

MITRE 4

FINAL DEVELOPMENT PLAN

FDP-2011-PR- 011-02

PROVIDENCE DISTRICT FAIRFAX COUNTY, VIRGINIA

AUGUST 01, 2012

Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN

(_GDP) (_CDP) (X FDP) (_PRC) (_DP) (_CP) (_SE) (_CSP) (_SP) (_VC)

SEE PROFFERS DATED:

SEE CONDITIONS DATED: April 2, 2013

Date of Final Approval: Fairfax County (X BOS) (_PC) (_BZA)

Comments:

Sheet 1 of 20



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APPLICANT:
Cityline Partners LLC
1651 OLD MEADOW ROAD, SUITE 650
McLEAN, VA 22102

OWNER:
MITRE Corporation
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CIVIL ENGINEERING:
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REVISIONS:
FEB. 04, 2013
DEC. 10, 2012
OCT. 19, 2012
SEPT. 13, 2012
SHEET 1 OF 20
P-01-COV

GENERAL NOTES

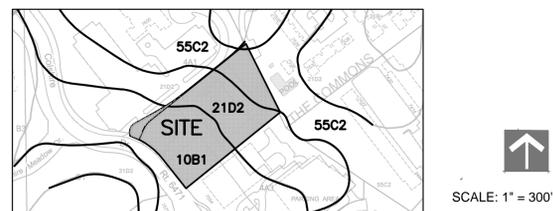
- THIS APPLICATION COMPRISES ONE PROPOSED OFFICE BUILDING REFERRED TO AS MITRE 4. A FINAL DEVELOPEMENT PLAN (FDP) APPROVAL IS REQUESTED FOR THE MITRE 4 BUILDINGS. THE SITE IS CURRENTLY UNDER CONSTRUCTION IN ACCORDANCE WITH SITE PLAN #3538-SP-003. A SPECIAL EXCEPTION FOR BUILDING HEIGHT WAS APPROVED WITH DEVELOPMENT CONDITIONS IN JUNE 2011. FOR REVIEW PURPOSES, ALL PROPOSED IMPROVEMENTS SHOWN SHOULD BE CONSIDERED AS AN EXISTING CONDITION.
- THE AREA SUBJECT TO THIS FINAL DEVELOPEMENT PLAN IS LOCATED ON A PORTION OF FAIRFAX COUNTY TAX ASSESSMENT MAP 30-3 (28) PARCEL 4C, AND IS IN THE NAME OF THE MITRE CORPORATION, AS RECORDED IN DEED BOOK 21971 PAGE 1338. THE PROPERTY CONSISTS OF 2.936 ACRES (127,882 SF).
- THE SITE IS CURRENTLY VACANT. THE JOHNSON TWO OFFICE BUILDING AND ASSOCIATED SITE IMPROVEMENTS WERE REMOVED FROM THE SITE IN 2011.
- THE SUBJECT PROPERTY IS LOCATED WITHIN THE COLSHIRE SUBDISTRICT OF THE FAIRFAX COUNTY COMPREHENSIVE PLAN FOR TYSONS CORNER URBAN CENTER. THE LAND USE RECOMMENDATION FOR THE SUBJECT PROPERTY IS OFFICE.
- THE COMPREHENSIVE PLAN DOES NOT INDICATE ANY TRAILS ON THE SITE. IN ACCORDANCE WITH THE DRAFT BIKE LANE PLAN, BIKE LANES ARE PLANNED FOR COLSHIRE MEADOW DRIVE, AND DARTFORD DRIVE AS SHOWN ON SHEET 5.
- FIELD SURVEY WAS PERFORMED BY PHR+A IN DECEMBER 2011. TWO (2) FOOT CONTOUR INTERVALS ARE PROVIDED.
- KNOWN MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED ON THE SUBJECT PROPERTY AND WITH A WIDTH GREATER THAN TWENTY-FIVE (25) FEET ARE SHOWN ON THE PLAN.
- THE SITE IS IN THE SCOTTS RUN WATERSHED.
- TO THE BEST OF OUR KNOWLEDGE, NO GRAVE SITE EXISTS ON THIS SITE.
- TO THE BEST OF OUR KNOWLEDGE, NO HAZARDOUS OR TOXIC SUBSTANCES ARE PRESENT ON SITE AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4, AND 365. ALL HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA /DEPARTMENT OF WASTE MANAGEMENT REGULATIONS VR 672-10-1- VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND /OR PETROLEUM PRODUCTS STORED UNDERGROUND AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS, PART 280. TO THE BEST OF OUR KNOWLEDGE THE PROPOSED DEVELOPEMENT WILL NOT GENERATE, UTILIZE, STORE, TREAT OR DISPOSE OF ANY SUCH SUBSTANCES ON SITE.
- THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION.
- NO FLOOD PLAINS, RESOURCE PROTECTION AREAS (RPA) OR ENVIRONMENTAL QUALITY CORRIDORS EXIST ON THE SITE.
- MECHANICAL EQUIPMENT IS LOCATED IN THE UNDERGROUND GARAGE AND PENTHOUSE, AND IS EXCLUDED FROM GROSS FLOOR AREA (GFA) AND FLOOR AREA RATIO (FAR) COMPUTATIONS. ACCESSORY STRUCTURES MAY BE PLACED ON THE ROOF OF THE PENTHOUSE IN ACCORDANCE WITH SECTION 2-506 OF THE ZONING ORDINANCE.
- PUBLIC SANITARY SEWER SERVICE WILL BE PROVIDED TO THE PROPOSED DEVELOPEMENT BY AN EXTENSION FROM THE MAIN IN COLSHIRE DRIVE. PUBLIC WATER WILL BE PROVIDED BY AN EXTENSION FROM THE EXISTING MAIN IN COLSHIRE DRIVE. DETAILED DESIGN SHALL BE COMPLETED DURING FINAL SITE PLAN ENGINEERING.
- INGRESS AND EGRESS TO THE PROPERTY FOR THE INTERM CONDITION (SHEET) IS VIA AN EXISTING TRAVEL WAY LOCATED TO THE NORTH OF THE SITE AS WELL AS COLSHIRE DRIVE (RTE 6471). FOR THE ULTIMATE CONDITION (SHEET 5), COLSHIRE MEADOW DRIVE WILL REPLACE THE EXISTING TRAVEL WAY AND PROVIDE ADDITIONAL ACCESS TO THE SITE.
- THE FINAL DEVELOPEMENT PLAN (FDP) IS NOT AN ENGINEERING CONSTRUCTION DRAWING AND MINOR DEVIATIONS AND ADJUSTMENTS MAY BE REQUIRED. THE BUILDING FOOTPRINT MAY VARY TO ADDRESS FINAL ARCHITECTURAL OR ENGINEERING DESIGN AND CONSTRUCTION SO LONG AS BUILDING SETBACKS SHOWN ON THE FDP AND MAXIMUM FAR ARE MAINTAINED. PURSUANT TO SECTION 18-204(5) OF THE ZONING ORDINANCE, MINOR MODIFICATIONS TO THE BUILDING SHOWN ON THE FDP MAY BE PERMITTED. SUBJECT TO FINAL APPROVAL BY THE URBAN FORESTRY BRANCH ON-SITE LANDSCAPE AND STREETScape DESIGNS SHALL BE IN CONFORMANCE WITH SHEETS 6 AND 7. SITE FEATURES SUCH AS BENCHES, TRASH RECEPTACLES, WALLS, STEPS, TRELLISES, LIGHTS, SIDEWALKS, AND THE LIKE THAT ARE SHOWN ON THE FDP MAY BE SUBJECT TO CHANGE WITHOUT MINOR MODIFICATIONS. FURTHERMORE, ADDITIONAL SITE FEATURES SUCH AS SIGNS, FLAGPOLES, AND FENCES/RAILINGS NOT SHOWN ON THE FDP MAY BE PROVIDED WITHOUT MINOR MODIFICATION.
- FINAL LOCATION OF BUILDING MOUNTED AND FREESTANDING SIGNS TO BE DETERMINED DURING SITE PLAN REVIEW. ALL SIGNAGE TO COMPLY WITH ARTICLE 12 OF THE ZONING ORDINANCE.
- THE DEVELOPEMENT OF THIS PROJECT SHALL COMMENCE AT SUCH TIME AS APPROPRIATE COUNTY APPROVALS HAVE BEEN OBTAINED AND SUBJECT TO OWNER DISCRETION. REGARDING PHASING, THE APPLICANT DOES NOT ANTICIPATE PHASING THE CONSTRUCTION OF THE BUILDING OR PARKING SHOWN ON SHEET 4.
- LIMITS OF CLEARING AND GRADING EXTEND TO AND GENERALLY COINCIDE WITH THE PROPERTY LINES WITH THE EXCEPTION OF THE PRESERVATION AREA ALONG THE NORTHEAST BOUNDARY, ROAD TIE-INS, AND UTILITY EXTENSIONS THAT MAY REQUIRE WORK OFF-SITE AS DETERMINED BY FINAL ENGINEERING AND DESIGN.
- TO ACCOMMODATE BICYCLE USERS, BIKE RACKS TO FACILITATE 64 BIKES WILL BE PROVIDED IN THE UNDERGROUND GARAGE AND ABOVE GRADE. IN ADDITION, SHOWER AND LOCKER FACILITIES WILL BE PROVIDED WITHIN THE PROPOSED BUILDING.
- THE ARCHITECTURAL DESIGN SHOWN WILL BE IN SUBSTANTIAL CONFORMANCE WITH THE ELEVATIONS AND RENDERINGS SHOWN HEREIN, AND CONSISTENT WITH EXISTING BUILDINGS ON THE MITRE CAMPUS.
- THE APPLICANT RESERVES THE RIGHT FOR A POTENTIAL CONVERSION OF UP TO 5,000 SF OF THE 340,000 SF OFFICE SPACE TO RETAIL, PERSONAL/BUSINESS SERVICES, FAST FOOD RESTAURANT, QUICK SERVICE FOOD STORE AND/OR EATING ESTABLISHMENT AS SHOWN ON THE FDP.
- THE APPLICANT RESERVES THE RIGHT FOR DENSITY CREDIT FOR ALL ELIGIBLE DEDICATIONS AS SHOWN ON THIS FDP AND DETERMINED DURING FINAL ENGINEERING OR AS MAY BE REQUIRED BY FAIRFAX COUNTY OR VDOT PURSUANT TO THE PUBLIC FACILITIES MANUAL OR THE COMPREHENSIVE MASTER PLAN.

WAIVERS:

TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPEMENT WILL BE IN CONFORMANCE WITH APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS WITH THE EXCEPTION OF THE FOLLOWING:

- REAFFIRMATION OF A WAIVER FROM THE REQUIRED 5 LOADING SPACES FOR AN INDIVIDUAL BUILDING. THIS APPLICATION IS PROPOSING TO PROVIDE 2 LOADING SPACES. LOADING SPACE WAIVER HAS BEEN PREVIOUSLY APPROVED UNDER SE 2010-PR-023.

SOILS MAP DATA

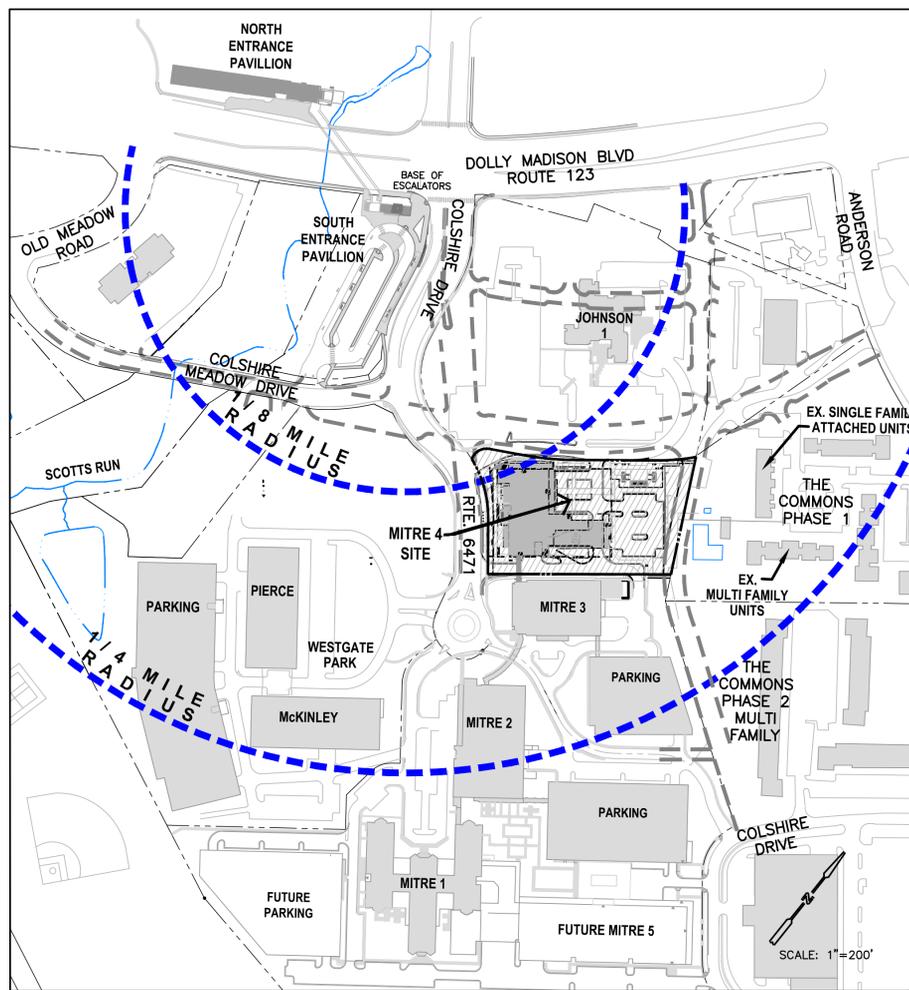


SOILS MAP SOURCE: COUNTY MAP; PRIVATE SOILS SCIENTIST (FOR UNMAPPED SITES)

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SUBSURFACE DRAINAGE	SLOPE STABILITY	ERODABILITY	PROBLEM CLASS
10B1	GLENVILLE SILT LOAM	FAIR-B-W	MARGINAL-W	GOOD	MODERATE	B
21D2	MANOR SILT LOAM, HILLY PHASE	GOOD	GOOD	GOOD	HIGH	C
55C2	GLENELG SILT LOAM, ROLLING PHASE	GOOD	GOOD	GOOD	HIGH	C

SOILS WITH IDENTIFICATION NUMBERS 59, 66, 89, 141, 142, AND 152 MAY OVERLIE PARENT BEDROCK FORMATIONS WHICH HAVE BEEN FOUND TO CONTAIN NATURALLY OCCURRING ASBESTOS MINERALS. SPECIAL MINIMUM CONSTRUCTION MEASURES AND PRECAUTIONS ARE REQUIRED IN COMPLIANCE WITH HEALTH DEPARTMENT DIRECTIVES WITHIN THESE SOILS OR WITHIN FILL ORIGINATING FROM THESE SOILS.

VICINITY MAP



SITE TABULATIONS

EXISTING ZONE:	C-3/HC	
PROPOSED ZONE:	PTC	
USE:	OFFICE	
GROSS FLOOR AREA:	340,000 S.F. (1)	
LOT SIZE	REQUIRED	PROVIDED
AREA	NO REQUIREMENT FOR EACH USE OR BUILDING	127,882 S.F. / 2.936 AC.
WIDTH	NO REQUIREMENT FOR EACH USE OR BUILDING	303 FT.
R.O.W. DEDICATION		9,480 S.F. ±
AREA AFTER DEDICATION		118,402 S.F. ± / 2.718 AC. ±
FAR	2.66 (2)	2.66
BUILDING HEIGHT	SEE FOOTNOTE (3) BELOW	225 FT.
YARDS	SEE FOOTNOTE (3) BELOW	32 FT. ±
FRONT	SEE FOOTNOTE (3) BELOW	9 FT. ±
SIDE	SEE FOOTNOTE (3) BELOW	118 FT. ±
REAR	SEE FOOTNOTE (3) BELOW	
OPEN SPACE:	SEE FOOTNOTE (3) BELOW	
TOTAL		51,500 SF ± (43% ±)
PASSIVE RECREATION (TEMPORARY POCKET PARK)		4,800 SF ± (3.7% ±)
PARKING	506 SPACES (4)	506 SPACES (4)
LOADING SPACES	5 SPACES	2 SPACES (5)

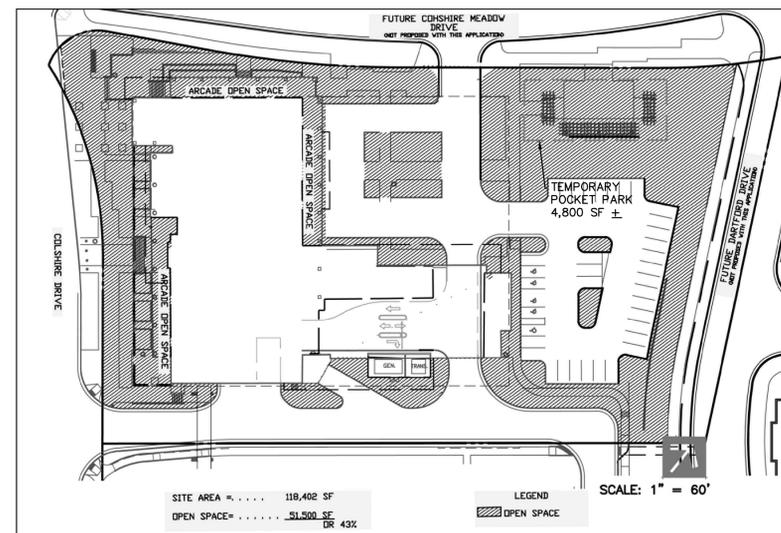
- FOOTNOTES:
- THE SCOTTS RUN STATION SOUTH CDP IS BEING PROCESSED WITH THIS FDP AND ALLOWS FOR A MAXIMUM OF 340,000 SF ON THIS SITE, NONE OF WHICH HAS BEEN BUILT TO DATE. FOR THE PURPOSES OF CALCULATING FAR AND PARKING, 340,000 S.F. OF GROSS FLOOR AREA EXCLUDES CELLAR SPACE, THE OVERHEAD PEDESTRIAN CORRIDOR CONNECTION WITH THE MITRE 3 BUILDING, MECHANICAL EQUIPMENT ENCLOSURES, AND THE MECHANICAL EQUIPMENT IN THE UNDERGROUND PARKING GARAGE AND PENTHOUSE. THE SMALL AMOUNT OF THE SITE THAT IS IN THE <1/8 MILE IS NOT REFLECTED AND CONSIDERED NEGLIGIBLE.
 - IN ACCORDANCE WITH SCOTTS RUN STATION SOUTH CDP RZ-2011-PR-011.
 - NO NUMERIC MINIMUM REQUIREMENT BUT TO BE CONSISTENT WITH THE REQUIREMENTS OF THE COMPREHENSIVE PLAN.
 - PARKING PROVISIONS ARE ESTABLISHED FOR THIS PROPOSED USE IN THE PARKING PLAN, SHEET 11.
 - REAFFIRMATION OF THE LOADING SPACE WAIVER REQUESTED WITH THIS APPLICATION. PREVIOUSLY APPROVED UNDER SE-2010- PR-023.

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MITRE 4 COURTYARD
LOOKING SOUTH

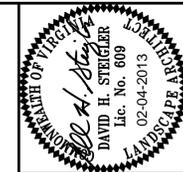
NOTE: THIS RENDERING SHOWS THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPEMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.



OPEN SPACE PLAN

Application No: **FDP 2011-PR-011-02** Staff: S. Lin

APPROVED DEVELOPEMENT PLAN
 (L_GDP) (L_CDP) (L_FDP) (L_PRG) (L_DP) (L_CP) (L_SF) (L_CSP) (L_SP) (L_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: **April 2, 2013**
 Date of Final Approval: **APRIL 2, 2013** (X90S) (L_PC) (L_BZA)
 Comments:
 DEPARTMENT OF PLANNING & ZONING
 Sheet 2 of 20



Patton Harris Rust & Associates, Inc.
 Engineers, Surveyors, Planners, Landscape Architects.

PHR+A

14532 Lee Road
 Chantilly, VA 20151-1679
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NOTES AND TABULATIONS

TITLE

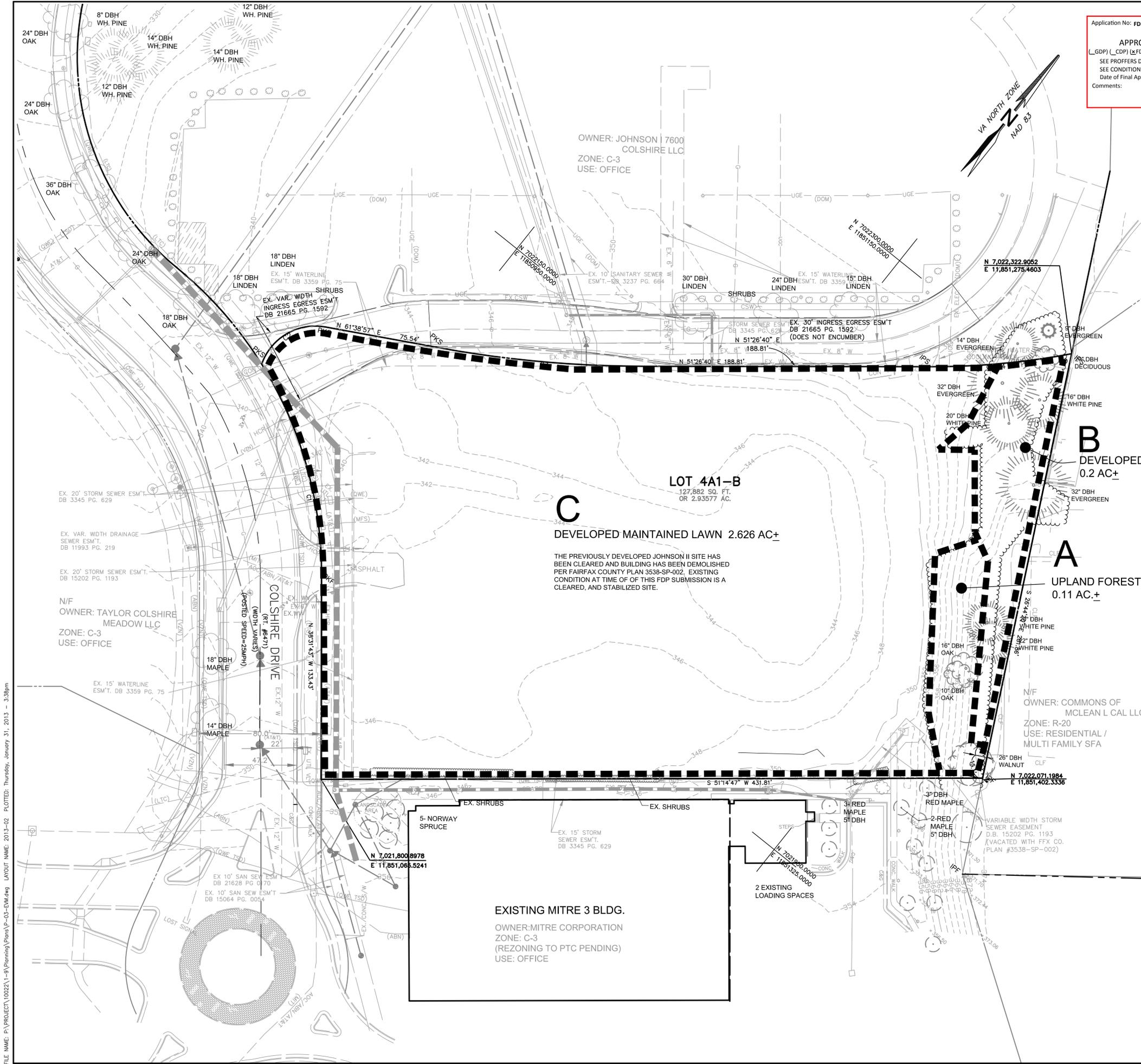
MITRE 4

FINAL DEVELOPEMENT PLAN

FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

DESIGN	PHR+A	PHR+A	PHR+A	PHR+A	PHR+A
DRAWN	PHR+A	PHR+A	PHR+A	PHR+A	PHR+A
CHECKED	PHR+A	PHR+A	PHR+A	PHR+A	PHR+A
FILE NO.	10022-1-9	CAT. NO.	2	OF	20
DATE	AUGUST 01, 2012	SCALE	AS SHOWN	SHEET	2 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\OLE\W4 FDP TABS.xls LAYOUT NAME: 2013-02 PLOTTED: Friday, February 01, 2013 2:00pm



Application No: FDP 2011-PR-011-02 Staff: S. Lin
APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_DP) (L_CP) (L_SE) (L_CSP) (L_SP) (L_VC)
 SEE PROFFERS DATED: SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: FAIRFAX COUNTY (L_BOS) (L_PC) (L_BZA)
 Comments: DEPARTMENT OF PLANNING & ZONING Sheet 3 of 20

LEGEND:
 EXISTING TREELINE
 DECIDUOUS TREES
 EVERGREEN TREES
 EXISTING SHRUBLINE

GROSS SITE AREA: 127,882 SF / 2.936 AC.

EXISTING VEGETATION COVER TYPE SUMMARY TABLE MITRE 4

COVER TYPE	PRIMARY SPECIES	UNDERSTORY SPECIES	SUCCESSIONAL STAGES	CONDITION	TOTAL AREA
A UPLAND FOREST	PREDOMINATELY CARYA SPP., ASH, ACER SPP., PRUNUS SEROTINA AND LONDON PLANE	UNDERSTORY OF DENSE INVASIVE VINES AND LONICERA SPP. SOME DOGWOOD AND PRIMARY SPP. SEEDINGS, DEVELOPING.	SUB-CLIMAX	GOOD / FAIR	0.11 AC±
B DEVELOPED	LANDSCAPED SCREENING PLANTINGS NOT MAINTAINED, CONSISTING PRIMARILY OF MATURE EASTERN WHITE PINE.		N/A	GOOD / FAIR	0.20 AC±
C DEVELOPED MAINTAINED LAWN	THE PREVIOUSLY DEVELOPED JOHNSON II SITE HAS BEEN CLEARED AND BUILDING HAS BEEN DEMOLISHED PER FAIRFAX COUNTY PLAN 3538-SP-002. EXISTING CONDITION AT TIME OF THIS FDP SUBMISSION IS CLEARED, STABILIZED SITE. NO TREES OR SHRUB PLANTINGS IN HTIS AREA.		N/A	GOOD	2.626 AC±
TOTAL COVER AREA					2.936 AC±

COVER TYPE	ADDITIONAL COMMENTS & CONDITION DESCRIPTION:
A UPLAND FOREST	VAROUS AGED LINDEN AND PIN OAKS 6" TO 24" DBH MAKES UP ABOUT 85% COVER TYPE. THIS STAND IS IN GOOD CONDITION WITH NO APPARENT DISEASE SYMPTOMS
B DEVELOPED	THE LANDSCAPE PLANTINGS ARE OVERGROWN WITH INVASIVE VINES & SHRUBS (POISON IVY, WILD GRAPE, AND LONICERA SPP.). SEVERAL WHITE PINES ARE LARGE BETWEEN 32" & 22" DBH REQUIRING SOME MINOR PRUNING AND VINE REMOVAL. VEGETATION IS IN GOOD HEALTH WITH NO APPARENT PROBLEMS.
C DEVELOPED MAINTAINED GRASSLAND	THIS AREA HAS BEEN CLEARED AND BUILDING HAS BEEN DEMOLISHED PER FAIRFAX COUNTY PLAN 3538-SP-002. EXISTING CONDITION AT TIME OF OF THIS FDP SUBMISSION IS CLEARED, STABILIZED SITE.

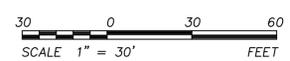
TREE PRESERVATION TARGET CALCULATION:

PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY FROM EXISTING VEGETATION MAP	0.31 AC±
PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY	10.67%
PERCENTAGE OF 10 YEAR CANOPY REQUIRED FOR SITE ZONING C-3	10%
PERCENTAGE OF THE 10 YEAR TREE CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION	1.07%
PROPOSED PERCENTAGE OF THE TREE CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION	6.45% *
HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	YES

* FOR TREE SAVE AREA AND 10 YEAR CANOPY CALCULATIONS SEE LANDSCAPE PLAN (SHEET 05).

CURVE TABLE

CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD BEARING	CHORD
C1	143.78	256.00	73.84	32°10'44"	N54°37'05"W	141.89
C2	52.28	37.00	31.58	80°57'16"	N21°10'00"E	48.04
C3	132.96	746.50	66.65	10°12'16"	N56°32'49"E	132.78
C4	92.36	496.50	46.32	10°39'31"	N46°06'55"E	92.23



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EXISTING CONDITIONS / EXISTING VEGETATION MAP

TITLE

MITRE 4
FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

PROJECT

DESIGN PHR+A
 DRAWN PHR+A
 CHECKED PHR+A
 FILE NO. 10022-1-9
 SURVEY PHR+A
 DATE AUGUST 01, 2012
 SCALE 1" = 30'
 SHEET 3 OF 20
 P:\PROJECT\10022\1-9\Planning\Plans\1-9\10022-1-9-EVM.dwg

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\1-9\10022-1-9-EVM.dwg LAYOUT NAME: 2013-02 PLOTTED: Thursday, January 31, 2013 3:38pm



Patton Harris Rust & Associates, Inc.
 Engineers, Surveyors, Planners, Landscape Architects.
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FINAL DEVELOPMENT PLAN
ULTIMATE STREET NETWORK

MITRE 4
FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA

DESIGN: PHR+A
 DRAWN: PHR+A
 CHECKED: PHR+A
 FILE NO.: 10022-1-9
 SURVEY: PHR+A
 DATE: AUGUST 01, 2012
 SCALE: 1" = 30'
 SHEET: 5 OF 20

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD BEARING	CHORD
C1	143.78	256.00	73.84	32°10'44"	N54°37'05"W	141.89
C2	52.28	37.00	31.58	80°57'16"	N21°10'00"E	48.04
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C4	92.36	496.50	46.32	10°39'31"	N46°06'55"E	92.23

- LEGEND**
- PEDESTRIAN LIGHT
 - BENCH
 - TRASH RECEPTACLE
 - ▼ BUILDING ENTRANCE



County of Fairfax, Virginia
 To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

August 4, 2011

Mr. Robert A. Munse
 Patton Harris Rust & Associates
 14532 Lee Road
 Chantilly, VA 20151

Reference: Waiver Request to Partially Eliminate Fire Lane Signage and Yellow Curb Paint and request to utilize decorative removable bollards within a Fire Access Lane.
 MITRE 4 Site Plan
 Fairfax County Site Plan # 3538-SP-003-1
 Tax Map #030-3-28-00-0004-A; Providence District

Dear Mr. Munse:

This letter is in response to your letter request dated July 5, 2011, for a waiver to partially eliminate fire lane signage and yellow curb paint and request to utilize decorative removable bollards within a Fire Access Lane.

- I understand that several (4) manually retractable bollards are proposed within the front side Fire Access Lane at the MITRE 4 site on Colshire Drive. The bollards do not prevent fire apparatus access or positioning at this location so your request to install them is approved. The expectation is the bollards will be lowered upon the activation of any Fire Alarm or other related emergencies by the on-site security and support personnel prior to the arrival of fire units and these bollards shall be exercised monthly to ensure proper operation. I would also ensure there are extra bollard keys available in the Fire Control Room.
- The waiver request to partially eliminate fire lane signage and yellow curb paint is denied based on the fact that you did not justify how your waiver request meets the spirit and intent of the Fairfax County Fire Prevention Code regarding compliance with Section 503 Fire Apparatus Access Roads and the Fairfax County Public Facilities Manual, 9-0202.2) Fire Department Access including requirements listed in Plate 6-9.

If you have questions regarding this matter, please contact me at 703-246-4753.

Froody Protecting and Serving Our Community

Fire and Rescue Department
 Fire Prevention Division
 10700 Page Avenue
 Fairfax, Virginia 22030
 703-246-4800
 www.fairfaxcounty.gov/fire

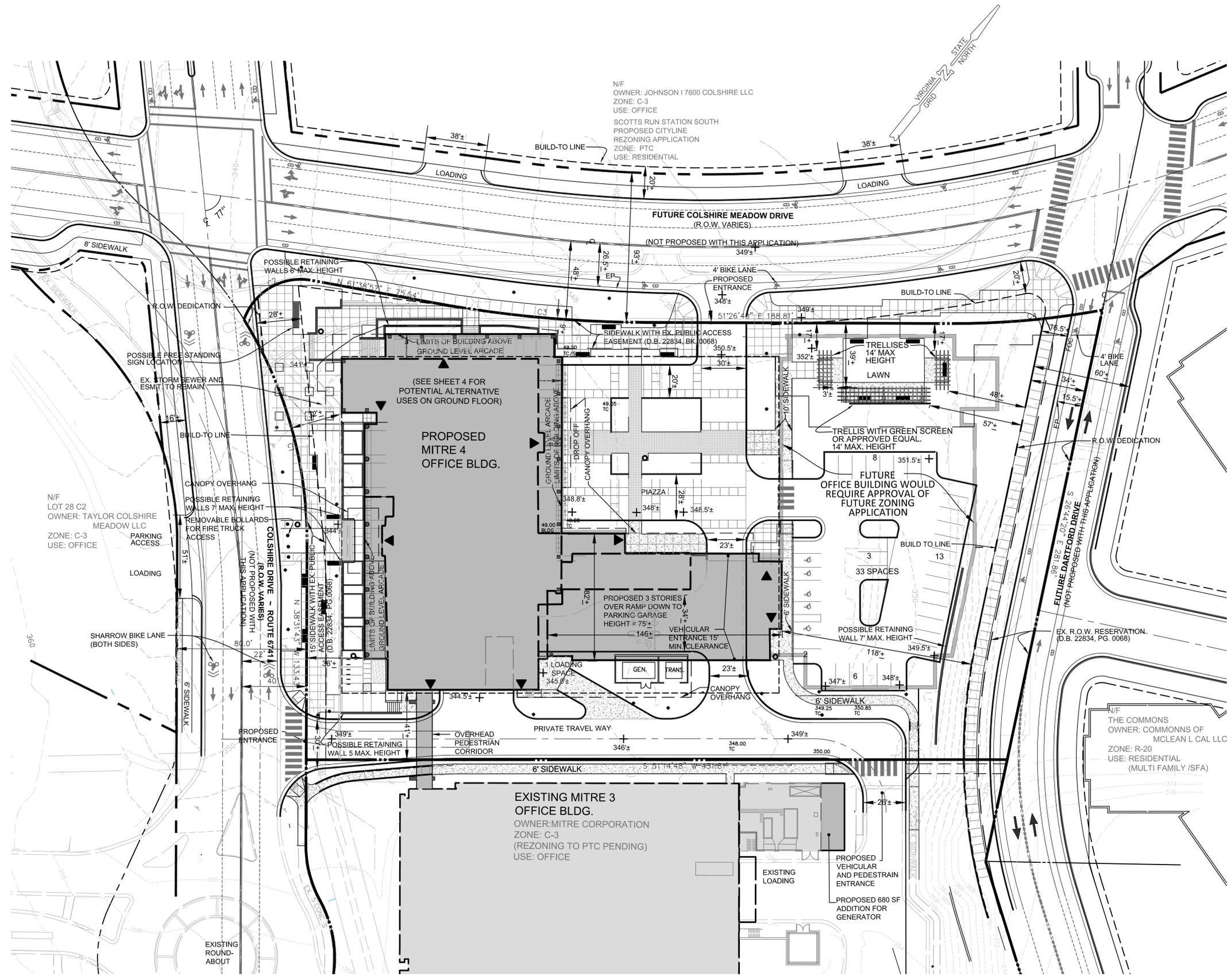
Mr. Robert A. Munse
 August 4, 2011
 Page 2

You have the right to appeal this decision to the Board of Building Code Appeals within 14 days from the date you receive this letter. You may arrange an appeal or obtain information on the appeals process by contacting Carla C. Bird, Secretary to the Board of Building Code Appeals, at 703-324-1780

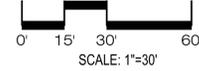
Sincerely,

Derek A. Baker
 Derek A. Baker
 Deputy Chief
 Office of the Fire Marshal

cc: Audrey C. Clark, Director, Building Plan Review Division
 File



Application No: FDP 2011-PR-011-02 Staff: S. Lin
APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (&FDP) (L_PRC) (L_DP) (L_PC) (L_SE) (L_SP) (L_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: FAIRFAX COUNTY (X805) (L_PC) (L_BZA)
 Comments:
 PLANNING & ZONING
 sheet 5 of 20



FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\F-05_FDP-ULT.dwg LAYOUT NAME: 2011-02 PLOTTED: Friday, February 01, 2013 - 3:45pm

FILE NAME: P:\PROJECT\10022\1-9 Planning\Plan\1-9 LND.dwg LAYOUT NAME: 2013-02_PLOTTED: Thursday, January 31, 2013 - 3:41 pm

LANDSCAPE LEGEND

- CANOPY TREES (CATEGORY IV, 3" CAL.)**
 - RED MAPLE, *ACER RUBRUM*
 - SWEET GUM, *LIQUIDAMBAR STYRACIFLUA 'CHEROKEE'*
 - TULIP POPLAR, *LIRIODENDRON TULIPIFERA*
 - SWAMP WHITE OAK, *QUERCUS BICOLOR*
 - SCARLET OAK, *QUERCUS COCCINEA*
 - PIN OAK, *PALUSTRIS*
 - WILLOW OAK, *QUERCUS PHELLOS*
 - ZELKOVA, *ZELKOVA SERRATA*
- INTERIOR PARKING LOT LANDSCAPING PROVIDED (CATEGORY IV, 3" CAL.)**
 - ZELKOVA, *ZELKOVA SERRATA*
- EVERGREEN TREES (CATEGORY I, II, AND IV)**
 - AMERICAN HOLLY, *ILEX OPACA*
 - FOSTER HOLLY, *BILEX X ATTENUATA 'FOSTER'S #2'*
 - AMERICAN ARBORVITAE, *THUJA OCCIDENTALIS 'NIGRA'*
 - MAGNOLIA GRANDIFLORA, *SOUTHERN MAGNOLIA*
- MEDIUM ORNAMENTAL TREES (CATEGORY III, 3" CAL.)**
 - RIVER BIRCH, *BETULA NIGRA*
 - BLACK GUM, *NYSSA SYLVAICA*
 - AMERICAN YELLOWWOOD, *CLADRASTIS LUTEA*
- SMALL ORNAMENTAL TREES (CATEGORY I AND II, 2" CAL.)**
 - JAPANESE MAPLE, *ACER PALMATUM*
 - DOWNY SERVICEBERRY, *AMELANCHIER LAEVIS*
 - EUROPEAN UPRIGHT HORNBEAM, *CARPINUS BETULUS 'FASTIGIATA'*
 - REDBUD, *CERCUS CANADENSIS*
 - CRAPEMYRTLE, *LAGERSTROEMIA X 'LIPAN'*
 - SAUCER MAGNOLIA, *MAGNOLIA SOULANGIANA*
 - SWEETBAY MAGNOLIA, *MAGNOLIA VIRGINIANA*
 - SOURWOOD, *OXYDENDRUM ARBOREUM*
- SHRUBS**
 - DWARF SUMMERSWEET, *CLETHRA ALNIFOLIA 'HUMMINGBIRD'*
 - SLENDER DEUTZIA, *DEUTZIA GRACILIS 'NIKKO'*
 - LIMELIGHT HYDRANGEA, *HYDRANGEA PANICULATA 'LIMELIGHT'*
 - OAKLEAF HYDRANGEA, *HYDRANGEA QUERCIFOLIA*
 - DWARF CHERRY LAUREL, *PRUNUS LAUROCERASUS 'MOON BAY'*
 - VIRGINIA SWEETSPICE, *ITEA VIRGINICA 'HENRY'S GARNET'*
 - HEAVENLY BAMBOO, *NANDINA DOMESTICA 'OTTO LUYKEN'*
 - SCHIP LAUREL, *PRUNUS LAUROCERASUS 'SCHIPKAENSIS'*
 - WHITE AZALEA, *RHODODENDRON X 'HARDY GARDENIA'*
 - TIGER EYES SUMAC, *RHUS TYPHINA 'TIGER EYES'*
 - DRIFT ROSES, *ROSA X 'CORAL DRIFT' AND 'PEACH DRIFT'*
 - KNOCKOUT ROSE, *ROSA X 'KNOCKOUT'*
 - EUONYMUS KIAUTSCHOVICUS 'MANHATTAN', 'MANHATTAN' EUONYMUS
- PERENNIALS AND GROUNDCOVERS**
- LAWN**

EXISTING TREES TO BE PRESERVED

ALTERNATE LOCATION FOR TREES IN UTILITY EASEMENT (SEE NOTE 3)

THE ABOVE PLANT LIST SHOWS THE INTENT AND CHARACTER OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND CHARACTER MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF THE BUILDING PERMIT.

- PEDESTRIAN LIGHT
- BENCH
- TRASH RECEPTACLE
- BOLLARDS
- BUILDING ENTRANCES

PRELIMINARY TREE COVER CALCULATIONS

Tree Canopy Requirement		
B1	Identify gross site area =	127,882 SF
B2	Subtract area dedicated to parks, road frontage	0.00 SF
B3	Subtract area of exemptions =	0.00 SF
B4	Adjusted gross site area (B1 - B2) =	127,882 SF
B5	Identify site's zoning and/or use	PTC
B6	Percentage of 10-year tree canopy required =	10 %
B7	Area of 10-year tree canopy required (B4 x B6) =	12,788 SF
B8	Modification of 10-year Tree Canopy Requirements requested?	NO
B9	If B8 is yes, then list plan sheet where modification request is located	N/A
Tree Preservation		
C1	Tree Preservation Target Area =	1,365 SF
C2	Total canopy area meeting standards of § 12-0200 =	6,600 SF
C3	C2 x 1.25 =	8,250 SF
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0 SF
C5	C4 x 1.5 =	0 SF
C6	Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0 SF
C7	C6 x 1.5 to 3.0 =	0 SF
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0 SF
C9	C8 x 1.0 =	0 SF
C10	Total of C3, C5, C7 and C9 =	8,250 SF

Tree Planting		
D1	Area of canopy to be met through tree planting (B7-C10) =	4,538 SF
D2	Area of canopy planted at 1x the canopy credit =	14,710 SF
D3	Area of canopy planted for air quality benefits =	0 SF
	x 1.15 =	0 SF
D4	Area of canopy planted for energy conservation =	0 SF
	x 1.5 =	0 SF
D5	Area of canopy planted for water quality benefits =	0 SF
	x 1.25 =	0 SF
D6	Area of canopy planted for wildlife benefits =	0 SF
	x 1.5 =	0 SF
D7	Area of canopy provided by native trees =	0 SF
	x 1.5 =	0 SF
D8	Area of canopy provided by improved cultivars and varieties =	0 SF
	x 1.25 =	0 SF
D9	Area of canopy provided by problem species / conditional credit =	0 SF
D10	Area of canopy provided through tree seedlings =	0 SF
	x 1.0 =	0 SF
D11	Area of canopy provided through native shrubs or woody seed mix =	0 SF
	x 1.0 =	0 SF
D12	Area of canopy provided through tree seedlings =	0 SF
	x 1.0 =	0 SF
D13	Area of canopy provided through tree seedlings =	0 SF
	x 1.0 =	0 SF
D14	Area of canopy provided through native shrubs or woody seed mix =	0 SF
	x 1.0 =	0 SF
D15	Area of canopy provided through native shrubs or woody seed mix =	0 SF
	x 1.0 =	0 SF
D16	Percentage of D14 represented by D15 =	0 %

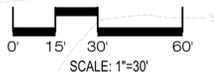
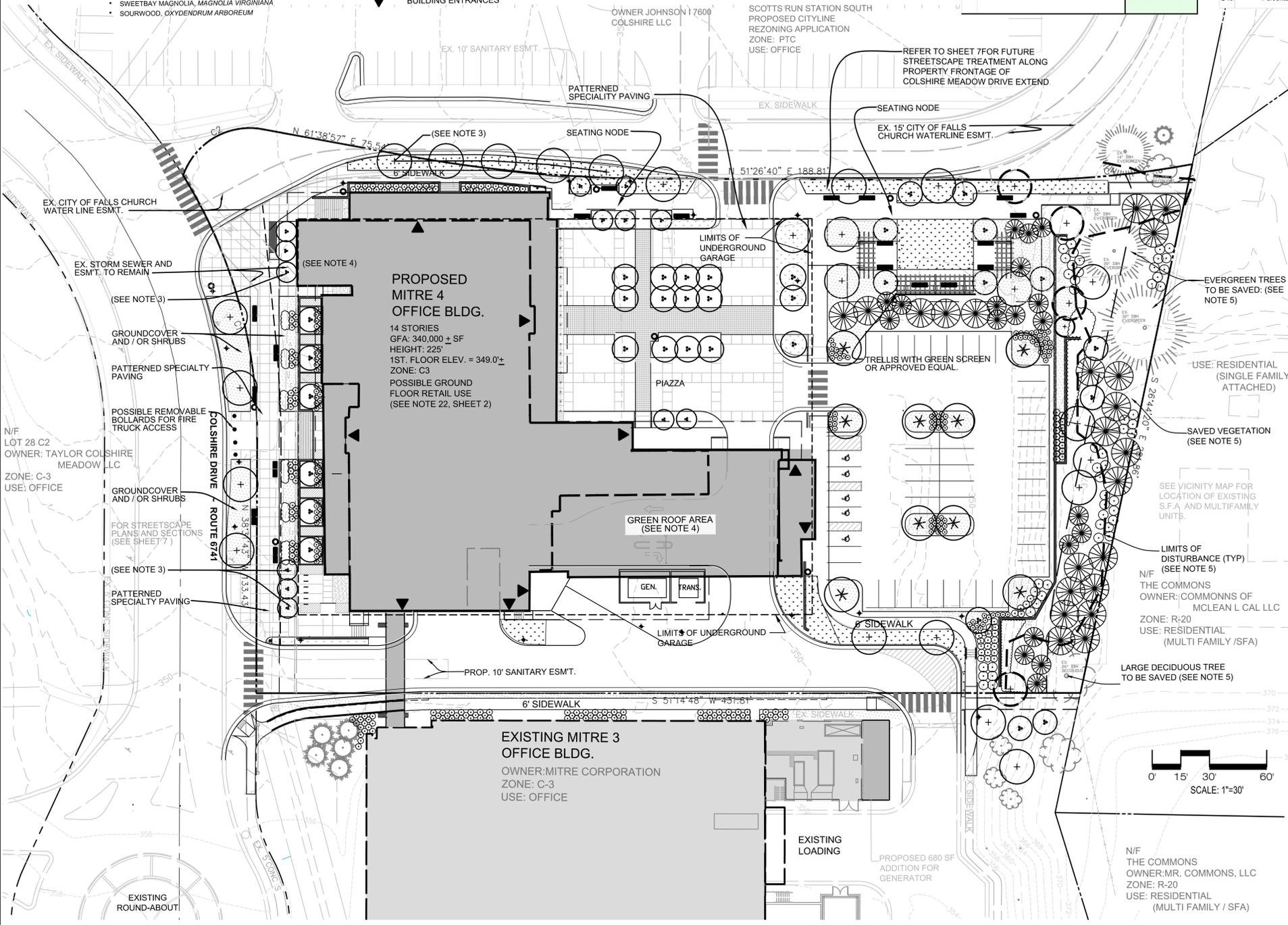
D17	Total of canopy area provided through tree planting =	14,710 SF
D18	Is an offsite planting relief requested?	NO
D19	Tree Bank or Tree Fund?	NO
D20	Canopy area requested to be provided through offsite banking or tree fund =	0 SF
D21	Amount to be deposited into the Tree Presentation and Planting Fund =	
Total of 10-year Tree Canopy Provided		
E1	Total of canopy area provided through tree preservation (C10) =	8,250 SF
E2	Total of canopy area provided through tree planting (D17) =	14,710 SF
E3	Total of canopy area provided through offsite mechanism (D19) =	0 SF
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	22,960 SF OR (18%)

PROPOSED CREDIT PROVIDED BY PLANTING ON SITE* (D17)		14,710 SF
11 CAT. I DECIDUOUS TREES =	1,100 SF	
18 CAT. II DECIDUOUS TREES =	2,225 SF	
15 CAT. III DECIDUOUS TREES =	2,625 SF	
18 CAT. IV DECIDUOUS TREES =	4,500 SF	
19 CAT. I EVERGREEN TREES =	760 SF	
16 CAT. II EVERGREEN TREES =	2,000 SF	
6 CAT. IV EVERGREEN TREES =	1,500 SF	

*OFF-SITE TREES AND TREES PLANTED WITHIN UTILITY EASEMENTS ARE NOT INCLUDED TREE COVER CALCULATIONS.

INTERIOR PARKING LOT LANDSCAPING	
PAVED AREA WITHIN CONSTRUCTION LIMITS	32,400 SF
INTERIOR LANDSCAPING REQUIRED (5%)	1,620 SF
TOTAL SHADE TREE COVER PROVIDED 6.9% (9 CATEGORY IV DECIDUOUS TREES @ 250 SF)	2,250 SF

- NOTES:**
- LANDSCAPING ALONG THE NORTHERN PROPERTY LINE (SOUTH SIDE OF THE EXISTING ENTRY DRIVE BETWEEN EXISTING JOHNSON I AND PROPOSED MITRE 4) INCLUDES LARGE DECIDUOUS TREES AND SIX FOOT CONCRETE SIDEWALK.
 - COLSHIRE MEADOW DRIVE EXTENSION IS NOT PROPOSED WITH THIS APPLICATION. STREETScape IMPROVEMENTS ASSOCIATED WITH THE PROPOSED FUTURE COLSHIRE MEADOW DRIVE EXTENSION ARE SHOWN ON SHEET 7 AND WILL BE PROVIDED WITH THAT PUBLIC IMPROVEMENT PLAN AT THE TIME OF APPLICATION.
 - PREMISSION HAS BEEN GRANTED BY THE CITY OF FALLS CHURCH WATER AUTHORITY AND FAIRFAX COUNTY DPWES FOR THE PROPOSED TREES SHOWN IN THE EXISTING UTILITY EASEMENTS (SEE SITE PLAN # 3538-SP-003 FOR LETTERS). IF MAINTENANCE ON THE UTILITY DAMAGES THE TREES AND IT IS REMOVED THEN THE OWNER (MITRE) IS RESPONSIBLE FOR REPLACEMENT OF TREES.
 - GREEN ROOF PLANTING AREAS MAY CONSIST OF LOW PLANT MATERIAL, SUCH AS SEDUMS, IN ACCORDANCE WITH THE SITE'S OVERALL LID PROGRAM, SHEET 12.
 - LANDSCAPE PLAN AND TREE COVER CALCULATION SHOWN REFLECTS INITIAL CONDITIONS PRIOR TO RIGHT OF WAY DEDICATION. FOR MODIFICATIONS TO THE LANDSCAPE PLAN REFLECTING THE ULTIMATE STREET NETWORK, SEE SHEET 8.



Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (& FDI) (L_PRO) (L_DP) (L_SE) (L_CSP) (L_SP) (L_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: FAIRFAX COUNTY DEPARTMENT OF PLANNING & ZONING
 Comments: Sheet 6 of 20



Patton Harris Rust & Associates, Inc.
 Engineers, Surveyors, Planners, Landscape Architects.

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LANDSCAPE PLAN

TITLE: **MITRE 4**
 PROJECT: **FINAL DEVELOPMENT PLAN**
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA

DESIGN	PHR+H	PHR+H	PHR+H	PHR+H
DRAWN	PHR+H	DATE	AUGUST 01, 2012	
CHECKED	PHR+H	SCALE	1" = 30'	
FILE NO.	10022-1-9	CAT. NO.	6	OF 20



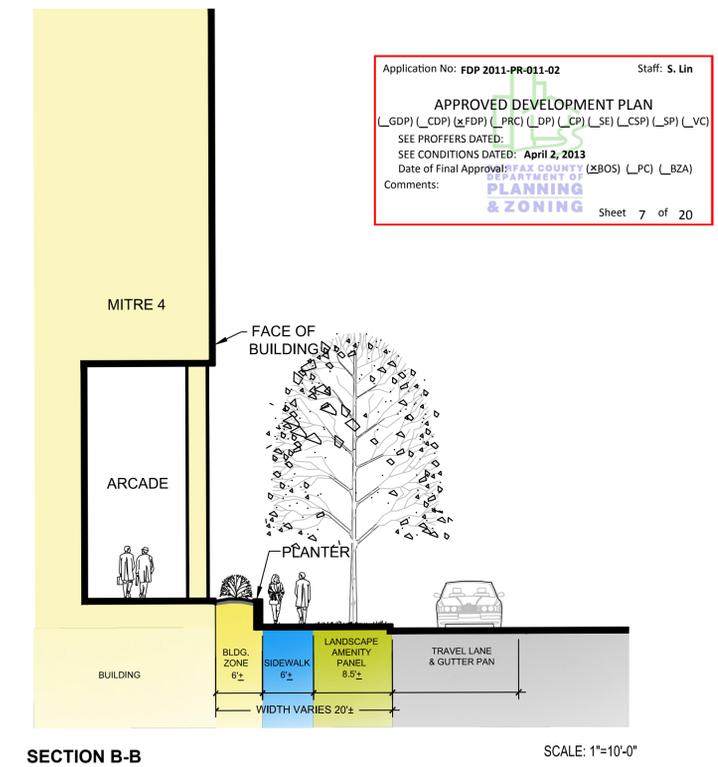
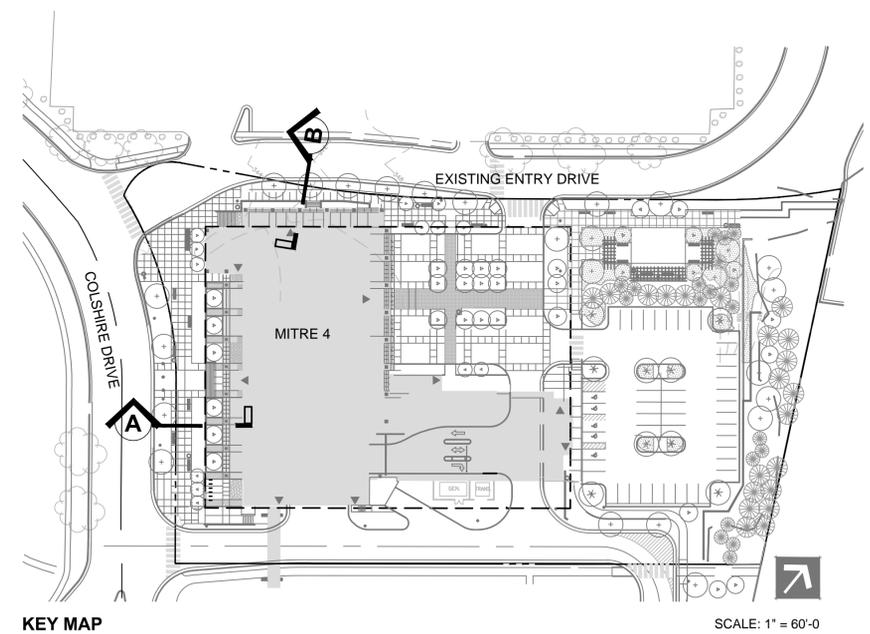
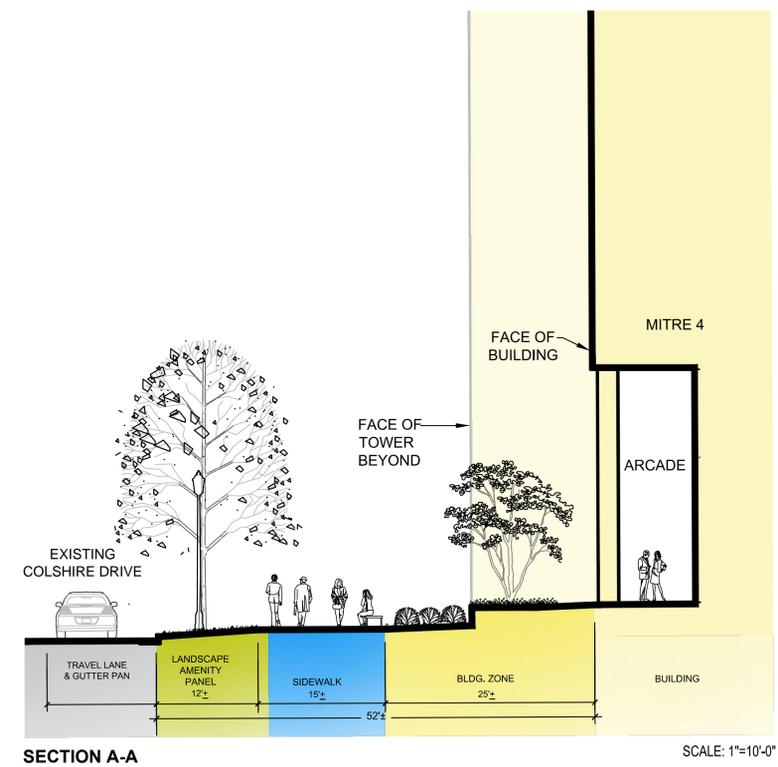
Application No: FDP 2011-PR-011-02 Staff: S. Lin
APPROVED DEVELOPMENT PLAN
 (_GDP) (_CDP) (_FDP) (_PRC) (_DP) (_CP) (_SE) (_CSP) (_SP) (_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: **April 2, 2013**
 Date of Final Approval: **APRIL 2, 2013** (BOS) (_PC) (_BZA)
 Comments:
PLANNING & ZONING Sheet 7 of 20

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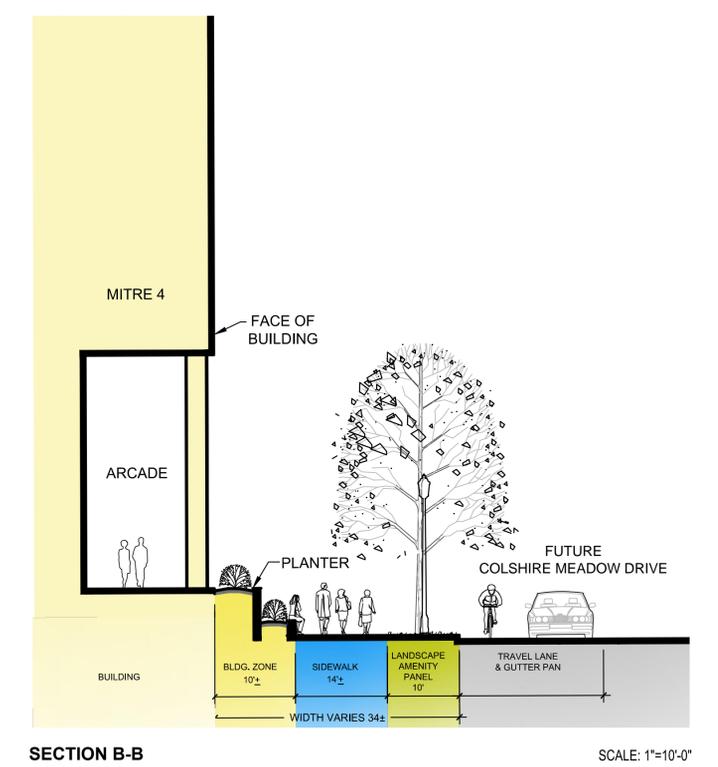
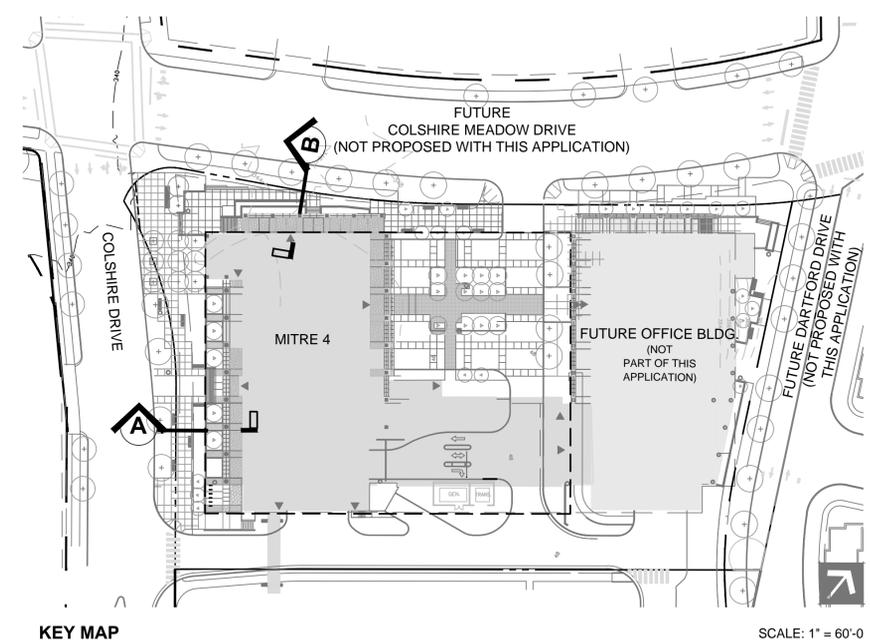
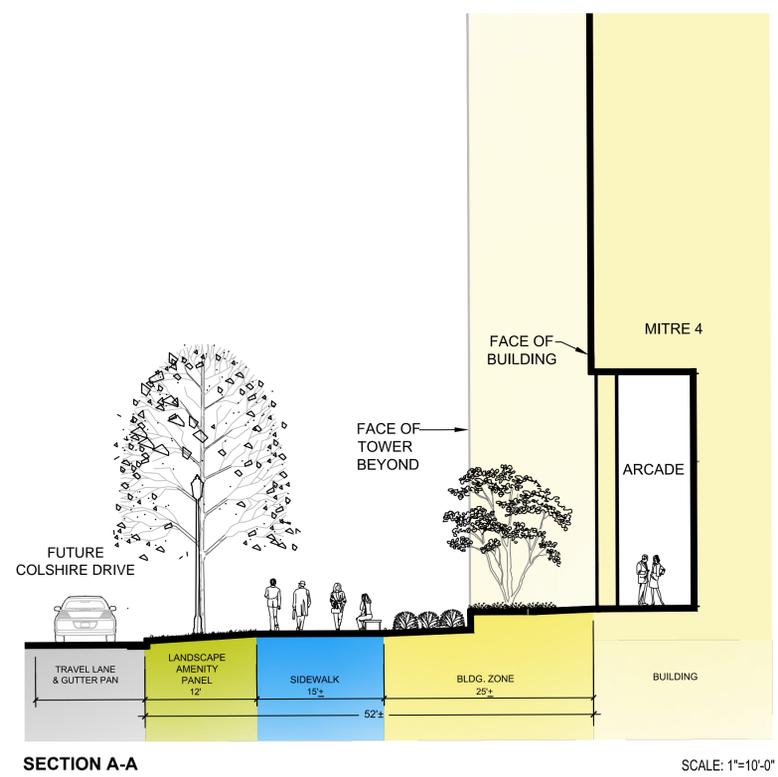
STREETSCAPE PLANS AND SECTIONS

TITLE
MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A	PROJECT	MITRE 4
DRAWN	PHR+A	DATE	AUGUST 01, 2012		
CHECKED	PHR+A	SCALE	AS SHOWN		
FILE NO.	10022-1-9	CAT. NO.		SHEET	7 OF 20



PROPOSED CONDITION



FUTURE CONDITION WITH COLSHIRE MEADOW DRIVE

STREETSCAPE PLAN SHOWN ABOVE IS CONCEPTUAL AND IS SUBJECT TO CHANGE WITH FINAL DESIGN.

THIS DRAWING SHOWS THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

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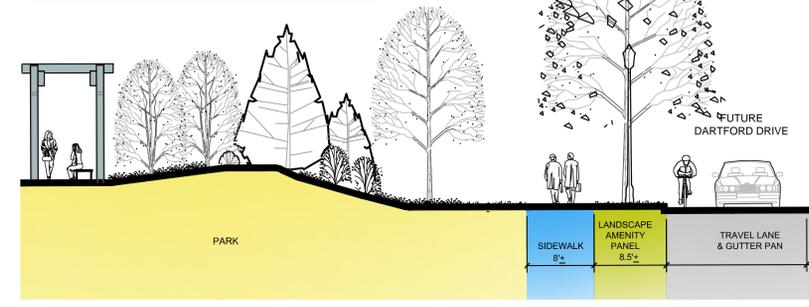


LANDSCAPE PARK LOOKING NORTH EAST



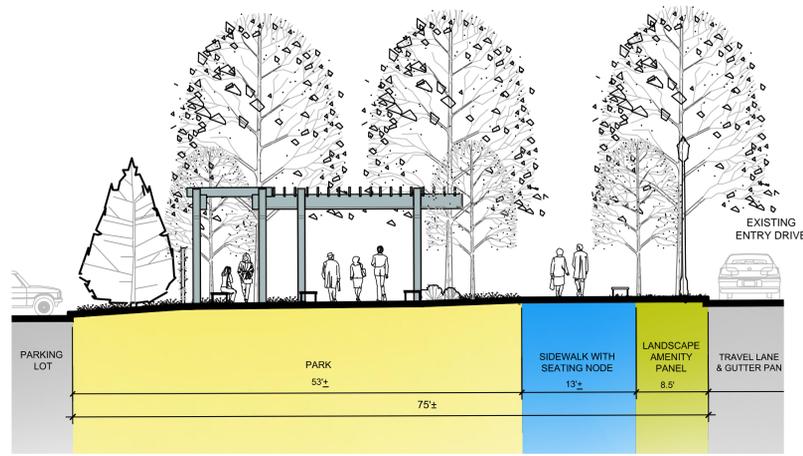
LANDSCAPE PARK ENTRY LOOKING NORTH EAST

Application No: FDP 2011-PR-011-02 Staff: S. Lin
 APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_DPI) (L_CP) (L_SF) (L_CSP) (L_SP) (L_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: (X)BOS (L_PC) (L_BZA)
 Comments:
 DEPARTMENT OF PLANNING & ZONING
 Sheet 8 of 20



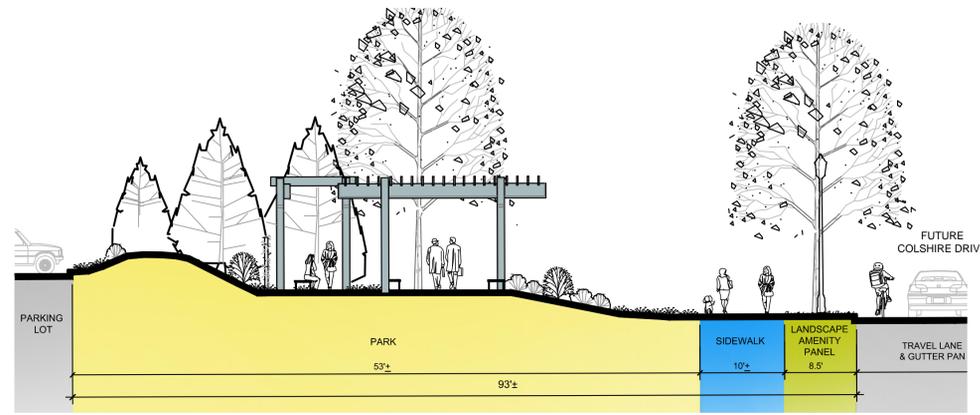
SECTION C-C

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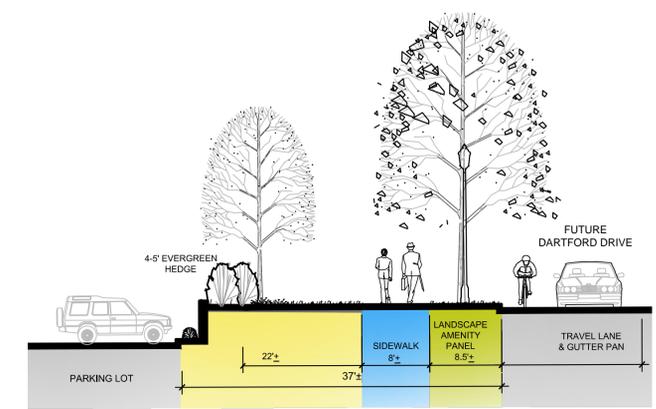
SECTION A-A

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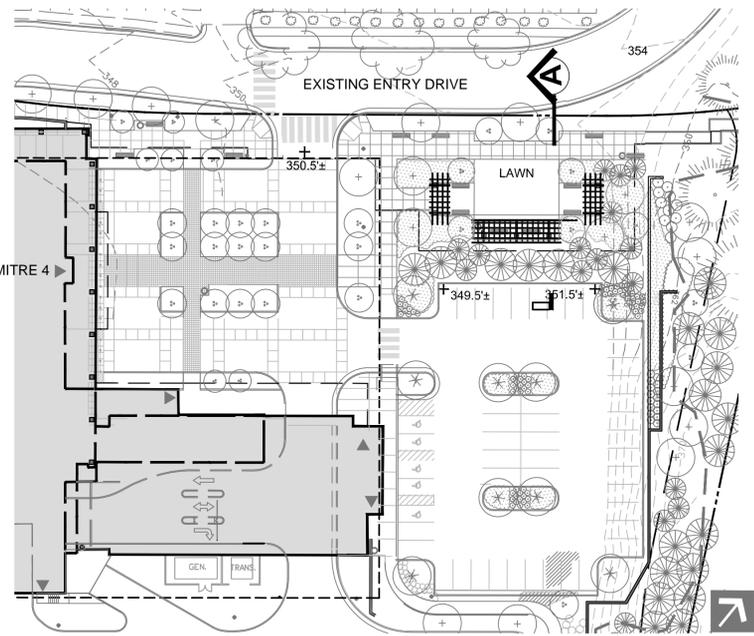
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SCALE: 1"=10'-0"



SECTION D-D

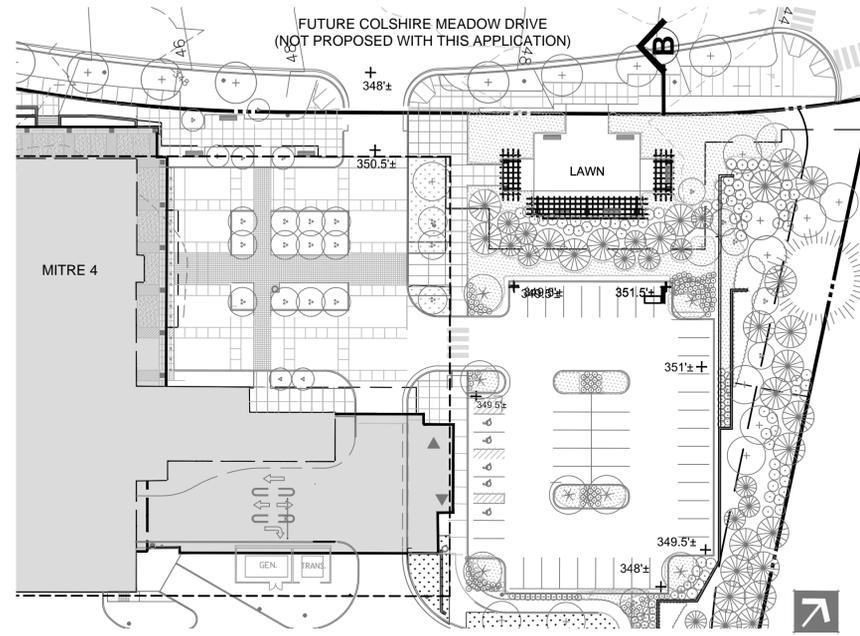
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KEY MAP

SCALE: 1" = 40'-0"

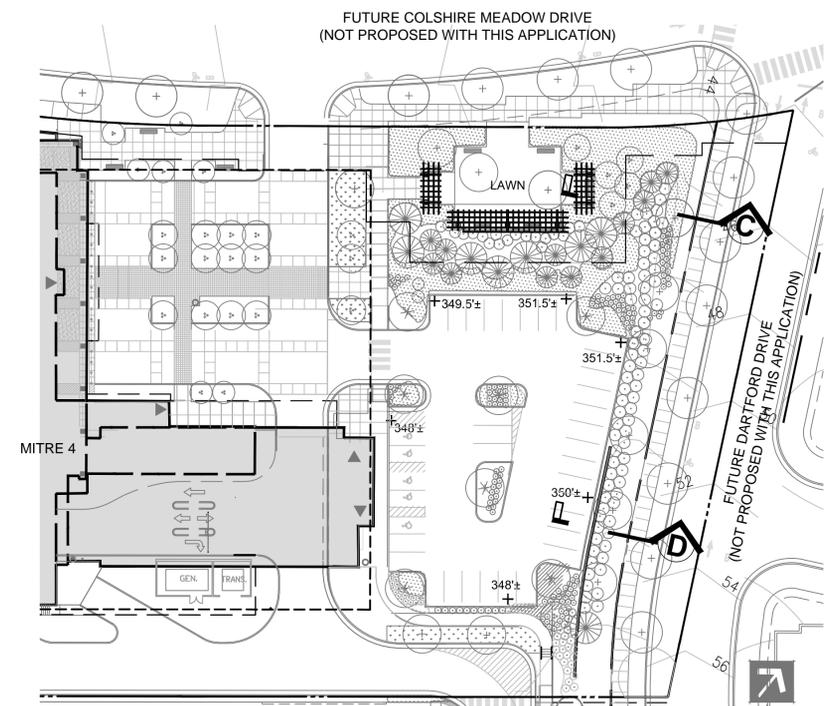
PROPOSED CONDITION



KEY MAP

SCALE: 1" = 40'-0"

FUTURE CONDITION WITH COLSHIRE MEADOW DRIVE



KEY MAP

SCALE: 1" = 40'-0"

FUTURE CONDITION WITH DARTFORD DRIVE

NOTE:
 THESE DRAWINGS SHOW THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT.
 FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

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STREETSCAPE PLANS
 AND SECTIONS

TITLE

MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

PROJECT

DESIGN PHR+A

DRAWN PHR+A

CHECKED PHR+A

FILE NO. 10022-1-9

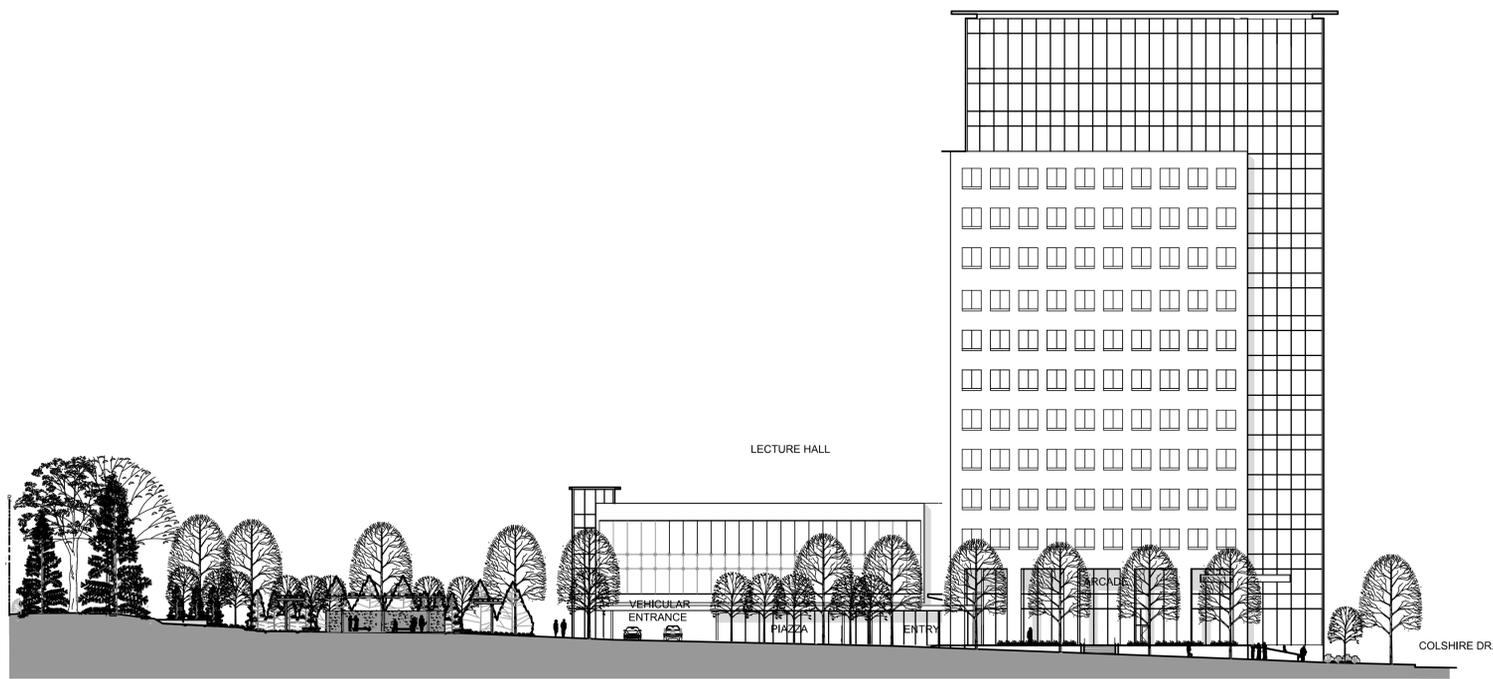
CAT. NO.

DATE AUGUST 01, 2012

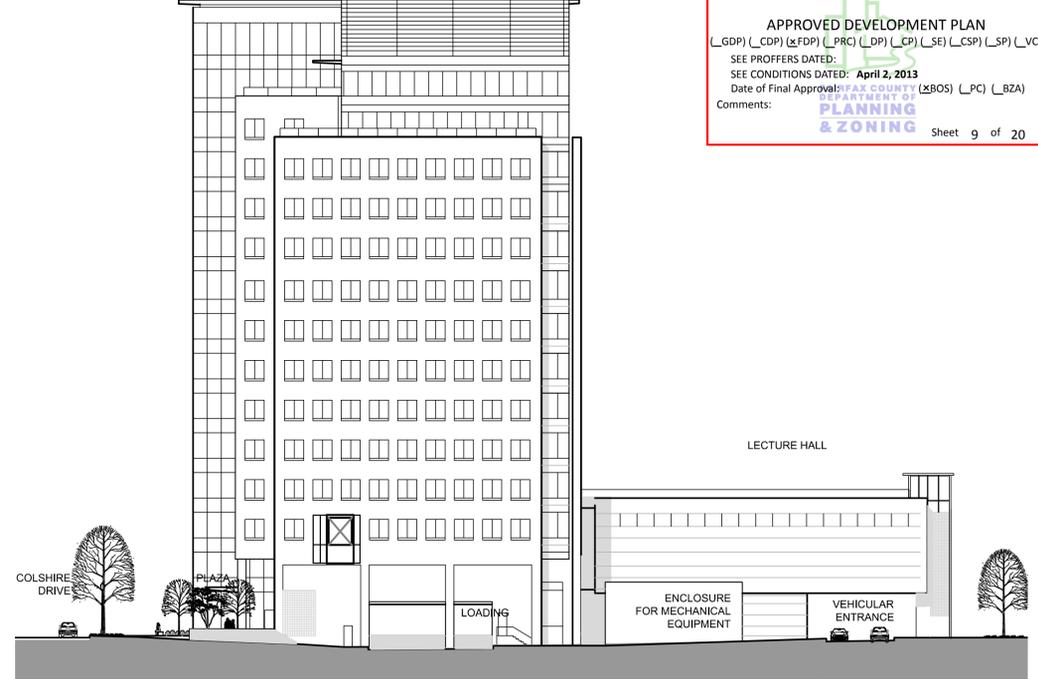
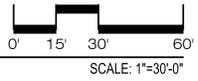
SCALE AS SHOWN

SHEET 8 OF 20

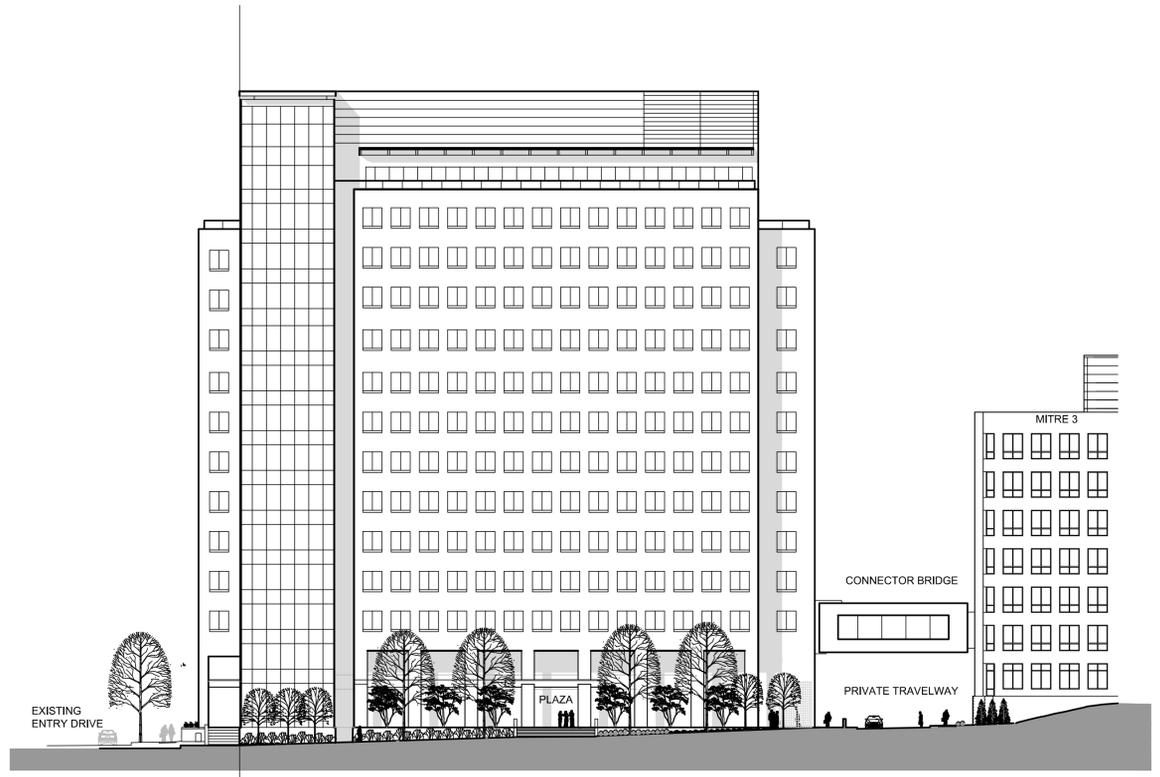
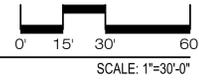
8 OF 20



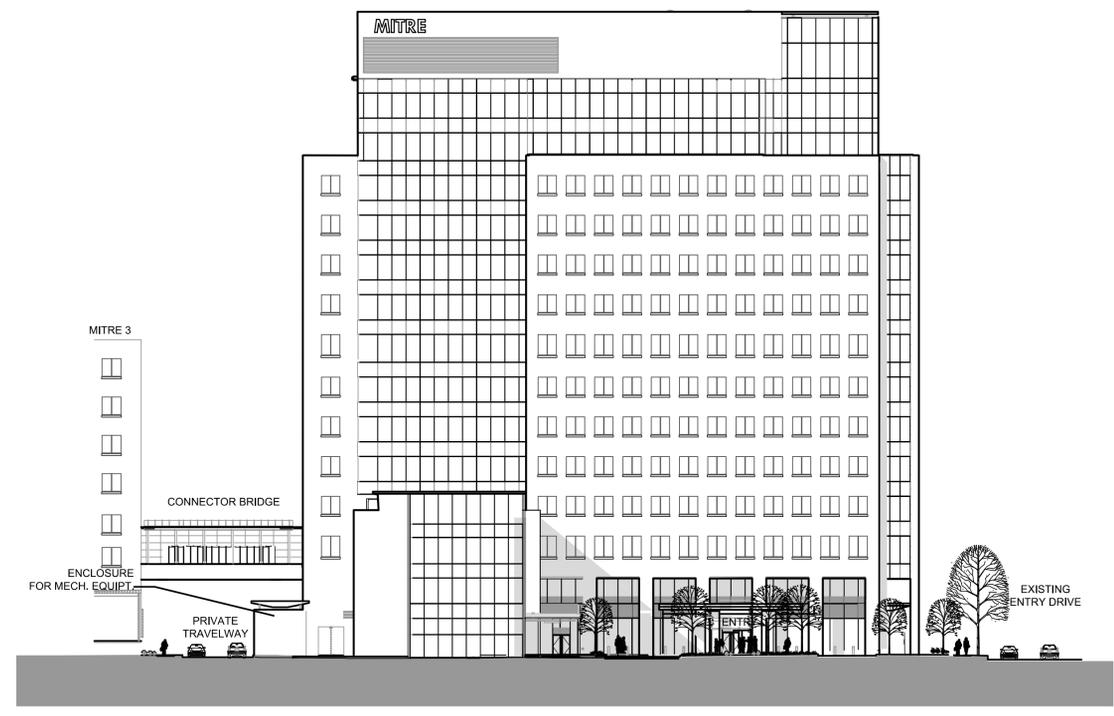
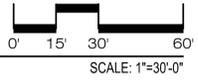
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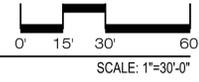
2 SOUTH ELEVATION



3 WEST ELEVATION



4 EAST ELEVATION



Application No: FDP 2011-PR-011-02 Staff: S. Lin
 APPROVED DEVELOPMENT PLAN
 (GDP) (CDP) (XFD) (PRC) (DP) (CP) (SE) (CSP) (SP) (VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: FAX COUNTY (XBO) (PC) (BZA)
 Comments:
 DEPARTMENT OF PLANNING & ZONING
 Sheet 9 of 20



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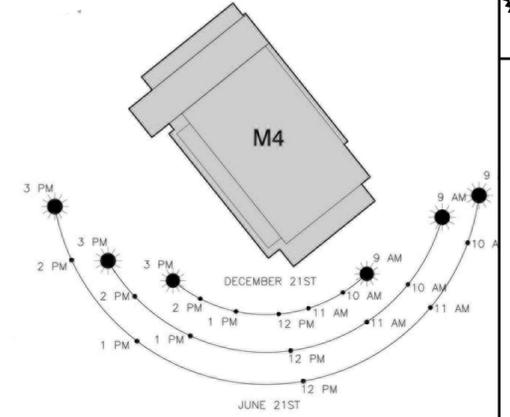
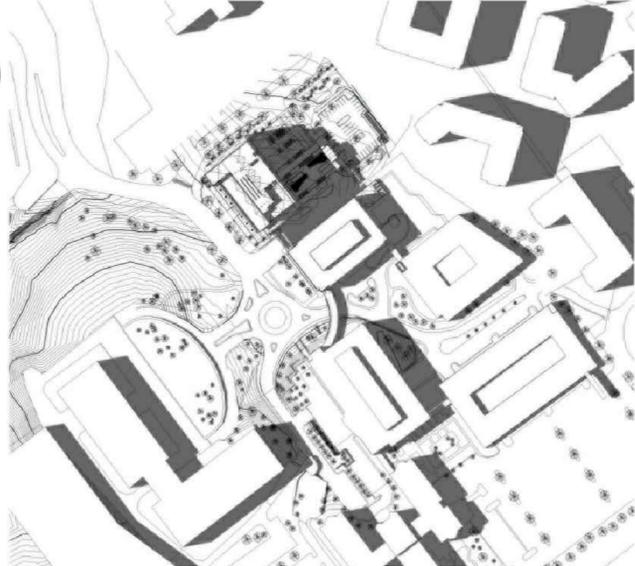
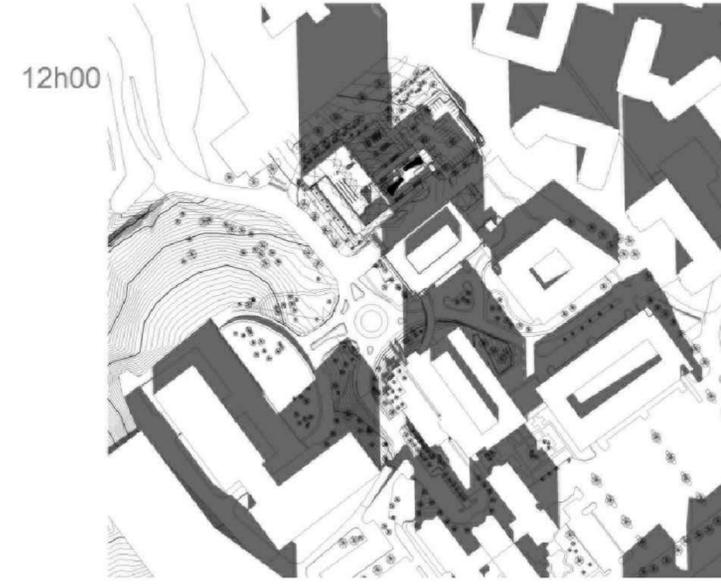
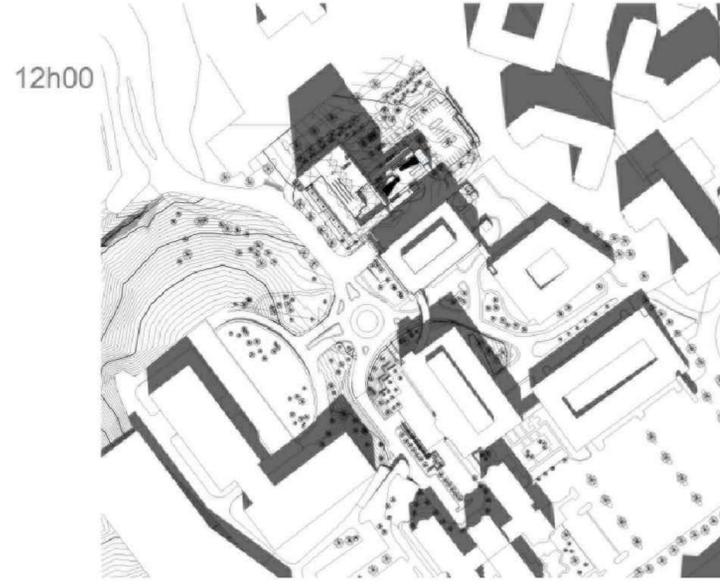
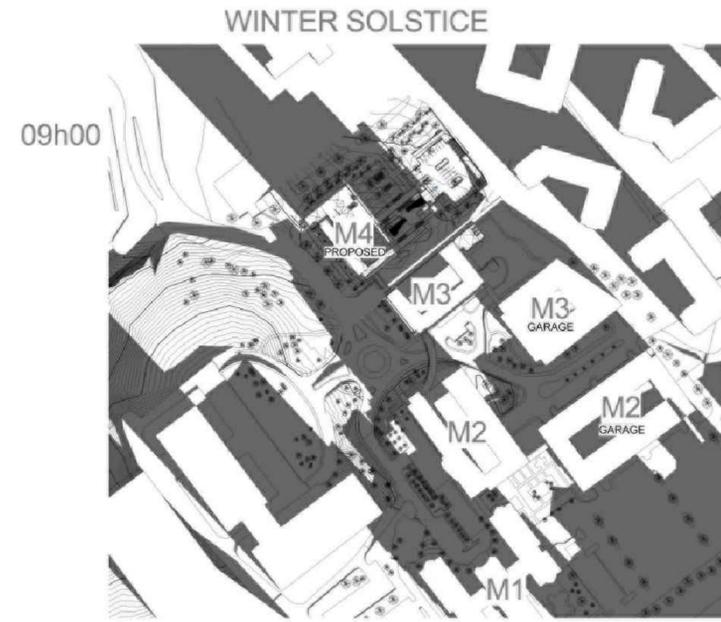
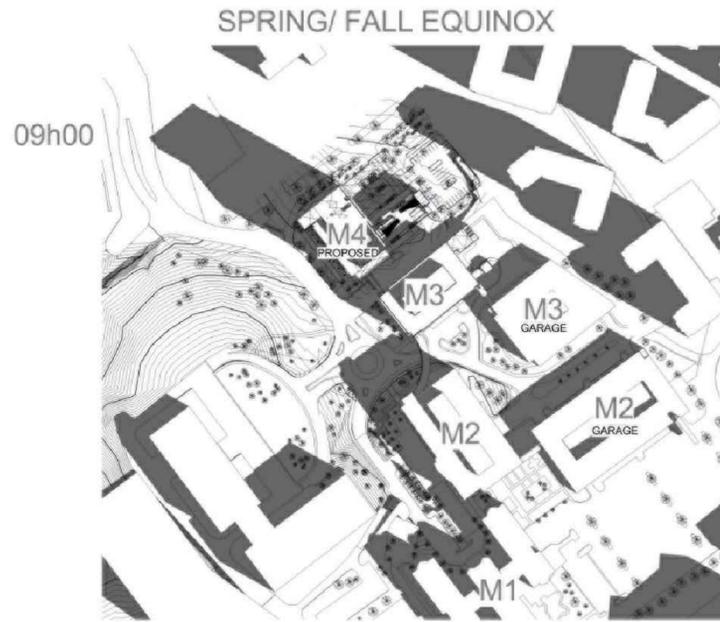
BUILDING ELEVATIONS

TITLE
 MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA

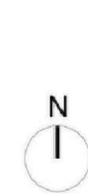
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DRAWN	PHR+A	CHECKED	PHR+A	FILE NO.	10022-1-9	CAT. NO.			

NOTE: THESE ELEVATIONS SHOW THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\10 SHADOW STUDY.dwg LAYOUT NAME: 2013-02 PLOTTED: Thursday, January 31, 2013 - 3:49pm



KEY MAP



Application No: FDP 2011-PR-011-02 Staff: S. Lin
 APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_DPI) (L_CP) (L_SE) (L_CSP) (L_SP) (L_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: (L_BOS) (L_PC) (L_BZA)
 Comments:
 PLANNING & ZONING
 Sheet 10 of 20

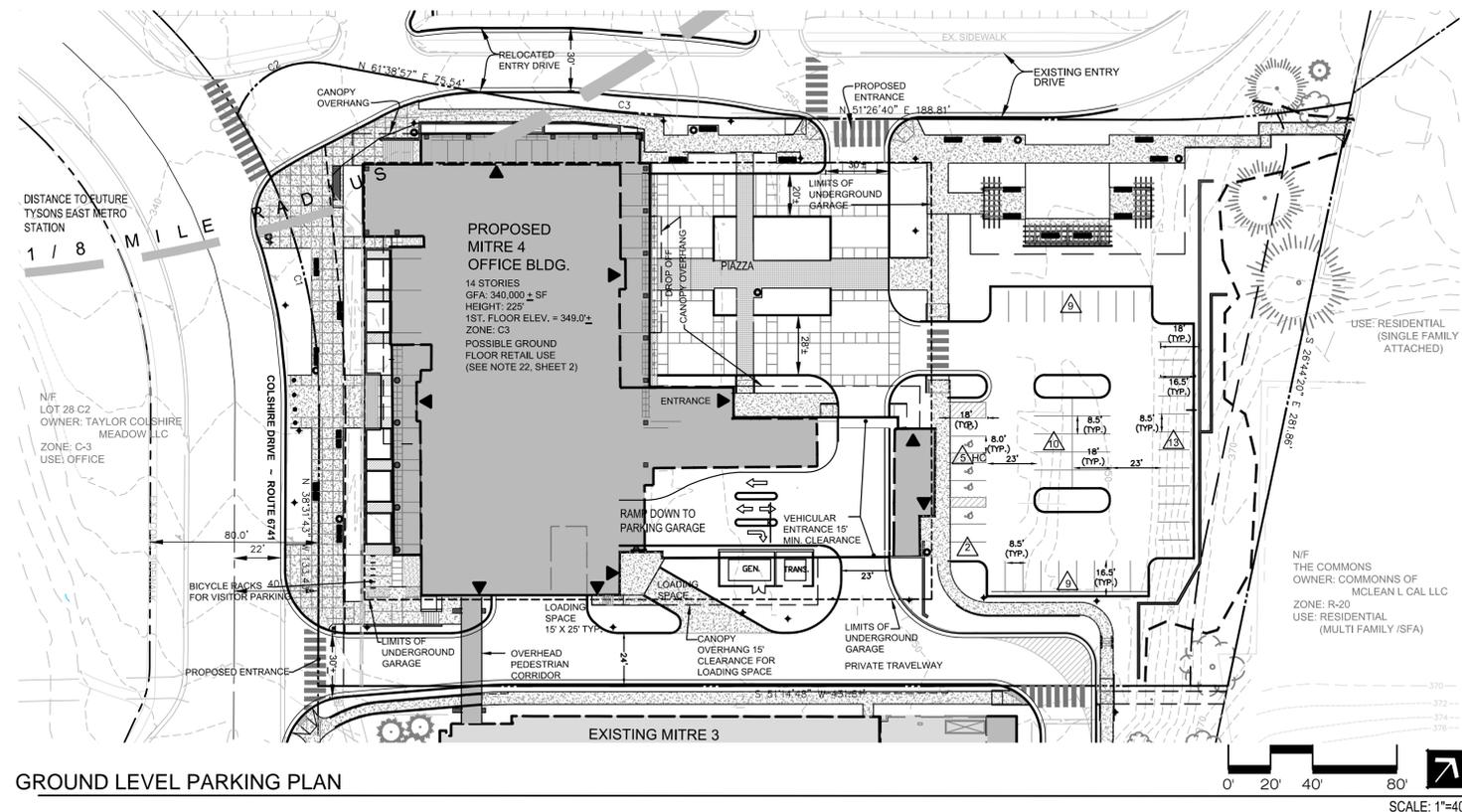


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PHRA

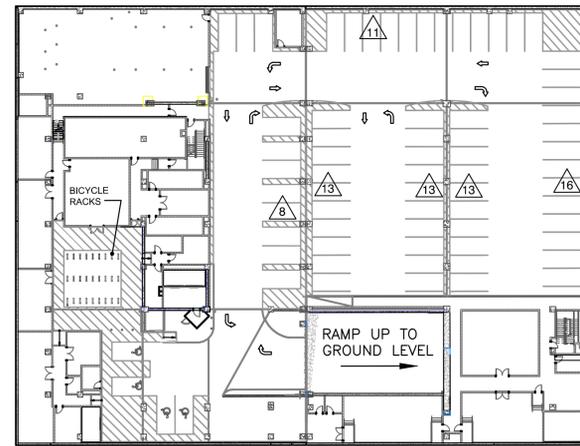
TITLE
SHADOW STUDY

PROJECT
MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	1" = 200'
FILE NO.	10022-1-9	CAT. NO.	10 OF 20

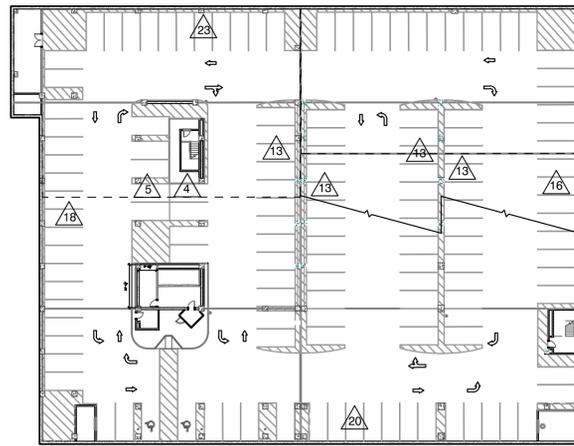


GROUND LEVEL PARKING PLAN

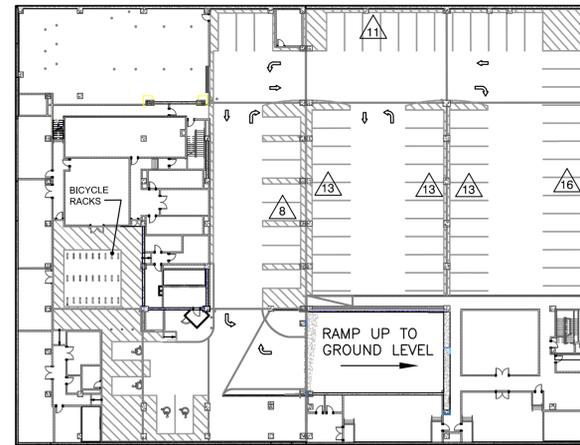


LEVEL ONE UNDERGROUND GARAGE PLAN

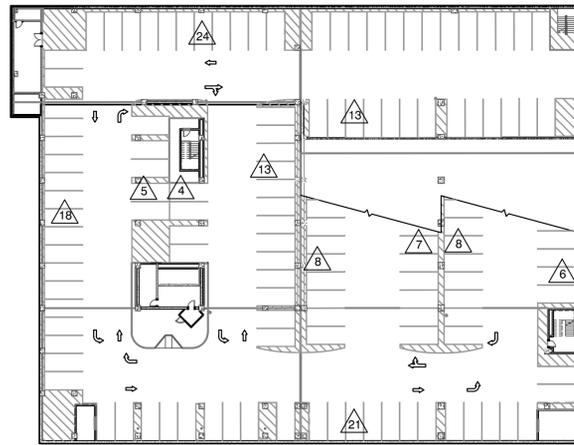
LEGEND
 ▲ INDICATES NUMBER OF SPACES



LEVEL TWO UNDERGROUND GARAGE PLAN



LEVEL THREE UNDERGROUND GARAGE PLAN



LEVEL FOUR UNDERGROUND GARAGE PLAN

NOTE: THESE PARKING PLANS SHOW THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

MITRE 4 PARKING PLAN NARRATIVE

THE PURPOSE OF THIS PARKING PLAN IS TO PROVIDE INFORMATION REQUIRED FOR THE PROPOSED MITRE 4 BUILDING, ALONG WITH THE INGRESS AND EGRESS POINTS FROM COLSHIRE DRIVE.

1. THE PARKING PLAN IDENTIFIES THE NUMBER AND LOCATION OF PARKING AND LOADING SPACES FOR THE MITRE 4 BUILDING, ALONG WITH THE INGRESS AND EGRESS POINTS FROM COLSHIRE DRIVE.
2. 506 PARKING SPACES ARE PROPOSED FOR THE MITRE 4 BUILDING, WHICH EQUATES TO A PARKING RATIO OF 1.49 SPACES PER 1,000 SQUARE FEET OF DEVELOPMENT. WITH DARTFORD DRIVE CONSTRUCTION, 15 SURFACE PARKING SPACES WILL BE LOST, RESULTING IN 491 TOTAL SPACES, OR 1.44 SPACES PER 1,000 SF OF DEVELOPMENT (SEE SHEET 7 FOR THIS SCENARIO). THIS FALLS WITHIN THE RANGE OF WHAT IS CURRENTLY APPROVED FOR THE SITE AND THE APPLICABLE MAXIMUM PARKING RATE SPECIFIED FOR THE PTC DISTRICT. THE APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER OF PARKING SPACES PROVIDED UPWARDS OR DOWNWARDS BY 15 SPACES (THAT IS LESS THAN THREE (3) PERCENT) DEPENDING ON FINAL ENGINEERING, COLUMN SPACING, SIZE AND CAPACITY OF MECHANICAL EQUIPMENT AND OTHER SIMILAR REASONS.
3. A WAIVER IS REQUESTED WITH THE FINAL DEVELOPMENT PLAN FROM THE REQUIRED FIVE (5) LOADING SPACES FOR AN INDIVIDUAL BUILDING TO THE PROPOSED TWO (2) LOADING SPACES, WHICH ARE ADEQUATE TO SERVE THE PROPOSED MITRE 4 OFFICE USE.
4. THERE ARE NUMEROUS ALTERNATIVE MODES OF TRANSPORTATION OPTIONS IN THE VICINITY OF THE MITRE 4 BUILDING. IT IS WITHIN THE 1/4 MILE WALKING DISTANCE FROM TO THE TYSONS EAST METRORAIL STATION, ESTIMATED TO BE COMPLETED IN 2013 AND PRIOR TO THE COMPLETION OF MITRE 4 BUILDING. ENCOURAGEMENT OF NON SOV USE, NON-PEAK HOUR TRIPS, AND NON-AUTOMOBILE MODES WILL RESULT IN A REDUCTION IN THE NUMBER OF VEHICLE TRIPS GENERATED BY THE PROPOSED BUILDING. THE SITE IS CURRENTLY SERVED BY SEVERAL BUS ROUTES. METROBUS ROUTES 23A, 15L AND 15K ROUTES TRAVEL ALONG ROUTE 123 IN THE VICINITY OF THE SITE. THE 3T TRAVELS ALONG ROUTE 123, AS WELL AS ANDERSON ROAD AND MAGARITY ROAD. ACCORDING TO THE MAY 2008 FAIRFAX COUNTY BICYCLE MAP, BOTH ANDERSON ROAD AND MAGARITY ROAD ARE "PREFERRED ROADS" FOR BICYCLE ROUTES.
5. MITRE CURRENTLY HAS IN PLACE A SUCCESSFUL TDM PROGRAM FOR THE COLSHIRE DRIVE CAMPUS INCLUDING A TDM COORDINATOR, A SHUTTLE TO METRO, A WEBSITE DETAILING SHUTTLE INFORMATION AND DEPARTURE TIMES, DESIGNATED CARPOOL AND/OR VANPOOL PARKING SPACES, FLEXIBLE SCHEDULE / TELEWORK POLICIES, AS WELL AS SEVERAL ON-SITE AMENITIES (SUCH AS A CAFE, FITNESS CENTER, ATM MACHINE, ETC.). THE MITRE TDM PROGRAM HAS BEEN RECOGNIZED BY FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION TO BE CONSIDERED AS ONE OF THE "BEST WORKPLACES FOR COMMUTERS". THE MITRE 4 BUILDING WILL FORM AN EXTENSION TO THE MITRE CAMPUS AND WILL BENEFIT FROM THE TDM PROGRAMS PROVIDED.

MITRE 4 PARKING TABULATION

BUILDING	GROSS FLOOR AREA		TOTAL	REQUIRED MAXIMUM (1)		PARKING RATIO			
	WITHIN 1/8 - 1/4 MILE OF METRO	WITHIN 1/4 - 1/2 MILE OF METRO		PARKING RATIO (PER 1,000 SF)	SPACES	GARAGE	SURFACE	TOTAL	
MITRE 4 OFFICE(2)	340,000 SF	0 SF	340,000 SF	2.0	680	458	48 (3)	506 (3)	1.49 (3)

FOOTNOTE:

- (1) REQUIRED MAXIMUM PARKING IN ACCORDANCE WITH SECTION 6-509.
- (2) THE APPLICANT RESERVES THE RIGHT FOR A POTENTIAL CONVERSION OF UP TO 5,000 SF OF THE 340,000 SF OFFICE SPACE TO RETAIL, PERSONAL/BUSINESS SERVICES, FAST FOOD RESTAURANT, QUICK SERVICE FOOD STORE AND/OR EATING ESTABLISHMENT AS SHOWN ON THE FDP. PER ZONING ORDINANCE ARTICLE 6, SECTION 509 1. B. (1), UP TO 5,000 SF LOCATED ON THE GROUND LEVEL FOR THESE AFOREMENTED USES SHALL NOT BE INCLUDED IN THE REQUIRED PARKING CALCULATIONS.
- (3) WITH DARTFORD DRIVE CONSTRUCTION, 15 SURFACE PARKING SPACES WILL BE LOST, RESULTING IN 491 TOTAL SPACES, OR 1.44 SPACES PER 1,000 SF OF DEVELOPMENT (SEE SHEET 7 FOR THIS SCENARIO).

Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (&FDP) (L_PRC) (L_DP) (L_SE) (L_CSP) (L_SP) (L_VC)

SEE PROFFERS DATED: _____
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: _____ (X805) (L_PC) (L_BZA)

Comments: _____

PLANNING & ZONING
 Sheet 11 of 20



Patton Harris Rust & Associates, Inc.
 Engineers, Surveyors, Planners, Landscape Architects.

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PARKING PLAN

TITLE

MITRE 4
FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA

PROJECT

SURVEY

PHR+A

DATE

AUGUST 01, 2012

CHECKED

PHR+A

FILE NO.

10022-1-9

DESIGN

PHR+A

DRAWN

PHR+A

CHECKED

PHR+A

CAT. NO.

11 OF 20

MITRE 4
LOW IMPACT DEVELOPMENT (LID) PLAN NARRATIVE

PURPOSE/OVERVIEW:

IN ACCORDANCE WITH THE ENVIRONMENTAL STEWARDSHIP GUIDELINES WITHIN THE COUNTY'S COMPREHENSIVE MASTER PLAN FOR THE TYSONS CORNER URBAN CENTER, THE PROPOSED LOW IMPACT DEVELOPMENT (LID) PLAN FOR THE MITRE 4 APPLICATION REDUCES STORMWATER RUNOFF VOLUME BY METHODS THAT ARE MOST APPROPRIATE FOR THIS SITE. IT SHOULD BE NOTED THAT THE COUNTY'S STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICE (BMP) REQUIREMENTS ENFORCED BY THE PUBLIC FACILITIES MANUAL ARE SATISFIED BY THE EXISTING WET POND CONSTRUCTED BEHIND THE EXISTING MCKINLEY BUILDING EAST OF THE SITE (REFER TO SHEETS 13-19). PRIOR TO REDEVELOPMENT, THE RUNOFF FROM THE SITE CONVEYS DIRECTLY INTO SCOTT RUN WITHOUT CONTROL. THE REDEVELOPMENT OF THIS SITE CAPTURES THE FIRST INCH OF RAIN WATER FROM THE BUILDING ROOF AND PORTIONS OF THE SITE AND REUSES IT FOR THE BUILDING'S COOLING TOWER AND THROUGH THE USE OF PLANTER BEDS AND EVAPOTRANSPIRATION THROUGH PLANTS.

LID PLAN AREA:

THE PROPOSED MITRE 4 OFFICE BUILDING IS THE FIRST PHASE OF DEVELOPMENT FOR THIS SITE. AT THIS TIME, A SECOND OFFICE BUILDING IS PLANNED IN THE EASTERN PORTION OF THIS SITE, WHICH WILL REQUIRE A SEPARATE REZONING APPLICATION FOR THE SITE. THE MITRE 4 PORTION OF THE SITE IS APPROXIMATELY 82,500 S.F. (1.89 ACRES), AS SHOWN ON THE PLANS FOUND ON THIS SHEET. COMPUTATIONS PROVIDED FOR THE MITRE 4 LID PLAN BELOW REFLECT THIS FIRST PHASE AREA OF THE SITE ONLY.

FOR THE PROPOSED INTERIM POCKET PARK AND SURFACE PARKING LOT IMPROVEMENTS THAT ARE WITHIN THE FUTURE PHASE (OUTSIDE THE LID PLAN BOUNDARIES), PERVIOUS PAVERS ARE PROPOSED TO PROVIDE AN INTERIM LID SOLUTION FOR THESE IMPROVEMENTS. EVEN THOUGH THE SOILS DO NOT APPEAR TO HAVE GOOD INFILTRATION RATES, SOME STORM WATER BENEFIT WILL OCCUR THROUGH THE PERVIOUS PAVERS AND BASE AGGREGATE THAT WARRANTS THEIR USE.

PROPOSED PROGRAM:

THE SITE'S FIRST INCH OF RAINFALL IS CAPTURED BY THE BUILDING'S ROOF AND THE PLANTING BEDS. RAIN WATER FROM THE BUILDING ROOF IS CAPTURED, FILTERED AND CONVEYED TO AN UNDERGROUND STORAGE FACILITY (CISTERN(S)). TO COMPENSATE FOR SITE AREAS THAT ARE NOT CAPTURED (GENERALLY THESE ARE THE STREETS CAPES AND THE LOADING/SERVICE DRIVE LOCATED ALONG THE SOUTHERN BOUNDARY OF THE SITE), THE ROOF RAIN WATER STORAGE HAS BEEN OVERSIZED FOR EXTRA CAPACITY.

ROOF RAIN WATER CAPTURE AND WATER HARVESTING: THE ROOF AREAS CAN CAPTURE APPROXIMATELY 0.87 AC. (38,100 S.F.) OF THE SITE. THIS RESULTS IN APPROXIMATELY 3,162 C.F. OF WATER FOR THE FIRST INCH OF RAINFALL (38,100 S.F. * 0.083 FT.). APPROXIMATELY 0.61 AC. (29,498 S.F.) OF THE SITE CAN NOT BE CAPTURED OR USED FOR WATER HARVESTING. APPROXIMATELY 78% OF THIS AREA IS IMPERVIOUS, RESULTING IN APPROXIMATELY 1,722 C.F. FOR THE FIRST INCH OF RAINFALL (29,498 S.F. * 0.78 * 0.083 FT.). THE TOTAL STORAGE PROVIDED FOR WATER HARVESTING INCLUDES BOTH VOLUMES, APPROXIMATELY 4,884 C.F. (3,162 C.F. + 1,722 C.F.).

THE PROPOSED BUILDING'S COOLING TOWER REQUIRES MAKE-UP WATER FOR ITS CONDENSERS. THE DEMANDS FOR MAKE-UP WATER ARE YEAR ROUND DUE TO THE AIR CONDITIONING REQUIREMENTS FOR THE LABS, SERVER ROOMS AND OTHER MISSION CRITICAL SPACES THAT NEED TO BE CONDITIONED 24 HOURS A DAY, 7 DAYS A WEEK, 365 DAYS A YEAR. IN ADDITION, COMFORT COOLING FOR OFFICE SPACES, CONFERENCE ROOMS, AND THE LIKE IS REQUIRED YEAR ROUND, BUT IN HIGHER DEMAND IN THE HOTTER MONTHS. WHEN AVAILABLE, CAPTURED RAIN WATER WILL BE USED FOR THE COOLING TOWER'S MAKE-UP WATER.

WE REVIEWED THE MONTHS OF THE YEAR THAT RESULT IN THE LOWEST MAKE-UP WATER REUSE DEMANDS AND THE MOST RAIN FALL AS RECORDED FROM DULLES AIRPORT (SLIGHTLY HIGHER THAN REAGAN NATIONAL AIRPORT). JANUARY HAS THE LOWEST COOLING TOWER DEMAND WHICH IS APPROXIMATELY 2,073 C.F. PER

DAY. IF THE ENTIRE STORAGE FACILITY IS FULL (4,884 C.F.), IT WOULD TAKE APPROXIMATELY 2.4 DAYS TO EMPTY THE TANK THUS MAKING ROOM FOR A NEW STORM EVENT (4,884 C.F./2,861 C.F. PER DAY). MAY HAS THE HIGHEST PRECIPITATION AND COOLING TOWER DEMAND, APPROXIMATELY 2,861 C.F. PER DAY, RESULTING IN ROUGHLY A 1.7 DAY CYCLE TO EMPTY THE STORAGE (4,884 C.F./2,861 C.F. PER DAY.)

PLANTERS AND PLANTING WELLS CAPTURE RAIN WATER FOR VOLUME REDUCTION THROUGHOUT THE SITE, BUT ARE QUANTIFIED IN TWO LOCATIONS:

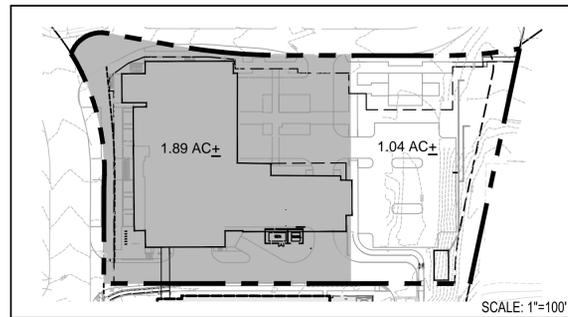
1. TREE WELLS IN THE PIAZZA AREA, AND
2. TREE WELL PLANTERS ADJACENT TO THE BUILDINGS ARCADE THAT FRONTS COLSHIRE DRIVE.

PIAZZA AREA: SURFACE DRAINAGE FROM THE PIAZZA AREA IS DESIGNED TO BE DIRECTED TO THE CENTRAL TREE WELLS. THE FIRST INCH OF RAINFALL FOR THIS AREA IS APPROXIMATELY 1,372 C.F. (16,553 SF +/- * 0.083 FT.). THE PROPOSED PLANTING MEDIUM (SOIL) HAS 40% VOIDS. WHEN SATURATED AFTER A RAINFALL, ONE HALF OF THE VOIDS, OR APPROXIMATELY 20% OF THE TOTAL SOIL VOLUME, TYPICALLY RETAINS WATER. THE WATER IS LOST THROUGH PLANT EVAPOTRANSPIRATION AND SURFACE EVAPORATION. TO CAPTURE THE FIRST INCH OF RAIN FALL, APPROXIMATELY 6,800 C.F. OF PLANTING MEDIUM IS REQUIRED. BASED ON THE PRELIMINARY ARCHITECTURAL DESIGN OF THE PIAZZA PLANTING WELLS, THIS VOLUME OF PLANTING MEDIUM CAN BE ACCOMMODATED. ADDITIONAL PLANTING WELLS ARE LOCATED AROUND THE PERIPHERY OF THE PIAZZA AREA. THESE PLANTERS DO NOT HAVE CONTRIBUTING DRAINAGE AREAS OTHER THAN THE RAIN FALLING ON THEM. CONSEQUENTLY, THEY WILL ADEQUATELY STORE AND LOSE THEIR FIRST ONE INCH OF RAINFALL.

COLSHIRE DRIVE PLANTERS: SIX PLANTING WELLS ARE PROPOSED ADJACENT TO THE BUILDING'S ARCADE FACING COLSHIRE DRIVE. THE AREA DRAINING TO THESE PLANTERS IS APPROXIMATELY 1,380 S.F... THE FIRST INCH RESULTS IN APPROXIMATELY 115 C.F. OF RAINFALL. TO CAPTURE THE FIRST INCH OF RAIN FALL, APPROXIMATELY 575 C.F. OF PLANTING MEDIUM IS REQUIRED. BASED ON THE PRELIMINARY ARCHITECTURAL DESIGN OF THESE PLANTING WELLS, THIS VOLUME OF PLANTING MEDIUM CAN BE ACCOMMODATED.

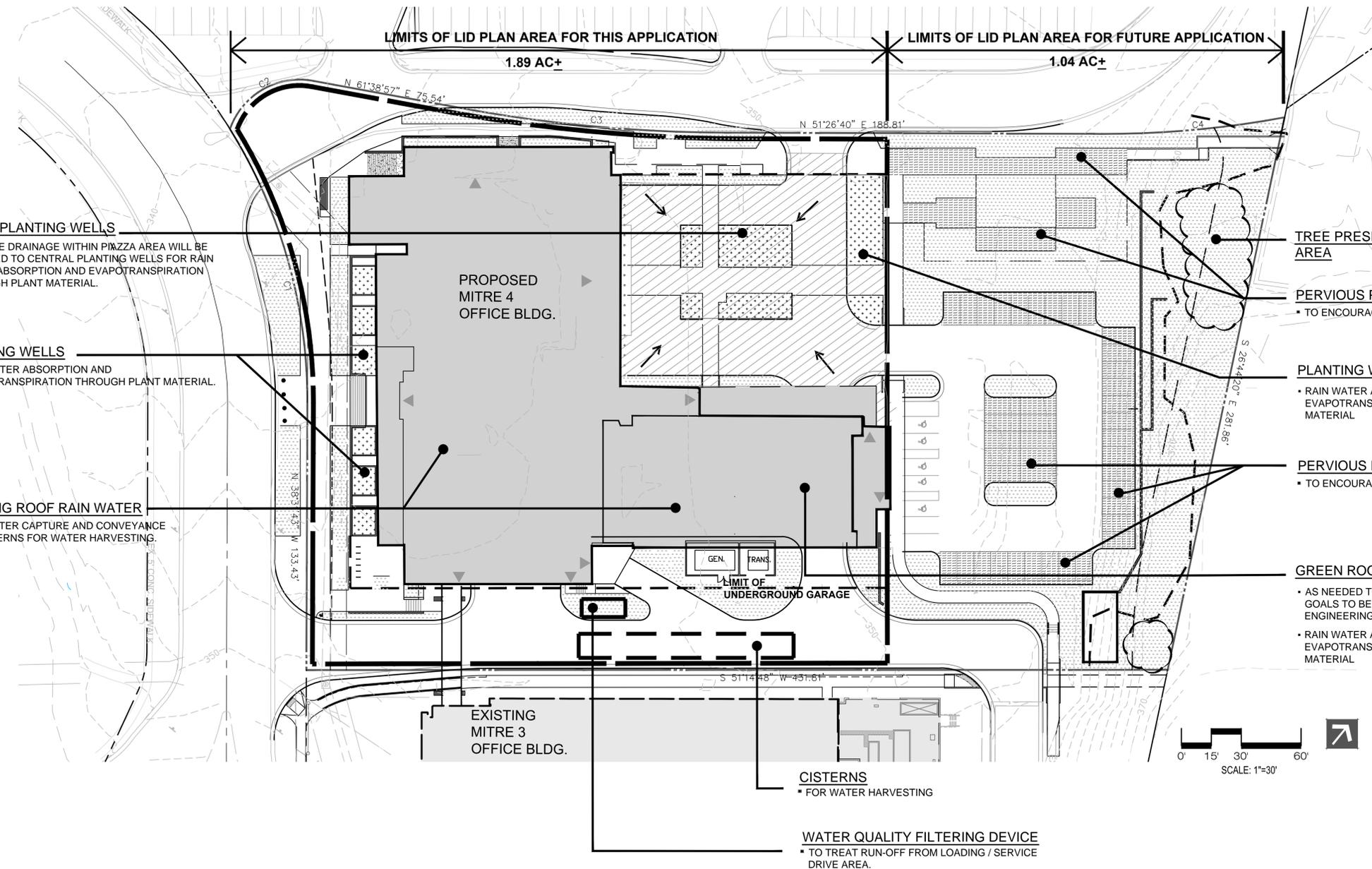
ADDITIONAL PLANTERS ARE PROPOSED THROUGHOUT THE PROJECT. FOR THE PURPOSES OF THIS LID PROGRAM, THE BENEFITS OF THESE ADDITIONAL PLANTERS ARE NOT QUANTIFIED AT THIS TIME.

LEED CREDIT 6.1 AND 6.2 COMPLIANCE: THE STORMWATER VOLUME REDUCTION FROM THE CAPTURE AND REUSE OF THE FIRST INCH OF RAIN FALL IS SUFFICIENT TO MEET THE LEED CREDIT 6.1 STORMWATER DESIGN-QUANTITY CONTROL CRITERIA AND LEED CREDIT 6.2 STORMWATER DESIGN -WATER QUALITY CRITERIA. HOWEVER, IN ORDER TO INCREASE THE SITES WATER QUALITY MEASURES, AN ADDITIONAL WATER QUALITY FILTERING DEVICE IS PROPOSED TO TREAT THE RUN-OFF FROM THE LOADING DOCK/SERVICE DRIVE AREA.



PROPOSED LID PLAN BOUNDARY

SCALE: 1"=100'



PIAZZA PLANTING WELLS

- SURFACE DRAINAGE WITHIN PIAZZA AREA WILL BE DIRECTED TO CENTRAL PLANTING WELLS FOR RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL.

PLANTING WELLS

- RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL.

BUILDING ROOF RAIN WATER

- RAIN WATER CAPTURE AND CONVEYANCE TO CISTERNS FOR WATER HARVESTING.

LIMITS OF LID PLAN AREA FOR THIS APPLICATION

LIMITS OF LID PLAN AREA FOR FUTURE APPLICATION

TREE PRESERVATION AREA

PERVIOUS PAVER SIDEWALKS

- TO ENCOURAGE RAIN WATER INFILTRATION.

PLANTING WELLS

- RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL

PERVIOUS PAVING PARKING SPACES

- TO ENCOURAGE RAIN WATER INFILTRATION.

GREEN ROOF

- AS NEEDED TO MEET WATER HARVESTING GOALS TO BE DETERMINED DURING FINAL ENGINEERING (2,340 SF MINIMUM)
- RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL

Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN
(L_GDP) (L_CDP) (&FDP) (L_PRC) (L_DP) (L_SE) (L_CSP) (L_SP) (L_VC)
SEE PROFESSIONAL DATED:
SEE CONDITIONS DATED: April 2, 2013
Date of Final Approval: (L_P) (L_BOS) (L_PC) (L_BZA)
Comments:

Sheet 12 of 20

LEGEND

	PERVIOUS PAVERS
	PERVIOUS LANDSCAPE AREA
	PLANTING WELLS
	BUILDING ROOF RAIN WATER



NOTES:

1. THE FACILITIES AND PRELIMINARY COMPUTATIONS SHOWN ARE INTENDED TO ACKNOWLEDGE AND SUPPORT THE COMPREHENSIVE PLAN'S INITIATIVES WITH REGARDS TO ENHANCED STORM WATER MANAGEMENT AND LID TECHNIQUES TO BE SHOWN ON THE FINAL ENGINEERING SITE PLAN. DURING THE PREPARATION OF THE FINAL SITE PLAN, EXACT LOCATIONS, SIZES AND FACILITIES MAY CHANGE AS LONG AS THEY MAXIMIZE THE POTENTIAL TO ACHIEVE THE GOALS OF THE COMPREHENSIVE PLAN.
2. THIS SHEET SHALL BE USED AS SUPPLEMENTAL PURPOSES ONLY TO THE FINAL STORM WATER MANAGEMENT DESIGN PROPOSED WITH THE FINAL SITE PLAN.



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LOW IMPACT DEVELOPMENT PLAN

MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA

DESIGN	PHR+A	PROJECT	MITRE 4
DRAWN	PHR+A	SURVEY	PHR+A
CHECKED	PHR+A	DATE	AUGUST 01, 2012
FILE NO.	10022-1-9	SCALE	1" = 30'
CAT. NO.		SHEET	12 OF 20

STORMWATER MANAGEMENT NARRATIVE

STORMWATER MANAGEMENT (DETENTION) REQUIREMENTS FOR THE SUBJECT SITE ARE CURRENTLY SATISFIED VIA AN EXSITING OFFSITE POND WHICH IS LOCATED APPROXIMATELY 850 FEET SOUTH OF THE SUBJECT SITE. THE POND WAS DESIGNED AND CONSTRUCTED PER FAIRFAX COUNTY PLAN #1702-SP-005-2, APPROVED 4/23/1999, COMPLETED 5/21/2003, AND IS ENTITLED "MCKINLEY BUILDING SITE SWM FACILITY AT WESTGATE". THE SUBJECT SITE IS LOCATED WITHIN THE AREA ACCOUNTED FOR BY THE OVERALL DRAINAGE PLAN FOR THE MCKINLEY SWM FACILITY (SEE SHEET 17, INCLUDED WITH THIS SUBMISSION FOR INFORMATION ONLY). IDENTIFIED AS "SITE 3" IN "SUB AREA A" OF THE RUNOFF COMPUTATIONS, THE PLAN ASSUMES THE SUBJECT SITE TO BE DEVELOPED, AND RUNOFF FROM THE SITE IS UNCONTROLLED. ALTHOUGH THE RUNOFF FROM THE SUBJECT SITE DOES NOT DIRECTLY OUTFALL INTO THE SWM FACILITY, THE RUNOFF FLOWS GENERATED BY THE SITE ARE INCLUDED IN THE ALLOWABLE DISCHARGE COMPUTATIONS FOR THE POND, WITH THE ENTIRE JOHNSON II SITE BEING ANALYZED AS AN URBAN DISTRICT - COMMERCIAL AND BUSINESS, AT 85% AVERAGE IMPERVIOUSNESS WITH BOTH TYPE B AND C SOILS. THEREFORE, AS LONG AS THE AVERAGE IMPERVIOUSNESS OF THE JOHNSON II SITE REMAINS BELOW 85% IMPERVIOUSNESS, THE EXISTING MCKINLEY SWM POND SATISFIES THE SWM DETENTION REQUIREMENTS FOR THE SUBJECT SITE. AS THE PERVIOUS AREA ANALYSIS ON SHEET 19 DEMONSTRATES, THE PROPOSED IMPERVIOUS AREA IS 75%, WHICH IS LESS THAN 85%. ADDITIONAL PLAN SHEETS FROM COUNTY PLAN #1702-SP-005-2 HAVE BEEN INCLUDED WITH THIS SUBMISSION TO PROVIDE ADDITIONAL INFORMATION ON THE DESIGN OF THE MCKINLEY SWM FACILITY. SEE SHEETS 14-19.

BMP NARRATIVE

BEST MANAGEMENT PRACTICES (WATER QUALITY) REQUIREMENTS FOR THE SUBJECT SITE ARE CURRENTLY SATISFIED VIA AN EXISTING OFFSITE POND WHICH IS LOCATED APPROXIMATELY 850 FEET SOUTH OF THE SUBJECT SITE. THE POND WAS DESIGNED AND CONSTRUCTED PER FAIRFAX COUNTY PLAN #1702-SP-005-2, APPROVED 4/23/1999, COMPLETED 5/21/2003, AND IS ENTITLED "MCKINLEY BUILDING SITE SWM FACILITY AT WESTGATE".

ALTHOUGH RUNOFF FROM THE SITE DOES NOT DIRECTLY OUTFALL INTO THE SWM FACILITY, THIS SITE CONDITION IS UTILIZED IN THE BMP CALCULATIONS SHOWING THE OVERALL DRAINAGE AREA IS IN CONFORMANCE WITH FAIRFAX COUNTY AND CHESAPEAKE BAY PRESERVATION AREA REQUIREMENTS. THE MCKINLEY SWM FACILITY IS A WET POND (PROVIDING FOUR TIMES THE VOLUME OF RUNOFF FROM THE MEAN STORM) WITH DRY EXTENDED STORAGE PROVIDED ABOVE THE PERMANENT POOL ELEVATION. THIS

DESIGN ALLOWED FOR THE UTILIZATION OF A 50% PHOSPHOROUS REMOVAL EFFICIENCY RATE IN THE DESIGN COMPUTATIONS. SINCE THIS SITE IS UNCONTROLLED, BMP IS PROVIDED VIA "CREDIT" OBTAINED BY THE TREATMENT OF THOSE AREAS WHICH DO DRAIN TO THE POND AT A HIGHER PHOSPHOROUS REMOVAL RATE THAN REQUIRED. THE SUBJECT SITE IS LOCATED WITHIN THE AREA COVERED BY THE OVERALL DRAINAGE PLAN FOR THE MCKINLEY SWM FACILITY (SEE SHEET 18, INCLUDED WITH THIS SUBMISSION FOR INFORMATION ONLY). IDENTIFIED AS "SUB AREA 8" (FUTURE JOHNSON I AND II) OF THE BMP COMPUTATIONS, THE PLAN ASSUMES THE SITE IS TO BE REDEVELOPED, AND RUNOFF FROM THE SITE IS UNCONTROLLED. THE JOHNSON II SITE IS ASSUMED TO HAVE AN EXISTING C-VALUE OF 0.71 WITH A REDEVELOPED C-VALUE OF 0.80 AND A REQUIRED PHOSPHOROUS REMOVAL EFFICIENCY OF 20.125%.

THE BMP REQUIREMENT COMPUTATIONS FOR THE JOHNSON I AND JOHNSON II SITES SHOWN ON SHEET 19 ARE BASED ON THE PFM'S (IN EFFECT IN 1999) REDEVELOPMENT EQUATION WHICH USED C(PRE) AND C(POST). THE TOTAL REQUIRED PHOSPHOROUS REMOVAL UNDER THAT METHODOLOGY IS SHOWN TO BE 27.17%. THE CURRENT REDEVELOPMENT FORMULA (PFM SECTION 6-401.2B) UTILIZES I(PRE) AND I(POST), WHERE "I" IS THE PERCENT IMPERVIOUS, AS OPPOSED TO C-FACTOR. THE REDEVELOPMENT COMPUTATIONS HAVE BEEN REVISED (SEE SHEET 19) TO REFLECT THE USE OF "I" INSTEAD OF "C". FOR THE JOHNSON I AND JOHNSON II SITES, AN IMPERVIOUS AREA ANALYSIS WAS PERFORMED. THE EXHIBITS ON SHEET 19 SHOW THAT THE EXISTING IMPERVIOUS PERCENTAGE FOR JOHNSON I AND II IS 55%. THE PROPOSED IMPERVIOUS PERCENTAGE FOR THE JOHNSON I AND II SITES IS BASED UPON THE FUTURE PROPOSED REDEVELOPMENT ON THE JOHNSON II (SUBJECT) SITE AND IS 58% IMPERVIOUS. USING I(PRE) OF 55% AND I(POST) OF 58% DECREASES THE REQUIRED PHOSPHOROUS REMOVAL PERCENTAGE FOR THE JOHNSON I AND II SITES FROM 6.89% TO 4.04%. THIS CHANGES THE TOTAL REQUIRED PHOSPHOROUS REMOVAL PERCENTAGE FROM 27.17% TO 25.08%. SINCE THE ACTUAL PHOSPHOROUS REMOVAL PERCENTAGE PROVIDED BY THE MCKINLEY POND IS 27.43% (>25.08%), THE SITE WILL BE IN CONFORMANCE WITH THE MCKINLEY SWM FACILITY DESIGN AND ADEQUATE WATER QUALITY CONTROL REQUIREMENTS SET FORTH BY FAIRFAX COUNTY.

IT IS THE OPINION OF PHR+A THAT BMP REQUIREMENTS HAVE BEEN SATISFIED AND ARE IN COMPLIANCE WITH THE COUNTY REGULATIONS AND PROFFER CONDITIONS. ADDITIONAL PLAN SHEETS FROM THE #1702-SP-005-2 HAVE BEEN INCLUDED WITH THIS SUBMISSION TO PROVIDE ADDITIONAL INFORMATION ON THE DESIGN OF THE MCKINLEY SWM FACILITY. SEE SHEETS 14-20.

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 PARAGRAPHS:
 SPECIAL PERMITS (8-011 2J & 2L) SPECIAL EXCEPTIONS (9-011 2J & 2L)
 CLUSTER SUBDIVISION (9-615 1G & 1N) COMMERCIAL REVITALIZATION DISTRICTS (9-622 2A (12)&(14))
 DEVELOPMENT PLANS PRC DISTRICT (16-302 2 & 4L) PRC PLAN (16-303 1E & 10)
 FDP - P DISTRICTS (EXCEPT PRC) 916-502 1F & 1Q) AMENDMENTS (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 TO 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 15.
- 3. PROVIDE:

FACILITY NAME/ TYPE & NO.	ON-SITE AREA SERVED (ACRES)	OFF-SITE AREA SERVED (ACRES)	DRAINAGE AREA (ACRES)	FOOTPRINT AREA (SF.)	STORAGE VOLUME (CF.)	IF POND, DAM HEIGHT (FT.)
(E.G. DRY POND A, INFLT. TRENCH, UNDERGROUND VAULT, ETC.) <u>EX WET POND (SEE SHEETS 14-18 FOR DESIGN INFO)</u>						
TOTALS						
- 4. ONSITE DRAINAGE CHANNELS, OUTFALLS AND PIPE SYSTEMS ARE SHOWN ON SHEET 20.
POND INLET AND OUTLET PIPE SYSTEMS ARE SHOWN ON SHEET 15.
- 5. MAINTENANCE ACCESSES (ROAD) TO STORMWATER MANAGEMENT FACILITY(IES) ARE SHOWN ON SHEET 15.
TYPE OF MAINTENANCE ACCESS ROAD SURFACE NOTED ON THE PLAT IS GRAVEL (ASPHALT, GEOBLOCK, GRAVEL, ETC.)
- 6. LANDSCAPING AND TREE PRESERVATION SHOWN IN AND NEAR THE STORMWATER MANAGEMENT FACILITY IS SHOWN ON SHEET N/A.
- 7. A "STORMWATER MANAGEMENT NARRATIVE" WHICH CONTAINS A DESCRIPTION OF HOW DETENTION AND BEST MANAGEMENT PRACTICES REQUIREMENTS WILL BE MET IS PROVIDED ON SHEET 13.
- 8. A DESCRIPTION OF THE 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 20.
- 9. A DESCRIPTION OF HOW THE OUTFALL REQUIREMENTS, INCLUDING KNOWN CHANGES TO CONTRIBUTING DRAINAGE AREAS (I.E. DRAINAGE DIVERSIONS), OF THE PUBLIC FACILITIES MANUAL WILL BE SATISFIED IS PROVIDED ON SHEET 19.
- 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 SHEETS 3.
- 11. A SUBMISSION WAIVER IS REQUESTED FOR N/A.
- 12. STORMWATER MANAGEMENT IS NOT REQUIRED BECAUSE N/A.

REVISED 2-21-2006

Application No: **FDP 2011-PR-011-02** Staff: **S. Lin**

APPROVED DEVELOPMENT PLAN

(_ GDP) (_ CDP) (& FDP) (_ PRC) (_ DP) (_ CP) (_ SE) (_ CSP) (_ SP) (_ VC)

SEE PROFFERS DATED: _____

SEE CONDITIONS DATED: **April 2, 2013**

Date of Final Approval: **FAIRFAX COUNTY** (XBOS) (_ PC) (_ BZA)

Comments: _____

PLANNING & ZONING Sheet 13 of 20



Patton Harris Rust & Associates, Inc.
 Engineers, Surveyors, Planners, Landscape Architects.

PHR+A
 14532 Lee Road
 Chantilly, VA 20151-1679
 T 703.449.6700
 F 703.449.6714

STORMWATER MANAGEMENT NARRATIVE AND CHECKLIST

TITLE

MITRE 4

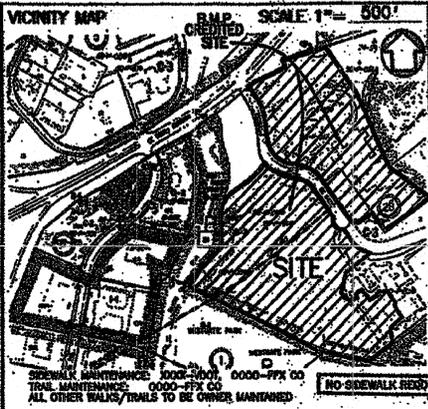
FINAL DEVELOPMENT PLAN

FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO.	10022-1-9	CAT. NO.	13 OF 20

NOTES/CONDITIONS: 1. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES...

Table with columns: INFORMATION, REQUIRED, NOT REQ, ID NUM, COMMENTS/SHEET NO. Lists various items like 1. SPECIAL REPORT, 2. SPECIAL EXEMPTION, etc.

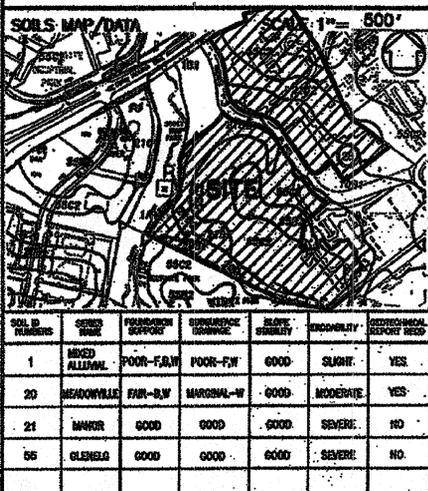


ENGINEER'S/SURVEYOR'S CERTIFICATE: THIS PROPERTY IS IN THE NAME OF WESTGATE A VIRGINIA LIMITED PARTNERSHIP AS RECORDED IN DEED BOOK 5888 PAGE 1335...

DESIGN ENGINEER / SURVEYOR: HUNTLEY, NYCE & ASSOCIATES, LTD. PROFESSIONAL SEAL AND SIGNATURE.

FIRE MARSHAL NOTES: REQUIRED FIRE FLOW TO BE DETERMINED BY FIRE PREVENTION DIVISION. AVAILABLE FIRE FLOW: N/A GPM.

Table with columns: PLAN TYPE, SUBDIVISION PLANS (SD), SITE PLANS (SP), PUBLIC IMPROVEMENT (PI), COUNTY USE ONLY. Includes BASE FEE and FEE COMPUTATION sections.



DESIGNATED PLANS EXAMINER CERTIFICATE: I HEREBY CERTIFY THAT ALL WETLANDS PERMITS REQUIRED BY LAW WILL BE OBTAINED PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.

DESIGN ENGINEER / SURVEYOR: HUNTLEY, NYCE & ASSOCIATES, LTD. PROFESSIONAL SEAL AND SIGNATURE.

SITE TABULATIONS (SD PLANS): 1) SITE AREA: N/A, 2) NO. OF LOTS: N/A, 3) AREA OF LOTS: N/A, 4) AVERAGE LOT AREA: N/A, 5) AREA OF PARCEL: N/A, 6) AREA OF PARCEL: N/A.

SITE TABULATIONS (SP PLANS): 1) AREA IN ACRES: 35.30, 2) AREA IN SF: 1,532,668, 3) AREA OF STREET DEDICATION: N/A, 4) AREA OF SWIM FACILITY: N/A, 5) NO. OF LOTS: N/A, 6) EXISTING BUILDING GROSS FLOOR AREA: N/A, 7) PROPOSED BUILDING GROSS FLOOR AREA: N/A, 8) PROPOSED BUILDING NET FLOOR AREA: N/A, 9) TOTAL FLOOR AREA RATIO (FAR) FOR ENTIRE SITE: N/A, 10) PROPOSED BUILDING HEIGHT: N/A, 11) TOTAL HANICAPPED PARKING SPACES REQUIRED: N/A, 12) TOTAL HANICAPPED PARKING SPACES PROVIDED: N/A, 13) TOTAL HANICAPPED VAN SPACES REQUIRED: N/A, 14) TOTAL HANICAPPED VAN SPACES PROVIDED: N/A, 15) LOADING SPACES REQUIRED: N/A, 16) LOADING SPACES PROVIDED: N/A, 17) TOTAL PARKING SPACES REQUIRED: N/A, 18) TOTAL PARKING SPACES PROVIDED: N/A, 19) OPEN SPACE REQUIRED: N/A, 20) OPEN SPACE PROVIDED: N/A, 21) DENSITY (LOTS PER ACRE): N/A.

Table with columns: BASE #, DOUBLE CIRCLE #, LOT/PCL, BASE #, DOUBLE CIRCLE #, LOT/PCL. Includes rows for 30-3 28 B, 30-3 28 B2, 30-3 28 4.

APPROVED: DATE: BY: DIRECTOR OF ENVIRONMENTAL MANAGEMENT, FAIRFAX COUNTY, VA. THIS PLAN SHALL EXPIRE WITHOUT NOTICE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE COUNTY CODE...

DESIGN ENGINEER / SURVEYOR: HUNTLEY, NYCE & ASSOCIATES, LTD. PROFESSIONAL SEAL AND SIGNATURE.

CERTIFICATE OF NO CHANGE: I HEREBY CERTIFY THAT NO CHANGES HAVE BEEN MADE THAT WOULD AFFECT THE PRIOR APPROVAL BY THE FIRE MARSHAL DATED: WATER AUTHORITY DATED: HEALTH DEPARTMENT DATED: VOTED DATED:

ZONING REQUIREMENTS: 1) ZONING: C-3, 2) AVG LOT AREA: 20,000 SQ.FT., 3) MIN LOT AREA: 100 FT., 4) MIN LOT WIDTH: N/A, 5) MAX BUILDING HEIGHT: N/A, 6) MIN YARD REQUIREMENTS: FRONT, SIDE, REAR, 7) MAXIMUM FAR: 1.00, 8) MAXIMUM DENSITY: N/A, 9) OPEN SPACE REQUIRED: N/A, 10) AVAIL. OF BULLY PLANE: N/A, 11) DETAIL ON PAGE: OVERLAY DISTRICT: N/A.

AGREEMENTS, PERMITS, ETC: CONSTRUCTION PERMIT RECEIVED: SANITARY SEWER AGREEMENT: CONSERVATION ESCROW AGREEMENT AND BOND APPROVED: AGREEMENT ENGINER: BALANCE OF FEE PAID.

APPROVAL NOTES / CONDITIONS: ALL UTILITY LOCATIONS FROM AVAILABLE RECORDS. Application No. SE 200-PR-023, Sheet 9 of 17. APPROVED SE/SP PLAN: 6-6-11. Date of (608) (BZA) approval: 6-7-11. Sheet 12 of 17.

DESIGN ENGINEER / SURVEYOR: HUNTLEY, NYCE & ASSOCIATES, LTD. PROFESSIONAL SEAL AND SIGNATURE.

SHEET INDEX: 1. COVER SHEET, 2. SITE PLAN FOR S.W.M. FACILITY, 3. ACCESS ROAD AND GRADING PLAN, 4-6. STORM WATER DETENTION COMPUTATIONS, 7,7A,7B. STORM WATER DETENTION COMPS. PROFILES AND DETAILS, 6. B.M.P. CALCULATIONS AND STORM NARRATIVE, 9-12. DRAINAGE DIVIDES, 13-14. EROSION - SILTATION CONTROLS PHASE I & II, 15-16. EROSION - SILTATION CONTROL COMPUTATIONS, 16A,16A. GEOTECHNICAL REQUIREMENTS, 16B,16C,16D. PROFFERS, 16E,16F. EXISTING STORM SEWER OUTFALL IMPROVEMENTS AND COMPS.

COMPUTATIONS FOR INTERIOR PARKING LOT LANDSCAPING: AREA OF PARKING LOT: N/A SF, LANDSCAPING REQUIRED (5% OF ABOVE): SF, LANDSCAPING PROVIDED: SF.

DEVELOPMENT LEVEL: PRE, POST. IMPERVIOUS AREA COMPUTATIONS: SITE AREA IN ACRES: A, C, COMPOSITE IMPERVIOUSNESS: C1, C2, FRACTIONAL IMPERVIOUSNESS: I1, I2, TOTAL IMPERVIOUSNESS ACRES: A+I1, A+I2, INCREASE IN IMPERVIOUS ACRES: (A+I2) - (A+I1), PRO DRAINAGE ASSASSMENT AMOUNT: \$, (INCLUDES DATA X INCREASE IN IMPERVIOUS ACRES).

CERTIFIED ARCHITECT: HUNTLEY, NYCE & ASSOCIATES LTD. (703) 750-3490. 1600 ANDERSON ROAD, McLEAN, VIRGINIA 22102. DEVELOPER: WEST GROUP PROPERTIES LLC. SAME AS ABOVE. ADDRESS AND ZIP CODE: SAME AS ABOVE.

DESIGN ENGINEER / SURVEYOR: HUNTLEY, NYCE & ASSOCIATES, LTD. PROFESSIONAL SEAL AND SIGNATURE.

Patton Harris Rust & Associates Engineers, Surveyors, Planners, Landscape Architects. PHRA SHEET #14. FOR INFORMATION ONLY!

Table with columns: DEVELOPMENT LEVEL, IMPERVIOUS AREA COMPUTATIONS. Includes rows for SITE AREA IN ACRES, COMPOSITE IMPERVIOUSNESS, FRACTIONAL IMPERVIOUSNESS, TOTAL IMPERVIOUSNESS ACRES, INCREASE IN IMPERVIOUS ACRES, PRO DRAINAGE ASSASSMENT AMOUNT.

DEVELOPMENT LEVEL: PRE, POST. IMPERVIOUS AREA COMPUTATIONS: SITE AREA IN ACRES: A, C, COMPOSITE IMPERVIOUSNESS: C1, C2, FRACTIONAL IMPERVIOUSNESS: I1, I2, TOTAL IMPERVIOUSNESS ACRES: A+I1, A+I2, INCREASE IN IMPERVIOUS ACRES: (A+I2) - (A+I1), PRO DRAINAGE ASSASSMENT AMOUNT: \$, (INCLUDES DATA X INCREASE IN IMPERVIOUS ACRES).

APPROVED DEVELOPMENT PLAN (L_GDP) (L_CDP) (L_FDP) (L_PCP) (L_SE) (L_CSP) (L_SP) (L_VO). SEE PROFFERS DATED: SEE CONDITIONS DATED: April 2, 2013. Date of Final Approval: FAIRFAX COUNTY (BZOS) (LPC) (BZA). Comments: SHEET 14 OF 20.

DESIGN ENGINEER / SURVEYOR: HUNTLEY, NYCE & ASSOCIATES, LTD. PROFESSIONAL SEAL AND SIGNATURE.

Table with columns: DATE, DESCRIPTION, DESIGN, DRAWN, CHKD, SCALE, H, N.T.S., V, JOB NO., DATE, FILE NO., SHEET 11 OF 17.

Table with columns: DESIGN, DRAWN, CHECKED, FILE NO., CAT. NO., SHEET 14 OF 20.

FOR INFORMATION ONLY!



Department of Environmental Management
Division of Design Review
12055 Government Center Parkway
Fairfax, Virginia 22035-5383

* LOCATION OF TOE DRAIN AND DRAINAGE BLANKET
TO BE IN ACCORDANCE WITH GEOTECHNICAL
ENGINEER AND APPROVED GEOTECHNICAL REQUIREMENTS.

TELEPHONE (703) 324-1720

January 12, 1994

Mitra A. Kamrani
Huntley, Nyce and Associates
7202 Poplar Street, Unit E
Arlandale, Virginia 22003

Subject: Westgate, Rezoning No. RE 92-P-001, Tax Map: 30-3-001 and 29-4-006, Providence District
Reference: Waiver No. 014040 - Chesapeake Bay Preservation Exception

Dear Mrs. Kamrani:

An exception to allow proffered Stormwater Management/Best Management Practices (BMP) facilities to satisfy the requirements of Section 118-2-2-F and to allow development within a mapped resource protection area is hereby approved with the following conditions:

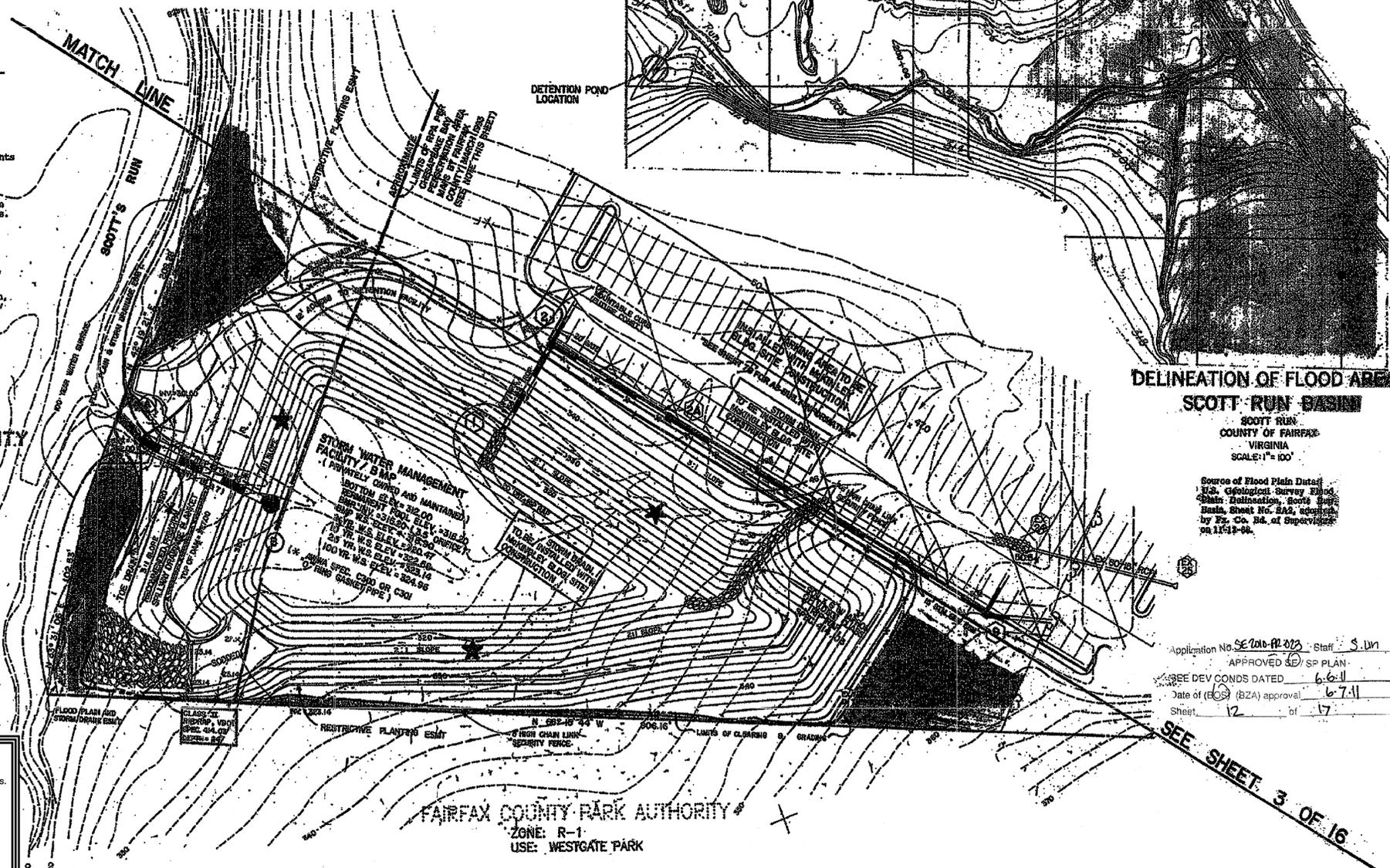
- All site plans subject to RE 92-P-001 shall provide on-site BMP's or drains to an approved facility which provides BMP's.
- The disturbed area within the RPA which is currently undisturbed shall be minimized to the extent possible as determined by the Department of Environmental Management.

This approval does not exempt this site from any other Federal, State or County ordinance and regulations.

Should you have any questions or require additional information, please contact Charlie Kilpatrick, Assistant Chief, Site Review at 324-1720.

Sincerely,
Bruce Massimani, Chief
Site Review Branch

FAIRFAX COUNTY PARK AUTHORITY
ZONE: R-30
USE: SCOTT'S RUN PARK



DELINEATION OF FLOOD AREAS
SCOTT RUN BASIN
SCOTT RUN
COUNTY OF FAIRFAX
VIRGINIA
SCALE: 1" = 100'

Source of Flood Plain Data:
U.S. Geological Survey Flood
Plain Delineation, Scott Run
Basin, Sheet No. 842, compiled
by F. Co. 84, of Supervisor
on 11-19-84.

Application No. SE 10-PR-023 Staff: S. Lin
APPROVED SEP PLAN
SEE DEV CONDS DATED 6-6-11
Date of (ECS) (BZA) approval 6-7-11
Sheet 12 of 17

Patton Harris Rust & Associates
Engineers, Surveyors, Planners, Landscape Architects.

14532 Lee Road
Chantilly, VA 20151-1679
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F 703.449.6714

FOR INFORMATION ONLY!
PHRA SHEET #15

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S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES

- NOTES:
- THIS STORMWATER MANAGEMENT FACILITY SHALL BE PRIVATELY MAINTAINED BY PROPERTY OWNER.
 - CHESAPEAKE BAY PRESERVATION AND RESOURCE PROTECTION AREA EXCEPTION WAS APPROVED FOR WESTGATE, RE 92-P-001, ON JANUARY 12, 1994. SEE COPY ATTACHED TO THIS SHEET.
 - THERE IS NO EVIDENCE OF GRAVE SITES OR MARKERS ON THIS SITE.

THE NUMBER OF LOTS IN THIS SUBDIVISION WILL WILL NOT BE INCREASED BY THIS REVISION. THE IMPROVEMENTS COVERED BY THIS REVISION CONSISTING OF _____ SHEETS ARE ESTIMATED TO RESULT IN \$ _____ ADDITIONAL COSTS FOR THE BONDED IMPROVEMENTS AND THE COST OF THESE IMPROVEMENTS WILL WILL NOT EXCEED BY 10% THE AMOUNT OF THE ORIGINAL ESTIMATE FOR THIS PROJECT DATED 6-6-11, WHICH WAS IN THE AMOUNT OF \$ 25,000.00. THIS REVISION IS BEING SUBMITTED ON BEHALF OF:

DEVELOPER'S NAME: WEST GROUP PROPERTIES LLC

CERTIFYING ENGINEER OR LAND SURVEYOR

DATE	NO.	DESCRIPTION	APPROVED	DATE
8-9-98	1	ADD 6" RING PIPE 8" DIA. TO STR. A.		

REVISION APPROVED BY
DIVISION OF DESIGN REVIEW
I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR SPECIFICATIONS PREVIOUSLY APPROVED.

CERTIFYING ENGINEER OR LAND SURVEYOR

SCALE: 1" = 30'

DATE: 04/01/97

REVISIONS:
8-9-98

SHEET 2 OF 16

Lot No.	Area (sq. ft.)								
147	159400								
148	158400								
149	157400								
150	156400								
151	155400								
152	154400								
153	153400								
154	152400								
155	151400								
156	150400								
157	149400								
158	148400								

Bowman
CONSULTING

Bowman Consulting Group, Ltd.
14020 Thunderbolt Place
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Chantilly, Virginia 20151
Phone: (703) 464-1000
Fax: (703) 461-9720
www.bowmanconsulting.com
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Huntley, Nyce & Associates, P.C.
SURVEYING CIVIL ENGINEERING LAND PLANNING
ARCHITECTURE
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Chantilly, Virginia 20151-1679
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F 703.449.6714

STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

LANDSCAPE ARCHITECT
DAVID H. STEIGLER
Cert. No. 609
02-04-2013

DATE	DESCRIPTION
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	Resubmission

DESIGN DRAWN CHKD
SCALE H: N.T.S.
JOB No.
DATE: JULY 30, 2010
FILE No.
P-10B SWM
SHEET 12 OF 17

PHRA
Patton Harris Rust & Associates, Inc.
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STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-01-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	PHR+A	PHR+A	PHR+A	
DRAWN	PHR+A	DATE	AUGUST 01, 2012	SCALE	N/A
CHECKED	PHR+A	SCALE	N/A	SHEET	15 OF 20
FILE NO.	10022-1-9	CAT. NO.			

Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN
(L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_LDP) (L_CP) (L_SE) (L_CSP) (L_SP) (L_VC)
SEE PROFFERS DATED:
SEE CONDITIONS DATED: April 2, 2013
Date of Final Approval: (BOS) (LPC) (BZA)
Comments:

PLANNING & ZONING
Sheet 15 of 20

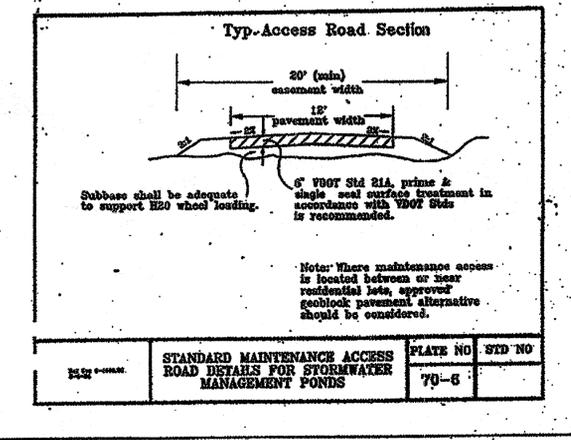
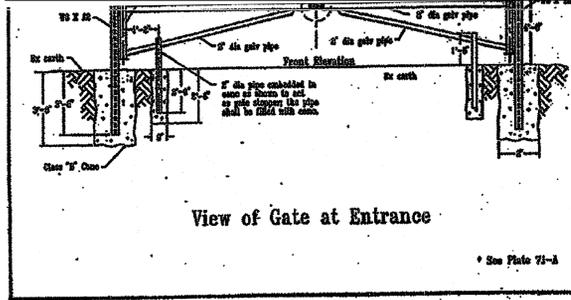
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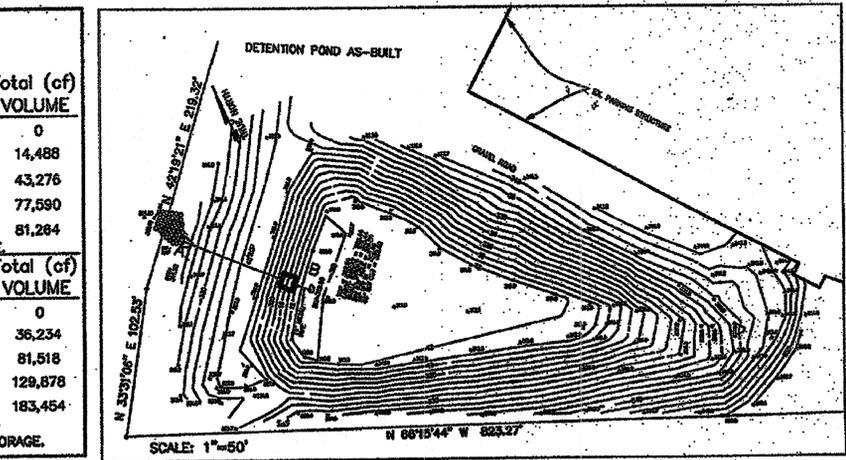
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PHRA
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PHRA SHEET #16

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S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES



THIS SHEET FOR B.M.P. PURPOSES ONLY!

STORM DRAINAGE NARRATIVE

LOCATION
THE SITE IS LOCATED ON THE SOUTH SIDE OF ROUTE #152, DOLLY BY MADISON BOULEVARD, BETWEEN COLLETT DRIVE AND THE FAIRFAX COUNTY PARK AUTHORITY PROPERTY. STORM WATER RUNOFF FROM THE SITE DISCHARGES INTO SCOTT'S RUN ABOVE (SOUTH) OF ROUTE #152 AND DRAINS VIA SCOTT'S RUN NORTHWARD UNDER DOLLY MADISON BOULEVARD, ROUTE #152, UNDER THE DULLES AIRPORT ACCESS ROAD, THRU THE MCLAN ARBA AND FINALLY INTO THE POTOMAC RIVER.

STORM WATER DETENTION
THE STORM WATER MANAGEMENT FACILITY IS LOCATED IN AN EXISTING EXHAUST SWALE AT THE REAR OF THE MCKINLEY SITE ADJACENT TO THE SCOTT'S RUN FLOOD PLAIN. IT IS A WET POND FACILITY WHICH WILL BE PRIVATELY MAINTAINED. THE STORAGE VOLUME OF THE DETENTION FACILITY A PERMANENT POOL ELEVATION OF 316.20 IS 81,264 CF. AT B.M.P. ELEVATION OF 318.44 IS 44,856 CF. 2 YEAR FRAK DISCHARGE OF 8.18 CFS @ ELEVATION 316.24, AND 10 YEAR FRAK DISCHARGE OF 20.81 CFS @ ELEVATION 316.24. A COMPARISON OF THIS PRE AND POST DEVELOPMENT RUNOFF IS CALCULATED AS FOLLOWS:

10 YR. STORM
PRE-DEV. RUNOFF = 207.00 CFS
POST-DEV. RUNOFF = 186.51 CFS

2 YR. STORM
PRE-DEV. RUNOFF = 84.0 CFS
POST-DEV. RUNOFF = 52.18 CFS

COMPARISON
10 YEAR STORM = 20.19 CFS₀ REDUCTION
2 YEAR STORM = 1.82 CFS₀ REDUCTION

NOTE:
THE SHEET 15, 15A, 15B OF 26 FOR OVERALL STORM WATER DETENTION CALCULATIONS, ALTHOUGH NOT SHOWN IN THE CALCULATIONS, A SIMILAR REDUCTION IN THE 100 YEAR STORM DISCHARGES IS ANTICIPATED.

OUTFALL ADEQUACY
STRUCTURE A IS LOCATED AT THE LOWER END OF THE STORM SEWER PIPE OUTLET AT THE STORM WATER DETENTION FACILITY. STRUCTURE A OUTFALL IS INTO AN EXISTING BED AND BANKS OUTLET LOCATED AT THE REAR OF THE SCOTT'S RUN FLOOD PLAIN WHERE A GROUNDED RIP RAP DITCH OF 25 LINEAR FEET HAS BEEN PROVIDED TO TRANSITION AND PROTECT AGAINST FLOODING.

THE OUTLET VELOCITY AT STR. "A" IS 12.8 FPS AT A DISCHARGE OF 30.81 CFS. THE RECEIVING DITCH IS A 3' BOTTOM WITH 3:1 SIDE SLOPES LINED WITH GROUNDED RIP RAP. IT HAS A CAPACITY OF 46.81 CFS AT A DEPTH OF 0.75 AND A VELOCITY OF 9.11 FPS. THIS TRANSITION INTO A 4' BOTTOM DITCH WITH 2:1 SIDE SLOPES LINED WITH CLASS II RIP RAP WHICH HAS A CAPACITY OF 33.88 CFS AT A DEPTH OF 0.45 AND A VELOCITY OF 7.46 FPS (SEE SHEET 15 OF 26 FOR COMPUTATIONS). THIS IS MORE EXCESSIVE AND WILL NOT ADVERSELY AFFECT THE EXISTING BED AND BANKS OF THE CHANNEL.

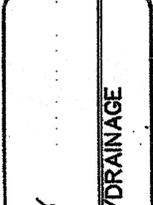
THE 100 YEAR STORM (OVERFLOW) AT THE STORM DETENTION FACILITY IS DISCHARGED THRU THE EMERGENCY SPILLWAY AT A MAXIMUM HIGH WATER ELEVATION OF 318.44 WHICH IS APPROX. 20' BELOW THE LOWEST POINT OF THE EXISTING FLOOD PLAIN AREA, AND 30' BELOW THE CELLAR ELEVATION OF THE FUTURE MCKINLEY BUILDING. THE BUILDING WILL NOT BE FLOODED BY THE 100 YEAR STORM AS IT BELLOWS THE PATH OF OVERLAND FLOW THRU THE SITE AND DETENTION FACILITY.

WHEN THE ABOVE INFORMATION IS SUBMITTED TO THE OUTFALL FROM THE SITE (AT STR. "A" WHICH IS APPROX. 20' BELOW THE LOWEST POINT OF THE EXISTING FLOOD PLAIN AREA, AND 30' BELOW THE CELLAR ELEVATION OF THE FUTURE MCKINLEY BUILDING) THE BUILDING WILL NOT BE FLOODED BY THE 100 YEAR STORM AS IT BELLOWS THE PATH OF OVERLAND FLOW THRU THE SITE AND DETENTION FACILITY.

DATE	DESCRIPTION	APPROVED BY	DATE
07/30/10	DESIGN	[Signature]	07/30/10
08/24/10	RESUBMISSION	[Signature]	08/24/10
10/26/10	RESUBMISSION	[Signature]	10/26/10
12/15/10	RESUBMISSION	[Signature]	12/15/10
03/15/11	RESUBMISSION	[Signature]	03/15/11
04/18/11	RESUBMISSION	[Signature]	04/18/11
05/17/11	RESUBMISSION	[Signature]	05/17/11

Huntley, Nyce & Associates, Ltd.
CIVIL ENGINEERING • LAND PLANNING
SURVEYING • ENVIRONMENTAL ENGINEERING

7000 FOLKMAN ST.
FARMERS BURTON, VIRGINIA 22029
TEL: 703-449-6700
FAX: 703-449-6714



MCKINLEY SITE B.M.P. FACILITY
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
BMP FACILITY DESIGN CALCULATIONS/DRAINAGE
NARRATIVE

SCALE: AS SHOWN

DATE: 10-09-01

REVISIONS:

8 SHEET OF 16

FILE NO. PP-1801

Bowman
CONSULTING

Bowman Consulting Group, Ltd.
1400 Thornhill Place
Chantilly, Virginia 20151
Phone: (703) 464-0000
Fax: (703) 461-9720
www.bowmanconsulting.com

STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

DATE: JULY 30, 2010

FILE NO. P-10C SWM
SHEET 13 OF 17

Patton Harris Rust & Associates, Inc.
Engineers, Surveyors, Planners, Landscape Architects.

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

STORMWATER MANAGEMENT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA

DESIGN PHR+A
DRAWN PHR+A
CHECKED PHR+A
FILE NO. 10022-1-9
CAT. NO. 16 OF 20

DATE: AUGUST 01, 2012
SCALE: N/A
SHEET 16 OF 20

BMP Facility Design Calculations

Plan Name: McKinley Site B.M.P. Facility
Plan Number: 1702-SF-05
Date: February 11, 2002
Engineer: Raza Hakimi

I. Water Quality Narrative
The site consists of 35.30 ac. of commercial/office development. A 18.40 acre developed/disturbed area will be draining into the proposed detention/BMP facility. The remaining 16.90 acre is uncontrolled. There is a 4.42 acre school site and 7.63 acre parkland offsite of the property which is naturally draining into the existing swale where the detention facility is proposed to be located. BMP/detention is also provided for this offsite area. The BMP facility will be privately maintained by the owner/developer. The site is preferred to provide 40% BMP in accordance with the Chesapeake Bay Ordinance.

II. Watershed Information

Part 1: List all of the Subarea and "C" Factors used in the BMP Computations

Subarea Designation and Description	"C" Factor	Acres	Product
1. Johnson III (uncont.)	0.70	3.53	2.47
2. McKinley, Pierce & Future Taylor (cont.)	0.72	10.40	7.42
3. Southwest of Hayes Blvd. (cont.)	0.72	4.24	3.03
4. School (Offsite) (cont.)	0.49	4.42	2.27
5. Park (Offsite) (cont.)	0.35	4.76	1.67
6. McKinley Bldg (uncont.)	0.35	4.76	1.67
7. Future Taylor Bldg. (cont.)	0.45	3.66	1.65
8. Future Johnson I, II (uncont.)	0.80	10.77	8.62

Part 2: Compute the Weighted Average "C" Factor for the Site

Subarea Designation	"C" Factor	Acres	Product
1. Johnson III (uncont.)	0.70	3.53	2.47
2. McKinley, Pierce & Future Taylor (cont.)	0.72	10.40	7.42
3. Southwest of Hayes Blvd. (cont.)	0.72	4.24	3.03
4. School (Offsite) (cont.)	0.49	4.42	2.27
5. Park (Offsite) (cont.)	0.35	4.76	1.67
6. McKinley Bldg (uncont.)	0.35	4.76	1.67
7. Future Taylor Bldg. (cont.)	0.45	3.66	1.65
8. Future Johnson I, II (uncont.)	0.80	10.77	8.62

(b) Total = 25.43
(c) Weighted average "C" factor = 0.72

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation	BMP Type	Removal Eff. (%)	Area Ratio	"C" Factor	Product
2	wet	50	10.4/35.30	0.72	14.71
4	wet	70	4.42/35.30	0.49	0.70
5	wet	50	4.76/35.30	0.35	6.74
6	wet	50	4.76/35.30	0.35	3.28
7	wet	50	3.66/35.30	0.45	1.98
(b) Total =					27.43 %

Part 4: Determine Compliance with Phosphorus Removal Requirement

- (A) Select Requirement (for new development)
- Water Supply Overlay District (Occoquan Watershed) = 50% (Fairfax County and Prince William County)
 - Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) and 50% (Prince William County)
 - Chesapeake Bay Preservation Area (Redevelopment) = (See Redevelopment Comps. Below)

Redevelopment calc. for:

1. Johnson III
"C" pre=0.63 "C" post=0.70
Redevelopment=[1-0.5x("C" pre/"C" post)]x100=19%
(See Johnson 3 pre-development map, sheet 9A of 16)

2. Johnson I & II (Future)
"C" pre=0.71 "C" post=0.80
Redevelopment=[1-0.5x("C" pre/"C" post)]x100=20.12%

"BMP" Requirement Calc.	Site Area	Eff.	C Ratio	Area Ratio	Eff.
2. McKinley, Pierce, Taylor	40% x 0.72/0.72	10.40/35.30	11.78%		
1. Johnson III	19% x 0.70/0.72	3.53/35.30	1.85%		
3. Hayes (cont.)	10% x 0.72/0.72	4.24/35.30	1.35%		
6. McKinley	40% x 0.68/0.72	2.60/35.30	2.78%		
7. Taylor	40% x 0.45/0.72	3.66/35.30	2.59%		
8. Johnson I, II	20.12% x 0.80/0.72	10.77/35.30	6.82%		
Total					27.17%

(B) If line 3(a) 27.43 > Line 4(a) 27.17 then Phosphorus removal requirement is satisfied.

V. Storage

Part 7: Compute The Weighted Average "C" Factor for Each Proposed BMP Facility

(A) List the areas to be controlled by the proposed BMP.

Subarea Designation	"C" Factor	Acres	Product
1. Johnson III (uncont.)	0.70	3.53	2.47
2. McKinley, Pierce & Future Taylor	0.72	10.40	7.42
4. School @ 20% CREDIT	0.40	4.42	1.77
3. Hayes	0.72	4.24	3.03
5. Park	0.35	4.76	1.67
4. Park	0.35	4.76	1.67

(b) 23.25
(c) Weighted average "C" factor = 0.60

Part 8: Determine the Storage Required for Each Proposed Facility

** (A) Extended Detention Dry Pond
Chart A6-40 values (Appendix 4-3) for BMP storage per acre
[(4975 x "C") - 875] or [91.25 x %Imp.] = (a) 1.750 CULET/AC.

Design 1 (48 hour drawdown)
Line 7(a) 23.25 Line 8(a) 1.750 = 40,688 cf

(B) Wet Pond
Volume of runoff per acre from mean storm
[1452 x "C"] = 1452 x Line 7(a) = (b) 371.20 cfs

Design 1 (2.5 x Volume of runoff from mean storm event in wet storage with extended detention above the permanent pool)
Wet Storage = 2.5 x Line 7(a) x Line 8(b) = 10,156 cf

* Design 2 (4.0 x Volume of runoff from mean storm)
4.0 x Line 7(a) x Line 8(b) = 371.20 x 10,156 = 3,761,600 cf

(C) Infiltration Trench
Design 1 (0.50 inch per impervious acre) x Line 7(a) = 10,156 cf
Design 2 (1.0 inch per impervious acre) x Line 7(a) = 20,312 cf
Design 3 (2-year 2-hour storm) (2.012) x 49,550 x "C" x Line 7(a) = 10,156 cf

* Wet storage available per as built (see this sheet for storage calc.) = 81,264 cf
* Dry storage of 46,196 cf is also provided @ elevation 318.44 ft (see as built shown on this sheet)

VI. Outlet Computation

Part 9: Determine The Required Orifice Size for Each Extended Detention Facility

(A) BMP storage requirement (S) from Part 8. (a) 46,196 cf

(B) Maximum Head (h) at the required BMP storage from the elevation-storage curve for the facility. (b) 2.24

(C) Peak outflow rate (Qp) at the maximum head for a drawdown time of 48 hrs. [Qp = S/(0.5 x 3600 x 48)]
0.0000116 x Line 9(a) 46,196 = (c) 0.53

(D) Required orifice area (A) [A = Qp / (0.6 x (64.4 x h)^{0.5})]
Line 9 (a) 0.53 / (0.6 x (64.4 x Line 9(b) 2.24)^{0.5}) = (d) 0.0735 sq ft
Per as built 6.5" Dia. Orifice provided @ elev. 316.24

(E) Diameter of a circular orifice.
2.0 x (Line 9(d) 0.0735 / 3.1415927)^{0.5} = (e) 0.3052"
= 3.67 inch required
use 3.5" dia. orifice

NOTE: ALL NUMBERS IN PART 9 ARE FROM AS-BUILT DATA BELOW!

AS BUILT VOLUMES MCKINLEY SWM/BMP FACILITY

ELEV.	AREA	Δ AREA	DEPTH	VOLUME	Total (cf)
310.0	1,778	0	0	0	0
312.0	12,711	7,244	2'	14,488	14,488
314.0	16,076	14,394	2'	28,788	43,276
316.0	18,238	17,157	2'	34,314	77,590
316.2	18,500	18,369	0.2'	3,674	81,264

AS BUILT ELEVATION OF 316.24 WILL YIELD 81,264 CF OF WET STORAGE.

ELEV.	AREA	Δ AREA	DEPTH	VOLUME	Total (cf)
316.2	18,500	0	0	0	0
318.0	21,780	20,130	1.8'	36,234	36,234
320.0	25,525	22,642	2'	45,284	81,518
322.0	25,430	24,180	2'	48,360	129,878
324.0	28,148	26,788	2'	53,576	183,454

AS BUILT ELEVATION OF 318.44 WILL YIELD 46,196 CF OF DRY EXTENDED STORAGE.

Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN
(L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_DP) (L_CP) (L_SE) (L_CSP) (L_SP) (L_VC)

SEE PROFFERS DATED:
SEE CONDITIONS DATED: April 2, 2013
Date of Final Approval: [Signature] (S_BOS) (L_PC) (L_BZA)

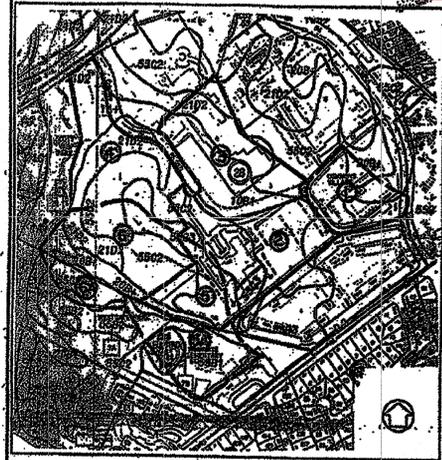
Comments:

PLANNING & ZONING

Application No: FDP 2011-PR-011-02 Staff: S. Lin
 APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_DPI) (L_CP) (L_SE) (L_CSP) (L_SP) (L_VCI)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: (L_BOS) (L_PC) (L_BZA)
 Comments:
 PLANNING & ZONING
 Sheet 17 of 20

FOR INFORMATION ONLY!

Patton Harris Rust & Associates
 Engineers, Surveyors, Planners, Landscape Architects.
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PHRA SHEET #17
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NO.	DATE	DESCRIPTION
10-01-01		REMOVE R.M.F. DATA FROM THIS SHEET. SEE NEW SHEET SA FOR NEW DATA.

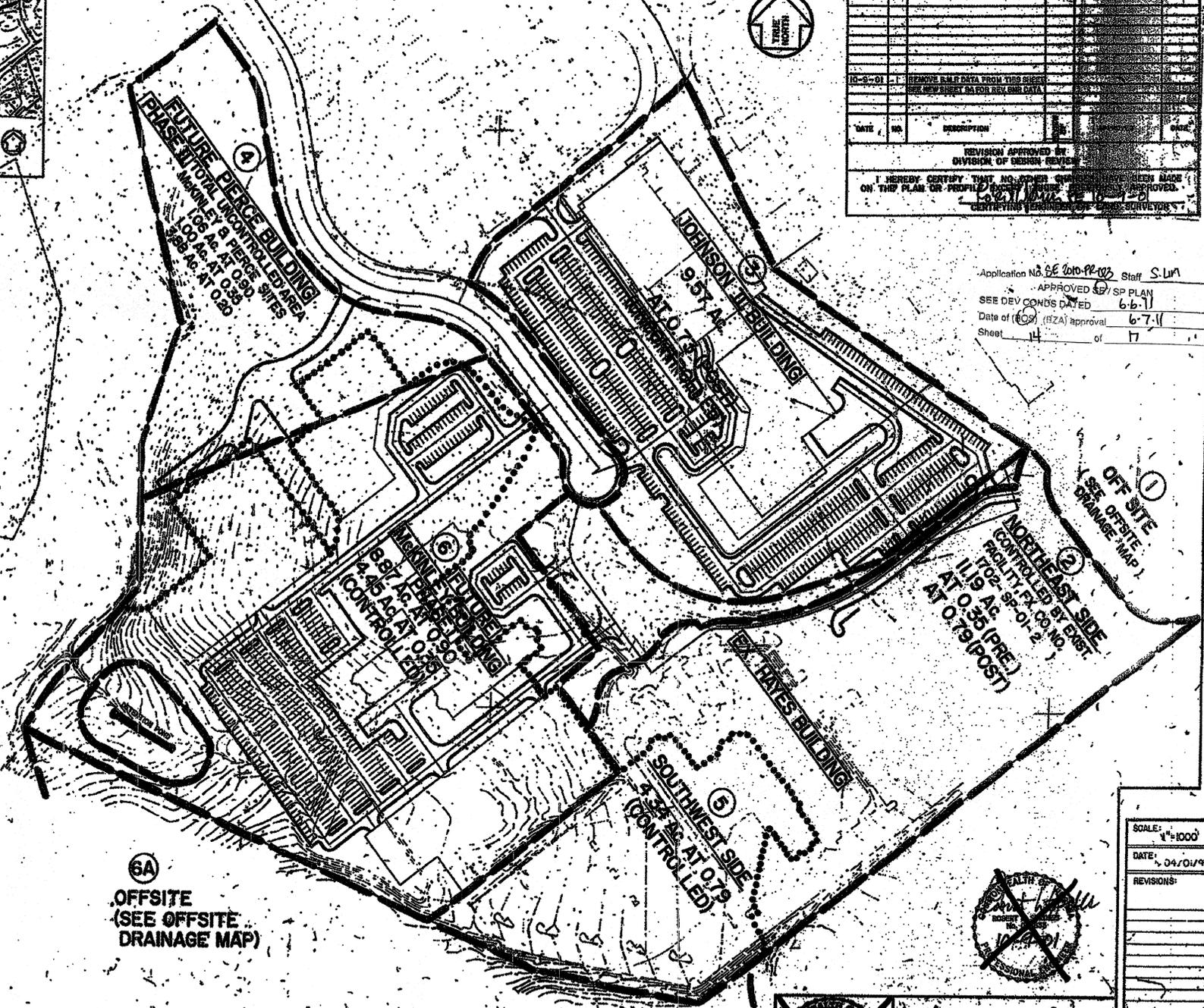
REVISION APPROVED BY: [Signature]
 DIVISION OF ENGINEERING

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THIS PLAN OR PROFILE SINCE IT WAS APPROVED. CERTIFYING ENGINEER OF SURVEYORS

Application No. SE 10-PR-023 Staff: S. Lin
 APPROVED SE/SP PLAN
 SEE DEV CONDS DATED: 6-6-11
 Date of (L_CSP) (BZA) approval: 6-7-11
 Sheet 17 of 17

Sub area "A" includes sites #1,2,3,4
 Sub area "B" includes sites #5,6,7,8,9

Site #	Type of Soil	Req. Group / Description
1	SSB2	B Residential
	SSC2	B
	20B2	B Type B = 3.60 Acres
2	SSC2	B Woods & Grass combination
	SSC3	B Type B = 7.00 Acres
	SSC2	B
	SSB3	B Type C = 4.6 Acres
3	SSC2	B Existing Commercial Site
	21B2	B Type B = 4.87 Acres
	10B1	B Type C = 5.51 Acres
4	SSC2	B Commercial & post. dev. condition
	SSC2	B woods-grass combination
	SSC2	B pre-develop. condition
	SSB3	B Type B = 2.07 Acres
	SSB3	B Type B = 6.03 Acres (pre)
	SSB3	B Type B = 3.27 Acres (post)
5	SSB3	B Commercial & post. dev. condition
	SSC2	B woods-grass comb. & pre-dev. cond.
	SSB3	B Type B = 5.18 Ac. (pre)
	SSB3	B Type B = 4.34 Ac. (post)
6	SSB3	B School & Residential & post. dev. cond.
	SSB3	B woods-grass combination
	SSC2	B pre-develop. cond.
	SSC2	B Type B = 7.29 Ac.
7	SSB3	B Commercial & post-develop. cond.
	SSC2	B
	20B2	B Woods-grass comb. & pre-develop. condition
	18A	B Type B = 10.04 Ac. (pre)
	18A	B Type B = 27.28 Ac. (post)
	18A	B Type B = 0.53 Ac.
8	SSB3	B Parkland & post-develop. condition
	SSB2	B
	21B2	B Woods-grass comb. & pre-develop. condition
	21B2	B Type B = 1.85 Ac.



S.E. APPLICATION - THIS SHEET IS FOR INFORMATION PURPOSES

Bowman
 CONSULTING

Bowman Consulting Group, Ltd.
 14532 Lee Road
 Chantilly, Virginia 20151
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 Fax: (703) 449-6720
 www.bowmanconsulting.com

STORMWATER MANAGEMENT
 MITRE 4
 PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA



DATE	DESCRIPTION
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	RESUBMISSION

DESIGN DRAWN CHKD
 SCALE H: N.T.S. V:
 JOB No.
 DATE: JULY 30, 2010
 FILE No. P-100 SWM
 SHEET 14 OF 17

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STORMWATER MANAGEMENT
 MITRE 4
 PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO.	10022-1-9	CAT. NO.	P-100 SWM
		SHEET	17 OF 20

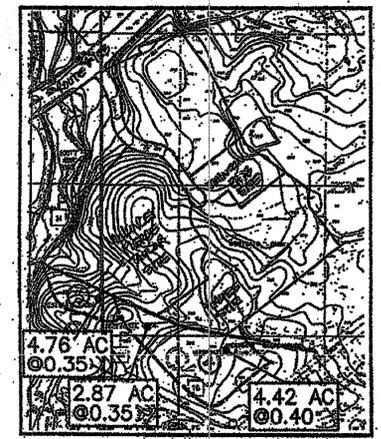
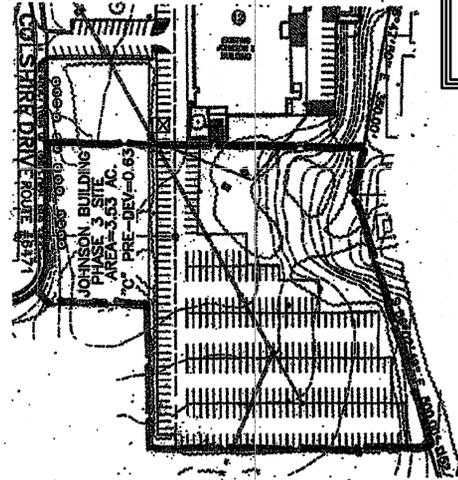
FOR INFORMATION ONLY!

COMMONWEALTH OF VIRGINIA
 LANDSCAPE ARCHITECT
DAVID H. STEIGLER
 Cert. No. 609
 02-04-2013

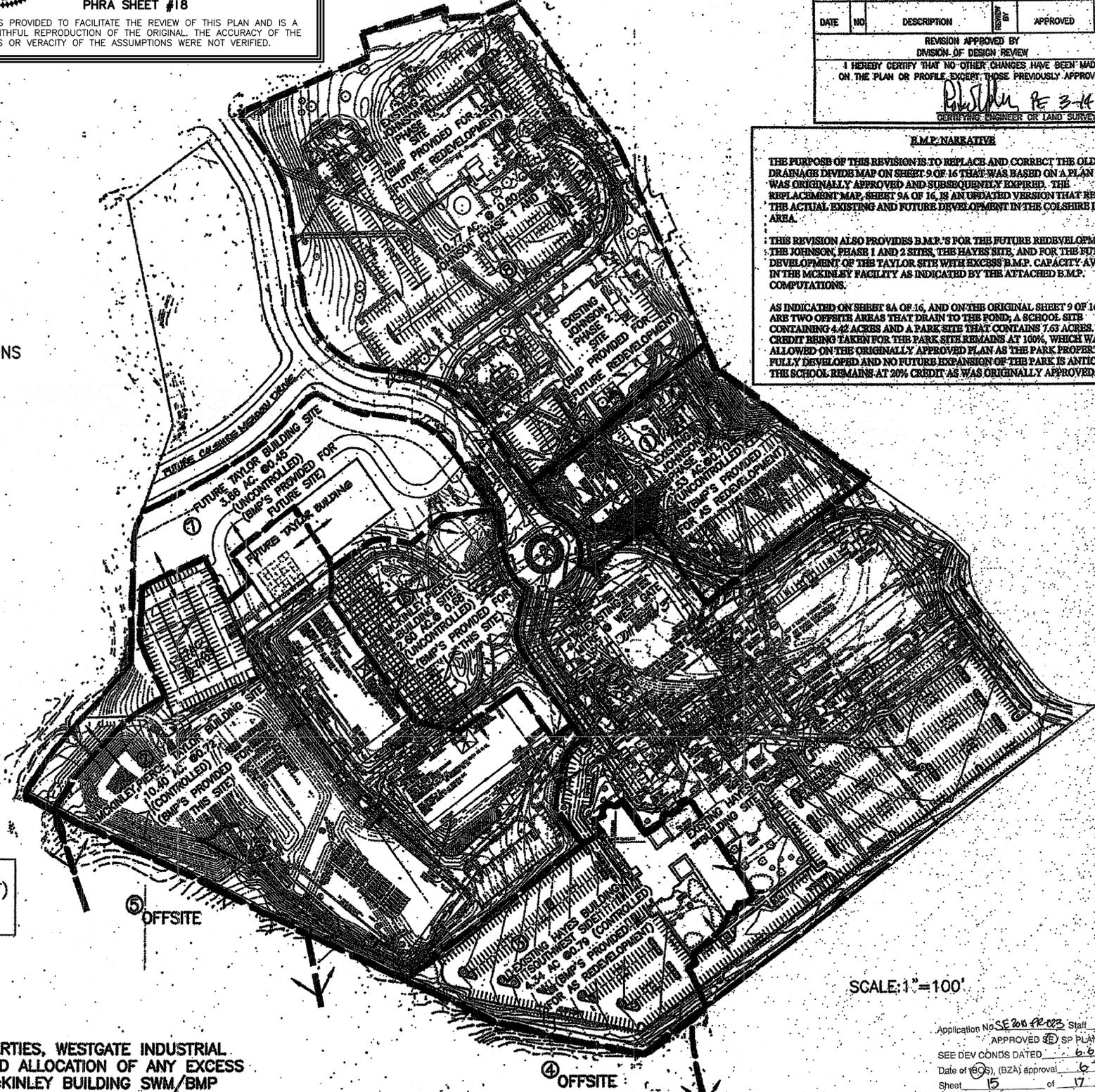
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AREA ④ - 2.87 AC. (PARK) @ 0.35 (100% CREDIT)
 4.42 AC. (SCHOOL) @ 0.40 (20% CREDIT)
 AREA ⑤ - 4.76 AC. (PARK) @ 0.35 (100% CREDIT)



B.M.P. NARRATIVE

THE PURPOSE OF THIS REVISION IS TO REPLACE AND CORRECT THE OLD B.M.P. DRAINAGE DIVIDE MAP ON SHEET 9 OF 16 THAT WAS BASED ON A PLAN WHICH WAS ORIGINALLY APPROVED AND SUBSEQUENTLY EXPIRED. THE REPLACEMENT MAP, SHEET 9A OF 16, IS AN UPDATED VERSION THAT REFLECTS THE ACTUAL EXISTING AND FUTURE DEVELOPMENT IN THE COLSHIRE DRIVE AREA.

THIS REVISION ALSO PROVIDES B.M.P.'S FOR THE FUTURE REDEVELOPMENT OF THE JOHNSON, PHASE 1 AND 2 SITES, THE HAYES SITE, AND FOR THE FUTURE DEVELOPMENT OF THE TAYLOR SITE WITH EXCESS B.M.P. CAPACITY AVAILABLE IN THE MCKINLEY FACILITY AS INDICATED BY THE ATTACHED B.M.P. COMPUTATIONS.

AS INDICATED ON SHEET 8A OF 16, AND ON THE ORIGINAL SHEET 9 OF 16, THERE ARE TWO OFFSITE AREAS THAT DRAIN TO THE POND, A SCHOOL SITE CONTAINING 4.42 ACRES AND A PARK SITE THAT CONTAINS 7.63 ACRES. THE CREDIT BEING TAKEN FOR THE PARK SITE REMAINS AT 100%, WHICH WAS ALLOWED ON THE ORIGINALLY APPROVED PLAN AS THE PARK PROPERTY WAS FULLY DEVELOPED AND NO FUTURE EXPANSION OF THE PARK IS ANTICIPATED. THE SCHOOL REMAINS AT 20% CREDIT AS WAS ORIGINALLY APPROVED.

DATE	NO.	DESCRIPTION	APPROVED	DATE
10/20/10	1	REVISION TO B.M.P. DRAINAGE DIVIDE MAP		

REVISION APPROVED BY
 DIVISION OF DESIGN REVIEW
 I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED.
 [Signature] 06-3-11-02
 CIVIL ENGINEER OR LAND SURVEYOR

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STORMWATER MANAGEMENT
 MITRE 4
 PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
 COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
 LANDSCAPE ARCHITECT
MATTHEW J. TAUSCHER
 No. 0006932
 05/10/11

DATE	DESCRIPTION
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	RESUBMISSION

DESIGN DRAWN CHKO
 SCALE H: N.T.S.
 JOB No.
 DATE: JULY 30, 2010
 FILE No.
 P-10E SWM
 SHEET 15 OF 17

MCKINLEY SITE B.M.P. FACILITY
 PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA
 OVERALL B.M.P. DRAINAGE DIVIDE MAP

SCALE: AS SHOWN
 DATE: 10-09-01
 REVISIONS:

SHEET 9A OF 16
 FILE NO. PP-1801

NOTE: THE OWNERS WEST*GROUP INC., OF THESE PROPERTIES, WESTGATE INDUSTRIAL PARK, RESERVES THE RIGHT FOR FUTURE USE AND ALLOCATION OF ANY EXCESS B.M.P.'S AND STORM WATER DETENTION IN THE MCKINLEY BUILDING SWM/BMP FACILITY. (FX.CO.#1702-SP-05).

S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES

THIS SHEET FOR B.M.P. PURPOSES ONLY!

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STORMWATER MANAGEMENT

MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO.	10022-1-9	CAT. NO.	
		SHEET	18 OF 20

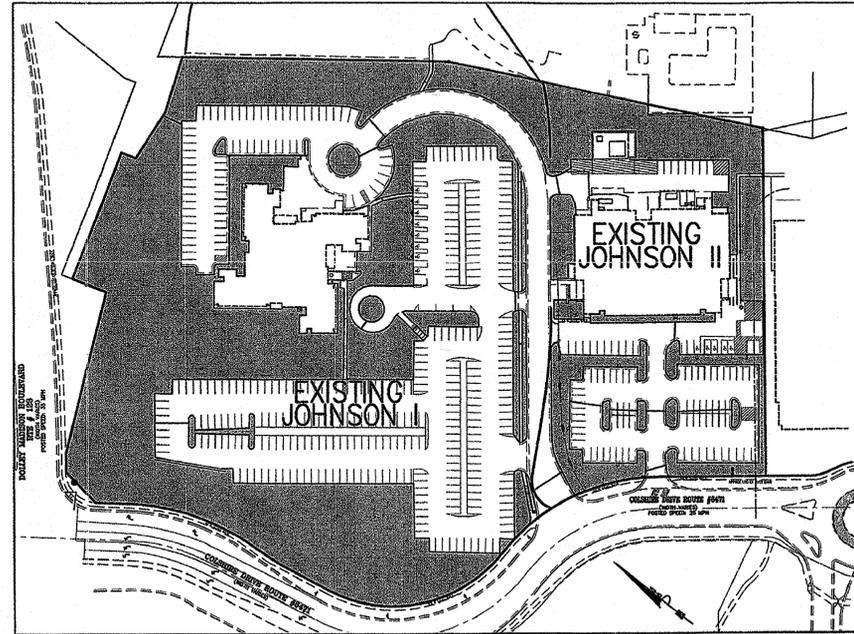
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PHRA SHEET #19

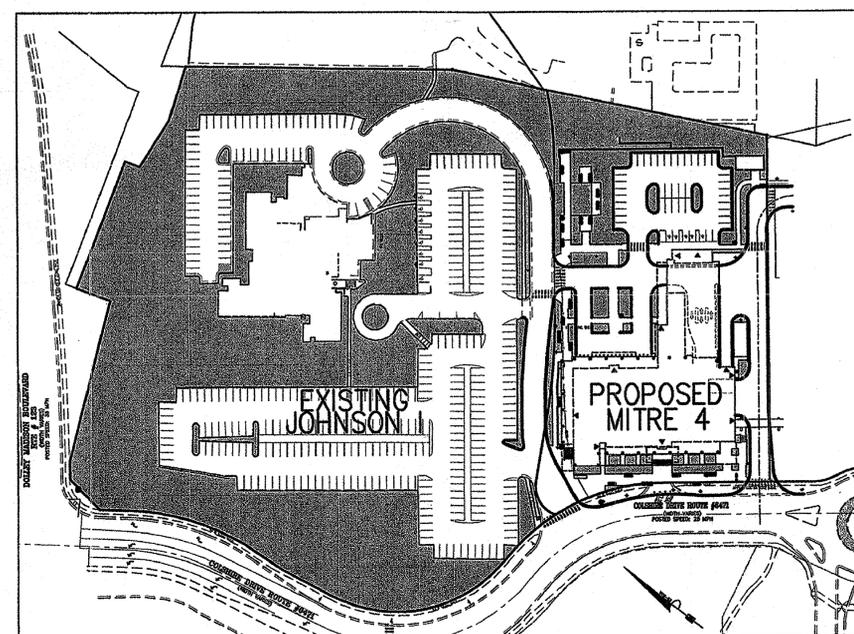
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1
17 EXISTING PERVIOUS AREA EXHIBIT
 SCALE: 1"=100'

NOTE: THIS EXHIBIT SHOWS THE ACTUAL EXISTING PERVIOUS AREA ON THE JOHNSON I AND JOHNSON II SITES.

JOHNSON I AND JOHNSON II SITES:
 EXISTING CONDITIONS:
 SITE AREA: 10.77 ACRES
 PERVIOUS AREA: 209,095 SF
 % PERVIOUS: 45%
 % IMPERVIOUS: 55%
 C-FACTOR: 0.63



2
17 PROPOSED PERVIOUS AREA EXHIBIT
 SCALE: 1"=100'

NOTE: THIS EXHIBIT SHOWS THE PERVIOUS AREA BASED ON THE EXISTING CONDITIONS OF THE JOHNSON I SITE AND THE PROPOSED REDEVELOPMENT OF THE JOHNSON II SITE.

JOHNSON I AND JOHNSON II SITES:
 PROPOSED CONDITIONS:
 SITE AREA: 10.77 ACRES
 PERVIOUS AREA: 197,474 SF
 % PERVIOUS: 42%
 % IMPERVIOUS: 58%
 C-FACTOR: 0.65

**JOHNSON II SITE ONLY:
 PROPOSED CONDITIONS:
 % IMPERVIOUS: 75%**

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	BMP Type (2)	Removal Eff. (%) (3)	Area Ratio (4)	"C" Factor Ratio (5)	Product (6)
2.	wet	50	X 10.40/35.30	X 0.72/0.72	= 14.73
4.	wet	(2) 50	X 4.42/35.30	X 0.40/0.72	= 0.70
3.	wet	50	X 4.34/35.30	X 0.79/0.72	= 6.74
5.	wet	50	X 4.76/35.30	X 0.33/0.72	= 3.28
4.	wet	50	X 2.87/35.30	X 0.33/0.663	= 1.98
(a) Total =					27.43 %

- Part 4: Determine Compliance with Phosphorus Removal Requirement**
- (A) Select Requirement (for new development)
- Water Supply Overlay District (Occoquan Watershed) = 40% Except Redevelopment Areas (See Below) 50% (Fairfax County and Prince William County)
 - Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) 50% (Prince William County)
 - Chesapeake Bay Preservation Area (Redevelopment) = (See Redevelopment Comps. Below)

Redevelopment calc. for:

1-Johnson III
 "C" pre=0.63 "C" post=0.70
 Redevelopment=[1-0.9*(C pre/C post)] x 100=19%
 (See Johnson 3 pre-development map, sheet 9A of 16)

2-Johnson I & II (Future)
 "C" pre=0.71 "C" post=0.80
 Redevelopment=[1-0.9*(C pre/C post)] x 100=12.5%

"BMP" Requirement Calc. Site Area	Eff.	C Ratio	Area Ratio	Eff.
2. McKinley, Pierce, Taylor	40%	x 0.72/0.72	x 10.40/35.30	= 11.78%
1. Johnson III	19%	x 0.70/0.72	x 3.53/35.30	= 1.85%
3. Hayes	10%	x 0.79/0.72	x 4.34/35.30	= 1.35%
6. McKinley	40%	x 0.68/0.72	x 2.60/35.30	= 2.78%
7. Taylor	40%	x 0.45/0.72	x 3.66/35.30	= 2.59%
8-Johnson I, II	20.125%	x 0.80/0.72	x 10.77/35.30	= 6.82%
Total				27.17%

(B) If line 3(a) 27.43% Line 4(a) 27.17% then Phosphorus removal requirement is satisfied.

3
17 PORTION OF BMP COMPUTATIONS FROM SHEET 12

NOTE: THE ABOVE BMP COMPUTATIONS ARE TAKEN FROM SHEET 12 OF THIS PLAN SET (SHEET 8 OF 16 FROM THE MCKINLEY POND PLAN #1702-SP-005-2), AND ARE SHOWN ON THIS SHEET AS REFERENCE ONLY. THE COMPUTATIONS ARE BASED UPON THE PFM'S (IN EFFECT IN 1999) REDEVELOPMENT FORMULA WHICH UTILIZED C(PRE) AND C(POST). SEE BELOW FOR REVISED BMP COMPUTATIONS BASED UPON THE CURRENT PFM REDEVELOPMENT FORMULA WHICH UTILIZES I(PRE) AND I(POST).

Redevelopment Calculation for:

Subarea	I (PRE)	I (POST)	Redevelopment
Johnson III	55%	67%	14.65%
Johnson I & II (Future)	52%	58%	14.65%

"BMP" Requirement Calc. Site Area	Eff.	C Ratio	Area Ratio	Eff.
2. McKinley, Pierce Taylor	40.00%	x 0.72 / 0.72	x 10.40 / 35.30	= 11.78%
1. Johnson III	14.65%	x 0.70 / 0.72	x 3.53 / 35.30	= 1.254%
3. Hayes	10.00%	x 0.79 / 0.72	x 4.34 / 35.30	= 1.35%
6. McKinley	40.00%	x 0.68 / 0.72	x 2.60 / 35.30	= 2.78%
7. Taylor	40.00%	x 0.45 / 0.72	x 3.66 / 35.30	= 2.59%
8. Johnson I, II	14.65%	x 0.65 / 0.72	x 10.77 / 35.30	= 1.404%
Total =				25.08%
Phosphorus Removal Requirement =				25.08%
Phosphorus Removal Provided =				27.43%

Therefore, the phosphorus removal requirement has been satisfied.

4
17 UPDATED BMP COMPUTATIONS PER CURRENT PFM STANDARDS

NOTE: THE PURPOSE OF THE ABOVE BMP COMPUTATIONS ARE TO DEMONSTRATE THAT THE BMP REQUIREMENTS FOR THE JOHNSON I AND JOHNSON II SITES ARE STILL SATISFIED VIA THE MCKINLEY POND, WHEN UTILIZING THE PFM'S CURRENT REDEVELOPMENT FORMULA FROM SECTION 6-401.2B.

Application No. SE 2010-PR-123 Staff SLW
 APPROVED 6/2 / SP PLAN
 SEE DEV COND'S DATED 6.6.11
 Date of (BOS) (BZA) approval 6.7.11
 Sheet 17 of 17

Bowman
 CONSULTING

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 14620 Thunderbolt Place
 Chantilly, Virginia 20151
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 www.bowmanconsulting.com

STORMWATER MANAGEMENT
 MITRE 4
 PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
 COUNTY PROJECT NUMBER

DATE	DESCRIPTION
08/24/10	RESUBMISSION
10/28/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	RESUBMISSION

DESIGN	DRAWN	CHKD

DATE: JULY 30, 2010
 FILE No. P-10G SWM
 SHEET 17 OF 17

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STORMWATER MANAGEMENT
 MITRE 4
 PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

MITRE 4
 FINAL DEVELOPMENT PLAN
 FTP 2011-011-02
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VA.

DESIGN	PHR+A
DRAWN	PHR+A
CHECKED	PHR+A
FILE NO.	10022-1-9

SURVEY	PHR+A
DATE	AUGUST 01, 2012
SCALE	N/A
SHEET	19 OF 20

Application No: FDP 2011-PR-011-02 Staff: S. Lin
 APPROVED DEVELOPMENT PLAN
 (L_GDP) (L_CDP) (L_FDP) (L_PRC) (L_DP) (L_CP) (L_SE) (L_CSP) (L_SP) (L_VC)
 SEE PROFFERS DATED:
 SEE CONDITIONS DATED: April 2, 2013
 Date of Final Approval: 6/2/11 (XBOS) (L_PC) (L_BZA)
 Comments:
 DEPARTMENT OF PLANNING & ZONING
 Sheet 19 of 20

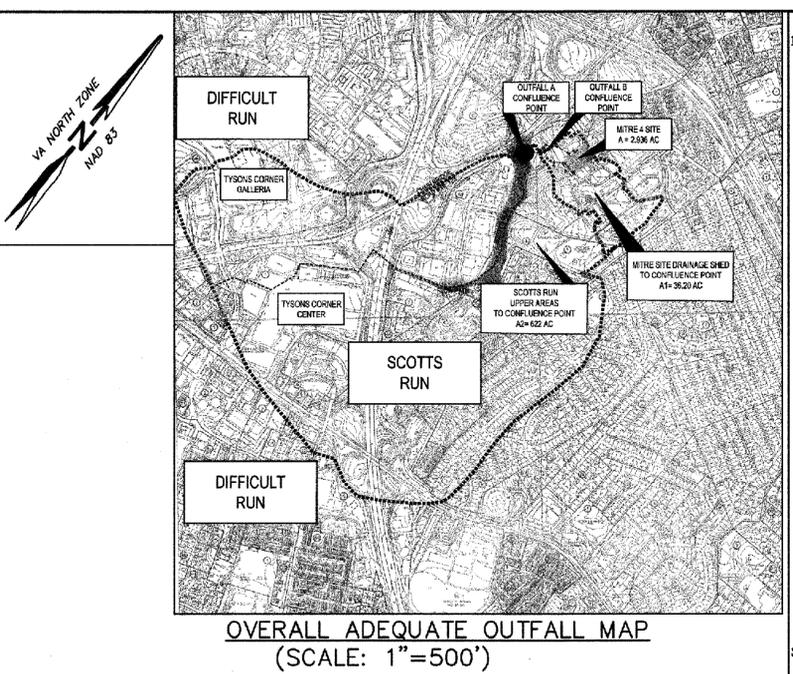
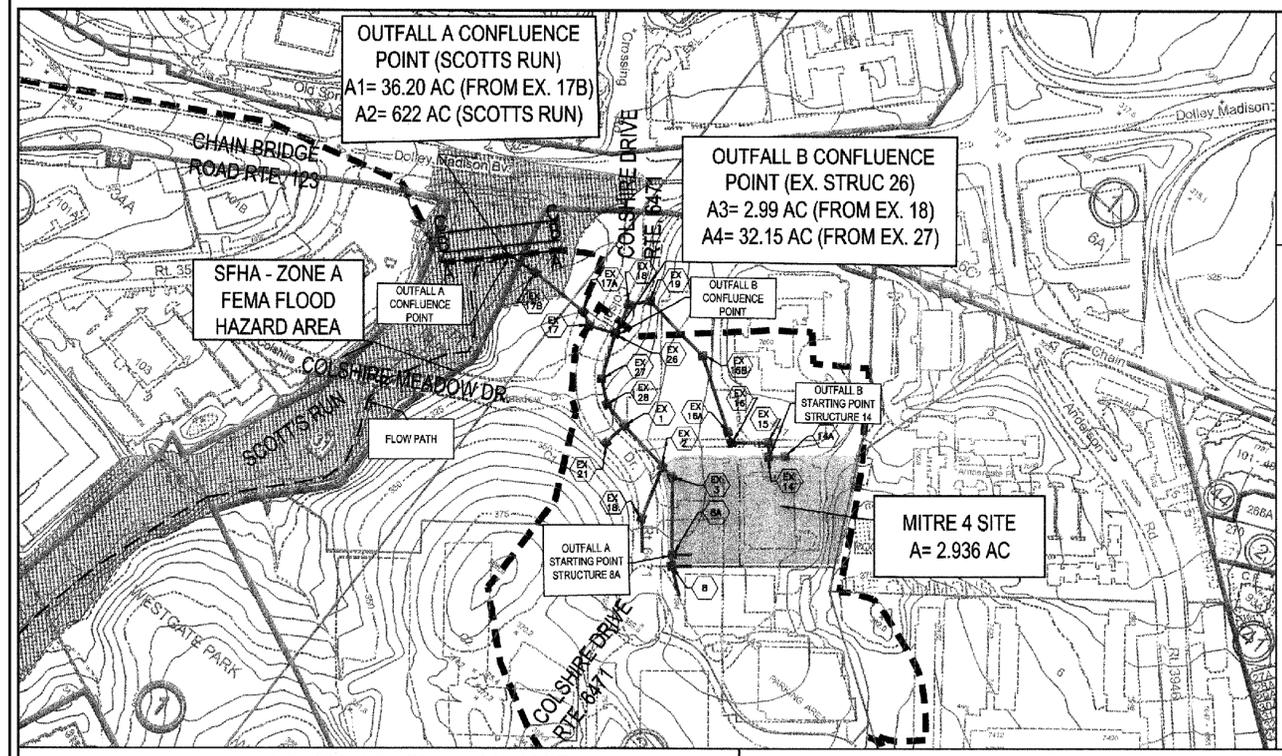


TABLE 3.18-B7
PERMISSIBLE VELOCITIES FOR EARTH LININGS

Soil Types	Permissible Velocities (ft./sec.)
Fine Sand (noncolloidal)	2.5
Sandy Loam (noncolloidal)	2.5
Silt Loam (noncolloidal)	3.0
Ordinary Firm Loam	3.5
Fine Gravel	5.0
Stiff Clay (very colloidal)	5.0
Graded, Loam to Cobbles (noncolloidal)	5.0
Graded, Silt to Cobbles (colloidal)	5.5
Alluvial Silts (noncolloidal)	5.5
Alluvial Silts (colloidal)	5.0
Coarse Gravel (noncolloidal)	6.0
Cobbles and Shingles	5.5
Shales and Hard Plans	6.0

Source: Soil and Water Conservation Engineering, Schwab, et.al. and American Society of Civil Engineers

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ADEQUATE OUTFALL MAP (SCALE: 1"=200')

ADEQUATE OUTFALL NARRATIVE:

MITRE 4 PROJECT IS PROPOSED TO BE CONSTRUCTED ON THE EXISTING PAD SITE OF THE JOHNSON II BUILDING PREVIOUSLY DEMOLISHED UNDER APPROVED FAIRFAX SITE PLAN # 3538-SP-002. IT CONSISTS OF A 14-STORY OFFICE BUILDING, A 4-LEVEL UNDERGROUND PARKING STRUCTURE, A PIAZZA, A POCKET PARK SEATING AREA, A NETWORK OF PEDESTRIAN WALKS, 40 SPACES SURFACE PARKING LOT TO THE NORTHEAST, LANDSCAPING, AND UTILITIES. THE MITRE 4 SITE AREA IS 2.936 ACRES, AND THE PROPOSED WORK REQUIRE THE DISTURBANCE OF APPROXIMATELY 3 ACRES UNDER THIS SITE PLAN.

THE SITE GENERALLY SLOPES FROM THE NORTHEAST TO THE SOUTHWEST, AND IT IS BORDERED TO THE NORTH BY JOHNSON I (A SIX-STORY OFFICE BUILDING), WHICH HAS A PARKING LOT DRAINING FROM EAST TO WEST TO COLSHIRE DRIVE. TO THE SOUTH IS THE MITRE 3 BUILDING, WHICH SLOPES FROM EAST TO WEST. TO THE NORTH IS (PRIVATE ROAD) THAT LEADS TO JOHNSON I. TO THE NORTHEAST IS THE COMMONS, A RESIDENTIAL DEVELOPMENT. TO THE SOUTHWEST IS COLSHIRE DRIVE (RTE. 6471) AND AN EXISTING ROUNDABOUT.

THE FOLLOWING ANALYSIS OF DOWNSTREAM DRAINAGE SYSTEM IS DONE IN ACCORDANCE WITH PFM SECTION 6-0203. THE EXTENT OF THE REVIEW OF THE DOWNSTREAM DRAINAGE THAT APPLIES FOR THIS SITE PLAN IS AS FOLLOWS:

6-0203.2A TO A POINT THAT IS AT LEAST 150 FT DOWNSTREAM OF A POINT WHERE THE RECEIVING PIPE OR CHANNEL IS JOINED BY ANOTHER THAT HAS A DRAINAGE AREA THAT IS AT LEAST 90% OF THE SIZE OF THE FIRST DRAINAGE AT THE POINT OF CONFLUENCE.

THE STARTING POINT FOR THE SITE IS WHERE THE PROPOSED DRAINAGE SYSTEM MEETS THE EXISTING DRAINAGE SYSTEM. MITRE 4 SITE OUTFALLS AT TWO DIFFERENT LOCATIONS:

- 1- OUTFALL A
- 2- OUTFALL B

OUTFALL A
OUTFALL A STARTING POINT IS PROPOSED JUNCTION BOX 8A, AND THE CONFLUENCE POINT IS WHERE DRAINAGE AREA (A1 = 36.20 AC) FROM OUTFALL (EX. 17B) MEETS DRAINAGE AREA (A2 = 622 AC) FROM UPPER SCOTTS RUN (SEE MAP ON THIS SHEET). IN ADDITION, THE CONFLUENCE POINT IS LOCATED IN FEMA FLOOD HAZARD AREA DESIGNATED AS (SFHA - ZONE A).

APPLYING PFM 6-203.2A, THE EXTENT OF THE OUTFALL ANALYSIS IS TAKEN TO 150' DOWNSTREAM OF THE POINT OF CONFLUENCE (SEE SHEET C-198 FOR STORM SEWER COMPUTATIONS AND THIS SHEET FOR MAP AND CROSS-SECTIONS A-A THROUGH C-C). THE TOTAL DRAINAGE AREA CONTRIBUTING TO THE POINT OF CONFLUENCE IS 658.20 AC (80% IMPERVIOUS ESTIMATED BASED ON CURRENT USES, CURRENT ZONING AND COMPREHENSIVE PLAN, AND AVAILABLE RECORDS). OUTFALL A DRAINAGE SYSTEM CONTRIBUTES ONLY 5.5%, WHILE UPPER SCOTTS RUN AREAS THAT START AT THE MOST HYDRAULICALLY REMOTE POINT (1.20 MILES FROM CONFLUENCE POINT) CONTRIBUTE 94.5%.

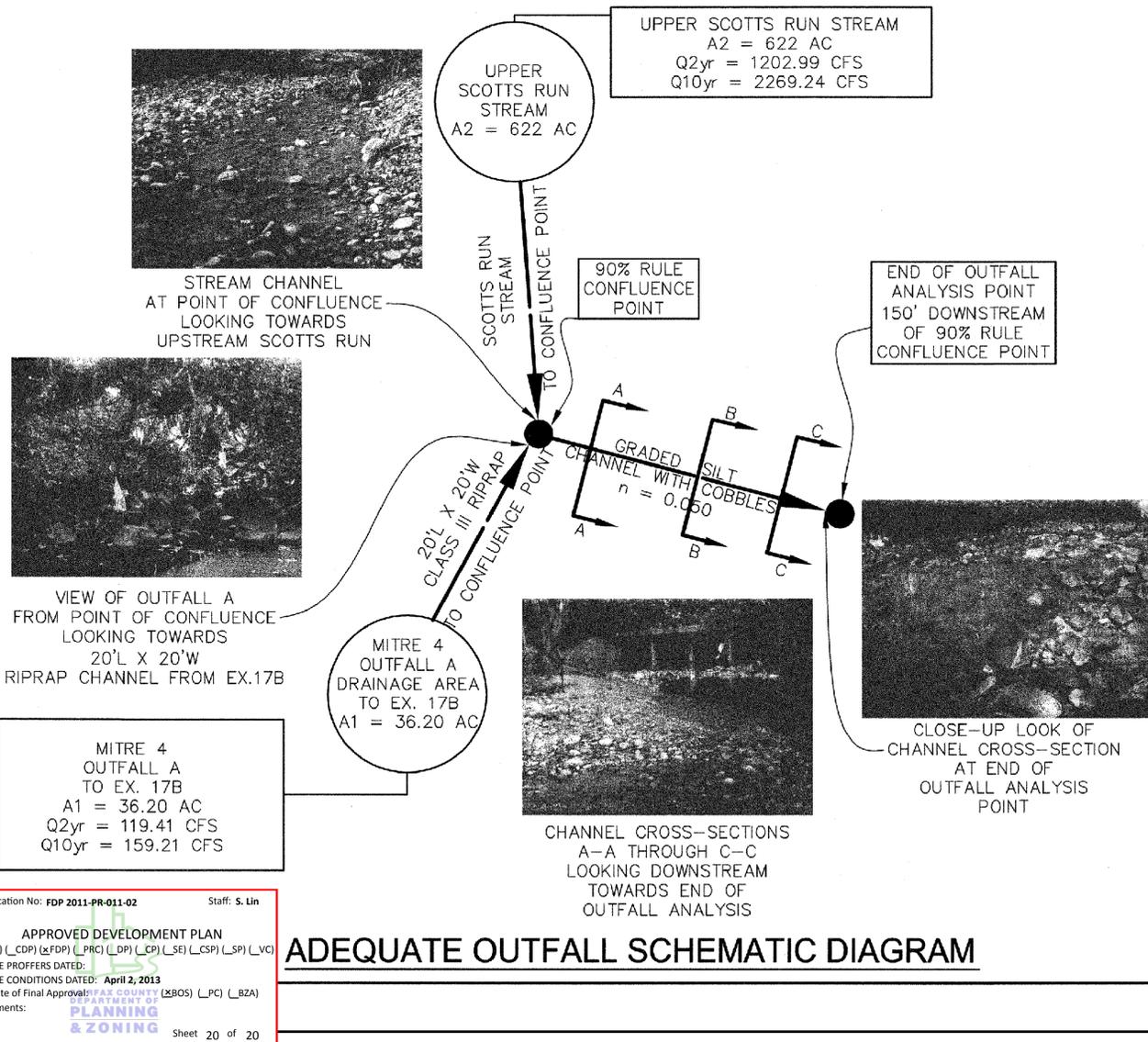
BASED ON FIELD VISIT OBSERVATIONS, THE CHANNEL AT THE POINT OF CONFLUENCE IS CONSIDERED GRADED SILT WITH COBBLES WITH $n = 0.050$ (SEE PHOTOS). THE GENERAL TYPE OF SOIL IN THE CHANNEL, BASED ON COUNTY SOILS MAP CONSISTS OF CORDORUS (SILTY AND LOAMY ALLUVIUM ERODED FROM SCHIST, GRANITE AND GNEISS), AND HAS LOW EROSION POTENTIAL (SEE SCHEMATIC AND PHOTOS). ACCORDING TO TABLE 3.18-B, PERMISSIBLE VELOCITIES FOR EARTH LININGS IN CHAPTER 5 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (CURRENT EDITION), THE PERMISSIBLE VELOCITY IS 5.5 FT/S.

CROSS-SECTIONS A-A THROUGH C-C ARE IRREGULAR SECTIONS BASED ON FIELD SURVEY SHOWN ON THIS SHEET, AND THE 2 YR VELOCITIES ARE WITHIN THE TOLERANCE (< 5.5 FT/S) ALLOWED BY THE OBSERVED LINING OF THE CHANNEL (SEE PHOTOS). THE CROSS-SECTION PROFILES SHOW THAT THE 10 YR WATER SURFACE ELEVATION (10 YR WSE) DOES NOT OVERTOP THE BEDS AND BANKS OF THE CHANNEL (SEE THIS SHEET).

OUTFALL B
OUTFALL B STARTING POINT IS STRUCTURE 14 (PROPOSED MANHOLE TOP FORMERLY AN EXISTING INLET) LOCATED ON PRIVATE ACCESS ROAD, AND THE CONFLUENCE POINT FOR THIS OUTFALL IS INLET 26 LOCATED ON COLSHIRE DRIVE (SEE MAP ON THIS SHEET). THE DRAINAGE AREA CONTRIBUTING TO PROPOSED INLET 14A IS 0.18 AC WHICH OUTFALLS INTO AN EXISTING STORM SEWER SYSTEM UNDER JOHNSON I PROPERTY. THE TOTAL DRAINAGE AREA CONTRIBUTING TO STRUCTURE 26 IS A3 = 2.99 AC WHILE THE AREA CONTRIBUTING FROM THE UPSTREAM EXISTING DRAINAGE SYSTEM ALONG COLSHIRE DRIVE FROM STRUCTURE 27 IS A4 = 32.15 AC. THIS JUSTIFIES STRUCTURE 26 AS OUTFALL B CONFLUENCE POINT. THE ENDING POINT OF THIS OUTFALL ANALYSIS IS TAKEN 150' TO EXISTING DRAINAGE STRUCTURE EX 17B (SEE SHEET C-198 FOR STORM SEWER COMPUTATIONS).

THE MITRE 4 PROJECT LID PLAN COMPLIES WITH THE ENVIRONMENTAL STEWARDSHIP GUIDELINES WITHIN THE COUNTY'S COMPREHENSIVE MASTER PLAN FOR THE TYSONS CORNER URBAN CENTER. THE RE-USE OF STORM DRAINAGE FROM BUILDING ROOF FOR COOLING WATER MAKE-UP VIA AN UNDERGROUND DISTRICT (SEE SHEETS C-218 - C-22C) ACHIEVES THE 25% REDUCTION IN THE 2 YR FLOW AND VOLUME. THIS CONSTITUTES AN EXEMPLARY BETTERMENT THAT REDUCES THE STRAIN ON SCOTTS RUN STREAM FROM CONVENTIONAL DEVELOPMENT.

GIVEN THE ABOVE JUSTIFICATIONS, IT IS THE SITE ENGINEER'S OPINION THAT ADEQUATE OUTFALL EXISTS FOR THE PROPOSED FLOWS LEAVING THIS SITE, AND THAT NO ADVERSE IMPACTS TO DOWNSTREAM PROPERTY WILL RESULT FROM THE IMPROVEMENTS TO THIS SITE.



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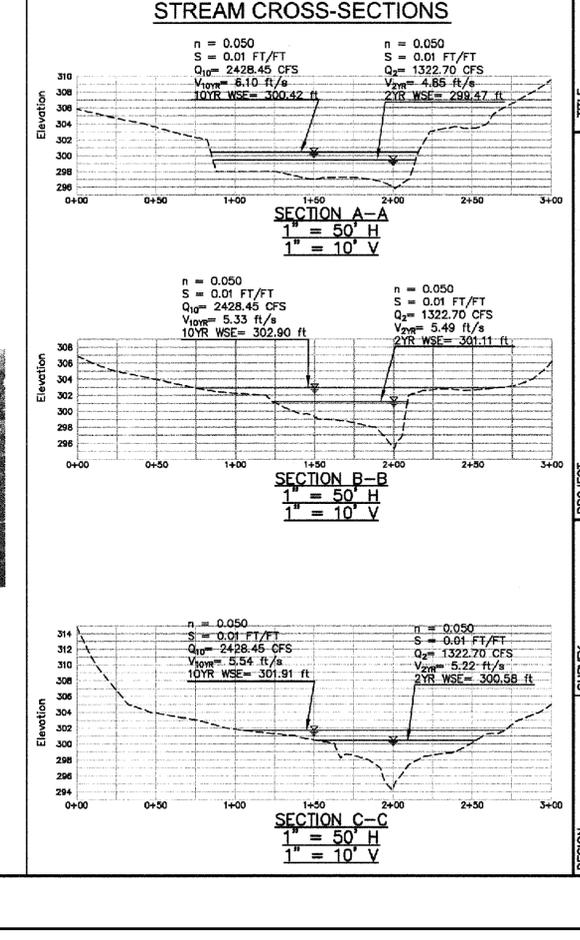
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FOR INFORMATION ONLY!

PHRA SHEET #20

NOTE:
THIS SHEET IS PROVIDED TO FACILITATE THE REVIEW OF THIS PLAN AND IS A TRUE AND FAITHFUL REPRODUCTION OF THE ORIGINAL. THE ACCURACY OF THE COMPUTATIONS OR VERACITY OF THE ASSUMPTIONS WERE NOT VERIFIED.



ADEQUATE OUTFALL ANALYSIS

MITRE 4
LAND BAY B-3
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

STORMWATER ADEQUATE OUTFALL ANALYSIS

MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN: PHR+A
DRAWN: PHR+A
CHECKED: PHR+A
DATE: AUGUST 01, 2012
SCALE: N/A
SHEET: 20 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\20 SW-AOA.dwg LAYOUT NAME: 2012-12 PLOTTED: Thursday, January 31, 2013 - 4:13pm

Application No: FDP 2011-PR-011-02 Staff: S. Lin

APPROVED DEVELOPMENT PLAN
(L_GDP) (L_CDP) (L_FDP) (L_PRQ) (L_DPI) (L_SE) (L_CSP) (L_SP) (L_VCI)

SEE PROFESSIONAL SEAL

SEE CONDITIONS DATED: April 2, 2013

Date of Final Approval: FAIRFAX COUNTY DEPARTMENT OF PLANNING & ZONING

Comments:

Sheet 20 of 20

ADEQUATE OUTFALL SCHEMATIC DIAGRAM

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