'

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Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

GEOMETRIC PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

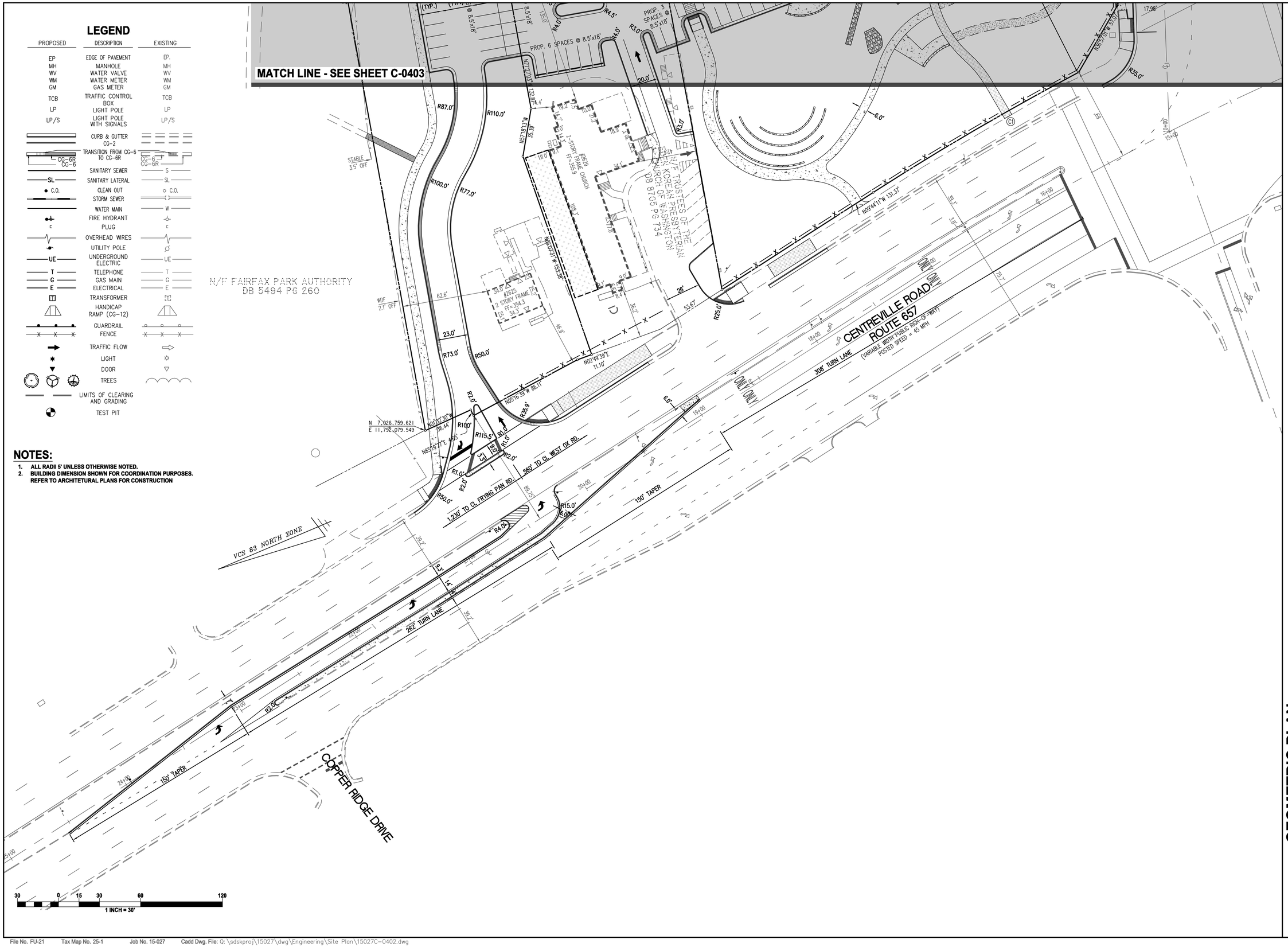
SHEET: C-0402

LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP.
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
LP/S	LIGHT POLE WITH SIGNALS	LP/S
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
c	PLUG	c
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
	FENCE	
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
	TEST PIT	

NOTES:

1. ALL RADII 5' UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSION SHOWN FOR COORDINATION PURPOSES. REFER TO ARCHITETURAL PLANS FOR CONSTRUCTION



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CHECKED: AV / BP
SCALE: 1" = 30'
DATE: 7/18/2017

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

GEOMETRIC PLAN

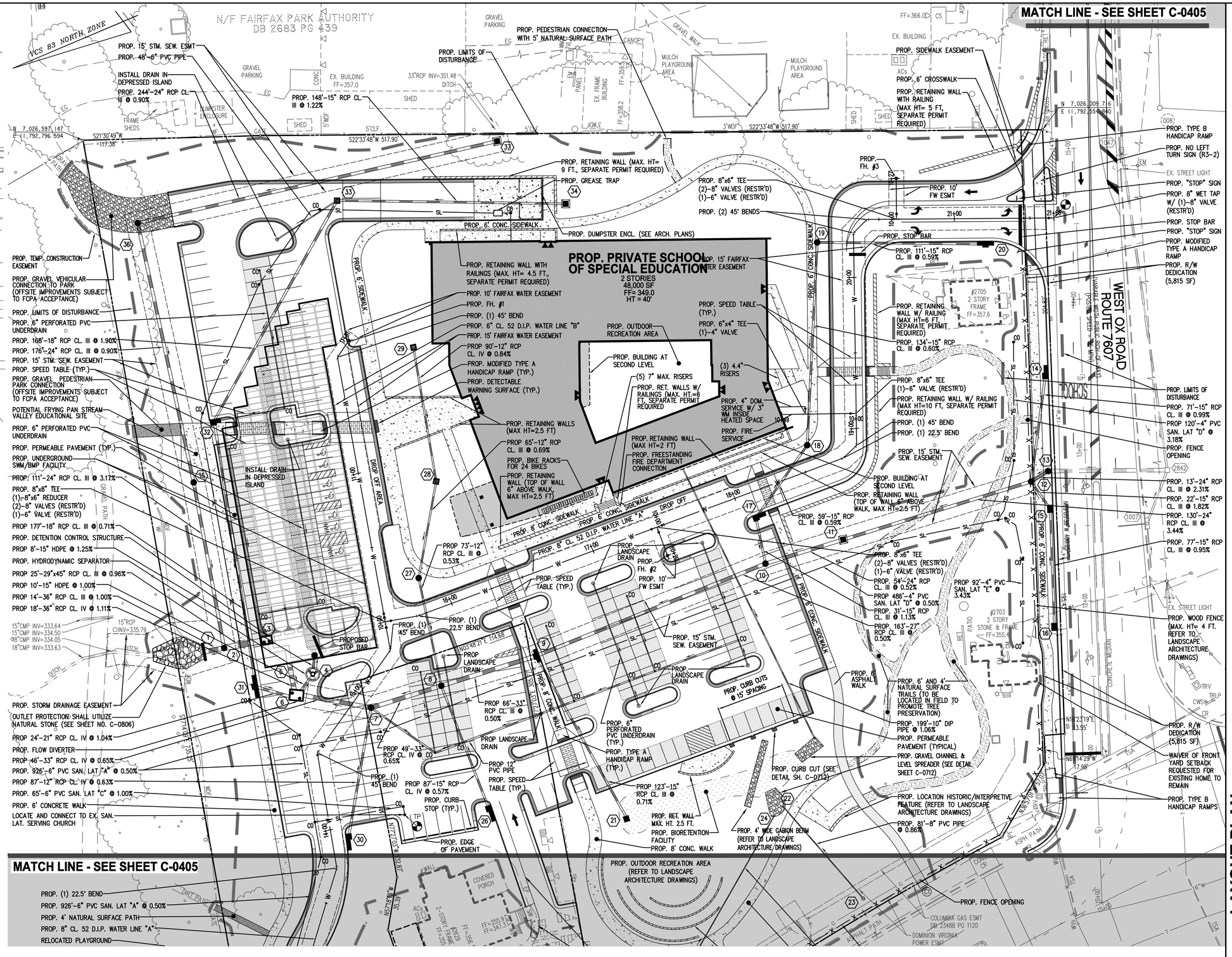
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0403

LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
LP/S	LIGHT POLE WITH SIGNALS	LP/S
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
	FENCE	
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
	TEST PIT	



30 0 15 30 60 120
1 INCH = 30'

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SCALE: 1" = 30'
DATE: 7/18/2017

REVISION APPROVED BY			
NO.	DESCRIPTION	APPROVED	DATE

LAYOUT PLAN

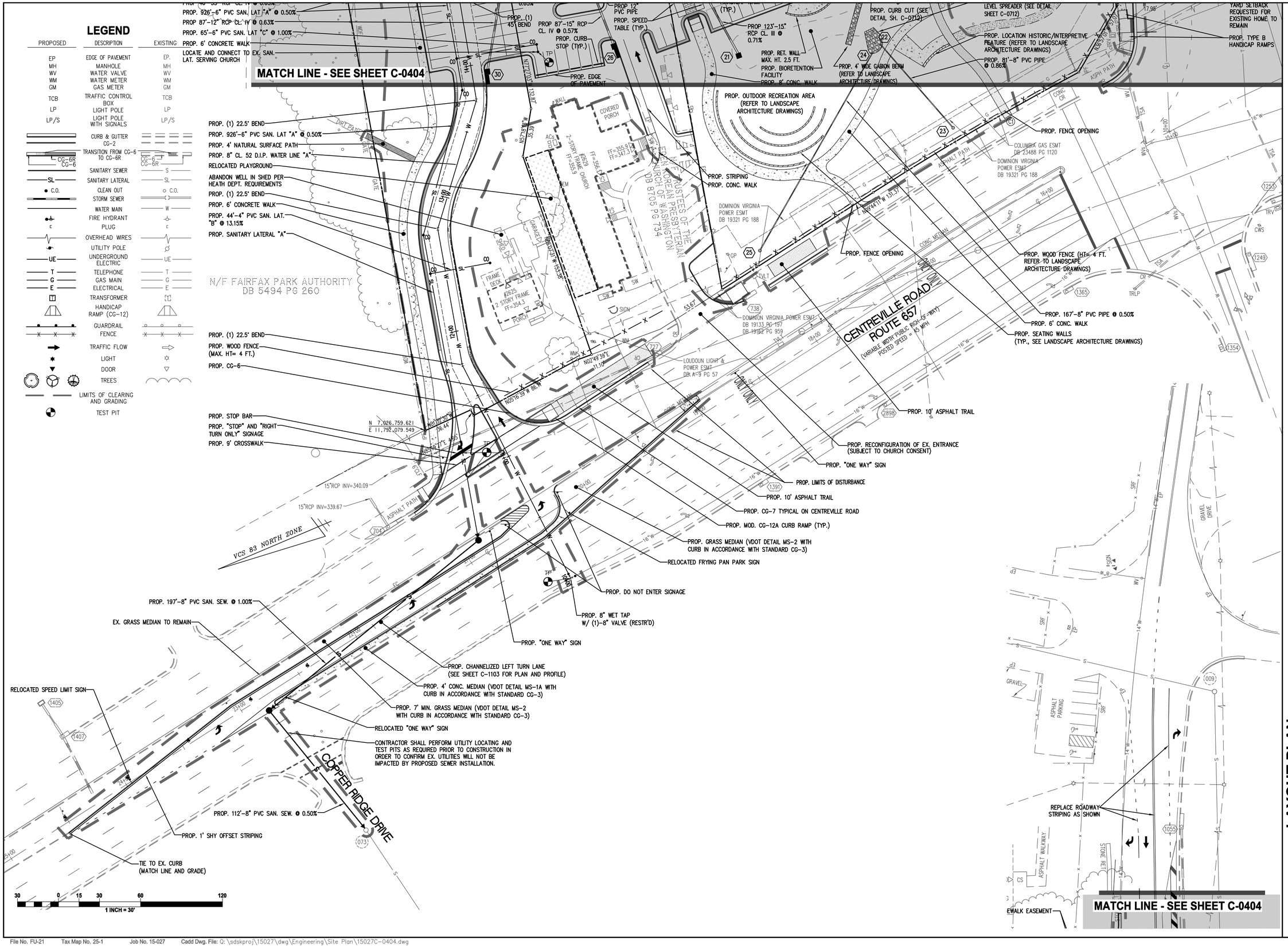
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0404

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0404.dwg

LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
LP/S	LIGHT POLE WITH SIGNALS	LP/S
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
	FENCE	
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
	TEST PIT	



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7/18/17
PROFESSIONAL ENGINEER

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AV/BP	BP/SD/TT		

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LAYOUT PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0405

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0404.dwg

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
S	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
W	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
X X X	FENCE	X X X
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
260 264	CONTOURS	260 264
+264 50	SPOT ELEVATION	+264 50
	DRAINAGE FLOW DIRECTION	
TC	TOP OF CURB	TC
BC	BOTTOM OF CURB	BC
TW	TOP OF WALL	TW
BW	BOTTOM OF WALL	BW
HP	HIGH POINT	H.P.
	LIMITS OF CLEARING AND GRADING	
	PATH OF OVERLAND RELIEF	

OVERLAND RELIEF NARRATIVE

IN THE EVENT OF STORM SEWER SYSTEM FAILURE, RUNOFF WILL FLOW AWAY FROM BUILDINGS IN TWO PRIMARY DIRECTIONS. IN THE SOUTHEAST AREA OF THE SITE, RUNOFF WILL FLOW TO THE SOUTHEAST TOWARDS WEST OX ROAD . FOR THE REMAINDER OF THE SITE, RUNOFF WILL FLOW NORTH , ULTIMATELY DISCHARGING INTO AN EXISTING STREAM CHANNEL ON PARK AUTHORITY PROPERTY. NO ADVERSE IMPACTS ARE EXPECTED FOR EXISTING OR PROPOSED STRUCTURES EITHER ON SITE OR ON DOWNSTREAM PROPERTIES.

30 0 15 30 60 120
1 INCH = 30'

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GRADING PLAN

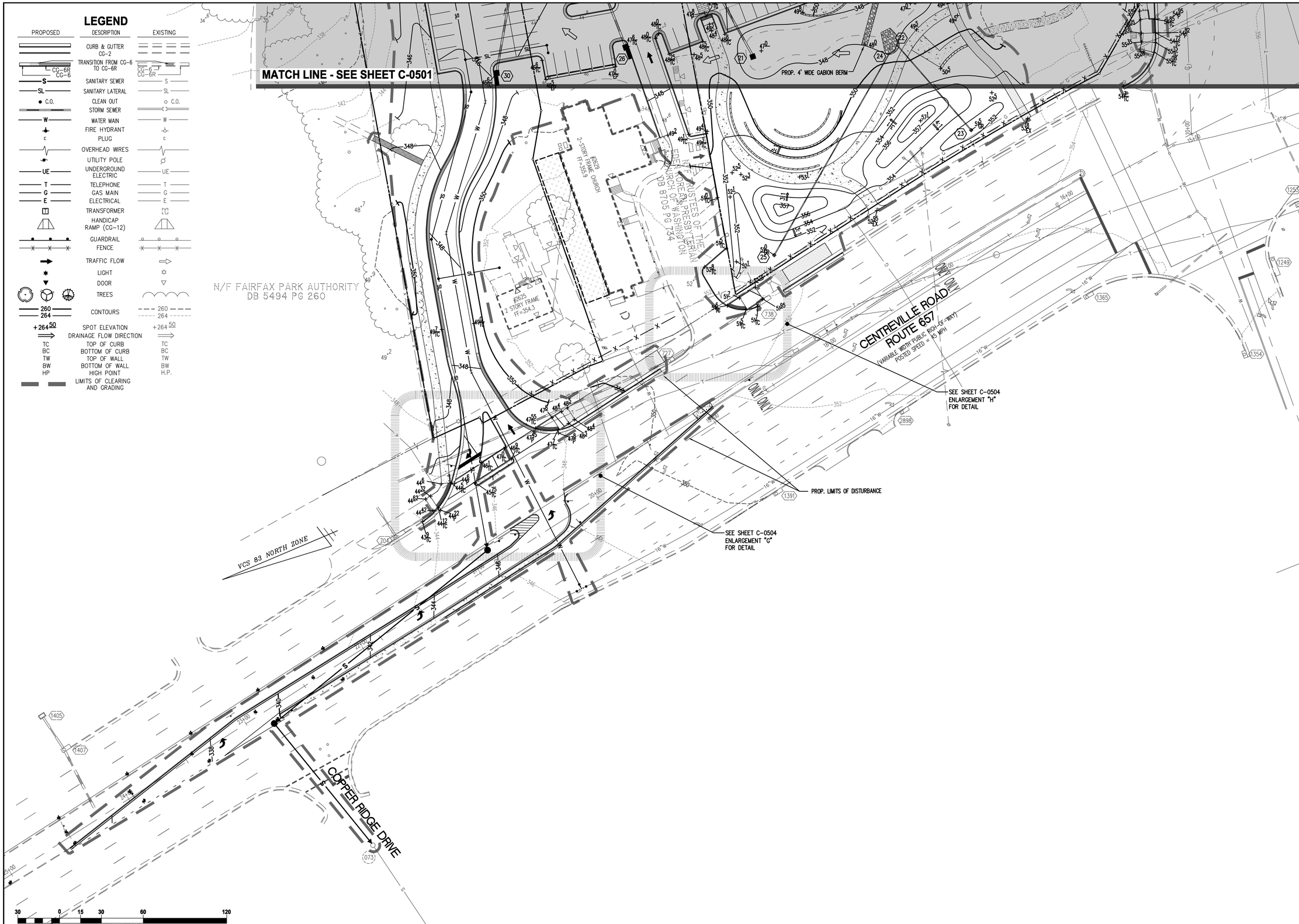
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0501.dwg

SHEET: C-0501

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
S	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
W	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
X X X	FENCE	X X X
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
260 264	CONTOURS	260 264
+264 50	SPOT ELEVATION	+264 50
	DRAINAGE FLOW DIRECTION	
TC	TOP OF CURB	TC
BC	BOTTOM OF CURB	BC
TW	TOP OF WALL	TW
BW	BOTTOM OF WALL	BW
HP	HIGH POINT	H.P.
	LIMITS OF CLEARING AND GRADING	



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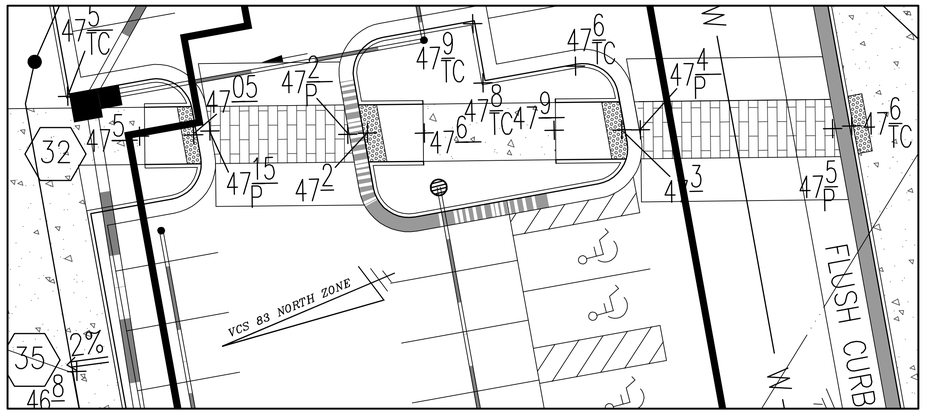
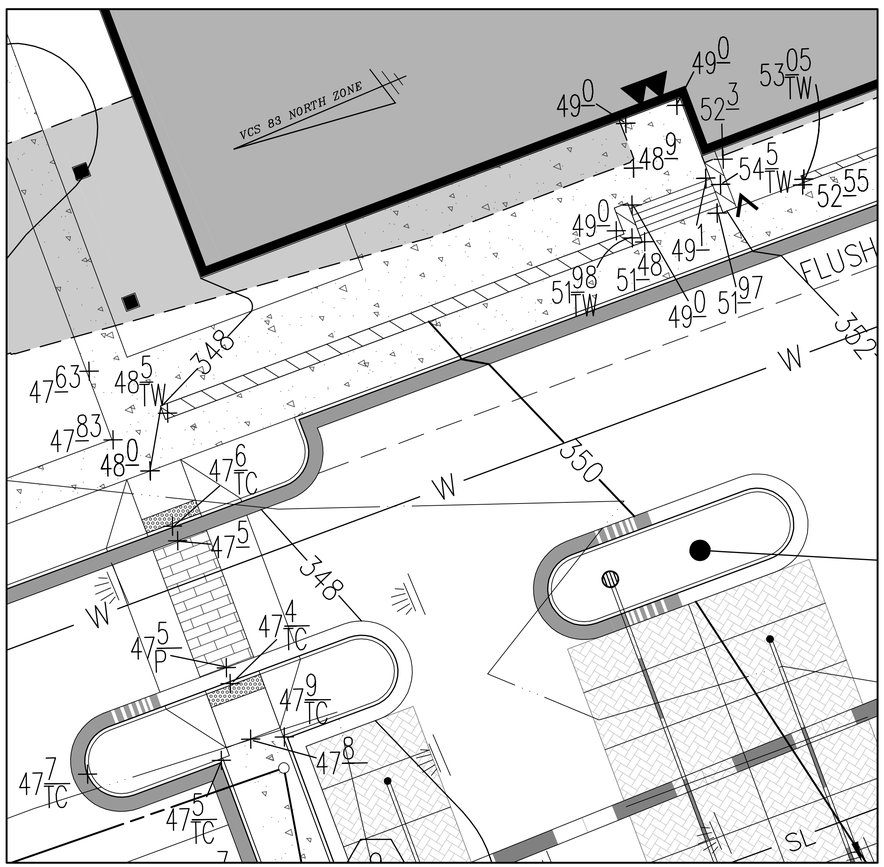
GRADING PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA



ENLARGEMENT "A"
SCALE: 1" = 10'



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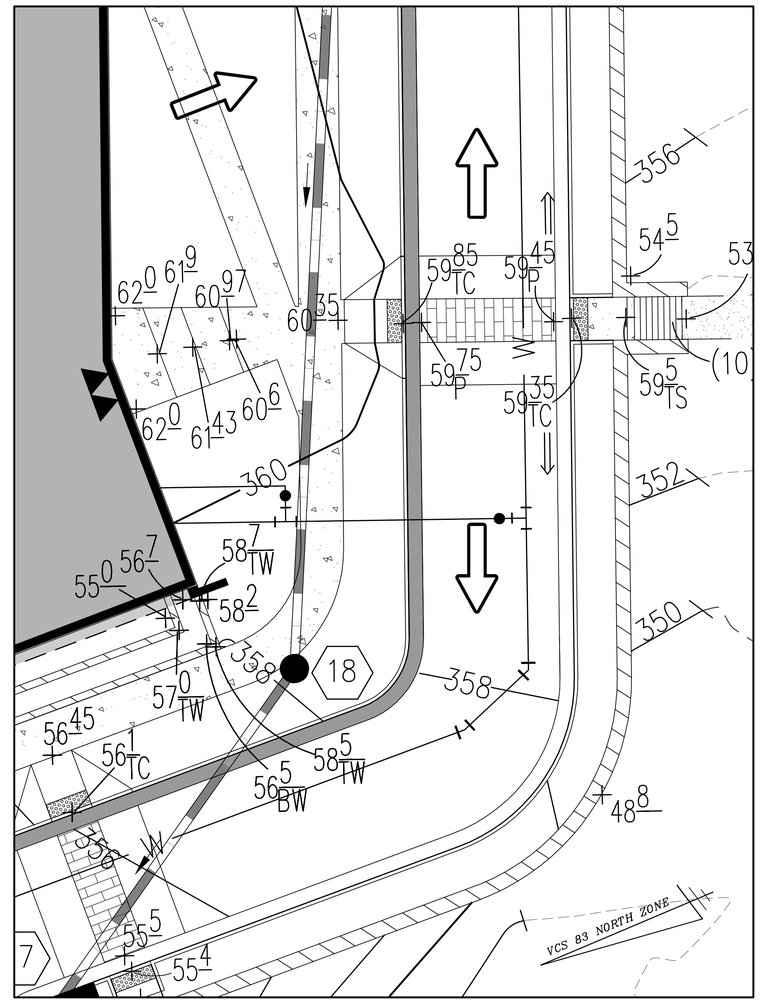
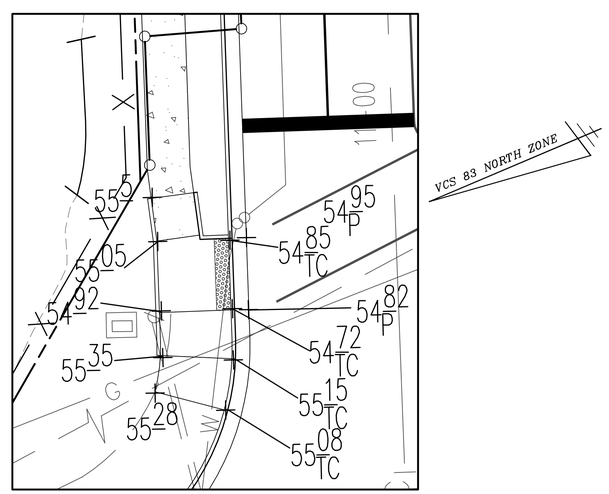
SCALE: 1" = 10'



ENLARGEMENT "D"
SCALE: 1" = 10'



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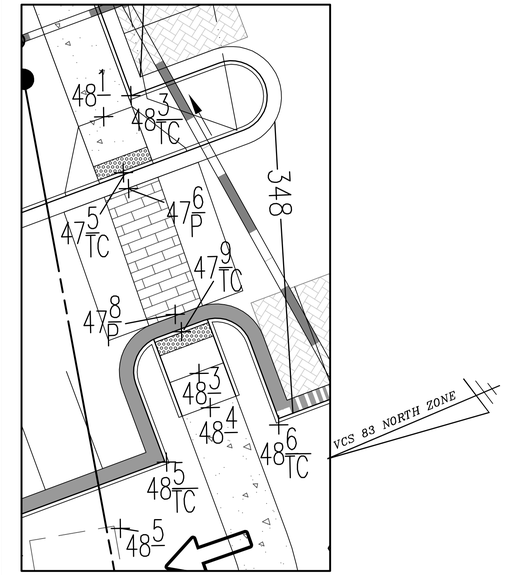
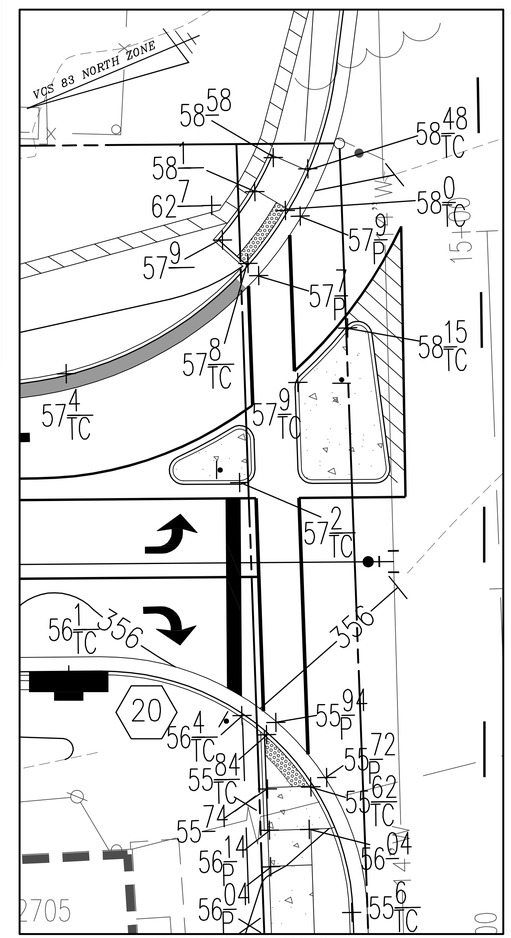
SCALE: 1" = 10'



ENLARGEMENT "C"
SCALE: 1" = 10'



ENLARGEMENT "E"
SCALE: 1" = 10'

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1 INCH = 10'

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0503.dwg

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7/18/17
PROFESSIONAL ENGINEER

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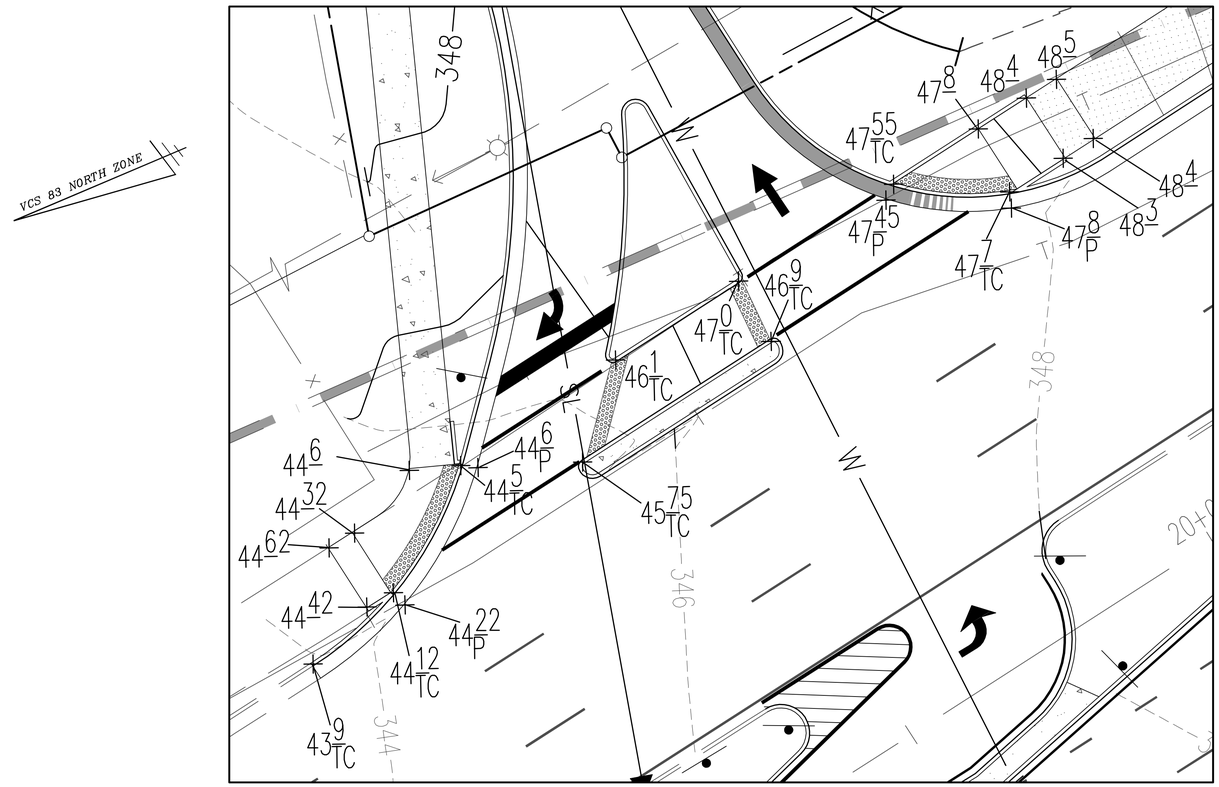
GRADING ENLARGEMENTS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0503



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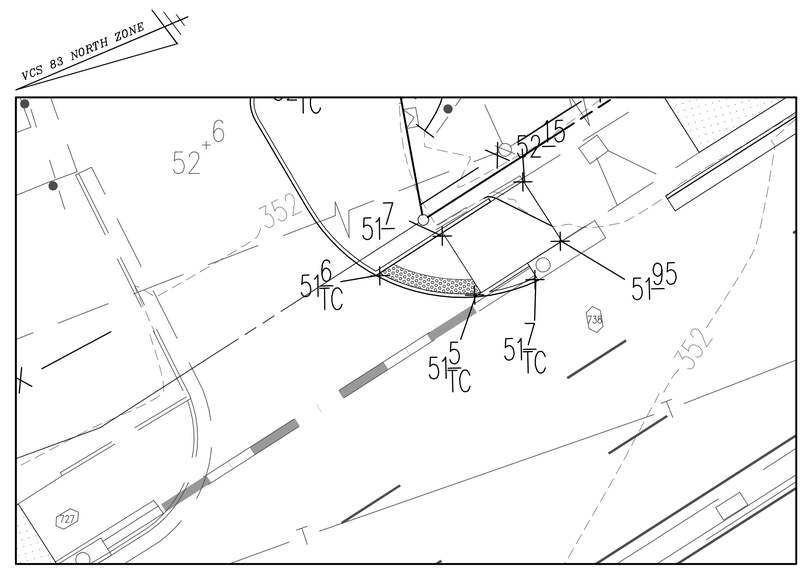

ENLARGEMENT "H"

SCALE: 1" = 10'

10 0 5 10 20

1 INCH = 10'

GRADING ENLARGEMENTS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VIRGINIA

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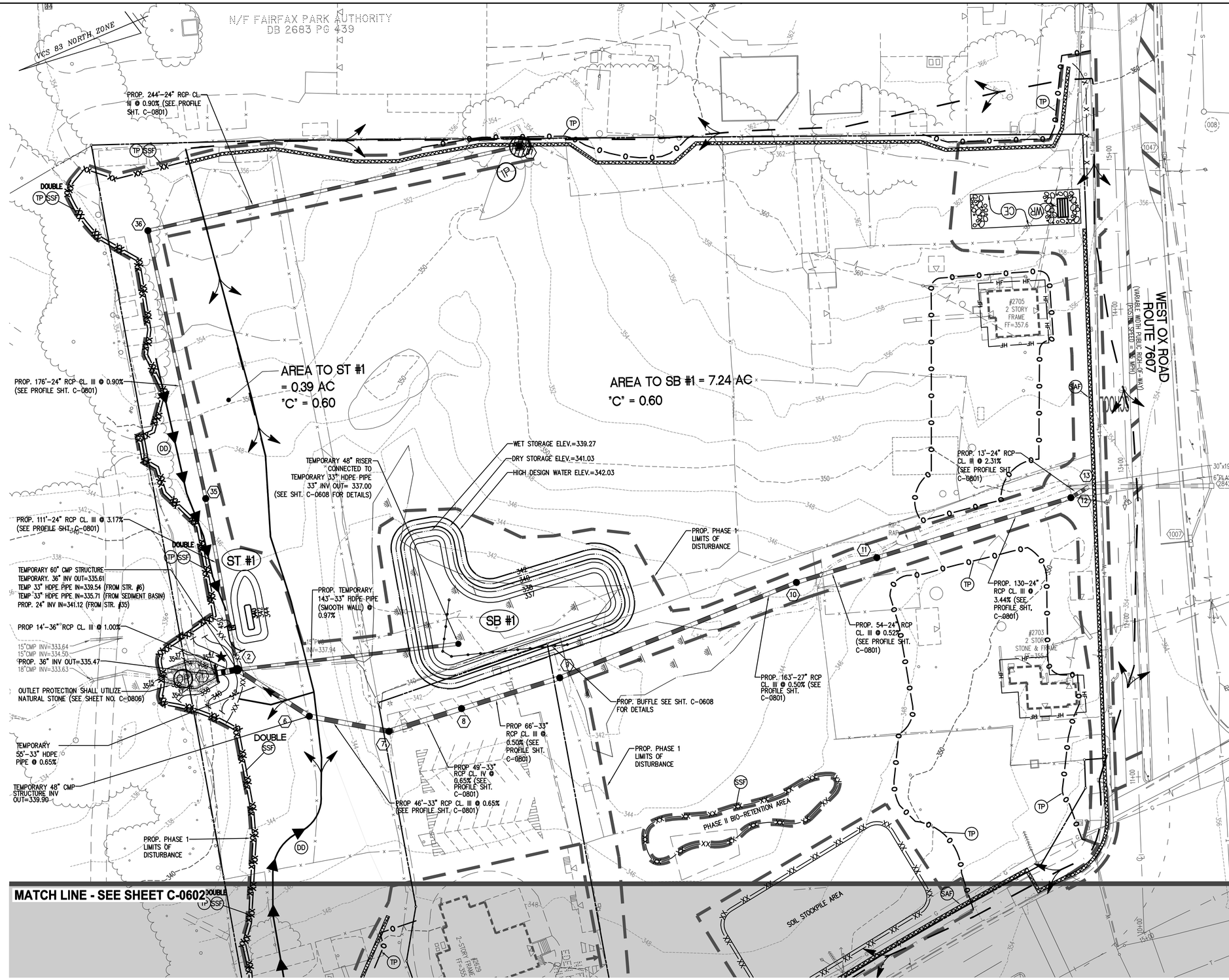
SCALE: 1" = 10' DATE: 7/18/2017 DRAWN: BP / SO / TT CHECKED: AV / BP

SHEET: C-0504

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WITH WASH RACK	
SF	SILT FENCE	—X—X—X—
SSF	SUPER SILT FENCE	—XX—XX—XX—
DOUBLE SSF	DOUBLE SUPER SILT FENCE	
	HISTORICAL FENCE	—HF—
IP	STORM DRAIN INLET PROTECTION	
CIP	CULVERT INLET PROTECTION	
TP	TREE PROTECTION	
SC	DRAINAGE DIVIDES (STORM SEWER COMPUTATIONS)	
DD	TEMPORARY DIVERSION DIKE	
ST	TEMPORARY SEDIMENT TRAP	
SAF	SAFETY FENCE	
OP	OUTLET PROTECTION	
	CRITICAL SLOPES 2:1 OR 3:1 SLOPES	★

NOTES:



30 0 15 30 60 120
1 INCH = 30'

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SCALE: 1" = 30'

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EROSION & SEDIMENT CONTROL PLAN - PHASE 1

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0601

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WITH WASH RACK	
SF	SILT FENCE	—X—X—X—
SSF	SUPER SILT FENCE	—XX—XX—XX—
DOUBLE SSF	DOUBLE SUPER SILT FENCE	
	HISTORICAL FENCE	—HF—
IP	STORM DRAIN INLET PROTECTION	
CIP	CULVERT INLET PROTECTION	
TP	TREE PROTECTION	
SC	DRAINAGE DIVIDES (STORM SEWER COMPUTATIONS)	
DD	TEMPORARY DIVERSION DIKE	
ST	TEMPORARY SEDIMENT TRAP	
SAF	SAFETY FENCE	
OP	OUTLET PROTECTION	
	CRITICAL SLOPES 2:1 OR 3:1 SLOPES	★

NOTES:

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SCALE: 1" = 30'	DATE: 7/18/2017

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EROSION & SEDIMENT CONTROL PLAN - PHASE 1

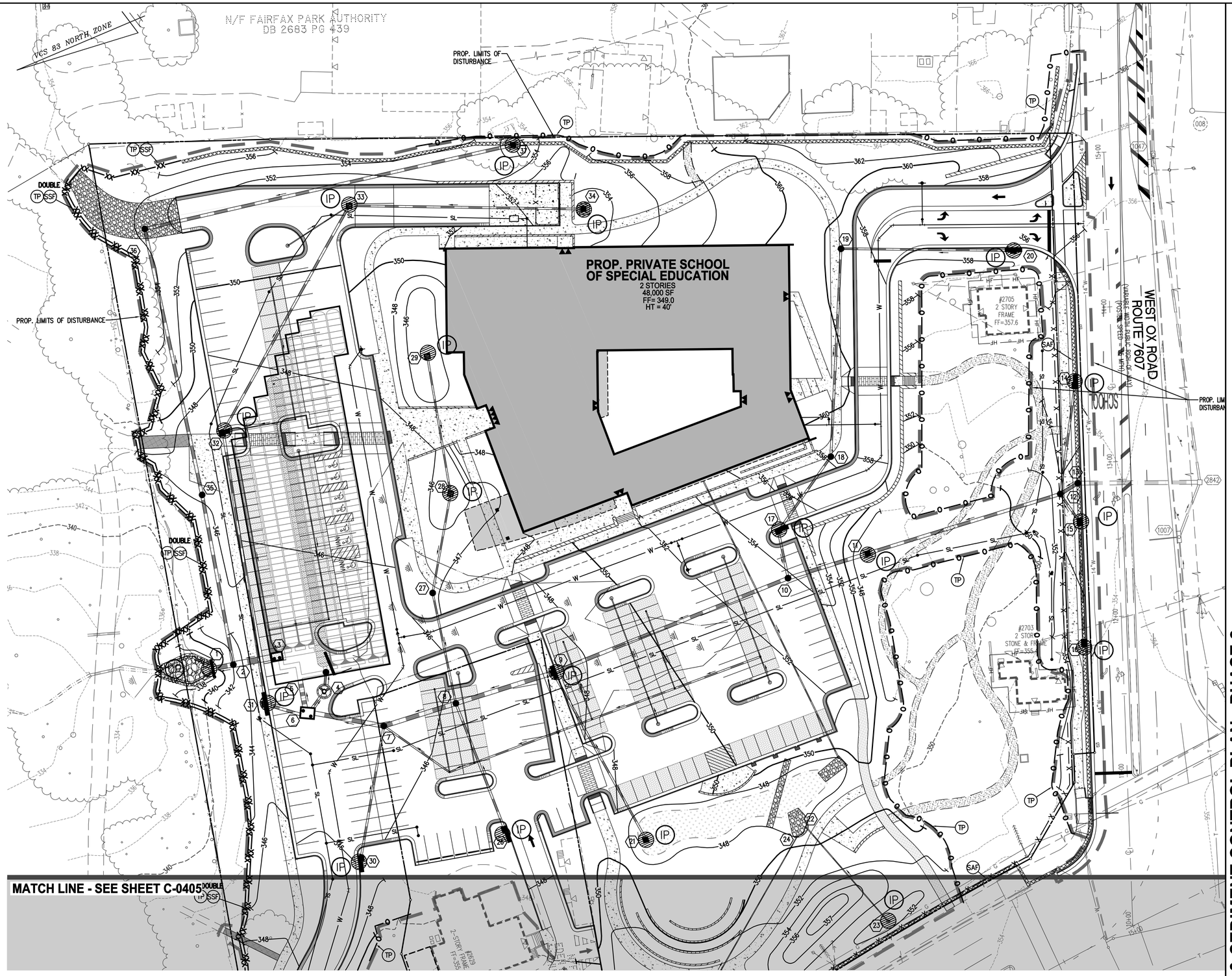
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WITH WASH RACK	
SF	SILT FENCE	—X—X—X—
SSF	SUPER SILT FENCE	—XX—XX—XX—
DOUBLE SSF	DOUBLE SUPER SILT FENCE	
	HISTORICAL FENCE	—HF—
IP	STORM DRAIN INLET PROTECTION	
CIP	CULVERT INLET PROTECTION	
TP	TREE PROTECTION	
SC	DRAINAGE DIVIDES (STORM SEWER COMPUTATIONS)	
DD	TEMPORARY DIVERSION DIKE	
ST	TEMPORARY SEDIMENT TRAP	
SAF	SAFETY FENCE	
OP	OUTLET PROTECTION	
	CRITICAL SLOPES 2:1 OR 3:1 SLOPES	★

NOTES:



30 0 15 30 60 120
1 INCH = 30'

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DATE: 7/18/2017
SCALE: 1" = 30'

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EROSION & SEDIMENT CONTROL PLAN - PHASE 2

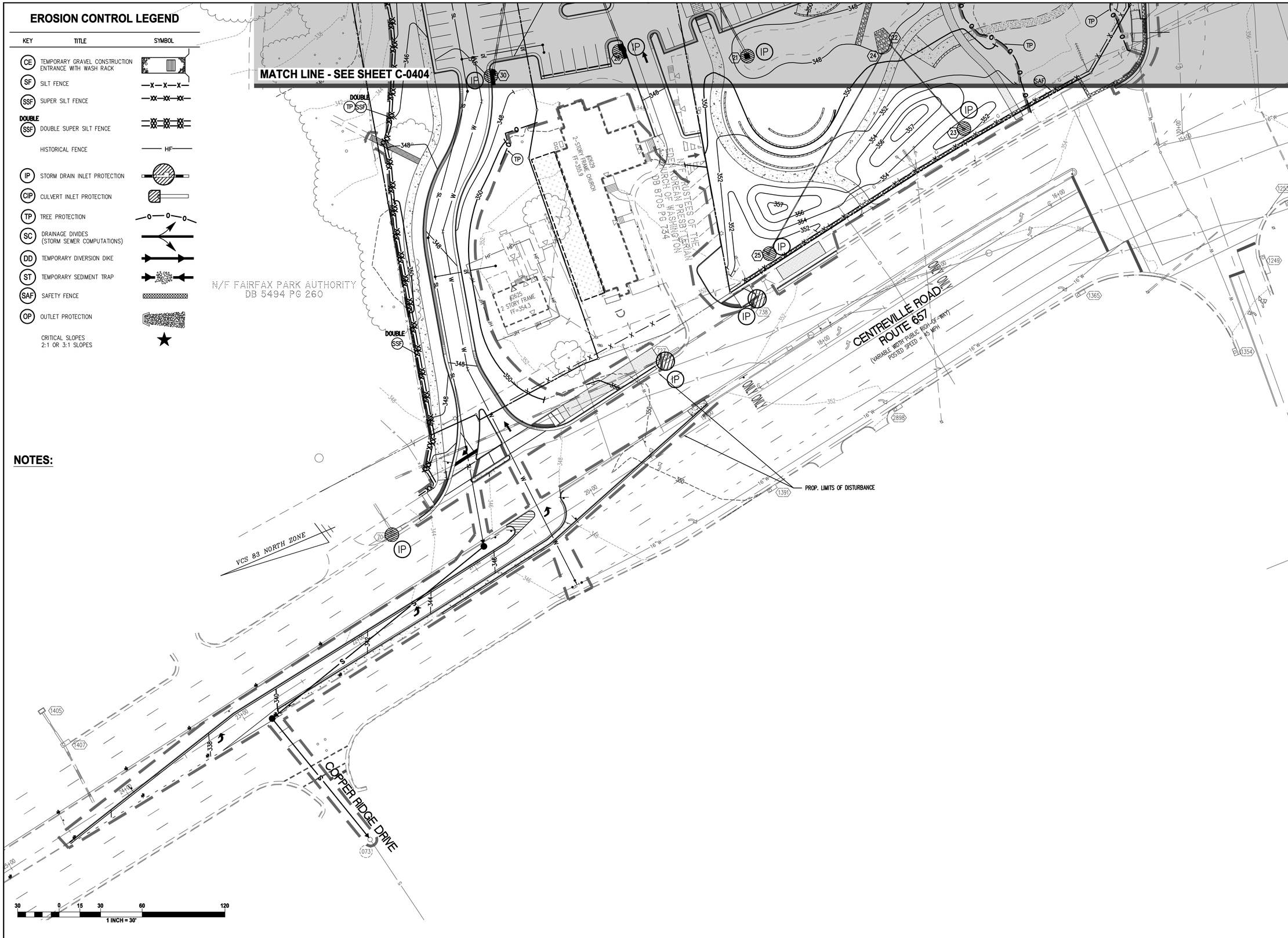
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0603

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WITH WASH RACK	
SF	SILT FENCE	—X—X—X—
SSF	SUPER SILT FENCE	—XX—XX—XX—
DOUBLE SSF	DOUBLE SUPER SILT FENCE	
	HISTORICAL FENCE	—HF—
IP	STORM DRAIN INLET PROTECTION	
CIP	CULVERT INLET PROTECTION	
TP	TREE PROTECTION	
SC	DRAINAGE DIVIDES (STORM SEWER COMPUTATIONS)	
DD	TEMPORARY DIVERSION DIKE	
ST	TEMPORARY SEDIMENT TRAP	
SAF	SAFETY FENCE	
OP	OUTLET PROTECTION	
	CRITICAL SLOPES 2:1 OR 3:1 SLOPES	★



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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

CHECKED:	DRAWN:
AV/BP	BP/SD/TT

SCALE: 1" = 30' DATE: 7/18/2017

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

EROSION & SEDIMENT CONTROL PLAN - PHASE 2

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

EROSION - SILTATION CONTROL NARRATIVE

DESCRIPTION:
THE SCOPE OF THIS PROJECT IS TO CONSTRUCT A FINE ART FACILITY BUILDING, PARKING LOT AND RIGHT OF WAY FRONTAGE ROAD IMPROVEMENT. AS WELL AS ALL UTILITIES NECESSARY TO SERVE THE PROPOSED BUILDING. APPROXIMATELY 7.45 ACRES WILL BE DISTURBED IN THIS DEVELOPMENT.

EXISTING SITE CONDITIONS:
THE EXISTING SITE WITH THREE SINGLE FAMILY HOUSES AND PART OF A CHURCH PROPERTY. MORE THAN HALF OF THE EXISTING SITE IS UNDEVELOPED. TWO OFFSITE RUNOFF ENTER TO THE SITE. MOST OF THE RUNOFF FROM THE SITE WAS COLLECTED BY AN EXISTING ONSITE CULVERT AND DISCHARGE TO OFFSITE A NATURAL STREAM WHERE IS LOCATED IN NORTHTEN OF THE SITE. THE RUNOFF DRAINS TO HORSEPEN CREEK WATERSHED.

SOILS:
SEE COVER SHEET FOR SOILS MAPPING AND DESCRIPTIONS

ADJACENT AREAS:
NORTH: ADJACENT TO FAIRFAX COUNTY PARK AUTHORITY.
SOUTH: WEST OX ROAD
WEST: CENTREVILLE ROAD
EAST: ADJACENT TO FAIRFAX COUNTY PARK AUTHORITY.

OFFSITE AREAS:
THERE ARE OFFSITE DISTURBED AREAS FOR PROPOSED RIGHT OF WAY IMPROVEMENTS.

CRITICAL AREAS:
THERE ARE NO CRITICAL AREA FOR THIS DEVELOPMENT EXCEPT A NOMINAL AREA AROUND THE OUTFALL 1 WITH A STEEP SLOP.

EROSION CONTROL PROGRAM
TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED TO ANY AREA WITHIN THE SITE NOT CONTINUALLY WORKED FOR 14 DAYS AFTER CLEARING AND ROUGH GRADING. REVEGETATION SHOULD BE ACCOMPLISHED AS SOON AS POSSIBLE.
THE EROSION CONTROL DURING CONSTRUCTION SHALL BE ACCOMPLISHED AS SOON AS POSSIBLE.
THE EROSION CONTROL DURING CONSTRUCTION SHALL BE ACCOMPLISHED IN TWO PHASES. THE FIRST PHASE SHALL BE IN PLACE THROUGH THE CLEARING AND LAND DISTURBING PROCESS. THE SECOND PHASE SHALL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION AND GRADING IS ACHIEVED.

PHASE 1

PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES, THE CONTRACTOR IS TO ESTABLISH THE FOLLOWING PHASE I EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (INCLUDING MINIMUM STANDARDS 1 THRU 19) LATEST EDITION.

1. AT FIRST, TWO CONSTRUCTION ENTRANCES, WITH A WASH RACK, SHALL BE PLACED ALONG WEST OX ROAD AND CENTREVILLE ROAD, AS SHOWN ON THE SHEET C-0601. A SPRAY NOZZLE IS TO BE PROVIDED ADJACENT TO THE WASH RACK TO CLEAN CONSTRUCTION VEHICLES BEFORE THEY ENTER TO THE RIGHT-OF-WAY. THE HOSE WILL BE CONNECTED AT THE CLOSEST WATER SOURCE. (IF NO WATER SOURCE IS AVAILABLE, THEN, A WATER TRUCK IS REQUIRED)

2. ALL THE PERIMETER CONTROL MEASURES INCLUDING SUPER SILT FENCE, TREE PROTECTION FENCE AND SAFETY FENCE SHALL BE PLACED AROUND THE SITE PERIMETER BEFORE ANY ADDITIONAL LAND DISTURBANCE ACTIVITIES (SEE LOCATION ON SHEET C-0601 AND C-0602). THE INSTALLATION OF TREE PROTECTION FENCING, INCLUDING SUPER SILT FENCE IF IT IS TO BE USED AS TREE PROTECTION FENCE, SHALL BE INSTALLED UNDER THE SUPERVISION OF THE PROJECT ARBORIST, WHO SHALL BE A CERTIFIED ARBORIST, AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED. (ZO 18-204.4)

3. INSTALL RIPRAP OUTLET PROTECTION:

   INSTALL RIPRAP OUTLET PROTECTION FOR OUTFALL #1. THE OUTFALL FROM SEDIMENT BASIN WILL CONNECT TO THE TEMPORARY 33" HDPE PIPE AT TEMPORARY STRUCTURE #2. (SEE SHEET C-0806 FOR DETAILS.

4. THERE ARE TWO EXISTING OFFSITE RUNOFF ENTER TO THE SITE. ONE IS FROM EASTERN SITE OF THE PROPERTY, THE OTHER IS FROM AN EXISTING STORM SEWER ON WEST OX ROAD. TWO NEW STORM SEWER BRANCHES ARE PROPOSED TO CONVEY THESE RUNOFFS TO OUTFALL #1. SEE SHEET C-0601 AND C-0801 FOR LOCATIONS AND PROFILES. ALL THESE STORM SEWER SYSTEM WILL REMAIN PERMANENTLY EXCEPT THE 33" PIPE BETWEEN STRUCTURE #6 AND #2 AND STRUCTURE #6 AND #2 ARE TEMPORARY IN PHASE 1. IN PHASE 2 THESE ITEMS ARE REPLACE WITH PERMANENT STRUCTURES AND PIPE.

   IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE THE SEDIMENT DEPOSITS IN THE RIPRAP PROTECTION AFTER THE ENTIRE SITE IS STABILIZED.

6. INSTALL TEMPORARY SEDIMENT BASINS #1 AND AND SEDIMENT TRAP #1 AS SHOWN ON C-0601. C-0602 (SEE SHEET C-0607 AND C-0608 FOR COMPUTATIONS AND DETAILS) DIVERSION DIKE WILL DIVERT THE RUNOFF TO THE BASINS AND TRAP. THE TEMPORARY 33" HDPE PIPE FROM THE BASIN WILL BE REMOVED AFTER THE SITE IS STABILIZED.

7. THE REMAINDER OF THE SITE AREA WILL BE LEFT UNDISTURBED UNTIL ALL CONTROL MEASURES ARE IN PLACE. WHEN ALL OF THE PHASE 1 MEASURES ARE IN PLACE, AN INSPECTION CAN BE MADE. (INSPECTION REQUESTS MUST BE MADE 48 HOURS IN ADVANCE.) FOLLOWING THE INSPECTORS APPROVAL OF THE PHASE 1 CONTROL MEASURES, COMMENCEMENT OF PHASE 2 ON CONSTRUCTION PERMIT APPROVAL WILL THEN BE AUTHORIZED.

PHASE 2

ALL CONTROL MEASURES NOTED IN PHASE ONE WILL REMAIN IN PLACE DURING THE LAND DISTURBING ACTIVITIES. SUPPLEMENTAL CONTROLS ARE TO BE PROVIDED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN - PHASE 2. (SEE SHEET C-0603 AND C-0604) ALL CONTROLS ARE TO BE ADJUSTED AS REQUIRED BY THE SITE CONSTRUCTION PROGRESS, AS DIRECTED BY THE INSPECTOR. CONTRACTOR TO MAINTAIN ADJACENT ROADS IN A MUD AND DUST FREE CONDITION AT ALL TIMES.

THE CONTRACTOR IS TO PERMANENTLY SOD NON-PAVED AREAS IN ACCORDANCE WITH 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, EXCEPT THOSE AREAS TO BE LANDSCAPED.

THIS PHASE WILL CONSIST OF THE CONSTRUCTION OF THE PROPOSED UTILITIES, BUILDING AND PARKING LOT. ALL THE EXCAVATION DEWATERING SHALL BE COLLECTED AND DIRECTED TO EROSION AND SEDIMENT CONTROL MEASURES.

ALL OF THE STORM SEWER INLETS WILL BE PROTECTED, ALL THE SUPER SILT FENCE IS TO BE INSPECTED DAILY. CRITICAL SLOPES ARE TO BE SEEDED AND MULCHED PER CRITICAL SLOPE NOTES.

THERE WILL BE A SOIL STOCKPILE NEAR THE SOUTHERN THE LIMITS OF SITE DISTURBANCE WHICH WILL BE GRADED WITH SLOPES NOT STEEPER THAN 3:1 AND SHALL BE SEEDED AND MULCHED TO ESTABLISH A GROUND COVER IMMEDIATELY AFTER THE GRADING HAS BEEN COMPLETED. THE SOIL STOCKPILE WILL REMAIN PERMANENTLY.

ALL TEMPORARY EROSION SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION AFTER THE PERMISSION OF THE INSPECTOR.

GENERAL LAND CONSERVATION NOTES

1. NO DISTURBED AREA WILL BE DENUDED FOR MORE THAN 14 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.

2. ALL EROSION AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND GRADING.

3. ALL STORM AND SANITARY LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME.

4. ELECTRIC POWER, TELEPHONE, AND GAS SUPPLY TRENCHES AREA TO BE COMPACTED, SEEDED, AND MULCHED WITHIN 5 DAYS AFTER BACKFILL.

5. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.

6. ANY DISTURBED AREA NOT COVERED BY NOTE #1 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, IS TO BE MULCHED WITH HAY OR STRAW MULCH AT THE RATE OF TWO TONS PER ACRE AND OVER-SEEDED NO LATER THAN MARCH 15TH.

7. AT THE COMPLETION OF CONSTRUCTION PROJECTS, AND PRIOR TO THE RELEASE OF THE BOND, ALL TEMPORARY SILTATION AND EROSION CONTROLS SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED.

8. IF THE MAXIMUM PERIOD FOR DENUDATION IS EXCEEDED AND ANY AREAS REMAIN EXPOSED WITHOUT COVER OR SURFACE, THE COUNTY MAY (IN THE EVENT THE DEVELOPER DOES NOT) INSTALL SUCH GROUND COVER OR OTHER STABILIZING DEVICES AND/OR MATERIAL TO THE MINIMUM EXTENT NECESSARY TO ACHIEVE EROSION AND SEDIMENT CONTROL EQUAL TO THAT WHICH WOULD HAVE BEEN FURNISHED BY THE PERMANENT COVER SHOWN ON THE APPROVED PLANS. THE COST OF ANY SUCH TEMPORARY MEASURES TAKEN BY THE COUNTY SHALL BE BORNE BY THE DEVELOPER AND SHALL BE A CHARGE AGAINST THE CONSERVATION DEPOSIT.

9. WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL IS TO BE PLACED IN STREAMBEDS. NO STOCKPILE IS PERMITTED. WHERE SOIL IS PLACED ON DOWNHILL SIDE OF TRENCHES, IT IS TO BE BACK-SLOPED TO DRAIN TOWARD THE TRENCH. WHEN NECESSARY TO DEWATER THE TRENCHES, THE PUMP DISCHARGE HOSES MUST OUTLET IN A STABILIZED AREA TO AN EXISTING STORM INLET.

EROSION AND SEDIMENT CONTROL MEASURES:

1. ALL EROSION AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO LAND DISTURBANCE ACTIVITY, FOLLOWING THE IMPLEMENTATION OF TREE PRESERVATION MEASURES.

2. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL GROUND DISTURBING ACTIVITY CEASES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS IS COMPLETE.

3. ALL STANDARDS AND SPECIFICATIONS REFER TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE FAIRFAX COUNTY CHECKLIST.

4. A CONSTRUCTION ENTRANCE SHALL BE INSTALLED AND MAINTAINED FOR THE DURATION OF ALL DISTURBING ACTIVITIES AS SHOWN ON THE PLAN PER STD. AND SPEC. NO. 3.02 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. NO CONSTRUCTION TRAFFIC SHALL BE PERMITTED TO ENTER THE SITE OTHER THAN THIS ENTRANCE UNTIL PARKING LOT IS PAVED.

5. ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE NOT TO BE CONSTRUCTED UPON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISH GRADING BY SEEDING AND MULCHING PER STD. AND SPEC. NO. 3.31 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

6. BARE SOIL SURFACES NOT AT FINISH GRADE, WHICH WILL BE EXPOSED MORE THAN 14 DAYS, SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING PER STD. AND SPEC. NO. 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

MAINTENANCE NOTES

1. MAINTENANCE OF THE TEMPORARY CONSTRUCTION ENTRANCE SHALL BE AS REQUIRED TO PREVENT MUD DEPOSITS IN THE RIGHT-OF-WAY.

3. INLET PROTECTION SHALL BE INSPECTED AT THE END OF EACH DAY AND AFTER EACH RAINFALL AND REQUIRED REPAIRS MADE IMMEDIATELY.

4. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED IN PLACE UNTIL GROUND DISTURBING CONSTRUCTION AND PERMANENT STABILIZATION IS COMPLETE AND SHALL BE REMOVED BY PERMISSION OF THE COUNTY INSPECTOR.

5. FILTER STONE SHALL BE REGULARLY CHECKED TO ENSURE THAT FILTRATION PERFORMANCE IS MAINTAINED. STONE CHOKED WITH SEDIMENT SHALL BE REMOVED AND CLEANED OR REPLACED.

SEEDING, MULCH AND SOD SPECIFICATION

Specifications

Prior to seeding, install necessary erosion control practices such as dikes, waterways, and basins.

Plant Selection

Select plants appropriate to the season and site conditions from Tables 3.31-B and 3.31-C. Note that Table 3.31-B presents plants which can be used without extensive evaluation of site conditions; Table 3.31-C presents more in-depth information on the plant materials.

Seedbed Preparation

To control erosion on bare soil surfaces, plants must be able to germinate and grow. Seedbed preparation is essential.

1. **Liming: An evaluation should be conducted to determine if lime is necessary for temporary seeding. In most soils, it takes up to 6 months for a pH adjustment to occur following the application of lime. Therefore, it may be difficult to justify the cost of liming a temporary site, especially when the soil will later be moved and regraded. The following table may be used to determine the actual need along with suggested application rates.**

2. **Fertilizer: Shall be applied as 600 lbs./acre of 10-20-10 (14 lbs./1,000 sq. ft.) or equivalent nutrients. Lime and fertilizer shall be incorporated into the top 2 to 4 inches of the soil if possible.**

3. **Surface Roughening: If the area has been recently loosened or disturbed, no further roughening is required. When the area is compacted, crusted, or hardened, the soil surface shall be loosened by discing, raking, harrowing, or other acceptable means (see SURFACE ROUGHENING, Std. & Spec. 3.29).**

4. **Tracking: Tracking with bulldozer cleats is most effective on sandy soils. This practice often causes undue compaction of the soil surface, especially in clayey soils, and does not aid plant growth as effectively as other methods of surface roughening.**

Seeding

Seed shall be evenly applied with a broadcast seeder, drill, cultipacker seeder or hydroseeder. Small grains shall be planted no more than 1½ inches deep. Small seeds, such as Kentucky Bluegrass, should be planted no more than 1/4 inch deep. Other Grasses and Legumes should be planted from 1/4 inch to 1/2 inch deep.

Mulching

1. **Seedings made in fall for winter cover and during hot and dry summer months shall be mulched according to MULCHING, Std. & Spec. 3.35, except that hydromulches (fiber mulch) will not be considered adequate. Straw mulch should be used during these periods.**

2. **Temporary seedings made under favorable soil and site conditions during optimum spring and fall seeding dates may not require mulch.**

Sod Installation (See Plate 3.33-1)

1. **Sod should not be laid on soil surfaces that are frozen.**

2. **During periods of high temperature, the soil shall be lightly irrigated immediately prior to laying the sod, to cool the soil and reduce root burning and dieback.**

3. **The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Care shall be exercised to ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause drying of the roots.**

4. **On slopes 3:1 or greater, or wherever erosion may be a problem, sod shall be laid with staggered joints and secured by stapling or other approved methods. Sod shall be installed with the length perpendicular to the slope (on the contour).**

5. **As sodding of clearly defined areas is completed, sod shall be rolled or tamped to provide firm contact between roots and soil.**

6. **After rolling, sod shall be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches below the sod is thoroughly wet.**

7. **Until such time a good root system becomes developed, in the absence of adequate rainfall, watering shall be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.**

8. **The first mowing shall not be attempted until the sod is firmly rooted, usually 2-3 weeks. Not more than one third of the grass leaf shall be removed at any one cutting.**

FAIRFAX COUNTY PRIORITY RATING FORM FOR EROSION & SEDIMENT CONTROL

PROJECT NAME: THE FLORIS CONSERVATORY FOR FINE ARTS A SCIMORES ACADEMY PROJECT NUMBER: _____
TAX MAP: 25-1 EVALUATOR: _____ DATE: _____

A. Percentage of Denuded Area to Total Site Area

		Rating
• > 60%	X	5
• 31 to 60%		3
• 10 to 30%		1

If the denuded area is greater than 10 acres, the project is initially rated a high priority.

B. Watercourse Crossing

		Rating
Yes		*
No	X	0

*If yes, project is initially rated a high priority.

C. Distance of Denuded Area to Downstream Adjacent Property

		Rating
• < 50-feet	X	5
• 50 to 150-feet		3
• > 150-feet		0

D. Distance of Any Portion of the Denuded Area to a Natural Watercourse

		Rating
• < 50-feet		5
• 50 to 150-feet		3
• > 150- feet	X	0

E. *Minimum Vegetative Buffer (Trees, Shrubs, Grasses and other Plants)

		Rating
• < 50-feet		0
• 50 to 150-feet		-3
• > 150-feet	X	-5

* Vegetation in Resource Protection Areas are not to be included as vegetative buffers for this application.

F. Distance Between the Site Outfall and any Downstream, Wet Pond, Wetland, Parkland or other Land Deemed Environmentally Sensitive by the Director.

		Rating
• < 2,500-feet	X	5
• 2,500 to 5,000-feet		3
• > 5,000-feet		0

G. Critical Slopes Within 50-feet of Adjacent Property

- Are there any slopes of 0 to 7%; greater than or equal to 300-feet in length; or,
- Are there any slopes of 7 to 15%; greater than or equal to 150-feet in length; or,
- Are there any slopes greater than 15% and greater than or equal to 75-feet in length

		Rating
If Yes to any of the above	X	5
Not Applicable if critical slope is > 50-feet from adjacent property		0

H. Soil Erodibility (Based on Physiographic Setting)

Physiographic Province		Rating
• Triassic Basin	X	5
• Piedmont Upland		3
• Coastal Plain		1

TOTAL/OVERALL RATING: 25

OVERALL RATING
If > 22
If > 14 and < or = to 22
If < or = to 14

PRIORITY (Mark with an "X")
High [X]
Medium [ ]
Low [ ]

PROJECT PRIORITY LEVEL: _____

*** Reserved for Fairfax County use ***
APPROVED BY: _____ *DATE:* _____
Plan Reviewer

Descriptions on Reverse Side

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

PLAN REVIEW MS CHECKLIST
(For Local Program Review Only)
Local Program:

Project Name and Description:
THE FLORIS CONSERVATORY FOR FINE ARTS A SCIMORES ACADEMY

Reviewed By: | **Review Date:**
File Number: | **Date Plan Approved:** | **RLD Identified?**

In accordance with the VESCH narrative checklist, the project narrative is: Adequate ___ Inadequate ___
Does the plan address the maintenance responsibilities of the permittee? Yes ___ No ___

MS	YES	NO	NA	MINIMUM STANDARD DESCRIPTION (4VAC50-30-40)
1	X			Have temporary and permanent stabilization been addressed?
	X			Are practices shown on the plan?
	X			Are limits of clearing and grading shown on the plan?
	X			Seed specifications?
2	X			Are soil stockpiles and borrow areas stabilized with sediment trapping measures?
3	X			Has establishment of permanent vegetation been addressed?
4	X			Are sediment trapping facilities to be constructed as a first step in land disturbing activity?
5	X			Has stabilization of earthen structures been addressed?
6	X			Are sediment traps and basins properly sized?
	X			Are detailed drawings in the plans?
	X			Are calculations included in the narrative or the plan?
7	X			Has design (i.e. with surface roughening, outlet protection) of cut and fill slopes been adequately addressed to minimize erosion?
8			X	Are paved flumes, channels, or slope drains required where necessary?
9	X			Has the potential for water seeps from slope faces been addressed with adequate drainage or other protection?
10	X			Is adequate inlet protection required on all storm sewer inlets prior to becoming operational?
11	X			Are channel lining and/or outlet protection required on stormwater conveyance channels?
12	X			Are in-stream construction measures required so that channel damage is minimized?
13	X			Are temporary stream crossings of non-erodible material required where applicable?
14	X			Is there evidence that all applicable federal, state, and local regulations pertaining to working in or crossing live watercourses have been addressed?
15	X			Has restabilization of areas subject to in-stream construction been adequately addressed?
16	X			Is stabilization and dewatering of utility trenches addressed?
17	X			Is the transport of soil and mud onto public roadways properly controlled (i.e. construction entrances, wash racks, daily cleaning of roadways, transport of sediment to a trapping facility)?
18	X			Has the removal of temporary control structures been addressed?
	X			Has maintenance of control structures been addressed?
19	X			Are properties and waterways downstream from development described and adequately protected from erosion and sediment deposition due to increases in stormwater runoff volume, velocity and peak flow rate?
	X			Are offsite, contributing areas accounted for?
	X			Are offsite, receiving areas and channels described and adequate?
	X			Are calculations included in the narrative or plan?

COMMENTS: (use back if additional space is needed)

Rev. 09-14-04

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
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COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 7/18/17 PROFESSIONAL ENGINEER

SCALE: AS NOTED | DATE: 7/18/2017 | DRAWN: BP / SD / TT | CHECKED: AV / BP

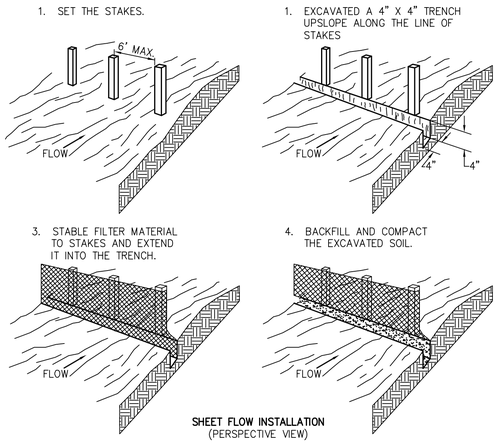
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

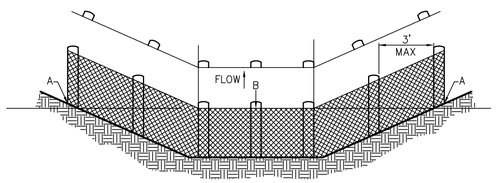
EROSION & SEDIMENT CONTROL NARRATIVE & DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0605



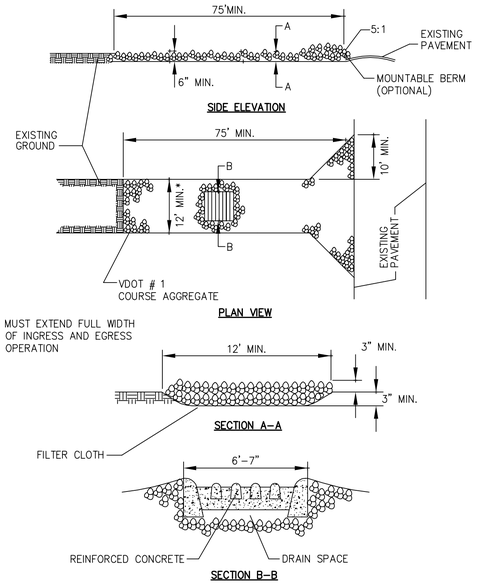
SHEET FLOW INSTALLATION
(PERSPECTIVE VIEW)



POINTS A SHOULD BE HIGHER THAN POINT B.
DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

CONSTRUCTION OF SILT FENCE (WITHOUT WIRE SUPPORT)

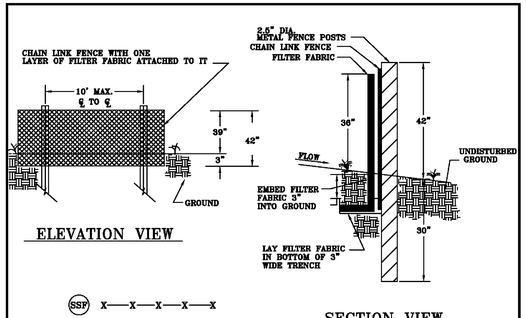
NOT TO SCALE



CONSTRUCTION ENTRANCE

NOT TO SCALE

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



SUPER SILT FENCE

NO SCALE

FENCING

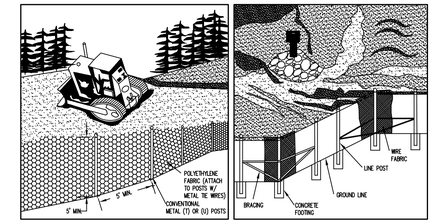
Chain link fence shall be 39" above grade with 3" embedded for a total fabric width of 42". The post shall be 42" above grade with 30" placed below grade (without concrete) for a total length of 72".

NOTES

1. Chain link fence shall be fastened securely to fence posts with wire ties.
2. Filter fabric shall be fastened securely to chain link fence with ties spaced horizontally 24" at the top and midsection.
3. Physical properties of the filter fabric shall conform to the latest edition of THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.
4. When two sections of filter fabric adjoin each other, they shall be overlapped by 6".
5. Maintenance shall be performed as needed and material shall be removed when sediment build-up reaches 50% of the height of the super silt fence.

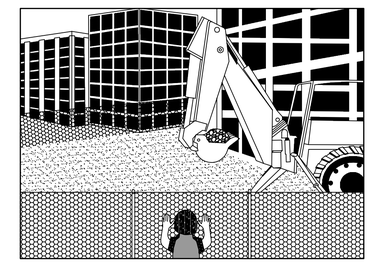
Ref. Sec. 11-0110.3, 11-0110.3J	SUPER SILT FENCE NO SCALE	PLATE NO.	STD. NO.
Rev. 1-00, 2011 Reprint		7-11	

PERSPECTIVE VIEW

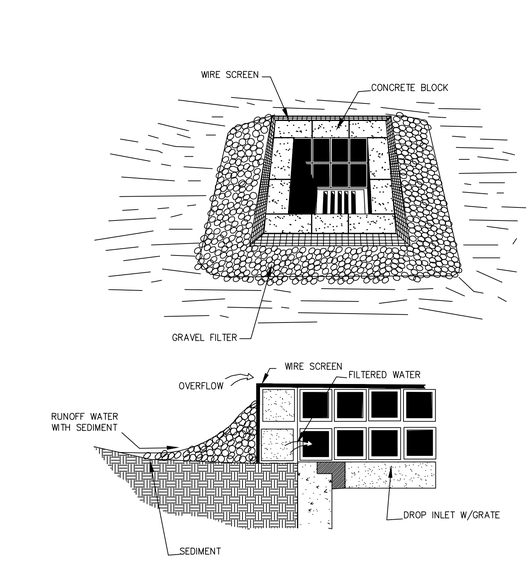


PERSPECTIVE VIEW
PLASTIC FENCE

PERSPECTIVE VIEW
METAL FENCE



SAFETY FENCE



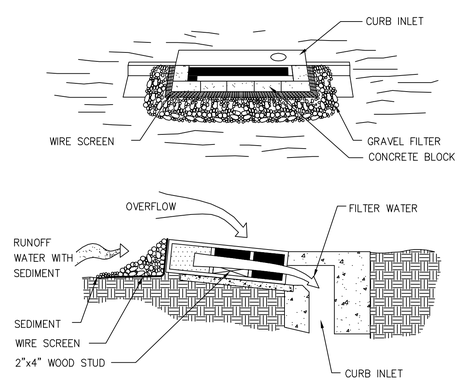
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

N.T.S.



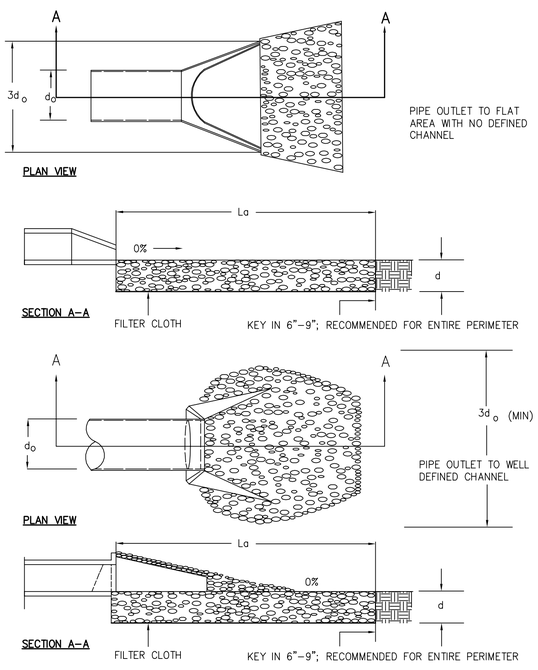
SPECIAL APPLICATION

THIS METHOD INLET PROTECTION IS APPLICABLE AT CURB INLET WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE V.D.O.T. #3, #357 OR #5 COARSE AGGREGATE

BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER

NOT TO SCALE

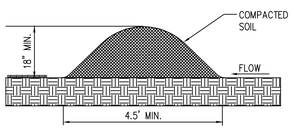


NOTES

1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.10-3 AND 3.18-4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

PIPE OUTLET CONDITIONS

NOT TO SCALE



SOURCE : VA. DSWC

SIDE SLOPES

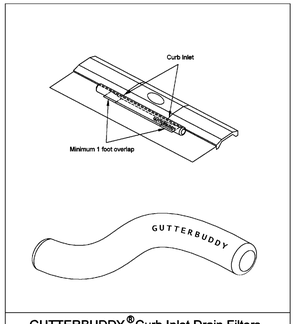
1 1/2 : 1 OR FLATTER, ALONG WITH A MINIMUM BASE WIDTH OF 4.5 FEET (SEE PLATE 3.09-1)

GRADE

THE CHANNEL BEHIND THE DIKE SHALL HAVE A POSSITIVE GRADE TO A STABILIZED OUTLET. IF THE CHANNEL SLOPE IS LESS THAN OR EQUAL TO 2%, NO STABILIZATION IS REQUIRED. IF THE SLOPE IS GREATER THAN 2%, THE CHANNEL SHALL BE STABILIZED IN ACCORDANCE WITH STANDARD AND SPECIFICATION 3.17, STORMWATER CONVEYANCE CHANNEL.

TEMPORARY DIVERSION DIKE

N.T.S.



GUTTERBUDDY® Curb Inlet Drain Filters

PROJECT:		
CITY:		DR. BY:
STATE:	DATE:	DR. NO:

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

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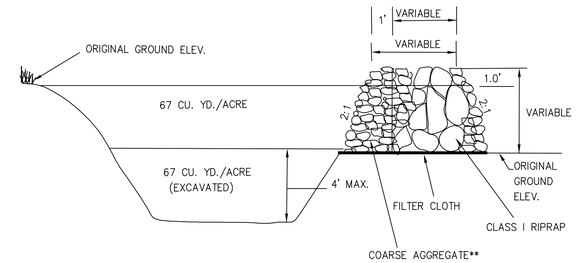
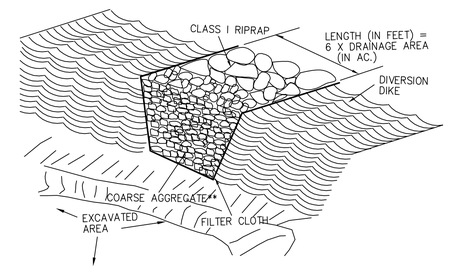
EROSION & SEDIMENT CONTROL DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0606



CROSS SECTION OF OUTLET



OUTLET (PERSPECTIVE VIEW)

TEMPORARY SEDIMENT TRAP

NOT TO SCALE

STAGE	ELEVATION	AREA (SF)	STORAGE
0	340.0	63	0
1.0	341.0	152	108 CF
2.0	342.0	404	386 CF
3.0	343.0	603	890 CF
4.0	344.0	824	1,604 CF

STORAGE VOLUME REQUIRED

DRAINAGE AREA TO SEDIMENT TRAP = 0.39 AC.

STORAGE REQUIRED = 134 CY/ACRE

0.39 X 134 = 52 C.Y. OR 1,404 C.F.

STORAGE PROVIDED = 1,604 C.F.

SEDIMENT TRAP #1

EROSION AND SEDIMENT CONTROL COMPUTATIONS AND DETAILS

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SHEET: C-0607

	PROJECT:	SCIMORE	
	BASIN#:	#1	
	LOCATION:	C-0604	
	TOTAL AREA DRAINING TO BASIN:	7.24	ACRES
1	**WET STORAGE REQUIRED**		
	MINIMUM REQUIRED VOLUME = 67 C.Y. x TOTAL DRAINAGE AREA:		
	67 C.Y. PER ACRE	67	CY/ACRE
	X DRAINAGE AREA	7.24	ACRE
		485.08	CY
2	**WET STORAGE PROVIDED**		
	PROVIDED WET STORAGE VOLUME	**465**	**CY**
	PROVIDED AT ELEVATION	**339.27**	**FT**
3	**AVAILABLE VOLUME BEFORE CLEANOUT REQUIRED:**		
	33 C.Y. PER ACRE	33	CY/AC
	x DRAINAGE AREA	7.24	AC
	= AVAILABLE VOLUME BEFORE CLENOUT IS REQUIRED	238.92	CY
4	**ELEVATION CORRESPONDING TO CLEANOUT LEVEL**	**338.26**	**FT**
5	**DISTANCE FROM INVERT OF DEWATERING ORIFICE TO CLEANOUT LEVEL**	1.01	FT
	(MINIMUM = 1.0 FT)		
6	**DRY STORAGE REQUIRED**		
	MINIMUM REQUIRED VOLUME = 67 C.Y. x TOTAL DRAINAGE AREA		
	67 C.Y. PER ACRE	67	CY/ACRE
	X DRAINAGE AREA	7.24	ACRE
		485.08	CY
7	**DRY STORAGE PROVIDED**		
	PROVIDED DRY STORAGE VOLUME	**486**	**CY**
	PROVIDED AT ELEVATION	**341.03**	**FT**
8	**TOTAL AVAILABLE BASIN VOLUME AT CREST OF RISER, ***	**951**	**CY**
	PROVIDED AT ELEVATION	**341.03**	**FT**
	* MINIMUM = 134 CY /AC OF TOTAL DRAINAGE AREA		
9	**DIAMETER OF DEWATERING ORIFICE**	**4.00**	**IN**
	(SEE DEWATERING ORIFICE CALCULATIONS)		
10	**DIAMETER OF FLEXIBLE TUBING**	**6.00**	**IN**
	(DIAMETER OF DEWATERING ORIFICE PLUS 2 INCHES)		
	PRELIMINARY DESIGN ELEVATIONS		
11	**CREST OF RISER**	**341.03**	**FT**
	TOP OF DAM	**344.03**	**FT**
	DESIGN HIGH WATER	**342.03**	**FT**
	UPSTREAM TOE OF DAM	**330**	**FT**
	BASIN SHAPE		

12	LENGTH OF FLOW / EFFECTIVE WIDTH (L/We)	EAST	SOUTH	
	LENGTH	82	79	FT
	AREA	9143	9143	SF
	EFFECTIVE WIDTH	112	115.73	FT
	L/We	0.73	0.68	
	BAFFLES ARE USED	YES	YES	

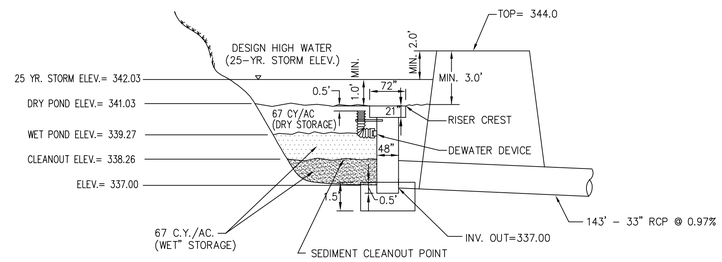
	RUNOFF		
13	Q2 = D.A. x 0.60 x 5.45 IN/HR		
	(FROM PFM SECTION 11-0109.5)	23.67	CFS
14	Q25 = D.A. x 0.60 x 8.27 IN/HR	**35.92**	**CFS**
	PRINCIPLE SPILLWAY DESIGN		
15	WITH EMERGENCY SPILLWAY, REQUIRED SPILLWAY CAPACITY = Q2	-	CFS
	(RISER AND BARREL)		
	WITHOUT EMERGENCY SPILLWAY, REQUIRED SPILLWAY CAPACITY = Q25	**35.92**	**CFS**
	(RISER AND BARREL)		
16	WITH EMERGENCY SPILLWAY:		
	ASSUMED AVAILABLE HEAD (h)		
	h = CREST OF EMERGENCY SPILLWAY ELEVATION - CREST OF RISER ELEVATION	-	FT
	(MINIMUM = 1 FT)		
	WITHOUT EMERGENCY SPILLWAY:		
	ASSUMED AVAILABLE HEAD (h)	1	
	h = DESIGN HIGH WATER ELEVATION - CREST OF RISER ELEVATION	1	FT
	(MINIMUM = 1 FT)		
17	**RISER DIAMETER**	**48**	**IN**
	ACTUAL HEAD (FROM PLATE 3.14-8)	**1**	
	NOTE: AVOID ORIFICE FLOW CONDITIONS		
18	**BARREL LENGTH (l)**	**143**	**FT**
	HEAD (H) ON BARREL THROUGH EMBANKMENT (FROM PLATE 3.14-7)	5.5	FT
19	**BARREL DIAMETER**	**33**	**IN**
	(FROM TABLE 3.14-B [CONCRETE PIPE] OR TABLE 3.14-A [CMP]	**HDPE**	
20	**TRASH RACK AND ANTI-VORTEX DEVICE**		
	DIAMETER	**114**	**IN**
	HEIGHT	**39**	**IN**
	(FROM TABLE 3.14-D)		

	EMERGENCY SPILLWAY DESIGN		
21	REQUIRED SPILLWAY CAPACITY Qe = Q25 - Qp	-	
22	MINIMUM BOTTOM WIDTH	-	FT
	MINIMUM SLOPE OF EXIT CHANNEL	-	FT/FT
	MINIMUM LENGTH OF EXIT CHANNEL	-	FT
	FINAL DESIGN ELEVATIONS		
23	**TOP OF DAM**	**344.03**	**FT**
	DESIGN HIGH WATER ELEVATION	**342.03**	**FT**
	EMERGENCY SPILLWAY CREST	**341.03**	**FT**
	PRINCIPLE SPILLWAY CREST	**341.03**	**FT**
	CLEANOUT ELEVATION	**338.26**	**FT**
	ELEVATION OF UPSTREAM TOE OF DAM OR EXCAVATED BOTTOM OF "WET STORAGE AREA" (IF EXCAVATION WAS PERFORMED)	**337.00**	**FT**
	DIAMETER OF DEWATERING ORIFICE		
A	**TOTAL DRY STORAGE (S)**		
	VOLUME AT TOP OF DRY STORAGE	951	CY
	VOLUME AT TOP OF WET STORAGE	465	CY
	DRY STORAGE	486	CY
B	**AVERAGE DRIVING HEAD (H)**		
	CREST OF PRINCIPLE SPILLWAY	341.03	FT
	TOP OF WET STORAGE	339.27	FT
	HEAD	1.77	FT
C	**8 HOUR DRAWDOWN RATE (Q)**		
	8 HOUR DRAWDOWN TIME	28800	SEC
	RATE (VOLUME/TIME)	0.46	CFS
D	**AREA OF DEWATERING DEVICE (A)**		
	A = Q/[Cx(2gH)^0.5]	0.0712	SF
	C = 0.6		
E	**DIAMETER OF DEWATERING DEVICE (D)**		
	A = (Pi x d^2)/4		
	D = (4 x a/Pi)^0.5	0.30	FT
		3.61	IN

* USE 5 IN. DEWATERING ORIFICE - USE 7 IN. PERFORATED POLYETHYLENE DRAINAGE TUBE (2 IN. LARGER THAN DEWATERING ORIFICES PER VESCHB)

SEDIMENT BASIN #1

STAGE	ELEVATION	AREA	INCREMENTAL VOLUME	STORAGE	STORAGE
(FT)	(FT)	(SF)	(CF)	(CF)	CY
0	337.0	4343	0	0	0
1.0	338.0	5459	4901	4901	182
2.0	339.0	6630	6045	10946	405
3.0	340.0	7858	7244	18190	674
4.0	341.0	9143	8501	26690	989
5.0	342.0	10484	9814	36504	1352

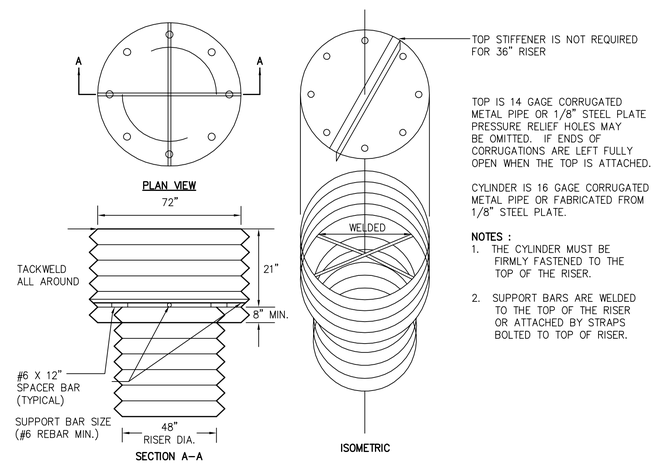


DESIGN ELEVATIONS WITHOUT EMERGENCY SPILLWAY

(RISER PASSES 25 - YR. EVENT)

N.T.S.

SEDIMENT BASIN SCHEMATIC ELEVATIONS

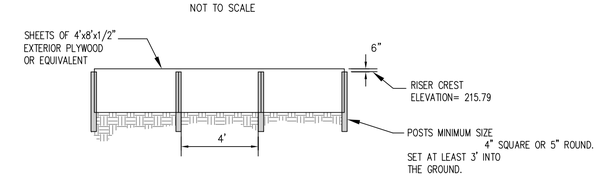


ANTI-VORTEX DEVICE DESIGN
(TEMPORARY SEDIMENT BASIN DESIGN ONLY)

NOT TO SCALE

BAFFLE DETAIL FOR SEDIMENT BASIN SECTION

NOT TO SCALE

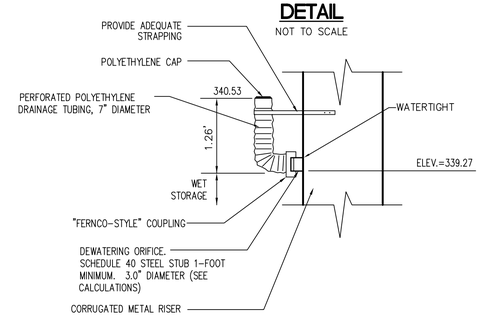


(SEE EROSION AND SEDIMENT CONTROL - C-0604 FOR LOCATION OF BAFFLES)

DEWATERING SYSTEM FOR SEDIMENT BASIN

DETAIL

NOT TO SCALE



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EROSION AND SEDIMENT CONTROL COMPUTATIONS AND DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0608

OUTFALL NARRATIVE

EXISTING CONDITIONS:

THE SITE CURRENTLY CONSISTS OF THREE SINGLE FAMILY PROPERTIES AND PART OF A CHURCH PROPERTY. MOST OF THE RUNOFF FROM THE SITE FLOWS TO A NATURAL STREAM (OUTFALL 1). THE REMAINDER OF THE SITE RUNOFF LEAVES THE SITE AS SHEET FLOW BEFORE BEING COLLECTED IN A STORM SEWER SYSTEM ON CENTERVILLE ROAD WHICH IS LABELLED OUTFALL 2. REFER TO THE OUTFALL MAP THIS SHEET FOR OUTFALL ROUTES. CONSIDERABLE OFFSITE RUNOFF FROM THE SOUTH IS RELEASED ONTO THE SITE AS SHEET FLOW COMING FROM WEST OX ROAD AS WELL AS FROM A CULVERT THAT OUTLETS ON THE PROPERTY. THE SITE ALSO RECEIVES SIGNIFICANT RUNOFF FROM FRYING PAN PARK TO THE EAST VIA A CULVERT THAT OUTLETS ONLY A FEW FEET FROM THE SITE PROPERTY LINE, AS WELL AS SOME SHEET FLOW. MUCH OF THE RUNOFF FLOWING ACROSS THE SITE IS COLLECTED BY AN ONSITE CULVERT THAT RELEASES RUNOFF AT THE SITE'S NORTHERN PROPERTY LINE. THE RUNOFF RELEASED FROM THE CULVERT FLOWS NORTHWARD IN A SMALL NATURAL CHANNEL IN FLORIS COMMUNITY PARK BEFORE JOINING FRYING PAN BRANCH WHICH IS PART OF THE HORSEPEN CREEK WATERSHED. OUTFALL 2 BEGINS IN THE SITE'S NORTHWEST CORNER AS A STORM SEWER IN CENTREVILLE ROAD THAT QUICKLY OUTLETS INTO A DRY DETENTION POND RECENTLY CONSTRUCTED BY VDOT JUST NORTH OF THE SITE. FROM THERE THE OUTFALL CONSISTS OF STORM SEWER SYSTEMS AND MANMADE CHANNEL FLOWING NORTHWARD ALONG CENTREVILLE ROAD BEFORE OUTLETTING INTO THE FRYING PAN BRANCH BOX CULVERT UNDER CENTREVILLE ROAD.

PROPOSED CONDITIONS:

THE EXISTING DRAINAGE DIVIDE WILL BE HONORED WITH A LITTLE SITE RUNOFF CONTINUING TO LEAVE FROM THE NORTHWEST CORNER OF THE SITE AS SHEET FLOW BEFORE BEING COLLECTED BY THE STORM SEWER SYSTEM IN CENTERVILLE ROAD (OUTFALL 2). MOST SITE RUNOFF WILL BE COLLECTED VIA A PROPOSED STORM SEWER SYSTEM THAT WILL OUTLET INTO THE SAME NATURAL CHANNEL FLOWING ACROSS FLORIS COMMUNITY PARK THAT IT CURRENTLY DRAINS TO. THE EXISTING CULVERT FROM FRYING PAN PARK ON THE EAST SIDE WILL BE EXTENDED WITH PROPOSED STORM SEWER ACROSS THE NORTHEAST CORNER OF THE SITE. LIKEWISE, THE WEST OX ROAD CULVERT THAT CURRENTLY OUTLETS ON THE SOUTHERN PROPERTY LINE WILL BE EXTENDED NORTHWARD WITH PROPSED STORM SEWER. IN ADDITION TO THE OFFSITE RUNOFF, THIS NEW STORM SEWER SYSTEM WILL COLLECT A LARGE MAJORITY OF SITE RUNOFF FROM VARIOUS INLETS AS IT RUNS ACROSS THE SITE. THIS STORM SEWER WILL RELEASE THE SITE AND OFFSITE RUNOFF INTO A PROPOSED ONSITE STORMWATER DETENTION FACILITY BEFORE BEING RELEASED INTO THE SAME NATURAL CHANNEL. THE DETENTION FACILITY, TOGETHER WITH PROPOSED RUNOFF REDUCTION MEASURES SUCH AS PERMEABLE PAVEMENT AND BIORETENTION, WILL REDUCE THE SITE PEAK RUNOFF RATES TO OUTFALL 1 TO LESS THAN GOOD FORESTED CONDITION LEVELS IN ACCORDANCE WITH THE COUNTY'S CHAPTER 124 STORMWATER MANAGEMENT ORDINANCE.

EXTENT OF OUTFALL REVIEW:

IN ACCORDANCE WITH THE CHAPTER 124 CODE, THE EXTENT OF OUTFALL REVIEW FOR THIS PLAN EXTENDS TO A POINT WHERE THE OUTFALL'S DRAINAGE AREA EXCEEDS 100 TIMES THE SITE AREA DRAINING TO THE OUTFALL. THE SAME IS TRUE TO DETERMINE WHAT TYPE STORMWATER CONVEYANCE SYSTEMS (NATURAL STREAM, MANMADE CONVEYANCE, AND/OR RESTORED CHANNEL) EXIST IN EACH OUTFALL IN ACCORDANCE WITH COUNTY CODE CHAPTER 124. THIS EXTENT OF REVIEW ENDS AT FRYING PAN BRANCH FOR BOTH OUTFALLS (SEE OUTFALL MAP THIS SHEET).

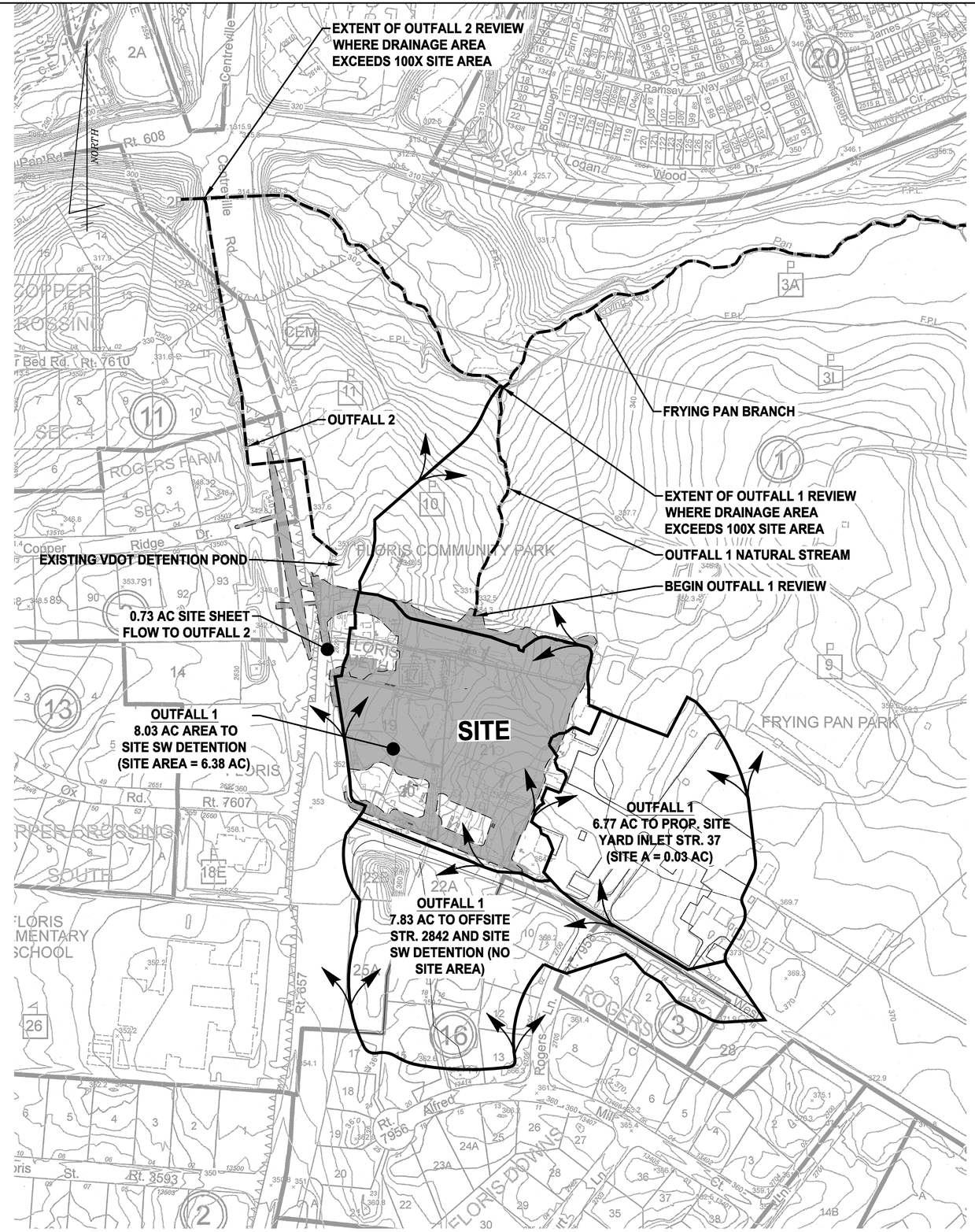
OUTFALL ADEQUACY AND SWM REQUIREMENTS:

OUTFALL 1

THIS OUTFALL CONSISTS OF NATURAL STREAM. THIS STREAM IS INADEQUATE FOR BOTH EROSION AND CAPACITY IN A TWO-YEAR STORM. THEREFORE, THE COUNTY REQUIREMENT IS TO REDUCE POST-DEVELOPMENT RUNOFF FOR THE 1, 2 AND 10-YEAR STORMS IN ACCORDANCE WITH THE ENERGY BALANCE EQUATION FOR THE GOOD FORESTED CONDITION PER CODE SECTIONS 124-4-4.b, 3a AND 124-4-4-.c.4 REFER TO THE STORMWATER MANAGEMENT COMPUTATIONS ON SHEET C-0703 WHICH DEMONSTRATE COMPLIANCE WITH THIS REQUIREMENT.

OUTFALL 2

ALL RUNOFF TO OUTFALL 2 LEAVES THE SITE AS SHEET FLOW. SOME OF THIS RUNOFF FLOWS TO THE EXISTING VDOT DETENTION POND NEAR THE NORTHWEST CORNER OF THE SITE. REFER TO SHEET C-0702 FOR THE AREA. FROM THE DRAINAGE AREA TABULATIONS SHOWN ON SHEET C-0703 IT CAN BE SEEN THAT THE TOTAL AREA AND RUNOFF COEFFICIENT FOR THE POND DRAINAGE AREA IS UNCHANGED WITH DEVELOPMENT SO THERE WILL BE NO ADVERSE IMPACT. FROM THESE SAME TABULATIONS IT CAN BE SEEN THAT THERE WILL BE A MARGINAL INCREASE IN RUNOFF TO OUTFALL 2 DOWN STREAM OF THE VDOT POND. ALL OF THIS SITE RUNOFF IS SHEET FLOW AND WILL HAVE NO ADVERSE IMPACT. THEREFORE, NO STORMWATER QUANTITY CONTROLS ARE REQUIRED IN ACCORDANCE WITH SECTION 124-4-4.e AND OUTFALL IS ADEQUATE.



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OUTFALL ANALYSIS

THE FLORIS CONSERVATORY FOR FINE ARTS
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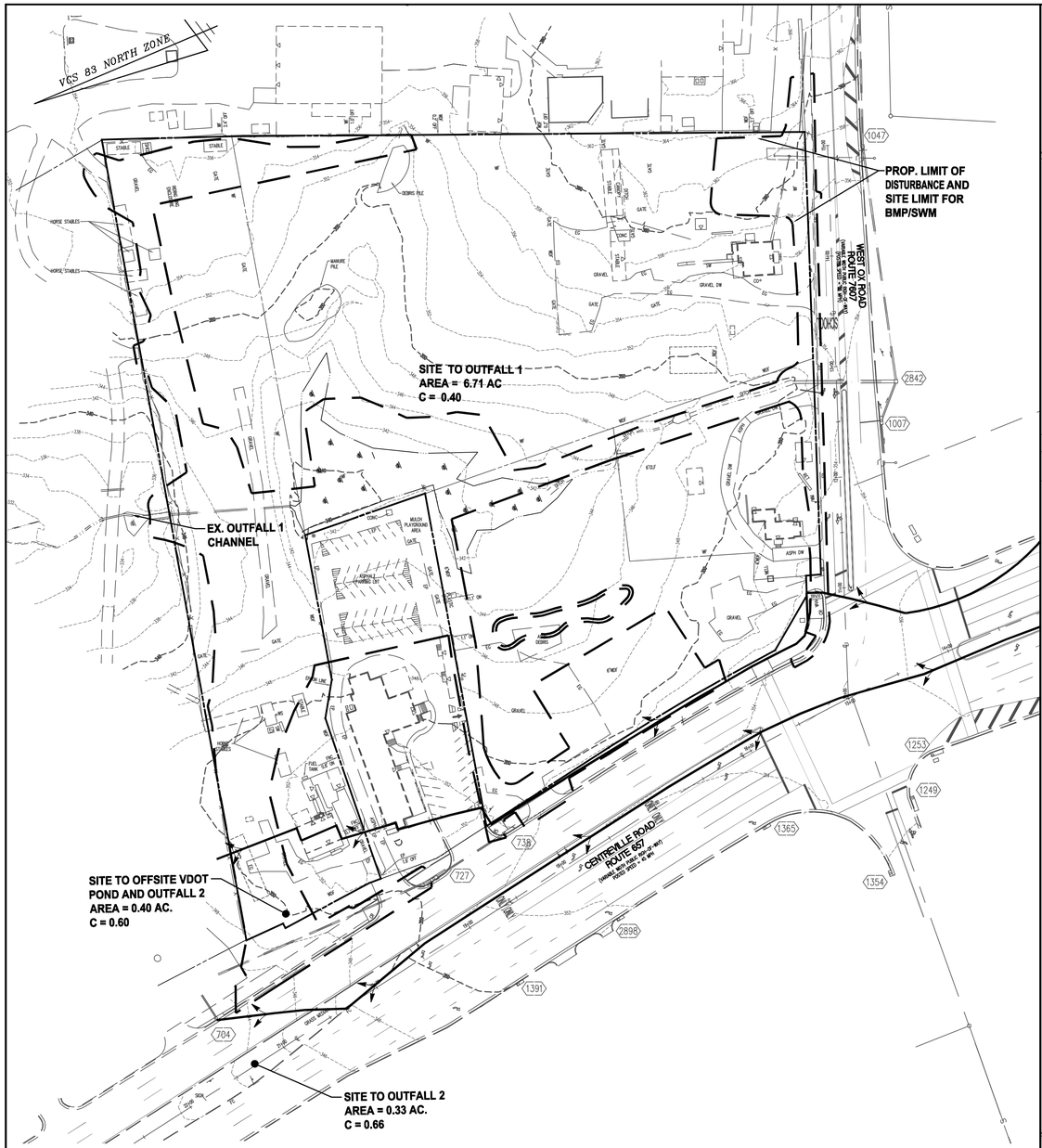
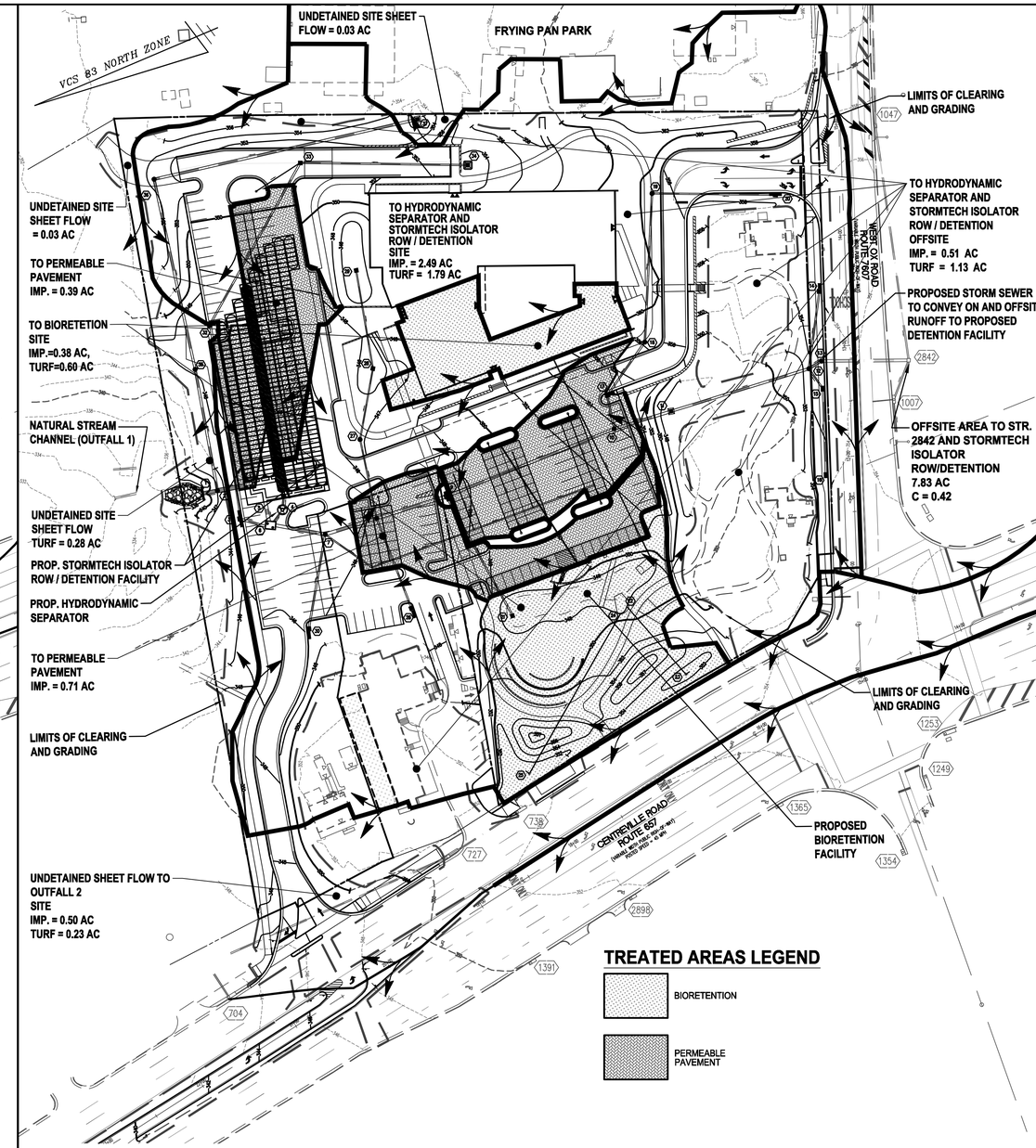
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA



PRE-DEVELOPMENT DRAINAGE DIVIDE MAP

SCALE: 1" = 60'



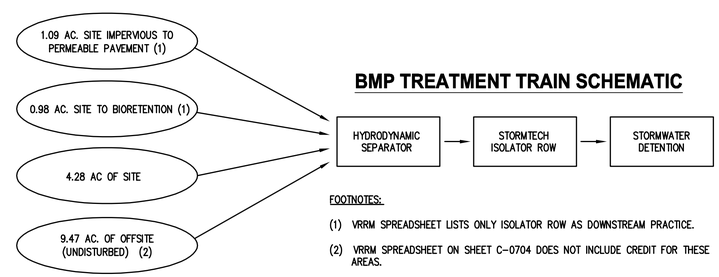
SWM/BMP MAP

SCALE: 1" = 60'

TREATED AREAS LEGEND

- BIORETENTION
- PERMEABLE PAVEMENT

BMP TREATMENT TRAIN SCHEMATIC



FOOTNOTES:

(1) VRRM SPREADSHEET LISTS ONLY ISOLATOR ROW AS DOWNSTREAM PRACTICE.

(2) VRRM SPREADSHEET ON SHEET C-0704 DOES NOT INCLUDE CREDIT FOR THESE AREAS.

0 30 60 120

1 INCH = 60'

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PRE & POST DRAINAGE DIVIDES

THE FLORIS CONSERVATORY FOR FINE ARTS
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HUNTER MILL DISTRICT

FAIRFAX COUNTY, VIRGINIA

SHEET: C-0702

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0702.dwg

SCIMORES ACADEMY
JUNE 2017 SP

SWM SITE DRAINAGE AREA DATA SUMMARY

PRE- DEVELOPMENT

		SITE (DISTURBED AREAS)						OFFSITE (UNDISTURBED AREAS)						TOTAL	
		AREA		IMPERVIOUS		LANDSCAPED OR TURF		TOTAL AREA		IMPERVIOUS		LANDSCAPED OR TURF		TOTAL AREA	
OUTFALL	DRAINAGE AREA	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(AC)	C FACTOR
OUTFALL 1 - TO EX. STREAM	SITE SHEET FLOW TO OFFSITE	292,290	6.71	47,693	1.09	244,597	5.62							6.71	0.40
OUTFALL 2	TO OFFSITE VDOT POND	17,540	0.40	8,894	0.20	8,646	0.20	59,600	1.37	50,231	1.15	9,369	0.22	1.77	0.76
	TO OFFSITE OTHER THAN TO VDOT POND	14,548	0.33	8,770	0.20	5,778	0.13							0.33	0.66
	SITE TOTALS	**324,378**	**7.45**	**65,357**	**1.50**	**259,021**	**5.95**								

POST-DEVELOPMENT

			SITE (DISTURBED AREAS)								OFFSITE (UNDISTURBED AREAS)						TOTAL	
OUTFALL	DRAINAGE AREA (NOTE 1)		TOTAL AREA		IMPERVIOUS		LANDSCAPED OR TURF		PERMEABLE PAVEMENT		TOTAL AREA		IMPERVIOUS		LANDSCAPED OR TURF		TOTAL AREA	C FACTOR
			(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(SF)	(AC)	(AC)	
OUTFALL 1 - TO PROP. SITE DETENTION	**TO BIORETENTION**	TO STR. 21	21,881	0.50	3,798	0.09	18,083	0.42			0	0.00					0.50	0.40
		TO STR. 23 - SITE	4,005	0.09	55	0.00	3,950	0.09			0	0.00					0.09	0.31
		TO STR. 25	4,516	0.10	198	0.00	4,318	0.10			0	0.00					0.10	0.33
		ROOF	12,425	0.29	12,425	0.29	0	0.00			0	0.00					0.29	0.90
		SUBTOTALS	**42,826**	**0.98**	**16,476**	**0.38**	**26,351**	**0.60**			**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.98**	**0.53**
	TO PERMEABLE PAVEMENT	TO PP #1	4,738	0.11	2,509	0.06	68	0.00	2,161	0.05	0	0.00					0.11	0.74
		TO PP #2	4,490	0.10	3,070	0.07	115	0.00	1,305	0.03	0	0.00					0.10	0.79
		TO PP #3	6,136	0.14	3,480	0.08	46	0.00	2,610	0.06	0	0.00					0.14	0.75
		TO PP #4	5,403	0.12	4,128	0.09	115	0.00	1,160	0.03	0	0.00					0.12	0.81
		TO PP #5	10,627	0.24	8,493	0.19	0	0.00	2,135	0.05	0	0.00					0.24	0.83
		TO PP #6	3,337	0.08	1,573	0.04	0	0.00	1,764	0.04	0	0.00					0.08	0.72
		TO PP #7	8,949	0.21	6,795	0.16	237	0.01	1,917	0.04	0	0.00					0.21	0.81
		TO PP #8	4,902	0.11	2,795	0.06	165	0.00	1,942	0.04	0	0.00					0.11	0.75
		SUBTOTALS	**48,582**	**1.12**	**32,843**	**0.75**	**746**	**0.02**	**14,993**	**0.34**	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.79**
	TO HYDRODYNAMIC SEPARATOR	TO STR. 16	1,623	0.04	1,263	0.03	360	0.01			1,533	0.04	1,533	0.04	0	0.00	0.07	0.83
		TO STR. 15	3,991	0.09	2,775	0.06	1,216	0.03			3,417	0.08	3,417	0.08	0	0.00	0.17	0.80
		TO STR. 14	4,785	0.11	3,803	0.09	982	0.02			2,702	0.06	2,702	0.06	0	0.00	0.17	0.82
		TO STR. 11	18,268	0.42	1,157	0.03	17,111	0.39			31,559	0.72	2,408	0.06	29,151	0.67	1.14	0.34
		TO STR. 20	18,680	0.43	8,977	0.21	9,703	0.22			6,508	0.15	835	0.02	5,673	0.13	0.58	0.53
		TO STR. 34	9,715	0.22	1,027	0.02	8,688	0.20			4,520	0.10	889	0.02	3,631	0.08	0.33	0.38
		ROOF TO STR. 34	22,301	0.51	22,301	0.51	0	0.00			0	0.00	0	0.00	0	0.00	0.51	0.90
		TO STR. 33	17,794	0.41	9,729	0.22	8,065	0.19			6,652	0.15	3,015	0.07	3,637	0.08	0.56	0.61
		TO STR. 29	6,440	0.15	688	0.02	5,753	0.13			0	0.00	0	0.00	0	0.00	0.15	0.36
		TO STR. 9 **	3,668	0.08	3,648	0.08	20	0.00			0	0.00	0	0.00	0	0.00	0.08	0.90
		4 ISLANDS TO STR. 7 *	1,323	0.03	0	0.00	1,323	0.03			0	0.00	0	0.00	0	0.00	0.03	0.30
		TO STR. 28	5,863	0.13	2,007	0.05	3,856	0.09			0	0.00	0	0.00	0	0.00	0.13	0.51
		TO STR. 32	7,653	0.18	3,925	0.09	3,728	0.09			199	0.00	0	0.00	199	0.00	0.18	0.60
		TO STR. 31	41,390	0.95	32,295	0.74	9,095	0.21			5,431	0.12	3,279	0.08	2,152	0.05	1.07	0.76
		TO STR. 26	7,388	0.17	6,144	0.14	1,244	0.03			3,066	0.07	2,428	0.06	638	0.01	0.24	0.79
		TO STR. 17	5,459	0.13	3,479	0.08	1,980	0.05			0	0.00	0	0.00	0	0.00	0.13	0.68
		TO STR. 30	10,181	0.23	5,328	0.12	4,853	0.11			6,053	0.14	1,778	0.04	4,275	0.10	0.37	0.56
		TO STR. 2842	0	0.00								7.83					7.83	0.42
		HS SUBTOTALS	**186,522**	**4.28**	**108,546**	**2.49**	**77,976**	**1.79**				**9.47**					**13.76**	**0.50**
	OUTFALL 1 DETAINED SUBTOTALS		**277,930**	**6.38**	**157,865**	**3.62**	**105,072**	**2.41**	**14,993**	**0.34**		**9.47**					**15.86**	**0.52**
OUTFALL 1 - UNCONTROLLED SHEET FLOW	**UNDETAINED TO OFFSITE**	SITE SHEET FLOW	12,148	0.28	1,248	0.03	10,900	0.25									0.28	0.36
		SITE SHEET FLOW	1,434	0.03	743	0.02	691	0.02									0.03	0.61
		TO STR. 37	1,216	0.03	0	0.00	1,216	0.03				6.71					6.74	0.52
		SUBTOTALS	**14,798**	**0.34**	**1,991**	**0.05**	**12,807**	**0.29**				**6.71**					**7.05**	**0.52**
OUTFALL 2 - UNCONTROLLED SHEET FLOW	**TO OFFSITE VDOT POND**	TO POND	1,746	0.04	540	0.01	1,206	0.03									0.04	0.49
		TO STR. 704	12,502	0.29	7,837	0.18	4,665	0.11			12,171	0.28	7,139	0.16	5,032	0.12	0.57	0.66
		TO STR. 727	1,040	0.02	628	0.01	412	0.01			4,880	0.11	4,511	0.10	369	0.01	0.14	0.82
		TO STR. 738	2,299	0.05	1,982	0.05	317	0.01			42,598	0.98	37,184	0.85	5,414	0.12	1.03	0.82
		SUBTOTALS	**17,587**	**0.40**	**10,987**	**0.25**	**6,600**	**0.15**			**59,649**	**1.37**	**48,834**	**1.12**	**10,815**	**0.25**	**1.77**	**0.76**
	NOT TO VDOT POND	SITE TO OUTFALL 2	14,210	0.33	10,654	0.24	3,556	0.08									**0.33**	**0.75**
OUTFALL 1 TOTALS		**SITE TOTALS**	**292,728**	**6.72**	**159,856**	**3.67**	**117,879**	**2.71**	**14,993**	**0.34**								
OUTFALL 1 & 2 TOTALS		**SITE TOTALS**	**324,525**	**7.45**	**181,497**	**4.17**	**128,035**	**2.94**	**14,993**	**0.34**								

* PLUS DRAINAGE AREAS TO PERMEABLE PAVEMENT AREAS 1 THRU 5 ABOVE
** WHEN SIZING INLET #9 AND PIPES FROM 9 TO 7 INCLUDE DRAINAGE AREAS TO PERMEABLE PAVEMENT AREAS 2, 3 AND 4 IN THE EVENT PERMEABLE PAVEMENT DOES NOT CAPTURE ALL RUNOFF.

NOTE 1: ALL CONTROLLED DRAINAGE AREAS DRAIN TO THE PROPOSED STORMTECH STORMWATER DETENTION SYSTEM. THE BIORETENTION AND PERMEABLE PAVEMENT DRAINS TO THE PROPOSED HYDRODYNAMIC SEPARATOR AND THEN THE STORMTECH CHAMBERS WITH ISOLATOR ROW. ALL OTHER CONTROLLED AREAS DRAIN TO THE HYDRODYNAMIC SEPARATOR AND THEN THE STORMTECH CHAMBERS

NOTES:

REFER TO SHEET C-0702 FOR MAP OF DRAINAGE AREAS.

SW-10 STATEMENT DOWNSTREAM IMPOUNDMENTS

THE PROPOSED DISTURBED AREA IS 7.45 ACRES. IN ACCORDANCE WITH LTI 03-05 THE POTENTIAL INFLUENCE AREA EXTENDS TO A POINT WHERE THE DOWNSTREAM DRAINAGE AREA IS AT LEAST 100 x THE SITE AREA OR 745 ACRES. AS CAN BE SEEN ON THE OUTFALL MAP ON SHEET C-0701 THIS POINT IS WHERE THE OUTFALL STREAM JOINS FRYING PAN BRANCH AND THERE ARE NO DOWN STREAM IMPOUNDMENTS WITHIN THE INFLUENCE AREA.

SWM Allowable Peak Flow Computations Per Fairfax County Ordinance
OUTFALL 1

Channel Protection Requirement Per County Code Chapter 124 Section 124-4-4.B
1-Year 24-Hour Storm Allowable Peak Runoff Rate

Fill in cells as appropriate

	Type of Stormwater Conveyance Within Va. DEQ Limit of Outfall Analysis	Outfall Erosive Within FxCo Extent of Review (3 Rules)?	Allowable Site Peak Runoff Flow Rate (Q)	IF *	Q_{Forest} Or $Q_{Pre\text{-}dev}$ (cfs)	RV_{Forest} Or $RV_{Pre\text{-}dev}$ (cf)	RV_{Dev} (cf)	Max. Q_{Dev} (cfs)
	Restored channel or manmade conveyance	No	No restriction					N/A
X	Natural or restored channel, manmade conveyance	Yes	$Q_{Dev} \leq (Q_{Forest} \times RV_{Forest})/RV_{Dev}$		3.74	19,890	40,593	1.83
	Natural channel	No	$Q_{Dev} \leq IF \times (Q_{Pre\text{-}dev} \times RV_{Pre\text{-}dev})/RV_{Dev}$	0.8				
							Less undetained site Q	0.53
							Plus offsite Q to detention	9.81
							ALLOWABLE Q_1 RELEASE FROM DETENTION (CFS)	**11.11**

*** IF = 0.8 sites> 1 Ac. or 0.9 sites ≤ 1 Ac.**

Flood Protection Requirements Per County Code Chapter 124 Section 124-4-4.C
2 & 10-Year 24-Hour Storm Allowable Peak Runoff Rates

		Outfall Floods Within FxCo Extent of Review (3 Rules)?	Allowable Site Peak Runoff Flow Rate (Q)	Q_{Forest} Or $Q_{Pre\text{-}dev}$ (cfs)	RV_{Forest} Or $RV_{Pre\text{-}dev}$ (cf)	RV_{Dev} (cf)	Max. Q_{Dev} (cfs)
X	***2- Year Storm*** Yes		$Q_{Dev} \leq (Q_{Forest} \times RV_{Forest})/RV_{Dev}$	5.64	28,995	53,147	3.08
	No		$Q_{Dev} \leq Q_{Pre\text{-}dev}$				0.00
						Less undetained site Q	0.73
						Plus offsite Q to detention	13.51
						ALLOWABLE Q_2 RELEASE FROM DETENTION (CFS)	**15.86**
X	***10- Year Storm*** Yes		$Q_{Dev} \leq (Q_{Forest} \times RV_{Forest})/RV_{Dev}$	12.24	61,249	93,477	8.02
	No		$Q_{Dev} \leq Q_{Pre\text{-}dev}$				0.00
						Less undetained site Q	1.39
						Plus offsite Q to detention	25.51
						ALLOWABLE Q_{10} RELEASE FROM DETENTION (CFS)	**32.14**

OUTFALL 2 SWM COMPUTATIONS

SITE AND OFFSITE SHEET FLOW TO VDOT DETENTION POND

PRE-DEVELOPMENT Q_{10} = (C)(I)(A) = (0.76)(6.77)(1.77) = 9.11 CFS
POST-DEVELOPMENT Q_{10} = (C)(I)(A) = (0.76)(6.77)(1.77) = 9.11 CFS
> NO INCREASE

SITE SHEET FLOW TO DOWNSTREAM VDOT DETENTION POND

PRE-DEVELOPMENT Q_{10} = (C)(I)(A) = (0.66)(6.77)(0.33) = 1.47 CFS
POST-DEVELOPMENT Q_{10} = (C)(I)(A) = (0.75)(6.77)(0.33) = 1.68 CFS
> 0.20 CFS INCREASE

WATER QUALITY AND STORMWATER MANAGEMENT NARRATIVES

THE PROPOSED DEVELOPMENT WILL DISTURB APPROXIMATELY 7.5 ACRES INCLUDING THREE EXISTING DEVELOPED SINGLE FAMILY LOTS, PART OF A CHURCH PROPERTY, SMALL AREAS ON ADJACENT PARK AUTHORITY PROPERTY, AND SOME VDOT RIGHT-OF-WAY. FOR PURPOSES OF DETERMINING STORMWATER MANAGEMENT REQUIREMENTS AND COMPLIANCE, THIS PROJECT WILL BE DEVELOPMENT ON PRIOR DEVELOPED LANDS AND THE PROPOSED DISTURBED AREA IS CONSIDERED THE SITE AREA. THE SITE TODAY CONSISTS LARGELY OF TURF AND BARE SOIL BUT ALSO INCLUDES CONSIDERABLE PAVEMENT, DRIVEWAYS AND BUILDINGS. AFTER THE PROPOSED REDEVELOPMENT, A MAJORITY OF THE SITE WILL CONSIST OF PAVEMENT, WALKS AND BUILDING, RESULTING IN AN INCREASE IN IMPERVIOUS COVER.

WATER QUALITY (BMP) NARRATIVE:

THE STORMWATER ORDINANCE AND PFM THAT BECAME EFFECTIVE IN 2014 WILL APPLY TO THIS PROJECT. PHOSPHOROUS REMOVAL COMPUTATIONS USING THE DEQ'S VIRGINIA RUNOFF REDUCTION METHOD (VRRM) SPREADSHEET ARE SHOWN ON SHEETS C-0704 THRU C-0706. THESE COMPUTATIONS INDICATE THAT A MINIMUM OF 6.27 POUNDS OF PHOSPHOROUS OF THE TOTAL POST-DEVELOPMENT PHOSPHOROUS LOAD OF 11.45 POUNDS/YEAR MUST BE REMOVED (ABOUT 55% REMOVAL). THE WATER QUALITY MEASURES TO BE USED TO ACCOMPLISH THIS PHOSPHOROUS REMOVAL REQUIREMENT WILL INCLUDE PERMEABLE PAVEMENT, BIORETENTION, A MANUFACTURED HYDRODYNAMIC SEPARATOR DEVICE (FIRST DEFENSE FROM HYDRO INTERNATIONAL), AND A MANUFACTURED FILTERING SYSTEM (ADS STORMTECH ISOLATOR ROW). ONLY 0.54 POUNDS OF THE REQUIRED PHOSPHOROUS REMOVAL WILL BE OBTAINED BY PURCHASING NONPOINT NUTRIENT OFFSET CREDITS (SEE SHEET C-0704 FOR LETTER CONFIRMING CREDIT AVAILABILITY). THE SWM-BMP MAP ON SHEET C-0702 SHOWS THE DRAINAGE AREAS FOR THESE WATER QUALITY MEASURES. A SCHEMATIC DIAGRAM UNDER THIS MAP DEPICTS THE DESIGN TREATMENT TRAIN CONCEPT. STORMWATER RELEASED BY BOTH THE PERMEABLE PAVEMENT AND BIORETENTION WILL NEXT BE TREATED BY THE HYDRODYNAMIC SEPARATOR AND THEN BY THE STORMTECH ISOLATOR ROW/DETENTION SYSTEM. THEREFORE, THE BIORETENTON AND PERMEABLE PAVEMENT DRAINAGE AREAS WILL BE TREATED BY THREE BMPS IN SERIES, HOWEVER, NO CREDIT IS TAKEN FOR THE HYDRODYNAMIC SEPARATOR FOR THESE AREAS BECAUSE THE VRRM SPREADSHEET DOES NOT ALLOW FOR THREE BMPS IN SERIES. MUCH OF THE REMAINDER OF THE SITE RUNOFF WILL BE TREATED FIRST BY THE HYDRODYNAMIC SEPARATOR AND THEN THE STORMTECH ISOLATOR ROW. 9.47 ACRES OF UNDISTURBED OFFSITE LAND, MUCH OF IT FROM WEST OX ROAD ROW AND SOUTH OF THE ROAD, AS WELL AS SOME UNDISTURBED AREA FROM THIS PROJECT'S PROPERTY, WILL DRAIN TO THE HYDRODYNAMIC STRUCTURE AND ISOLATOR ROW. HOWEVER, NO BMP CREDIT HAS BEEN TAKEN FOR THESE OFFISTE AREAS. TO PREVENT OVERWHELMING THE HYDRODYNAMIC SEPARATOR, A FLOW DIVERSION STRUCTURE WILL BE INSTALLED IMMEDIATELY UPSTREAM SO HIGH FLOWS BYPASS THE SEPARATOR.

STORMWATER MANAGEMENT NARRATIVE:

AS DESCRIBED IN THE OUTFALL NARRATIVE ON SHEET C-701, THE STORMWATER OUTFALLS FOR THIS SITE INCLUDE A COMBINATION OF STORM SEWER PIPES, MANMADE CHANNEL AND NATURAL STREAM CHANNELS. MOST OF THE SITE DRAINS TO OUTFALL 1 WHICH INCLUDES ONLY NATURAL STREAM CHANNEL SO THE MINIMUM STORMWATER MANAGEMENT REQUIREMENT IS TO APPLY THE ENERGY BALANCE EQUATION FOR THE 1-YEAR STORM PEAK RELEASE RATE AND NOT INCREASE THE RUNOFF FOR THE 2 AND 10-YEAR STORMS. HOWEVER, SINCE OUTFALL 1 IS INADEQUATE FOR BOTH EROSION AND CAPACITY, PEAK RUNOFF RATES WILL BE REDUCED IN ACCORDANCE WITH THE DETENTION METHOD FOR THE 1, 2 AND 10-YEAR STORMS AS REQUIRED TO COMPLY WITH THE COUNTY CHANNEL AND FLOOD PROTECTION REQUIREMENTS. THE DETENTION METHOD (ENERGY BALANCE EQUATION FOR GOOD FORESTED CONDITION) COMPUTATIONS FOR OUTFALL 1 ARE SHOWN ON THIS SHEET. AN UNDERGROUND STORMWATER DETENTION SYSTEM WILL BE INSTALLED (WITH THE STORMTECH ISOLATOR ROW DISCUSSED ABOVE) TO DETAIN THE SITE RUNOFF TO ALLOWABLE LEVELS FOR OUTFALL 1. THIS DETENTION FACILITY WILL RECEIVE BOTH SITE AND OFFSITE RUNOFF FROM ALL OF THE AREAS DISCUSSED ABOVE FOR THE HYDRODYNAMIC SEPARATOR. THE PRE AND POST DEVELOPMENT AND ROUTING HYDROGRAPHS AND DETENTION FACILITY DATA DEVELOPED USING HYDROFLOW SOFTWARE ARE FOUND ON SHEETS C-0713 THRU C-0717. RUNOFF RELEASED TO OUTFALL 2 WILL BE RELEASED AS SHEET FLOW. AS DISCUSSED IN THE OUTFALL NARRATIVE ON SHEET C-0701 THERE WILL ONLY A MINIMAL INCREASE IN RUNOFF TO OUTFALL 2. COMPUTATIONS SHOWN ON THIS SHEET SHOW THE PRE AND POST-DEVELOPMENT PEAK RUNOFF RATES. THE TOTAL PRE-DEVELOPMENT 10-YEAR PEAK RUNOFF OF 10.58 CFS WILL ONLY BE INCREASED BY 0.20 CFS OR 1.9%. THIS INCREASE WILL HAVE NO ADVERSE IMPACT SO NO STORMWATER QUANTITY CONTROL IS REQURIED.

THE BMP AND SWM FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED SO THEY WILL NOT BE PLACED IN A STORM DRAINAGE EASEMENT EVEN THOUGH THEY WILL RECEIVE OFFSITE RUNOFF. THE STORM SEWERS UPSTREAM AND DOWNSTREAM OF THE BMP AND SWM FACILITIES THAT CONVEY OFFSITE RUNOFF FROM WEST OX ROAD TO THE BMP AND SWM FACILITIES AND FROM THERE TO THE NORTHERN PROPERTY LINE, COLLECTING SITE RUNOFF ALONG THE WAY, WILL BE PLACED IN A STORM SEWER EASEMENT IN ACCORDANCE WITH COUNTY POLICY. AS SHOWN ON SHEET C-0404 THIS STORM SEWER EASEMENT WILL HAVE A GAP AT THE BMP AND SWM FACILITIES.

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
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DRAWN: BP / SO / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE:

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY					
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SWM COMPUTATIONS & NARRATIVE
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0703

res

Date: July 11, 2017

To: Mr. Hemanth Balasundaram
Scimores Corporation
8250 Westpark Drive, #461
McLean, Virginia 22102

From: Claire Wolanski
Credit Sales Coordinator
Resource Environmental Solutions

Subject: Potomac Watershed– Nutrient Credit Availability

Project Reference: The Floris Conservatory for Fine Arts; 0.54 Credits Requested; HUC 02070008

This letter is to confirm the availability of 0.54 authorized nutrient credits ("Nutrient Credits") from one or more of Resource Environmental Solutions' ("RES") Potomac nutrient bank facilities for use by permit applicants within the Potomac watershed, including HUC 02070008, to compensate for nutrient loadings in excess of state or local regulations, as per Virginia Code § 62.1-44.15:35 and § 62.1-44.19:14 and Virginia Administrative Code 9 VAC 25-820-10 et seq. These Nutrient Credits are generated and managed under the terms of the Banking Instruments known as the Edgecliff Nutrient Reduction Implementation Plan ("NRIP"), the Revised Holy Cross Abbey NRIP and/or the Stone Bridge NRIP.

Please feel free to contact me if you have any questions.

Sincerely,

Claire Wolanski

Claire E. Wolanski
Resource Environmental Solutions
804-591-4060

10055 Red Run Blvd.
Suite 130
Owings Mills, MD
21117

412 N. 4th St.
Suite 300
Baton Rouge, LA
70802

701 E. Bay St.
Suite 306
Charleston, SC
29403

5020 Montrose Blvd.
Suite 650
Houston, TX
77006

1200 Camellia Blvd.
Suite 220
Lafayette, LA
70508

137½ East Main St.
Suite 210
Oak Hill, WV
25901

33 Terminal Way
Suite 431
Pittsburgh, PA
15219

302 Jefferson St.
Suite 110
Raleigh, NC
27605

1521 W. Main
2nd Floor
Richmond, VA
23220

res

Date: July 11, 2017

To: Mr. Hemanth Balasundaram
Scimores Corporation
8250 Westpark Drive, #461
McLean, Virginia 22102

From: Claire Wolanski
Credit Sales Coordinator
Resource Environmental Solutions

Subject: Potomac Watershed – Nutrient Credit Pricing

Project Reference: The Floris Conservatory for Fine Arts, Herndon, HUC 02070008

This letter is to confirm the pricing of Nutrient Credits to be sold and debited from one or more of Resource Environmental Solutions, LLC's nutrient bank facilities within the above-referenced watershed. Upon approval and release by DEQ, all such Nutrient Credits may be used by permit applicants within these watersheds to compensate for nutrient loadings in excess of state or local regulations, as per Virginia Code § 62.1-44.15:35 and § 62.1-44.19:14 and Virginia Administrative Code 9 VAC 25-820-10 et seq. We appreciate the opportunity to assist you with your project. Currently our Nutrient Credit price for your project is as follows:

- 0.54 pounds of Phosphorus Credits = **$12,960.00**

This pricing is good for 60 days as of the date of this correspondence.

Please feel free to contact me if you have any questions.

Sincerely,

Claire Wolanski

Claire E. Wolanski
Resource Environmental Solutions
804-591-4060

10055 Red Run Blvd.
Suite 130
Owings Mills, MD
21117

412 N. 4th St.
Suite 300
Baton Rouge, LA
70802

701 E. Bay St.
Suite 306
Charleston, SC
29403

5020 Montrose Blvd.
Suite 650
Houston, TX
77006

1200 Camellia Blvd.
Suite 220
Lafayette, LA
70508

137½ East Main St.
Suite 210
Oak Hill, WV
25901

33 Terminal Way
Suite 431
Pittsburgh, PA
15219

302 Jefferson St.
Suite 110
Raleigh, NC
27605

1521 W. Main
2nd Floor
Richmond, VA
23220

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

○ 2011 BMP Standards and Specifications ⦿ 2013 Draft BMP Standards and Specifications

Project Name:	Scimores Academy
Date:	6/20/2017
Linear Development Project?	No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 7.45

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*3.01*
Post-Development TP Load Reduction for Site (lb/yr):	*6.27*

Check:
BMP Design Specifications List: 2013 Draft Stds & Specs
Linear project? No
Land cover areas entered correctly? ✓
Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				5.95	5.95
Impervious Cover (acres)				1.50	1.50
					7.45

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				2.94	2.94
Impervious Cover (acres)				4.51	4.51
Area Check	OK.	OK.	OK.	OK.	7.45

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre

Pre-ReDevelopment	Listed	Adjusted[1]
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	5.95	2.94
Weighted Rv(turf)	0.25	0.25
% Managed Turf	80%	66%
Impervious Cover (acres)	1.50	1.50
Rv(impervious)	0.95	0.95
% Impervious	20%	34%
Total Site Area (acres)	**7.45**	**4.44**
Site Rv	**0.39**	**0.49**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.2427	0.1800
Pre-ReDevelopment Treatment Volume (cubic feet)	10,572	7,841
Pre-ReDevelopment TP Load (lb/yr)	**6.64**	**4.93**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.89	1.11
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*1.82*

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)

Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.94
Weighted Rv (turf)	0.25
% Managed Turf	39%
Impervious Cover (acres)	4.51
Rv(impervious)	0.95
% Impervious	61%
Final Site Area (acres)	**7.45**
Final Post Dev Site Rv	**0.67**

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.94
Weighted Rv (turf)	0.25
% Managed Turf	66%
ReDev. Impervious Cover (acres)	1.50
Rv(impervious)	0.95
% Impervious	34%
Total ReDev. Site Area (acres)	**4.44**
ReDev Site Rv	**0.49**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	3.01
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.4183
Final Post-Development Treatment Volume (cubic feet)	18,221
Final Post-Development TP Load (lb/yr)	**11.45**
Final Post-Development TP Load per acre (lb/acre/yr)	1.54

Post-ReDevelopment Treatment Volume (acre-ft)	0.1800
Post-ReDevelopment Treatment Volume (cubic feet)	7,841
Post-ReDevelopment Load (TP) (lb/yr)*	**4.93**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.11
Max. Reduction Required (below Pre-ReDevelopment Load)	20%
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.99**

Post-Development Treatment Volume (acre-ft)	0.2383
Post-Development Treatment Volume (cubic feet)	10,380
Post-Development TP Load (lb/yr)	**6.52**
TP Load Reduction Required for New Impervious Area (lb/yr)	**5.29**

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	6.27

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

DATE: 7/18/2017
SCALE:
DRAWN: BP / SO / TT
CHECKED: AV / BP

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BMP COMPUTATIONS & NARRATIVE
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0704

OUTFALL 1 CONTROLLED

Drainage Area A

CLEAR BMP AREAS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				2.41	2.41	0.25
Impervious Cover (acres)				3.96	3.96	0.95
				Total	6.37	

Total Phosphorus Available for Removal in D.A. A (lb/yr)	9.95
Post Development Treatment Volume in D.A. A (ft^3)	15,843

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists-

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		0.95	0	1,474	1,802	3,276	25	0.00	2.06	1.21	0.85	14.b. MTD - Filtering
3.b. Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00	
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	0.60	0.38	0	742	1,113	1,855	25	0.00	1.16	0.64	0.52	14.b. MTD - Filtering
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	1.33	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.60	AREA CHECK: OK.
TOTAL RUNOFF REDUCTION IN D.A. A (ft^3)	2,216	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	9.95	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	1.85	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	8.11	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Hydrodynamic	0	1.79	2.49	0	0	10,211	10,211	20	0.00	6.41	1.28	5.13	14.b. MTD - Filtering
14.b. Manufactured Treatment Device-Filtering	0			13,126	0	13,126	13,126	40	6.50	0.00	2.60	3.90	
14.c. Manufactured Treatment Device-Generic	0			0	0	0	0	20	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	3.82	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	2.39	AREA CHECK: OK.
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	6.27	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	9.95	
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	3.88	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	1.85	
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	5.73	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	4.22	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

OUTFALL 1 UNCONTROLLED

Drainage Area B

CLEAR BMP AREAS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.29	0.29	0.25
Impervious Cover (acres)				0.05	0.05	0.95
				Total	0.34	

Total Phosphorus Available for Removal in D.A. B (lb/yr)	0.27
Post Development Treatment Volume in D.A. B (ft^3)	436

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists-

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed

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COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL ENGINEER
AARON M. VINSON Lic. No.041851 7/18/17

REVISION APPROVED BY

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BMP COMPUTATIONS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

OUTFALL 2

Drainage Area C

CLEAR BMP AREAS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.23	0.23	0.25
Impervious Cover (acres)				0.49	0.49	0.95
				Total	0.72	

Total Phosphorus Available for Removal in D.A. C (lb/yr)	1.19
Post Development Treatment Volume in D.A. C (ft^3)	1,898

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	3.96	0.05	0.49	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	3.82	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	2.41	0.29	0.23	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	2.39	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 18,221

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	2,216	0	0	0	0	2,216
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	9.95	0.27	1.19	0.00	0.00	11.42
TP LOAD REDUCTION ACHIEVED (lb/yr)	5.73	0.00	0.00	0.00	0.00	5.73
TP LOAD REMAINING (lb/yr)	4.22	0.27	1.19	0.00	0.00	5.69
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	13.97	0.00	0.00	0.00	0.00	13.97

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	11.45
TP LOAD REDUCTION REQUIRED (lb/yr)	6.27
TP LOAD REDUCTION ACHIEVED (lb/yr)	5.73
TP LOAD REMAINING (lb/yr):	5.72
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.54

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.62	3.17	4.87

Use NOAA Atlas 14 (http://hdsc.nws.noaa.gov/hdsc/pfds/)

***Notes (see below):**

[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.

[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.

[3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths ($RV_{Developed}$) are computed with and without reduction practices.

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	2.41
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	3.96
	CN	98	98	98	98

Total Area (acres): 6.37
Runoff Reduction Volume (ft^3): 2,433

$CN_{(D.A. A)}$: 91

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.72	2.23	3.86
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.61	2.12	3.75
Adjusted CN*	90	90	90

**See Notes above*

Drainage Area B		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.29
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.05
	CN	98	98	98	98

Total Area (acres): 0.34
Runoff Reduction Volume (ft^3): 0

$CN_{(D.A. B)}$: 83

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.15	1.58	3.06
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.15	1.58	3.06
Adjusted CN*	83	83	83

**See Notes above*

Drainage Area C		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.23
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.49
	CN	98	98	98	98

Total Area (acres): 0.72
Runoff Reduction Volume (ft^3): 0

$CN_{(D.A. C)}$: 92

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.80	2.32	3.96
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.80	2.32	3.96
Adjusted CN*	92	92	92

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY					
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BMP COMPUTATIONS

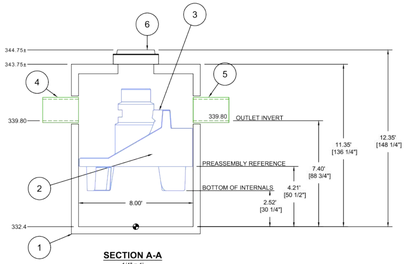
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

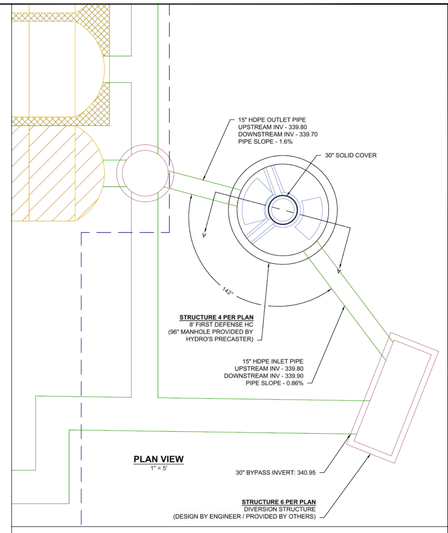
SHEET: C-0706

PARTS LIST : 8' FIRST DEFENSE HC			
ITEM	SIZE (IN)	MATERIAL	DESCRIPTION
1	96	-	I.D. PRECAST MANHOLE
2	-	-	LEDGER SUPPORT
3	-	-	SEPARATION MODULE
4	15	HDPE	INLET PIPE (BY OTHERS)
5	15	HDPE	OUTLET PIPE (BY OTHERS)
6	30	-	FRAME & COVER

NOTES:
ENGINEER / CONTRACTOR TO CONFIRM PIPE MATERIAL
ENGINEER / CONTRACTOR TO INVERTS & PIPE SLOPES
ENGINEER / CONTRACTOR TO CONFIRM PIPE DIAMETER



SECTION A-A
1/4" = 1'
(PIPE Ø NOT TO SCALE)



PLAN VIEW
1" = 5'

PRODUCT SPECIFICATIONS

A. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
B. THE TREATMENT SYSTEM SHALL FIT WITHIN THE LIMITS OF EXCAVATION (AREA AND DEPTH) AS SHOWN IN THE PROJECT PLANS AND WILL NOT EXCEED THE DIMENSIONS FOR THE DESIGN FLOW RATES SPECIFIED HEREIN.
C. THE TREATMENT SYSTEM SHALL CONVEY THE PEAK ON-LINE FLOW RATES OF UP TO 30 CFS WITHOUT CAUSING UPSTREAM SURCHARGE CONDITIONS. FULL-SCALE INDEPENDENT LABORATORY SCOUR TESTING SHALL DEMONSTRATE EFFLUENT CONTROL OF LESS THAN OR EQUAL TO 5 MG/L FOR ALL FLOWS UP TO 200% OF MTFR-106.
D. THE TREATMENT SYSTEM SHALL BE CAPABLE OF CAPTURING AND RETAINING FINE SILT AND SAND SIZE PARTICLES. ANALYSIS OF CAPTURED SEDIMENT FROM FULL-SCALE FIELD INSTALLATIONS SHALL DEMONSTRATE PARTICLE SIZES PREDOMINATELY IN THE 20-MICRON RANGE

SCIMORE ACADEMY ON CENTERVILLE ROAD - CENTERVILLE, VA
DATE: 06-28-17 DRAWN: CJD
PROJECT # 132923 CHECKED: MJ

REV	DRWN	CHK	DESCRIPTION

Hydro International
27 GALLOWAY BOULEVARD
CHESTER, PA 19013
(877) 796-0515
HYDROINTERNATIONAL.COM
THIS DRAWING IS SUBMITTED FOR REVIEW AND APPROVAL ONLY. THE DESIGN, MANUFACTURE AND SALE OF THE EQUIPMENT SHOWN HEREIN IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,849,176; 6,027,643; 6,068,765; 6,082,561; 6,094,601; 6,261,468 B1; 6,324,755 B1; 6,338,398 B1; 6,341,845 B1; 6,343,240 B1; 6,345,240 B1; 6,350,358 B1; 6,351,728 B1; 6,354,493 B1; 6,357,047 B1; 6,360,193 B1; 6,366,296 B1; 6,368,227 B1; 6,371,117 B1; 6,373,473 B1; 6,374,201 B1; 6,376,124 B1; 6,378,014 B1; 6,381,323 B1; 6,382,119 B1; 6,384,979 B1; 6,386,136 B1; 6,389,467 B1; 6,392,643 B1; 6,393,401 B1; 6,396,469 B1; 6,397,352 B1; 6,400,352 B1; 6,401,063 B1; 6,405,102 B1; 6,407,731 B1; 6,408,286 B1; 6,412,086 B1; 6,416,657 B1; 6,418,067 B1; 6,420,975 B1; 6,424,820 B1; 6,427,070 B1; 6,430,511 B1; 6,431,439 B1; 6,433,292 B1; 6,437,252 B1; 6,438,193 B1; 6,438,194 B1; 6,438,195 B1; 6,439,194 B1; 6,441,322 B1; 6,442,160 B1; 6,442,161 B1; 6,443,148 B1; 6,445,399 B1; 6,447,251 B1; 6,448,744 B1; 6,449,257 B1; 6,452,594 B1; 6,453,038 B1; 6,454,036 B1; 6,456,039 B1; 6,457,103 B1; 6,459,706 B1; 6,462,972 B1; 6,465,960 B1; 6,466,180 B1; 6,466,311 B1; 6,468,388 B1; 6,469,252 B1; 6,469,253 B1; 6,470,147 B1; 6,472,147 B1; 6,472,150 B1; 6,473,423 B1; 6,475,372 B1; 6,477,164 B1; 6,477,165 B1; 6,480,796 B1; 6,481,440 B1; 6,483,802 B1; 6,485,423 B1; 6,487,286 B1; 6,489,896 B1; 6,490,411 B1; 6,493,803 B1; 6,494,471 B1; 6,496,440 B1; 6,498,720 B1; 6,499,114 B1; 6,501,975 B1; 6,502,035 B1; 6,503,131 B1; 6,505,160 B1; 6,506,559 B1; 6,507,751 B1; 6,508,241 B1; 6,510,315 B1; 6,512,986 B1; 6,513,117 B1; 6,514,074 B1; 6,516,315 B1; 6,519,491 B1; 6,520,425 B1; 6,523,043 B1; 6,525,953 B1; 6,526,541 B1; 6,527,365 B1; 6,529,627 B1; 6,530,040 B1; 6,532,005 B1; 6,532,006 B1; 6,535,866 B1; 6,539,351 B1; 6,540,029 B1; 6,542,260 B1; 6,543,110 B1; 6,544,311 B1; 6,546,027 B1; 6,546,068 B1; 6,549,671 B1; 6,550,036 B1; 6,552,643 B1; 6,554,793 B1; 6,556,971 B1; 6,557,112 B1; 6,559,769 B1; 6,560,322 B1; 6,561,125 B1; 6,563,084 B1; 6,564,210 B1; 6,566,096 B1; 6,567,953 B1; 6,567,954 B1; 6,570,371 B1; 6,571,351 B1; 6,573,819 B1; 6,574,186 B1; 6,578,086 B1; 6,578,217 B1; 6,580,423 B1; 6,581,072 B1; 6,581,073 B1; 6,581,074 B1; 6,582,479 B1; 6,584,000 B1; 6,587,796 B1; 6,589,119 B1; 6,591,008 B1; 6,592,092 B1; 6,593,112 B1; 6,594,311 B1; 6,594,550 B1; 6,595,203 B1; 6,595,204 B1; 6,597,347 B1; 6,598,051 B1; 6,598,052 B1; 6,599,161 B1; 6,601,086 B1; 6,601,087 B1; 6,603,479 B1; 6,604,115 B1; 6,605,038 B1; 6,606,644 B1; 6,607,286 B1; 6,608,776 B1; 6,608,777 B1; 6,611,783 B1; 6,611,784 B1; 6,612,026 B1; 6,614,910 B1; 6,615,038 B1; 6,618,351 B1; 6,618,352 B1; 6,619,286 B1; 6,620,067 B1; 6,622,226 B1; 6,623,518 B1; 6,625,215 B1; 6,626,026 B1; 6,626,338 B1; 6,628,435 B1; 6,629,185 B1; 6,631,297 B1; 6,632,175 B1; 6,633,801 B1; 6,636,803 B1; 6,637,062 B1; 6,639,896 B1; 6,640,310 B1; 6,641,049 B1; 6,643,292 B1; 6,646,796 B1; 6,647,428 B1; 6,651,030 B1; 6,652,479 B1; 6,654,720 B1; 6,655,024 B1; 6,657,625 B1; 6,658,396 B1; 6,661,710 B1; 6,662,116 B1; 6,663,485 B1; 6,665,388 B1; 6,666,193 B1; 6,667,684 B1; 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6,771,052 B1; 6,772,367 B1; 6,773,327 B1; 6,775,360 B1; 6,775,368 B1; 6,778,171 B1; 6,779,178 B1; 6,781,338 B1; 6,782,549 B1; 6,784,796 B1; 6,785,268 B1; 6,785,269 B1; 6,788,171 B1; 6,789,096 B1; 6,791,396 B1; 6,792,320 B1; 6,792,685 B1; 6,794,024 B1; 6,795,018 B1; 6,795,776 B1; 6,798,314 B1; 6,799,165 B1; 6,799,196 B1; 6,799,297 B1; 6,801,420 B1; 6,801,710 B1; 6,802,332 B1; 6,804,296 B1; 6,805,332 B1; 6,805,333 B1; 6,807,165 B1; 6,808,436 B1; 6,809,160 B1; 6,809,161 B1; 6,810,067 B1; 6,811,291 B1; 6,812,345 B1; 6,813,232 B1; 6,814,154 B1; 6,815,363 B1; 6,816,262 B1; 6,817,018 B1; 6,819,763 B1; 6,820,267 B1; 6,821,276 B1; 6,822,796 B1; 6,823,319 B1; 6,824,398 B1; 6,825,643 B1; 6,826,297 B1; 6,826,298 B1; 6,826,299 B1; 6,829,739 B1; 6,829,740 B1; 6,829,741 B1; 6,829,742 B1; 6,830,845 B1; 6,831,643 B1; 6,832,251 B1; 6,834,436 B1; 6,836,845 B1; 6,837,793 B1; 6,839,053 B1; 6,839,054 B1; 6,839,055 B1; 6,842,125 B1; 6,842,126 B1; 6,843,086 B1; 6,843,087 B1; 6,845,190 B1; 6,847,892 B1; 6,848,017 B1; 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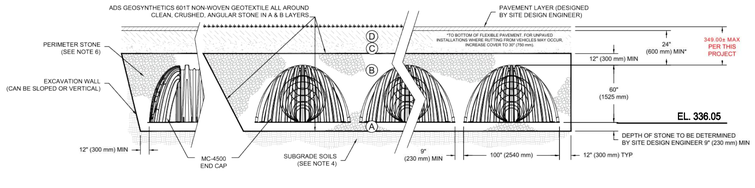
ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145' A-1, A-2-4, A-3 OR AASHTO M43' 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43' 3, 4	COMPACTION REQUIRED. SEE SPECIAL REQUIREMENTS ON LAYOUT PAGE.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43' 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



SCIMORE ACADEMY ON CENTERVILLE ROAD SPECIFIC CROSS SECTION

NOTES:

1. MC-4500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

SCIMORE ACADEMY ON CENTERVILLE ROAD - CENTERVILLE, VA
DATE: 02-23-16 DRAWN: CJD
PROJECT # 132923 CHECKED: GFI
REV | DWG | CHK | DESCRIPTION
02-23-17 | CJD | GFI | APPROVED PER SCHOOL DESIGN UPDATE
StormTech — 20 INDUSTRIAL BLVD. SUITE 1, NEW PALTZ, NEW YORK 12561 — 845-255-1390 · 888-892-2694 · WWW.STORMTECH.COM
4640 TRUEMAN BLVD HILLIARD, OHIO 43026 1-800-733-7473
ADS — SUSTAINABLE SOLUTIONS FOR WATER MANAGEMENT
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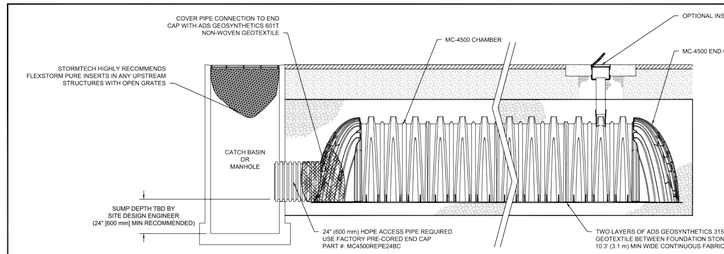
SHEET 4 OF 6



MC-4500 ISOLATOR ROW DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

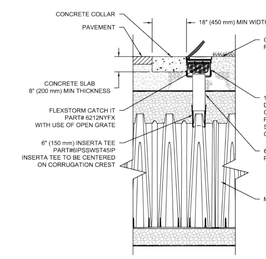
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



MC-4500 6" INSPECTION PORT DETAIL

NTS

SCIMORE ACADEMY ON CENTERVILLE ROAD - CENTERVILLE, VA
DATE: 02-23-16 DRAWN: CJD
PROJECT # 132923 CHECKED: GFI
REV | DWG | CHK | DESCRIPTION
02-23-17 | CJD | GFI | APPROVED PER SCHOOL DESIGN UPDATE
StormTech — 20 INDUSTRIAL BLVD. SUITE 1, NEW PALTZ, NEW YORK 12561 — 845-255-1390 · 888-892-2694 · WWW.STORMTECH.COM
4640 TRUEMAN BLVD HILLIARD, OHIO 43026 1-800-733-7473
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SHEET 5 OF 6

Project: Sicomore Academy (NS132923)

StormTech — detention · filtration · reuse · cleanup — A division of ADS

Chamber Model -	MC-4500	
Units -	Imperial	Click Here for Metric
Number of Chambers -	370	
Number of End Caps -	16	
Voids in the stone (porosity) -	40	%
Base of STORAGE Elevation -	336.05	ft.
Amount of Stone Above Chambers -	12	in
Amount of Stone Below Chambers -	0	in
Area of system -	15338	sf Min. Area - 14044 sf min. area

☑ Include Perimeter Stone in Calculations

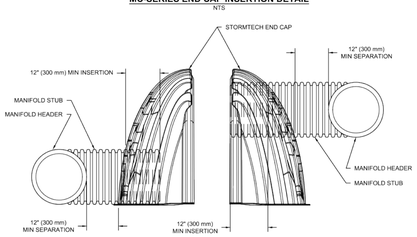
StormTech requires a minimum of 9 inches of stone below the chambers. This table is for modeling purposes only. Please see the engineer's drawings for the actual amount of stone under the chambers.

StormTech MC-4500 Cumulative Storage Volumes

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Single End Cap (cubic feet)	Incremental Chambers (cubic feet)	Incremental End Cap (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch, End Cap and Stone (cubic feet)	Cumulative System (cubic feet)	Elevation (feet)
72	0.00	0.00	0.00	0.00	511.27	511.27	60798.47	342.05
71	0.00	0.00	0.00	0.00	511.27	511.27	60287.20	341.97
70	0.00	0.00	0.00	0.00	511.27	511.27	59775.94	341.88
69	0.00	0.00	0.00	0.00	511.27	511.27	59264.67	341.80
68	0.00	0.00	0.00	0.00	511.27	511.27	58753.40	341.72
67	0.00	0.00	0.00	0.00	511.27	511.27	58242.14	341.63
66	0.00	0.00	0.00	0.00	511.27	511.27	57730.87	341.55
65	0.00	0.00	0.00	0.00	511.27	511.27	57219.60	341.47
64	0.00	0.00	0.00	0.00	511.27	511.27	56708.34	341.38
63	0.00	0.00	0.00	0.00	511.27	511.27	56197.07	341.30
62	0.00	0.00	0.00	0.00	511.27	511.27	55685.80	341.22
61	0.00	0.00	0.00	0.00	511.27	511.27	55174.54	341.13
60	0.04	0.00	15.16	0.00	505.20	520.36	54663.27	341.05
59	0.12	0.01	42.96	0.16	494.02	537.14	54142.91	340.97
58	0.16	0.03	60.95	0.42	486.72	548.09	53605.77	340.88
57	0.21	0.05	77.23	0.76	480.07	558.06	53057.68	340.80
56	0.27	0.07	99.29	1.08	471.12	571.49	52499.62	340.72
55	0.45	0.09	167.53	1.40	443.69	612.63	51928.13	340.63
54	0.87	0.11	246.15	1.81	412.09	660.04	51315.50	340.55
53	0.80	0.14	295.64	2.26	392.11	690.01	50655.47	340.47
52	0.91	0.17	336.01	2.68	375.79	714.48	49965.46	340.38
51	1.00	0.19	371.07	3.07	361.61	735.75	49250.98	340.30
50	1.09	0.22	402.31	3.44	348.96	754.72	48515.23	340.22
49	1.16	0.24	430.49	3.88	337.53	771.88	47760.51	340.13
48	1.23	0.27	456.58	4.32	326.90	787.81	46988.63	340.05
47	1.30	0.30	480.88	4.76	317.01	802.65	46200.82	339.97
46	1.36	0.32	503.58	5.18	307.76	816.52	45398.17	339.88
45	1.42	0.35	524.92	5.56	299.07	829.56	44581.65	339.80
44	1.47	0.37	545.13	5.94	290.84	841.91	43752.09	339.72
43	1.53	0.39	564.31	6.31	283.02	853.63	42910.18	339.63
42	1.57	0.42	582.56	6.68	275.57	864.81	42056.55	339.55
41	1.62	0.44	599.91	7.04	268.48	875.44	41191.74	339.47
40	1.67	0.46	616.50	7.40	261.70	885.61	40316.30	339.38
39	1.71	0.48	632.37	7.74	255.22	895.34	39430.69	339.30
38	1.75	0.50	647.53	8.08	249.02	904.63	38535.35	339.22
37	1.79	0.53	662.04	8.40	243.09	913.53	37630.72	339.13
36	1.83	0.55	676.06	8.72	237.35	922.14	36717.18	339.05
35	1.86	0.56	689.47	9.03	231.87	930.37	35795.05	338.97
34	1.90	0.58	702.38	9.33	226.58	938.29	34864.68	338.88
33	1.93	0.60	714.75	9.63	221.50	945.91	33926.38	338.80
32	1.96	0.62	726.71	9.92	216.61	953.24	32980.47	338.72
31	2.00	0.64	738.19	10.21	211.91	960.31	32027.23	338.63
30	2.03	0.66	749.25	10.49	207.37	967.11	31066.92	338.55
29	2.05	0.67	759.90	10.77	203.00	973.67	30099.81	338.47
28	2.08	0.69	770.15	11.05	198.79	979.99	29126.14	338.38
27	2.11	0.71	779.99	11.32	194.74	986.05	28146.15	338.30
26	2.13	0.72	789.52	11.58	190.82	991.93	27160.10	338.22
25	2.16	0.74	798.71	11.84	187.05	997.60	26168.17	338.13
24	2.18	0.76	807.54	12.10	183.41	1003.05	25170.57	338.05
23	2.21	0.77	816.04	12.35	179.91	1008.30	24167.53	337.97
22	2.23	0.79	824.23	12.59	176.54	1013.36	23159.23	337.88
21	2.25	0.80	832.08	12.83	173.30	1018.21	22145.87	337.80
20	2.27	0.82	839.66	13.13	170.15	1022.94	21127.65	337.72
19	2.29	0.84	846.93	13.45	167.12	1027.49	20104.71	337.63
18	2.31	0.85	853.91	13.53	164.29	1031.73	19077.22	337.55
17	2.33	0.86	860.60	13.74	161.53	1035.87	18045.49	337.47
16	2.34	0.87	867.02	13.95	158.88	1039.85	17009.62	337.38
15	2.36	0.89	873.17	14.16	156.34	1043.66	15969.77	337.30
14	2.38	0.90	879.04	14.37	153.90	1047.31	14926.10	337.22
13	2.39	0.91	884.66	14.57	151.58	1050.80	13878.79	337.13
12	2.41	0.92	890.02	14.76	149.35	1054.13	12827.99	337.05
11	2.42	0.93	895.13	14.95	147.24	1057.31	11773.85	336.97
10	2.43	0.95	899.98	15.13	145.22	1060.33	10716.54	336.88
9	2.44	0.96	904.59	15.31	143.31	1063.21	9656.21	336.80
8	2.46	0.97	908.96	15.48	141.49	1065.93	8593.00	336.72
7	2.47	0.98	913.08	15.65	139.78	1068.50	7527.08	336.63
6	2.48	0.99	916.96	15.81	138.16	1070.93	6458.57	336.55
5	2.49	1.00	920.65	15.96	136.62	1073.24	5387.65	336.47
4	2.50	1.01	924.14	16.11	135.16	1075.42	4314.41	336.38
3	2.51	1.02	927.41	16.25	133.80	1077.46	3239.99	336.30
2	2.51	1.02	930.45	16.39	132.53	1079.37	2161.53	336.22
1	2.53	1.03	934.96	16.52	130.67	1082.16	1082.16	336.13

MC-SERIES END CAP INSERTION DETAIL

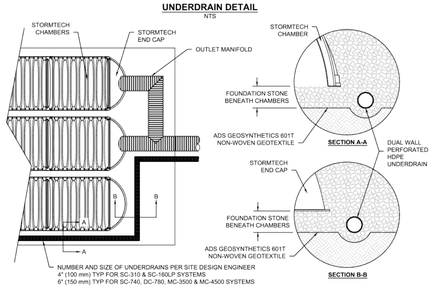
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

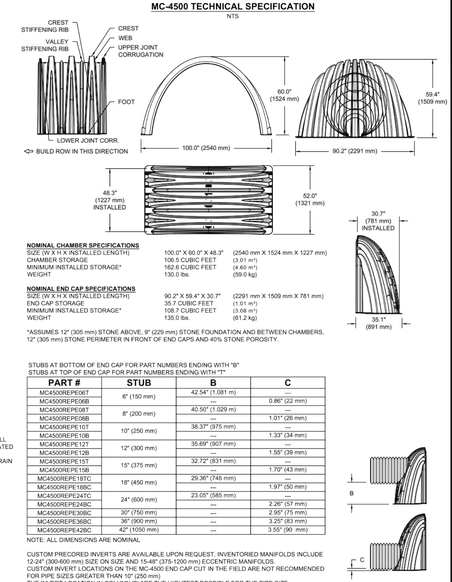
UNDERDRAIN DETAIL

NTS



MC-4500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH) 100.0" X 60.0" X 48.3" (2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE 106.5 CUBIC FEET (3.01 m^3)
MINIMUM INSTALLED STORAGE* 162.6 CUBIC FEET (4.60 m^3)
WEIGHT 130.0 lbs. (59.0 kg)

NOMINAL END CAP SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH) 90.2" X 59.4" X 30.7" (2291 mm X 1509 mm X 781 mm)
END CAP STORAGE 35.7 CUBIC FEET (1.01 m^3)
MINIMUM INSTALLED STORAGE* 108.7 CUBIC FEET (3.08 m^3)
WEIGHT 135.0 lbs. (61.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC4500REPE06T	6" (150 mm)	42.54" (1,081 m)	---
MC4500REPE06B		---	0.86" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1,029 m)	---
MC4500REPE08B		---	1.01" (26 mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	---
MC4500REPE10B		---	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.69" (907 mm)	---
MC4500REPE12B		---	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	---
MC4500REPE15B		---	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.36" (746 mm)	---
MC4500REPE18BC		---	1.97" (50 mm)
MC4500REPE24TC	24" (600 mm)	23.05" (585 mm)	---
MC4500REPE24BC		---	2.26" (57 mm)
MC4500REPE30BC	30" (750 mm)	---	2.95" (75 mm)
MC4500REPE36BC	36" (900 mm)	---	3.25" (83 mm)
MC4500REPE42BC	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHTEST POSSIBLE FOR THE PIPE SIZE.

SCIMORE ACADEMY ON CENTERVILLE ROAD - CENTERVILLE, VA
DATE: 02-23-16 DRAWN: CJD
PROJECT # 132923 CHECKED: GFI
REV | DWG | CHK | DESCRIPTION
02-23-17 | CJD | GFI | APPROVED PER SCHOOL DESIGN UPDATE
StormTech — 20 INDUSTRIAL BLVD. SUITE 1, NEW PALTZ, NEW YORK 12561 — 845-255-1390 · 888-892-2694 · WWW.STORMTECH.COM
4640 TRUEMAN BLVD HILLIARD, OHIO 43026 1-800-733-7473
ADS — SUSTAINABLE SOLUTIONS FOR WATER MANAGEMENT
THIS DOCUMENT IS THE PROPERTY OF ADS AND IS PROVIDED TO YOU AS AN INSTRUMENT OF SERVICE. THE SITE DESIGN ENGINEER IS PERMITTED TO USE THIS DOCUMENT FOR THE PURPOSE OF REVIEW, PERMITTING, AND CONSTRUCTION OF A STORMTECH STORMWATER MANAGEMENT SYSTEM. ANY OTHER USE OR REPRODUCTION IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF ADS. THIS DOCUMENT MUST BE RETURNED TO ADS UPON REQUEST.
SHEET 6 OF 6

NOTES:

1. ALL STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
2. DETAILS FROM MANUFACTURER ARE CURRENT AT THE TIME OF PLAN PREPARATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING LATEST DETAILS PRIOR TO CONSTRUCTION.

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(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 7/8/17 — PROFESSIONAL ENGINEER

DRAWN: BP / SD / TT
CHECKED: AV / BP
SCALE: NONE
DATE: 7/18/2017

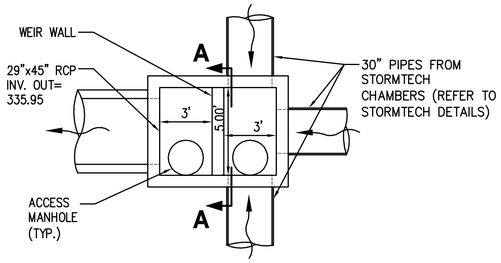
NO.	DESCRIPTION	DATE	REV. BY	APPROVED

REVISION APPROVED BY

BMP-SWM STORMTECH DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

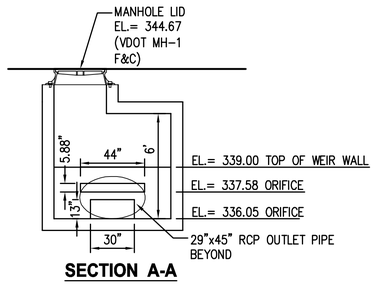
SHEET: C-0708



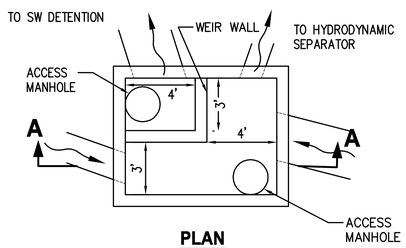
DETENTION CONTROL STRUCTURE #6

SCALE: 1" = 3'

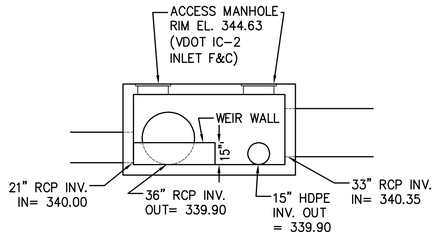
NOTE: STRUCTURE SHALL BE
DESIGNED FOR H-20 LOADING



SECTION A-A



PLAN



SECTION A-A

FLOW DIVERSION STRUCTURE #6

SCALE: 1" = 3'

NOTE: STRUCTURE SHALL BE
DESIGNED FOR H-20 LOADING

NOTES:

1. ALL STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
2. DETAILS FROM MANUFACTURER ARE CURRENT AT THE TIME OF PLAN PREPARATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING LATEST DETAILS PRIOR TO CONSTRUCTION.

FLOW DIVERSION AND DETENTION CONTROL STRUCTURE DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

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FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

SCALE: AS NOTED | DATE: 7/18/2017 | DRAWN: BP / SO / TT | CHECKED: AV / BP

SHEET: C-0709

- Micro-scale and small-scale permeable pavement installations are acceptable if they are designed according to the Level 1 criteria (i.e., they possess an impermeable bottom liner and an underdrain).
- The stone used in the reservoir layer should be carbonate in nature to provide extra chemical buffering capacity.

Table 7.6. Material Specifications for Underneath the Pavement Surface

Material	Specification	Notes
Bedding Layer	PC: None PA: 2 in. of No. 57 stone IP: 2 in. of No. 8 stone over 4 inches of No. 57 stone	ASTM D448 size No. 8 stone (e.g. 3/8 to 3/16 inch in size). Should be washed and clean and free of all fines.
Reservoir Layer	PC: No. 57 stone PA: No. 2 stone IP: No. 2, 3, or 4 stone	ASTM D448 size No. 57 stone (e.g. 1 1/2 to 1/2 inch in size); No. 2 Stone (e.g. 3 inch to 3/4 inch in size). Depth is based on the pavement structural and hydraulic requirements. Should be washed and clean and free of all fines.
Underdrain	Use 4 to 6 inch diameter perforated PVC (AASHTO M 252) pipe, with 3/8-inch perforations at 6 inches on center; each underdrain installed at a minimum 0.5% slope located 20 feet or less from the next pipe (or equivalent corrugated HDPE may be used for smaller load-bearing applications). Perforated pipe installed for the full length of the permeable pavement cell, and non-perforated pipe, as needed, is used to connect with the storm drain system. T's and Y's installed as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the T's and Ys.	
Filter Layer	The underlying native soils should be separated from the stone reservoir by a thin, 2 to 4 inch layer of choker stone (e.g. No. 8) covered by a 6 to 8 inch layer of coarse sand (e.g. ASTM C 33, gradation).	The sand should be placed between the stone reservoir and the choker stone, which should be placed on top of the underlying native soils.
Filter Fabric (optional)	Use an appropriate filter fabric for the particular application based on AASHTO M288-06 Filter Fabric should have a Flow Rate greater than 125 gpm/sq. ft. (ASTM D4491), and an Apparent Opening Size (AOS) equivalent to a US # 70 or # 80 sieve (ASTM D4751). The geotextile AOS selection is based on the percent passing the No. 200 sieve in "A" Soil subgrade, using FHWA or AASHTO selection criteria.	
Impermeable Liner	Use a thirty mil (minimum) PVC Geomembrane liner covered by 8 to 12 oz./sq. yd. non-woven geotextile. NOTE: THIS IS USED ONLY FOR KARST REGIONS.	
Observation Well	Use a perforated 4 to 6 inch vertical PVC pipe (AASHTO M 252) with a lockable cap, installed flush with the surface.	

Table 7.4. Permeable Pavement Design Criteria

Level 1 Design	Level 2 Design
Tv = (1)(Rv)(A) / 12 – the volume reduced by an upstream BMP [1]	Tv = (1.1)(Rv)(A) / 12
Soil infiltration is less than 0.5 in./hr.	Soil infiltration rate must exceed 0.5 in./hr to remove underdrain requirement, or use a drawdown design in accordance with **Section 6**.
Underdrain required	1. No underdrain; ***OR*** 2. If an underdrain is used, provide a 12-inch (minimum) stone reservoir infiltration sump below the underdrain invert that meets the drawdown requirements of Section 6; ***OR*** 3. The Tv stone reservoir volume has at least a 48-hour drain time, as regulated by a control structure.
CDA[1] = The permeable pavement area plus upgradient parking, as long as the ratio of external contributing area to permeable pavement does not exceed 2.5:1.	• CDA = The permeable pavement area; ***OR*** • If option 3 above is used, CDA ratio may be 2.5:1.

[1] The contributing drainage area to the permeable pavements should be limited to paved surfaces in order to avoid sediment wash-on. When pervious areas are conveyed to permeable pavement, sediment source controls and/or pre-treatment must be provided strip or sump should be used. The pre-treatment may qualify for a runoff reduction credit if designed accordingly.

VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT

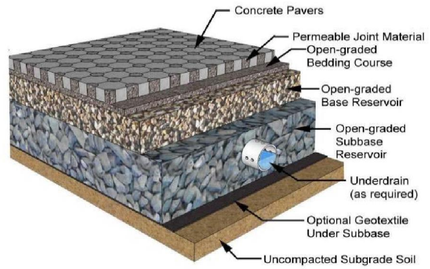


Figure 7.3. Typical Detail (Source: Smith, 2009)

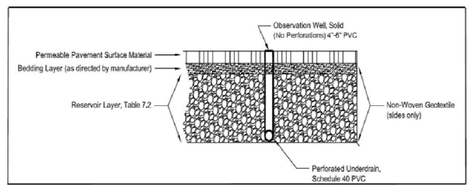


Figure 7.4. Typical Section Permeable Pavement Level 1

CONSTRUCTION NOTES:

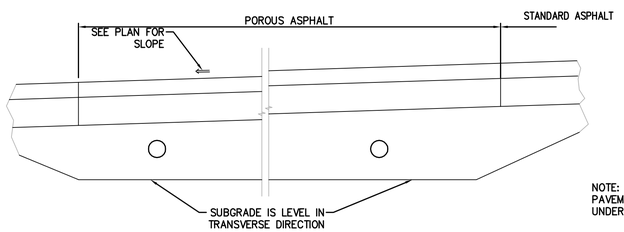
THE PERMEABLE PAVEMENT HAS BEEN DESIGNED IN ACCORDANCE WITH VIRGINIA DEQ/DCR STORMWATER DESIGN SPECIFICATION No. 7, VERSION 2.0 DATED JAN. 1, 2013. THE CONTRACTOR SHALL CONSTRUCT THE PERMEABLE PAVEMENT FACILITY IN ACCORDANCE WITH THIS SPECIFICATION. THE CONTRACTOR SHALL PROVIDE MATERIAL CERTIFICATIONS AND A SIGNED CERTIFICATION THAT THE FACILITY WAS CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE DEQ/DCR SPECIFICATION REFERENCED ABOVE. REFER TO SHEET C-0711 FOR VIRGINIA DEQ/DCR CONSTRUCTION SEQUENCE AND CONSTRUCTION INSPECTION RECOMMENDATIONS.

MAINTENANCE NOTES:

THE OWNER SHOULD BE AWARE THAT A MAINTENANCE AGREEMENT IS REQUIRED TO BE EXECUTED AND RECORDED IN LAND RECORDS BETWEEN THE OWNER AND THE LOCAL JURISDICTION. THE OWNER SHOULD MAKE HIMSELF FULLY AWARE OF ALL CONSTRUCTION, INSPECTION AND MAINTENANCE OBLIGATIONS CONTAINED IN THE AGREEMENT AND THE DEQ/DCR SPECIFICATION REFERENCED ABOVE. REFER TO SHEET C-0711 FOR VIRGINIA DEQ/DCR MAINTENANCE AND MAINTENANCE INSPECTION RECOMMENDATIONS.

NOTE:

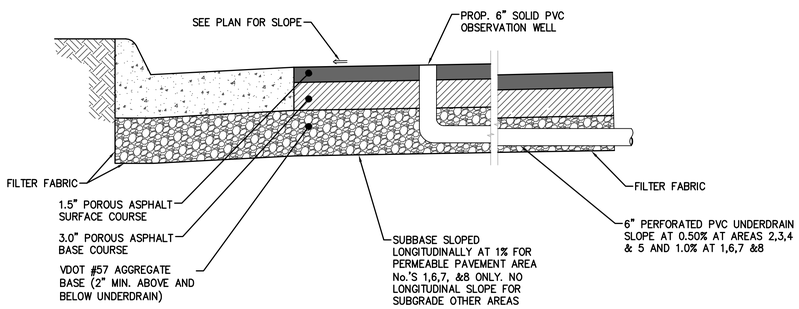
PERMEABLE PAVEMENT FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED



NOTE: NOT ALL PERMEABLE PAVEMENT AREAS WILL HAVE TWO UNDERDRAINS.

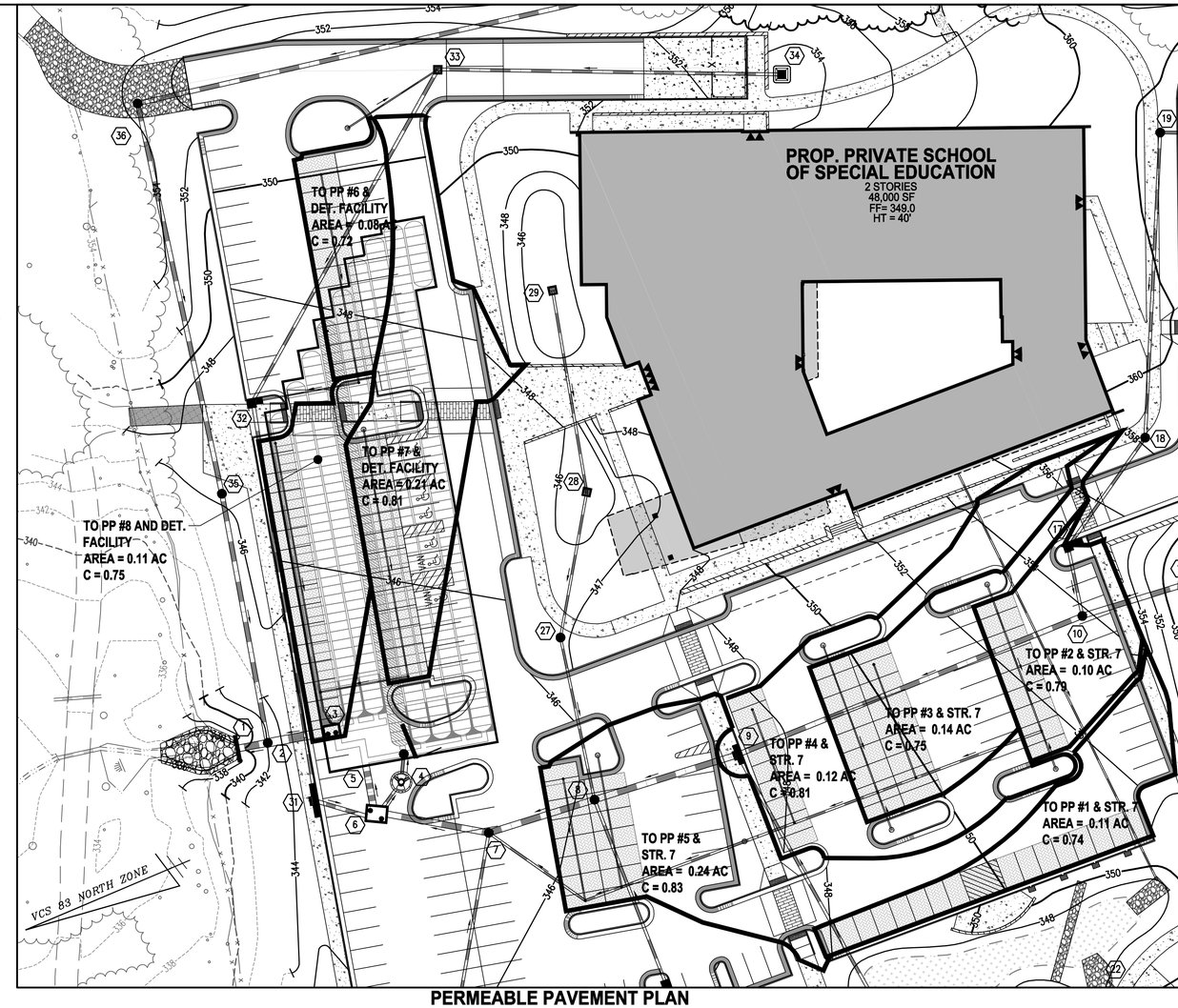
TYPICAL TRANSVERSE SECTION PERMEABLE PAVEMENT

N.T.S.



TYPICAL LONGITUDINAL SECTION PERMEABLE PAVEMENT

N.T.S.



PERMEABLE PAVEMENT PLAN

SCALE: 1" = 30'

PERMEABLE PAVEMENT SIZING CALCULATIONS
IN ACCORDANCE WITH DEQ SPECIFICATION NO. 7

Design Level 1 (59% Phosphorous removal rate)

Design Basis:

1. Design assumes no infiltration
2. Facility is not designed for stormwater detention
3. Pavement will be porous asphalt.

Permable Pavement Design:

Facility No.	Drainage Areas										
	Actual Contributing Impervious Area (SF)	Contributing Impervious Credit Area [1] (SF)	Actual Contributing Pervious Area (SF)	Contributing Pervious Credit Area [1] (SF)	Permeable Pavement Area (SF)	Total Contributing Drainage Area (SF)	(AC)	Total Impervious Credit Area [1] (SF)	(AC)	Ratio Contributing Area to Permeable Pavement [2]	C Factor [3]
PP1	2,509	2,509	68	68	2,161	4,738	0.11	4,670	0.11	1.19	0.74
PP2	3,070	3,070	115	115	1,305	4,490	0.10	4,375	0.10	2.44	0.79
PP3	3,480	3,480	46	46	2,610	6,136	0.14	6,090	0.14	1.35	0.75
PP4	4,128	2,900	115	0	1,160	5,403	0.12	4,060	0.09	2.50	0.81
PP5	8,493	5,337	0	0	2,135	10,627	0.24	7,472	0.17	2.50	0.83
PP6	1,573	1,573	0	0	1,764	3,337	0.08	3,337	0.08	0.89	0.72
PP7	6,795	4,793	237	0	1,917	8,949	0.21	6,710	0.15	2.50	0.81
PP8	2,795	2,795	165	165	1,942	4,902	0.11	4,737	0.11	1.52	0.75
TOTALS		26,456		394	14,993	48,582	1.12	41,449	0.95		

Footnotes:

(1) In accordance with the DEQ specification permeable pavement can only treat a contributing drainage area draining onto the permeable pavement of at most 2.5 times the permeable pavement area. Therefore, the impervious area used in the VRMM spreadsheet to determine phosphorous removal and adjusted CN is limted to this 3.5 times permeable pavement area.
(2) Ratio uses area taken for BMP credit purposes.
(3) Average weighted C factor uses actual areas of impervious, pervious and permeable pavement with C factors of 0.90, 0.30 and 0.56 respectively.

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COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 7/18/17 PROFESSIONAL ENGINEER

DRAWN: BP / SD / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE: AS NOTED

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

PERMEABLE PAVEMENT PLAN, COMPUTATIONS & DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

3rd Party Construction Inspection Checklist and Certification: Permeable Pavement

DEQ Spec. No. 7 & PFM 6-1304

Project Name:_____ Construction Firm:_____

Co. Plan Number:_____ 3rd Party Inspection Firm:_____

Site Address:_____ 3rd Party Inspector's Name:_____

Latitude / Longitude:_____°N _____°W Contact Info / Phone Number:_____

BMP ID Number as shown on plan and general location on the site:_____

- A certification is required for all SWM/BMP facilities under PFM 6-1300 et. seq.
- A Virginia licensed professional engineer or licensed professional meeting the exemption requirements of the Code of Virginia §54.1-401 must sign the certification at the end of this checklist.

Instructions:

- Check each item as complete, or write in "N/A" for those items that are not applicable.
- Fill in blanks for requested information on dimensions, materials, etc.
- Provide one or more photos for applicable items; checkboxes indicate items that *require* photos.

Pre-Installation Meeting and Site Preparation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Pre-installation Meeting with - contractor designated to install the facility - 3rd party inspector (or designee) A review of checklist and tentative schedule for interim inspections and sign-offs has been discussed	
☐		Contributing drainage areas are stabilized and not eroding.	
☐	☐	Stormwater runoff is diverted around the excavation area to a stabilized conveyance.	

Excavation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Horizontal location of BMP is in accordance with the approved plans.	
☐		Subgrade surface free of rocks, roots, and large voids. (Voids may be filled with base aggregate.)	
☐		For level 2 permeable pavement: Excavation bottom is scarified.	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device, and the design consultant has been notified.	
☐	☐	Excavation of facility has achieved proper elevations and grade per approved plans.	

Filter Layer and Underdrain Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		All aggregates (stone, sand, etc., as required) are clean, washed, and conform to specifications.	
☐	☐	Perforated underdrain size and spacing per approved plans. Pipe Diameter_____ inches Material_____ Pipe Spacing_____ ft. Slope_____% Perforation Size/Spacing _____ ft.	
☐		Filter layer and initial reservoir layer aggregates spread (not dumped) to avoid aggregate segregation per approved plans. Depth of filter layer _____ ft.	
☐	☐	Impermeable liner (when required) is placed in accordance with manufacturer specifications, per approved plans.	
☐		Underdrain, observation well(s), and underdrain fittings (45° wyes, cap at upstream end, etc.) installed per approved plans. Number of Observation Wells_____	

Stone Reservoir Aggregate Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Sides covered with geotextile with no tears, holes, or excessive wrinkles.	
☐	☐	Stone reservoir layer aggregate placement, compaction, and thickness, are per approved plans. Depth of reservoir layer aggregate _____ inches	

Bedding Layer and Pavement Installation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐	☐	Pre-treatment structures (when required) are installed per approved plans. Type of pretreatment _____	
☐		Concentrated flow is not being discharged directly onto the permeable pavement.	
☐		Pavement surface is even and runoff spreads evenly across surface.	
☐		Flow reduction orifice or cap placed on the end of the pavement underdrain per approved plans.	
☐	☐	Permeable pavement block systems which require edge restraints are installed flush with the paver blocks per approved plans. Size of Edge Restraints_____ Type of Edge Restraints_____	
☐		Aggregate layer for the installation of the underdrain system is per approved plans. Depth of aggregate layer_____ ft. Size of aggregate layer_____	
☐		Signs installed per PFM 6-1304.3B	
☐		For porous asphalt and pervious concrete pavement, the full permeability of paved surface has been properly tested (clean water applied at a min. rate of 5 gpm over the entire surface), and all water infiltrated directly without puddle formation or surface runoff.	
☐	☐	Provide a photo of the BMP facility after completion of construction.	

Final Certification

I do hereby certify that this as-built information for the stormwater management/BMP facility was inspected by me (or by an individual under my responsible charge) and conforms to the approved plans, except as indicated.

Signature:_____ Date:_____

License Number (Seal):_____

("Certify" means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction)

SECTION 8: CONSTRUCTION

Experience has shown that proper installation is absolutely critical to the effective operation of a permeable pavement system.

8.1 Necessary Erosion & Sediment Controls

- All permeable pavement areas should be fully protected from sediment intrusion by silt fence or construction fencing, particularly if they are intended to infiltrate runoff.
- Permeable pavement areas should remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment. Permeable pavement areas should be clearly marked on all construction documents and grading plans. To prevent soil compaction, heavy vehicular and foot traffic should be kept out of permeable pavement areas during and immediately after construction.
- During construction, care should be taken to avoid tracking sediments onto any permeable pavement surface to avoid clogging.
- Any area of the site intended ultimately to be a permeable pavement area should generally not be used as the site of a temporary sediment basin. Where locating a sediment basin on an area intended for permeable pavement is unavoidable, the invert of the sediment basin must be a minimum of 2 feet above the final design elevation of the bottom of the aggregate reservoir course. All sediment deposits in the excavated area should be carefully removed prior to installing the sub-base, base and surface materials.

8.2. Permeable Pavement Construction Sequence

The following is a typical construction sequence to properly install permeable pavement, which may need to be modified to depending on whether Porous Asphalt (PA), Pervious Concrete (PC) or Interlocking Paver (IP) designs are employed.

Step 1. Construction of the permeable pavement shall only begin after the entire contributing drainage area has been stabilized. The proposed site should be checked for existing utilities prior to any excavation. Do not install the system in rain or snow, and do not install frozen aggregate materials.

Step 2. As noted above, temporary erosion and sediment (E&S) controls are needed during installation to divert stormwater away from the permeable pavement area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the excavation process. The proposed permeable pavement area must be kept free from sediment during the entire construction process. Construction materials that are contaminated by sediments must be removed and replaced with clean materials.

Step 3. Where possible, excavators or backhoes should work from the sides to excavate the reservoir layer to its appropriate design depth and dimensions. For micro-scale and small-scale pavement applications, excavating equipment should have arms with adequate extension so they do not have to work inside the footprint of the permeable pavement area (to avoid compaction). Contractors can use a cell construction approach, whereby the proposed permeable pavement area is split into 500 to 1000 sq. ft. temporary cells with a 10 to 15 foot earth bridge in between, so that cells can be excavated from the side. Excavated material should be placed away from the open excavation so as to not jeopardize the stability of the side walls.

Step 4. The native soils along the bottom and sides of the permeable pavement system should be scarified or tilled to a depth of 3 to 4 inches prior to the placement of the filter layer or filter fabric. In large scale paving applications with weak soils, the soil subgrade may need to be compacted to 95% of the Standard Proctor Density to achieve the desired load-bearing capacity. (NOTE: This effectively eliminates the infiltration function of the installation, and it must be addressed during hydrologic design.)

Step 5. The filter layer should be installed on the bottom of the reservoir layer and, where appropriate, filter fabric can be placed on the sides.

Step 6. Provide a minimum of 2 inches of aggregate above and below the underdrains. The underdrains should slope down towards the outlet at a grade of 0.5% or steeper. The up-gradient end of underdrains in the reservoir layer should be capped. Where an underdrain pipe is connected to a structure, there should be no perforations within 1 foot of the structure. Ensure that there are no perforations in clean-outs and observation wells within 1 foot of the surface.

Step 7. Spread 6-inch lifts of the appropriate clean, washed stone aggregate. Place at least 4 inches of additional aggregate above the underdrain, and then compact it using a vibratory roller in static mode until there is no visible movement of the aggregate. Do not crush the aggregate with the roller.

Step 8. Install over-drain if required and connect into outlet conveyance system.

Step 9. Install the desired depth of the bedding layer, depending on the type of pavement, as follows:

- **Pervious Concrete:** No bedding layer is used.
- **Porous Asphalt:** The bedding layer for porous asphalt pavement consists of 1 to 2 inches of clean, washed ASTM D 448 No.57 stone. The filter course must be leveled and pressed (choked) into the reservoir base with at least four (4) passes of a 10-ton steel drum static roller.
- **Interlocking Pavers:** The bedding layer for open-jointed pavement blocks should consist of 2 inches of washed ASTM D 448 No.8 stone.

Step 10. Install paving materials in accordance with manufacturer or industry specifications for the particular type of pavement.

- **Installation of Porous Asphalt.** The following has been excerpted from various documents, most notably Jackson (2007).
  1. Install porous asphalt pavement similarly to regular asphalt pavement. The pavement should be laid in a single lift over the filter course. The laying temperature should be between 230°F and 260°F, with a minimum air temperature of 50°F, to ensure that the surface does not stiffen before compaction.
  2. Complete compaction of the surface course when the surface is cool enough to resist a 10-ton roller. One or two passes of the roller are required for proper compaction. More rolling could cause a reduction in the porosity of the pavement.
  3. The mixing plant must provide certification of the aggregate mix, abrasion loss factor, and asphalt content in the mix. Test the asphalt mix for its resistance to stripping by water using ASTM 1664. If the estimated coating area is not above 95%, additional anti-stripping agents must be added to the mix.
  4. Transport the mix to the site in a clean vehicle with smooth dump beds sprayed with a non-petroleum release agent. Cover the mix during transportation to control cooling.
  5. Test the full permeability of the pavement surface by application of clean water at a rate of at least five gallons per minute over the entire surface. All water must infiltrate directly, without puddle formation or surface runoff.
  6. Inspect the facility 18 to 30 hours after a significant rainfall (greater than 1/2 inch) or artificial flooding, to determine that the facility is draining properly.

- **Installation of Pervious Concrete.** The basic installation sequence for pervious concrete is outlined by the American Concrete Institute (2008). It is strongly recommended that concrete installers successfully complete a recognized pervious concrete installers training program, such as the Pervious Concrete Contractor Certification Program offered by the NRMCA. The basic installation procedure is as follows:
  1. Drive the concrete truck as close to the project site as possible.
  2. Water the underlying aggregate (reservoir layer) before the concrete is placed, so that the aggregate does not draw moisture from the freshly laid pervious concrete.
  3. After the concrete is placed, approximately 3/8 to 1/2-inch is struck off, using a vibratory screed. This is to allow for compaction of the concrete pavement.
  4. Compact the pavement with a steel pipe roller. Care should be taken so that over-compaction does not occur.
  5. Cut joints for the concrete to a depth of 1/4 inch.
  6. The curing process is very important for pervious concrete. Cover the pavement with plastic sheeting within 20 minutes of the strike-off, and keep it covered for at least seven (7) days. Do not allow traffic on the pavement during this time period.

Installation of Interlocking Pavers. The basic installation process is described in greater detail by Smith (2006). The basic installation process is described in greater detail by Smith (Smith 2011). Permeable paver job foremen should successfully complete the PICP Installer Technician Course training program offered by the Interlocking Concrete Pavement Institute. The following installation method also applies to clay paving units. Contact manufacturers of composite units for installation specifications.

1. Moisten, place and level the No. 2 stone sub-base and compact it in minimum 12-inch thick lifts with four passes of a 10-ton steel drum static roller until there is no visible movement. The first two passes are in vibratory mode with the final two passes in static mode. The filter aggregate should be moist to facilitate movement into the reservoir course.
2. Place edge restraints before the base layer, bedding and pavers are installed. Permeable interlocking pavement systems require edge restraints to prevent vehicle loads from moving the pavers. Edge restraints may be standard concrete curbs or curb and gutters.,

3. Moisten, place and level the No. 57 base stone in a single lift (4 inches thick). Compact it into the reservoir course beneath with at least four (4) passes of a 10-ton steel drum static roller until there is no visible movement. The first two passes are in vibratory mode, with the final two passes in static mode.
4. Place and screed the bedding course material (typically No. 8 stone, 2 inches thick).
5. Pavers may be placed by hand or with mechanical installers.
6. Fill gaps at the edge of the paved areas with cut pavers or edge units. When cut pavers are needed, cut the pavers with a paver splitter or masonry saw. Cut pavers no smaller than one-third (1/3) of the full unit size, if subject to tire movement.
7. Fill the joints and openings with stone. Joint openings must be filled with No. 8, 89 or 9 stone per the paver manufacturer's recommendation. Sweep and remove excess stones from the paver surface.
8. Compact and seat the pavers into the bedding course with a minimum low-amplitude 5,000 lbf, 75- to 95-Hz plate compactor. Do not compact within 6 feet of the unrestrained edges of the pavers.
9. Thoroughly sweep the surface after construction to remove all excess aggregate.
10. Inspect the area for settlement. Any paving units that settle must be reset and re-inspected.
11. The contractor should return to the site within 6 months to top up the paver joints with stones.

8.3. Construction Inspection

Inspections before, during and after construction are needed to ensure that permeable pavement is built in accordance with these specifications. Use a detailed inspection checklist that requires sign-offs by qualified individuals at critical stages of construction and to ensure that the contractor's interpretation of the plan is consistent with the designer's intent. The basic elements of a permeable pavement construction checklist are provided at the end of this design specification.

Once the final construction inspection has been completed, log the GPS coordinates for each facility and submit them for entry into the local BMP maintenance tracking database.

It may be advisable to divert the runoff from the first few runoff-producing storms away from larger permeable pavement applications, particularly when up-gradient conventional asphalt areas drain to the permeable pavement. This can help reduce the input of fine particles that are often produced shortly after conventional asphalt is laid down.

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management regulations (9 VAC 25-870) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is

neglected, notification to the local program upon transfer of ownership, and right-of-entry for local program personnel.

- The regulations require that all post-construction BMPs, including Permeable Pavement installations, must be covered by a long term maintenance agreement and drainage easement to allow inspection and maintenance.
- The maintenance agreements should note which conventional parking lot maintenance tasks must be *avoided* (see **Section 9.2** below). Signs should be posted on larger parking lots to indicate their stormwater function and special maintenance requirements. When micro-scale or small-scale permeable pavement are installed on private residential lots, homeowners should be provided a simple document that explains the purpose of the Permeable Pavement and outlines (1) the routine maintenance needs, (2) the long-term maintenance plan, and (3) the basic parameters of the deed restriction, drainage easement or other mechanism enforceable by the VSMP Authority to help ensure that the permeable pavement system is maintained and functioning.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

9.2. Maintenance Tasks

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. Most installations work reasonably well year after year with little or no maintenance, whereas some have problems right from the start.

The following tasks **must be avoided** on all permeable pavements:

- sanding
- re-sealing
- re-surfacing
- power washing
- storage of snow piles containing sand
- storage of mulch or soil materials
- construction staging on unprotected pavement

A preventative maintenance task for large-scale applications involves regenerative air vacuum sweeping on a frequency consistent with the use and loadings encountered in the parking lot. Many consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Vacuum settings for large-scale interlocking paver applications should be calibrated so they *do not* pick up the small stones between pavement blocks.

Table 7.8. Recommended Maintenance Tasks for Permeable Pavement Practices

Maintenance Task	Frequency[1]
• For the first 6 months following construction, the practice and contributing drainage area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.	After installation

Conduct any needed repairs or stabilization.	
• Mow grass in grid paver applications	At least 1 time every 1-2 months during the growing season
• Stabilize the CDA to prevent erosion • Remove any soil or sediment deposited on pavement. • Replace or repair any necessary pavement surface areas that are degenerating or spalling	As needed
• Vacuum pavement with a standard street sweeper to prevent clogging	2-4 times per year (depending on use)
• Conduct a maintenance inspection • Spot weeding of grass applications	Annually
• Remove any accumulated sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Conduct maintenance using a regenerative street sweeper • Replace any necessary joint material	If clogged

[1] Required frequency of maintenance will depend on pavement use, traffic loads, and surrounding land use.

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each permeable pavement site, particularly at large-scale applications.

Maintenance of permeable pavement is driven by annual inspections that evaluate the condition and performance of the practice. Any permeable pavement installation that captures external drainage area (run-on) should be inspected more frequently during the first year (four seasons) to ensure that there are no unexpected loads of sediment or pavement particulates from the contributing area. If so, the property owner should assess ways to limit the contributions, or the maintenance schedule should be adjusted to ensure the pavement does not become clogged.

The following are suggested routine annual maintenance inspection points for permeable pavements:

- The drawdown rate should be measured at the observation well for three (3) days following a storm event in excess of 1/2-inch in depth. If standing water is still observed in the well after three days, this is a clear sign that clogging is a problem.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Then, test sections by pouring water from a five gallon bucket to ensure they work.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Check inlets, pretreatment cells and any flow diversion structures for sediment buildup and structural damage. Note if any sediment needs to be removed.
- Inspect the condition of the observation well and make sure it is still capped.

- Generally inspect any contributing drainage area for any controllable sources of sediment or erosion.

An example maintenance inspection checklist for permeable pavement can be accessed in **Appendix 9-C** of **Chapter 9** of the *Virginia Stormwater Management Handbook* (2nd edition, 2013). Based on inspection results, specific maintenance tasks will be triggered and scheduled to keep the facility in operating condition.

SECTION 10: COMMUNITY & ENVIRONMENTAL CONCERNS

Compliance with the Americans with Disabilities Act (ADA). Porous concrete and porous asphalt are generally considered to be ADA compliant. Most localities also consider interlocking concrete pavers to be complaint, if designers ensure that surface openings between pavers do not exceed 1/2 inch. However, some forms of interlocking pavers may not be suitable for handicapped parking spaces. Interlocking concrete pavers interspersed with other hardscape features (e.g., concrete walkways) *can* be used in creative designs to address ADA issues.

Groundwater Protection. While well-drained soils enhance the ability of permeable pavement to reduce stormwater runoff volumes, they may also increase the risk that stormwater pollutants might migrate into groundwater aquifers. Designers should avoid the use of infiltration-based permeable pavement in areas known to provide groundwater recharge to aquifers used for water supply. In these source water protection areas, designers should include liners and underdrains in large-scale permeable pavement applications (i.e., when the proposed surface area exceeds 10,000 square feet).

Stormwater Hotspots. Designers should also certify that the proposed permeable pavement area will not accept any runoff from a severe stormwater hotspot. Stormwater hotspots are operations or activities that are known to produce higher concentrations of stormwater pollutants and/or have a greater risk of spills, leaks or illicit discharges. Examples include certain industrial activities, gas stations, public works areas, petroleum storage areas (for a complete list of hotspots where infiltration is restricted or prohibited, see Stormwater Design Specification No. 8: Infiltration). For potential hotspots, restricted infiltration means that a minimum of 50% of the total T_v must be treated by a filtering or bioretention practice prior to the permeable pavement system. For known severe hotspots, the risk of groundwater contamination from spills, leaks or discharges is so great that infiltration of stormwater or snowmelt through permeable pavement is *prohibited.*

Underground Injection Control Permits. The Safe Drinking Water Act regulates the infiltration of stormwater in certain situations pursuant to the Underground Injection Control (UIC) Program, which is administered either by the EPA or a delegated state groundwater protection agency. In general, the EPA (2008) has determined that permeable pavement installations are not classified as Class V injection wells, since they are always wider than they are deep. There may be an exception in karst terrain if the discharge from permeable pavement is directed to an improved sinkhole, although this would be uncommon. More guidance on stormwater design in

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COMMONWEALTH OF VIRGINIA
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7/18/17
PROFESSIONAL ENGINEER

DATE: 7/18/2017
SCALE: AS NOTED
DRAWN: BP / SO / TT
CHECKED: AV / BP

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PREMEABLE PAVER PLAN, COMPUTATIONS AND DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0711

BIORETENTION SIZING CALCULATIONS

IN ACCORDANCE WITH DEQ SPECIFICATION NO. 9

Design Level 1 (55% Phosphorous removal rate)

Design Basis:

1. Design assumes no infiltration (Bioretention Filter)
2. Facility is not designed for stormwater detention

Bioretention Design:

Facility No.	Drainage Area							10-Yr Q	Treatment Vol.	Soil Media Depth	Equivalent Subsurface Storage Depth (2)	Surface Area	Min. Surface Ponding Depth (3) = (Tv)/SA - ESSD	Actual Design Ponding Depth	Filter Mulch Surface Elevation	BMP Water Surface Elev. (4)
	Impervious Area		Pervious Area		Total Area			(Rational)	Tv =(1)(Rv)(A)/12							
	(SF)	Rv	(SF)	Rv (1)	(SF)	(Ac)	Rv	(cfs)	(CF)	(Ft)	(Ft)	(SF)	(Ft)		(Ft)	(Ft)
BF1	16,476	0.95	26,351	0.25	42,827	0.98	0.52	3.53	1,853	2.0	0.50	2,435	0.26	0.30	447.00	447.30
		0.95				0.00										
TOTALS	16,476		26,351		42,827	0.98						2,435				

Footnotes:

(1) Rv based on HSG in accordance with Va. runoff reduction method (turf values are .15, .2, .22, .25 for A, B, C, and D soils respectively)
(2) Equivalent subsurface storage depth = media depth x 0.25 voids. Not counting gravel storage for this design.
(3) Preferred maximum water quality ponding depth is 6" but up to 12" is allowed with appropriate plants.
(4) Set overflow inlet top elevation at BMP WSEL.

CONSTRUCTION NOTES:

THE BIORETENTION (RAIN GARDEN) HAS BEEN DESIGNED IN ACCORDANCE WITH VIRGINIA DEQ/DCR STORMWATER DESIGN SPECIFICATION No. 9, VERSION 2.0 DATED JAN. 1, 2013. THE CONTRACTOR SHALL CONSTRUCT THE RAIN GARDEN FACILITY IN ACCORDANCE WITH THIS BIORETENTION SPECIFICATION. THE CONTRACTOR SHALL PROVIDE MATERIAL CERTIFICATIONS AND A SIGNED CERTIFICATION THAT THE FACILITY WAS CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE DEQ/DCR SPECIFICATION REFERENCED ABOVE. REFER TO SHEET C-0712 FOR VIRGINIA DEQ/DCR CONSTRUCTION SEQUENCE AND CONSTRUCTION INSPECTION RECOMMENDATIONS.

MAINTENANCE NOTES:

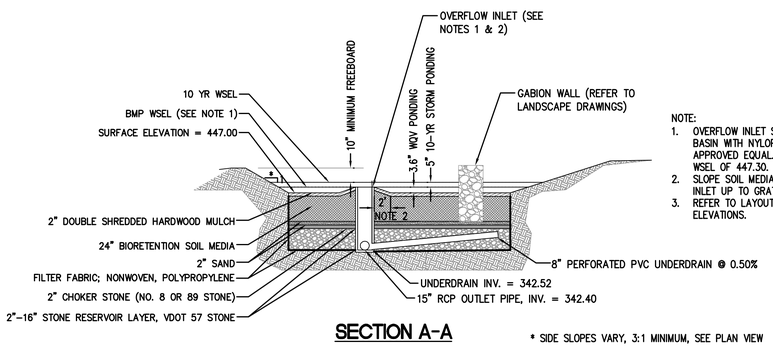
THE OWNER SHOULD BE AWARE THAT A MAINTENANCE AGREEMENT IS REQUIRED TO BE EXECUTED AND RECORDED IN LAND RECORDS BETWEEN THE OWNER AND THE LOCAL JURISDICTION. THE OWNER SHOULD MAKE HIMSELF FULLY AWARE OF ALL CONSTRUCTION, INSPECTION AND MAINTENANCE OBLIGATIONS CONTAINED IN THE AGREEMENT AND THE DEQ/DCR SPECIFICATION REFERENCED ABOVE. REFER TO SHEET C-0712 FOR VIRGINIA DEQ/DCR MAINTENANCE AND MAINTENANCE INSPECTION RECOMMENDATIONS.

NOTE:

BIORETENTION FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED

RAIN GARDEN TYPICAL DETAIL

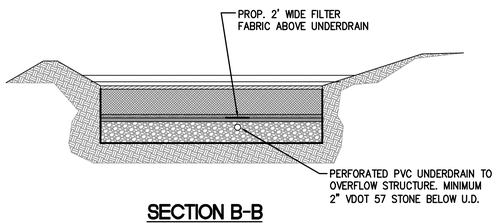
N.T.S.



NOTE:
1. OVERFLOW INLET SHALL BE 24" NYLOPLAST BASIN WITH NYLOPLAST DROP IN GRATE OR APPROVED EQUAL. SET GRATE ELEV. AT BMP WSEL OF 447.30.
2. SLOPE SOIL MEDIA AND MULCH AROUND INLET UP TO GRATE.
3. REFER TO LAYOUT PLAN FOR UNDERDRAIN ELEVATIONS.

SECTION A-A

* SIDE SLOPES VARY, 3:1 MINIMUM, SEE PLAN VIEW



SECTION B-B

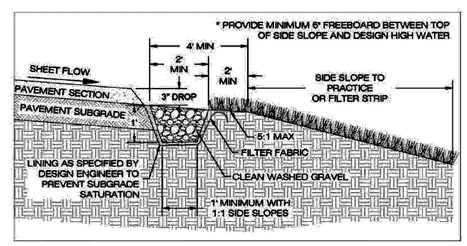


Figure 9.8 - Pretreatment – Gravel Diaphragm for Sheet Flow from Impervious or Pervious

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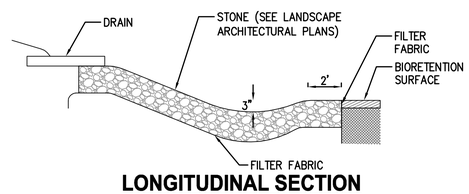
TYPICAL DETAIL GRAVEL AT CURB CUTS

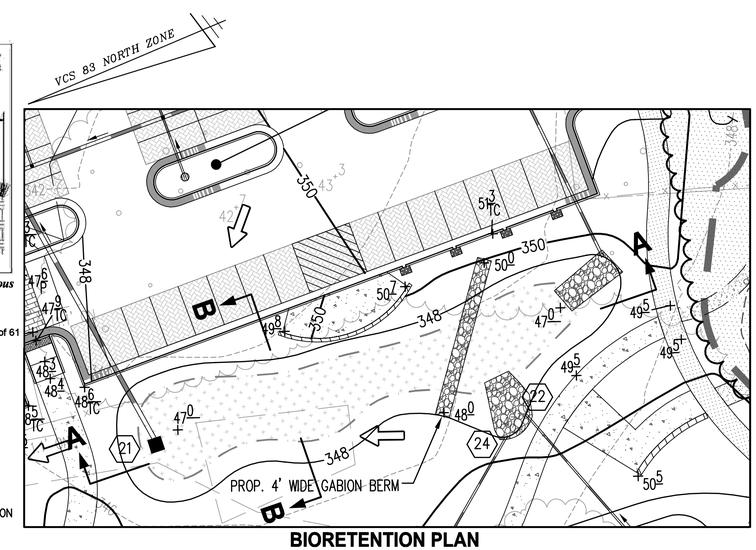


LONGITUDINAL SECTION

CROSS SECTION

STONE OUTLET PROTECTION

NTS



BIORETENTION PLAN

20 0 10 20 40
1 INCH = 20'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

SCALE: AS NOTED | DATE: 7/18/2017 | DRAWN: BP / SD / TT | CHECKED: AV / BP

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

BIORETENTION PLAN, COMPUTATIONS AND DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0712

SECTION 8: CONSTRUCTION

8.1. Construction Sequence

Construction Stage E&S Controls. Micro-bioretention and small-scale bioretention areas should be fully protected by silt fence or construction fencing, particularly if they will rely on infiltration (i.e., have no underdrains). Ideally, bioretention should remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment. Bioretention basin locations may be used as small sediment traps or basins during construction. However, these must be accompanied by notes and graphic details on the ESC plan specifying that (1) the maximum excavation depth at the construction stage must be at least 1 foot above the post-construction maximum excavation, (2) the facility must contain an underdrain, and (3) the plan must also show the proper procedures for converting the temporary sediment control practice to a permanent bioretention facility, including dewatering, cleanout and stabilization.

8.2 Bioretention Installation

The following is a typical construction sequence to properly install a bioretention basin. The installation of a bioretention basin will include intermediate inspections at critical stages of construction with inspector sign-off that the particular elements of the bioretention are constructed according the approved plans and specifications. As an alternative, if allowed by the VSMP Authority, the contractor may rely on the engineer of record or other qualified individual

to conduct the intermediate inspections and certifications of compliance. The construction sequence for micro-bioretention is more simplified. These steps may be modified to reflect different bioretention applications or expected site conditions:

Step 1. Construction of the bioretention area may only begin after the entire contributing drainage area has been stabilized with vegetation. It may be necessary to block certain curb or other inlets while the bioretention area is being constructed. The proposed site should be checked for existing utilities prior to any excavation.

Step 2. The designer and the installer should have a preconstruction meeting, checking the boundaries of the contributing drainage area and the actual inlet elevations to ensure they conform to original design. Since other contractors may be responsible for constructing portions of the site, it is quite common to find subtle differences in site grading, drainage and paving elevations that can produce hydraulically important differences for the proposed bioretention area. The designer should clearly communicate, in writing, any project changes determined during the preconstruction meeting to the installer and the plan review/inspection authority.

Step 3. Temporary E&S controls are needed during construction of the bioretention area to divert stormwater away from the bioretention area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the construction process.

Step 4. Any pre-treatment cells should be excavated first and then sealed to trap sediments.

Step 5. Excavators or backhoes should work from the sides to excavate the bioretention area to its appropriate design depth and dimensions. Excavating equipment should have scoops with adequate reach so they do not have to sit inside the footprint of the bioretention area. Contractors should use a cell construction approach in larger bioretention basins, whereby the basin is split into 500 to 1,000 sq. ft. temporary cells with a 10-15 foot earth bridge in between, so that cells can be excavated from the side.

Step 6. It may be necessary to rip the bottom soils to a depth of 6 to 12 inches to promote greater infiltration.

Step 7. Place geotextile fabric on the sides of the bioretention area with a 6-inch overlap on the sides. If a stone storage layer will be used, place the appropriate depth of #57 stone on the bottom, install the perforated underdrain pipe, pack #57 stone to 3 inches above the underdrain pipe, and add approximately 3 inches of choker stone/pea gravel as a filter between the underdrain and the soil media layer. If no stone storage layer is used, start with 6 inches of #57 stone on the bottom, and proceed with the layering as described above.

Step 8. Obtain soil the media from a qualified vendor, and store it on an adjacent impervious area or plastic sheeting. After verifying that the media meets the specifications, apply the media in 12-inch lifts until the desired top elevation of the bioretention area is achieved. Wait a few days to check for settlement, and add additional media, as needed, to achieve the design elevation.

Step 9. Prepare planting holes for any trees and shrubs, install the vegetation, and water accordingly. Install any temporary irrigation.

Step 10. Place the surface cover in both cells (mulch, river stone or turf), depending on the design. If coir or jute matting will be used in lieu of mulch, the matting will need to be installed prior to planting (**Step 9**), and holes or slits will have to be cut in the matting to install the plants.

Step 11. Install the plant materials as shown in the landscaping plan, and water them during weeks of no rain for the first two months.

8.3 Construction Inspection

Inspections during and immediately after construction are needed to ensure that all the elements of bioretention basins are built in accordance with these specifications. Use a detailed inspection checklist that requires sign-offs by qualified individuals at critical stages of construction and to ensure that the contractor's interpretation of the plan is consistent with the designer's intent. The following identifies the critical stages of construction where an intermediate inspection and sign-off by a qualified individual is recommended since the items can't be verified after construction is completed. A construction inspection checklist that includes certifications of inspection at critical stages is provided at the end of this specification.

The following represents items that are frequently overlooked during construction inspection but represent important elements for ensuring the success of the bioretention facility during the initial break-in period.

- Verify the proper coverage and depth of mulch, vegetation, or soil matting has been achieved following construction, both on the filter bed and the side-slopes.
- Inspect the pre-treatment forbays and filter strips to verify that they are properly installed, stabilized, and working effectively before opening the facility to runoff.
- Check that outfall protection/energy dissipation measures at concentrated inflow and outflow points are stable.

Upon final acceptance of the facility, log the practice's GPS coordinates and submit them for entry into the VSMP Authority's BMP maintenance tracking database.

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management regulations (4 VAC 50-60) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

- All bioretention practices must include a long term maintenance agreements consistent with the provisions of the VSMP regulations, and must include the recommended maintenance tasks and a copy of an annual inspection checklist.
- When micro-scale bioretention practices are applied on private residential lots, homeowners should be educated regarding their routine maintenance needs by being provided a simple document that explains their purpose and routine maintenance needs. .
- A deed restriction, drainage easement or other mechanism enforceable by the VSMP authority must be in place to help ensure that rain gardens and bioretention filters are maintained and not converted or disturbed, as well as to pass the knowledge along to any subsequent owners.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

9.2. First Year Maintenance Operations

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- ***Initial inspections.*** For the first 6 months following construction, the site should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- ***Spot Reseeding.*** Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- ***Fertilization.*** One-time, spot fertilization may be needed for initial plantings.
- ***Watering.*** Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- ***Remove and replace dead plants.*** Since up to 10% of the plant stock may die off in the first year, construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction. The typical thresholds below which replacement is required are 85% survival of plant material and 100% survival of trees.

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each bioretention area. The following is a list of some of the key maintenance problems to look for:

- Check to see if 75% to 90% cover (mulch plus vegetative cover) has been achieved in the bed, and measure the depth of the remaining mulch.
- Check for sediment buildup at curb cuts, gravel diaphragms or pavement edges that prevents flow from getting into the bed, and check for other signs of bypassing.
- Check for any winter- or salt-killed vegetation, and replace it with hardier species.
- Note presence of accumulated sand, sediment and trash in the pre-treatment cell or filter beds, and remove it.
- Inspect bioretention side slopes and grass filter strips for evidence of any rill or gully erosion, and repair it.
- Check the bioretention bed for evidence of mulch flotation, excessive ponding, dead plants or concentrated flows, and take appropriate remedial action.

- Check inflow points for clogging, and remove any sediment.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize them immediately.
- Check for clogged or slow-draining soil media, a crust formed on the top layer, inappropriate soil media, or other causes of insufficient filtering time, and restore proper filtration characteristics.

Example maintenance inspection checklists for Bioretention areas can be accessed in Appendix C of Chapter 9 of the *Virginia Stormwater Management Handbook* (2010).

9.4. Routine and Non-Routine Maintenance Tasks

Maintenance of bioretention areas should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique bioretention landscaping needs, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, and limited use of fertilizers and pesticides. A customized maintenance schedule must be prepared for each bioretention facility, since the maintenance tasks will differ depending on the scale of bioretention, the landscaping template chosen, and the type of surface cover. A generalized summary of common maintenance tasks and their frequency is provided in **Table 9.8**.

The most common non-routine maintenance problem involves standing water. If water remains on the surface for more than 48 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter (try the easiest things first, as listed below):

- Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be snaked.
- Remove accumulated sediment and till 2 to 3 inches of sand into the upper 8 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. Sand wicks can be installed by excavating or augering (using a tree auger or similar tool) down to the gravel storage zone to create vertical columns which are then filled with a clean open-graded coarse sand material (coarse sand mix similar to the gradation used for the soil media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Last resort - remove and replace some or all of the soil media.

Table 9.8. Suggested Annual Maintenance Activities for Bioretention

Maintenance Tasks	Frequency
• Mowing of grass filter strips and bioretention turf cover	At least 4 times a year
• Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season
• Add reinforcement planting to maintain desired the vegetation density • Remove invasive plants using recommended control methods • Stabilize the contributing drainage area to prevent erosion	As needed
• Spring inspection and cleanup • Supplement mulch to maintain a 3 inch layer • Prune trees and shrubs	Annually
• Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Replace the mulch layer	Every 3 years

3rd Party Construction Inspection Checklist and Certification: Bioretention

DEQ Spec. No. 9 & PFM 6-1307

Project Name:_____ Construction Firm:_____

Co. Plan Number:_____ 3rd Party Inspection Firm:_____

Site Address:_____ 3rd Party Inspector's Name:_____

Latitude / Longitude: _____°N _____°W Contact Info / Phone Number:_____

BMP ID Number as shown on plan and general location on the site:_____

- A certification is required for all SWM/BMP facilities under PFM 6-1300 et. seq.
- A Virginia licensed professional engineer or licensed professional meeting the exemption requirements of the Code of Virginia §54.1-401 must sign the certification at the end of this checklist.

Instructions:

- Check each item as complete, or write in "N/A" for those items that are not applicable.
- Fill in blanks for requested information on dimensions, materials, etc.
- Provide one or more photos for applicable items; checkboxes indicate items that *require* photos.

Pre-Installation Meeting and Site Preparation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Pre-Installation Meeting with - contractor designated to install the facility - 3rd party inspector (or designee) A review of checklist and tentative schedule for interim inspections and sign-offs has been discussed	
☐		Bioretention area has not been impacted during construction, or has been remediated prior to installation. Circle one: Not Impacted | Remediated	
☐		Impervious cover draining to the BMP have been constructed and area is free of equipment, vehicles and material storage	
☐		Pervious areas of contributing drainage area have been stabilized with adequate vegetation.	
☐	☐	Stormwater diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.	
☐		Drainage area slopes toward the bioretention facility.	

Excavation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Size & horizontal location conforms to approved plans. Area of Excavation_____	
☐		If the area has previously been used as sediment trap verify that the bottom of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	
☐		Level 2 bioretention: Excavation bottom was scarified prior to placement of stone.	
☐	☐	Subgrade surface free of rocks, roots, and large voids. (Voids may be refilled with base aggregate to create a level surface for the placement of aggregates and underdrain.)	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device, and the design consultant has been notified.	
☐	☐	Excavation depth and side grades per approved plans. Depth of Excavation_____ ft. Grade of Side Slope_____ ft./ft.	
☐		Excavation of the facility bottom has not compacted the bottom of the facility.	

Filter Layer, Underdrain and Stone Reservoir Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐	☐	All aggregates (stone, sand, etc., as required) conform to specifications.	
☐	☐	Impermeable liner (when required) is placed in accordance with manufacturer specs & approved plans.	
☐	☐	Sides of excavation covered with geotextile (when required), with no tears, holes, or excessive wrinkles.	
☐	☐	Underdrain size, spacing, base material installed per approved plans. Underdrain Diameter _____ inches Underdrain Material _____ Underdrain Spacing _____ ft. Perforation Size & Spacing _____inches. Number of Cleanouts_____	
☐		Restriction device / flow control device (when required) placed per approved plans.	
☐	☐	Observation well(s) installed. Number_____	
☐		Stone placed to achieve the required storage depth. Depth of gravel stone sump layer_____ ft.	
☐	☐	Filter layer (choker stone/pea gravel/sand) installed per approved plans. Choker material: _____ Depth of choker material: _____	

Soil Media Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Soil media certification per project specifications.	
☐		Filter media placed in 8 – 12 inch lifts. No machinery over the filter media. Filter media raked to a level grade after final lift.	
☐		Depth of filter media Depth: _____ ft.	
☐		Filter media settlement Facility flooded (2-4 days after initial placement) until underdrain activated. Top elevation verified after draining.	

Final Stabilization and Plant Installation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐	☐	Energy dissipators and pretreatment practices conform to approved plans. List practices here: _____ _____ _____	
☐	☐	External bypass structure (when required) conforms to approved plans.	
☐		Mulch composition and depth conform to approved plans. Depth of mulch layer: _____ inches	
☐		Final ponding depth (from top of mulch to lowest overflow point) conforms to plan. Depth of ponding area _____inches. (above mulch, 12" maximum)	
☐	☐	Riser or overflow weir conforms to approved plans.	
☐		Overflow berm conforms to approved plans. Berm Height _____ft. (from d/stream toe, max. 2 ft) Berm Width (usually 2 ft.) _____ ft. Side Slopes (max. 3:1) _____%	
☐		Signs installed as shown on approved plans.	
☐	☐	Plant installation conforms to approved plans, and all plants are healthy.	
☐	☐	Final grades within the bioretention after plant and mulch installation match the approved plan elevations.	
☐	☐	Provide a photo of the BMP facility after completion of construction.	

Final Certification

I do hereby certify that this as-built information for the stormwater management/BMP facility was inspected by me (or by an individual under my responsible charge) and conforms to the approved plans, except as indicated.

Signature:_____ Date:_____

License Number (Seal):_____

("Certify" means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction)

NOTES:
1. THIS SHEET PROVIDES SOME GENERAL RECOMMENDATIONS FROM THE VIRGINIA DEQ THAT SHALL BE FOLLOWED FOR PROPER CONSTRUCTION OF THE BIORETETION.
2. THIS SHEET ALSO PROVIDES A COPY OF THE THIRD PARTY INSPECTION CHECKLIST THAT SHALL BE COMPLETED AND SUBMITTED TO FAIRFAX COUNTY.
3. THIS SHEET ALSO PROVIDES SOME GENERAL RECOMMENDATIONS FOR MAINTENANCE AND MAINTENANCE INSPECTIONS OF THESE FACILITIES. NOTE THAT THE PROPERTY OWNER IS REQUIRED TO EXECUTE A STORMWATER MANAGEMENT FACILITY MAINTENANCE AGREEMENT WITH FAIRFAX COUNTY WHICH CONTAINS FURTHER CONSTRUCTION, MAINTENANCE, AND INSPECTION REQUIREMENTS

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DRAWN: BP / SD / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE: AS NOTED

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BIORETENTION CONSTRUCTION AND MAINTENANCE RECOMMENDATIONS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0713

POST-DEVELOPMENT SITE TO STORM WATER DETENTION

Hydrograph Report

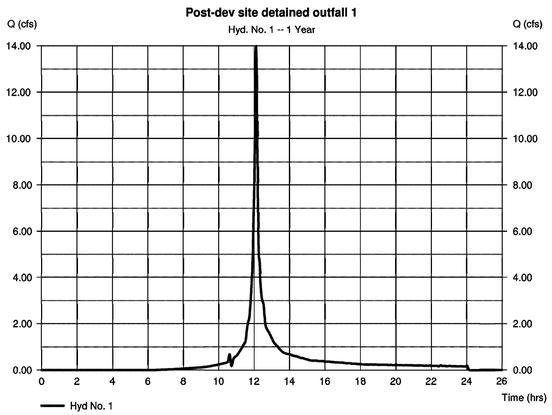
1

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 1

Post-dev site detained outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 13.99 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 39,133 cuft
Drainage area	= 6.380 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

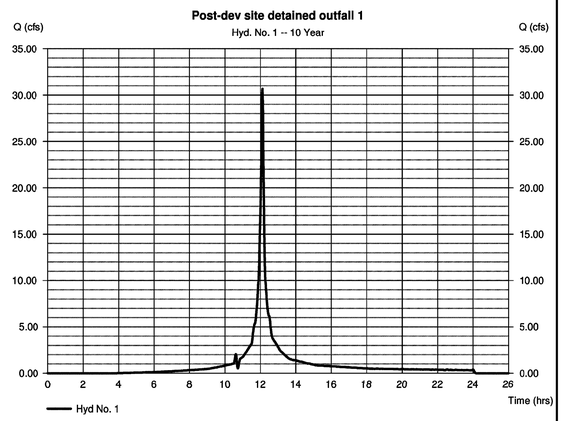
24

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 1

Post-dev site detained outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 30.67 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 89,587 cuft
Drainage area	= 6.380 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



POST-DEVELOPMENT UNDETAINED TO OUTFALL 1

Hydrograph Report

14

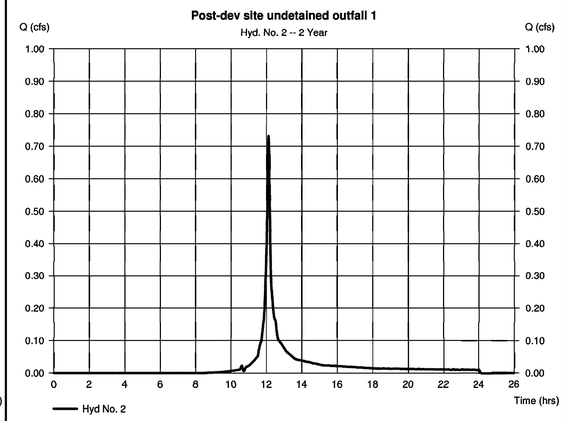
Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 2

Post-dev site undetained outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.732 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 2,017 cuft
Drainage area	= 0.340 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484

* Composite (Area/CN) = [(0.050 x 98) + (0.290 x 80)] / 0.340



OFFSITE TO STRUCTURE 2842 & STORM WATER DETENTION

Hydrograph Report

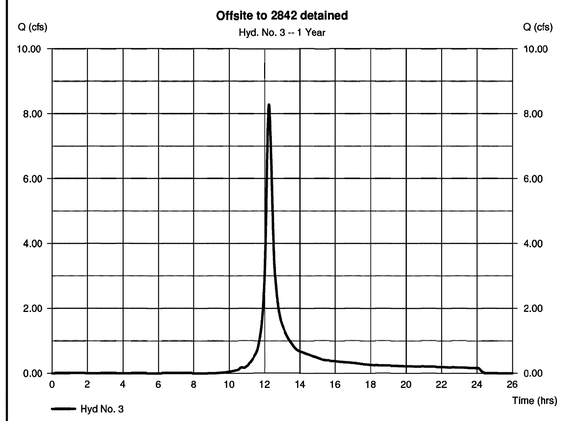
3

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 3

Offsite to 2842 detained

Hydrograph type	= SCS Runoff	Peak discharge	= 8.278 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.23 hrs
Time interval	= 1 min	Hyd. volume	= 32,672 cuft
Drainage area	= 7.830 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 17.80 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

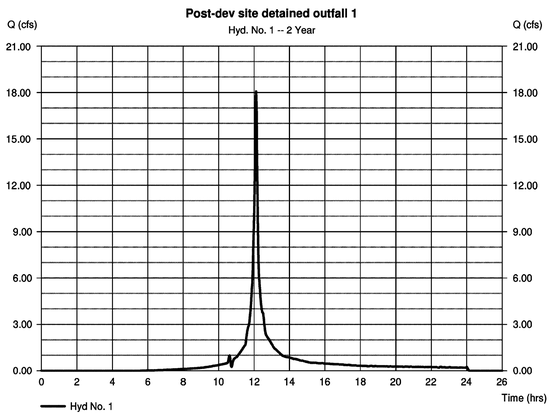
13

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 1

Post-dev site detained outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 18.07 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 51,130 cuft
Drainage area	= 6.380 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

2

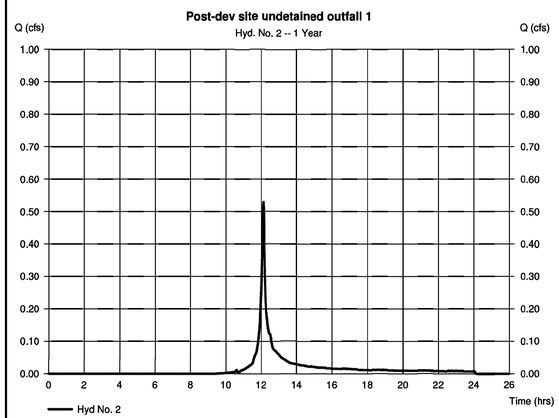
Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 2

Post-dev site undetained outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.529 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 1,460 cuft
Drainage area	= 0.340 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484

* Composite (Area/CN) = [(0.050 x 98) + (0.290 x 80)] / 0.340



Hydrograph Report

25

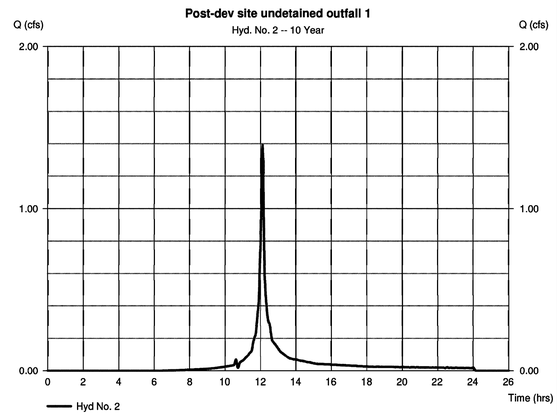
Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 2

Post-dev site undetained outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.390 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 3,890 cuft
Drainage area	= 0.340 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484

* Composite (Area/CN) = [(0.050 x 98) + (0.290 x 80)] / 0.340



Hydrograph Report

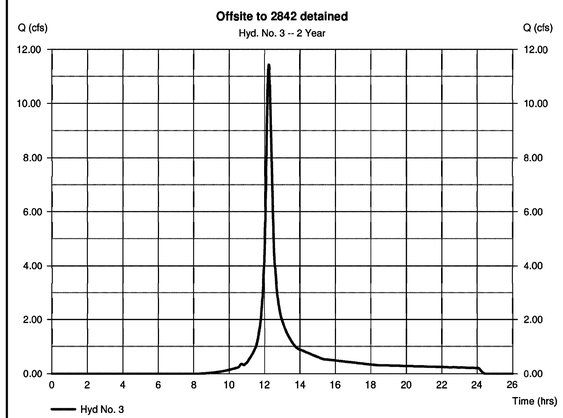
15

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 3

Offsite to 2842 detained

Hydrograph type	= SCS Runoff	Peak discharge	= 11.44 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.23 hrs
Time interval	= 1 min	Hyd. volume	= 44,930 cuft
Drainage area	= 7.830 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 17.80 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



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DATE: 7/18/2017
SCALE: NONE

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OFFSITE TO STRUCTURE 2842 AND STORM WATER DETENTION

Hydrograph Report

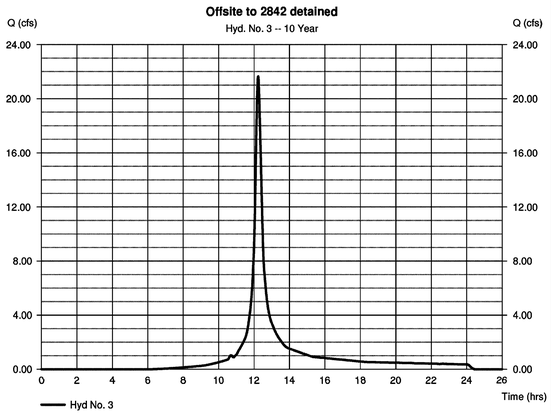
26

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 3

Offsite to 2842 detained

Hydrograph type	= SCS Runoff	Peak discharge	= 21.65 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.23 hrs
Time interval	= 1 min	Hyd. volume	= 85,751 cuft
Drainage area	= 7.830 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 17.80 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

16

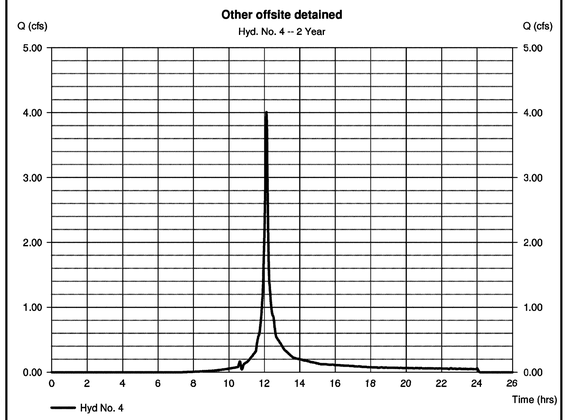
Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 4

Other offsite detained

Hydrograph type	= SCS Runoff	Peak discharge	= 4.007 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 11,106 cuft
Drainage area	= 1.640 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484

* Composite (Area/CN) = [(0.510 x 98) + (1.130 x 80)] / 1.640



TOTAL OFFSITE TO STORM WATER DETENTION

Hydrograph Report

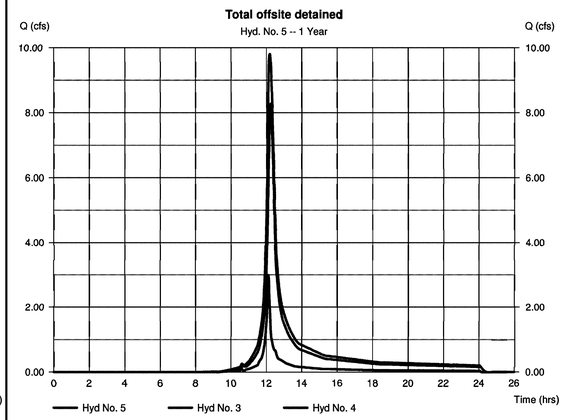
5

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 5

Total offsite detained

Hydrograph type	= Combine	Peak discharge	= 9.812 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.20 hrs
Time interval	= 1 min	Hyd. volume	= 40,912 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 9.470 ac



Hydrograph Report

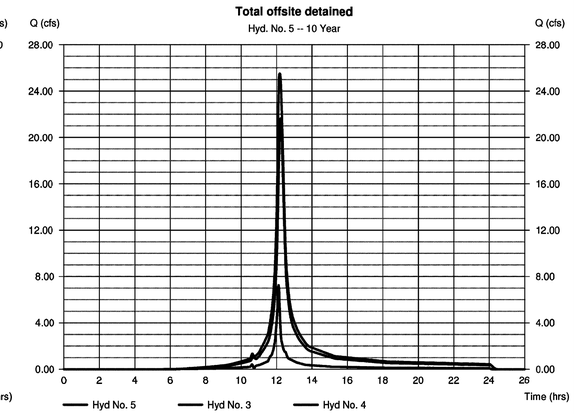
28

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 5

Total offsite detained

Hydrograph type	= Combine	Peak discharge	= 25.51 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.18 hrs
Time interval	= 1 min	Hyd. volume	= 106,293 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 9.470 ac



REMAINING OFFSITE AREAS TO STORM WATER DETENTION

Hydrograph Report

4

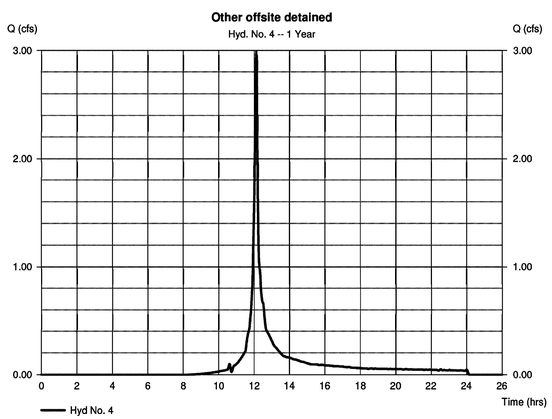
Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 4

Other offsite detained

Hydrograph type	= SCS Runoff	Peak discharge	= 2.989 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 8,240 cuft
Drainage area	= 1.640 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484

* Composite (Area/CN) = [(0.510 x 98) + (1.130 x 80)] / 1.640



Hydrograph Report

27

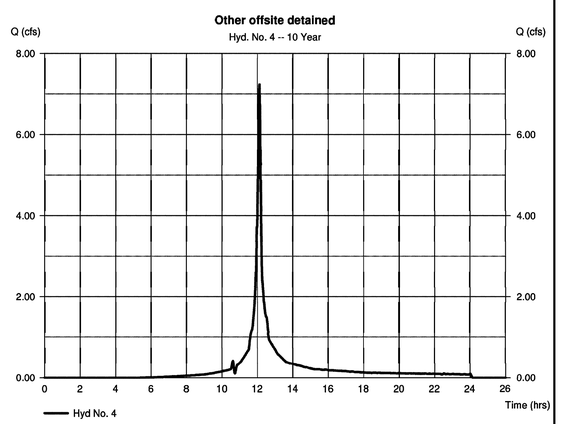
Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 4

Other offsite detained

Hydrograph type	= SCS Runoff	Peak discharge	= 7.236 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 20,541 cuft
Drainage area	= 1.640 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484

* Composite (Area/CN) = [(0.510 x 98) + (1.130 x 80)] / 1.640



Hydrograph Report

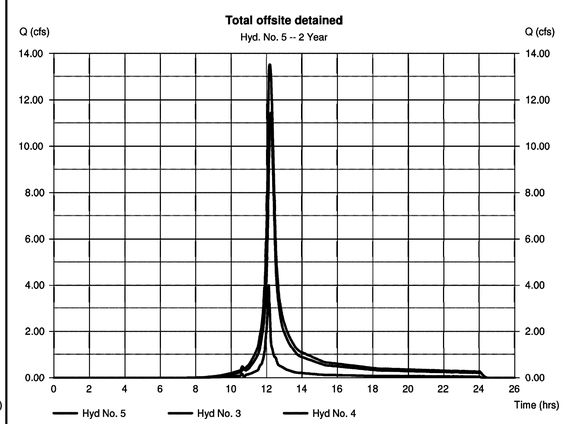
17

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 5

Total offsite detained

Hydrograph type	= Combine	Peak discharge	= 13.51 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.18 hrs
Time interval	= 1 min	Hyd. volume	= 56,037 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 9.470 ac



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GOOD FORESTED CONDITION SITE TO OUTFALL 1

Hydrograph Report

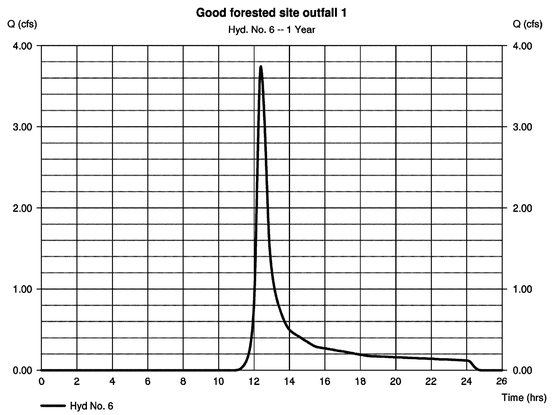
6

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 6

Good forested site outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 3.742 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.38 hrs
Time interval	= 1 min	Hyd. volume	= 19,890 cuft
Drainage area	= 6.710 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

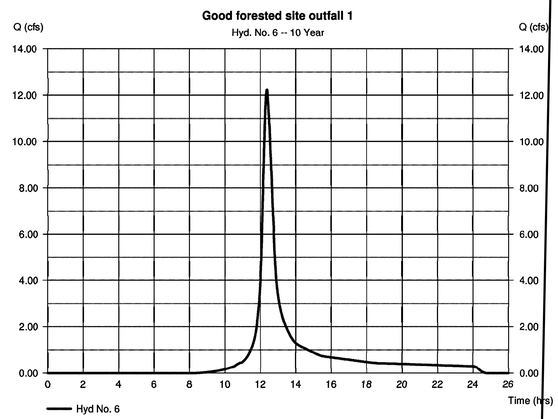
29

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 6

Good forested site outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 12.24 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.37 hrs
Time interval	= 1 min	Hyd. volume	= 61,249 cuft
Drainage area	= 6.710 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

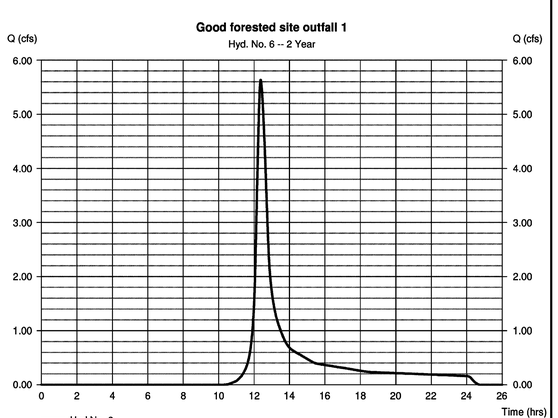
18

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 6

Good forested site outfall 1

Hydrograph type	= SCS Runoff	Peak discharge	= 5.635 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.37 hrs
Time interval	= 1 min	Hyd. volume	= 28,995 cuft
Drainage area	= 6.710 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

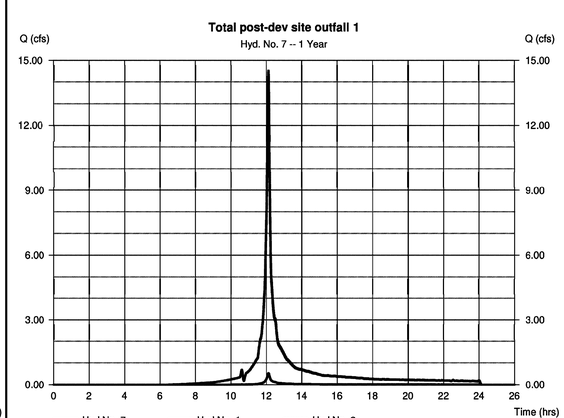
7

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 7

Total post-dev site outfall 1

Hydrograph type	= Combine	Peak discharge	= 14.52 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 40,593 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 6.720 ac



TOTAL POST-DEVELOPMENT SITE TO OUTFALL 1

Hydrograph Report

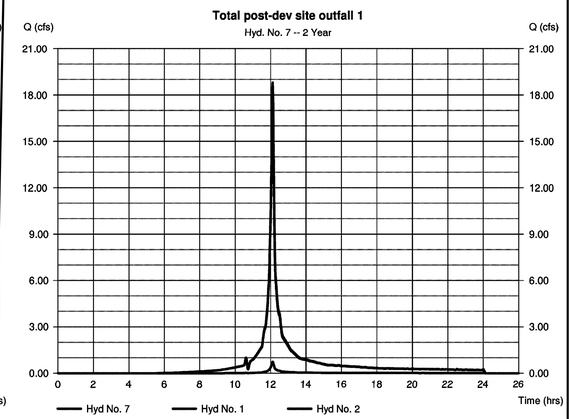
19

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 7

Total post-dev site outfall 1

Hydrograph type	= Combine	Peak discharge	= 18.80 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 53,147 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 6.720 ac



Hydrograph Report

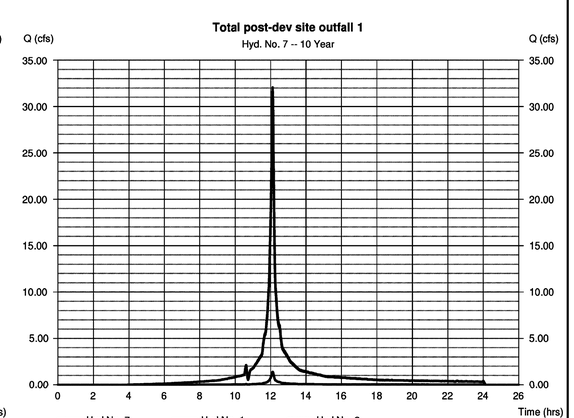
30

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 7

Total post-dev site outfall 1

Hydrograph type	= Combine	Peak discharge	= 32.06 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 93,477 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 6.720 ac



TOTAL SITE AND OFFSITE TO STORM WATER DETENTION

Hydrograph Report

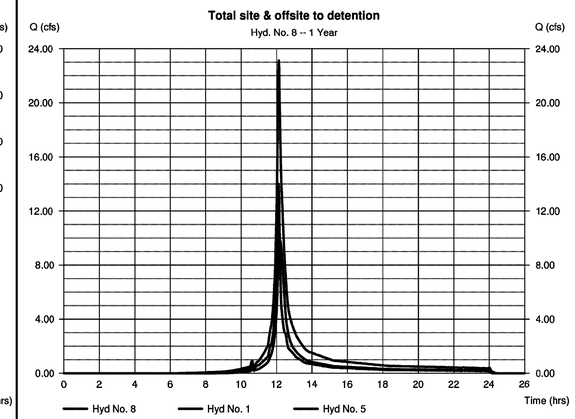
8

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 8

Total site & offsite to detention

Hydrograph type	= Combine	Peak discharge	= 23.13 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 80,044 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 6.380 ac



Hydrograph Report

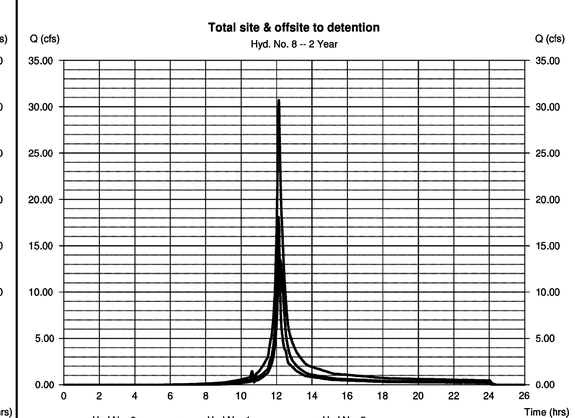
20

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 8

Total site & offsite to detention

Hydrograph type	= Combine	Peak discharge	= 30.72 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 107,166 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 6.380 ac



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TOTAL SITE AND OFFSITE TO STORM WATER DETENTION

Hydrograph Report

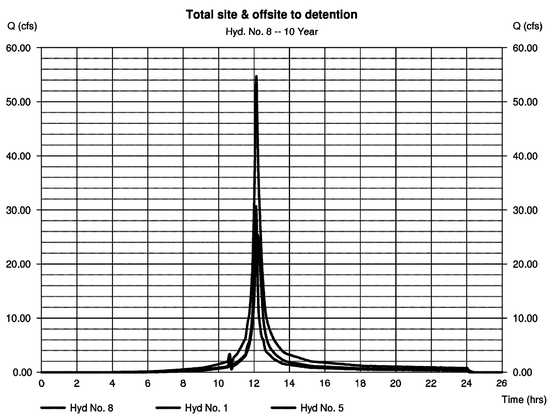
31

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 8

Total site & offsite to detention

Hydrograph type	= Combine	Peak discharge	= 54.73 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 195,879 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 6.380 ac



STORM WATER DETENTION ROUTING

Hydrograph Report

5

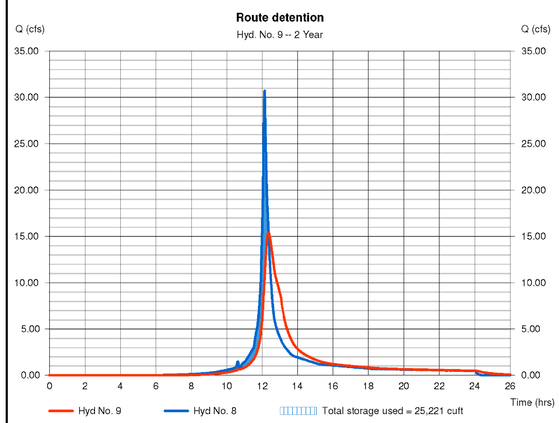
Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Hyd. No. 9

Route detention

Hydrograph type	= Reservoir	Peak discharge	= 15.37 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.35 hrs
Time interval	= 1 min	Hyd. volume	= 107.148 cuft
Inflow hyd. No.	= 8 - Total site & offsite to detention	Max. Elevation	= 338.05 ft
Reservoir name	= StormTech Detention	Max. Storage	= 25,221 cuft

Storage Indication method used.



OFFSITE FRYING PAN PARK TO STURCTURE 37

Hydrograph Report

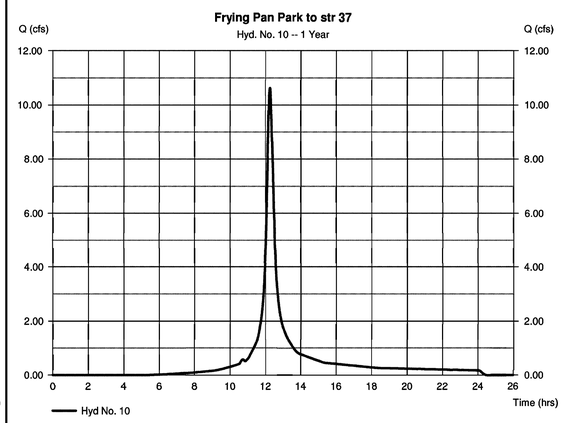
11

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 10

Frying Pan Park to str 37

Hydrograph type	= SCS Runoff	Peak discharge	= 10.63 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 44,348 cuft
Drainage area	= 6.770 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.60 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

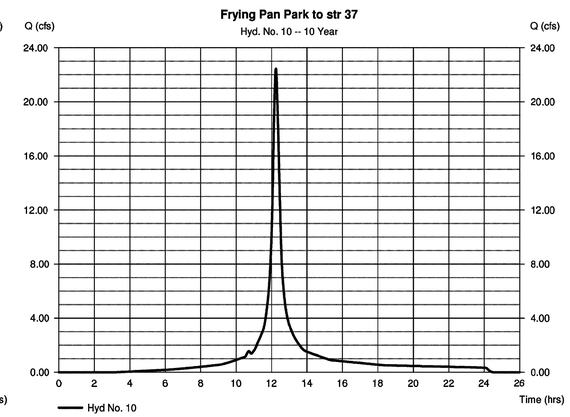
33

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 10

Frying Pan Park to str 37

Hydrograph type	= SCS Runoff	Peak discharge	= 22.44 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 97,376 cuft
Drainage area	= 6.770 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.60 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



Hydrograph Report

1

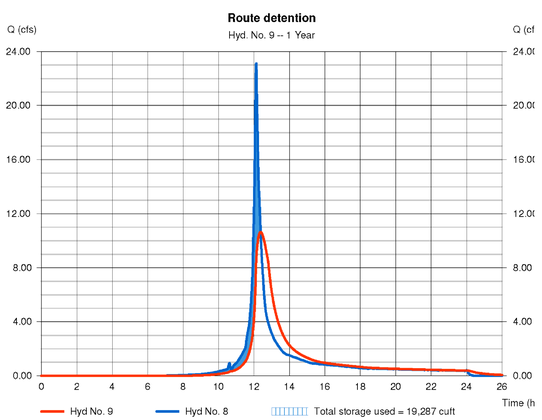
Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Hyd. No. 9

Route detention

Hydrograph type	= Reservoir	Peak discharge	= 10.64 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.38 hrs
Time interval	= 1 min	Hyd. volume	= 80,027 cuft
Inflow hyd. No.	= 8 - Total site & offsite to detention	Max. Elevation	= 337.56 ft
Reservoir name	= StormTech Detention	Max. Storage	= 19,287 cuft

Storage Indication method used.



Hydrograph Report

8

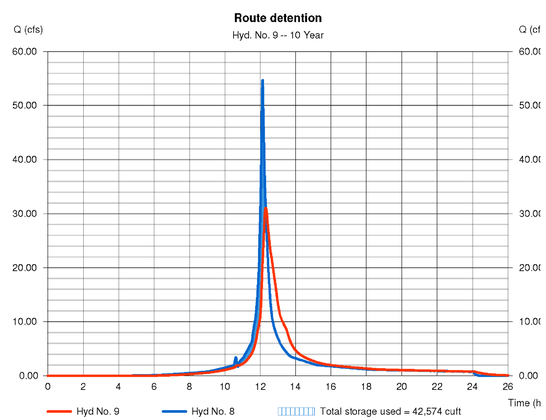
Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Hyd. No. 9

Route detention

Hydrograph type	= Reservoir	Peak discharge	= 31.07 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.30 hrs
Time interval	= 1 min	Hyd. volume	= 195,861 cuft
Inflow hyd. No.	= 8 - Total site & offsite to detention	Max. Elevation	= 339.60 ft
Reservoir name	= StormTech Detention	Max. Storage	= 42,574 cuft

Storage Indication method used.



Hydrograph Report

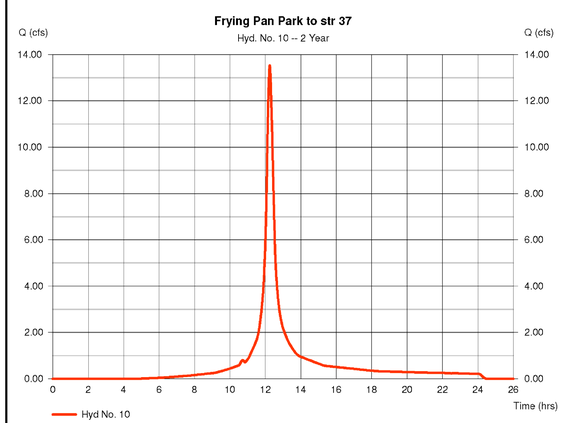
22

Hydraflow Hydrographs by Intelisolve v9.22 — Friday, Jun 23, 2017

Hyd. No. 10

Frying Pan Park to str 37

Hydrograph type	= SCS Runoff	Peak discharge	= 13.53 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 57,067 cuft
Drainage area	= 6.770 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.60 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



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COMMONWEALTH OF VIRGINIA — AARON M. VINSON — Lic. No.041851 — 7/18/17 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

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SCALE: NONE — DATE: 7/18/2017

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FAIRFAX COUNTY, VIRGINIA

SHEET: C-0717

TOTAL FLOW STRUCTURE 2 TO STRUCTURE 1

Hydrograph Report

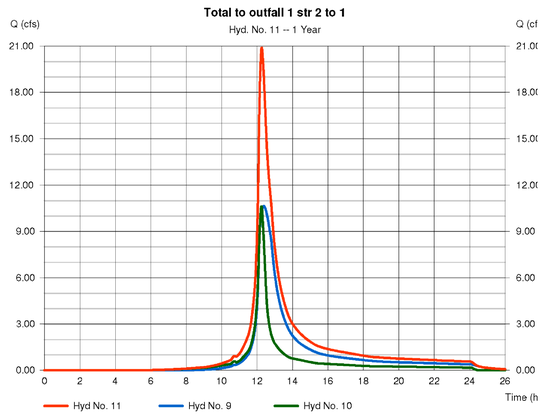
4

Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Hyd. No. 11

Total to outfall 1 str 2 to 1

Hydrograph type	= Combine	Peak discharge	= 20.90 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 124.374 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 6.770 ac



Hydrograph Report

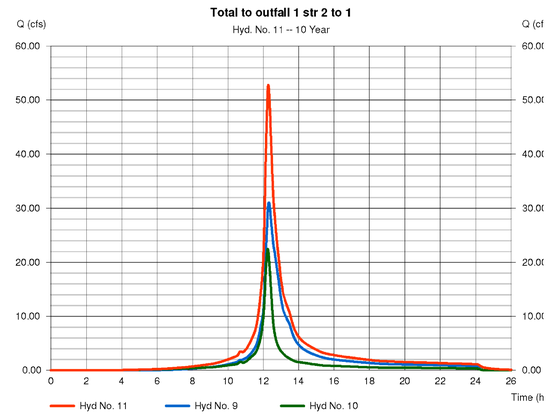
10

Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Hyd. No. 11

Total to outfall 1 str 2 to 1

Hydrograph type	= Combine	Peak discharge	= 52.76 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 293.237 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 6.770 ac



Hydrograph Report

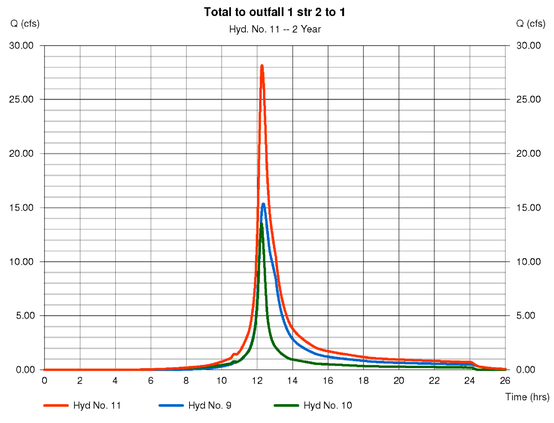
7

Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Hyd. No. 11

Total to outfall 1 str 2 to 1

Hydrograph type	= Combine	Peak discharge	= 28.16 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 164,215 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 6.770 ac



STORM WATER DETENTION FACILITY DATA

Pond Report

2

Hydraflow Hydrographs by Intelisolve v9.22 — Tuesday, Jul 11, 2017

Pond No. 2 - StormTech Detention

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	336.05	n/a	0	0
0.08	336.13	n/a	1,082	1,082
0.33	336.38	n/a	3,232	4,314
0.58	336.63	n/a	3,213	7,527
0.83	336.88	n/a	3,190	10,717
1.08	337.13	n/a	3,162	13,879
1.33	337.38	n/a	3,131	17,010
1.58	337.63	n/a	3,095	20,105
1.83	337.88	n/a	3,054	23,159
2.08	338.13	n/a	3,009	26,168
2.33	338.38	n/a	2,958	29,126
2.58	338.63	n/a	2,901	32,027
2.83	338.88	n/a	2,838	34,865
3.08	339.13	n/a	2,766	37,631
3.33	339.38	n/a	2,685	40,316
3.58	339.63	n/a	2,594	42,910
3.83	339.88	n/a	2,488	45,398
4.08	340.13	n/a	2,363	47,761

Culvert / Orifice Structures

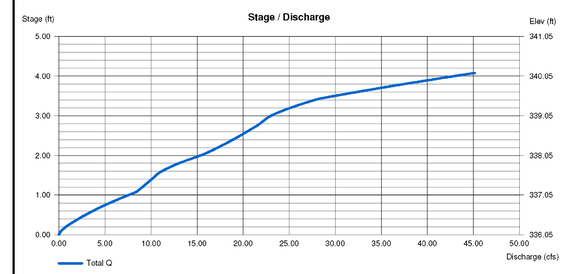
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 29.00	13.00	5.88	0.00
Span (in)	= 45.00	30.00	44.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 335.95	336.05	337.58	0.00
Length (ft)	= 25.00	0.00	0.00	0.00
Slope (%)	= 0.96	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	Inactive	0.00	0.00
Crest El. (ft)	= 339.00	0.00	0.00	0.00
Weir Coeff.	= 3.32	3.32	3.33	3.33
Weir Type	= Rect	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfil.(in/hr)	= 0.000 (by Wet area)
TW Elev. (ft)	= 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (oc) and submergence (s).



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BP / SD / TT	AV / BP

SCALE: NONE — DATE: 7/18/2017

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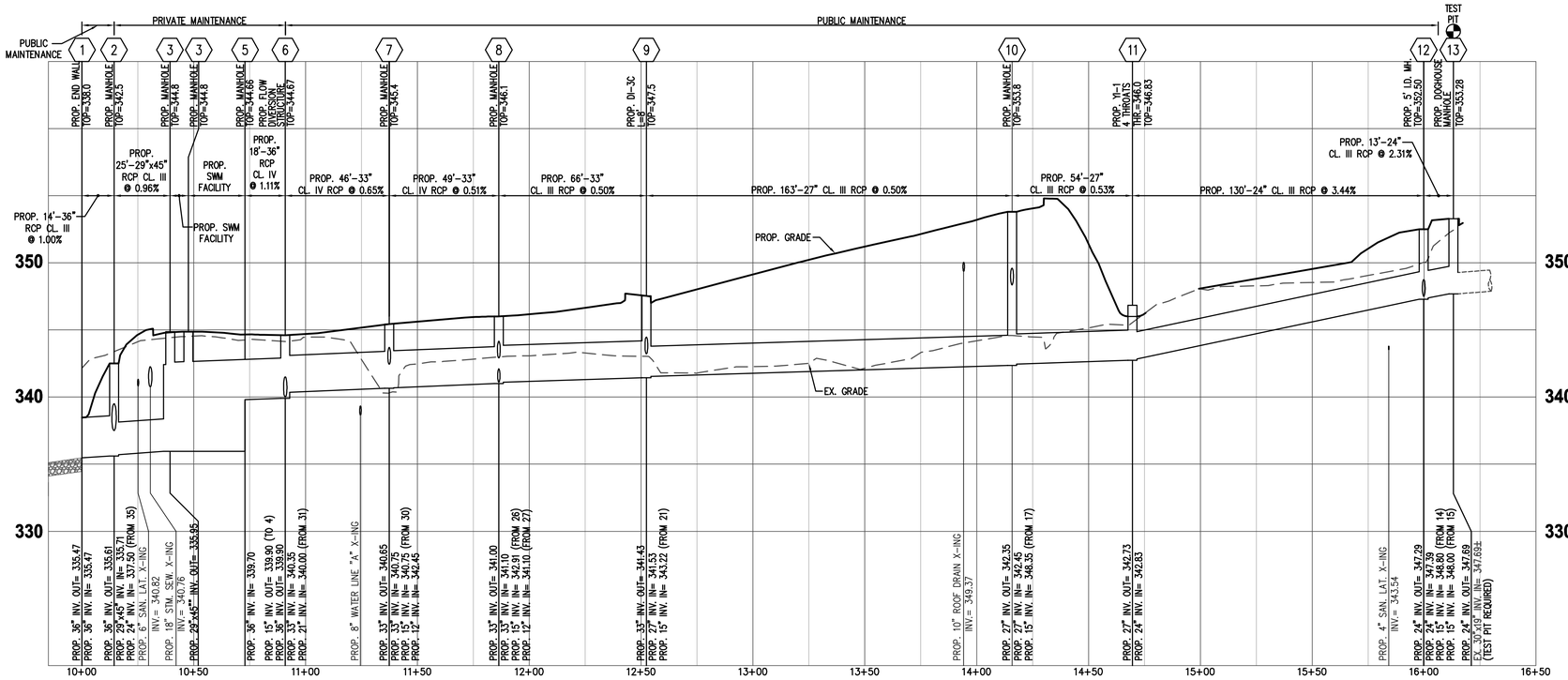
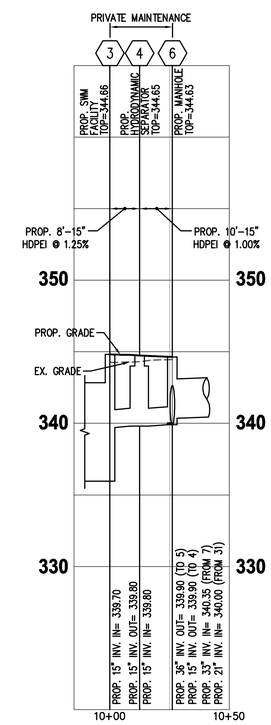
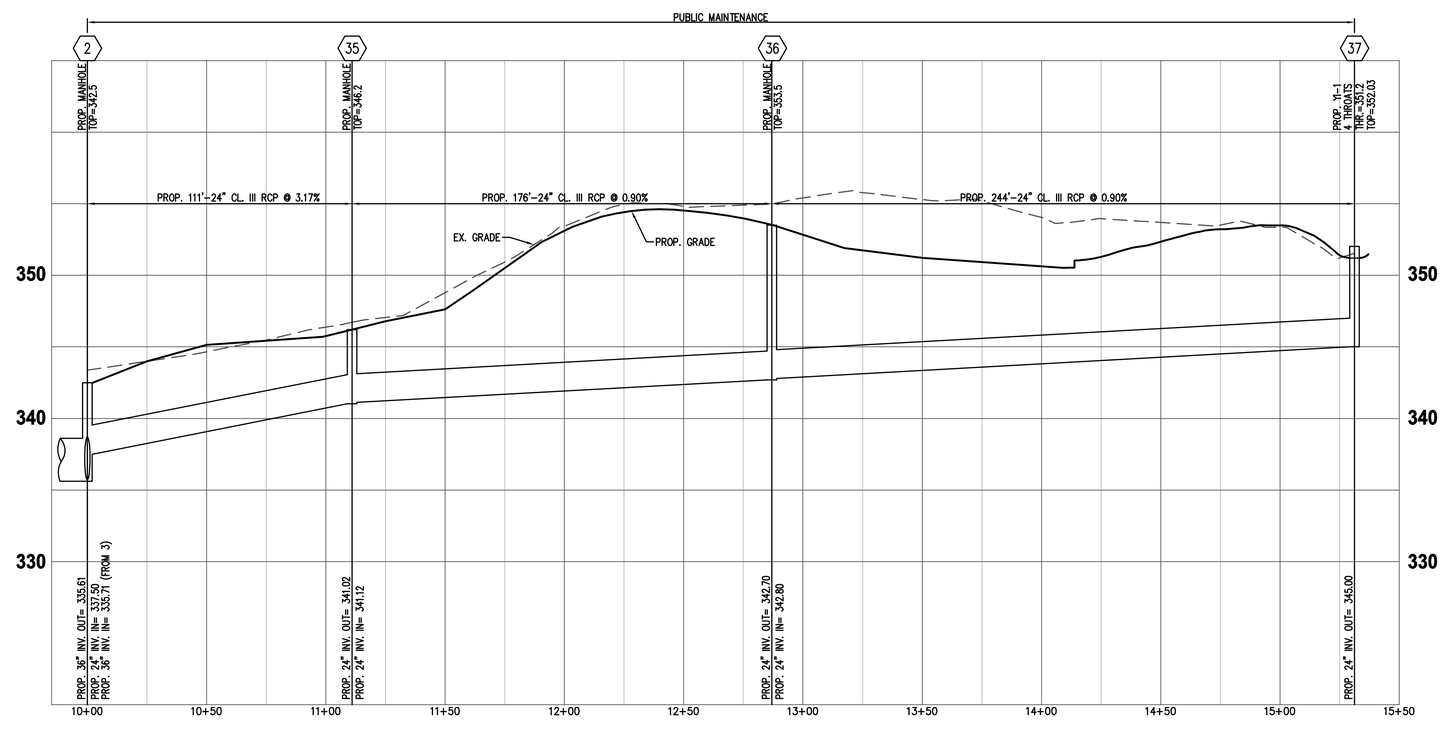
FAIRFAX COUNTY, VIRGINIA







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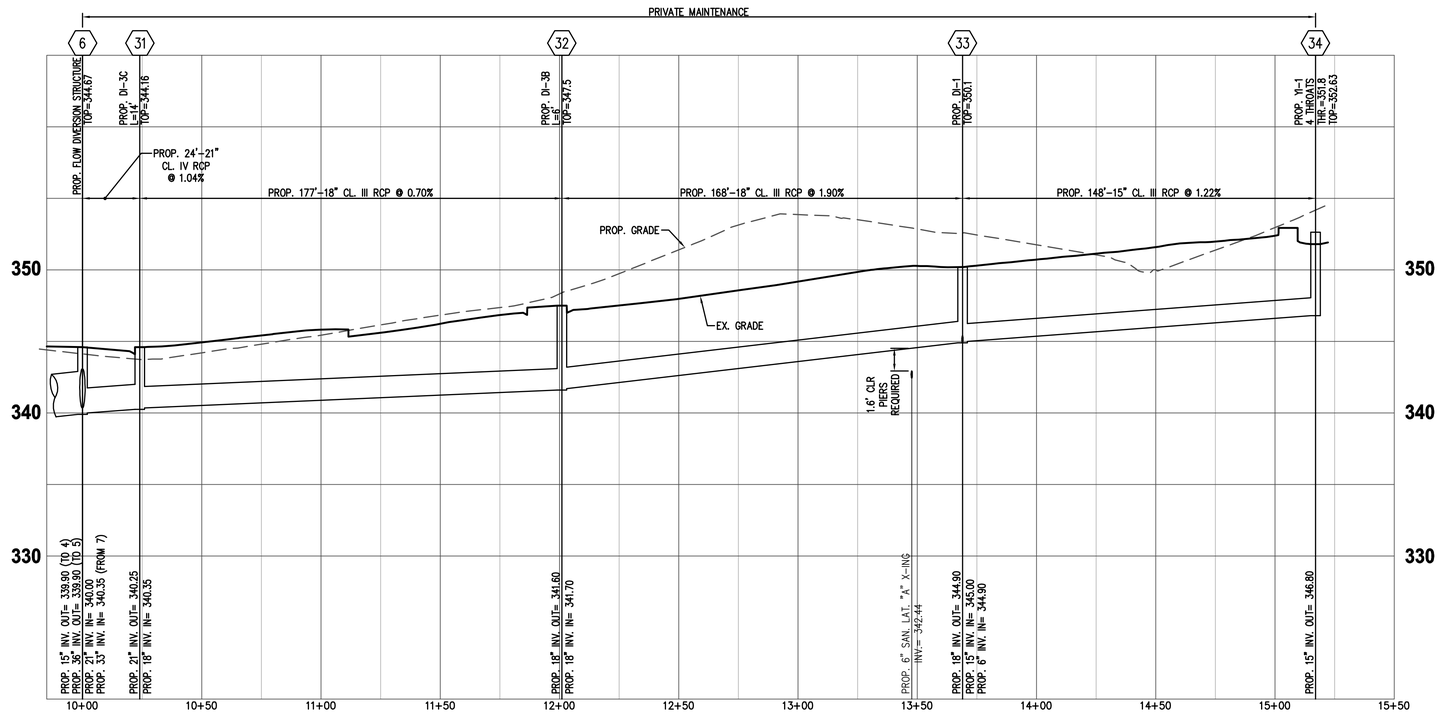

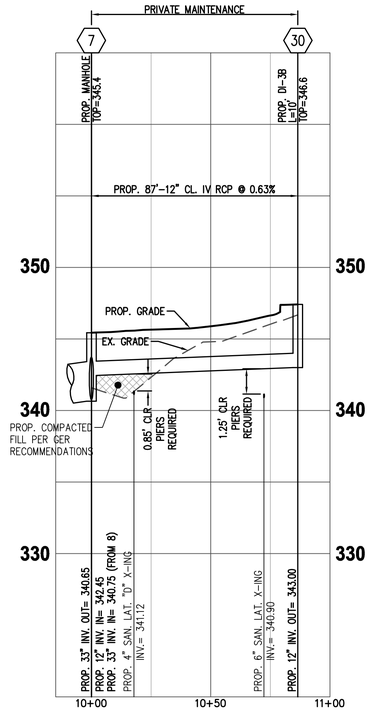

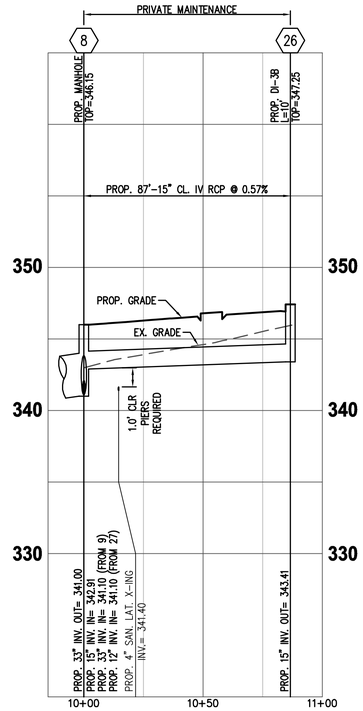

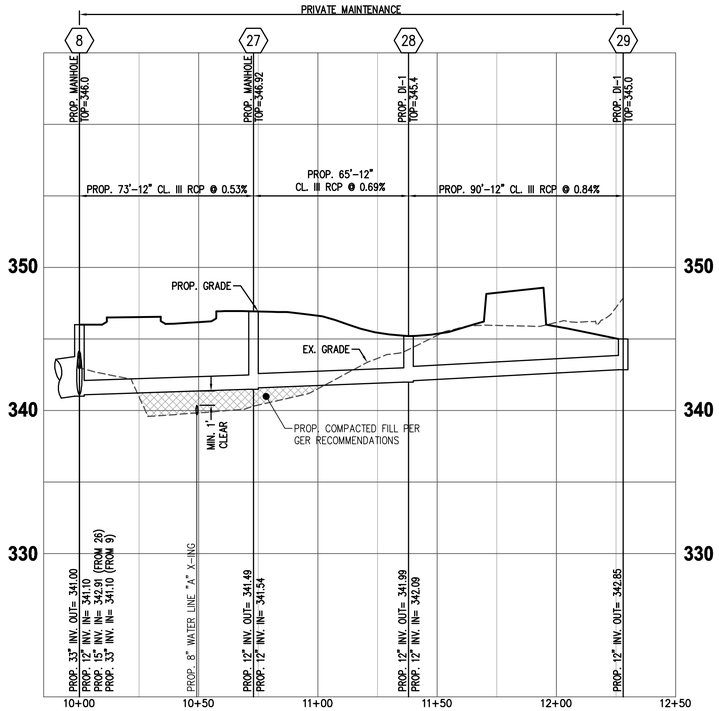

STORM SEWER PROFILES

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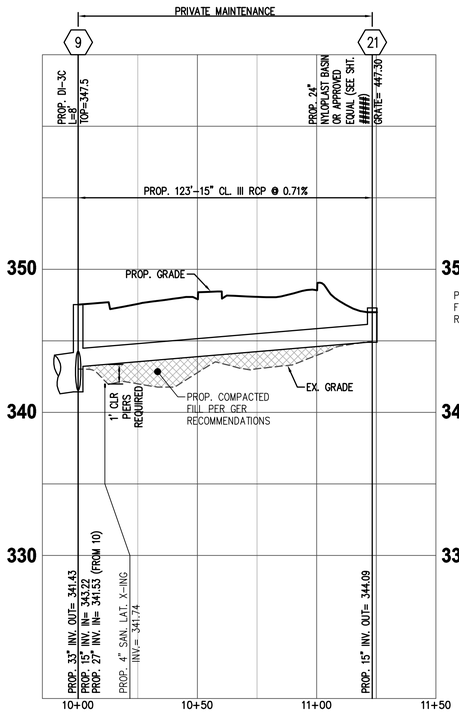

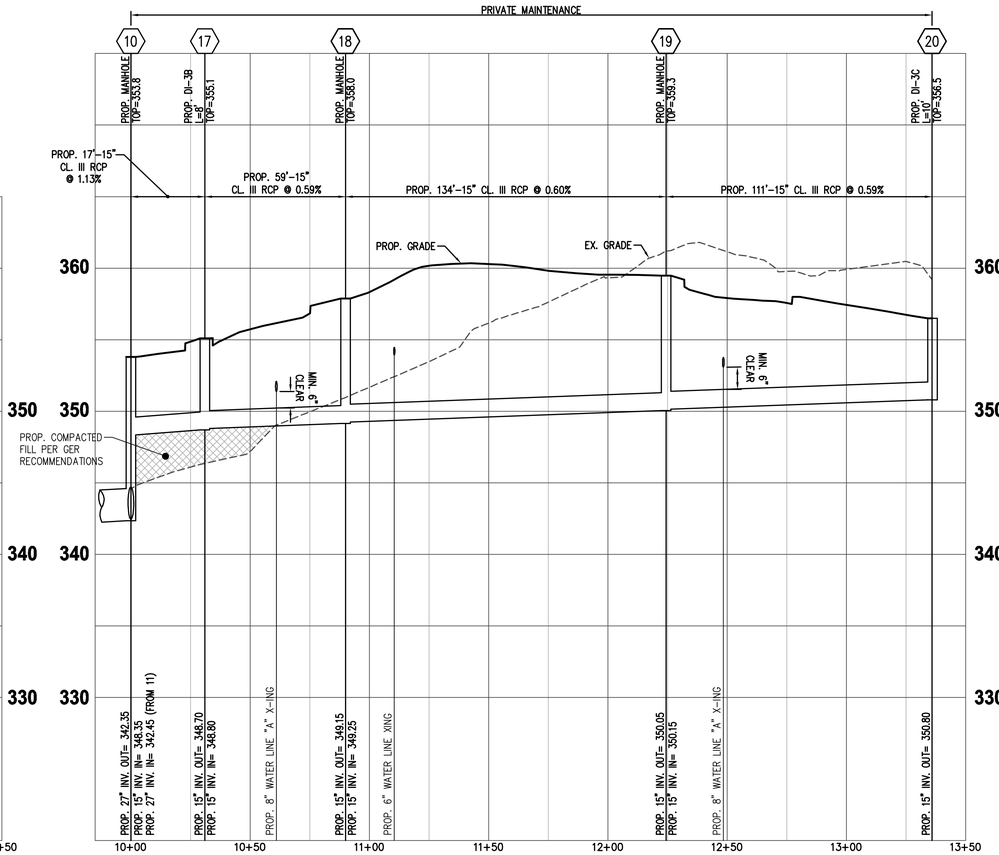

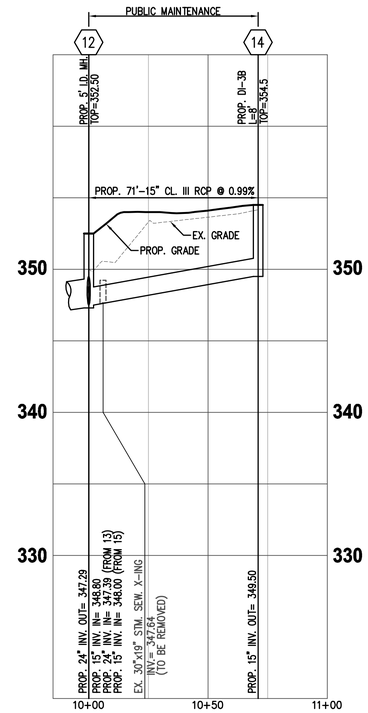

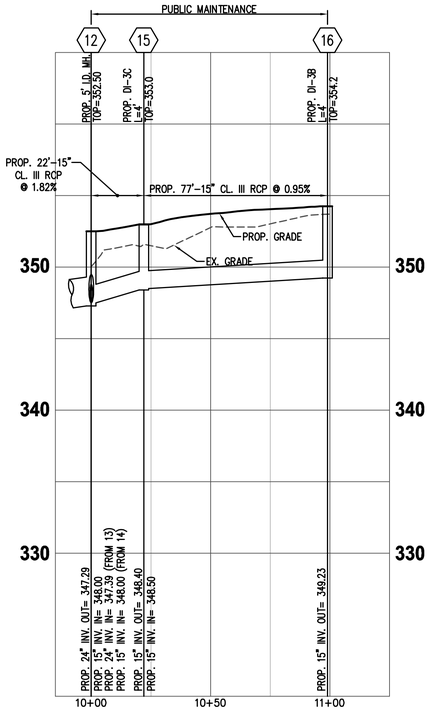

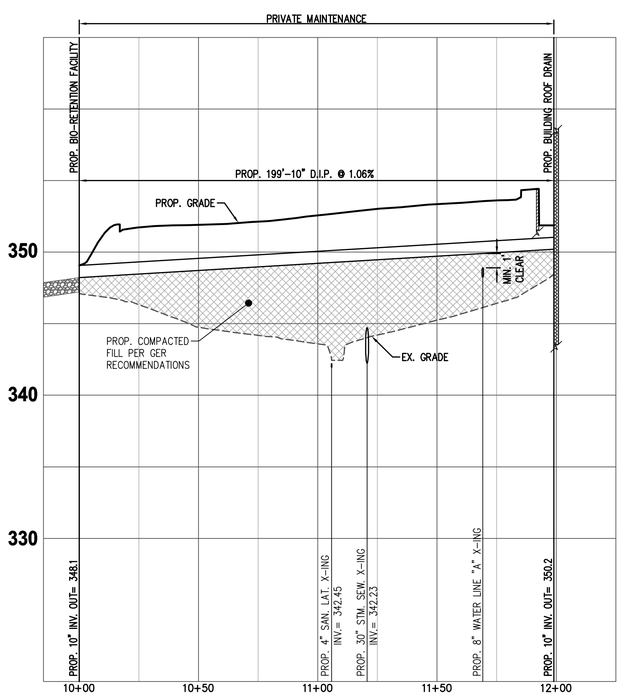

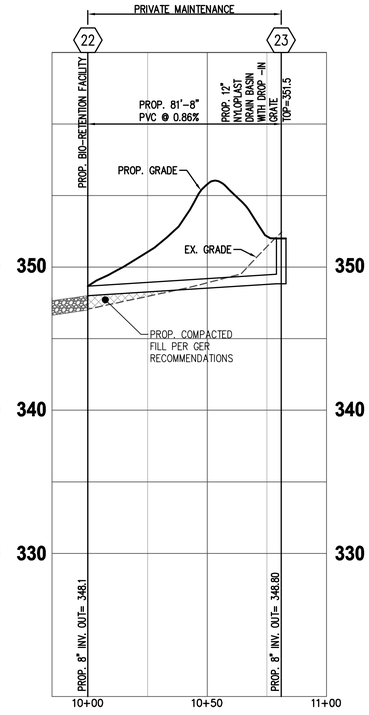

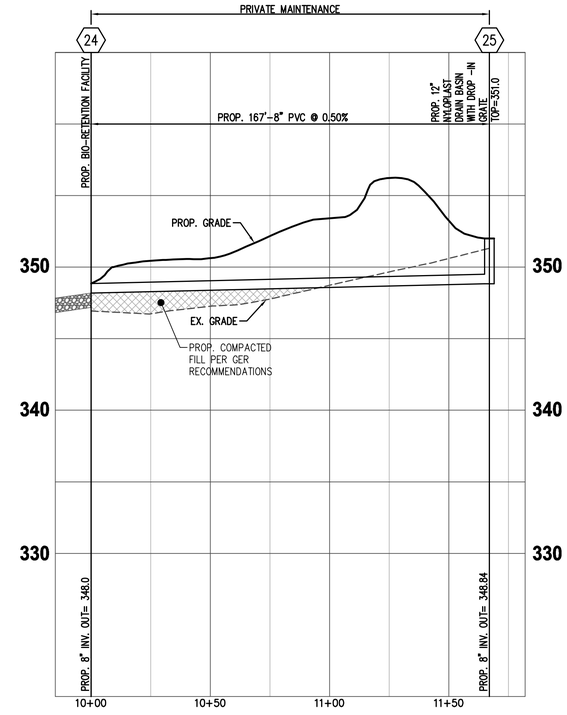

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STORM SEWER PROFILES

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FAIRFAX COUNTY, VIRGINIA

STORM SEWER DESIGN COMPUTATIONS

	FROM POINT	TO POINT	AREA "A" ACRES	C FACTOR C	CA INCRE-MENT	CA ACCUM-ULATED	INLET TIME MIN	RAIN FALL IN/HR	RUNOFF Q INCRE-MENT C.F.S.	RUNOFF Q10 C.F.S.	INVERT ELEV'S UPPER END	INVERT ELEV'S LOWER END	LENGTH FT.	SLOPE FT./FT.	MANNING'S 'n'	DIA. IN.	CAPA-CITY C.F.S.	VEL. F.P.S.	FLOW TIME SEC.	NORMAL DEPTH IN.
	16	15	0.07	0.83	0.06	0.06	5.00	6.77	0.39	0.39	349.23	348.50	77	0.0095	0.013	15	6.26	2.86	26.93	2.54
	15	12	0.17	0.80	0.14	0.19	5.00	6.77	0.92	1.31	348.40	348.00	22	0.0182	0.013	15	8.67	5.12	4.29	3.93
	13	12	7.83	0.42	3.29	3.29	18.00	4.20	13.81	13.81	347.69	347.39	13	0.0231	0.013	24	34.27	10.36	1.25	10.57
	14	12	0.17	0.82	0.14	0.14	5.00	6.77	0.94	0.94	349.50	348.80	71	0.0099	0.013	15	6.39	3.74	18.97	3.88
	12	11	0.00	0.00	0.00	3.62	18.00	4.20	0.00	15.21	347.29	342.83	130	0.0343	0.013	24	41.78	12.30	10.57	9.99
	11	10	1.14	0.34	0.39	4.01	18.00	4.20	1.63	16.84	342.73	342.45	54	0.0052	0.013	27	22.25	6.18	8.74	17.50
	20	19	0.58	0.53	0.31	0.31	5.00	6.77	2.08	2.08	350.80	350.15	111	0.0059	0.013	15	4.92	3.86	28.74	6.78
	19	18	0.00	0.00	0.00	0.31	5.00	6.77	0.00	2.08	350.05	349.25	134	0.0060	0.013	15	4.97	3.89	34.44	6.74
	18	17	0.00	0.00	0.00	0.31	5.00	6.77	0.00	2.08	349.15	348.80	59	0.0059	0.013	15	4.95	3.88	15.20	6.76
	17	10	0.13	0.68	0.09	0.40	5.00	6.77	0.60	2.68	348.70	348.35	31	0.0113	0.013	15	6.83	5.26	5.90	6.50
	10	9	0.00	0.00	0.00	4.41	18.00	4.20	0.00	18.50	342.35	341.53	163	0.0050	0.013	27	21.91	6.21	26.26	18.95
	25	24	0.10	0.33	0.03	0.03	5.00	6.77	0.22	0.22	348.84	348.00	167	0.0050	0.011	8	1.01	2.34	71.46	2.55
	23	22	0.09	0.31	0.03	0.03	5.00	6.77	0.19	0.19	348.80	348.10	81	0.0086	0.011	8	1.32	2.70	30.02	2.04
	ROOF	BIO-RET	0.29	0.90	0.26	0.26	5.00	6.77	1.77	1.77	350.20	348.10	199	0.0106	0.011	10	2.64	5.23	38.06	5.95
	21	9	0.50	0.40	0.20	0.52	5.00	6.77	1.35	3.53	344.09	343.22	123	0.0071	0.013	15	5.41	4.72	26.04	8.80
*	9	8	0.44	0.80	0.35	5.28	18.00	4.20	1.48	22.18	341.43	341.10	66	0.0050	0.013	33	37.33	6.58	10.04	18.26
	26	8	0.24	0.79	0.19	0.19	5.00	6.77	1.28	1.28	343.41	342.91	87	0.0057	0.013	15	4.88	3.37	25.85	5.24
	29	28	0.15	0.36	0.05	0.05	5.00	6.77	0.37	0.37	342.85	342.09	90	0.0084	0.013	12	3.26	2.76	32.64	2.70
	28	27	0.13	0.51	0.07	0.12	5.00	6.77	0.45	0.81	341.99	341.54	65	0.0069	0.013	12	2.95	3.23	20.15	4.29
	27	8	0.00	0.00	0.00	0.12	5.00	6.77	0.00	0.81	341.49	341.10	73	0.0053	0.013	12	2.59	2.93	24.87	4.61
	8	7	0.00	0.00	0.00	5.59	18.00	4.20	0.00	23.48	341.00	340.75	49	0.0051	0.013	33	37.71	6.72	7.30	18.80
	30	7	0.37	0.56	0.21	0.21	5.00	6.77	1.40	1.40	343.00	342.45	87	0.0063	0.013	12	2.82	3.61	24.13	5.96
**	7	6	0.38	0.76	0.29	6.09	18.00	4.20	1.22	25.57	340.65	340.35	46	0.0065	0.013	33	42.63	7.53	6.11	18.37
	34	33	0.84	0.70	0.59	0.59	5.00	6.77	3.98	3.98	346.80	345.00	148	0.0122	0.013	15	7.09	5.98	24.76	8.00
	33	32	0.56	0.61	0.34	0.93	5.00	6.77	2.31	6.29	344.90	341.70	168	0.0190	0.013	18	14.44	7.93	21.19	8.28
	32	31	0.18	0.60	0.11	1.04	5.00	6.77	0.73	7.02	341.60	340.35	177	0.0071	0.013	18	8.79	5.56	31.85	12.11
	31	6	1.07	0.76	0.81	1.85	5.00	6.77	5.51	12.53	340.25	340.00	24	0.0104	0.013	21	16.12	7.44	3.23	13.86
	6	5	0.00	0.00	0.00	7.94	18.00	4.20	0.00	33.34	339.90	339.70	18	0.0111	0.013	36	70.20	9.83	1.83	17.42
	6	4								4.47	339.90	339.80	10	0.0100	0.011	15	7.60	6.48	1.54	8.23
	4	DET								4.47	339.80	339.70	8	0.0125	0.011	15	8.50	7.05	1.13	7.70
	3	2			FROM DETENTION MODELING (SEE HYDROGRAPHS)					31.07	335.95	335.71	25	0.0096	0.013	36	65.25	9.15	2.73	17.45
	37	36	6.74	0.52	3.50	3.50	19.00	4.10	14.37	14.37	345.00	342.80	244	0.0090	0.013	24	21.42	7.34	33.24	14.33
	36	35	0.00	0.00	0.00	3.50	19.00	4.10	0.00	14.37	342.70	341.12	176	0.0090	0.013	24	21.37	7.33	24.01	14.35
	35	2	0.00	0.00	0.00	3.50	19.00	4.10	0.00	14.37	341.02	337.50	111	0.0317	0.013	24	40.17	11.77	9.43	9.89
	2	1			FROM HYDROGRAPHS					52.76	335.61	335.47	14	0.0100	0.013	36	66.59	10.48	1.34	24.11

* TO BE CONSERVATIVE, INLET NO. 9 AND PIPES FROM STRUCTURE #9 TO #7 ARE SIZED TO INCLUDE DRAINAGE AREA TO PERMEABLE PAVEMENT AREAS 2, 3 AND 4 IN THE EVENT PERMEABLE PAVEMENT FAILS TO CAPTURE RUNOFF.

** INFLOW TO MANHOLE #7 IS FROM PERMEABLE PAVEMENT AREAS 1 AND 5 AND 4 ADJACENT ISLANDS.

STORM INLET COMPUTATIONS

	INLET NUMBER	TYPE	LENGTH (FT.)	STATION	DRAINAGE AREA (AC.)	C	CA	Σ CA	intensity	Q INCR. (CFS)	Q_b, CARRYOVER (CFS)	Qt, GUTTERFLOW	S_x, GUTTER SLOPE (FT/FT)	S_x, CROSS SLOPE (FT/FT)	T, (SPREAD)	W (FT)	W/T	Sw (FT/FT)	Sw/Sx	Eo (App. 9C-8)	a = 12W(SW-SX) + LOCAL DEPRESSION	S' w= a/(12W)	Se= Sx + S' w(Eo) (FT/FT)	COMPUTED LENGTH, Lt, (FT) (App. 9C-17)	L_s, SPECIFIED LENGTH (FT)	L/L_t	E (App. 9C-18)	Q_i, INTERCEPTED (CFS)	Q_b, CARRYOVER (CFS)	SAG INLETS ONLY d (FT)	h (FT)	d/h	T, SPREAD @ SAG (FT)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
*	9	DI-3C	8	0+00	0.44	0.8	0.35	0.35	6.77	2.39	0.00	2.39	0.02	0.04	5.23	2.00	0.38	0.08	1.89	-	-	-	-	-	8	-	-	2.39	0.00	0.23	0.46	0.502	5.23
	14	DI-3B	8	0+00	0.17	0.82	0.14	0.14	4.00	0.56	0.00	0.56	0.03	0.02	1.89	2.00	1.06	0.08	4.00	1.00	3.50	0.15	0.17	6.23	8	1.28	1	0.56	0.00	-	-	-	-
	15	DI-3C	4	0+00	0.17	0.8	0.14	0.14	4.00	0.54	0.00	0.54	0.01	0.05	1.60	2.00	1.25	0.08	1.67	-	-	-	-	-	4	-	-	0.54	0.00	0.08	0.46	0.17	1.60
	16	DI-3B	4	0+00	0.07	0.83	0.06	0.06	4.00	0.23	0.00	0.23	0.01	0.01	1.04	2.00	1.92	0.08	6.41	1.00	3.69	0.15	0.17	3.33	4	1.20	1	0.23	0.00	-	-	-	-
	17	DI-3B	8	0+00	0.13	0.68	0.09	0.09	6.77	0.60	0.00	0.60	0.04	0.03	1.80	2.00	1.11	0.08	3.20	1.00	3.38	0.14	0.17	7.25	8	1.10	1	0.60	0.00	-	-	-	-
	20	DI-3C	10	0+00	0.58	0.53	0.31	0.31	6.77	2.08	0.00	2.08	0.02	0.03	5.71	2.00	0.35	0.08	2.98	-	-	-	-	-	10	-	-	2.08	0.00	0.16	0.46	0.349	5.71
	26	DI-3B	10	0+00	0.24	0.79	0.19	0.19	6.77	1.28	0.00	1.28	0.03	0.02	4.53	2.00	0.44	0.08	4.90	0.93	3.59	0.15	0.16	9.09	10	1.10	1	1.28	0.00	-	-	-	-
	30	DI-3B	10	0+00	0.37	0.56	0.21	0.21	6.77	1.40	0.00	1.40	0.01	0.02	5.78	2.00	0.35	0.08	4.63	0.87	3.57	0.15	0.15	8.21	10	1.22	1	1.40	0.00	-	-	-	-
	31	DI-3C	14	0+00	1.07	0.76	0.81	0.81	6.77	5.51	0.00	5.51	0.02	0.01	18.31	2.00	0.11	0.08	5.87	-	-	-	-	-	14	-	-	5.51	0.00	0.26	0.46	0.568	18.31
	32	DI-3B	6	0+00	0.18	0.6	0.11	0.11	6.77	0.73	0.00	0.73	0.01	0.02	4.81	2.00	0.42	0.08	4.90	0.91	3.59	0.15	0.15	4.96	6	1.21	1	0.73	0.00	-	-	-	-

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

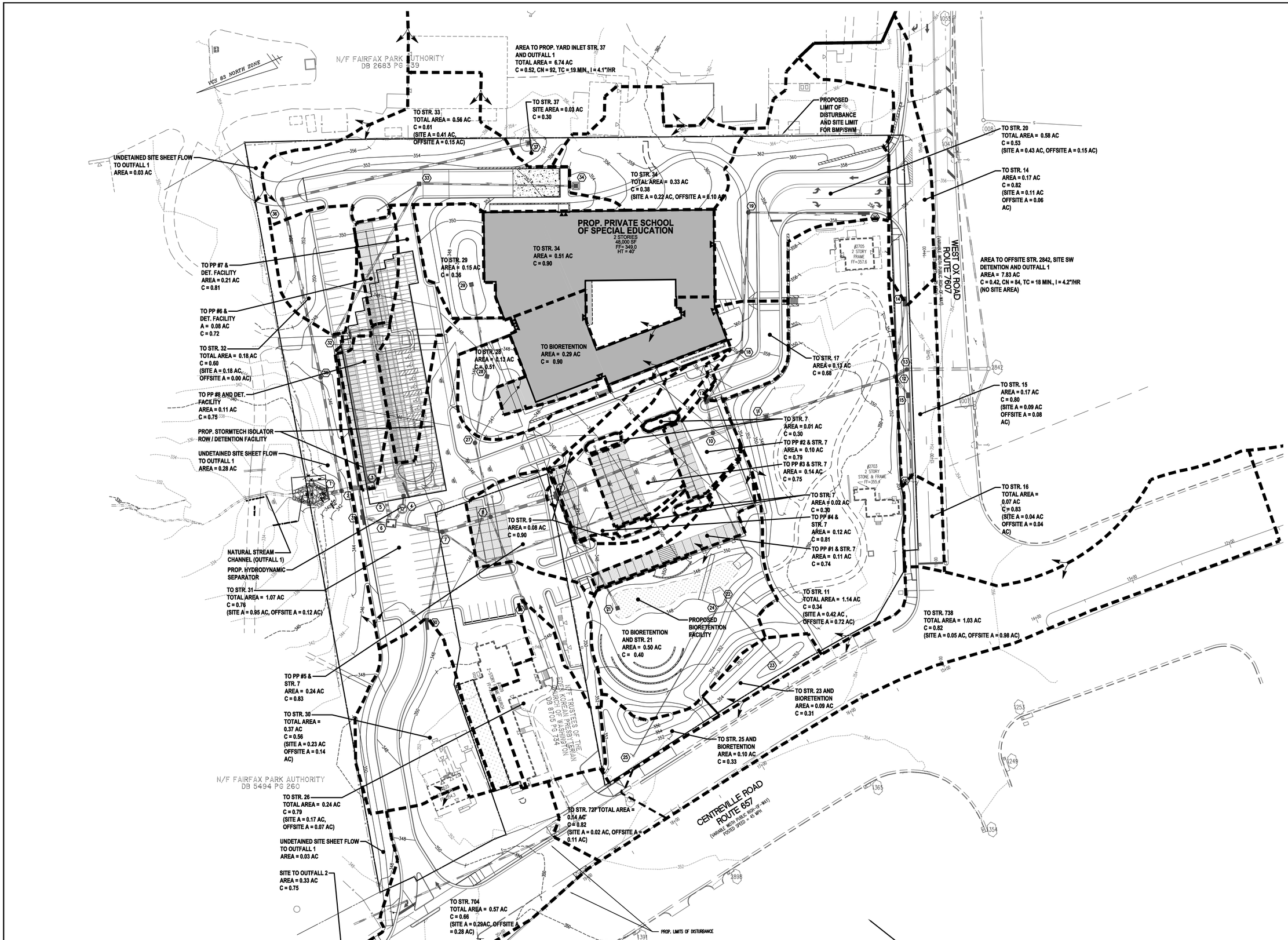
SCALE: NONE
DATE: 7/18/2017
DRAWN: BP / SO / TT
CHECKED: AV / BP

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

STORM SEWER AND INLET COMPUTATIONS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA



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DRAWN: BP / SD / TT
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DATE: 7/18/2017
SCALE: 1"=40'

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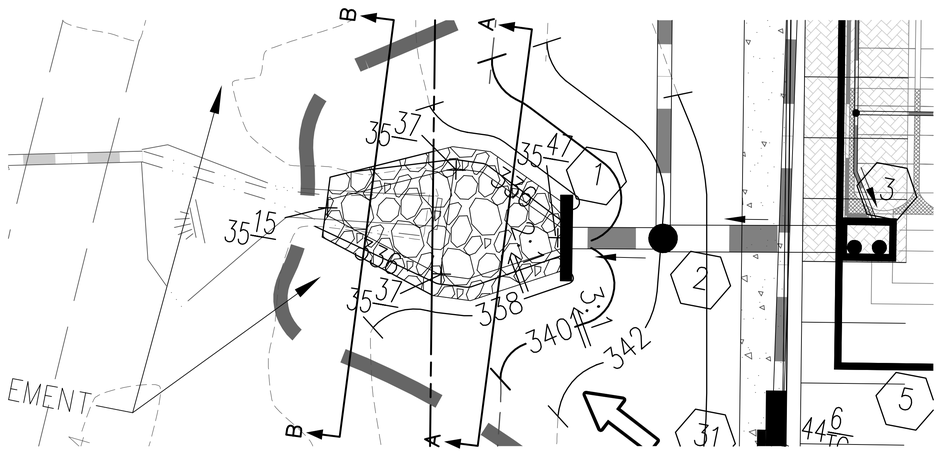
DRAINAGE DIVIDE PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

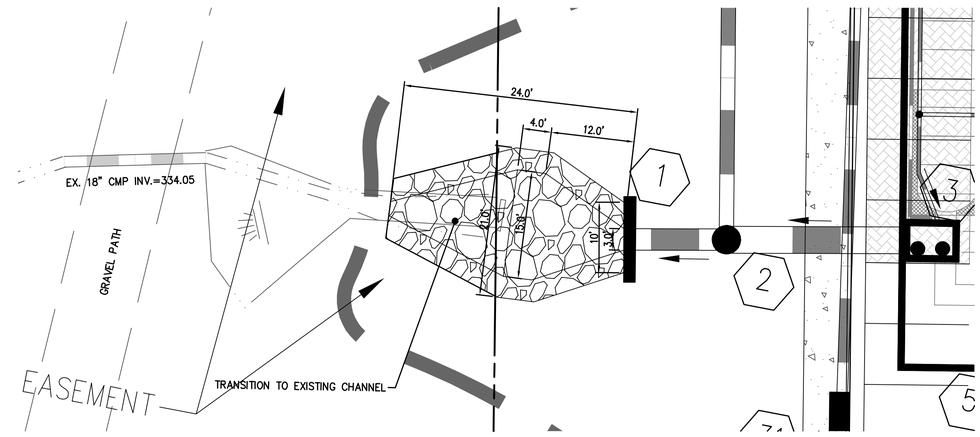
File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0804.dwg

SHEET: C-0805



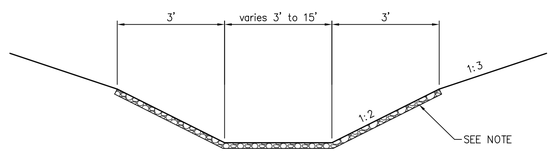
OUTALL 1 OUTLET PROTECTION GRADING DETAIL

GRADING VIEW
SCALE: 1"=10'



OUTALL 1 OUTLET PROTECTION DIMENSION DETAIL

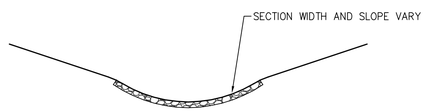
PLAN VIEW
SCALE: 1"=10'



SECTION A-A

SCALE: 1"=2'

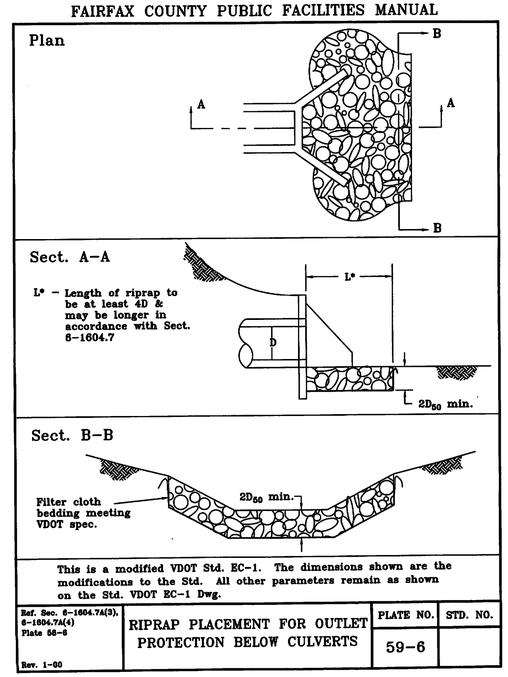
NOTE: STONE LINING SHALL BE NATURAL STONE WITH A 50 PERCENTILE WEIGHT OF 100 POUNDS, LINING SHALL BE INSTALLED TO A DEPTH OF TWICE THE AVERAGE STONE SIZE.



SECTION B-B

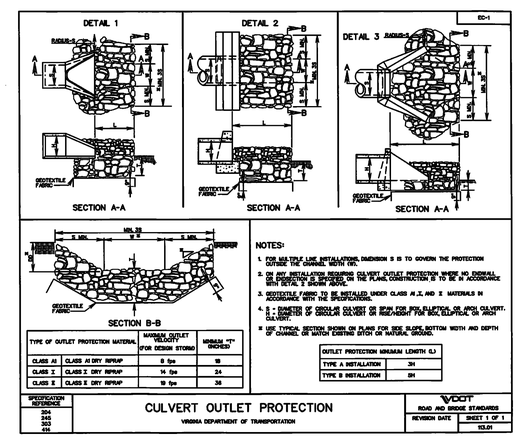
SCALE: 1"=2'

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



This is a modified VDOT Std. EC-1. The dimensions shown are the modifications to the Std. All other parameters remain as shown on the Std. VDOT EC-1 Dwg.

Ref. Sec. 6-1604.7A(3), 6-1604.7A(4) Plate 56-6 Rev. 1-00	RIPRAP PLACEMENT FOR OUTLET PROTECTION BELOW CULVERTS	PLATE NO. 59-6	STD. NO.



NOTES:

1. FOR MULTIPLE LINE INSTALLATIONS, DIMENSION S IS TO GOVERN THE PROTECTION OUTSIDE THE CHANNEL WIDTH (W).
2. ON ANY INSTALLATION REQUIRING CULVERT OUTLET PROTECTION WHERE NO ENDWALL OR PROTECTION IS SPECIFIED ON THE PLANS, CONSTRUCTION IS TO BE IN ACCORDANCE WITH DETAIL 2 SHOWN ABOVE.
3. GEOTEXTILE FABRIC TO BE INSTALLED UNDER CLASS AI, II AND I MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS.
4. D = DIAMETER OF CIRCULAR CULVERT OR SPAN FOR BOX, ELLIPTICAL OR ARCH CULVERT. D = HEIGHT OF CIRCULAR CULVERT OR RISE/HEIGHT FOR BOX, ELLIPTICAL OR ARCH CULVERT.

* USE TYPICAL SECTION SHOWN ON PLANS FOR SIDE SLOPE, BOTTOM WIDTH AND DEPTH OF CHANNEL OR MATCH EXISTING DITCH OR NATURAL GROUND.

TYPE OF OUTLET PROTECTION MATERIAL		MAXIMUM OUTLET VELOCITY (FOR DESIGN STORM)	MINIMUM "T" (INCHES)
CLASS AI	CLASS AI DRY RIPRAP	8 fps	18
CLASS I	CLASS I DRY RIPRAP	14 fps	24
CLASS II	CLASS II DRY RIPRAP	18 fps	36

OUTLET PROTECTION MINIMUM LENGTH (L)	
TYPE A INSTALLATION	3H
TYPE B INSTALLATION	5H

SPECIFICATION REFERENCE	CULVERT OUTLET PROTECTION	VDOT ROAD AND BRIDGE STANDARDS
304 345 303 414	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE / SHEET 1 OF 1 / 103.01

STRUCTURE 1 OUTLET PROTECTION DETAILS

THE FLORIS CONSERVATORY FOR FINE ARTS
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HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

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DATE: 7/18/2017
SCALE: AS NOTED

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7/18/17
PROFESSIONAL ENGINEER

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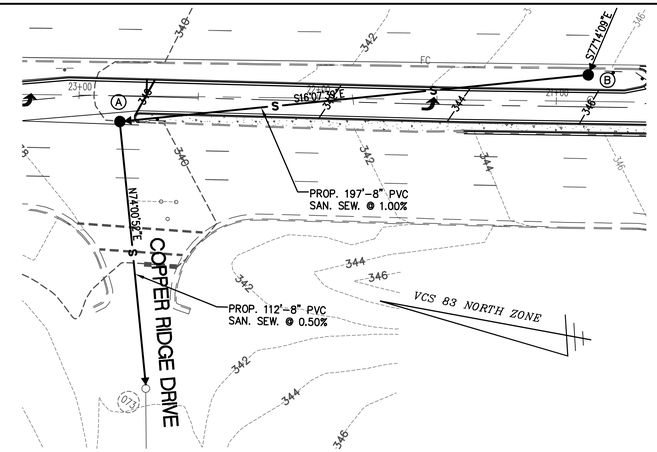

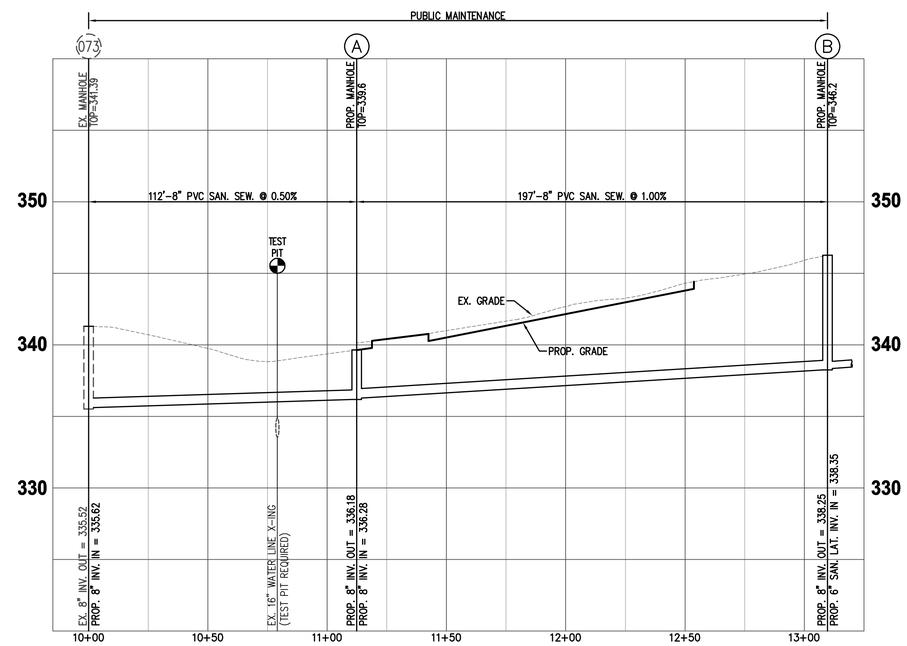

PROPOSED 8" SANITARY SEWER

SANITARY SEWER PLAN & PROFILE

THE FLORIS CONSERVATORY FOR FINE ARTS
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HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

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7/18/17
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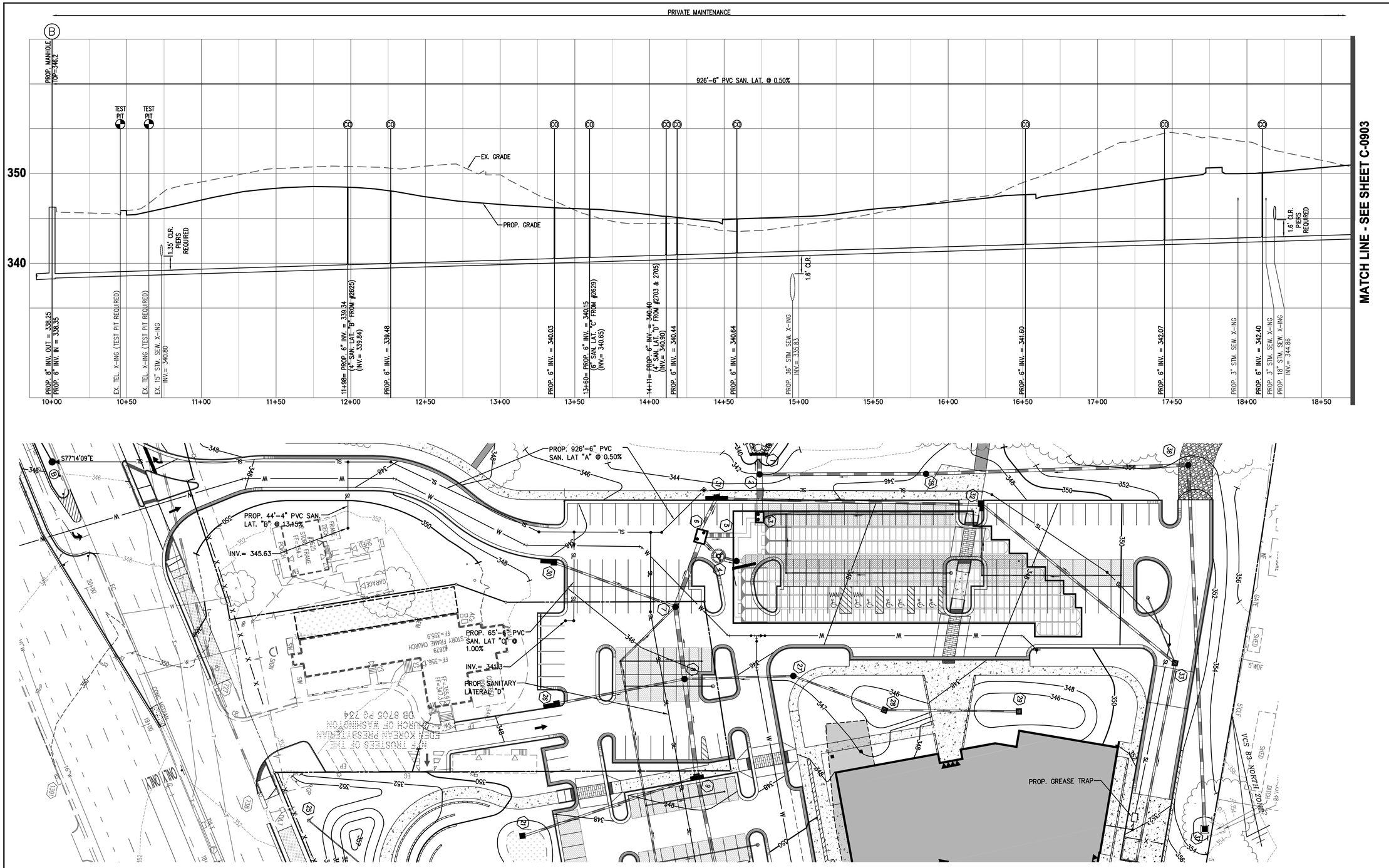
SCALE: HOR. 1"=20' VERT. 1"=5'
DATE: 7/18/2017
DRAWN: BP / SD / TT
CHECKED: AV / BP



PROPOSED SANITARY LATERAL "A"

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DRAWN: BP / SD / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE: HOR. 1" = 20' VERT. 1" = 5'

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SANITARY SEWER PLAN & PROFILE

THE FLORIS CONSERVATORY FOR FINE ARTS
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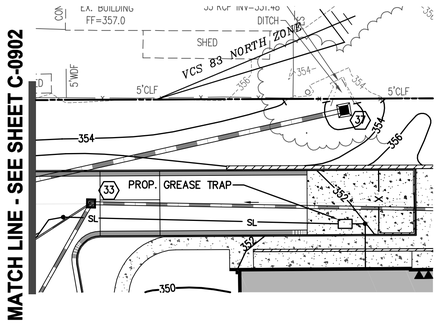
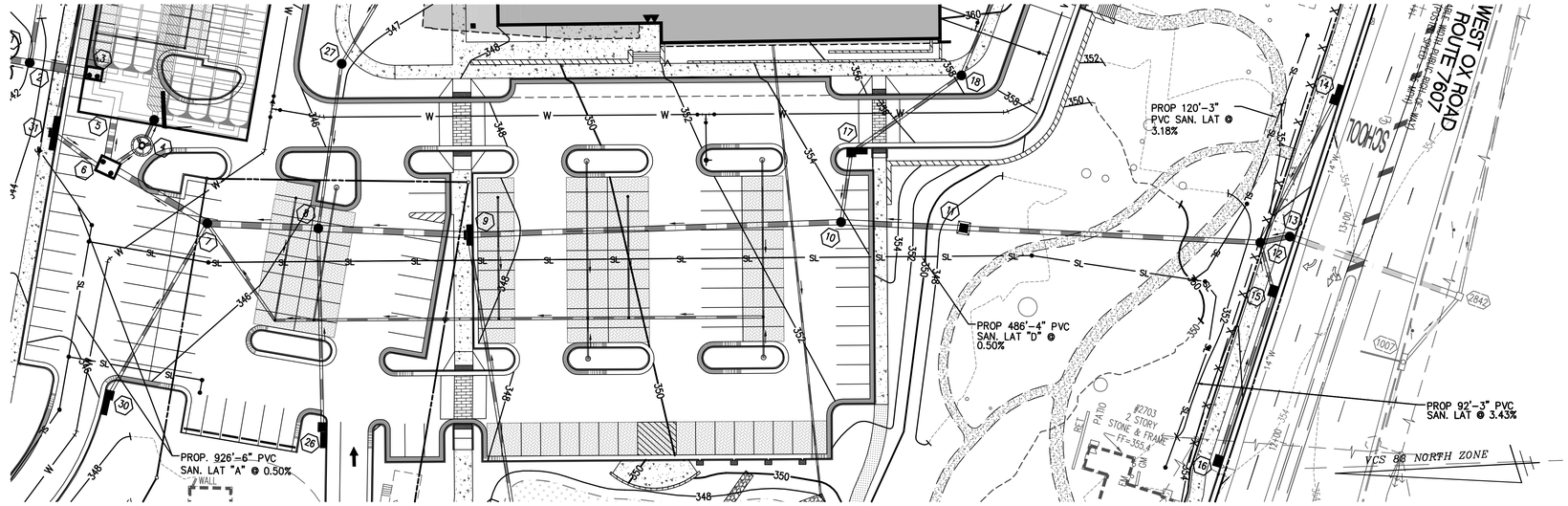
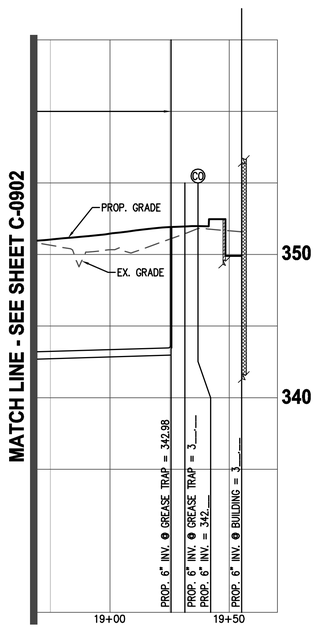
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-0901.dwg

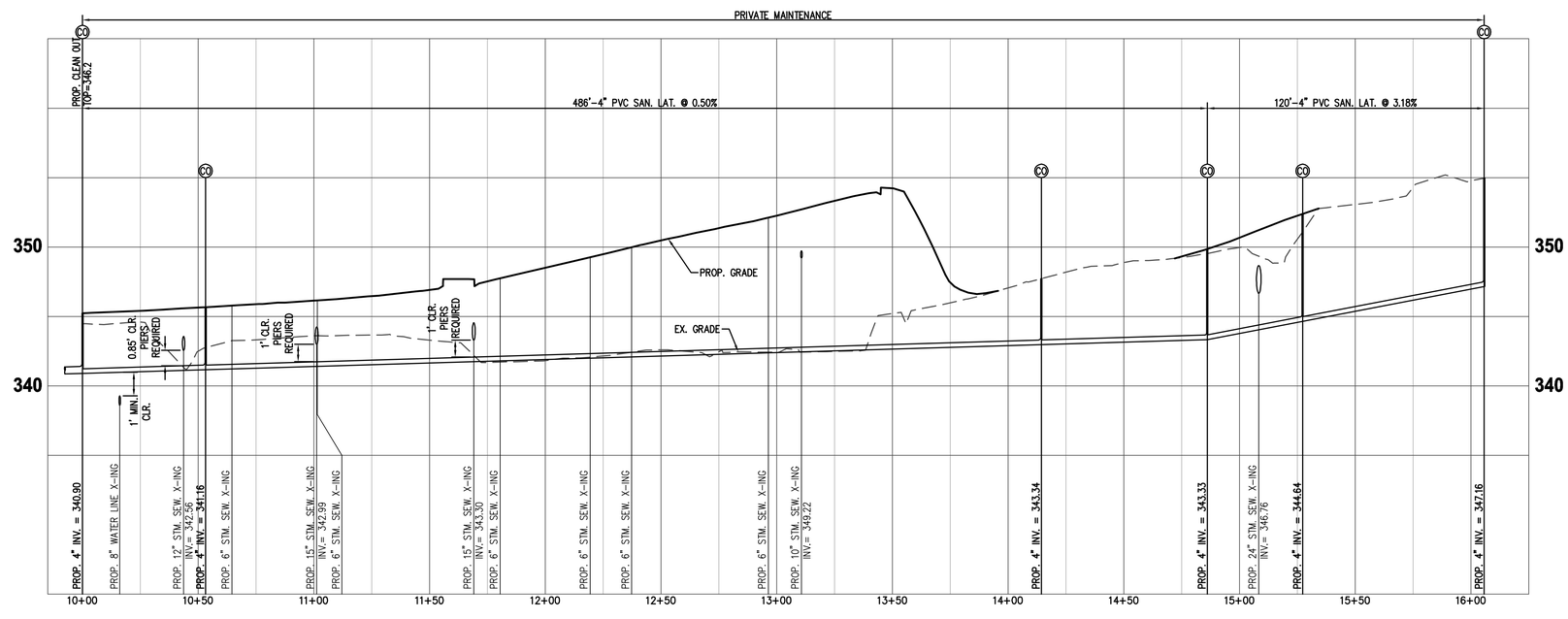
SHEET: C-0902







PROPOSED SANITARY LATERAL "A"



PROPOSED SANITARY LATERAL "D"

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AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

DRAWN: BP / SD / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE: HOR. 1" = 20' VERT. 1" = 5'

REVISION APPROVED BY

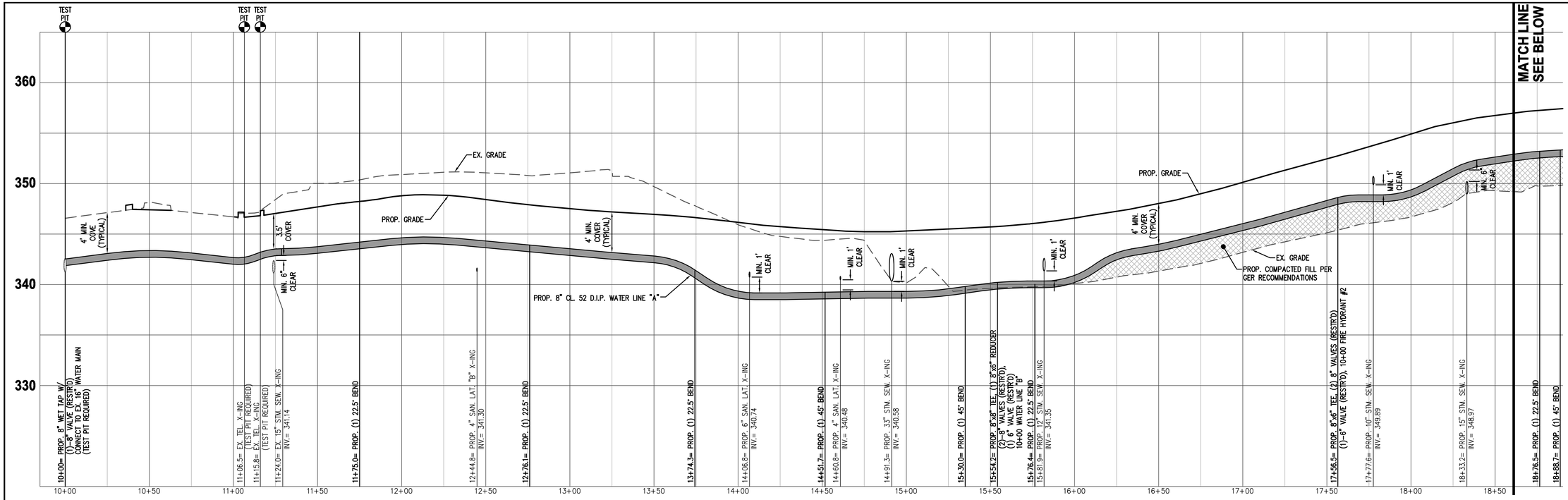
NO.	DESCRIPTION	DATE	REV. BY	APPROVED

SANITARY SEWER PLAN & PROFILE

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

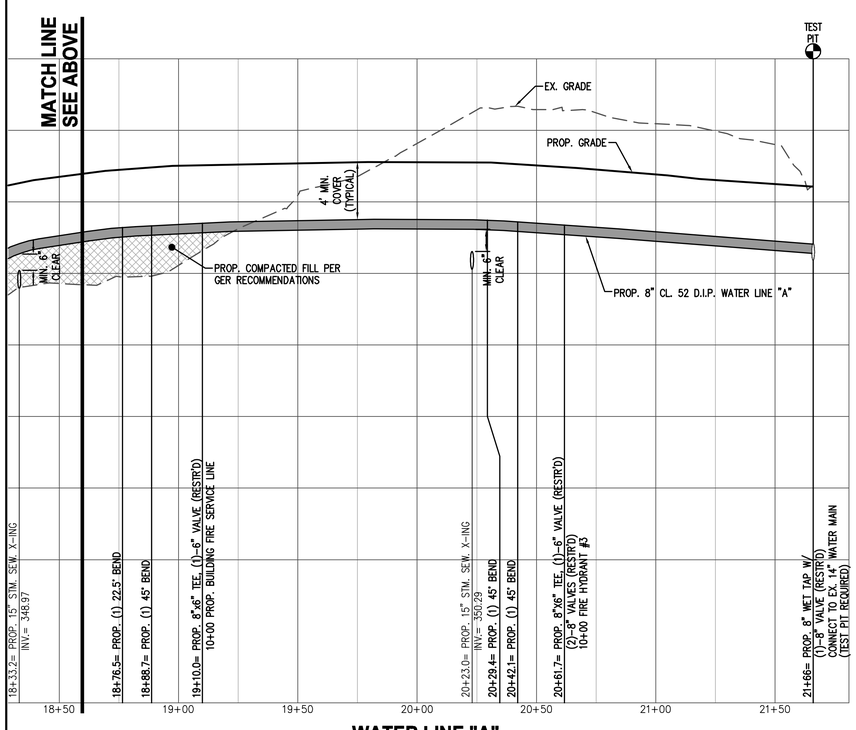
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-0903



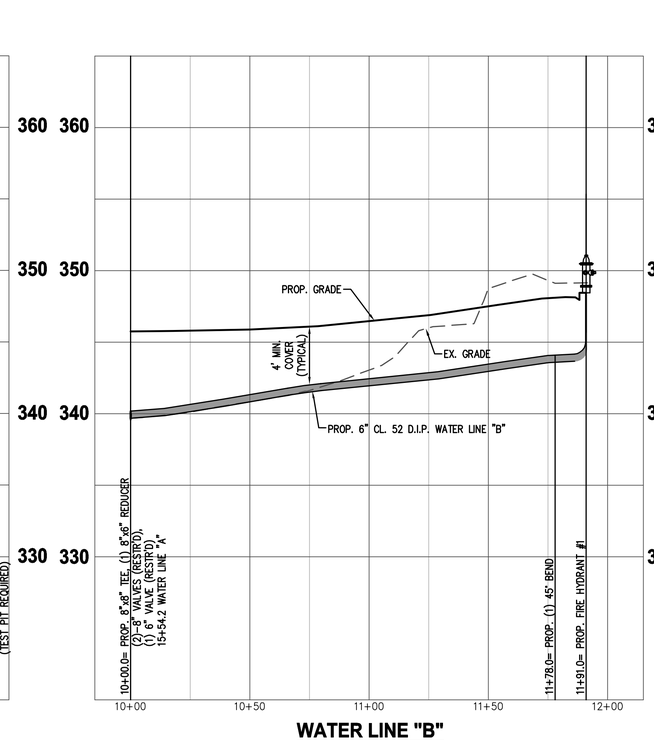
WATER LINE "A"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



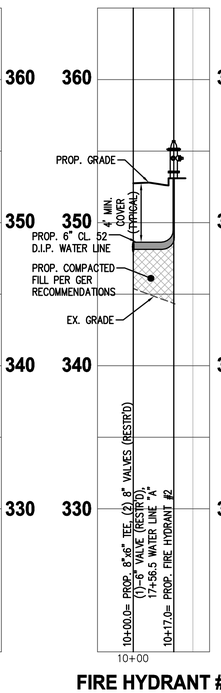
WATER LINE "A"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



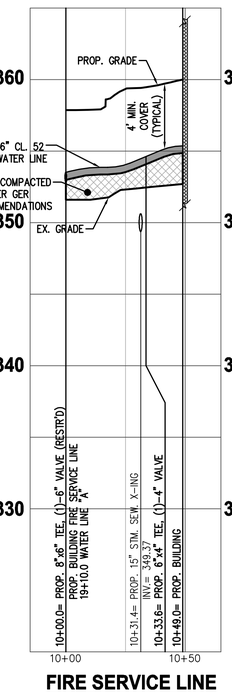
WATER LINE "B"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



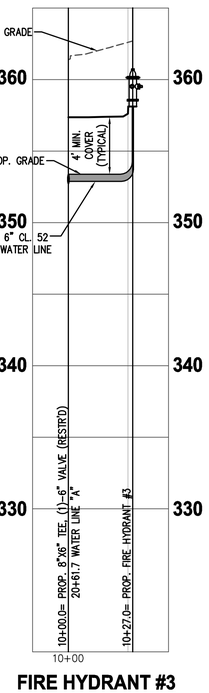
FIRE HYDRANT #2

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



FIRE SERVICE LINE

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



FIRE HYDRANT #3

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

WATER MAIN PROFILE

THE FLORIS CONSERVATORY FOR FINE ARTS
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HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

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DRAWN: BP / SD / TT
CHECKED: AV / BP
DATE: 7/18/2017
SCALE: HOR. 1" = 30' VERT. 1" = 5'

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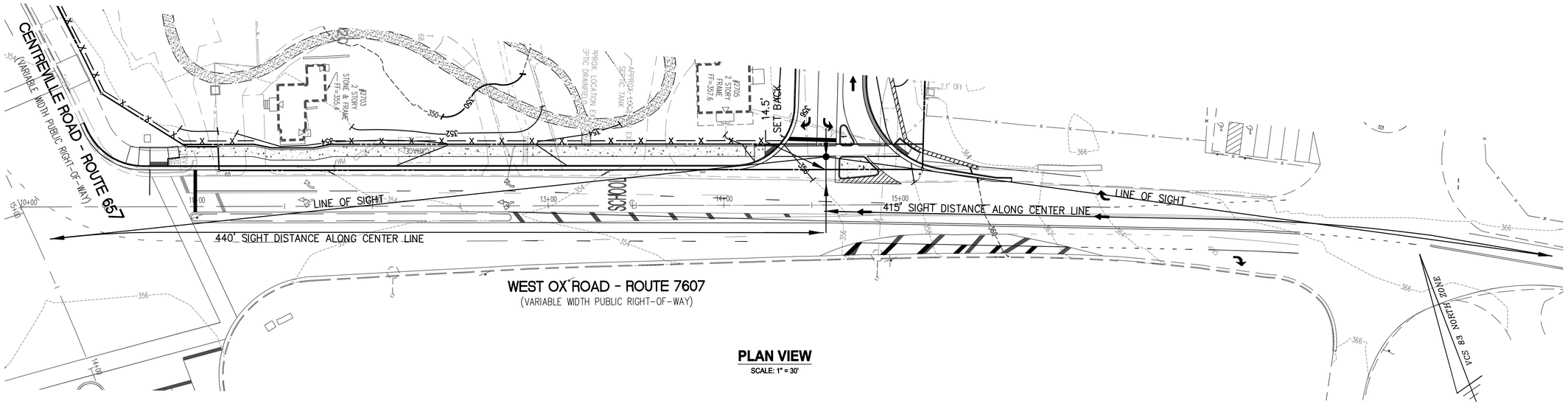
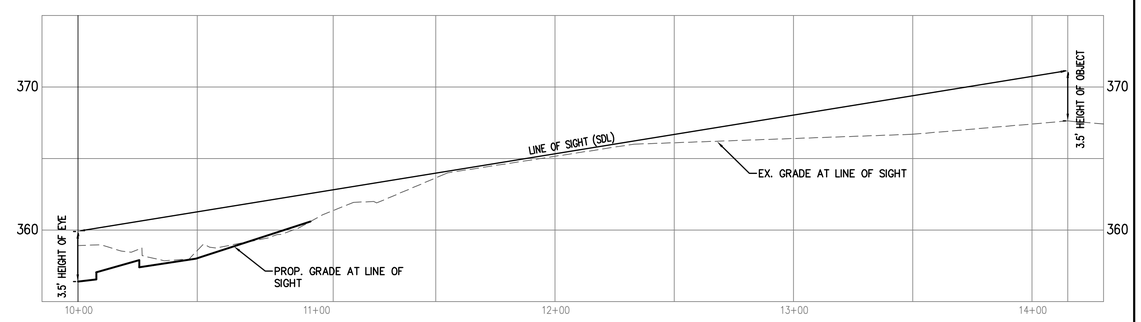
NO.	DESCRIPTION	DATE	REV. BY	APPROVED

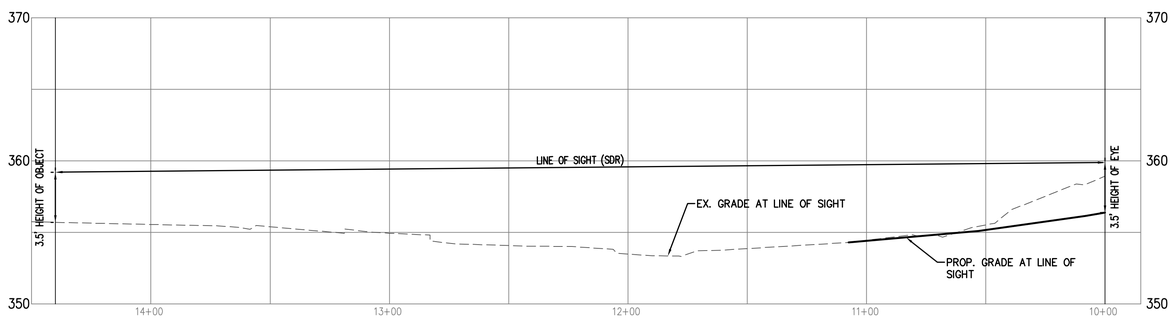
SHEET: C-1001



PLAN VIEW
SCALE: 1" = 30'



SIGHT DISTANCE LEFT PROFILE VIEW
SCALE: HOR. 1" = 30'
VERT. 1" = 5'



SIGHT DISTANCE RIGHT PROFILE VIEW
SCALE: HOR. 1" = 30'
VERT. 1" = 5'

SIGHT DISTANCE LEFT = 415 FT
4 LANE UNDIVIDED
POSTED SPEED = 35 MPH
SIGHT DISTANCE RIGHT = 440 FT
4 LANE UNDIVIDED
POSTED SPEED = 35 MPH

30 0 15 30 60 120
1 INCH = 30'

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AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

DRAWN: BP / SD / TT
CHECKED: AV / BP
SCALE: AS NOTED
DATE: 7/18/2017

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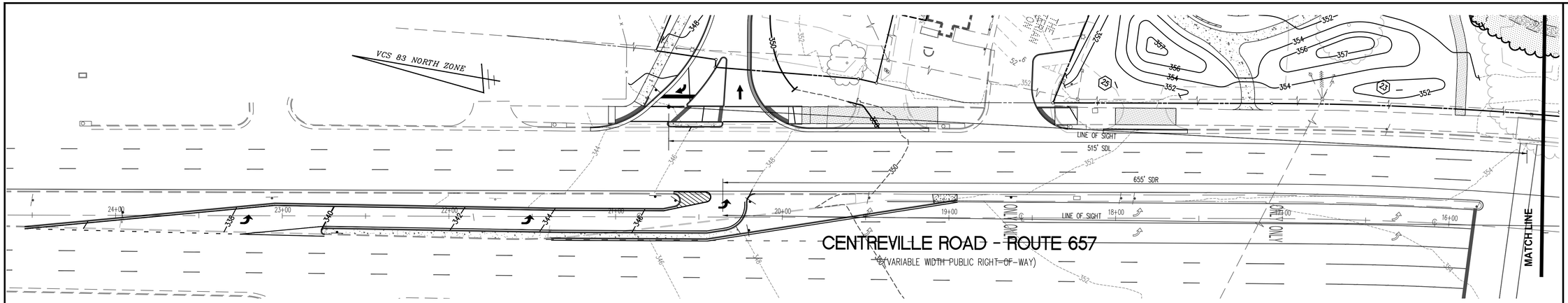
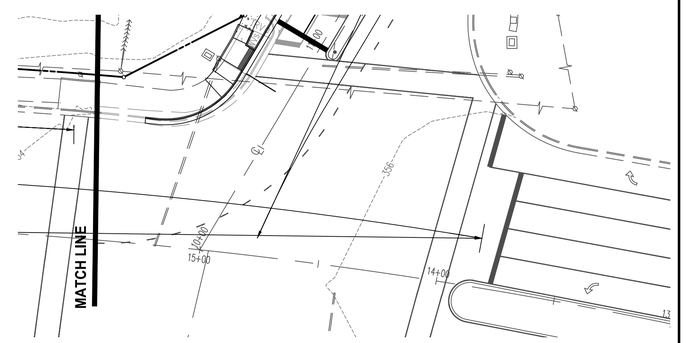
WEST OX ROAD SIGHT DISTANCE PLAN & PROFILE

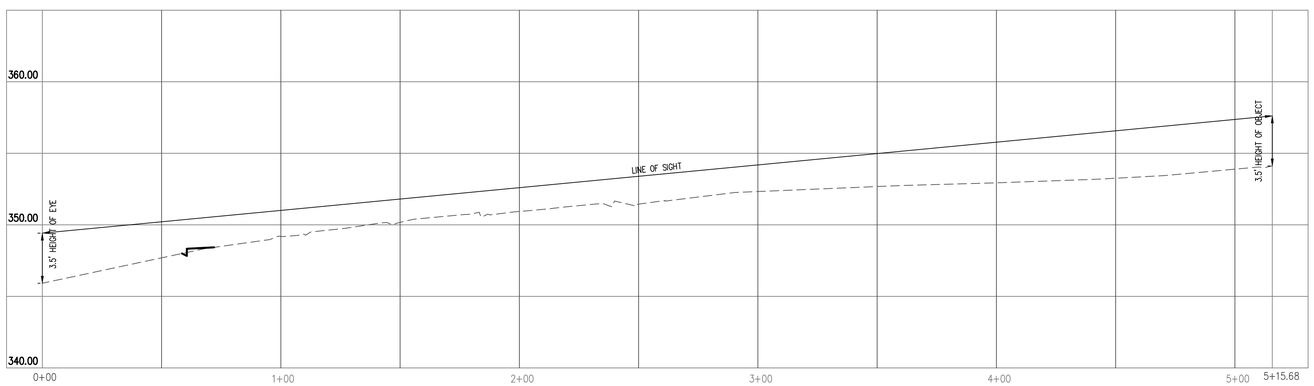
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA



PLAN VIEW

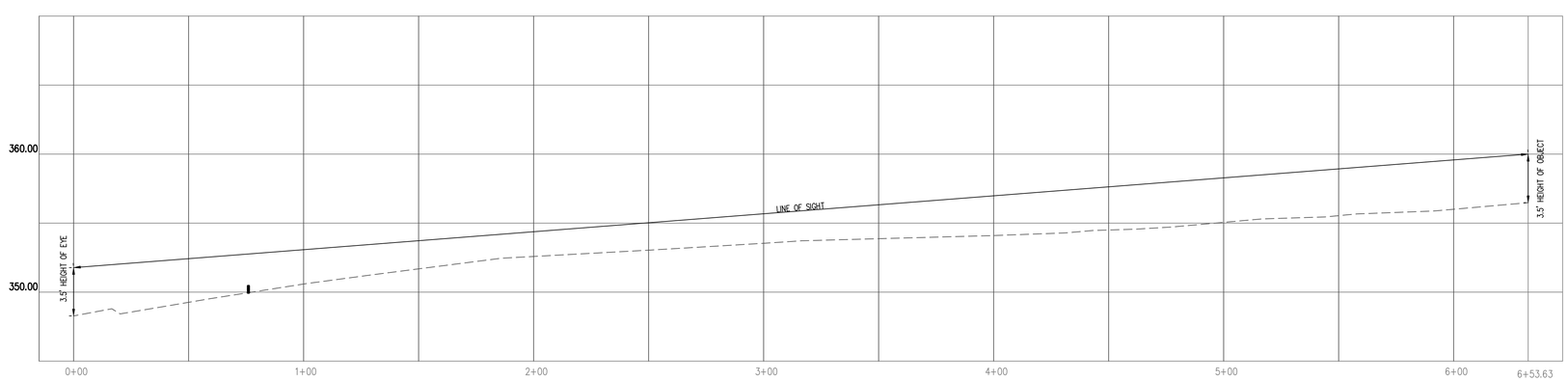
SCALE: 1" = 40'





PROFILE VIEW (SIGHT DISTANCE LEFT - EXITING)

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROFILE VIEW (SIGHT DISTANCE RIGHT - ENTERING)

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

CENTREVILLE ROAD SIGHT DISTANCE PLAN & PROFILE

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AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

SCALE: HOR. 1" = 30'
VERT. 1" = 5'
DATE: 7/18/2017
DRAWN: BP / SO / TT
CHECKED: AV / BP

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

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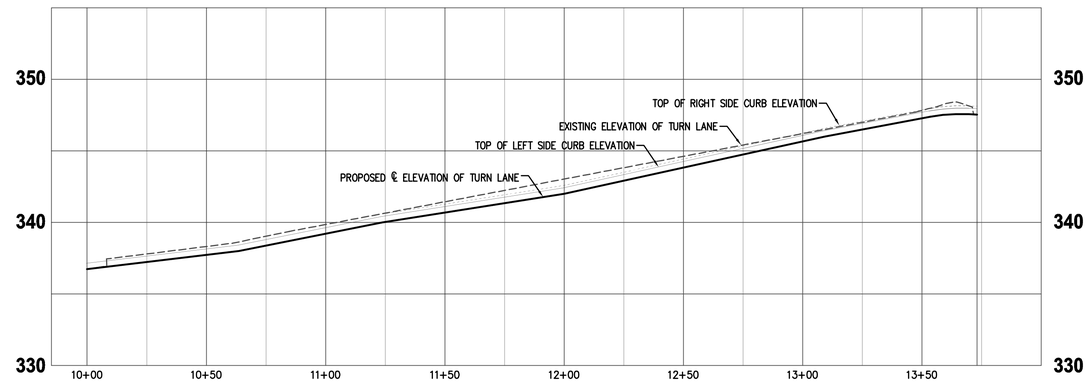
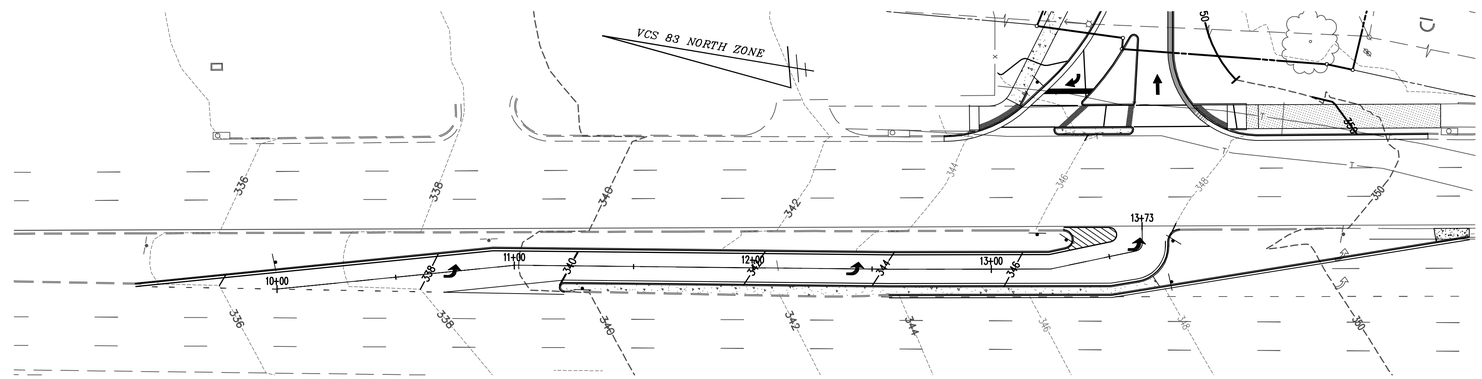


PROPOSED CENTREVILLE ROAD LEFT TURN LANE - PROFILE VIEW

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED CENTREVILLE ROAD LEFT TURN LANE - PLAN VIEW

SCALE: 1" = 30'

30 0 15 30 60 120
1 INCH = 30'

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CENTREVILLE ROAD TURN LANE PLAN & PROFILE

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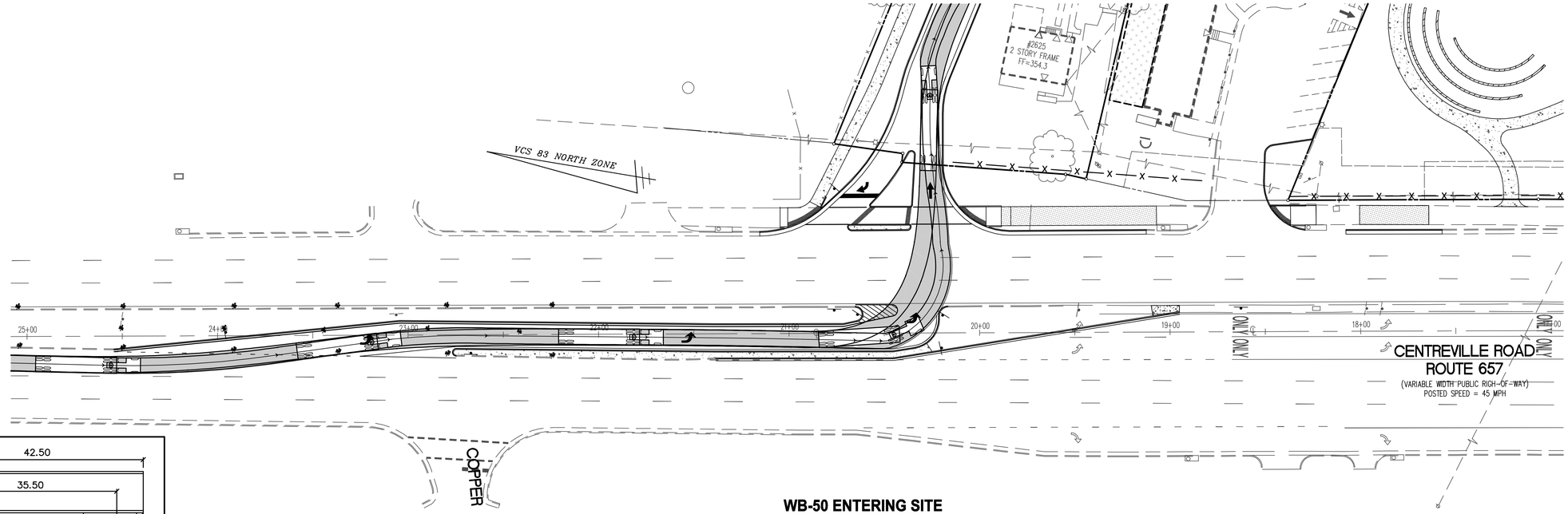
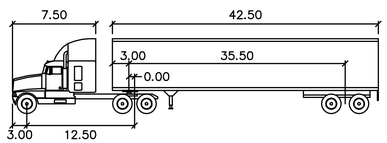
FAIRFAX COUNTY, VIRGINIA

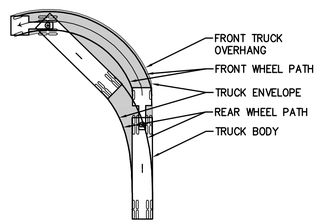


WB-50 ENTERING SITE

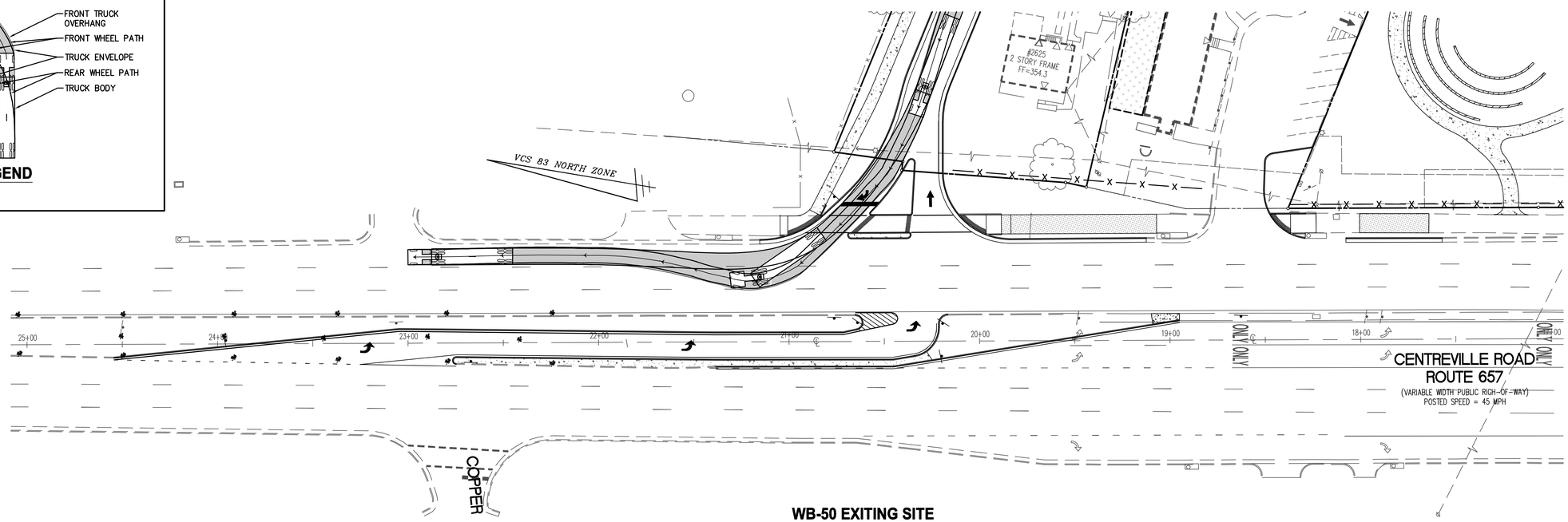


WB-50 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



VEHICLE LEGEND
(NOT TO SCALE)



WB-50 EXITING SITE

30 0 15 30 60 120
1 INCH = 30'

WB-50 TRUCK MOVEMENTS - CENTREVILLE ROAD

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CHECKED: AV / BP
DATE: 7/18/2017
SCALE: 1" = 30'

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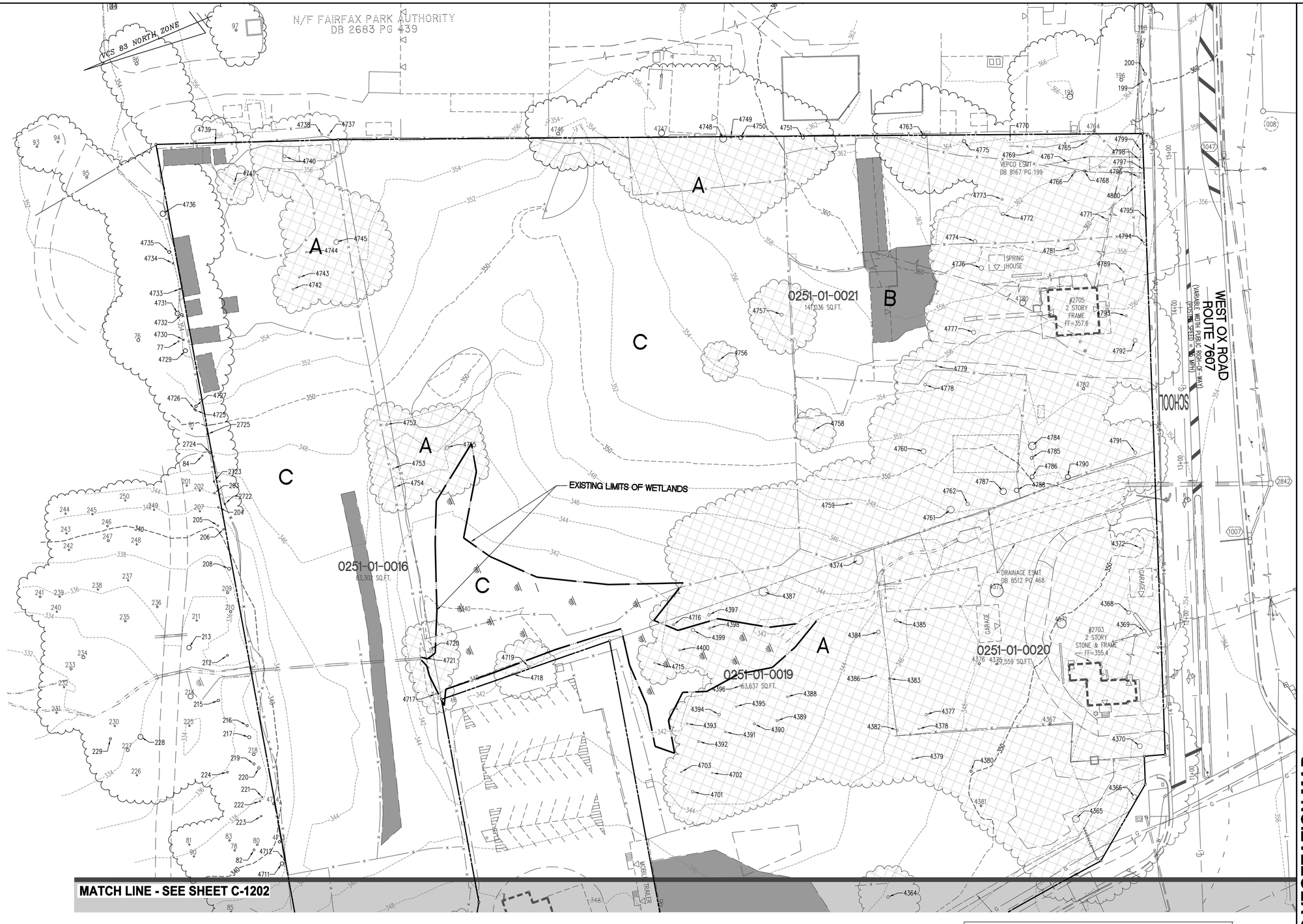
File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Engineering\Site Plan\15027C-1104.dwg

SHEET: C-1104



EXISTING VEGETATION MAP INFORMATION					
KEY	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION	ACREAGE
A	BOTTOMLAND FOREST	LOCUST, MAPLE, ELM, JUNIPER	N/A	FAIR	129,500 SF 2.973 AC
B	DEVELOPED LAND	BUILDINGS, PARKING AREAS, WALKS, ETC.	N/A	N/A	62,207 SF 1.428 AC
C	MAINTAINED GRASSLANDS	GRASS	N/A	N/A	159,933 SF 3.672 AC
				TOTAL SITE AREA:	351,640 SF 8.073 AC

30 0 15 30 60 120
1 INCH = 30'

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SCALE: 1" = 30'
DATE: 7/18/2017

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EXISTING VEGETATION MAP

THE FLORIS CONSERVATORY FOR FINE ARTS
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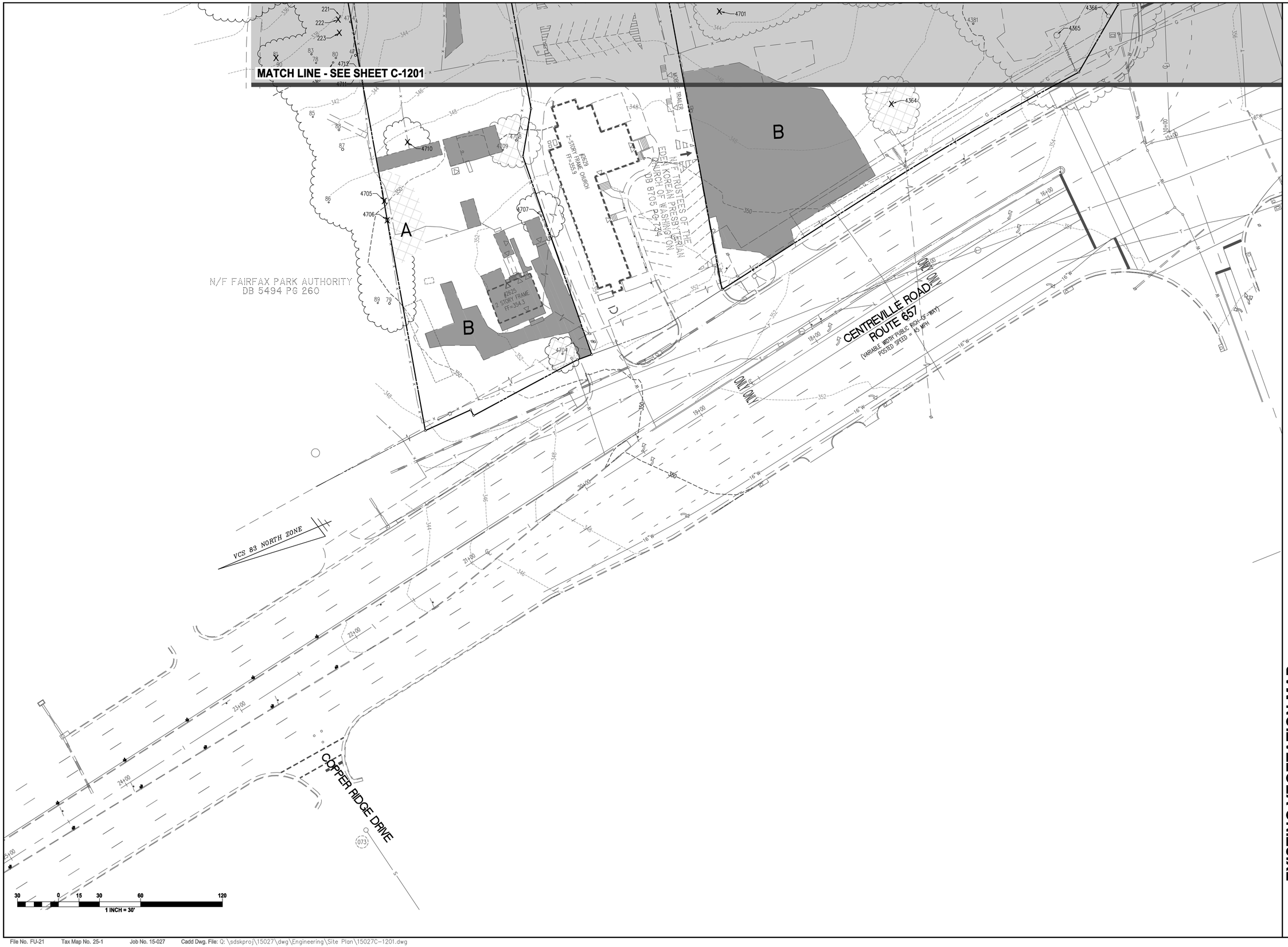
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-1201



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SCALE: 1" = 30'
DATE: 7/18/2017

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

EXISTING VEGETATION MAP

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

Scimores

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal allowed with heavy machinery	Hand Removal/Selective Removal	Activities: Tree Protection Fence/ Super Silt Fence - see detail	Activities: Root Prune - see detail	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist John Gavarkavich # MA-4728A #16-012 May 26, 2017											
76	Liriodendron tulipifera	Yellow-poplar	24"	24'	70%	56%			X		Offsite, some insect damage at base of trunk, large grape vine on tree
77	Acer rubrum	Red maple	9"	9'	70%	47%			X		Offsite, twin trunk, 1/2 of which is dead, euonymus vines along base
78	Juglans nigra	Black walnut	12"	12'	68%	50%			X		Offsite, between fence line and gravel service drive, light vines
79	Prunus serotina	Black cherry	18"	18'	55%	41%			X	X	Offsite near fence line, abundant dead wood, vines
80	Ulmus americana	American elm	15"	15'	53%	38%			X		Offsite, between fence line and gravel service drive, dying
81	Dead	Dead	12"	0'	0%	0%			X		Offsite, near gravel service drive road, 25' dead tree not suitable for snag
82	Robinia pseudoacacia	Black locust	15"	15'	55%	41%			X		Offsite, between fence line/gravel service drive, ants, vines, rotted trunk
83	Robinia pseudoacacia	Black locust	14"	14'	55%	41%			X		Offsite, between fence line/ gravel service drive, major limb dead @ 25'
84	Acer rubrum	Red maple	12"	12'	70%	53%			X	X	Offiste, twin trunks near fence line, phototropic lean
85	Juglans nigra	Black walnut	12"	12'	68%	53%			X		Offsite, between fence line and gravel service drive, heavy lean
86	Robinia pseudoacacia	Black locust	12"	12'	55%	38%			X		twin trunks, falling over, sparse, vines
87	Robinia pseudoacacia	Black locust	22"	22'	55%	38%			X		twin trunks,
88	Robinia pseudoacacia	Black locust	17"	17'	55%	38%			X		Offsite, hard lean, adjacent tree fell on this locust, recommend removing both
89	Morus rubra	Red mulberry	12"	12'	45%	47%			X		Offsite near fence line, spreading canopy with abundant dead wood, vines
90	Prunus serotina	Black cherry	12"	12'	55%	47%			X		Offsite, near gravel service drive road
91	Pinus virginiana	Virginia pine	12"	12'	50%	44%			X	X	Offsite, near fence line, dead wood, small crown
93	Prunus serotina	Black cherry	14"	14'	55%	47%					Offsite, canker at base 2' up trunk
94	Juniperus virginiana	Eastern redcedar	15"	15'	75%	59%					Offsite, light girdling of roots, light damage to trunk bark
95	Juniperus virginiana	Eastern redcedar	18"	18'	75%	66%			X		Offsite, light damage to base (Weedeater?), limbed up 15' high
96	Prunus serotina	Black cherry	24"	24'	55%	47%			X		Offsite, bleeding wound, insect damage, root rot, inclluded bark
97	Nyssa sylvatica	Blackgum	18"	18'	80%	75%			X		Offsite, minor cicada damage to twigs
195	Platanus occidentalis	American sycamore	25"	25'	58%	66%			X		
196	Quercus rubra	Northern red oak	15"	15'	75%	66%			X	X	Offsite
197	Quercus rubra	Northern red oak	20"	20'	75%	66%	X				Offsite, lean over road, potential hazard
198	Robinia pseudoacacia	Black locust	15"	15'	55%	63%			X	X	Offsite
199	Quercus rubra	Northern red oak	10"	10'	75%	63%	X				Offsite
200	Robinia pseudoacacia	Black locust	15"	15'	55%	59%	X				Offsite
201	Prunus serotina	Black cherry	12"	12'	55%	25%			X		Offsite, near gravel service road, dying, heavy vines, heavy dead wood
202	Robinia pseudoacacia	Black locust	12"	12'	55%	44%			X	X	Offiste, between fence line and gravel serive road, heavy vines
203	Juniperus virginiana	Eastern redcedar	12"	12'	75%	44%			X	X	Offiste, near fence line, broken limb high in tree
204	Juniperus virginiana	Eastern redcedar	12"	12'	75%	50%			X		Offiste, near fence line, light vines, moderate dead wood
205	Juniperus virginiana	Eastern redcedar	12"	12'	75%	50%			X		Offiste, near fence line, heavy vines
206	Juniperus virginiana	Eastern redcedar	12"	12'	75%	47%			X		Offiste, near fence line, heavy vines
207	Prunus serotina	Black cherry	12"	12'	55%	47%			X		Offiste, between fence line and gravel service road, crooked trunk
208	Dead	Dead	24"	0'	0%	0%		X			Offiste, near fence line, may pose hazard to padock area
209	Acer rubrum	Red maple	18"	18'	70%	47%			X		Offiste, near fence line, included barb at weak looking crotch
210	Acer rubrum	Red maple	18"	18'	70%	44%			X	X	Offiste, near fence line, dead wood, rotted trunk
211	Acer rubrum	Red maple	12"	12'	70%	50%			X		Offsite, near gravel service road, poison ivy
212	Prunus serotina	Black cherry	15"	15'	55%	41%		X			Offsite, near fence, twin trunk with 1/2 of trunk broken off
213	Dead	Dead	36"	0'	0%	0%		X			Offsite, near gravel service road, 12' tall twin snag
214	Acer rubrum	Red maple	25"	25'	70%	59%			X	X	Offsite, near gravel service road, twin trunk, included bark, suckers
215	Dead	Dead	20"	0'	0%	0%		X			Ofiste, between gravel service drive and fence, hazardous
216	Dead	Dead	13"	13'	0%	0%		X			Offsite,near fence, twin trunk, dead Black Locust
217	Acer rubrum	Red maple	25"	25'	70%	50%			X	X	Offsite, near fence line
218	Acer rubrum	Red maple	22"	22'	70%	50%			X		Offsite, near fence line, vine damage to trunk
219	Dead	Dead	18"	0'	0%	0%		X			Offsite, near fence line, no snag potential
220	Acer rubrum	Red maple	20"	20'	70%	50%			X		Offsite, near fence line, heavy lean over paddock
221	Ulmus americana	American elm	12"	12'	53%	50%			X		Offsite, near fence line, vines
222	Dead	Dead	12"	0'	0%	0%		X			Offsite, near fence line
223	Dead	Dead	12"	0'	0%	0%		X			Offsite, near fence line
224	Dead	Dead	12"	0'	0%	0%		X			Offsite, between fence line and gravel service drive, heavy lean
225	Juniperus virginiana	Eastern redcedar	12"	12'	75%	53%			X		Offsite, near gravel service road, poison ivy, light dead wood
226	Prunus serotina	Black cherry	12"	12'	55%	47%			X		Offsite, north of gravel service road, vines, dead wood, lean
227	Robinia pseudoacacia	Black locust	24"	24'	55%	50%			X		Offsite, north of gravel service road, heavy vines girdling tree
228	Dead	Dead	28"	0'	0%	0%			X		Offsite, north of gravel service road, twin trunks
229	Dead	Dead	18"	0'	0%	0%			X		Offsite, north of gravel service road, 25' high snag
230	Acer negundo	Boxelder	12"	12'	40%	59%			X		Offsite, north of gravel service road, light dead wood
231	Acer saccharinum	Silver maple	12"	12'	45%	56%			X		Offsite, north of gravel service road, dead wood, broken limbs
232	Ulmus americana	American elm	12"	12'	50%	50%			X		Offsite, north of gravel service road, light vines
233	Dead	Dead	18"	0'	0%	0%			X		Offsite, north of gravel service road
234	Acer saccharinum	Silver maple	17"	17'	45%	53%			X		Offsite, north of gravel service road, twin trunk, included bark, exp. roots
235	Acer rubrum	Red maple	15"	15'	70%	50%			X		Offsite, north of gravel service road. 10" Elm growing nearby
236	Acer rubrum	Red maple	15"	15'	70%	66%			X		Offsite, north of gravel service road. Posion Ivy
237	Acer rubrum	Red maple	12"	12'	70%	63%			X		Offsite, north of gravel service road, light vines
238	Acer rubrum	Red maple	12"	12'	70%	63%			X		Offsite, north of gravel service road

Scimores

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal allowed with heavy machinery	Hand Removal/Selective Removal	Activities: Tree Protection Fence/ Super Silt Fence - see detail	Activities: Root Prune - see detail	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist John Gavarkavich # MA-4728A #16-012 May 26, 2017											
239	Acer rubrum	Red maple	12"	12'	70%	66%			X		Offsite, north of gravel service road, heavy vines
240	Acer rubrum	Red maple	12"	12'	70%	63%			X		Offsite, north of gravel service road
241	Prunus serotina	Black cherry	15"	15'	55%	63%			X		Offsite, north of gravel service road, light vines
242	Robinia pseudoacacia	Black locust	12"	12'	55%	50%			X		Offsite, north of gravel service road, heavy vines
243	Acer rubrum	Red maple	12"	12'	70%	63%			X		Offsite, north of gravel service road, moderate vines
244	Acer rubrum	Red maple	12"	12'	70%	63%			X		Offsite, north of gravel service road, slight exposed roots
245	Robinia pseudoacacia	Black locust	12"	12'	55%	44%			X		Offsite, north of gravel service road, broken leader 20' up tree
246	Prunus serotina	Black cherry	14"	14'	55%	50%			X		Offsite, north of gravel service road, light vines, dead wood
248	Robinia pseudoacacia	Black locust	12"	12'	55%	53%			X		Offsite, north of gravel service road, moderate vines, dead wood
249	Acer rubrum	Red maple	12"	12'	70%	56%			X		Offsite, north of gravel service road
250	Robinia pseudoacacia	Black locust	12"	12'	55%	25%			X		Offsite, north of gravel service road, dying
2621	Dead	Dead	24"	0'	0%	0%					
2722	Juniperus virginiana	Eastern redcedar	12"	12'	75%	50%			X	X	
2723	Juniperus virginiana	Eastern redcedar	12"	12'	75%	50%			X	X	Offiste, near fence line
2724	Juniperus virginiana	Eastern redcedar	18"	18'	75%	47%		X			Offiste, heavy dead wood, tree used for paddock gate chain post
2725	Juniperus virginiana	Eastern redcedar	16"	16'	75%	47%		X			Offiste, heavy dead wood, tree used for paddock gate hinge
4364	Robinia pseudoacacia	Red maple	22"	22'	55%	50%	X				heavy, thick vines at base, extending 15'-20' up trunk
4365	Ulmus parvifolia	Chinese elm	54"	54'	70%	47%			X	X	dead wood
4366	Ulmus parvifolia	Chinese elm	36"	36'	70%	53%	X				vines, dead wood
4367	Juglans nigra	Black walnut	12"	12'	68%	56%			X		vines, light dead wood
4368	Ulmus parvifolia	Chinese elm	30"	30'	70%	44%	X				Heavy vines
4369	Prunus serotina	Black cherry	12"	12'	55%	44%	X				Multi-trunk
4370	Acer rubrum	Red maple	40"	40'	70%	25%	X				dying
4371	Catalpa speciosa	Northern catalpa	72"	72'	60%	50%			X	X	Vines, insect damage
4372	Ilex opaca	American holly	11"	11'	73%	63%	X				Triple trunk,
4373	Acer saccharinum	Silver maple	128"	128'	45%	47%			X	X	Multi-trunk, heavy ivy
4374	Acer saccharinum	Silver maple	70"	70'	45%	50%	X				Vines, included bark, dead wood
4375	Ulmus parvifolia	Chinese elm	13"	13'	70%	59%			X		heavy vines
4376	Morus rubra	Red mulberry	18"	18'	45%	50%			X	X	heavy vines, heavy dead wood
4377	Prunus serotina	Black cherry	20"	20'	55%	59%	X				light vines, light dead wood
4378	Juglans nigra	Black walnut	12"	12'	68%	38%	X				heavy top lean, recommend removal
4379	Robinia pseudoacacia	Black locust	12"	12'	55%	47%	X				heavy vines, lean
4380	Morus rubra	Red mulberry	18"	18'	53%	50%			X	X	vines
4381	Ulmus americana	American elm	15"	15'	53%	56%			X	X	dead wood
4382	Prunus serotina	Black cherry	19"	19'	55%	44%	X				heavy vines, heavy dead wood
4383	Prunus serotina	Black cherry	18"	18'	55%	41%	X				heavy vines, heavy dead wood
4384	Dead	Dead	30"	0'	0%	0%	X				
4385	Prunus serotina	Black cherry	24"	24'	55%	53%	X				
4386	Tilia americana	American basswood	12"	12'	73%	47%	X				moderate dead wood
4387	Acer saccharinum	Silver maple	70"	70'	45%	59%	X				Vines, included bark, trunks splits into multipel trunks approx. 5' off ground
4388	Acer saccharinum	Silver maple	14"	14'	50%	50%	X				
4389	Acer saccharinum	Silver maple	17"	17'	45%	63%	X				low suckers, included bark
4390	Acer saccharinum	Silver maple	17"	17'	45%	50%	X				
4391	Acer saccharinum	Silver maple	15"	15'	45%	66%	X				poison ivy and euonymus vines present
4392	Acer saccharinum	Silver maple	12"	12'	45%	47%	X				one half of twin trunk remaining
4394	Acer saccharinum	Silver maple	16"	16'	45%	59%	X				twin trunks
4395	Acer saccharinum	Silver maple	12"	12'	45%	59%	X				
4396	Acer rubrum	Red maple	12"	12'	70%	59%	X				heavy grape vine(s)
4397	Dead	Dead	20"	0'	0%	0%	X				dead locust, vines
4398	Acer saccharinum	Silver maple	17"	17'	45%	63%	X				
4399	Acer saccharinum	Silver maple	19"	19'	45%	53%	X				twin trunks, vines
4400	Acer saccharinum	Silver maple	14"	14'	45%	44%	X				one half of twin trunk remaining
4701	Robinia pseudoacacia	Black locust	21"	21'	55%	50%	X				heavy vines
4702	Robinia pseudoacacia	Black locust	12"	12'	55%	50%	X				light dead wood, lean
4703	Acer saccharinum	Silver maple	12"	12'	45%	50%	X				heavy vines
4704	Ulmus americana	American elm	13"	13'	53%	47%			X		under power lines adjacent to Centerville Rd.
4705	Robinia pseudoacacia	Black locust	23"	23'	55%	38%		X			onsite tree along fencel line, dead wood, vines
4706	Robinia pseudoacacia	Black locust	30"	30'	55%	38%		X			shared tree on property line, dead wood, vines
4707	Morus rubra	Red mulberry	18"	18'	45%	47%			X		dense vines, overhanging existing travelway
4708	Robinia pseudoacacia	Black locust	12"	12'	55%	47%			X	X	dead wood
4709	Robinia pseudoacacia	Black locust	19"	19'	55%	53%		X			dead wood, vines
4710	Dead	Dead	18"	0'	0%	0%		X			chain around trunk, dead branches hazardous to anyone underneath
4711	Robinia pseudoacacia	Black locust	27"	27'	55%	41%			X		Offsite, near fence line, heavy vines, major limb dead
4712	Robinia pseudoacacia	Black locust	12"	12'	55%	38%			X	X	Offsite, near fence line, trunk girdled by barbed wire, canker
4713	Robinia pseudoacacia	Black locust	20"	20'	55%	25%			X		Offsite, near fence line, dying, removal recommended; coordinate w FX CO
4714	Robinia pseudoacacia	Black locust	16"	16'	55%	47%			X		Offsite, near fence line, leans, light canopy

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ESTABLISHED 1945

SCALE: 1" = 30'
DATE: 7/18/2017
DRAWN: BP / SO / TT
CHECKED: AV / BP

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE INVENTORY
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-1203

TREE SURVEY INFORMATION COMPLETED BY WALTER L. PHILLIPS, INC – ARBORIST
JOHN GAVARKAVICH # MA-4728A MAY 26, 2017

TREE PRESERVATION PLAN COMPLETED BY WALTER L. PHILLIPS, INC – ARBORIST
BEN SCHITTER # MA-5385A JUNE, 30, 2017

TREE PRESERVATION PREPARED BY:

_____06/30/2017
BENJAMIN J. SCHITTER, CERTIFIED ARBORIST ISA #MA-5385A

Scimores

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal allowed with heavy machinery	Hand Removal/Selective Removal	Activities: Tree Protection Fence/ Super Silt Fence - see detail	Activities: Root Prune - see detail	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist John Gavarkavich # MA-4728A #16-012 May 26, 2017											
4715	Ulmus americana	American elm	13"	13'	53%	50%	X				included bark, tree in low lying area
4716	Dead	Dead	16"	0'	0%	0%	X				dead triple trunk locust
4717	Ulmus americana	American elm	12"	12'	53%	50%	X				In submerged ponded area at time of inventory
4718	Platanus occidentalis	American sycamore	15"	15'	58%	50%	X				twin trunk, light canopy, in submerged area at time of inventory
4719	Ulmus parvifolia	Chinese elm	20"	20'	70%	66%	X				In submerged ponded area at time of inventory
4720	Acer rubrum	Red maple	20"	20'	70%	50%	X				Multi-trunk, In submerged ponded area at time of inventory
4725	Acer rubrum	Red maple	12"	12'	70%	50%			X		Offiste, near fence line
4726	Acer rubrum	Red maple	12"	12'	70%	50%			X		Offiste, near fence line
4727	Acer rubrum	Red maple	20"	20'	70%	50%			X	X	Offiste, near fence line, vines
4729	Acer rubrum	Red maple	32"	32'	70%	50%			X	X	Offsite, near fence line
4730	Acer rubrum	Red maple	12"	12'	70%	44%			X		Offsite, bark growing over embedded wire girdling trunk
4731	Acer rubrum	Red maple	25"	25'	70%	50%			X	X	Offsite, twin trunks, included bark
4732	Prunus serotina	Black cherry	20"	20'	55%	50%			X	X	Offsite, near fence line
4733	Robinia pseudoacacia	Black locust	12"	12'	55%	31%			X		Offsite, leans over paddock, missing limbs, girdled at base with b. wire
4734	Acer negundo	Boxelder	12"	12'	40%	41%			X		Offsite, large broken limbs, insect borer damage, debris around base
4735	Acer negundo	Boxelder	23"	23'	40%	41%			X	X	Offsite, heavy euonymus vines, one side of trunk dead
4736	Prunus serotina	Black cherry	42"	42'	55%	41%		X			Offsite, major rot at trunk, vines, hollow trunk, lean
4737	Robinia pseudoacacia	Black locust	13"	13'	55%	41%			X	X	Offsite, dead wood at top, heavy lean, no leader
4738	Robinia pseudoacacia	Black locust	15"	15'	55%	53%			X	X	Offsite, dead limbs; limbed over paddock fence
4739	Prunus serotina	Black cherry	15"	15'	55%	50%			X		Lean, low heavy suckers, wispy crown, included bark
4740	Stump	Stump	25"	25'	0%	0%	X				Locust stump
4741	Stump	Stump	13"	13'	0%	0%	X				Locust stump
4742	Robinia pseudoacacia	Black locust	14"	14'	55%	0%	X				Dead, 10'-12' high snag, not high enough to pose significant risk
4743	Robinia pseudoacacia	Black locust	12"	12'	55%	41%	X				Dead wood, heavily pruned before
4744	Robinia pseudoacacia	Black locust	13"	13'	55%	44%	X				Peeled bark, inscet damage, dead wood
4745	Robinia pseudoacacia	Black locust	20"	20'	55%	38%	X				Quad trunk, included bark rotted at base, insect boring damage to trunk
4746	Juglans nigra	Black walnut	24"	24'	68%	50%			X	X	Offsite, along fence
4747	Prunus serotina	Black cherry	48"	48'	55%	59%			X	X	Offsite, along fence, heavy vines
4748	Sassafras albidum	Sassafras	54"	54'	55%	59%			X	X	Along fence line, narrow structure, major dead wood
4749	Dead	Dead	15"	0'	0%	0%		X			Snag along fence line
4750	Dead	Dead	30"	0'	0%	0%		X			Snag along fence line
4751	Magnolia x soulangiana	Saucer magnolia	24"	24'	70%	53%		X			Mult-stem, along fence line
4752	Dead	Dead	15"	0'	0%	0%	X				Along fence in paddock
4753	Robinia pseudoacacia	Black locust	13"	13'	55%	25%	X				Dying
4754	Robinia pseudoacacia	Black locust	16"	16'	55%	50%	X				Along fence in paddock
4755	Acer rubrum	Red maple	30"	30'	70%	50%	X				Dead wood
4756	Dead	Dead	12"	0'	0%	0%	X				
4757	Dead	Dead	12"	0'	0%	0%	X				
4758	Acer negundo	Boxelder	14"	14'	40%	53%	X				
4759	Acer saccharinum	Silver maple	12"	12'	45%	63%	X				
4760	Malus spp.	Crabapple	40"	40'	63%	47%	X				Heavy vines
4761	Acer saccharinum	Silver maple	56"	56'	45%	50%	X				
4762	Acer saccharinum	Silver maple	28"	28'	45%	47%	X				
4763	Ulmus americana	American elm	36"	36'	53%	47%		X			Along fence line, heavy vines, dead wood
4764	Prunus serotina	Black cherry	15"	15'	55%	47%			X	X	Offsite, Along fence line, overrun by vines
4765	Robinia pseudoacacia	Black locust	13"	13'	55%	56%	X				
4766	Robinia pseudoacacia	Black locust	18"	18'	55%	56%	X				
4767	Robinia pseudoacacia	Black locust	12"	12'	55%	50%	X				vines, broken top approx. 30' high
4768	Robinia pseudoacacia	Black locust	20"	20'	55%	53%	X				
4769	Acer saccharinum	Silver maple	21"	21'	45%	56%	X				Along fence line, triple trunk, included bark,
4770	Prunus serotina	Black cherry	12"	12'	55%	47%			X	X	Along fence line, vines, lean
4772	Acer saccharinum	Silver maple	24"	24'	45%	50%	X				
4773	Robinia pseudoacacia	Black locust	14"	14'	55%	50%	X				
4775	Sassafras albidum	Sassafras	26"	26'	55%	63%	X				Along fence line
4776	Robinia pseudoacacia	Black locust	36"	36'	55%	47%	X				
4777	Robinia pseudoacacia	Black locust	34"	34'	55%	47%	X				Dead wood, vines
4778	Catalpa speciosa	Northern catalpa	22"	22'	60%	53%	X				
4779	Acer saccharinum	Silver maple	15"	15'	45%	47%	X				
4780	Acer saccharinum	Silver maple	33"	33'	45%	56%			X	X	
4781	Acer saccharinum	Silver maple	33"	33'	45%	63%	X				Multi Stem
4782	Pinus strobus	Eastern white pine	20"	20'	55%	47%			X		topped, vines
4784	Acer saccharinum	Silver maple	60"	60'	45%	50%			X	X	
4785	Dead	Dead	22"	0'	0%	0%		X			
4786	Acer saccharinum	Silver maple	33"	33'	45%	56%			X	X	
4787	Acer saccharinum	Silver maple	50"	50'	45%	47%			X	X	
4788	Acer saccharinum	Silver maple	36"	36'	45%	53%			X	X	
4789	Ilex opaca	American holly	12"	12'	73%	66%	X				
4790	Robinia pseudoacacia	Black locust	40"	40'	55%	53%		X			Vines
4791	Acer saccharinum	Silver maple	24"	24'	45%	47%	X				Vines
4792	Stump	Stump	31"	0'	0%	0%	X				
4793	Ilex opaca	American holly	18"	18'	73%	50%	X				
4794	Robinia pseudoacacia	Black locust	24"	24'	55%	44%	X				Adjacent to ROW, vines, poor structure
4795	Robinia pseudoacacia	Black locust	18"	18'	55%	47%	X				In ROW
4796	Robinia pseudoacacia	Black locust	18"	18'	55%	50%	X				Adjacent to ROW, vines
4797	Robinia pseudoacacia	Black locust	12"	12'	55%	50%	X				In ROW
4798	Robinia pseudoacacia	Black locust	12"	12'	55%	50%	X				Along ROW
4799	Robinia pseudoacacia	Black locust	12"	12'	55%	50%	X				Along ROW
4800	Robinia pseudoacacia	Black locust	12"	12'	55%	53%	X				Along ROW

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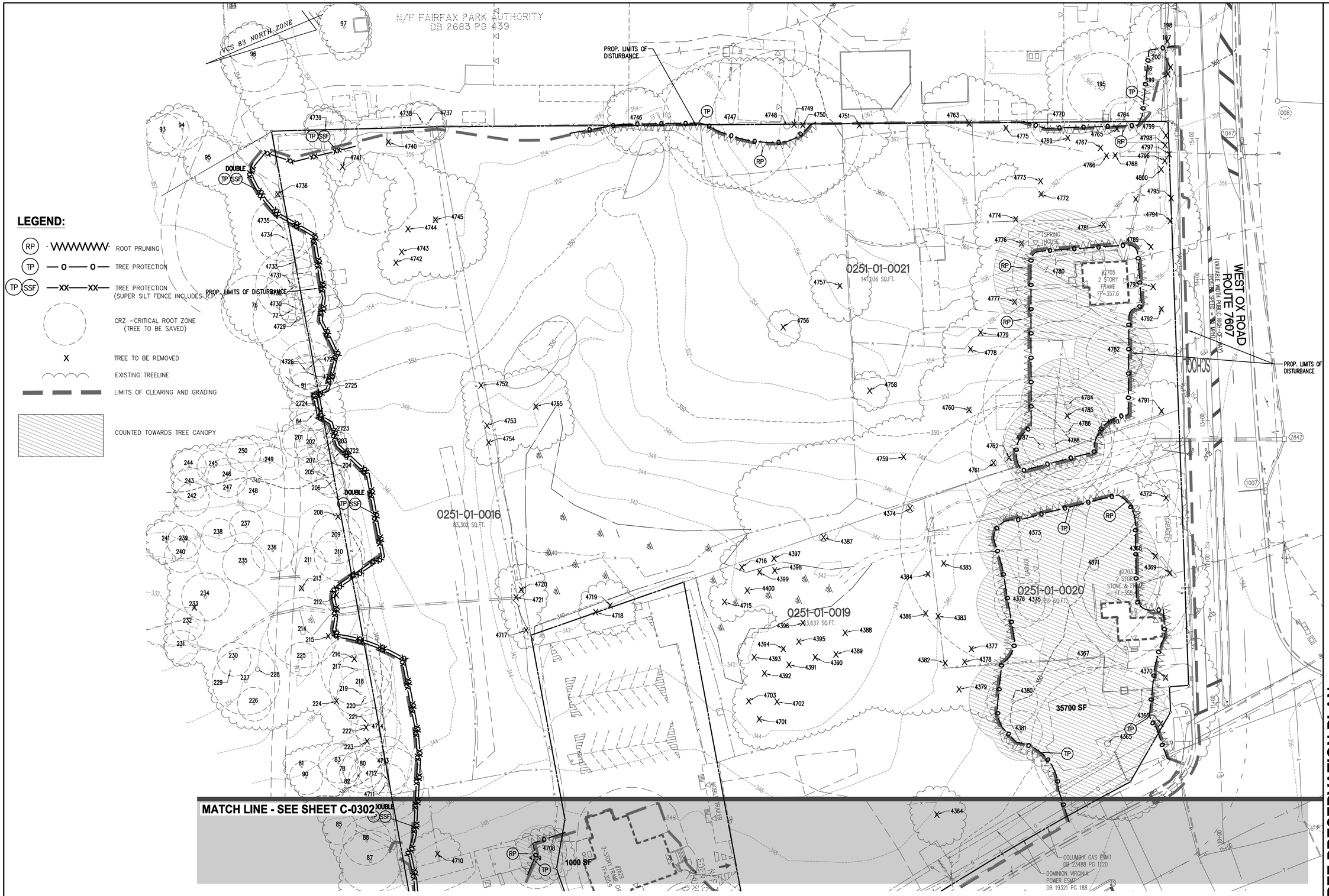
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE INVENTORY

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA



TREE PRESERVATION PREPARED BY:

06/30/2017

BENJAMIN J. SCHITTER, CERTIFIED ARBORIST ISA #MA-5385A

TREE SURVEY INFORMATION COMPLETED BY WALTER L. PHILLIPS, INC – ARBORIST
JOHN GAVARKAVICH # MA-4728A MAY 26, 2017

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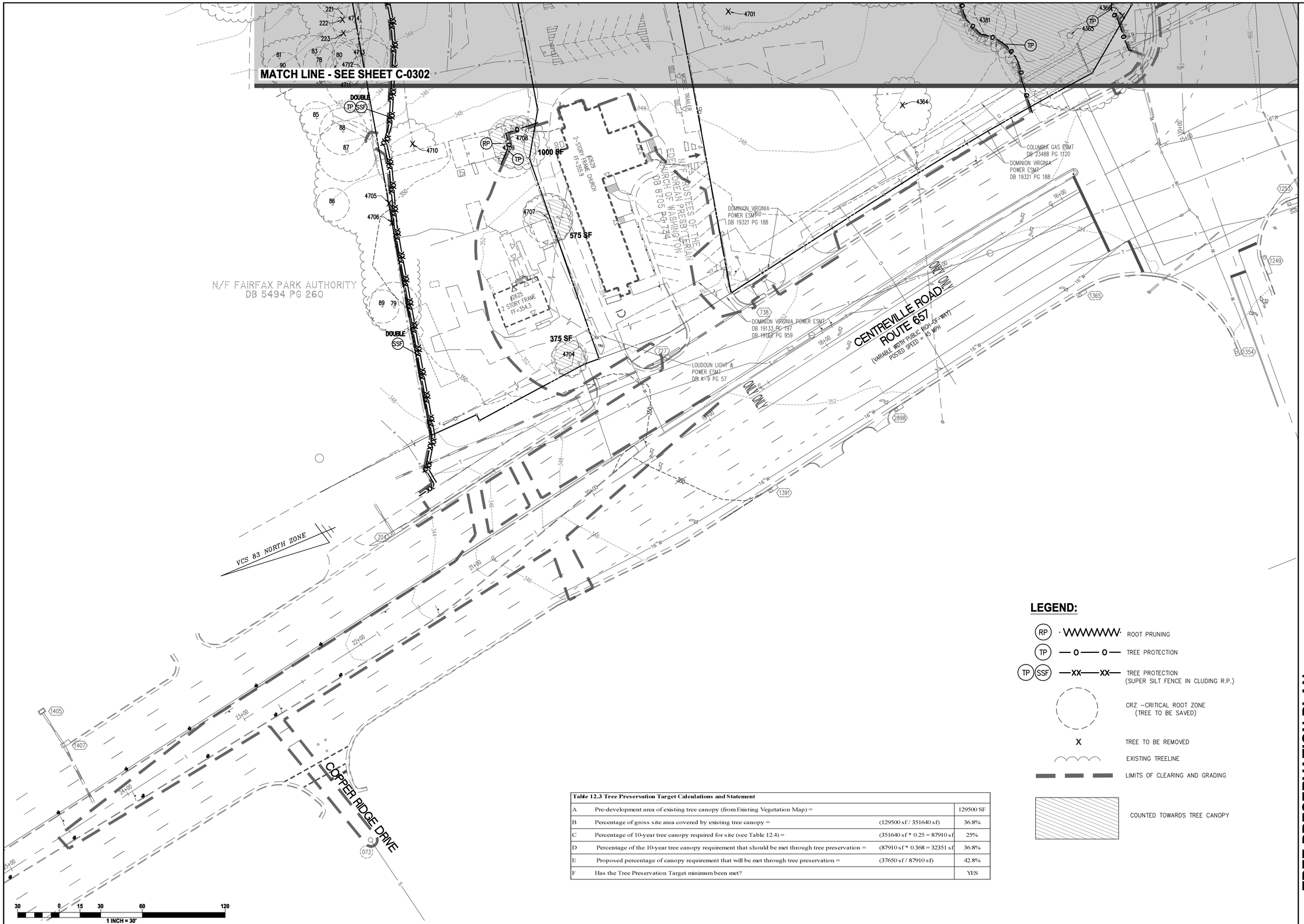

Table 12.3 Tree Preservation Target Calculations and Statement

A	Pre-development area of existing tree canopy (from Existing Vegetation Map) =		129500 SF
B	Percentage of gross site area covered by existing tree canopy =	(129500 sf / 351640 sf)	36.8%
C	Percentage of 10-year tree canopy required for site (see Table 12.4) =	(351640 sf * 0.25 = 87910 sf	25%
D	Percentage of the 10-year tree canopy requirement that should be met through tree preservation =	(87910 sf * 0.368 = 32351 sf	36.8%
E	Proposed percentage of canopy requirement that will be met through tree preservation =	(37650 sf / 87910 sf)	42.8%
F	Has the Tree Preservation Target minimum been met?		YES

LEGEND:

- RP — ROOT PRUNING
- TP — TREE PROTECTION
- TP SSF — TREE PROTECTION (SUPER SILT FENCE IN CLUDING R.P.)
- CRZ – CRITICAL ROOT ZONE (TREE TO BE SAVED)
- X — TREE TO BE REMOVED
- EXISTING TREELINE
- LIMITS OF CLEARING AND GRADING
- COUNTED TOWARDS TREE CANOPY

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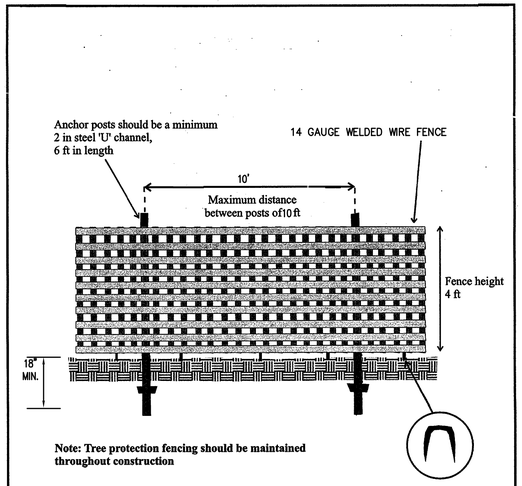
TREE PRESERVATION PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

TREE PRESERVATION DETAILS

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



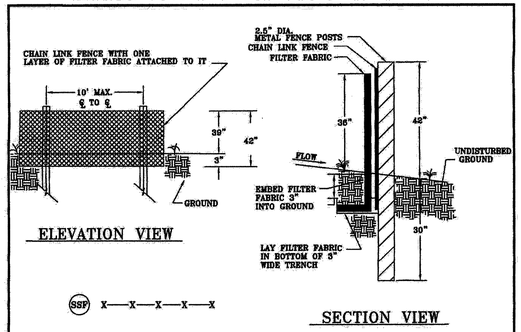
Note: Tree protection fencing should be maintained throughout construction

INSTALL AFTER WALK THROUGH MEETING PRIOR TO CLEARING AND GRADING

Adapted from: ***Woodland Conservation Manual***, Prince George County, Maryland

Ref. Sec. 12-0703.1B	TREE PROTECTION FENCE INSTALLATION	PLATE NO.	STD. NO.
Rev. 10-08		6-12	

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



SUPER SILT FENCE
NO SCALE

FENCING

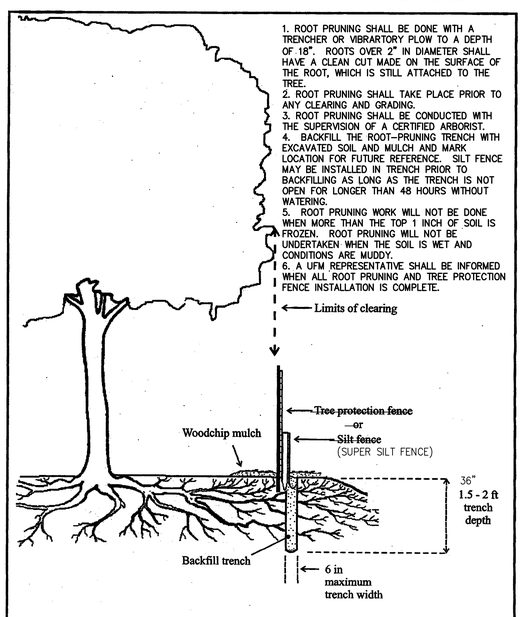
Chain link fence shall be 39" above grade with 3" embedded for a total fabric width of 42". The post shall be 42" above grade with 30" placed below grade (without concrete) for a total length of 72".

NOTES

1. Chain link fence shall be fastened securely to fence posts with wire ties.
2. Filter fabric shall be fastened securely to chain link fence with ties spaced horizontally 24" at the top and midsection.
3. Physical properties of the filter fabric shall conform to the latest edition of THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.
4. When two sections of filter fabric adjoin each other, they shall be overlapped by 6".
5. Maintenance shall be performed as needed and material shall be removed when sediment build-up reaches 50% of the height of the super silt fence.

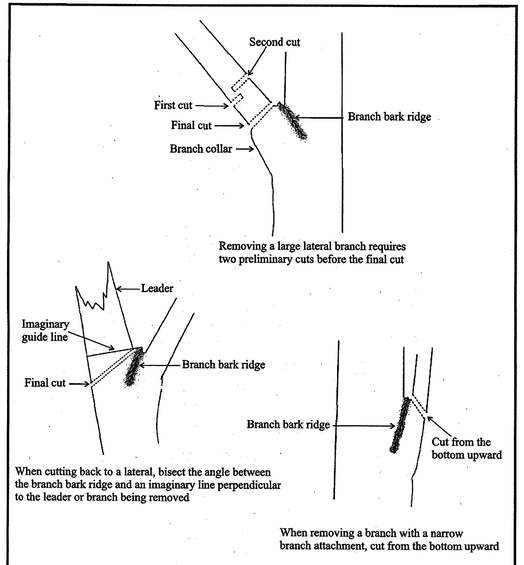
Ref. Sec. 11-0110.3, 11-0110.3J	SUPER SILT FENCE NO SCALE	PLATE NO.	STD. NO.
Rev. 1-00, 2011 Reprint		7-11	

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 12-0702.1	ROOT PRUNING	PLATE NO.	STD. NO.
Rev. 10-08		7-12	

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Adapted from: ***Tree, Shrub and Other Woody Plant Maintenance - Standard Practices - American National Standard for Tree Care Operations***, American National Standards Institute

Ref. Sec. 12-0706.4A	PRUNING CUTS	PLATE NO.	STD. NO.
Rev. 10-08		9-12	

TREE PRESERVATION NARRATIVE

THIS INFORMATION IS RELATIVE TO THE DEVELOPMENT KNOWN AS THE FLORIS CONSERVATORY FOR FINE ARTS A SCIMORES ACADAMY. IT DESCRIBES THE CURRENT CONDITION AND SUITABILITY FOR PRESERVATION FOR THE GROUPS OF TREES LOCATED ON THE SUBJECT PROPERTY, AS WELL AS PROPOSED GENERAL MEANS FOR PRESERVATION. THE EXISTING TREE COVER IS A MIX OF BOTTOMLAND FOREST TREE CANOPY MATERIAL CONSISTING MAINLY OF MAPLE, LOCUST, ELM, JUNIPER, AND OTHER LANDSCAPE TREES. THE EXISTING TREES ARE IN GENERALLY FAIR CONDITION. ALL ONSITE TREES WITHIN THE LIMITS OF CLEARING AND GRADING ARE TO BE REMOVED UNLESS SPECIFICALLY OTHERWISE NOTED.

ANY TREE IN WHICH THE CRZ IS AFFECTED BY THE CONSTRUCTION PROCESS SHOULD BE WATERED THOROUGHLY AS THE LIMITS OF DISTURBANCE ARE STABILIZED AND ALL CONSTRUCTION MATERIALS AND EQUIPMENT ARE REMOVED. THIS INCLUDES TREES SEVERAL OFF-SITE TREES.

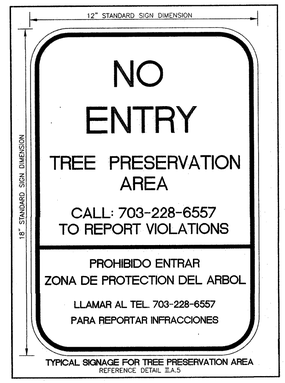
NO TREES OUTSIDE THE LIMITS OF CLEARING AND GRADING ARE TO BE REMOVED UNLESS INDICATED ON PLAN.

THE CONSTRUCTION LIMITS SHOWN INDICATE A RANGE OF CUT AND FILL WITHIN THE CRZ OF SEVERAL OFFSITE TREES TO BE PRESERVED.

NO TREES OUTSIDE THE LIMITS OF CLEARING AND GRADING ARE TO BE REMOVED UNLESS INDICATED ON PLAN. DURING ANY CLEARING OR TREE/VEGETATION REMOVAL IN THE AREAS 10' ADJACENT TO OR IN THE TREE PRESERVATION AREAS, THE PROJECT ARBORIST SHALL BE PRESENT TO MONITOR THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS APPROVED BY URBAN FOREST MANAGEMENT.

THE INSTALLATION OF TREE PROTECTION FENCING OR SUPER SILT FENCE SHALL BE INSTALLED AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED. AFTER ALL CONSTRUCTION ACTIVITY IS COMPLETE, THE TREE PROTECTION FENCE/SUPER SILT FENCE SHALL BE CAREFULLY REMOVED AND THE MULCH LAID DOWN FOR THE TREE PROTECTION FENCE SPREAD OUT TO A THICKNESS OF APPROX. 4", TAKING CARE TO MINIMIZE DAMAGE TO THE EXISTING NATIVE ORGANIC LAYER.

TREE PRESERVATION SIGN DETAIL



TYPICAL SIGNAGE FOR TREE PRESERVATION AREA
REFERENCE DETAIL IIA.5

ATTACHMENT TO TREES OR VEGETATION IS PROHIBITED

SIGNS TO BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION

SIGN POSTS MAY BE WOOD OR METAL BUT MUST MAKE THE SIGN VISIBLE FROM A STANDING POSITION

SIGNS MUST BE PLACED SUCH THAT A SIGN CAN BE SEEN BY ALL PARTICIPANTS IN THE LAND DISTURBING ACTIVITY AT ALL TIMES, A MINIMUM OF EVERY 50'.

SIGNS MUST BE LAMINATED OR A DURABLE, WEATHERPROOF MATERIAL

INVASIVE SPECIES MANAGEMENT NARRATIVE

INVASIVE PLANT MATERIAL WILL BE REMOVED FROM THE ENTIRE TREE PRESERVATION AREA UNDER THE OBSERVATION OF PROJECT ARBORIST. ALL INVASIVE PLANTS ARE TO BE REMOVED BY HAND TO MINIMIZED SITE DISTURBANCE WITHIN THE LIMITS OF THE TREE SAVE AREAS. THE CONTRACTOR IS TO DISPOSE OF ALL DEBRIS IN AN APPROVED OFFSITE LOCATION. THE INVASIVE REMOVAL SHOULD START WELL IN ADVANCE OF ANY PLANTING OF TREES AND SHRUBS IN THE TREE SAVE AREA IN ORDER TO ENSURE THE INVASIVE TREATMENT DOES NOT INTERFERE WITH THE PLANTING SCHEDULE.

ELIMINATE ALL INVASIVE VINES WITHIN TREE PRESERVATION AREAS SUCH AS ENGLISH IVY. CUT VINES ON TREES AT BASE AND REMOVE AS MUCH OF THE VINE AS POSSIBLE WITHOUT DAMAGING THE BARK. LEAVE THE REMAINING VINES TO DRY OUT AND DIE. REMOVE FROM ENTIRE TREE PRESERVATION AREA BY HAND TO MINIMIZE SITE DISTURBANCE. IN THE GROWING SEASON, AN APPLICATION OF AN ENVIRONMENTALLY SENSITIVE APPROVED HERBICIDE MUST BE APPLIED BY A VIRGINIA CERTIFIED APPLICATOR. PROVIDE FOLLOW UP HERBICIDE SPOT TREATMENTS TO TREAT RE-GROWTH AS NECESSARY.

REMOVE ALL INVASIVE SHRUBS WITHIN THE TREE PRESERVATION AREA SUCH AS HONEYSUCKLE AND MULTIFLORA ROSE. SHRUBS TO BE CLEARED OR GRUBBED BY HAND TOOLS, PROVIDED THE ENTIRE ROOT IS REMOVED. APPLYING A HERBICIDE APPROVED FOR WETLAND AREAS DIRECTLY TO FRESH CUT STUMPS HELPS TO ENSURE KILL OF ROOT SYSTEM. MOST EFFECTIVE DONE LATE IN THE GROWING SEASON. APPLICATIONS MUST BE PERFORMED BY A VIRGINIA CERTIFIED APPLICATOR. PROVIDE FOLLOW UP HERBICIDE SPOT TREATMENTS TO TREAT RE-GROWTH AS NECESSARY.

INVASIVE MONITORING SCHEDULE:
DURING CONSTRUCTION, MONITORING REPORTS SHALL BE SUBMITTED TO FAIRFAX COUNTY UFMD AND SDID STAFF MONTHLY BEGINNING WITH CLEARING AND GRUBBING ACTIVITIES AND INSTALLATION OF TREE PROTECTION MEASURES. REPORTS SHALL CONTINUE THROUGH THE LAST OCCUPANCY PERMIT.

AT THE END OF THE CONSTRUCTION, A FINAL REPORT SHALL BE SENT TO UFMD TO DETERMINE THE EXTENT OF INVASIVE PLANT CONTROL. AN ON-SITE MEETING SHALL BE SET UP FOR UFMD TO WALK THE SITE AND DETERMINE IF ADDITIONAL MEASURES ARE RECOMMENDED.

I CERTIFY THIS PLAN MEETS BOTH THE TREE PRESERVATION TARGET (PFM 12-0501) AND THE TREE CONSERVATION PLAN (PFM 12-0502) SUBMITTAL REQUIREMENTS; NO DEVIATIONS OR MODIFICATIONS TO THESE REQUIREMENTS ARE BEING REQUESTED.

TREE PRESERVATION PROFFER COMPLIANCE NOTES

CONTRACTOR IS ADVISED OF THE FOLLOWING PROFFERED OBLIGATIONS PERTAINING TO PRESERVATION OF EXISTING VEGETATION. THE INFORMATION BELOW INCLUDES EXCERPTS OF PROFFER LANGUAGE. CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COMPLYING WITH ALL CONSTRUCTION-RELATED PROFFERS. REFER TO C-1500 SERIES SHEETS FOR ALL PROFFERS.

1) IN ACCORDANCE WITH PROFFER 6.B, TWO LARGE TREE PRESERVATION AREAS MUST BE MAINTAINED ON THE SOUTH SIDE OF THE SITE AS SHOWN ON SHEETS C-1205 AND C-1206. OTHER PRESERVATION AREAS ARE REQUIRED AS WELL.
2) IN ACCORDANCE WITH PROFFER 6.C, TREE PRESERVATION TECHNIQUES SHOWN ON SHEETS C-1205 THROUGH C-1207 MUST BE CLOSELY FOLLOWED.
3) IN ACCORDANCE WITH PROFFER 6.C.1, THE CONTRACTOR MUST SCHEDULE A TREE PRESERVATION WALK THROUGH WITH UFMD PRIOR TO CLEARING AND GRADING.
4) IN ACCORDANCE WITH PROFFER 6.C.2, THE LIMITS OF CLEARING AND GRADING SHOWN ON THIS PLAN MUST BE ADHERED TO STRICTLY.
5) IN ACCORDANCE WITH PROFFER 6.C.3, TREE PROTECTION FENCING MUST BE INSTALLED AS SHOWN ON THIS PLAN AND IN ACCORDANCE WITH PROFFER LANGUAGE.
6) REFER TO PROFFER 6.C.4 AND ALL SUBSECTIONS FOR SPECIFIC REQUIREMENTS ASSOCIATED WITH ROOT PRUNING.
7) IN ACCORDANCE WITH PROFFER 6.C.5, THE CONTRACTOR OR OWNER MUST ENGAGE A CERTIFIED ARBORIST TO MONITOR TREE PRESERVATION AND REMOVAL OPERATIONS.
8) IN ACCORDANCE WITH PROFFER 6.C.7, DEMOLITION OF ALL EXISTING STRUCTURES ON SITE MUST BE DONE IN A MANNER THAT IS MINIMALLY INVASIVE TO EXISTING VEGETATION TO BE PRESERVED IN THE VICINITY. CONTRACTOR SHALL CONSULT WITH PROJECT ARBORIST PRIOR TO DEMOLITION OF ANY STRUCTURES.
9) IN ACCORDANCE WITH PROFFER 6.E, INVASIVE SPECIES MANAGEMENT IS REQUIRED. CONTRACTOR SHALL COORDINATE WITH PROJECT ARBORIST TO DETERMINE SPECIFIC REQUIREMENTS.

TREE PRESERVATION DEVIATION REQUEST

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945

July 6, 2017

Mr. Michael Knapp
Fairfax County
Department of Public Works and Environmental Services
Urban Forest Management Division
12055 Government Center Parkway
Fifth Floor
Fairfax, Virginia 22035

Re: ***Floris Conservatory for Fine Arts - RZ 2016-HM-010, SE 2016-HM-007***
Tree Preservation Deviation Request

Dear Mr. Knapp,

This letter and attachments shall serve to request a deviation of the tree preservation target for the above captioned project. This request is made pursuant to Section 12-508.4A(2) of the Public Facilities Manual (PFM) and requests that the tree preservation target for this site be modified to what is shown on the site plan, which I have enclosed for your reference.

As background information, this property and project are subject to recent land use entitlements. Rezoning application RZ 2016-HM-010 rezoned the property from a split zone of R-1 and C-5 to a split zone of R-2 and C-5. Special Exception SE 2016-HM-007 established the right to create a Private School of Special Education on the property. These applications were approved concurrently by the Board of Supervisors in June of this year. During staff review of these applications, we worked very closely with Linda Barfield in your department to identify areas of tree preservation and modify the site design to create tree preservation areas. This coordination included multiple meetings and phone calls and a site visit to identify trees which would be good candidates for preservation. The end result of this coordination is a tree preservation plan that we are happy with and that Urban Forestry supporting during land use entitlements.

With that background in mind, the following is a summary of why we believe this deviation request is justified:

1) At the end of the coordination effort described above, we arrived at a tree preservation approach that meets or exceeds the minimum preservation percentages for the property as a whole. However, because the R-2 zone and C-5 zones have different tree canopy requirements, and therefore tree preservation requirements, we were unable to meet the preservation requirement within each zone. Within the R-2 zone, we do not meet the necessary tree preservation canopy requirement; however, within the C-5 zone we far exceed the tree preservation canopy requirement by a margin that exceeds the deficit within the R-2 zone. Additional and detailed information regarding tree preservation is provided on sheets C-1201 through C-1207 of the enclosed site plan.
2) The applicant has taken many important steps to maximize tree preservation on the subject property. As detailed on sheets C-1201 through C-1207 of the enclosed plan, the overall tree canopy provided will exceed PFM requirements. In addition, the overall tree canopy provided via tree preservation will exceed PFM requirements.
3) Because the overall tree preservation target is met when evaluated on a whole-site basis, we feel that this deviation request is justified.

Thank you for your detailed review of these plans and this request, and special thanks for Linda Barfield for working closely with us throughout this process. I trust the above information is adequate to justify the deviation we are requesting. If you have any questions or would like additional information, please do not hesitate to contact me at (703) 532-6163 or avinson@wlpinc.com.

Sincerely,

Aaron Vinson, P.E.
Director of Engineering

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

SCALE: NONE | DATE: 7/18/2017 | DRAWN: BP / SD / TT | CHECKED: AV / BP

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE PRESERVATION DETAILS & TREE COVER COMPUTATIONS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

LEGEND

TREES TO REMAIN

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

COMMONWEALTH OF VIRGINIA
YUNHUI FAN
Lic. No. 001316
6/2 9/2017
LANDSCAPE ARCHITECT

THE FLORIS CONSERVATORY FOR THE FINE ARTS

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VA

LANDSCAPE PLAN

No.	Description	Date
Revisions		

Project Number:	17007.00
Scale:	1" = 30'
Drawn By:	LV
Checked By:	CF
Date:	6/15/2017
Sheet No.	L-0101

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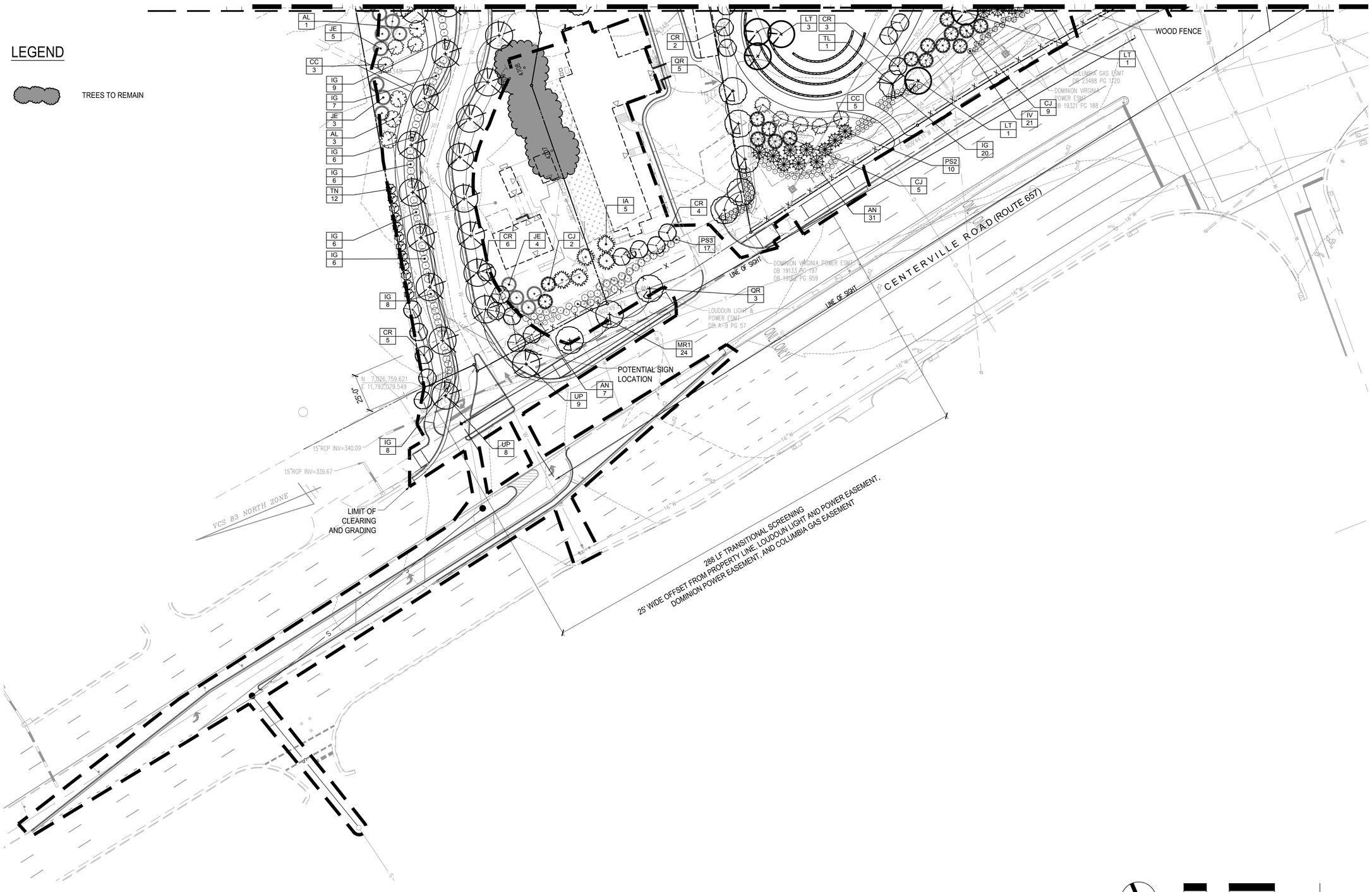

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

COMMONWEALTH OF VIRGINIA
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6/2 9/2017
LANDSCAPE ARCHITECT

THE FLORIS CONSERVATORY FOR THE FINE ARTS

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VA

LANDSCAPE PLAN

No.	Description	Date
Revisions		

Project Number:	17007.00
Scale:	1" = 30'
Drawn By:	LV
Checked By:	CF
Date:	6/15/2017
Sheet No.	L-0102

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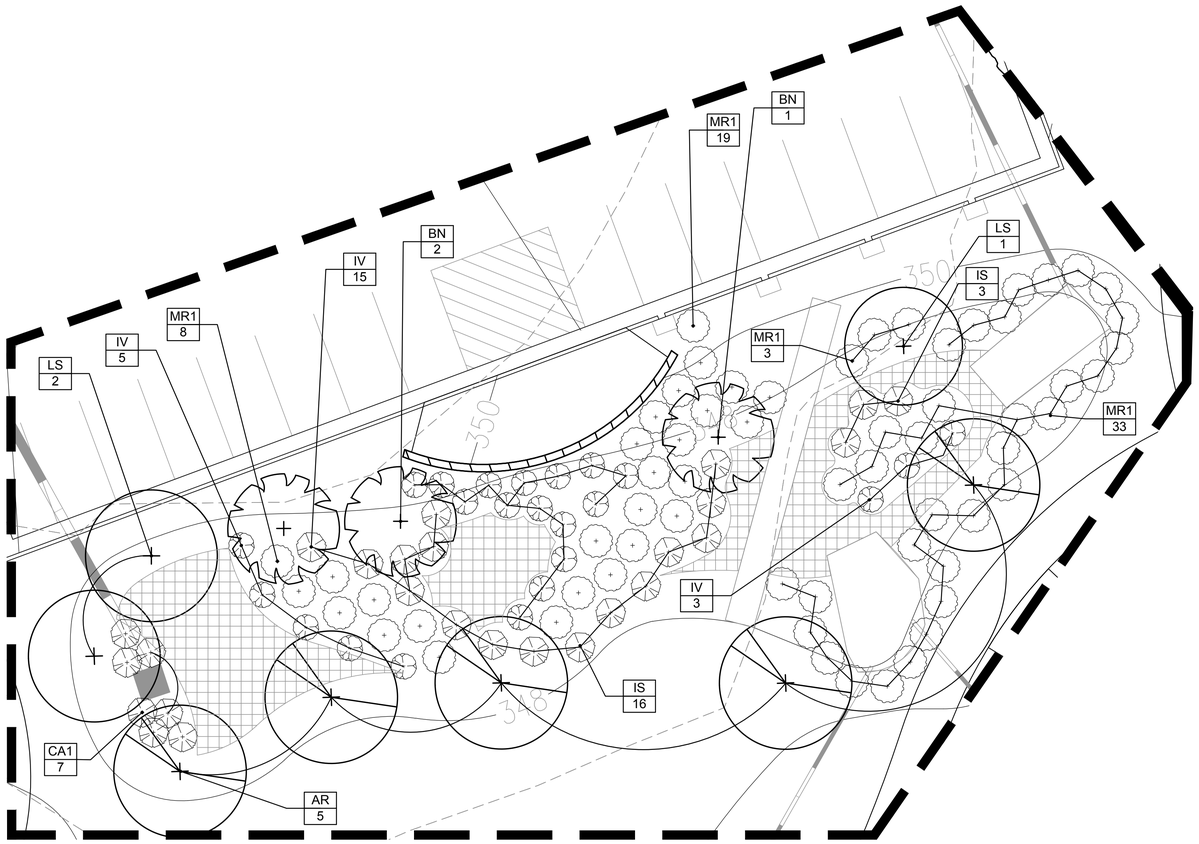
LEGEND

TREES TO REMAIN



1 PLANTING PLAN ENLARGEMENT

1" = 10'

0 5 10 20 30

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

COMMONWEALTH OF VIRGINIA
YUNHUI FAN
Lic. No. 001316
6/29/2017
LANDSCAPE ARCHITECT

THE FLORIS CONSERVATORY FOR THE FINE ARTS

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VA

LANDSCAPE PLAN ENLARGEMENT

No.	Description	Date

Revisions

Project Number:	17007.00
Scale:	AS SHOWN
Drawn By:	LV
Checked By:	CF
Date:	6/15/2017

Sheet No. L-0103

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INTERIOR PARKING LOT LANDSCAPING CALCULATIONS

TOTAL PARKING AREA		+/-	146,217 SF
PERCENT REQUIRED		X	5%
REQUIRED		+/-	7,311 SF
PROPOSED	(31 CATAEGORY 1V TREES @ 250 SF)		
+/- PROVIDED		+/-	7,750 SF

PERIPHERAL PARKING LOT LANDSCAPING

CENTRVILLE ROAD ROW LOT FRONTAGE =
1 TREE/40 LF X 268 = 7 REQUIRED TREES, 7 TREES PROVIDED

WEST OX ROAD ROW PARKING LOT FRONTAGE =
1 TREE/40 LF X 468 = 12 REQUIRED TREES, 12 PROVIDED

PARK AUTHORITY PROPERTY TO EAST PARKING LOT FRONTAGE =
1 TREE/50 LF X 400 = 8 REQUIRED TREES, 8 PROVIDED

PARK AUTHORITY PROPERTY TO NORTH PARKING LOT FRONTAGE =
1 TREE/50 LF X 735 = 15 REQUIRED TREES, 15 PROVIDED

TRANSITIONAL SCREENING AND BARRIER ANALYSIS

TRANSITIONAL SCREENING TYPE 1		SCREENING/BUFFER (288 LF)
REQUIRED		PROVIDED
DIMENSIONS	25'-0"	25'-0"
10 YEAR CANOPY	75%	REQUIRED: 7,200 SF
PLANTING MIXTURE	70% EVERGREEN MIN./ 35% MAX. OF ANY SINGLE SECIES	4 DECID. CAT IV @ 250 = 1,000 SF 7 DECID. CAT II 125 = 875 SF 10 EVERGREEN CAT. II @ 125 = 1,250 SF MINIMUM CANOPY PROVIDED = 3,125 SF (SEE NOTE 1)
DIMENSIONS	3 SHRUBS / 10 LINEAR FEET	+/- 100 SHRUBS
BARRIER	TYPE D, E, OR F	4' HIGH WOOD FENCE

NOTES:

1. MODIFICATION TO REQUIRE SCFREENING/BARRIER WAS APPROVED BY BOS WITH SPECIAL EXCEPTION APPROVAL. REFER TO CLERK'S LETTER BEGINNING ON SHEET C-1501.
2. TRANSITIONAL SCREENING IS ONLY REQUIRED ALONG THE PROPERTY LINE ADJACENT TO SINGLE FAMILY DETACHED HOMES, SHOWN ON SHEET L-0102.

TREE COVER CALCULATIONS - ZONING BREAKDOWN

ZONE R-2

R-2 SITE AREA		+/- 258,865 SF
PERCENT REQUIRED		X 30 %
TREE COVER REQUIRED		**+/- 77,660 SF**
TREE COVER PROVIDED (PLANTED)		
98 CATEGORY IV DECIDUOUS TREES	@ 250 SF	**+/-** 24,500 SF
03 CATEGORY III DECIDUOUS TREES	@ 175 SF	**+/-** 525 SF
63 CATEGORY II FLOWERING TREES	@ 125 SF	**+/-** 7,875 SF
18 CATEGORY IV EVERGREEN TREES	@ (VARIES)	+/- 3,625 SF
12 CATEGORY III EVERGREEN TREES	@ 90 SF	+/- 1,080 SF
65 CATEGORY II EVERGREEN TREES	@ 125 SF	+/- 8,125 SF
12 CATEGORY I EVERGREEN TREES	@ 75 SF	+/- 900 SF
TOTAL TREE COVERAGE PROVIDED		**+/- 46,630 SF**

ZONE C-5

C-5 SITE AREA		+/- 92,774 SF
PERCENT REQUIRED		X 10 %
TREE COVER REQUIRED		**+/- 9,278 SF**
TREE COVER PROVIDED (PLANTED)		
39 CATEGORY IV DECIDUOUS TREES	@ 250 SF	**+/-** 9,750 SF
03 CATEGORY III DECIDUOUS TREES	@ 175 SF	**+/-** 525 SF
22 CATEGORY II FLOWERING TREES	@ 125 SF	**+/-** 2,750 SF
15 CATEGORY IV EVERGREEN TREES	@ (VARIES)	+/- 1,500 SF
17 CATEGORY II EVERGREEN TREES	@ 125 SF	+/- 2,125 SF
TOTAL TREE COVERAGE PROVIDED		**+/- 16,650 SF**

TOTAL SITE

TOTAL SITE AREA		+/- 351,639 SF
TREE COVER REQUIRED		**+/- 86,938 SF**
TREE COVER PROVIDED (PLANTED)		
137 CATEGORY IV DECIDUOUS TREES	@ 250 SF	**+/-** 34,250 SF
6 CATEGORY III DECIDUOUS TREES	@ 175 SF	**+/-** 1,050 SF
85 CATEGORY II FLOWERING TREES	@ 125 SF	**+/-** 10,625 SF
33 CATEGORY IV EVERGREEN TREES	@ (VARIES)	**+/-** 5,125 SF
12 CATEGORY III EVERGREEN TREES	@ 125 SF	**+/-** 1,080 SF
82 CATEGORY II EVERGREEN TREES	@ 125 SF	**+/-** 10,250 SF
12 CATEGORY I EVERGREEN TREES	@ 75 SF	**+/-** 900 SF
		+/- 63,280 SF
PROPOSED TREE COVER PROVIDED *(INCLUDING NATIVE MULTIPLIER)*		**+/- 89,805 SF**
EXISTING TREE COVER TO REMAIN		+/- 32,100 SF
TOTAL TREE COVER PROVIDED		**+/-121,905 SF**

*** TREE COVER REQUIREMENT IS SATISFIED**

TREE PRESERVATION TARGET CALCULATIONS - R-2 ZONING

TABLE 12.3 TREE PRESERVATION TARGET CALCULATIONS AND STATEMENT	
A PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY (FROM EXISTING VEGETATION MAP)	92,526 SF
B % OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY = (92,526 SF/258,865 SF)	35.7%
C % OF 10-YEAR TREE CANOPY REQUIRED FOR SITE (SEE TABLE 12.4) = (258,865 SF*0.3=77,660 SF)	30%
D % OF 10-YEAR TREEE CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH PRESERVATION = (77,660 SF*0.357=27,725 SF)	35.7%
E PROPOSED % OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION = (15,600 SF/77,660 SF)	20.1%
F HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	NO

*TREE PRESERVATION TARGET IS NOT MET FOR THE R-2 ZONE. HOWEVER, OVERALL TREE PRESERVATION TARGET REQUIREMENT FOR THE SITE IS SATISFIED.

TREE COVER CALCULATIONS - R-2 ZONING

TABLE 12.10 - 10-YEAR TREE CANOPY CALCULATION WORKSHEET

Step		Totals	Reference
A. Tree Preservation Target and Statement			
A1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations		see § 12-0508.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	258,865 SF	§ 12-0511.1A
B2	Subtract area dedicated to parks, road frontage, and	0	§ 12-0511.1B
B3	Subtract area exemptions =	0	§ 12-0511.1C(1) through §12-0511C(6)
B4	Adjusted gross site area (B1 - B2) =	258,865 SF	
B5	Identify site's zoning and/or use	R-2	
B6	Percentage of 10-year tree canopy required =	30%	§ 12-0510.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 X B6) =	77,660 SF	
B8	Modification of 10-year Tree Canopy Requirements requested?	No	Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located	NA	Sheet Number
C. Tree Preservation			
C1	Tree Preservation Target Area =	27,725 SF	
C2	Total canopy area meeting standards of§ 12-0400 =	0 SF	
C3	C2 x 1.25 =	0 SF	§ 12-0510.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0	
C5	C4 x 1.5 =	0	§ 12-0510.3B(1)
C6	Total canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0510.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0	
C9	C8 x 1.0 =	15,600	§ 12-0510.3C(1)
C10	Total of C3, C5, C7 and C9 =	15,600 SF	If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	0 SF	
D2	Area of canopy planted for air quality benefits =	0 SF	
D3	x 1.5 =	0 SF	§ 12-0510.4B(1)
D4	Area of canopy planted for energy conservation =	0 SF	
D5	x 1.5 =	0 SF	§ 12-0510.4B(2)
D6	Area of canopy planted for water quality benefits =	0 SF	
D7	x 1.25 =	0 SF	§ 12-0510.4B(3)
D8	Area of canopy planted for wildlife benefits =	0 SF	
D9	x 1.5 =	0	§ 12-0510.4B(4)
D10	Area of canopy provided by native trees =	38,150 SF	
D11	x 1.5 =	57,225 SF	§ 12-0510.4B(5)
D12	Area of canopy provided by improved cultivars and varieties =	0 SF	
D13	x 1.25 =	0 SF	§ 12-0510.4B(6)
D14	Area of canopy provided through tree seedlings =	0 SF	
	x 1.0 =	0 SF	§ 12-0510.4D(1)
D15	Area of canopy provided through native shrubs =	0 SF	
	x 1.0 =	0 SF	§ 12-0510.4D(1)
D16	Percentage of D14 represented by D15 =	N/A	Must not exceed 33% of D14
D17	Total of canopy area provided through tree planting =	N/A	
D18	Is an off-site planting relief requested?	NO	Yes or No
D19	Tree Bank or Tree Fund?	N/A	§ 12-0512
D20	Canopy area requested to be provided through off-site banking or tree fund	N/A	
D21	Amount to be deposited into the Tree Preservation and Planting Fund	N/A	
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	15,600 SF	
E2	Total of canopy area provided through tree planting (D17) =	65,705 SF	
E3	Total of canopy area provided through off-site mechanism (D19) =	0 SF	
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	81,305 SF	Total of E1 through E3. Area should meet or exceed area required by B7

TREE PRESERVATION TARGET CALCULATIONS - C-5 ZONING

TABLE 12.3 TREE PRESERVATION TARGET CALCULATIONS AND STATEMENT	
A PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY (FROM EXISTING VEGETATION MAP)	36,974 SF
B % OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY = (39,974 SF/92,774SF)	39.9%
C % OF 10-YEAR TREE CANOPY REQUIRED FOR SITE (SEE TABLE 12.4) = (92,774 SF*0.1=9,278 SF)	10%
D % OF 10-YEAR TREEE CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH PRESERVATION = (9,278 SF*0.399=3,702 SF)	39.9%
E PROPOSED % OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION = (16,500 SF/9,278 SF)	177.8%
F HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	YES

TREE COVER CALCULATIONS - C-5 ZONING

TABLE 12.10 - 10-YEAR TREE CANOPY CALCULATION WORKSHEET

Step		Totals	Reference
A. Tree Preservation Target and Statement			
A1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations		see § 12-0508.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	92,774 SF	§ 12-0511.1A
B2	Subtract area dedicated to parks, road frontage, and	0	§ 12-0511.1B
B3	Subtract area exemptions =	0	§ 12-0511.1C(1) through §12-0511C(6)
B4	Adjusted gross site area (B1 - B2) =	92,774 SF	
B5	Identify site's zoning and/or use	C-5	
B6	Percentage of 10-year tree canopy required =	10%	§ 12-0510.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 X B6) =	9,278 SF	
B8	Modification of 10-year Tree Canopy Requirements requested?	No	Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located	NA	Sheet Number
C. Tree Preservation			
C1	Tree Preservation Target Area =	3,702 SF	
C2	Total canopy area meeting standards of§ 12-0400 =	0 SF	
C3	C2 x 1.25 =	0 SF	§ 12-0510.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0	
C5	C4 x 1.5 =	0	§ 12-0510.3B(1)
C6	Total canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0510.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0	
C9	C8 x 1.0 =	16,500	§ 12-0510.3C(1)
C10	Total of C3, C5, C7 and C9 =	16,500 SF	If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	0 SF	
D2	Area of canopy planted for air quality benefits =	0 SF	
D3	x 1.5 =	0 SF	§ 12-0510.4B(1)
D4	Area of canopy planted for energy conservation =	0 SF	
D5	x 1.5 =	0 SF	§ 12-0510.4B(2)
D6	Area of canopy planted for water quality benefits =	0 SF	
D7	x 1.25 =	0 SF	§ 12-0510.4B(3)
D8	Area of canopy planted for wildlife benefits =	0 SF	
D9	x 1.5 =	0 SF	§ 12-0510.4B(4)
D10	Area of canopy provided by native trees =	14,900 SF	
D11	x 1.5 =	22,350 SF	§ 12-0510.4B(5)
D12	Area of canopy provided by improved cultivars and varieties =	0 SF	
D13	x 1.25 =	0 SF	§ 12-0510.4B(6)
D14	Area of canopy provided through tree seedlings =	0 SF	
	x 1.0 =	0 SF	§ 12-0510.4D(1)
D15	Area of canopy provided through native shrubs =	0 SF	
	x 1.0 =	0 SF	§ 12-0510.4D(1)
D16	Percentage of D14 represented by D15 =	N/A	Must not exceed 33% of D14
D17	Total of canopy area provided through tree planting =	N/A	
D18	Is an off-site planting relief requested?	NO	Yes or No
D19	Tree Bank or Tree Fund?	N/A	§ 12-0512
D20	Canopy area requested to be provided through off-site banking or tree fund	N/A	
D21	Amount to be deposited into the Tree Preservation and Planting Fund	N/A	
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	16,500 SF	
E2	Total of canopy area provided through tree planting (D17) =	24,100 SF	
E3	Total of canopy area provided through off-site mechanism (D19) =	0 SF	
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	40,600 SF	Total of E1 through E3. Area should meet or exceed area required by B7

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

COMMONWEALTH OF VIRGINIA
YUNHUI FAN
Lic. No. 001316
6/12/2017
LANDSCAPE ARCHITECT

THE FLORIS CONSERVATORY FOR THE FINE ARTS

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VA

LANDSCAPE CALCULATIONS

No.	Description	Date
Revisions		

Project Number:	17007.00
Scale:	AS SHOWN
Drawn By:	LV
Checked By:	CF
Date:	6/15/2017
Sheet No.	L-0104

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TREE PRESERVATION NARRATIVE

ALL ONSITE TREES WITHIN THE LIMITS OF CLEARING AND GRADING TO BE REMOVED.

NO TREES OUTSIDE THE LIMITS OF CLEARING AND GRADING ARE TO BE REMOVED UNLESS INDICATED ON PLAN.

DURING ANY CLEARING OR TREE/VEGETATION REMOVAL IN THE AREAS ADJACENT TO THE TREE PRESERVATION AREAS THE PROJECT ARBORIST SHALL BE PRESENT TO OBSERVE THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS PROFFERED AND AS APPROVED BY URBAN FOREST MANAGEMENT.

THE INSTALLATION OF TREE PROTECTION FENCING, INCLUDING SUPER SILT FENCE IF IT IS TO BE USED AS TREE PROTECTION FENCE, SHALL BE OBSERVED BY THE PROJECT ARBORIST, WHO SHALL BE A CERTIFIED ARBORIST, AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED. THE TREE PRESERVATION FENCING WILL BE INSTALLED AFTER THE TREE PRESERVATION WALK-THROUGH MEETING BUT PRIOR TO ANY CLEARING AND GRADING ACTIVITIES ON SITE. THREE (3) DAYS PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING OR DEMOLITION ACTIVITIES, BUT SUBSEQUENT TO THE INSTALLATION OF THE TREE PROTECTION DEVICES, THE UFMD/DPWES, SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY TO INSPECT THE SITE TO ENSURE THAT ALL TREE PROTECTION DEVICES HAVE BEEN CORRECTLY INSTALLED. IF IT IS DETERMINED THAT THE FENCING HAS NOT BEEN INSTALLED CORRECTLY, NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE FENCING IS INSTALLED CORRECTLY AS DETERMINED BY THE UFMD/DPWES.

TREES IN PRESERVATION AREAS INDICATED ON PLAN TO BE REMOVED SHALL BE REMOVED BY HAND AND THE REMOVAL OBSERVED BY THE PROJECT ARBORIST. THESE METHODS SHALL INCLUDE THE FOLLOWING:

1. ALL HAND-OPERATED POWER TOOLS USED WITHIN TREE SAVE AREAS MUST BE IN GOOD OPERATION CONDITION, (POWER WASHED), FREE OF LEAKS OR EXCESS OIL AND GREASE.
2. NO EQUIPMENT REFUELING OR SERVICING SHOULD BE UNDERTAKEN WITHIN 100 FEET OF ANY WATER SOURCE OR SURFACE WATER DRAINAGE.
3. NO DEBRIS FROM TREE REMOVAL OUTSIDE PROTECTED AREAS SHALL ENCROACH WITHIN THE TREE PRESERVATION AREAS.
4. A SPILL CONTAINMENT KIT MUST BE KEPT READILY ACCESSIBLE ONSITE IN THE EVENT OF A RELEASE OF A DELETERIOUS SUBSTANCE TO THE ENVIRONMENT.
5. RETAIN LARGE WOODY DEBRIS AND THE STUBS OF LARGE DIAMETER TREES. SMALL BRANCHES AND LIMBS MAY BE REMOVED.
6. TREES MUST BE FELLED IN SECTIONS/AND/OR/CRANE ASSISTED REMOVALS ARE TO BE CONSIDERED FIRST.
7. NO TREES TO BE FELLED INTO A WATER BODY.
8. ALL NON-TARGET TREES AND VEGETATION TO BE RETAINED.

SITES DISTURBED BY TREE REMOVAL OUTSIDE THE LIMITS OF CLEARING AND GRADING SHALL BE REHABILITATED AND THE PROCESS OBSERVED BY THE PROJECT ARBORIST, AS SHOWN ON THE REFORESTATION AND LANDSCAPE PLANS.

TREE PRESERVATION MONITORING SCHEDULE:

DURING ANY CLEARING OR TREE/VEGETATION/STRUCTURE REMOVAL A REPRESENTATIVE OF THE APPLICANT SHALL BE PRESENT TO MONITOR THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS PROFFERED AND AS APPROVED BY THE UFMD. THE APPLICANT SHALL RETAIN THE SERVICES OF A CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST TO MONITOR ALL TREE PRESERVATION EFFORTS IN ORDER TO ENSURE CONFORMATION WITH ALL TREE PRESERVATION PROFFERS, AND UFMD APPROVALS.

MONITORING REPORTS SHALL BE SENT WEEKLY DURING THE INSTALLATION OF THE TREE PROTECTION FENCING AND ALL OTHER TREE PROTECTION DEVICES, INCLUDING ROOT PRUNING, AND MONTHLY THEREAFTER THROUGH THE DURATION OF THE PROJECT.

INVASIVE SPECIES MANAGEMENT PLAN NARRATIVE

INVASIVE PLANT MATERIAL WILL BE REMOVED UNDER OBSERVATION OF THE PROJECT ARBORIST. ALL INVASIVE PLANTS ARE TO BE REMOVED BY HAND TO MINIMIZE SITE DISTURBANCE WITHIN LIMITS OF TREE SAVE AREAS THAT ARE COUNTED TOWARD TREE COVER CREDIT.

INVASIVE PLANTS IDENTIFIED TO BE REMOVED:

1. ENLGLISH IVY AND WINTERCREEPER GROWING ON TREES TO BE PRESERVED:

CUT VINES AT BASE OF TREES TO BE PRESERVED AND APPROXIMATELY 4' OFF GROUND. REMOVE LOOSE VINES FROM TRUNK AND BRANCHES WITHOUT STRIPPING BARK OR BREAKING BRANCHES. AT THE END OF THE TWO YEAR PERIOD, IN THE GROWING SEASON, AN APPLICATION OF AN ENVIRONMENTALLY SENSITIVE APPROVED HERBICIDE MAY BE APPLIED BY A VIRGINIA CERTIFIED APPLICATOR AROUND THE BASE OF TREES TO BE PRESERVED TO PREVENT EMINENT RE-GROWTH OF VINES AROUND THE TREE TRUNKS.

INVASIVE MANAGEMENT AND MONITORING SCHEDULE

DURING CONSTRUCTION, MONITORING REPORTS SHALL BE MADE MONTHLY BEGINNING WITH CLEARING AND GRUBBING ACTIVITIES AND INSTALLATION OF TREE PROTECTION MEASURES. REPORTS SHALL CONTINUE THROUGH THE LAST OCCUPANCY PERMIT.

AT THE END OF THE CONSTRUCTION, A FINAL REPORT SHALL BE SENT TO UFMD TO DETERMINE THE EXTENT OF INVASIVE PLANT CONTROL. AN ON-SITE MEETING SHALL BE SET UP BETWEEN THE PROJECT ARBORIST AND UFMD TO WALK THE SITE AND DETERMINE IF ADDITIONAL MEASURES ARE RECOMMENDED.

PLANT_SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS	TREE CANOPY SF								
								CATEGORY	10-YEAR	R2 QTY	R2 10-YEAR * QTY	* NATIVE MULTIPLIER (1.5)	C5 QTY	C5 10-YEAR * QTY	* NATIVE MULTIPLIER (1.5)	SUBTOTAL
AR	26	ACER RUBRUM	RED MAPLE	3" CAL	B&B	AS SHOWN		D IV	250	12	3000.00	4,500.00	14	3500.00	5250.00	9,750.00
BN	3	BETULA NIGRA `DURAHEAT`	DURAHEAT RIVER BIRCH	3" CAL	B&B	AS SHOWN		D III	175	0	0.00	0.00	3	525.00	787.50	787.50
CO	2	CELTIS OCCIDENTALIS	COMMON HACKBERRY	3" CAL	B&B	AS SHOWN		D III	175	2	350.00	525.00	0	0.00	0.00	525.00
GB	14	GINKGO BILOBA	MAIDENHAIR TREE	3" CAL	B&B	AS SHOWN		D IV	250	14	3500.00	N/A	0	0.00	N/A	3500.00
LS	8	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEET GUM	3" CAL	B&B	AS SHOWN		D IV	250	5	1250.00	1,875.00	3	750.00	1125.00	3,000.00
LT	9	LIRIODENDRON TULIPIFERA	TULIP TREE	3" CAL	B&B	AS SHOWN		D IV	250	0	0.00	0.00	9	2250.00	3375.00	3,375.00
QP	38	QUERCUS PHELLOS	WILLOW OAK	3" CAL	B&B	AS SHOWN		D IV	250	32	8000.00	12,000.00	6	1500.00	2250.00	14,250.00
QR	15	QUERCUS RUBRA	RED OAK	3" CAL	B&B	AS SHOWN		D IV	250	10	2500.00	3,750.00	5	1250.00	1875.00	5,625.00
TL	2	TILIA AMERICANA	AMERICAN LINDEN	3" CAL	B&B	AS SHOWN		D IV	250	0	0.00	0.00	2	500.00	750.00	750.00
UP	25	ULMUS AMERICANA `PRINCETON`	AMERICAN ELM	3" CAL	B&B	AS SHOWN		D IV	250	25	6250.00	9,375.00	0	0.00	0.00	9,375.00
											SUBTOTAL	32025.00		SUBTOTAL	15412.50	
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS									
CJ	16	CRYPTOMERIA JAPONICA	JAPANESE CEDAR	8` HT.	B&B	AS SHOWN		EG II	125	2	250.00	N/A	14	1750.00	N/A	2000.00
IA	38	ILEX OPACA	AMERICAN HOLLY	10` HT.	B&B	AS SHOWN		EG II	125	35	4375.00	6,562.50	3	375.00	562.50	7,125.00
JE	28	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	10` HT.	B&B	AS SHOWN		EG II	125	28	3500.00	5,250.00	0	0.00	0.00	5,250.00
PA	12	PICEA ABIES	NORWAY SPRUCE	10` HT.	B&B	AS SHOWN		EG III	90	12	1080.00	N/A	0	0.00	N/A	1080.00
PS	7	PINUS STROBUS	WHITE PINE	10` HT.	B&B	AS SHOWN		EG IV	125	7	875.00	1,312.50	0	0.00	0.00	1,312.50
PS2	15	PINUS STROBUS	WHITE PINE	8` HT.	B&B	AS SHOWN		EG IV	100	0	0.00	0.00	15	1500.00	2250.00	2,250.00
PT	11	PINUS TAEDA	LOBLOLLY PINE	10` HT.	B&B	AS SHOWN		EG IV	250	11	2750.00	N/A	0	0.00	N/A	2750.00
TN	12	THUJA OCCIDENTALIS `NIGRA`	NIGRA ARBORVITAE	10` HT.	B&B	AS SHOWN		EG I	75	12	900.00	N/A	0	0.00	N/A	900.00
											SUBTOTAL	13125.00		SUBTOTAL	2812.50	
FLOWERING TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS									
AL	19	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	3" CAL	B&B	AS SHOWN		D II	125	14	1750.00	2,625.00	5	625.00	937.50	3,562.50
CC	26	CERCIS CANADENSIS	EASTERN REDBUD	3" CAL	B&B	AS SHOWN		D II	125	21	2625.00	3,937.50	5	625.00	937.50	4,875.00
CE	13	CERCIS CANADENSIS	EASTERN REDBUD MULTI-TRUNK	3" CAL	B&B	AS SHOWN		D II	125	13	1625.00	2,437.50	0	0.00	0.00	2,437.50
CV	3	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE	3" CAL	B&B	AS SHOWN	FULL TO GROUND	D II	125	3	375.00	562.50	0	0.00	0.00	562.50
CL	1	CLADRASTIS LUTEA	AMERICAN YELLOWWOOD	3" CAL	B&B	AS SHOWN		D III	175	1	175.00	262.50	0	0.00	0.00	262.50
CF1	2	CORNUS FLORIDA `CHEROKEE PRINCESS`	CHEROKEE PRINCESS DOGWOOD	3" CAL	B&B	AS SHOWN		D II	125	2	250.00	375.00	0	0.00	0.00	375.00
CR	22	CORNUS FLORIDA RUBRA	PINK FLOWERING DOGWOOD	3" CAL	B&B	AS SHOWN		D II	125	10	1250.00	1,875.00	12	1500.00	2250.00	4,125.00
											SUBTOTAL	12075.00		SUBTOTAL	4125.00	
											R2 10-YEAR * NATIVE MULTIPLIER	57225.00		C5 10-YEAR * NATIVE MULTIPLIER	22350.00	
											R2 10-YEAR * NONNATIVE	8480.00		R2 10-YEAR * NONNATIVE	1750.00	
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS									
AN	34	AZALEA X `NANCY OF ROBIN HILL`	NANCY OF ROBIN HILL AZALEA	30" HT.	CONT.	36" O.C.										
CA1	7	CLETHRA ALNIFOLIA `RUBY SPICE`	RUBY SPICE CLETHRA	30" HT.	CONT.	36" O.C.										
FG	29	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	30" HT.	CONT.	36" O.C.										
IG	125	ILEX GLABRA	INKBERRY HOLLY	30" HT.	CONT.	36" O.C.										
IS	19	ILEX VERTICILLATA `SPARKLEBERRY`	WINTERBERRY	30" HT.	CONT.	48" O.C.										
IV	69	ITEA VIRGINICA	VIRGINIA WILLOW	30" HT.	CONT.	36" O.C.										
MR1	87	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	30" HT.	CONT.	36" O.C.										
PS3	63	PRUNUS LAUROCERASUS `SCHIPKAENSIS`	SCHIPKA LAUREL	30" HT.	CONT.	36" O.C.										
VA	30	VIBURNUM DENTATUM	VIBURNUM	30" HT.	CONT.	42" O.C.										
											TOTAL	65,705.00		TOTAL	24,100.00	89,805.00

NOTES:
1. REFER TO SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: SOIL ANALYSES AND AMENDMENT RECOMMENDATIONS; SOURCE LIST AND PHOTOGRAPHS FOR INITIAL SELECTION; PHOTOGRAPHS FOR VERIFICATION.
2. REFER TO SPECIFICATIONS FOR TREE TAGGING REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. MEET REQUIREMENTS OF ANSI Z60.1, LATEST ADDITION, FOR ALL PLANT MATERIAL.
5. QUANTITIES GIVEN ARE FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR MEETING THE DESIGN INTENT, AS INDICATED ON PLANTING PLANS.
6. ALL PLANTS ARE TO BE HEALTHY, FULL, BALANCED, AND EXCEPTIONALLY HEAVY.
7. PROVIDE TURF PER SPECIFICATIONS IN ALL DISTURBED AREAS NOT OTHERWISE PLANTED OR PAVED.

1 PLANT SCHEDULE

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

COMMONWEALTH OF VIRGINIA
YUNHUI FAN
Lic. No. 001316
6/2/2017
LANDSCAPE ARCHITECT

THE FLORIS CONSERVATORY FOR THE FINE ARTS

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VA

PLANT SCHEDULE AND NOTES

No.	Description	Date

Revisions

Project Number:	17007.00
Scale:	AS SHOWN
Drawn By:	LV
Checked By:	CF
Date:	6/15/2017
Sheet No.	L-0105

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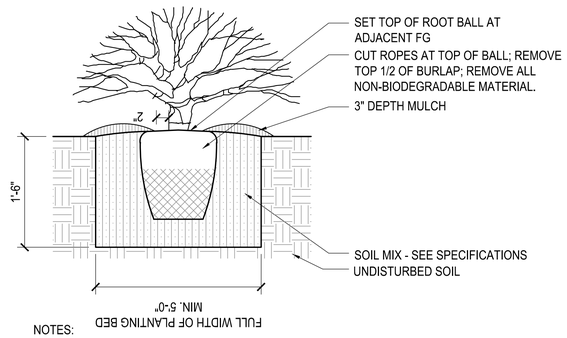
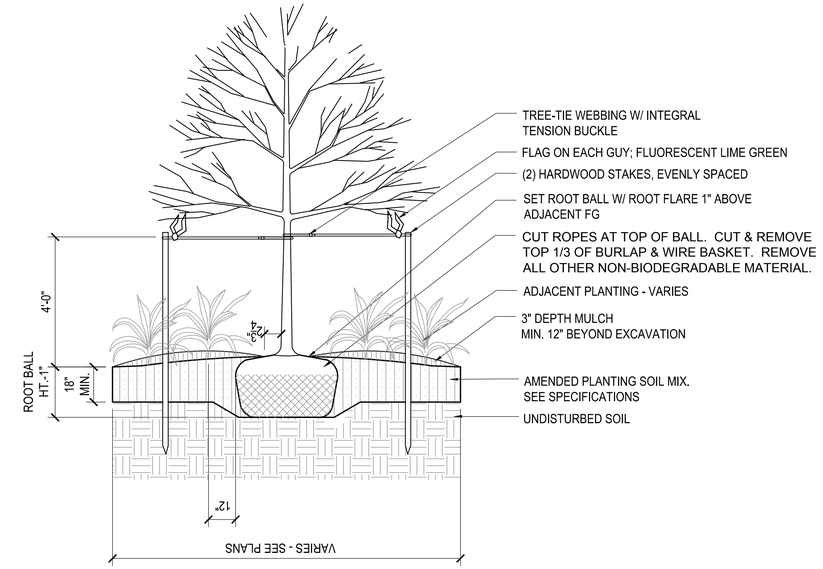


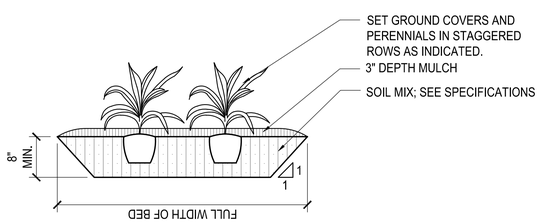
NOTES:
1. FOR CONTAINER-GROWN SHRUBS, REMOVE CONTAINER WITHOUT CRACKING ROOT BALL AND MAKE (3) 1" DEEP VERTICAL CUTS, EQUALLY SPACED ABOUT ROOT BALL.

3 SHRUB PLANTING

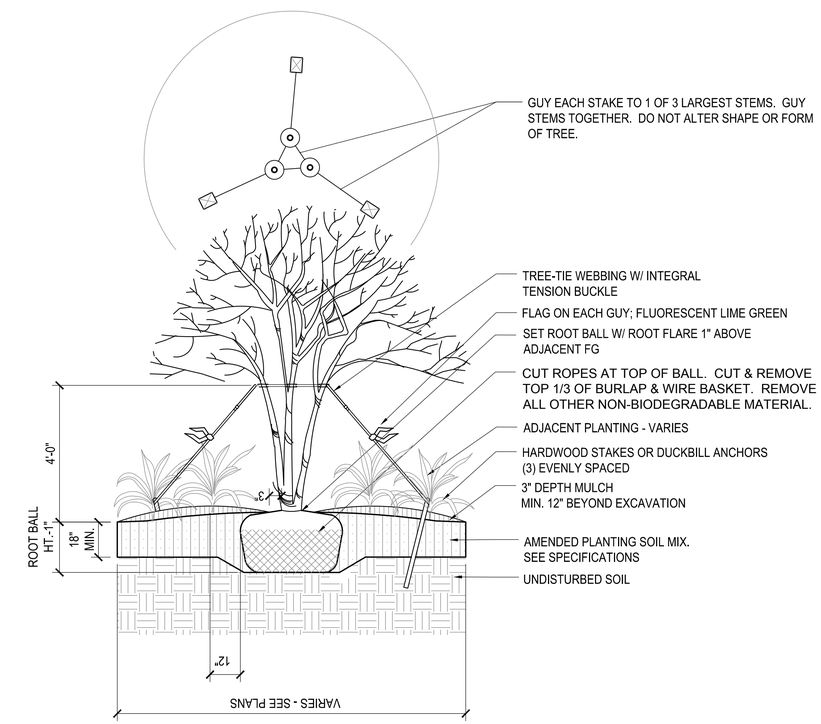


NOTES:
1. FOR TREES MORE THAN 6" CALIPER, PROVIDE CABLE GUYS. PROVIDE TREE-TIE WEBBING AT CONTACT POINTS WITH TRUNK. PROVIDE (1) TURNBUCKLE PER GUY. ALLOW ENOUGH SLACK TO AVOID RIGID RESTRAINT OF TREE.

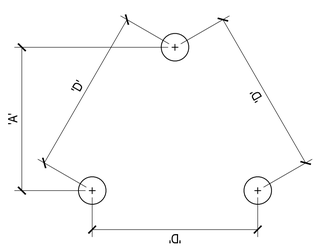
1 SINGLE-STEM TREE PLANTING



4 GROUND COVER PLANTING



2 MULTI-STEM TREE PLANTING



PLANT (TYP.)

SPACING 'D'	ROW 'A'
8" O.C.	6.93" O.C.
10" O.C.	8.66" O.C.
12" O.C.	10.4" O.C.
18" O.C.	15.6" O.C.
24" O.C.	20.8" O.C.
36" O.C.	30.0" O.C.
48" O.C.	31.5" O.C.

5 GROUND COVER SPACING

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THE FLORIS CONSERVATORY FOR THE FINE ARTS

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VA

PLANTING DETAILS

No.	Description	Date

Revisions

Project Number:	17007.00
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FIRE LANE NOTE:

FIRE MARSHAL FIELD INSPECTION NECESSARY FOR FINAL APPROVAL OF FIRE LANES. FIRE LANES MUST HAVE FINAL APPROVAL PRIOR TO REQUEST FOR OCCUPANCY PERMIT, OWNER SHALL NOTIFY FIRE PREVENTION DIVISION, FIRE LANE SECTION 4100 CHAIN BRIDGE ROAD SUITE 100, FAIRFAX, VIRGINIA 22030. WHEN FIRE LANES HAVE BEEN INSTALLED. (703) 246-4821.

CURB DESIGNATION

ALL CURBS OR PAVED SPACES DESIGNATED AT FIRE LANES SHALL BE INDICATED BY YELLOW PAINT AS APPROVED BY THE FIRE PREVENTION DIVISION. IN AREAS WITHOUT CURBING, A 6" WIDE YELLOW STRIPE SHOULD BE APPLIED TO THE EDGE OF THE PAVEMENT. PAINT SHALL BE HIGHWAY TRAFFIC GRADE.

CURB DESIGNATION

SIGN TYPE "A"

STANDARD WORDING WITH AN ARROW AT BOTTOM POINTING TO THE RIGHT. ONE SIGN MOUNTED PARALLEL TO THE LINE OF CURBING OR PAVEMENT EDGE AT END OF PAINTED AREA.

SIGN TYPE "C"

STANDARD WORDING WITH AN ARROW AT BOTTOM POINTING TO THE LEFT. ONE SIGN MOUNTED PARALLEL TO THE LINE OF CURBING OR PAVEMENT EDGE AT END OF PAINTED AREA.

SIGN TYPE "D"

STANDARD WORDING WITH NO ARROW. TWO SIGNS, BACK TO BACK, MOUNTED PERPENDICULAR TO LINE OF CURBING OR PAVEMENT EDGE.

SIGN SPECIFICATIONS

1. METAL CONSTRUCTION, 12" X 18".
2. RED LETTERS ON WHITE REFLECTIVE BACKGROUND WITH 3/8" RED TRIM STRIP AROUND ENTIRE OUTER EDGE OF SIGN.
3. LETTERING ON SIGN TO BE : "NO PARKING OR STANDING FIRE LANE"
4. LETTERING SIZE TO BE AS FOLLOWS: "NO PARKING" AND "STANDING" – 2", "OR" – 1", "FIRE LANE" –2 1/2" , ARROWS 1" X 6" SOLID SHAFT WITH A SOLID HEAD 1 1/2" WIDE AND 2" DEEP.
5. SIGNS ARE TO BE MOUNTED 7' FROM THE GROUND TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE FAIRFAX COUNTY FIRE PREVENTION DIVISION, FIRE LANES SECTION.
6. POSTS FOR SIGNS, WHEN REQUIRED, SHALL BE METAL AND SECURELY MOUNTED, UNLESS WRITTEN PERMISSION FOR ALTERNATIVES IS OBTAINED PRIOR TO INSTALLATION FROM FAIRFAX COUNTY PREVENTION DIVISION, FIRE LANES SECTION.
7. OTHER SPECIAL SIGNS AS APPROVED BY THE FIRE PREVENTION DIVISION.
8. NORMAL SPACING BETWEEN SIGNS FOR LONG RUNS OF CURB OR PAVEMENT WITH NO BREAK IN CURB OR PAVEMENT IS 70'. THIS DISTANCE MAY VERY AS NEEDED. WRITTEN PERMISSION FROM THE FIRE PREVENTION DIVISION IS REQUIRED PRIOR TO PLACING SIGNS FURTHER THAN 70' APART.

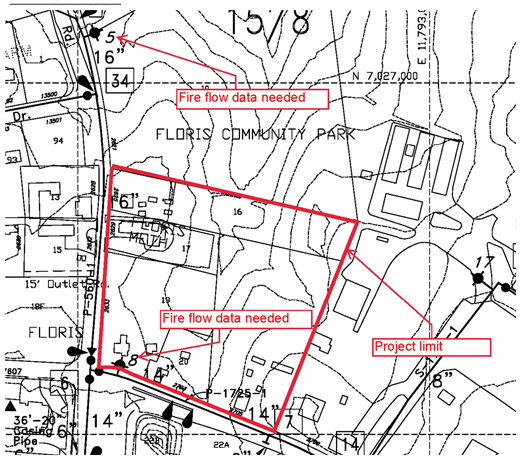
FIRE FLOW DATA

HYDRANT NUMBER:	25-1-5
HYDRANT LOCATION:	CENTREVILLE RD, NORTH OF SITE
STATIC PRESSURE:	84 PSI
RESIDUAL PRESSURE:	79 PSI
FLOW:	1,000 GPM
FLOW AT 20 PSI:	2,700 GPM
SIZE OF WATER MAIN:	16"
HYDRANT ELEVATION:	332 FT

HYDRANT NUMBER:	25-1-8
HYDRANT LOCATION:	NE CORNER, CENTREVILLE RD AND WEST OX INTERSECTION
STATIC PRESSURE:	74 PSI
RESIDUAL PRESSURE:	70 PSI
FLOW:	1,000 GPM
FLOW AT 20 PSI:	2,700 GPM
SIZE OF WATER MAIN:	14"
HYDRANT ELEVATION:	353 FT

INFORMATION FURNISHED FROM FAIRFAX WATER, TELEPHONE #698-5600, EXT. 343.

WATER MAP



PROPOSED BUILDING GROSS FLOOR AREA: 48,000 SF
PROPOSED BUILDING NET FLOOR AREA: 38,400 SF
2 STORIES BUILDING
TYPE OF CONSTRUCTION: IIB
USE GROUP CLASSIFICATION: A-ASSEMBLY, E- EDUCATION
BUILDING HEIGHT: 40 FT
BUILDING FULLY SPRINKLERED: YES

PROP. PRIVATE SCHOOL OF SPECIAL EDUCATION
2 STORIES
48,000 SF
FF= 349.0
HT = 40'

MAIN ENTRANCE

PROP. FH. #1
PROP. FH. #2
PROP. FH. #3

PROP. FREESTANDING FIRE DEPARTMENT CONNECTION
PROP. FIRE SERVICE
PROP. FREESTANDING FIRE DEPARTMENT CONNECTION

#2705 2 STORY FRAME FF=357.6
#2703 2 STORY STONE & FRAME FF=355.4
#2629 2 STORY FRAME FF=343.3
#2629 2 STORY FRAME FF=343.3
#2629 2 STORY FRAME CHURCH

WEST OX ROAD
ROUTE 7607
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)
(POSTED SPEED = 35 MPH)

CENTREVILLE ROAD
ROUTE 657
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)
POSTED SPEED = 35 MPH

N/F TRUSTEES OF THE FIRST KOREAN PRESBYTERIAN CHURCH OF WASHINGTON
DB 8706 PG 734

N/F FAIRFAX PARK AUTHORITY
DB 5494 PG 260

VCS 83 NORTH ZONE

40 0 20 40 80 160
1 INCH = 40'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/8/17
PROFESSIONAL ENGINEER REGISTERED

DRAWN: BP / SD / TT
CHECKED: AV / BP
SCALE: 1" = 40'
DATE: 7/18/2017

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

FIRE MARSHAL PLAN
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

File No. FJ-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg File: Q:\cadpro\15027\dwg\Engineering\Site Plan\15027C-1401.dwg

TO BE SUBMITTED WITH SECOND SUBMISSION

GEOTECHNICAL REQUIREMENTS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
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WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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SHEET: C-1401

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

RECEIVED
Department of Planning & Zoning
JUN 27 2017
Zoning Evaluation Division

June 7, 2017

Andrew A. Painter
Walsh, Colucci, Lubeley, & Walsh, P.C.
2200 Clarendon Boulevard, Suite 1300
Arlington, VA 22201

RE: Rezoning Application RZ 2016-HM-010
(Concurrent with Special Exception Application SE 2016-HM-007

Dear Mr. Painter:

Enclosed you will find a copy of an Ordinance adopted by the Board of Supervisors at a regular meeting held on June 6, 2017, granting Rezoning Application RZ 2016-HM-010 in the name of Scimores Academy LLC. The Board's action rezones certain property in the Hunter Mill District from the R-1 and C-5 Districts to the R-2 District to permit a private school of special education with an overall Floor Area Ratio (FAR) of .17 and modification of minimum yard requirements pursuant to Sect. 9-625 of the Zoning Ordinance. The subject property is located in the N.E. corner of the intersection of Centreville Road and West Ox Road on approximately 5.94 acres of land, Tax Map 25-1 ((1)) 16, 17pt., 19pt., and 21, subject to the proffers dated May 15, 2017.

The Board also:

- Approved a modification of Par. 2B of Sect. 3-207 and Par. 1A of Sect. 4-507 of the Zoning Ordinance to provide the front yard setback for the existing historic residences along West Ox Road in favor of that shown on the GDP/SE Plat
- Approved modifications of Sect. 13-303 and Sect. 13-304 of the Zoning Ordinance for the transitional screening and barrier requirements in favor of that shown on the GDP/SE Plat

Office of the Clerk to the Board of Supervisors
12000 Government Center Parkway, Suite 533
Fairfax, Virginia 22035
Phone: 703-324-3151 ♦ Fax: 703-324-3926 ♦ TTY: 711
Email: clerktothebos@fairfaxcounty.gov
http://www.fairfaxcounty.gov/boscler

- Approved a modification of Par. 2 of Sect. 17-201 of the Zoning Ordinance to allow construction of a sidewalk instead of the required natural surface trail along West Ox Road, as shown on the GDP/SE Plat
- Approved a waiver of Par. 4 of Sect. 17-201 of the Zoning Ordinance to eliminate the requirement for frontage improvements along West Ox Road in favor of that shown on the GDP/SE Plat

Sincerely,

Catherine A. Chianese
Clerk to the Board of Supervisors

Cc: Chairman Sharon Bulova
Supervisor Catherine Hudgins, Hunter Mill District
Howard Goodie, Director, Real Estate Division, Dept. of Tax Administration
Tracy D. Strunk, Director, Zoning Evaluation Division, DPZ
Diane Johnson-Quinn, Deputy Zoning Administrator, Dept. of Planning and Zoning
Thomas Conry, Dept. Manager – GIS - Mapping/Overlay
Michael Davis, Section Chief, Transportation Planning Division
Andrea Dorlester, Park Planning Branch Manager, FCPA
Abdi Hamud, Development Officer, DHCD/Design Development Division
Jill Cooper, Executive Director, Planning Commission
Jessica Gillis, Coordinator, Facilities Planning, Fairfax County Public Schools
Karyn Moreland, Chief Capital Projects Sections, Dept. of Transportation

At a regular meeting of the Board of Supervisors of Fairfax County, Virginia, held in the Board Auditorium in the Government Center at Fairfax, Virginia, on the 6th day of June, 2017, the following ordinance was adopted:

AN ORDINANCE AMENDING THE ZONING ORDINANCE
PROPOSAL NUMBER RZ 2016-HM-010
(Concurrent with Special Exception Application SE 2016-HM-007)

WHEREAS, Scimores Academy LLC, filed in the proper form an application requesting the zoning of a certain parcel of land herein after described, from the from the R-1 and C-5 Districts to the R-2 District,

WHEREAS, at a duly called public hearing the Planning Commission considered the application and the propriety of amending the Zoning Ordinance in accordance therewith, and thereafter did submit to this Board its recommendation, and

WHEREAS, this Board has today held a duly called public hearing and after due consideration of the reports, recommendation, testimony and facts pertinent to the proposed amendment, the Board is of the opinion that the Ordinance should be amended,

NOW, THEREFORE, BE IT ORDAINED, that that certain parcel of land situated in the Hunter Mill District, and more particularly described as follows (see attached legal description):

Be, and hereby is, zoned to the R-2 District, and said property is subject to the use regulations of said R-2 District, and further restricted by the conditions proffered and accepted pursuant to Va. Code Ann., 15.2-2303(a), which conditions are in addition to the Zoning Ordinance regulations applicable to said parcel, and

BE IT FURTHER ENACTED, that the boundaries of the Zoning Map heretofore adopted as a part of the Zoning Ordinance be, and they hereby are, amended in accordance with this enactment, and that said zoning map shall annotate and incorporate by reference the additional conditions governing said parcel.

GIVEN under my hand this 6th day of June.

Catherine A. Chianese
Clerk to the Board of Supervisors

RECEIVED
Department of Planning & Zoning
MAY 12 2017
Zoning Evaluation Division

PROFFERS

FLORIS CONSERVATORY FOR THE FINE ARTS

RZ 2016-HM-010

May 15, 2017

Pursuant to § 15.2-2303 (a) of the Code of Virginia, 1950, as amended, and subject to the Board of Supervisors approving a rezoning of all or portions of the properties identified as Tax Map #25-1 ((1)) 16, 17 (pt.), 19 (pt.), and 21 (hereinafter, jointly, the "Property") from the R-1 zoning district to the R-2 zoning district, Scimores Academy, LLC (hereinafter referred to as the "Applicant"), for the Applicant, itself, and its successors and assigns, hereby proffers to the following conditions (the "Proffers") in conjunction with a Generalized GDP/SE Plat/Special Exception Amendment Plat (hereinafter referred to as the "GDP/SE Plat"), identified below. If accepted, these Proffers shall replace and supersede any previous proffers approved on the Property.

I. DEVELOPMENT SCOPE & PLAT

A. GDP/SE Plat. In accordance with § 18-204 of the Zoning Ordinance of Fairfax County (1978, as amended) (the "Zoning Ordinance"), development of the Property shall be in substantial conformance with the generalized GDP/SE Plat/Special Exception Plat (the "GDP/SE Plat") titled "The Floris Conservatory For Fine Arts At Scimores Academy Generalized GDP/SE Plat – Special Exception Plat," consisting of 14 sheets, prepared by Walter L. Phillips, Inc., dated April 18, 2016, and revised through May 5, 2017.

B. Minor Modifications. Pursuant to § 18-204 of the Zoning Ordinance, minor modifications from the GDP/SE Plat may be permitted as determined by the Zoning Administrator. The Applicant reserves the right to make minor modifications to the building footprints shown on the GDP/SE Plat, and make other modifications provided that such modifications are in substantial conformance with the GDP/SE Plat as determined by the Zoning Administrator and do not increase floor area, decrease required setbacks to the periphery, increase the building height shown on the GDP/SE Plat, or decrease open space, all within permissible thresholds as defined in the Zoning Ordinance.

C. Development Scope. The Property may be developed with up to a maximum of 48,000 square feet of new development for private school of special education uses (the "Conservatory"), in addition to the three existing Historic Houses and Accessory Historic Structures (as defined below in Proffer II.A), place of worship uses, as well as accessory parking, private outdoor recreation areas, and open space areas, as permitted in the R-2 zoning district regulations. Uses may also include any uses permitted by special exception or special permit in the R-2 zoning district provided that approval of the requisite special exception or special

permit shall have been obtained in accordance with the Zoning Ordinance prior to establishment of such use.

D. Building Height. The building heights on the Property shall not exceed the maximum building heights permitted in the R-2 zoning district. Building height shall be measured in accordance with the provisions of the Zoning Ordinance and shall be exclusive of those structures that are excluded from the maximum building height regulations as set forth in § 2-506 of the Zoning Ordinance. Notwithstanding the foregoing, however, nothing shall preclude the Applicant from constructing the Conservatory to lesser building heights than those which are represented on the GDP/SE Plat, provided the configuration of the building footprints remain in substantial conformance with that shown on the GDP/SE Plat.

E. Water and Sewer. The Property shall be served by public central water supply and sanitary sewer systems. The Applicant shall construct and install all water and sewer extensions to the Property and shall provide all connections necessary for development of the Property at no cost to Fairfax County (the "County") or to the Fairfax County Water Authority ("Fairfax Water"), and such extensions and connections shall be constructed and installed in accordance with Fairfax County and Fairfax Water standards. The Applicant shall acquire any offsite easements, if needed, to extend public water and/or sanitary sewer lines to the Property and shall dedicate such easements to Fairfax Water at no cost to the County or to Fairfax Water. Any existing wells and septic systems on the Property shall be abandoned prior to approval of the first site plan for the Property in accordance with Fairfax County Health Department standards and requirements then in effect.

II. HERITAGE RESOURCES

A. Retained Structures. As depicted on Sheet P-0301 of the GDP/SE Plat, the Applicant shall retain three existing houses (the "Historic Houses") on the Property in perpetuity, and shall shall stabilize the Historic Houses to prevent further physical deterioration or damage caused by weather or other natural, animal, or human intrusions. The Applicant shall be permitted to retain the existing residential use as the principal use of the Historic Houses, and may use the Historic Houses for residential, educational, administrative, or commercial purposes related to the Conservatory or Fairfax County Park Authority (the "Park Authority") programs. The Applicant may perform any necessary renovations to ensure the Historic Houses comply with applicable building codes and regulations. In addition, any existing structures on the Property that are contributing or non-contributing resources to the Floris National Register Historic District (the "Accessory Historic Structures") may be preserved where possible at the discretion of the Applicant, while implementing the proposed development on the Property. Any exterior stabilization or rehabilitation of the Historic Houses and Accessory Historic Structures shall comply with the Secretary of the

Interior's Standards for Treatment of Historic Properties determined by the Study as defined in Proffer II.B.

B. Study. Prior to site plan approval for the Conservatory, the Applicant shall submit to the Heritage Resources Staff in the Planning Division of the Department of Planning and Zoning ("DPZ") a feasibility study of the work (the "Study") that needs to be undertaken to preserve and reuse the Historic Houses and any Accessory Historic Structures proposed to be retained including, at a minimum:

1. An existing conditions assessment;
2. A plan for the intended programming and use of the Historic Houses and any Accessory Historic Structures proposed to be retained;
3. A summary of code requirements and regulations and evaluation of the technical feasibility of the proposed programming and work; and
4. A technical evaluation and summary of the work required to be completed, if any, in accordance with the Secretary of the Interior's Standards for Treatment of Historic Properties.

C. Stabilization/Construction. Irrespective of the results of the Study, the Historic Houses shall be stabilized. The party(ies) engaged in the Study, as well as the design and undertaking of the stabilization and rehabilitation, shall meet the Secretary of Interior's Professional Qualification Standards for Historic Architecture as published in 36 CFR Part 61. Any upgrades or renovations to the Historic Structures shall be in-keeping with the Study.

D. Construction Fence. Prior to land disturbance on the Property for the Conservatory, the Applicant shall erect fencing around the Historic Houses and any Accessory Historic Structures proposed to be retained to ensure that such facilities are not disturbed during construction activities for the Conservatory. Prior to site plan approval for the Conservatory, the Applicant shall submit the location and material to be used for review and approval by the Department of Planning & Zoning's Heritage Resources staff. Such review shall occur within 30 days of the Applicant's submission to staff. Should there be no response within 30 days from the Heritage Resources staff, the submission shall be deemed approved, and no further review by the Heritage Resources staff shall be required.

E. Maintenance Staff. The Applicant shall employ staff that shall be responsible for routine maintenance of the Historic Houses and any Accessory Historic Structures proposed to be retained.

F. Architectural Review Board Consultation. The Applicant shall, prior to site plan approval for the Conservatory, submit building plans, elevations, and building

materials for the Conservatory to the Fairfax County Architectural Review Board for review and comment, but not necessarily approval.

III. TRANSPORTATION

A. Bicycle Parking. The Applicant shall install two bicycle racks, each with a minimum capacity for six bicycles, within 50 feet of the Conservatory's main building entrance. Prior to site plan approval for the Conservatory, the Applicant shall provide the type, location, and number of bicycle racks to the Fairfax County Department of Transportation ("FCDOT") for approval. The bicycle racks shall be installed prior to the issuance of the Non-RUP for the Conservatory.

B. Parking. As depicted on Sheets P-0101 and P-0301 of the GDP/SE Plat, the Applicant shall provide a minimum of 231 parking spaces on the Property. All parking for the proposed Conservatory shall occur on the Property. The Applicant shall inform visitors to the Property that no parking should occur in surrounding neighborhoods. Notices to this effect shall be placed in conspicuous locations in the building. Use of the Property for commuter parking purposes shall be prohibited.

C. Private Streets. The private streets shown on the GDP/SE Plat shall be constructed of materials with a depth of pavement consistent with Fairfax County Public Facilities Manual ("PFM") standards for public streets.

D. Centreville Road Entrance/Exit. As depicted on Sheet P-0301 of the GDP/SE Plat, and subject to Virginia Department of Transportation ("VDOT") and FCDOT approval, the Applicant shall construct a limited access entrance which provides for right-in/left-in and right-out movements at the northernmost entrance to the Property. The Applicant shall construct a new southbound left-turn lane to serve the Property within the existing Centreville Road median in accordance with applicable VDOT standards. The design of the left-turn lane, which may include a median channel, striping, or other approved traffic control measure(s), shall be constructed to prevent left-turn vehicle movements exiting the Property southbound on Centreville Road. All such construction shall be bonded, constructed, and open to traffic prior to the issuance of the Non-RUP issued for the Conservatory.

E. Existing Driveway Closures. As depicted on Sheet P-0301 of the GDP/SE Plat, the Applicant shall close the existing northernmost entrance serving the existing church on Tax Map #25 ((1)) 17 and the existing residential building located on Tax Map #25 ((1)) 16. Subject to VDOT and FCDOT approval, the Applicant shall install curb, gutter, and trail improvements within those areas where existing driveway connections to Centreville Road are removed as shown on the GDP/SE Plat. Such closures, and any related construction shall be bonded or constructed prior to the approval of the issuance of a Non-RUP for the Conservatory.

F. West Ox Road Entrance. As depicted on Sheet P-0301 of the GDP/SE Plat, the Applicant shall construct, at no cost to the County, a limited access entrance at the Property's West Ox Road entrance. Subject to VDOT approval, said entrance will provide for right-in, left-out, and right-out movements, which may include a concrete island, striping, or other approved traffic control measure(s) to prevent left-turn vehicle movements into the Property from eastbound West Ox Road. The Applicant shall also install "No Left Turn" and "Do Not Enter" signage, as appropriate. The Applicant shall also restripe portions of West Ox Road in order to maintain existing travel and turn lanes while also accommodating the new site entrance. All such construction shall be bonded or constructed prior to the issuance of a Non-RUP for the Conservatory.

G. Right-of-Way Dedication. As depicted on Sheet P-0301 of the GDP/SE Plat, the Applicant shall dedicate and convey in fee simple with no encumbrance, to the County, at no cost to the County, approximately 5,815 square feet along the Property's West Ox Road frontage for transportation purposes. Said dedication shall be recorded in the County land records prior to the approval of the first site plan for the Conservatory.

H. Traffic Calming Measures. As depicted on Sheet P-0301 of the GDP/SE Plat, the Applicant shall install traffic calming measures in the form of speed tables, speed humps, stop signs/bars, and raised or alternative paving materials on the Property's internal driveways and parking areas. All such measures shall be depicted on the applicable site plan for each section of the Property.

I. Crosswalks. The Applicant shall construct pedestrian crosswalks throughout the Property in the locations shown on Sheet P-0301 of the GDP/SE Plat. Said crosswalks shall be delineated with paint, textured paving, pavers, decorative pavement, or any other material or technique that achieves a similar purpose.

J. West Ox Road Sidewalk. The Applicant shall construct, subject to VDOT approval, a six foot-wide concrete sidewalk along the Property's West Ox Road frontage as depicted on Sheet P-0301 of the GDP/SE Plat. Said sidewalk shall be located in the public right-of-way. Any connections located outside of the public right-of-way shall be maintained by the Applicant, and all connections shall be constructed in accordance with VDOT or PFM standards, unless modified or waived by VDOT or the County, as applicable. Said sidewalk shall be constructed prior to the approval of the issuance of a Non-RUP for the Conservatory.

K. Centreville Road Trail. Subject to VDOT approval, the Applicant shall widen any portions of the existing asphalt trail along the Property's Centreville Road frontage to 10 feet in width, as depicted on Sheet P-0301 of the GDP/SE Plat. Said trail shall be located in the public right-of-way, and any portions of the trail which are reconstructed shall meet minimum width requirements, but not necessarily minimum buffer or separation requirements, as the trail is existing

SEE SEPARATE PACKAGE FOR COMPLIANCE NARRATIVE

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AARON M. VINSON
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7/18/17
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SCALE: NONE
DATE: 7/18/2017
DRAWN: BP / SD / TT
CHECKED: AV / BP

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CORRESPONDENCE

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-1501

today. Any portions of the trail located outside of the public right-of-way shall be dedicated in fee simple to the County to ensure that the entirety of the 10-foot wide trail is located within the public right-of-way. Said trail shall be constructed prior to the approval of the issuance of a Non-RUP for the Conservatory. Any connections to the trail located outside of the public right-of-way shall be maintained by the Applicant and constructed in accordance with VDOT or PFM standards, unless modified or waived by VDOT or the County, as applicable.

L. Centerville Road/West Ox Road Signal Timing. As noted on Sheet P-0301 of the GDP/SE Plat, prior to the issuance of a Non-RUP for the Conservatory, the Applicant shall conduct and submit to VDOT and FCDOT an analysis of the existing traffic and pedestrian signal at the Centerville Road/West Ox Road intersection to determine if signal timing modifications are warranted. The Applicant shall make any such adjustments in coordination with VDOT and FCDOT.

M. Pedestrian Contribution. Prior to issuance of the Non-RUP for the Conservatory, the Applicant shall make a one-time contribution to the Fairfax County in the amount of $3,000.00. Said contribution shall be used solely towards pedestrian transportation improvements in the vicinity of the Property at the discretion of the Hunter Mill District Supervisor.

N. Advanced Density Credit. Density credit is reserved consistent with § 2-308 (4) of the Zoning Ordinance for all eligible dedications described herein or as may be required by Fairfax County or the VDOT pursuant to the PFM, at or prior to time of site plan approval.

IV. FAIRFAX COUNTY PARK AUTHORITY COOPERATION

A. Frying Pan Park Connections. As generally depicted on Sheet P-0301 of the GDP/SE Plat, and subject to County and Park Authority approval, the Applicant shall construct, at no cost to the County, two pedestrian connections and one vehicular connection between the Property and Tax Map #25-1 ((1)) 9 and 10 (jointly, "Frying Pan Park"). The Applicant shall work with the Park Authority to determine the precise locations for said pedestrian and vehicular connections, which shall be depicted on the first site plan for the Conservatory. Said pedestrian connections shall be constructed to the common boundary line between the Property and Frying Pan Park; said vehicular connection shall be constructed, at the Park Authority's election, into Frying Pan Park at a maximum of 25 feet beyond the common boundary line between the Property and Frying Pan Park. The Applicant shall grant the Park Authority, at no cost to the Park Authority and subject to the reasonable mutual agreement between the Applicant and Park Authority, suitable ingress-egress easements upon and across the Property for the purposes of: (1) permitting Frying Pan Park pedestrian visitors to directly access the Frying Pan Park via the Property; and (2) permitting Frying Pan Park visitors

to access Centreville Road through the Property during specified times of special events. Said easement shall be in a form as reviewed and approved by the Fairfax County Attorney's office, and recorded among the Fairfax County land records.

C. Necessary Permits. The Applicant shall apply for and receive all necessary right-of-entry Park Authority permit(s), as well as temporary and permanent construction, stormwater, and maintenance agreements, for all work conducted on the Frying Pan Park property.

D. Cooperation. Prior to site plan approval for the Conservatory, the Applicant will work with the Park Authority to address concerns related to the clearing and grading on the Frying Pan Park property, as well as stormwater management, the health of any trees located on Frying Pan Park that have roots on the Property, use of the Historic Structures, recycling of any salvaged building materials from any demolished Accessory Historic Structures, reconstruction of the retaining wall proposed to be removed pursuant to Proffer IV.D, access between the Property and Frying Pan Park, and use of parking spaces on the Property for special events at Frying Pan Park. The Applicant will consult with the Park Authority on operational and programming plans at both the Conservatory and Frying Pan Farm Park.

E. Retaining Wall Reconstruction. As depicted on Sheet P-0301 of the GDP/SE Plat, the Applicant shall remove the existing retaining wall along the Property's West Ox Road frontage to provide adequate site distance at the Property's West Ox Road entrance as contemplated by Proffer III.L. The Applicant shall, subject to Park Authority approval, rebuild the retaining wall on the Frying Pan Park property. Said retaining wall and any related construction shall be constructed prior to the approval of the issuance of a Non-RUP for the Conservatory.

V. ENVIRONMENTAL

A. Stormwater Management. As part of site plan approval for the Conservatory, the Applicant shall demonstrate that the Conservatory will meet applicable Fairfax County PFM requirements for stormwater quantity and stormwater quality in effect at the time of site plan approval for each phase of the Conservatory. The site plan shall include strategies for addressing both water quantity and water quality management issues, including detailed mitigation measures to be implemented as part of construction. The Applicant shall construct stormwater quantity and quality measures in accordance with the site plan for each building (and each subsequent revision thereto).

B. LID Measures. The Applicant shall provide a minimum of one Low Impact Development ("LID") design measure as part of or in addition to the Best Management Practices ("BMPs") permitted pursuant to the County's Facilities Standards Manual and the Virginia Stormwater Management Handbook to treat

stormwater from the Property. Such LID measure may include, but shall not be limited to, water quality swales, green roofs, bioretention facilities/rain gardens, sheet flow to vegetated buffers, or any alternate LID practice proposed by the Applicant and deemed to be acceptable to the County. Any LID measure(s) will be designed and implemented in accordance with the adopted provisions of the PFM, unless modified or waived by the County. Said BMPs and LID(s) shall be depicted on the applicable site plan(s) for development of the Property.

C. Lighting. In an effort to minimize nighttime light pollution from the Property, all on-site outdoor lighting provided on the Property shall comply with the Outdoor Lighting Standards of § 14-900 et seq. of the Zoning Ordinance. The light fixtures shall be a dark color. All proposed parking, pedestrian trail, and building mounted security lighting on the Property shall utilize full cut-off fixtures that are downward-directed to the interior of the Property. Nothing contained in this Proffer V.C shall preclude the up-lighting, accent lighting, or backlighting of signage, entrance features, and related landscaping throughout the Property as permitted by applicable regulations of the Zoning Ordinance.

D. Green Building. The Applicant shall pursue Leadership in Energy & Environmental Design ("LEED") certification, or another equivalent rating system chosen in consultation with the Environment and Development Branch of DPZ ("EDB"), for the Conservatory under the most recent version of the LEED for Building Design and Construction, New Construction Rating System ("LEED BD+C-NC") rating system, other LEED rating system for which the project meets the eligibility requirements, or another equivalent rating system.

1. Project Checklist. The Applicant will include, as part of the site plan submission and building plan submission for the Conservatory, a list of specific credits within the applicable LEED BD+C rating system that the Applicant anticipates attaining for the Conservatory. A LEED AP who is also a professional engineer or licensed architect will provide project scorecard updates at both the time of site plan review and the time of building plan review for the Conservatory confirming that the items on the list will meet at least the minimum number of credits necessary to attain LEED certification for the Conservatory.

2. County Team Member. In addition, the Applicant will designate the Chief of EDB as a team member in the USGBC's LEED Online system. This team member will have privileges to review the project status and monitor the progress of all documents submitted by the project team, but will not be assigned responsibility for any LEED credits and will not be provided with the authority to modify any documentation or paperwork.

3. Design-Related Credit Review. Prior to building plan approval for the Conservatory, the Applicant will submit documentation to the EDB, from

the USGBC's design final review portion of the split review, demonstrating that the building is anticipated to attain a sufficient number of design-related credits that, along with anticipated construction-related credits, will be sufficient to attain LEED certification. Prior to the release of the bond for the project, the Applicant shall provide documentation to the EDB demonstrating the status of attainment of LEED certification from the USGBC for the building.

4. Green Building Escrow. If the Applicant is unable, prior to building plan approval, to provide documentation demonstrating that the Conservatory is anticipated to attain LEED certification, the Applicant shall, prior to building plan approval, post a "Green Building Escrow" in the form of cash or a letter of credit from a financial institution authorized to do business in the Commonwealth of Virginia in the amount of $2 per gross square foot of the Conservatory. The Green Building Escrow will be in addition to, and separate from, other bond requirements and will be released upon demonstration of attainment of LEED certification, or higher level of certification, by the USGBC, under the applicable version of the LEED BD+C rating system. The provision to the EDB of documentation from the USGBC that the Conservatory has attained LEED certification will be sufficient to satisfy this commitment.

5. Release of Green Building Escrow. The Green Building Escrow shall be released in accordance with the following:

i. If the Applicant is able, subsequent to building plan approval, to provide the USGBC's documentation of the design final review portion of the split review as described above demonstrating that the Conservatory is anticipated to attain LEED certification, the County shall release the entirety of the Green Building Escrow to the Applicant. Prior to release of the bond for the project, the Applicant shall provide documentation to the EDB demonstrating the status of attainment of LEED certification from the USGBC for the Conservatory.

ii. If prior to bond extension, reduction or final bond release for the building site, whichever occurs first, the Applicant provides to the EDB, documentation demonstrating that LEED certification for the Conservatory has been attained, the entirety of the Green Building Escrow shall be released to the Applicant. If the certification is still in progress at the time of application for the bond extension or reduction, the time frame for the provision of the documentation described above shall be automatically extended to the time of the next bond extension or reduction. However, the documentation

must be provided prior to the final bond release for the building site.

iii. If prior to bond extension, reduction, or final bond release for the building site, whichever occurs first, the Applicant provides to the EDB, documentation demonstrating that LEED certification for the Conservatory has not been attained but that the building has been determined by the USGBC to fall within three points of the attainment of LEED certification, fifty percent (50%) of the Green Building Escrow will be released to the Applicant; the other fifty percent (50%) will be released to Fairfax County and will be posted to a fund within the County budget supporting the implementation of County environmental initiatives. If the certification is still in progress at the time of application for the bond extension or reduction, the time frame for the provision of the documentation described above shall be automatically extended to the time of the next bond extension or reduction. However, the documentation must be provided prior to the final bond release for the building site.

iv. If prior to bond extension, reduction, or final bond release for the building site, whichever occurs first, the Applicant fails to provide to the EDB documentation demonstrating the attainment of LEED certification or demonstrating that the Conservatory has fallen short of LEED certification by three points or less, the entirety of the Green Building Escrow will be released to Fairfax County and will be posted to a fund within the County budget supporting the implementation of County environmental initiatives. If the certification is still in progress at the time of application for the bond extension or reduction, the time frame for the provision of the documentation described above shall be automatically extended to the time of the next bond extension or reduction. However, the documentation must be provided prior to the final bond release for the building site.

6. Extension of Time. If the Applicant provides documentation from the USGBC demonstrating, to the satisfaction of EDB, that USGBC's completion of the review of the LEED certification application for the Conservatory has been delayed through no fault of the Applicant, the Applicant's contractors or subcontractors, the time frame may be extended as determined appropriate by the Zoning Administrator, and no release of escrowed funds shall be made to the Applicant or to the County during the extension.

VI. LANDSCAPING AND OPEN SPACE

A. Landscape Plan. The Applicant shall implement the landscape design as shown on Sheets P-0401 and P-0402 of the GDP/SE Plat (the "Preliminary Landscape Plan"), which illustrates the plantings and other features to be provided on the Property. The Preliminary Landscape Plan is conceptual in nature and the tree species and planting locations may be modified by the Applicant as part of final engineering and building design, provided such modifications: (a) provide a similar quality and quantity of landscaping as that shown on the Preliminary Landscape Plan, and (b) otherwise are in substantial conformance with the GDP/SE Plat.

1. Native Species. The Applicant shall use principally native species or hardy drought tolerant adaptive plants throughout the Property, provided that the Applicant reserves the right, in consultation with and approval by the Urban Forest Management Division ("UFMD") of the Fairfax County Department of Public Works and Environmental Services ("DPWES"), to modify as part of site plan approval the exact species to be used, such as where some plant materials are not available or have been deemed by UFMD to no longer be appropriate.

2. Planting Quality. All plantings shall be consistent with the quality and quantity of plantings and materials shown on the Preliminary Landscape Plan, as may be modified by the Applicant as described in Proffer VI.A.1, above, and may include the use of additional shade trees and other plant materials as determined by the Applicant. As part of final engineering and site design, the Applicant may adjust the type and location of vegetation and the design of the open spaces, courtyard areas and streetscape improvements and plantings, including adjusting the tree species to accommodate final architectural designs, sight distance concerns, and utilities, as well as to facilitate outdoor elements in the Proposed Development, as may be approved by the Zoning Administrator and UFMD, provided such adjustments otherwise are in substantial conformance with the GDP/SE Plat.

3. Screening. As depicted on Sheet P-0401 of the GDP/SE Plat, a variable width buffer yard with Category IV deciduous and evergreen trees shall be provided along the Property's West Ox Road frontage and a variable width buffer yard with deciduous and evergreen trees shall be provided along the Centreville Road frontage of the Property. Said buffer yards may consist of existing vegetation and, any supplemental vegetation shall be installed prior to the issuance of the Non-RUP for the Conservatory.

B. Tree Preservation Areas. The Applicant shall create an approximately 32,100-square foot tree preservation area in three locations generally depicted on Sheet

P-0401 of the GDP/SE Plat. The Applicant may install structures within the preservation areas to enhance the preservation area, which may include trails, footbridges, park benches, and informative signs. These structures shall be installed in a manner that minimizes disturbance of the preservation area, as approved by UFMD.

C. Tree Preservation Techniques. The Applicant shall submit a tree preservation plan ("Tree Preservation Plan") as part of the first and all subsequent site plan submissions for the Conservatory. The Tree Preservation Plan shall be prepared by a professional with experience in the preparation of tree preservation plans, such as a Certified Arborist or Registered Consulting Arborist, and shall be subject to the review and approval of UFMD. The Tree Preservation Plan shall consist of a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all trees to be preserved, as well as all on- and off-site trees, living or dead, with trunks 12 inches in diameter and greater located within 25 feet of the limits of clearing and grading shown on the GDP/SE Plat. The Tree Preservation Plan shall provide for the preservation of those areas shown on Sheet P-0402 of the GDP/SE Plat for tree preservation, those areas outside of the limits of clearing and grading shown on the GDP/SE Plat, and those additional areas in which trees can be preserved as a result of final engineering. The Tree Preservation Plan shall include all items specified in PFM 12-0507 and 12-0509.

1. Tree Preservation Walk-Through. The Applicant shall retain the services of a Certified Arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk- through meeting. During the tree-preservation walk-through meeting, the Applicant's Certified Arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with a representative of UFMD to determine, in UFMD's reasonable judgment, whether any adjustments to the clearing limits should be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustments, if any, shall be memorialized in writing and implemented by the Applicant. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.

2. Limits of Clearing and Grading. The Applicant shall conform strictly to the limits of clearing and grading as shown on the GDP/SE Plat, subject to allowances specified in these proffered conditions and for the installation

of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the GDP/SE Plat, they shall be located in the least disruptive manner necessary as determined by the Applicant and UFMD. The Applicant shall develop and implement a replanting plan, subject to approval by UFMD, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.

3. Tree Protection Fencing. All trees shown to be preserved on the tree preservation plan shall be protected by a tree protection fence. Tree protection fencing in the form of four-foot high, fourteen-gauge welded wire attached to six-foot steel posts driven eighteen inches into the ground and placed no further than 10 feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected on the limits of clearing and grading as shown on the demolition, and phase I and II erosion and sediment control sheets, as may be modified by the root pruning commitments in Proffer VI.C.4.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fence types shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three days prior to the commencement of any clearing, grading, or demolition activities, but subsequent to the installation of the tree protection devices, UFMD, the Hunter Mill District Supervisor, and representative of the Hunter Mill Land Use Committee shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by UFMD.

4. Root Pruning. The Applicant shall root prune, as needed, to comply with the tree preservation requirements of these Proffers. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the submitted site plan. The details for these treatments shall be reviewed and approved by UFMD and accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to, the following:

i. Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches;

SEE SEPARATE PACKAGE FOR COMPLIANCE NARRATIVE

Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

SCALE: NONE
DATE: 7/18/2017
DRAWN: BP / SO / TT
CHECKED: AV / BP

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED

DATE

CORRESPONDENCE

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-1502

ii. Root pruning shall take place prior to any clearing and grading;

iii. Root pruning shall be conducted under the supervision of a Certified Arborist; and

iv. A UFMD representative shall be informed when all root pruning and tree protection fence installation is complete.

5. Site Monitoring. During any clearing or tree/vegetation/structure removal on the Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by UFMD. The Applicant shall retain the services of a certified arborist or landscape architect to monitor all construction work and tree preservation efforts in order to ensure conformance with all tree preservation proffers and UFMD approvals. The monitoring schedule shall be described and detailed in the landscaping and tree preservation plan, and reviewed and approved by UFMD.

6. Tree Space Requirements. Tree planting spaces proposed in the parking lot and other areas restricted by barriers to root growth shall provide a planter open surface area at least six feet by six feet. Where minimum planting areas cannot be met and planting spaces at least eight feet wide cannot be provided, rooting zone width a minimum of eight feet shall be provided beneath paved surfaces using structural cell technology or other solutions acceptable to UFMD that provide uncompacted soil within the planting space, with planting sites meeting the following specifications:

i. A minimum of six feet open surface width and 36 square feet open surface area;

ii. Rooting area beneath paved surfaces a minimum of eight feet wide, taking into consideration sloped sides as may be needed to support adjacent compacted soils for roadways and pedestrian walkways. Planting space depth shall be four feet within four feet of the tree on all sides. Soil depth in areas beyond four feet may be shallower or narrower as long as specified minimum soil volumes are met. Paved surfaces over the specified rooting area shall not be dependent upon compacted soil for structural support;

iii. Soil volume for Category III or IV trees (as indicated in Table 12.17 of the PFM) shall be a minimum of 700 cubic feet per tree for single trees. For two trees planted in a contiguous planting area, a total soil volume of at least 1,200 cubic feet shall be provided.

For three trees or more planted in a contiguous area, the soil volume shall equal at least 500 cubic feet per tree. A contiguous area shall be defined as any area with a soil depth of three to four feet, within which lateral root growth is unrestricted;

iv. Soil in planting sites shall be as specified in planting notes to be included in site plans reviewed and approved by UFMD; and

v. The Applicant shall contact UFMD at least three business days prior to installation of trees, and provide an opportunity for UFMD staff to verify conformance with these requirements.

7. Demolition of Existing Structures. The demolition of all existing structures and site features within or adjacent to tree preservation areas shall be accomplished in the least disruptive manner practical as reviewed and approved by UFMD. All tree protection fencing shall be in place and verified by a County representative prior to commencement of demolition activities.

C. Tree Preservation Deviation Request. Prior to site plan approval for the Conservatory, the Applicant shall submit a written request to UFMD for a tree preservation deviation in accordance with PFM 12-0508.4A (2) to permit calculation of tree canopy preservation target minimums on a Property-wide basis rather than by individual zoning district. Deviations may also be requested for other reasons related to site engineering or tree conditions, subject to UFMD review and approval.

E. Invasive Plant Species Management. Forested areas containing plant species that are known to be invasive in quantities that threaten the long term health and survival of the existing vegetation present shall be the subject of an invasive plant species management plan in order for the area to be awarded full ten-year canopy credit. At the time of site plan submission the applicant shall provide a management plan for review and approval by UFMD specifying the common and scientific name of invasive species proposed for management, the target area for management efforts, methods of control and disposal of invasive plants, timing of treatments and monitoring, duration of the management program, and potential reforestation as needed.

VII. MISCELLANEOUS

A. Successors and Assigns. These Proffers will bind and inure to the benefit of the Applicant and its successors and assigns. Each reference to "Applicant" in this proffer statement shall include within its meaning and shall be binding upon the Applicant's successor(s) in interest and/or developer(s) of the site or any portion of the site.

B. Counterparts. These proffers may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original document and all of which taken together shall constitute but one in the same instrument.

C. Timing. Notwithstanding the foregoing, upon demonstration that, despite diligent efforts or due to factors beyond the Applicant's control, proffered commitments have been delayed beyond the timeframes specified herein, the Zoning Administrator may agree to a later date for completion of such commitments.

D. Future Applications. Any portion of the Property may be the subject of a rezoning, special exception, special permit, comprehensive sign plan, variance, or other zoning action without the joinder and/or consent of The Applicant(s) of the other land area(s), provided that such application complies with § 18-204 (6) of the Zoning Ordinance and § 15.2-2302 of the Code of Virginia, as applicable. Previously approved proffered conditions or development conditions applicable to a particular portion of the Property that are not the subject of such an application shall remain in full force and effect.

[SIGNATURES BEGIN ON THE FOLLOWING PAGE]

SEE SEPARATE PACKAGE FOR COMPLIANCE NARRATIVE

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SCALE: NONE
DATE: 7/18/2017
DRAWN: BP / SO / TT
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REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CORRESPONDENCE

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-1503

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

RECEIVED
Department of Planning & Zoning

JUN 27 2017

Zoning Evaluation Division

June 7, 2017

Andrew Painter,
Walsh, Colucci, Lubeley & Walsh, P.C.
2200 Clarendon Boulevard, Suite 1300
Arlington, VA

Re: Special Exception Application SE 2016-HM-007
(Concurrent with Rezoning Application RZ 2016-HM-010)

Dear Mr. Painter:

At a regular meeting of the Board of Supervisors held on June 6, 2017, the Board approved Special Exception Application SE 2016-HM-007 the name of Scimores Academy, LLC. The subject property is located at 2625, 2629, and 2633 Centreville Road and 2703 and 2705 West Ox Road on approximately 8.07 of land, zoned C-5 and R-1 with all R-1 and a part of C-5 land proposed to be rezoned to R-2 in the Hunter Mill District [Tax Map 25-1 ((1)) 16, 17, 19, 20 and 21]. The Board's action permits a private school of special education pursuant to Section 3-204 of the Fairfax County Zoning Ordinance, by requiring conformance with the following development conditions:

1. This special exception is granted for and runs with the land indicated in this application and is not transferable to other land.

2. This special exception is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.

3. The three (3) existing Historic Residential Structures shall be permitted to remain in residential use as the principal use and may be used for residential, school, administrative, or commercial purposes related to the private school of special education or the Fairfax County Park Authority. The existing Floris United Methodist Church shall continue to be used as a place of worship.

Office of the Clerk to the Board of Supervisors
12000 Government Center Parkway, Suite 533
Fairfax, Virginia 22035
Phone: 703-324-3151 ♦ Fax: 703-324-3926 ♦ TTY: 711
Email: clerktothebos@fairfaxcounty.gov
http://www.fairfaxcounty.gov/bosclerk

4. Any plan submitted pursuant to this special exception for the private school of special education shall be in substantial conformance with the approved GDP/SE Plat entitled "The Floris Conservatory For Fine Arts" as prepared by Walter L. Phillips, Inc. and consisting of fourteen (14) sheets dated April 18, 2016 and revised through May 5, 2017. Minor modifications to the approved special exception may be permitted pursuant to Par. 4 of Sect. 9-004 of the Fairfax County Zoning Ordinance.

5. A copy of the Special Exception shall be posted in a conspicuous place on the Property along with the Non-Residential Use Permit of the use and shall be made available to all Departments of the County of Fairfax during hours of operation of the permitted use.

6. The private school of special education shall serve no more than a total of 365 students enrolled during any one of the three (3) daily class sessions described in Development Condition #8.

7. The private school of special education shall be open between 8:00 a.m. and 10:30 p.m., with extended hours for staff between 7:00 a.m. and 11:00 p.m.

8. The private school of special education may offer up to three (3) one-hour group classes during weekdays between the hours of 3:00 p.m. and 8:00 p.m., and up to three (3) one-hour group classes during weekend days between the hours of 9:00 a.m. and 3:00 p.m., with a minimum one-hour interval between each class session to permit sufficient time for vehicles to enter and leave the Property.

9. The private school of special education shall employ a maximum of 100 faculty and staff members, including faculty and administrative, support, maintenance, and transportation staff.

10. The Applicant may make the private school of special education's facilities available for use for individual instruction and by outside organizations including, but not limited to, civic and homeowner associations, community fine arts groups, business entities, and educational entities, the Fairfax County Park Authority, and Fairfax County Public Schools. The Applicant shall appoint an event manager that will coordinate use of the Academy by outside organizations. All such uses by outside organizations shall be limited to those that can be parked entirely on the Property and shall adhere to the hours of operation stipulated in Development Condition #7.

11. All parking for the private school of special education shall be located on the Property and parking on surrounding streets shall be prohibited. The Applicant shall provide written and verbal instructions to all students and parents, and shall post signage in conspicuous places on the Property instructing parents and visitors to the private school of special education not to park on neighborhood streets.

12. The Applicant shall appoint an internal transportation coordinator to address transportation issues related to the private school of special education. The transportation coordinator shall encourage participation in a transportation management program designed to reduce the number of vehicle trips to and from the Property during the PM peak hour. Elements of the program may include busing, shuttles, staggered pick-ups, carpools, and/or other means. The transportation coordinator shall also be responsible coordinating with adjacent property owners, as needed, to plan for overflow parking for larger events, whether related to the special exception use, Frying Pan Park use, or related to any accessory user. The transportation coordinator shall establish a neighborhood liaison committee to meet with interested neighbors on a semi-annual basis from the Copper Crossing, Mountain View, and Floris Downs associations (as well as any other association which request inclusion) to discuss and address neighborhood concerns regarding transportation issues and the operation of the private school of special education as it relates to impacts on the surrounding neighborhood. The Applicant shall annually provide the transportation coordinator's telephone number to the Fairfax County Department of Transportation and the District Supervisor's office.

13. The Applicant's transportation coordinator shall investigate any written complaints of off-premises parking, and shall provide a written response to any identified concern received to the complaining party within five (5) business days. A copy of any response shall be provided to the District Supervisor's office.

14. In the event a complaint is made regarding a specific driver parking on neighborhood streets in violation of Development Condition #12, then upon investigation, the Applicant shall issue a verbal warning to that driver. If a second incident complaint is made regarding that same driver, the Applicant shall issue a written warning; if a third incident complaint is made, the Applicant shall suspend the enrollment of relevant students until compliance with Development Condition #12 can be reasonably assured.

15. The design for the private school of special education building shall provide substantial natural light and the building facades shall be oriented to minimize glare from the east and west while opening up to the north and to the courtyard. The classrooms and performance spaces shall be organized around the courtyard and, where possible, take advantage of direct access to natural light and views of Frying Pan Farm Park on the exterior.

16. The main building entry shall connect the park to the north to the interior courtyard spaces.

17. The general material palette for the building exterior shall be derived from the local context of the rural Virginia landscape and farm buildings to reinforce the local character and reinterpret the private school of special education using materials

such as, but not limited to, indigenous stone, glass, and metals that weather naturally.

18. The design of the private school of special education building shall be integrated into the topographic change on the Property. The building shall appear as a one-story building on the street-sides and opening up to a two-story building on the north side. The design for the private school of general education shall adhere to the following architectural guidelines:

Windows:
a. Windows should include a light transmission percentage of no less than 65 percent;
b. Vertically oriented frame windows may be used to provide daylight to classroom rooms. Where used, they should be oriented in a rational and logical pattern;
c. The north side of the building shall contain larger window openings responding to the location of the main entrance spaces and academy public areas; and
d. Framed windows on the upper level of the building may contain sloped panels to maximize vertical architectural read.

Doors:
a. Main entry doors shall be glazed and integrated into lobby glass walls;
b. Exterior secondary and utility doors shall be painted hollow metal to match the metal panel color specified; and
c. Specialty courtyard doors shall be glazed to maximize visibility and access to the external courtyard classrooms.

Roof Permitted Materials:
a. Materials may include sloped built-up roofing systems and green roof systems to blend into the surrounding park environment;
b. Roof surfaces visible from the ground should be either sedum green roof systems or standing seam metal roof systems; and
c. Non-green, flat roofs, am visible from the ground, shall be lightly colored or high albedo, to reflect and reduce the absorption of heat gain.

Roof Pitch:
a. Non-flat roofs shall slope in one direction not to exceed 1 to 12; and
b. Flat roofs (except for decks) shall be screened behind integrated parapet walls.

Roof Penetrations:
a. Roof penetrations (such as plumbing and heating vents) shall be placed on the rear of the roof and painted to match the color of the roof;
b. Skylights shall be flat, not domed or shaped, and mounted parallel to the slope of the roof, and shall coordinate with the roof color.

Porches:
a. Porches shall be compatible with the building exterior regarding materials, color and style;
b. Undersides of porches shall include high-density wood board cladding; and
c. Access shall be accommodated by grading, where possible, to avoid extensively long and or intrusive ramps.

Ramps and Stoops:
a. Stoops and ramps shall be constructed of concrete and stone to match the adjacent building materials; and
b. Ramps and stoops shall include stainless steel handrails.

Miscellaneous Architectural Elements:
a. Utility sheds: Around proposed site utilities, exterior sheds shall be screened and enclosed with painted metal and wood enclosures to match the aesthetic of the adjacent school.
b. Handrails: Balcony and site handrails shall be constructed from the adjacent exterior materials including stainless steel, painted aluminum panel, wood, stone and glass.
c. Gutters and Downspouts: Roof flashing, rain gutters and downspouts shall be constructed of galvanized metal, or aluminum, and finished to match the adjacent metal panel and roof flashing. Internally discharged gutters and roof drains shall be implemented where possible.
d. Air Conditioning Units: Cooling units shall be located on the roof and screened from the ground and adjacent buildings. Air conditioning units shall be acoustically shielded.
e. Communication Antennas: Communication antennas shall be built into roof wells on the roof where possible to be shielded from view.
f. Mechanical Systems: Outdoor mechanical systems for the purposes of heating, cooling, telephone, electric, cable television, or water supply shall be incorporated into the building and screened from public view wherever possible. If the mechanical systems are located on the roof, they shall be screened or otherwise integrated into the building design.
g. Awnings: Due to the educational nature of the building retractable or fixed awnings are prohibited.
h. Foundations: Building foundations shall be treated with stone to match the exterior wall, wherever applicable. Foundation stone shall match other adjacent landscape stone.

This approval, contingent on the above noted conditions, shall not relieve the applicants from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicants shall be responsible for obtaining the required Non-Residential Use Permit through established

procedures, and this special exception shall not be valid until this has been accomplished.

Pursuant to Section 9-015 of the Fairfax County Zoning Ordinance, this special exception shall automatically expire, without notice, thirty (30) months after the date of approval unless the use has been established or construction has commenced and been diligently prosecuted. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the special exception. The request must specify the amount of additional time requested, the basis for the amount of time requested and an explanation of why additional time is required.

The Board also:

- Approved a modification of Par. 2B of Sect. 3-207 and Par. 1A of Sect. 4-507 of the Zoning Ordinance to provide the front yard setback for the existing historic residences along West Ox Road in favor of that shown on the GDP/SE Plat
- Approved modifications of Sect. 13-303 and Sect. 13-304 of the Zoning Ordinance for the transitional screening and barrier requirements in favor of that shown on the GDP/SE Plat
- Approved a modification of Par. 2 of Sect. 17-201 of the Zoning Ordinance to allow construction of a sidewalk instead of the required natural surface trail along West Ox Road, as shown on the GDP/SE Plat
- Approved a waiver of Par. 4 of Sect. 17-201 of the Zoning Ordinance to eliminate the requirement for frontage improvements along West Ox Road in favor of that shown on the GDP/SE Plat

Sincerely,

Catherine A. Chianese
Clerk to the Board of Supervisors

SEE SEPARATE PACKAGE FOR COMPLIANCE NARRATIVE

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7/8/17
PROFESSIONAL ENGINEER

SCALE: NONE | DATE: 7/18/2017 | DRAWN: BP / SO / TT | CHECKED: AV / BP

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CORRESPONDENCE

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: C-1504

PERKINS+WILL

Project Name Floris Conservatory for Fine Arts
Location Herndon, Virginia
LEED v4 BD+C: Schools

Date Last Modified 4/6/2017

Y	?	N	Credit	Title	Points	Primary Responsibility	Secondary Responsibility
	1		Credit	Integrative Process	1		
4	5	21	**Location and Transportation**		15		
		15	Credit 1	LEED for Neighborhood Development Location	15		
		1	Credit 2	Sensitive Land Protection	1		
2			Credit 3	High Priority Site	2		
1	1	3	Credit 4	Surrounding Density and Diverse Uses	5		
1	2	1	Credit 5	Access to Quality Transit	4		
	1		Credit 6	Bicycle Facilities	1		
		1	Credit 7	Reduced Parking Footprint	1		
	1		Credit 8	Green Vehicles	1		
6	5	1	**Sustainable Sites**		12		
Y			Prereq 1	Construction Activity Pollution Prevention	Required		
Y			Prereq 2	Environmental Site Assessment	Required		
1			Credit 1	Site Assessment	1		
	2		Credit 2	Site Development - Protect or Restore Habitat	2		
1			Credit 3	Open Space	1		
	3		Credit 4	Rainwater Management	3		
2			Credit 5	Heat Island Reduction	2		
1			Credit 6	Light Pollution Reduction	1		
		1	Credit 7	Site Master Plan	1		
1			Credit 8	Joint Use of Facilities	1		
4	5	3	**Water Efficiency**		12		
Y			Prereq 1	Outdoor Water Use Reduction	Required		
Y			Prereq 2	Indoor Water Use Reduction	Required		
Y			Prereq 3	Building-Level Water Metering	Required		
2			Credit 1	Outdoor Water Use Reduction	2		
2	2	3	Credit 2	Indoor Water Use Reduction	7		
	2		Credit 3	Cooling Tower Water Use	2		
	1		Credit 4	Water Metering	1		
13	8	10	**Energy and Atmosphere**		31		
Y			Prereq 1	Fundamental Commissioning and Verification	Required		
Y			Prereq 2	Minimum Energy Performance	Required		
Y			Prereq 3	Building-Level Energy Metering	Required		
Y			Prereq 4	Fundamental Refrigerant Management	Required		
3	2	1	Credit 1	Enhanced Commissioning	6		
10	3	3	Credit 2	Optimize Energy Performance	16		
		1	Credit 3	Advanced Energy Metering	1		
		2	Credit 4	Demand Response	2		
		3	Credit 5	Renewable Energy Production	3		
	1		Credit 6	Enhanced Refrigerant Management	1		
	2		Credit 7	Green Power and Carbon Offsets	2		
5	5	3	**Materials and Resources**		13		
Y			Prereq 1	Storage and Collection of Recyclables	Required		
Y			Prereq 2	Construction and Demolition Waste Management Planning	Required		
	2	3	Credit 1	Building Life-Cycle Impact Reduction	5		
1	1		Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations	2		
1	1		Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2		
1	1		Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2		
2			Credit 5	Construction and Demolition Waste Management	2		
6	10	0	**Indoor Environmental Quality**		16		
Y			Prereq 1	Minimum Indoor Air Quality Performance	Required		
Y			Prereq 2	Environmental Tobacco Smoke Control	Required		
Y			Prereq 3	Minimum Acoustic Performance	Required		
	2		Credit 1	Enhanced Indoor Air Quality Strategies	2		
3			Credit 2	Low-Emitting Materials	3		
1			Credit 3	Construction Indoor Air Quality Management Plan	1		
	2		Credit 4	Indoor Air Quality Assessment	2		
	1		Credit 5	Thermal Comfort	1		
	2		Credit 6	Interior Lighting	2		
1	2		Credit 7	Daylight	3		
	1		Credit 8	Quality Views	1		
1			Credit 9	Acoustic Performance	1		
6	0	0	**Innovation**		6		
1			Credit 1a	Innovation: Low Mercury Lighting (O&M credit)	1		
1			Credit 1b	Innovation	1		
1			Credit 1c	Innovation	1		
1			Credit 1d	Innovation	1		
1			Credit 1e	Innovation	1		
1			Credit 2	LEED Accredited Professional	1		
2	2	0	**Regional Priority**		4		
1			Credit 1	Regional Priority: WEc1, Outdoor Water Use Reduction	1		
1			Credit 2	Regional Priority: EAc2, Optimize Energy Performance	1		
	1		Credit 3	Regional Priority: Specific Credit	1		
	1		Credit 4	Regional Priority: Specific Credit	1		
46	41	38	**TOTALS**	Possible Points:	110		

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945

Via Delivery

July 10, 2017

Mr. Durga Kharel
Environmental and Facilities Review Division
Department of Public Works and Environmental Services
County of Fairfax
120555 Government Center Parkway
Fairfax, Virginia 22035-5503

Re: ***The Floris Conservatory for Fine Arts - Modification of Public Facilities Manual Section 6-1306.3H***

Dear Mr. Kharel,

This letter shall serve to request that the requirements of Section 6-1306.3H of the Public Facilities Manual be modified for the above captioned project. Specifically, we are requesting approval to use an underground plastic arch chamber system (Stormtech MC-4500) with a 60" rise in order to provide the requisite stormwater detention onsite. This letter, the Grading Plan, StormTech detention system details, highlighted Tax Map 025-1, and modification review fee comprise this request.

Justification for this request is as follows:

- The proposed stormwater detention will outfall to an existing stream at the property's northern property line. Due to topographic constraints it is not feasible to provide a six foot deep detention facility.
- The StormTech system, when combined with an isolator row, provides both stormwater detention and water quality measures with 40% phosphorous removal in a single system. For a project such as this one with a large increase in impervious area and an inadequate outfall, complying with the stormwater quantity and quality requirements is difficult with alternative stormwater measures.
- Inspection ports are proposed and maintenance instructions are provided for the owner's reference.
- The proposed facility will be privately owned and maintained. A maintenance agreement will be executed when the plan is forwarded to Bonds and Agreements.

Considering the above, it is the opinion of the submitting professional that there is adequate justification for this request. We appreciate your time and consideration in this matter and look forward to your prompt response. If you have any questions or need additional information, please call or email me at bprodo@wlpinc.com.

Sincerely,

William Prodo

Bill Prodo
Senior Project Manager

File: 15-027

CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
ARBORISTS

207 PARK AVENUE
FALLS CHURCH, VA 22046
PHONE: (703) 532-6163
FAX: (703) 533-1301
WWW.WLPINC.COM

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www.WLPINC.com

SCALE: NONE
DATE: 7/18/2017
DRAWN: BP / SD / TT
CHECKED: AV / BP

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
7/18/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CORRESPONDENCE

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

2633 CENTREVILLE ROAD - HUNTER MILL DISTRICT - FAIRFAX COUNTY, VIRGINIA

GENERALIZED DEVELOPMENT PLAN - SPECIAL EXCEPTION PLAT

NOTES

1. OWNERS:

PARCEL 16	PARCEL 19	PARCEL 20	PARCEL 21
SEREENA CORPORATION 1372 LANCIA DRIVE MCLEAN, VA 22102	WEST CHURCH ROAD, LLC 1209 OCCANECCHI TRL EBONY, VA 23845	NEHAD JUMEAN 8043 KIDWELL TOWN CT VIENNA, VA 22182	SCIMORES ACADEMY 8250 WESTPARK DRIVE, #461 MCLEAN, VA 22102

PARCEL 17
KOREAN PRESBYTERIAN CHURCH OF WASHINGTON
2629 CENTREVILLE ROAD
HERNDON, VA 20171

APPLICANT AND CONTRACT PURCHASER:

HEMANTH K BALASUNDARAM
SCIMORES ACADEMY, LLC
8250 WESTPARK DRIVE, #461
MCLEAN, VA 22102

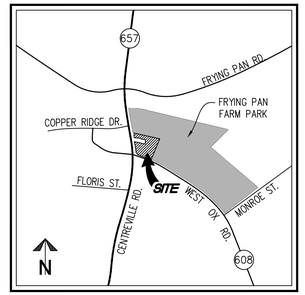
2. THE PROPERTIES SHOWN HEREON ARE DESIGNATED BY FAIRFAX COUNTY, VIRGINIA, AS TAX MAP REFERENCE NUMBERS 025-1-01-0020, ZONED C-5 AND 025-1-01-0016, 025-1-01-0017, 025-1-01-0019, AND 025-1-01-0021 ALL SPLIT ZONED C-5 AND R-1.
3. TOTAL AREA OF THE PROPERTY IS 351,639 SQUARE FEET OR 8.073 ACRES.
4. THE BOUNDARY AND TOPOGRAPHIC INFORMATION IS BASED ON A CURRENT FIELD RUN SURVEY BY THIS FIRM. CONTOUR INTERVAL IS TWO (2) FEET AND IS REFERENCED TO VERTICAL DATUM OF 1929. PARCEL 17 HAS BEEN PARTIALLY FIELD SURVEYED, HOWEVER THE BOUNDARY IS BASED ON RECORD INFORMATION.
5. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR FAIRFAX COUNTY, VIRGINIA, MAP NUMBERS 51059C0120E AND 51059C0110E, EFFECTIVE DATES SEPTEMBER 17, 2010, DESIGNATES THE PROPERTY AS BEING IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
6. A PORTION OF THE SUBJECT PROPERTY IS PLANNED TO BE REZONED TO R-2. LIMITS OF THE AREA TO BE REZONED ARE LOCATED ON SHEET P-0301 AND P-0303. A SPECIAL EXCEPTION IS ALSO REQUESTED TO PERMIT A PRIVATE SCHOOL OF SPECIAL EDUCATION. THE AREA OF SPECIAL EXCEPTION WILL COVER THE ENTIRE PROPERTY AND IS ALSO SHOWN ON SHEET P-0301 AND P-0303.
7. TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT WILL NOT POSE ANY ADVERSE IMPACTS ON ADJACENT PROPERTIES.
8. DEVELOPMENT IS EXPECTED TO COMMENCE UPON COMPLETION OF ALL FAIRFAX COUNTY PLAN PROCESSING AND APPROVALS.
9. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES LOCATED ON THIS PROPERTY.
10. ALL NECESSARY PUBLIC UTILITIES, INCLUDING PUBLIC WATER AND SEWER, ARE READILY ACCESSIBLE TO THE SITE OR WILL BE EXTENDED OR IMPROVED BY THE APPLICANT OR UTILITY COMPANY AS MAY BE APPROPRIATE FOR THE PROPOSED DEVELOPMENT.
11. SITE AMENITIES, FEATURES AND FURNISHINGS REPRESENTED HEREON ARE CONCEPTUAL AND, AS SUCH, ARE INTENDED TO REFLECT THE GENERAL THEME AND CHARACTER OF THE PROPOSED DEVELOPMENT. FINAL PRODUCT SELECTION MAY VARY AT THE TIME OF SITE PLAN, BUT WILL BE CONSISTENT WITH THE QUALITY OF THE DESIGN REPRESENTED HEREON. ADDITIONAL SITE AMENITIES AND FEATURES SUCH AS PLANTERS, BENCHES, OTHER SEATING AREAS, WALKWAYS, WATER FOUNTAINS OR SPECIAL FEATURES, PUBLIC ART, SIGNS, WALLS, LIGHTS, UTILITY MAINTENANCE STRUCTURES AND SIMILAR FEATURES NOT REPRESENTED HEREON MAY BE PROVIDED AS LONG AS THE RESULT DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THE REPRESENTED ON THE GRAPHICS.
12. THERE ARE NO RESOURCE PROTECTION AREAS OR ENVIRONMENTAL QUALITY CORRIDORS ON THE PROPERTY; HOWEVER A WETLAND DELINEATION STUDY HAS INDICATED WETLANDS EXIST ONSITE. THE LOCATION OF THE WETLANDS ARE SHOWN ON SHEET P-0201 OF THIS PLAN. WETLAND DELINEATION, PERMITTING, AND MITIGATION PROCESSING IS CURRENTLY UNDERWAY.
13. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SITE.
14. PROPOSED SIGNAGE WILL BE IN ACCORDANCE WITH THE ZONING ORDINANCE OR VIA A SEPARATE COMPREHENSIVE SIGN PLAN.
15. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO UTILITY EASEMENTS HAVING A WIDTH OF 25 FEET OR MORE ON THE PROPERTY.
16. DEVELOPMENT WILL CONFORM TO THE PROVISIONS OF ALL APPLICABLE STANDARDS OF THE ZONING ORDINANCE AND COMPLIANCE WITH THE DEVELOPMENT CRITERIA OF THE COMPREHENSIVE PLAN, WITH THE EXCEPTION OF THE WAIVERS AND MODIFICATIONS REQUESTED WITH THIS APPLICATION.
17. THIS PLAN IS CONCEPTUAL AND IS INTENDED TO BE USED IN CONJUNCTION WITH THE LAND USE APPROVAL PROCESS ONLY. IT IS NOT AN ENGINEERING CONSTRUCTION DRAWING, AND MINOR DEVIATIONS AND ADJUSTMENTS MAY BE REQUIRED, AND ARE PERMITTED, AS PART OF THE FINAL DESIGN AND SITE PLAN APPROVAL PROCESS; HOWEVER, THE FINAL CONSTRUCTION DRAWINGS SHALL BE IN SUBSTANTIAL CONFORMANCE WITH THIS PLAN.
18. THERE ARE NO SCENIC ASSETS OR NATURAL FEATURES ON THIS PROPERTY DESERVING OF PROTECTION AND/OR PRESERVATION.

WAIVERS/MODIFICATIONS REQUESTED

1. REQUEST A MODIFICATION OF ZONING ORDINANCE SECTION 3-207 (2)(B) AND 4-507 (1)(A) REQUIRING THE FRONT YARD SETBACK FOR THE EXISTING HOUSES ALONG WEST OX ROAD IN ORDER FOR THEM TO REMAIN.
2. REQUEST A MODIFICATION OF ZONING ORDINANCE SECTION 13-303 REQUIRING TRANSITIONAL SCREENING ALONG THE NORTHERN PORTION OF THE WESTERN PROPERTY LINE WHERE ADJACENT TO SINGLE FAMILY DETACHED RESIDENTIAL.
3. REQUEST A MODIFICATION OF ZONING ORDINANCE SECTION 13-304 REQUIRING A BARRIER ALONG THE WESTERN PROPERTY LINE WHERE ADJACENT TO SINGLE FAMILY DETACHED RESIDENTIAL.
4. REQUEST A MODIFICATION OF ZONING ORDINANCE SECTION 17-201 (2) REQUIRING A NATURAL SURFACE TRAIL ALONG WEST OX ROAD.
5. REQUEST A WAIVER OF ZONING ORDINANCE SECTION 17-201 (4) REQUIRING FRONTAGE IMPROVEMENTS ALONG WEST OX ROAD.

VICINITY MAP

SCALE: 1"=2000'



BUILDING AREA/FAR TABULATION

R-2 ZONE

PROP. PRIVATE SCHOOL OF SPECIAL EDUCATION	±48,000 GFA
EXISTING HOME (ALONG WEST OX RD)*	±1,900 GFA
EXISTING HOME (ALONG CENTREVILLE RD)*	±1,700 GFA
TOTAL GROSS FLOOR AREA:	±51,600 GFA

FAR CALCULATION: ±51,600 GFA/±258,865 SF = 0.20 FAR

C-5 ZONE

EXISTING HOME (ALONG WEST OX RD)*	±1,550 GFA
EXISTING CHURCH	±6,116 GFA
TOTAL GROSS FLOOR AREA:	±7,666 GFA

FAR CALCULATION: ±7,666 GFA/±92,774 SF = 0.083 FAR

TOTAL GFA/FAR

PROP. PRIVATE SCHOOL OF SPECIAL EDUCATION	±48,000 GFA
EXISTING HOME (ALONG WEST OX RD)*	±1,900 GFA
EXISTING HOME (ALONG CENTREVILLE RD)*	±1,700 GFA
EXISTING HOME (ALONG WEST OX RD)*	±1,550 GFA
EXISTING CHURCH	±6,116 GFA
TOTAL GROSS FLOOR AREA:	±59,266 GFA

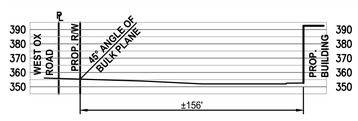
FAR CALCULATION: ±59,266 GFA/±351,639 SF = 0.17 FAR

*EXISTING HOMES TO BE CONVERTED TO NON-RESIDENTIAL USE IN ULTIMATE CONDITION

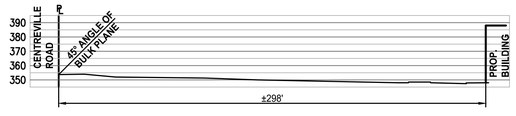
Application No: RZ 2016-HM-010
Concur w/ SE 2016-HM-007
Staff: W.Suder

APPROVED DEVELOPMENT PLAN
(XGDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (XSE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
SEE CONDITIONS DATED: May 19, 2017
Date of Final Approval: Jun 6, 2017 (XBOS) (_PC) (_RZA)
Comments:
PLANNING & ZONING
Sheet 1 of 14

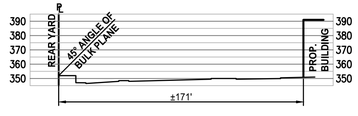
PROPOSED BUILDING - WEST OX ROAD - FRONT ABP



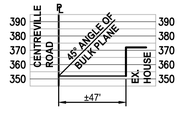
PROPOSED BUILDING - CENTREVILLE ROAD - FRONT ABP



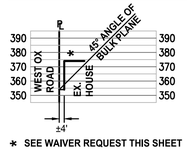
PROPOSED BUILDING - REAR ABP



EXISTING HOME - FRONT ABP

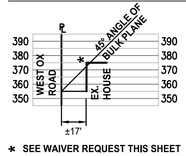


EXISTING HOME - FRONT ABP



* SEE WAIVER REQUEST THIS SHEET

EXISTING HOME - FRONT ABP



* SEE WAIVER REQUEST THIS SHEET

ZONING TABULATION

EXISTING ZONE: R-1, RESIDENTIAL DISTRICT AND C-5, NEIGHBORHOOD RETAIL COMMERCIAL DISTRICT
PROPOSED ZONE: R-2, RESIDENTIAL DISTRICT AND C-5, NEIGHBORHOOD RETAIL COMMERCIAL DISTRICT

R-2 ZONE

	REQUIRED R-2	PROVIDED R-2
MIN LOT AREA:	15,000 SF	±258,865 SF
MIN LOT WIDTH:	100 FT	±128 FT
MAX BLD HT:	60 FT	±40 FT
YARD REQUIREMENTS:		
FRONT	45' ABP; 35'	±17 FT*; ±156 FT
SIDE	40' ABP; 15'	±71 FT
REAR	40' ABP; 25'	±171 FT
GFA:		±51,600 GFA (PROPOSED BUILDING AND EXISTING HOUSES)
FAR:	0.20	±0.20 (SEE BLDG. AREA/FAR TABULATION)
OPEN SPACE:	NONE	±40%

C-5 ZONE

	REQUIRED C-5	PROVIDED C-5
MIN LOT AREA:	40,000 SF	±92,774 SF
MIN LOT WIDTH:	200 FT	±240 FT
MAX BLD HT:	40 FT	±40 FT
YARD REQUIREMENTS:		
FRONT	45' ABP; 40'	±4 FT*; ±36 FT*; ±47 FT; ±298 FT
SIDE	NONE	N/A
REAR	20'	N/A
GFA:		±7,666 GFA (EXISTING HOUSE/CHURCH)
FAR:	0.30	±0.083 (SEE BLDG. AREA/FAR TABULATION)
OPEN SPACE:	20%	±80%

TOTAL SITE

	PROVIDED TOTAL SITE
LOT AREA:	±351,639 SF
LOT WIDTH:	±128 FT
MAX BLD HT:	±40 FT
YARD REQUIREMENTS:	
FRONT (CENTREVILLE RD. AND WEST OX RD.)	±4 FT*; ±17 FT*; ±47 FT; ±156 FT; ±298 FT
SIDE	±71 FT
REAR	±171 FT
GFA:	±59,266 GFA
FAR:	±0.17 (SEE BLDG. AREA/FAR TABULATION)
OPEN SPACE:	±55%

* WAIVER REQUESTED FOR EXISTING STRUCTURES WITHIN THE MINIMUM FRONT YARD SETBACK

PARKING TABULATION

USE: PRIVATE SCHOOL OF SPECIAL EDUCATION
RATE: 2 SPACES/3 EMPLOYEES, PLUS A SUFFICIENT NUMBER OF SPACES TO ACCOMMODATE ALL PERSONS WHO MAY BE AT THE ESTABLISHMENT AT ANY ONE TIME UNDER NORMAL OPERATING HOURS
(100 EMPLOYEES/3 X 2 = 67 SPACES)
(330 STUDENTS UNDER 16 X 0.3 = 99 SPACES)
(35 STUDENTS OVER 16 X 1 = 35 SPACES)

USE: CHURCH
RATE: 1 SPACE/4 SEATS
(100 SEATS/4 = 25 SPACES)

TOTAL PARKING REQUIRED: 226 SPACES

TOTAL PARKING PROVIDED: 231 SPACES (INCL. 7 HC)*

* A SHARED PARKING AGREEMENT BETWEEN THE CHURCH AND PRIVATE SCHOOL OF SPECIAL EDUCATION MAY BE PURSUED IN THE FUTURE TO REDUCE THE PARKING REQUIREMENT BELOW WHAT IS SHOWN HERE.

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P-0201 EXISTING CONDITIONS PLAN AND EXISTING VEGETATION MAP
P-0301 GENERALIZED DEVELOPMENT PLAN & SPECIAL EXCEPTION PLAT
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P-0303 SE AND GDP LIMIT DETAILS EXHIBIT
P-0304 SIGHT DISTANCE PLAN & PROFILE - WEST OX ROAD
P-0401 PRELIMINARY LANDSCAPE PLAN
P-0402 LANDSCAPE TABULATIONS
P-0403 LANDSCAPE COMPLIANCE EXHIBIT
P-0501 PRELIMINARY OUTFALL ANALYSIS
P-0502 PRELIMINARY STORMWATER MANAGEMENT PLAN
P-0503 PRELIMINARY STORMWATER MANAGEMENT PLAN
P-0601 SUPPLEMENTAL INFORMATION - FOR ILLUSTRATIVE PURPOSES ONLY
P-0602 CIRCULATION PLAN

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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Landscape Architects • Arborists
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FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

DATE 4/18/16; REV. 9/7/2016; 11/2/2017; 2/22/2017; 3/9/2017
REV. 4/5/2017; 5/5/2017
SCALE: 1" = 40'
DRAWN: MRW/BP
CHECKED: AV

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
5/5/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

COVER SHEET
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0101

Application No: RZ 2016-HM-010
Concur w/ SE 2016-HM-007
Staff: W.Suder

APPROVED DEVELOPMENT PLAN
(XGDP) (_CDP) (_FDP) (_PRC) (_DP) (_EP) (XSE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
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Date of Final Approval: Jun 6, 2017 (XBOS) (_PC) (_BZA)
Comments:
PLANNING & ZONING
Sheet 2 of 14

LEGEND

DESCRIPTION	EXISTING
CURB & GUTTER CG-2	
TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
SANITARY SEWER	S
SANITARY LATERAL	SL
CLEAN OUT	C.O.
STORM SEWER	
WATER MAIN	W
FIRE HYDRANT	
PLUG	
OVERHEAD WIRES	
UTILITY POLE	
UNDERGROUND ELECTRIC	UE
TELEPHONE	T
GAS MAIN	G
ELECTRICAL	E
TRANSFORMER	
HANDICAP RAMP (CG-12)	
GUARDRAIL	
FENCE	
TRAFFIC FLOW	
LIGHT	
DOOR	
TREES	
CONTOURS	260 264
SPOT ELEVATION	+264 50
DRAINAGE FLOW DIRECTION	
TOP OF CURB	TC
BOTTOM OF CURB	BC
TOP OF WALL	TW
BOTTOM OF WALL	BW
HIGH POINT	H.P.
LIMITS OF CLEARING AND GRADING	

EXISTING VEGETATION MAP INFORMATION

KEY	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION	ACREAGE
A	LANDSCAPED TREE CANOPY	PIN OAK, RED MAPLE, WHITE PINE	N/A	GOOD TO FAIR	129,500 SF 2.973 AC
B	DEVELOPED LAND	BUILDINGS, PARKING AREAS, WALKS, ETC.	N/A	N/A	62,207 SF 1.428 AC
C	MAINTAINED GRASSLANDS	GRASS	N/A	N/A	159,932 SF 3.672 AC

TOTAL SITE AREA: 351,639 SF 8.073 AC

40 0 20 40 80 160
(IN FEET)
1 INCH = 40'

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AARON M. VINSON
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5/5/17

DATE: 4/18/16; REV. 9/7/2016; 11/22/2017; 2/22/2017; 3/9/2017
REV. 4/5/2017; 5/5/2017
SCALE: 1" = 40'
DRAWN: MRW/BP
CHECKED: AV

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

EXISTING CONDITIONS PLAN AND EXISTING VEGETATION MAP

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0201

Application No: RZ 2016-HM-010
Concur w/ SE 2016-HM-007
Staff: W.Suder

APPROVED DEVELOPMENT PLAN
(XGDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (XSE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
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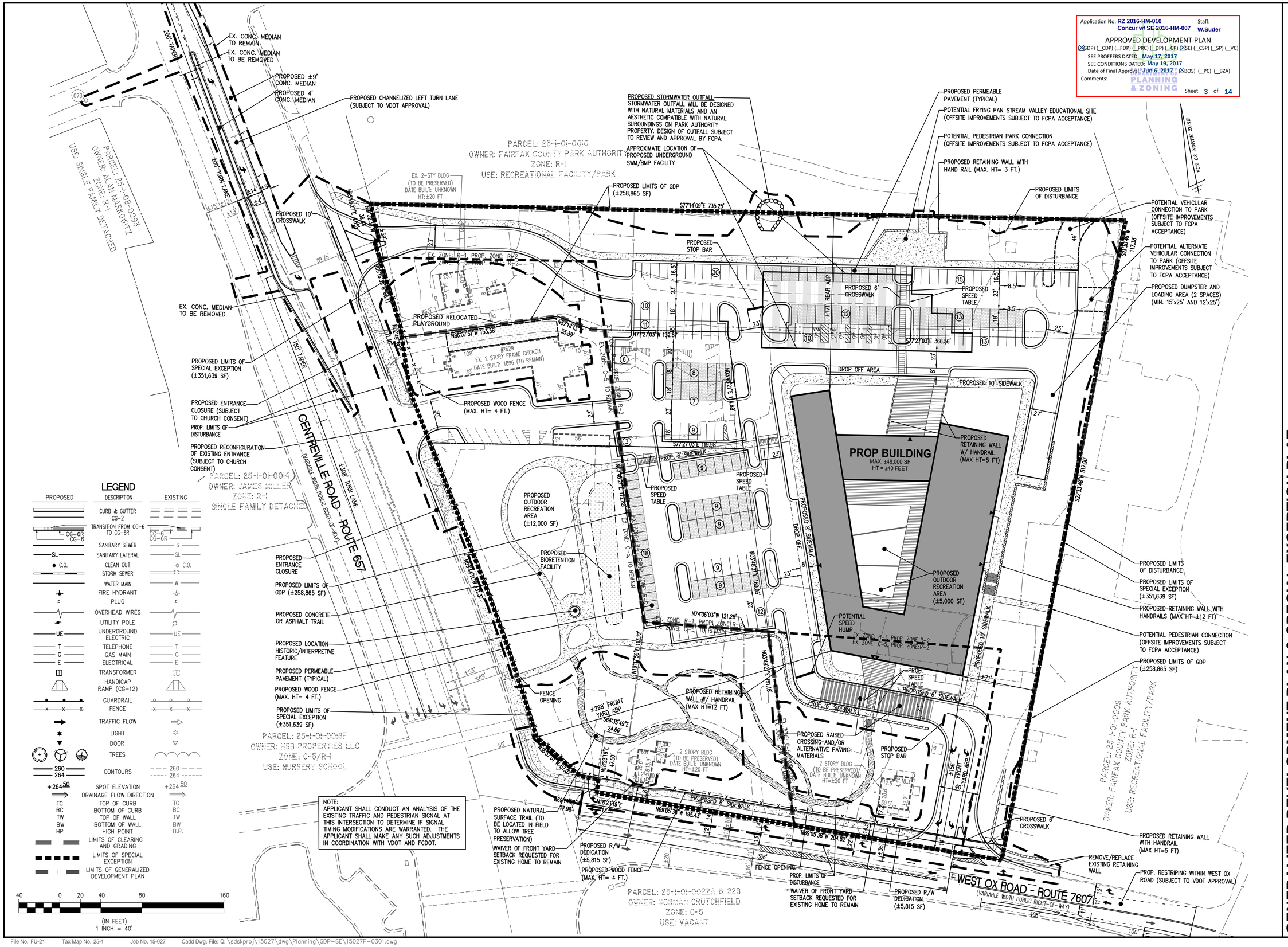
FAIRFAX COUNTY DEPARTMENT OF PLANNING & ZONING
Sheet 3 of 14



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WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945

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REV: 4/5/2017; 5/5/2017
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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
5/5/17
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REVISION APPROVED BY:

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GENERALIZED DEVELOPMENT PLAN & SPECIAL EXCEPTION PLAT

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0301

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Planning\GDP-SE\15027P-0301.dwg

Application No: RZ 2016-HM-010
Concur w/ SE 2016-HM-007
Staff: W.Suder

APPROVED DEVELOPMENT PLAN
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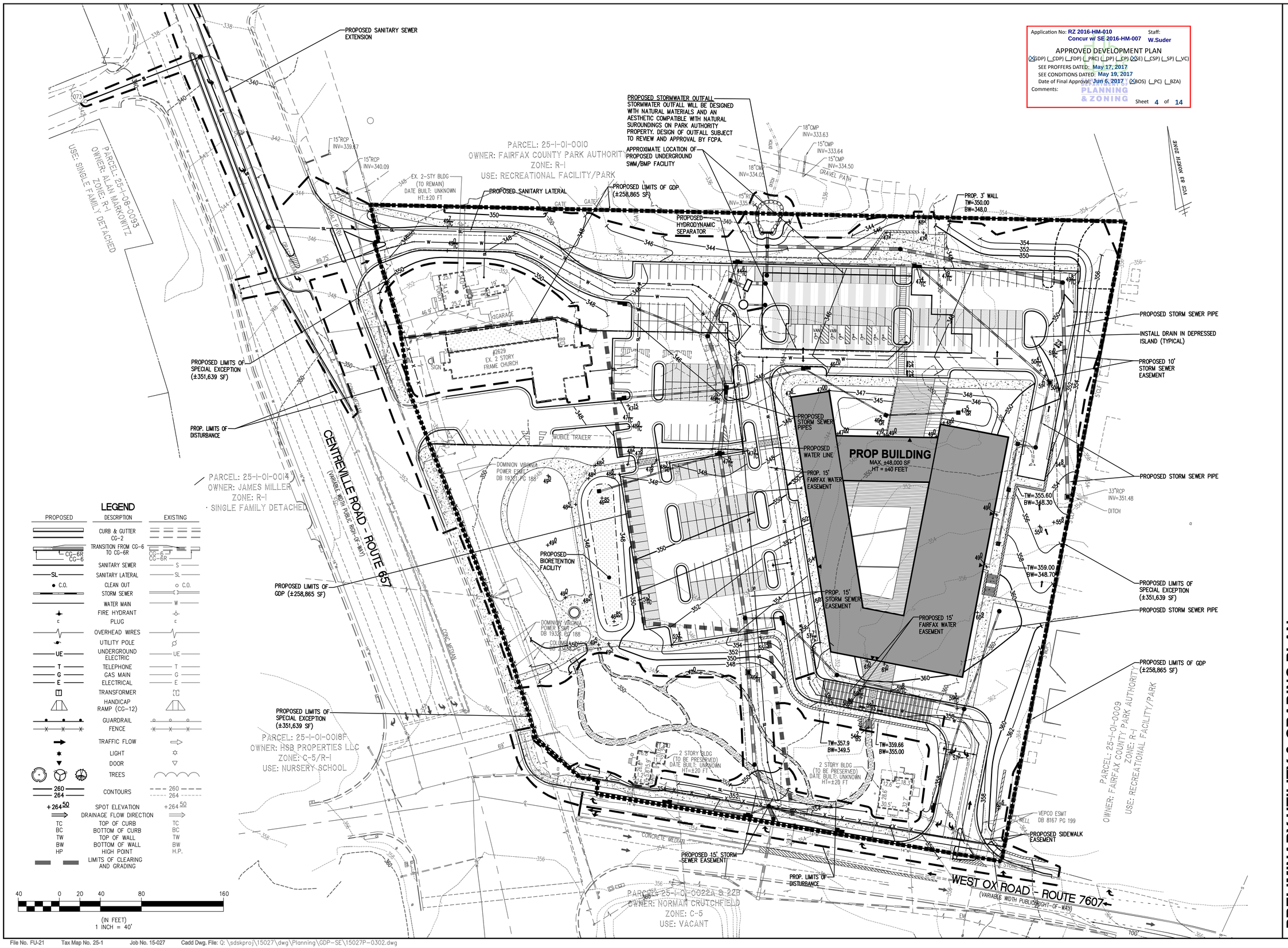
FAIRFAX COUNTY
PLANNING
& ZONING
Sheet 4 of 14



File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Planning\GDP-SE\15027P-0302.dwg

WALTER L. PHILLIPS INCORPORATED
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COMMONWEALTH OF VIRGINIA
AARON M. VANSON
Lic. No.041851
5/5/17
PROFESSIONAL ENGINEER

CHECKED: AMV
DRAWN: LEWIS
DATE: 4/18/2016; REV. 9/7/2016; 11/2/2017; 2/22/2017; 3/9/2017
SCALE: 1" = 40'

REVISION APPROVED BY			
NO.	DESCRIPTION	DATE	REV. BY

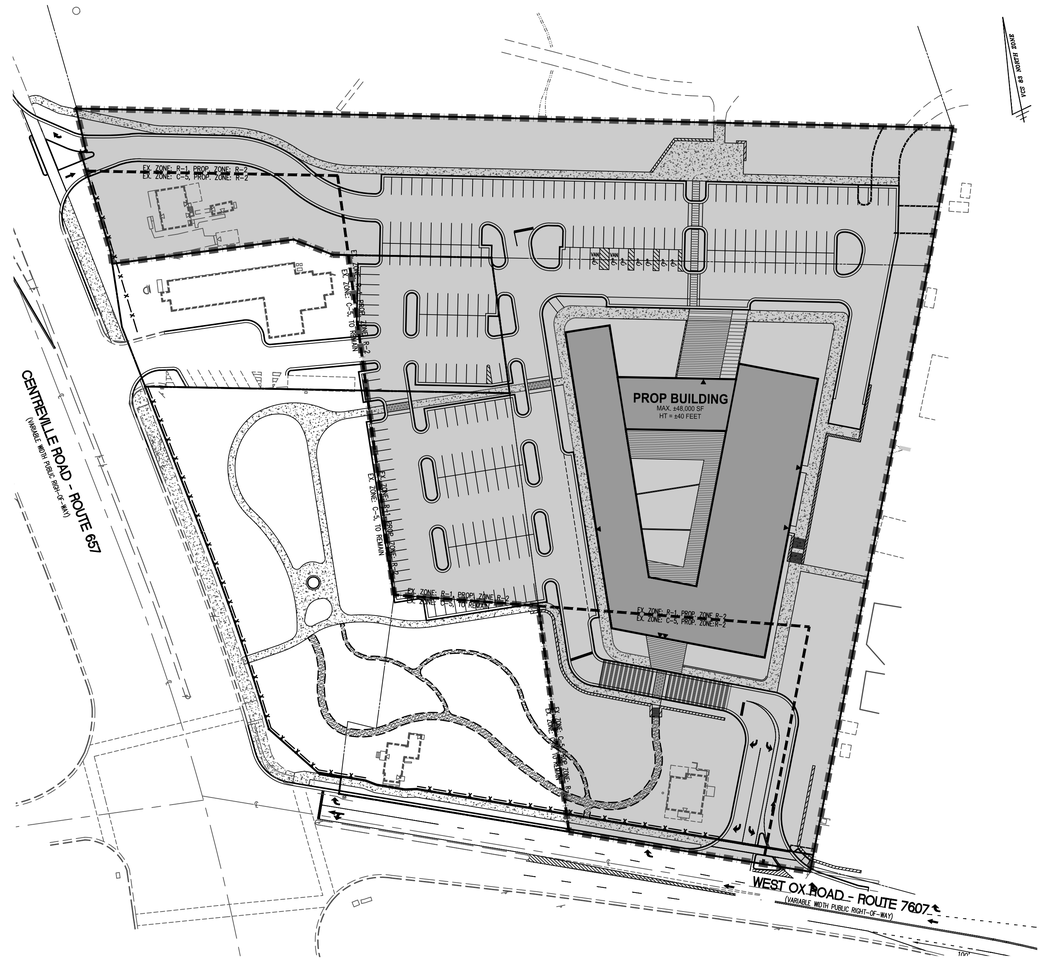
APPROVED	DATE

PRELIMINARY UTILITY & GRADING PLAN
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0302

LIMITS OF SPECIAL EXCEPTION PLAN

LIMITS OF GENERALIZED DEVELOPMENT PLAN



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(IN FEET)
1 INCH = 60'

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN
(X GDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (X SE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
SEE CONDITIONS DATED: May 19, 2017
Date of Final Approval: Jun 6, 2017 (X BOS) (_PC) (_BZA)
Comments:

DEPARTMENT OF PLANNING & ZONING

Sheet 5 of 14

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DATE: 4/18/2016; REV. 9/7/2016; 11/2/2017; 2/22/2017; 3/9/2017
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SE AND GDP LIMIT DETAILS EXHIBIT

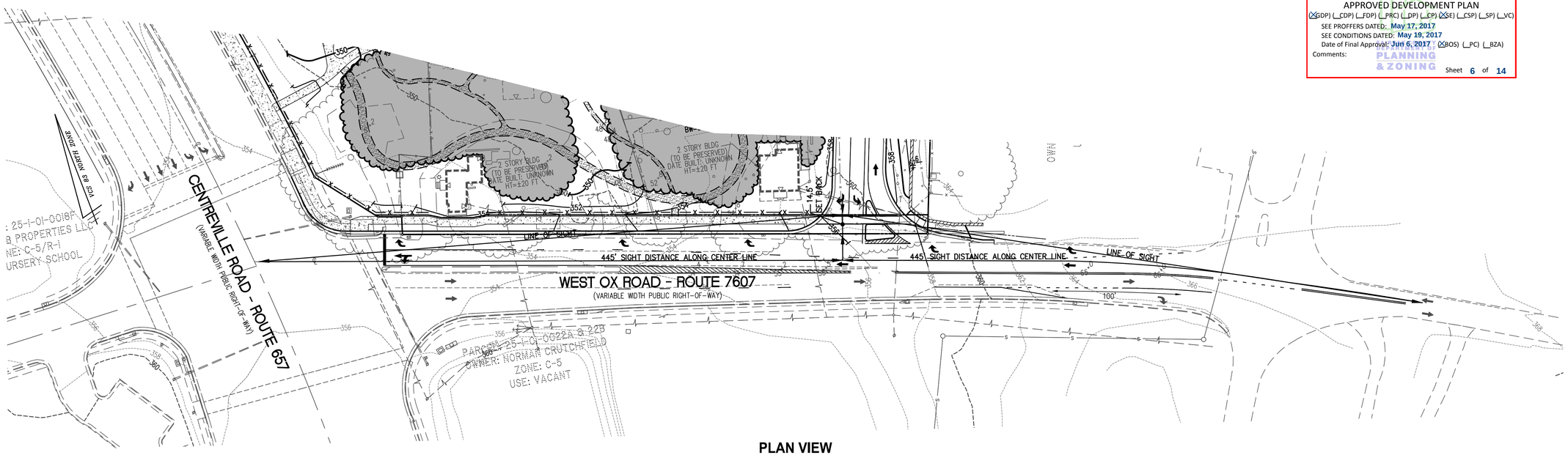
THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

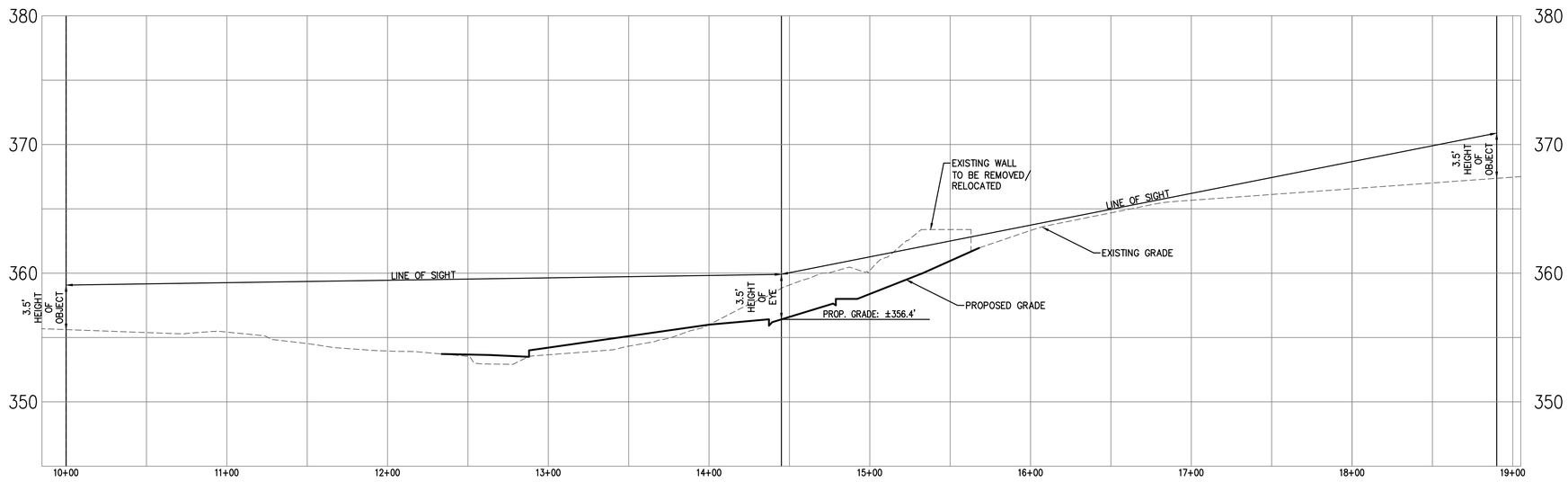
SHEET: P-0303

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN
(XGDP) (_CDP) (_FDP) (_PRC) (_PP) (_CP) (XSE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
SEE CONDITIONS DATED: May 19, 2017
Date of Final Approval: Jun 6, 2017 (XBOS) (_PC) (_BZA)
Comments:
PLANNING & ZONING
Sheet 6 of 14



PLAN VIEW
SCALE: 1" = 40'



PROFILE VIEW
SCALE: HOR. 1" = 40'
VERT. 1" = 5'

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(IN FEET)
1 INCH = 40'

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Planning\GDP-SE\15027P-0304.dwg

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DATE: 4/18/16; REV. 9/7/2016, 11/2/2017; 2/22/2017; 3/9/2017
REV. 4/5/2017; 5/5/2017
SCALE: HOR. 1" = 40' VERT. 1" = 5'
DRAWN: MRW/BP
CHECKED: AV

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SIGHT DISTANCE PLAN & PROFILE - WEST OX ROAD

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0304

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN

(XGDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (XSE) (_CSP) (_SP) (_VC)

SEE PROFFERS DATED: May 17, 2017

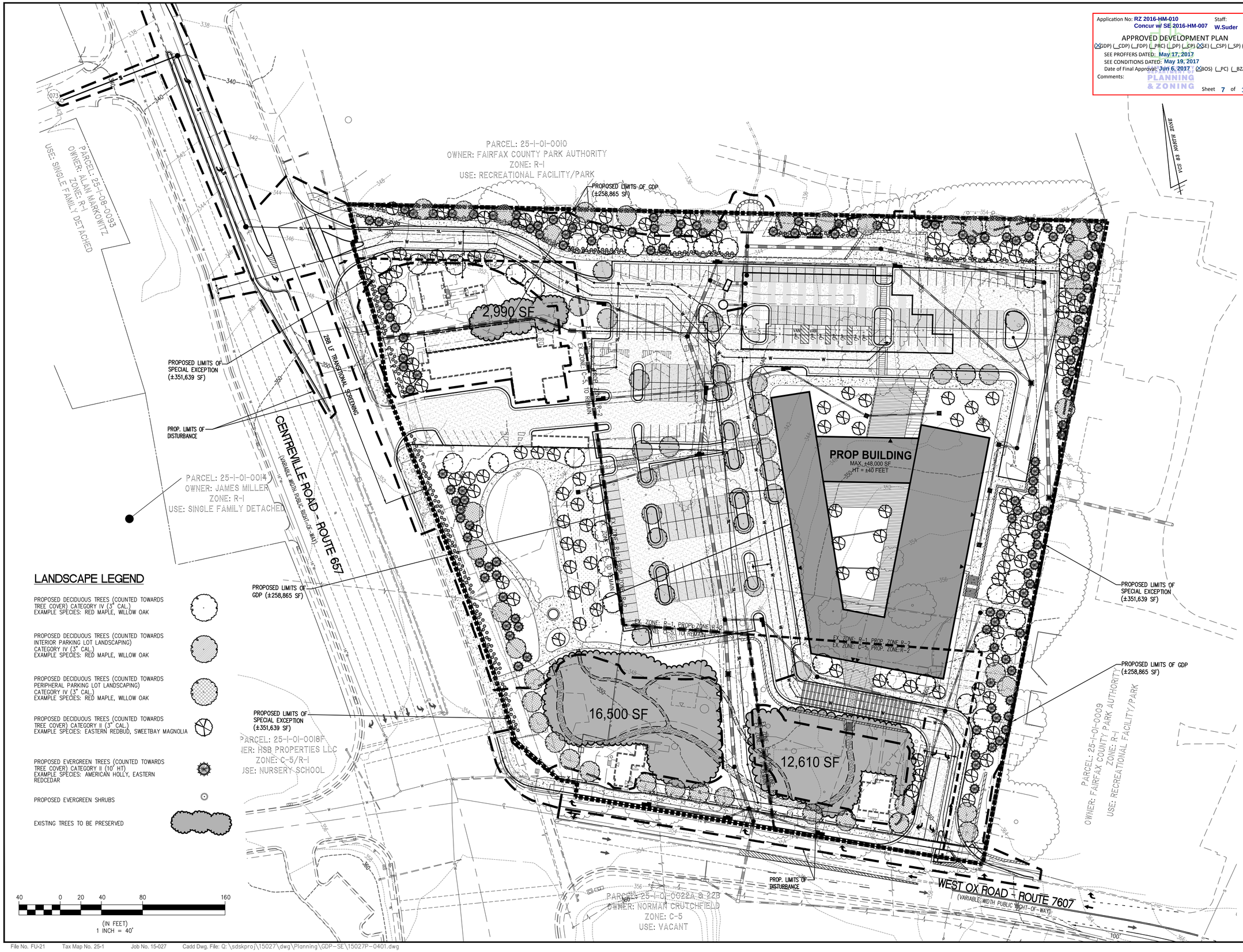
SEE CONDITIONS DATED: May 19, 2017

Date of Final Approval: Jun 6, 2017 (XBOS) (_PC) (_BZA)

Comments:

COUNTY OF FAIRFAX PLANNING & ZONING

Sheet 7 of 14



LANDSCAPE LEGEND

- PROPOSED DECIDUOUS TREES (COUNTED TOWARDS TREE COVER) CATEGORY IV (3" CAL.) EXAMPLE SPECIES: RED MAPLE, WILLOW OAK
- PROPOSED DECIDUOUS TREES (COUNTED TOWARDS INTERIOR PARKING LOT LANDSCAPING) CATEGORY IV (3" CAL.) EXAMPLE SPECIES: RED MAPLE, WILLOW OAK
- PROPOSED DECIDUOUS TREES (COUNTED TOWARDS PERIPHERAL PARKING LOT LANDSCAPING) CATEGORY IV (3" CAL.) EXAMPLE SPECIES: RED MAPLE, WILLOW OAK
- PROPOSED DECIDUOUS TREES (COUNTED TOWARDS TREE COVER) CATEGORY II (3" CAL.) EXAMPLE SPECIES: EASTERN REDBUD, SWEETBAY MAGNOLIA
- PROPOSED EVERGREEN TREES (COUNTED TOWARDS TREE COVER) CATEGORY II (10' HT) EXAMPLE SPECIES: AMERICAN HOLLY, EASTERN REDCEDAR
- PROPOSED EVERGREEN SHRUBS
- EXISTING TREES TO BE PRESERVED

40 0 20 40 80 160

(IN FEET)
1 INCH = 40'

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY:

PRELIMINARY LANDSCAPE PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0401

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Planning\GDP-SE\15027P-0401.dwg

TREE PRESERVATION TARGET CALCULATIONS - R-2 ZONING

Table 12.3 Tree Preservation Target Calculations and Statement			
A	Pre-development area of existing tree canopy (from Existing Vegetation Map) =		92526 SF
B	Percentage of gross site area covered by existing tree canopy =	(92526 sf / 258865 sf)	35.7%
C	Percentage of 10-year tree canopy required for site (see Table 12.4) =	(258865 sf * 0.3 = 77660 sf)	30%
D	Percentage of the 10-year tree canopy requirement that should be met through tree preservation =	(77660 sf * 0.357 = 27725 sf)	35.7%
E	Proposed percentage of canopy requirement that will be met through tree preservation =	(15600 sf / 77660 sf)	20.1%
F	Has the Tree Preservation Target minimum been met?		NO

*TREE PRESERVATION TARGET IS NOT MET FOR THE R-2 ZONE, HOWEVER OVERALL TREE PRESERVATION TARGET REQUIREMENT FOR THE SITE IS SATISFIED. DEVIATION REQUEST TO BE REQUESTED AT TIME OF SITE PLAN.

TREE PRESERVATION TARGET CALCULATIONS - C-5 ZONING

Table 12.3 Tree Preservation Target Calculations and Statement			
A	Pre-development area of existing tree canopy (from Existing Vegetation Map) =		36974 SF
B	Percentage of gross site area covered by existing tree canopy =	(36974 sf / 92774 sf)	39.9%
C	Percentage of 10-year tree canopy required for site (see Table 12.4) =	(92774 sf * 0.1 = 9278 sf)	10%
D	Percentage of the 10-year tree canopy requirement that should be met through tree preservation =	(9278 sf * 0.399 = 3702 sf)	39.9%
E	Proposed percentage of canopy requirement that will be met through tree preservation =	(16500 sf / 9278 sf)	177.8%
F	Has the Tree Preservation Target minimum been met?		YES

TREE PRESERVATION NARRATIVE

ALL ONSITE TREES WITHIN THE LIMITS OF CLEARING AND GRADING TO BE REMOVED.

NO TREES OUTSIDE THE LIMITS OF CLEARING AND GRADING ARE TO BE REMOVED UNLESS INDICATED ON PLAN.

DURING ANY CLEARING OR TREE/VEGETATION REMOVAL IN THE AREAS ADJACENT TO THE TREE PRESERVATION AREAS, THE PROJECT ARBORIST SHALL BE PRESENT TO OBSERVE THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS PROFFERED AND AS APPROVED BY URBAN FOREST MANAGEMENT.

THE INSTALLATION OF TREE PROTECTION FENCING, INCLUDING SUPER SILT FENCE IF IT IS TO BE USED AS TREE PROTECTION FENCE, SHALL BE OBSERVED BY THE PROJECT ARBORIST, WHO SHALL BE A CERTIFIED ARBORIST, AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED. THE TREE PRESERVATION FENCING WILL BE INSTALLED AFTER THE TREE PRESERVATION WALK-THROUGH MEETING BUT PRIOR TO ANY CLEARING AND GRADING ACTIVITIES ON SITE. THREE (3) DAYS PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING OR DEMOLITION ACTIVITIES, BUT SUBSEQUENT TO THE INSTALLATION OF THE TREE PROTECTION DEVICES, THE UFMD/DPWES, SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY TO INSPECT THE SITE TO ENSURE THAT ALL TREE PROTECTION DEVICES HAVE BEEN CORRECTLY INSTALLED. IF IT IS DETERMINED THAT THE FENCING HAS NOT BEEN INSTALLED CORRECTLY, NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE FENCING IS INSTALLED CORRECTLY AS DETERMINED BY THE UFMD/DPWES.

TREES IN PRESERVATION AREAS INDICATED ON PLAN TO BE REMOVED SHALL BE REMOVED BY HAND AND THE REMOVAL OBSERVED BY THE PROJECT ARBORIST. THESE METHODS SHALL INCLUDE THE FOLLOWING:

1. ALL HAND-OPERATED POWER TOOLS USED WITHIN TREE SAVE AREAS MUST BE IN GOOD OPERATING CONDITION, (POWER WASHED), FREE OF LEAKS OR EXCESS OIL AND GREASE.
2. NO EQUIPMENT REFUELING OR SERVICING SHOULD BE UNDERTAKEN WITHIN 100 FEET OF ANY WATERCOURSE OR SURFACE WATER DRAINAGE.
3. NO DEBRIS FROM TREE REMOVAL OUTSIDE PROTECTED AREAS SHALL ENCROACH WITHIN THE TREE PRESERVATION AREAS.
4. A SPILL CONTAINMENT KIT MUST BE KEPT READILY ACCESSIBLE ONSITE IN THE EVENT OF A RELEASE OF A DELETERIOUS SUBSTANCE TO THE ENVIRONMENT.
5. RETAIN LARGE WOODY DEBRIS AND THE STUBS OF LARGE DIAMETER TREES. SMALL BRANCHES AND LIMBS MAY BE REMOVED.
6. TREES MUST BE FELLED IN SECTIONS/AND/OR/CRANE ASSITED REMOVALS ARE TO BE CONSIDERED FIRST.
7. NO TREES TO BE FELLED INTO A WATER BODY.
8. ALL NON-TARGET TREES AND VEGETATION TO BE RETAINED.

SITES DISTURBED BY TREE REMOVAL OUTSIDE THE LIMITS OF CLEARING AND GRADING SHALL BE REHABILITATED AND THE PROCESS OBSERVED BY THE PROJECT ARBORIST, AS SHOWN ON THE REFORESTATION AND LANDSCAPE PLANS.

TREE PRESERVATION MONITORING SCHEDULE:

DURING ANY CLEARING OR TREE/VEGETATION/STRUCTURE REMOVAL A REPRESENTATIVE OF THE APPLICANT SHALL BE PRESENT TO MONITOR THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS PROFFERED AND AS APPROVED BY THE UFMD. THE APPLICANT SHALL RETAIN THE SERVICES OF A CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST TO MONITOR ALL TREE PRESERVATION EFFORTS IN ORDER TO ENSURE CONFORMATION WITH ALL TREE PRESERVATION PROFFERS, AND UFMD APPROVALS.

MONTORING REPORTS SHALL BE SENT WEEKLY DURING THE INSTALLATION OF THE TREE PROTECTION FENCING AND ALL OTHER TREE PROTECTION DEVICES, INCLUDING ROOT PRUNING, AND MONTHLY THEREAFTER THROUGH THE DURATION OF THE PROJECT.

INVASIVE SPECIES MANAGEMENT PLAN NARRATIVE

INVASIVE PLANT MATERIAL WILL BE REMOVED UNDER OBSERVATION OF THE PROJECT ARBORIST. ALL INVASIVE PLANTS ARE TO BE REMOVED BY HAND TO MINIMIZE SITE DISTURBANCE WITHIN LIMITS OF TREE SAVE AREAS THAT ARE COUNTED TOWARD TREE COVER CREDIT.

INVASIVE PLANTS IDENTIFIED TO BE REMOVED:

1. ENGLISH IVY AND WINTERCREEPER GROWING ON TREES TO BE PRESERVED
CUT VINES AT BASE OF TREES TO BE PRESERVED AND APPROXIMATELY 4' OFF GROUND. REMOVE LOOSE VINES FROM TRUNK AND BRANCHES WITHOUT STRIPPING BARK OR BREAKING BRANCHES. AT THE END OF THE TWO YEAR PERIOD, IN THE GROWING SEASON, AN APPLICATION OF AN ENVIRONMENTALLY SENSITIVE APPROVED HERBICIDE MAY BE APPLIED BY A VIRGINIA CERTIFIED APPLICATOR AROUND THE BASE OF TREES TO BE PRESERVED TO PREVENT EMMINENT REGROWTH OF VINES AROUND THE TREE TRUNKS.

INVASIVE MANAGEMENT AND MONITORING SCHEDULE

DURING CONSTRUCTION, MONITORING REPORTS SHALL BE MADE MONTHLY BEGINNING WITH CLEARING AND GRUBBING ACTIVITIES AND INSTALLATION OF TREE PROTECTION MEASURES. REPORTS SHALL CONTINUE THROUGH THE LAST OCCUPANCY PERMIT.

AT THE END OF THE CONSTRUCTION, A FINAL REPORT SHALL BE SENT TO UFMD TO DETERMINE THE EXTENT OF INVASIVE PLANT CONTROL. AN ON-SITE MEETING SHALL BE SET UP BETWEEN THE PROJECT ARBORIST AND UFMD TO WALK THE SITE AND DETERMINE IF ADDITIONAL MEASURES ARE RECOMMENDED.

Application No: RZ 2016-HM-010
Concur w/ SE 2016-HM-007
Staff: W.Suder

APPROVED DEVELOPMENT PLAN
(XGDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (XSE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
SEE CONDITIONS DATED: May 19, 2017
Date of Final Approval: Jun 6, 2017 (XBOS) (_PC) (_BZA)
Comments:

DEPARTMENT OF PLANNING & ZONING

Sheet 8 of 14

TREE COVER CALCULATIONS - ZONING BREAKDOWN

ZONE R-2

R-2 SITE AREA	±258,865	S.F.
PERCENT REQUIRED	X 30	%
TREE COVER REQUIRED	**±77,660**	**S.F.**
TREE COVER PROVIDED (PLANTED)		
93 CATEGORY IV DECIDUOUS TREES @ 250 SF	±23,250	S.F.
80 CATEGORY II FLOWERING TREES @ 125 SF	±10,000	S.F.
111 CATEGORY II EVERGREEN TREES @ 125 SF	±13,875	S.F.
TOTAL TREE COVERAGE PROVIDED	**±47,125**	**S.F.**

ZONE C-5

C-5 SITE AREA	±92,774	S.F.
PERCENT REQUIRED	X 10	%
TREE COVER REQUIRED	**±9,278**	**S.F.**
TREE COVER PROVIDED (PLANTED)		
22 CATEGORY IV DECIDUOUS TREES @ 250 SF	±5,500	S.F.
28 CATEGORY II FLOWERING TREES @ 125 SF	±3,500	S.F.
26 CATEGORY II EVERGREEN TREES @ 125 SF	±3,250	S.F.
TOTAL TREE COVERAGE PROVIDED	**±12,250**	**S.F.**

TOTAL SITE

TOTAL SITE AREA	±351,639	S.F.
TREE COVER REQUIRED	**±86,938**	**S.F.**
TREE COVER PROVIDED (PLANTED)		
115 CATEGORY IV DECIDUOUS TREES @ 250 SF	±28,750	S.F.
108 CATEGORY II FLOWERING TREES @ 125 SF	±13,500	S.F.
137 CATEGORY II EVERGREEN TREES @ 125 SF	±17,125	S.F.
	±59,375	**S.F.**
PROPOSED TREE COVER PROVIDED (59,375 X 1.5 MULTIPLIER)	**±89,063**	**S.F.**
EXISTING TREE COVERAGE TO REMAIN	±32,100	S.F.
TOTAL TREE COVERAGE PROVIDED	**±121,163**	**S.F.**

* TREE COVER REQUIREMENT IS SATISFIED

TREE COVER CALCULATIONS - R-2 ZONING

Table 12.10 10-year Tree Canopy Calculation Worksheet			
Step		Totals	Reference
A. Tree Preservation Target and Statement			
A 1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations		see § 12-0508.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	258865 SF	§ 12-0511.1A
B2	Subtract area dedicated to parks, road frontage, and		§ 12-0511.1B
B3	Subtract area of exemptions =		§ 12-0511.1C(1) through § 12-0511.1C(6)
B4	Adjusted gross site area (B1 – B2) =	258865 SF	
B5	Identify site's zoning and/or use	R-2	
B6	Percentage of 10-year tree canopy required =	30%	§ 12-0510.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 x B6) =	77660 SF	
B8	Modification of 10-year Tree Canopy Requirements requested?	NO	Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located	N/A	Sheet number
C. Tree Preservation			
C1	Tree Preservation Target Area =	27725 SF	
C2	Total canopy area meeting standards of § 12-0400 =		
C3	C2 x 1.25 =	0 SF	§ 12-0510.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0	
C5	C4 x 1.5 =	0	§ 12-0510.3B(1)
C6	Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0510.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0	
C9	C8 x 1.0 =	15600	§ 12-0510.3C(1)
C10	Total of C3, C5, C7 and C9 =	15600 SF	If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	0 SF	
D2	Area of canopy planted for air quality benefits =	0 SF	
D3	x 1.5 =	0 SF	§ 12-0510.4B(1)
D4	Area of canopy planted for energy conservation =	0 SF	
D5	x 1.5 =	0 SF	§ 12-0510.4B(2)
D6	Area of canopy planted for water quality benefits =	0 SF	
D7	x 1.25 =	0 SF	§ 12-0510.4B(3)
D8	Area of canopy planted for wildlife benefits =	0 SF	
D9	x 1.5 =	0 SF	§ 12-0510.4B(4)
D10	Area of canopy provided by native trees =	47125 SF	
D11	x 1.5 =	70688 SF	§ 12-0510.4B(5)
D12	Area of canopy provided by improved cultivars and varieties =	0 SF	
D13	x 1.25	0 SF	§ 12-0510.4B(6)
D14	Area of canopy provided through tree seedlings =	0 SF	
	x 1.0	0 SF	§ 12-0510.4D(1)
D15	Area of canopy provided through native shrubs =	0 SF	
	x1.0	0 SF	§ 12-0510.4D(1)
D16	Area of canopy coverage with no additional credits		Must not exceed 33% of D14
D17	Total of canopy area provided through tree planting =	70688 SF	
D18	Is an off-site planting relief requested?	N/A	Yes or No
D19	Tree Bank or Tree Fund?	N/A	§ 12-0512
D20	Canopy area requested to be provided through off-site banking or tree fund	N/A	
D21	Amount to be deposited into the Tree Preservation and Planting Fund	N/A	
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	15600 SF	
E2	Total of canopy area provided through tree planting (D17) =	70688 SF	
E3	Total of canopy area provided through off-site mechanism (D19) =	0 SF	
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	86288 SF	Total of E1 through E3. Area should meet or exceed area required by B7

TREE COVER CALCULATIONS - C-5 ZONING

Table 12.10 10-year Tree Canopy Calculation Worksheet			
Step		Totals	Reference
A. Tree Preservation Target and Statement			
A 1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations		see § 12-0508.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	92774 SF	§ 12-0511.1A
B2	Subtract area dedicated to parks, road frontage, and	0 SF	§ 12-0511.1B
B3	Subtract area of exemptions =	0 SF	§ 12-0511.1C(1) through § 12-0511.1C(6)
B4	Adjusted gross site area (B1 – B2) =	92774 SF	
B5	Identify site's zoning and/or use	C-5	
B6	Percentage of 10-year tree canopy required =	10%	§ 12-0510.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 x B6) =	9278 SF	
B8	Modification of 10-year Tree Canopy Requirements requested?	NO	Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located	N/A	Sheet number
C. Tree Preservation			
C1	Tree Preservation Target Area =	3702 SF	
C2	Total canopy area meeting standards of § 12-0400 =		
C3	C2 x 1.25 =		§ 12-0510.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0	
C5	C4 x 1.5 =	0	§ 12-0510.3B(1)
C6	Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0510.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0	
C9	C8 x 1.0 =	16500	§ 12-0510.3C(1)
C10	Total of C3, C5, C7 and C9 =	16500 SF	If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	0 SF	
D2	Area of canopy planted for air quality benefits =	0 SF	
D3	x 1.5 =	0 SF	§ 12-0510.4B(1)
D4	Area of canopy planted for energy conservation =	0 SF	
D5	x 1.5 =	0 SF	§ 12-0510.4B(2)
D6	Area of canopy planted for water quality benefits =	0 SF	
D7	x 1.25 =	0 SF	§ 12-0510.4B(3)
D8	Area of canopy planted for wildlife benefits =	0 SF	
D9	x 1.5 =	0 SF	§ 12-0510.4B(4)
D10	Area of canopy provided by native trees =	12250 SF	
D11	x 1.5 =	18375 SF	§ 12-0510.4B(5)
D12	Area of canopy provided by improved cultivars and varieties =	0 SF	
D13	x 1.25	0 SF	§ 12-0510.4B(6)
D14	Area of canopy provided through tree seedlings =	0 SF	
	x 1.0	0 SF	§ 12-0510.4D(1)
D15	Area of canopy provided through native shrubs =	0 SF	
	x1.0	0 SF	§ 12-0510.4D(1)
D16	Percentage of D14 represented by D15=		Must not exceed 33% of D14
D17	Total of canopy area provided through tree planting =	18375 SF	
D18	Is an off-site planting relief requested?	N/A	Yes or No
D19	Tree Bank or Tree Fund?	N/A	§ 12-0512
D20	Canopy area requested to be provided through off-site banking or tree fund	N/A	
D21	Amount to be deposited into the Tree Preservation and Planting Fund	N/A	
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	16500 SF	
E2	Total of canopy area provided through tree planting (D17) =	18375 SF	
E3	Total of canopy area provided through off-site mechanism (D19) =	0 SF	
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	34875 SF	Total of E1 through E3. Area should meet or exceed area required by B7

* ADDITIONAL MULTIPLIERS BEYOND NATIVE SPECIES MAY BE TAKEN AT TIME OF SITE PLAN, AS LONG AS TREE CANOPY REQUIREMENTS ARE MET.

INTERIOR PARKING LOT LANDSCAPING CALCULATIONS

TOTAL PARKING AREA	±146,217	S.F.
PERCENT REQUIRED	x 5	%
REQUIRED	**±7,311**	**S.F.**
PROPOSED (31 CATEGORY IV TREES @ 250 SF)	7,750	S.F.
PROVIDED	**±7,750**	**S.F.**

PERIPHERAL PARKING LOT LANDSCAPING

CENTREVILLE ROAD ROW PARKING LOT FRONTAGE =
1 TREE/40 LF x 268 = 7 REQUIRED TREES, 7 TREES PROVIDED

WEST OX ROAD ROW PARKING LOT FRONTAGE =
1 TREE/40 LF x 468 = 12 REQUIRED TREES, 12 TREES PROVIDED

PARK AUTHORITY PROPERTY TO EAST PARKING LOT FRONTAGE =
1 TREE/50 LF x 400 = 8 REQUIRED TREES, 8 TREES PROVIDED

PARK AUTHORITY PROPERTY TO NORTH PARKING LOT FRONTAGE =
1 TREE/50 LF x 735 = 15 REQUIRED TREES, 15 TREES PROVIDED

TRANSITIONAL SCREENING AND BARRIER ANALYSIS

TRANSITIONAL SCREENING TYPE 1		SCREENING/BUFFER (288 LF)
	REQUIRED	PROVIDED
DIMENSIONS	25'	25'
10 YEAR CANOPY	75%	REQUIRED: 7,200 SF
PLANTING MIXTURE	70% EVERGREEN MIN./ 35% MAX. OF ANY SINGLE SPECIES	4 DECID. CAT. IV @ 250 = 1,000 SF 7 DECID. CAT. II @ 125 = 875 SF 10 EVERGREEN CAT. II @ 125 = 1,250 SF TOTAL CANOPY PROVIDED = 3,125 SF (SEE NOTE 1)
DIMENSIONS	3 SHRUBS/10 LINEAR FEET	±54 EVERGREEN SHRUBS
BARRIER	TYPE D, E, OR F	4' HIGH WOOD FENCE

NOTES:

1. MODIFICATION REQUESTED FOR SCREENING/BARRIER, SEE WAIVERS/MODIFICATIONS REQUESTED SHEET P-0101.
2. TRANSITIONAL SCREENING IS ONLY REQUIRED ALONG THE PROPERTY LINE ADJACENT TO SINGLE FAMILY DETACHED HOMES, SHOWN ON SHEET P-0401.

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COMMONWEALTH OF VIRGINIA
ARON M. VINSON
Lic. No.041851
5/5/17
PROFESSIONAL ENGINEER

DATE 4/18/2016; REV. 9/7/2016; 11/2/2017; 2/22/2017; 3/9/2017
REV. 4/5/2017; 5/5/2017
SCALE: 1" = 40'
DRAWN: MRW/BP
CHECKED: AV

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

LANDSCAPE TABULATIONS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0402

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN

(X)GDP) (_)CDP) (_)FDP) (_)PRC) (_)DP) (_)CP) (X)SE) (_)CSP) (_)SP) (_)VC)

SEE PROFFERS DATED: May 17, 2017

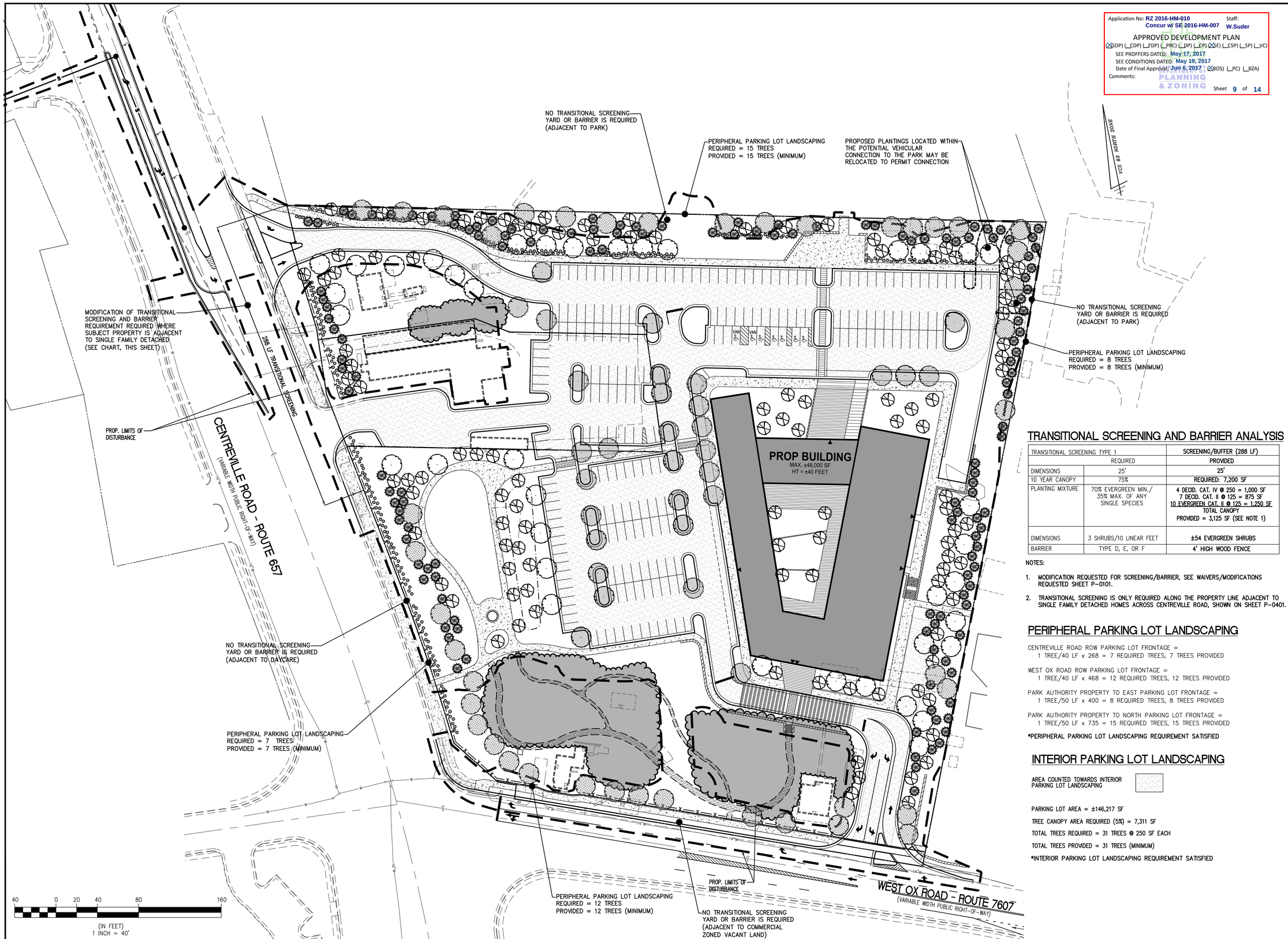
SEE CONDITIONS DATED: May 19, 2017

Date of Final Approval: Jun 6, 2017 (X)BOS) (_)PC) (_)BZA)

Comments:

FAIRFAX COUNTY PLANNING & ZONING

Sheet 9 of 14



TRANSITIONAL SCREENING AND BARRIER ANALYSIS

TRANSITIONAL SCREENING TYPE 1		SCREENING/BUFFER (288 LF)
	REQUIRED	PROVIDED
DIMENSIONS	25'	25'
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DIMENSIONS	3 SHRUBS/10 LINEAR FEET	±54 EVERGREEN SHRUBS
BARRIER	TYPE D, E, OR F	4' HIGH WOOD FENCE

NOTES:

1. MODIFICATION REQUESTED FOR SCREENING/BARRIER, SEE WAIVERS/MODIFICATIONS REQUESTED SHEET P-0101.
2. TRANSITIONAL SCREENING IS ONLY REQUIRED ALONG THE PROPERTY LINE ADJACENT TO SINGLE FAMILY DETACHED HOMES ACROSS CENTREVILLE ROAD, SHOWN ON SHEET P-0401.

PERIPHERAL PARKING LOT LANDSCAPING

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1 TREE/40 LF x 268 = 7 REQUIRED TREES, 7 TREES PROVIDED

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*PERIPHERAL PARKING LOT LANDSCAPING REQUIREMENT SATISFIED

INTERIOR PARKING LOT LANDSCAPING

AREA COUNTED TOWARDS INTERIOR PARKING LOT LANDSCAPING

PARKING LOT AREA = ±146,217 SF

TREE CANOPY AREA REQUIRED (5%) = 7,311 SF

TOTAL TREES REQUIRED = 31 TREES @ 250 SF EACH

TOTAL TREES PROVIDED = 31 TREES (MINIMUM)

*INTERIOR PARKING LOT LANDSCAPING REQUIREMENT SATISFIED

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COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 5/5/17 PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY:

LANDSCAPE COMPLIANCE EXHIBIT

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0403

OUTFALL NARRATIVE

EXISTING CONDITIONS:

THE SITE CURRENTLY CONSISTS OF THREE SINGLE FAMILY PROPERTIES AND PART OF A CHURCH PROPERTY. MOST OF THE RUNOFF FROM THE SITE FLOWS TO A NATURAL STREAM (OUTFALL 1). THE REMAINDER OF THE SITE RUNOFF LEAVES THE SITE AS SHEET FLOW BEFORE BEING COLLECTED IN A STORM SEWER SYSTEM ON CENTERVILLE ROAD WHICH IS LABELLED OUTFALL 2. REFER TO THE OUTFALL MAP THIS SHEET FOR OUTFALL ROUTES. CONSIDERABLE OFFSITE RUNOFF FROM THE SOUTH IS RELEASED ONTO THE SITE AS SHEET FLOW COMING FROM WEST OX ROAD AS WELL AS FROM A CULVERT THAT OUTLETS ON THE PROPERTY. THE SITE ALSO RECEIVES SIGNIFICANT RUNOFF FROM FRYING PAN PARK TO THE EAST VIA A CULVERT THAT OUTLETS ONLY A FEW FEET FROM THE SITE PROPERTY LINE, AS WELL AS SOME SHEET FLOW. MUCH OF THE RUNOFF FLOWING ACROSS THE SITE IS COLLECTED BY AN ONSITE CULVERT THAT RELEASES RUNOFF AT THE SITE'S NORTHERN PROPERTY LINE. THE RUNOFF RELEASED FROM THE CULVERT FLOWS NORTHWARD IN A SMALL NATURAL CHANNEL IN FLORIS COMMUNITY PARK BEFORE JOINING FRYING PAN BRANCH WHICH IS PART OF THE HORSEPEN CREEK WATERSHED. OUTFALL 2 BEGINS IN THE SITE'S NORTHWEST CORNER AS A STORM SEWER IN CENTREVILLE ROAD THAT QUICKLY OUTLETS INTO A DRY DETENTION POND RECENTLY CONSTRUCTED BY VDOT JUST NORTH OF THE SITE. FROM THERE THE OUTFALL CONSISTS OF STORM SEWER SYSTEMS AND MANMADE CHANNEL FLOWING NORTHWARD ALONG CENTREVILLE ROAD BEFORE OUTLETTING INTO THE FRYING PAN BRANCH BOX CULVERT UNDER CENTREVILLE ROAD.

PROPOSED CONDITIONS:

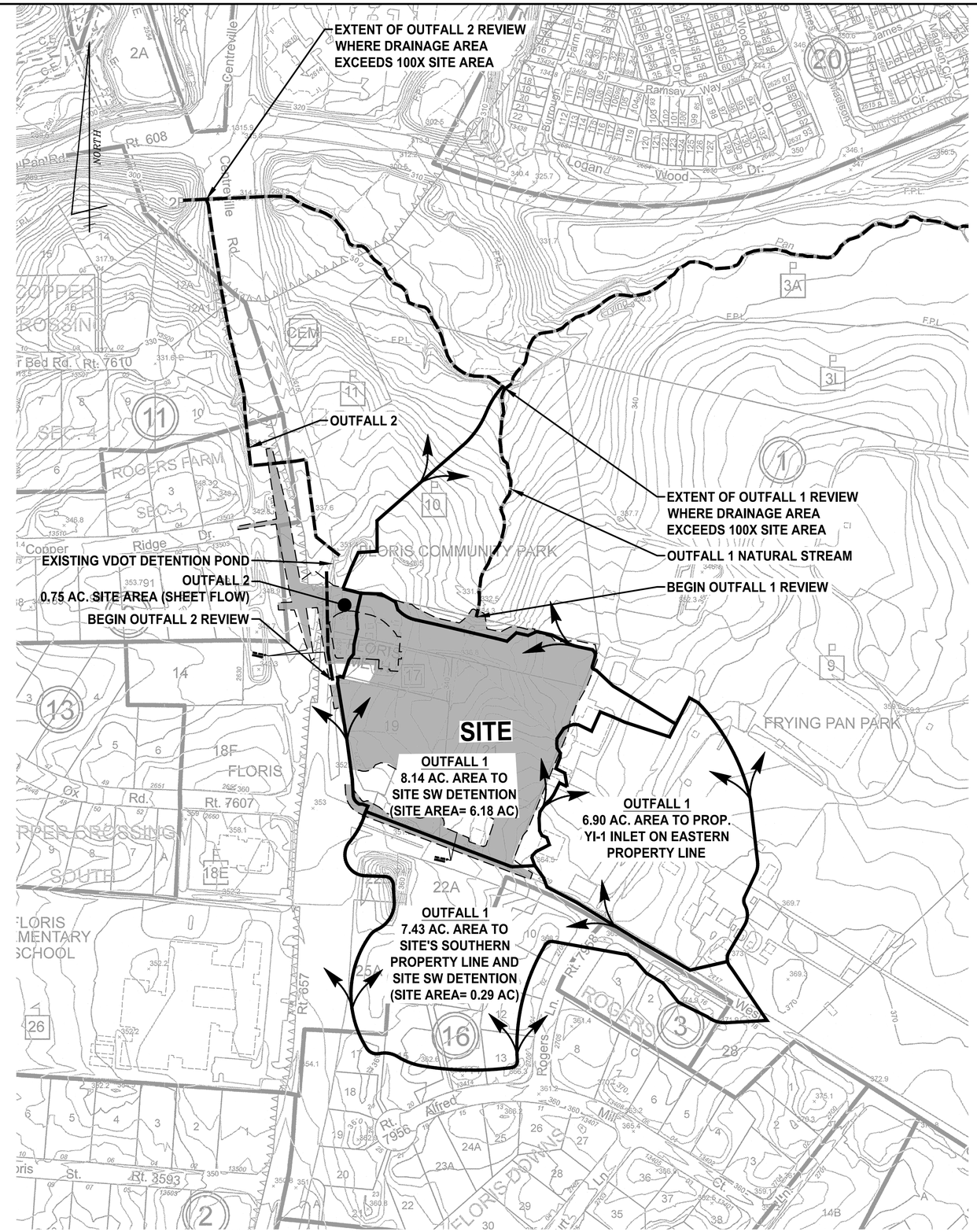
THE EXISTING DRAINAGE DIVIDE WILL BE HONORED WITH A LITTLE SITE RUNOFF CONTINUING TO LEAVE FROM THE NORTHWEST CORNER OF THE SITE AS SHEET FLOW BEFORE BEING COLLECTED BY THE STORM SEWER SYSTEM IN CENTERVILLE ROAD (OUTFALL 2). MOST SITE RUNOFF WILL BE COLLECTED VIA A PROPOSED STORM SEWER SYSTEM THAT WILL OUTLET INTO THE SAME NATURAL CHANNEL FLOWING ACROSS FLORIS COMMUNITY PARK THAT IT CURRENTLY DRAINS TO. THE EXISTING CULVERT FROM FRYING PAN PARK ON THE EAST SIDE WILL BE EXTENDED WITH PROPOSED STORM SEWER ACROSS THE NORTHEAST CORNER OF THE SITE. LIKEWISE, THE WEST OX ROAD CULVERT THAT CURRENTLY OUTLETS ON THE SOUTHERN PROPERTY LINE WILL BE EXTENDED NORTHWARD WITH PROPSED STORM SEWER. IN ADDITION TO THE OFFSITE RUNOFF, THIS NEW STORM SEWER SYSTEM WILL COLLECT A LARGE MAJORITY OF SITE RUNOFF FROM VARIOUS INLETS AS IT RUNS ACROSS THE SITE. THIS STORM SEWER WILL RELEASE THE SITE AND OFFSITE RUNOFF INTO A PROPOSED ONSITE STORMWATER DETENTION FACILITY BEFORE BEING RELEASED INTO THE SAME NATURAL CHANNEL. THE DETENTION FACILITY, TOGETHER WITH PROPOSED RUNOFF REDUCTION MEASURES SUCH AS POSSIBIBLY PERMEABLE PAVEMENT AND BIORETENTION, WILL REDUCE THE SITE PEAK RUNOFF RATES TO OUTFALL 1 TO LESS THAN PRE-DEVELOPMENT LEVELS IN ACCORDANCE WITH THE COUNTY'S REQUIREMENTS.

EXTENT OF OUTFALL REVIEW:

IN ACCORDANCE WITH THE ZONING ORDINANCE, THE EXTENT OF OUTFALL REVIEW FOR THIS GDP EXTENDS TO A POINT WHERE THE OUTFALL'S DRAINAGE AREA EXCEEDS 100 TIMES THE SITE AREA DRAINING TO THE OUTFALL. THE SAME IS TRUE TO DETERMINE WHAT TYPE STORMWATER CONVEYANCE SYSTEMS (NATURAL STREAM, MANMADE CONVEYANCE, AND/OR RESTORED CHANNEL) EXIST IN EACH OUTFALL IN ACCORDANCE WITH COUNTY CODE CHAPTER 124. THIS EXTENT OF REVIEW ENDS AT FRYING PAN BRANCH FOR BOTH OUTFALLS (SEE OUTFALL MAP THIS SHEET). THE EXTENT OF REVIEW FOR ASSESSING THE ADEQUACY OF THE OUTFALLS WILL BE SHOWN ON THE PROJECT SITE PLAN AND WILL BE DETERMINED IN ACCORDANCE WITH COUNTY CODE CHAPTER 124 AND THE PFM. IN ACCORDANCE WITH THESE COUNTY REQUIREMENTS, THERE ARE THREE EXTENT OF REVIEW RULES TO BE USED FOR DETERMINING OUTFALL 1 ADEQUACY. TOGETHER, THE OUTFALL ADEQUACY AND TYPE OF STORMWATER CONVEYANCE WILL DETERMINE THE ALLOWABLE PEAK RUNOFF RATES TO THE SITE OUTFALLS.

OUTFALL ADEQUACY

THE COUNTY'S ADEQUATE OUTFALL REQUIREMENTS WILL BE MET BY CONFIRMING THE ADEQUACY OF THE SITE OUTFALLS AT THE TIME OF SITE PLAN. THERE WILL BE NO ADVERSE IMPACT TO DOWNSTREAM PROPERTIES FROM THE SHEET FLOW RELEASED TO OUTFALL 2. IF AN OUTFALL IS INADEQUATE, THE OUTFALL WILL BE MADE ADEQUATE BY REPLACING ANY UNDERSIZED PIPES AND/OR IMPROVING THE STREAM CHANNEL OR BY INSTALLING STORMWATER DETENTION FOR THAT OUTFALL DESIGNED IN ACCORDANCE WITH THE COUNTY'S DETENTION METHOD.



Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN

(X GDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (X SE) (_CSP) (_SP) (_VC)

SEE PROFFERS DATED: May 17, 2017

SEE CONDITIONS DATED: May 19, 2017

Date of Final Approval: Jun 6, 2017 (X BOS) (_PC) (_BZA)

Comments:

DEPT. OF PLANNING & ZONING

Sheet 10 of 14

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
5/5/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PRELIMINARY OUTFALL ANALYSIS

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0501

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

○ 2011 BMP Standards and Specifications ⊙ 2013 Draft BMP Standards and Specifications

Project Name:	Scimores Academy
Date:	8/25/2016
Linear Development Project?	No

CLEAR ALL (Ctrl+Shift+R)

data input cells | constant values | calculation cells | final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* ? 7.48

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*2.8*
Post-Development TP Load Reduction for Site (lb/yr):	*6.00*

Check:
BMP Design Specifications List: 2013 Draft Stds & Specs
Linear project? No
Land cover areas entered correctly? ?
Total disturbed area entered? ?

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				5.78	5.78
Impervious Cover (acres)				1.70	1.70
					7.48

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				2.98	2.98
Impervious Cover (acres)				4.50	4.50
Area Check	OK.	OK.	OK.	OK.	7.48

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre

Pre-ReDevelopment	Listed	Adjusted[1]
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	5.78	2.98
Weighted Rv(turf)	0.25	0.25
% Managed Turf	77%	64%
Impervious Cover (acres)	1.70	1.70
Rv(impervious)	0.95	0.95
% Impervious	23%	36%
Total Site Area (acres)	**7.48**	**4.68**
Site Rv	**0.41**	**0.50**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.2550	0.1967
Pre-ReDevelopment Treatment Volume (cubic feet)	11,108	8,567
Pre-ReDevelopment TP Load (lb/yr)	**6.98**	**5.38**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.93	1.15
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*1.92*

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)

Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.98
Weighted Rv (turf)	0.25
% Managed Turf	40%
Impervious Cover (acres)	4.50
Rv(impervious)	0.95
% Impervious	60%
Final Site Area (acres)	**7.48**
Final Post Dev Site Rv	**0.67**

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.98
Weighted Rv (turf)	0.25
% Managed Turf	64%
ReDev. Impervious Cover (acres)	1.70
Rv(impervious)	0.95
% Impervious	36%
Total ReDev. Site Area (acres)	**4.68**
ReDev Site Rv	**0.50**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	2.80
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.4183	**Post-ReDevelopment Treatment Volume (acre-ft)**	0.1967	**Post-Development Treatment Volume (acre-ft)**	0.2217
Final Post-Development Treatment Volume (cubic feet)	18,223	**Post-ReDevelopment Treatment Volume (cubic feet)**	8,567	**Post-Development Treatment Volume (cubic feet)**	9,656
Final Post-Development TP Load (lb/yr)	**11.45**	**Post-ReDevelopment Load (TP) (lb/yr)***	**5.38**	**Post-Development TP Load (lb/yr)**	**6.07**
Final Post-Development TP Load per acre **(lb/acre/yr)**	1.53	Post-ReDevelopment TP Load per acre **(lb/acre/yr)**	1.15		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	**20%**		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	**1.08**	**TP Load Reduction Required for New Impervious Area (lb/yr)**	**4.92**

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	**6.00**

PRELIMINARY BIORETENTION SIZING CALCULATIONS

IN ACCORDANCE WITH DEQ SPECIFICATION NO. 9

Design Level 1 (55% Phosphorous removal rate)

Design Basis:
1. Design assumes no infiltration (Bioretention Filter)
2. Facility is not designed for stormwater detention

Bioretention Design:

Facility No.	Drainage Area							10-Yr Q	Treatment Vol.	Soil Media Depth	Equivalent Subsurface	Surface Area	Min. Surface Ponding Depth (3)	Filter Mulch Surface Elevation	BMP Water Surface Elev. (4)
	Impervious Area		Pervious Area		Total Area			Rational	Tv =(1)(Rv)(A)/12		Storage Depth (2)		= (Tv)/SA - ESSD		
	(SF)	Rv	(SF)	Rv (1)	(SF)	(Ac)	Rv	(cfs)	(CF)	(Ft)	(Ft)	(SF)	(Ft)	(Ft)	(Ft)
BF1	27,900	0.95	14,400	0.25	42,300	0.97	0.71	4.57	2,509	4.0	1.00	2,865	-0.12		-0.12
		0.95				0.00					0.00				
TOTALS	27,900		14,400		42,300	0.97						2,865			

Footnotes:
(1) Rv based on HSG in accordance with Va. runoff reduction method (turf values are .15, .2, .22, .25 for A, B, C, and D soils respectively)
(2) Equivalent subsurface storage depth = media depth x 0.25 voids. Not counting gravel storage for this design.
(3) Preferred maximum water quality ponding depth is 6" but up to 12" is allowed with appropriate plants.
(4) Set overflow inlet top elevation at BMP WSEL.

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				2.49	2.49	0.25
Impervious Cover (acres)				3.97	3.97	0.95
				Total	6.46	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	10.02
Post Development Treatment Volume in D.A. A (ft^3)	15,950

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		1.23	0	1,909	2,333	4,242	25	0.00	2.66	1.56	1.10	14.b. MTD - Filtering
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	0.64	0.33	0	688	1,031	1,719	25	0.00	1.08	0.59	0.49	14.b. MTD - Filtering
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Hydrodynamic	0	1.76	2.40	0	0	9,874	9,874	20	0.00	6.20	1.24	4.96	14.b. MTD - Filtering
14.b. Manufactured Treatment Device-Filtering	0			13,238	0	13,238	13,238	40	6.54	0.00	2.62	3.92	

TOTAL IMPERVIOUS COVER TREATED (ac)	3.96	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	2.40	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	6.00
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	10.02
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	3.86
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	2.16
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	6.01
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	4.01

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance Sections:

Special Permits (Sect. 8-011 2J & 2L)
Cluster Subdivision (Sect. 9-615 1G & 1N)
Development Plans PRC District (Sect. 16-302 3 & 4L)
FDP P Districts (Sect. 16-502 1A (6) & (17))
Special Exceptions (Sect. 9-011 2J & 2L)
Commercial Revitalization Districts (Sect. 9-622 2A (12) & (14))
PRC Plan (Sect. 16-303 1E & 1 O)
Amendments (Sect. 18-202 10F & 10I)

☑ 1. Plat is at a minimum scale of 1'=50' (Unless it is depicted on one sheet with a minimum scale of 1'=100')
☑ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet(s)_____. If infiltration is proposed the soils should be tested for suitability prior to submission of the development plan and results of the infiltration test provided as part of the description of the facility.
☑ 3. Provide:

Facility Name/ Type & No. (E.g. dry pond, infiltration trench, underground vault, etc.)	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage volume (cf)	If pond, dam height (ft.)
PERMEABLE PAVEMENT	1.23	–	1.23	14,990	–	–
BIORETENTION	0.97	–	1.14	2,800	–	–
HYDRODYNAMIC	6.46	8.9	15.36	50	–	–
STORMTECH ISOLATOR	6.46	8.9	15.36	1,300	–	–
STORMWATER DETENTION	6.46	8.9	15.36	13,700	35,000	–
TOTALS:						

☑ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet(s) P-0301, P-0302. Pond inlet and outlet pipe systems are shown on Sheet(s) P-0301.
☑ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet(s). P-0301. Type of maintenance access road surface noted on the plat is ASPHALT (asphalt, geoblock, gravel, etc.)
☑ 6. Landscaping and tree preservation in and near the stormwater management facility is shown on Sheet(s) P-0401.
☑ 7. Stormwater management and BMP narratives including Virginia Runoff Reduction Spreadsheet and descriptions of how detention and best management practices requirements will be met are provided on Sheet(s) P-0502, P-0503.
☑ 8. A description of existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet(s) P-0501. If the outfall is proposed to be improved off-site it should be specifically noted.
☑ 9. A detailed description and analysis of how the channel protection requirements and flood protection requirements of each numbered outfall will be satisfied per Stormwater Management Ordinance and Public Facilities Manual are provided on Sheet(s) P-0502, P-0503
☑ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheet(s) P-0201.
☐ 11. A submission waiver is required for N/A.
☐ 12. Stormwater management is not required because N/A.

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Revised: 8/4/2015

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	3.97	0.00	0.53	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	3.96	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	2.49	0.26	0.22	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	2.40	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 18,223

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	2,596	0	0	0	0	2,596
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	10.02	0.15	1.27	0.00	0.00	11.44
TP LOAD REDUCTION ACHIEVED (lb/yr)	6.01	0.00	0.00	0.00	0.00	6.01
TP LOAD REMAINING (lb/yr)	4.01	0.15	1.27	0.00	0.00	5.43
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	16.13	0.00	0.00	0.00	0.00	16.13

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	11.45
TP LOAD REDUCTION REQUIRED (lb/yr)	6.00
TP LOAD REDUCTION ACHIEVED (lb/yr)	6.01
TP LOAD REMAINING (lb/yr):	5.44
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

** TARGET TP REDUCTION EXCEEDED BY 0.02 LB/YEAR **

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	81.91
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	16.13
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	65.78

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN
(☒GDP) (_CDP) (_FDP) (_PRC) (_PP) (_CP) (☒SE) (_CSP) (_SP) (_VC)
SEE PROFFERS DATED: May 17, 2017
SEE CONDITIONS DATED: May 19, 2017
Date of Final Approval: Jun 6, 2017 (☒BOS) (_PC) (_BZA)
Comments:
FAIRFAX COUNTY PLANNING & ZONING
Sheet 11 of 14

STORMWATER MANAGEMENT NARRATIVE

THE PROPOSED DEVELOPMENT WILL DISTURB APPROXIMATELY 7.5 ACRES INCLUDING THREE EXISTING DEVELOPED SINGLE FAMILY LOTS, PART OF A CHURCH PROPERTY, SMALL AREAS ON ADJACENT PARK AUTHORITY PROPERTY, AND SOME VDOT RIGHT-OF-WAY. FOR PURPOSES OF DETERMINING STORMWATER MANAGEMENT REQUIREMENTS AND COMPLIANCE, THIS PROJECT WILL BE DEVELOPMENT ON PRIOR DEVELOPED LANDS AND THE PROPOSED DISTURBED AREA IS CONSIDERED THE SITE AREA. THE SITE TODAY CONSISTS LARGELY OF TURF AND BARE SOIL BUT ALSO INCLUDES CONSIDERABLE PAVEMENT, DRIVEWAYS AND BUILDINGS. AFTER THE PROPOSED REDEVELOPMENT, A MAJORITY OF THE SITE WILL CONSIST OF PAVEMENT AND BUILDING, RESULTING IN AN INCREASE IN IMPERVIOUS COVER.

THE STORMWATER ORDINANCE AND PFM THAT BECAME EFFECTIVE IN 2014 WILL APPLY TO THIS PROJECT. PRELIMINARY PHOSPHOROUS REMOVAL COMPUTATIONS USING THE DEQ'S VIRGINIA RUNOFF REDUCTION METHOD (VRRM) SPREADSHEET ARE SHOWN ON THIS SHEET. THESE COMPUTATIONS INDICATE THAT A MINIMUM OF APPROXIMATELY 6.00 POUNDS OF PHOSPHOROUS OF THE TOTAL POST-DEVELOPMENT PHOSPHOROUS LOAD OF 11.45 POUNDS/YEAR MUST BE REMOVED (ABOUT 52% REMOVAL). THE WATER QUALITY MEASURES TO BE USED TO ACCOMPLISH THIS PHOSPHOROUS REMOVAL REQUIREMENT MAY INCLUDE, BUT NOT BE LIMITED TO, PERMEABLE PAVEMENT, BIORETENTION, MANUFACTURED HYDRODYNAMIC SEPARATOR DEVICE(S), AND MANUFACTURED FILTERING SYSTEMS SUCH AS THE STORMTECH ISOLATOR ROW. SOME OF THE REQUIRED PHOSPHOROUS REMOVAL MAY BE OBTAINED BY PURCHASING NONPOINT NUTRIENT OFFSET CREDITS. THE SWM-BMP MAP SHEET P-0503 SHOWS A DESIGN CONCEPT FOR THESE WATER QUALITY MEASURES THAT INDICATES THE APPROXIMATE AREAS TO BE TREATED BY THE BIORETENTION AND PERMEABLE PAVEMENT. THESE AREAS PLUS AN EVEN LARGER AREA, WILL BE TREATED BY THE HYDRODYNAMIC SEPARATOR AND STORMTECH ISOLATOR ROW. A SCHEMATIC DIAGRAM IS INCLUDED ON SHEET P-0503 DEPICTING THE PROPOSED TREATMENT TRAIN CONCEPT PROPOSED WITH THIS PLAN. A PROPOSED STORM SEWER WILL CONVEY OFFSITE RUNOFF FROM ABOUT 7.4 ACRES (FROM WEST OX ROAD ROW AND SOUTH OF THE ROAD) AS WELL AS ABOUT 6.5 ACRES OF SITE DISTURBED AREA RUNOFF TO THE HYDRODYNAMIC STRUCTURE. THE STORMWATER RELEASED FROM THIS STRUCTURE IS THEN PIPED TO THE STORMTECH ISOLATOR ROW/STORMWATER DETENTION FACILITY. THE VRRM SPREADSHEET SHOWN ON THIS SHEET DOES NOT CLAIM WATER QUALITY CREDIT FOR THE UNDISTURBED AREAS THAT DRAIN TO THE HYDRODYNAMIC STRUCTURE AND ISOLATOR ROW. HOWEVER, TAKING CREDIT FOR SOME OF THE TREATED UNDISTURBED AREAS MAY BE PURSUED AT TIME OF SITE PLAN AS APPROVED BY DPWES. THE RUNOFF TREATED BY THE BIORETENTION AND THE PERMEABLE PAVEMENT IS INCLUDED IN THE SITE RUNOFF CONVEYED TO THE HYDRODYNAMIC SEPARATOR AND STORMTECH ISOLATOR ROW. BECAUSE THE VRRM SPREADSHEET DOES NOT INCLUDE THE MEANS TO PERFORM THE CREDIT COMPUTATION, NO CREDIT IS TAKEN FOR THE HYDRODYNAMIC SEPARATOR WHEN IT IS PART OF THE TREATMENT TRAIN THAT INCLUDES THREE MEASURES IN SERIES (FIRST BIORETENTION OR PERMEABLE PAVEMENT, THEN HYDRODYNAMIC SEPARATOR, AND THEN FINALLY THE STORMTECH ISOLATOR ROW).

AS DESCRIBED IN THE OUTFALL NARRATIVE ON SHEET P-501, THE STORMWATER OUTFALLS FOR THIS SITE INCLUDE A COMBINATION OF STORM SEWER PIPES, MANMADE CHANNEL AND NATURAL STREAM CHANNELS. MOST OF THE SITE DRAINS TO OUTFALL 1 WHICH INCLUDES NATURAL STREAM CHANNEL SO THE STORMWATER MANAGEMENT REQUIREMENT IS TO APPLY THE ENERGY BALANCE EQUATION FOR THE 1-YEAR STORM PEAK RELEASE RATE. AT A MINIMUM THE PEAK RATES OF RUNOFF FROM THE 2 AND 10-YEAR STORMS WILL ASLO NEED TO BE REDUCED FOR OUTFALL 1 TO BELOW PRE-DEVELOPMENT LEVELS. IF IT IS DETERMINED AT TIME OF SITE PLAN THAT EITHER OUTFALL IS INADEQUATE, RUNOFF PEAK RATES WILL BE REDUCED IN ACCORDANCE WITH THE DETENTION METHOD OR THE DEFICIENCY WILL BE CORRECTED AS REQUIRED TO COMPLY WITH THE COUNTY CHANNEL AND FLOOD PROTECTION REQUIREMENTS. AS SHOWN ON THE SWM-BMP MAP SHEET P-0503 AN UNDERGROUND STORMWATER DETENTION SYSTEM WILL BE INSTALLED WITH THE STORMTECH ISOLATOR ROW DISCUSSED ABOVE. THIS DETENTION FACILITY WILL RECEIVE BOTH SITE AND OFFSITE RUNOFF FROM ALL OF THE AREAS DISCUSSED ABOVE FOR THE HYDRODYNAMIC SEPARATOR.

NOTE THAT THE CONCEPTUAL DESIGN DEPICTED ON THE SWM-BMP MAP AND DESCRIBED ON THIS SHEET ARE PRELIMINARY AND SUBJECT TO CHANGE AT TIME OF SITE PLAN AS APPROVED BY DPWES. THE TYPES, NUMBERS, SIZES AND LOCATIONS OF SWM AND BMP FACILITIES MAY CHANGE WITHOUT THE NEED FOR AN AMENDMENT TO THE APPROVED GDP/SE AS LONG AS THE COUNTY STORMWATER CODE REQUIREMENTS ARE COMPLIED WITH AND THE LIMIT OF DISTURBANCE IS NOT INCREASED.

THE BMP AND SWM FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED SO THEY WILL NOT BE PLACED IN A STORM DRAINAGE EASEMENT EVEN THOUGH THEY WILL RECEIVE OFFSITE RUNOFF. THE STORM SEWERS UPSTREAM AND DOWNSTREAM OF THE BMP AND SWM FACILITIES THAT CONVEY OFFSITE RUNOFF FROM WEST OX ROAD TO THE BMP AND SWM FACILITIES AND FROM THERE TO THE NORTHERN PROPERTY LINE, COLLECTING SITE RUNOFF ALONG THE WAY, WILL BE PLACED IN A STORM SEWER EASEMENT IN ACCORDANCE WITH COUNTY POLICY. THIS STORM SEWER EASEMENT WILL HAVE A GAP AT THE BMP AND SWM FACILITIES.

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 5/5/17 PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DATE 4/18/2016; REV. 9/7/2016; 11/2/2017; 2/22/2017; 3/9/2017
REV. 4/5/2017; 5/5/2017
SCALE: 1" = 40'
DRAWN: MRW/BP
CHECKED: AV

PRELIMINARY STORMWATER MANAGEMENT PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0502

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN

(X)GDP (_)CDP (_)FDP (_)PRC) (_)DP) (_)CPI (X)SE) (_)CSP) (_)SP) (_)VC)

SEE PROFFERS DATED: May 17, 2017

SEE CONDITIONS DATED: May 19, 2017

Date of Final Approval: Jun 6, 2017 (X)BOS) (_)PC) (_)BZA)

Comments:

FAIRFAX COUNTY
PLANNING
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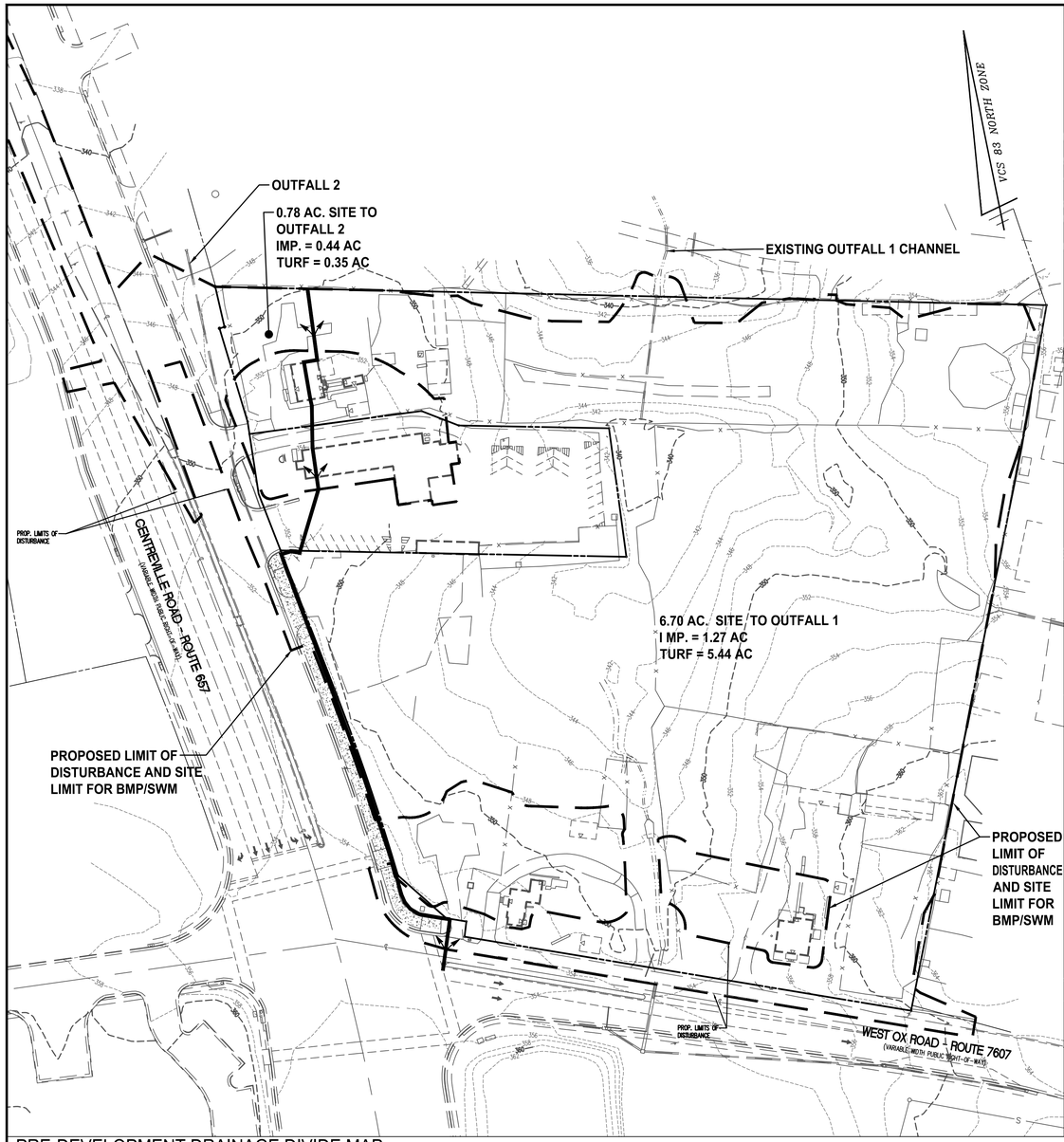
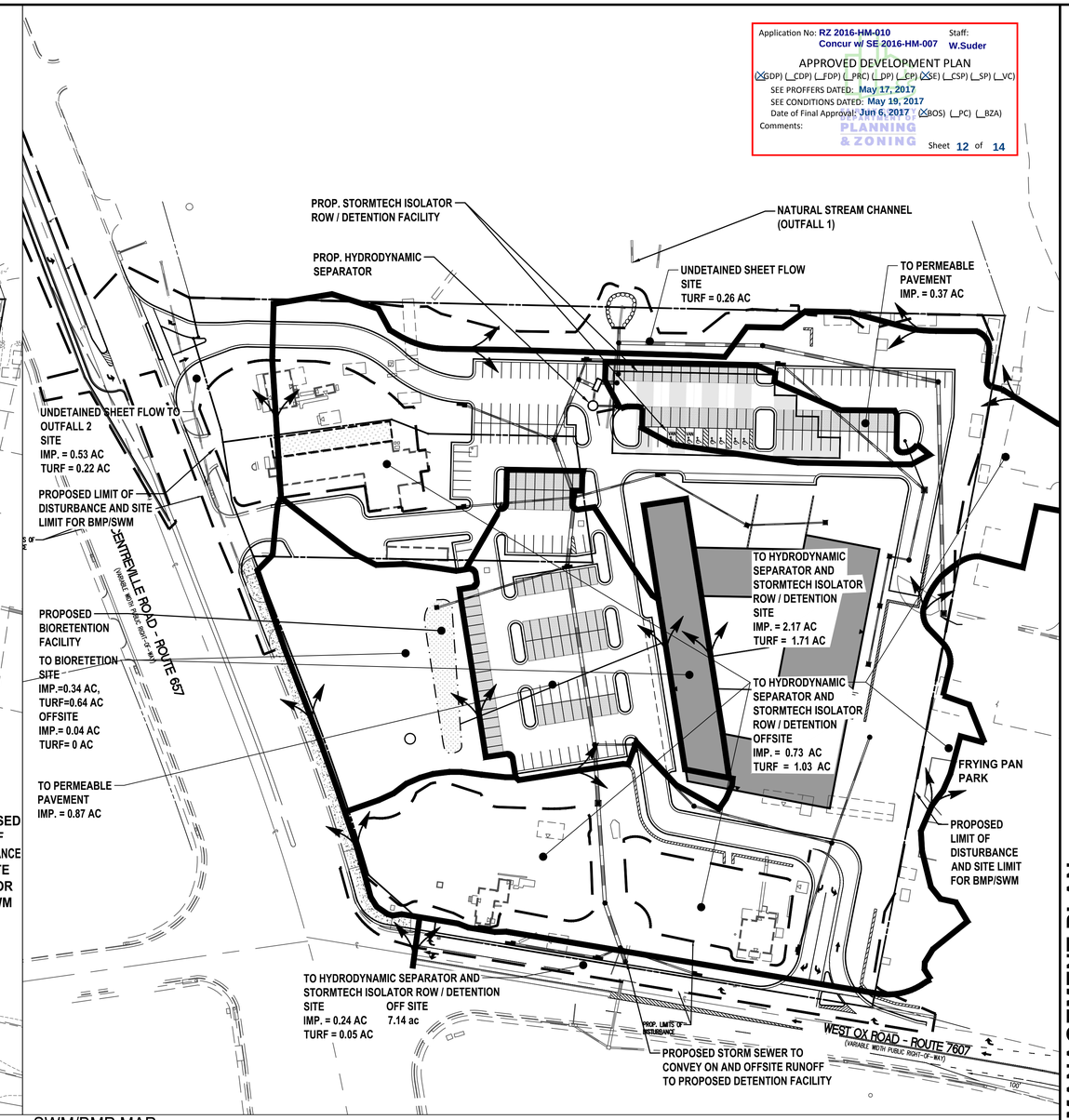
Sheet 12 of 14



PRE-DEVELOPMENT DRAINAGE DIVIDE MAP

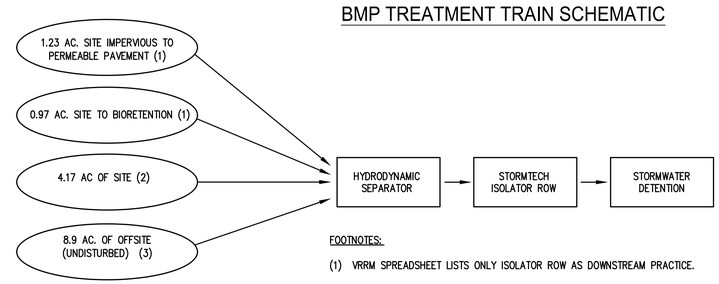
SCALE: 1" = 60'



SWM/BMP MAP

SCALE: 1" = 60'

BMP TREATMENT TRAIN SCHEMATIC



FOOTNOTES:

(1) VRRM SPREADSHEET LISTS ONLY ISOLATOR ROW AS DOWNSTREAM PRACTICE.

(2) LISTED IN VRRM SPREADSHEET AS WET SWALE WHICH HAS SAME 20% PHOSPHOROUS REMOVAL EFFICIENCY AS HYDRODYNAMIC SEPARATOR

(3) VRRM SPREADSHEET ON SHEET P-0502 DOES NOT INCLUDE CREDIT FOR THESE AREAS. CREDIT MAY BE TAKEN ON SITE PLAN AS APPROVED BY DPWES.

LEGEND

BIORETENTION

PERMEABLE PAVEMENT

0 30 60 120

1 INCH = 60'

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ARON M. VINSON
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5/5/17
PROFESSIONAL ENGINEER

DATE: 4/18/16; REV. 9/7/2016; 11/2/2017; 2/22/2017; 3/9/2017
REV. 4/5/2017; 5/5/2017

SCALE: AS NOTED

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PRELIMINARY STORMWATER MANAGEMENT PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT

FAIRFAX COUNTY, VIRGINIA

1. HISTORICAL HOUSE PRESERVED
2. HISTORICAL MARKER
3. OUTDOOR LEARNING SPACE
4. BUILDING ENTRY
5. POTENTIAL CONNECTION TO FRYING PAN FARM PARK
6. UPGRADED, SHARED PARKING WITH EXISTING CHURCH
7. GATED ENTRY TO CAMPUS
8. POTENTIAL VEHICULAR CONNECTION TO FRYING PAN FARM PARK
9. NEW FINE ARTS BUILDING
10. NEW SIDEWALKS ALONG WEST OX AND CENTREVILLE ROADS
11. PERMEABLE PARKING
12. PRESERVED TREE AREAS WITH PERMEABLE PATHS
13. STRUCTURED RAIN GARDEN

Application No: RZ 2016-HM-010 Staff:
Concur w/ SE 2016-HM-007 W.Suder

APPROVED DEVELOPMENT PLAN

(X)GDP) (_)CDP) (_)FDP) (_)PRC) (_)DP) (_)CP) (X)SE) (_)CSP) (_)SP) (_)VC)

SEE PROFFERS DATED: May 17, 2017

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Comments:

FAIRFAX COUNTY PLANNING & ZONING

Sheet 13 of 14

SCIMORES ACADEMY
SITE FEATURES

SUPPLEMENTAL INFORMATION - FOR ILLUSTRATIVE PURPOSES ONLY

PERKINS + WILL

PREPARED BY:

PERKINS + WILL

SUPPLEMENTAL INFORMATION - FOR ILLUSTRATIVE PURPOSES ONLY

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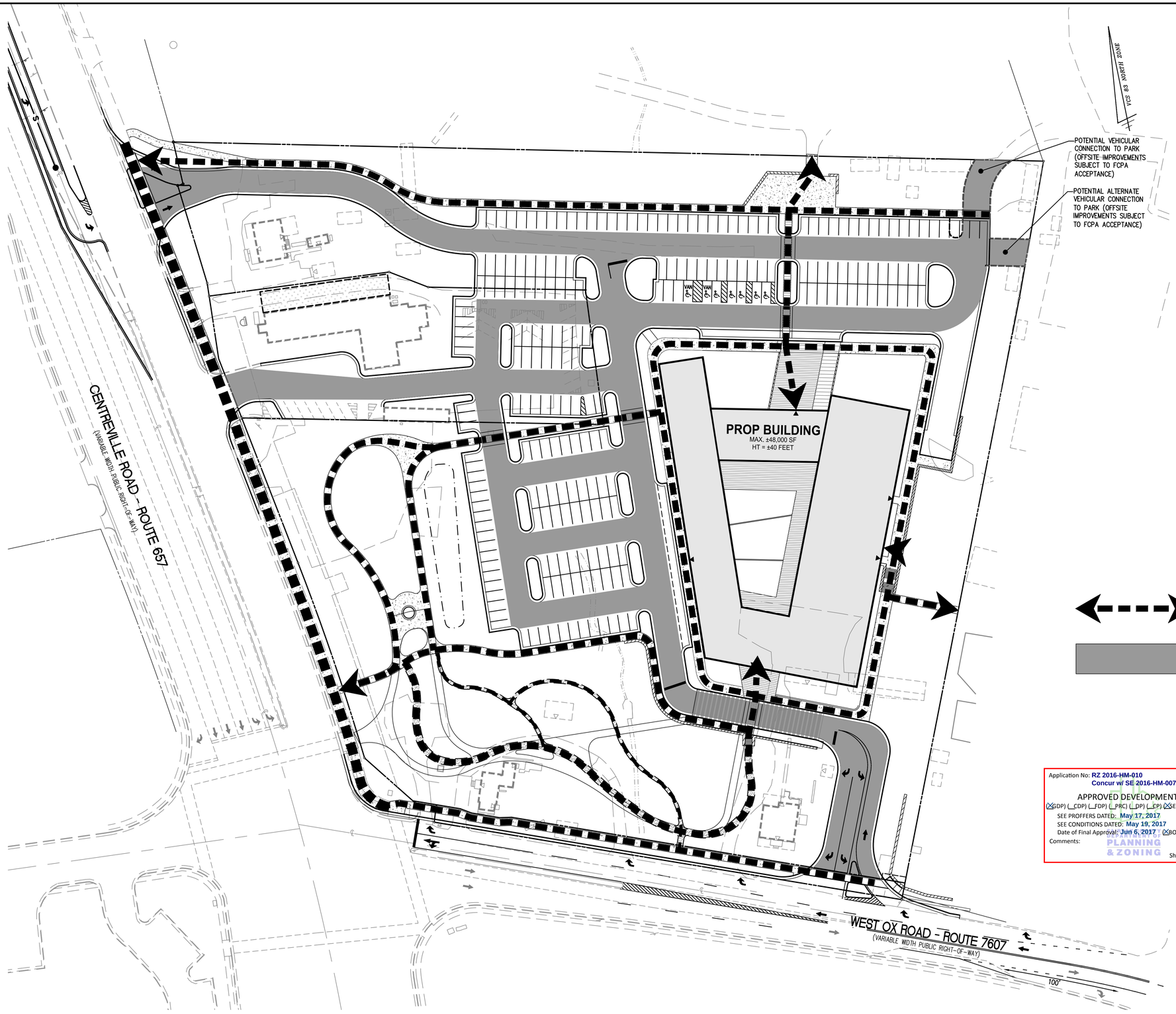
SHEET: P-0601

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Planning\GDP-SE\15027P-0601.dwg



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CIRCULATION PLAN

THE FLORIS CONSERVATORY FOR FINE ARTS
A SCIMORES ACADEMY

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SHEET: P-0602

File No. FU-21 Tax Map No. 25-1 Job No. 15-027 Cadd Dwg. File: Q:\sdskproj\15027\dwg\Planning\GDP-SE\15027P-0602.dwg