**APPLICATION ACCEPTED**: July 9, 2009
**APPLICATION AMENDED**: September 30, 2013
**PLANNING COMMISSION**: May 15, 2014
**BOARD OF SUPERVISORS:** June 17, 2014 @ 3:30 PM

# County of Fairfax, Virginia

**April 30, 2014**

**STAFF REPORT**

**PCA C-696-10 and RZ/FDP 2009-HM-017**
**(Concurrent with DPWES Waiver #6848-WPFM-005-1)**

**DRANESVILLE DISTRICT**

| | |
|---|---|
| **APPLICANT**: | Nugget Joint Venture, LC and Dulles Rockhill Partners LP |
| **PRESENT ZONING**: | PDC and PRM |
| **REQUESTED ZONING:** | PRM |
| **PARCEL(S):** | **RZ/FDP 2009-HM-017:** 15-2((1)) 13pt., 15-4((5)) 5B & 15-4 ((5)) 5Apt.<br>**PCA C-696-10:** 15-4 ((5)) 5A |
| **ACREAGE**: | **RZ/FDP 2009-HM-017:** 14.68 acres<br>**PCA C-696-10:** 4.27 acres |
| **FAR**: | **RZ/FDP 2009-HM-017:** 3.01*<br>**Including bonus density associated with Workforce Dwelling Units (WDU)* |
| **OPEN SPACE:** | 20% |
| **PLAN MAP**: | Transit Oriented Development |
| **PCA PROPOSALS:** | **PCA C-696-10** seeks approval to delete 22,272 square feet of land from Tax Map 15-4((5)) 5A (which was originally part of a 63 acre Dulles Station development (RZ C-696) that was recently rezoned to the PRM District in RZ 2012-DR-016 by Dulles Rockhill Partners, LP) and include it with the concurrent rezoning request. |

**William O'Donnell**

**Department of Planning and Zoning**
Zoning Evaluation Division
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5509
Phone 703-324-1290 FAX 703-324-3924
www.fairfaxcounty.gov/dpz/

**RZ PROPOSAL**: The applicant seeks to rezone 14.68 acres from the PDC and PRM Districts to the PRM District to permit transit-oriented mixed-use development near the future Innovation Center Metrorail Station in the Dranesville District. The proposed Transit-Oriented Development (TOD) would consist of approximately 1.65 million square feet of residential, office, hotel, retail and public use development (including bonus density associated with the provision of workforce dwelling units (WDU).

**STAFF RECOMMENDATIONS:**

Staff recommends approval of PCA C-696-10.

Staff recommends approval of RZ 2009-HM-017, subject to the execution of proffers consistent with those contained in Appendix 1.

Staff recommends approval of CDP 2009-HM-017, subject to imposition of the development conditions contained in Appendix 2.

Staff recommends approval of FDP 2009-HM-017, subject to the Board's approval of the concurrent rezoning application.

Staff recommends approval of a modification of the loading requirement in favor of the loading spaces depicted on the CDP/FDP.

Staff recommends that the Board of Supervisors direct the Director of DPWES to permit a deviation from the tree preservation target percentage in favor of the proposed landscaping shown on the CDP/FDP and as proffered.

Staff recommends approval of a modification of the Use Limitations on Corner Lots in Section 2-505 of the Zoning Ordinance to permit the proposed building, landscaping and sign locations within the Zoning Ordinance sight triangles formed by the streets along the corner lot as shown on the CDP/FDP and as proffered.

Staff recommends approval of a waiver of the Board of Supervisor's policy to permit the location of the underground stormwater management facilities in a residential area (PFM Section 6-0303.8), subject to Waiver #6848-WPFM 005-1 Conditions, dated April 10, 2014.

Staff recommends approval of a modification of the peripheral lot landscaping and screening requirements in favor of that shown on the CDP/FDP as proffered and conditioned.

Staff recommends approval of a modification of the private street limitations of Section 11-302 of the Fairfax County Zoning Ordinance.

Staff recommends approval of a modification of PFM Standard 12-0702.1B2 to permit the reduction of the minimum planting width requirement from eight feet as

shown on the CDP/FDP and described in the proffers.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

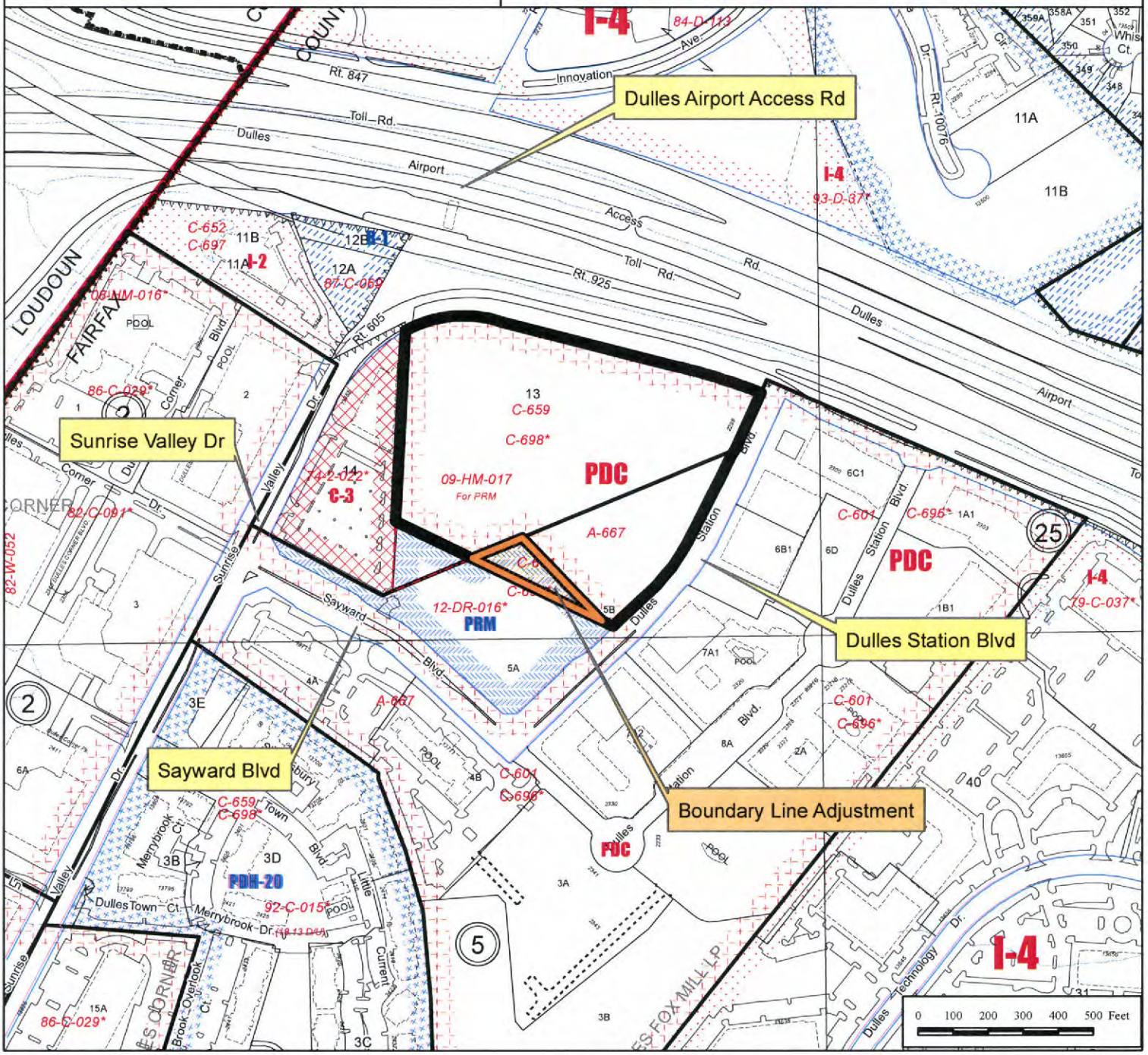
The approval of this rezoning does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application. For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 48 hours advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

# Rezoning Application

**RZ 2009-HM-017**

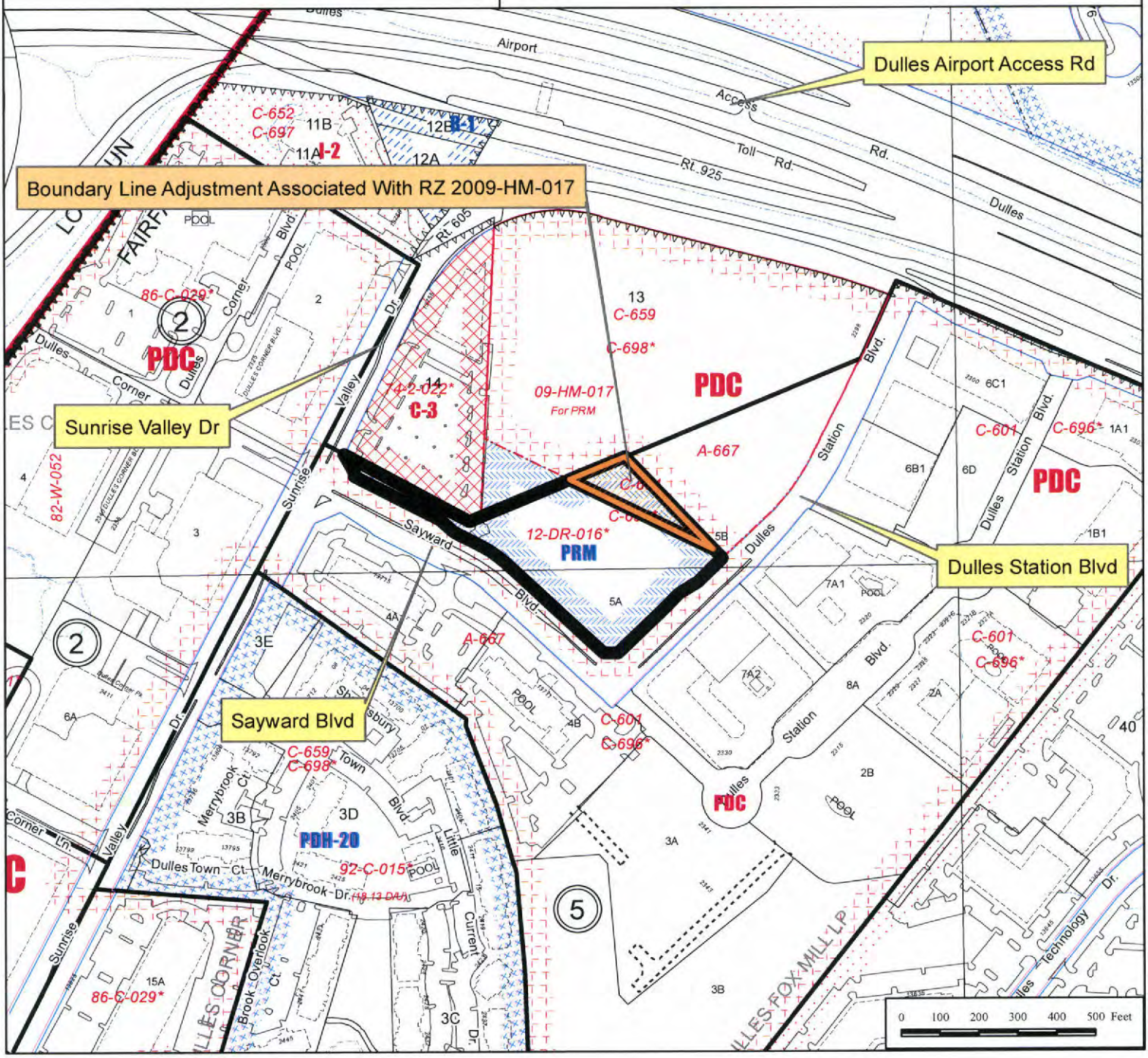
| | |
|---|---|
| Applicant: | NUGGET JOINT VENTURE, L.C. |
| Accepted: | 07/09/2009- AMENDED 09/30/2013 |
| Proposed: | MIXED USE |
| Area: | 14.68 AC OF LAND; DISTRICT - DRANESVILLE |
| Zoning Dist Sect: | |
| Located: | EAST SIDE OF SUNRISE VALLEY DRIVE WEST SIDE OF DULLES STATION BLVD. AND SOUTH OF THE DULLES AIRPORT ACCESS ROAD |
| Zoning: | FROM PDC TO PRM, FROM PRM TO PRM |
| Overlay Dist: | |
| Map Ref Num: | 015-2- /01/ /0013 015-4- /05/ /0005A (part) /05/ /0005B |



# Proffered Condition Amendment

**PCA -C -696-10**

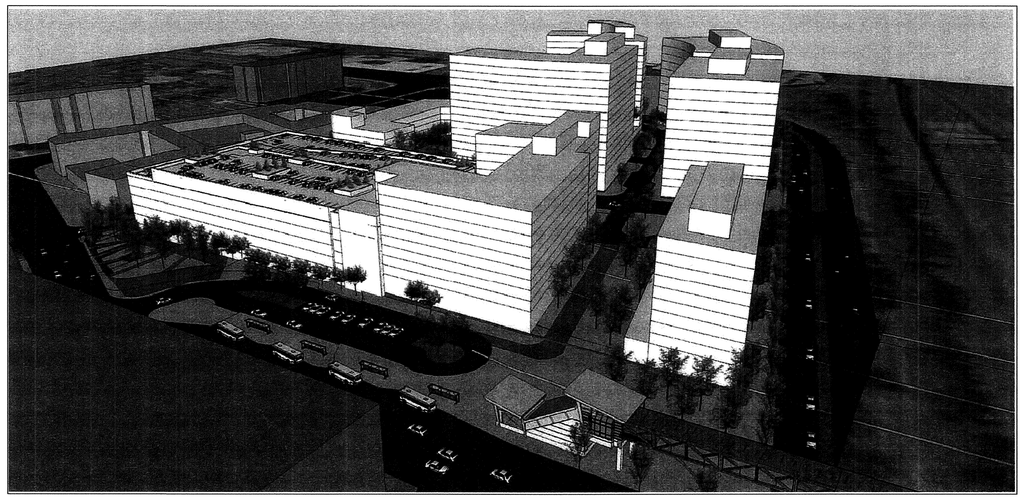
| | |
|---|---|
| Applicant: | DULLES ROCKHILL PARTNERS LIMITED PRTNERSHIP |
| Accepted: | 09/30/2013 |
| Proposed: | MIXED USE |
| Area: | 4.27 AC OF LAND; DISTRICT - DRANESVILLE |
| Zoning Dist Sect: | |
| Located: | NORTHWEST QUADRANT OF THE INTERSECTION OF SAYWARD BLVD. AND DULLES STATION BLVD. |
| Zoning: | PRM |
| Overlay Dist: | |
| Map Ref Num: | 015-4- /05/ /0005A |



# Innovation Center South and the Innovation Center Station Garage

Dranesville District  Fairfax County, Virginia

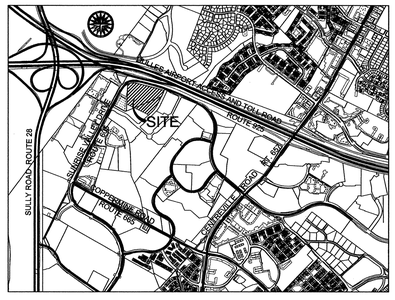
## CONCEPTUAL DEVELOPMENT PLAN / FINAL DEVELOPMENT PLAN RZ 2009-HM-017



APPLICANT:
Nugget Joint Venture L.C.
1960 Gallows Road Suite 300
Vienna, Virginia 22182

APPLICANT:
Fairfax County
12000 Government Center Parkway
Fairfax, Virginia 22035

APPLICANT:
Dulles Rockhill Partners Limited Partnership
455 Spring Park Place, Suite 100
Herndon, VA 20170




VICINITY MAP
SCALE 1" = 2000'

## Sheet Index


C-1..... COVER SHEET
C-2..... NOTES / TABULATION
C-2a..... WAIVERS/MODIFICATIONS/SOILS MAP/ANGLE OF BULK PLANE
C-2b..... COMPREHENSIVE PLAN LAND UNIT AND LAND BAY EXHIBIT
C-2c..... PARKING SUMMARY
C-3..... EXISTING CONDITIONS
C-4..... CONCEPTUAL / FINAL DEVELOPMENT PLAN
C-5..... OPEN SPACE EXHIBIT
C-6..... EXISTING VEGETATION MAP
C-6a..... LANDSCAPE CALCULATIONS
C-7..... PROPOSED ROADS / R.O.W. PLAN
C-7a..... SIGHT DISTANCE PLAN
C-8..... PHASING PLAN
C-9..... STORMWATER MANAGEMENT PLAN
C-10..... PROJECT OUTFALL LIMITS
C-11..... STORMWATER MANAGEMENT PLAN
C-12..... VRR METHOD WORKSHEET SUMMARY
C-13..... REGIONAL POND APPROVED CALCULATIONS
C-14..... REGIONAL POND APPROVED CALCULATIONS
C-15..... REGIONAL POND APPROVED CALCULATIONS
C-16..... REGIONAL POND APPROVED CALCULATIONS
C-17..... REGIONAL POND APPROVED CALCULATIONS
C-18..... REGIONAL POND APPROVED CALCULATIONS
C-19..... REGIONAL POND APPROVED CALCULATIONS
C-20..... OUTFALL 1 APPROVED CALCULATIONS
C-21..... OUTFALL 1 APPROVED CALCULATIONS
C-22..... OUTFALL 1 APPROVED CALCULATIONS
C-23..... OUTFALL 1 APPROVED CALCULATIONS
C-24..... OUTFALL 1 APPROVED CALCULATIONS
C-25..... OUTFALL 2 APPROVED CALCULATIONS
C-26..... OUTFALL 2 APPROVED CALCULATIONS
C-27..... OUTFALL 2 APPROVED CALCULATIONS
C-28..... OUTFALL 2 APPROVED CALCULATIONS
C-29..... OUTFALL 2 APPROVED CALCULATIONS
C-30..... OUTFALL 2 APPROVED CALCULATIONS
L-1..... OVERALL LANDSCAPE PLAN
L-2..... HARDSCAPE PLAN
L-3..... PEDESTRIAN CIRCULATION PLAN
L-3a..... CONNECTIVITY PLAN
L-4..... ILLUSTRATIVE SITE PLAN
L-4a..... PHASE 1, INTERIM IMPROVEMENT
L-5a..... TYPICAL STREET SECTIONS
L-5b..... TYPICAL STREET SECTIONS
L-6a-1... METRO PLAZA ENLARGEMENT
L-6a-2.. METRO PLAZA SECTION
L-6b-1... URBAN PARK ENLARGEMENT
L-6b-2.. URBAN PARK SECTIONS
L-6c-1... POCKET PARK ENLARGEMENT & SECTION
L-7a..... TYPICAL STREET TREE DETAILS
L-7b..... TYPICAL RAIN GARDEN & TREE DETAILS
L-7c..... TREE DETAILS
L-7d..... PLANTING SPECIFICATIONS
L-7e..... PLANTING SPECIFICATIONS
L-8..... SITE FURNITURE AND MATERIAL IMAGES
L-9..... PERSPECTIVE VIEWS
A-100... OVERALL CDP/FDP SITE PLAN
A-101... RETAIL/FIRE LANE FLOOR PLANS
A-102... LAND BAY A PARKING PLANS
A-103... LAND BAYS B & D PARKING PLANS
A-104... METRO PARKING GARAGE PLANS
A-201... OVERALL FLOOR PLANS - EL. 320.00'
A-202... OVERALL FLOOR PLANS - EL. 330.00' & 340.00'
A-203... OVERALL FLOOR PLANS - EL. 350.00'
A-204... OVERALL FLOOR PLANS - EL. 360.00'
A-205... OVERALL FLOOR PLANS - EL. 375.00'
A-206... OVERALL FLOOR PLANS - EL. 385.00'
A-301... BUILDING SITE SECTIONS
A-310... BUILDING ELEVATIONS
A-311... BUILDING ELEVATIONS
A-312... BUILDING ELEVATIONS
A-401... MASSING MODELS
A-402... CONCEPTUAL RENDERING
A-403... CONCEPTUAL RENDERING
A-404... CONCEPTUAL RENDERING
A-405... CONCEPTUAL RENDERING
A-410... SHADOW STUDIES



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DCS DESIGN
DAVIS CARTER SCOTT ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

HGA
Hanbach, Green and Associates, Inc.
44 Canal Center Plaza, Suite 205
Alexandria, Virginia 22314
Telephone 703.836.1252
Telefax 703.836.2945

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

Rev. April 21, 2014
Rev. March 27, 2014
Rev. February 21, 2014
Rev. January 3, 2014
Rev. November 22, 2013
September 9, 2013*

August 1, 2013

C-1

M-10830

## NOTES

1. THE PROPERTY THAT IS THE SUBJECT OF THIS REZONING, CONCEPTUAL DEVELOPMENT PLAN /FINAL DEVELOPMENT PLAN (RZ/CDP/FDP) IS PROPOSED TO BE ZONED TO THE PLANNED RESIDENTIAL MIXED USE DISTRICT (PRM) AND IS IDENTIFIED ON THE FAIRFAX COUNTY ZONING MAP AS 15-2 ((1)) 13 PART, 15-4 ((5)) 5B AND 15-4 ((5)) 5A PART. THE CDP/FDP LAND AREA CONTAINS APPROXIMATELY 14.68 ACRES. THE PROPERTY IS VACANT.

   THE PROPERTY IS ZONED TO THE PLANNED DEVELOPMENT COMMERCIAL (PDC) DISTRICT WHICH WAS ORIGINALLY APPROVED ON AUGUST 25, 1975 WITH THE APPROVAL OF REZONING APPLICATION C-698. THE ORIGINAL DEVELOPMENT PROGRAM WAS THE SUBJECT OF AMENDMENT ON AUGUST 2, 1993 WITH THE APPROVAL OF A PCA/CDPA/FDPA APPLICATION C-698.

2. THE CDP/FDP HAS BEEN FILED TO REZONE THE PROPERTY TO THE PLANNED RESIDENTIAL MIXED USE (PRM) DISTRICT IN ORDER TO REVISE THE DEVELOPMENT PROGRAM FOR THE SUBJECT PROPERTY THAT, AS NOTED ABOVE, WAS APPROVED BY PCA/CDPA/FDPA ON AUGUST 2, 1993. THE PROPOSED DEVELOPMENT PROGRAM WILL BE A TRANSIT-ORIENTED, MIXED USE PROJECT COMPRISED OF FOUR MULTI-FAMILY RESIDENTIAL BUILDINGS (UP TO 925 UNITS PLUS POTENTIAL BONUS DENSITY UNITS), A 190-ROOM HOTEL, TWO OFFICE BUILDINGS, STREET LEVEL RETAIL (SHOPPING CENTER) USES, TRANSIT PARKING FACILITIES, BUS BAYS, BICYCLE FACILITIES, AND A KISS & RIDE FACILITY.

   THE PROPOSED DEVELOPMENT PROGRAM WILL CONTAIN A TOTAL OF APPROXIMATELY 1,646,041 SQUARE FEET OF GROSS FLOOR AREA (INCLUDING BONUS DENSITY, WHICH WILL PROVIDE FOR A MORE INTENSE DEVELOPMENT PROGRAM ON THIS SITE WHICH IS LOCATED IMMEDIATELY ADJACENT TO THE PLANNED METRO RAIL STATION IN THE MEDIAN OF THE DULLES AIRPORT ACCESS ROAD. THE PROPOSED STATION IS REFERRED TO AS THE INNOVATION CENTER STATION.

   IT IS TO BE NOTED THAT THE PROPOSED DEVELOPMENT PROGRAM ACCOMMODATES THE THREE (3) ACRE PORTION OF THE SUBJECT PROPERTY THAT WAS PROFFERED TO BE DEDICATED FOR A TRANSPORTATION FACILITY WITH THE APPROVAL OF PCA C-698. IT IS NOTED THAT THIS THREE ACRE PORTION OF THE PROPERTY HAS BEEN RELOCATED SINCE THE APPROVAL OF PCA C-698.

3. THE BOUNDARY INFORMATION SHOWN ON THE GRAPHIC IS BY DEWBERRY CONSULTANTS LLC.

4. THE TOPOGRAPHY SHOWN ON THE GRAPHIC IS AT A CONTOUR INTERVAL OF TWO (2) FEET FROM A FIELD SURVEY BY DEWBERRY CONSULTANTS LLC.

5. NOTWITHSTANDING THE CDP AND FDP ARE PRESENTED TOGETHER ON THE SAME PLAN, IT SHALL BE UNDERSTOOD THAT THE CDP' SHALL BE THE ENTIRE PLAN RELATIVE TO THE POINTS OF ACCESS, THE GENERAL LOCATION OF BUILDINGS, MAXIMUM NUMBER OF RESIDENTIAL UNITS, MAXIMUM SQUARE FOOTAGE OF NON-RESIDENTIAL USES, MINIMUM/MAXIMUM BUILDING HEIGHTS, ON-SITE CIRCULATION, AND COMMON OPEN SPACE AREAS, AND THAT THE DEVELOPER HAS THE OPTION TO REQUEST A FDPA IN THE FUTURE FROM THE PLANNING COMMISSION FOR ALL OR A PORTION OF THE PLAN IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 16-402 OF THE ZONING ORDINANCE.

6. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.

7. PUBLIC WATER AND SEWER ARE CURRENTLY AVAILABLE IN PROXIMITY TO THE SITE AND WILL BE EXTENDED ON SITE TO SERVE THE PROPOSED DEVELOPMENT PROGRAM.

8. THERE IS NO FLOODPLAIN DESIGNATED BY THE FEDERAL INSURANCE ADMINISTRATION, UNITED STATES GEOLOGICAL SURVEY OR FAIRFAX COUNTY, NO RESOURCE PROTECTION AREA (RPA), AND NO ENVIRONMENTAL QUALITY CORRIDOR (EQC) LOCATED ON THE SUBJECT PROPERTY.

9. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY-FIVE (25) FEET OR MORE OR MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED ON THE SUBJECT PROPERTY.

10. STORMWATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICES (BMPs) FOR THE PROPOSED DEVELOPMENT PROGRAM HAVE BEEN PROVIDED OFF SITE IN AN EXISTING REGIONAL POND LOCATED ON PARCEL 15-4 ((5)) 3.

11. THERE IS NO ANGLE OF BULK PLANE REQUIREMENT PRESCRIBED FOR THE PRM DISTRICT, HOWEVER, A GRAPHIC DEPICTION OF THE ANGLE OF BULK PLANE IS SHOWN ON SHEET C-2a. THE CONVENTIONAL ZONING DISTRICT THAT MOST CLOSELY CHARACTERIZES THE PROPOSED DEVELOPMENT IS THE R-30 DISTRICT. THE ANGLE OF BULK PLANE REQUIREMENTS FOR THE R-30 DISTRICT ARE PRESENTED FOR GENERAL CONFORMANCE BY THE PROPOSED DEVELOPMENT AT THE PRM PERIPHERAL BOUNDARY.

12. ALL REQUESTED WAIVERS AND MODIFICATIONS ARE LISTED ON SHEET C-2a.

13. PARKING SPACES FOR THE PROPOSED DEVELOPMENT PROGRAM ON THE SUBJECT PROPERTY WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 11 OF THE ZONING ORDINANCE. AS REPRESENTED ON THE GRAPHIC AND IN THE TABULATION, A MAJORITY OF THE PARKING SPACES WILL BE PROVIDED IN AN UNDERGROUND OR STRUCTURAL GARAGE.

    THE APPLICANT SHALL REQUEST A FUTURE REDUCTION IN THE NUMBER OF REQUIRED PARKING SPACES AS MAY BE APPROVED BY THE BOARD OF SUPERVISORS IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN PARS. 4, 5 AND/OR 27 OF SECT. 11-102 OF THE ZONING ORDINANCE (SEE SHEET C-2a), AND AS RECOMMENDED BY THE COMPREHENSIVE PLAN.

14. LOADING SPACES FOR THE PROPOSED DEVELOPMENT PROGRAM ON THE SUBJECT PROPERTY HAVE BEEN/WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 11 OF THE ZONING ORDINANCE EXCEPT AS QUALIFIED AS FOLLOWS:

    AS REPRESENTED IN THE TABULATION AND ON THE GRAPHIC, ONLY NINE (9) LOADING SPACES ARE PLANNED FOR THE PROPOSED MIXED USE DEVELOPMENT PROGRAM. BY STRICT APPLICATION OF THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE, 45 LOADING SPACES ARE REQUIRED. EXPERIENCE HAS PROVEN THAT SUCH A STANDARD IS EXCESSIVE, AND REQUEST IS HEREBY MADE FOR THE BOARD OF SUPERVISORS TO APPROVE A MODIFICATION OF THIS STANDARD IN FAVOR OF THE NINE (9) PROPOSED LOADING SPACES.

15. CONSTRUCTION OF IMPROVEMENTS TO SUNRISE VALLEY DRIVE ACROSS THE FRONTAGE OF THE SUBJECT PROPERTY WILL BE PERFORMED AS REFERENCED IN THE PROFFERS AND CONSISTENT WITH THE PHASING PLAN (SHEET C-8) AND, AS PRESENTED IN NOTE 2 ABOVE, THE THREE (3±) ACRE PORTION OF THE SUBJECT PROPERTY THAT WAS PROFFERED TO BE DEDICATED FOR A TRANSPORTATION FACILITY WITH THE APPROVAL OF PCA C-698 WILL BE DEDICATED. THE LOCATION OF THE THREE ACRES IS IN A DIFFERENT LOCATION THAN THAT APPROVED WITH PCA C-698.

    IN ADDITION, PAVEMENT WIDENING SUFFICIENT FOR ON-ROAD BICYCLE LANES WILL BE CONSTRUCTED ACROSS THE SUNRISE VALLEY DRIVE FRONTAGE OF THE PROPERTY IN ACCORDANCE WITH THE RECOMMENDATION SET FORTH IN THE COMPREHENSIVE PLAN. THESE DEDICATIONS/IMPROVEMENTS WILL BE PERFORMED IN CONJUNCTION WITH THE DEVELOPMENT OF THE SUBJECT PROPERTY.

16. ALL LANE MARKINGS, CROSSWALKS, ETC. ARE SUBJECT TO VDOT APPROVAL AT THE TIME OF SITE PLAN. ANY MODIFICATION/REVISIONS TO THE SAME CAN BE ACCOMMODATED IN CONSULTATION WITH FCDOT WITHOUT THE NEED FOR A PCA, CDPA AND/OR FDPA.

17. THE LIMITS OF CLEARING AND GRADING WILL BE CONFINED TO THE IMMEDIATE AREA OF THE PROPOSED DEVELOPMENT PROGRAM AS REPRESENTED ON THE GRAPHIC.

18. TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE PROPOSED BUILDING PROGRAM WILL NOT GENERATE, UTILIZE, STORE, TREAT OR DISPOSE ANY HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4 AND 355; ANY HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA/DEPARTMENT OF WASTE MANAGEMENT VR 672-10-1 - VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND/OR ANY PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE SUBSTANCES THAT MAY BE UTILIZED, STORED AND DISPOSED OF IN CONJUNCTION WITH THE PROPOSED BUILDING PROGRAM AND/OR THE MAINTENANCE OF THE BUILDING PROGRAM AND GROUNDS WILL BE IN ACCORDANCE WITH SAID REGULATIONS.

19. AMENITIES IN THE FORM OF A FITNESS CENTER, SWIMMING POOL AND SPA ALL TO BE LOCATED WITHIN THE BUILDING FOOTPRINTS WILL BE PROVIDED FOR THE BENEFIT/ENJOYMENT OF THE RESIDENTS, TENANTS AND VISITORS OF THE PROPOSED MIXED USE DEVELOPMENT PROGRAM.

    AN URBAN METRO PLAZA IS PROPOSED ADJACENT TO THE METRO STATION FACILITIES.

20. THERE ARE NO SCENIC ASSETS LOCATED ON THE SITE. LASTLY, THERE ARE NO NATURAL FEATURES DESERVING OF PROTECTION OR PRESERVATION LOCATED ON THE SUBJECT PROPERTY. GIVEN THE LOCATION AND NATURE OF THE PROPOSED DEVELOPMENT PROGRAM ON THE PROPERTY, THERE WILL BE NO ADVERSE EFFECTS ON ADJACENT OR NEIGHBORING PROPERTIES.

21. THERE ARE NO EXISTING BUILDINGS LOCATED ON THE SUBJECT PROPERTY. THE ARCHITECTURE OF THE PROPOSED MIXED USE DEVELOPMENT PROGRAM AND RELATED PARKING STRUCTURE WILL BE DESIGNED TO COMPLEMENT AND BE HARMONIOUS WITH THE EXISTING AND PROPOSED BUILDINGS IN THE VICINITY OF THE SUBJECT PROPERTY.

22. THE EXACT LOCATIONS, SHAPES AND SIZES OF THE PROPOSED BUILDINGS AND RELATED PARKING STRUCTURE FOOTPRINT(S) SHOWN ON THE GRAPHIC ARE PRELIMINARY AND SCHEMATIC AND ARE NOT TO BE CONSIDERED FINAL. THEY ARE SUBJECT TO ADJUSTMENT AND REFINEMENT WITH FINAL ENGINEERING AND ARCHITECTURAL DESIGN SO LONG AS THEY REMAIN IN SUBSTANTIAL CONFORMANCE WITH THE REPRESENTATIONS ON THE FDP. THE TOTAL GROSS FLOOR AREA AND THE BUILDING HEIGHT PRESENTED IN THE TABULATION ARE TO BE CONSIDERED MAXIMUMS. THE OPEN SPACE AS REPRESENTED IN THE TABULATION AND THE DIMENSIONS TO THE PERIPHERAL LOT LINES OF THE PRM DISTRICT AS REPRESENTED ON THE GRAPHIC ARE TO BE CONSIDERED MINIMUMS WITH THE UNDERSTANDING THAT ALL DIMENSIONS SHOWN ON THE GRAPHIC ARE SUBJECT TO MINOR MODIFICATION IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 16-403 OF THE ZONING ORDINANCE.

    THE APPLICANT RESERVES THE RIGHT TO DEVELOP A LESSER AMOUNT OF GROSS FLOOR AREA FROM THE TOTAL REPRESENTED IN THE TABULATION AND THE BUILDING FOOTPRINT(S) AND ASSOCIATED PARKING WILL BE REDUCED/MODIFIED ACCORDINGLY.

    LASTLY, THE APPLICANT RESERVES THE RIGHT TO SHIFT UP TO 20,000 SQUARE FEET OF GROSS FLOOR AREA THAT IS REPRESENTED IN THE TABULATION FROM ONE BUILDING (USE) TO ANOTHER WITH THE UNDERSTANDING THAT THE RESULTANT BUILDING FOOTPRINTS WILL BE IN SUBSTANTIAL CONFORMANCE WITH THE FOOTPRINTS REPRESENTED ON THE GRAPHIC AND THE MAXIMUM COMBINED TOTAL NUMBER OF UNITS AND GROSS FLOOR AREA REPRESENTED IN THE TABULATION WILL NOT BE EXCEEDED.

23. THE FLOOR AREAS REPRESENTED IN THE TABULATION ARE GROSS FLOOR AREAS AS DEFINED IN THE FAIRFAX COUNTY ZONING ORDINANCE. IN ADDITION, IT IS UNDERSTOOD THAT THE BUILDINGS MAY HAVE CELLAR SPACE WHICH SPACE WILL BE CALCULATED FOR OFF-STREET PARKING REQUIREMENTS IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN PAR. 25 OF SECT. 11-102 OF THE ZONING ORDINANCE.

24. THE PROPOSED BUILDING(S) WILL LIKELY HAVE PENTHOUSES DESIGNED IN PART TO SHIELD THE MECHANICAL EQUIPMENT LOCATED ON THE ROOFS. THE HEIGHT AND ROOF AREA COVERAGE OF THE PENTHOUSES WILL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE ZONING ORDINANCE; WILL BE COMPATIBLE WITH THE HEIGHT AND SCALE OF THE BUILDING(S); AND WILL BE CONSTRUCTED OF MATERIALS THAT ARE AN EXTENSION OF OR HARMONIOUS WITH THE ARCHITECTURAL MATERIALS OF THE MAIN BUILDING(S).

25. IT IS UNDERSTOOD THAT ADDITIONAL SITE FEATURES SUCH AS GAZEBOS, BENCHES, COVERED WALKWAYS, FLAGPOLES, TRELLISES, WATER FOUNTAINS OR FEATURES, SIGNS, WALLS, FENCES, LIGHT STANDARDS AND/OR UTILITY MAINTENANCE STRUCTURES NOT REPRESENTED ON THE GRAPHIC MAY BE PROVIDED AS LONG AS THE RESULTANT PROPOSED DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THAT REPRESENTED ON THE GRAPHIC. IT IS ALSO UNDERSTOOD THAT MOBILE AND LAND-BASED TELECOMMUNICATION FACILITIES MAY BE PROVIDED ON SITE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 2-514 OF THE ZONING ORDINANCE.

26. ALL SIGNS WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 12 OF THE ZONING ORDINANCE.

27. ALL LIGHTING ON SITE WILL BE SHIELDED AND LOCATED IN SUCH A MANNER AS TO REDUCE GLARE ON ADJACENT PROPERTIES IN ACCORDANCE WITH THE STANDARDS SET FORTH IN ARTICLE 14 OF THE ZONING ORDINANCE.

28. INTENSITY (FAR) CREDIT FOR ANY DEDICATION OF LAND FOR PUBLIC USE THAT MAY BE REQUIRED SHALL BE RESERVED FOR THE SUBJECT PROPERTY IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN PAR. 4 OF SECT. 2-308 OF THE ZONING ORDINANCE.

29. IT IS CURRENTLY ANTICIPATED THAT, SUBJECT TO MARKET CONDITIONS, THE PROPOSED DEVELOPMENT PROGRAM WILL COMMENCE AS SOON AS REQUISITE PLANS AND PERMITS ARE APPROVED. IT MAY OR MAY NOT BE CONSTRUCTED IN ONE CONTINUOUS PHASE.

30. TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS AND ADOPTED STANDARDS EXCEPT AS MAY BE QUALIFIED ABOVE OR IN THE LIST OF REQUESTED WAIVERS ON SHEET C-2a.

31. SURVEY VERTICAL CONTROL IS NGVD 1929 DATUM.

## TABULATION

LAND AREA (639,318 SF)..... 14.68± AC*
- PARCEL 13 (485,103± SF)..... 11.14± AC
- PARCEL 5A (22,272± SF)..... 0.51± AC
- PARCEL 5B (131,943± SF)..... 3.03± AC

EXISTING ZONING ..... PDC
PROPOSED ZONING..... PRM

PROPOSED TOTAL GROSS FLOOR AREA - ULTIMATE DEVELOPMENT PROGRAM..... 1,646,041± SF*
- OFFICE ..... 501,000± SF
- HOTEL..... 90,000± SF
- RETAIL..... 84,000± SF
- RESIDENTIAL..... 871,041± SF
- BONUS DENSITY ..... 100,000± SF

FLOOR AREA RATIO (FAR), PERMITTED UNDER PRM..... 3.0
FLOOR AREA RATIO, MAXIMUM INCLUSIVE OF BONUS DENSITY ..... ….3.005*
FLOOR AREA RATIO PROVIDED EXCLUDING BONUS DENSITY ..... 2.82

MAXIMUM BUILDING HEIGHTS**
- OFFICE/RETAIL (13 FLOORS)..... 180± FT
- HOTEL (12 FLOORS)..... 120± FT
- RESIDENTIAL (16 FLOORS)..... 180± FT

PARKING SPACES REQUIRED..... 3,488
- OFFICE ..... 1299
  499,660 SF (@ 2.6 PER 1,000 SF GFA)
- HOTEL ..... 206
  190 UNITS (@ 1 PER ROOM + 4 PER 50 ROOMS)
- RETAIL ..... 503
  84,000 SF (@1 PER 200 SF 1ST 1,000 SF, 6 PER 1,000 REMAINING SF)
- RESIDENTIAL (MULTIPLE FAMILY)..... 1480
  925 DUs (@ 1.6 PER DWELLING UNIT)
  BONUS DENSITY-COMMERCIAL..... 120
  -RESIDENTIAL ..... 128

PARKING SPACES PROPOSED (INCLUDES 2108 SPACES FOR METRO)..... 5,844***

LOADING SPACES REQUIRED..... 45
LOADING SPACES PROPOSED..... 9****

OPEN SPACE REQUIRED/PROPOSED (20%)..... 2.93± AC

* THE PROPOSED TOTAL GROSS FLOOR AREA CALCULATION AND THE RESULTANT FLOOR AREA RATIO ARE BASED ON THE LAND AREA OF THE CURRENT PARCEL 13 (11.14± AC OR 485,100 SF), PARCEL 5A (0.51± AC OR 22,210 SF), PLUS THE LAND AREA OF THE ADJACENT RIGHT-OF-WAY THAT WAS DEDICATED FOR PUBLIC STREET PURPOSES BY A DEED OF DEDICATION DATED NOVEMBER 19, 1995 (40,850 SF). THIS COMBINED TOTAL LAND AREA IS 548,160 SF (485,100 SF + 22,210 SF + 40,850 SF) OR 12.58 ACRES. THE LAND AREA OF PARCEL 5B WAS NOT USED FOR THE FLOOR AREA RATIO AND RESULTANT GROSS FLOOR AREA CALCULATIONS

** EXCLUDES PENTHOUSE HEIGHT (SEE SHEET A-100)

*** SEE NOTE 13 AND SHEET (A-100).

**** SEE NOTE 14.

Dewberry

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January 3, 2014

Mr. James W. Patteson, Director
Fairfax County, Department of Public Works and Environmental Services
Land Development Services
12055 Government Center Parkway
Fairfax, Virginia 22035-5504

RE: Innovation Center South and the Innovation Center Station Garage
CDP/FPD, RZ 2009-HM-017
Request for waiver of underground SWM/BMP facilities in a residential development

Dear Mr. Patteson:

On behalf of the Applicants of the above-reference rezoning application, and in accordance with Section 6-0303.8 of the Public Facilities Manual, Dewberry hereby requests a waiver from the Board of Supervisors for the use of underground SWM/BMP facilities in a residential development. A current version of the CDP/FDP is provided with this letter to support the waiver request.

As shown on the CDP/FDP, almost 70 percent of the 14.68 acre site consists of underground parking. Underground parking is required in order to service 2 residential/retail buildings, 2 residential buildings, 1 office/retail building, 1 office building, and 1 hotel/retail building. There is also 1 planned parking structure onsite with underground parking that will service future Innovation Center Metro Station.

Due to underground parking there is very limited space onsite to construct aboveground SWM/BMP facilities that can meet the water quality and water quantity requirements of the project. Requirements must comply with the Fairfax County Stormwater Management Ordinance and Dulles Suburban Center, Land Unit A, Proposed Comprehensive Plan Text. Compliance can only be met if underground SWM/BMP facilities are permitted for this development.

There are 3 underground sand filter facilities planned in areas located outside of underground parking structures. Sand filter chambers will be a minimum of 7 ft high and 10 ft wide. There are also a total of 7 rainwater harvesting cisterns (1 for each building); however, these are currently planned to be located internal to each building at locations to be determined by the Owner/Architect/Engineer. The approximate plan size and location of each sand filter is shown on the Stormwater Management Plan sheet in the CDP/FDP. The approximate size of each cistern (in gallons) is also shown. All onsite SWM/BMP facilities will be privately owned and maintained.

Access into the sand filter chambers will be from finished grade via 2 ft diameter manhole covers and 4 ft x 4 ft Bilco Doors or equivalent. Manhole covers will be in accordance with VDOT standards and specifications and Bilco Doors will remain locked at all times when not in use by the Owner. Access into cisterns will be via similar locked access holes and doors as appropriate in conformance with applicable building codes.

We trust this letter and attached CDP/FDP is sufficient to support this waiver request. Please note that the size and location of underground SWM/BMP facilities reflected in the CDP/FDP are preliminary and subject to final engineering and design at Site Plan. Should you have any questions or require additional information, please don't hesitate to contact me at (703) 849-0582, sclarke@dewberry.com or Bill Ewing at (703) 849-0248 bewing@dewberry.com. Thank you for your consideration of this request.

Sincerely,
Dewberry Consultants LLC

Scott Clarke, P.E.
Associate

Attachment: CDP/FDP of Innovation Center South and the Innovation Center Station Garage

**TOTAL SITE LOADING SPACE TABULATION**

| Building Type and Standard | GFA +/-SF | Required | Provided |
|---|---|---|---|
| 1. Residential (Multiple Family), Standard G | 951,041 | 11 | 4 |
| 2. Office, Standard C | 499,660 | 26 | 2 |
| 3. Hotel, Standard F | 90,000 | 2 | 1 |
| 4. Retail, Standard B | 84,000 | 6 | 2 |
| TOTAL | 1,624,701 | 45 | 9 |

**LAND BAY A - LOADING SPACE TABULATION**

| Building Type and Standard | GFA +/-SF | Required | Provided |
|---|---|---|---|
| 1. Residential (Multiple Family), Standard G | 479,441 | 6 | 1 |
| 2. Office, Standard C | 499,660 | 26 | 2 |
| 3. Hotel, Standard F | - | - | - |
| 4. Retail, Standard B | 34,000 | 3 | 1 |
| TOTAL | 1,013,101 | 35 | 4 |

**LAND BAY B - LOADING SPACE TABULATION**

| Building Type and Standard | GFA +/-SF | Required | Provided |
|---|---|---|---|
| 1. Residential (Multiple Family), Standard G | 266,600 | 4 | 1 |
| 2. Office, Standard C | - | - | - |
| 3. Hotel, Standard F | 90,000 | 2 | 1 |
| 4. Retail, Standard B | 50,000 | 4 | 1 |
| TOTAL | 406,600 | 10 | 3 |

**LAND BAY D - LOADING SPACE TABULATION**

| Building Type and Standard | GFA +/-SF | Required | Provided |
|---|---|---|---|
| 1. Residential (Multiple Family), Standard G | 125,000 | 2 | 2 |
| 2. Office, Standard C | - | - | - |
| 3. Hotel, Standard F | - | - | - |
| 4. Retail, Standard B | - | - | - |
| TOTAL | 125,000 | 2 | 2 |

*Standard B: One (1) space for the first 10,000 square feet of gross floor area, plus one (1) space for each additional 15,000 square feet or major fraction thereof.*
*Standard C: One (1) space for the first 10,000 square feet of gross floor area, plus one (1) space for each additional 20,000 square feet or major fraction thereof.*
*Standard F: One (1) space for the first 10,000 square feet of gross floor area, plus one (1) space for each additional 100,000 square feet or major fraction thereof.*
*Standard G: One (1) space for the first 25,000 square feet of gross floor area, plus one (1) space for each additional 100,000 square feet or major fraction thereof.*

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DCS DAVIS CARTER SCOTT ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE AS NOTED

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13* | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013
TITLE

NOTES / TABULATION

PROJECT NO.

C-2

SHEET NO.

M-10831

# REQUESTED WAIVERS & MODIFICATIONS

## FAIRFAX COUNTY ZONING ORDINANCE

| Requirement | Requested Waiver or Modification |
|---|---|
| **Zoning Ordinance; Article 2 - General** | |
| Section 2-505 | Modification of the use limitations on corner lots. |
| Paragraph 2 of Section 2-506 | Waiver of the requirement that a parapet wall, cornice or similar projection may exceed the height limit established for a given zoning district by not more than three (3) feet, but such projection shall not extend more than three (3) feet above the roof level of any building. |
| **Zoning Ordinance; Article 11- Parking** | |
| Section 11-201 and Section 11-203 | Modification of the minimum required loading spaces for residential, office, retail and other uses to those shown on the CDP/FDP. |
| Paragraph 2 of Section 11-302 | Waiver of the requirement that no private street in a residential development that is to be owned maintained by a non-profit organization shall exceed six hundred (600) feet in length. |

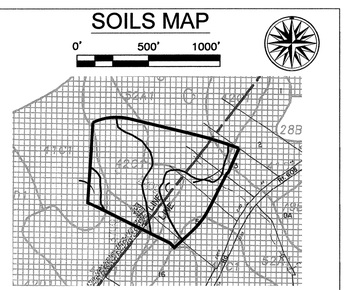
| Requirement | Requested Waiver or Modification |
|---|---|
| **Zoning Ordinance; Article 13 – Landscaping** | |
| Section 13-400 | Modification of the tree preservation target. |
| **Zoning Ordinance; Article 16 - Site Plans** | |
| Section 16-102 | Modification of the landscaping and screening requirements around peripheral boundaries of the PRM District. |
| **Zoning Ordinance; Article 16 - Site Plans** | |
| Section 16-102 | Modification of the landscaping and screening requirements around peripheral boundaries of the PRM District. |
| Section 16-404 | Modification of the required recreational facilities. |
| **Zoning Ordinance; Article 17 - Site Plans** | |
| Paragraph 7 of Section 17-201 | Waiver of the requirement to post no parking signs along travelways or service drives no more than fifteen (15) meters apart. |
| Paragraphs 12 through 14 of Section 17-201 | Waiver of the requirement to construct or install the following, but not limited to, loading, inter-parcel access, roadway frontage improvements, utility relocations, driveways, street lights or other improvements other than those identified on the CDP/FDP and in the proffers. |

## PUBLIC FACILITIES MANUAL

| Requirement | Requested Waiver or Modification |
|---|---|
| **Public Facilities Manual** | |
| Paragraph 3 of Section 6-0301 | Detention facilities must be provided in all storm drainage plans proposed for development in the County submitted for review and approval unless waived by the Director. |
| Paragraph 8 of Section 6-0303 | Waiver to allow storm water management BMP facilities to be provided within underground systems in the residential portions of the development. |
| Paragraph 3F of Section 6-1306 | Waiver of the requirement that all stormwater management and BMP facilities shall provide accessibility with an all-weather vehicular access way a minimum of twelve (12) feet in width. |
| Paragraphs 2E, 2F and 2G of Section 6-1307 | Waiver of Paragraphs E through G which specify the setbacks and location of such systems. |
| Paragraph 4 of Section 7-0403 | Waiver of the requirement that the minimum width of two-way commercial entrances including entrances to multifamily residential developments and private streets shall be a minimum of (thirty) 30 feet wide. |
| Paragraph 3 of Section 7-0403.4 | Minimun width of 30 feet for private streets and commercial entrance connections to VDOT roadways |
| Paragraph 8 of Section 7-0802.2 | Allow for projection of structural columns into stalls |

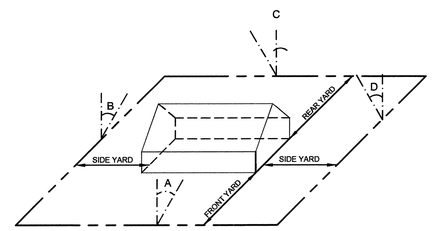
| Requirement | Requested Waiver or Modification |
|---|---|
| **Public Facilities Manual** | |
| **Requirement** | **Requested Waiver or Modification** |
| Paragraph 2 of Section 7-0802 | Modification of the parking geometric standards to allow projection of structural columns within parking structures into the required parking stall area. The parking stalls affected by such structural columns shall count toward the number of required parking spaces. |
| Section 12-0508 | Modification of the Tree Preservation Target as permitted by deviations permitted in Section 12-0508.3A(1) and (3). |
| Paragraph 4E (5) of Section 12-0510 | Modification of Section 12-0510.4E(5) to permit reduction of the minimum planting area, eight (8) feet, to a minimum of four (4) feet in order for trees to satisfy the tree cover requirement. |
| Section 12-0511 | Modification of Section 12-0511 to permit the required tree canopy to be calculated on the overall development area. |
| Paragraph 8 of Section 12-0510.4E(5) | Reduction of minimum tree planting area from 8 feet to lesser amount to allow for tree to satisfy tree cover |

## SOILS MAP




## SOILS LEGEND

| | |
|---|---|
| 41B1 | ROCKY LAND - IREDELL |
| 42C2 | VERY ROCKY LAND - IREDELL |
| 50B1 | IREDELL-MECKLENBURG |




FRONT YARD : ∠ A 25° WITH A BUILDING HEIGHT OF 180', THE FRONT YARD = 84' BUT NOT LESS THAN 40'

SIDE YARD : ∠ B NO REQUIREMENT

REAR YARD : ∠ C 20° WITH A BUILDING HEIGHT OF 180', THE REAR YARD = 66' BUT NOT LESS THAN 25'

## ANGLE OF BULK PLANE

MINIMUM REQUIRED YARD FOR BUILDING WITH 180' HEIGHT

NOTE:
THERE IS NO ANGLE OF BULK PLANE REQUIREMENT FOR THE PRM DISTRICT. THIS GRAPHIC DEPICTION IS OF THE R-30 DISTRICT CONSIDERATION OF THE PROPOSED BUILDINGS AT THE PERIPHERAL BOUNDARY LINES AND THE DESIGN STANDARD SET FORTH IN PAR. 1 OF SECTION 16-102 OF THE ZONING ORDINANCE.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Conceptual/Final Development Plan
DRANESVILLE DISTRICT
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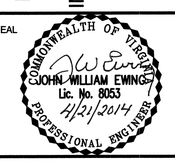
SEAL




KEY PLAN

SCALE Not to Scale

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013

TITLE

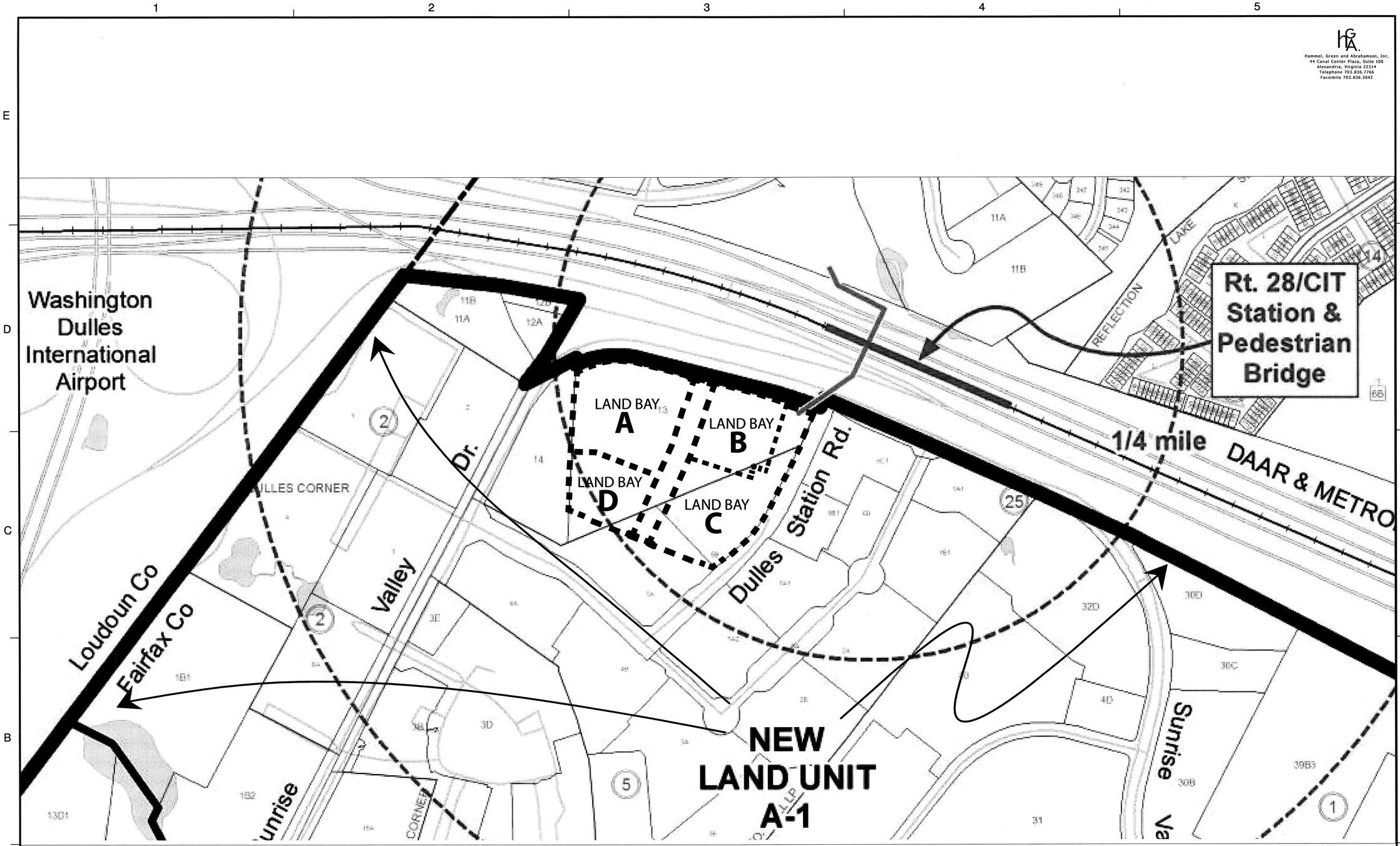
WAIVERS/MODIFICATIONS
SOILS MAP
ANGLE OF BULK PLANE

PROJECT NO.

C-2a

SHEET NO.

M-10831





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INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
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KEY PLAN

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| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13* | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013

TITLE

COMPREHENSIVE PLAN LAND UNIT AND LAND BAY EXHIBIT

PROJECT NO.

C-2b

SHEET NO.

M-10831


LSG LANDSCAPE ARCHITECTURE
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WELLS + ASSOCIATES

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703-917-0739 FAX
www.mjwells.com

**MEMORANDUM**

**TO:** William J. O'Donnell, Jr., AICP
Fairfax County Department of Planning & Zoning

**FROM:** Robin L. Antonucci
Kevin R. Fellin, P.E.

**RE:** RZ 2009-DR-017; Nugget Joint Venture, L.C.
2013 Tax Map(s): 15-2 ((1)) 13pt., 15-4 ((5)) 5Apt. and 5B

**SUBJECT:** Parking Determination

**DATE:** February 7, 2014

The purpose of this memorandum is to summarize the results of a preliminary parking assessment completed in conjunction with the above-referenced rezoning (RZ) application. On August 6, 2013, Nugget Joint Venture, L.C. filed an amendment to RZ 2009-DR-017 to reflect revisions associated with the development of a new, mixed-use, transit-oriented development (TOD) within ¼ mile of the planned Innovation Center Metrorail Station. The application would rezone the Property from the PDC (Planned Development Commercial) to the PRM (Planned Residential Mixed Use) zoning district.

The CDP/FDP (Conceptual/Final Development Plan) dated August 1, 2013, as revised January 3, 2014 and presented herein as Figure 1 reflects four land bays (A through D), which includes three residential buildings totaling 925 dwelling units with up to 84,000 gross square feet (GSF) of secondary retail uses, a 190-room hotel, two office buildings totaling 501,000 GSF and a 2,028-space Metrorail parking garage with related facilities. Parking for the development is provided in above/below grade, structured parking garages with limited curbside parking provided along the Private Drive for loading and short-term, high-turnover uses. Details with regard to the planned parking garages are depicted on Sheets A-101 through A-104.

The Applicant had initially committed to park the project in accordance with Article 11 of the County's Zoning Ordinance as shown on the CDP/FDP and reproduced herein as Table 1. As shown on Table 1, based on an application of the Ordinance rates for the proposed land uses, the project would require 3,492 parking spaces (excluding the 2,028 spaces associated with the Innovation Center South Metrorail Garage.) However, a recent amendment to the Comprehensive Plan (S07-III-UP2) approved by the Board of Supervisors on December 3, 2013 states the following:



> "For development within a half mile of the Metrorail station, a parking plan should be submitted along with a development application that demonstrates that the amount of parking that is provided is sized to support the development. Provisions for parking reductions and other incentives to lower parking should be utilized…Residential uses should take into account the number of bedrooms per unit when establishing the amount of parking to supply. All non-residential uses should reduce their parking supply below the Countywide minimum."

Subsequently, in draft proffers dated January 3, 2014, the Applicant committed to not exceed the *minimum* required parking under the Ordinance at completion and full occupancy in recognition of the recently adopted Plan amendment. The Applicant further reserved the right to seek a parking reduction prior to site plan approval for any building [on the subject property.]

In discussions with County Planning & Zoning staff during the course of reviewing the CDP/FDP and draft proffers, the need to further reduce parking was identified by both parties. To that end, a meeting was held with County staff (DPZ and the Department of Public Works & Environmental Services (DPWES)) on Wednesday, January 15th to discuss parking and the process for reducing parking as it pertains to the Innovation Center South development.

As stated above and shown on Table 1, a total of 3,492 spaces would be required to accommodate all of the on-site uses (excluding the Innovation Center South Metrorail Garage) under the requirements of Article 11. However, Article 11-101 also states the following:

> "Except as provided for in a Commercial Revitalization District, in any R, C or I district, all structures built and all uses established hereafter shall provide accessory off-street parking in accordance with the following regulations, and in the PDH, PDC, PRC and PRM Districts, the provisions of this Part shall have *general application* [emphasis added] as determined by the Director."

Given the Applicant has filed a request to rezone the property to the PRM District and in recognition of the Comprehensive Plan's intention to minimize/reduce reliance on the automobile, the Applicant sought the Zoning Administrator's (Ms. Leslie Johnson) opinion with regard to the intent of Section 101 and a definition of the term *general applicability*. Upon review and after much discussion, the following actions were recommended:



- Provide an option to the parking tabulation depicted on the CDP/FDP, which would summarize the parking reductions sought by the Applicant and include this new tabulation in the CDP/FDP as part of the *parking plan*;
- Provide a written justification for the reductions to be sought; and
- Strengthen the proffer commitments to reflect the application of a parking reduction request with the submission of any building site plan.

The Comprehensive Plan text for the Route 28 Station South and Tysons Corner areas provides parking rates for various land uses based on their proximity to planned Metrorail facilities, such as the Innovation Center Metrorail Station. According to the Comprehensive Plan for the Route 28 Station South transit areas, the maximum parking rate for office uses should be 2.1 spaces per 1,000 GSF when located within one quarter mile of a Metrorail station. Based on the Plan recommendation, a total of 1,053 spaces would be required to serve the planned office uses (or 250 spaces fewer than the Ordinance would require).

With regard to parking for the residential uses, Wells + Associates first reviewed the parking ratios established for TOD's in the Tysons Corner portion of Fairfax County. Based on extensive research, the County determined that parking in the TOD Districts [of Tysons] should follow the experience of successful TOD areas around the Country by limiting the amount of parking near transit station areas. As a result, the parking ratios for multifamily residential units are based on bedrooms with both a minimum and maximum rate provided. Within a quarter mile of a Metrorail station, the residential parking rates for multifamily units are as follows:

| Number of Bedrooms | Minimum Rate | Maximum Rate |
|---|---|---|
| 0 – 1 Bedroom | 1.0 | 1.3 |
| 2 Bedrooms | 1.0 | 1.6 |
| 3+ Bedrooms | 1.0 | 1.9 |

These rates are slightly higher on average than other areas. For example, the Florida Department of Transportation has developed TOD Design Guidelines to assist localities in developing projects that are supportive of transit investment. Based on



those guidelines in an urban-general neighborhood within a half mile of a rail facility, the recommended maximum parking rate for residential uses is 1.5 spaces per unit. On average, this rate is less than the recommended rates for Tysons.

A review of a paper prepared by Jeffrey Tumlin and Adam Millard-Ball in 2006 for ITE (*Parking for Transit-Oriented Development)* cited changes to the Arlington Virginia zoning code in 2003 which employed parking maximums to encourage transit usage. The code distinguishes between shared and reserved spaces, which are discouraged. According to the code, residential units may be parked up to 2.0 spaces per unit and non-residential uses may be parked at up to 1.0 space per 1,000 GSF.

In the City of Alexandria, multifamily residential units (Section 8-200 (A) (2)) are typically parked at the following rates:

- One and three-tenths (1.30) spaces per unit up to and including one bedroom;
- One and three-quarters (1.75) spaces per unit for each two bedroom unit; and
- Two and two-tenths (2.20 spaces for each three bedroom unit or larger.

For retail and office uses, parking is to be provided based on the square footage per floor and the particular Parking District within the City in which the use is located. For example, ground floor retail uses in buildings with a 20,000 SF floor plate should be parked at rates between one space per 230 SF to 1.2 spaces per 230 SF. Offices uses should be parked at rates between one space per 450 SF to one space per 600 SF depending on the Parking District.

Section 8-400 of the City's Ordinance describes the King Street Transit Parking District and provides reduced parking rates for uses within the area defined by 8-400 (A). According to the Ordinance, parking for office, residential and hotel uses within this District shall be parked as follows:

- Office buildings, including commercial, government and professional, shall have one parking space for each 530 square feet of floor area; provided, however, that the required parking may be reduced to not less than one parking space for each 665 square feet of floor area when the applicant, at the time of site plan approval, demonstrates through a parking study to the planning commission, or to the city council that the off-street parking provided is adequate for the site, and that there will be no unreasonable adverse effect on the surrounding residential neighborhoods.



- Single-family, two-family, row or townhouse and multifamily dwellings shall have one parking space per dwelling unit.
- Hotels shall have 0.7 of a parking space for each guest room.

Based on a review of other area parking requirements in established transit corridors, as well as the work completed by FCDOT in support of the Tysons Corner initiatives, the Applicant proposes to park the Innovation Center South development as reflected on Table 2. By providing minimum and maximum ranges for the uses, the Applicant will be able to eliminate at least one below grade level (428 spaces) associated with the parking garage serving Land Bay A (see Sheet A-102 of the CDP/FDP). With the parking reductions proposed, the Applicant would provide a total of 2,781 to 3,243 structured spaces on the Property (exclusive of the Metrorail Garage.)

In summary, the Applicant seeks the Board of Supervisors approval of a reduction of the office uses from 2.6 per 1,000 SF to 2.1 per 1000 SF in conjunction with the rezoning. Additionally, the Applicant shall modify the draft proffers to commit to file a parking reduction request with the Department of Public Works & Environmental Services for the other non-residential and residential uses in conjunction with the submission of the first site plan for the first new building to be developed on the Property (exclusive of the Metrorail Garage) unless the Zoning Ordinance has been amended to reflect specific transit reductions for parking without the need to file a study.

If you have any questions with regard to the above, please call or email me at RLAntonucci@mjwells.com or **Kevin Fellin** at KFellin@mjwells.com.

cc: Leslie Johnson, Fairfax County DPZ
Thomas Williamson, Fairfax County DPWES
Tony Rocks, Rocks Engineering
David Houston, Reed Smith
Elizabeth Ianetta, FCDOT



Note: The parking tabulations summarized on Tables 1 and 2 reflect the addition of bonus densities as permitted by the Comprehensive Plan.

FIGURE 1

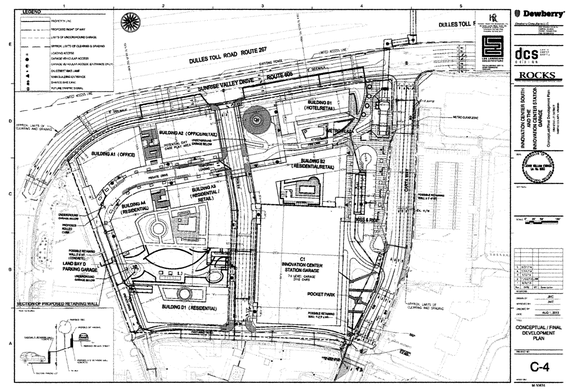


Table 1
Innovation Center South
Article 11 - Zoning Ordinance Parking Summary **(1)**

| Use | Land Bay-Building | Amount | Units | Article 11 - Ordinance Parking Rate | Required Spaces |
|---|---|---|---|---|---|
| **OFFICE** | **A-1, A-2** | **499,660** | **GSF** | **2.6 Spaces/1,000 GSF** | **1,299** |
| **HOTEL** | **B-1** | **190** | **Rooms** | **1.08 Spaces/Room** | **206** |
| **RETAIL** | **A-2, A-3, B-1, B-2** | **84,000** | **GSF** | **1.0 Space/200 SF first 1,000 SF, 6.0 Spaces/1,000 SF remaining SF** | **503** |
| **RESIDENTIAL (MULTI-FAMILY)** | **A-3, A-4, B-2, D-1** | **925** | **DU** | **1.6 Spaces/DU** | **1,480** |
| | | | | **Subtotal** | **3,488** |
| | | | | ***BONUS DENSITY (2)*** | |
| *RETAIL* | *A-1, A-2, A-3, A-4* | *20,000* | *GSF* | *6.0 Spaces/1,000 SF remaining SF (1.0 Space/200 SF for first 1,000 SF already accounted for in the above)* | *120* |
| *RESIDENTIAL (MULTI-FAMILY)* | *B-2* | *80* | *DU* | *1.6 Spaces/DU* | *128* |
| | | | | Subtotal | *248* |
| | | | | ***Total (with bonus density)*** | ***3,736*** |

Note(s):
(1) Obtained from Sheet C-2 of the "Innovation Center South and the Innovation Center Station Garage" CDP/FDP dated March 27, 2014.
(2) Parking and loading for WDUs and/or bonus density shall be addressed in the site plans and building plans for each building containing WDUs and/or bonus density square footage and shall be in accordance with the Zoning Ordinance, and subject to any proffers, development conditions, waivers, modifications or reductions approved by the County for the project. Applicant shall identify bonus density on any applicable site plan.

Table 2
Innovation Center South
Proposed "MAX" and "MIN" Parking Summary **(1) (2)**

| Use | Land Bay-Building | Amount | Units | Proposed "MAX" and "MIN" Parking Rates (1) | Required Spaces |
|---|---|---|---|---|---|
| **PROPOSED "MAX" PARKING REQUIREMENT** | | | | | |
| **OFFICE** | **A-1, A-2** | **499,660** | **GSF** | **2.1 Spaces/1,000 GSF** | **1,050** |
| **HOTEL** | **B-1** | **190** | **Rooms** | **1.08 Spaces/Room** | **206** |
| **RETAIL** | **A-2, A-3, B-1, B-2** | **84,000** | **GSF** | **1.0 Space/200 SF first 1,000 SF, 6.0 Spaces/1,000 SF remaining SF** | **503** |
| **RESIDENTIAL (MULTI-FAMILY)** | **A-3, A-4, B-2, D-1** | **649** | **DU (0-1 BR)** | **1.6 Spaces/DU** | **1,038** |
| | **A-3, A-4, B-2, D-1** | **276** | **DU (2 BR)** | **1.6 Spaces/DU** | **442** |
| | **---** | **0** | **DU (3+ BR)** | **1.9 Spaces/DU** | **0** |
| | | | | **Subtotal** | **3,239** |
| | | | | ***BONUS DENSITY (3)*** | |
| *RETAIL* | *A-1, A-2, A-3, A-4* | *20,000* | *GSF* | *6.0 Spaces/1,000 SF remaining SF (1.0 Space/200 SF for first 1,000 SF already accounted for in the above)* | *120* |
| *RESIDENTIAL (MULTI-FAMILY)* | *B-2* | *56* | *DU (0-1 BR)* | *1.6 Spaces/DU* | *90* |
| | *B-2* | *24* | *DU (2 BR)* | *1.6 Spaces/DU* | *38* |
| | | | | Subtotal | *248* |
| | | | | ***Total Proposed "MAX" (with bonus density,*** | ***3,487*** |
| **PROPOSED "MIN" PARKING REQUIREMENT** | | | | | |
| **OFFICE** | **A-1, A-2** | **499,660** | **GSF** | **2.0 Spaces/1,000 GSF** | **1,000** |
| **HOTEL** | **B-1** | **190** | **Rooms** | **1.0 Spaces/Room** | **190** |
| **RETAIL** | **A-2** | **4,000** | **GSF** | **Exclude first 5,000 SF per building, then 6.0 Spaces/1,000 SF remaining SF** | **0** |
| | **A-3** | **30,000** | **GSF** | **Exclude first 5,000 SF per building, then 6.0 Spaces/1,000 SF remaining SF** | **150** |
| | **B-1** | **10,000** | **GSF** | **Exclude first 5,000 SF per building, then 6.0 Spaces/1,000 SF remaining SF** | **30** |
| | **B-2** | **40,000** | **GSF** | **Exclude first 5,000 SF per building, then 6.0 Spaces/1,000 SF remaining SF** | **210** |
| **RESIDENTIAL (MULTI-FAMILY)** | **A-3, A-4, B-2, D-1** | **649** | **DU (0-1 BR)** | **1.25 Spaces/DU** | **812** |
| | **A-3, A-4, B-2, D-1** | **276** | **DU (2 BR)** | **1.4 Spaces/DU** | **387** |
| | **---** | **0** | **DU (3+ BR)** | **1.6 Spaces/DU** | **0** |
| | | | | **Subtotal** | **2,779** |
| | | | | ***BONUS DENSITY (3)*** | |
| *RETAIL* | A-1 | 5,000 | GSF | Exclude first 5,000 SF per building, then 6.0 Spaces/1,000 SF remaining SF | 0 |
| | A-2 | 5,000 | GSF | Exclude first 1,000 SF, then 6.0 Spaces/1,000 SF for remaining 4,000 SF. 4,000 SF already excluded above for A-2. | 24 |
| | A-3 | 5,000 | GSF | 6.0 Spaces/1,000 SF for remaining 5,000 SF. First 5,000 SF per building already excluded above for A-3. | 30 |
| | A-4 | 5,000 | GSF | Exclude first 5,000 SF per building, then 9.0 Spaces/1,000 SF remaining SF | 0 |
| RESIDENTIAL (MULTI-FAMILY) | *B-2* | *56* | *DU (0-1 BR)* | 1.25 Spaces/DU | 70 |
| | *B-2* | *24* | *DU (2 BR)* | 1.4 Spaces/DU | 34 |
| | | | | Subtotal | 158 |
| | | | | ***Total Proposed "MIN" (with bonus density,*** | ***2,937*** |

Note(s):
(1) Obtained from Sheet C-2 of the "Innovation Center South and the Innovation Center Station Garage" CDP/FDP dated March 27, 2014.
(2) The proposed "MAX" and "MIN" parking rates outlined above, including the exclusion of the first 5,000 SF of retail per building under the "MIN" calculation, can be changed to reflect revised rates associated with approval of a Zoning Ordinance Amendment.
(3) Parking and loading for WDUs and/or bonus density shall be addressed in the site plans and building plans for each building containing WDUs and/or bonus density square footage and shall be in accordance with the Zoning Ordinance, and subject to any proffers, development conditions, waivers, modifications or reductions approved by the County for the project. Applicant shall identify bonus density on any applicable site plan.

WELLS + ASSOCIATES

3/28/2014

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dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS
ENGINEERING & COMPANY
REAL ESTATE DEVELOPERS SINCE 1988

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE Not to Scale

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13* | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013

TITLE

PARKING SUMMARY

PROJECT NO.

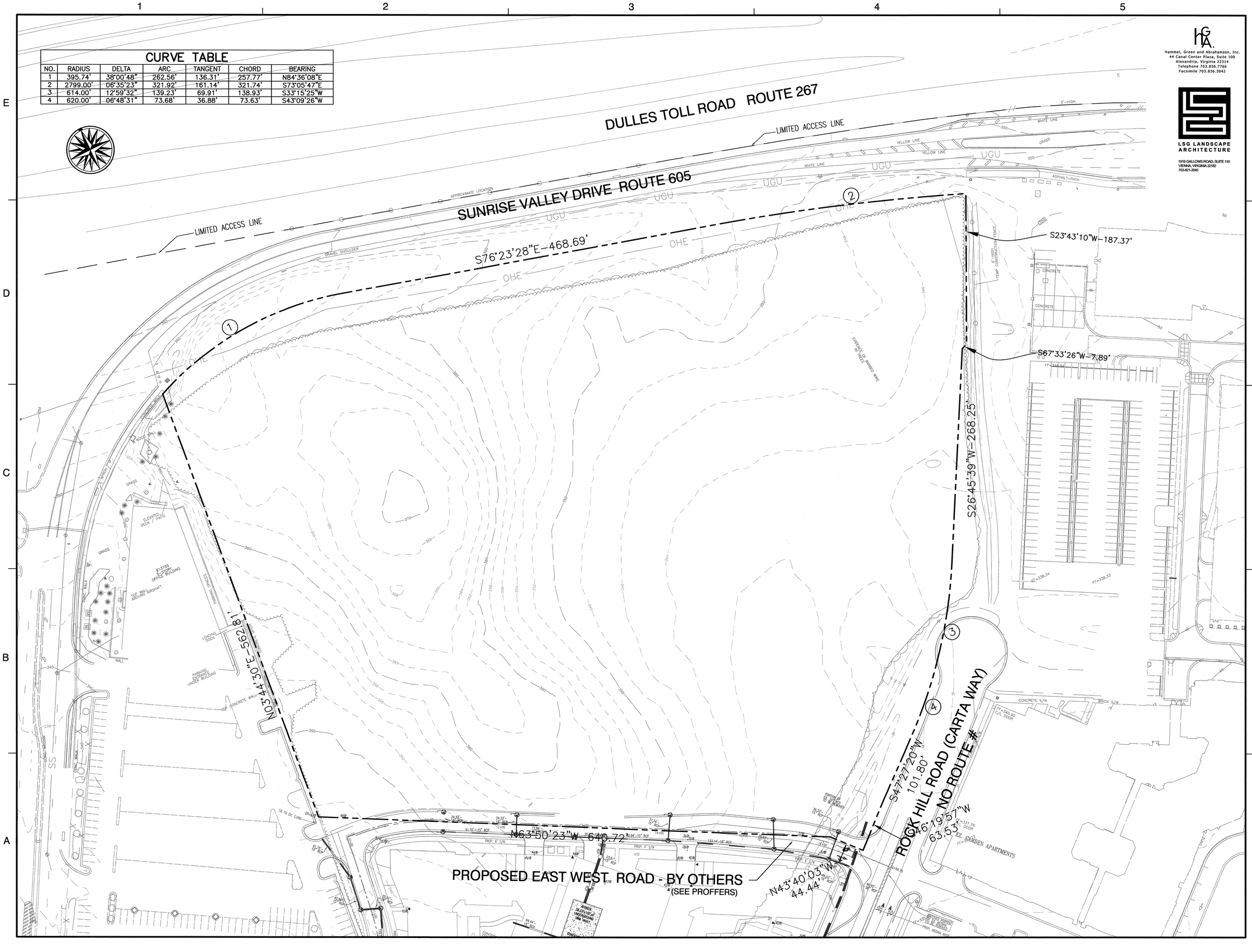
C-2c

SHEET NO.

M-10831

## CURVE TABLE

| NO. | RADIUS | DELTA | ARC | TANGENT | CHORD | BEARING |
|---|---|---|---|---|---|---|
| 1 | 395.74' | 38°00'48" | 262.56' | 136.31' | 257.77' | N84°36'08"E |
| 2 | 2799.00' | 06°35'23" | 321.92' | 161.14' | 321.74' | S73°05'47"E |
| 3 | 614.00' | 12°59'32" | 139.23' | 69.91' | 138.93' | S33°15'25"W |
| 4 | 620.00' | 06°48'31" | 73.68' | 36.88' | 73.63' | S43°09'26"W |





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703-821-2045

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INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
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4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE 0' 25' 50' 100'

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

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CHECKED BY
DATE

TITLE

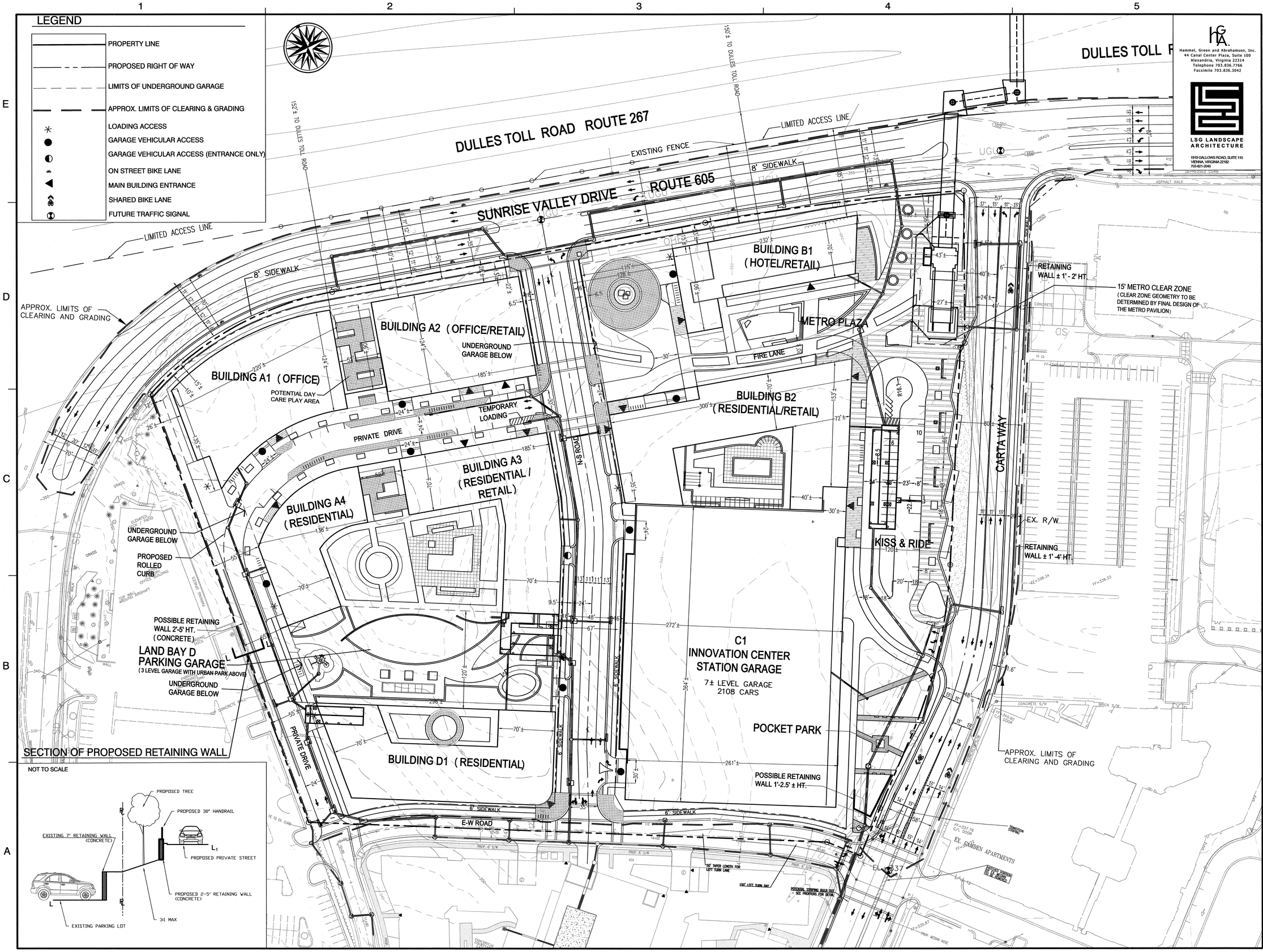
# EXISTING CONDITIONS

PROJECT NO.

# C-3

SHEET NO.

M-10831

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4/21/2014
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KEY PLAN

SCALE 0' 25' 50' 100'

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY JMC
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CHECKED BY
DATE AUG 1, 2013

TITLE

CONCEPTUAL / FINAL DEVELOPMENT PLAN

PROJECT NO.

C-4

SHEET NO.

M-10831

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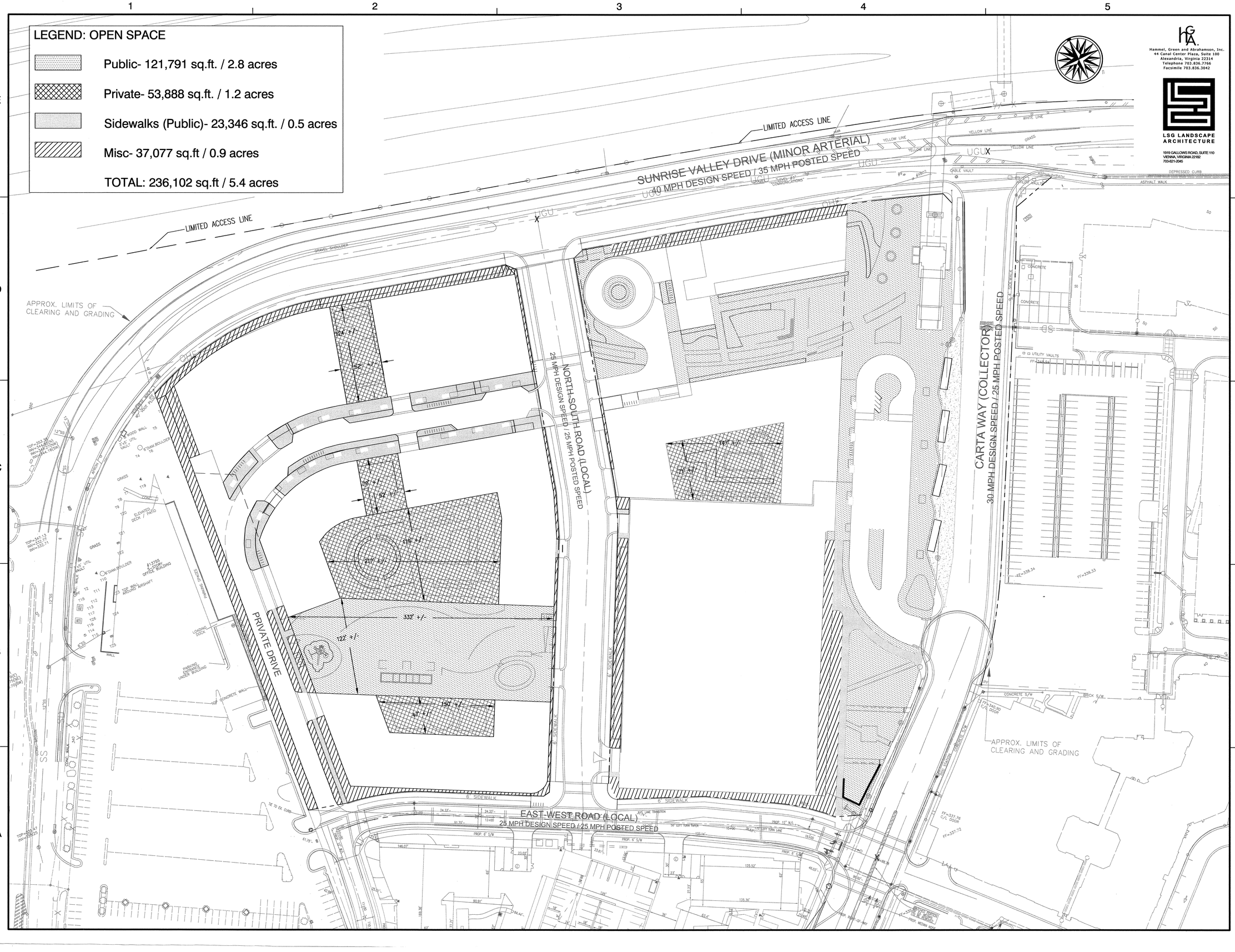


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KEY PLAN

SCALE 0' 25' 50' 100'

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
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| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013

TITLE

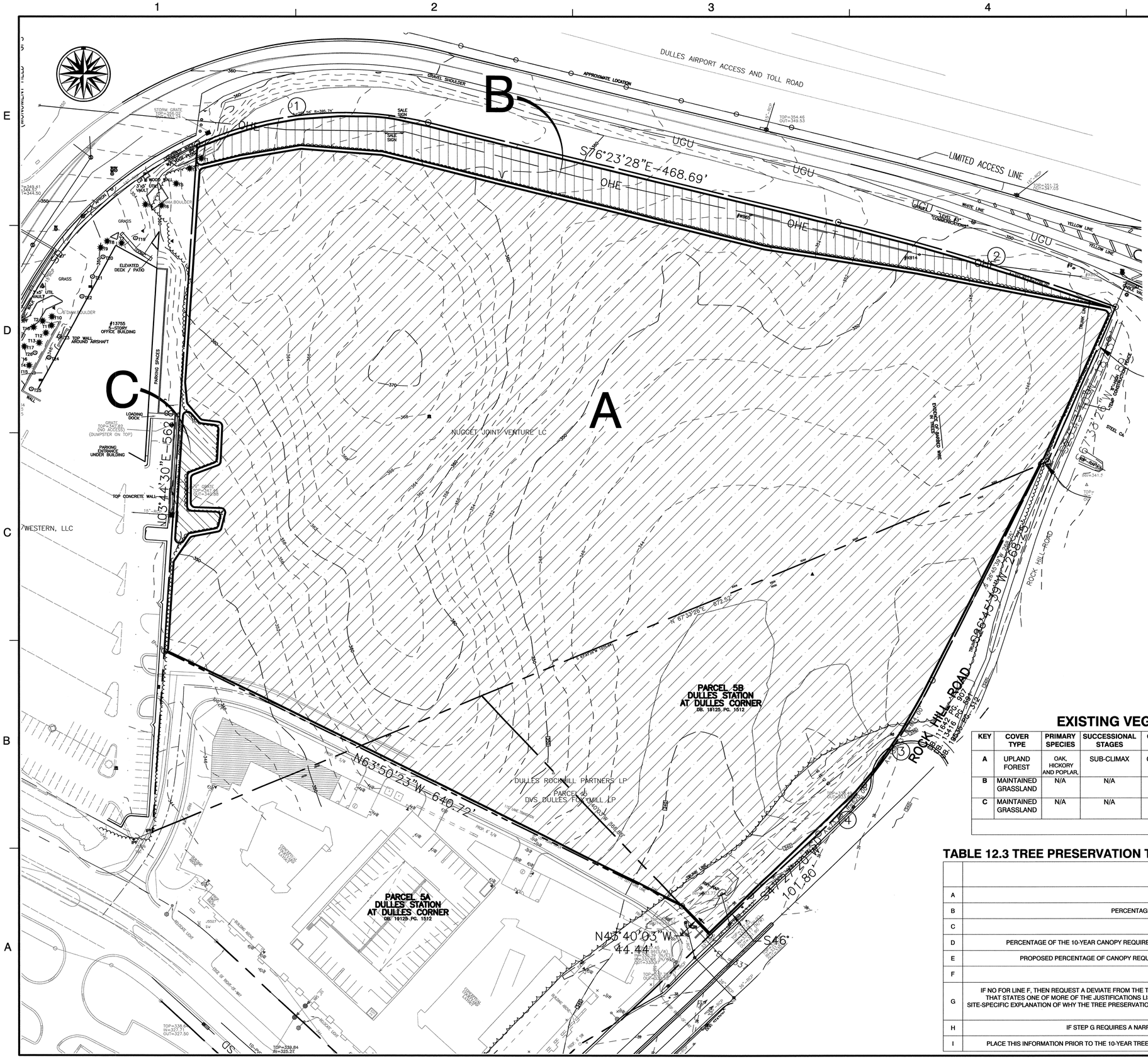
OPEN SPACE EXHIBIT

PROJECT NO.

C-5

SHEET NO.

M-10831




## EXISTING VEGETATION INVENTORY

| KEY | COVER TYPE | PRIMARY SPECIES | SUCCESSIONAL STAGES | CONDITION | ACREAGE | COMMENTS |
|---|---|---|---|---|---|---|
| A | UPLAND FOREST | OAK, HICKORY AND POPLAR, | SUB-CLIMAX | GENERALLY GOOD | ±13.73 AC | OTHER SPECIES INCLUDE LOCUST, REDBUD |
| B | MAINTAINED GRASSLAND | N/A | N/A | N/A | ±0.84 AC | OVERHEAD UTILITIES, ALL VEGETATION BELOW REMOVED |
| C | MAINTAINED GRASSLAND | N/A | N/A | N/A | ±0.11 AC | LANDSCAPED OPEN SPACE WITH PICNIC AREA RELATING TO ADJACENT OFFICE |
| | | | | TOTAL ACREAGE: | 14.68 AC | |

## TABLE 12.3 TREE PRESERVATION TARGET CALCULATION

| | REQUIREMENTS | RESULTS |
|---|---|---|
| A | PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY = | 582,036 SF OR 13.36 AC |
| B | PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY = | 91% |
| C | PERCENTAGE OF 10-YEAR TREE CANOPY REQUIRED FOR SITE= | 10% OF 639,461 SF = 63,946 SF |
| D | PERCENTAGE OF THE 10-YEAR CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION = | 91% = 58,191 SF |
| E | PROPOSED PERCENTAGE OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION = | 0SF |
| F | HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET? | NO |
| G | IF NO FOR LINE F, THEN REQUEST A DEVIATE FROM THE TREE PRESERVATION TARGET SHALL BE PROVIDED ON THE PLAN THAT STATES ONE OF MORE OF THE JUSTIFICATIONS LISTING IN 12-0507.3 ALONG WITH A NARRATIVE THAT PROVIDES A SITE-SPECIFIC EXPLANATION OF WHY THE TREE PRESERVATION TARGET CANNOT BE MET. PROVIDE A SHEET NUMBER WHERE THE DEVIATION REQUEST IS LOCATED. | SEE SHEET C-6a |
| H | IF STEP G REQUIRES A NARRATIVE, IT SHALL BE PREPARED IN ACCORDANCE WITH 12-0507.4 | |
| I | PLACE THIS INFORMATION PRIOR TO THE 10-YEAR TREE CANOPY CALCULATIONS AS PER INSTRUCTIONS IN TABLE 12.12 | |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INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE 0' 25' 50' 100'

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 6 | 4/21/14 | JMC | |
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| 1 | 9/9/13 | | |

REVISIONS

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CHECKED BY
DATE AUG 1, 2013

TITLE

EXISTING VEGETATION MAP

PROJECT NO.

C-6

SHEET NO.

M-10831

Dewberry

Dewberry Consultants LLC
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Fairfax, VA 22031-4666
703.849.0100
703. 849.0118 fax
www.dewberry.com

March 27, 2014

James Patteson, Director
Fairfax County Department of Public Works and Environmental Services
12055 Government Center Parkway
Suite 659
Fairfax VA 22035

RE: Request for a Tree Preservation Target Deviation
Tax Map 15-2 ((1)) 13 Part, 15-4 ((5)) 5B, and 15-4 ((5)) 5A Part

Dear Mr. Patteson:

May this letter serve as a request for a deviation from the Tree Preservation Target as provided for in the provisions set forth in Sect. 12-0508 of the Public Facilities Manual (PFM). The proposed development program at issue is located on the property referenced as 15-2 ((1)) 13 Part, 15-4 ((5)) 5B, and 15-4 ((5)) 5A Part. It is located south of Sunrise Valley Drive and includes the future Innovation Station which is part of the Phase II extension of the Silver Line. It is the subject of a rezoning application.

The property is currently zoned to the PDC District and is subject of a Conceptual/Final Development Plan to rezone the property to the PRM District, a copy of which is attached for your reference. The pending CDP/FDP proposes a development program to include a transit-oriented, mixed-use project comprised of four multi-family residential buildings, a hotel, two office buildings, street level retail, transit parking facilities and a Kiss and Ride facility.

Based on the provisions set forth in Sect. 12-0508 of the PFM and more particularly the calculations set forth in Table 12.3, copy attached, 63,946 square feet is the requisite Tree Preservation Target.

A deviation from the Tree Preservation Target requirement is requested, for as demonstrated by the attached copy of the proposed development program, the clearing and grading, and provision of utilities for the development program will preclude the accommodation of the Tree Preservation Target. It is our judgment that the proposed development program is a reasonable development program for the subject property which is zoned to the PRM District. In reference to this request, it is noted that the 10-year Tree Canopy Requirement of 10% will be met through the planting of trees on site.

We trust that this statement is sufficient to support our request for a deviation from the Tree Preservation Target for the development program proposed for the subject property. Should you have any questions or the need for additional information, please contact me at 703-849-0144 or jcena@dewberry.com.

Sincerely,

Janice M. Cena
Senior Landscape Architect
ISA Certified Arborist

PRELIMINARY INTERIOR PARKING LOT CALCULATIONS

PARKING LOT AREA 137,140 ± SF
LANDSCAPING REQUIRED (5%) 6,857 ± SF
LANDSCAPING PROVIDED (10%) 14,000 ± SF
- 31 CAT IV DECIDUOUS TREES @ 250 SF
- 50 CAT II DECIDUOUS TREES @ 125 SF

PRELIMINARY PERIPHERAL PARKING LOT CALCULATIONS

SOUTHERN PROPERTY BOUNDARY - APPROX 230 LF
REQUIRED: 1TREE / 40 LF = 6 TREES
PROVIDED: = 20 TREES

EASTERN PROPERTY BOUNDARY - APPROX 500 LF
REQUIRED: 1 TREE / 40 LF = 13 TREES
PROVIDED: = 16 TREES

**Table 12.10 10-year Tree Canopy Calculation Worksheet**

| | | |
|---|---|---|
| **A. Tree Preservation Target and Statement** | | |
| | SEE SHEET C-6 | |
| **B. Tree Canopy Requirement** | | |
| B1 | Identify gross site area = | 639318 SF |
| B2 | Subtract area dedicated to parks, road frontage, and | 73,122 SF |
| B3 | Subtract area of exemptions = | 0 |
| B4 | Adjusted gross site area (B1-B2) = | 566,196 SF |
| B5 | Identify site's zoning and/or use | PRM |
| B6 | Percentage of 10-year tree canopy required = | 10% |
| B7 | Area of 10-year tree canopy required (B4 x B6) = | 56,620 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 | |
| **C. Tree Preservation** | | |
| C1 | Tree Preservation Target Area = | 58,191 SF |
| C2 | Total canopy area meeting standards of 12-0400 = | 0 |
| C3 | C2 x 1.25 = | 0 |
| C4 | Total canopy area provided by unique or valuable forest or woodland communities = | 0 |
| C5 | C4 x 1.5 = | 0 |
| C6 | Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees = | 0 |
| C7 | C6 x 1.5 to 3.0 = | 0 |
| C8 | Canopy of trees within Resource Protection Areas and 100-year floodplains | 0 |
| C9 | C8 x 1.0 = | 0 |
| C10 | Total of C3, C5, C7 and C9 = | 0 |

| | | |
|---|---|---|
| **D. Tree Planting** | | |
| D1 | Area of canopy to be met through tree planting (B7-C10) = | 56,620 SF |
| D2 | Area of canopy planted for air quality benefits = | 23,600 SF |
| D3 | x 1.5 = | 35,400 SF |
| D4 | Area of canopy planted for energy conservation = | 0 |
| D5 | x 1.5 = | 0 |
| D6 | Area of canopy planted for water quality benefits = | 16,525 SF |
| D7 | x 1.25 = | 20,656 SF |
| D8 | Area of canopy planted for wildlife benefits = | 0 |
| D9 | x 1.5 = | 0 |
| D10 | Area of canopy provided by native trees = | 0 |
| D11 | x 1.5 = | 0 |
| D12 | Area of canopy provided by improved cultivars and varieties = | 4,000 SF |
| D13 | x 1.5 = | 6,000 SF |
| D14 | Area of canopy provided through tree seedlings = | 0 |
| | x 1.0 = | 0 |
| D15 | Area of canopy provided through native shrubs or woody seed mix = | 0 |
| | x 1.0 = | 0 |
| D16 | Percentage of D14 represented by D15 = | NA |
| D17 | Total of canopy area provided through tree planting = | 94,069 SF |
| D18 | Is an offsite planting relief requested? | NO |
| D19 | Tree Bank or Tree Fund? | NO |
| D20 | Canopy area to be requested to be provided through offsite banking or tree fund | NA |
| D21 | Amount to be deposited into the Tree Preservation and Planting Fund | NA |
| **E. Total of 10-year Tree Canopy Provided** | | |
| E1 | Total of canopy area provided through tree preservation (C10) = | 0 |
| E2 | Total of canopy area provided through tree planting (D17) = | 94,069 SF |
| E3 | Total of canopy area provided through offsite mechanism (D19) = | 0 |
| E4 | Total of 10-year Tree Canopy Provided = | 94,069 SF |

Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DCS DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING & COMPANY
REAL ESTATE DEVELOPERS SINCE 1956

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE AS NOTED

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13* | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013
TITLE

Landscape Calculations

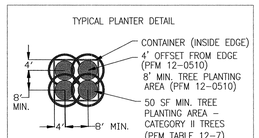
PROJECT NO.

C-6a

SHEET NO.

M-10831

TYPICAL PLANTER DETAIL



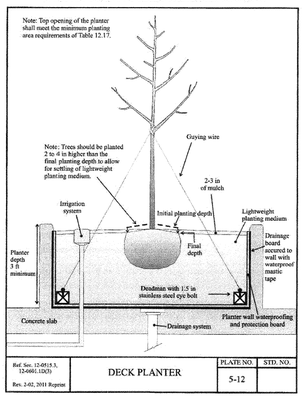

TYPICAL CATEGORY II TREES (PFM TABLE 12-7)
- AMUR MAPLE 3" – 125 CREDIT
- AMERICAN HORNBEAM 3" – 125 CREDIT
- OKAME CHERRY 3" – 125 CREDIT

GARAGE INTERIOR CREDITS REQUIRED: 4,790 SF
GARAGE TREES REQUIRED @125 EA. : 39
GARAGE TREES PROVIDED @125 EA. : 40*
PARKING SPACES LOST: 27

* 1 TREE DOES NOT SHADE GARAGE

Gordon
4501 Daly Drive
Chantilly, VA 20151
Phone: 703-263-2900
www.gordon-usa.com

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL




| Ref. Sec. 12-0915.3, 12-0401.1D(3) | DECK PLANTER | PLATE NO. | STD. NO. |
|---|---|---|---|
| Rev. 2-02, 2011 Repeat | | 5-12 | |

RECOMMENDED PLANTING MEDIUM COMPONENTS:

INTENSIVE LAYER – THIS LAYER SERVES AS THE TOP GROWING MEDIUM. RECOMMEND 12" DEPTH ROOFLITE INTENSIVE LAYER SOIL SPECIFICATION ON THIS SHEET (OR EQUIVALENT).

BASE LAYER – THIS LAYER PROVIDES A DEEPER ROOT ZONE. RECOMMEND 18" DEPTH ROOFLITE BASE LAYER SOIL SPECIFICATION ON THIS SHEET (OR EQUIVALENT).

FILTER LAYER – THIS LAYER SEPARATES THE BOTTOM LAYER FROM THE BASE LAYER. RECOMMEND FILTER FABRIC.

BOTTOM LAYER – THIS LAYER PROVIDES DRAINAGE SPACE. RECOMMEND 6" POROUS LIGHT AGGREGRATE.

NOTE: LAYER DEPTHS BASED ON 3' DEPTH PLANTER. IF PLANTER DEPTH IS MORE, CONTACT SOIL MEDIUM MANUFACTURER FOR RECOMMENDATIONS.

*rooflite® intensive*

A growing medium for intensive green roof systems with a separate drainage course or a synthetic drainage layer. This growing medium is designed for rooftop gardens, urban farming and large containers or planters. rooflite® intensive is a precisely balanced blend of light weight mineral aggregates like HydRocks® or pumice and premium organic components like USCC STA approved compost complying with the following requirements:

| | | | |
|---|---|---|---|
| ***Particle Size Distribution*** | | | |
| Proportion of silting components | <0.063 mm | Mass % | ≤ 20 |
| Proportion of particles < | 0.25 mm 60 mesh | Mass % | 15 - 40 |
| Proportion of particles < | 1.00 mm 18 mesh | Mass % | 25 - 60 |
| Proportion of particles < | 2.00 mm 10 mesh | Mass % | 30 - 70 |
| Proportion of particles < | 3.20 mm 1/8 inch | Mass % | 50 - 90 |
| Proportion of particles < | 6.30 mm 1/4 inch | Mass % | 75 - 100 |
| Proportion of particles < | 9.50 mm 3/8 inch | Mass % | 90 - 100 |
| Proportion of particles < | 12.50 mm 1/2 inch | Mass % | 100 |
| ***Density Measurements*** | | | |
| Bulk Density (dry weight basis) | | g/cm³ | 0.70 - 0.85 |
| Bulk Density (dry weight basis) | | lb/ft³ | 44 - 53 |
| Bulk Density (at max. water-holding capacity) | | g/cm³ | 1.15 - 1.35 |
| Bulk Density (at max. water-holding capacity) | | lb/ft³ | 72 – 85 |
| ***Water/Air Measurements*** | | | |
| Total Pore Volume | | Vol. % | ≥ 50 |
| Maximum water-holding capacity | | Vol. % | 45 – 65 |
| Air-filled porosity at max water-holding capacity | | Vol. % | ≥ 10 |
| Water permeability (saturated hydraulic conductivity) | | cm/sec | 0.0005 – 0.05 |
| Water permeability (saturated hydraulic conductivity) | | in/min | 0.0118 – 1.18 |
| ***pH and Salt Content*** | | | |
| pH (in $CaCl_2$) | | | 6.0 - 8.5 |
| Soluble salts (water, 1:10, m:v) | | g (KCl)/L | < 2.5 |
| ***Organic Measurements*** | | | |
| Organic matter content | | g/L | 50 - 90 |
| ***Nutrients*** | | | |
| Phosphorus, P2O5 (CAL) | | mg/L | ≤ 200 |
| Potassium, K2O (CAL) | | mg/L | ≤ 700 |
| Magnesium, Mg (CaCl2) | | mg/L | ≤ 200 |
| Nitrate + Ammonium (CaCl2) | | mg/L | ≤ 80 |

*All values are based on compacted materials according to laboratory standards and testing methods defined by the Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.V. (FLL) Landscape Development and Landscaping Research Society, Guidelines for the Planning Construction and Maintenance of Green-Roofing, Green Roofing Guideline, 2008*

©Skyland USA LLC, March 2014

*rooflite® base layer*

A growing medium optimized for the deeper root zone below a top layer of rooflite® intensive. This growing medium provides better aeration and less organic matter than rooflite® intensive. It is a precisely balanced blend of light weight mineral aggregates like HydRocks® or pumice and premium organic components like USCC STA approved compost complying with the following requirements:

| | | | |
|---|---|---|---|
| ***Particle Size Distribution*** | | | |
| Proportion of silting components | <0.063 mm | Mass % | ≤ 15 |
| Proportion of particles < | 0.25 mm 60 mesh | Mass % | 5 - 30 |
| Proportion of particles < | 1.00 mm 18 mesh | Mass % | 10 - 50 |
| Proportion of particles < | 2.00 mm 10 mesh | Mass % | 30 - 70 |
| Proportion of particles < | 3.20 mm 1/8 inch | Mass % | 40 - 80 |
| Proportion of particles < | 6.30 mm 1/4 inch | Mass % | 65 - 95 |
| Proportion of particles < | 9.50 mm 3/8 inch | Mass % | 80 - 100 |
| Proportion of particles < | 12.50 mm 1/2 inch | Mass % | 100 |
| ***Density Measurements*** | | | |
| Bulk Density (dry weight basis) | | g/cm³ | 0.70 - 0.85 |
| Bulk Density (dry weight basis) | | lb/ft³ | 44 - 53 |
| Bulk Density (at max. water-holding capacity) | | g/cm³ | 1.15 - 1.35 |
| Bulk Density (at max. water-holding capacity) | | lb/ft³ | 72 – 85 |
| ***Water/Air Measurements*** | | | |
| Total Pore Volume | | Vol. % | ≥ 50 |
| Maximum water-holding capacity | | Vol. % | 25 – 50 |
| Air-filled porosity at max water-holding capacity | | Vol. % | ≥ 10 |
| Water permeability (saturated hydraulic conductivity) | | cm/sec | 0.001 – 0.12 |
| Water permeability (saturated hydraulic conductivity) | | in/min | 0.024 – 2.83 |
| ***pH and Salt Content*** | | | |
| pH (in $CaCl_2$) | | | 6.0 - 8.5 |
| Soluble salts (water, 1:10, m:v) | | g (KCl)/L | < 3.5 |
| ***Organic Measurements*** | | | |
| Organic matter content | | g/L | 20 - 40 |
| ***Nutrients*** | | | |
| Phosphorus, P2O5 (CAL) | | mg/L | ≤ 200 |
| Potassium, K2O (CAL) | | mg/L | ≤ 700 |
| Magnesium, Mg (CaCl2) | | mg/L | ≤ 200 |
| Nitrate + Ammonium (CaCl2) | | mg/L | ≤ 80 |

*All values are based on compacted materials according to laboratory standards and testing methods defined by the Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.V. (FLL) Landscape Development and Landscaping Research Society, Guidelines for the Planning Construction and Maintenance of Green-Roofing, Green Roofing Guideline, 2008*

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DECK PLANTING DETAIL

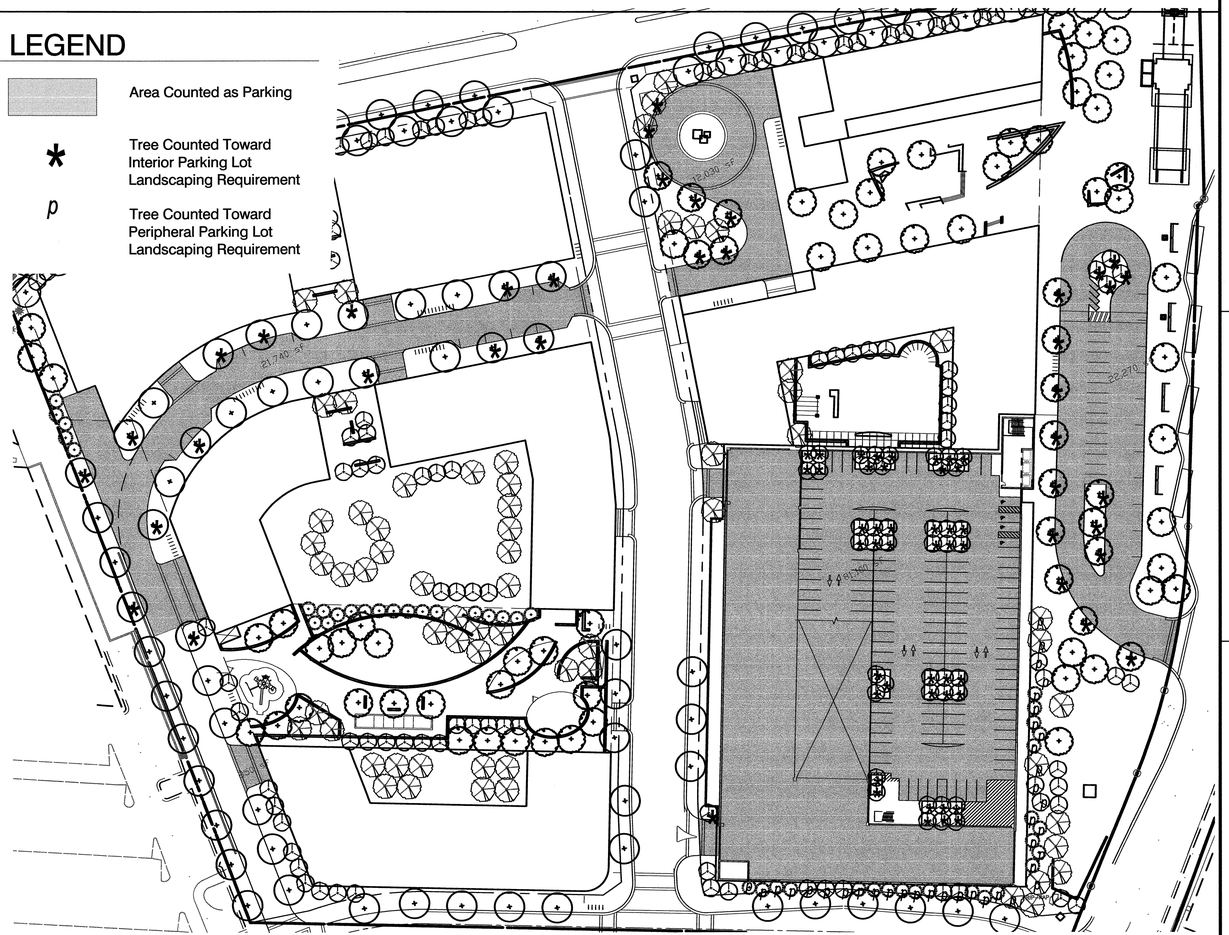


LEGEND

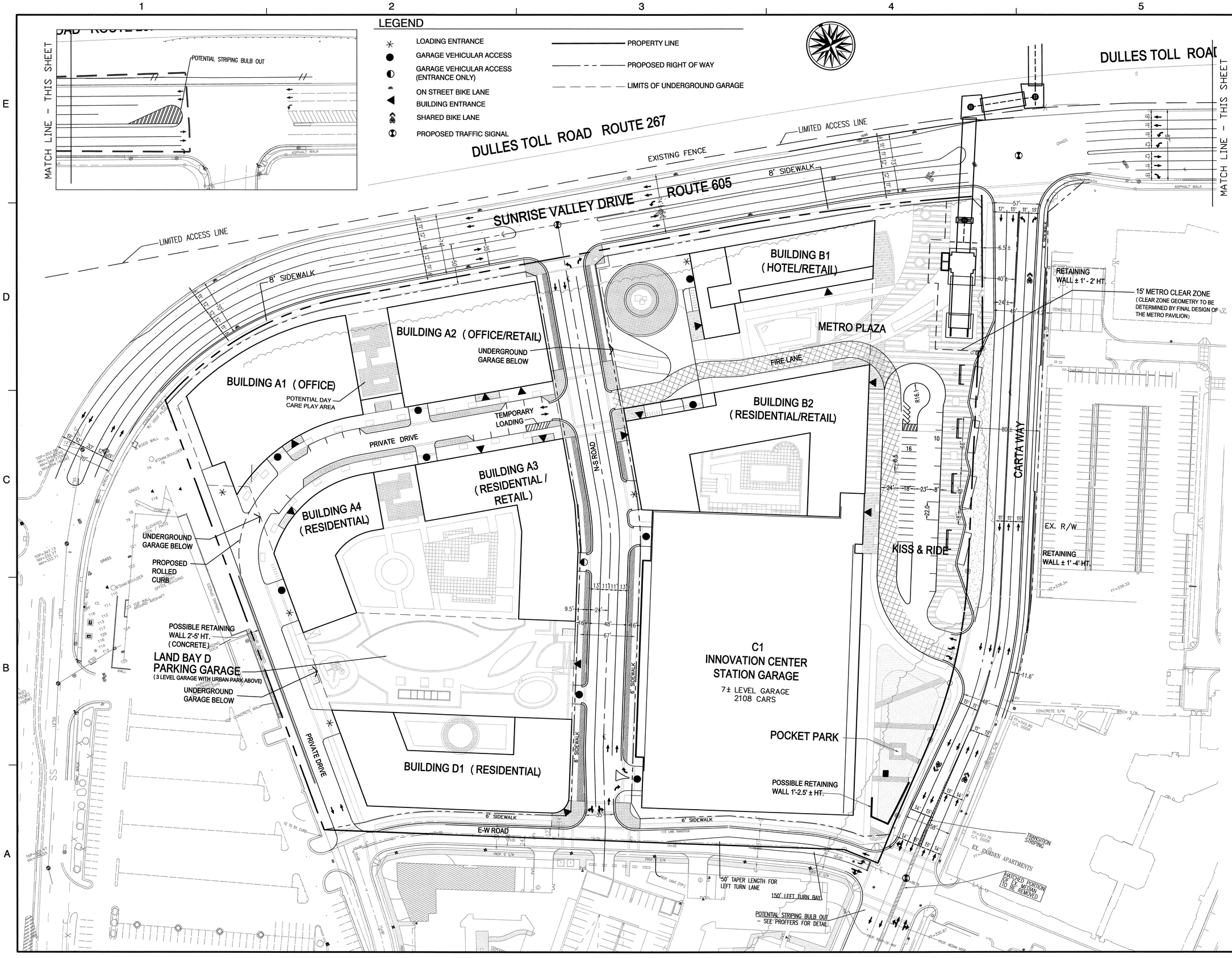
Area Counted as Parking

* Tree Counted Toward Interior Parking Lot Landscaping Requirement

*p* Tree Counted Toward Peripheral Parking Lot Landscaping Requirement




PARKING LOT LANDSCAPING CALCULATIONS-NOT TO SCALE





Dewberry

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FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DCS DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

DATE

TITLE

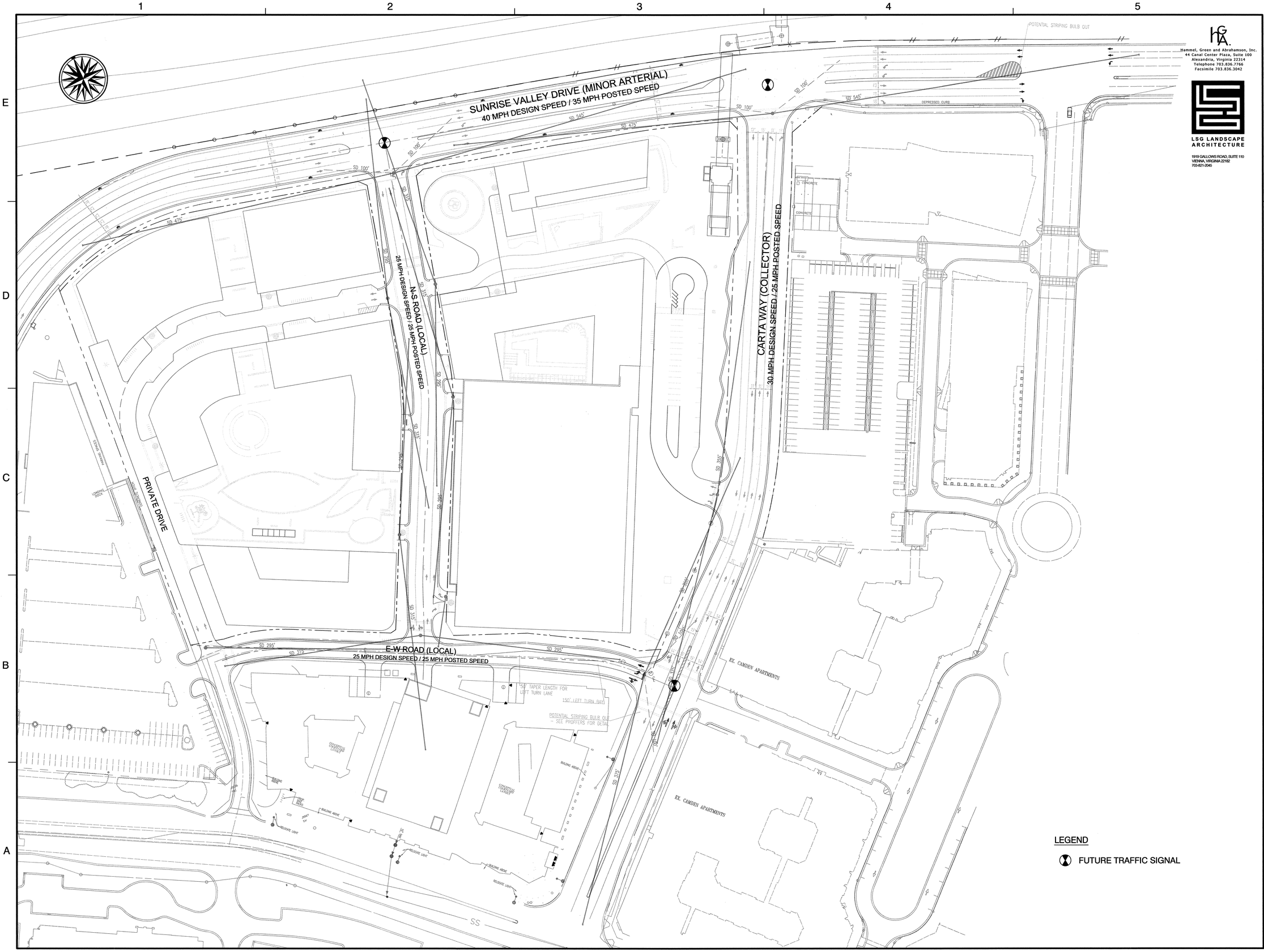
PROPOSED ROADS / R.O.W. PLAN

PROJECT NO.

C-7

SHEET NO.

M-10831




LEGEND

FUTURE TRAFFIC SIGNAL


Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
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703-821-2045

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# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE 0' 30' 60' 120'

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
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| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY: JMC
APPROVED BY: JWE
CHECKED BY:
DATE: AUG 1, 2013

TITLE

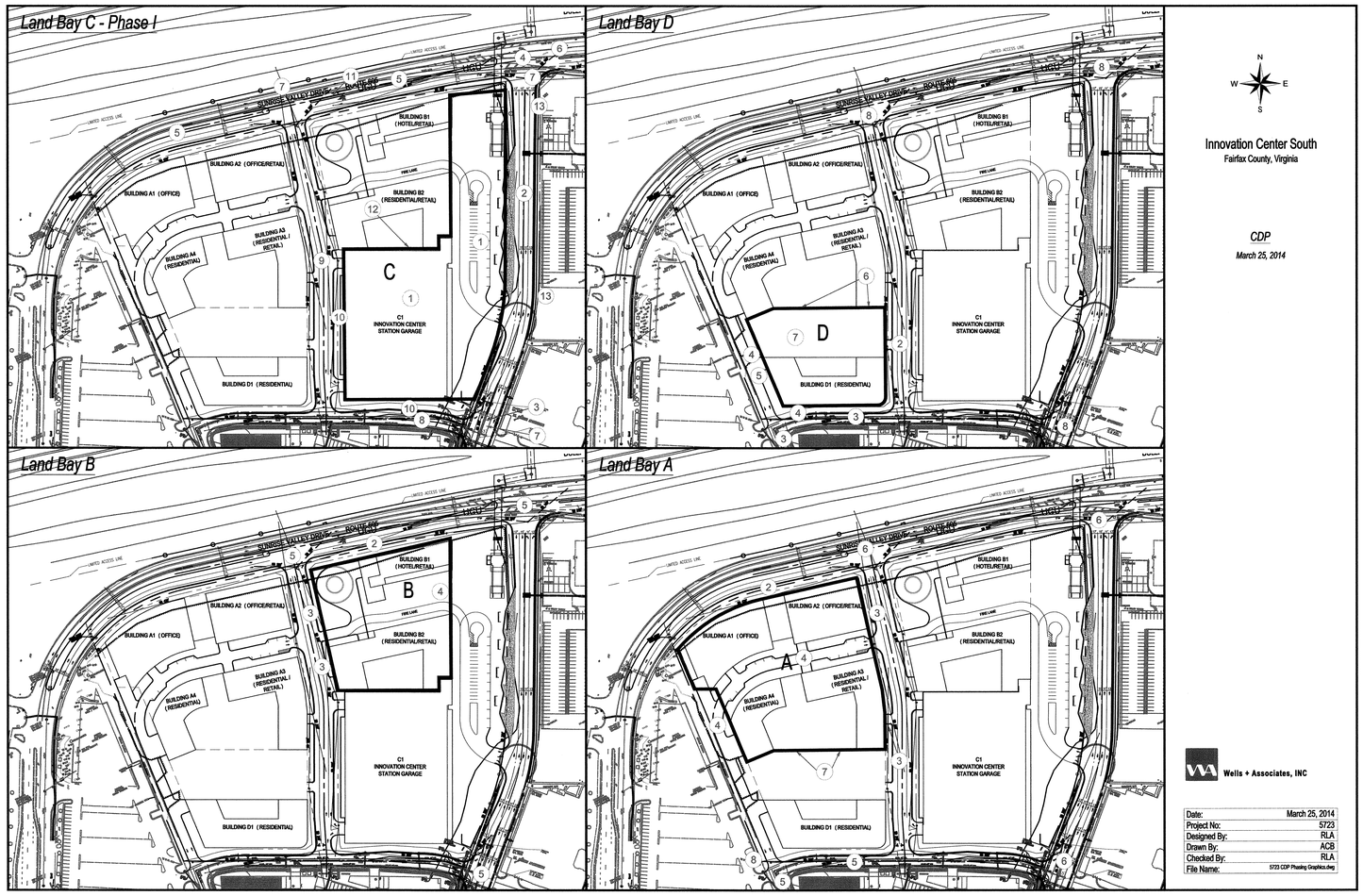
## SIGHT DISTANCE PLAN

PROJECT NO.

# C-7a

SHEET NO.

M-10831




**Land Bay C - Phase 1**

**Legend**

1 Construct Innovation Center South Garage and related facilities (kiss-n-ride, bus bays, public spaces, etc.)
2 Construct Carta Way from current terminus north to Sunrise Valley Drive
3 Remove median on existing Carta Way at new East-West Road.
4 Construct Carta Way/Sunrise Valley Drive intersection as described in proffers.
5 Reconstruct Sunrise Valley Drive from westermost Property Line to Carta Way (excluding streetscape.)
6 Construct dual left-turn lanes westbound on Sunrise Valley Drive at Carta Way (including lane transitions as needed.)
7 Prepare traffic signal warrant studies as described in proffers. Install signal(s) based on results of study and if approved by VDOT.
8 Construct new East-West Road from Carta Way to new North South Road if not constructed by others as described in proffers.
9 Construct new North-South Road from new East-West Road north to Sunrise Valley Drive.
10 Construct streetscape along Innovation Center South Garage frontage on new East-West Road and new North-South Road.
11 Construct a left-turn lane on Sunrise Valley Drive at new North-South Road.
12 Interim treatment of exposed garage wall shall be provided as described in proffers
13 Construct 5 foot sidewalk along east side of Carta Way from current terminus north to Sunrise Valley Drive.

**Land Bay B - Phasing**

**Legend**

1 All Phase 1 improvements.
2 Construct streetscape improvements along Sunrise Valley Drive frontage
3 Construct streetscape improvements along new North-South Road.
4 Construct public plaza as described in proffers.
5 Prepare traffic signal warrant studies as described in proffers. Install signal(s) based on results of study and if approved by VDOT.

**Land Bay D - Phasing**

**Legend**

1 All Phase 1 improvements.
2 Construct streetscape on North-South Road along Building D-1 frontage.
3 Extend new East-West Road to Private Drive if not constructed by others as described in proffers.
4 Construct streetscape along Building D-1 frontage of new East-West Road and Private Drive.
5 Construct Private Drive from new East-West Road north to southernmost limit of Land Bay A.
6 Interim treatment of exposed garage wall shall be provided as described in proffers.
7 Construct urban park as described in proffers.
8 Prepare traffic signal warrant studies as described in proffers. Install signal(s) based on results of study and if approved by VDOT.

**Land Bay A - Phasing[1]**

**Legend**

1 All Phase 1 improvements.
2 Construct streetscape improvements along Sunrise Valley Drive only if signal is installed at intersection of North-South Road and Sunrise Valley Drive.
3 Construct new North-South Road streetscape along Land Bay A frontage.
4 Construct internal Private Drive from new North-South Road to new East-West Road including streetscape as described in proffers. Building D streetscape along new North-South Road and Private Drive not included.
5 Construct new East-West Road from new North-South Road west then south to Sunrise Valley Drive if not constructed by others as described in proffers.
6 Prepare traffic signal warrant studies as described in proffers. Install signal(s) based on results of study and as approved by VDOT.
7 Interim treatment of exposed garage wall shall be provided as described in proffers
8 Construct entrance to ATT from Private Drive as described in proffers.

[1] *Office Buildings A1 or A2 can only be constructed if a signal has been approved for installation at the intersection of Sunrise Valley Drive and North-South Road (see Proffers.)*


Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

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703-821-2045

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
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DCS DAVIS CARTER SCOTT Ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
4/21/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE Not to Scale

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 4/21/14 | JMC | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13* | | |

REVISIONS

DRAWN BY JMC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013

TITLE

PHASING PLAN

PROJECT NO.

C-8

SHEET NO.

M-10831

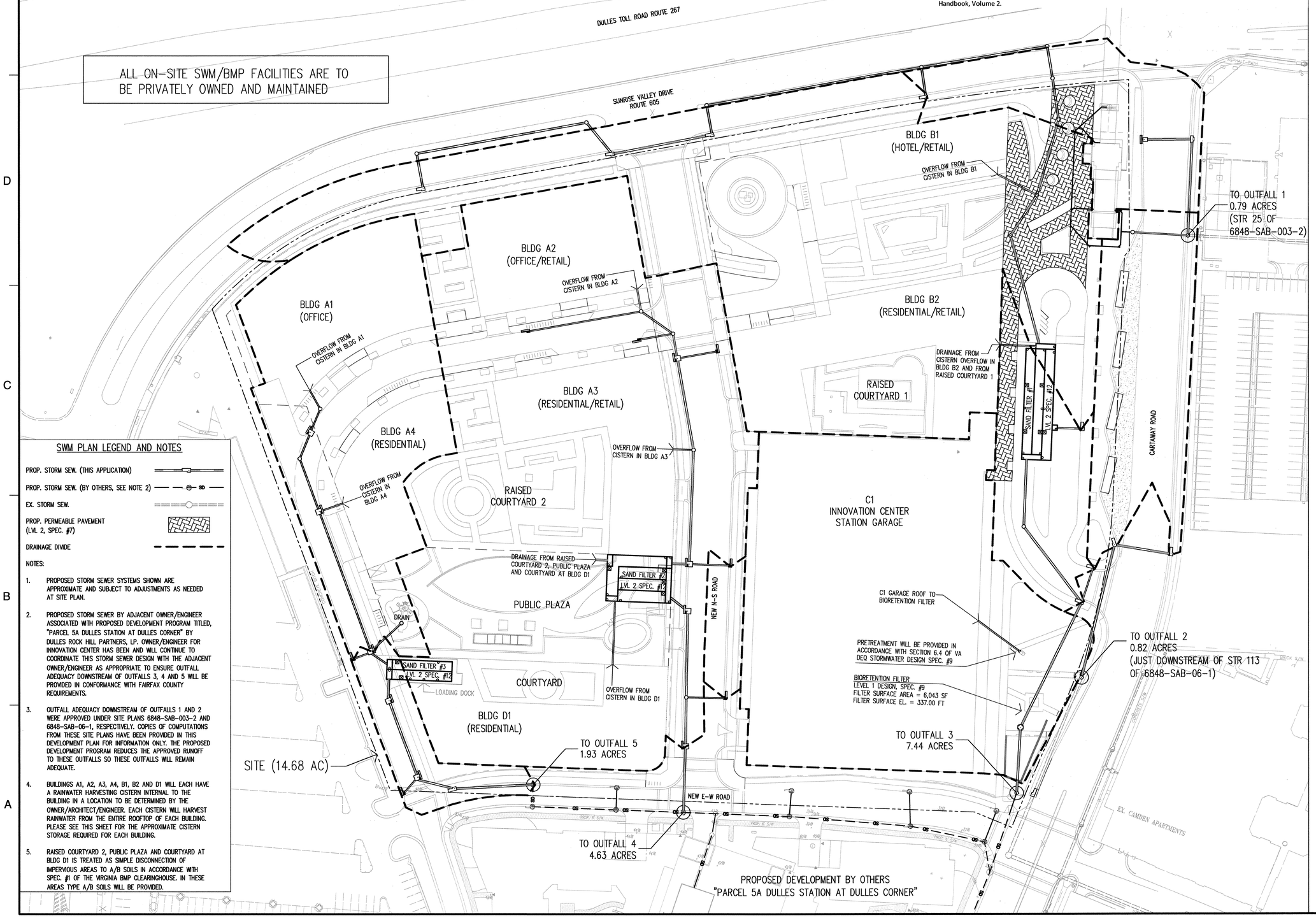
THIS SHEET FOR STORMWATER MANAGEMENT CONCEPT PURPOSES ONLY.

ALL ON-SITE SWM/BMP FACILITIES ARE TO BE PRIVATELY OWNED AND MAINTAINED

**PRELIMINARY RAINWATER HARVESTING CISTERN DESIGN**

| Building | Roof Area | | Occupancy | | | Flushing Demand* | Approximate Cistern Storage Required | RR Credit |
|---|---|---|---|---|---|---|---|---|
| | (ac) | (sf) | (# people) | (hrs/day) | (days/week) | (gallons/day) | (1000 gallons) | (%) |
| Office A1 | 0.597 | 26005 | 655 | 8 | 5 | 2333 | 40 | 77 |
| Office A2 | 0.527 | 22956 | 600 | 8 | 5 | 2138 | 25 | 76 |
| Residential A3 | 0.534 | 23261 | 640 | 8 | 7 | 3072 | 20 | 81 |
| Residential A4 | 0.335 | 14593 | 430 | 8 | 7 | 2064 | 15 | 82 |
| Hotel B1 | 0.361 | 15725 | 380 | 8 | 7 | 1824 | 15 | 81 |
| Residential B2 | 0.697 | 30361 | 626 | 8 | 7 | 3005 | 30 | 80 |
| Residential D1 | 0.573 | 24960 | 250 | 8 | 7 | 1200 | 25 | 68 |

*Gray water demand for flushing based on American Society of Plumbing Engineers (ASPE) Plumbing Engineering Design Handbook, Volume 2.




## SWM PLAN LEGEND AND NOTES

PROP. STORM SEW. (THIS APPLICATION)

PROP. STORM SEW. (BY OTHERS, SEE NOTE 2) — SD —

EX. STORM SEW.

PROP. PERMEABLE PAVEMENT (LVL 2, SPEC. #7)

DRAINAGE DIVIDE

NOTES:

1. PROPOSED STORM SEWER SYSTEMS SHOWN ARE APPROXIMATE AND SUBJECT TO ADJUSTMENTS AS NEEDED AT SITE PLAN.
2. PROPOSED STORM SEWER BY ADJACENT OWNER/ENGINEER ASSOCIATED WITH PROPOSED DEVELOPMENT PROGRAM TITLED, "PARCEL 5A DULLES STATION AT DULLES CORNER" BY DULLES ROCK HILL PARTNERS, LP. OWNER/ENGINEER FOR INNOVATION CENTER HAS BEEN AND WILL CONTINUE TO COORDINATE THIS STORM SEWER DESIGN WITH THE ADJACENT OWNER/ENGINEER AS APPROPRIATE TO ENSURE OUTFALL ADEQUACY DOWNSTREAM OF OUTFALLS 3, 4 AND 5 WILL BE PROVIDED IN CONFORMANCE WITH FAIRFAX COUNTY REQUIREMENTS.
3. OUTFALL ADEQUACY DOWNSTREAM OF OUTFALLS 1 AND 2 WERE APPROVED UNDER SITE PLANS 6848-SAB-003-2 AND 6848-SAB-06-1, RESPECTIVELY. COPIES OF COMPUTATIONS FROM THESE SITE PLANS HAVE BEEN PROVIDED IN THIS DEVELOPMENT PLAN FOR INFORMATION ONLY. THE PROPOSED DEVELOPMENT PROGRAM REDUCES THE APPROVED RUNOFF TO THESE OUTFALLS SO THESE OUTFALLS WILL REMAIN ADEQUATE.
4. BUILDINGS A1, A2, A3, A4, B1, B2 AND D1 WILL EACH HAVE A RAINWATER HARVESTING CISTERN INTERNAL TO THE BUILDING IN A LOCATION TO BE DETERMINED BY THE OWNER/ARCHITECT/ENGINEER. EACH CISTERN WILL HARVEST RAINWATER FROM THE ENTIRE ROOFTOP OF EACH BUILDING. PLEASE SEE THIS SHEET FOR THE APPROXIMATE CISTERN STORAGE REQUIRED FOR EACH BUILDING.
5. RAISED COURTYARD 2, PUBLIC PLAZA AND COURTYARD AT BLDG D1 IS TREATED AS SIMPLE DISCONNECTION OF IMPERVIOUS AREAS TO A/B SOILS IN ACCORDANCE WITH SPEC. #1 OF THE VIRGINIA BMP CLEARINGHOUSE. IN THESE AREAS TYPE A/B SOILS WILL BE PROVIDED.


HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

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1919 GALLOWS ROAD, SUITE 110
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703-621-2045

Dewberry
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8401 ARLINGTON BLVD.
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PHONE: 703.849.0100
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dcs DESIGN DAVIS CARTER SCOTT ltd

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REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 25' 50' 100'

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY SCC
APPROVED BY JWE
CHECKED BY
DATE DEC 30, 2013

TITLE

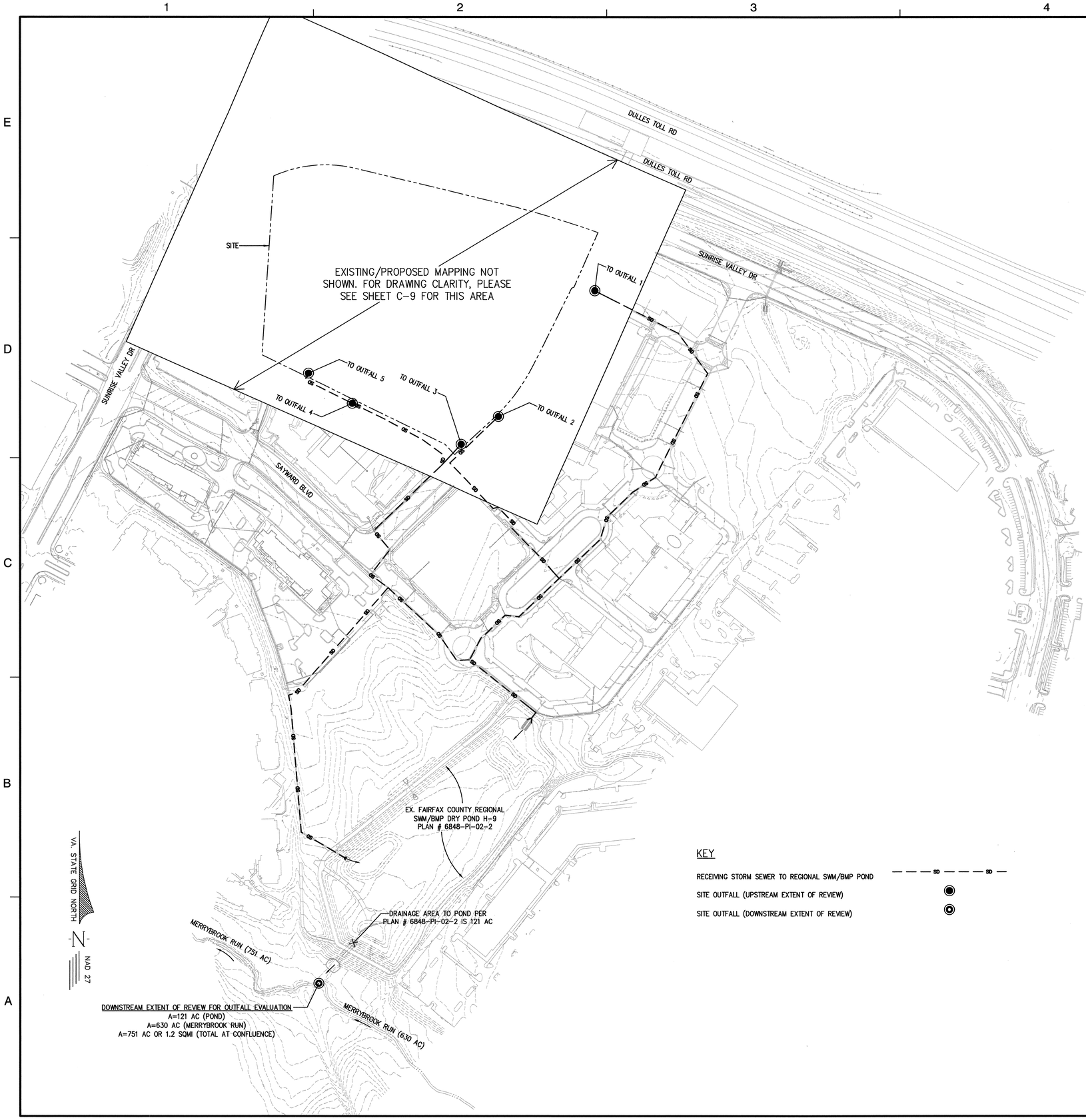
STORMWATER MANAGEMENT PLAN

PROJECT NO.

C-9

SHEET NO.

M-10831





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DESIGN

ROCKS
REAL ESTATE REINVESTMENT COMPANY, L.L.C.
REAL ESTATE DEVELOPERS SINCE 1956


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 75' 150' 300'

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY SCC
APPROVED BY JWE
CHECKED BY
DATE AUG 1, 2013

TITLE

PROJECT OUTFALL LIMITS

PROJECT NO.

C-10

SHEET NO.

M-10831

# STORMWATER MANAGEMENT PLAN NARRATIVE

As requested by Staff, the Stormwater Management Plan for this development application has been prepared in accordance with applicable criteria under Article 4 of the Fairfax County Stormwater Management Ordinance (Rev 11/14/13) and Dulles Suburban Center, Land Unit A, Proposed Comprehensive Plan Text (10/17/13).

## I. Site Area

The site area evaluated for Water Quality and Water Quantity is 14.68 ac. The site boundary is called out on Sheet C-9.

## II. Water Quality

The proposed site is located on a wooded lot, and therefore qualifies as New Development, which requires the post-development phosphorus load from the site to be reduced to 0.41 lb/ac/yr.

The post-development site generates 27.34 lb/yr of phosphorus. A total phosphorus load reduction of 21.32 lb/yr is required in order to satisfy the removal requirement. Utilizing on-site BMP's to the maximum extent practical the phosphorus load reduction achieved on-site is 17.63 lb/yr. The remaining 3.68 lb/yr of phosphorus will be removed by Fairfax County's regional extended detention dry pond, H-9, located as shown on sheet C-10. Permission to use the regional pond for BMP and SWM has been requested as recommended by Staff. Please see part IV of this narrative for pro-rata share calculations demonstrating that the regional pond can remove the remaining 3.68 lb/yr of phosphorus from the site. On-site phosphorus removal requirements have been calculated using the Virginia Runoff Reduction (VRR) Method. A summary print of the VRR worksheet is provided on Sheet C-12.

All proposed on-site BMPs have been preliminary sized and sited using standards and specifications provided on the Virginia Stormwater BMP Clearinghouse Website and in accordance with applicable restrictions and conditions of proposed amendments to Chapter 6 (Storm Drainage) of the Public Facilities Manual (PFM).

A description of all planned on-site SWM/BMP facilities is shown on Sheet C-9 with a summary of each provided in Table 1 on this sheet. On-site LID practices include 7 rainwater harvesting cisterns (i.e. one for each planned building), permeable pavement blocks, disconnected impervious areas with soil amendments, and a bioretention facility located at the south-east corner of the site. Conventional practices include 3 on-site sand filters and use of the off-site regional extended detention dry pond (H-9).

## III. Water Quantity

A. Description of outfall

There are 5 planned outfall locations where concentrated runoff leaves the site. These are shown on sheets C-9 and C-10. Downstream of the 5 outfalls, flow will be conveyed in closed storm sewer systems, which all daylight at the existing regional pond. There are no open channel between the site outfalls and the regional pond. The designed drainage area to the regional pond is 121 ac per approved plan 6848-PI-02-1. Outfow from the pond will discharge through the drop-inlet spillway and into a short open channel before draining into Merrybrook Run located approximately 90 ft downstream of the spillway. The open channel downstream of the spillway is mostly armored with rip rap and based on field observation is in stable condition. The downstream extent of review for outfall evaluation is at Merrybrook Run where the total drainage area is greater than 1 square mile.

B. How will outfall requirements be satisfied?

The receiving storm sewer systems downstream of outfalls 1 and 2 were approved under site plans 6848-SAB-003-2 and 6848-SAB-06-1, respectively. Storm sewer computations and profiles from these site plans have been made part of this CDP/FDP for information only. Runoff from the site to outfalls 1 and 2 is less than what was previously designed and approved so the receiving storm sewer systems will remain adequate.

The receiving storm sewer systems downstream of outfalls 3, 4 and 5 are being designed by the adjacent Owner/Engineer as part of the development program titled "Parcel 5A Dulles Station and Dulles Corner" by Dulles Rock Hill Partners, LP. The Owner/Engineer for this CDP/FDP has been and will continue to coordinate with the adjacent Owner/Engineer as appropriate to ensure the receiving storm sewer systems downstream of outfall 3, 4 and 5 will have sufficient capacity to convey the 10-year storm from the site in conformance Fairfax County Stormwater Management Ordinance requirements.

C. Detention

2- and 10-year, 24-hour detention for the site is provided by the existing regional pond. Permission to use the regional pond for detention has been requested as recommended by Staff. Please see part IV of this narrative for pro-rata share calculations demonstrating that the regional pond can provide the required 2- and 10-year detention for the site. As indicated by Staff, a waiver of on-site detention per PFM 6-0301.3 will be required at site plan to use the regional pond for detention.

## IV. Regional Pond H-9

Water Quality

The following calculations demonstrate that the regional pond can provide the requisite 3.68 lb/yr of phosphorus removal from the site:

**Total Phosphorus Load to Pond (TP) = P x Pj x {(Rd x Rv x A) /12} x C x 2.72 = 218 lb/yr**

Where:

| | | |
|---|---|---|
| P = | 43" | (Average Annual Rainfall Depth or Virginia) |
| Pj = | 0.90 | (Fraction of rainfall events that produce runoff) |
| Rd = | 1.0" | (1" for water quality storm) |
| Rv = | 0.79 | (Runoff coefficient to pond from regional pond plan 6848-PI-02-1) |
| A = | 121 ac | (Drainage area to pond from regional pond plan 6848-PI-02-1) |
| C = | 0.26 mg/l | (Flow-weighted mean concentration of pollutant in urban runoff for TP) |

**Total Phosphorus Removed by Pond = TP x R.E. = 32.7 lb/yr**

Where:

| | | |
|---|---|---|
| TP = | 218 /b/yr | |
| R.E. = | 0.15 | (Removal efficiency for extended detention dry pond is 15%) |

**Site Pro-Rata Fraction for Phosphorus Removed = $(Rv \times A)_{site}$ / (Rv x A) = 0.12**

Where:

| | | |
|---|---|---|
| Rvsite = | 0.80 | (Runoff coefficient of site) |
| Asite = | 14.68 ac | (Area of site) |

**Site Pro-Rata Share of Phosphorus Removed by Pond = 32.7 lb/yr x 0.12 = 3.92 lb/yr**

Because 3.92 lb/yr is greater than 3.68 lb/yr required, it has been demonstrated that the existing regional pond can provide the additional phosphorus removal to comply with the Fairfax County Stormwater Management Ordinance.

Water Quantity

The following calculations demonstrate that the regional pond can provide the requisite 2- and 10-year detention for the site:

**Total 2-year detention available in pond = 300.85 cfs (in) – 19.59 cfs (out) = 281.26 cfs**
**Total 10-year detention available in pond = 539.55 cfs (in) – 121.53 cfs (out) = 418.02 cfs**

**Site Pro-Rata Fraction for Detention = $(Rv \times A)_{site}$ / (Rv x A) = 0.12**

**Site Pro-Rata Share of 2-year detention available in pond = 281.26 cfs x 0.12 = 33.75 cfs**
**Site Pro-Rata Share of 10-year detention available in pond = 418.02 cfs x 0.12 = 50.16 cfs**

**Site 2-year detention required = 45 cfs (post dev) – 20 cfs (pre dev) = 25 cfs**
**Site 10-year detention required = 78 cfs (post dev) – 45 cfs (pre dev) = 33 cfs**

**Where:** **Site post dev flow based on Asite = 14.68ac; RCN=94; Tc=10 min**
**Site pre dev flow based on Asite = 14.68ac; RCN=77; Tc=15 min**
*To be conservative RCN was not reduced for post dev conditions accounting for runoff reduction practices.*

2-year site detention is available in pond because 33.75 cfs available > 25 cfs required.
10-year site detention is available in pond because 50.16 cfs available > 33 cfs required.

## V. SWM/BMP Compliance with Comprehensive Plan

The development program will meet the new requirements of the Proposed Comprehensive Plan by providing stormwater measures that are sufficient to attain the Rainwater Management credit as allowed as an alternative to items 1 and 2 on pages 18 and 19 of the Proposed Comprehensive Plan Text. Compliance with Item 3 on page 19 of the Proposed Comprehensive Plan Text is achieved through use of Article 4 of the Fairfax County Stormwater Management Ordinance.

Option 2 of the Rainwater Management Credit will be attained under path 2 for zero lot line projects with a minimum density of 1.5 FAR. This option requires that natural site hydrology processes be used to manage on-site runoff from the developed site for the 85th percentile rainfall using LID infrastructure to the greatest extent practical. Based on an analysis of 30 years of rainfall data from Dulles Airport, the calculated 85th percentile rainfall is 0.98 inch. The Stormwater Management Ordinance, which serves as the basin of SWM design for this project, manages the 1.0 inch rainfall so this credit is achievable.

## VI. Request for Waiver

In accordance with Section 6-0303.8 of the PFM, this development application will require a waiver from the Board of Supervisors for the use of underground SWM/BMP facilities in a residential development. The waiver request has been submitted under separate cover. The preliminary size and location of these underground facilities are shown on Sheet C-9. These facilities are proposed in order to meet the water quantity and water quality requirements of the Stormwater Management Ordinance and Comprehensive Plan. These facilities are located on-site and will be privately owned and maintained.

## VII. Limitations

The type, size and location of all SWM/BMP practices reflected in this development plan are preliminary and subject to adjustments at final engineering and site plan as appropriate.

### 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 3 & 4L) | PRC Plan (16-303 1E & 1O) |
| FDP P Districts (except PRC) (16-502 1F & 1Q) | Amendments (18-202 10F & 10I) |

[X] 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').

[X] 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet C-9, C-10

[X] 3. Provide:

| Facility Name/ Type & No. (e.g. dry pond A, infil. trench, underground vault, etc.) | On-site area served (acres) | Off-site area served (acres) | Drainage area (acres) | Footprint area (sf) | Storage Volume (cf) | If pond, dam height (ft) |
|---|---|---|---|---|---|---|
| | | (SEE TABLE 1 BELOW) | | | | |
| Totals | | | | | | |

[X] 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet C-9, C-10
Pond inlet and oulet pipe systems are shown on Sheet C-9, C-10

[X] 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet C-9, C-10
Type of maintenance access road surface noted on the plat is PAVED (asphalt, geoblock, gravel, etc.).

[X] 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet N/A, SEE LANDSCAPE SHEETS

[X] 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet C-9

[X] 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 C-9

[X] 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet C-9

[X] 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 C-2, C-3
USE OF UNDERGROUND SWM/BMP FACILITIES IN

[X] 11. A submission waiver is requested for A RESIDENTIAL DEVELOPMENT.

[X] 12. Stormwater management is not required because N/A.

TABLE 1: PROPOSED BMP FACILITIES

| 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) |
|---|---|---|---|---|---|---|
| BIORETENTION (LEVEL 1) (SEE NOTE 1 BELOW) | 2.66 | 0.00 | 2.66 | 6,045 | 8,461 | N/A |
| PERMEABLE PAVERS (LEVEL 2) | 0.55 | 0.00 | 0.55 | 23,960 | 1,897 | N/A |
| DISCONNECTION TO A/B SOILS | 0.53 | 0.00 | 0.53 | N/A | 1,828 | N/A |
| SAND FILTER 1 (LEVEL 2) | 2.81* | 0.63 | 2.81* | 4,110 | 12,153* | N/A |
| SAND FILTER 2 (LEVEL 2) | 2.23* | 0.00 | 2.23* | 3,665 | 11,970* | N/A |
| SAND FILTER 3 (LEVEL 2) | 0.71* | 0.00 | 0.71* | 1,585 | 2,520* | N/A |
| RAINWATER HARVESTING (CISTERN 1) | 0.60 | 0.00 | 0.60 | 740 | 40,000 gal | N/A |
| RAINWATER HARVESTING (CISTERN 2) | 0.53 | 0.00 | 0.53 | 475 | 25,000 gal | N/A |
| RAINWATER HARVESTING (CISTERN 3) | 0.53 | 0.00 | 0.53 | 380 | 20,000 gal | N/A |
| RAINWATER HARVESTING (CISTERN 4) | 0.34 | 0.00 | 0.34 | 300 | 15,000 gal | N/A |
| RAINWATER HARVESTING (CISTERN 5) | 0.36 | 0.00 | 0.36 | 300 | 15,000 gal | N/A |
| RAINWATER HARVESTING (CISTERN 6) | 0.70 | 0.00 | 0.70 | 560 | 30,000 gal | N/A |
| RAINWATER HARVESTING (CISTERN 7) | 0.57 | 0.00 | 0.57 | 475 | 25,000 gal | N/A |
| REGIONAL POND H-9*** | 14.68 | 106.39 | 121.07 | 7.6 AC | 53 AC-FT | 20.44 |

* AREAS DO NOT INCLUDE DRAINAGE FROM UPSTREAM BMP'S
** TREATMENT VOLUME
*** THIS IS AN EXISTING FAIRFAX COUNTY REGIONAL SWM/BMP DRY POND FACILITY, PLAN #6848-PI-02-2.

NOTE 1: BIORETENTION LEVEL 1 MEANS THE FACILITY WILL CONTAIN UNDERDRAINS AND WILL NOT RELY ON INFILTRATION.


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dcs DESIGN
DAVIS CARTER SCOTT Ltd

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INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | TIB |
| APPROVED BY | JWE |
| CHECKED BY | SCC |
| DATE | JAN 3, 2014 |

TITLE

STORMWATER MANAGEMENT PLAN NARRATIVE

PROJECT NO.

C-11

SHEET NO.

M-10831

Virginia Runoff Reduction Method New Development Worksheet – v2.7 Revised April 2013

## Site Data Summary

Total Rainfall = 43 inches

Site Land Cover Summary

| | A Soils | B Soils | C Soils | D Soils | Total | % of Total |
|---|---|---|---|---|---|---|
| **Forest** (acres) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *0.00* |
| **Turf** (acres) | 0.00 | 0.00 | 0.00 | 2.80 | 2.80 | *19.07* |
| **Impervious** (acres) | 0.00 | 0.00 | 0.00 | 11.88 | 11.88 | *80.93* |
| | | | | | 14.68 | *100.00* |

| | |
|---|---|
| **Site Rv** | 0.82 |
| **Post Development Treatment Volume (ft3)** | 43509 |
| **Post Development TP Load (lb/yr)** | 27.34 |
| **Post Development TN Load (lb/yr)** | 195.56 |
| **Total TP Load Reduction Required (lb/yr)** | 21.32 |

| | |
|---|---|
| **Total Runoff Volume Reduction ($ft^3$)** | 14775 |
| **Total TP Load Reduction Achieved (lb/yr)** | 18 |
| **Total TN Load Reduction Achieved (lb/yr)** | 123.60 |
| **Adjusted Post Development TP Load (lb/yr)** | 9.70 |
| **Remaining Phosphorous Load Reduction (Lb/yr) Required** | 3.68 |

**Drainage Area Summary**

| | D.A. A | D.A. B | D.A. C | D.A. D | D.A. E | Total |
|---|---|---|---|---|---|---|
| **Forest** (acres) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *0.00* |
| **Turf** (acres) | 1.07 | 1.09 | 0.24 | 0.00 | 0.00 | *2.40* |
| **Impervious** (acres) | 5.78 | 3.31 | 1.41 | 0.00 | 0.00 | *10.50* |
| | | | | | | *12.90* |

**Drainage Area Compliance Summary**

| | D.A. A | D.A. B | D.A. C | D.A. D | D.A. E | Total |
|---|---|---|---|---|---|---|
| **TP Load Red. (lb/yr)** | 8.81 | 6.19 | 2.63 | 0.00 | 0.00 | *17.63* |
| **TN Load Red. (lb/yr)** | 66.68 | 40.11 | 16.82 | 0.00 | 0.00 | *123.60* |

## Drainage Area A Summary

**Land Cover Summary**

| | A Soils | B Soils | C Soils | D Soils | Total | % of Total |
|---|---|---|---|---|---|---|
| **Forest** (acres) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *0.00* |
| **Turf** (acres) | 0.00 | 0.00 | 0.00 | 1.07 | 1.07 | *15.62* |
| **Impervious** (acres) | 0.00 | 0.00 | 0.00 | 5.78 | 5.78 | *84.38* |
| | | | | | 6.85 | |

**BMP Selections**

| Practice | Credit Area (acres) | | Downstream Practice |
|---|---|---|---|
| **2.h. To Rainwater Harvesting (Spec #6)** | **impervious acres captured** | **1.06** | **11.b. Filtering Practice #2** |
| **3.b. Permeable Pavement #2 (Spec #7)** | **acres of permeable pavement** | **0.29** | **11.b. Filtering Practice #2** |
| **6.a. Bioretention #1 or Urban Bioretention (Spec #9)** | **Impervious:** | **2.38** | |
| | **Turf (Pervious):** | **0.28** | |
| **11.b. Filtering Practice #2 (Spec #12)** | **Impervious:** | **2.05** | |
| | **Turf (Pervious):** | **0.76** | |

| | |
|---|---|
| **Total Impervious Cover Treated (acres)** | 5.78 |
| **Total Turf Area Treated (acres)** | 1.04 |
| **Total TP Load Reduction Achieved in D.A. A (lb/yr)** | 8.81 |
| **Total TN Load Reduction Achieved in D.A. A (lb/yr)** | 66.68 |

## Drainage Area B Summary

**Land Cover Summary**

| | A Soils | B Soils | C Soils | D Soils | Total | % of Total |
|---|---|---|---|---|---|---|
| **Forest** (acres) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *0.00* |
| **Turf** (acres) | 0.00 | 0.00 | 0.00 | 1.09 | 1.09 | *15.91* |
| **Impervious** (acres) | 0.00 | 0.00 | 0.00 | 3.31 | 3.31 | *48.32* |
| | | | | | 4.40 | |

**BMP Selections**

| Practice | Credit Area (acres) | | Downstream Practice |
|---|---|---|---|
| **2.a. Simple Disconnection to A/B Soils (Spec #1)** | **impervious acres disconnected** | **0.53** | **11.b. Filtering Practice #2** |
| **2.h. To Rainwater Harvesting (Spec #6)** | **impervious acres captured** | **1.64** | **11.b. Filtering Practice #2** |
| **11.b. Filtering Practice #2 (Spec #12)** | **Impervious:** | **1.14** | |
| | **Turf (Pervious):** | **1.09** | |

| | |
|---|---|
| **Total Impervious Cover Treated (acres)** | 3.31 |
| **Total Turf Area Treated (acres)** | 1.09 |
| **Total TP Load Reduction Achieved in D.A. B (lb/yr)** | 6.19 |
| **Total TN Load Reduction Achieved in D.A. B (lb/yr)** | 40.11 |

## Drainage Area C Summary

**Land Cover Summary**

| | A Soils | B Soils | C Soils | D Soils | Total | % of Total |
|---|---|---|---|---|---|---|
| **Forest** (acres) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *0.00* |
| **Turf** (acres) | 0.00 | 0.00 | 0.00 | 0.24 | 0.24 | *3.50* |
| **Impervious** (acres) | 0.00 | 0.00 | 0.00 | 1.41 | 1.41 | *20.58* |
| | | | | | 1.65 | |

**BMP Selections**

| Practice | Credit Area (acres) | | Downstream Practice |
|---|---|---|---|
| **2.h. To Rainwater Harvesting (Spec #6)** | **impervious acres captured** | **0.94** | **11.b. Filtering Practice #2** |
| **11.b. Filtering Practice #2 (Spec #12)** | **Impervious:** | **0.47** | |
| | **Turf (Pervious):** | **0.24** | |

| | |
|---|---|
| **Total Impervious Cover Treated (acres)** | 1.41 |
| **Total Turf Area Treated (acres)** | 0.24 |
| **Total TP Load Reduction Achieved in D.A. C (lb/yr)** | 2.63 |
| **Total TN Load Reduction Achieved in D.A. C (lb/yr)** | 16.82 |

## Channel and Flood Protection

| | Weighted CN | 1-year storm Adjusted CN | 2-year storm Adjusted CN | 10-year storm Adjusted CN |
|---|---|---|---|---|
| Target Rainfall Event (in) | | 2.70 | 3.20 | 5.20 |
| D.A. A CN | 95 | 92 | 92 | 92 |
| D.A. B CN | 94 | 90 | 90 | 91 |
| D.A. C CN | 95 | 90 | 90 | 91 |


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| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY: TIB
APPROVED BY: JWE
CHECKED BY: SCC
DATE: JAN 3, 2014

TITLE

VRR METHOD WORKSHEET SUMMARY

PROJECT NO.

C-12

SHEET NO.

M-10831

## HYDROLOGIC SOIL GROUPS & LAND USES

SCALE 1"=300'

PRE-DEVELOPMENT LAND USE LEGEND:

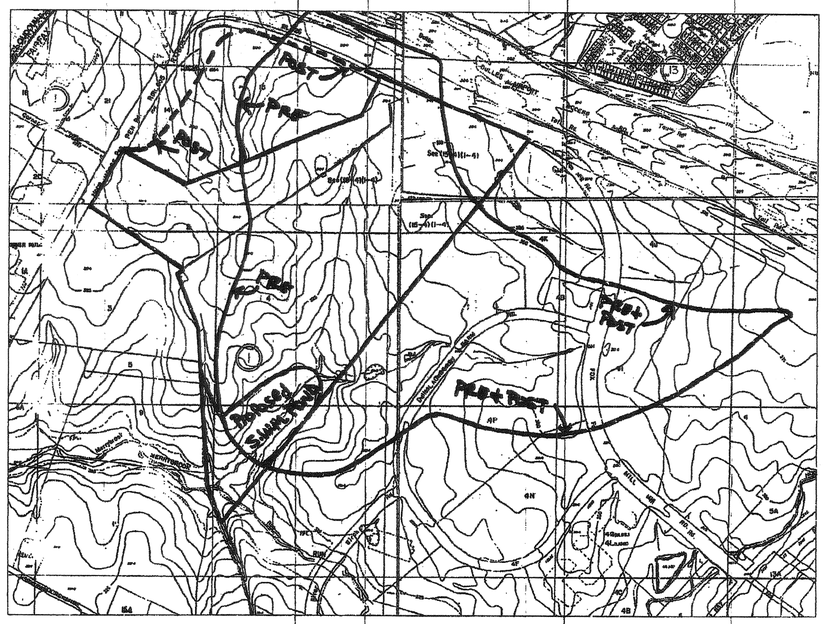
WOODS-FAIR

POST-DEVELOPMENT LAND USE LEGEND:

NOTE: SEE EXPLANATION OF POST DEVELOPMENT LAND USE IN OUTFALL NARRATIVE

## DRAINAGE DIVIDE MAP

SCALE 1"=300'



NOTE: THE ABOVE MAP WAS OBTAINED USING FAIRFAX COUNTY TOPOGRAPHY

FOR INFORMATION ONLY


Hammel, Green and Abrahamson, Inc.
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Alexandria, Virginia 22314
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Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DCS DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080


| No. | DATE | DESCRIPTION |
|---|---|---|

REVISIONS

PLAN DATES
03-27-00
05-08-00

DRAINAGE DIVIDE AND LAND & SOIL MAP
DULLES STATION AT DULLES CORNER
REGIONAL S.W.M. POND
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: AS NOTED
C.I. N/A
DATE: MARCH, 2000

SHEET 4 OF 33
FILE No. SP-1158

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE

REGIONAL POND APPROVED CALCULATIONS

PROJECT NO.

C-13

SHEET NO.

M-10831

1 2 3 4 5

# CURVE NUMBERS

| PRE-DEVELOPMENT CONDITIONS | | | | | |
|---|---|---|---|---|---|
| LAND USE | TOTAL AREA | SUB-AREA | SOIL TYPE | CN | CN * AREA |
| | | | | | |
| WOODS-FAIR | 105.13 | 16.77 | A | 36 | 603.72 |
| | | 74.65 | B | 60 | 4479.00 |
| | | 13.71 | C | 73 | 1000.83 |
| | | | | | |
| TOTALS | 105.13 | 105.13 | | | 6083.55 |

CN (WEIGHTED) = TOTAL PRODUCT/TOTAL AREA = 57.9

| ULTIMATE- DEVELOPMENT CONDITIONS | | | | | |
|---|---|---|---|---|---|
| LAND USE | TOTAL AREA | SUB-AREA | SOIL TYPE | CN | CN * AREA |
| | | | | | |
| COMMERCIAL | 58.63 | 6.58 | A | 89 | 585.62 |
| | | 44.73 | B | 92 | 41115.16 |
| | | 7.32 | C | 94 | 688.08 |
| | | | | | |
| OPEN | 1.95 | 1.95 | B | 69 | 134.55 |
| | | | | | |
| COMMERCIAL | 58.34 | 12.78 | A | 89 | 1137.42 |
| | | 34.84 | B | 92 | 3205.28 |
| | | 10.72 | C | 94 | 1007.68 |
| | | | | | |
| ROADWAY | 2.15 | 0.29 | A | 98 | 28.42 |
| | | 0.50 | B | 98 | 49.00 |
| | | 1.36 | BALNK | 98 | 133.28 |
| | | | | | |
| TOTALS | 121.07 | 121.07 | | | 11084.49 |

CN (WEIGHTED) = TOTAL PRODUCT/TOTAL AREA = 91.60

# TIME OF CONCENTRATION

| | | | PRESENT | ULTIMATE |
|---|---|---|---|---|
| SHEET FLOW | SEGMENT ID | UNIT | A-B | A-B |
| 1 SURFACE DESCRIPTION (TABLE 3-1) | | | LIGHT BRUSH | LIGHT BRUSH |
| 2 MANNING'S ROUGHNESS COEFF., n (TABLE 3-1) | | | 0.1 | 0.1 |
| 3 FLOW LENGTH, L (TOTAL L < 300 ft) | | ft | 50 | 20 |
| 4 TWO-YR 24-HR RAINFALL, P | | in | 3.2 | 3.2 |
| 5 LAND SLOPE, s | | ft/ft | 0.0185 | 0.01 |
| 6 T = .0007(nL)^.8/P^.5s^.4 | COMPUTE T | hr | 0.069 | 0.04 |
| SHALLOW CONCENTRATED FLOW | SEGMENT ID | | B-C | B-C |
| 7 SURFACE DESCRIPTION (PAVED OR UNPAVED) | | | | |
| 8 FLOW LENGTH, L | | ft | 1020 | 850 |
| 9 WATERCOURSE SLOPE, s | | ft/ft | 0.0396 | 0.0285 |
| 10 AVERAGE VELOCITY, V (FIGURE 3-1) | | ft/s | 3.2 | 2.65 |
| 11 T = L/(3600*V) | COMPUTE T | hr | 0.089 | 0.089 |
| PIPE FLOW | SEGMENT ID | | | D-E |
| 12 CROSS SECTIONAL FLOW AREA, a | | ft^2 | | ASSUME |
| 13 WETTED PERIMETER, pw | | ft | | |
| 14 HYDRAULIC RADIUS, r = a/pw | COMPUTE r | ft | | |
| 15 CHANNEL SLOPE, s | | ft/ft | | |
| 16 MANNING'S ROUGHNESS COEFF., n | | | | |
| 17 V = (1.49*r^(2/3)*s^(1/2))/n | COMPUTE V | ft/s | | 5.0 |
| 18 FLOW LENGTH, L | | ft | | 2700 |
| 19 T = L/(3600*V) | COMPUTE T | hr | | 0.15 |
| CHANNEL FLOW | SEGMENT ID | | C-F | E-F |
| 20 CROSS SECTIONAL FLOW AREA, a | | ft^2 | | |
| 21 WETTED PERIMETER, pw | | ft | | |
| 22 HYDRAULIC RADIUS, r = a/pw | COMPUTE r | ft | | |
| 23 CHANNEL SLOPE, s | | ft/ft | 0.021 | 0.021 |
| 24 MANNING'S ROUGHNESS COEFF., n | | | | |
| 25 V = (1.49*r^(2/3)*s^(1/2))/n | COMPUTE V | ft/s | | |
| 26 FLOW LENGTH, L | | ft | 4.75 | 4.75 |
| 27 T = L/(3600*V) | COMPUTE T | hr | 2700 | 200 |
| | | | 0.158 | 0.0146 |
| 28 WATERSHED OR SUBAREA, T | TOTAL T | hr | 0.316 | 0.279 |

# POST DEVELOPMENT-TR-20 INPUT/OUTPUT : 2,10,25 YEAR STORM

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************
 JOB TR-20                        FULLPRINT             SUMMARY   NOPLOTS
TITLE 001 Dulles Gateway
TITLE 002 POST-Development  2,10,25 Yr Storms
 3 STRUCT      01
 8                         297.80      0.0000     0.0000
 8                         298.00      0.6235     0.0020
 8                         300.00      2.0956     0.3035
 8                         302.00      2.8977     1.1067
 8                         304.00      3.5214     2.7050
 8                         306.00      4.0502     5.6972
 8                         307.05      4.3019     7.2525
 8                         308.00      8.1843     8.8063
 8                         309.45      19.551     13.964
 8                         310.00      25.005     15.921
 8                         311.52      121.37     22.660
 8                         312.00      167.73     24.789
 8                         312.19      184.43     25.500
 8                         313.00      456.75     29.655
 8                         314.00      983.31     34.841
 8                         316.00      2053.5     46.347
 8                         316.20      2067.6     47.651
 9 ENDTBL
 6 RUNOFF 1     01       1 0.1891      91.60       0.279
 6 RESVOR 2     01 1     2 297.80                                1 1 1 1   1
 6 RUNOFF 1 002          3 0.0070      91.20       0.083         1 1   1   1
 6 ADDHYD 4 002    2 3 4                                         1 1 1 1   1
   ENDATA
 7 INCREM 6              0.10
 7 COMPUT 7     01 002                 3.20        1.0           2 2  01  02
   ENDCMP 1
 7 COMPUT 7     01 002                 5.25        1.0           2 2  01  10
   ENDCMP 1
 7 COMPUT 7     01 002                 6.00        1.0           2 2  01  25
   ENDCMP 1
   ENDJOB 2
0*********************************END OF 80-80 LIST*********************************

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
                  (A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
                   A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)
 SECTION/   STANDARD                RAIN  ANTEC  MAIN         PRECIPITATION                           PEAK DISCHARGE
 STRUCTURE   CONTROL   DRAINAGE    TABLE  MOIST  TIME    ------------------------  RUNOFF  ----------------------------------
    ID      OPERATION    AREA        #    COND  INCREM  BEGIN  AMOUNT  DURATION  AMOUNT  ELEVATION  TIME    RATE     RATE
                       (SQ MI)                   (HR)   (HR)    (IN)    (HR)      (IN)     (FT)     (HR)   (CFS)    (CSM)
   ALTERNATE    1   STORM    2
+
 STRUCTURE  1  RUNOFF     .19      2      2    .10     .0    3.20    24.00     2.31      ---      12.06   300.85   1590.9
 STRUCTURE  1  RESVOR     .19      2      2    .10     .0    3.20    24.00     1.69    309.45     13.52    19.59    103.6
 XSECTION   2  RUNOFF     .01      2      2    .10     .0    3.20    24.00     2.24      ---      11.96    14.70   2100.0
 XSECTION   2  ADDHYD     .20      2      2    .10     .0    3.20    24.00     1.71      ---      13.47    20.28    103.4
   ALTERNATE    1   STORM   10
+
 STRUCTURE  1  RUNOFF     .19      2      2    .10     .0    5.25    24.00     4.29      ---      12.06   539.55   2853.2
 STRUCTURE  1  RESVOR     .19      2      2    .10     .0    5.25    24.00     3.59    311.52     12.45   121.53    642.7
 XSECTION   2  RUNOFF     .01      2      2    .10     .0    5.25    24.00     4.18      ---      11.96    26.24   3746.6
 XSECTION   2  ADDHYD     .20      2      2    .10     .0    5.25    24.00     3.67      ---      12.45   123.99    632.3
   ALTERNATE    1   STORM   25
+
 STRUCTURE  1  RUNOFF     .19      2      2    .10     .0    6.00    24.00     5.02      ---      12.06   626.07   3310.8
 STRUCTURE  1  RESVOR     .19      2      2    .10     .0    6.00    24.00     4.31    312.19     12.39   185.14    979.1
 XSECTION   2  RUNOFF     .01      2      2    .10     .0    6.00    24.00     4.91      ---      11.96    30.42   4346.1
 XSECTION   2  ADDHYD     .20      2      2    .10     .0    6.00    24.00     4.33      ---      12.36   188.22    959.8

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES
 XSECTION/         DRAINAGE
 STRUCTURE           AREA       STORM NUMBERS..........
    ID             (SQ MI)          2          10          25
0 STRUCTURE   1       .19
+
    ALTERNATE    1                19.59      121.53      185.14
0 XSECTION    2       .20
+
    ALTERNATE    1                20.28      123.99      188.22
1END OF   1 JOBS IN THIS RUN
```

# POST DEVELOPMENT-TR-20 INPUT/OUTPUT : 100 AND 1.5*100 YEAR STORM

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************
 JOB TR-20                        FULLPRINT             SUMMARY   NOPLOTS
TITLE 001 Dulles Gateway
TITLE 002 POST-Development  100,1.5*100,2.5*100 Yr Storms
 3 STRUCT      01
 8                         312.19      0.0000     0.0000
 8                         313.00      166.21     29.655
 8                         314.00      555.20     34.841
 8                         316.00      1C95.6     46.347
 8                         316.20      1830.8     47.651
 9 ENDTBL
 6 RUNOFF 1     01       1 0.1891      91.60       0.279         1 1   1   1
 6 RESVOR 2     01 1     2 312.16                                1 1 1 1   1
 6 RUNOFF 1 002          3 0.0070      91.20       0.083         1 1   1   1
 6 ADDHYD 4 002    2 3 4                                         1 1 1 1   1
   ENDATA
 7 INCREM 6              0.10
 7 COMPUT 7     01 002                 7.30        1.0           2 2  01  98
   ENDCMP 1
 7 COMPUT 7     01 002                 10.95       1.0           2 .  01  15
   ENDCMP 1
 7 COMPUT 7     01 002                 18.25       1.0           2 2  01  25
   ENDCMP 1
   ENDJOB 2
0*********************************END OF 80-80 LIST*********************************
SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
                  (A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
                   A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)
 SECTION/   STANDARD                RAIN  ANTEC  MAIN         PRECIPITATION                           PEAK DISCHARGE
 STRUCTURE   CONTROL   DRAINAGE    TABLE  MOIST  TIME    ------------------------  RUNOFF  ----------------------------------
    ID      OPERATION    AREA        #    COND  INCREM  BEGIN  AMOUNT  DURATION  AMOUNT  ELEVATION  TIME    RATE     RATE
                       (SQ MI)                   (HR)   (HR)    (IN)    (HR)      (IN)     (FT)     (HR)   (CFS)    (CSM)

   ALTERNATE    1   STORM   93
+
 STRUCTURE  1  RUNOFF     .19      2      2    .10     .0    7.30    24.00     6.30      ---      12.06   775.16   4099.2
 STRUCTURE  1  RESVOR     .19      2      2    .10     .0    7.30    24.00     6.28    312.97     12.48   159.85    845.3
 XSECTION   2  RUNOFF     .01      2      2    .10     .0    7.30    24.00     6.17      ---      11.95    37.63   5375.1
 XSECTION   2  ADDHYD     .20      2      2    .10     .0    7.30    24.00     6.28      ---      12.47   163.51    833.8
   ALTERNATE    1   STORM   15
+
 STRUCTURE  1  RUNOFF     .19      2      2    .10     .0   10.95    24.00     9.92      ---      12.06  1189.66   6291.2
 STRUCTURE  1  RESVOR     .19      2      2    .10     .0   10.95    24.00     9.89    314.28     12.24   715.35   3782.9
 XSECTION   2  RUNOFF     .01      2      2    .10     .0   10.95    24.00     9.73      ---      11.95    57.65   8236.4
 XSECTION   2  ADDHYD     .20      2      2    .10     .0   10.95    24.00     9.88      ---      12.24   723.07   3687.3
   ALTERNATE    1   STORM   25
+
 STRUCTURE  1  RUNOFF     .19      2      2    .10     .0   18.25    24.00    17.19      ---      12.06  [illegible] 10629.0
 STRUCTURE  1  RESVOR     .19      2      2    .10     .0   18.25    24.00    17.12    315.87     12.16  [illegible]  8577.7
 XSECTION   2  RUNOFF     .01      2      2    .10     .0   18.25    24.00    16.91      ---      11.95  [illegible] 13900.9
 XSECTION   2  ADDHYD     .20      2      2    .10     .0   18.25    24.00    17.11      ---      12.16  1640.14   8363.8
1
SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES
 XSECTION/         DRAINAGE
 STRUCTURE           AREA       STORM NUMBERS..........
    ID             (SQ MI)         15          25          98
0 STRUCTURE   1       .19
+
    ALTERNATE    1               715.35     1622.05      159.85
0 XSECTION    2       .20
+
    ALTERNATE    1               723.07     1640.14      163.51
1END OF   1 JOBS IN THIS RUN
```

# PRE DEVELOPMENT

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                        FULLPRINT             SUMMARY   NOPLOTS
TITLE 001 Dulles Gateway - Pre-Development
TITLE 002 2,10,25,100,1.5X100 Yr Storms
 6 RUNOFF 1 041          1 0.1624      57.90       0.316         1 1   1   1
   ENDATA
 7 INCREM 6              0.1
 7 COMPUT 7 041    041                 3.2         1.0           2 2  01  02
   ENDCMP 1
 7 COMPUT 7 041    041                 5.2         1.0           2 2  01  10
   ENDCMP 1
 7 COMPUT 7 041    041                 6.0         1.0           2 2  01  25
   ENDCMP 1
 7 COMPUT 7 041    041                 7.3         1.0           2 2  01  98
   ENDCMP 1
 7 COMPUT 7 041    041                 10.95       1.0           2 2  01  99
   ENDCMP 1
   ENDJOB 2
0*********************************END OF 80-80 LIST*********************************

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
                  (A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
                   A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

 SECTION/   STANDARD                RAIN  ANTEC  MAIN         PRECIPITATION                           PEAK DISCHARGE
 STRUCTURE   CONTROL   DRAINAGE    TABLE  MOIST  TIME    ------------------------  RUNOFF  ----------------------------------
    ID      OPERATION    AREA        #    COND  INCREM  BEGIN  AMOUNT  DURATION  AMOUNT  ELEVATION  TIME    RATE     RATE
                       (SQ MI)                   (HR)   (HR)    (IN)    (HR)      (IN)     (FT)     (HR)   (CFS)    (CSM)

   ALTERNATE    1   STORM    2
+
 XSECTION  41  RUNOFF     .16      2      2    .10     .0    3.20    24.00      .34      ---      12.17    20.69    127.4
   ALTERNATE    1   STORM   10
+
 XSECTION  41  RUNOFF     .16      2      2    .10     .0    5.20    24.00     1.27      ---      12.12   127.39    784.4
   ALTERNATE    1   STORM   25
+
 XSECTION  41  RUNOFF     .16      2      2    .10     .0    6.00    24.00     1.75      ---      12.11   182.34   1122.8
   ALTERNATE    1   STORM   98
+
 XSECTION  41  RUNOFF     .16      2      2    .10     .0    7.30    24.00     2.60      ---      12.10   280.65   1726.1
   ALTERNATE    1   STORM   99
+
 XSECTION  41  RUNOFF     .16      2      2    .10     .0   10.95    24.00     5.38      ---      12.09   592.76   3650.0
1

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

 XSECTION/         DRAINAGE
 STRUCTURE           AREA       STORM NUMBERS..........
    ID             (SQ MI)          2          10          25          98          99

0 XSECTION   41       .16
+
    ALTERNATE    1                20.69      127.39      182.34      280.65      592.76
1END OF   1 JOBS IN THIS RUN
```

## SWM TABULATIONS: REGIONAL DRY POND

I. DRAINAGE AREA
PRE =105.13
ULTIMATE =121.07

II. PRE DEVELOPED DISCHARGES (TR-20)
A. $Q_2$ = 20.69 CFS
B. $Q_{10}$ = 127.39 CFS
C. $Q_{25}$ = 182.34 CFS

III. POST DEVELOPED DISCHARGES (TR-20)
A. $Q_2$ = 20.28 CFS
B. $Q_{10}$ = 123.99 CFS
C. $Q_{25}$ = 188.22 CFS

IV. BMP VOLUME (DRY POND)
A. REQUIRED = 312,505.88 C.F.
A. PROVIDED = 318,505.88 C.F.

COMMONWEALTH OF VIRGINIA
KEVIN P. O'CONNOR
Lic. No. 1987
5/27/10
LAND SURVEYOR

DENOTES AS-BUILT INFORMATION BY URBAN ENGINEERING & ASSOCIATES, INC.

COMMONWEALTH OF VIRGINIA
10-12-07
LAND SURVEYOR

**THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY!**

Hammel, Green and Abrahamson, Inc.
Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3056

REVISIONS
DESCRIPTION
No. DATE

PLAN DATE
03-27-00
03-08-00
02-28-00

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

CURVE NUMBERS, TIME OF CONCENTRATION, AND TR-20
DULLES STATION AT DULLES CORNER
REGIONAL S.W.M. POND
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SITE AS-BUILT
DATE: MARCH, 2000
C.I. N/A
SCALE: N/A
SHEET 5 OF 31
FILE NO. [illegible]

FOR INFORMATION ONLY

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Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE
REGIONAL POND APPROVED CALCULATIONS

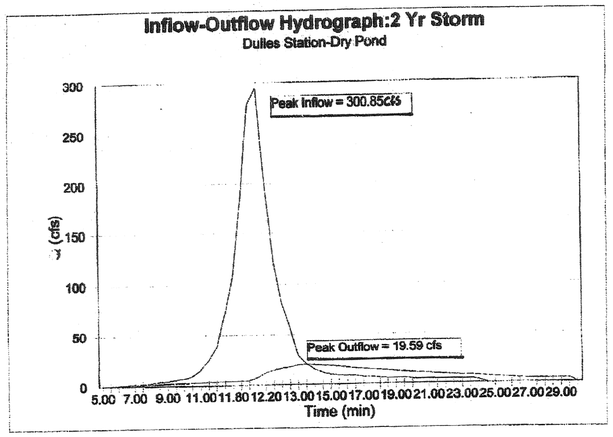
PROJECT NO.

C-14

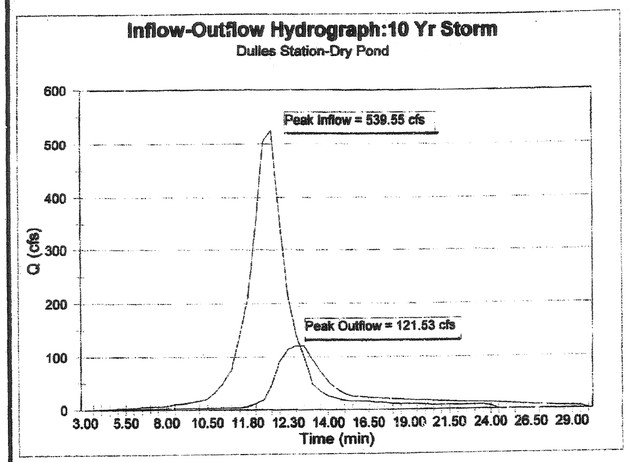
SHEET NO.

M-10831

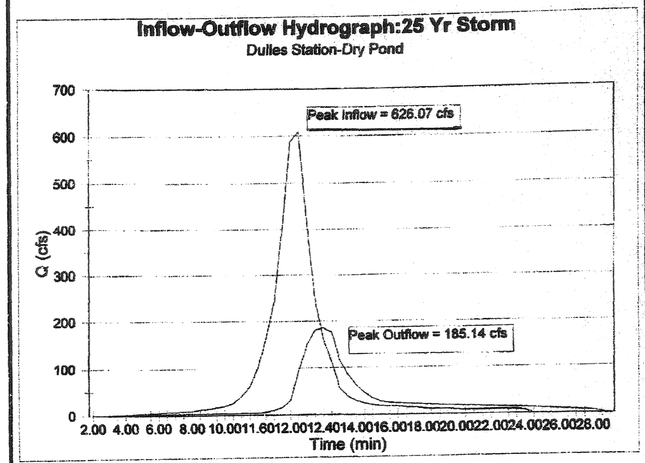
## 2-YEAR STORM



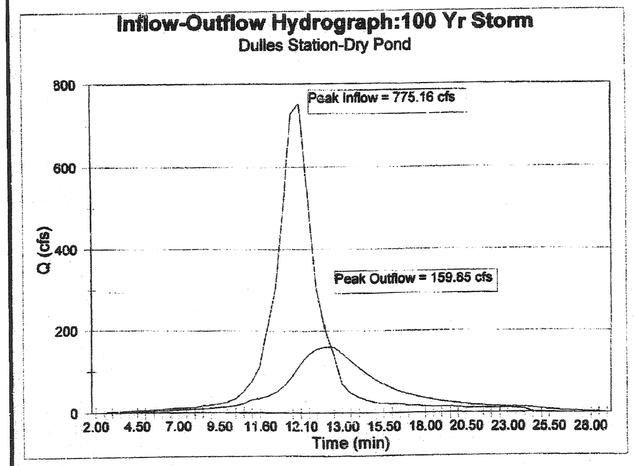

## 10-YEAR STORM



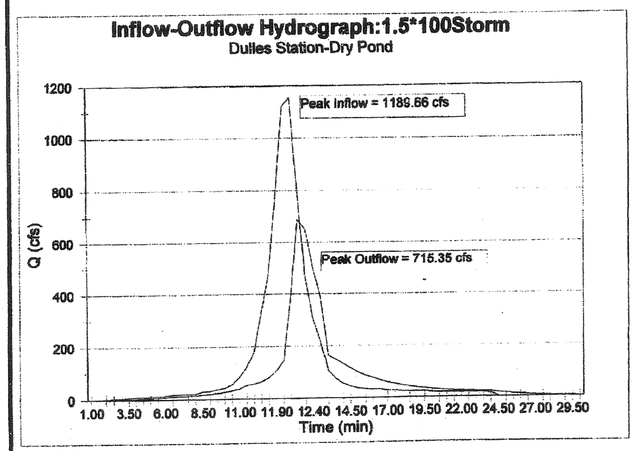

## 25-YEAR STORM




## 100-YEAR STORM




## 1.5 * 100-YEAR STORM

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COMMONWEALTH OF VIRGINIA
KEVIN P. O'CONNOR
Lic. No. 1667
5/27/10
LAND SURVEYOR

**THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY!**

FOR INFORMATION ONLY

Hammes, Green and Abrahamson, Inc.
Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7760
Facsimile 703.836.3042

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REVISIONS

PLAN DATE
09-08-00
01-30-01
03-14-01

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

INFLOW AND OUTFLOW HYDROGRAPHS
DULLES STATION AT DULLES CORNER
REGIONAL S.W.M. POND
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SITE AS-BUILT

SCALE: N/A C.I. N/A DATE: MARCH, 2000

SHEET 5A OF 31

FILE No. AB-1158

Dewberry

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8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

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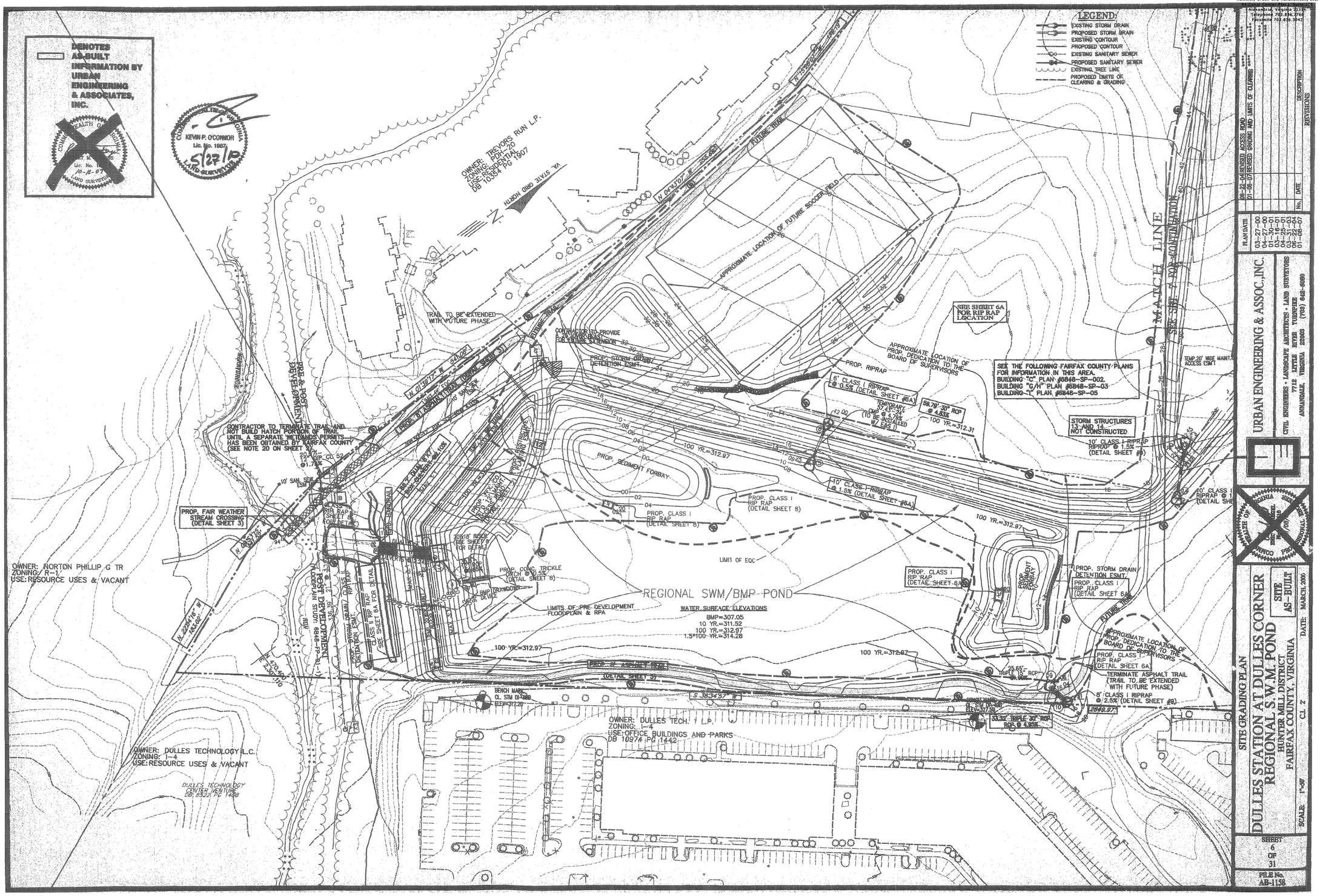
PROJECT NO.
C-15

SHEET NO.
M-10831

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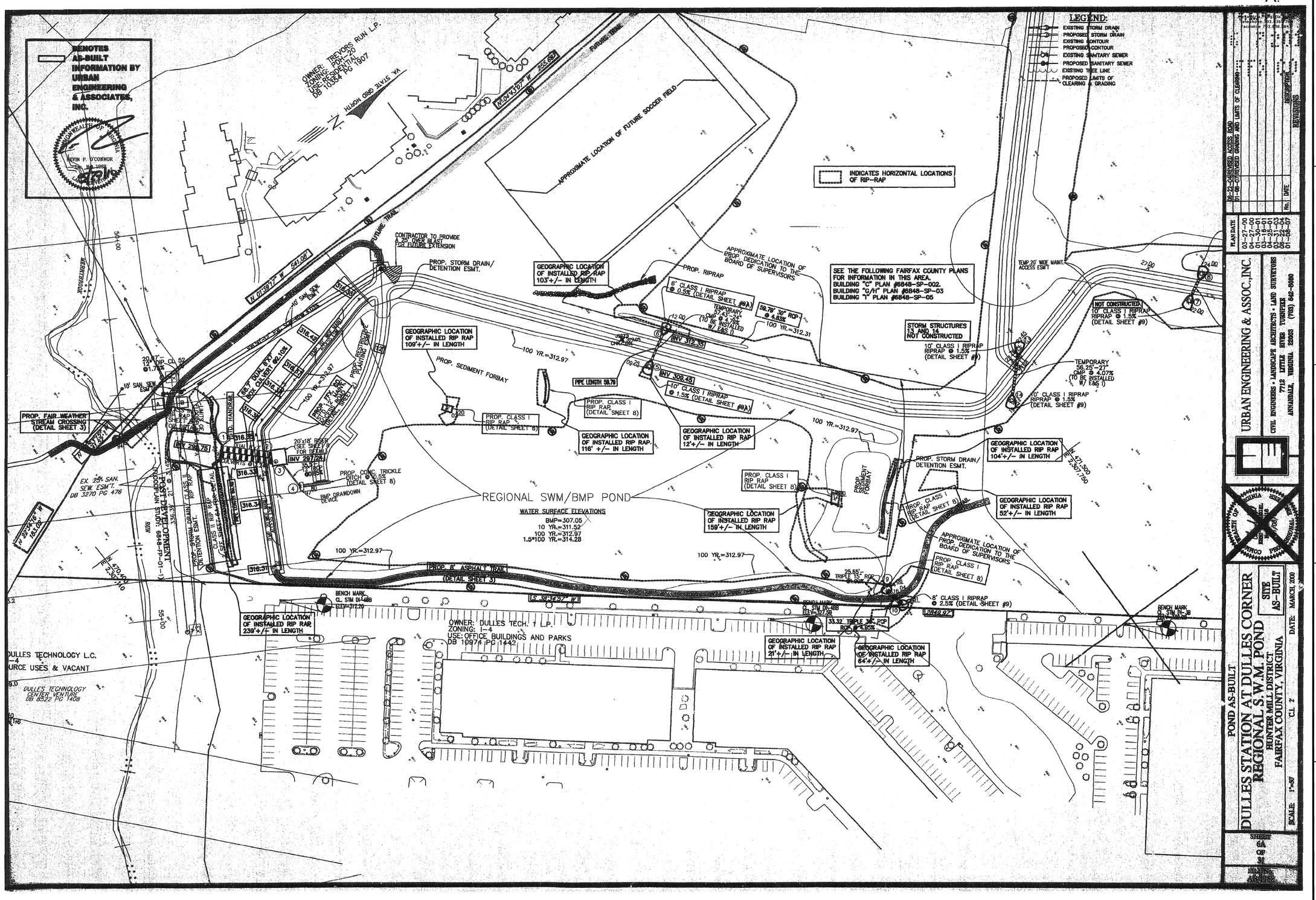
SHEET NO.

M-10831

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PROJECT NO.

C-17

SHEET NO.

M-10831

## SCHEMATIC DETAIL OF STANDARD CAST IN PLACE RECTANGULAR RISER AND TRASH RACK FOR DRY POND
N.T.S.

FILL WITH CLASS A-3 CONCRETE
TO MEET BOUYANCY REQUIREMENT:
VOLUME OF WATER= 20' * 18' * 14.38' = 5,177 FT³
WEIGHT OF WATER=(5,177 FT³ ) X (62.4LBS/FT. ) = 323,032.32 LBS.
FACTOR OF SAFTEY=1.3 * 323,032.32 LBS = 419,942.02 LBS (WEIGHT OF CONCRETE REQUIRED)
VOLUME CONCRETE = 2,860.2 FT ³
WEIGHT OF CONCRETE=(2,860.2 FT.³) (150 LBS/FT ) = 429,036.4 LBS
429,036.4 LBS > 419,942.0 LBS
USE 4.25' BASE

## DAM EMBANKMENT SLOPE PROTECTION AT TOE OF DAM
N.T.S.

## SEDIMENT FOREBAY OUTLET WEIR (TYPICAL)
N.T.S.

NOTES:
DESIGN OF THE RIP RAP FOR INFLOW TO THE SEDIMENT FOREBAYS SHALL BE 1.6' THICK CLASS I. WIDTH OF RIP RAP SHALL FOLLOW THAT OF SHEET 6.

## BMP EXTENDED DRAWDOWN DEVICE (EXAMPLE DETAIL)
N.T.S.

## TYPICAL DAM CROSS-SECTION AND DRAINAGE DETAILS

NOTE: SEE ADDITIONAL DETAIL ON SHEET 19.

## TRICKLE DITCH DETAIL
N.T.S.

W = Design width of conc. ditch should be based on the Manning = to the full capacity of the low flow orfice.
B = Design base width of conc ditch should be a min. of 18".
D = Design depth of conc. ditch should be a min. of 6"
B+3 = Bottom width of conc. ditch should be a min. size of 27".

Notes:
1. Appropriate transition secs, with a min length= to 3xW, shall be provided at the ends of the trickle ditch.
2. Curtain walls shall be provided at inlet areas where water flow is constant, & where the ditch transitons to the actual channel.
3. Min. ditch bottom grade is 0.5%

### ASBUILT

| ELEVATION (ft) | RISER | DISCHARGE 8'x7' CULVERT OUTFALL | TOTAL DISCHARGE (CFS) | VOLUME OF STORAGE (CF) |
|---|---|---|---|---|
| 312.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 312.50 | 20.82 | 18.88 | 20.82 | 21,749.30 |
| 313.00 | 330.67 | 130.68 | 330.67 | 138,036.55 |
| 314.00 | 450.92 | 500.92 | 450.92 | 381,515.55 |
| 315.00 | 1005.91 | 1009.92 | 1005.91 | 646,467.05 |
| 316.00 | 1,616.12 | 1715.21 | 1,616.12 | 939,822.55 |
| 316.33 | 1,837.70 | 1936.51 | 1936.51 | 1,044,430.57 |

| ELEVATION (ft) | DISCHARGE BMP LOW FLOW (CFS) | DISCHARGE 1.17' WEIR | DISCHARGE 14.0' WEIR | DISCHARGE 8'x7' CULVERT OUTFALL | RISER | TOTAL DISCHARGE (CFS) | VOLUME OF STORAGE (CF) |
|---|---|---|---|---|---|---|---|
| 297.90 | – | | | – | | 0 | 0.00 |
| 298.00 | – | | | – | | 0 | 300.00 |
| 300.00 | 1.89 | | | – | | 1.89 | 13,819.00 |
| 302.00 | 2.75 | | | 0.00 | | 2.75 | 47,883.16 |
| 304.00 | 3.40 | | | 762.65 | | 3.40 | 122,502.32 |
| 306.00 | 3.95 | – | | 1,078.55 | | 3.95 | 259,170.32 |
| 308.00 | 4.42 | 2.75 | | 1,320.95 | | 7.17 | 481,778.32 |
| 310.00 | 4.85 | 16.89 | – | 1,525.31 | | 21.74 | 792,403.32 |
| 312.00 | 5.25 | 37.49 | 106.54 | 1,705.34 | | 149.28 | 1,181,372.32 |
| 314.00 | 5.62 | 62.93 | 318.52 | 1,868.11 | 450.92 | 837.99 | 1,644,779.32 |
| 316.00 | 5.96 | 92.41 | 595.79 | 1,715.21 | 1,616.12 | 1,715.21 | 2,293,085.32 |
| 316.33 | 6.02 | 97.63 | 646.82 | 1,936.51 | 1,837.70 | 1,936.51 | 2,307,693.32 |

## PROFILE OF SPILLWAY FOR DULLES GATEWAY DRY POND (CATEGORY B DAM)
SCALE H:1"=50', V:1"=5'

S.W.M. NOTES:
1. RISER & OUTLET PIPE TO BE INSTALLED WITH E&S I
2. DUAL 8'x7' BOX CULVERTS SHALL BE CAST IN PLACE.

COMMONWEALTH OF VIRGINIA KEVIN P. O'CONNOR Lic. No. 1967 5/27/10 LAND SURVEYOR

DENOTES AS-BUILT INFORMATION BY URBAN ENGINEERING & ASSOCIATES, INC.

### DULLES STATION DRY POND ELEVATION VS. DISCHARGE AND STORAGE TABULATIONS 2 ,10 AND 25 YR. STORMS.

| ELEVATION (ft) | DISCHARGE BMP LOW FLOW (CFS) | DISCHARGE 1.32' WEIR | DISCHARGE 14.0' WEIR | DISCHARGE 8'x7' CULVERT OUTFALL | RISER | TOTAL DISCHARGE (CFS) | VOLUME OF STORAGE (CF) |
|---|---|---|---|---|---|---|---|
| 297.80 | 0.00 | -- | -- | 0.00 | 0.00 | 0.00 | 0 |
| 298.00 | 0.62 | -- | -- | 0.00 | 0.00 | 0.62 | 87.1 |
| 300.00 | 2.09 | -- | -- | 0.00 | 0.00 | 2.09 | 13220.4 |
| 302.00 | 2.89 | -- | -- | 381.33 | 0.00 | 2.89 | 48207.8 |
| 304.00 | 3.52 | -- | -- | 852.67 | 0.00 | 3.52 | 117829.8 |
| 306.00 | 4.05 | -- | -- | 1143.98 | 0.00 | 4.05 | 248170.0 |
| 307.05 | 4.30 | 0.00 | -- | 1270.45 | 0.00 | 4.30 | 315918.9 |
| 308.00 | 4.51 | 3.67 | -- | 1374.89 | 0.00 | 8.18 | 383602.4 |
| 309.45 | 4.82 | 14.72 | -- | 1520.53 | 0.00 | 19.55 | 608271.8 |
| 310.00 | 4.94 | 20.06 | 0.00 | 1572.25 | 0.00 | 25.00 | 693518.7 |
| 311.52 | 5.23 | 37.42 | 78.71 | 1707.05 | 0.00 | 121.37 | 987069.6 |
| 312.00 | 5.33 | 43.61 | 118.79 | 1747.46 | 0.00 | 167.74 | 1079808.8 |
| 312.19 | 5.36 | 46.15 | 136.12 | 1763.20 | 0.00 | 187.63 | 1110780.0 |
| 313.00 | 5.51 | 57.47 | 218.24 | 1828.78 | 166.21 | 447.43 | 1291771.8 |
| 314.00 | 5.69 | 72.56 | 336.00 | 1906.63 | 555.20 | 969.45 | 1517674.0 |
| 316.00 | 6.03 | 106.03 | 617.27 | 2053.51 | 1695.80 | 2053.51 | 2018875.3 |
| 316.20 | 6.06 | 109.60 | 648.39 | 2067.62 | 1830.84 | 2067.62 | 2075677.6 |

### DULLES STATION DRY POND ELEVATION VS. DISCHARGE AND STORAGE TABULATIONS 100 YR. AND 1.5x100 YR. STORMS.

| ELEVATION (ft) | RISER | DISCHARGE 8'x7' CULVERT OUTFALL | TOTAL DISCHARGE (CFS) | VOLUME OF STORAGE (CF) |
|---|---|---|---|---|
| 312.19 | 0.00 | 0.00 | 0.00 | 0.0 |
| 313.00 | 166.21 | 1828.78 | 166.21 | 1291771.8 |
| 314.00 | 555.20 | 1906.63 | 555.20 | 1517674.0 |
| 316.00 | 1695.80 | 2053.51 | 1695.80 | 2018875.3 |
| 316.20 | 1830.84 | 2067.62 | 1830.84 | 2075677.6 |

### TRICKLE DITCH DESIGN

| LOW FLOW ORIFICE FULL FLOW (cfs) | s (%) | n | DEPTH OF FLOW (ft) | VELOCITY (fps) |
|---|---|---|---|---|
| 5.26 | 0.75% | 0.013 | 0.25 | 5.78 |

PLAN DATE: 03-27-00, 04-27-00, 01-30-01, 03-26-01
No. | DATE | DESCRIPTION | REVISIONS

URBAN ENGINEERING & ASSOC.,INC.
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ANNANDALE, VIRGINIA 22003 (703) 642-8080

S.W.M. COMPUTATIONS AND DETAILS
DULLES STATION AT DULLES CORNER REGIONAL S.W.M. POND
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA
SITE AS-BUILT
DATE: MARCH, 2000
C.I. N/A
SCALE: AS NOTED
SHEET 8 OF 31
FILE No. AB-1158

Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100

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dcs DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA JOHN WILLIAM EWING Lic. No. 8053 3/27/2014 PROFESSIONAL ENGINEER

KEY PLAN

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NTS

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TITLE
REGIONAL POND APPROVED CALCULATIONS

PROJECT NO.

# C-18

SHEET NO.
M-10831

FOR INFORMATION ONLY

# BMP FACILITY DESIGN FORMAT

DULLES STATION AT DULLES CORNER — Date: 02/22/00

Plan Number: — Enginee CCT

Water Quality Control Narrative

SEE SHEET 2 FOR NARRATIVE

Watershed Data

Part 1 List All of the Subareas and "C" Factors Used in the BMP Computations.

| Subarea Designation and Description (1) | "C" (2) | Acres (3) |
|---|---|---|
| ONSITE BUSINESS/COMMERCIAL TO DRY POND | 0.80 | 116.97 |
| ONSITE OPEN | 0.30 | 1.95 |
| ONSITE ROAD TO DRY POND | 0.90 | 2.15 |
| | Total Area= | 121.07 |

NOTE: "C" Factors developed using % Imperviousness for existing and proposed conditions. "C" Factors for future uses were developed using PFM Table 6.6.

Phosphorus Removal

Part 2 Compute the Weighted Average "C" Factor For the Site.

(A)Area of Site (a) 121.07 acres

(B)Subarea Designation and Description

| Subarea Designation and Description (1) | (2) | "C" (3) | x | Acres | = | Product (4) |
|---|---|---|---|---|---|---|
| ONSITE BUSINESS/COMMERCIAL TO DRY POND | | 0.80 | x | 116.97 | = | 93.58 |
| ONSITE OPEN | | 0.30 | x | 1.95 | = | 0.59 |
| ONSITE ROAD TO DRY POND | | 0.90 | x | 2.15 | = | 1.94 |
| | | | | TOTAL AREA = 121.07 | | 96.11 |

(C)Weighted average "C" factor (b) / (a) (C)

96.11/121.07 0.79

Part 3 Compute the Total Phosphorus Removal for the Site.

| Subarea Designation (1) | BMP Type (2) | Removal Eff.(%) (3) | | Area Ratio (4) | x | "C" Factor Ratio (5) | = | Product (6) |
|---|---|---|---|---|---|---|---|---|
| ON BS/COM | DRY POND | 50.0 | x | 0.97 | x | 1.012 | = | 49.082 |
| ON POND | DRY POND | 50.0 | x | 0.016 | x | 0.379 | = | 0.3032 |
| ON ROAD | DRY POND | 50.0 | x | 0.17 | x | 1.139 | = | 0.968 |

(A)Total Phosphorus Removal (a) Total 50.35%

Part 4 Determine Compliance with Phosphorus Removal Requirement.

(A)Select Requirement (a) 50%

Water Supply Overlay District (Occoquan) 50%
Chesapeake Bay Resourse Preservation Area (New Develo 40%
Chesapeake Bay Resourse Preservation Area (Redevelopment) %

[ 1–0.9 x ("I"pre / "I"post) ] x 100

(B)If Line 3 (a) is greater than or equal to Line 4 (a), then the Phosphorus removal requirement is satisfied. Line 3 (a) Line 4 (a)

50.35% > 50% Requirement is Satisfied

Site Coverage

Part 5 Determine Compliance with Site Coverage Requirement.

Sum all the uncontrolled onsite areas and compute a weighted average "C" factor. Do not include qualifying open space.

| Subgrade Designation (1) | "C" (2) | x | Acres (3) | = | Product (4) |
|---|---|---|---|---|---|
| — | — | x | — | = | — |

(A)Total equivalent uncontrolled area (a) —

(B)Total uncontrolled area (b) —

(C)Weighted average "C" factor (b) / (a (c) —

(D)If Line 5 (b) < 20% of Line 2 (a), then the site coverage requirement is satisfied. Line 5 (a) is the equivalent offsite area for which coverage may be required.

100 x Line — / — = (d) —

Part 6 Determine the Offsite Areas for which Coverage is Required.

(A)For the offsite areas listed in Part 1 which flow to proposed onsite BMP's, compute the equivalent areas.

| Subgrade Designation (1) | "C" (2) | x | Acres (3) | = | Product (4) |
|---|---|---|---|---|---|
| | | | Total | = (a) | |

If the equivalent offsite area, Line 6 (a), draining to all proposed BMP facilities is greater than the equivalent uncontrolled area of the site shown in Line 5 (a); then, the offsite area controlled by the proposed BMP facilities may be reduced until the two are equal. Otherwise, all uncontrolled offsite areas draining to the proposed BMP facilities must be included. All offsite areas thus reduced should be marked with an "*" whenever they appear in the computations.

Storage for SWM/BMP DRY POND

Part 7 Compute the Weighted Average "C" Factor for Each Proposed BMP

(A)List the areas to be controlled by BMP

| Subarea Designation (1) | "C" (2) | x | Acres (3) | = | Product (4) |
|---|---|---|---|---|---|
| ONSITE TO DRY POND | 0.79 | x | 121.07 | = | 95.64 |
| | | (a) | 121.07 | (b) | 95.64 |

(C)Weighted average "C" factor (b) / (a) (c) 0.79

Part 8 Determine the Storage Required for SWM/BMP Ponds (Dry Pond)

(A)Extended Detention [ ]
Chart A6–40 value for BMP storage per acre
[ (4375 x "C") – 875 ] or [ 31.25 x % (a) 2581.2 cf / ac

Design 1 (48 hour drawdown)
Line 7 (a) 121.07 x 2,581.2 = 312,505.88 cf

Outlet Computations

Part 9 Determine the Required Orifice Size for Each Extended Detention Facility.

(A.1)BMP storage requirement (S) from Part 8. (a.1) 312,505.88 cf

(A.2)BMP storage provided (a.2) 319,505.88 cf

(B)Maximum Head (h) at the required BMP storage from the elevation–storage curve for the facility. (b) 9.25 ft

(C)Peak Outflow rate (Q) at the maximum head for a drawdown time of 48 hours [ Q = S / (0.5 x 3600 x 48) ].

1.16E–05 x 319,505.88 = (c) 3.706cfs

(D)Required Orifice Area line 9(C)/ [0.6 x (64.4 x h) to the0.5]

3.706/[0.6 * (64.4 * 9.25) to the 0.5] = 0.253 sq. ft.

(E)Diameter of a circular orifice

12 x 2.0 x [(line 9 (d) 0.253 / 3.1415927) to the 0.5] 6.81 inches

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N P. O'CONNOR Lic. No. 1967 LAND SURVEYOR

Hummel, Green and Abrahamson, Inc. 4 Canal Center Plaza, Suite 100 Alexandria, Virginia 22314 Telephone 703.836.7756 Facsimile 703.836.3042

REVISIONS — No. DATE DESCRIPTION

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B.M.P. COMPUTATIONS
DULLES STATION AT DULLES CORNER
REGIONAL S.W.M. POND
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SITE AS–BUILT — DATE: MARCH, 2000 — C.I. N/A — SCALE: N/A

SHEET 17 OF 31 — FILE No. SP-1158

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dcs DESIGN — DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY — REAL ESTATE DEVELOPERS SINCE 1958

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PROJECT NO.

C-19

SHEET NO.

M-10831

FOR INFORMATION ONLY

1 2 3 4 5

# NOTES/CONDITIONS:

1. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE COUNTY OF FAIRFAX.
2. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE FAIRFAX COUNTY CODE AND IN THE PUBLIC FACILITIES MANUAL AS AMENDED. FAILURE TO COMPLY WITH THE FAIRFAX COUNTY CODE, THE PUBLIC FACILITIES MANUAL, THE APPROVED PLANS, THE PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENT PERMIT SHALL BE DEEMED A VIOLATION. THIS PLAN IS SUBJECT TO PROVISIONS OF THE CURRENT PUBLIC FACILITIES MANUAL.
3. WATER DISTRIBUTION NOTE:
ALL FIRE PROTECTION SYSTEMS WHICH ARE INSTALLED IN COMPLIANCE WITH THESE PLANS AND COUNTY OF FAIRFAX ORDINANCES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES. WHEN NECESSARY TO TEMPORARILY REDUCE OR DISCONTINUE THE PROTECTION IN ORDER TO MAKE TESTS, REPAIRS, ALTERATIONS OR ADDITIONS, NOTIFY THE FAIRFAX COUNTY PUBLIC SAFETY COMMUNICATIONS CENTER AT 691-2131.
4. A PERMIT MUST BE OBTAINED FROM THE OFFICE OF THE RESIDENT ENGINEER, VIRGINIA DEPARTMENT OF TRANSPORTATION, FAIRFAX, VIRGINIA BEFORE ANY CONSTRUCTION IS STARTED ON ANY EXISTING STATE ROUTE.
5. NOTICE REQUIRED:
CONTRACTORS SHALL NOTIFY THE "MISS UTILITY" NOTIFICATION CENTER OF PROPOSED EXCAVATION, DEMOLITION, OR BLASTING AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION DEMOLITION, OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTATION ACT. IN ADDITION, NAMES AND TELEPHONE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION AS REQUIRED BY SECTION 63-2-2 OF THE FAIRFAX COUNTY CODE.

CONTACT "MISS UTILITY" AT 1-800-257-7777

5a. CONTACT THE VIRGINIA DEPARTMENT OF TRANSPORTATION TWO DAYS BEFORE EXCAVATION IN ANY STATE RIGHT OF WAY AT 359-1271.
6. COUNTY INSPECTOR SHALL BE NOTIFIED WHEN ANY IMPROVEMENTS PERTINENT TO HIS INSPECTION DUTIES ARE BEING INSTALLED. SPECIFIC REQUIREMENTS ARE:
A. SITE INSPECTOR OR AREA SUPERVISOR IS TO BE NOTIFIED AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION.
B. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED WHEN REQUESTING COMPACTION TESTS AND RESIDENTIAL OR NON-RESIDENTIAL USE PERMITS.
C. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED WHEN REQUESTING TESTS PRETAINING TO SANITARY SEWER ACCEPTANCE.
7. ALL SURFACED STREETS SHALL BE MAINTAINED IN A CLEAN CONDITION; FREE OF DUST, MUD OR SNOW AT ALL TIMES. THE DEVELOPER SHALL PROVIDE ADEQUATE MEANS TO CLEAN TRUCKS AND OTHER EQUIPMENT USING SURFACED STREETS.

## FIRE MARSHAL NOTES

REQUIRED FIRE FLOW TO BE DETERMINED BY FIRE PREVENTION DIVISION.

AVAILABLE FIRE FLOW 2500 GPM
SOURCE OF FIRE FLOW INFO F.C.W.A.
TYPE OF CONSTRUCTION SEE SHEET 3
NUMBER OF STORIES SEE SHEET 3
USE GROUP CLASSIFICATION SEE SHEET 3
BUILDING TO BE FULLY SPRINKLED YES * NO

SEE PFM CHAPTER 9, PART 2 FOR FULL INFORMATION REQUIRED

*OFFICE ONLY GARAGE IS AN OPEN STRUCTURE SEE SHEET #3 FOR BUILDING DATA

## SOLID WASTE STATEMENT

REFUSE COLLECTION AGENCY PRIVATE AGENCY
TYPE & SIZE OF CONTAINERS OR EQUIPMENT 8 CU YD COMPACTOR
FREQUENCY OF COLLECTION TWICE A WEEK

## RECYCLING SYSTEM PLAN STATEMENT

- ☐ PFM SECTION 10-407. 1A
- ■ PFM SECTION 10-407. 1B
- ☐ PFM SECTION 10-407. 1C
- ☐ NO STATEMENT REQUIRED PER PFM 10-0403

## WATER AUTHORITY NOTES

1. ALL WATER CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND PLANS OF THE FAIRFAX COUNTY WATER AUTHORITY AND WITH THE REQUIREMENTS OF THE FAIRFAX CO. PUBLIC FACILITIES MANUAL.
2. NO WATERMAIN VALVES ARE TO BE CLOSED PRIOR TO NOTIFICATION OF F.C.W.A. PH.: 289-6388, OR 389.
3. THE DEVELOPER SHALL REQUEST INSPECTION BY THE PUBLIC WATER SUPPLY AGENCY 3 DAYS PRIOR TO COMMENCING CONSTRUCTION OF ANY WATERMAINS.
4. WORKING PRESSURE SHALL BE 95 PSI.
5. THE DEVELOPER WILL BE RESPONSIBLE FOR ANY RELOCATION OR REMOVAL OF WATERMAINS AND APPURTENANCES DUE TO THE DEVELOPMENT OF THIS PROPERTY.
6. THE PROPERTY DESCRIBED ON THIS PLAN IS LOCATED IN AN AREA WHERE THE WATER PRESSURE WILL EXCEED 80 P.S.I IN ACCORDANCE WITH F.C.W.A RULES AND REGULATIONS AND THE FAIRFAX COUNTY PLUMBING CODE. A PRESSURE REGULATION VALVE MUST BE INSTALLED BY THE PROPERTY OWNER IN THE BUILDING PLUMBING SYSTEM IN ORDER TO ELIMINATE WATER HAMMER AND UNNECESSARY WASTAGE OF WATER.
7. PROVISION FOR THERMAL EXPANSION PROTECTION MAYBE REQUIRED.
8. INSIDE WATER METER SHALL BE LOCATED WITHIN A HEATED AREA

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THIS PLAN EXCEPT THOSE PREVIOUSLY APPROVED.

[signature] 01/11/07
CERTIFYING ENGINEER DATE

## CERTIFICATE OF NO CHANGE

(FOR SUBMISSION OTHER THAN THE FIRST)
I HEREBY CERTIFY THAT NO CHANGES HAVE BEEN MADE THAT WOULD AFFECT THE PRIOR APPROVAL BY THE

FIRE MARSHAL DATED 10/11/06
WATER AUTHORITY DATED 09/27/06
HEALTH DEPARTMENT DATED N/A
VDOT DATED 07/27/05
STREET LIGHTS 01/24/01
SANITARY SEWER 01/24/01

## SHEET INDEX


1. COVER SHEET
2.–3A. GENERAL NOTES AND MISCELLANEOUS DETAILS
4. OVERVIEW PLAN
~~5.–6A. GARAGE LAYOUT PLAN~~
7.–8. GEOMETRY PLAN
9.–10 GRADING PLAN
11. PLAN & PROFILE–FOX MILL ROAD
~~12.–13. SANITARY SEWER PLAN & PROFILE~~
14. WATERMAIN PROFILE AND FITTING SCHEDULE
15.–16. STORM DRAIN PROFILES
17. MISCELLANEOUS COMPUTATIONS
~~18.–19. EROSION & SEDIMENT CONTROL PHASE I~~
~~20.–21. EROSION & SEDIMENT CONTROL PHASE II~~
~~22. SEDIMENT BASIN COMPUTATIONS~~
~~23. EROSION & SEDIMENT CONTROL NOTES AND DETAILS~~
24. FIRELANE PLAN
~~25. LANDSCAPE PLAN~~
~~26. LANDSCAPE DETAILS~~
~~26.A ANTICIPATED SITE LANDSCAPE PLAN~~
27. MISCELLANEOUS PROFILES
~~28. GEOTECHNICAL NOTES AND RECOMMENDATIONS~~
~~29. MISCELLANEOUS LETTERS AND CORRESPONDENCES~~
~~30.–32. PROFFERS AND PROFFER ANALYSIS~~
~~33.–41. DEVELOPMENT PLAN~~


## CURRENT/SUBSEQUENT INFORMATION REQUIRED PRIOR TO PLAN APPROVAL

| INFORMATION | REQUIRED | NOT REQ | ID NUM | COMMENTS/SHEET NO |
|---|---|---|---|---|
| 1. SPECIAL PERMIT | | • | | |
| 2. SPECIAL EXCEPTION | | • | | |
| 3. 40% BMP WAIVER/EXCEPTION | | • | | |
| 4. SCREENING/BARRIER MOD/WAIVER | | • | | |
| 5. STORM WATER DETENTION WAIVER | | • | | |
| 6. MINOR SITE PLAN | | • | | |
| 7. SUBDIVISION WAIVER | | • | | |
| 8. SIDEWALK/TRAIL WAIVER | | • | | |
| 9. ROAD WIDENING WAIVER | | • | | |
| 10. SERVICE DRIVE WAIVER | | • | | |
| 11. FLOOD PLAIN STUDY | | • | | |
| 12. DRAINAGE STUDY | | • | | |
| 13. SOILS REPORT | • | | 6848-SR-02-2 | SHEETS 28-28A |
| 14. OFF SITE EASEMENTS | | • | | |
| 15. ON SITE EASEMENTS | • | | | |
| 16. LETTERS OF PERMISSION | | • | | |
| 17. STREET LIGHTS | • | | | |
| 18. REZONING CASE | • | | PCA/CDPA/FDPA-C-696-1 | SEE LETTER ON SHEET 29 |
| 19. DEVELOPMENT PLAN/CDP/FDP | • | | | SEE SHEETS 33-41 |
| 20. PROFFERS | • | | | SEE SHEETS 30-32 |
| 21. CONDITIONS | | • | | |
| 22. RPA DELINEATION | | • | | |
| 23. WATER QUALITY IMPACT ASSMT | | • | | |
| 24. CHES BAY ACT EXCEPTIONS | | • | | |
| 25. WETLAND PERMIT REQUIRED | | • | | |
| 26. AFFORDABLE DWELLING UNITS | | • | | |
| 27. ARCHITECTURAL REVIEW BOARD | | • | | |
| 28. BZA VARIANCE | | • | | |
| 29. BOS APPROVAL | | • | | |
| 30. PLANNING COMMISSION APPROVAL | | • | | |
| 31. PROPERTY OWNER NOTIFICATIONS | • | | | |

MODIFIED PROCESSING APPROVED ☐

## DEM REVIEW FEE COMPUTATION

| PLAN TYPE | SUBDIVISION PLANS (SD) | | SITE PLANS (SP) | | PUBLIC IMPROVE. (PI) | | COUNTY USE ONLY | |
|---|---|---|---|---|---|---|---|---|
| BASE FEE | IF LESS THAN 10 LOTS $4300 | $ | BASE FEE=$4800 | $4800 | BASE FEE=$1725 | $ | | |
| | IF 10 LOTS OR MORE ADD $1500 | $ | PLUS $890.31 PER DISTURBED ACRE (AC) OR FRACTION THEREAFTER GREATER THAN 1 AC 15.97AC X $890.31 | | | $ | | |
| | SUBTOTAL 1 | $ | SUBTOTAL MAX = $24,000 1 | $19,018.25 | SUBTOTAL 1 | $ | | |
| FEES IN ADDITION TO BASE FEE | APPLY TO ALL PLAN TYPES | | | | | | | |
| REZONING $1000 | | | | | | | | |
| SPECIAL EXCEPTION OR PERMIT $700 | | | | | | | | |
| VARIANCE $520 | | | | | | | | |
| MAX FEE RELATED TO ZONING $1700 | SUBTOTAL 2 | $ | SUBTOTAL 2 | $ | SUBTOTAL 2 | $ | | |
| PROBLEM SOIL AREA $520 | | | | 520 | | | | |
| NATURAL DRAINAGE WAY $350 | | | | | | | | |
| FLOOD PLAIN AREA $350 | | | | | | | | |
| SWM FACILITY (EA) $430 | | | | | | | | |
| BMP FACILITY (EA) $1150 | | | | | | | | |
| FEE RELATED TO DRAINAGE & SOILS | SUBTOTAL 3 | $ | SUBTOTAL 3 | $520 | SUBTOTAL 3 | $ | | |
| IMPROVEMENTS ON PI PLANS | APPLIES ONLY TO PUBLIC IMPROVEMENT PLANS | | | | QUANT(LF) X $.58 LF | FEE | | |
| SANITARY SEWER | | | | | | | | |
| STORM SEWER | | | | | | | | |
| TRAILS | | | | | | | | |
| SIDEWALKS | | | | | | | | |
| ROAD IMPROVEMENTS | | | | | | | | |
| CHANNEL IMPROVEMENTS | | | | | | | | |
| WATERLINE | | | | | | | | |
| | | | | | SUBTOTAL 4 | $ | DATE | RECEIPT # |
| TOTAL REVIEW FEE PAYABLE UPON SUBMISSION | ADD 1,2&3 ABOVE | $ | ADD 1,2&3 ABOVE | $19,538.25 | ADD 1,2,3, & 4 (ABOVE) | $ | | |
| INSERT FEE $60 PER PAGE | A | $ | A | $ | A | $ | | |
| DUE PRIOR TO APPROVAL | B | $ | B | $ | B | $ | | |
| RESUBMISSION FEE | $2300 PER SUBMISSION>2nd 3rd | $ | $2300 PER SUBMISSION>2nd 3rd | $ | 50% of ORIG FEE 3rd | $ | | |
| DUE ON SUBMISSION | 4th | $ | 4th | $ | 4th | $ | | |

## SITE TABULATIONS (SP PLANS)

1) AREA IN ACRES 15.97 AC 695,653.20 SF (DISTURBED ACRES)
2) AREA OF STREET DEDICATION 17,990.00 S.F.
3) USE OFFICE
4) NO OF LOTS N/A AREA OF LOTS N/A
5) EXISTING BUILDING GROSS FLOOR AREA N/A
6) EXISTING BUILDING NET FLOOR AREA N/A
7) PROPOSED BUILDING GROSS FLOOR AREA 186,969 SF
8) PROPOSED BUILDING NET FLOOR AREA 159,355 SF
9) TOTAL FLOOR AREA RATIO (FAR) FOR ENTIRE SITE 0.25
10) PROPOSED BUILDING HEIGHT 80 FT
11) TOTAL HANDICAPPED PARKING REQUIRED 23
12) TOTAL HANDICAPPED PARKING PROVIDED 30
13) TOTAL HANDICAPPED VAN SPACES REQUIRED 3
14) TOTAL HANDICAPPED VAN SPACES PROVIDED 4
15) LOADING SPACES REQUIRED 5
16) LOADING SPACES PROVIDED 5
17) TOTAL PARKING SPACES REQUIRED 487
18) TOTAL PARKING SPACES PROVIDED 1,303
19) OPEN SPACE REQUIRED SEE TABULATIONS SHEET #2
20) OPEN SPACE PROVIDED SEE TABULATIONS SHEET #2
21) DENSITY (LOTS PER ACRE) N/A

* SEE BUILDING DATA ON SHEET #2

## ZONING REQUIREMENTS

1) ZONING PDC
2) AVG LOT AREA N/A
3) MIN LOT AREA N/A
4) MIN LOT WIDTH N/A
5) MAX BUILDING HEIGHT 80 FT
6) MIN YARD REQUIREMENTS FRONT NONE SIDE 166.09 REAR 31° OR 51'
7) MAXIMUM FAR 1.65
8) MAXIMUM DENSITY N/A
9) OPEN SPACE REQUIRED 15%
10) ANGLE OF BULK PLANE 31° REAR (DETAIL ON PAGE #27)
11) OVERLAY DISTRICT N/A

## COMPUTATIONS FOR INTERIOR PARKING LOT LANDSCAPING

(20 OR MORE PARKING SPACES)
AREA OF PARKING LOT 51,890.31 SF
LANDSCAPING REQUIRED (5% OF ABOVE) 2,594.51 SF
LANDSCAPING PROVIDED ** SF
** SEE LETTER ON SHEET 29

## DEM INSPECTION FEE COMPUTATION

A BASE FEE: $14.16 PER DISTRUBED ACRE(DAC) PER AGREEMENT MONTH (AM) $500 MINIMUN BASE FEE-$9000 MAXIMUM BASE FEE — (1) 15.97 (DAC) X (2) 24 (AM) 383.28X $14.16 = 5,427.24

B STORM DRAINAGE: $584.20 1ST 100 LINEAR FEET (LF) PLUS $1.25 EACH ADDITIONAL (LF) OR FACTION THEREOF — (3) 1689' (LF) PIPE & OUTFALLS (4) ___ (LF) PAVED DITCHES; (3+4) 1689 (LF) - 100 LF= 1589 x $1.25=1986.25 + 584.20 = 2570.45

C STORMWATER MANAGEMENT FACILITIES: DETENTION POND(DP) GREATER THAN 6 FEET EMBANKMENT $1150 ea. (DP) 6 FEET OR LESS $575 ea. — (5) 0 (NO. DP) x $1,150.00 = 0.00; (6) 0 (NO. DP) x $ 575.00 = 0.00

D DEDICATED STREETS: $812.80 FOR 1ST 100 LINEAR FEET(LF) PLUS $3.35 FOR EACH ADDITIONAL (LF) OR FRACTION THEREOF — (7) ___ (LF) - 100 LF= ___ x $3.35 + 812.80 = 0.00

E PRIVATE STREETS AND OTHER PAVED AREAS: STREETS $660.40 FOR 1ST 100 LINEAR FEET(LF) PLUS $2.70 FOR EACH ADDITIONAL LF FRACTION THEREOF PIPESTEM DRIVEWAYS AND PARKING LOTS $0.59 PER SQUARE YARD (SY) OR FRACTION THEREOF — (8) 897 (LF) - 100 LF= 797 x $2.70 = 2,152.00 + 660.40 = 2,812.00; (9) 2 (SY) X $0.59 = 0.00

F DRIVEWAY ENTRANCES: $60 EACH — (10) 0 (NO.) X $60.00 = 0.00

G SIDEWALKS, PEDESTRIAN WALKWAYS, & TRAILS: $137.16 FOR 1ST 100 LINEAR FEET (LF) PLUS $0.69 FOR ADDITIONAL (LF) OR FRACTION THEREOF — (11) 1,047 (LF) SIDEWALKS (12) ___ (LF) TRAILS & BIKE PATHS; (11+12) 1,047 (LF) - 100 LF= 947 x $0.69 = 653.43 + 137.16 = 791.00

H SANITARY SEWER: $812.80 FOR THE 1ST 100 LINEAR FEET LF OF MAIN PLUS $2.59 FOR EACH ADDITIONAL LF OR FRACTION THEREOF — (13) 2,404 (LF) - 100 LF= 2,304 x $2.59= 5,967.36 + 812.80 = 6,780.00

I CAST IN PLACE CULVERTS: FEE BASE ON PERCENT OF BOND AMOUNT(BA): (BA) = 5.75% OF THE 1ST $50,000 OF (BA) = 2.65% OF (BA) BETWEEN $50,001 - $200,000 = 1.15% OF (BA) ABOVE $200,000 — (14) A. ___ (BA) LOWER OF A OR B X 0.0575 = 0.00; B. -50,000; C. = ___ LOWER OF C OR D X 0.0265 = 0.00; d. -200,000; e. = ___ x 0.0115 = 0.00

ALL OTHER BONDED IMPROVEMENTS: = 5.75% OF 1ST $50,000 OF (BA) = 1.15% OF BA ABOVE $50,000 — (15) f. 17,791 (BA) LOWER OF F OR G X0.0575 = 1023.00; g. -50,000; h. = ___ x 0.0115 = 0.00

TOTAL INSPECTION FEE (16) TOTAL ALL AMOUNTS IN THE 15 BOXES ONLY= 19,403.00

## IMPERVIOUS AREA ANALYSIS (ENGINEER'S USE)

| | DEVELOPMENT LEVEL PRE | POST | IMPERVIOUS AREA COMPUTATIONS PRE | POST |
|---|---|---|---|---|
| SITE AREA IN ACRES | A | A | 15.97 | 15.97 |
| COMPOSITE RATIONAL C FACTOR | C1 | C2 | 0.35 | 0.44 |
| FRACTIONAL IMPERVIOUSNESS | I1 | I2 | 0.15 | 0.265 |
| TOTAL IMPERVIOUSNESS ACRES | AxI1 | AxI2 | 2.39 | 4.23 |

INCREASE IN IMPERVIOUS ACRES (AxI2)– (AxI1)=1.84 ACRES
PRO RATA SHARE ASSESSEMENT AMOUNT $ ____
(WATERSHED RATE X INCREASE IN IMPERVIOUS ACRES)

## VICINITY MAP SCALE 1"= 500

SEE SHEET 2 FOR VICINITY MAP

NOTES:
SIDEWALK MAINTENANCE: XXXX–VDOT, 0000–FFX CO
TRAIL MAINTENANCE: 0000–FFX CO
ALL OTHER WALKS/TRAILS TO BE OWNER MAINTAINED
(8' ASPHALT TRAILS WITH PLAN ARE FAIRFAX COUNTY MAINTAINED)

## SOILS MAP/DATA SCALE 1"= 500

SEE SHEET 2 FOR SOILS MAP

## Surveyor's As-Built Certificate

I, ROBERT M. FERGUS, HEREBY CERTIFY THAT THIS AS-BUILT SITE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH CHAPTER 112, ARTICLE 17, PART 3, 17-301 OF THE ZONING ORDINANCE OF FAIRFAX COUNTY VIRGINIA. THIS AS-BUILT PLAN CONTAINS ALL INFORMATION REQUIRED BY AND CONFORMS WITH SECTION 17-301 AND REPRESENTS ACTUAL CONDITIONS ON THE SITE AS OF THE DATE BELOW FOR ONLY THOSE ITEMS REQUIRED BY THE RULES AND REGULATIONS ADOPTED BY THE COMMONWEALTH OF VIRGINIA BOARD OF ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS.

[signature]
ROBERT M. FERGUS NO. 1667

5-20-08
DATE

COMMONWEALTH OF VIRGINIA ROBERT M. FERGUS No. 1677 LAND SURVEYOR

ALL THE STORM DRAIN/SANITARY SEWER STRUCTURES FALL WITHIN THEIR RESPECTIVE EASEMENT ARE RECORDED AS FOLLOWS DB. 13416 PG. 591 AND DB. 15321 PG. 1821
☐ INDICATES AS-BUILT

| SOIL ID NUMBERS | SERIES NAME | FOUNDATION SUPPORT | SUBSURFACE DRAINAGE | SLOPE STABILITY | ERODABILITY | GEOTECHNICAL REPORT REQD |
|---|---|---|---|---|---|---|
| SEE SHEET 2 FOR SOILS DATA | | | | | | |

SOILS WITH IDENTIFICATION NUMBERS 59, 66, 69, 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.

## TAX MAP REFERENCE NUMBER(S)

| BASE # | DOUBLE CIRCLE # | LOT/PCL | BASE # | DOUBLE CIRCLE # | LOT/PCL |
|---|---|---|---|---|---|
| 15-4 | 5 | 07A1 | | | |
| | | 08A | | | |
| | | 07A2 | | | |
| 16-1 | 25 | 01 | | | |
| | | 06A | | | |

SANITARY TREATMENT PLANT BLUE PLAINS **
WATERSHED HORSEPEN CREEK

## AGREEMENTS, PERMITS, ETC

DATE ____ CONSTRUCTION PERMIT RECEIVED
\# ____ SANITARY SEWER AGREEMENT
DATE ____ CONSERVATION ESCROW AGREEMENT RECEIVED
DATE ____ AGREEMENT AND BOND APPROVED
DATE ____ AGREEMENT EXPIRES
DATE ____ BALANCE OF FEE PAID

DISTURBED AREA (DA) WITHIN WATERSHEDS:
WATERSHED 1 HORSEPEN CREEK DA 10.54 AC
WATERSHED 2 ____ DA ____
WATERSHED 3 ____ DA ____
TOTAL DISTURBED AREA 10.54 AC
NUMBER OF AFFORDABLE DWELLING UNITS (ADU): N/A
NUMBER OF STORMWATER MANAGEMENT(SWM) FACILITIES: N/A
DETENTION FACILITIES #: N/A
BMP FACILITIES #: N/A
PRIVATE SWM #: N/A

**SANITARY SEWER NOTE:
THIS SITE IS SUBJECT TO DULLES CORNER SANITARY SEWER REIMBURSEMENT CHARGES.

## ENGINEER'S/SURVEYOR'S CERTIFICATE:

THIS PROPERTY IS IN THE NAME OF DVS DULLES ____ AS RECORDED IN DEED BOOK 13416 PAGE 0591 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA OF FAIRFAX COUNTY, VA

| PROFESSIONAL SEAL AND SIGNATURE | PROFESSIONAL SEAL AND SIGNATURE | PROFESSIONAL SEAL AND SIGNATURE |
|---|---|---|
| COMMONWEALTH OF VIRGINIA ERIC S. SIEGEL No. 416 PROFESSIONAL ENGINEER (crossed out) | | |
| DATE ____ | DATE ____ | DATE ____ |

I HEREBY CERTIFY THAT ALL WETLANDS PERMITS REQUIRED BY LAW WILL BE OBTAINED PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.
By: ERIC S. SIEGEL, P.E.
Signature ____
Owner/Developer AGENT FOR THE DEVELOPER
Name Title

## DESIGNATED PLANS EXAMINER CERTIFICATE

| 1ST SUBMISSION REVIEWED & RECOMMENDED FOR SUBMISSION | 2nd SUBMISSION REVIEWED & RECOMMENDED FOR APPROVAL |
|---|---|
| ____ DESIGNATED PLANS EXAMINER | DAVID T. McELHANEY DESIGNATED PLANS EXAMINER |
| DATE: ____ REG. NO.: ____ | DATE: ____ REG. NO.: #19 |

DATE RECOMMEND APPROVAL
____ FAIRFAX COUNTY DEPT OF PUBLIC WORKS (STREET LIGHTS)
____ PUBLIC WATER AGENCY
____ LIQUID WASTE DISPOSAL
____ SPECIAL PROJECTS BRANCH (GEOTECHNIC)
____ SPECIAL PROJECTS BRANCH (WATER QUALITY/E & S/ STORM DRAINAGE)
____ FAIRFAX COUNTY FIRE MARSHAL
____ NORTHERN VIRGINIA SOIL & WATER CONSERVATION DISTRICT
____ FAIRFAX COUNTY HEALTH DEPARTMENT
____ VIRGINIA DEPARTMENT OF TRANSPORTATION
____ PLAN REVIEWER–SITE REVIEW BRANCH
____ SITE REVIEW BRANCH CHIEF

**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. REVISIONS DO NOT EXTEND THE APPROVAL PERIOD. THE APPROVAL PERIOD IS INDEPENDENT OF THE AGREEMENT EXPIRATION DATE.

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE PUBLIC SANITARY SEWER

APPROVAL NOTES / CONDITIONS:

APPROVED
COUNTY OF FAIRFAX
LAND DEVELOPMENT SERVICES
ENVIRONMENTAL AND SITE REVIEW DIVISION
BY SF [signature]
DATE 9.5.0[illegible]

CERTIFIED ARCHITECT ENGINEER OR SURVEYOR URBAN ENGINEERING & ASSOC., INC.

(●) OWNER ( ) TRUSTEE — NAME: DSV DULLES — PHONE (703) 834-9700 — ( ) A CORPORATION (●) A PARTNERSHIP ( ) AN INDIVIDUAL
ADDRESS AND ZIP CODE: 455 SPRING PARK PLACE, SUITE 100 HERNDON, VA 20170

(●) DEVELOPER ( ) CONTRACT OWNER ( ) LESSEE — NAME: DSV DULLES — PHONE (703) 834-9700 — ( ) A CORPORATION (●) A PARTNERSHIP ( ) AN INDIVIDUAL
ADDRESS AND ZIP CODE: 455 SPRING PARK PLACE, SUITE 100 HERNDON, VA 20170

DESIGN ENGINEER / SURVEYOR: URBAN ENGINEERING & ASSOC., INC. 7712 LITTLE RIVER TURNPIKE ANNANDALE, VIRGINIA 22003 PHONE: (703) 642-8080
PROJECT COORDINATOR: ERIC S. SIEGEL, P.E.
CHECK IF SUBMITTED BY DPE ●

Hammel, Green and Abrahamson, Inc. 41 Canal Center Plaza, Suite 100 Alexandria, Virginia 22314 Telephone 703 836 7766 Facsimile 703 836 3042

SITE PLAN [SITE AS-BUILT]
PROJECT NAME: DULLES STATION AT DULLES CORNER BUILDING C
DISTRICT: HUNTER MILL — FAIRFAX COUNTY, VIRGINIA

COUNTY NUMBER: 6848-SP-003
COUNTY REVIEWER: SF — PLAN CONTROL TECHNICIAN: [signature] — Design Review

SHEET 1 OF 41
AB-1158-2
REVISED: 5/5/06

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA JOHN WILLIAM EWING Lic. No. 8053 3/27/14 PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY ____
APPROVED BY ____
CHECKED BY ____
DATE ____

TITLE
OUTFALL 1 APPROVED CALCULATIONS

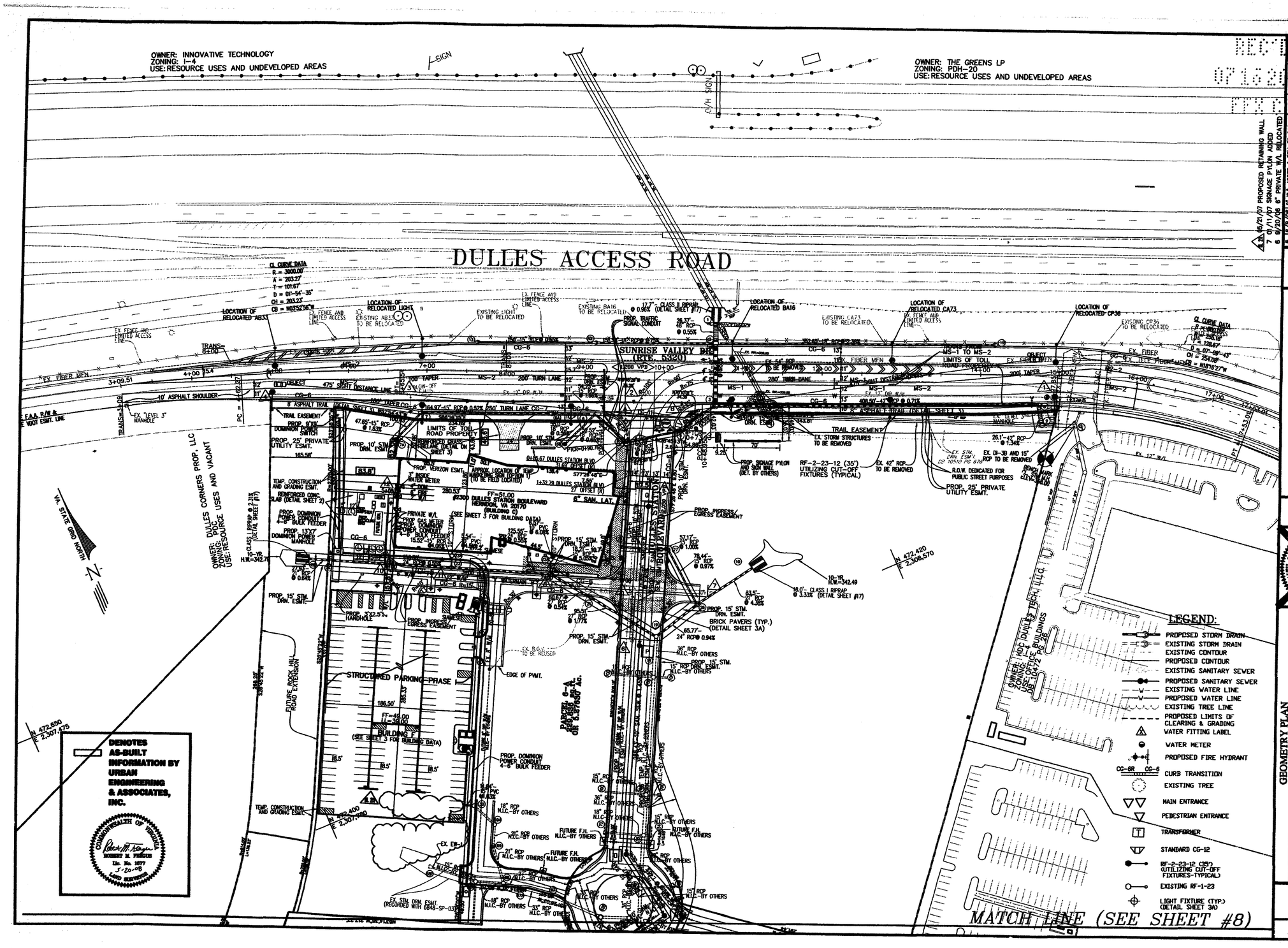
PROJECT NO.

C-20
SHEET NO.

M-10831

FOR INFORMATION ONLY

E D C B A




| No. | DATE | DESCRIPTION | REV.BY | APPROVED | DATE |
|---|---|---|---|---|---|
| 1 | 03/09/05 | ADD SIGNS | | | |
| 2 | 05/05/05 | REALIGNED NORTH CURB AND ASSOCIATED INFRASTRUCTURE | | | |
| 3 | 12/6/06 | REVISION TO GARAGE | | | |
| 4 | 4/7/06 | 8" WATERLINE ADDED | | | |
| 5 | 6/6/06 | 2" W/L ADDED & REV. TO GARAGE | | | |
| 6 | 6/20/06 | 6" PRIVATE W/L RELOCATED | | | |
| 7 | 06/11/07 | SIGNAGE PYLON ADDED | | | |
| 8 | 05/21/07 | PROPOSED RETAINING WALL | | | |

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE: 11-05-00

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE (703) 642-8080
ANNANDALE, VIRGINIA 22003

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

GEOMETRY PLAN
DULLES STATION AT DULLES CORNER BUILDING C
SITE AS-BUILT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: 1"=50'
C.I. N/A
DATE: OCTOBER, 2006

SHEET 7 OF 41
FILE No. AB-1158-2

FOR INFORMATION ONLY

Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703 836-2366
Facsimile 703 836-2942

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE
OUTFALL 1
APPROVED
CALCULATIONS

PROJECT NO.

C-21

SHEET NO.

M-10831

**Dewberry**

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
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dcs DESIGN — DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA — JOHN WILLIAM EWING — Lic. No. 8053 — 3/27/14 — PROFESSIONAL ENGINEER

KEY PLAN

SCALE

NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

DATE

TITLE

OUTFALL 1
APPROVED
CALCULATIONS

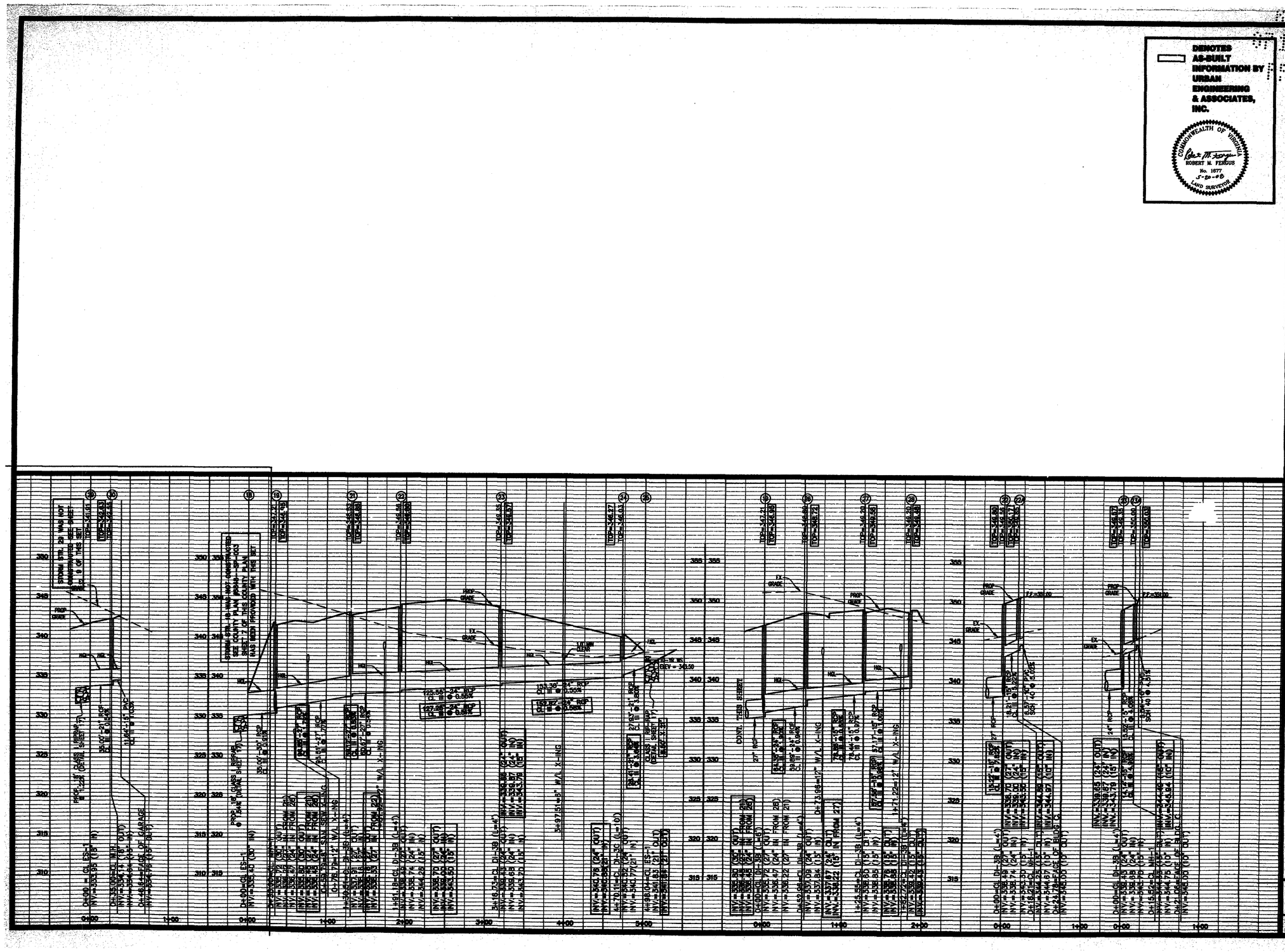
PROJECT NO.

# C-22

SHEET NO.

M-10831

FOR INFORMATION ONLY

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DCS DESIGN
DAVIS CARTER SCOTT Ltd

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REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
5/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | LNM | |
| 2 | 11/22/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

DATE

TITLE

OUTFALL 1
APPROVED
CALCULATIONS

PROJECT NO.

C-23

SHEET NO.

M-10831

# STORM DRAIN COMPUTATIONS

## STORM DRAIN COMPUTATIONS

| FROM POINT | TO POINT | AREA DRAIN "A" ACRES | RUNOFF COEF. C | C x A INCR. | C x A ACCUM | INLET TIME MIN. | RAIN FALL IN/HR | RUNOFF Q C.F.S. | INVERT ELEVATION UPPER END | INVERT ELEVATION LOWER END | LENGTH FT. | SLOPE % | DIA. IN. | CAPACITY C.F.S. | VEL. F.P.S. | FLOW TIME MIN | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX. 2 * | 9 | 9 | | 0.00 | 9.37 | 5 | 7.27 | 68.1 | 342.58 | 342.3 | 42.45 | 0.66% | 42 | 81.9 | 13.9 | 0.05 | |
| 9 | 8 | 0 | 0 | 0.00 | 9.37 | 5 | 7.27 | 68.1 | 342.05 | 341.7 | 26.08 | 1.34% | 42 | 116.9 | 12.6 | 0.03 | |
| 8 | 3 | 0.06 | 0.9 | 0.05 | 9.42 | 5 | 7.27 | 68.5 | 341.45 | 338.56 | 408.5 | 0.71% | 42 | 84.9 | 9.8 | 0.69 | |
| 10 | 3 | 3.6 | 0.35 | 1.26 | 1.26 | 5 | 7.27 | 9.2 | 341.83 | 340.31 | 38.93 | 3.90% | 21 | 31.4 | 11.3 | 0.06 | |
| 7A | 7 | 0.21 | 0.55 | 0.12 | 0.12 | 5 | 7.27 | 0.8 | 345 | 344.12 | 48 | 1.83% | 15 | 0.9 | 5.0 | 0.16 | |
| 7 | 6A | 0.28 | 0.7 | 0.20 | 0.31 | 5 | 7.27 | 2.3 | 343.87 | 342.89 | 164.97 | 0.59% | 15 | 5 | 4 | 0.69 | |
| 6B | 6 | 0.13 | 0.55 | 0.07 | 0.07 | 5 | 7.27 | 0.5 | 343.21 | 342.31 | 54.25 | 1.66% | 15 | 0.8 | 4.7 | 0.19 | |
| 6A | 6 | 0.35 | 0.62 | 0.22 | 0.53 | 5 | 7.27 | 3.9 | 342.64 | 342.31 | 55 | 0.60% | 18 | 8.2 | 4.1 | 0.22 | |
| 6 | 5 | 0.28 | 0.9 | 0.25 | 0.85 | 5 | 7.27 | 6.2 | 342.06 | 341.72 | 52.52 | 0.65% | 18 | 8.1 | 5 | 0.19 | |
| 5 | 4 | 0.11 | 0.8 | 0.09 | 0.94 | 5 | 7.27 | 6.8 | 341.47 | 341.14 | 63.37 | 0.52% | 21 | 11.8 | 5.1 | 0.2 | |
| 4 | 3 | 0.14 | 0.9 | 0.13 | 1.06 | 5 | 7.27 | 7.7 | 340.89 | 340.56 | 60.35 | 0.55% | 21 | 11.7 | 5.2 | 0.19 | |
| 3 | 2 | 0.32 | 0.9 | 0.29 | 12.03 | 5 | 7.27 | 87.5 | 338.06 | 337.59 | 79.18 | 0.59% | 48 | 106.8 | 9.5 | 0.15 | |
| 13 | 12 | 0.29 | 0.9 | 0.26 | 0.26 | 5 | 7.27 | 1.9 | 342.44 | 341.47 | 150 | 0.65% | 15 | 5.2 | 3.9 | 0.64 | |
| 12 | 2 | 0.34 | 0.9 | 0.31 | 0.57 | 5 | 7.27 | 4.1 | 341.22 | 340.09 | 151.58 | 0.75% | 18 | 9.1 | 5 | 0.5 | |
| 11 | 2 | 0.17 | 0.9 | 0.15 | 0.15 | 5 | 7.27 | 1.1 | 348.75 | 340.34 | 352.65 | 2.38% | 15 | 10 | 5.4 | 1.09 | |
| 2 | 1 | 0.39 | 0.9 | 0.35 | 13.1 | 5 | 7.27 | 95.3 | 337.34 | 337.23 | 26.37 | 0.42% | 48 | 106.8 | 9.6 | 0.03 | |
| 25 | 24 | 2.59 | 0.45 | 1.17 | 1.17 | 5 | 7.27 | 8.5 | 341.83 | 340.77 | 27.93 | 3.80% | 21 | 31 | 11 | 0.04 | |
| 24 | 23 | 0.38 | 0.85 | 0.32 | 1.49 | 5 | 7.27 | 10.8 | 340.52 | 339.68 | 153.38 | 0.55% | 24 | 16.8 | 5.7 | 0.45 | |
| BLDG. C | 23A | 0.34 | 0.9 | 0.31 | 0.31 | 5 | 7.27 | 2.2 | 345 | 344.75 | 5.54 | 4.51% | 10 | 4.7 | 8.5 | 0.01 | |
| 23A | 23 | 0 | 0 | 0.00 | 0.31 | 5 | 7.27 | 2.2 | 344.33 | 343.7 | 15.52 | 4.06% | 15 | 13.1 | 7.9 | 0.03 | |
| 23 | 22 | 0.05 | 0.85 | 0.04 | 1.84 | 5 | 7.27 | 13.4 | 339.43 | 338.74 | 125.55 | 0.55% | 24 | 16.8 | 5.9 | 0.35 | |
| BLDG. C | 22A | 0.34 | 0.9 | 0.31 | 0.31 | 5 | 7.27 | 2.2 | 345 | 344.67 | 6.57 | 5.02% | 10 | 4.9 | 8.8 | 0.01 | |
| 22A | 22 | 0 | 0 | 0.00 | 0.31 | 5 | 7.27 | 2.2 | 344.25 | 343.3 | 18.21 | 5.22% | 15 | 14.8 | 8.7 | 0.03 | |
| 22 | 21 | 0.05 | 0.85 | 0.04 | 2.19 | 5 | 7.27 | 15.9 | 338.49 | 338.16 | 60.67 | 0.54% | 27 | 22.9 | 6.2 | 0.16 | |
| 21 | 19 | 0.09 | 0.9 | 0.08 | 2.27 | 5 | 7.27 | 16.5 | 337.91 | 336.22 | 95.51 | 1.77% | 27 | 41.3 | 9.8 | 0.16 | |
| 28 | 27 | 0.04 | 0.9 | 0.04 | 0.04 | 5 | 7.27 | 0.3 | 339.42 | 338.85 | 57.17 | 1.00% | 15 | 6.5 | 2.6 | 0.37 | |
| 27 | 26 | 0.03 | 0.9 | 0.03 | 0.06 | 5 | 7.27 | 0.5 | 338.6 | 337.84 | 78.44 | 0.97% | 15 | 6.4 | 3 | 0.43 | |
| 26 | 19 | 0.01 | 0.9 | 0.01 | 0.07 | 5 | 7.27 | 0.5 | 337.09 | 336.47 | 65.77 | 0.94% | 24 | 22 | 2.9 | 0.37 | |
| 19 | 18 | 0 | 0.9 | 0.00 | 2.34 | 5 | 7.27 | 17 | 335.72 | 335.4 | 35 | 0.91% | 33 | 50.7 | 7.7 | 0.08 | |
| GAR. | 30 | 1 | 0.9 | 0.90 | 0.9 | 5 | 7.27 | 6.5 | 334.76 | 334.64 | 11.64 | 1.03% | 15 | 6.6 | 7.4 | 0.03 | |
| 30 | 29 | 0.11 | 0.5 | 0.06 | 0.96 | 5 | 7.27 | 6.9 | 334.14 | 333.95 | 35 | 0.54% | 21 | 11.7 | 5.1 | 0.11 | |

## INLET COMPUTATIONS

| NUMBER | INLET TYPE | LENGTH ft | STATION | DRAINAGE AREA Ac | CR | C x | C x W | INTENSITY in/h | Q INC cfs | Q CARRYOVER cfs | Q TOTAL cfs | S GUTTER SLOPE ft/ft | Sx CROSS SLOPE ft/ft | T SPREAD ft | W ft | W/T | Sw ft/ft | Sw/Sx | Eo | a | S'w | Se | Lt ft | P EFFECT LENGTH ft | L/Lt | d ft | E | h ft | Q INT cfs | d/h | Qb CARRYOVER cfs | T SPREAD AT SAG ft | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | DI-4EE | 4 | | 0.06 | 0.90 | 0.05 | 0.05 | 7.3 | 0.39 | 0.00 | 0.39 | 0.010 | 0.0208 | 2.06 | 2 | 0.97 | 0.083 | 4.01 | 1.00 | 3.5 | 0.15 | 0.167 | 3.7 | | 1.07 | | 1.00 | | 0.39 | | 0.00 | | |
| 3 | DI-4EE | 10 | | 0.32 | 0.90 | 0.29 | 0.29 | 7.3 | 2.09 | 0.00 | 2.09 | 0.010 | 0.0208 | 7.74 | 2 | 0.26 | 0.083 | 4.00 | 0.70 | 3.5 | 0.15 | 0.123 | 9.1 | | 1.10 | | 1.00 | | 2.09 | | 0.00 | | |
| 4 | DI-3B | 6 | | 0.14 | 0.90 | 0.13 | 0.13 | 7.3 | 0.92 | 0.00 | 0.92 | 0.013 | 0.0208 | 4.40 | 2 | 0.45 | 0.083 | 4.00 | 0.92 | 3.5 | 0.15 | 0.156 | 6.0 | | 1.01 | | 1.00 | | 0.92 | | 0.00 | | |
| 5 | DI-3B | 6 | | 0.11 | 0.80 | 0.09 | 0.09 | 7.3 | 0.64 | 0.00 | 0.64 | 0.013 | 0.0208 | 3.24 | 2 | 0.62 | 0.083 | 4.01 | 0.98 | 3.5 | 0.15 | 0.164 | 5.0 | | 1.21 | | 1.00 | | 0.64 | | 0.00 | | |
| 6 | DI-3C | 10 | | 0.19 | 0.62 | 0.12 | 0.12 | 7.3 | 0.86 | 0.00 | 0.86 | 0.001 | 0.0208 | 8.87 | 2 | | 0.083 | 3.99 | | | | | | 13.6 | | 0.15 | | 0.46 | | 0.32 | | 7.0 | |
| | | | | 0.20 | 0.62 | 0.12 | 0.12 | 7.3 | 0.90 | 0.00 | 0.90 | | | 9.06 | | | | | | | | | | | | | | | | | | | |
| 6A | DI-3B | 8 | | 0.41 | 0.62 | 0.25 | 0.25 | 7.3 | 1.85 | 0.00 | 1.85 | 0.006 | 0.0208 | 8.31 | 2 | 0.24 | 0.083 | 3.99 | 0.66 | 3.5 | 0.15 | 0.117 | 7.6 | | 1.06 | | 1.00 | | 1.85 | | 0.00 | | |
| 7 | DI-3B | 8 | | 0.44 | 0.55 | 0.24 | 0.24 | 7.3 | 1.76 | 0.00 | 1.76 | 0.006 | 0.0208 | 8.15 | 2 | 0.25 | 0.083 | 3.99 | 0.67 | 3.5 | 0.15 | 0.119 | 7.3 | | 1.09 | | 1.00 | | 1.76 | | 0.00 | | |
| 13 | DI-3B | 8 | | 0.29 | 0.90 | 0.26 | 0.26 | 7.3 | 1.90 | 0.00 | 1.90 | 0.006 | 0.0208 | 8.45 | 2 | 0.24 | 0.083 | 3.99 | 0.65 | 3.5 | 0.15 | 0.116 | 7.7 | | 1.04 | | 1.00 | | 1.90 | | 0.00 | | |
| 12 | DI-3C | 10 | | 0.16 | 0.90 | 0.14 | 0.14 | 7.3 | 1.05 | 0.00 | 1.05 | 0.001 | 0.0208 | 9.73 | 2 | | 0.083 | 4.00 | | | | | | 13.6 | | 0.16 | | 0.46 | | 0.35 | | 7.7 | |
| | | | | 0.15 | 0.90 | 0.14 | 0.14 | 7.3 | 0.98 | 0.00 | 0.98 | | | 9.44 | | | | | | | | | | | | | | | | | | | |
| 2 | DI-4EE | 10 | | 0.40 | 0.90 | 0.36 | 0.36 | 7.3 | 2.62 | 0.00 | 2.62 | 0.010 | 0.0208 | 8.65 | 2 | 0.23 | 0.083 | 3.99 | 0.64 | 3.5 | 0.15 | 0.114 | 10.4 | | 0.96 | | 1.00 | | 2.61 | | 0.01 | | |
| 11 | DI-3B | 6 | | 0.17 | 0.90 | 0.15 | 0.15 | 7.3 | 1.11 | 0.00 | 1.11 | 0.010 | 0.0208 | 5.42 | 2 | 0.37 | 0.083 | 4.01 | 0.86 | 3.5 | 0.15 | 0.146 | 6.3 | | 0.95 | | 1.00 | | 1.11 | | 0.00 | | |
| 28 | DI-3B | 4 | | 0.04 | 0.90 | 0.04 | 0.04 | 7.3 | 0.26 | 0.00 | 0.26 | 0.020 | 0.0208 | 1.54 | 2 | 1.30 | 0.083 | 3.99 | 1.00 | 3.5 | 0.15 | 0.166 | 3.9 | | 1.04 | | 1.00 | | 0.26 | | 0.00 | | |
| 27 | DI-3B | 4 | | 0.03 | 0.90 | 0.03 | 0.03 | 7.3 | 0.20 | 0.00 | 0.20 | 0.020 | 0.0208 | 1.38 | 2 | 1.45 | 0.083 | 3.99 | 1.00 | 3.5 | 0.15 | 0.166 | 3.4 | | 1.17 | | 1.00 | | 0.20 | | 0.00 | | |
| 26 | DI-3B | 4 | | 0.01 | 0.90 | 0.01 | 0.01 | 7.3 | 0.07 | 0.00 | 0.07 | 0.020 | 0.0208 | 0.91 | 2 | 2.19 | 0.083 | 3.99 | 1.00 | 3.5 | 0.15 | 0.166 | 2.2 | | 1.86 | | 1.00 | | 0.07 | | 0.00 | | |
| 21 | DI-3B | 4 | | 0.09 | 0.90 | 0.08 | 0.08 | 7.3 | 0.59 | 0.00 | 0.59 | 0.010 | 0.0120 | 4.32 | 2 | 0.46 | 0.083 | 6.92 | 0.96 | 3.7 | 0.15 | 0.160 | 4.5 | | 0.89 | | 0.98 | | 0.58 | | 0.01 | | |
| 22 | DI-3B | 4 | | 0.05 | 0.85 | 0.04 | 0.04 | 7.3 | 0.31 | 0.00 | 0.31 | 0.010 | 0.0120 | 1.86 | 2 | 1.07 | 0.083 | 6.92 | 1.00 | 3.7 | 0.15 | 0.166 | 3.4 | | 1.19 | | 1.00 | | 0.31 | | 0.00 | | |
| 23 | DI-3B | 4 | | 0.05 | 0.85 | 0.04 | 0.04 | 7.3 | 0.31 | 0.00 | 0.31 | 0.010 | 0.0120 | 1.86 | 2 | 1.07 | 0.083 | 6.92 | 1.00 | 3.7 | 0.15 | 0.166 | 3.4 | | 1.19 | | 1.00 | | 0.31 | | 0.00 | | |
| 24 | DI-3C | 10 | | 0.19 | 0.85 | 0.16 | 0.16 | 7.3 | 1.17 | 0.00 | 1.17 | 0.001 | 0.0272 | 8.74 | 2 | | 0.083 | 3.05 | | | | | | 13.6 | | 0.18 | | 0.46 | | 0.38 | | 6.5 | |
| | | | | 0.19 | 0.85 | 0.16 | 0.16 | 7.3 | 1.17 | 0.00 | 1.17 | | | 8.74 | | | | | | | | | | | | | | | | | | | |

## HYDRAULIC GRADE LINE ANALYSIS

| INLET STATION (1) | Outlet Water Surface Elev. (2) | Do in (3) | Qo cfs (4) | Lo ft (5) | Sfo % (6) | Hf ft (7) | Vo (8) | Ho (9) | Qi (10) | Vi (11) | QiVi (12) | JUNCTION LOSS Vi²/2g | Hi (13) | Angle (14) | Hd (15) | Ht (16) | 1.3 Ht (17) | 0.5 Ht (18) | FINAL H (19) | Inlet Water Surface Elev. (20) | RIM ELEV. (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 342.16 | 48 | 92.9 | 20 | 0.42 | 0.08 | 7.4 | 0.21 | | | | | 0.25 | | 0.12 | 0.58 | 0.76 | 0.38 | 0.46 | 342.62 | 349.17 |
| from 3 | | 48 | | | | | | | 85.1 | 6.8 | 576 | 0.71 | 0.25 | 0 | 0.00 | | | | | | |
| from 11 | | 15 | | | | | | | 1.1 | 0.9 | 1 | 0.01 | 0.00 | 90 | 0.01 | | | | | | |
| from 12 | | 15 | | | | | | | 4.1 | 3.3 | 14 | 0.17 | 0.06 | 90 | 0.12 | | | | | | |
| 11 | 342.62 | 15 | 1.1 | 353 | 0.03 | 0.10 | 0.9 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 342.72 | 352.58 |
| | | 0 | | | | | | | 0 | 0.0 | 0 | 0.00 | | 0 | | | | | | | |
| 12 | 342.62 | 15 | 4.1 | 152 | 0.40 | 0.61 | 3.3 | 0.04 | | | | | 0.02 | | 0.00 | 0.06 | 0.08 | 0.04 | 0.65 | 343.27 | 348 |
| | | 15 | | | | | | | 2.1 | 1.7 | 4 | 0.05 | | 0 | | | | | | | |
| 13 | 344.63 | 15 | 2.1 | 150 | 0.11 | 0.16 | 1.7 | 0.01 | | | | | 0.00 | | 0.00 | 0.01 | 0.01 | 0.01 | 0.17 | 344.80 | 348.39 |
| | | 0 | | | | | | | 0 | 0.0 | 0 | 0.00 | | 0 | | | | | | | |
| 3 | 342.62 | 48 | 85.1 | 85.6 | 0.35 | 0.30 | 6.8 | 0.18 | | | | | 0.28 | | 0.55 | 1.00 | 1.31 | 0.65 | 0.95 | 343.57 | 349.27 |
| from 10 | | 21 | | | | | | | 9.2 | 3.8 | 35 | 0.23 | 0.08 | 19.1 | 0.03 | | | | | | |
| from 4 | | 18 | | | | | | | 5.4 | 3.1 | 17 | 0.14 | 0.05 | 55.7 | 0.07 | | | | | | |
| from 8 | | 42 | | | | | | | 68.5 | 7.1 | 488 | 0.79 | 0.28 | 90 | 0.55 | | | | | | |
| 10 | 343.57 | 21 | 9.2 | 26.9 | 0.34 | 0.09 | 3.8 | 0.06 | | | | | 0.00 | | 0.00 | 0.06 | 0.07 | 0.04 | 0.13 | 343.70 | 343.11 |
| | | 0 | | | | | | | 0 | 0.0 | 0 | 0.00 | | 0 | | | | | | | |
| 8 | 343.57 | 42 | 68.5 | 409 | 0.46 | 1.88 | 7.1 | 0.20 | | | | | 0.27 | | 0.52 | 0.98 | 1.28 | 0.64 | 2.52 | 346.09 | 353.6 |
| | | 42 | | | | | | | 68.1 | 7.1 | 482 | 0.78 | | 80.6 | | | | | | | |
| 9 | 346.09 | 42 | 68.1 | 26.1 | 0.46 | 0.12 | 7.1 | 0.19 | | | | | 0.27 | | 0.51 | 0.97 | 1.27 | 0.63 | 0.75 | 346.84 | 356.36 |
| | | 42 | | | | | | | 68.1 | 7.1 | 482 | 0.78 | | 78.6 | | | | | | | |
| ex. 2 | 346.84 | 42 | 68.1 | 42.5 | 0.46 | 0.19 | 7.1 | 0.19 | | | | | 0.17 | | 0.31 | 0.67 | 0.87 | 0.44 | 0.63 | 347.47 | 358 |
| from ex. 2e | | 18 | | | | | | | 5.07 | 2.9 | 15 | 0.13 | 0.04 | 74 | 0.08 | | | | | | |
| from ex. 2a | | 24 | | | | | | | 10.1 | 3.2 | 32 | 0.16 | 0.06 | 12 | 0.01 | | | | | | |
| from ex. 8 | | 42 | | | | | | | 53.5 | 5.6 | 297 | 0.48 | 0.17 | 77 | 0.31 | | | | | | |
| 4 | 343.57 | 18 | 5.4 | 60.4 | 0.26 | 0.16 | 3.1 | 0.04 | | | | | 0.03 | | 0.01 | 0.08 | 0.11 | 0.05 | 0.21 | 343.78 | 348.52 |
| | | 18 | | | | | | | 4.4 | 2.5 | 11 | 0.10 | | 19.3 | | | | | | | |
| 5 | 343.78 | 18 | 4.4 | 60.3 | 0.17 | 0.11 | 2.5 | 0.02 | | | | | 0.02 | | 0.03 | 0.07 | 0.10 | 0.05 | 0.15 | 343.93 | 348.81 |
| | | 18 | | | | | | | 3.4 | 1.9 | 7 | 0.06 | | 55.8 | | | | | | | |
| 6 | 343.93 | 18 | 4.4 | 57.8 | 0.17 | 0.10 | 2.5 | 0.02 | | | | | 0.03 | | 0.00 | 0.05 | 0.07 | 0.03 | 0.13 | 344.06 | 347.46 |
| 6A | | 18 | | | | | | | 3.9 | 2.2 | 9 | 0.08 | 0.03 | 0 | 0.00 | | | | | | |
| 6B | | 15 | | | | | | | 0.5 | 0.4 | 0 | 0.00 | 0.00 | 90 | 0.00 | | | | | | |
| 7 | 344.06 | 15 | 0.8 | 48 | 0.02 | 0.01 | 0.7 | 0.00 | | | | | | | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 344.07 | 349.06 |
| | | 15 | | | | | | | 0.8 | 0.7 | 1 | 0.01 | 0.00 | 47 | | | | | | | |

DENOTES AS-BUILT INFORMATION BY URBAN ENGINEERING & ASSOCIATES, INC.

COMMONWEALTH OF VIRGINIA
ROBERT M. FERGUS
No. 1677
5-20-08
LAND SURVEYOR

# MISCELLANEOUS COMPUTATIONS

**DETAIL OF GRASS SWALE**
*NOT TO SCALE*

**GRASS SWALE DATA**

| STRUCTURE# | $Q_{10}$ (cfs) | BOTTOM WIDTH (ft.) | CHANNEL SLOPE (%) | MANNINGS COEF. n | DEPTH (ft.) | VELOCITY (ft/s) | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |
| – | – | | | | | | |
| – | – | | | | | | |

**DETAIL OF RIPRAP SWALE**
*NOT TO SCALE*

**RIP RAP SWALE DATA**

| STRUCTURE# | $Q_{10}$ (cfs) | BOTTOM WIDTH (ft.) | CHANNEL SLOPE (%) | MANNINGS COEF. n | DEPTH (ft.) | VELOCITY (ft/s) | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 10 | 9.2 | 2.5 | 3.33 | 0.035 | 0.55 | 4.05 | CLASS I RIPRAP |
| 1 | 92.4 | 5.5 | 0.98 | 0.035 | 0.52 | 2.53 | CLASS I RIPRAP |
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |

## HEAD-WATER OVER DEPTH CALCULATIONS

| CULVERT DESCRIPTION MATERIAL–SHAPE–SIZE–ENTRANCE | TOTAL FLOW Q (cfs) | FLOW PER BARREL Q/N | INLET CONTROL HW/D | HWi | FALL | EL hi | OUTLET CONTROL TW | dc | (dc + D)/2 | ho | H | EL ho | CONTROL HEADWATER ELEVATION | OUTLET VELOCITY | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STRUCTURE 10–21" RCP | 9.2 | 9.2 | 1.05 | 1.84 | 0 | 343.67 | | | | | | | 343.67 | | |

**THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY!**

PROJECT: DULLES STATION AT DULLES CORNER
EXISTING DUAL 54" RCP

STATION : ________
SHEET __–__ OF __–__

CULVERT DESIGN FORM
DESIGNER/DATE : __–__ / __–__
REVIEWER/DATE : __–__ / __–__

HYDROLOGICAL DATA

SEE ADD'L NTS.
☑ METHOD : RATIONAL (38.5 X 0.75 X 9.12=263.34 CFS)
☐ DRAINAGE AREA : 38.50 AC ☐ STREAM SLOPE : –
☐ CHANNEL SHAPE : –
☐ ROUTING : – ☐ OTHER : –

DESIGN FLOWS/TAILWATER

| R.I. (YEARS) | FLOW (cfs) | TW (ft) |
|---|---|---|
| 50 | 263.34 | – |
| – | – | – |

| CULVERT DESCRIPTION MATERIAL–SHAPE–SIZE–ENTRANCE | TOTAL FLOW Q (cfs) | FLOW PER BARREL Q / N (1) | INLET CONTROL HW / D (2) | HWi | FALL (3) | ELhi (4) | OUTLET CONTROL TW (5) | dc | (dc+D)/2 | ho (6) | ke | H (7) | ELho (8) | CONTROL HEADWATER ELEVATION | OUTLET VELOCITY | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DUAL 54" RCP | 263.34 | 131.67 | 1.3 | 5.85 | 0 | 342.83 | – | 2.9 | 3.7 | 37 | 0.5 | 8.0 | 341.98 | – | – | INLET CONTROL |
| – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

# SANITARY SEWER COMPUTATIONS

| FROM POINT | TO POINT | NUMBER OF UNITS INCR | NUMBER OF UNITS TOTAL ** | A.D.F. PER S.F. (GPD/UNIT) | BUILDING AREA (NET S.F.) INCR | BUILDING AREA (NET S.F.) TOTAL ** | A.D.F. PER S.F. GPD/SF | DESIGN FLOW (M.G.D.) AVERAGE FLOW | DESIGN FLOW PEAK FACTOR | TOTAL PEAK FLOW M.G.D. | SEWER DESIGN n = 0.013 (MANNING) LENGTH FT. | SLOPE % | DIA. IN. | FLOWING FULL CAPACITY M.G.D. | FLOWING FULL VEL. F.P.S. | INVERT ELEVATION UPPER END | INVERT ELEVATION LOWER END | RIM ELEV. | MANHOLE DEPTH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q | P | 0 | 0 | 300 | 360,000 | 360,000 | 0.2 | 0.0720 | 6.05 | 0.44 | 176.85 | 1.45 | 8 | 0.94 | 4.2 | 335.50 | 332.93 | 350.1 | 14.6 |
| P | O | 0 | 0 | 300 | 720,000 | 1,080,000 | 0.2 | 0.2160 | 5.51 | 1.19 | 265.43 | 1.45 | 10 | 1.71 | 4.9 | 332.83 | 328.98 | 346.4 | 13.57 |
| O | N | 0 | 0 | 300 | 0 | 1,080,000 | 0.2 | 0.2160 | 5.51 | 1.19 | 92.52 | 1.46 | 10 | 1.72 | 4.9 | 328.88 | 327.53 | 341.78 | 12.88 |
| N | M | 0 | 0 | 300 | 0 | 1,080,000 | 0.2 | 0.2160 | 5.51 | 1.19 | 98.43 | 1.45 | 10 | 1.71 | 4.9 | 327.43 | 326.00 | 339.75 | 12.32 |
| M | L | 412 | 412 | 300 | 0 | 1,080,000 | 0.2 | 0.3396 | 5.10 | 1.73 | 137.95 | 1.45 | 12 | 2.78 | 5.5 | 325.90 | 323.90 | 339.45 | 13.55 |
| L | K | 0 | 412 | 300 | 0 | 1,080,000 | 0.2 | 0.3396 | 5.10 | 1.73 | 68.42 | 1.46 | 12 | 2.79 | 5.5 | 323.80 | 322.80 | 338.8 | 13 |
| K | J | 0 | 412 | 300 | 0 | 1,080,000 | 0.2 | 0.3396 | 5.10 | 1.73 | 316.12 | 1.45 | 12 | 2.78 | 5.5 | 322.70 | 318.11 | 336.4 | 13.7 |
| J | I | 0 | 412 | 300 | 0 | 1,080,000 | 0.2 | 0.3396 | 5.10 | 1.73 | 57.14 | 1.45 | 12 | 2.78 | 5.5 | 318.01 | 317.18 | 332 | 13.99 |
| I | H | 215 | 627 | 300 | 0 | 1,080,000 | 0.2 | 0.4041 | 5.00 | 2.02 | 123.84 | 1.45 | 12 | 2.78 | 5.5 | 317.08 | 315.28 | 331.04 | 13.96 |
| H | G | 0 | 627 | 300 | 0 | 1,080,000 | 0.2 | 0.4041 | 5.00 | 2.02 | 85.85 | 2.33 | 12 | 3.52 | 6.9 | 315.18 | 313.18 | 329.47 | 14.29 |
| | | | | | | | | | | | | | | | | | | | |
| G | F | 468 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 151.52 | 1.23 | 12 | 2.57 | 5.1 | 313.08 | 311.21 | 328.58 | 15.5 |
| F | E | 0 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 123.89 | 0.74 | 12 | 1.99 | 3.9 | 311.11 | 310.19 | 324 | 12.89 |
| E | D | 0 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 305.00 | 1.16 | 12 | 2.49 | 4.9 | 310.09 | 306.55 | 320.79 | 10.7 |
| D | C | 0 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 400.67 | 1.21 | 12 | 2.54 | 5.0 | 306.45 | 301.60 | 318 | 11.55 |
| EXC | EXB | 0 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 308.34 | 4.93 | 12 | 4.84 | 9.1 | 301.50 | 289.96 | 317.37 | 15.87 |
| EXB | EXA | 0 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 23.84 | 1.02 | 12 | 2.33 | 4.6 | 289.96 | 289.72 | 297.6 | 8.84 |
| EXA | EXA1 | 0 | 1095 | 300 | 0 | 1,505,000 | 0.2 | 0.6295 | 4.80 | 3.02 | 20.97 | 2.98 | 12 | 3.97 | 7.8 | 287.80 | 287.18 | 296.6 | 8.8 |

** TOTAL DESIGN FLOWS BASED ON FUTURE DEVELOPMENT (ULTIMATE CONDITIONS).

| No. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 05/05/05 | REALIGNED NORTH CURB AND ASSOCIATED INFRASTRUCTURE |
| 2 | 03-04-05 | MODIFY STM. 6B, 7, 10 |

REVISIONS

PLAN DATE: 10-05-00, 01-22-01, 03-03-01, 08-02-02, 02-04-05, 05-05-05

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

MISCELLANEOUS COMPUTATIONS
DULLES STATION AT DULLES CORNER BUILDING C
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA
SITE AS-BUILT
DATE: OCTOBER, 2000
C.I. N/A
SCALE: N/A
SHEET 17 OF 41
FILE No. AB-1158-2

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY ________
APPROVED BY ________
CHECKED BY ________
DATE ________

TITLE
OUTFALL 1 APPROVED CALCULATIONS

PROJECT NO.

C-24

SHEET NO.

M-10831

FOR INFORMATION ONLY

1 2 3 4 5

E D C B A

## PLAN APPROVAL INFORMATION

| RELATED INFORMATION | REQUIRED | NOT REQUIRED | COUNTY I.D. NUMBER | COMMENTS/SHEET NO. |
|---|---|---|---|---|
| 1. CONCURRENT PROCESSING | | ● | | |
| 2. MODIFIED PROCESSING | | ● | | |
| 3. AFFORDABLE DWELLING UNITS | | ● | | |
| 4. R.P.A. DELINEATION | | ● | | |
| 5. FLOOD PLAIN STUDY | | ● | | |
| 6. DRAINAGE STUDY | | ● | | |
| 7. CHESAPEAKE BAY ACT EXCEPTION | | ● | | |
| 8. WATER QUALITY IMPACT ASSESSMENT | | ● | | |
| 9. SOILS REPORT APPROVAL | ● | | | SHEET 21A: APPROVED ON 1/23/01 |
| 10. ONSITE EASEMENTS | ● | | | SHEET 6 |
| 11. OFFSITE EASEMENTS | | ● | | |
| 12. NOTARIZED LETTERS OF PERMISSION | | ● | | |
| 13. ARCHITECTURAL REVIEW BOARD APPROVAL | | ● | | |
| 14. RETURN PLAN TO B.O.S. PRIOR TO APPR. | | ● | | |
| 15. RETURN PLAN TO P.C. PRIOR TO APPR. | | ● | | |
| 16. ADJACENT PROPERTY OWNER NOTIFICATIONS | ● | | | |
| 17. OFFSITE UTILITY WORK NOTICES | | ● | | |
| 18. MAJOR UNDERGROUND UTILITY NOTICES | | ● | | |
| 19. REZONING APPROVAL | | ● | | |
| 20. B.O.S. CLERK LETTER/RESOLUTION | ● | | | SEE SHEET 22 |
| 21. REZONING PROFFERS/CONDITIONS | ● | | PCA/CPPA/FDPA-C-696-4 | SEE SHEETS 23-25 |
| 22. REZONING DEVELOPMENT PLAN | ● | | PCA/CPPA/FDPA-C-696-2 | SEE SHEETS 27-35 |
| 23. SPECIAL EXCEPTION FOR USE | | ● | | |
| 24. SPECIAL PERMIT FOR USE | | ● | | |
| 25. B.Z.A. VARIANCE APPROVAL | | ● | | |
| 26. B.Z.A. CLERK LETTER/RESOLUTION | | ● | | |
| WAIVER 1: OFFSITE SWM | ● | | 6848-WSWD-001-1 | SEE SHEET #22A; APPROVED ON 3/29/05 |
| WAIVER 2: | | | | |
| WAIVER 3: | | | | |
| MODIFICATION 1: | | | | |
| MODIFICATION 2: | | | | |
| MODIFICATION 3: | | | | |

## PLAN REVIEW FEE COMPUTATION

| PLAN TYPE | PUBLIC IMPROVEMENT PLANS (PI) | | | SUBDIVISION PLANS (SD) | | | SITE PLANS (SP) | | |
|---|---|---|---|---|---|---|---|---|---|
| BASE FEE | BASE FEE= $1,725 | | $1,725 | IF LESS THAN 10 LOTS $4,300 | | $4,300 | BASE FEE= $4,800 | | $4,800 |
| | | | | IF 10 LOTS OR MORE, ADD $1,500 | | $ | PLUS $890 PER DISTURBED ACRE (OR $2,200 PER DISTURBED HECTARE) *(ROUND UP DISTURBED AREA TO WHOLE NUMBER)* 4.31 Ac. X $890 (OR ____ ha X $2,200) | | $3,835.90 |
| | SUBTOTAL | 1 | | SUBTOTAL | 1 | $ | SUBTOTAL (MAX. = $24,000) | 1 | $8,435.90 |
| *FEES IN ADDITION TO BASE FEE – APPLIES TO ALL PLAN TYPES* | | | | | | | | | |
| REZONING $1,000 | | | | | | | | | |
| SPECIAL EXCEPTION OR PERMIT $700 | | | | | | | | | |
| VARIANCE $520 | | | | | | | | | |
| MAX. FEE RELATED TO ZONING $1,700 | SUBTOTAL | 2 | $ | SUBTOTAL | 2 | $ | SUBTOTAL | 2 | $ |
| PROBLEM SOIL AREA $520 | | | | | | | | | |
| NATURAL DRAINAGE WAY $350 | | | | | | | | | |
| FLOOD PLAIN AREA $350 | | | | | | | | | |
| SWM FACILITY (EA) $430 | | | | | | | | | |
| BMP FACILITY (EA) $1,150 | | | | | | | | | |
| FEE RELATED TO DRAINAGE & SOILS | SUBTOTAL | 3 | $ | SUBTOTAL | 3 | $ | SUBTOTAL | 3 | $520 |
| IMPROVEMENTS ON PI PLANS | QNTY.(lf.) (OR QNTY.(m)) | x$0.58/lf x$1.90/m | FEE | *APPLIES ONLY TO PUBLIC IMPROVEMENTS PLANS* | | | | | |
| SANITARY SEWER | | | | | | | | | |
| STORM SEWER | | | | | | | | | |
| TRAILS | | | | | | | | | |
| SIDEWALKS | | | | | | | | | |
| ROAD IMPROVEMENTS | | | | | | | | | |
| CHANNEL IMPROVEMENTS | | | | | | | | | |
| WATERLINE | | | | | | | | | |
| | SUBTOTAL | 4 | $ | | | | | | |
| TOTAL REVIEW FEE PAYABLE UPON SUBMISSION | ADD 1, 2, 3 & 4 ABOVE | | $ | ADD 1, 2 & 3 ABOVE | | $ | ADD 1, 2 & 3 ABOVE | | $8,955.90 |
| INSERT FEE $60 PER PAGE DUE PRIOR TO APPROVAL | | A / B | $ / $ | | A / B | $ / $ | | A / B | $ / $ |
| RESUBMISSION FEE DUE ON SUBMISSION | 50% OF ORIG. FEE | 3RD / 4TH | $ / $ | $2,300 PER SUBMISSION>2ND | 3RD / 4TH | $ / $ | $2,300 PER SUBMISSION>2ND | 3RD / 4TH | $ / $ |

*FOR COUNTY USE ONLY*

**APPROVAL NOTES/CONDITIONS:**

**AGREEMENTS, PERMITS, ETC**

DATE ______ CONSTRUCTION PERMIT RECEIVED
\# ______ SANITARY SEWER AGREEMENT
DATE ______ CONSERVATION ESCROW AGREEMENT RECEIVED
DATE ______ AGREEMENT AND BOND APPROVED
DATE ______ AGREEMENT EXPIRES
DATE ______ BALANCE OF FEE PAID
NAME ______ RESPONSIBLE LAND DISTURBER (R.L.D.)
\# ______ R.L.D. CERTIFICATE NUMBER

## NOTES AND CONDITIONS

1. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE COUNTY OF FAIRFAX.

2. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE FAIRFAX COUNTY CODE AND IN THE PUBLIC FACILITIES MANUAL AS AMENDED. FAILURE TO COMPLY WITH THE FAIRFAX COUNTY CODE, THE PUBLIC FACILITIES MANUAL, THE APPROVED PLANS, THE PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENT PERMIT SHALL BE DEEMED A VIOLATION.

3. WATER DISTRIBUTION NOTE: ALL FIRE PROTECTION SYSTEMS WHICH ARE INSTALLED IN COMPLIANCE WITH THESE PLANS AND COUNTY OF FAIRFAX ORDINANCES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES. WHEN NECESSARY TO TEMPORARILY REDUCE OR DISCONTINUE THE PROTECTION IN ORDER TO MAKE TESTS, REPAIRS, ALTERATIONS OR ADDITIONS, NOTIFY THE FAIRFAX COUNTY PUBLIC SAFETY COMMUNICATIONS CENTER AT 703-691-2131.

4. A PERMIT MUST BE OBTAINED FROM THE OFFICE OF THE RESIDENT ENGINEER, VIRGINIA DEPARTMENT OF TRANSPORTATION, NORTHERN VIRGINIA DISTRICT, BEFORE ANY CONSTRUCTION IS STARTED ON ANY EXISTING STATE ROUTE. CONTACT THE VIRGINIA DEPARTMENT OF TRANSPORTATION THREE WORKING DAYS BEFORE EXCAVATION IN ANY STATE RIGHT OF WAY AT 703-383-2888.

5. CONTRACTORS SHALL NOTIFY THE "MISS UTILITY" NOTIFICATION CENTER AT 1-800-552-7001 FOR ANY PROPOSED EXCAVATION, DEMOLITION, OR BLASTING AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION DEMOLITION, OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT. IN ADDITION, NAMES AND TELEPHONE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION AS REQUIRED BY SECTION 63-2-2 OF THE FAIRFAX COUNTY CODE.

6. FOR SITES PROPOSING LAND DISTURBING ACTIVITIES OF ONE (1) ACRE OR MORE, THE CONSTRUCTION ACTIVITY OPERATOR MUST REGISTER WITH THE DEPARTMENT OF ENVIRONMENTAL QUALITY OF THE COMMONWEALTH OF VIRGINIA. THIS IS A REQUIREMENT OF THE VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES) GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES.

7. THE COUNTY INSPECTOR SHALL BE NOTIFIED WHEN ANY IMPROVEMENTS PERTINENT TO HIS INSPECTION DUTIES ARE BEING INSTALLED. SPECIFIC REQUIREMENTS ARE:
   A. THE COUNTY SITE INSPECTOR IS TO BE NOTIFIED AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION.
   B. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED WHEN REQUESTING RESIDENTIAL OR NON-RESIDENTIAL USE PERMITS.
   C. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED WHEN REQUESTING TESTS PERTAINING TO SANITARY SEWER ACCEPTANCE.

## ZONING REQUIREMENTS

1) ZONING PDC (PLANNED DEVELOPMENT COMMERCIAL)*
2) AVERAGE LOT AREA N/A (sq.ft. or sq.m)
3) MIN. LOT AREA N/A (sq.ft. or sq.m)
4) MIN. LOT WIDTH N/A (ft. or m)
5) MAX. BUILDING HEIGHT 80' (ft. or m)
6) NUMBER OF FLOORS 6 (Commercial/Industrial ONLY)
7) MIN. YARD REQUIREMENTS: FRONT N/A (ft. or m) SIDE N/A (ft. or m) REAR N/A (ft. or m)
8) MAXIMUM FAR 0.99 (ENTIRE DEVELOPMENT)**
9) MAXIMUM DENSITY N/A (D.U./Ac. or D.U./ha)
10) OPEN SPACE REQUIRED 15 % 18,851.40 (sq.ft. or sq.m)
11) ANGLE OF BULK PLANE: FRONT N/A SIDE N/A REAR N/A (DETAIL(S) ON SHEET N/A)
12) OVERLAY DISTRICT(S) N/A

*SEE FDP/CDP ON SHEETS 27-34
**SEE PROFFERS SHEETS 23-25

## SUBDIVISION PLAN (SD) TABULATIONS

~~1) SITE AREA ____ (Ac. or ha) ____ (sq.ft. or sq.m)~~
~~2) NUMBER OF LOTS~~
~~3) AREA OF LOTS (sq.ft. or sq.m)~~
~~4) AVERAGE LOT AREA (sq.ft. or sq.m)~~
~~5) AREA OF PARCEL/OUTLOT (sq.ft. or sq.m)~~
~~6) AREA OF PARCEL/OUTLOT (sq.ft. or sq.m)~~
~~7) AREA OF PARCEL/OUTLOT (sq.ft. or sq.m)~~
~~8) AREA OF PARCEL/OUTLOT (sq.ft. or sq.m)~~
~~9) TOTAL AREA OF OPEN SPACE (sq.ft. or sq.m)~~
~~10) AREA OF STREET DEDICATION (sq.ft. or sq.m)~~
~~11) DENSITY (D.U./Ac. or D.U./ha)~~

## SITE PLAN (SP) TABULATIONS

1) SITE AREA 9.89097 (Ac. or ha) 430,851 (sq.ft. or sq.m)
2) AREA OF STREET DEDICATION 71,203 (sq.ft. or sq.m)
3) USE RESIDENTIAL/MIXED USE
4) NUMBER OF LOTS 2
5) AREA OF LOTS 430,851 (sq.ft. or sq.m)
6) DENSITY N/A (D.U./Ac. or D.U./ha)
7) EXISTING BUILDING GROSS FLOOR AREA 0 (sq.ft. or sq.m)
8) PROPOSED BUILDING GROSS FLOOR AREA 246,879 (sq.ft. or sq.m)
9) EXISTING BUILDING NET FLOOR AREA 0 (sq.ft. or sq.m)
10) PROPOSED BUILDING NET FLOOR AREA 202,575 (sq.ft. or sq.m)
11) TOTAL FLOOR AREA RATIO (FAR) FOR ENTIRE SITE 0.52 (SEE F.A.R. MATRIX SHEET 3)
12) PROPOSED BUILDING HEIGHT 60 (ft. or m)
13) PROPOSED NUMBER OF FLOORS 4 (Commercial/Industrial ONLY)
13) TOTAL HANDICAPPED PARKING REQUIRED 8
14) TOTAL HANDICAPPED PARKING PROVIDED 9
15) TOTAL HANDICAPPED VAN SPACES REQUIRED 2
16) TOTAL HANDICAPPED VAN SPACES PROVIDED 3
17) TOTAL PARKING SPACES REQUIRED 355
18) TOTAL PARKING SPACES PROVIDED 355
19) LOADING SPACES REQUIRED 3 (RED. APPROVED. SEE LETTER SHT 22A)
20) LOADING SPACES PROVIDED 3
21) OPEN SPACE PROVIDED 29.64 % 37,245 (sq.ft. or sq.m)

## FIRE MARSHAL NOTES

AVAILABLE FIRE FLOW 2,700 (gal/min or liters/min)
SOURCE OF FIRE FLOW INFO. FAIRFAX WATER
TYPE OF CONSTRUCTION – IBC SEE SHEET 3
USE GROUP CLASSIFICATION – IBC SEE SHEET 3
BUILDING HEIGHT SEE SHEET 3 (ft. or m)
BUILDING TO BE FULLY SPRINKLERED YES ■ NO ☐
IF YES, CHECK APPROPRIATE STANDARD: NFPA 13 ■ ; NFPA 13D ☐ ; NFPA 13R ☐
SEE PFM CHAPTER 9, PART 2 FOR FULL INFORMATION REQUIRED. FIRE FLOW REQUIREMENTS TO BE DETERMINED BY THE FIRE PREVENTION DIVISION.
[SEE PUBLIC WATER AGENCY NOTES ON SHEET 3]

## SOLID WASTE STATEMENT

REFUSE COLLECTION AGENCY PRIVATE AGENCY
TYPE & SIZE OF CONTAINERS OR EQUIPMENT 8 CU YD COMPACTOR
FREQUENCY OF COLLECTION TWICE A WEEK

## RECYCLING SYSTEM STATEMENT

☐ PFM SECTION 10-407.1A
■ PFM SECTION 10-407.1B
☐ PFM SECTION 10-407.1C
☐ NO STATEMENT REQUIRED PER PFM 10-0403

## SANITARY SEWER STATEMENT

WASTEWATER TREATMENT PLANT BLUE PLAINS
☒ THIS SITE IS SUBJECT TO DULLES CORNER SANITARY SEWER REIMBURSEMENT CHARGES.
☐ THIS SITE IS SERVED BY ONSITE SEWAGE TREATMENT SYSTEM(S).

## STORMWATER STATEMENT

WATERSHED(S) HORSEPEN CREEK
☐ THIS SITE IS LOCATED WITHIN THE W.S.P.O.D. (OCCOQUAN WATERSHED).
NUMBER OF STORMWATER DETENTION FACILITIES ______
NUMBER OF BMP FACILITIES ______
NUMBER OF PRIVATE STORMWATER MANAGEMENT FACILITIES ______
HIGH DENSITY POLYETHYLENE (HDPE) USED ON THIS PROJECT YES☐ NO☐

DISTURBED AREA (DA) WITHIN WATERSHED(S):
WATERSHED 1 HORSEPEN CREEK DA= 6.28 (Ac. or ha)
WATERSHED 2 ______ DA= ______ (Ac. or ha)
WATERSHED 3 ______ DA= ______ (Ac. or ha)
TOTAL DISTURBED AREA= 6.28 (Ac. or ha)

PROFESSIONAL SEAL AND SIGNATURE | PROFESSIONAL SEAL AND SIGNATURE | PROFESSIONAL SEAL AND SIGNATURE

DATE ______ DATE ______ DATE ______

## DESIGNATED PLANS EXAMINER (DPE) CERTIFICATE

| 1ST SUBMISSION REVIEWED & RECOMMENDED FOR SUBMISSION | 2ND SUBMISSION REVIEWED & RECOMMENDED FOR APPROVAL |
|---|---|
| MATTHEW KOIRTYOHANN, P.E. — D.P.E. SIGNATURE & PRINTED NAME | MATTHEW KOIRTYOHANN, P.E. — D.P.E. SIGNATURE & PRINTED NAME |
| DATE: ______ REG. NO.: #250 | DATE: ______ REG. NO.: #250 |

**VICINITY MAP** SCALE: ______

SEE SHEET 2 FOR VICINITY MAP

APPROVED
COUNTY OF FAIRFAX
LAND DEVELOPMENT SERVICES
ENVIRONMENTAL AND SITE REVIEW DIVISION
BY ______
DATE 01-09-09

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

## TAX MAP REFERENCE NUMBER(S)

| MAP PAGE # | DOUBLE CIRCLE # | BLOCK (SINGLE CIRCLE #) | LOT/PARCEL(S) # |
|---|---|---|---|
| 15-4 | 05 | | 0007-A2 |
| 15-4 | 05 | | 0008-A |

## Surveyor's As-Built Certificate

I, ROBERT M. FERGUS, HEREBY CERTIFY THAT THIS AS-BUILT SITE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH CHAPTER 112, ARTICLE 17, PART 3, 17-301 OF THE ZONING ORDINANCE OF FAIRFAX COUNTY VIRGINIA. THIS AS-BUILT PLAN CONTAINS ALL INFORMATION REQUIRED BY AND CONFORMS WITH SECTION 17-301 AND REPRESENTS ACTUAL CONDITIONS ON THE SITE AS OF THE DATE BELOW FOR ONLY THOSE ITEMS REQUIRED BY THE RULES AND REGULATIONS ADOPTED BY THE COMMONWEALTH OF VIRGINIA BOARD OF ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS.

ROBERT M. FERGUS NO. 1667

11/21/08
DATE

COMMONWEALTH OF VIRGINIA — ROBERT M. FERGUS No. 1677 — LAND SURVEYOR

ALL THE STORM DRAIN/SANITARY SEWER STRUCTURES FALL WITHIN THEIR RESPECTIVE EASEMENT ARE RECORDED AS FOLLOWS DB. 15321 PG. 1821, DB. 18600 PG. 1093 DB. 18708 PG. 1177, DB. 19146 PG. 913, DB. 19535 PG. 312.
☐ INDICATES AS-BUILT

| SOIL ID NUMBERS | SOIL SERIES NAME | FOUNDATION SUPPORT | SUBSURFACE DRAINAGE | SLOPE STABILITY | ERODABILITY | PROBLEM CLASS |
|---|---|---|---|---|---|---|
| SEE SHEET 2 FOR SOILS DATA | | | | | | |

SOILS WITH IDENTIFICATION NUMBERS 59, 66, 69, 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.

A SOILS REPORT IS REQUIRED IF CONSTRUCTION IS PROPOSED IN AN "A" SOIL OR A DAM IS PROPOSED REQUIRING A REPORT PER PFM PLATE #54-6.

## ENGINEER'S/SURVEYOR'S CERTIFICATE:

THIS PROPERTY IS IN THE NAME OF SUMMIT PROPERTIES PARTNERSHIP, L.P. (PARCEL 7-A2) & DULLES DEVELOPMENT LLC (PARCEL 8) AS RECORDED IN DEED BOOK 16556 / 16267 PAGE 0144 / 1714 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA.

**OWNER INFORMATION**
(●) OWNER ( ) TRUSTEE — (●) A CORPORATION (●) A PARTNERSHIP ( ) AN INDIVIDUAL
SUMMIT PROPERTIES PARTNERSHIP, L.P. / DULLES DEVELOPMENT LLC (NAME) — 703-556-3301 / 703-834-9700 (PHONE)
1420 SPRING HILL RD STE 400 MCLEAN, VA / 455 SPRING PARK PL, SUITE 100 HERNDON, VA (ADDRESS)

**DEVELOPER INFORMATION**
(●) DEVELOPER ( ) CONTRACT OWNER ( ) LESSEE — (●) A CORPORATION (●) A PARTNERSHIP ( ) AN INDIVIDUAL
CAMDEN SUMMIT PARTNERSHIP, L.P. / DULLES DEVELOPMENT LLC (NAME) — 703-556-3301 / 703-834-9700 (PHONE)
1420 SPRING HILL RD STE 400 MCLEAN, VA / 455 SPRING PARK PL, SUITE 100 HERNDON, VA (ADDRESS)

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

SIGNATURE ______
OWNER/DEVELOPER ERIC S. SIEGEL, P.E. (NAME) AGENT FOR THE DEVELOPER (TITLE)

| DATE | RECOMMEND APPROVAL (SIGNATURE & PRINTED NAME) |
|---|---|
| | STREETLIGHT SECTION, PLANNING & DESIGN DIVISION–DPWES |
| | PUBLIC WATER AGENCY |
| | SANITARY SEWER REVIEW, EFRD, OSDS – DPWES |
| | GEOTECHNICAL REVIEW, EFRD, OSDS – DPWES |
| | STORMWATER REVIEW, EFRD, OSDS – DPWES |
| | URBAN FORESTRY DIVISION, OSDS – |
| | FAIRFAX COUNTY FIRE MARSHAL |
| | FAIRFAX COUNTY HEALTH DEPARTMENT |
| | VIRGINIA DEPARTMENT OF TRANSPORTATION |
| | PLAN REVIEWER, ENVIRONMENTAL & FACILITIES REVIEW DIVISION, OSDS – DPWES |
| | DIRECTOR, ENVIRONMENTAL & FACILITIES REVIEW DIVISION, OSDS – DPWES |

**APPROVED**

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

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

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE PUBLIC SANITARY SEWER

## CERTIFICATE OF NO CHANGE

(FOR SUBMISSION OTHER THAN THE FIRST)
I HEREBY CERTIFY THAT NO CHANGES HAVE BEEN MADE THAT WOULD AFFECT THE PRIOR APPROVAL BY THE

FIRE MARSHAL DATED 01-30-07
WATER AUTHORITY DATED 08-29-06
HEALTH DEPARTMENT DATED N/A
VDOT DATED ______
DPWES-WPMD (SAN. SEW.) DATED 12-11-06
DPWES-STREETLIGHTS DATED 11-20-06

## SHEET INDEX


1. COVER SHEET
2.-3A. GENERAL NOTES, DETAILS, AND CALCULATIONS
4. GARAGE LAYOUT
5. OVERVIEW PLAN
~~6. GEOMETRY PLAN~~
7. GRADING PLAN
~~7A. PLAN AND PROFILE ROCK HILL EXTENSION~~
~~7B. PLAN & PROFILE CUL-DE-SAC~~
~~7C-D. ROAD COMPUTATIONS~~
~~7E. CURB RETURN PROFILES~~
8. SANITARY SEWER PLAN & PROFILE
9. STORM DRAIN PROFILES
~~9A. WATERMAIN PROFILES~~
10-10B. STORM DRAIN COMPUTATIONS
~~10C-10D.1. ULTIMATE CONDITIONS STORM DRAIN COMPUTATIONS~~
~~10E-G. OFFSITE B.M.P. NOTES AND COMPUTATIONS~~
~~11. EROSION & SEDIMENT CONTROL – PHASE I~~
~~12. EROSION & SEDIMENT CONTROL – PHASE II~~
~~13. OVERALL DRAINAGE DIVIDES~~
~~13A. ULTIMATE DRAINAGE DIVIDES EXHIBIT~~
~~14-15. EROSION & SEDIMENT CONTROL NOTES & DETAILS~~
~~16. FIRE LANE DESIGNATION PLAN~~
~~16A. PROPOSED COMMON AREA EXHIBIT~~
~~16B. PRELIMINARY STRIPING PLAN~~
~~17. LANDSCAPE PLAN~~
~~17A. COURTYARD LANDSCAPE PLAN~~
~~18-20. LANDSCAPE NOTES, DETAILS, & COMPUTATIONS~~
~~20A. TREE SAVE AREA~~
~~21-21A. GEOTECHNICAL NOTES, RECOMMENDATIONS~~
~~22-22D. MISCELLANEOUS CORRESPONDENCE~~
~~23-25. CONSOLIDATED PROFFERS~~
~~26. PROFFER ANALYSIS~~
~~27-29. CONCEPTUAL DEVELOPMENT PLAN AMENDMENT~~
~~30-35. FINAL DEVELOPMENT PLAN AMENDMENT~~


DESIGN ENGINEER / SURVEYOR
URBAN ENGINEERING & ASSOC., INC.
7712 LITTLE RIVER TURNPIKE ANNANDALE, VIRGINIA 22003 PHONE: (703) 642-8080
PROJ. MANAGER: CLAYTON C. TOCK, P.E. EMAIL: CTOCK@URBAN-ENGINEERING.COM

# DULLES STATION AT DULLES CORNER
## BUILDING J
**SITE AS-BUILT**
HUNTER MILL DISTRICT FAIRFAX COUNTY, VIRGINIA

COUNTY NUMBER ~~SP~~ SAS 6848-~~SP~~-06-1
SITE REVIEW ENGINEER TBA | NSB
microfilm

SHEET 1 OF 35
AB-1158-6
REVISED: 7/7/03


**Dewberry**
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518


dcs DESIGN — DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY — REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA — JOHN WILLIAM EWING — Lic. No. 8053 — 3/27/14 — PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY ______
APPROVED BY ______
CHECKED BY ______
DATE ______

TITLE
OUTFALL 2 APPROVED CALCULATIONS

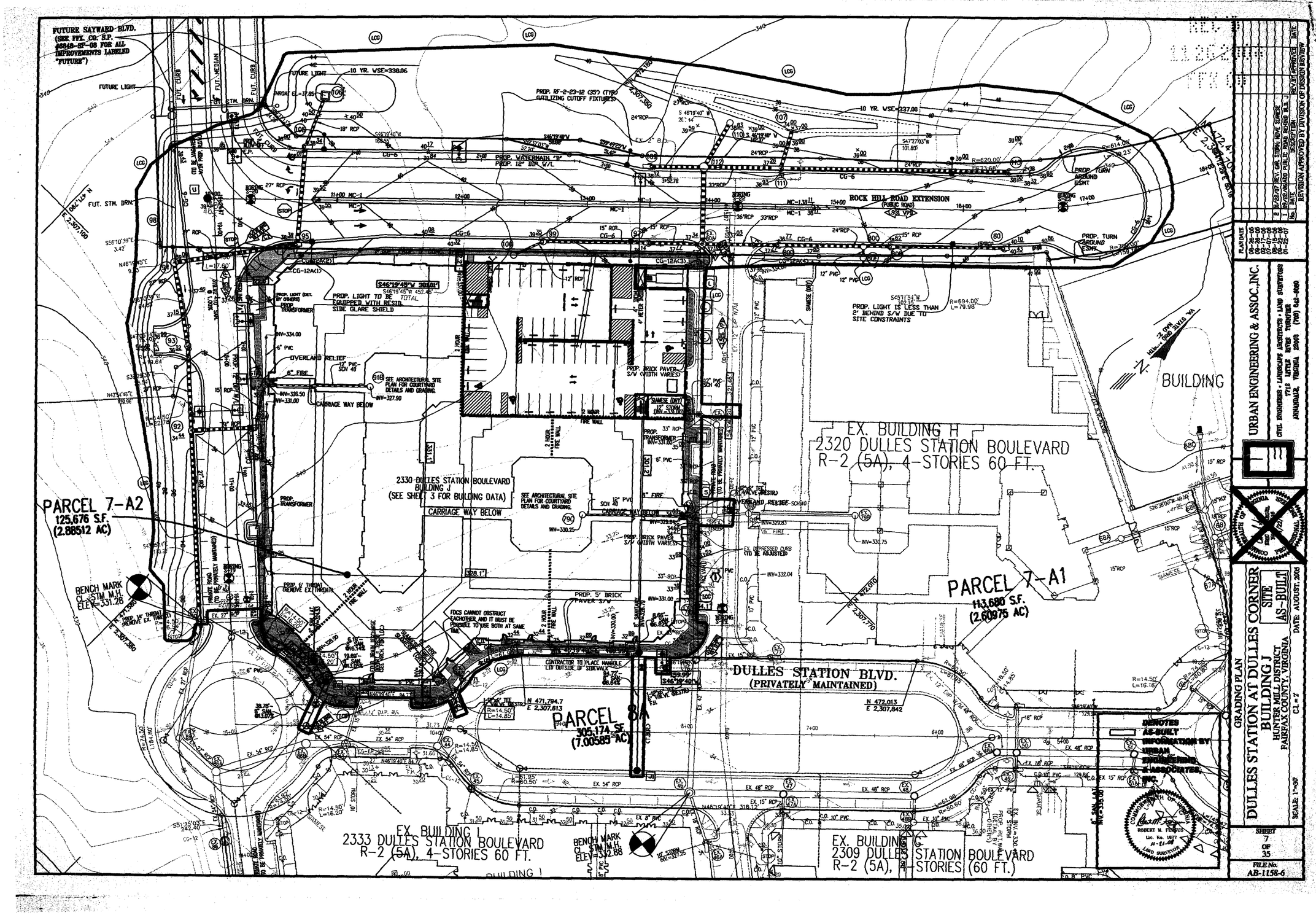
PROJECT NO.

C-25

SHEET NO.

M-10831

FOR INFORMATION ONLY




| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

DATE

TITLE

OUTFALL 2 APPROVED CALCULATIONS

PROJECT NO.

C-26

SHEET NO.

M-10831

FOR INFORMATION ONLY

Dewberry

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DCS DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

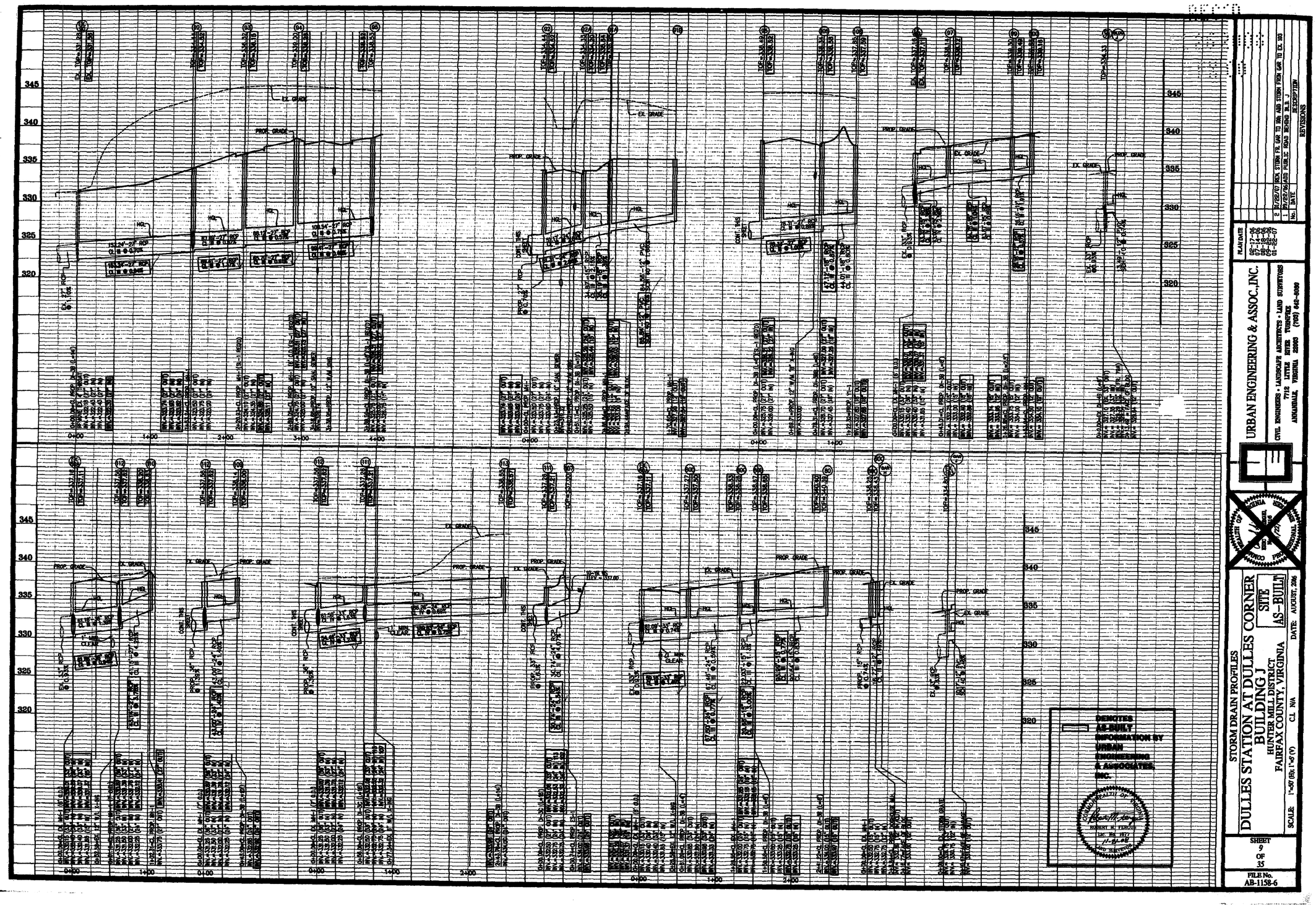
SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

NTS




URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

STORM DRAIN PROFILES
DULLES STATION AT DULLES CORNER
BUILDING J
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA
SITE AS-BUILT
SCALE: 1"=50' (H); 1"=5' (V) C.I. N/A DATE: AUGUST, 2006

SHEET 9 OF 35
FILE No. AB-1158-6

FOR INFORMATION ONLY

**Dewberry**

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN — DAVIS CARTER SCOTT LTD

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE
OUTFALL 2 APPROVED CALCULATIONS

PROJECT NO.
C-27
SHEET NO.
M-10831

# STORM DRAIN COMPUTATIONS

| From Point | To Point | Drainage Area | C Factor | C x A Increment | C x A Cumm. | Inlet Time Min. | Rain Fall In/Hr | Runoff Q C.F.S. | Invert Elev. Upper End | Invert Elev. Lower End | Length FT. | Slope % | Diameter IN. | Capacity Q C.F.S. | VEL. F.P.S. | Flow Time MIN. | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX 25 | EX 24 | 2.59 | 0.45 | 1.17 | 1.17 | 5.00 | 7.27 | 8.47 | 341.83 | 340.77 | 27.93 | 3.80% | 21 | 30.95 | 10.97 | 0.04 | |
| EX 24 | EX 23 | 0.38 | 0.85 | 0.32 | 1.49 | 5.00 | 7.27 | 10.82 | 340.52 | 339.68 | 153.38 | 0.55% | 24 | 16.79 | 5.68 | 0.45 | |
| EX BLD C1 | EX 23A | 0.34 | 0.90 | 0.31 | 0.31 | 5.00 | 7.27 | 2.22 | 345.00 | 344.75 | 5.54 | 4.51% | 10 | 4.67 | 8.45 | 0.01 | |
| EX 23A | EX 23 | 0.00 | 0.00 | 0.00 | 0.31 | 5.00 | 7.27 | 2.22 | 344.33 | 343.70 | 15.52 | 4.06% | 15 | 13.05 | 7.93 | 0.03 | |
| EX 23 | EX 22 | 0.05 | 0.85 | 0.04 | 1.84 | 5.00 | 7.27 | 13.35 | 339.43 | 338.74 | 125.55 | 0.55% | 24 | 16.82 | 5.94 | 0.35 | |
| EX BLD C2 | EX 22A | 0.34 | 0.90 | 0.31 | 0.31 | 5.00 | 7.27 | 2.22 | 345.00 | 344.67 | 6.57 | 5.02% | 10 | 4.92 | 8.80 | 0.01 | |
| EX 22A | EX 22 | 0.00 | 0.00 | 0.00 | 0.31 | 5.00 | 7.27 | 2.22 | 344.25 | 343.30 | 18.21 | 5.22% | 15 | 14.79 | 8.68 | 0.03 | |
| EX 21A | EX 21 | 0.04 | 0.90 | 0.04 | 0.04 | 5.00 | 7.27 | 0.26 | 339.25 | 338.91 | 44.16 | 0.77% | 15 | 5.68 | 2.36 | 0.31 | |
| EX 22 | EX 21 | 0.00 | 0.85 | 0.00 | 2.14 | 5.00 | 7.27 | 15.58 | 338.49 | 338.16 | 60.67 | 0.54% | 27 | 22.90 | 6.19 | 0.16 | |
| EX 21 | EX 19 | 0.00 | 0.00 | 0.00 | 2.18 | 5.00 | 7.27 | 15.84 | 337.91 | 336.22 | 95.51 | 1.77% | 27 | 41.31 | 9.70 | 0.16 | |
| EX 28 | EX 27 | 0.04 | 0.90 | 0.04 | 0.04 | 5.00 | 7.27 | 0.26 | 339.42 | 338.85 | 57.17 | 1.00% | 15 | 6.47 | 2.58 | 0.37 | |
| EX 27 | EX 26 | 0.03 | 0.90 | 0.03 | 0.06 | 5.00 | 7.27 | 0.46 | 338.60 | 337.84 | 78.44 | 0.97% | 15 | 6.38 | 3.01 | 0.43 | |
| FUT A & E | EX 26 | 2.53 | 0.90 | 2.28 | 2.34 | 5.00 | 7.27 | 17.01 | 338.84 | 337.84 | 100.00 | 1.00% | 24 | 22.68 | 7.92 | 0.21 | |
| EX 26 | EX 19 | 0.01 | 0.90 | 0.01 | 0.07 | 5.00 | 7.27 | 0.52 | 337.09 | 336.47 | 65.77 | 0.94% | 24 | 22.02 | 2.92 | 0.37 | |
| EX 19 | 70B | 0.00 | 0.00 | 0.00 | 4.59 | 5.00 | 7.27 | 33.38 | 335.72 | 334.74 | 51.57 | 1.90% | 36 | 92.19 | 12.00 | 0.07 | |
| EX BLD D1 | 70D | 0.37 | 0.90 | 0.33 | 0.33 | 5.00 | 7.27 | 2.42 | 338.62 | 338.55 | 4.53 | 1.55% | 12 | 4.44 | 5.78 | 0.01 | |
| EX 70D | EX 70B | 0.00 | 0.00 | 0.00 | 0.33 | 5.00 | 7.27 | 2.42 | 338.30 | 336.88 | 61.16 | 2.32% | 15 | 9.87 | 6.65 | 0.15 | |
| EX 70F | EX 70B | 0.52 | 0.90 | 0.47 | 0.47 | 5.00 | 7.27 | 3.40 | 336.75 | 336.24 | 16.65 | 3.06% | 15 | 11.34 | 8.08 | 0.03 | |
| EX 70B | EX 70A | 0.00 | 0.00 | 0.00 | 5.39 | 5.00 | 7.27 | 39.20 | 334.49 | 332.39 | 148.99 | 1.41% | 36 | 79.40 | 11.20 | 0.22 | |
| EX 70E | EX 70A | 0.40 | 0.90 | 0.36 | 0.36 | 5.00 | 7.27 | 2.62 | 334.40 | 333.86 | 16.71 | 3.23% | 15 | 11.64 | 7.66 | 0.04 | |
| EX BLD D2 | EX 70C | 0.43 | 0.90 | 0.39 | 0.39 | 5.00 | 7.27 | 2.81 | 336.96 | 336.88 | 7.30 | 1.10% | 12 | 3.74 | 5.23 | 0.02 | |
| EX 70C | EX 70A | 0.00 | 0.90 | 0.00 | 0.39 | 5.00 | 7.27 | 2.81 | 336.63 | 335.89 | 68.06 | 1.09% | 15 | 6.75 | 5.25 | 0.22 | |
| EX 70A | EX 55 | 0.00 | 0.00 | 0.00 | 6.14 | 5.00 | 7.27 | 44.63 | 332.14 | 331.88 | 51.82 | 0.50% | 36 | 47.37 | 7.62 | 0.11 | |
| EX 54 | EX 55 | 0.66 | 0.90 | 0.59 | 0.59 | 5.00 | 7.27 | 4.32 | 333.60 | 333.50 | 8.32 | 1.20% | 15 | 7.10 | 6.07 | 0.02 | |
| EX 70 | EX 55 | 0.51 | 0.90 | 0.46 | 0.46 | 5.00 | 7.27 | 3.34 | 333.73 | 333.23 | 48.85 | 1.02% | 18 | 10.66 | 5.33 | 0.15 | |
| EX 55 | EX 53 | 0.00 | 0.00 | 0.00 | 7.19 | 5.00 | 7.27 | 52.29 | 331.00 | 330.65 | 69.04 | 0.51% | 42 | 71.83 | 8.14 | 0.14 | |
| EX 53A | EX 53 | 0.08 | 0.70 | 0.06 | 0.06 | 5.00 | 7.27 | 0.41 | 333.32 | 332.90 | 41.60 | 1.01% | 15 | 6.51 | 2.95 | 0.23 | |
| EX 53 | EX 52 | 0.00 | 0.00 | 0.00 | 7.25 | 5.00 | 7.27 | 52.69 | 330.40 | 330.17 | 45.49 | 0.51% | 42 | 71.73 | 8.15 | 0.09 | |
| EX GAR C1 | FX 30 | 1.10 | 0.90 | 0.99 | 0.99 | 5.00 | 7.27 | 7.20 | 334.76 | 334.60 | 11.64 | 1.37% | 15 | 7.59 | 7.04 | 0.03 | |
| EX 30 | 69A | 0.00 | 0.00 | 0.00 | 0.99 | 5.00 | 7.27 | 7.20 | 334.35 | 334.10 | 35.10 | 0.71% | 18 | 8.89 | 5.60 | 0.10 | |
| EX 69A | EX 69 | 0.00 | 0.00 | 0.00 | 0.99 | 5.00 | 7.27 | 7.20 | 333.90 | 333.76 | 27.09 | 0.52% | 21 | 11.42 | 5.02 | 0.09 | |
| EX 69 | EX 68 | 0.29 | 0.60 | 0.17 | 1.16 | 5.00 | 7.27 | 8.46 | 333.51 | 333.10 | 50.64 | 0.81% | 21 | 14.30 | 6.19 | 0.14 | |
| EX 68C | EX 68B | 0.60 | 0.60 | 0.36 | 0.36 | 5.00 | 7.27 | 2.62 | 335.10 | 334.35 | 62.53 | 1.20% | 15 | 7.09 | 5.34 | 0.20 | |
| EX 68D | EX 68A | 0.45 | 0.85 | 0.38 | 0.38 | 5.00 | 7.27 | 2.78 | 335.45 | 334.90 | 52.36 | 1.05% | 12 | 3.66 | 5.13 | 0.17 | |
| EX 68A | EX 68B | 0.00 | 0.00 | 0.00 | 0.50 | 5.00 | 7.27 | 3.63 | 334.65 | 334.35 | 52.11 | 0.58% | 15 | 4.91 | 4.38 | 0.20 | |
| EX 68B | EX 68 | 0.00 | 0.00 | 0.00 | 0.86 | 5.00 | 7.27 | 6.25 | 334.10 | 333.45 | 35.31 | 1.84% | 18 | 14.29 | 7.82 | 0.08 | |
| EX 68 | EX 67A | 0.00 | 0.00 | 0.00 | 2.02 | 5.00 | 7.27 | 14.71 | 332.70 | 332.56 | 23.19 | 0.60% | 27 | 24.13 | 6.37 | 0.06 | |
| EX 67A | EX 67 | 0.32 | 0.60 | 0.19 | 2.22 | 5.00 | 7.27 | 16.11 | 332.00 | 331.80 | 39.70 | 0.50% | 33 | 37.64 | 6.09 | 0.11 | |
| EX 67 | EX 52B | 0.01 | 0.85 | 0.01 | 2.26 | 5.00 | 7.27 | 16.43 | 331.33 | 330.98 | 68.37 | 0.51% | 33 | 37.94 | 6.16 | 0.19 | |
| EX 66 | EX 52B | 0.37 | 0.80 | 0.30 | 0.30 | 5.00 | 7.27 | 2.15 | 333.34 | 332.99 | 34.12 | 1.03% | 15 | 6.56 | 4.79 | 0.12 | |
| EX 52B | EX 52A | 0.00 | 0.00 | 0.00 | 2.56 | 5.00 | 7.27 | 18.58 | 330.73 | 330.55 | 36.00 | 0.50% | 36 | 47.29 | 6.29 | 0.10 | |
| EX 52A | EX 52 | 0.00 | 0.00 | 0.00 | 2.56 | 5.00 | 7.27 | 18.58 | 330.30 | 330.22 | 15.68 | 0.51% | 36 | 47.77 | 6.33 | 0.04 | |
| STM LAT1 | EX 63E | 0.07 | 0.90 | 0.06 | 0.06 | 5.00 | 7.27 | 0.46 | 336.82 | 334.68 | 103.00 | 2.08% | 6 | 0.81 | 4.26 | 0.40 | |
| BLDG G1 | EX 63E | 0.00 | 0.00 | 0.00 | 0.27 | 5.00 | 7.27 | 1.99 | 334.75 | 334.51 | 11.47 | 2.09% | 12 | 5.17 | 6.15 | 0.03 | |
| EX 63E | EX 63 | 0.00 | 0.00 | 0.00 | 0.06 | 5.00 | 7.27 | 0.46 | 333.90 | 333.30 | 38.80 | 1.55% | 15 | 8.05 | 3.55 | 0.18 | |
| STM LAT2 | EX 63 | 0.04 | 0.90 | 0.04 | 0.04 | 5.00 | 7.27 | 0.26 | 334.05 | 333.46 | 28.00 | 2.11% | 6 | 0.82 | 3.70 | 0.13 | |
| EX 63 | EX 63B | 0.51 | 0.70 | 0.36 | 0.46 | 5.00 | 7.27 | 3.32 | 333.03 | 332.88 | 29.88 | 0.50% | 18 | 7.46 | 4.10 | 0.12 | |
| BLD G2 | EX 63B | 0.01 | 0.90 | 0.01 | 0.01 | 5.00 | 7.27 | 0.07 | 334.10 | 333.70 | 10.00 | 4.00% | 4 | 0.38 | 3.27 | 0.05 | |
| STM LAT3 | EX 63B | 0.04 | 0.90 | 0.04 | 0.04 | 5.00 | 7.27 | 0.26 | 334.02 | 333.37 | 31.00 | 2.10% | 6 | 0.81 | 3.70 | 0.14 | |
| EX 64 | EX 63C | 0.74 | 0.70 | 0.52 | 0.52 | 5.00 | 7.27 | 3.77 | 340.00 | 338.53 | 18.00 | 8.17% | 15 | 18.51 | 11.83 | 0.03 | |
| EX 65 | EX 63C | 0.41 | 0.70 | 0.29 | 0.29 | 5.00 | 7.27 | 2.09 | 338.55 | 337.68 | 33.42 | 2.60% | 15 | 10.45 | 6.65 | 0.08 | |
| EX 63C | EX 63B | 0.22 | 0.70 | 0.15 | 0.96 | 5.00 | 7.27 | 6.97 | 332.93 | 332.59 | 66.10 | 0.51% | 24 | 16.27 | 4.98 | 0.22 | |
| EY 63B | EX 63A | 0.00 | 0.00 | 0.00 | 1.45 | 5.00 | 7.27 | 10.55 | 332.34 | 332.02 | 62.22 | 0.51% | 24 | 16.27 | 5.51 | 0.19 | |
| EX 63A | EX 52 | 0.14 | 0.85 | 0.12 | 1.57 | 5.00 | 7.27 | 11.41 | 331.77 | 331.57 | 39.94 | 0.50% | 24 | 16.05 | 5.55 | 0.12 | |
| EX 52 | EX 51 | 0.00 | 0.00 | 0.00 | 11.37 | 5.00 | 7.27 | 82.69 | 329.07 | 328.64 | 84.94 | 0.51% | 48 | 102.48 | 9.07 | 0.16 | |
| EX 51A | EX 51 | 0.28 | 0.85 | 0.24 | 0.24 | 5.00 | 7.27 | 1.73 | 331.83 | 331.69 | 13.58 | 1.03% | 15 | 6.58 | 4.52 | 0.05 | |
| EX 51 | EX 50 | 0.00 | 0.00 | 0.00 | 11.61 | 5.00 | 7.27 | 84.42 | 328.39 | 327.91 | 94.27 | 0.51% | 48 | 102.77 | 9.13 | 0.17 | |
| EX 50A | EX 50 | 0.15 | 0.85 | 0.13 | 0.26 | 5.00 | 7.27 | 1.91 | 331.12 | 329.39 | 37.58 | 4.60% | 18 | 22.60 | 7.78 | 0.08 | |
| EX 49 | EX 50 | 0.08 | 0.85 | 0.07 | 0.07 | 5.00 | 7.27 | 0.49 | 329.66 | 329.39 | 13.58 | 1.99% | 18 | 14.85 | 3.88 | 0.05 | |
| EX 50 | EX 48A | 0.00 | 0.00 | 0.00 | 11.94 | 5.00 | 7.27 | 86.82 | 326.57 | 326.47 | 15.77 | 0.63% | 48 | 114.69 | 10.03 | 0.03 | |
| EX 48A | EX 48 | 0.00 | 0.00 | 0.00 | 11.94 | 5.00 | 7.27 | 86.82 | 326.22 | 325.74 | 74.48 | 0.64% | 48 | 115.63 | 10.10 | 0.12 | |
| BLDG G3 | EX 48B | 0.00 | 0.00 | 0.00 | 0.54 | 5.00 | 7.27 | 3.94 | 329.68 | 329.50 | 8.50 | 2.12% | 12 | 5.20 | 7.28 | 0.02 | |
| STM LAT4 | EX 48B | 0.09 | 0.90 | 0.08 | 0.08 | 5.00 | 7.27 | 0.59 | 330.50 | 329.58 | 60.00 | 1.53% | 10 | 2.72 | 3.98 | 0.25 | |
| STM LAT5 | EX 48B | 0.07 | 0.90 | 0.06 | 0.06 | 5.00 | 7.27 | 0.46 | 332.00 | 330.33 | 80.17 | 2.08% | 10 | 3.17 | 4.14 | 0.32 | |
| EX 48B | EX 48 | 0.00 | 0.00 | 0.00 | 0.69 | 5.00 | 7.27 | 4.98 | 329.00 | 328.49 | 21.23 | 2.40% | 15 | 10.04 | 8.17 | 0.04 | |
| EX 48 | EX 47 | 0.00 | 0.00 | 0.00 | 12.63 | 5.00 | 7.27 | 91.81 | 325.49 | 324.44 | 104.71 | 1.00% | 48 | 144.23 | 12.16 | 0.14 | |
| STM LAT6 | EX 47A | 0.01 | 0.90 | 0.01 | 0.01 | 5.00 | 7.27 | 0.07 | 328.08 | 327.63 | 21.80 | 2.06% | 6 | 0.81 | 2.47 | 0.15 | |
| STM LAT7 | EX 47A | 0.01 | 0.90 | 0.01 | 0.01 | 5.00 | 7.27 | 0.07 | 328.62 | 327.63 | 47.61 | 2.08% | 6 | 0.81 | 2.48 | 0.32 | |
| BLD G4 | EX 47A | 0.01 | 0.90 | 0.01 | 0.01 | 5.00 | 7.27 | 0.07 | 331.00 | 330.00 | 14.58 | 6.86% | 4 | 0.50 | 3.96 | 0.06 | |
| EX 47A | EX 47 | 0.28 | 0.85 | 0.24 | 0.26 | 5.00 | 7.27 | 1.86 | 327.21 | 326.94 | 13.58 | 1.99% | 15 | 9.13 | 5.84 | 0.04 | |
| EX 47 | EX 46 | 0.00 | 0.00 | 0.00 | 12.88 | 5.00 | 7.27 | 93.67 | 324.19 | 323.44 | 74.86 | 1.00% | 48 | 144.16 | 12.21 | 0.10 | |
| EX 104 | 80 | 0.11 | 0.80 | 0.09 | 0.09 | 5.00 | 7.27 | 0.64 | 336.15 | 335.70 | 30.11 | 1.49% | 10 | 2.69 | 4.04 | 0.12 | |
| 80 | 80B | 0.02 | 0.90 | 0.02 | 0.11 | 5.00 | 7.27 | 0.77 | 334.00 | 333.25 | 90.64 | 0.83% | 15 | 5.89 | 3.32 | 0.46 | |
| 80B | 80C | 0.09 | 0.85 | 0.08 | 0.18 | 5.00 | 7.27 | 1.33 | 333.00 | 332.75 | 22.03 | 1.13% | 15 | 6.90 | 4.34 | 0.08 | |
| Gar H | 80E | 0.53 | 0.90 | 0.48 | 0.48 | 5.00 | 7.27 | 3.47 | 333.00 | 332.89 | 7.33 | 1.49% | 12 | 4.36 | 6.16 | 0.02 | |
| 80E | 80C | 0.00 | | 0.00 | 0.48 | 5.00 | 7.27 | 3.47 | 332.89 | 332.75 | 8.84 | 1.49% | 12 | 4.37 | 6.16 | 0.02 | |
| 80C | 80D | 0.00 | | 0.00 | 0.66 | 5.00 | 7.27 | 4.79 | 332.00 | 331.60 | 67.46 | 0.59% | 24 | 17.47 | 4.74 | 0.24 | |
| 80D | EX 80A | 0.08 | 0.85 | 0.07 | 0.73 | 5.00 | 7.27 | 5.29 | 330.85 | 330.40 | 61.09 | 0.74% | 33 | 45.51 | 5.12 | 0.20 | |
| EX 80A | EX 103 | 0.00 | 0.00 | 0.00 | 3.81 | 5.00 | 7.27 | 27.73 | 330.15 | 328.89 | 135.68 | 0.93% | 33 | 51.10 | 8.78 | 0.26 | |
| GAR J | EX 103 | 0.49 | 0.90 | 0.44 | 0.44 | 5.00 | 7.27 | 3.21 | 331.00 | 330.75 | 10.17 | 2.46% | 12 | 5.60 | 7.37 | 0.02 | |
| EX 103 | EX 101 | 0.30 | 0.90 | 0.27 | 4.53 | 5.00 | 7.27 | 32.90 | 328.75 | 328.45 | 16.38 | 1.83% | 33 | 71.77 | 11.82 | 0.02 | |
| EX 101 | EX 102 | | | 0.00 | 4.53 | 5.00 | 7.27 | 32.90 | 328.35 | 327.55 | 72.53 | 1.10% | 33 | 55.69 | 9.76 | 0.12 | |
| EX 102 | EX 79 | | | 0.00 | 4.53 | 5.00 | 7.27 | 32.90 | 327.50 | 327.20 | 14.06 | 2.13% | 33 | 77.46 | 12.51 | 0.02 | |
| EX 79B | EX 79A | 0.37 | 0.85 | 0.31 | 0.31 | 5.00 | 7.27 | 2.29 | 330.75 | 330.08 | 84.75 | 0.79% | 12 | 3.18 | 2.95 | 0.43 | |
| EX 79A | EX 102 | 0.00 | 0.90 | 0.00 | 0.49 | 5.00 | 7.27 | 3.60 | 329.83 | 329.46 | 27.12 | 1.35% | 15 | 7.52 | 6.06 | 0.07 | |
| EX 79 | EX 78 | 0.09 | 0.85 | 0.08 | 4.99 | 5.00 | 7.27 | 36.30 | 327.10 | 326.40 | 75.45 | 0.93% | 33 | 51.08 | 9.33 | 0.13 | |
| EX 78 | EX 76 | 0.09 | 0.85 | 0.08 | 5.13 | 5.00 | 7.27 | 37.31 | 326.15 | 325.78 | 38.47 | 0.96% | 33 | 52.01 | 9.52 | 0.07 | |
| EX 77 | EX 76 | 0.31 | 0.85 | 0.26 | 0.39 | 5.00 | 7.27 | 2.83 | 328.00 | 327.08 | 59.75 | 1.54% | 15 | 8.04 | 5.98 | 0.17 | |
| EX 76 | EX 46 | 0.00 | 0.00 | 0.00 | 5.57 | 5.00 | 7.27 | 40.47 | 324.58 | 323.94 | 107.11 | 0.60% | 42 | 77.98 | 8.18 | 0.22 | |
| BLDG I5 | EX 46A | 0.10 | 0.90 | 0.09 | 0.09 | 5.00 | 7.27 | 0.65 | 327.25 | 326.91 | 11.41 | 2.98% | 10 | 3.79 | 5.21 | 0.04 | |
| BLDG G6 | EX 46A | 0.30 | 0.90 | 0.27 | 0.27 | 5.00 | 7.27 | 1.96 | 333.49 | 327.13 | 305.60 | 2.08% | 10 | 3.17 | 6.12 | 0.83 | |
| EX 46A | EX 46 | 0.35 | 0.85 | 0.30 | 0.66 | 5.00 | 7.27 | 4.78 | 326.25 | 325.94 | 42.43 | 0.73% | 18 | 9.00 | 5.17 | 0.14 | |
| EX 46 | EX 45 | 0.00 | 0.00 | 0.00 | 19.11 | 5.00 | 7.27 | 138.92 | 322.94 | 321.19 | 174.90 | 1.00% | 54 | 197.23 | 13.43 | 0.22 | |
| BLDG I6 | EX 45 | 0.56 | 0.81 | 0.45 | 0.45 | 5.00 | 7.27 | 3.30 | 328.50 | 324.60 | 180.43 | 2.16% | 10 | 3.23 | 5.92 | 0.51 | Capacity Exceeded |
| EX 45 | EX 44 | 0.45 | 0.85 | 0.38 | 19.94 | 5.00 | 7.27 | 144.99 | 320.94 | 320.50 | 43.66 | 1.01% | 54 | 197.94 | 13.59 | 0.05 | |
| EX 44A | EX 44 | 0.50 | 0.85 | 0.43 | 0.43 | 5.00 | 7.27 | 3.09 | 323.85 | 323.25 | 58.03 | 1.03% | 15 | 6.59 | 5.28 | 0.18 | |
| EX 88 | EX 43 | 0.10 | 0.50 | 0.05 | 0.05 | 5.00 | 7.27 | 0.36 | 323.50 | 322.68 | 41.34 | 1.98% | 15 | 9.12 | 3.62 | 0.19 | |
| EX 44 | EX 43 | 0.00 | 0.00 | 0.00 | 20.37 | 5.00 | 7.27 | 148.08 | 320.25 | 319.44 | 73.58 | 1.10% | 54 | 206.88 | 14.14 | 0.09 | |
| EX 43 | EX 86B | 0.00 | 0.00 | 0.00 | 20.42 | 5.00 | 7.27 | 148.45 | 319.14 | 318.92 | 31.96 | 0.69% | 54 | 163.59 | 11.65 | 0.05 | |
| EX 86B | EX 86A | 0.00 | 0.00 | 0.00 | 20.42 | 5.00 | 7.27 | 148.45 | 318.67 | 318.15 | 76.55 | 0.68% | 54 | 162.51 | 11.58 | 0.11 | |
| * | | | | | | | | | | | | | | | | | |
| * | | | | | | | | | | | | | | | | | |
| STM LAT8 | EX 75 | 0.11 | 0.90 | 0.10 | 0.10 | 5.00 | 7.27 | 0.72 | 337.15 | 333.25 | 187.54 | 2.08% | 8 | 1.75 | 4.76 | 0.66 | |
| EX 75 | EX 74 | 0.26 | 0.85 | 0.22 | 0.32 | 5.00 | 7.27 | 2.33 | 332.38 | 330.83 | 134.38 | 1.15% | 18 | 11.31 | 5.04 | 0.44 | |
| G GAR1 | EX 74A | 0.54 | 0.90 | 0.49 | 0.49 | 5.00 | 7.27 | 3.53 | 332.04 | 331.90 | 8.50 | 1.65% | 12 | 4.58 | 6.44 | 0.02 | |
| BLD G5 | EX 74A | 0.02 | 0.90 | 0.02 | 0.02 | 5.00 | 7.27 | 0.13 | 333.65 | 332.49 | 55.90 | 2.08% | 8 | 1.75 | 2.94 | 0.32 | |
| EX 74A | EX 74 | 0.00 | 0.00 | 0.00 | 0.50 | 5.00 | 7.27 | 3.66 | 331.65 | 331.08 | 46.00 | 1.24% | 15 | 7.21 | 5.90 | 0.13 | |
| EX 74 | EX 73 | 0.23 | 0.85 | 0.20 | 0.20 | 5.00 | 7.27 | 1.42 | 330.54 | 329.75 | 139.01 | 0.57% | 21 | 11.98 | 3.35 | 0.69 | |
| BLDG I1 | EX 73 | 0.28 | 0.90 | 0.25 | 0.25 | 5.00 | 7.27 | 1.83 | 333.00 | 330.63 | 317.15 | 0.75% | 10 | 1.90 | 3.97 | 1.33 | |
| * | | | | | | | | | | | | | | | | | |
| EX DA 01 | EX CY 02 | 0.11 | 0.85 | 0.09 | 0.09 | 5.00 | 3.20 | 0.30 | 338.68 | 336.58 | 100.84 | 2.08% | 6 | 0.81 | 1.58 | 1.06 | |
| EX DA 02 | EX CY 02-1 | 0.10 | 0.90 | 0.09 | 0.09 | 5.00 | 3.20 | 0.29 | 339.50 | 337.22 | 109.54 | 2.08% | 6 | 0.81 | 1.52 | 1.20 | |
| EX DA 03 | EX CY 02-1 | 0.04 | 0.90 | 0.04 | 0.04 | 5.00 | 3.20 | 0.12 | 337.37 | 337.22 | 7.45 | 2.01% | 6 | 0.80 | 0.61 | 0.20 | |
| EX CY 02-1 | EX CY 02 | 0.14 | 0.90 | 0.13 | 0.13 | 5.00 | 3.20 | 0.40 | 337.22 | 336.58 | 30.99 | 2.07% | 6 | 0.81 | 2.13 | 0.24 | |
| EX CY 02 | BLDG G1 | 0.10 | 0.90 | 0.09 | 0.27 | 5.00 | 3.20 | 0.88 | 336.33 | 334.75 | 75.56 | 2.09% | 10 | 3.18 | 2.83 | 0.44 | |
| EX DA 08 | EX CY 01-1 | 0.10 | 0.85 | 0.09 | 0.09 | 5.00 | 3.20 | 0.27 | 333.75 | 333.38 | 35.98 | 1.03% | 6 | 0.57 | 1.44 | 0.42 | |
| EX CY 01-1 | EX CY 01-2 | 0.00 | 0.85 | 0.00 | 0.09 | 5.00 | 3.20 | 0.27 | 333.38 | 333.08 | 28.72 | 1.04% | 8 | 1.24 | 1.06 | 0.45 | |
| EX DA 11 | EX CY 01-2 | 0.03 | 0.90 | 0.03 | 0.03 | 5.00 | 3.20 | 0.09 | 333.59 | 333.08 | 49.30 | 1.03% | 6 | 0.57 | 0.46 | 1.80 | |
| EX CY 01-2 | EX CY 01-3 | 0.00 | 0.90 | 0.00 | 0.11 | 5.00 | 3.20 | 0.36 | 333.08 | 332.77 | 30.21 | 1.03% | 8 | 1.23 | 1.40 | 0.36 | |
| EX DA 12 | EX CY 01-3 | 0.08 | 0.90 | 0.07 | 0.07 | 5.00 | 3.20 | 0.23 | 333.32 | 332.77 | 52.73 | 1.04% | 6 | 0.57 | 1.22 | 0.72 | |
| EX CY 01-3 | EX CY 01 | 0.00 | 0.90 | 0.00 | 0.18 | 5.00 | 3.20 | 0.59 | 332.77 | 332.73 | 3.28 | 1.22% | 8 | 1.34 | 2.29 | 0.02 | |
| EX CY 01 | EX CY 03-1 | 0.04 | 0.90 | 0.04 | 0.22 | 3.00 | 3.20 | 0.70 | 332.73 | 331.95 | 74.65 | 1.04% | 8 | 1.24 | 2.74 | 0.45 | |

MATCHLINE SEE SHEET 10A

MATCHLINE SEE SHEET 10A

DENOTES AS-BUILT INFORMATION BY URBAN ENGINEERING & ASSOCIATES, INC.

COMMONWEALTH OF VIRGINIA ROBERT M. FERGUS Lic. No. 1677 11-21-06 LAND SURVEYOR

THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY!

REC'D 11 26 20 FFX C

| No. | DATE | DESCRIPTION |
|---|---|---|
| 2 | 01/22/07 | REV. STORM FR. GAR TO 100; ADD STORM FROM GAR TO EX. 103 |
| 1 | 09/22/06 | ADD PUBLIC ROAD BEHIND BLD. J |

REVISIONS

PLAN DATE 02-11-05 09-26-05 02-17-06 09-22-06 01-22-07

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

STORM DRAIN COMPUTATIONS
DULLES STATION AT DULLES CORNER
BUILDING J
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SITE AS-BUILT

DATE: AUGUST, 2005
C.I. N/A
SCALE: N/A

SHEET 10 OF 35
FILE No. AB-1158-6

FOR INFORMATION ONLY

**Dewberry**

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DAVIS CARTER SCOTT Ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA JOHN WILLIAM EWING Lic. No. 8053 3/27/2014 PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE
OUTFALL 2 APPROVED CALCULATIONS

PROJECT NO.

# C-28

SHEET NO.
M-10831

## STORM DRAIN COMPS CONT.

MATCHLINE SEE SHEET 10

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX DA 11 | EX CY 01-2 | 0.03 | 0.90 | 0.03 | 0.03 | 5.00 | 3.20 | 0.09 | 333.59 | 333.08 | 49.30 | 1.03% | 8 | 0.57 | 0.46 | 1.00 | |
| EX CY 01-2 | EX CY 01-3 | 0.00 | 0.90 | 0.00 | 0.11 | 5.00 | 3.20 | 0.36 | 333.08 | 332.77 | 30.21 | 1.03% | 8 | 1.23 | 1.40 | 0.36 | |
| EX DA 12 | EX CY 01-3 | 0.08 | 0.90 | 0.07 | 0.07 | 5.00 | 3.20 | 0.23 | 333.32 | 332.77 | 52.73 | 1.04% | 6 | 0.57 | 1.22 | 0.72 | |
| EX CY 01-3 | EX CY 01 | 0.00 | 0.90 | 0.00 | 0.18 | 5.00 | 3.20 | 0.59 | 332.77 | 332.73 | 3.28 | 1.22% | 8 | 1.34 | 2.29 | 0.02 | |
| EX CY 01 | EX CY 03-1 | 0.04 | 0.90 | 0.04 | 0.22 | 5.00 | 3.20 | 0.70 | 332.73 | 331.95 | 74.65 | 1.04% | 8 | 1.24 | 2.74 | 0.45 | |
| * | | | | | | | | | | | | | | | | | |
| EX DA 16 | EX DA 04 | 0.01 | 0.90 | 0.01 | 0.01 | 5.00 | 3.20 | 0.03 | 332.42 | 332.22 | 19.10 | 1.05% | 6 | 0.58 | 0.15 | 2.09 | |
| EX DA 04 | EX CY 03-1 | 0.04 | 0.85 | 0.03 | 0.04 | 5.00 | 3.20 | 0.14 | 332.22 | 331.95 | 25.75 | 1.05% | 8 | 1.24 | 0.54 | 0.80 | |
| EX CY 03-1 | EX DA 18 | 0.00 | 0.90 | 0.00 | 0.26 | 5.00 | 3.20 | 0.84 | 331.95 | 331.91 | 4.14 | 0.97% | 10 | 2.16 | 2.73 | 0.03 | |
| EX DA 18 | EX DA 05 | 0.05 | 0.90 | 0.05 | 0.31 | 5.00 | 3.20 | 0.99 | 331.91 | 331.79 | 11.67 | 1.03% | 10 | 2.23 | 3.19 | 0.06 | |
| EX DA 05 | EX CY 03 | 0.07 | 0.85 | 0.06 | 0.37 | 5.00 | 3.20 | 1.18 | 331.79 | 331.22 | 54.91 | 1.04% | 10 | 2.24 | 3.81 | 0.24 | |
| EX DA 06 | EX CY 03 | 0.03 | 0.80 | 0.02 | 0.02 | 5.00 | 3.20 | 0.08 | 331.68 | 331.22 | 43.80 | 1.05% | 8 | 1.24 | 0.30 | 2.44 | |
| EX DA 21 | EX CY 03 | 0.14 | 0.90 | 0.13 | 0.13 | 5.00 | 3.20 | 0.40 | 332.01 | 331.22 | 75.96 | 1.04% | 6 | 0.57 | 2.13 | 0.59 | |
| EX CY 03 | BLDG G3 | 0.03 | 0.80 | 0.02 | 0.54 | 5.00 | 3.20 | 1.73 | 331.22 | 329.68 | 72.58 | 2.12% | 12 | 5.20 | 4.91 | 0.25 | |
| * | | | | | | | | | | | | | | | | | |
| BLDG H 01 | EX 79A | 0.14 | 0.90 | 0.13 | 0.13 | 5.00 | 7.27 | 0.92 | 334.00 | 330.41 | 195.82 | 1.83% | 8 | 1.64 | 3.57 | 0.92 | |
| BLDG H 02 | EX 79A | 0.06 | 0.90 | 0.05 | 0.05 | 5.00 | 7.27 | 0.39 | 331.00 | 330.58 | 17.09 | 2.46% | 6 | 0.88 | 2.08 | 0.14 | |
| BLDG H 03 | EX 76 | 0.05 | 0.90 | 0.05 | 0.05 | 5.00 | 7.27 | 0.33 | 331.00 | 327.58 | 98.23 | 3.48% | 6 | 1.05 | 1.73 | 0.95 | |
| BLDG H 04 | EX 77 | 0.14 | 0.90 | 0.13 | 0.13 | 5.00 | 7.27 | 0.92 | 333.00 | 328.75 | 136.96 | 3.10% | 6 | 0.99 | 4.85 | 0.47 | |
| BLDG H 05 | EX 50A | 0.15 | 0.90 | 0.14 | 0.14 | 5.00 | 7.27 | 0.98 | 336.00 | 332.00 | 71.19 | 5.62% | 6 | 1.33 | 5.19 | 0.23 | |
| BLDG H 06 | EX 67 | 0.04 | 0.90 | 0.04 | 0.04 | 5.00 | 7.27 | 0.26 | 336.00 | 335.50 | 14.12 | 3.54% | 6 | 1.06 | 1.38 | 0.17 | |
| BLDG H 07 | EX 68A | 0.06 | 0.90 | 0.05 | 0.05 | 5.00 | 7.27 | 0.39 | 337.50 | 336.75 | 40.28 | 1.86% | 6 | 0.77 | 2.08 | 0.32 | |
| BLDG H 08 | EX 68A | 0.07 | 0.90 | 0.06 | 0.06 | 5.00 | 7.27 | 0.46 | 339.00 | 336.75 | 109.58 | 2.05% | 6 | 0.81 | 2.42 | 0.75 | |
| EX 91 | EX 90 | 0.13 | 0.85 | 0.11 | 1.12 | 5.00 | 7.27 | 8.12 | 323.00 | 322.43 | 51.17 | 1.11% | 27 | 32.77 | 6.83 | 0.12 | |
| EX 90 | EX 89 | 0.59 | 0.85 | 0.50 | 3.30 | 5.00 | 7.27 | 24.00 | 322.18 | 321.13 | 95.60 | 1.10% | 27 | 32.54 | 8.95 | 0.18 | |
| EX 89 | EX 86A | 0.00 | 0.00 | 0.00 | 3.30 | 5.00 | 7.27 | 24.00 | 320.88 | 320.15 | 40.40 | 1.81% | 27 | 41.74 | 10.86 | 0.06 | |
| EX 86A | EX 86 | 0.00 | 0.00 | 0.00 | 23.72 | 5.00 | 7.27 | 172.45 | 317.90 | 317.45 | 56.30 | 0.80% | 54 | 176.28 | 12.63 | 0.07 | |
| EX 86 | EX 81 | 0.69 | 0.90 | 0.62 | 24.34 | 5.00 | 7.27 | 176.96 | 317.20 | 315.50 | 210.30 | 0.81% | 54 | 177.28 | 12.71 | 0.28 | |
| BLD 13 | EX 93 | 0.19 | 0.90 | 0.17 | 0.17 | 5.00 | 7.27 | 1.24 | 322.00 | 318.62 | 158.35 | 2.13% | 10 | 3.21 | 5.51 | 0.48 | |
| BLD 14 | EX 93 | 0.42 | 0.90 | 0.38 | 0.38 | 5.00 | 7.27 | 2.75 | 322.55 | 318.62 | 188.92 | 2.08% | 10 | 3.17 | 6.54 | 0.48 | |
| EX 93 | EX 81 | 0.00 | 0.00 | 0.00 | 0.17 | 5.00 | 7.27 | 1.24 | 318.20 | 317.75 | 44.25 | 1.02% | 15 | 6.53 | 4.10 | 0.18 | |
| STM LAT8 | EX 75 | 0.11 | 0.90 | 0.10 | 0.10 | 5.00 | 7.27 | 0.72 | 337.15 | 333.25 | 187.54 | 2.08% | 8 | 1.75 | 4.76 | 0.66 | |
| EX 75 | EX 74 | 0.26 | 0.85 | 0.22 | 0.32 | 5.00 | 7.27 | 2.33 | 332.38 | 330.83 | 134.38 | 1.15% | 18 | 11.31 | 5.04 | 0.44 | |
| G GAR1 | EX 74A | 0.54 | 0.90 | 0.49 | 0.49 | 5.00 | 7.27 | 3.53 | 332.04 | 331.90 | 8.50 | 1.65% | 12 | 4.58 | 6.44 | 0.02 | |
| BLD G5 | EX 74A | 0.02 | 0.90 | 0.02 | 0.02 | 5.00 | 7.27 | 0.13 | 333.65 | 332.49 | 55.90 | 2.08% | 8 | 1.75 | 2.94 | 0.32 | |
| EX 74A | EX 74 | 0.00 | 0.00 | 0.00 | 0.50 | 5.00 | 7.27 | 3.66 | 331.65 | 331.08 | 46.00 | 1.24% | 15 | 7.21 | 5.90 | 0.13 | |
| EX 74 | EX 73 | 0.23 | 0.85 | 0.20 | 0.20 | 5.00 | 7.27 | 1.42 | 330.54 | 329.75 | 139.01 | 0.57% | 21 | 11.98 | 3.35 | 0.69 | |
| BLDG I1 | EX. 73 | 0.28 | 0.90 | 0.25 | 0.25 | 5.00 | 7.27 | 1.83 | 333.00 | 330.63 | 317.15 | 0.75% | 10 | 1.90 | 3.97 | 1.33 | |
| EX 73 | EX 84 | 0.19 | 0.90 | 0.17 | 0.62 | 5.00 | 7.27 | 4.50 | 329.47 | 324.37 | 181.65 | 2.81% | 21 | 26.62 | 8.24 | 0.37 | |
| EX 84 | EX 83 | 0.22 | 0.90 | 0.20 | 0.82 | 5.00 | 7.27 | 5.94 | 324.12 | 322.49 | 58.36 | 2.79% | 21 | 26.55 | 8.89 | 0.11 | |
| BLD I2 | EX 85 | 0.26 | 0.60 | 0.16 | 0.16 | 5.00 | 7.27 | 1.13 | 327.50 | 324.59 | 289.28 | 1.01% | 10 | 2.20 | 4.07 | 1.18 | |
| I GAR | EX 85 | 0.45 | 0.90 | 0.41 | 0.41 | 5.00 | 7.27 | 2.94 | 324.75 | 324.59 | 7.50 | 2.13% | 10 | 3.21 | 6.67 | 0.02 | |
| EX 85 | EX 83 | 0.00 | 0.00 | 0.00 | 0.56 | 5.00 | 7.27 | 4.08 | 324.18 | 322.99 | 79.21 | 1.50% | 15 | 7.94 | 6.51 | 0.20 | |
| EX 83 | EX 82 | 0.08 | 0.85 | 0.07 | 1.45 | 5.00 | 7.27 | 10.51 | 322.24 | 318.87 | 120.18 | 2.80% | 21 | 26.60 | 10.41 | 0.19 | |
| EX 82 | EX 81 | 0.19 | 0.85 | 0.16 | 1.61 | 5.00 | 7.27 | 11.68 | 318.62 | 317.00 | 59.34 | 2.73% | 21 | 26.25 | 10.60 | 0.09 | |
| EX 81 | EX 81A | 0.34 | 0.85 | 0.29 | 26.41 | 5.00 | 7.27 | 191.99 | 315.25 | 315.00 | 24.05 | 1.04% | 54 | 201.03 | 14.39 | 0.03 | |
| 107 | 111 | 4.35 | 0.30 | 1.31 | 1.31 | 5.00 | 7.27 | 9.49 | 334.00 | 332.75 | 30.74 | 4.07% | 24 | 45.74 | 11.49 | 0.04 | |
| 110 | 112 | 0.00 | | | 0.00 | 5.00 | 7.27 | 0.00 | 333.75 | 332.00 | 41.15 | 4.25% | 27 | 64.04 | #NUM! | #NUM! | NO FLOW |
| 113 | 111 | 2.39 | 0.40 | 0.96 | 0.96 | 5.00 | 7.27 | 6.95 | 334.00 | 332.75 | 182.26 | 0.69% | 24 | 18.79 | 5.53 | 0.55 | |
| 111 | 112 | 0.38 | 0.85 | 0.32 | 2.58 | 5.00 | 7.27 | 18.79 | 332.50 | 331.50 | 61.50 | 1.63% | 33 | 67.62 | 9.74 | 0.11 | |
| 109 | 112 | 0.46 | 0.75 | 0.35 | 0.35 | 5.00 | 7.27 | 2.51 | 332.85 | 332.25 | 43.00 | 1.40% | 24 | 26.79 | 5.35 | 0.13 | |
| 112 | EX 80A | 0.00 | | 0.00 | 2.93 | 5.00 | 7.27 | 21.29 | 331.25 | 330.40 | 61.16 | 1.39% | 36 | 78.84 | 9.47 | 0.11 | |
| 100 | 99 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 7.27 | 0.00 | 334.50 | 334.00 | 26.16 | 1.91% | 12 | 4.94 | #NUM! | #NUM! | NO FLOW |
| 99 | 97 | 0.09 | 0.90 | 0.08 | 0.08 | 5.00 | 7.27 | 0.59 | 333.75 | 333.00 | 83.87 | 0.89% | 15 | 6.13 | 3.16 | 0.44 | |
| 97 | EX 80A | 0.09 | 0.85 | 0.08 | 0.16 | 5.00 | 7.27 | 1.15 | 332.75 | 331.65 | 43.00 | 2.56% | 15 | 10.36 | 5.56 | 0.13 | |
| CR7 | 79C | 0.24 | 0.85 | 0.20 | 0.20 | 5.00 | 7.27 | 1.48 | 331.56 | 330.25 | 131.31 | 1.00% | 10 | 2.59 | 4.91 | 0.45 | |
| CR8 | 79C | 0.22 | 0.85 | 0.19 | 0.19 | 5.00 | 7.27 | 1.36 | 331.11 | 330.25 | 85.74 | 1.00% | 8 | 1.43 | 4.67 | 0.31 | |
| 79C | EX 79 | 0.00 | | 0.00 | 0.39 | 5.00 | 7.27 | 2.84 | 330.25 | 329.54 | 95.54 | 0.74% | 12 | 3.08 | 4.45 | 0.36 | |
| 106 | 105 | 0.87 | 0.30 | 0.26 | 0.26 | 5.00 | 7.27 | 1.90 | 327.80 | 327.45 | 44.01 | 0.80% | 18 | 9.39 | 4.16 | 0.18 | |
| 105 | 95 | 0.13 | 0.85 | 0.11 | 0.37 | 5.00 | 7.27 | 2.70 | 326.70 | 326.00 | 78.31 | 0.89% | 27 | 29.36 | 4.61 | 0.28 | |
| 95 | 94 | 0.04 | 0.85 | 0.03 | 0.41 | 5.00 | 7.27 | 2.95 | 325.75 | 325.00 | 100.54 | 0.75% | 27 | 26.82 | 4.43 | 0.38 | |
| 94 | 93 | 0.00 | 0.85 | 0.00 | 0.41 | 5.00 | 7.27 | 2.95 | 324.75 | 324.35 | 68.12 | 0.59% | 27 | 23.80 | 4.07 | 0.28 | |
| 93 | 92 | 0.00 | 0.85 | 0.00 | 0.41 | 5.00 | 7.27 | 2.95 | 324.10 | 323.75 | 67.69 | 0.52% | 27 | 22.33 | 3.89 | 0.29 | |
| CR1 | CR6 | 0.18 | 0.85 | 0.15 | 0.15 | 5.00 | 7.27 | 1.11 | 329.51 | 328.11 | 140.00 | 1.00% | 10 | 2.60 | 4.58 | 0.51 | |
| CR2 | CR6 | 0.06 | 0.60 | 0.04 | 0.04 | 5.00 | 7.27 | 0.27 | 329.62 | 328.11 | 150.67 | 1.00% | 6 | 0.67 | 3.21 | 0.78 | |
| CR3 | CR5 | 0.18 | 0.85 | 0.15 | 0.15 | 5.00 | 7.27 | 1.11 | 329.73 | 328.50 | 136.88 | 0.90% | 8 | 1.36 | 4.34 | 0.53 | |
| CR5 | CR6 | | | 0.00 | 0.15 | 5.00 | 7.27 | 1.11 | 328.50 | 328.11 | 39.00 | 1.00% | 8 | 1.43 | 4.53 | 0.14 | |
| CR6 | 91B | | | 0.00 | 0.31 | 5.00 | 7.27 | 2.22 | 328.11 | 327.90 | 21.36 | 0.98% | 10 | 2.57 | 5.31 | 0.07 | |
| CR4 | 91B | 0.20 | 0.85 | 0.17 | 0.17 | 5.00 | 7.27 | 1.24 | 329.40 | 327.90 | 149.86 | 1.00% | 8 | 1.43 | 4.62 | 0.54 | |
| 91B | 91A | | | 0.00 | 0.48 | 5.00 | 7.27 | 3.46 | 327.90 | 326.50 | 84.56 | 1.66% | 12 | 4.60 | 6.43 | 0.22 | |
| 91A | 92A | 0.00 | 0.00 | 0.53 | 1.01 | 5.00 | 7.27 | 7.31 | 326.25 | 325.50 | 34.87 | 2.15% | 15 | 9.50 | 8.54 | 0.07 | |
| 92A | 92 | 0.32 | 0.85 | 0.27 | 1.28 | 5.00 | 7.27 | 9.29 | 325.25 | 323.90 | 51.17 | 2.64% | 24 | 36.84 | 9.77 | 0.09 | |
| 92 | EX 90 | 0.00 | 0.85 | 0.00 | 1.68 | 5.00 | 7.27 | 12.24 | 323.50 | 322.43 | 153.24 | 0.70% | 27 | 25.95 | 6.43 | 0.40 | |
| BLDG J2 | 95 | 0.13 | 0.90 | 0.12 | 0.12 | 5.00 | 7.27 | 0.86 | 337.00 | 333.00 | 144.60 | 2.77% | 6 | 0.94 | 5.41 | 0.45 | |
| BLDG J3 | EX 91 | 0.07 | 0.90 | 0.07 | 0.07 | 5.00 | 7.27 | 0.48 | 334.00 | 333.00 | 84.62 | 1.18% | 6 | 0.61 | 3.45 | 0.41 | |
| BLDG J4 | EX 91 | 0.14 | 0.90 | 0.13 | 0.13 | 5.00 | 7.27 | 0.92 | 331.00 | 326.00 | 178.00 | 2.81% | 6 | 0.94 | 5.47 | 0.54 | |
| BLDG J5 | EX 91 | 0.07 | 0.90 | 0.06 | 0.06 | 5.00 | 7.27 | 0.43 | 328.00 | 327.00 | 59.67 | 1.68% | 6 | 0.73 | 3.87 | 0.26 | |
| BLDG J6 | EX 88 | 0.09 | 0.90 | 0.08 | 0.08 | 5.00 | 7.27 | 0.59 | 329.00 | 327.00 | 122.40 | 1.63% | 6 | 0.72 | 4.09 | 0.50 | |
| BLDG J7 | EX 88 | 0.11 | 0.90 | 0.10 | 0.10 | 5.00 | 7.27 | 0.72 | 330.00 | 328.00 | 114.22 | 1.75% | 6 | 0.74 | 4.32 | 0.44 | |
| BLDG J8 | EX 78 | 0.07 | 0.90 | 0.06 | 0.06 | 5.00 | 7.27 | 0.46 | 330.50 | 329.50 | 71.96 | 1.39% | 6 | 0.66 | 3.64 | 0.33 | |
| BLDG J9 | EX 79 | 0.07 | 0.90 | 0.06 | 0.06 | 5.00 | 7.27 | 0.46 | 332.00 | 331.21 | 87.00 | 0.91% | 6 | 0.54 | 3.07 | 0.47 | |

MATCHLINE SEE SHEET 10

### CULVERT DESIGN FORM

PROJECT : DULLES STATIO – BUILDING J
PROPOSED 24" RCP

STATION : ________

DESIGNER : PFC

**HYDROLOGICAL DATA**

SEE ADD'L NTS.

☑ METHOD : RATIONAL
☐ DRAINAGE AREA : 4.35 AC ☐ STREAM SLOPE : –
☐ CHANNEL SHAPE : –
☐ ROUTING : – ☐ OTHER : –

**DESIGN FLOWS/TAILWATER**

| R.I. (YEARS) | FLOW (cfs) | TW (ft) |
|---|---|---|
| Q10 | 9.49 | – |

| CULVERT DESCRIPTION / MATERIAL–SHAPE–SIZE–ENTRANCE | TOTAL FLOW Q (cfs) | FLOW PER BARREL Q / N (1) | HEADWATER CALCULATIONS – INLET CONTROL HW / D (2) | HWi | FALL (3) | ELhi (4) | OUTLET CONTROL TW (5) | dc | (dc+D)/2 | ho (6) | ke | H (7) | ELho (8) | CONTROL HEADWATER ELEVATION | OUTLET VELOCITY | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STRUCTURE 107–24"RCP | 9.49 | 9.49 | 0.85 | 1.7 | 0.00 | 335.7 | | | | | | | | 335.7 | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

## INLET COMPUTATIONS

| NUMBER | INLET TYPE | LENGTH | STATION | DRAINAGE AREA | C | C x A | C x A | INTENSITY | Q INCR | Q CARRY OVER | Q TOTAL | S GUTTER | Sx CROSS SLOPE | T SPREAD | W | W/T | Sw | Sw/Sx | Eo | a | S'w | Se | Lt | P EFFECTIVE LENGTH | L/Lt | d | E | h | Q INT | d/H | Qb CARRY OVER | T SPREAD AT SAG | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92A | DI-3B | 10.0 | | 0.32 | 0.85 | 0.27 | 0.27 | 7.27 | 1.98 | 0.00 | 1.98 | 0.0280 | 0.0226 | 2.01 | 2.00 | 1.00 | 0.0833 | 3.69 | 1.00 | 3.46 | 0.14 | 0.17 | 9.95 | | 1.00 | | 1.00 | | 1.98 | | 0.00 | | |
| EX 90 | DI-3B | 14.0 | | 0.59 | 0.85 | 0.50 | 0.50 | 7.27 | 3.65 | 0.00 | 3.65 | 0.0125 | 0.0208 | 2.01 | 2.00 | 1.00 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 10.10 | | 1.39 | | 1.00 | | 3.65 | | 0.00 | | |
| EX 91 | DI-3B | 6.0 | | 0.13 | 0.85 | 0.11 | 0.11 | 7.27 | 0.80 | 0.00 | 0.80 | 0.0125 | 0.0208 | 2.01 | 2.00 | 1.00 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 5.35 | | 1.12 | | 1.00 | | 0.80 | | 0.00 | | |
| 95 | DI-3B | 6.0 | | 0.04 | 0.85 | 0.03 | 0.03 | 4.00 | 0.14 | 0.00 | 0.14 | 0.0225 | 0.0208 | 1.17 | 2.00 | 1.71 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 3.03 | | 1.98 | | 1.00 | | 0.14 | | 0.00 | | |
| 97 | DI-3B | 6.0 | | 0.09 | 0.85 | 0.08 | 0.08 | 4.00 | 0.31 | 0.05 | 0.36 | 0.0138 | 0.0208 | 1.84 | 2.00 | 1.08 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 3.92 | | 1.53 | | 1.00 | | 0.36 | | 0.00 | | |
| 99 | DI-3B | 2.5 | | 0.09 | 0.90 | 0.08 | 0.08 | 4.00 | 0.32 | 0.00 | 0.32 | 0.0138 | 0.0208 | 1.78 | 2.00 | 1.12 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 3.77 | | 0.66 | | 0.86 | | 0.28 | | 0.05 | | |
| 80D | DI-3B | 4 | | 0.08 | 0.85 | 0.07 | 0.07 | 4.00 | 0.27 | 0.00 | 0.27 | 0.0020 | 0.0208 | 2.01 | 2.00 | 1.00 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 1.96 | | 2.04 | | 1.00 | | 0.27 | | 0.00 | | |
| 80B | DI-3B | 6 | | 0.09 | 0.85 | 0.08 | 0.08 | 4.00 | 0.31 | 0.00 | 0.31 | 0.0190 | 0.0011 | 1.64 | 2.00 | 1.22 | 0.0833 | 75.73 | 1.00 | 3.97 | 0.17 | 0.17 | 4.05 | | 1.48 | | 1.00 | | 0.31 | | 0.00 | | |
| 80 | DI-3B | 6 | | 0.02 | 0.90 | 0.02 | 0.02 | 4.00 | 0.07 | 0.00 | 0.07 | 0.0190 | 0.0331 | 0.95 | 2.00 | 2.10 | 0.0833 | 2.52 | 1.00 | 3.20 | 0.13 | 0.17 | 2.20 | | 2.72 | | 1.00 | | 0.07 | | 0.00 | | |
| 113 | DI-3B | 14 | | 2.39 | 0.40 | 0.96 | 0.96 | 4.00 | 3.82 | 0.00 | 3.82 | 0.0057 | 0.0370 | 2.01 | 2.00 | 1.00 | 0.0833 | 2.25 | 1.00 | 3.11 | 0.13 | 0.17 | 8.14 | | 1.72 | | 1.00 | | 3.82 | | 0.00 | | |
| 109 | DI-3B | 10 | | 0.46 | 0.75 | 0.35 | 0.35 | 4.00 | 1.38 | | 1.38 | 0.0140 | 0.0208 | 2.01 | 2.00 | 1.00 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 6.95 | | 1.44 | | 1.00 | | 1.38 | | 0.00 | | |
| 105 | DI-3B | 8 | | 0.13 | 0.85 | 0.11 | 0.11 | 4.00 | 0.44 | 0.00 | 0.44 | 0.0228 | 0.0208 | 1.82 | 2.00 | 1.10 | 0.0833 | 4.00 | 1.00 | 3.50 | 0.15 | 0.17 | 4.99 | | 1.60 | | 1.00 | | 0.44 | | 0.00 | | |
| 111 | DI-3C | 16 | | 0.10 | 0.90 | 0.09 | 0.09 | 6.50 | 0.59 | 0.00 | 0.59 | 0.005 | 0.0208 | 2.01 | 2.00 | | 0.0833 | 4.00 | | | | | | 19.60 | | 0.13 | | 0.46 | | 0.28 | | 6.22 | |
| | | | | 0.28 | 0.85 | 0.24 | 0.24 | 6.50 | 1.55 | 0.00 | 1.55 | | | 2.01 | | | | | | | | | | | | | | | | | | | |
| 106 | YI-1 | 16 | | 0.87 | 0.30 | 0.26 | 0.26 | 7.27 | 1.90 | 0.00 | 1.90 | | | | | | | | | | | | Q/L = 0.119 | | h = 0.5 | | H/h = 0.269 | | H = 0.135 | | | 4 THTS. | |

DENOTES AS-BUILT INFORMATION BY URBAN ENGINEERING & ASSOCIATES, INC.

COMMONWEALTH OF VIRGINIA
ROBERT M. FERGUS
Lic. No. 1677
11-21-08
LAND SURVEYOR

**THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY!**

DEC 0
11 26 20
FFX C

| No. | DATE | DESCRIPTION |
|---|---|---|
| 2 | 01/22/07 | REM. STORM FR. GAR TO 100; ADD STORM FROM GAR TO EX. 103 |
| 1 | 09/22/06 | ADD PUBLIC ROAD BEHIND BLD. J |

REVISIONS

PLAN DATE
02-11-05
09-26-05
02-17-06
01-22-07

URBAN ENGINEERING & ASSOC.,INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

STORM DRAIN COMPUTATIONS
DULLES STATION AT DULLES CORNER
BUILDING J
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SITE AS–BUILT

SCALE: N/A C.I. N/A DATE: AUGUST, 2005

SHEET 10A OF 35

FILE No. AB-1158-6

FOR INFORMATION ONLY

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/14
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE

OUTFALL 2 APPROVED CALCULATIONS

PROJECT NO.

C-29

SHEET NO.

M-10831

# HYDRAULIC GRADE LINE COMPUTATIONS

| INLET STATION (1) | UPSTREAM INLET | Outlet Water Surface Elev. (2) | Do in (3) | Qo cfs (4) | Lo ft (5) | Sfo % (6) | Hf ft (7) | JUNCTION LOSS Vo (8) | Ho (9) | Qi (10) | Vi (11) | QiVi (12) | Vi²/2g | Hi (13) | Angle (14) | Hd (15) | Ht (16) | 1.3 x Ht (17) | 0.5 x Ht (18) | FINAL H (19) | Inlet Water Surface Elev. (20) | RIM ELEV. (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | Starting Elevation | | 311.52 | |
| EX 81A | | | | | | | | | | | | | | | | | | | | | | |
| EX 81 | | 311.52 | 54 | 191.99 | 24.05 | 0.95 | 0.23 | 12.07 | 0.57 | | | | | 0.67 | | 1.34 | 2.58 | 0.00 | 1.29 | 1.52 | 313.04 | 324.50 |
| | EX 82 | | 21 | | | | | | | 11.68 | 4.86 | 56.75 | 0.37 | 0.13 | 66 | 0.21 | | | | | | |
| | EX 93 | | 15 | | | | | | | 1.24 | 1.01 | 1.26 | 0.02 | 0.01 | 0 | 0.00 | | | | | | |
| | EX 86 | | 54 | | | | | | | 176.96 | 11.13 | 1969.03 | 1.92 | 0.67 | 89 | 1.34 | | | | | | |
| EX 86 | | 319.10 | 54 | 176.96 | 210.30 | 0.81 | 1.69 | 11.13 | 0.48 | | | | | 0.64 | | 0.00 | 1.12 | 0.00 | 0.56 | 2.25 | 321.35 | 328.33 |
| | EX 86A | | 54 | | | | | | | 172.45 | 10.84 | 1869.84 | 1.83 | | 0 | | | | | | | |
| EX 86A | | 321.35 | 54 | 172.45 | 56.30 | 0.76 | 0.43 | 10.84 | 0.46 | | | | | 0.47 | | 0.89 | 1.82 | 0.00 | 0.91 | 1.34 | 322.70 | 329.18 |
| | EX 89 | | 27 | | | | | | | 24.00 | 6.04 | 144.89 | 0.57 | 0.20 | 41 | 0.22 | | | | | | |
| | EX 86B | | 54 | | | | | | | 148.45 | 9.33 | 1385.57 | 1.35 | 0.47 | 80 | 0.89 | | | | | | |
| EX 66B | | 322.70 | 54 | 148.45 | 76.55 | 0.57 | 0.43 | 9.33 | 0.34 | | | | | 0.47 | | 0.18 | 1.00 | 0.00 | 0.50 | 0.93 | 323.63 | 330.08 |
| | EX 43 | | 54 | | | | | | | 148.45 | 9.33 | 1385.57 | 1.35 | | 18 | | | | | | | |
| EX 43 | | 323.63 | 54.00 | 148.45 | 31.96 | 0.57 | 0.18 | 9.33 | 0.34 | | | | | 0.47 | | 0.00 | 0.81 | 1.05 | 0.53 | 0.71 | 324.34 | 330.47 |
| | EX 44 | | 54.00 | | | | | | | 148.08 | 9.31 | 1378.79 | 1.35 | 0.47 | 0.00 | 0.00 | | | | | | |
| | EX 88 | | 15.00 | | | | | | | 0.36 | 0.30 | 0.11 | 0.00 | 0.00 | 75.37 | 0.00 | | | | | | |
| EX 88 | | 324.34 | 15.00 | 0.36 | 41.34 | 0.00 | 0.00 | 0.30 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 324.34 | 330.87 |
| | 0 | | | | | | | | | 0.36 | 0.00 | 0.00 | 0.00 | | 0.00 | | | | | | | |
| EX 44 | | 324.34 | 54.00 | 148.08 | 73.58 | 0.56 | 0.42 | 9.31 | 0.34 | | | | | 0.45 | | 0.61 | 1.40 | 0.00 | 0.70 | 1.11 | 325.45 | 331.46 |
| | EX 44A | | 15.00 | | | | | | | 3.09 | 2.52 | 7.78 | 0.10 | 0.03 | 70.23 | 0.06 | | | | | | |
| | EX 45 | | 54.00 | | | | | | | 144.99 | 9.12 | 1321.85 | 1.29 | 0.45 | 50.32 | 0.61 | | | | | | |
| EX 45 | | 325.45 | 54.00 | 144.99 | 43.66 | 0.54 | 0.24 | 9.12 | 0.32 | | | | | 0.41 | | 0.56 | 1.30 | 1.69 | 0.84 | 1.08 | 326.53 | 331.20 |
| | EX 46 | | 54.00 | | | | | | | 138.92 | 8.73 | 1213.35 | 1.18 | 0.41 | 50.32 | 0.56 | | | | | | |
| | BLDG 16 | | 10.00 | | | | | | | 3.30 | 6.05 | 19.94 | 0.57 | 0.20 | 5.32 | 0.02 | | | | | | |
| EX 46 | | 326.53 | 54.00 | 138.92 | 174.90 | 0.50 | 0.87 | 8.73 | 0.30 | | | | | 0.30 | | 0.19 | 0.79 | 1.03 | 0.51 | 1.38 | 327.91 | 332.98 |
| | EX 76 | | 42.00 | | | | | | | 40.47 | 4.21 | 170.22 | 0.27 | 0.10 | 90.00 | 0.19 | | | | | | |
| | EX 47 | | 48.00 | | | | | | | 93.67 | 7.45 | 698.17 | 0.86 | 0.30 | 0.00 | 0.00 | | | | | | |
| | EX 46A | | 18.00 | | | | | | | 4.78 | 2.70 | 12.93 | 0.11 | 0.04 | 71.20 | 0.07 | | | | | | |
| EX 76 | | 327.91 | 42 | 40.47 | 107.11 | 0.16 | 0.17 | 4.21 | 0.07 | | | | | 0.21 | | 0.06 | 0.34 | 0.00 | 0.17 | 0.34 | 328.25 | 332.80 |
| | EX 77 | | 15 | | | | | | | 2.83 | 2.31 | 6.53 | 0.08 | 0.03 | 86 | 0.06 | | | | | | |
| | EX 78 | | 33 | | | | | | | 37.31 | 6.28 | 234.36 | 0.61 | 0.21 | 0 | 0.00 | | | | | | |
| EX 77 | | 328.25 | 15 | 2.83 | 59.75 | 0.19 | 0.11 | 2.31 | 0.02 | | | | | 0.00 | | 0.00 | 0.02 | 0.00 | 0.01 | 0.12 | 328.38 | 333.74 |
| | 0 | | | | | | | | | 2.83 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| EX 78 | | 328.25 | 33 | 37.31 | 38.47 | 0.50 | 0.19 | 6.28 | 0.15 | | | | | 0.20 | | 0.00 | 0.36 | 0.00 | 0.18 | 0.37 | 328.62 | 334.00 |
| | EX 79 | | 33 | | | | | | | 36.30 | 6.11 | 221.79 | 0.58 | | 0 | | | | | | | |
| EX 79 | | 328.62 | 33 | 36.30 | 75.45 | 0.47 | 0.35 | 6.11 | 0.14 | | | | | 0.17 | | 0.33 | 0.64 | 0.00 | 0.32 | 0.67 | 329.29 | 334.36 |
| | EX 102 | | 33 | | | | | | | 32.90 | 5.54 | 182.20 | 0.48 | | 86 | | | | | | | |
| EX 102 | | 329.40 | 33 | 32.90 | 14.06 | 0.38 | 0.05 | 5.54 | 0.12 | | | | | 0.17 | | 0.33 | 0.62 | 0.00 | 0.31 | 0.36 | 329.76 | 334.29 |
| | EX 101 | | 33 | | | | | | | 32.90 | 5.54 | 182.20 | 0.48 | 0.17 | 90 | 0.33 | | | | | | |
| | EX 79A | | 15 | | | | | | | 3.60 | 2.93 | 10.53 | 0.13 | 0.05 | 0 | 0.00 | | | | | | |
| EX 79A | | 330.46 | 15 | 3.60 | 27.12 | 0.31 | 0.08 | 2.93 | 0.03 | | | | | 0.00 | | 0.00 | 0.03 | 0.00 | 0.02 | 0.10 | 330.56 | 335.50 |
| | 0 | | | | | | | | | 3.60 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| EX 101 | | 329.76 | 33 | 32.90 | 72.53 | 0.38 | 0.28 | 5.54 | 0.12 | | | | | 0.17 | | 0.26 | 0.55 | 0.00 | 0.27 | 0.55 | 330.32 | 335.00 |
| | EX 103 | | 33 | | | | | | | 32.90 | 5.54 | 182.20 | 0.48 | | 60 | | | | | | | |
| EX 103 | | 330.65 | 33 | 32.90 | 16.38 | 0.38 | 0.06 | 5.54 | 0.12 | | | | | 0.12 | | 0.19 | 0.42 | 0.00 | 0.21 | 0.27 | 330.92 | 334.80 |
| | GAR J | | 12 | | | | | | | 3.21 | 4.08 | 13.09 | 0.26 | 0.09 | 30 | 0.07 | | | | | | |
| | EX 80A | | 33 | | | | | | | 27.73 | 4.67 | 129.44 | 0.34 | 0.12 | 60 | 0.19 | | | | | | |
| EX 80A | | 331.09 | 33 | 27.73 | 135.68 | 0.27 | 0.37 | 4.67 | 0.08 | | | | | 0.05 | | 0.10 | 0.23 | 0.00 | 0.12 | 0.49 | 331.58 | 337.16 |
| | 80D | | 33 | | | | | | | 5.29 | 0.89 | 4.71 | 0.01 | 0.00 | 0 | 0.00 | | | | | | |
| | 97 | | 15 | | | | | | | 1.15 | 0.93 | 1.07 | 0.01 | 0.00 | 90 | 0.01 | | | | | | |
| | 112 | | 36 | | | | | | | 21.29 | 3.01 | 64.15 | 0.14 | 0.05 | 90 | 0.10 | | | | | | |
| 112 | | 332.80 | 36 | 21.29 | 61.16 | 0.10 | 0.06 | 3.01 | 0.04 | | | | | 0.05 | | 0.11 | 0.20 | 0.00 | 0.10 | 0.16 | 332.96 | 337.56 |
| | 109 | | 24 | | | | | | | 2.51 | 0.80 | 2.00 | 0.01 | 0.00 | 90 | 0.01 | | | | | | |
| | 111 | | 33 | | | | | | | 18.79 | 3.16 | 59.42 | 0.16 | 0.05 | 90 | 0.11 | | | | | | |
| | 110 | | 27 | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11 | 0.00 | | | | | | |
| 97 | | 332.65 | 15 | 1.15 | 43.00 | 0.03 | 0.01 | 0.93 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 332.67 | 338.14 |
| | 99 | | 15 | | | | | | | 0.59 | 0.48 | 0.28 | 0.00 | | 0 | | | | | | | |
| 99 | | 334.00 | 15 | 0.59 | 83.87 | 0.01 | 0.01 | 0.48 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 334.01 | 339.30 |
| | 100 | | 12 | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | | 25 | | | | | | | |
| 110 | | 333.80 | 27 | 0.00 | 41.15 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 333.80 | 338.83 |
| | 0 | | | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| 109 | | 333.85 | 24 | 2.51 | 43.00 | 0.01 | 0.01 | 0.80 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 333.86 | 338.12 |
| | 0 | | | | | | | | | 2.51 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| 107 | | 334.35 | 24 | 9.49 | 30.74 | 0.17 | 0.05 | 3.02 | 0.04 | | | | | 0.00 | | 0.00 | 0.04 | 0.05 | 0.02 | 0.08 | 334.43 | 337.00 |
| | 0 | | | | | | | | | 9.49 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| 80D | | 332.60 | 33 | 5.29 | 61.09 | 0.01 | 0.01 | 0.89 | 0.00 | | | | | 0.01 | | 0.00 | 0.02 | 0.02 | 0.01 | 0.02 | 332.62 | 337.27 |
| | 80C | | 24 | | | | | | | 4.79 | 1.53 | 7.32 | 0.04 | | 0 | | | | | | | |
| 80C | | 333.20 | 24 | 4.79 | 67.46 | 0.04 | 0.03 | 1.53 | 0.01 | | | | | 0.11 | | 0.21 | 0.33 | 0.00 | 0.16 | 0.19 | 333.39 | 337.91 |
| | GAR H | | 12 | | | | | | | 3.47 | 4.42 | 15.31 | 0.30 | 0.11 | 90 | 0.21 | | | | | | |
| | 80B | | 15 | | | | | | | 1.33 | 1.08 | 1.43 | 0.02 | 0.01 | 0 | 0.00 | | | | | | |
| GAR H | | 333.69 | 12 | 3.47 | 7.33 | 0.94 | 0.07 | 4.42 | 0.08 | | | | | 0.00 | | 0.00 | 0.08 | 0.10 | 0.05 | 0.12 | 333.81 | |
| | 0 | | | | | | | | | 3.47 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| 80B | | 333.75 | 15 | 1.33 | 22.03 | 0.04 | 0.01 | 1.08 | 0.00 | | | | | 0.00 | | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 333.76 | 338.67 |
| | 80 | | 15 | | | | | | | 0.77 | 0.63 | 0.48 | 0.01 | | 0 | | | | | | | |
| 80 | | 334.25 | 15 | 0.77 | 90.64 | 0.01 | 0.01 | 0.63 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 334.26 | 340.39 |
| | 0 | | | | | | | | | 0.77 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| EX 89 | | 322.70 | 27 | 24.00 | 40.40 | 0.60 | 0.24 | 6.04 | 0.14 | | | | | 0.20 | | 0.30 | 0.64 | 0.00 | 0.32 | 0.56 | 323.26 | 330.00 |
| | EX 90 | | 27 | | | | | | | 24.00 | 6.04 | 144.89 | 0.57 | | 58 | | | | | | | |
| EX 90 | | 323.26 | 27 | 24.00 | 95.60 | 0.60 | 0.57 | 6.04 | 0.14 | | | | | 0.05 | | 0.04 | 0.23 | 0.00 | 0.12 | 0.69 | 323.95 | 331.28 |
| | EX 91 | | 27 | | | | | | | 8.12 | 2.04 | 16.57 | 0.06 | 0.02 | 77 | 0.04 | | | | | | |
| | 92 | | 27 | | | | | | | 12.24 | 3.08 | 37.67 | 0.15 | 0.05 | 13 | 0.01 | | | | | | |
| 92 | | 324.23 | 27 | 12.24 | 153.24 | 0.16 | 0.24 | 3.08 | 0.04 | | | | | 0.05 | | 0.10 | 0.18 | 0.00 | 0.09 | 0.33 | 324.56 | 334.44 |
| | 92A | | 24 | | | | | | | 9.29 | 2.96 | 27.48 | 0.14 | 0.05 | 90 | 0.10 | | | | | | |
| | 93 | | 27 | | | | | | | 2.95 | 0.74 | 2.19 | 0.01 | 0.00 | 0 | 0.00 | | | | | | |
| 93 | | 325.55 | 27 | 2.95 | 67.69 | 0.01 | 0.01 | 0.74 | 0.00 | | | | | 0.00 | | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 325.56 | 336.32 |
| | 94 | | 27 | | | | | | | 2.95 | 0.74 | 2.19 | 0.01 | | 7 | | | | | | | |
| 94 | | 326.15 | 27 | 2.95 | 68.12 | 0.01 | 0.01 | 0.74 | 0.00 | | | | | 0.00 | | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 326.16 | 338.00 |
| | 95 | | 27 | | | | | | | 2.95 | 0.74 | 2.19 | 0.01 | | 90 | | | | | | | |
| 92A | | 325.50 | 24 | 9.29 | 51.17 | 0.17 | 0.09 | 2.96 | 0.03 | | | | | 0.19 | | 0.35 | 0.57 | 0.00 | 0.29 | 0.37 | 325.87 | 334.33 |
| | 91A | | 15 | | | | | | | 7.31 | 5.96 | 43.59 | 0.55 | | 74 | | | | | | | |
| 91A | | 326.50 | 15 | 7.31 | 34.87 | 1.27 | 0.44 | 5.96 | 0.14 | | | | | 0.11 | | 0.19 | 0.44 | 0.00 | 0.22 | 0.66 | 327.16 | 336.05 |
| | 91B | | 12 | | | | | | | 3.46 | 4.41 | 15.25 | 0.30 | | 77 | | | | | | | |
| 95 | | 326.80 | 27 | 2.95 | 100.54 | 0.01 | 0.01 | 0.74 | 0.00 | | | | | 0.00 | | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 326.81 | 338.38 |
| | 105 | | 27 | | | | | | | 2.70 | 0.68 | 1.83 | 0.01 | | 78 | | | | | | | |
| 105 | | 327.80 | 27 | 2.70 | 78.31 | 0.01 | 0.01 | 0.68 | 0.00 | | | | | 0.01 | | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 327.81 | 338.40 |
| | 106 | | 18 | | | | | | | 1.90 | 1.07 | 2.04 | 0.02 | | 16 | | | | | | | |
| 106 | | 328.65 | 18 | 1.90 | 44.01 | 0.03 | 0.01 | 1.07 | 0.00 | | | | | 0.00 | | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 328.67 | 337.85 |
| | 0 | | | | | | | | | 1.90 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |
| 111 | | 333.70 | 33 | 18.79 | 61.50 | 0.13 | 0.08 | 3.16 | 0.04 | | | | | 0.05 | | 0.08 | 0.17 | 0.00 | 0.08 | 0.16 | 333.86 | 337.26 |
| | 107 | | 24 | | | | | | | 9.49 | 3.02 | 28.65 | 0.14 | 0.05 | 63 | 0.08 | | | | | | |
| | 113 | | 24 | | | | | | | 6.95 | 2.21 | 15.38 | 0.08 | 0.03 | 0 | 0.00 | | | | | | |
| 113 | | 334.35 | 24 | 6.95 | 182.26 | 0.09 | 0.17 | 2.21 | 0.02 | | | | | 0.00 | | 0.00 | 0.02 | 0.00 | 0.01 | 0.18 | 334.53 | 338.55 |
| | 0 | | | | | | | | | 6.95 | 0.00 | 0.00 | 0.00 | | 0 | | | | | | | |

REC'D
11 26 20[illegible]
FFX C[illegible]

| No. | DATE | DESCRIPTION |
|---|---|---|
| 2 | 01/22/07 | REV. STORM FR. GAR TO 100; ADD STORM FROM GAR TO EX. 103 |
| 1 | 09/22/06 | ADD PUBLIC ROAD BEHIND BLD. J |

REVISIONS

PLAN DATE
08-26-05
09-26-05
02-17-06
09-22-06
01-22-07

URBAN ENGINEERING & ASSOC.,INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

STORM DRAIN COMPUTATIONS
DULLES STATION AT DULLES CORNER
BUILDING J
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SITE AS-BUILT

SCALE: N/A C.I. N/A DATE: AUGUST, 2005

SHEET 10B OF 35
FILE No. AB-1158-6

DENOTES AS-BUILT INFORMATION BY URBAN ENGINEERING & ASSOCIATES, INC.

COMMONWEALTH OF VIRGINIA
ROBERT M. FERGUS
Lic. No. 1677
11-21-08
LAND SURVEYOR

**THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY!**

FOR INFORMATION ONLY


**Dewberry**
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518


dcs DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH
AND THE
INNOVATION CENTER STATION
GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOHN WILLIAM EWING
Lic. No. 8053
3/27/2014
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| 5 | 3/27/14 | | |
| 4 | 2/21/14 | | |
| 3 | 1/3/14 | | |
| 2 | 11/22/13 | LNM | |
| 1 | 9/9/13 | | |

REVISIONS

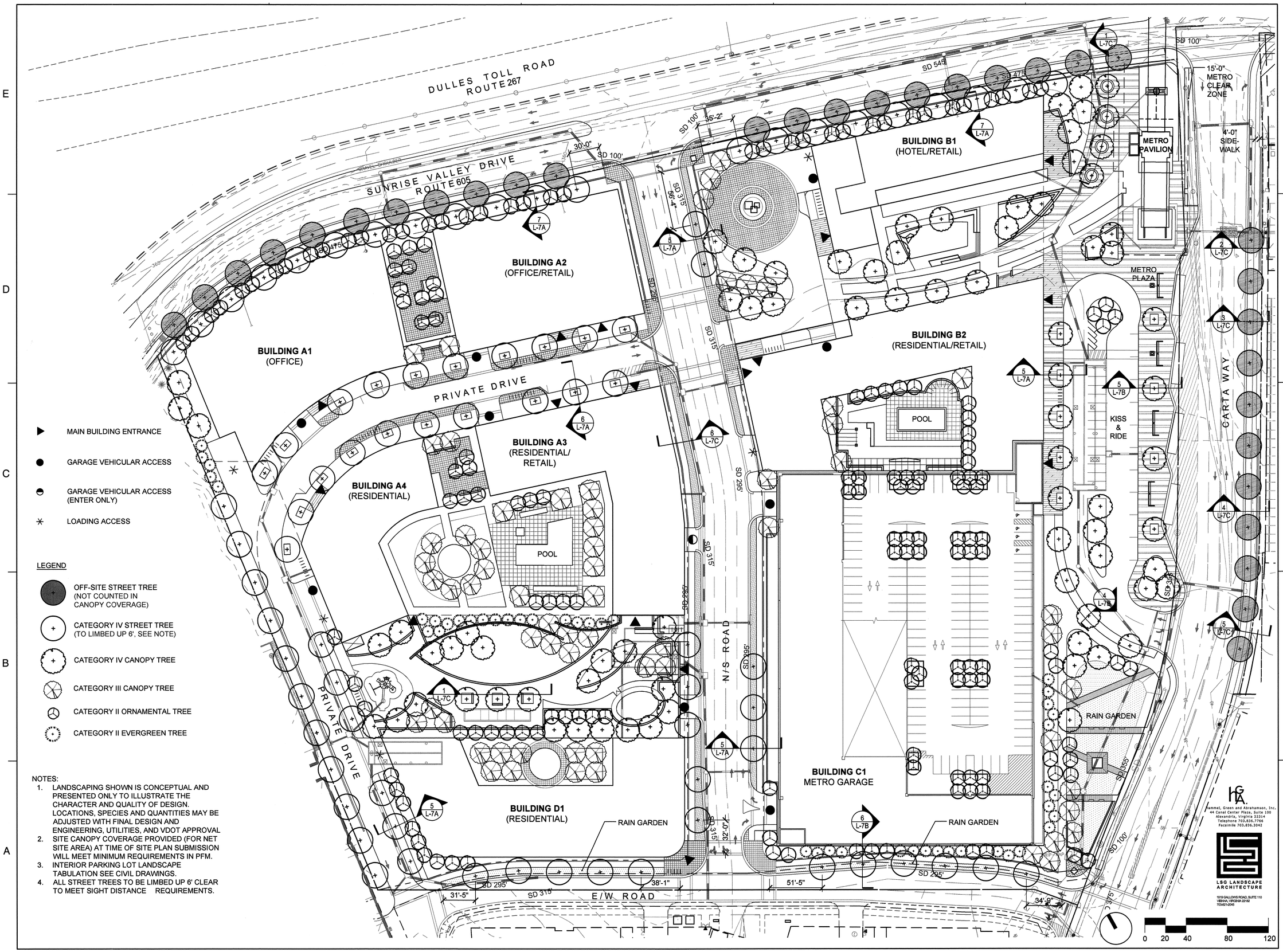
DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE
OUTFALL 2
APPROVED
CALCULATIONS

PROJECT NO.

C-30

SHEET NO.
M-10831




- ▶ MAIN BUILDING ENTRANCE
- ● GARAGE VEHICULAR ACCESS
- ◓ GARAGE VEHICULAR ACCESS (ENTER ONLY)
- ✳ LOADING ACCESS

LEGEND

- OFF-SITE STREET TREE (NOT COUNTED IN CANOPY COVERAGE)
- CATEGORY IV STREET TREE (TO LIMBED UP 6', SEE NOTE)
- CATEGORY IV CANOPY TREE
- CATEGORY III CANOPY TREE
- CATEGORY II ORNAMENTAL TREE
- CATEGORY II EVERGREEN TREE

NOTES:

1. LANDSCAPING SHOWN IS CONCEPTUAL AND PRESENTED ONLY TO ILLUSTRATE THE CHARACTER AND QUALITY OF DESIGN. LOCATIONS, SPECIES AND QUANTITIES MAY BE ADJUSTED WITH FINAL DESIGN AND ENGINEERING, UTILITIES, AND VDOT APPROVAL
2. SITE CANOPY COVERAGE PROVIDED (FOR NET SITE AREA) AT TIME OF SITE PLAN SUBMISSION WILL MEET MINIMUM REQUIREMENTS IN PFM.
3. INTERIOR PARKING LOT LANDSCAPE TABULATION SEE CIVIL DRAWINGS.
4. ALL STREET TREES TO BE LIMBED UP 6' CLEAR TO MEET SIGHT DISTANCE REQUIREMENTS.


Dewberry

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FAIRFAX, VA 22031
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FAX: 703.849.0518

dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
LIC. No. 001087
LANDSCAPE ARCHITECT
4.21.14

KEY PLAN

SCALE 1"=40'-0"

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

TITLE

## OVERALL LANDSCAPE PLAN

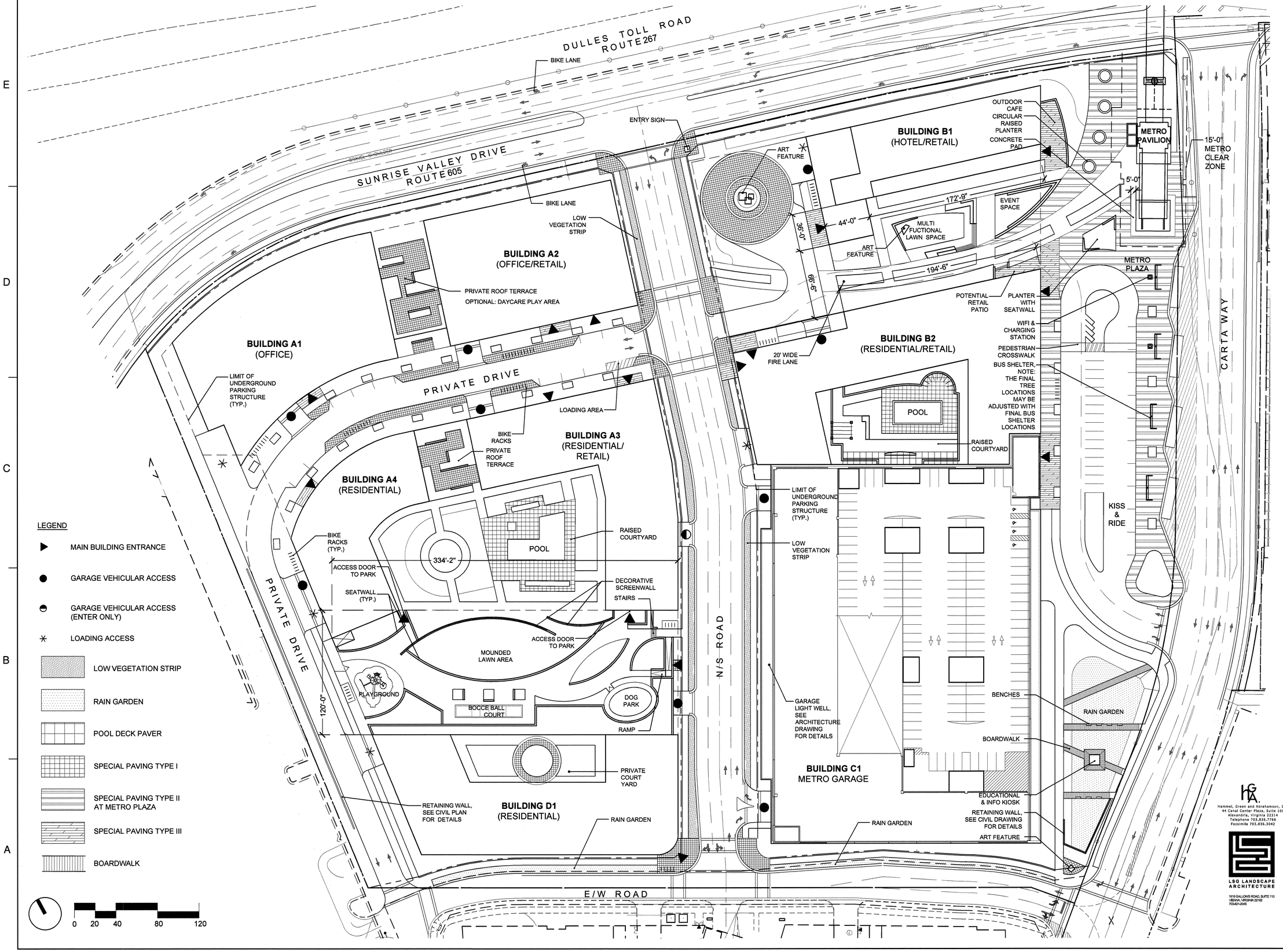

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


PROJECT NO. 13046.00

SHEET NO. L-1

M-10831





Dewberry

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8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Lic. No. 001087
4.21.14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE 1"=40'-0"

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

TITLE

## HARDSCAPE PLAN

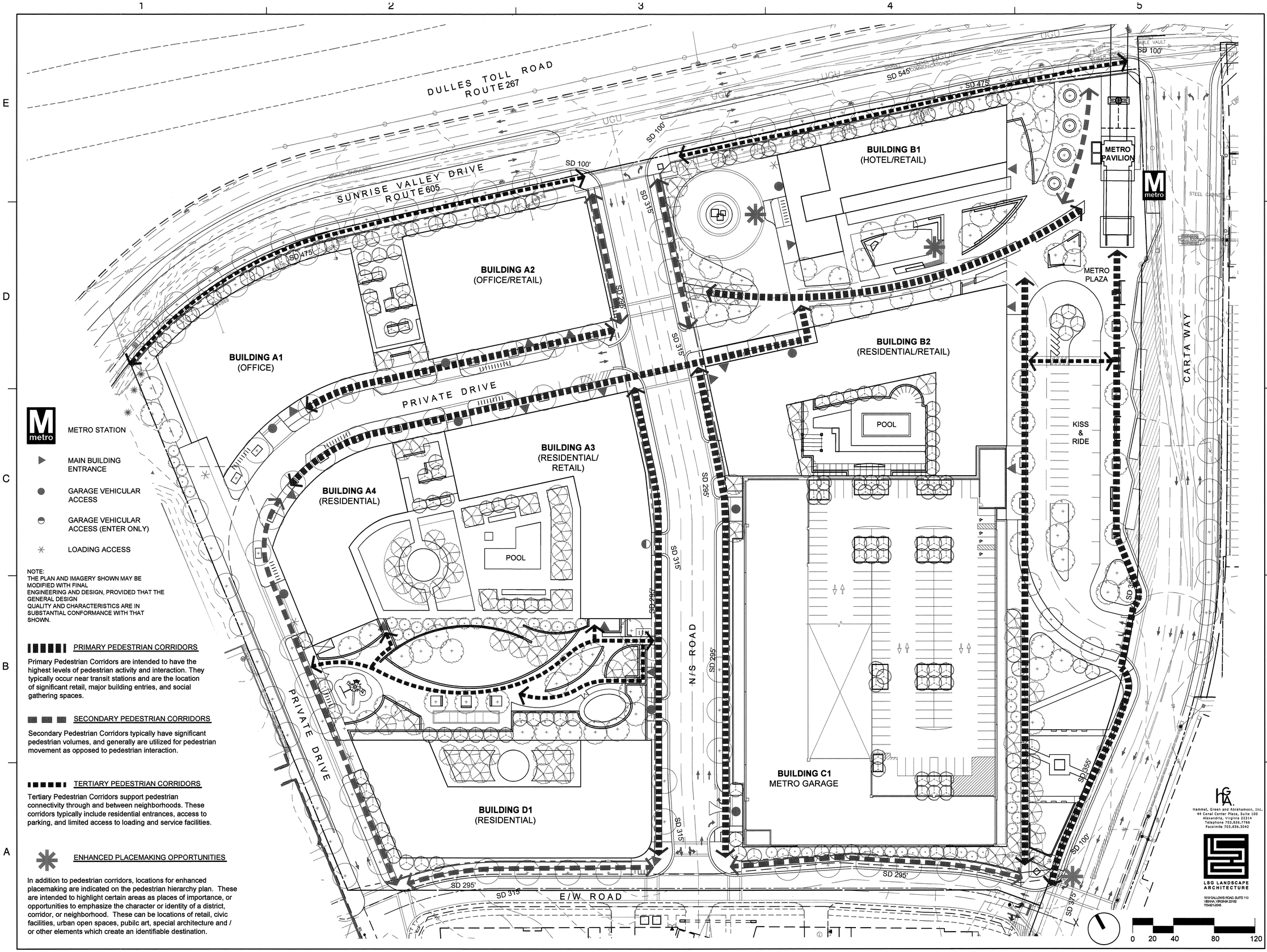
PROJECT NO. 13046.00


HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1910 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


SHEET NO. L-2

M-10831




METRO STATION

MAIN BUILDING ENTRANCE

GARAGE VEHICULAR ACCESS

GARAGE VEHICULAR ACCESS (ENTER ONLY)

LOADING ACCESS

NOTE:
THE PLAN AND IMAGERY SHOWN MAY BE MODIFIED WITH FINAL ENGINEERING AND DESIGN, PROVIDED THAT THE GENERAL DESIGN QUALITY AND CHARACTERISTICS ARE IN SUBSTANTIAL CONFORMANCE WITH THAT SHOWN.

**PRIMARY PEDESTRIAN CORRIDORS**

Primary Pedestrian Corridors are intended to have the highest levels of pedestrian activity and interaction. They typically occur near transit stations and are the location of significant retail, major building entries, and social gathering spaces.

**SECONDARY PEDESTRIAN CORRIDORS**

Secondary Pedestrian Corridors typically have significant pedestrian volumes, and generally are utilized for pedestrian movement as opposed to pedestrian interaction.

**TERTIARY PEDESTRIAN CORRIDORS**

Tertiary Pedestrian Corridors support pedestrian connectivity through and between neighborhoods. These corridors typically include residential entrances, access to parking, and limited access to loading and service facilities.

**ENHANCED PLACEMAKING OPPORTUNITIES**

In addition to pedestrian corridors, locations for enhanced placemaking are indicated on the pedestrian hierarchy plan. These are intended to highlight certain areas as places of importance, or opportunities to emphasize the character or identity of a district, corridor, or neighborhood. These can be locations of retail, civic facilities, urban open spaces, pubilc art, special architecture and / or other elements which create an identifiable destination.

Dewberry

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FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Lic. No. 001087
4.21.14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE 1"=40'-0"

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

TITLE

## PEDESTRIAN CIRCULATION PLAN

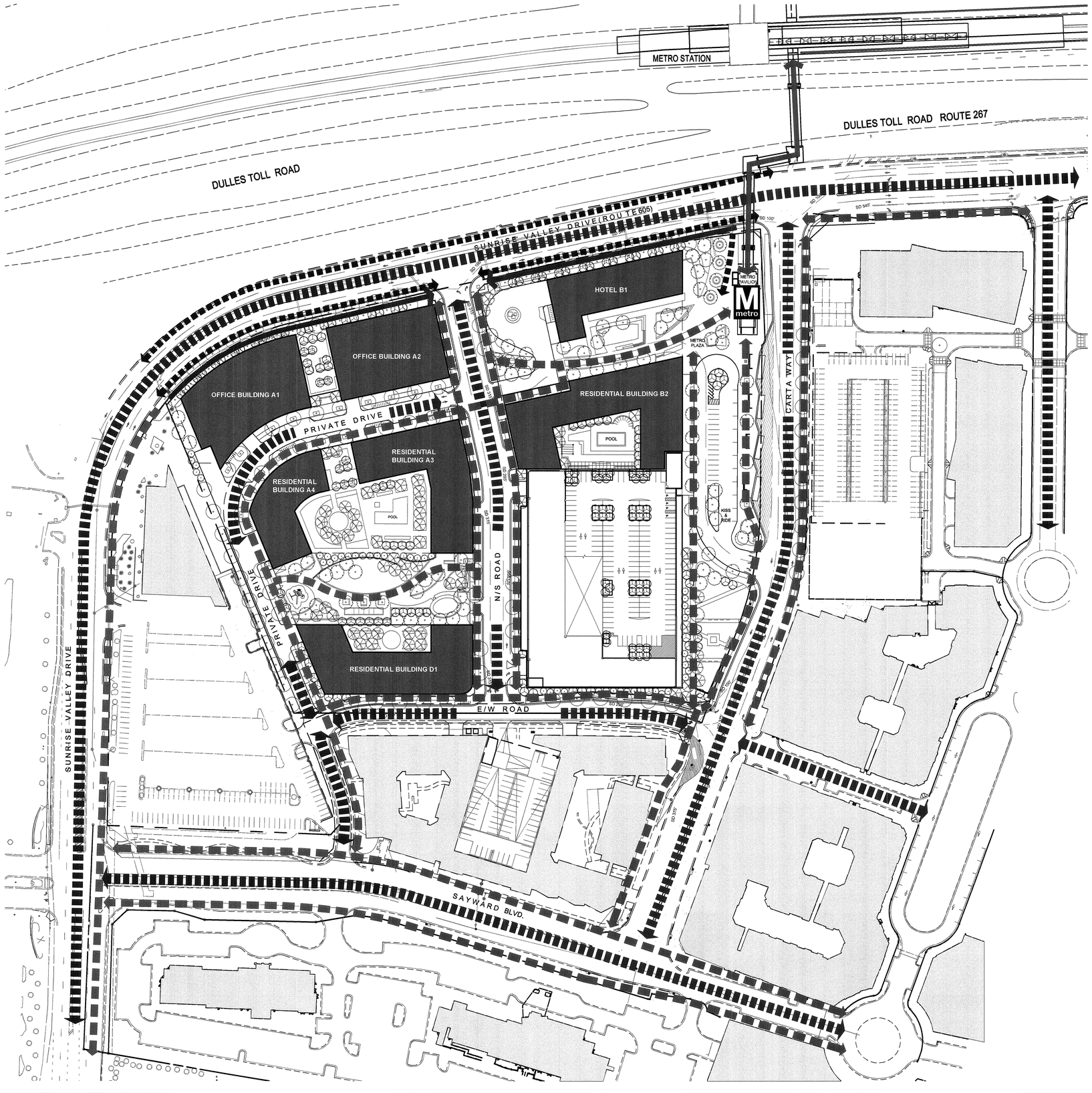
PROJECT NO. 13046.00

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1016 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

SHEET NO. L-3

M-10831




VEHICULAR CONNECTION

PRIMARY PEDESTRIAN CORRIDOR

DEDICATED BICYCLE LANE

8' WIDE SIDEWALK

PEDESTRIAN CONNECTION TO C.I.T.

METRO STATION

0 40 80 160 240


Dewberry

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

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LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
LIC. No. 001087
04.21.14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE 1"=40'-0"

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

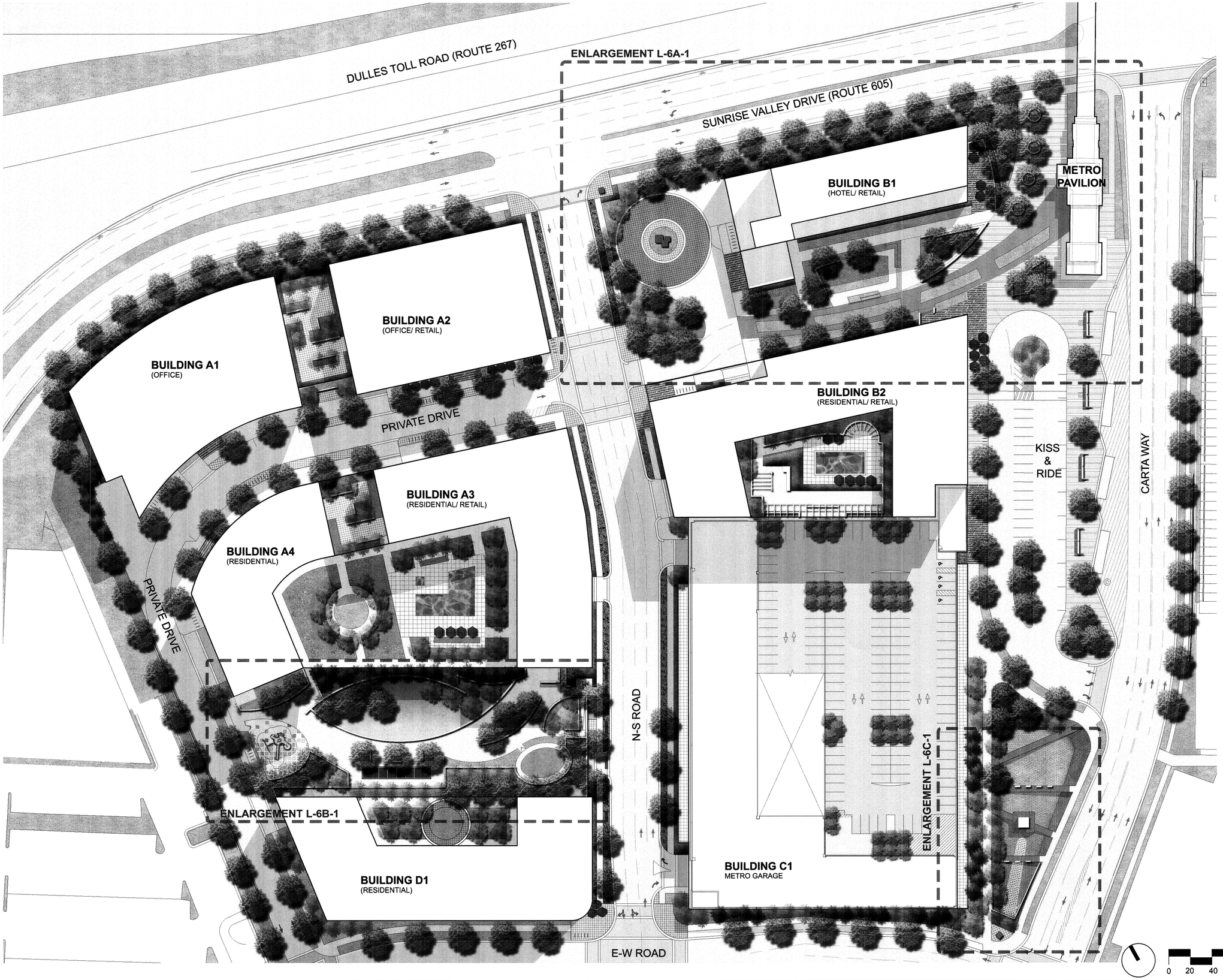
TITLE

## CONNECTIVITY PLAN

PROJECT NO. 13046.00

SHEET NO. L-3A

M-10831




NOTES:

1.THE PLAN AND IMAGERY SHOWN MAY BE MODIFIED WITH FINAL ENGINEERING AND DESIGN. PROVIDED THAT THE GENERAL DESIGN QUALITY AND CHARACTERISTICS ARE IN SUBSTANTIAL CONFORMANCE WITH THAT SHOWN.

2. FINAL PLANTING LOCATIONS ARE SUBJECT TO FINAL ENGINEERING, UTILITIES AND VDOT APPROVAL.


HGA.
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



Dewberry

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Reg. No. 001087
LANDSCAPE ARCHITECT
4.21.14

KEY PLAN

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## ILLUSTRATIVE SITE PLAN

PROJECT NO. 13046.00

SHEET NO. L-4

M-10831

A. MOBILE RESTROOM
B. TEMPORARY SCORED CONCRETE PAVING
C. PICNIC LAWN AREA
D. FOOD TRUCK STATION
E. RETAIL CONTAINER 8' X 30' (5)
F. BENCHES & SEAT WALL
G. TEMPORARY FIELD FENCE (TYP.)
H. THREE RAIL FENCE (TYP.)
I. TEMPORARY EVERGREEN TREE BUFFER PLANTING (TYP.)
J. SEEDED LAWN (TYP.)

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0 20 40 80 120


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INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

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# PHASE 1 INTERIM IMPROVEMENT

PROJECT NO. 13046.00


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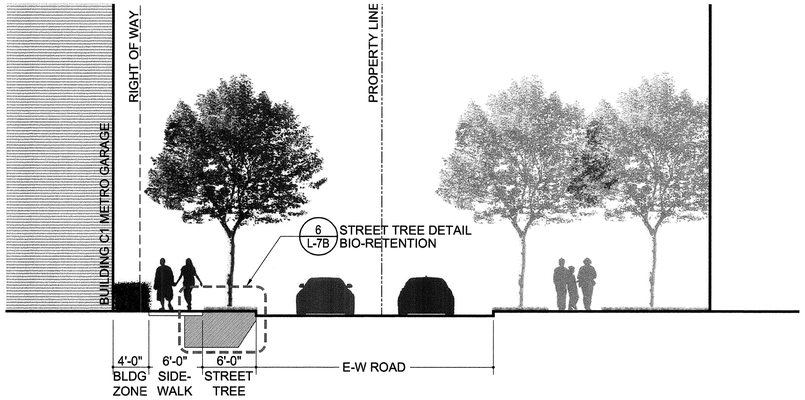
703-821-2045


SHEET NO. L-4A

M-10831

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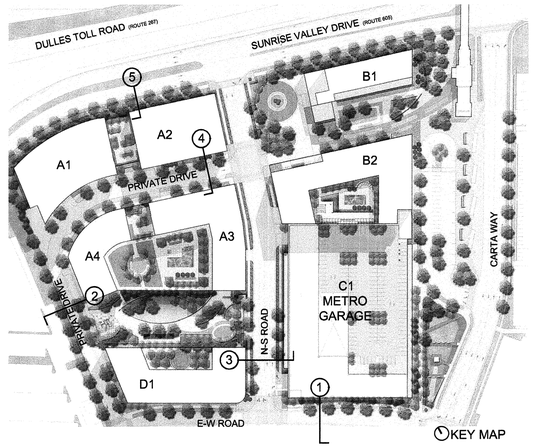
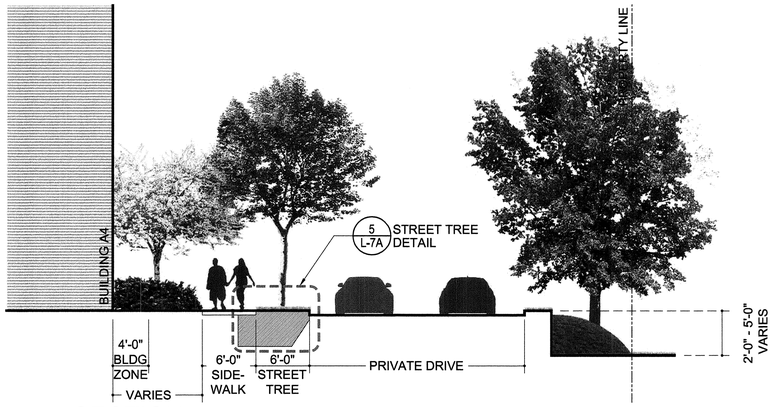
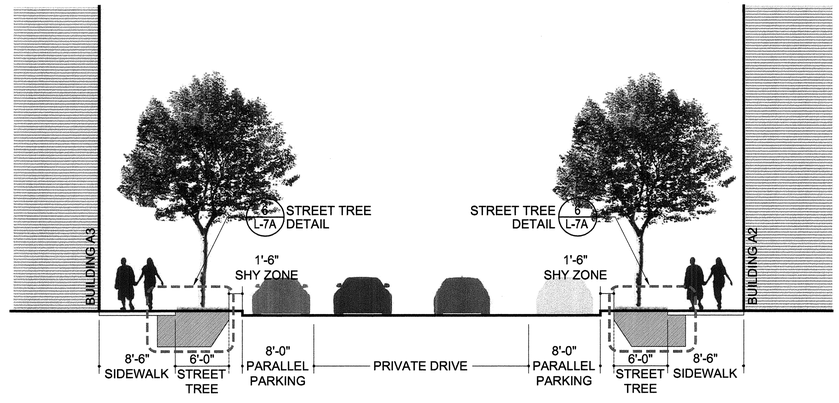
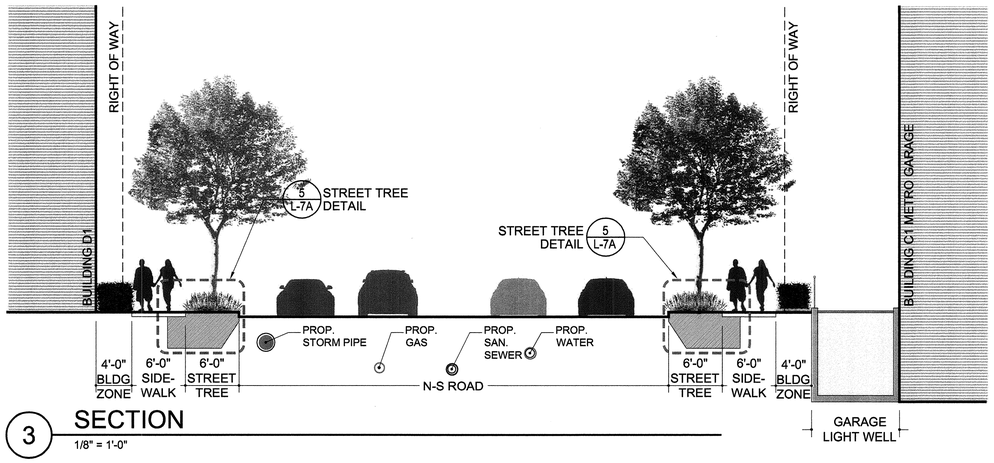


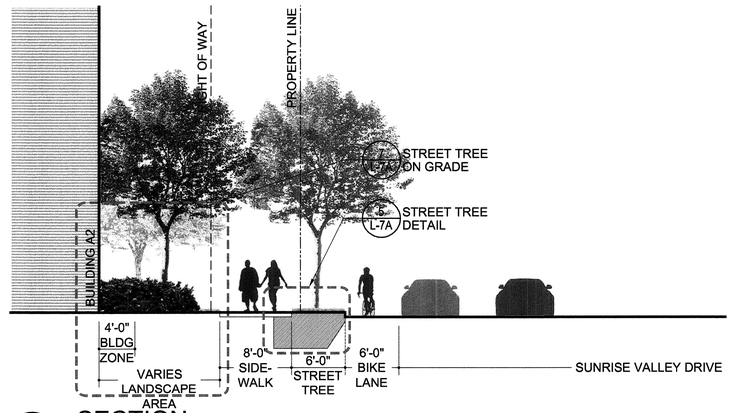

## 2 SECTION
1/8" = 1'-0"




## 4 SECTION
1/8" = 1'-0"




## 3 SECTION
1/8" = 1'-0"




## 5 SECTION
1/8" = 1'-0"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DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Lic. No. 001087
4·21·14
LANDSCAPE ARCHITECT

KEY PLAN

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TITLE

# TYPICAL STREET SECTIONS

PROJECT NO. 13046.00


HGA.
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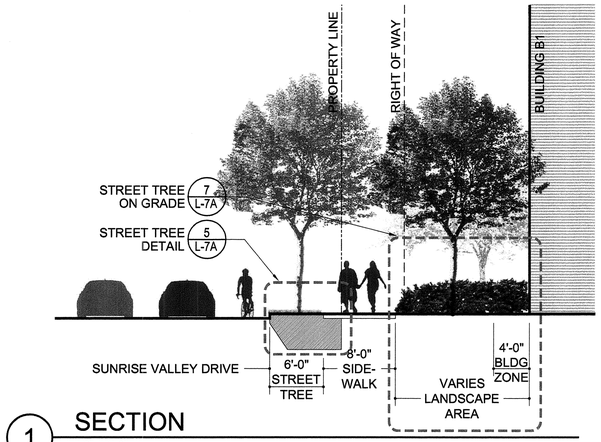
Facsimile 703.836.3042

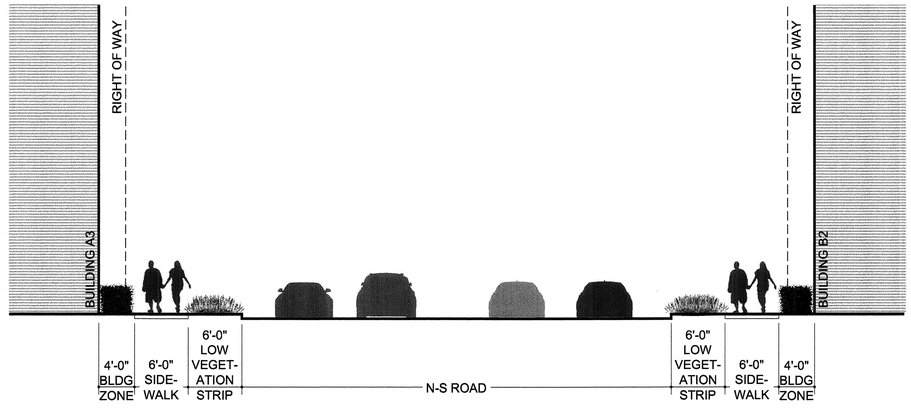
LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


SHEET NO. L-5A

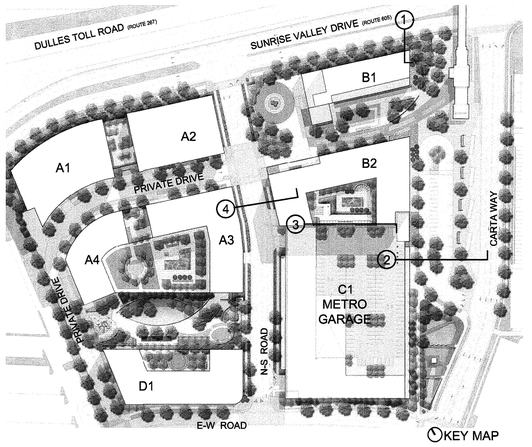
M-10831



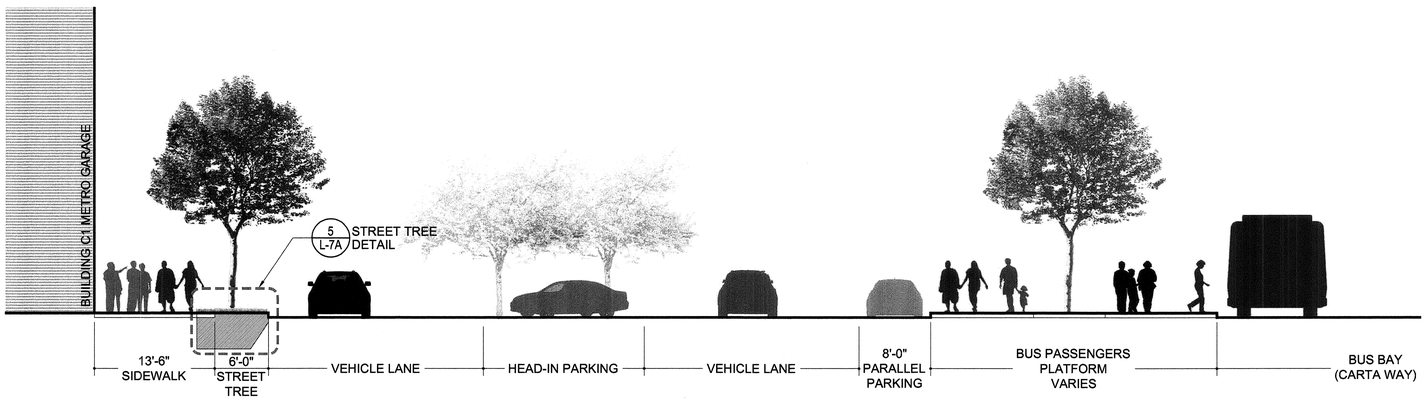

1 SECTION
1/8" = 1'-0"



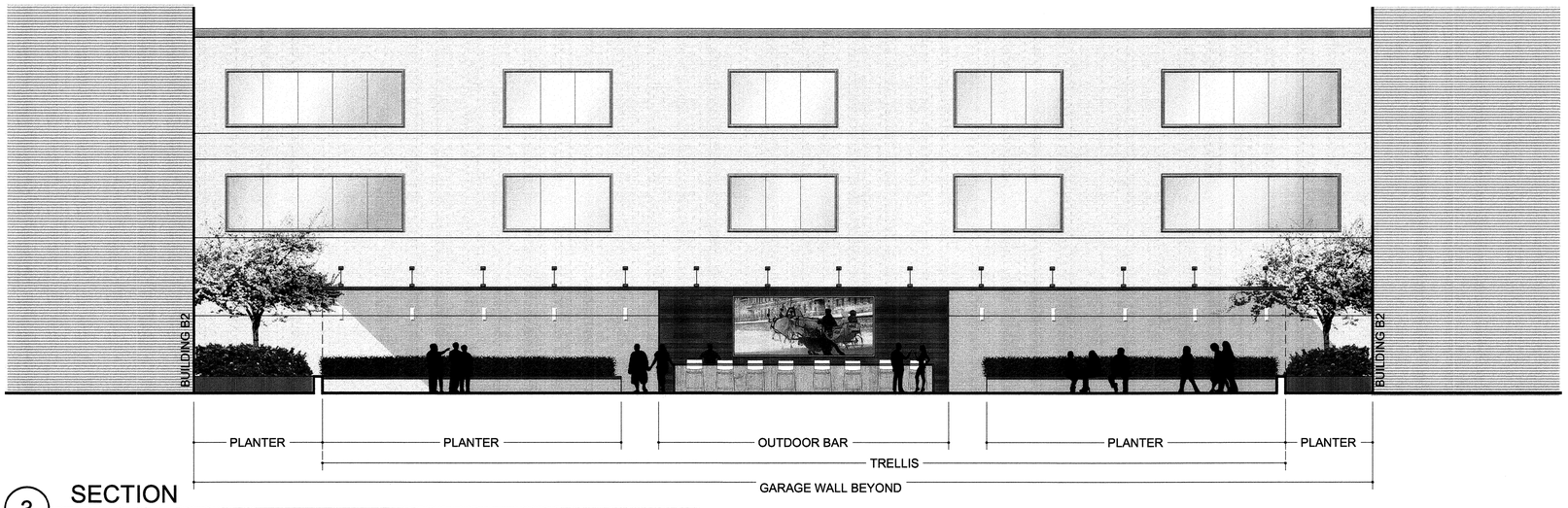

4 SECTION
1/8" = 1'-0"




KEY MAP




2 SECTION
1/8" = 1'-0"




3 SECTION
1/8" = 1'-0"

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ROCKS
REAL ESTATE DEVELOPERS SINCE 1958

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DRANESVILLE DISTRICT
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# TYPICAL STREET SECTIONS

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LSG LANDSCAPE ARCHITECTURE
1910 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

PROJECT NO. 13046.00

SHEET NO. L-5B

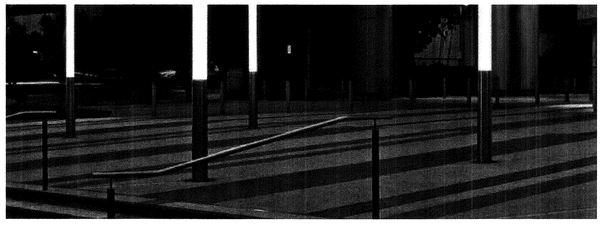
M-10831

## METRO PLAZA POTENTIAL ACTIVITIES

SERVE AS A MAJOR TRANSIT CORRIDOR AND UNIQUE PLACE-MAKING PLAZA FOR CIVIC GATHERING AND COMMERCIAL SUPPORT ACTIVITIES SUCH AS SEASONAL DECORATIONS & PROGRAMS.

- SCULPTURE DISPLAY
- PICNICKING AND GATHERING SPACE
- MULTI-PURPOSE LAWN USE
- OUTDOOR RETAIL AREA
- METRO BIKE STORAGE
- HOTEL ROUNDABOUT

A. SIGN
B. FOCAL POINT
C. LOADING AREA
D. GARAGE ENTRANCE
E. MAIN HOTEL ENTRANCE
F. ART FEATURE
G. MULTIFUNCTION LAWN
H. EVENT SPACE
I. OUTDOOR CAFE
J. RETAIL SPACE
K. WiFi BOOTH & CHARGING STATION
L. FIRE LANE
M. 15'-0" METRO CLEAR ZONE



0 10 20 40 60

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ROBERT K. ESSELBURN
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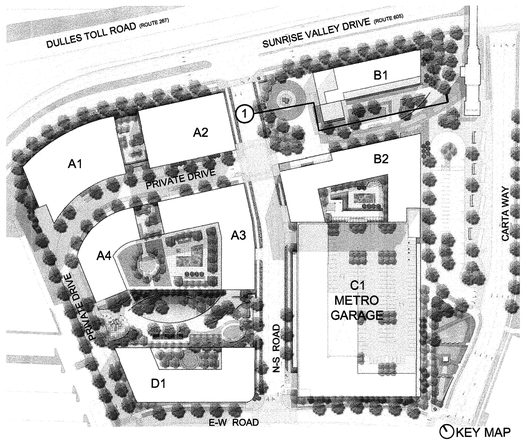
METRO PLAZA ENLARGEMENT

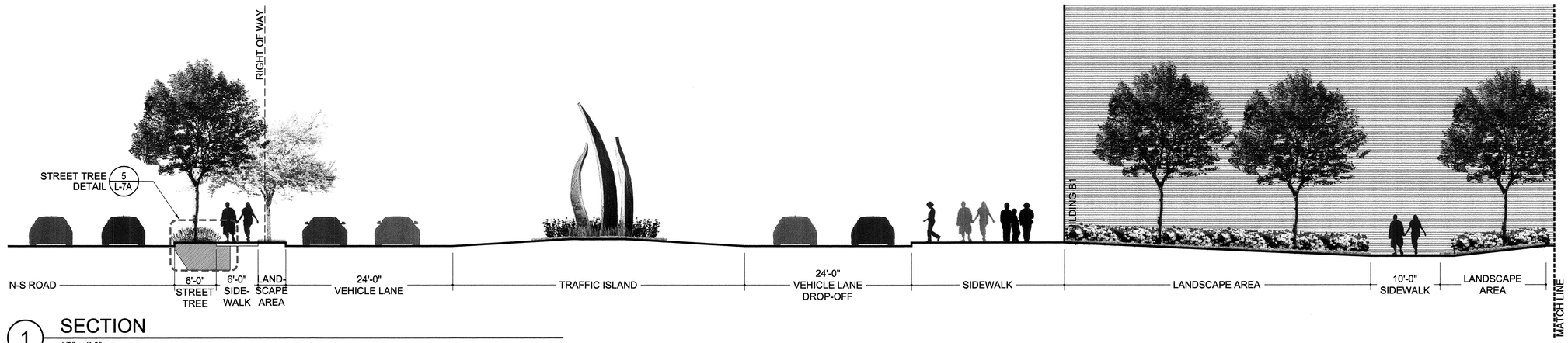
PROJECT NO. 13046.00

SHEET NO. L-6A-1

M-10831

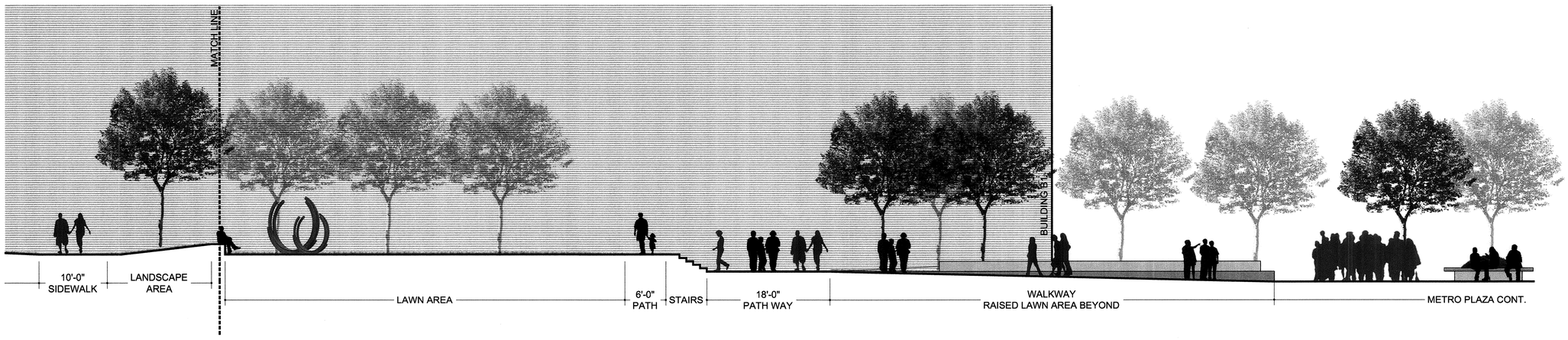



KEY MAP




## 1 SECTION

1/8" = 1'-0"





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DAVIS CARTER SCOTT Ltd
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ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

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DRANESVILLE DISTRICT
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Reg. No. 001087
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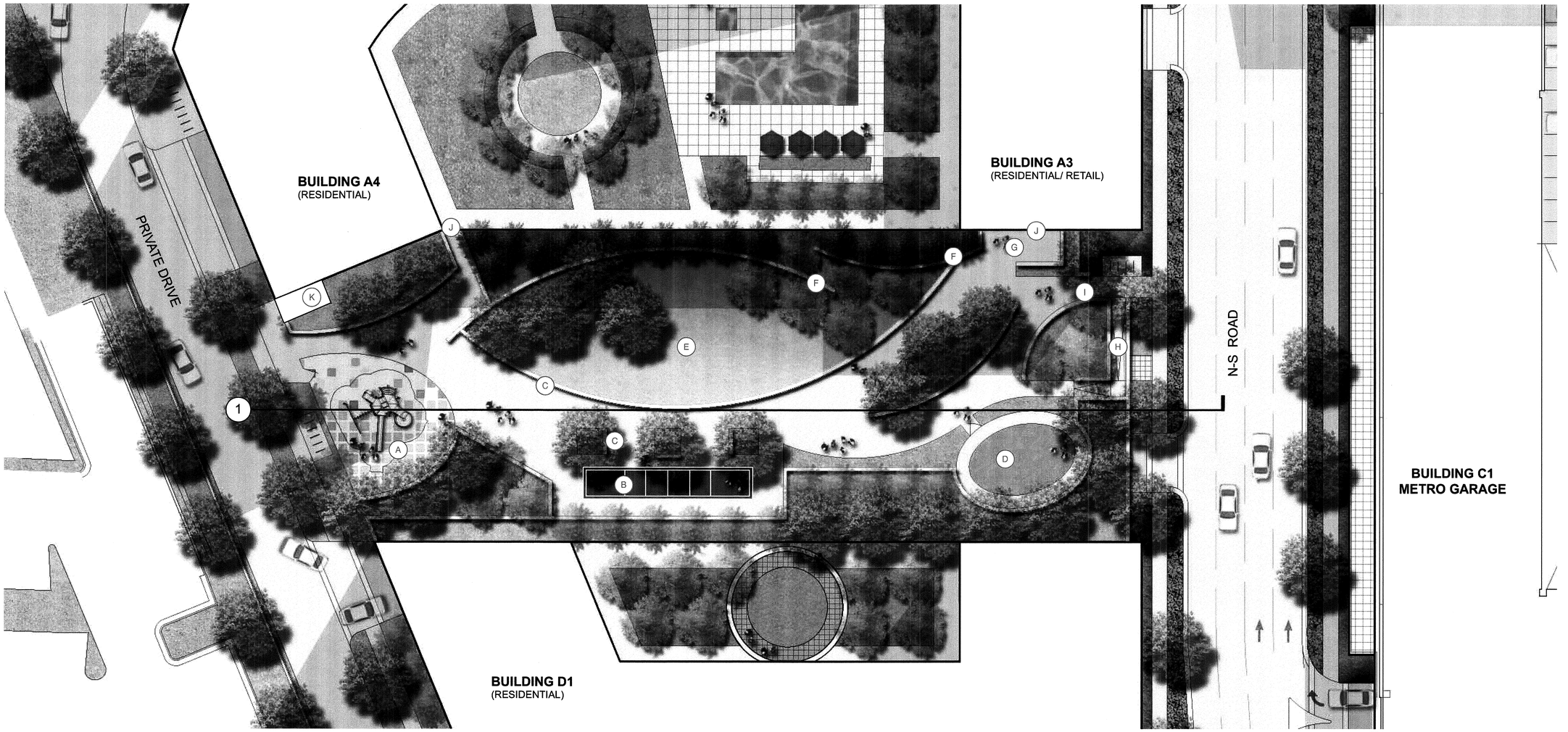
# METRO PLAZA SECTIONS

PROJECT NO. 13046.00

SHEET NO. L-6A-2

M-10831

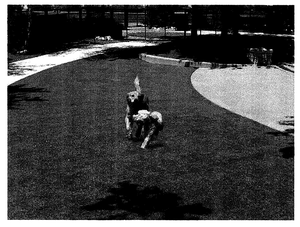



## URBAN PARK

SMALL SCALE OPEN SPACE DESIGNED FOR CASUAL USE BY PEOPLE WORKING AND LIVING IN THE IMMEDIATE AREA. MULTI-PURPOSE LAWN AREA.

- AMPHITHEATER
- PLAYGROUND
- SEATING WITH ENGRAVED GAME BOARDS
- PICNIC AND GATHERING AREA

A. PLAYGROUND
B. BOCCE BALL COURT
C. SEATWALL / GAME BOARD
D. DOG PARK (ARTIFICIAL TURF)
E. MOUNDED LAWN AREA/ MULTIFUNCTION SPACE
F. DECORATIVE SCREEN WALL
G. PUBLIC PATIO SPACE
H. HANDICAP RAMP
I. STAIR
J. PARK ENTRANCE
K. ELEVATOR



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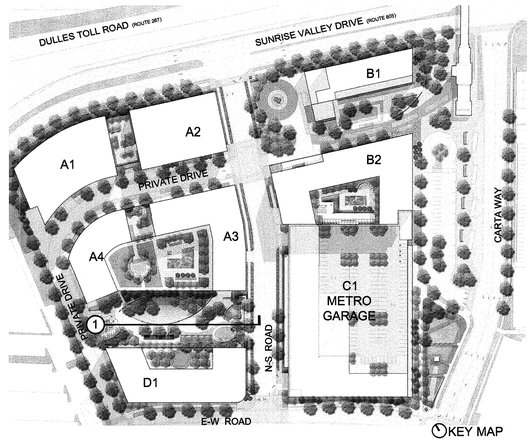
# URBAN PARK ENLARGEMENT

PROJECT NO. 13046.00

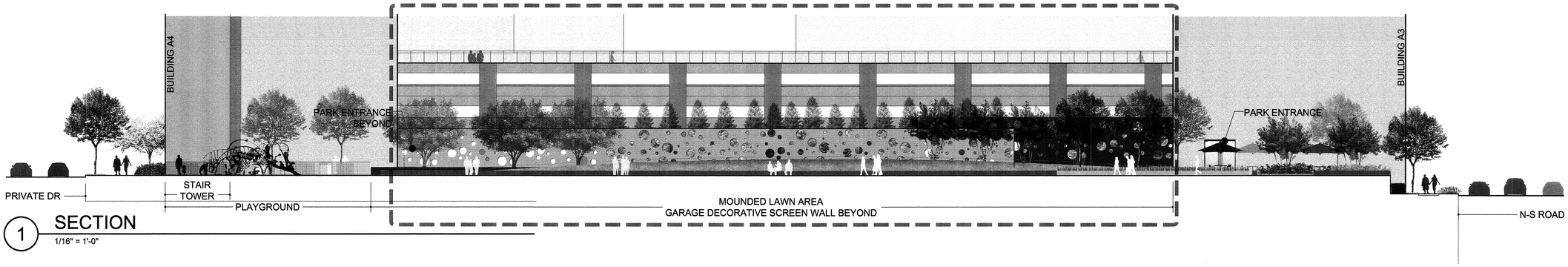
SHEET NO. L-6B-1

M-10831



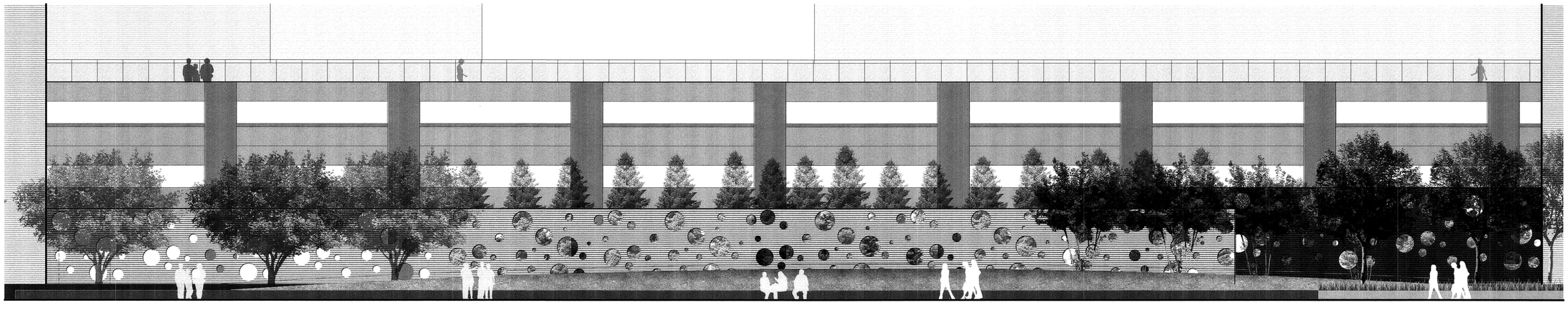

KEY MAP

## ENLARGEMENT SECTION 2




1 SECTION

1/16" = 1'-0"



2 ENLARGEMENT SECTION

1/8" = 1'-0"


Dewberry

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| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

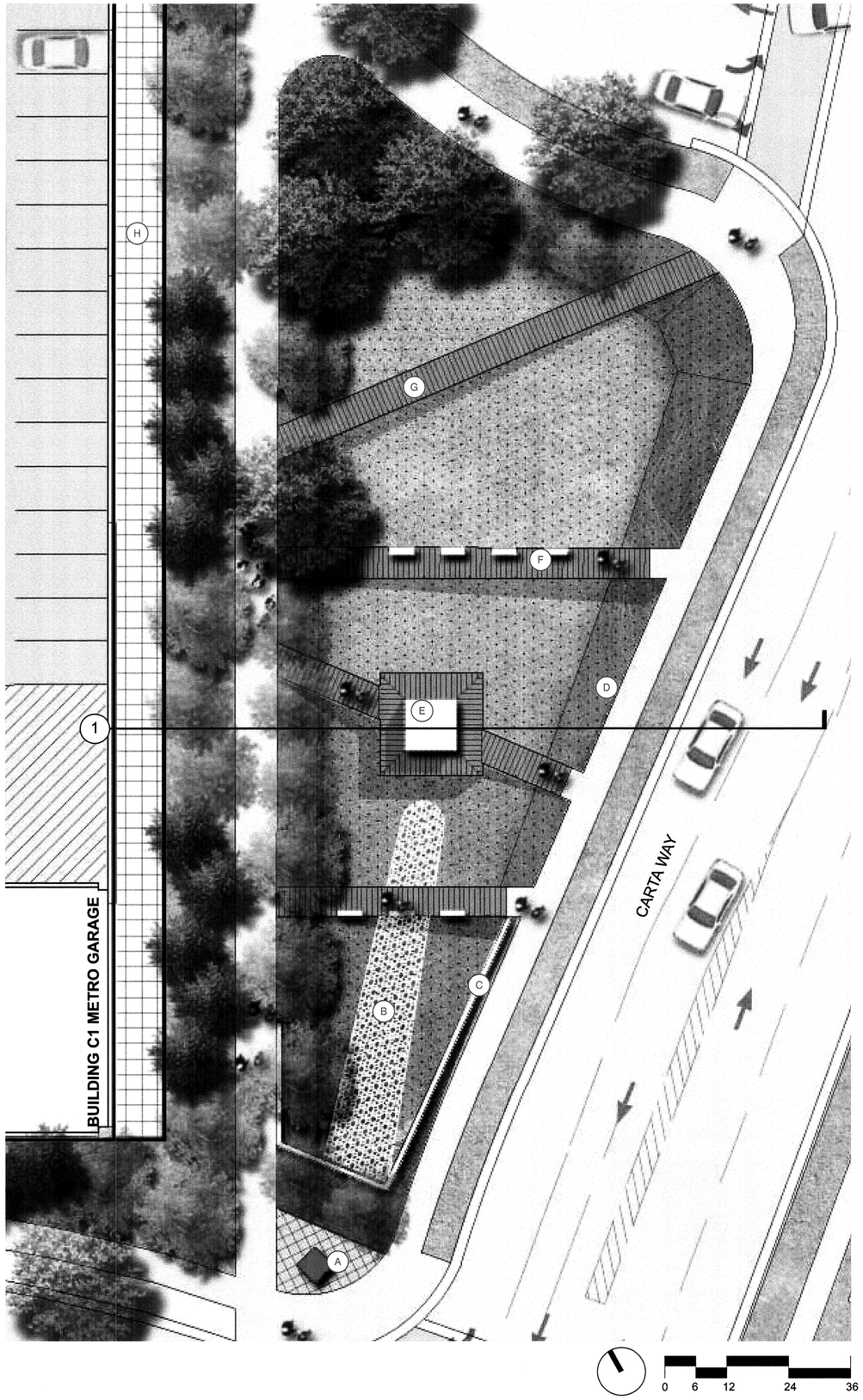
TITLE

URBAN PARK SECTIONS

PROJECT NO. 13046.00

SHEET NO. L-6B-2

M-10831




## POCKET PARK

THE SMALL SCALE PARK SPACE PROVIDES A SERIES OF BOARDWALKS AND INFORMATION KIOSK AND AN ART FEATURE.

THE PLACE IS DESIGNED FOR CASUAL USE BY TRANSIT USERS AND IS SERVED AS A NEIGHBORHOOD PARK FOR DEMONSTRATING ON PROTECTION, PRESERVATION, AND STAINABILITY OF NATURAL RESOURCES.

BOARDWALK

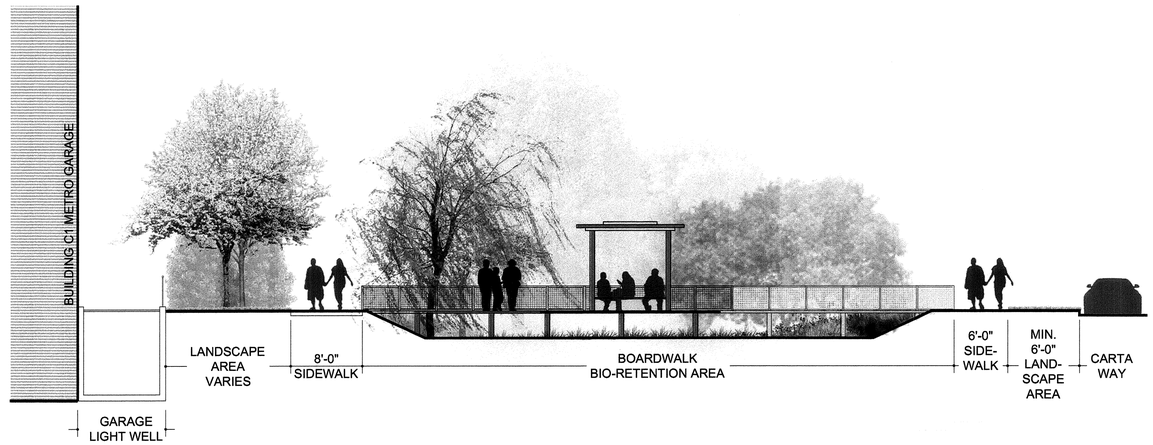
BENCHES

EDUCATIONAL AND INFORMATION KIOSK

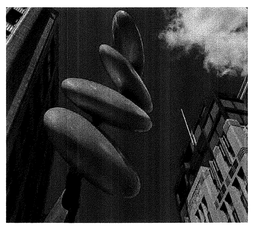
BIO-RETENTION FACILITY WITH NATURAL HABITAT

KINETIC ART

A. ART FEATURE
B. STORMWATER BASIN
C. RETAINING WALL
D. SLOPE VEGETATION
E. INFORMATION KIOSK
F. BENCH
G. BOARDWALK
H. LIGHT WELL




1 SECTION
1/8" = 1'-0"



NOTES:

1.THE PLAN AND IMAGERY SHOWN MAY BE MODIFIED WITH FINAL ENGINEERING AND DESIGN. PROVIDED THAT THE GENERAL DESIGN QUALITY AND CHARACTERISTICS ARE IN SUBSTANTIAL CONFORMANCE WITH THAT SHOWN.

2. FINAL PLANTING LOCATIONS ARE SUBJECT TO FINAL ENGINEERING, UTILITIES AND VDOT APPROVAL.


Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
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LSG LANDSCAPE ARCHITECTURE
1619 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



Dewberry

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Reg. No. 001087
4-21-14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE AS SHOWN

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REVISIONS

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DATE 09.06.2013

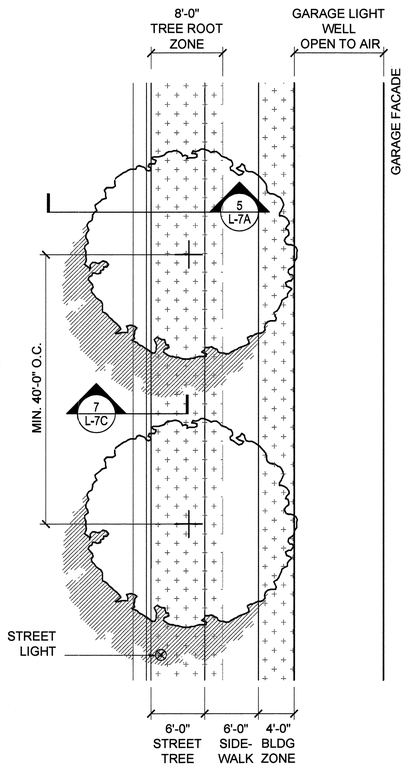
TITLE

# POCKET PARK ENLARGEMENT & SECTION

PROJECT NO. 13046.00

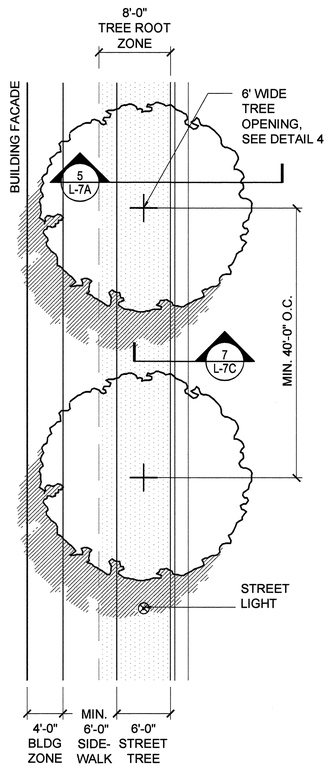
SHEET NO. L-6C-1

M-10831



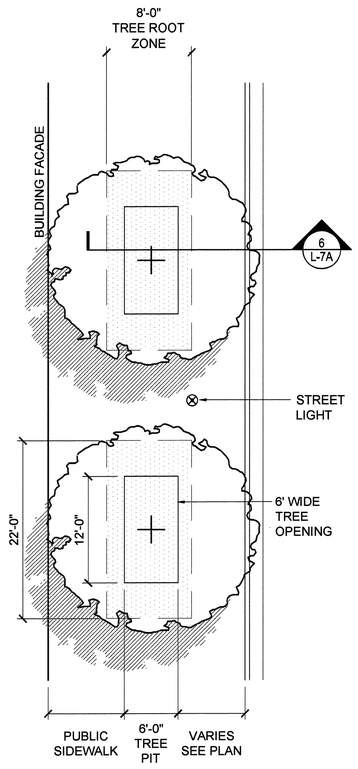

## 1 N-S ROAD STREET TREE

1/8" = 1'-0"



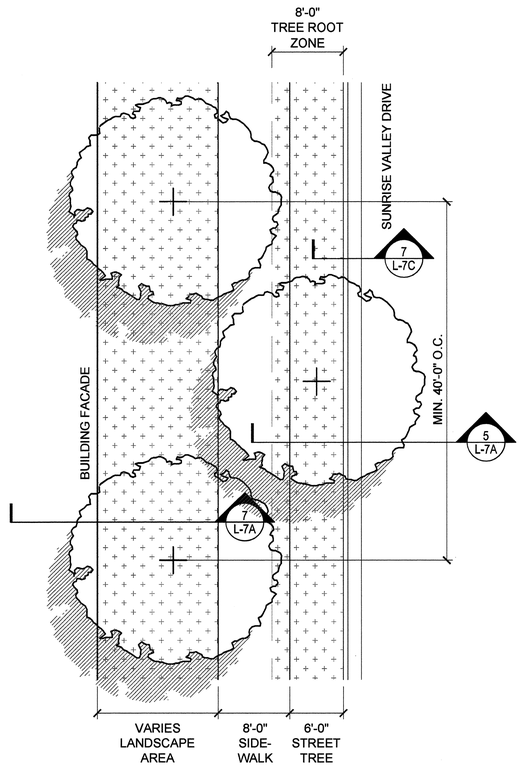

## 2 PRIVATE DRIVE STREET TREE

1/8" = 1'-0"



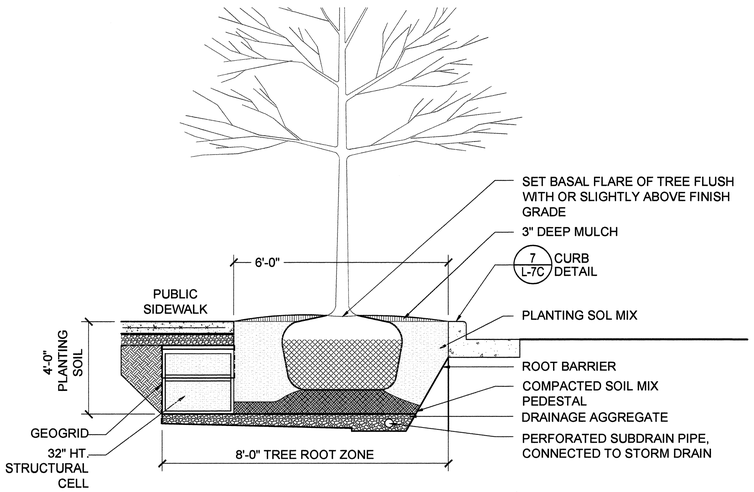

## 3 PRIVATE DRIVE TREE PIT

1/8" = 1'-0"




## 4 SUNRISE VALLEY DRIVE

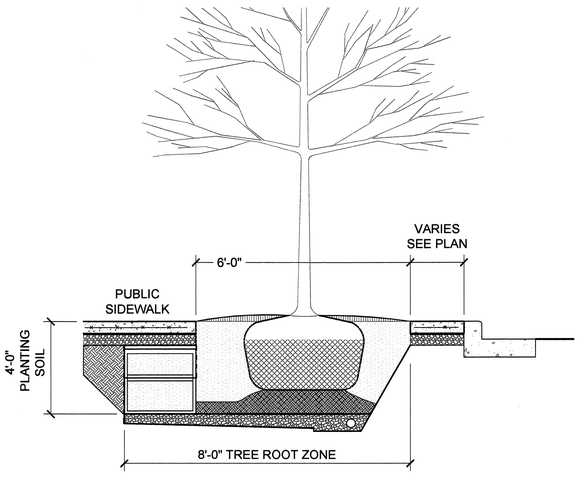
1/8" = 1'-0"




## 5 STREET TREE WITH STRUCTURE CELL

1/2" = 1'-0"

NOTE:
1. SOIL VOLUME FOR CATEGORY I, III AND IV TREES SHALL BE MINIMUM OF 700 CUBIC FEET PER SINGLE TREE.
2. FOR TWO TREES PLANTED IN A CONTIGUOUS PLANTING AREA, 1200 CUBIC FEET SOIL PER TREE SHALL BE PROVIDED.
3. FOR THREE OR MORE TREES PLANTED IN A CONTIGUOUS PLANTING AREA, 500 CUBIC FEET SOIL PER TREE.

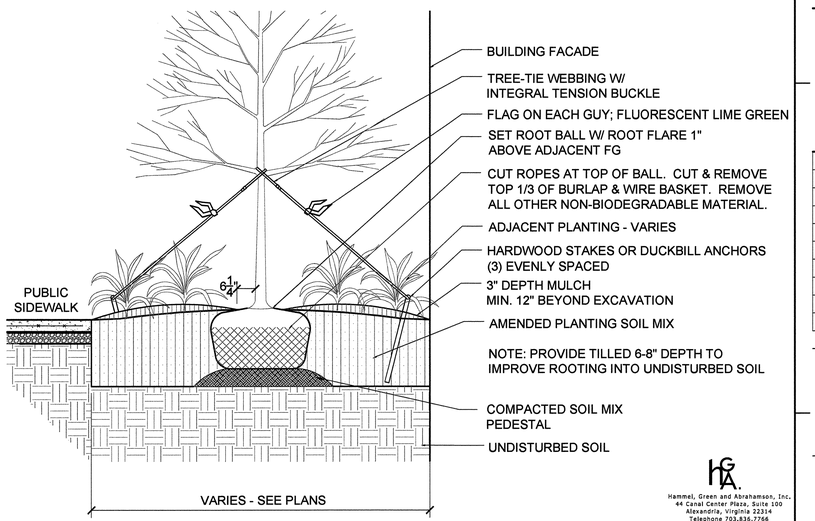



## 6 STREET TREE WITH STRUCTURE CELL

1/2" = 1'-0"

NOTE:
SEE 5/L-7A FOR DETAILS.

NOTE:
SEE ARCHITECTURE DRAWINGS FOR STRUCTURE SLAB AND SUB-GRADE CONDITIONS.




## 7 STREET TREE ON GRADE

1/2" = 1'-0"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DCS DESIGN — DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Lic. No. 001087
4.21.14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE AS SHOWN

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REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

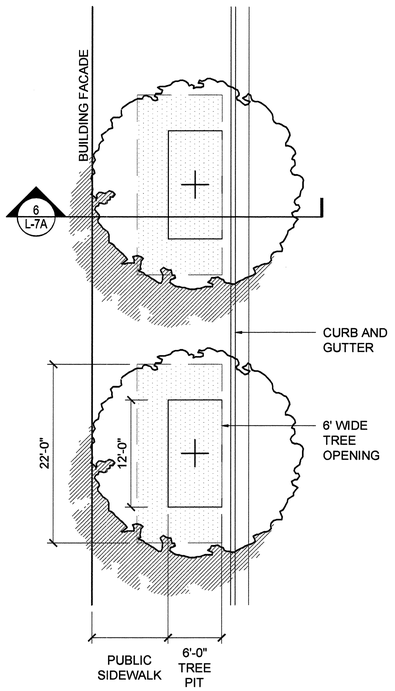
TITLE

# TYPICAL STREET TREE DETAILS

PROJECT NO. 13046.00

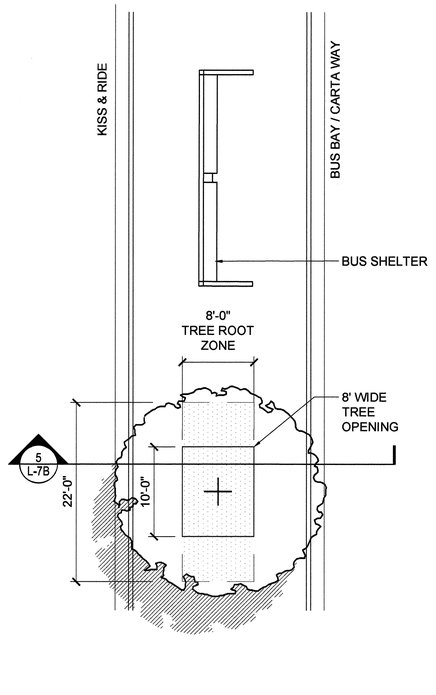
SHEET NO. L-7A

M-10831



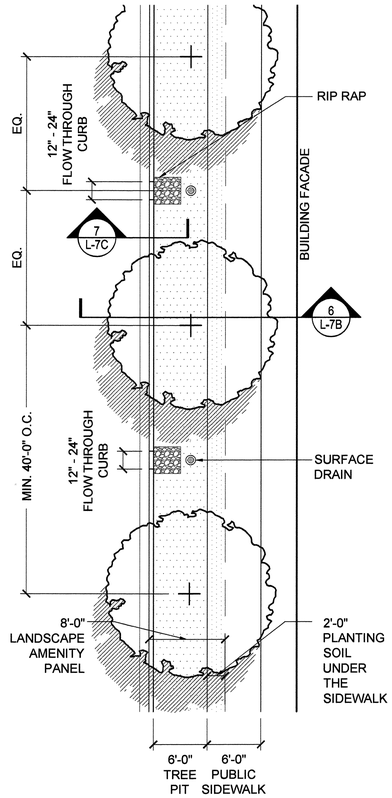

## 1 KISS AND RIDE TREE PIT

1/8" = 1'-0"



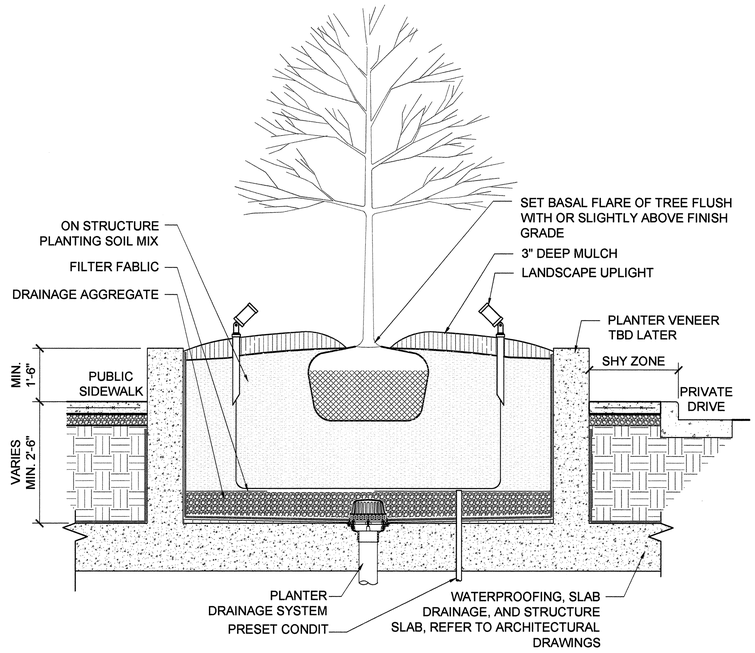

## 2 BUS BAY TREE PIT

1/8" = 1'-0"




## 3 RAIN GAREN AT E-W ROAD

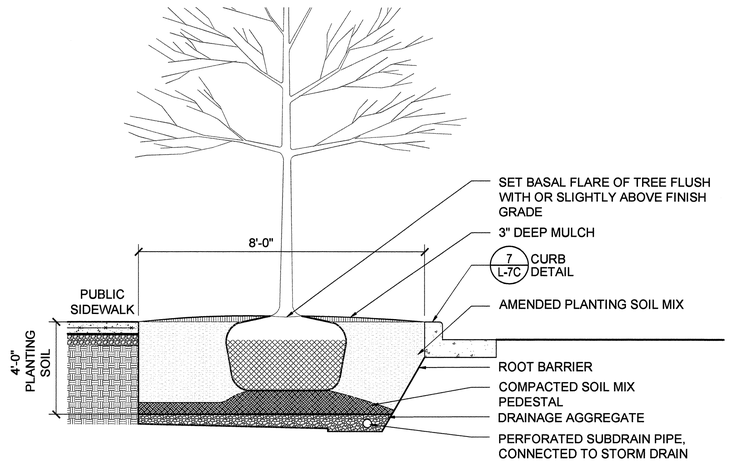
1/8" = 1'-0"




NOTES:
1. INSTALL INSULATION AND/OR TOPPING SLAB, AS APPROVED BY ARCHITECT, TO PROVIDE POSITIVE DRAINAGE TO ALL PLANTING AREA DRAINS. WATERPROOF PER ARCHITECTURAL DETAILS.
2. IRRIGATION SYSTEM SHALL BE PROVIDED FOR RAISED PLANTER

## 7 RAISED PLANTER @ PRIVATE DRIVE (OPTION)

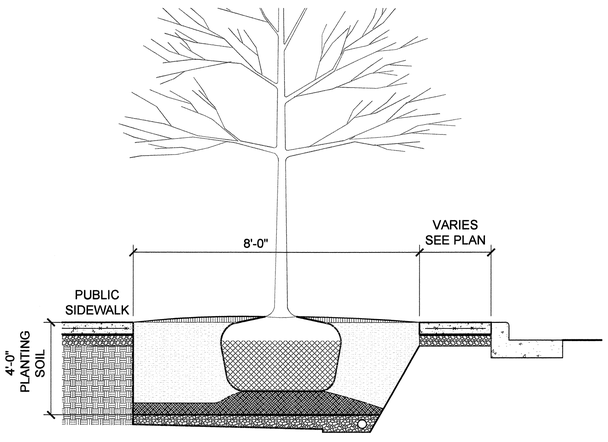
1/2" = 1'-0"




NOTE:
SIDEWALK AND CURB CONDITION VARIES BY LOCATIONS, SEE PLAN FOR SITE CONDITIONS

## 4 8'-0" WIDE TREE PIT

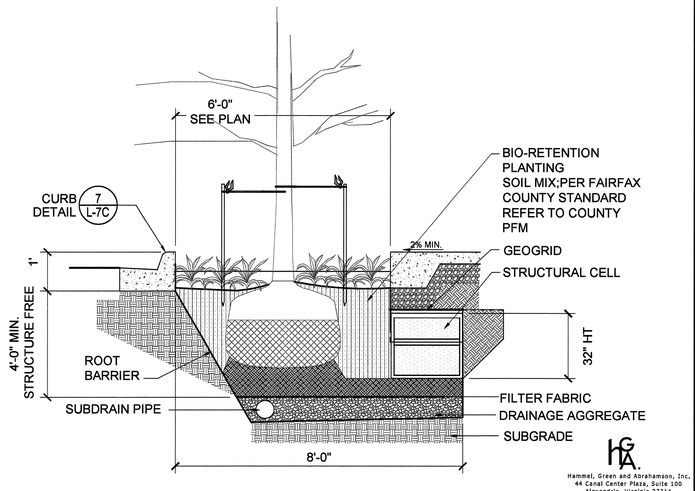
1/2" = 1'-0"




NOTE:
SEE 5/L-7A FOR DETAILS.

## 5 8'-0" WIDE TREE PIT

1/2" = 1'-0"




## 6 STREET TREE/ BIO-RETENTION

1/2" = 1'-0"

NOTE:
1. SOIL VOLUME FOR CATEGORY I, III AND IV TREES SHALL BE MINIMUM OF 700 CUBIC FEET PER SINGLE TREE.
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NOTE:
SEE ARCHITECTURE DRAWINGS FOR STRUCTURE SLAB AND SUB-GRADE CONDITIONS.


Dewberry

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DAVIS CARTER SCOTT Ltd
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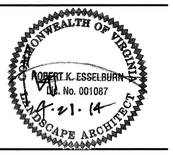
ROCKS
LANDMARK TRUMP COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL




KEY PLAN

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REVISIONS

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APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

TITLE

# TYPICAL RAIN GARDEN & TREE DETAILS

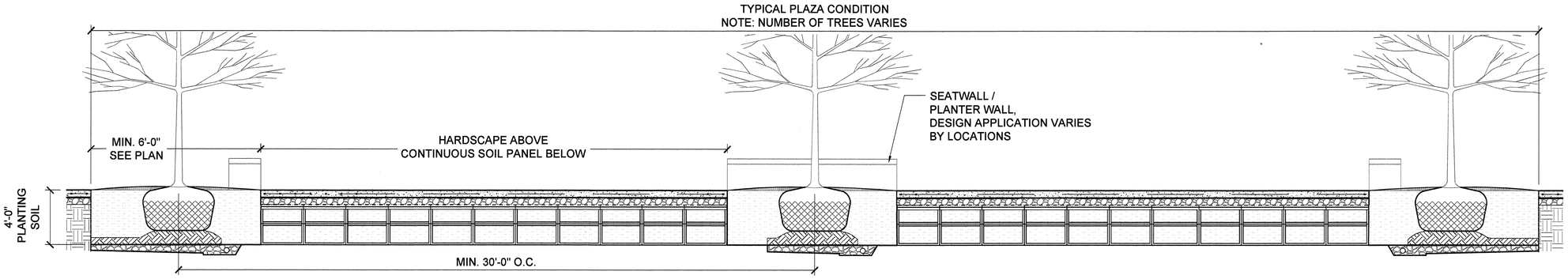
PROJECT NO. 13046.00


Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


SHEET NO. L-7B

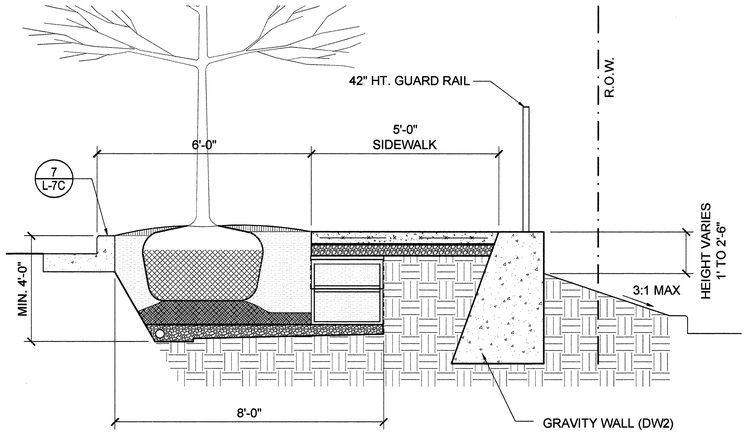
M-10831




## 1 TYPICAL PLAZA TREE PIT

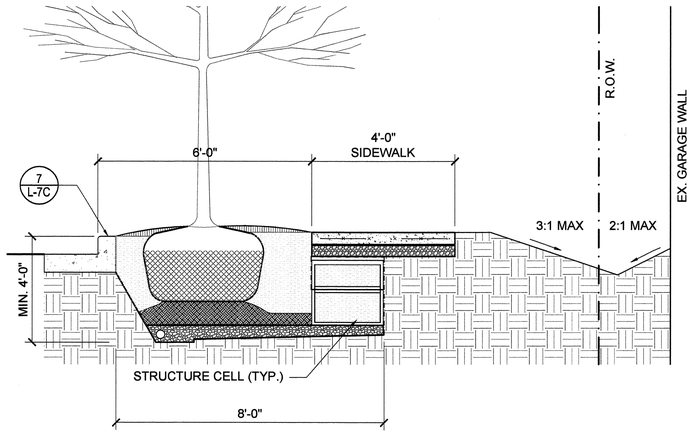
3/8" = 1'-0"

NOTE:
PLAZA HARDSCAPE CONDITION VARIES BY DESIGN IMPLEMENTATION, SEE PLAN FOR SITE CONDITIONS



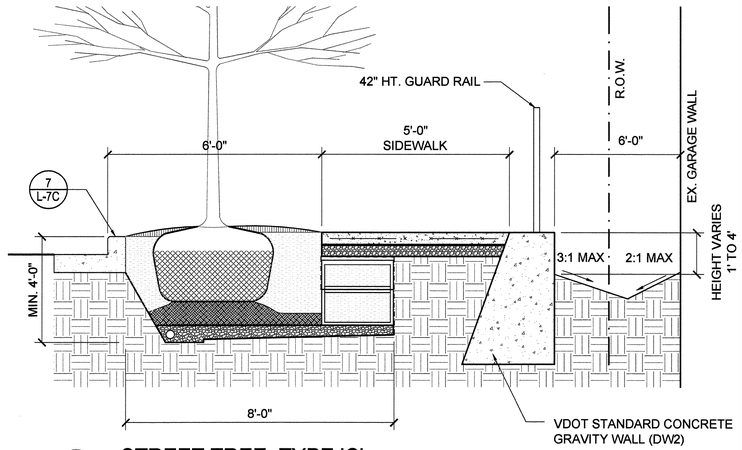

## 2 STREET TREE: TYPE 'A'

1/2" = 1'-0"



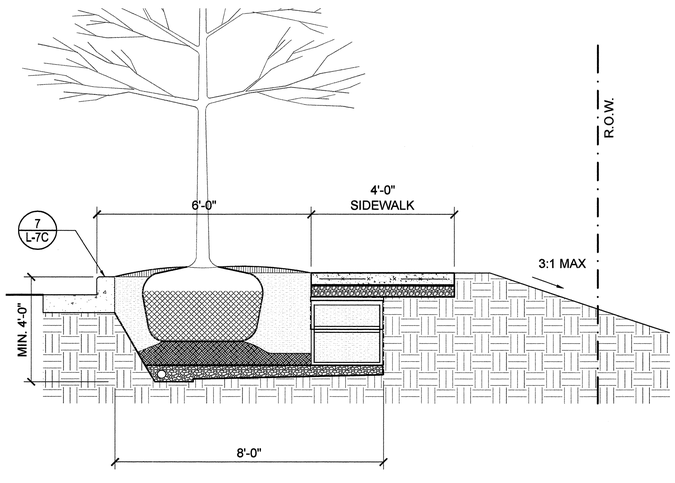

## 3 STREET TREE: TYPE 'B'

1/2" = 1'-0"



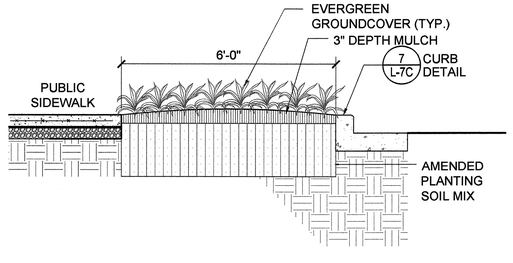

## 4 STREET TREE: TYPE 'C'

1/2" = 1'-0"



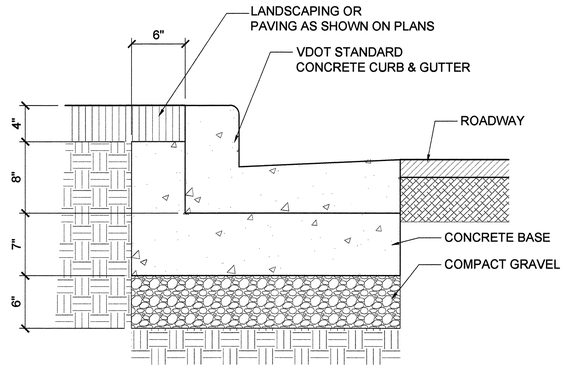

## 5 STREET TREE: TYPE 'D'

1/2" = 1'-0"




## 6 N-S ROAD STREET PLANTING

1/2" = 1'-0"




## 7 STREET CURB DETAIL

1 1/2" = 1'-0"

NOTE:
1. SOIL VOLUME FOR CATEGORY I, III AND IV TREES SHALL BE MINIMUM OF 700 CUBIC FEET PER SINGLE TREE.
2. FOR TWO TREES PLANTED IN A CONTIGUOUS PLANTING AREA, 1200 CUBIC FEET SOIL PER TREE SHALL BE PROVIDED.
3. FOR THREE OR MORE TREES PLANTED IN A CONTIGUOUS PLANTING AREA, 500 CUBIC FEET SOIL PER TREE.

NOTE:
SEE ARCHITECTURE DRAWINGS FOR STRUCTURE SLAB AND SUB-GRADE CONDITIONS.

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REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH
AND THE
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GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Reg. No. 001087
4.21.14
LANDSCAPE ARCHITECT

KEY PLAN

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REVISIONS

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DATE 09.06.2013

TITLE

TREE
DETAILS

PROJECT NO. 13046.00

HGA
Hammel, Green and Abrahamson, Inc.
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Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1910 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-0045

SHEET NO. L-7C

M-10831

SECTION 32 93 00 - EXTERIOR PLANTS

PART 1 - GENERAL

1.1 SUBMITTALS
A. Product Data: For each type of product indicated.
B. Samples for Verification: For each of the following:
1. 1 lb. each of topsoil, soil mix(es), and organic compost materials, each in a labeled, clear, heavy-duty, sealed bag or rigid container.
C. Product Certificates: For each type of manufactured product, signed by product manufacturer, and complying with the following:
1. Manufacturer's certified analysis for standard products.
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
D. Sources: Submit list of proposed sources and photos for pre-qualification review for all plant materials, including certificates of inspection of plant materials, as may be required by Federal, State, or other authorities to accompany shipments, and photographs of all proposed plant materials.
E. Qualification Data: For landscape Installer.
F. Material Test Reports: For existing surface soil, imported topsoil, and planting soil mixes, and prior to installation.
G. Percolation Test: For proposed new planting soil or existing stockpiled planting soil, and prior to installation, certifying that proposed soil has a proper water absorption rate.
H. Planting Schedule: Indicating anticipated planting dates for exterior plants.
I. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance during a calendar year.

1.2 QUALITY ASSURANCE
A. Installer Qualifications: A qualified landscape installer of no less than 5 years experience on local projects of similar size and scope whose work has resulted in successful establishment of exterior plants.
1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when exterior planting is in progress.
B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
C. Soil Analyses: Furnish soil analyses of existing topsoil, imported topsoil, and native soil, as applicable, by a qualified soil-testing laboratory, stating percentages of organic matter; gradation of sand, silt, & clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of topsoil.
1. Report suitability of topsoil for plant growth. State recommended quantities of nitrogen, phosphorus, potassium nutrients, & soil amendments to be added to produce a satisfactory topsoil.
2. Prior to mixing, prepare sample mix ratios for analysis, as above, for all planting soil mixes to be used on the site.
3. The following additional tests are required when the following conditions exist:
a. Sandy Soils: Boron test: 1-3 pounds/acre acceptable.
b. Hardwood forest soils or history of continuous hardwood bark mulching: Manganese test: 3-50 pounds/acre accpetable.
c. Seaside and bay side: Sodium test: 0-20 pounds/acre acceptable.
d. Imported soils, planting mixes: Mechanical analysis, including particle size analysis of sand fraction: Per soil analysis recommendation.
D. Percolation Test: Submit for each 200 CY of proposed new planting soil, or existing stockpiled planting soil, certifying that proposed soil has a proper water absorption rate.
1. Dig a rectangular pit 12" square by 18" deep and rapidly pour in water to a depth of 6 inches. Note time required for water to be completely absorbed.
2. Proposed planting soils having a water absorption rate faster than 18 minutes, or slower than 30 minutes are not acceptable.
E. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."
F. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches (150 mm) above ground for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip. Measure following pruning, when pruning is required. When ranges are specified, provide minimum 50% of each respective plant size/type at the maximum size.
G. Observation: Architect may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
H. Source Limitations: All material of a specific size and cultivar shall be grown at the same nursery and in the same lot.
1. Notify Architect of sources of planting materials minimum 21 days in advance planned of delivery to site.
2. Trees may be obtained from up to three different locations, each within approximately 75 miles of the Washington, D.C. metropolitan area, unless otherwise approved by the Architect.
I. Pre-qualification of Materials:
1. Take photos at places of growth for pre-qualification review. Provide minimum 21 days prior to tree-tagging trips.
a. Provide representational photographs of each plant material type and size.
b. Provide additional photographs of each type and size of tree as follows:
1) Include a surveyor's rod or equivalent for scale.
2) Provide clear views of several tree canopies to demonstrate representational form, vigor, and health.
3) Provide clear views of several trunks to demonstrate representational form, health, and absence of scars and damages.
c. Architect may reject individual plants or suppliers on the basis of photographs and/or other conditions deemed pertinent by the Architect.
d. Do not dig or otherwise reserve other material prior to receiving Architect's approval of photo pre-qualification.
1) The Contractor shall be responsible for all costs related to material dug and/or reserved prior to the above.
J. Tagging: Following pre-qualification of materials, Architect will select and tag trees at places of growth prior to being prepared for transplanting.
1. Contractor shall verify adequate numbers of acceptable trees are available, as indicated in the List of Sources, for Architect's consideration prior to the tagging visit.
a. Contractor shall pay Architect's time & costs for tagging trip(s) if sufficient quantities & acceptable material, as defined by the Architect, are not available.
2. Architect may reject previously pre-qualified individual plants at any time that no longer meet specification for reasons of damage, infestation, mineral deficiency, chlorosis, necrosis, circling roots and/or unsatisfactory subsequent growth.
3. Do not dig or otherwise reserve trees prior to Architect's tagging.
a. The Contractor shall be responsible for all costs related to material dug and/or reserved prior to the above.

1.3 DELIVERY, STORAGE, AND HANDLING
A. Protect planting soil mix stockpiles after mixing from erosion, saturation, and weed growth.
B. Deliver exterior plants freshly dug. Immediately pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.
C. Do not prune trees and shrubs before delivery, except as approved by Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery.
D. Handle planting stock by root ball with a tree strap only. Handling by any other means including, but not limited to, jaws, chains, bars, trunk lift is prohibited.
E. Deliver exterior plants after preparations for planting have been completed and install immediately. Place trees upright immediately upon unloading; do not lay trees down at any time. If planting is delayed more than six hours after delivery, set exterior plants in shade, protect from weather and mechanical damage, and keep roots moist.
1. Heel-in bare-root stock. Soak roots in water for two hours if dried out.
2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
3. Do not remove container-grown stock from containers before time of planting.
4. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.4 COORDINATION
A. Planting Restrictions: Plant during one of the following periods.
1. Deciduous Trees and Shrubs: March 1 - May 30 or September 15 - December 1. (Oak, tupelo and beech shall be planted only in the spring).
2. Evergreen Trees, Shrubs, Groundcover and Perennials: March 1 - May 15 or September 15 - November 15.
B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.
C. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns, unless otherwise acceptable to Architect.
1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.

1.6 WARRANTY
A. Special Warranty: Warrant exterior plants, for the warranty period indicated, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.
1. Warranty Period: One year from date of Project Turnover.
2. Contractor shall be responsible for complete and proper planting supports, installation layout, watering, fertilizing, and pest and pathogen control during warranty period.
3. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
4. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
5. A limit of 1 replacement of each exterior plant will be required for accepted plant material, except for losses or replacements due to failure to comply with requirements.

1.6 MAINTENANCE
A. Maintain by pruning, cultivating, watering, weeding, fertilizing, mulching, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Treat as required to keep free of insects and disease. Monitor for boring insects and signs of stress. Begin maintenance immediately after each area is planted and continue for not less than the following periods:
1. Maintenance Period: One year from date of Project Turnover.
B. Watering, General: Ensure that adequate moisture is provided to all plants.
1. Water thoroughly at time of planting.
2. Provide water weekly for a period of 1 month following planting. Provide a minimum of 1 inch of precipitation per week.
3. Provide water bi-weekly for 2 additional months.
4. If an automatic irrigation system is installed, adjust to provide adequate moisture to plant materials.
D. Fertilizer, General: Fertilize 60 days after Project Turnover.

PART 2 - PRODUCTS

2.1 TREE AND SHRUB MATERIAL
A. Furnish nursery-grown material complying with **ANSI Z60.1**, with healthy, well-developed root systems developed by transplanting or root pruning. Provide stock grown under climatic conditions similar to those in the locality of the Project for at least 2 years and grown in soil similar to the native soil into which the stock will be planted. Provide well-shaped, fully branched, exceptionally heavy, symmetrical, healthy, vigorous stock of uniform size and free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk; crossing trunks; cut-off limbs more than 3/4 inch (19 mm) in diameter; cracked root balls; stem-girdling roots are prohibited.
2. Trees with abrasion of the bark, sunscalds, disfiguring knots, or fresh cuts more than 1 inch in diameter, which have not completely calloused, will be rejected.
3. Plants that do not possess an acceptable balance of height & spread and/or height & caliper, as defined by Architect, shall be rejected.
4. Collected Stock: Do not use plants harvested from the wild, native stands, an established landscape planting, or not grown in a nursery.
B. Provide trees & shrubs of sizes & grades complying with **ANSI Z60.1**. Larger sizes may be used if acceptable to Architect, with a proportionate increase in size of root balls.

2.2 SHADE AND FLOWERING TREES
A. Shade Trees: Single-stem trees with straight trunk, well-balanced crown, intact leader, of height & caliper indicated, complying with **ANSI Z60.1**.
1. Branching Height: One-half of tree height.
B. Small Upright Trees: Branched or pruned naturally according to species & type, with relationship of caliper, height, & branching according to **ANSI Z60.1; as follows:**
1. Stem Form: Single stem.
C. Multi-stem Trees: Branched or pruned naturally according to species & type, with relationship of caliper, height, & branching according to **ANSI Z60.1; stem form as follows:**
1. Stem Form: Clump.

2.3 DECIDUOUS SHRUBS
A. Form and Size: Deciduous shrubs with not less than the minimum number of canes required by & measured according to **ANSI Z60.1** for type, shape, and height of shrub.

2.4 CONIFEROUS EVERGREENS
A. Form and Size: Specimen-quality, exceptionally heavy, tightly knit, symmetrically shaped coniferous evergreens and the following grade:
1. **Heavy Grade: " XXX."**

2.5 BROADLEAF EVERGREENS
A. Form and Size: Normal-quality, well-balanced, broadleaf evergreens, of type, height, spread, and shape required, complying with **ANSI Z60.1**.

2.6 GROUND COVER PLANTS
A. **Ground Cover: Provide ground cover of species indicated, established and well rooted, and complying with ANSI Z60.1.**

2.7 PLANTS
A. Annuals: Provide healthy, disease-free plants of species and variety shown or listed. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud, but not yet in bloom.
B. Perennials: Provide healthy, field-grown plants from a commercial nursery, of species and variety indicated, and complying with **requirements in ANSI Z60.1.**
C. **Vines: Provide vines of species indicated complying with requirements in ANSI Z60.1 as follows:**
1. Two-year plants with heavy, well-branched tops, with not less than 3 runners 18 inches (450 mm) or more in length, and with a vigorous well-developed root system.
D. Ornamental Grasses
1. **Perennial grasses as required by and measured according to ANSI Z60.1 for type, shape, and height.**

2.8 TOPSOIL
A. Topsoil: **ASTM D 5268**, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch (25 mm) or larger in any dimension and other extraneous materials harmful to plant growth.
1. Topsoil Source: Reuse existing in-place surface and/or surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
a. Supplement with imported or manufactured topsoil when quantities are insufficient. Obtain topsoil from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from bogs or marshes.

2.9 INORGANIC SOIL AMENDMENTS
A. **Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:**
1. Class: **Class O**, with a minimum 95 percent passing through **No. 8** (2.36-mm) sieve and a minimum 55 percent passing through **No. 60** (0.25-mm) sieve.
2. Provide lime in form of dolomitic limestone.
B. Agricultural Gypsum: Finely ground, 95% or more passing 1/4" sieve, containing a minimum of 90 percent calcium sulfate, derived from natural mined gypsum, hydrite and anhydrite. Recycled gypsum meetng this specification above is acceptable.
C. Sand: Clean, washed, natural or manufactured, free of toxic materials.

2.10 ORGANIC SOIL AMENDMENTS
A. Compost: Well-composted, stable, weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing 1/2-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
1. Organic Matter Content: 50 to 60 percent of dry weight.
2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
3. Composted Sewage Sludge: Commercially available, high quality, environmentally safe, sterile, EPA-approved soil product for agronomic use; composed of lime-stabilized or naturally dewatered biosolids, combined with wood chips according to EPA standards, aerated and composted for 21 days, including 3 days at 131 degrees Fahrenheit, and screened through a ¾ inch screen. The product shall exhibit the following characteristics:
a. pH: 5.6-7.7; total ntrogen (N)1.2% available
Phosphoric Acid (P2O5)1% soluble
Potash (K2O) 0.25%
Micro-nutrient Content (Fe, Mn, S, Zn, Ni, Cu, B)
Low Cadmium Content
EPA Approval Pathogen Destruction
B. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.
C. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.
D. Mycorrihizal Fungal Transplant Inoculant: Apply in accordance with manufacturer's recommended application rates.

2.11 FERTILIZER
A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 4 percent nitrogen and 10 percent phosphoric acid.
B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
1. Composition:
a. At time of planting: Nitrogen, phosphorous, potassium, and minor elements in amounts recommended in soil reports from a qualified soil-testing agency.
b. During Maintenance period: Commercial fertilizer for ornamental trees, shrubs and ground cover; 10-6-4; with full range of minor elements.
D. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

2.12 MULCHES
A. Shredded hardwood: Free from deleterious materials and suitable as a top dressing of trees and shrubs.

2.13 STAKES AND GUYS
A. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, redwood, or pressure-preservative-treated softwood, free of knots, holes,


Dewberry

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DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Lic. No. 001087
04.21.14
LANDSCAPE ARCHITECT

KEY PLAN

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

SCALE AS SHOWN

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

TITLE

# PLANTING SPECIFICATIONS

PROJECT NO. 13046.00


HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


SHEET NO. L-7D

M-10831

cross grain, and other defects, 2 by 2 inches (50 by 50 mm) by length indicated, pointed at one end.
B. **Guy and Tie Wire: ASTM A 641/A 641M, Class 1, galvanized-steel wire, 2-strand, twisted, 0.106 inch (2.7 mm) in diameter.**
C. Guy Cable: 5-strand, 3/16-inch- (4.8-mm-) diameter, galvanized-steel cable, with zinc-coated turnbuckles, a minimum of 3 inches (75 mm) long, with two 3/8-inch (10-mm) galvanized eyebolts.
D. Hose Chafing Guard: Reinforced rubber or plastic hose at least 1/2 inch (13 mm) in diameter, black, cut to lengths required to protect tree trunks from damage.
E. Flags: Standard surveyor's plastic flagging tape, white, 6 inches (150 mm) long.

2.14 MISCELLANEOUS PRODUCTS
A. Antidessicant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Mix according to manufacturer's written instructions.

2.15 PLANTING SOIL MIX
A. Blend planting soil mixes mechanically using a commercial mixer or shredder. Uniformly incorporate ingredients. Do not allow mix to become contaminated with foreign material or saturated.
B. Planting Soil Mix: Mix topsoil with the following soil amendments and fertilizers in the following quantities:
1. Tree Pits in Paved Areas:
a. 1/10 composted sewage sludge.
b. 1/10 pine bark fines.
c. 1/5 coarse sand.
d. 3/5 topsoil.
e. Amendments required in soil analysis report.
2. Planting Beds:
a. 1/3 topsoil.
b. 1/3 excavated soil.
c. 1/6 compost.
d. 1/6 coarse sand.
e. Amendments required in soil analysis report.
3. Container Planters on Grade:
a. 1/3 topsoil.
b. 1/3 coarse sand.
c. 1/3 compost.
d. Amendments required in soil analysis report.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting acceptable installation and performance. Proceed with installation only after unsatisfactory conditions have been corrected. Commencement of Work constitutes acceptance of conditions and resulting affects and potential affects on plant health. Contractor shall be responsible for correcting, at his/her expense, all unsatisfactory and defective work.

3.2 PREPARATION
A. Notify Architect minimum 10 days prior to soil installation. Do not proceed with installation of soil materials until obtaining Architect's approval of Submittals including, but not limited to, soil analyses and percolation tests.
B. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.
C. Provide erosion-control measures to prevent erosion & discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
D. Lay out individual tree and shrub locations and areas for multiple exterior plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before planting. Provide minimum notice of 10 days. Make minor adjustments as directed.
E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage to protect during handling.
1. If deciduous trees or shrubs are moved in full leaf, spray with antidessicant at nursery before moving and again two weeks after planting.
F. Exercise care during planting operations over structure and/or subsurface drainage to avoid damage to adjacent work. The Contractor is responsible for the cost of repairs of all damages caused by his/her forces. Should any damage occur during planting, immediately notify the Architect.

3.3 PLANTING BED ESTABLISHMENT
A. Loosen subgrade of planting beds to a minimum depth of 8 inches (200 mm). Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Apply fertilizer directly to subgrade before loosening.
2. Apply Transplant Inoculant.
3. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments & fertilizer on surface, thoroughly blend planting soil mix.
a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
b. Mix lime with dry soil before mixing fertilizer.
4. Spread planting soil mix to a depth of 4 inches (100 mm) but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches (100 mm) of subgrade. Spread remainder of planting soil mix.
B. Finish Grading: Grade beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll & rake, remove ridges, fill depressions to meet finish grades.
C. Restore planting beds if eroded or otherwise disturbed after finish grading and before planting.
D. Bio-retention planting soil mix to be installed in accordance with Civil Plans and approved storm water management plans. Coordinate with General Contractor.
1. Incorporate soil amendments are required by topsoil analysis report.
2. Proceed with remaining elements of Plant Bed Establishment as above.

3.4 TREE AND SHRUB EXCAVATION
A. Prepare continuous tree and shrub planting beds that encompass multiple tree and shrub planting locations. Except for tree pits, set Limits of Planting Bed no closer 10 feet from any tree planting location and no closer than 30 inches from any shrub planting location. For tree pits, site Limits at the edge of adjacent paving or structure. Turn and amend existing soil within the Limits to a minimum depth of 18 inches throughout.
1. Planting in and/or near a Tree Protection Zone:
a. Refer to Division 02 Section Tree Protection and Trimming for excavation restrictions and tree protection requirements.
b. Reduce Limits of Planting Bed to 3 times the radius of each rootball.
2. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
a. Hardpan Layer: Drill 6-inch- (150-mm-) diameter holes 5 feet (1.5 m) on center into free-draining strata or to a depth of 10 feet (3 m), whichever is less, and backfill with free-draining material.
B. Excavation:
1. Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.
a. Excavate approximately one and one half times as wide as ball diameter for balled and burlapped, container-grown, and fabric bag-grown stock.
b. Excavate at least 6 inches (150 mm) wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
2. If subdrainage pipe is shown or required under planted areas, excavate to top of porous backfill. Do not damage fabric barrier(s).
3. Subsoil removed from excavations may be used as backfill.
C. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.
D. Percolation test: Where no planting subdrainage system is indicated, immediately following rough grading and prior to planting, identify a typical planting location and excavate a tree pit. Fill with water to a depth of 12 inches. Report length of time for water to percolate completely into the soil. Within 6 hours, in the presence of the Architect, again fill the pit with water to a depth of 12 inches. If water does not completely percolate within 9 hours, submit a proposal for drainage system or soil penetrant. Do not proceed with planting until a determination is made by the Architect.

3.5 TREE AND SHRUB PLANTING
A. Set balled and burlapped stock plumb and in center of excavation with top of root ball 1 inch (25 mm) above adjacent finish grades.
1. To locate top of root collar, remove loose soil deposited on top of root ball during digging process.
2. Cut away and remove burlap and wire baskets from top third of root balls, but do not remove from under root balls. Remove pallets, if any, before setting.
3. Do not use planting stock if root ball is cracked or broken before or during planting operation.
4. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
B. Set container-grown stock plumb and in center of pit or trench with top of root ball 1 inch (25 mm) above adjacent finish grades.
1. Carefully remove root ball from container without damaging root ball or plant.
2. Make 4 vertical cuts, 1 inch deep, evenly spaced about the root ball with a clean, sharp utility knife.
3. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
C. Set fabric bag-grown stock plumb and in center of pit or trench with top of root ball 1 inch (25 mm) above adjacent finish grades.
1. Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use stock if root ball is cracked or broken before or during planting operation.
2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
D. Set and support bare-root stock in center of pit or trench with root collar or trunk flare flush with adjacent finish grade. Spread roots without tangling or turning toward surface, and carefully work backfill around roots by hand. Puddle with water until backfill layers are completely saturated. Plumb before backfilling, and maintain plumb while working backfill around roots and placing layers above roots. Tamp final layer of backfill. Remove injured roots by cutting cleanly; do not break.
E. Organic Mulching: Apply 3-inch (75-mm) average thickness of organic mulch extending 12 inches (300 mm) beyond edge of planting pit or trench. Do not place mulch within 3 inches (75 mm) of trunks or stems.

3.6 TREE AND SHRUB PRUNING
A. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Remove no more than 10 percent of top growth unless otherwise indicated by Architect, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are sizes after pruning.

3.7 GUYING AND STAKING
A. Upright Staking and Tying: Stake trees of 2- through 5-inch (50- through 125-mm) caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches (450 mm) below bottom of backfilled excavation and to extend at least 72 inches (1830 mm) above grade. Set vertical stakes and space to avoid penetrating root balls or root masses. Support trees with two strands of tie wire encased in hose sections at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree. Use the number of stakes as follows:
1. Use 2 stakes for trees up to 12 feet (3.6 m) high and 2-1/2 inches (63 mm) or less in caliper; 3 stakes for trees less than 14 feet (4.2 m) high and up to 4 inches (100 mm) in caliper. Space stakes equally around trees.
B. Guying and Staking: Guy and stake trees exceeding 14 feet (4.2 m) in height and more than 3 inches (75 mm) in caliper, unless otherwise indicated. Securely attach no fewer than 3 guys to stakes 30 inches (760 mm) long, driven to grade.
1. For trees more than 6 inches (150 mm) in caliper, anchor guys to pressure-preservative-treated deadmen 8 inches (200 mm) in diameter and 48 inches (1200 mm) long buried at least 36 inches (900 mm) below grade. Provide turnbuckles for each guy wire and tighten securely.
2. Attach flags to each guy wire, 30 inches (760 mm) above finish grade.

3.8 PLANTERS
A. Planters: Place a layer of gravel at least 4 inches (100 mm) thick in bottom of planters, cover with nonwoven fabric, and fill with planter soil mix. Place soil in lightly compacted layers to an elevation of 1-1/2 inches (38 mm) below top of planter, allowing natural settlement.

3.9 GROUND COVER AND PLANT PLANTING
A. Dig holes large enough to allow spreading of roots, and backfill with planting soil. Work soil around roots to eliminate air pockets.
B. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
C. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.10 PLANTING BED MULCHING
A. Apply 3-inch (75-mm) average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.12 CLEANUP AND PROTECTION
A. Keep adjacent pavings and construction clean and work area in an orderly condition.
B. Protect exterior plants from damage. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged exterior planting.

3.13 DISPOSAL
A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 32 93 00

## TREE CANOPY CALCULATION TABLE

| QTY. | BOTANICAL NAME | COMMON NAME | SIZE | TYPE | 10-YR TREE COVER CANOPY | ENERGY CONSERVATION | WATER QUALITY | AIR QUALITY | IMPROVED CULTIVAR | SUB-TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| **STREET TREES (CATEGORY IV)** | | | | | | | | | | |
| 25% | Platanus acerifolia | London Plane Tree | 3" cal. | B&B | 250 | | | | | 5000 |
| 25% | Quercus phellos | Willow Oak | 3" cal. | B&B | 250 | | 1.25 | | | 6250 |
| 25% | Tilia americana | American Linden | 3" cal. | B&B | 250 | | | 1.5 | | 7500 |
| 25% | Zelkova serrata | Japanese Zelkova | 3" cal. | B&B | 250 | | | 1.5 | | 7125 |
| **79** | | | | | | | | | | **25,875** |
| **CANOPY TREES (CATEGORY IV)** | | | | | | | | | | |
| 20% | Acer rubrum October Glory' | October Glory Red Maple | 3" cal. | B&B | 250 | | | 1.5 | | 6000 |
| 20% | Liquidambar styraciflua | Sweetgum | 3" cal. | B&B | 250 | | | | | 4000 |
| 20% | Quercus bicolor | Swamp White Oak | 3" cal. | B&B | 250 | | 1.25 | | | 5000 |
| 20% | Ulmus parvifolia | Chinese Elm | 3" cal. | B&B | 250 | | | 1.5 | | 6000 |
| 20% | Zelkova serrata | Japanese Zelkova | 3" cal. | B&B | 250 | | | 1.5 | | 5625 |
| **79** | | | | | | | | | | **26,625** |
| **CANOPY TREES (CATEGORY III)** | | | | | | | | | | |
| 20% | Betula nigra | River Birch | 3" cal. | B&B | 175 | | 1.25 | | | 2844 |
| 20% | Gleditsia triacanthos inermis | Honeylocust | 3" cal. | B&B | 175 | | | | | 2275 |
| 20% | Koelreuteria paniculata | Golden Rain Tree | 3" cal. | B&B | 175 | | | | | 2275 |
| 20% | Prunus yeodoensis | Yoshino Cherry | 3" cal. | B&B | 175 | | | | | 2275 |
| 20% | Tilia cordata | Little Leaf Linden | 3" cal. | B&B | 175 | | | 1.5 | | 3150 |
| **64** | | | | | | | | | | **12,819** |
| **ORNAMENTAL TREES (CATEGORY II)** | | | | | | | | | | |
| 20% | Amelanchier arborea | Downey Serviceberry | 3" cal. | B&B | 125 | | | | | 4125 |
| 20% | Cercis canadensis | Eastern Redbud | 3" cal. | B&B | 125 | | | | | 4125 |
| 20% | Cornus kousa ' Stellar' | Kousa Dogwood Hybrid | 3" cal. | B&B | 125 | | | | 1.5 | 6000 |
| 20% | Magnolia soulangiana | Saucer Magnolia | 3" cal. | B&B | 125 | | | | | 4000 |
| 20% | Magnolia virginiana | Sweetbay Magnolia | 3" cal. | B&B | 125 | | 1.25 | | | 5156 |
| **163** | | | | | | | | | | **23,406** |
| **EVERGREEN TREES (CATEGORY II)** | | | | | | | | | | |
| 20% | Cryptomeria Japonica | Japanese Cryptomeria | 10' ht. | B&B | 125 | | | | | 1125 |
| 20% | Cupressocyparis leylandii | Leyland Cypress | 10' ht. | B&B | 125 | | | | | 563 |
| 20% | Juniperus virginiana | Easter Red Cedar | 10' ht. | B&B | 125 | | | | | 1125 |
| 20% | Ilex opaca | American Holly | 10' ht. | B&B | 125 | | 1.25 | | | 1406 |
| 20% | Picea glauca | White Spruce | 10' ht. | B&B | 125 | | | | | 1125 |
| **45** | | | | | | | | | | **5,344** |

| | |
|---|---|
| **TOTAL CANOPY COVERAGE (SF)** | 94,069 |
| **GROSS SITE AREA (SF):** | 566,196 |
| **AREA OF 10-YEAR TREE CANOPY REQUIRED (10%):** | 56,620 |
| **TOTAL TREE PROVIDED (SF):** | 94,069 |

note:
final planting species, quantities, and locations are subject to change by detail site designs and site conditions
see detail tree canopy calculation sheet c-6a


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LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703.821.0045



Dewberry
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FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DCS DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

KEY PLAN

SCALE AS SHOWN

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

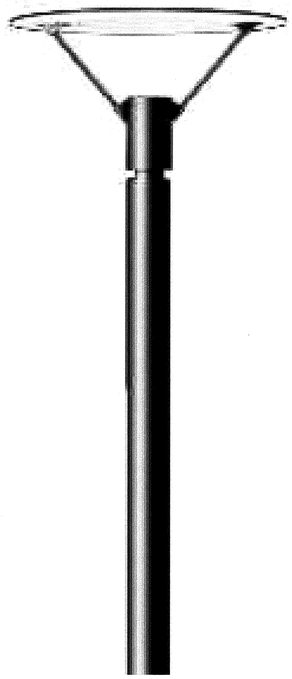
DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013
TITLE

# PLANTING SPECIFICATIONS

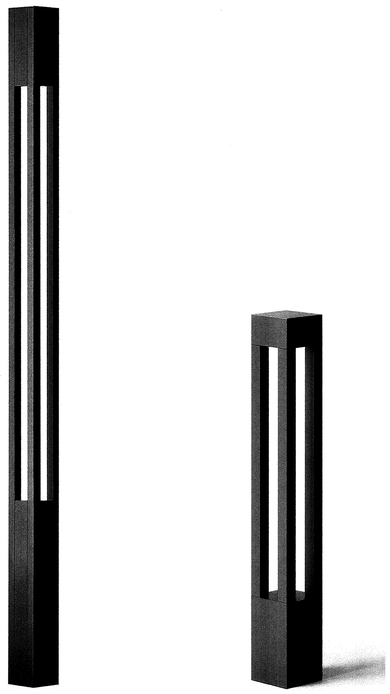
PROJECT NO. 13046.00

SHEET NO. L-7E

M-10831



1 PEDESTRIAN POLE LIGHT



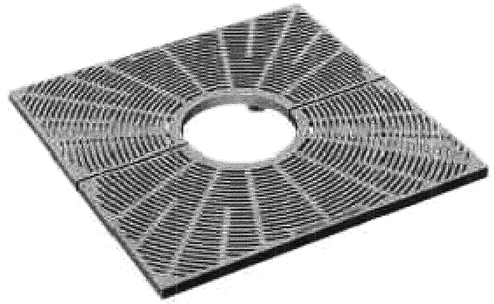
2 STICK LIGHTING & BOLLARD

3 BIKE RACK

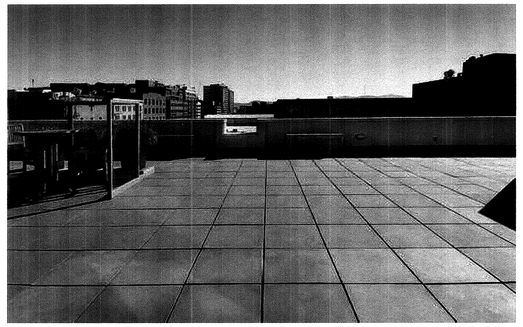
4 BENCH

5 TABLE AND CHARIS

6 TRASH RECEPTACLE



7 TREE GRATE



8 ROOF PAVERS

9 CONCRETE UNIT PAVING

10 STONE PAVING

NOTE:
1. LIGHTING AND SITE FURNISHINGS ARE REPRESENTATIVE OF QUALITY AND MATERIALS. FINAL SELECTION SHALL BE MADE BY THE APPLICANT LATER.

2. SELECTION OF LIGHT FIXTURES FOR LIGHTING IN ROW SUBJECT TO CONFORMANCE WITH POWER COMPANY REQUIREMENTS.

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703-821-2045

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ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Reg. No. 001087
04.21.14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE AS SHOWN

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
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| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

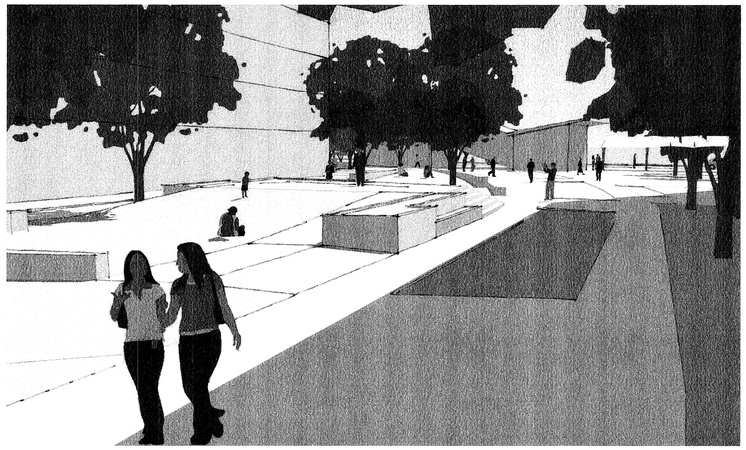
TITLE

# SITE FURNITURE AND MATERIAL IMAGES

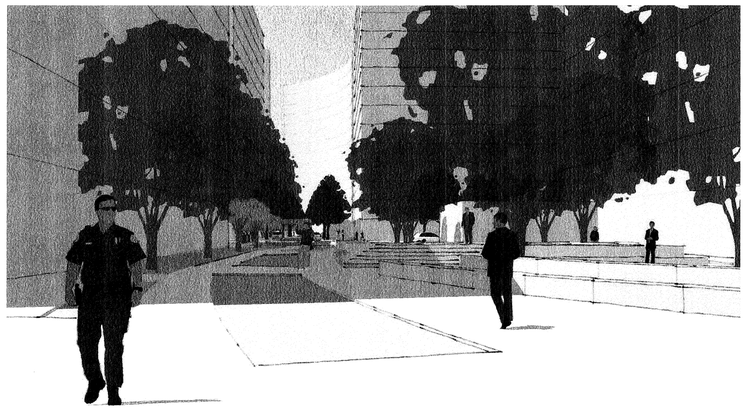
PROJECT NO. 13046.00

SHEET NO. L-8

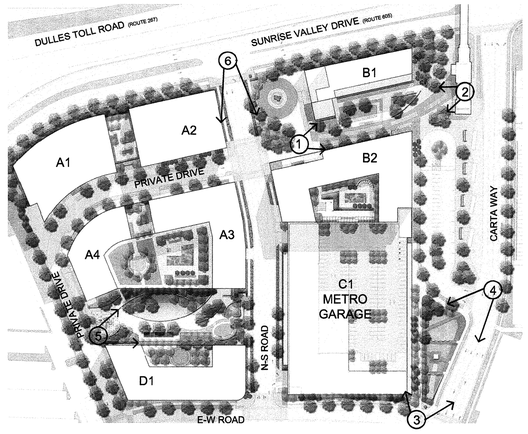
M-10831



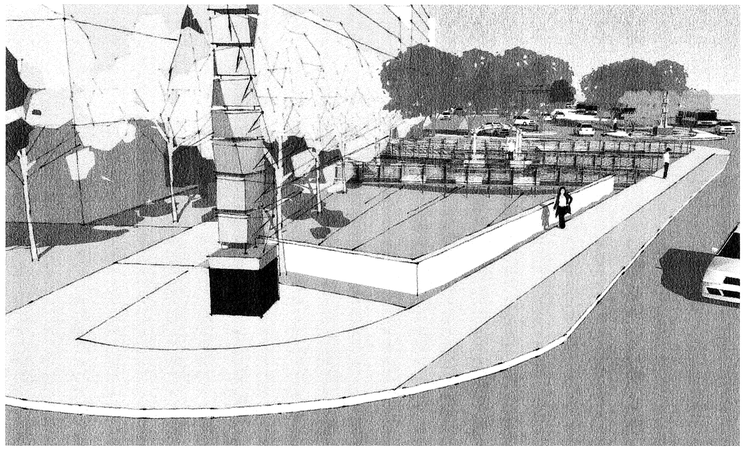
1 METRO PLAZA



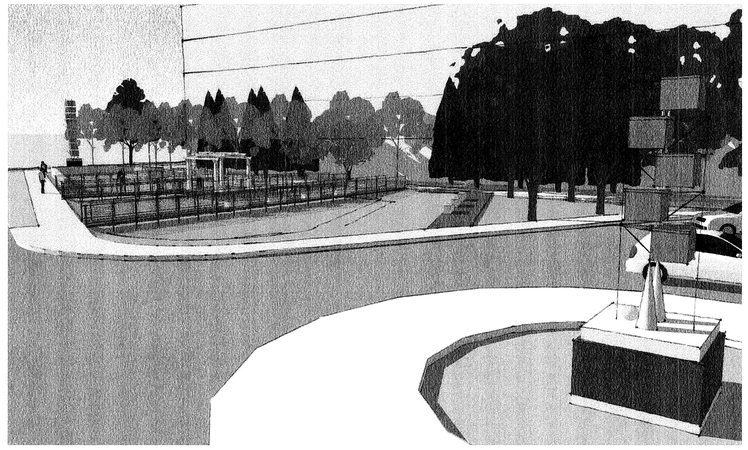
2 METRO PLAZA



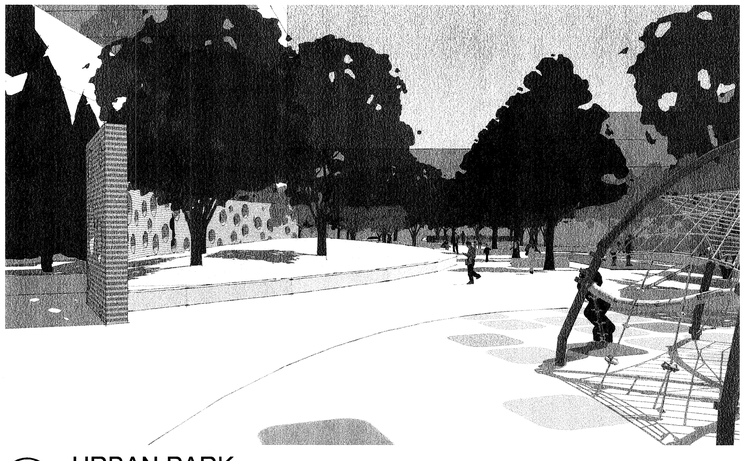

KEY MAP



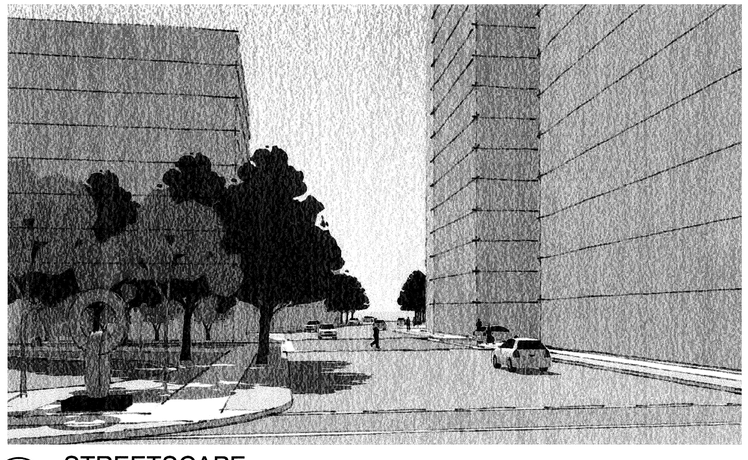
3 POCKET PARK



4 POCKET PARK



5 URBAN PARK



6 STREETSCAPE


Dewberry

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dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT K. ESSELBURN
Lic. No. 001087
04.21.14
LANDSCAPE ARCHITECT

KEY PLAN

SCALE NTS

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 04.21.14 | | CDP |
| 5 | 03.27.14 | | CDP |
| 4 | 02.21.14 | | CDP |
| 3 | 01.03.14 | | CDP |
| 2 | 11.22.13 | | CDP |
| 1 | 9.09.13 | | CDP |

REVISIONS

DRAWN BY BC
APPROVED BY SC
CHECKED BY BE
DATE 09.06.2013

TITLE

# PERSPECTIVE VIEWS

PROJECT NO. 13046.00


HGA
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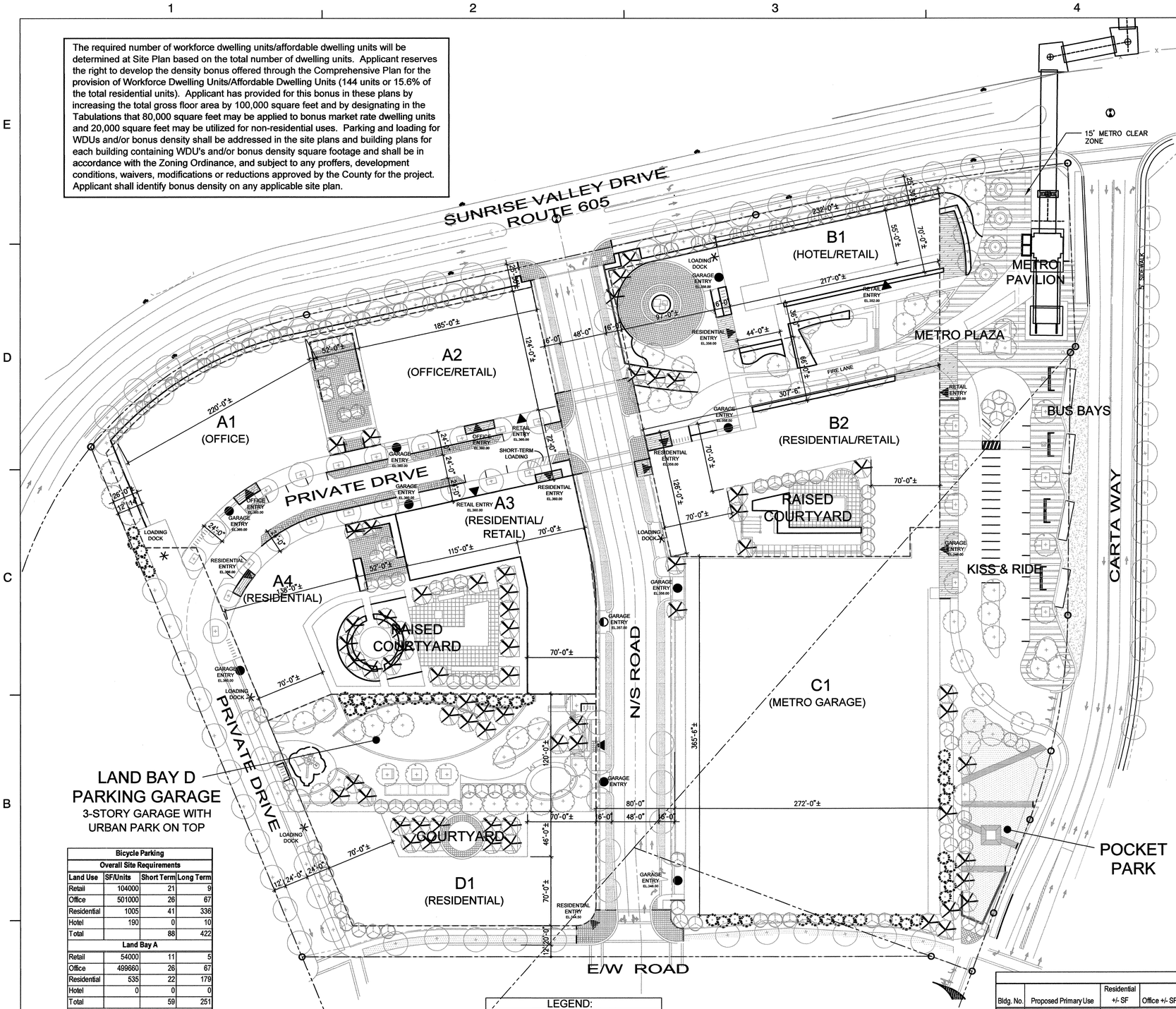
Facsimile 703.836.3042

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045


SHEET NO. L-9

M-10831

The required number of workforce dwelling units/affordable dwelling units will be determined at Site Plan based on the total number of dwelling units. Applicant reserves the right to develop the density bonus offered through the Comprehensive Plan for the provision of Workforce Dwelling Units/Affordable Dwelling Units (144 units or 15.6% of the total residential units). Applicant has provided for this bonus in these plans by increasing the total gross floor area by 100,000 square feet and by designating in the Tabulations that 80,000 square feet may be applied to bonus market rate dwelling units and 20,000 square feet may be utilized for non-residential uses. Parking and loading for WDUs and/or bonus density shall be addressed in the site plans and building plans for each building containing WDU's and/or bonus density square footage and shall be in accordance with the Zoning Ordinance, and subject to any proffers, development conditions, waivers, modifications or reductions approved by the County for the project. Applicant shall identify bonus density on any applicable site plan.




LAND BAY D
PARKING GARAGE
3-STORY GARAGE WITH URBAN PARK ON TOP

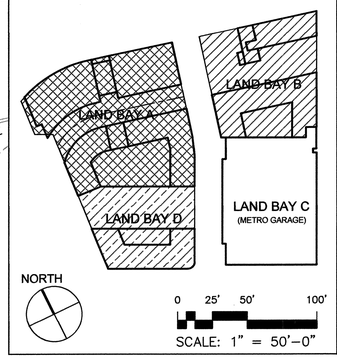
LEGEND:
- ▶ MAIN BUILDING ENTRANCE
- ● GARAGE VEHICULAR ACCESS
- ◐ ONE-WAY VEHICULAR ACCESS
- ✳ LOADING ACCESS

## OVERALL CDP/FDP SITE PLAN

1"=50'-0"
444_SITE-ANNO.dwg

| Bicycle Parking | | | |
|---|---|---|---|
| Overall Site Requirements | | | |
| Land Use | SF/Units | Short Term | Long Term |
| Retail | 104000 | 21 | 9 |
| Office | 501000 | 26 | 67 |
| Residential | 1005 | 41 | 336 |
| Hotel | 190 | 0 | 10 |
| Total | | 88 | 422 |
| Land Bay A | | | |
| Retail | 54000 | 11 | 5 |
| Office | 499660 | 26 | 67 |
| Residential | 535 | 22 | 179 |
| Hotel | 0 | 0 | 0 |
| Total | | 59 | 251 |
| Land Bay B | | | |
| Retail | 50000 | 10 | 4 |
| Office | 0 | 0 | 0 |
| Residential | 345 | 14 | 116 |
| Hotel | 190 | 0 | 10 |
| Total | | 24 | 130 |
| Land Bay D | | | |
| Retail | 0 | 0 | 0 |
| Office | 0 | 0 | 0 |
| Residential | 125 | 6 | 42 |
| Hotel | 0 | 0 | 0 |
| Total | | 6 | 42 |

## KEY PLAN




NOTE:
LANDSCAPE PLAN IS ILLUSTRATIVE TO SHOW GENERAL INTENT AND CHARACTER OF PROPOSED DEVELOPMENT. ARCHITECTURAL FOOTPRINTS AND LANDSCAPE FEATURES MAY VARY WITH FINAL BUILDING DESIGN AND SITE PLAN.

| TOTAL SITE PARKING TABULATIONS FOR LAND BAYS A, B, & D* | | | | |
|---|---|---|---|---|
| | GFA +/-SF | Approx. No. of Rooms/Units | Spaces Required | Spaces Provided |
| Multi-Family Residential @ 1.6 per Dwelling Unit | 951,041 | 1,005 | 1,608 | - |
| Office @ 2.6 per 1,000 SF GFA | 499,660 | | 1,299 | - |
| Hotel @ 1 per Room + 4 per 50 Rooms | 90,000 | 190 | 206 | - |
| Retail @1 per 200 SF 1st 1,000 SF, 6 per 1,000 remaining SF | 104,000 | | 623 | - |
| TOTAL | 1,644,701 | 1,195 | 3,736 | 3,492 |
| *For parking reduction, see sheet C-2C | | | | |
| LAND BAY A - PARKING TABULATIONS | | | | |
| (Includes Buildings A1, A2, A3 & A4) | GFA +/-SF | Approx. No. of Rooms/Units | Spaces Required | Spaces Provided |
| Multi-Family Residential @ 1.6 per Dwelling Unit | 479,441 | 535 | 856 | - |
| Office @ 2.6 per 1,000 SF GFA | 499,660 | - | 1,299 | - |
| Hotel @ 1 per Room + 4 per 50 Rooms | - | - | - | - |
| Retail @1 per 200 SF 1st 1,000 SF, 6 per 1,000 remaining SF | 54,000 | - | 323 | - |
| TOTAL | 1,033,101 | 535 | 2,478 | 2,363 |
| LAND BAY B - PARKING TABULATIONS | | | | |
| (Includes Buildings B1 & B2) | GFA +/-SF | Approx. No. of Rooms/Units | Spaces Required | Spaces Provided |
| Multi-Family Residential @ 1.6 per Dwelling Unit | 346,600 | 345 | 552 | - |
| Office @ 2.6 per 1,000 SF GFA | - | - | - | - |
| Hotel @ 1 per Room + 4 per 50 Rooms | 90,000 | - | 206 | - |
| Retail @1 per 200 SF 1st 1,000 SF, 6 per 1,000 remaining SF | 50,000 | - | 299 | - |
| TOTAL | 486,600 | 345 | 1,057 | 929 |
| LAND BAY D - PARKING TABULATIONS | | | | |
| (Includes Building D1) | GFA +/-SF | Approx. No. of Rooms/Units | Spaces Required | Spaces Provided |
| Multi-Family Residential @ 1.6 per Dwelling Unit | 125,000 | 125 | 200 | - |
| Office @ 2.6 per 1,000 SF GFA | - | - | - | - |
| Hotel @ 1 per Room + 4 per 50 Rooms | - | - | - | - |
| Retail @1 per 200 SF 1st 1,000 SF, 6 per 1,000 remaining SF | - | - | - | - |
| TOTAL | 125,000 | 125 | 200 | 200 |

ESTIMATED BUILDING GROSS FLOOR AREA

| Bldg. No. | Proposed Primary Use | Residential +/- SF | Office +/- SF | Hotel +/-SF | Retail +/-SF | Minimum Height +/-* | Maximum Height +/-* | Stories | Residential Units +/- | Hotel Units +/- | Minimum Area | Maximum Area |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary Use | | Secondary Use | | | | | | | |
| A1 | Office | | 259,660 | | 5,000 | 120 FT | 180 FT | 10-13 | | | 201,000 | 339,000 |
| A2 | Office | | 240,000 | | 9,000 | 120 FT | 180 FT | 10-13 | | | 185,000 | 312,000 |
| A3 | Residential | 288,000 | | | 35,000 | 130 FT | 180 FT | 14-16 | 320 | | 252,000 | 329,000 |
| A4 | Residential | 191,441 | | | 5,000 | 130 FT | 180 FT | 14-16 | 215 | | 168,000 | 219,000 |
| B1 | Hotel | | | 90,000 | 10,000 | 100 FT | 120 FT | 10-12 | | 190 | 75,000 | 108,000 |
| B2 | Residential | 346,600 | | | 40,000 | 110 FT | 150 FT | 12-14 | 345 | | 222,000 | 320,000 |
| C1 | Metro Garage | | 1,340 | | | | | | | | | |
| D1 | Residential | 125,000 | | | | 50 FT | 70 FT | 5-7 | 125 | | 89,000 | 175,000 |
| Total | | 951,041 | 501,000 | 90,000 | 104,000 | | | | 1,005 | 190 | | |
| | | 57.78% | 30.44% | 5.47% | 6.32% | * Exclusive of Penthouse heights (See A-301) | | | | | | |
| Total GFA All Uses | | 1,646,041 +/-SF | | | | | | | | | | |


LSG LANDSCAPE ARCHITECTURE
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DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1938


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 4/18/14, 8:58 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 7 | 04/21/14 | | |
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 04/21/14

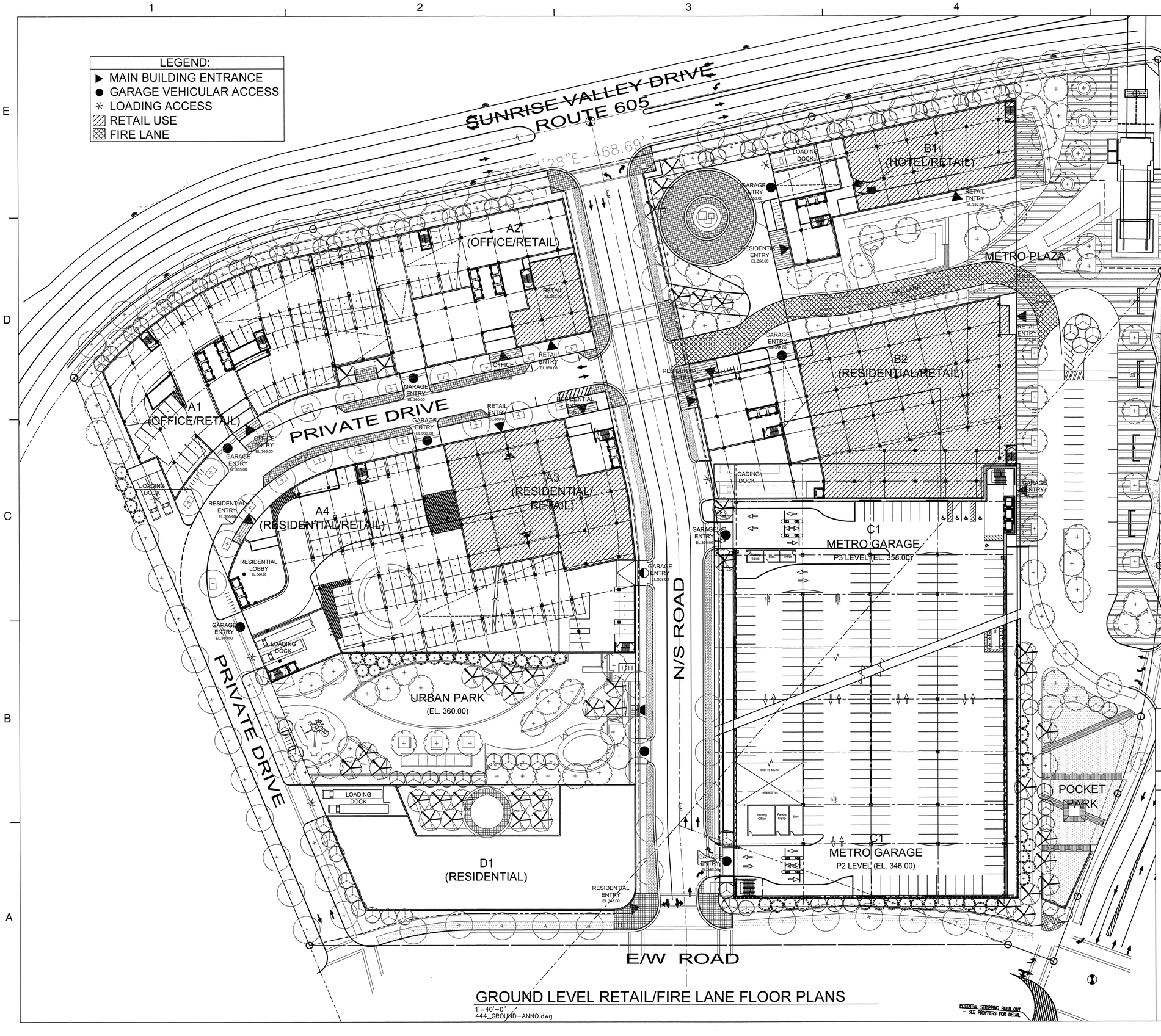
TITLE

# OVERALL CDP/FDP SITE PLAN

PROJECT NO. 305444.06

# A-100

SHEET NO. OF
444_A100.dwg




GROUND LEVEL RETAIL/FIRE LANE FLOOR PLANS

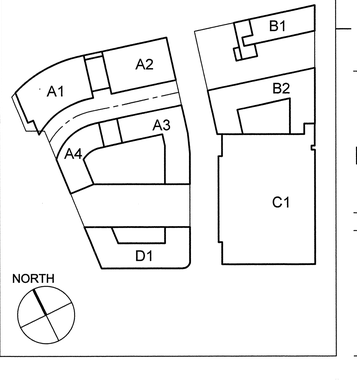
1'=40'-0"

444_GROUND-ANNO.dwg

POTENTIAL STRIPPING BULB OUT - SEE PROFFERS FOR DETAIL

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE

KEY PLAN





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703-821-2045

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Dewberry®

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dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH
AND THE
INNOVATION CENTER STATION
GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 7:17 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

GROUND LEVEL

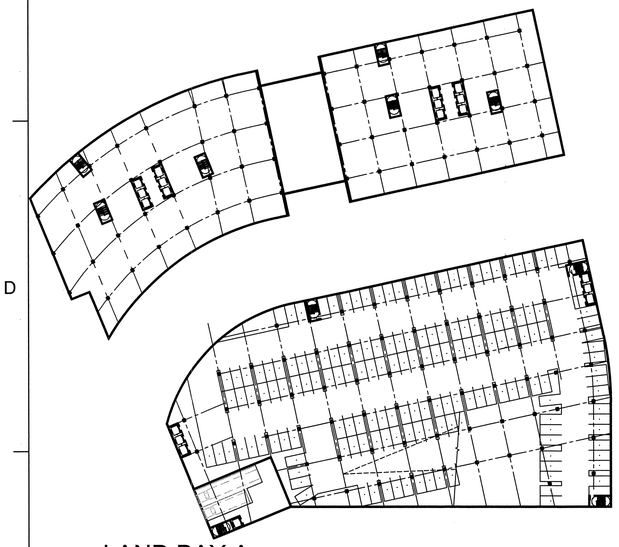
RETAIL/FIRE LANE FLOOR PLANS

PROJECT NO. 305444.06

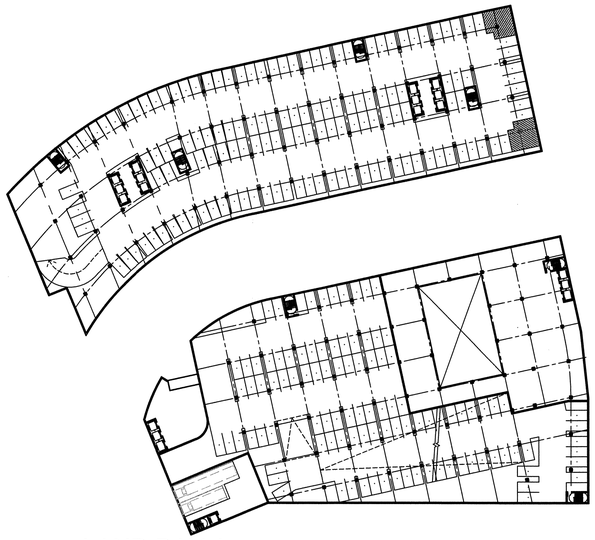
A-101

SHEET NO. OF

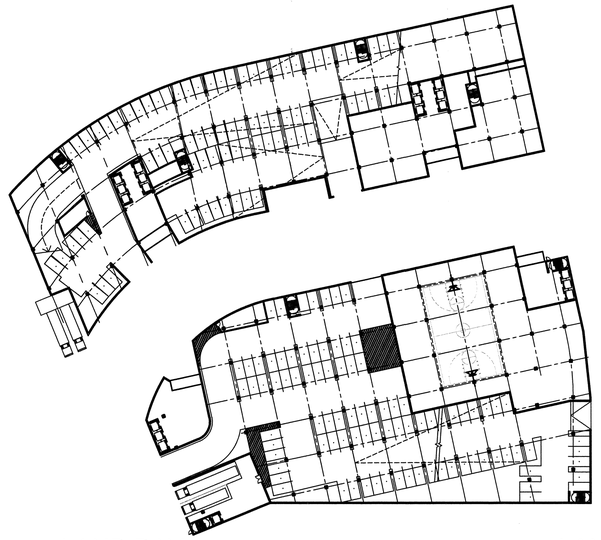
444_A101.dwg



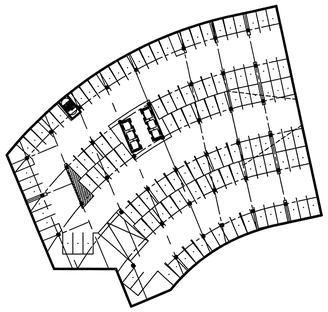
8 LAND BAY A
LEVEL 385 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



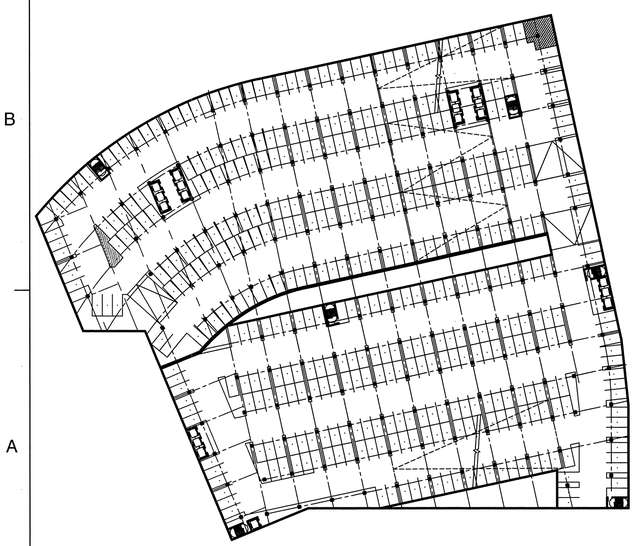
7 LAND BAY A
LEVEL 375 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



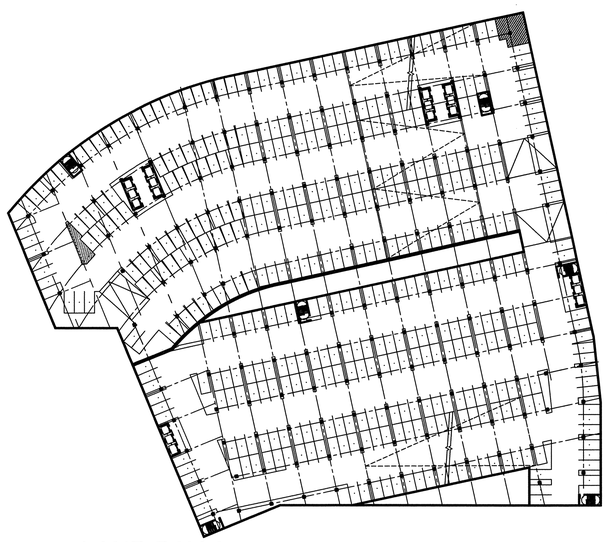
6 LAND BAY A
LEVEL 360/365 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



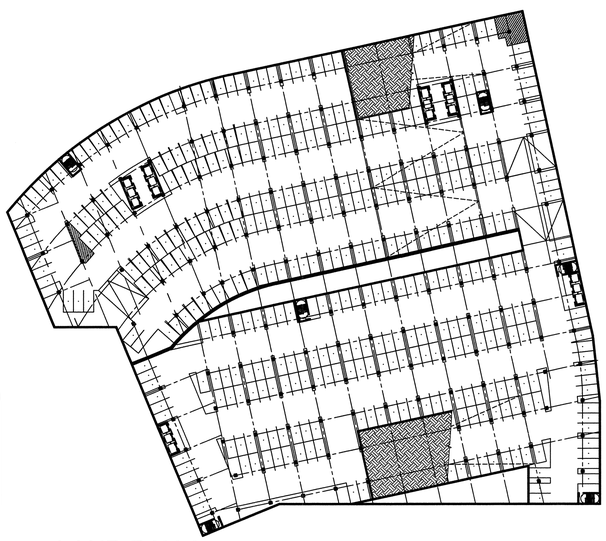
5 LAND BAY A
LEVEL 355 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



3 LAND BAY A
LEVELS 340/345 & 350/355 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



2 LAND BAY A
LEVEL 330/335 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg

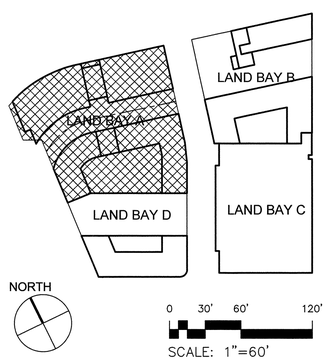


1 LAND BAY A
LEVEL 320/325 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg

| PARKING SUMMARY | | | | | | |
|---|---|---|---|---|---|---|
| LAND BAY A | | | | | | |
| | | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | | 385 | 157 | 4 | 0 | 161 |
| | | 375 | 235 | 4 | 0 | 239 |
| | | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | | 355 | 114 | 4 | 0 | 118 |
| | | 350/355 | 424 | 4 | 0 | 428 |
| | | 340/345 | 424 | 4 | 0 | 428 |
| | | 330/335 | 426 | 2 | 0 | 428 |
| | | 320/325 | 393 | 2 | 0 | 395 |
| | | Total: | 2,329 | 28 | 6 | 2,363 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE.

## KEY PLAN





LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

Dewberry

Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 6:57 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

# LAND BAY A PARKING PLANS

PROJECT NO. 305444.06

# A-102

SHEET NO. OF

444_A102.dwg

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE.


LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

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Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

Dewberry

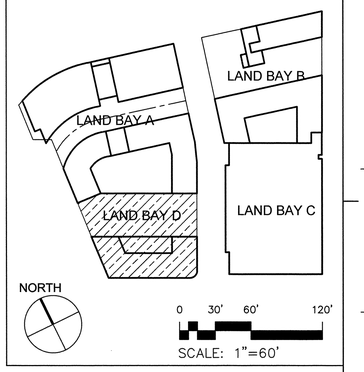
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

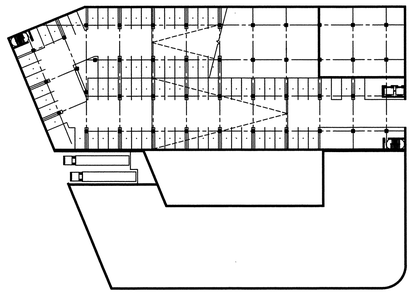
DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

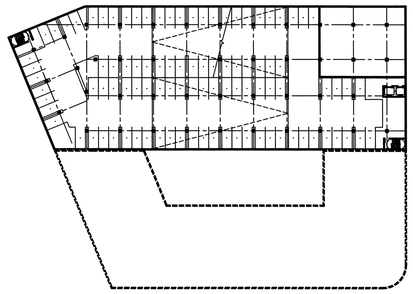

| LAND BAY D | | | | | |
|---|---|---|---|---|---|
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 345/350 | 72 | 2 | 1 | 75 |
| | 335/340 | 96 | 2 | 0 | 98 |
| | 330 | 26 | 1 | 0 | 27 |
| Total: | | 194 | 5 | 1 | 200 |

## KEY PLAN

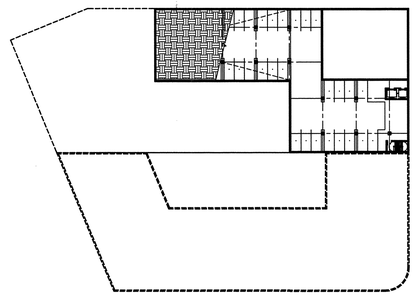


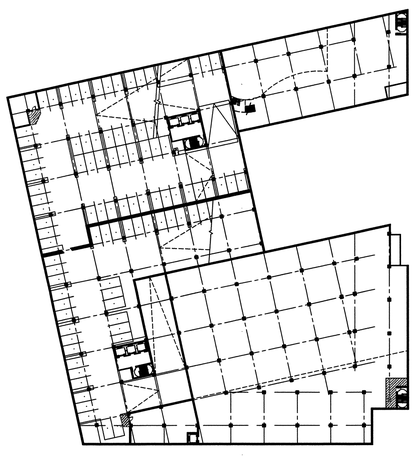
5 LAND BAY D
LEVEL 345/350 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



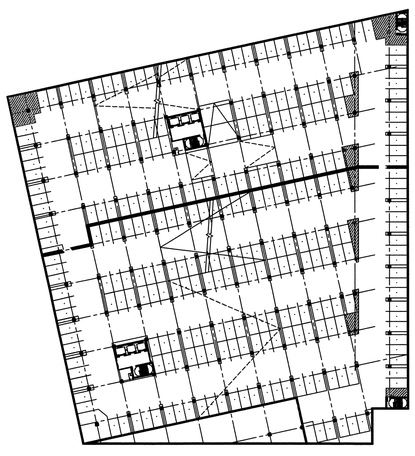
4 LAND BAY D
LEVEL 335/340 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



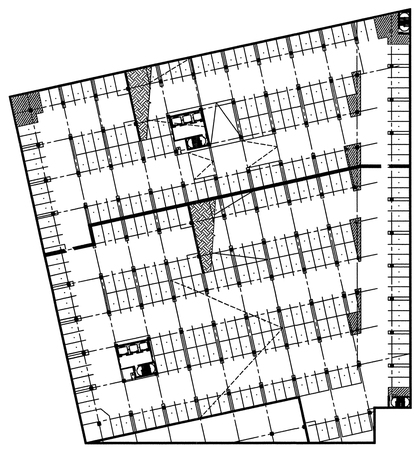
3 LAND BAY D
LEVEL 330 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



3 LAND BAY B
LEVEL 347 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



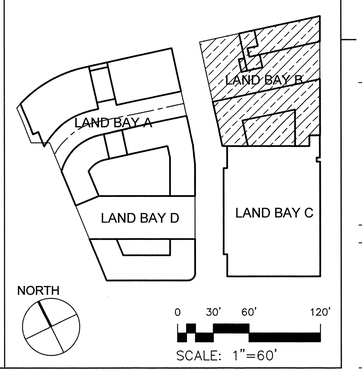
2 LAND BAY B
LEVELS 327/332 & 337/342 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg



1 LAND BAY B
LEVEL 317/322 PARKING PLAN
1"=60'-0"
444_D1PKG-anno.dwg

| LAND BAY B | | | | | |
|---|---|---|---|---|---|
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| Total: | | 910 | 15 | 4 | 929 |

## KEY PLAN




INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12664
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 6:58 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

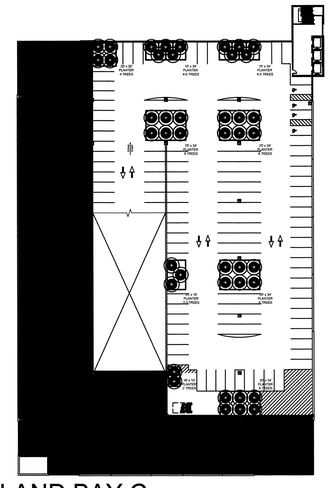
# LAND BAYS B & D PARKING PLANS

PROJECT NO. 305444.06

# A-103

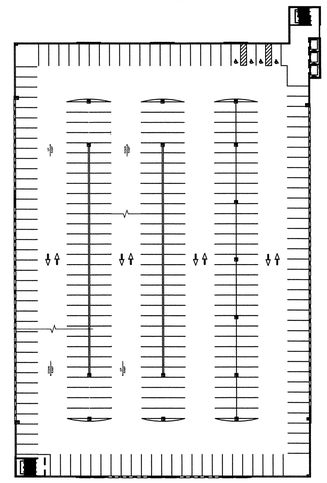
SHEET NO. OF

444_A103.dwg



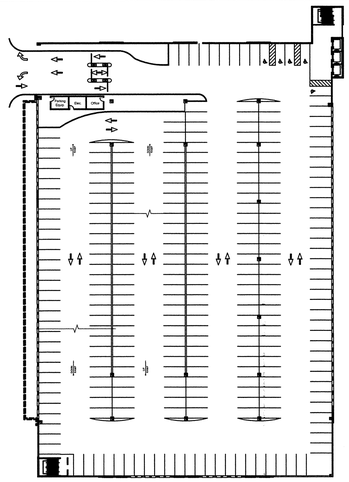
## 8 LAND BAY C P8 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



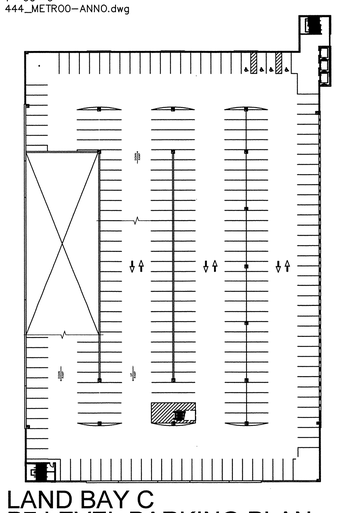
## 6 LAND BAY C P6 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



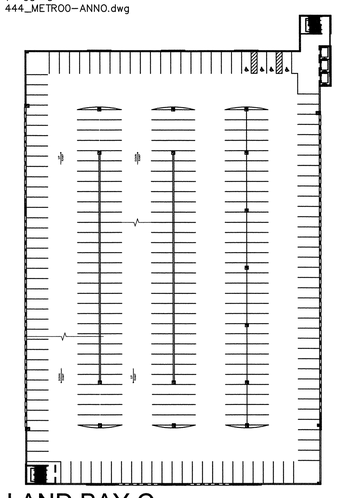
## 3 LAND BAY C P3 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



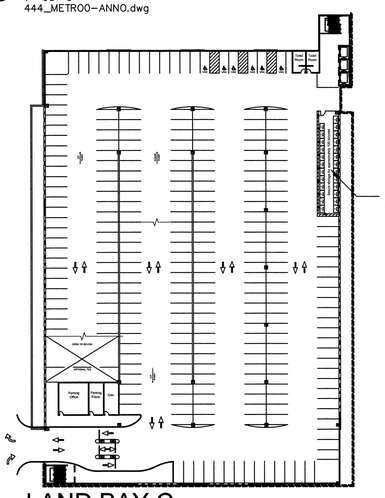
## 7 LAND BAY C P7 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



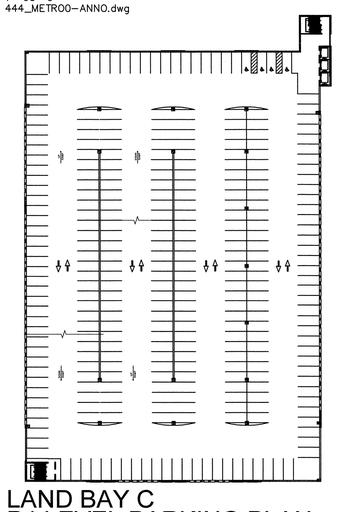
## 5 LAND BAY C P5 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



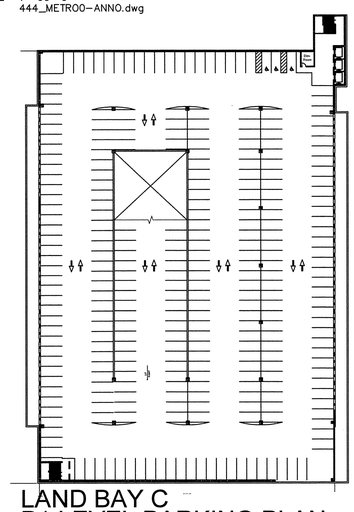

## 2 LAND BAY C P2 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



## 4 LAND BAY C P4 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg



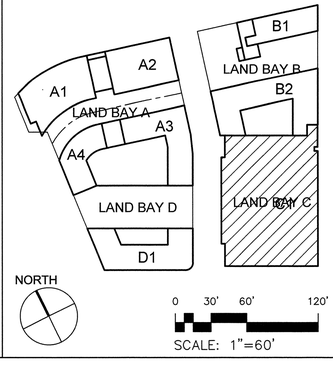
## 1 LAND BAY C P1 LEVEL PARKING PLAN

1"=60'-0"
444_METRO0-ANNO.dwg

| LAND BAY C | | | | | |
|---|---|---|---|---|---|
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE.

## KEY PLAN




LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2345

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/21/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 6:59 am

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

# METRO PARKING GARAGE PLANS

PROJECT NO. 305444.06

# A-104

SHEET NO. OF

444_A104.dwg

OVERALL FLOOR PLANS AT ELEVATIONS 320.00'

1"=40'-0"

444_EL320-ANNO.dwg

**PARKING SUMMARY**

**LAND BAY A**

| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| Above Grade | 385 | 157 | 4 | 0 | 161 |
| | 375 | 235 | 4 | 0 | 239 |
| | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | 355 | 114 | 4 | 0 | 118 |
| | 350/355 | 424 | 4 | 0 | 428 |
| | 340/345 | 424 | 4 | 0 | 428 |
| | 330/335 | 426 | 2 | 0 | 428 |
| | 320/325 | 393 | 2 | 0 | 395 |
| | Total: | 2,329 | 28 | 6 | 2,363 |

**LAND BAY B**

| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| | Total: | 910 | 15 | 4 | 929 |

**LAND BAY C**

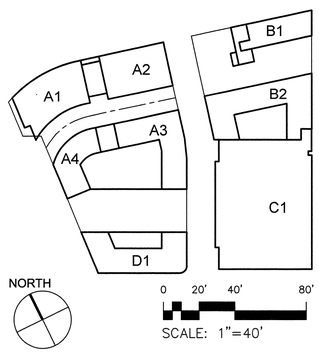
| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |

**LAND BAY D**

| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| | 345/350 | 72 | 2 | 1 | 75 |
| | 335/340 | 96 | 2 | 0 | 98 |
| Below Grade | 330 | 26 | 1 | 0 | 27 |
| | Total: | 194 | 5 | 1 | 200 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE.

KEY PLAN




LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
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8401 ARLINGTON BLVD.
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PHONE: 703.849.0100
FAX: 703.849.0518

dcs DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 17654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 6:59 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE AT ELEV. 320.00'

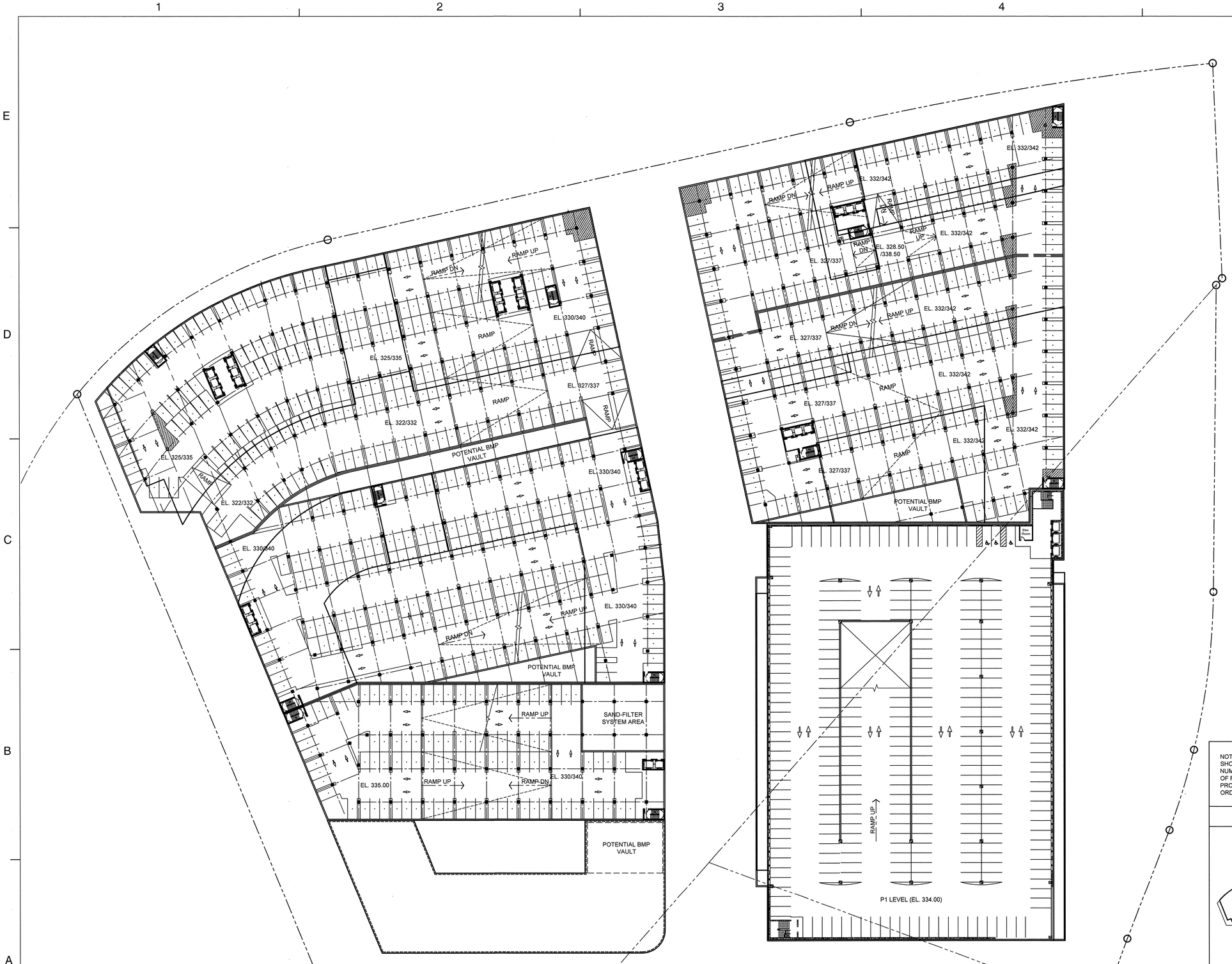
# OVERALL FLOOR PLANS

PROJECT NO. 305444.06

# A-201

SHEET NO. OF

444_A201.dwg



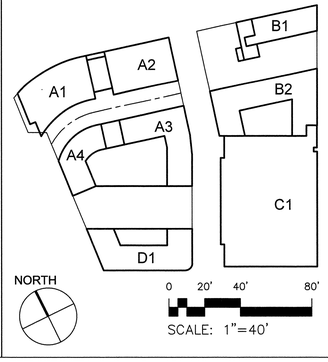

# OVERALL FLOOR PLANS AT ELEVATIONS 330.00' AND 340.00'

1"=40'-0"
444_EL330-ANNO.dwg

| PARKING SUMMARY | | | | | |
|---|---|---|---|---|---|
| **LAND BAY A** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 385 | 157 | 4 | 0 | 161 |
| | 375 | 235 | 4 | 0 | 239 |
| | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | 355 | 114 | 4 | 0 | 118 |
| | 350/355 | 424 | 4 | 0 | 428 |
| | 340/345 | 424 | 4 | 0 | 428 |
| | 330/335 | 426 | 2 | 0 | 428 |
| | 320/325 | 393 | 2 | 0 | 395 |
| | Total: | 2,329 | 28 | 6 | 2,363 |
| **LAND BAY B** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| | Total: | 910 | 15 | 4 | 929 |
| **LAND BAY C** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |
| **LAND BAY D** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| | 345/350 | 72 | 2 | 1 | 75 |
| Below Grade | 335/340 | 96 | 2 | 0 | 98 |
| | 330 | 26 | 1 | 0 | 27 |
| | Total: | 194 | 5 | 1 | 200 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE.

## KEY PLAN




LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN
DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 17654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 6:59 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE AT ELEV. 330.00' AND 340.00'

OVERALL FLOOR PLANS

PROJECT NO. 305444.06

A-202

SHEET NO. OF

444_A202.dwg

# OVERALL FLOOR PLANS AT ELEVATION 350.00'

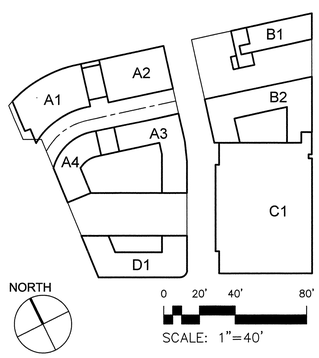
1"=40'-0"

444_EL350-ANNO.dwg

| PARKING SUMMARY | | | | | |
|---|---|---|---|---|---|
| **LAND BAY A** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 385 | 157 | 4 | 0 | 161 |
| | 375 | 235 | 4 | 0 | 239 |
| | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | 355 | 114 | 4 | 0 | 118 |
| | 350/355 | 424 | 4 | 0 | 428 |
| | 340/345 | 424 | 4 | 0 | 428 |
| | 330/335 | 426 | 2 | 0 | 428 |
| | 320/325 | 393 | 2 | 0 | 395 |
| | Total: | 2,329 | 28 | 6 | 2,363 |
| **LAND BAY B** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| | Total: | 910 | 15 | 4 | 929 |
| **LAND BAY C** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |
| **LAND BAY D** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 345/350 | 72 | 2 | 1 | 75 |
| | 335/340 | 96 | 2 | 0 | 98 |
| | 330 | 26 | 1 | 0 | 27 |
| | Total: | 194 | 5 | 1 | 200 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE.

## KEY PLAN





LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

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Dewberry
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PHONE: 703.849.0100
FAX: 703.849.0518

dcs DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 7:00 am

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE AT ELEV. 350.00'

# OVERALL FLOOR PLANS

PROJECT NO. 305444.06

# A-203

SHEET NO. OF

444_A203.dwg

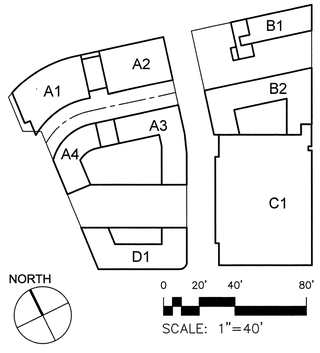
## OVERALL FLOOR PLANS AT ELEVATION 360.00'

1"=40'-0"
444_EL360-ANNO.dwg

| PARKING SUMMARY | | | | | |
|---|---|---|---|---|---|
| **LAND BAY A** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 385 | 157 | 4 | 0 | 161 |
| | 375 | 235 | 4 | 0 | 239 |
| | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | 355 | 114 | 4 | 0 | 118 |
| | 350/355 | 424 | 4 | 0 | 428 |
| | 340/345 | 424 | 4 | 0 | 428 |
| | 330/335 | 426 | 2 | 0 | 428 |
| | 320/325 | 393 | 2 | 0 | 395 |
| | Total: | 2,329 | 28 | 6 | 2,363 |
| **LAND BAY B** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| | Total: | 910 | 15 | 4 | 929 |
| **LAND BAY C** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |
| **LAND BAY D** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| | 345/350 | 72 | 2 | 1 | 75 |
| Below Grade | 335/340 | 96 | 2 | 0 | 98 |
| | 330 | 26 | 1 | 0 | 27 |
| | Total: | 194 | 5 | 1 | 200 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE

## KEY PLAN




LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
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703-821-2045

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dcs DAVIS CARTER SCOTT Ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 7:00 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE AT ELEV. 360.00'

# OVERALL FLOOR PLANS

PROJECT NO. 305444.06

# A-204

SHEET NO. OF

444_A204.dwg

## OVERALL FLOOR PLANS AT ELEVATION 375.00'

1"=40'-0"
444_EL375-ANNO.dwg

| PARKING SUMMARY | | | | | |
|---|---|---|---|---|---|
| **LAND BAY A** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 385 | 157 | 4 | 0 | 161 |
| | 375 | 235 | 4 | 0 | 239 |
| | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | 355 | 114 | 4 | 0 | 118 |
| | 350/355 | 424 | 4 | 0 | 428 |
| | 340/345 | 424 | 4 | 0 | 428 |
| | 330/335 | 426 | 2 | 0 | 428 |
| | 320/325 | 393 | 2 | 0 | 395 |
| | Total: | 2,329 | 28 | 6 | 2,363 |
| **LAND BAY B** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| | Total: | 910 | 15 | 4 | 929 |
| **LAND BAY C** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |
| **LAND BAY D** | | | | | |
| | Elevation | Standard | Handicap | Van | Spaces |
| Below Grade | 345/350 | 72 | 2 | 1 | 75 |
| | 335/340 | 96 | 2 | 0 | 98 |
| | 330 | 26 | 1 | 0 | 27 |
| | Total: | 194 | 5 | 1 | 200 |

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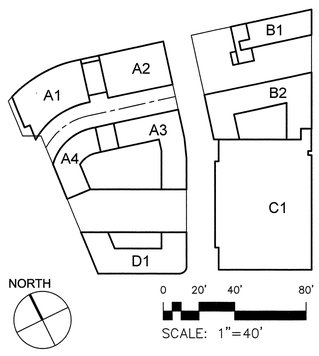
## KEY PLAN




LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

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DCS DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 7:00 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE AT ELEV. 375.00'

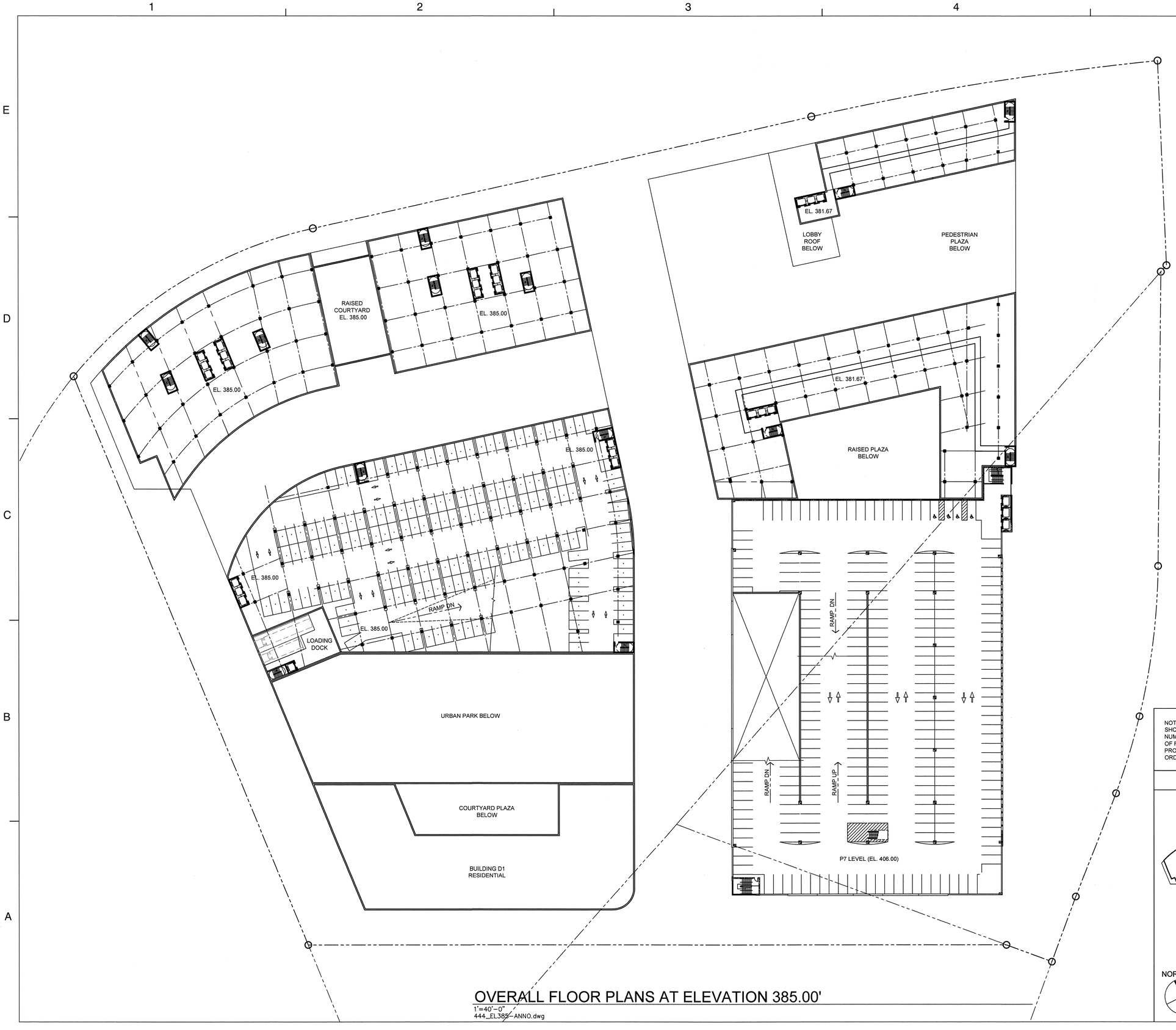
# OVERALL FLOOR PLANS

PROJECT NO. 305444.06

# A-205

SHEET NO. OF

444_A205.dwg




OVERALL FLOOR PLANS AT ELEVATION 385.00'

1"=40'-0"

444_EL385-ANNO.dwg


LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

HGA
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dcs DAVIS CARTER SCOTT Ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

**PARKING SUMMARY**

**LAND BAY A**

| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| Above Grade | 385 | 157 | 4 | 0 | 161 |
| | 375 | 235 | 4 | 0 | 239 |
| | 360/365 | 156 | 4 | 6 | 166 |
| Below Grade | 355 | 114 | 4 | 0 | 118 |
| | 350/355 | 424 | 4 | 0 | 428 |
| | 340/345 | 424 | 4 | 0 | 428 |
| | 330/335 | 426 | 2 | 0 | 428 |
| | 320/325 | 393 | 2 | 0 | 395 |
| | Total: | 2,329 | 28 | 6 | 2,363 |

**LAND BAY B**

| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| Below Grade | 347 | 82 | 4 | 4 | 90 |
| | 337/342 | 280 | 4 | 0 | 284 |
| | 327/332 | 280 | 4 | 0 | 284 |
| | 317/322 | 268 | 3 | 0 | 271 |
| | Total: | 910 | 15 | 4 | 929 |

**LAND BAY C**

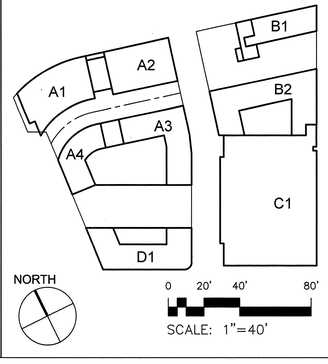
| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| Above Grade | 418 | 110 | 4 | 0 | 114 |
| | 406 | 255 | 4 | 0 | 259 |
| | 394 | 298 | 4 | 0 | 302 |
| | 382 | 298 | 4 | 0 | 302 |
| | 370 | 298 | 4 | 0 | 302 |
| | 358 | 272 | 3 | 2 | 277 |
| Below Grade | 346 | 258 | 0 | 6 | 264 |
| | 334 | 285 | 3 | 0 | 288 |
| | Total: | 2074 | 26 | 8 | 2,108 |

**LAND BAY D**

| | Elevation | Standard | Handicap | Van | Spaces |
|---|---|---|---|---|---|
| | 345/350 | 72 | 2 | 1 | 75 |
| Below Grade | 335/340 | 96 | 2 | 0 | 98 |
| | 330 | 26 | 1 | 0 | 27 |
| | Total: | 194 | 5 | 1 | 200 |

NOTE: PARKING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING SPACES AT TIME OF FINAL SITE PLAN, AS LONG AS NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH FAIRFAX COUNTY ZONING ORDINANCE

## KEY PLAN




SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 02654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/31/14, 7:00 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE AT ELEV. 385.00'

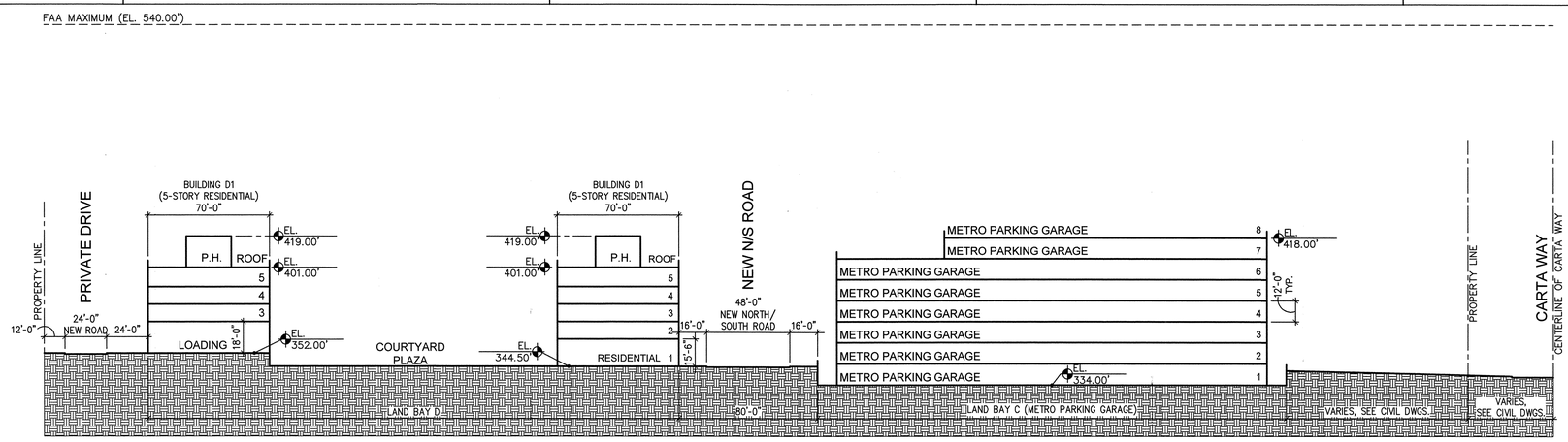
# OVERALL FLOOR PLANS

PROJECT NO. 305444.06

# A-206

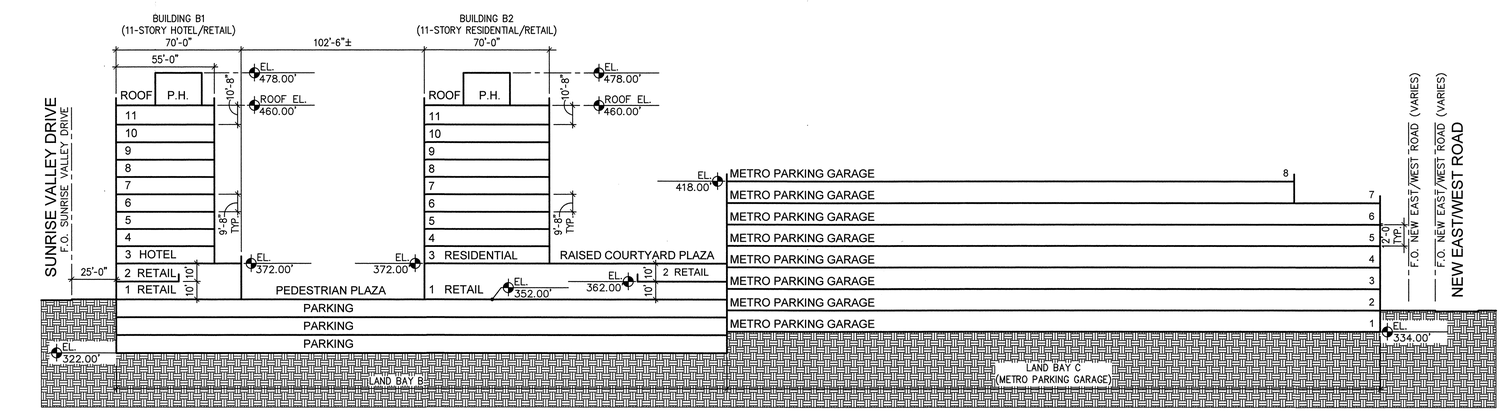
SHEET NO. OF

444_A206.dwg



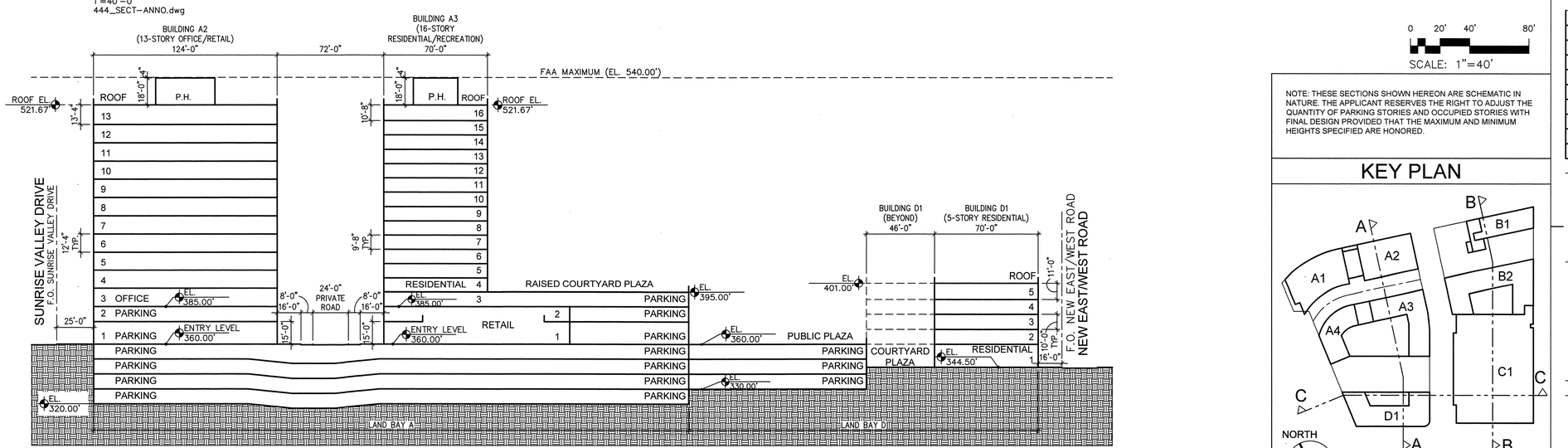

## SECTION C-C : BUILDINGS D1 (RESIDENTIAL) & C1 (METRO GARAGE)

1"=40'-0"
444_SECT-ANNO.dwg




## SECTION B-B : BUILDINGS B1 (HOTEL/RETAIL), B2 (RESIDENTIAL/RETAIL) & C1 (METRO GARAGE)

1"=40'-0"
444_SECT-ANNO.dwg



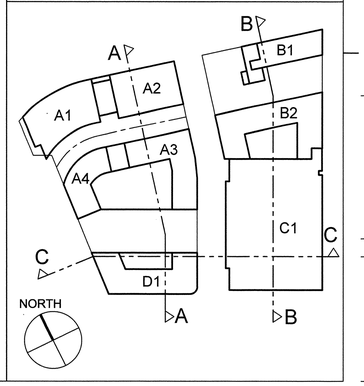

## SECTION A-A : BUILDINGS A2 (OFFICE/RETAIL), A3 (RESIDENTIAL/RECREATION) & D1 (RESIDENTIAL)

1"=40'-0"
444_SECT-ANNO.dwg

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

NOTE: THESE SECTIONS SHOWN HEREON ARE SCHEMATIC IN NATURE. THE APPLICANT RESERVES THE RIGHT TO ADJUST THE QUANTITY OF PARKING STORIES AND OCCUPIED STORIES WITH FINAL DESIGN PROVIDED THAT THE MAXIMUM AND MINIMUM HEIGHTS SPECIFIED ARE HONORED.

## KEY PLAN




LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2040

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REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12054
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:46 pm

| No. | DATE | BY | Description |
|---|---|---|---|
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| 6 | 03/27/14 | | |
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| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

BUILDING SITE SECTIONS

PROJECT NO. 305444.06

A-301

SHEET NO. OF

444_A301.dwg

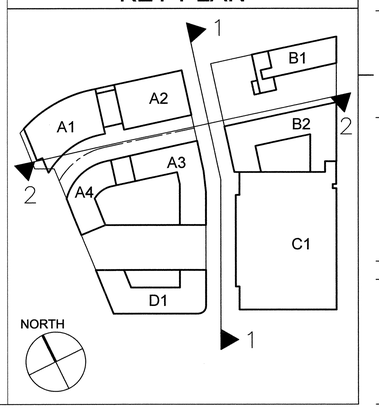
2 BUILDING ELEVATIONS
1/32"=1'-0"

1 BUILDING ELEVATIONS
1/32"=1'-0"

LEGEND:

1 MASONRY / PRECAST
2 CLEAR GLASS
3 SPANDREL GLASS
4 ALUMINUM STOREFRONT
5 ARCHITECTURAL RAILING
6 METAL CANOPY
7 SIGNAGE
8 OVERHEAD DOOR
9 METAL TRELLIS
10 SYNTHETIC EIFS (STUCCO)
11 METAL PANELING
12 GALV. STEEL & METAL MESH SCREEN
13 STACKED PANEL SYSTEM - BRICK

KEY PLAN

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REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE
Conceptual/Final Development Plan
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 032604
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:46 pm

| No. | DATE | BY | Description |
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| 6 | 03/27/14 | | |
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| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

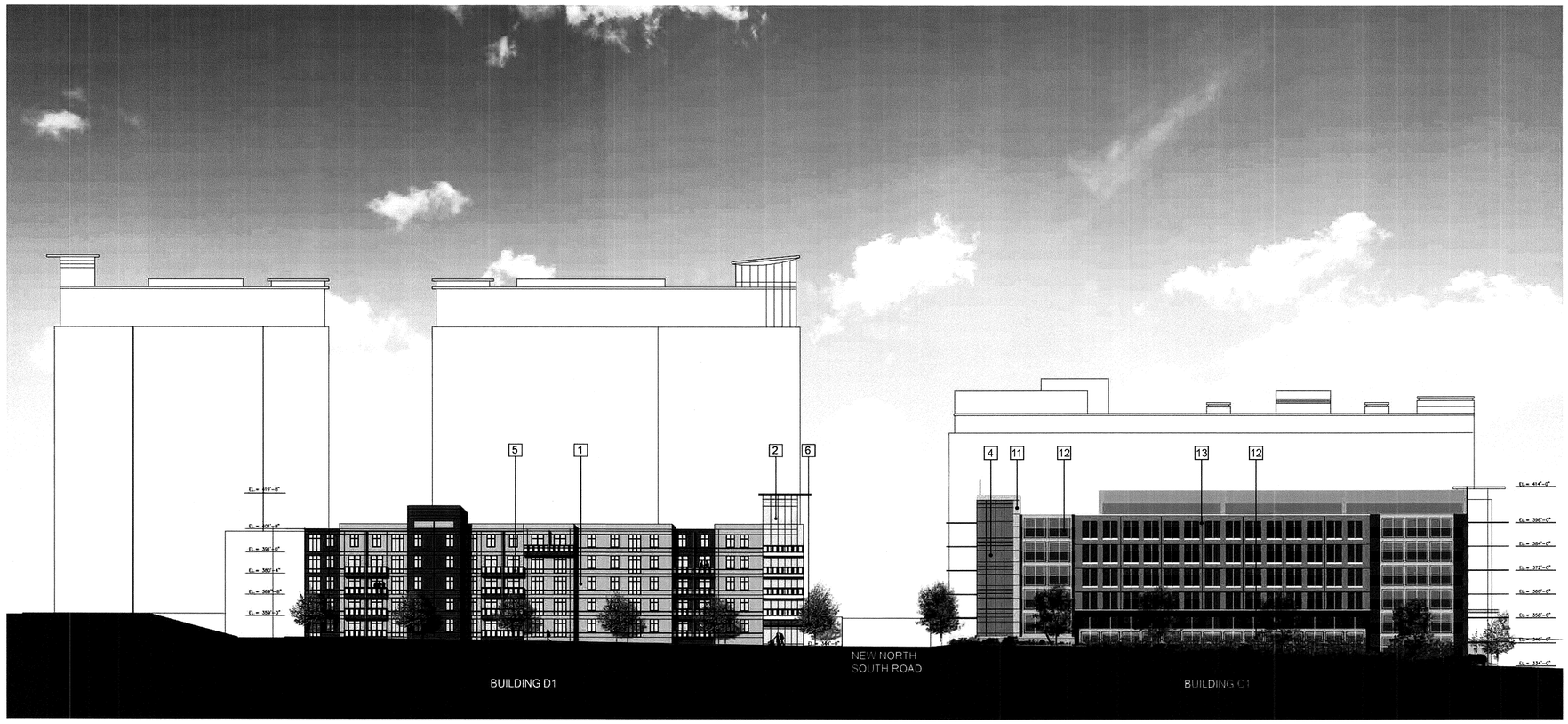
BUILDING ELEVATIONS

PROJECT NO. 305444.06

A-310

SHEET NO. OF

444_A310.dwg



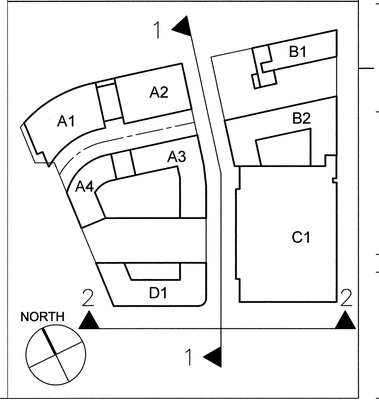

## 2 BUILDING ELEVATIONS
1/32"=1'-0"

## 1 BUILDING ELEVATIONS
1/32"=1'-0"

LEGEND:

1 MASONRY / PRECAST
2 CLEAR GLASS
3 SPANDREL GLASS
4 ALUMINUM STOREFRONT
5 ARCHITECTURAL RAILING
6 METAL CANOPY
7 SIGNAGE
8 OVERHEAD DOOR
9 METAL TRELLIS
10 SYNTHETIC EIFS (STUCCO)
11 METAL PANELING
12 GALV. STEEL & METAL MESH SCREEN
13 STACKED PANEL SYSTEM - BRICK

## KEY PLAN





LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
Telephone 703.836.7766
Facsimile 703.836.3042

Dewberry
Dewberry Consultants LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DCS DAVIS CARTER SCOTT Ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1988


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:47 pm

| No. | DATE | BY | Description |
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| 6 | 03/27/14 | | |
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| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

BUILDING ELEVATIONS

PROJECT NO. 305444.06

A-311

SHEET NO. OF

444_A311.dwg

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
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DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

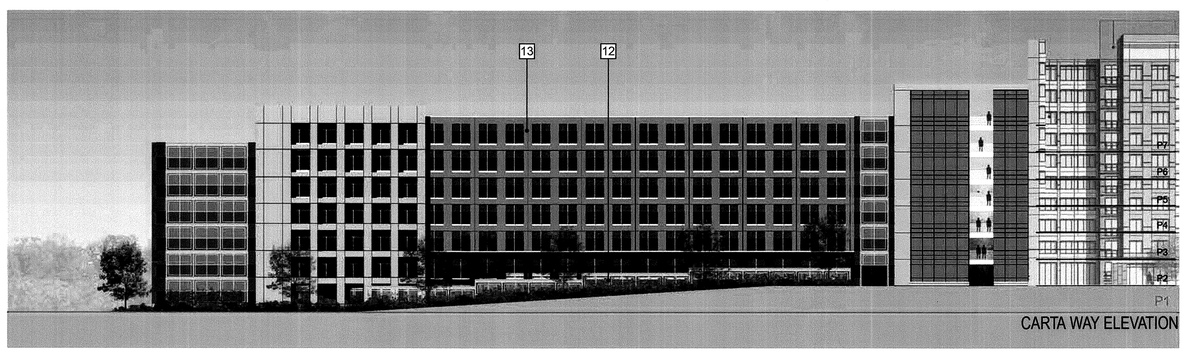
SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12664
3/27/14
ARCHITECT

KEY PLAN

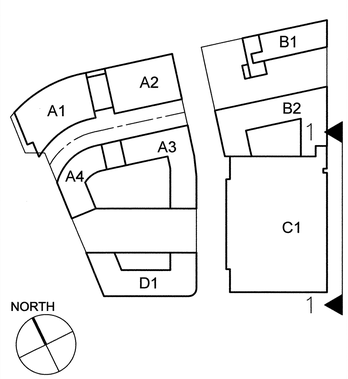
LEGEND:

1 MASONRY / PRECAST
2 CLEAR GLASS
3 SPANDREL GLASS
4 ALUMINUM STOREFRONT
5 ARCHITECTURAL RAILING
6 METAL CANOPY
7 SIGNAGE
8 OVERHEAD DOOR
9 METAL TRELLIS
10 SYNTHETIC EIFS (STUCCO)
11 METAL PANELING
12 GALV. STEEL & METAL MESH SCREEN
13 STACKED PANEL SYSTEM - BRICK




1 BUILDING ELEVATIONS
1/32"=1'-0"

## KEY PLAN




SCALE

PRINT DATE 3/28/14, 3:10 pm

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| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

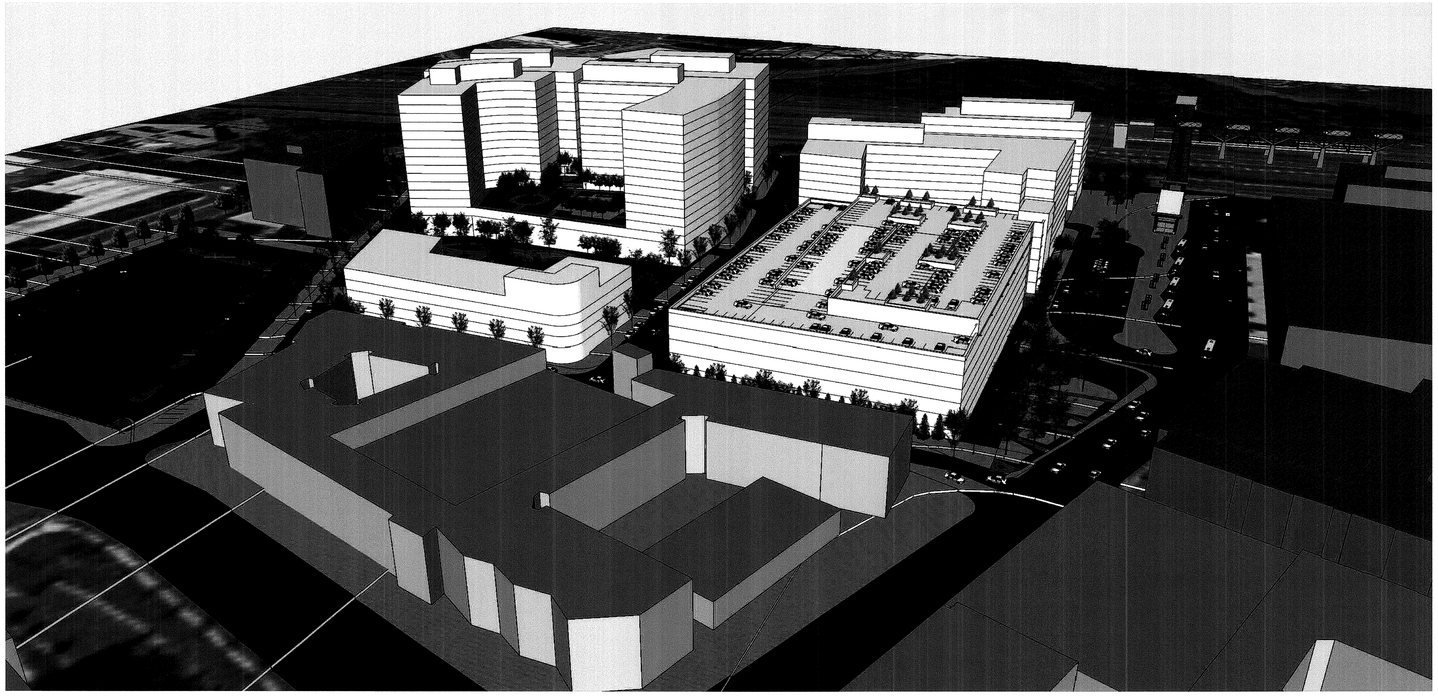
## BUILDING ELEVATIONS

PROJECT NO. 305444.06

# A-312

SHEET NO. OF

444_A312.dwg



MASSING MODEL - FROM SOUTH

MASSING MODEL - FROM NORTHWEST


LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2046

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PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/29/14, 9:12 am

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

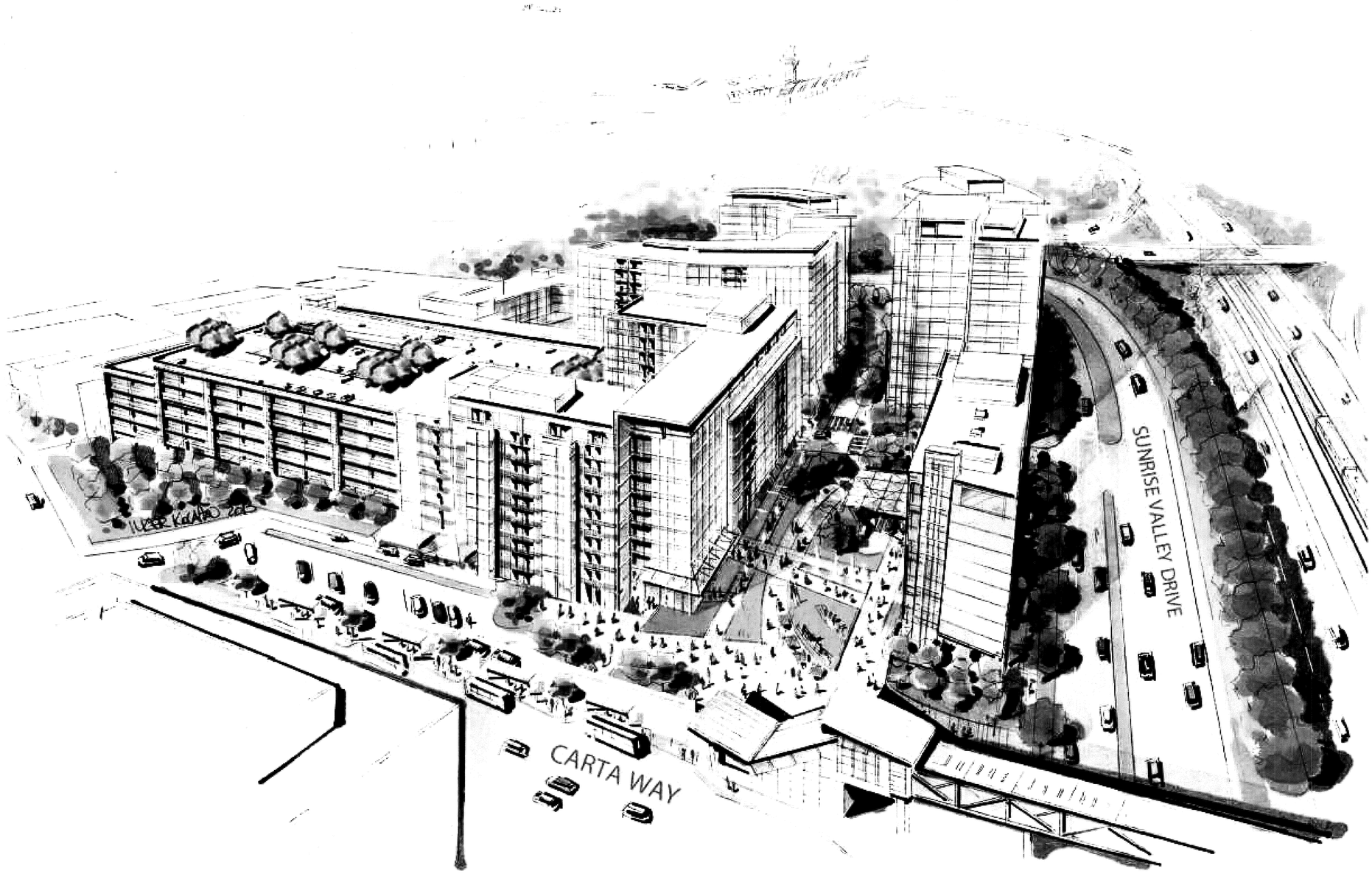
# MASSING MODELS

PROJECT NO. 305444.06

# A-401

SHEET NO. OF

444_A401.dwg




CONCEPTUAL RENDERING- NORTHWEST

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

Hammel, Green and Abrahamson, Inc.
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Dewberry

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DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic No. 12454
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:47 pm

| No. | DATE | BY | Description |
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| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

CONCEPTUAL RENDERING

PROJECT NO. 305444.06

A-402

SHEET NO. OF

444_A402.dwg

CONCEPTUAL RENDERING- SOUTH

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

HGA
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza, Suite 100
Alexandria, Virginia 22314
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Facsimile 703.836.3042

Dewberry

Dewberry Consultants LLC
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PHONE: 703.849.0100
FAX: 703.849.0518

DCS DAVIS CARTER SCOTT Ltd DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1956

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 012614
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 1:52 pm

| No. | DATE | BY | Description |
|---|---|---|---|
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| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

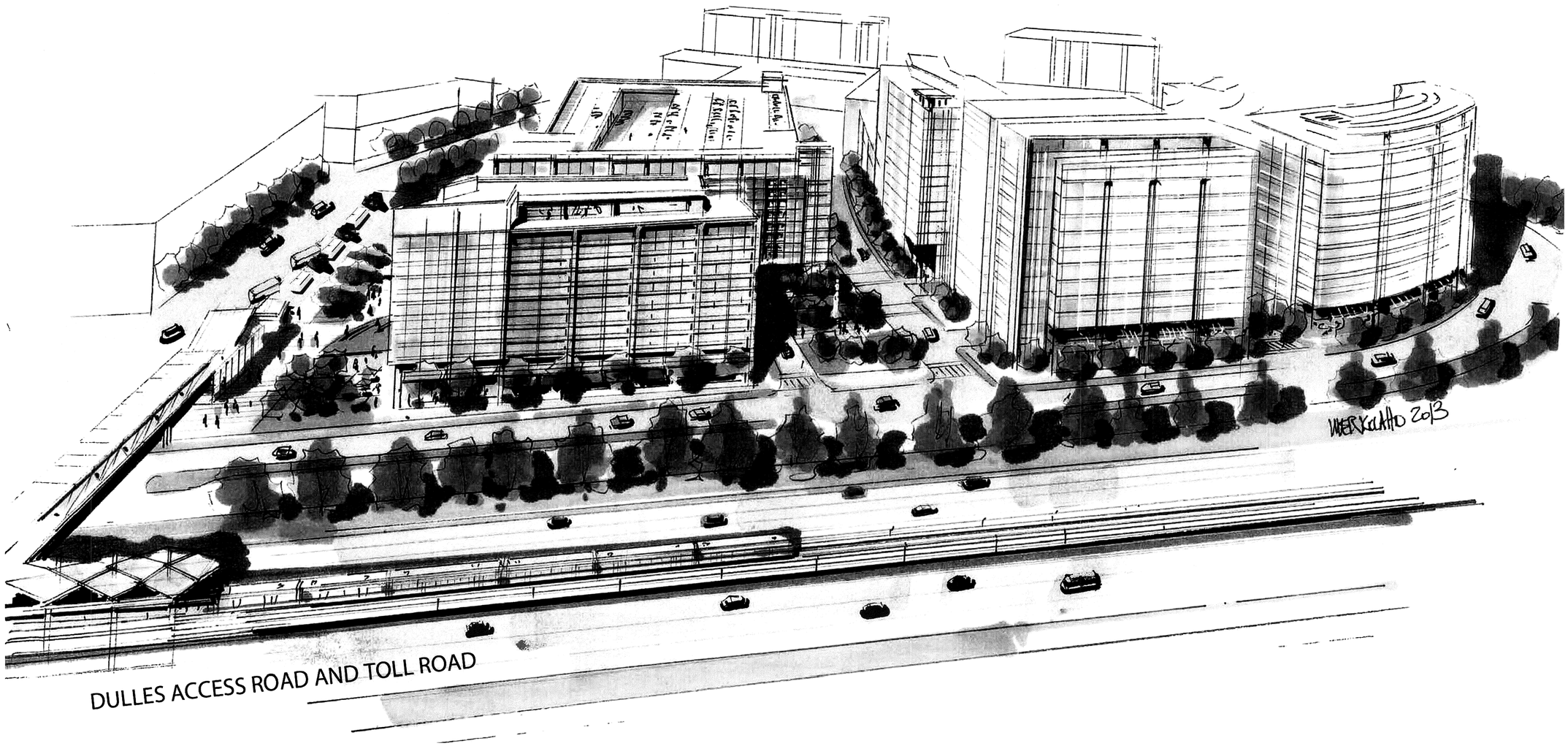
CONCEPTUAL RENDERING

PROJECT NO. 305444.06

A-403

SHEET NO. OF

444_A403.dwg




CONCEPTUAL RENDERING- SUNRISE VALLEY DRIVE

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

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Dewberry

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FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:47 pm

| No. | DATE | BY | Description |
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REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

CONCEPTUAL RENDERING

PROJECT NO. 305444.06

A-404

SHEET NO. OF

444_A404.dwg

CONCEPTUAL RENDERING- METRO PLAZA

LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

HGA
Hammel, Green and Abrahamson, Inc.
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Telephone 703.836.7766
Facsimile 703.836.3042

Dewberry
Dewberry Consultants LLC
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FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518

dcs DAVIS CARTER SCOTT Ltd
DESIGN

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 42644
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:47 pm

| No. | DATE | BY | Description |
|---|---|---|---|
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| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

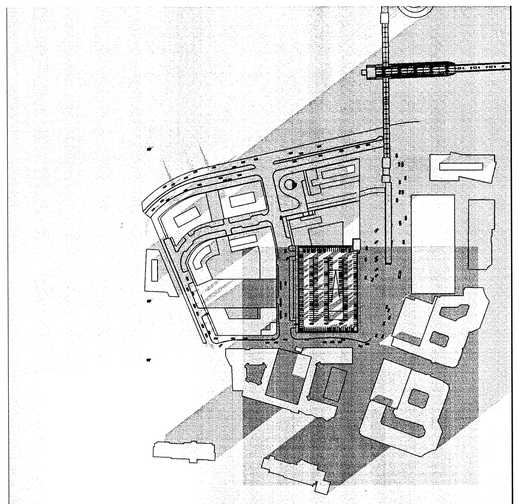
# CONCEPTUAL RENDERING

PROJECT NO. 305444.06

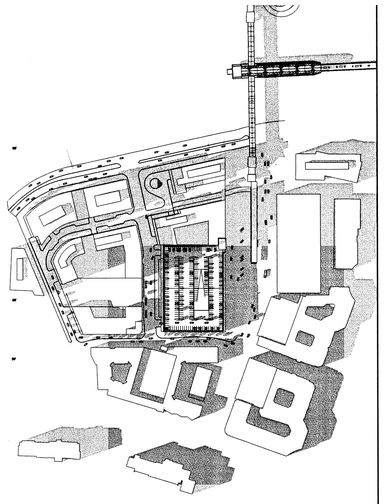
# A-405

SHEET NO. OF

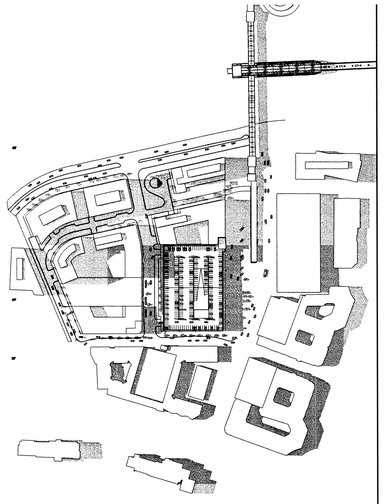
444_A405.dwg



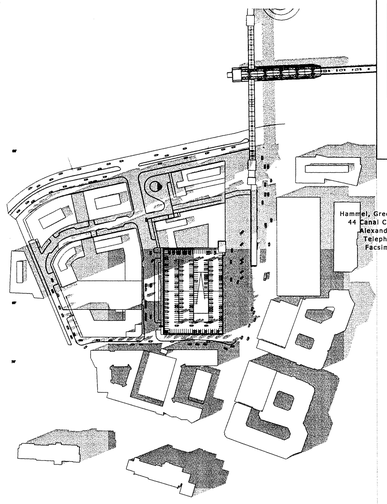
12 DECEMBER 21st @ 4:00 pm
N.T.S.



9 SEPTEMBER 22nd @ 4:00 pm
N.T.S.



6 JUNE 21st @ 4:00 pm
N.T.S.



3 MARCH 20th @ 4:00 pm
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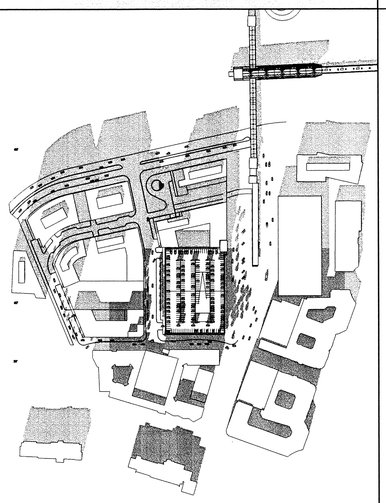

11 DECEMBER 21st @ 1:00 pm
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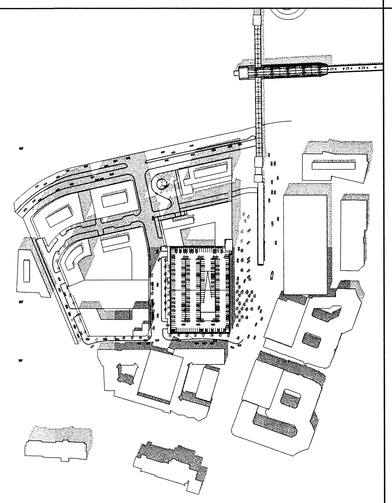
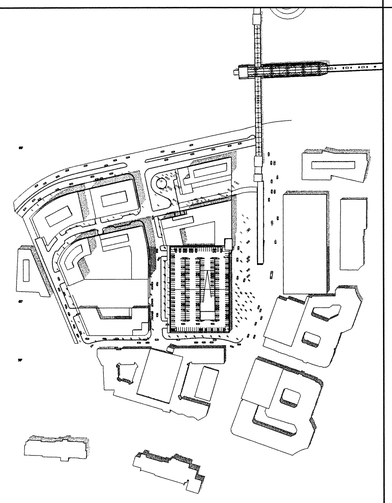
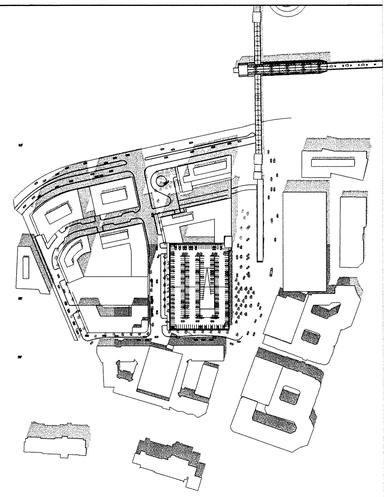


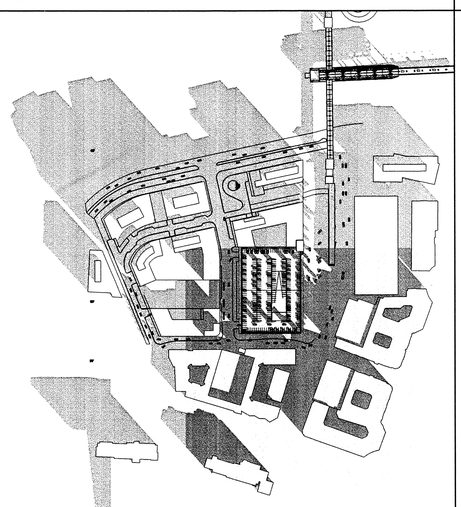
8 SEPTEMBER 22nd @ 1:00 pm
N.T.S.



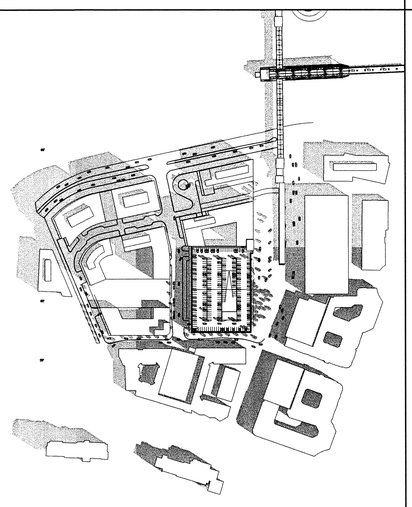
5 JUNE 21st @ 1:00 pm
N.T.S.



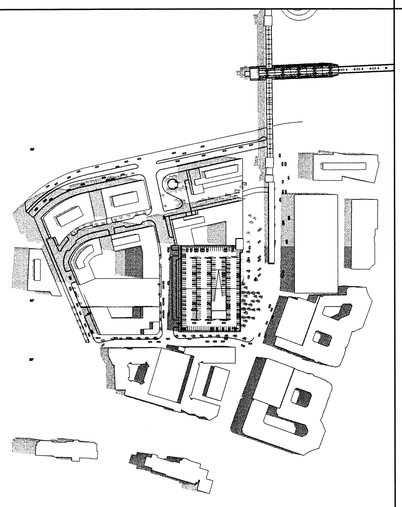
2 MARCH 20th @ 1:00 pm
N.T.S.



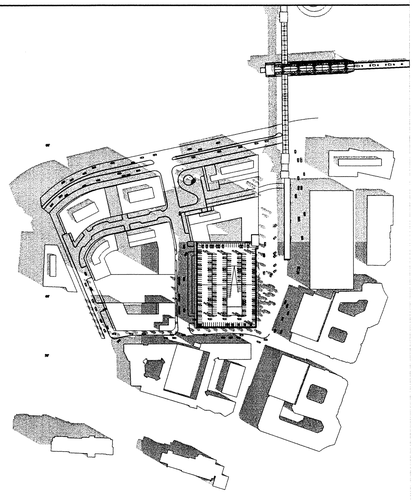
10 DECEMBER 21st @ 9:00 am
N.T.S.



7 SEPTEMBER 22nd @ 9:00 am
N.T.S.



4 JUNE 21st @ 9:00 am
N.T.S.



1 MARCH 20th @ 9:00 am
N.T.S.


LSG LANDSCAPE ARCHITECTURE
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703/821-2045

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Dewberry
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PHONE: 703.849.0100
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dcs DESIGN DAVIS CARTER SCOTT Ltd

ROCKS ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958


# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

Conceptual/Final Development Plan

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
JOSEPH STEVEN SAVILLE
Lic. No. 12654
3/27/14
ARCHITECT

KEY PLAN

SCALE

PRINT DATE 3/28/14, 12:48 pm

| No. | DATE | BY | Description |
|---|---|---|---|
| 6 | 03/27/14 | | |
| 5 | 02/21/14 | | |
| 4 | 01/03/14 | | |
| 3 | 11/22/13 | | |
| 2 | 9/25/13 | | |
| 1 | 9/9/13 | | |

REVISIONS

DRAWN BY CFC
APPROVED BY JSS
CHECKED BY JSS
DATE 02/21/14

TITLE

## SHADOW STUDIES

PROJECT NO. 305444.06

# A-410

SHEET NO. OF

444_A410.dwg

**A GLOSSARY OF TERMS FREQUENTLY USED IN STAFF REPORTS WILL BE FOUND AT THE BACK OF THIS REPORT**

## DESCRIPTION OF THE APPLICATION

### Proposal:

On July 30, 2013, the Fairfax County Board of Supervisors approved a Real Estate Exchange Agreement between the Board of Supervisors and Nugget Joint Venture, LC to facilitate a property exchange necessary for processing a joint Transit-Oriented Development (TOD) development plan to the south of the future Innovation Center Metrorail Station.

The applicants, Nugget Joint Venture, LC and Dulles Rockhill Partners LP, have since filed three concurrent applications (RZ/FDP 2009-HM-017 and PCA C-696-10) on Tax Map Parcels 15-2((1)) 13pt., 15-4 ((5)) 5B, and 15-4 ((5)) 5A, seeking permission for a TOD within one quarter mile of the future Innovation Center Metrorail Station in the Dranesville District. Maps of the specific application boundaries and the associated tax map parcels are located at the front of this staff report.

Further description of these rezoning applications is provided below:

**PCA C-696-10** seeks approval to delete 22,272 square feet of land from Tax Map 15-4((5)) 5A, (which was originally part of a 63 acre Dulles Station development (RZ C-696) and was recently rezoned to the PRM District in RZ 2012-DR-016 by Dulles Rockhill Partners, LP) and include it with the concurrent rezoning request.

**RZ/FDP 2009-HM-017** seeks approval to rezone 14.68 acres from the PRM and PDC Districts to the PRM District to permit a TOD within one quarter mile of the future Innovation Center Metrorail Station in the Dranesville District. The proposal includes three acres of County-owned land (Parcel 15-4((5)) 5B), previously dedicated for transit facility use, and 11.65 acres of private property (Parcels 15-2 ((1)) 13 pt. and 15-4 ((5)) 5A pt.) As part of the development, the applicant proposes to integrate County-owned Metrorail facilities, which generally include a Kiss N Ride, four bus bays, and an approximately 2,108 space parking garage, with a Washington Metropolitan Transit Authority (WMATA) owned Metrorail entrance pavilion and other private office, retail, hotel and residential uses. The applicant seeks approval of 1,646,041 gross floor area (GFA) at an overall floor area ratio of 3.01 (including bonus density associated with the provision of workforce dwelling units (WDU)). A maximum of 501,000 square feet of office, 90,000 square feet of hotel, 104,000 square feet of retail and 951,041 square feet of multifamily residential use (with approximately 1,005 units) is proposed to be located in seven buildings. A building data chart is shown on Sheet A-100 of the CDP/FDP, which provides the minimum and maximum height and square footage for each building. The proposed building layout is shown on Sheet C-4 of the CDP/FDP (and other sheets). A more detailed description of the proposed

intensity and design layout is provided in the Analysis section starting on Page 9 of this staff report.

**Waivers/Modifications Requested:**

- Modification of the loading requirement in favor of the loading spaces depicted on the CDP/FDP.

- Modification of the loading requirement in favor of the loading spaces depicted on the CDP/FDP.

- Directive to the Director of DPWES to permit a deviation from the tree preservation target percentage in favor of the proposed landscaping shown on the CDP/FDP and as proffered.

- Modification of the Use Limitations on Corner Lots in Section 2-505 of the Zoning Ordinance to permit the proposed building, landscaping and sign locations within the Zoning Ordinance sight triangles formed by the streets along the corner lot as shown on the CDP/FDP and as proffered.

- Waiver of the Board of Supervisor's policy to permit the location of the underground stormwater management facilities in a residential area (PFM Section 6-0303.8), subject to Waiver #6848-WPFM 005-1 Conditions, dated April 10, 2014.

- Modification of the a modification of the peripheral lot landscaping and screening requirements and the transitional screening requirements between uses within a common development plan in favor of that shown on the CDP/FDP as proffered and conditioned.

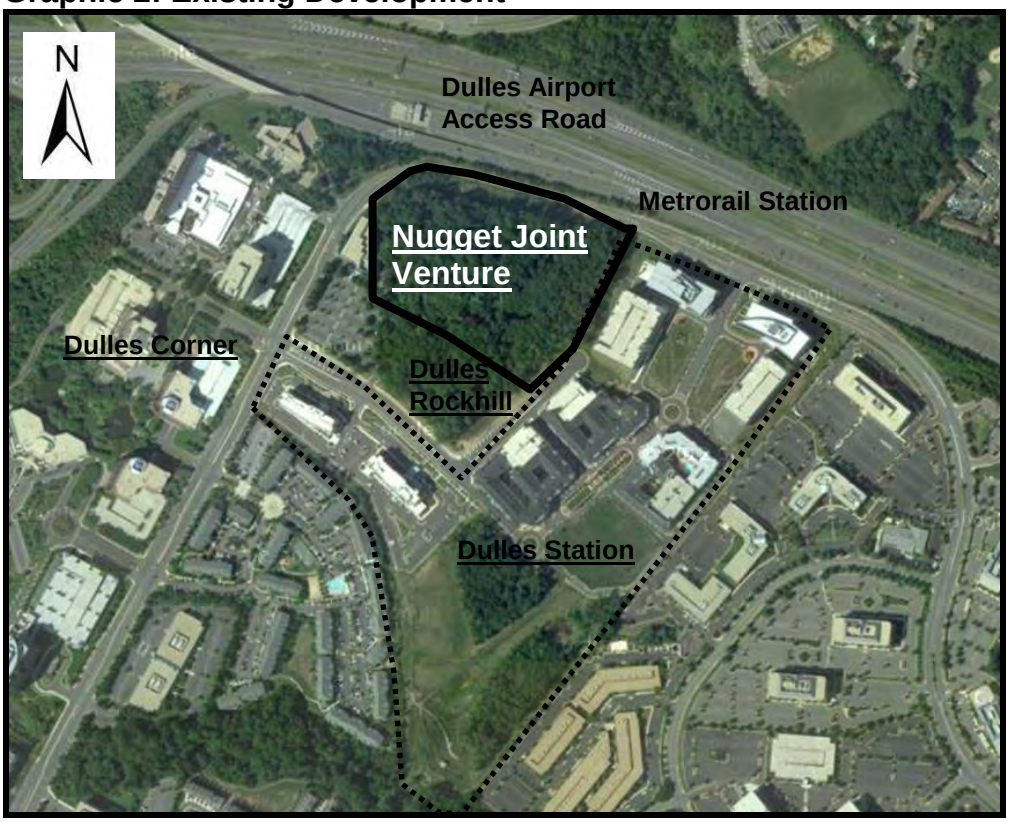
- Modification of the private street limitations of Section 11-302 of the Fairfax County Zoning Ordinance.

- Modification of PFM Standard 12-0702.1B2 to permit the reduction of the minimum planting width requirement from eight feet as shown on the CDP/FDP and described in the proffers.

The applicant's draft proffers, affidavits and statement of justification are included in Appendices 1, 3 and 4, respectively. The proposed Conceptual Development Plan development conditions are included in Appendix 2.

**LOCATION AND CHARACTER**

**Graphic 2: Existing Development**




**Site Description:**

The site is currently undeveloped and is completely tree covered with oaks, maples and hickories. The site is bordered on the north by Dulles Airport Access and Toll Roads, and Sunrise Valley Drive, to the west by Sunrise Valley Drive and Dulles Corner development, to the south and east by Dulles Rockhill and Dulles Station development. Land to the east is zoned Planned Development Commercial (PDC) and has been developed as part of the Dulles Station development. This includes an immediately adjacent six-story office building and associated 7-story parking structure, and the Camden Apartments, a low-rise multifamily residential development. The land to the south is zoned Planned Residential Mixed Use (PRM) and is currently vacant, but was recently approved as the Dulles Rockhill development, a medium-rise multifamily residential building. Land to the west of the subject property is zoned C-3 and is developed with a mid-rise office building.

The chart below provides the land use, zoning and current plan for surrounding properties.

**Surrounding Area Description:**

| Direction | Use | Zoning | Plan |
|---|---|---|---|
| **North** | Dulles Toll Road Industrial | -<br>I-4 | Mixed Use |
| **South** | Dulles Rockhill | PRM | Dulles Suburban Center, Land Unit A for Mixed Use |
| **East** | Dulles Station - Office and Residential) | PDC | Dulles Suburban Center, Land Unit A for Mixed Use |
| **West** | Office | C-3 | Dulles Suburban Center, Land Unit A for Mixed Use |

## BACKGROUND

- RZ C-698 was approved by the Board of Supervisors approved on August 25, 1975 to rezone 38.20 acres from the RE-1 District to the PDC District to allow the development of the property with up to 784,000 square feet of office and hotel development at an overall FAR of 0.47. The property was separated into two portions. The northern portion (Parcel 13) included 13.48 acres for development of two hotels and a service station totaling 324,000 square feet and the southern portion (Parcels 3, 5, and 9) included 24.72 acres and was approved for up to 460,000 square feet of office development.

- PCA C-698 (concurrent with RZ 92-H-015) was approved by the Board of Supervisors on August 2, 1993 to delete the southern portion (24.72 acres) of the PDC district from RZ C-698. This land area was combined with an adjacent R-1 district (0.15 acres) and rezoned to the PDH-20 district to allow for the development of 451 multifamily units at a density of 18.3 du/ac and a child care center for 140 students as a secondary use pursuant to RZ 92-H-015. The proffers reserved approximately three acres of land on Parcel 13 for future transit. ***This case currently governs the site. Copies of the accepted proffers are included in Appendix 5.***

- On November 17, 2006, the Federal Transit Administration (FTA) issued a final *Record of Decision* endorsing the westward extension of the WMATA Regional Metrorail System from the East Falls Church Metro Station. Eleven new Metro stations with related facilities are planned to be constructed by the Dulles Rail Project. Innovation Center Metrorail Station is one of the stations to be constructed and is shown to have supporting Metrorail facilities. ***A copy of the Record of Decision is included in Appendix 6.***

- On July 30, 2013, the Board of Supervisors approved a Real Estate Exchange Agreement between the Board of Supervisors and Nugget Joint Venture, LC to facilitate a property exchange necessary for processing a joint TOD development

plan near the future Innovation Center Metrorail Station. **A copy of the July 30, 2013 Board Matter is included in Appendix 7.**

- On December 3, 2013, the Board of Supervisors approved two Plan Amendments (ST09-III-DS1 and S07-III-UP2) to achieve stronger transit-oriented development and encourage a mix of uses in an urban form in the planned Innovation Center Transit Station Area (TSA). The area north of the Merrybrook Run Stream Valley is proposed to be in the designated TSA with planned intensity ranging from .75 to 3.0 FAR. South of the Merrybrook Run Stream Valley, the proposed plan is to maintain the existing character and uses with intensity ranging from .50 to 1.0 FAR. The large area of vacant land north of Frying Pan Road is also proposed for a mix of uses at an intensity range of .50 to 1.0 FAR. Additional guidance addressing transportation improvements, environmental stewardship, urban design and provision of services such as parks and schools is provided.

**COMPREHENSIVE PLAN PROVISIONS** (Appendix 8)

**Plan Area:** III
**Planning District/Sector:** Dulles Suburban Center; Land Unit A-1
**Plan Map:** **Transit-Oriented Development**

**Plan Text:**

Fairfax County Comprehensive Plan, 2013 Edition, Dulles Suburban Center, as amended through March 04, 2014, Dulles Suburban Center Land Unit Recommendations, Land Unit A General Land Unit Recommendations p. 56-60:

"Land Use

The planned land use pattern in Land Unit A focuses most future growth within walking distance of the future Innovation Center Metrorail Station which is generally considered to be within ¼ and ½ mile from the station. Intensities will be highest in areas with the closest proximity to the station, tapering down to lower density areas in the rest of the land unit. The land units south of the Merrybrook Run Stream Valley, A-2, A-3 and A-4, have been developed with a mix of office, hotel and residential uses in accordance with the plan and it is anticipated that these land units will maintain their existing character, uses and intensities.

This land unit is planned for a complementary mix of land uses including office, residential, hotel and support retail. Development in this land unit should provide for the incorporation of future transit related facilities and pedestrian and vehicular access to transit.

…

In reviewing development proposals, the following land use guidelines should

also be considered:

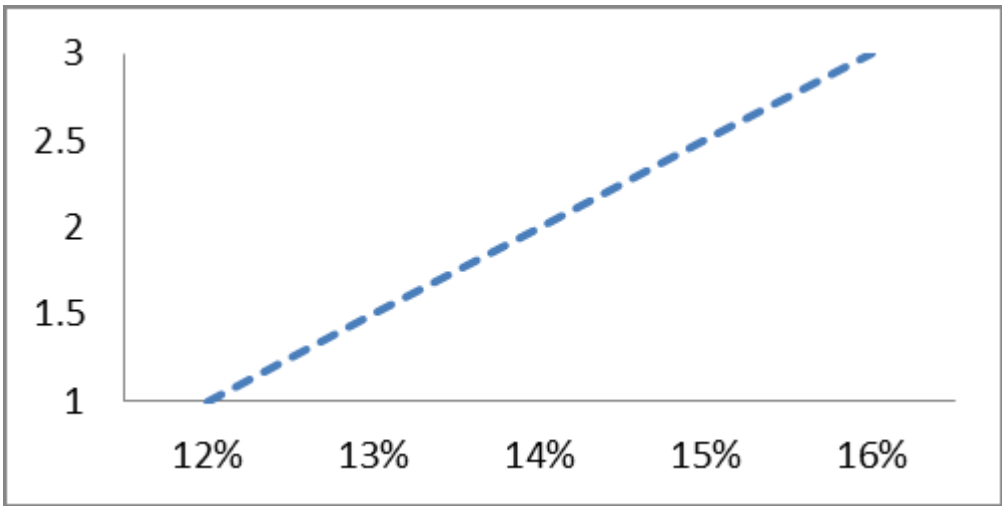
…

- Compatible Development - All development proposals will need to ensure that projects function in a compatible, well-designed, efficient manner; are consistent with the land use guidance and development potential of the individual subunits; are compatible with the development on adjacent properties; reflect coordinated phasing of improvements as needed (for example, frontage improvements); are consistent with the overall intent of the land use concept to achieve a desired urban form and mix of uses; and do not preclude adjacent parcels from developing in conformance with the Plan.

…

- Affordable and Workforce Housing - Future development should conform to county policies on affordable housing which includes conformance to the Affordable Dwelling Unit Ordinance (ADU) and the Policy Plan's Workforce Housing (WDU) Policy and Guidelines. Proposals seeking up to a 1.0 FAR should meet the current policy objective of approximately 12 percent of total units as Workforce Dwelling Units (WDU). The exception is proposed intensity higher than 1.0 FAR which should provide a greater contribution. Proposals for development between a 1.00 and a 3.0 FAR should provide at a minimum proportionally 12 percent to 16 percent of total units as WDUs as shown in Figure 15. The residential use should integrate a variety of housing types, consistent with WDU guidelines, such as units for families, senior housing and residential studio units. In addition, bonus units or bonus square footage, as provided for in the WDU policy, is excluded from the planned intensity.

**Figure 15: Percentage of WDU**




Non-residential development in the TSA should contribute $3.00 per non-residential square foot unless superseded by Board of Supervisors action on a countywide policy. This amount is to be adjusted annually based on the

Consumer Price Index and may be contributed to a housing trust fund that will be used to create affordable and workforce housing opportunities near Metrorail stations. The contribution may be made over a period of time to be determined at the time of rezoning but not less than 25 cents per non-residential square foot each year. Such developments may provide an equivalent contribution of land or affordable units in lieu of a cash contribution. Non-residential contributions could also be used to fund affordable housing opportunities in the TSA through a partnership. If non-residential floor area is achieved through a bonus for providing WDUs, the bonus floor area should not be included when calculating the contribution amount. Ground level retail located in office, hotel, and residential buildings should also not be included when calculating the contribution amount. In addition, educational as well as other institutional and governmental uses should not be included."

Land Unit A-1 Land Use Recommendations

Fairfax County Comprehensive Plan, 2013 Edition, Dulles Suburban Center, as amended through March 04, 2014, Dulles Suburban Center Land Unit Recommendations, Land Unit A-1 Land Use Recommendations p. 60-61:

"Land Unit A-1: Innovation Center Transit Station-South

Land Unit A-1 is the southern portion of the Innovation Center Transit Station Area, is 330 acres and is developed with a mix of office, hotel, residential and support retail uses. This area is planned for transit-oriented development (TOD) which focuses growth within walking distance of the Metrorail station. Intensities should be highest in areas with the closest proximity to the station, recognizing that relatively new existing development is approved for intensities significantly below the plan and may not redevelop in the future. To provide guidance on how intensity should gradually decrease with distance, the land unit is divided into three areas as shown on the table below. For purposes of tiered planned intensity, the ¼ mile and ½ mile radius is measured from the center of the platform where it meets the bridge.

| **Figure 16: Land Unit A-1 Tiered Planned Intensity** | |
|---|---|
| Distance From Metrorail station | Range of Intensity (FAR) |
| Tier 1: Within ¼ Mile | 2 to 3 FAR |
| Tier 2: ¼ to ½ Mile | 1 to 2 FAR |
| Beyond ½ Mile | 0.75 to 1.5 FAR |

The mixed-use recommendations that follow seek to establish parameters for future development by providing percentages for residential and non-residential uses. These percentages are meant to be guides and may need to be adjusted on a case by case basis in order to further other planning objectives such as implementing the grid of streets and securing land for parks and public facilities.

If a property is split between two Tiers, intensity should be based on the proportion of property in each area. Furthermore, this balance among uses may not always be achievable, at least on an interim basis, due to market demand or other economic factors. In such cases, appropriate commitments should insure that interim development does not alter the character of the Transit Station Area and that ultimately a mix of uses will be in place consistent with Plan guidance.

Tier 1: Within a ¼ Mile of Metrorail

The Tier 1 area is within a ¼ mile of the Metrorail station and is planned for intensity within a 2.0 to 3.0 FAR range. The area is planned for a balanced mix of residential, office, hotel and retail uses. The percentage of office uses can be up to 45 percent of development in Tier 1. Individual developments may have flexibility to build more than 45 percent of office if other developments are built or rezoned with a use mix that contains proportionally less office. The residential component in Tier 1 should be on the order of 50 percent or more of total development. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile.

Tier 2: ¼ to ½ Mile of Metrorail

The Tier 2 area includes property within a ½ mile from the Metrorail station and is planned for intensity within 1.0 to 2.0 FAR. The area is planned predominantly for residential uses with a mix of other uses including office, hotel and supporting retail. In Tier 2, the residential component should be on the order of 50 percent or more of total development. The percentage of office uses can be up to 40 percent of development in Tier 2. Individual developments may have flexibility to build more than the stated percentages if other developments are built or rezoned with a use mix that maintains these proportions for the entire Tier 2 Area. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should to be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile."

## ANALYSIS

**Conceptual Development Plan and Final Development Plan (CDP/FDP)**
(Copy at front of staff report)

**Title of CDP/FDP:** Innovation Center South and the Innovation Center Station Garage CDP/FDP 2009-HM-017

| | |
|---|---|
| **Prepared By:** | Dewberry Consultants LLC, DCS Design, Rocks Engineering Company, and LSG Landscape Architecture |
| **Original/ Revision Dates:** | August 1, 2013 as revised through March 27, 2014. |

The CDP/ FDP consists of 76 sheets; see Sheet 1 for a sheet index. The following features are depicted on the CDP/FDP:

***Overview:*** The CDP/FDP is divided into three sections: Civil (C) Sheets (35 sheets), Landscape (L) Sheets (19 sheets) and Architectural (A) Sheets (11 sheets). The Civil Sheets include the notes and tabulations, the existing conditions and vegetation plans, context exhibits, stormwater management plans, street layouts and sections, and the building layouts. The Landscape Sheets include streetscape sections and illustrations, park plans and illustrations, planting details, and pedestrian and bicycle circulation and hierarchy plans. The Architectural Sheets include the overall CDP/FDP site plan, ground floor, roof, and underground parking plans, sections through the proposed buildings, shadow and building massing studies and illustrations of the building elevations.

***Site Layout:*** The site is located within one quarter mile of the future Innovation Center Metrorail Station, which is planned for transit-oriented development up to a 3.0 FAR with a balanced mix of office, residential, hotel and retail uses. The applicant proposes to implement the transit-oriented development option on the subject property through a Comprehensive Real Estate Exchange Agreement (the Agreement) with Fairfax County and to develop 14.68 acres of vacant land located next to the future Innovation Center Metrorail Station to the south. As part of this agreement, the applicant agreed to seek approval of rezoning applications to integrate County-owned Metrorail facilities, which generally include a Kiss N Ride, four bus bays, and an approximately 2,108 space Parking Garage (with a minimum of 2028 parking spaces), with a WMATA owned Metrorail entrance pavilion and other private office, retail, hotel and residential uses. The applicant proposes approximately 1,646,041 GFA at a floor area ratio of 3.01 (including bonus density associated with the provision of workforce dwelling units (WDU)). A maximum of 501,000 square feet of office, 90,000 square feet of hotel, 104,000 square feet of retail and 951,041 square feet of multifamily residential use (with approximately 1,005 units) is proposed to be located in seven buildings. The proposed mix of uses would include 58 percent residential and 42 percent nonresidential.

| Building Number | Primary Uses | Max Zoning Height | Min Zoning Height | Primary Use Max GFA | Secondary Use Max GFA | Building Min GFA | Building Max GFA |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| A1 | Office | 180' | 120’ | 259,660 | 5,000 | 201,000 | 339,000 |
| | | | | | | | |
| A2 | Office | 180' | 120’ | 240,000 | 9,000 | 185,000 | 312,000 |
| | | | | | | | |
| A3 | Residential | 180' | 130’ | 288,000 (320 units) | 35,000 | 252,000 | 329,000 |
| | | | | | | | |
| A4 | Residential | 180’ | 130’ | 191,441 (215 units) | 5,000 | 168,000 | 219,000 |
| | | | | | | | |
| B1 | Hotel | 120’ | 100’ | 90,000 (190 rooms) | 10,000 | 75,000 | 108,000 |
| | | | | | | | |
| B2 | Residential | 150' | 110’ | 346,600 (345 units) | 40,000 | 222,000 | 320,000 |
| | | | | | | | |
| C1 | Office in County Metro Garage | | | 1,340 | | | |
| | | | | | | | |
| D1 | Residential | 70’ | 50’ | 125,000 (125 units) | | 168,000 | 219,000 |
| | | | | | | | |
| Total | Overall | | | 1,646,041 GFA | | | |
| | | | | | | | |
| Total | Residential | | | 951,041 (1,005 units) 58% | | | |
| | | | | | | | |
| Total | Non-Residential | | | 695,000 42% | | | |

As shown in the Chart, the maximum height and the maximum/minimum square footage per use vary from building to building. However, the applicant has proffered to a maximum floor area of 1,646,041 GFA at a floor area ratio of 3.01 (including bonus density associated with the provision of workforce dwelling units (WDU)). In addition, any bonus density associated with the provision workforce dwelling units may be allocated to any use or building. The GFA may also be shifted among any of the buildings provided that the minimum and maximum height shown for each building is not exceeded and the overall urban form and building type shown on the CDP/FDP are maintained.

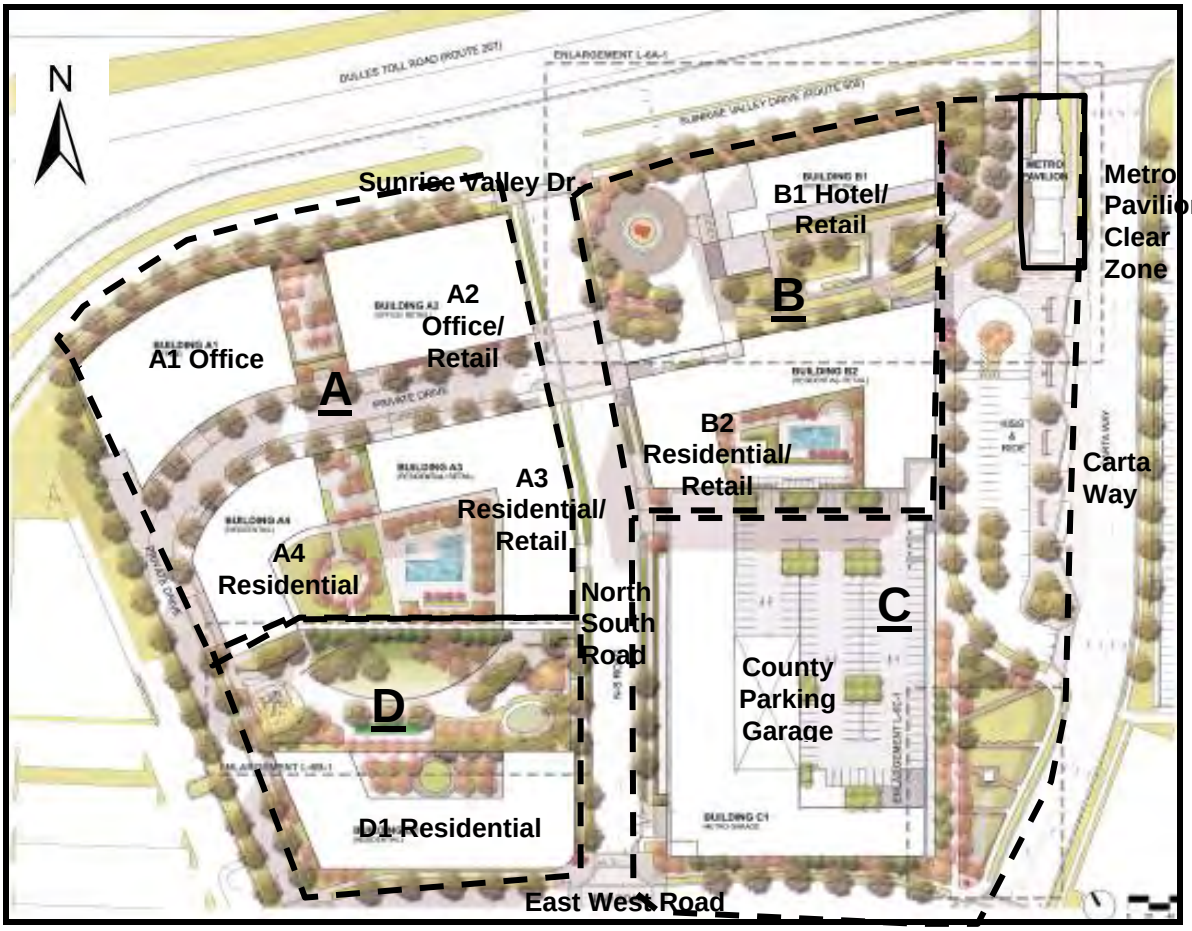
The applicant also generally commits to following:

Building Use: Each building has a designated primary use – office, hotel or residential.

Mixed Use Character: A minimum amount of retail space is specified for most buildings to ensure a dynamic ground floor interaction with the public plaza and/or streetscape.

Massing and Scale: The general massing and scale for each permitted building is specified by provision of a maximum height and gross square footage.

The proposed building layout is shown on Sheet C-4 (and other sheets) and provided in Graphic below.




As shown on the Graphic, the proposed development program includes four land bays (Land Bays A-D) with a total of seven buildings, a Metrorail entrance pavilion, three on-site parks, a County-owned parking garage, and other County-owned Metrorail related facilities (which include a Metro Plaza, bus bays and a Kiss N Ride). The location of the WMATA Metrorail entrance pavilion is proposed to be on the northeast corner of the site.

Land Bay C contains the Metrorail entrance pavilion (which is highlighted as a clear zone and subject to a future amendment and final engineering associated with the Metrorail project), the eight level (six above and two below grade) County-owned parking garage, the County-owned Metrorail facilities and a small pocket park providing on-site stormwater management controls for these facilities. Land

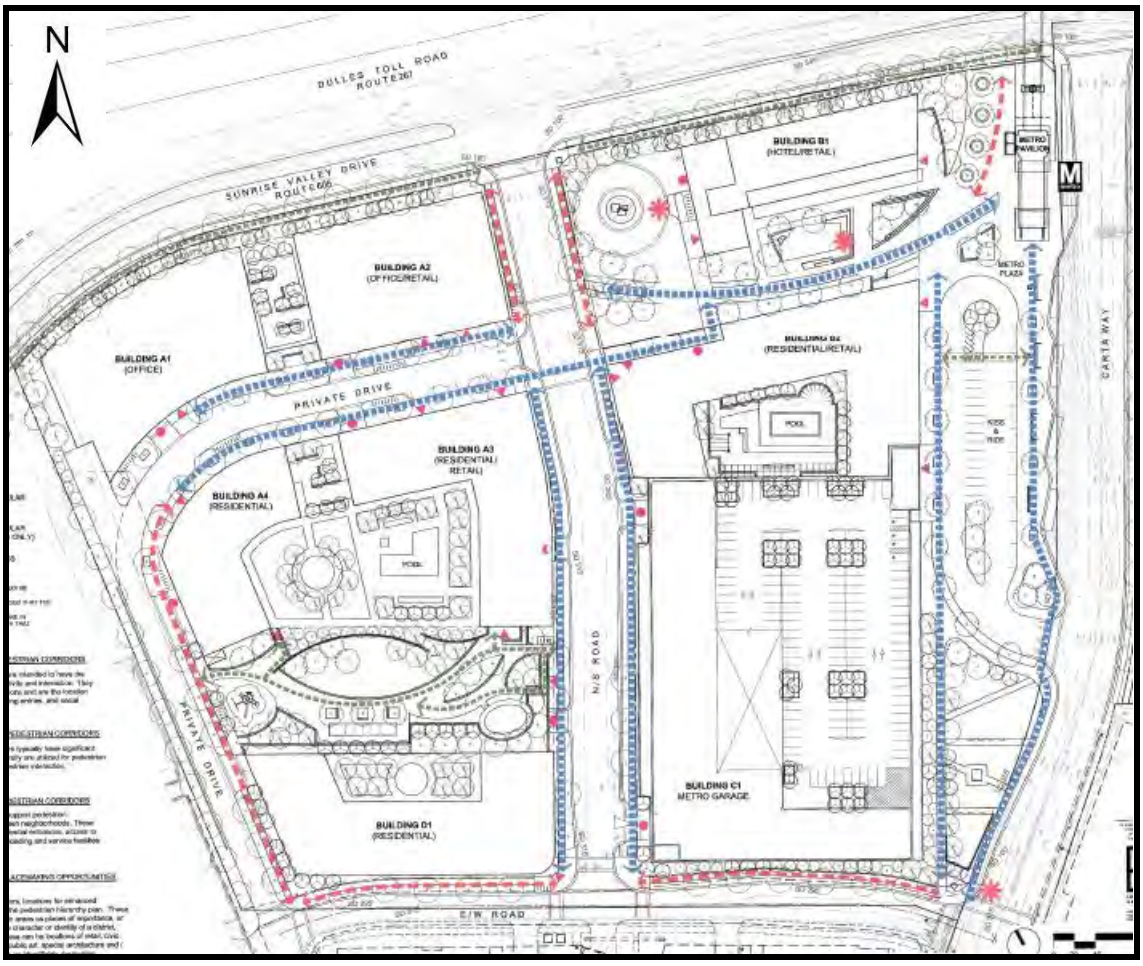
Bay B borders the north side of Land Bay C with two privately owned buildings, which include: 1) a 120 foot tall; 90,000 square foot hotel building with 190 rooms located along Sunrise Valley Drive; and 2) a 120 foot tall; 346,000 square foot residential building with 345 units located to the south of the proposed hotel. Approximately 50,000 square feet of ground floor retail is proposed within these two buildings that would front the proposed Metro Plaza. Associated parking for these uses is provided below the buildings. The Metro Plaza area shown in Land Bay C is proposed to extend into Land Bay B to create an ultimate one acre Metro Plaza between the Hotel and Residential buildings. Land Bay A is located to the west of Land Bay B and includes four of the tallest proposed buildings on the site (including two 180 foot tall office buildings totaling 479,000 square feet and two 180 foot tall residential buildings totaling 499,000 square feet with 535 units) that would taper down in height to one lower rise 70 foot tall residential building with 125 units in Land Bay D. Associated parking for all of these buildings would be located below the buildings. A large urban park (approximately 0.85 acres) is proposed to be located between these residential buildings to help transition high rise buildings to low rise both on and off site.

**Architecture:** Sheets A-301 through A-405 include building elevations, massing models and conceptual renderings of all of the buildings. The conceptual renderings are provided below to show the relationships between the buildings, parks and Metrorail facilities.

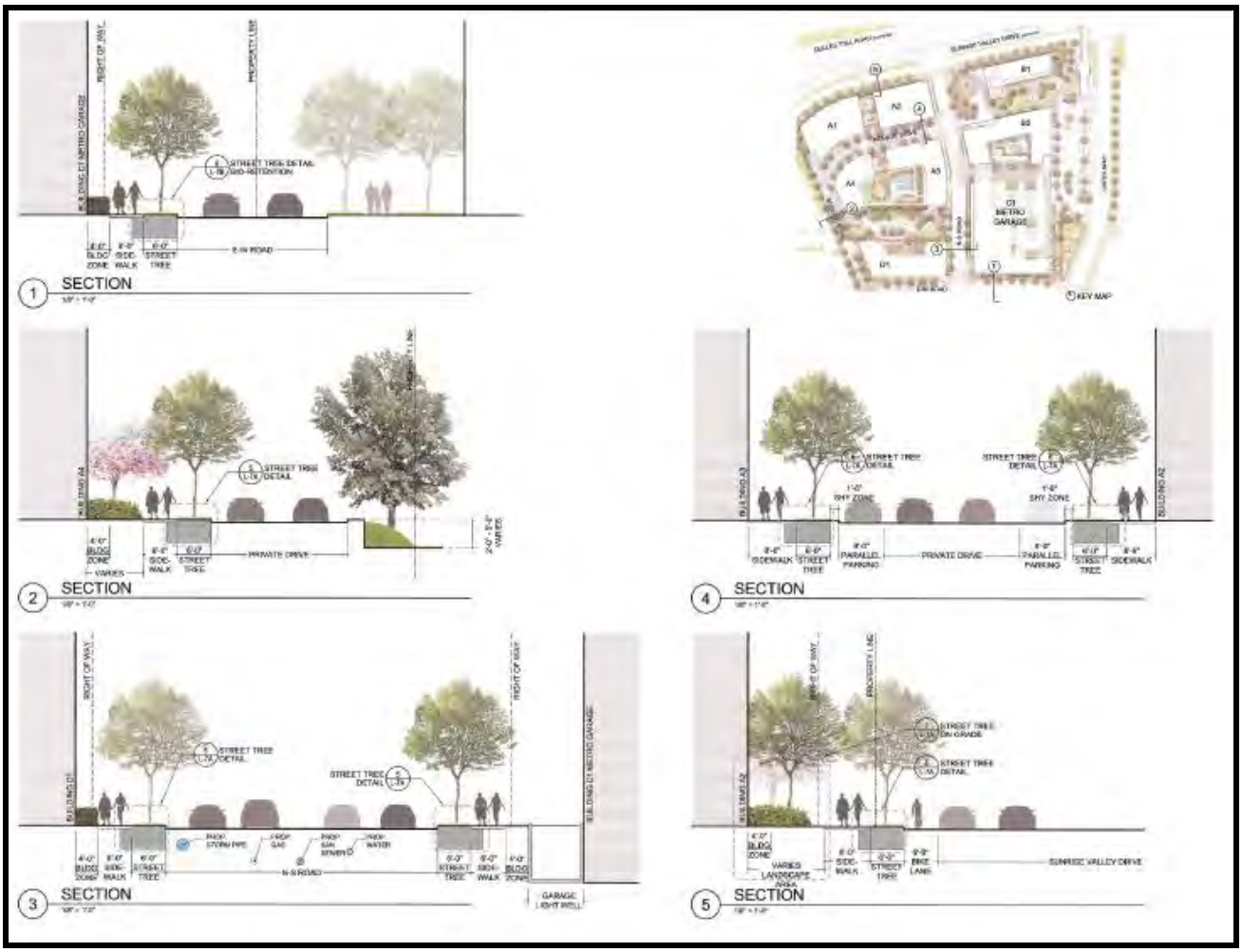
In addition to these conceptual renderings, the applicant has proffered Design Guidelines (as Exhibit B to the proffers) to further demonstrate the design features and the inter-relationships of these buildings and Metrorail facilities. A proffer to architecturally finish all four sides of the buildings with compatible materials, detailing and features is also provided. Garage facades would be designed to screen the view of vehicles from the surrounding area and include materials consistent with those materials shown on the CDP/FDP and/or incorporate innovative design techniques such as incorporation of public art, vegetative screens or other screening techniques, provided such facade treatments are consistent with the standards set forth in the Design Guidelines and with the elevations below.

**Roads, Right-of-Way, and Vehicular Access:** Sheet C-7 of the CDP/FDP highlights the proposed road improvements on the site. Two new public streets (North-South Road and East-West Road) and one private street are proposed within the land bays. Additional improvements to Sunrise Valley Drive and Carta Way are proposed to account for Metrorail buses and additional trips associated with the Metrorail station. These road improvements help establish a new grid of streets within the Metrorail station area. Vehicular access to both private and public facilities is proposed from all of these streets. Pedestrian circulation and access is also proposed to be provided through new sidewalks on both sides of these streets leading to the Metrorail station to the northeast, existing Dulles Station sidewalks to the east; existing Dulles Corner sidewalks to the west and new sidewalks to the south associated with the recently approved Dulles Rockhill residential development.

**Pedestrian Circulation and Streetscape:** Sheets L-3 and L3a of the CDP/FDP show the proposed pedestrian circulation pattern around the site leading to the future Innovation Center Metrorail Station and to the adjacent Dulles Station and Dulles Corner developments.



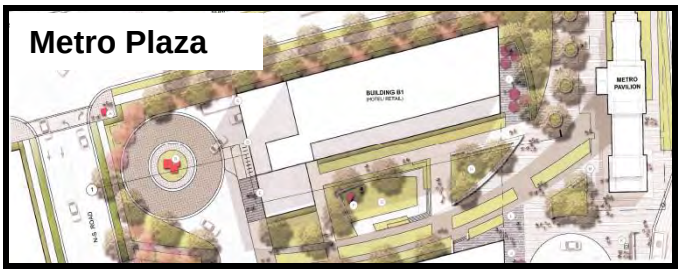
As shown, Carta Way and the new North-South Road will provide the primary north and south pedestrian connections to the Metrorail station. The new Private Road and East-West Road will provide the primary east and west pedestrian connections. Bicycle access would be provided by new four foot wide on-road bicycle lanes on both sides of Sunrise Valley Drive and along shared bike/vehicular lanes along Carta Way. The proposed streetscapes for these pedestrian connections will vary and cross-sections are provided on Sheets L5A and L5B, which generally include a landscape amenity panel of six feet in width, six foot wide sidewalks and a 6-foot wide building zone. The overall streetscape dimensions would range from approximately 16 feet to 20 feet from building face to face of curb. Examples of the street cross-sections are shown below.

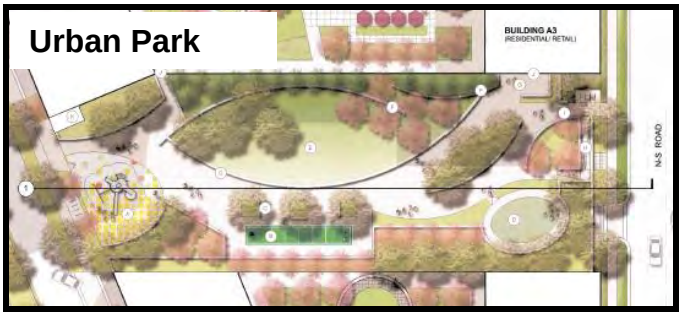



Proffer 15 indicates that the Applicant will work diligently with VDOT and FCDOT during the site plan approval processes to ensure that all proposed public streets and areas designated as landscape amenity panels/sidewalks can be accepted for public maintenance as part of VDOT's Secondary Street Acceptance Requirements ("SSAR"). However, the applicant has included a contingency to this commitment due to potential electrical utility locations, sight distance

requirements, stormwater management facilities and required tree canopy conflicts that would allow a reduction in this public dedication to be 18 inches from the back of curb to 18 inches to the back of the opposing curb (or simply the street lanes). If this occurs, then the applicant would maintain the landscape amenity panels and sidewalks and record public access easements in forms acceptable to the County Attorney. The applicant also committed (Proffers 64, 65 and 67) to providing the landscaping shown on Sheet L1 with each site plan and to replace any new tree that is planted on the property that is counted toward meeting the overall tree canopy requirement, that is damaged as a result of maintenance to utilities or stormwater management facilities, with a tree of equal or greater size. CDP development conditions are also added to ensure that the landscaping, streetscaping and pedestrian enhancements are provided to the maximum extent possible. In addition, Proffer 21 indicates that Office Building A2 along Sunrise Valley Drive will not be constructed until such time as the appropriate intersection sight distance left is provided from the North-South Road onto Sunrise Valley Drive as reflected on the CDP/FDP, and so long as there are no impacts to the required streetscape, as determined by DPZ.

**Open Space & Landscaping:** A minimum of 20 percent open space is required in the PRM District and the applicant is committing to provide a total of 20 percent open space at the completion of the project. Sheet C-5 of the CDP/FDP shows approximately 2.8 acres of public open space provided for a Metro Plaza on the northeast corner of the site, an Urban Park located between Buildings A3 and A4 and D1 and a Pocket Park located on the southeast corner of the site. In addition, approximately 1.2 acres of private open space is provided for the four proposed residential buildings and approximately one acre of open space is accounted for sidewalks and other spaces located throughout the site. Sheets L-6A-1, L-6B-1 and L-6C-1 provide enlargements of the ultimate Metro Plaza, Urban Park and Pocket Park shown below.

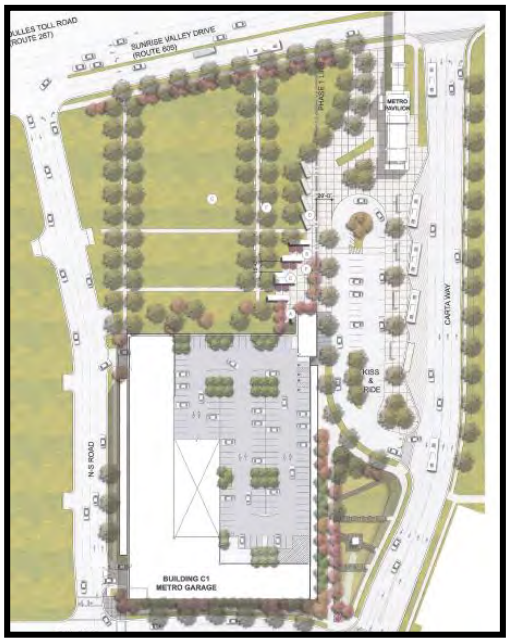


The landscape plan on Sheet L-1 of the CDP/FDP indicates a total proposed tree canopy of 76,700 square feet.

**Phasing:** The proposed development includes seven buildings with associated parking below, Metrorail station facilities and a County-owned Metrorail parking garage located in four Land Bays (A, B, C and D), which are identified on the CDP/FDP as Buildings A1, A2, A3, A4, B1, B2, C1 and D1. Development of each building may proceed in any order provided that each building provides, at a minimum, the phasing conditions depicted for such building on the Sheet C-8 of the CDP/FDP. The first phase would include the County-owned Metrorail parking garage and the other Metrorail related facilities. The required road improvements are listed on Sheet C-8 and generally include through and turn lane improvements for Sunrise Valley Drive, the new North-South Road, Carta Way and the eastern portion of the new East-West Road. Streetscapes along Carta Way, East-West Road and the eastside of the North-South Road would also be provided, as well as the bike lanes along Sunrise Valley Drive.

In addition, the Applicant has proffered to initially provide interim improvements in Phase 1 to the Metro Plaza, as shown on Sheet L-4a of the CDP/FDP to activate the Metro Plaza upon opening of the Metro Station. These interim improvements would include an extensive walkway system and careful integration of paving surfaces and includes benches, seat walls, bike racks, picnic lawn areas, landscaping, garbage containers and temporary restrooms, and may also include provision of interim “place making” uses, such as pop-up retail or service uses, on the Property immediately adjacent to at the Metro Plaza in Land Bay B. Any Temporary Retail Use Establishment must be installed in conformance with the Design Guidelines and in the general location depicted on Sheet L-4A of the CDP/FDP. The minimum interim improvements shall consist of 5,000 square feet of land area and up to eight different Temporary Retail Use Establishments.




A construction staging area is also proposed to the west of the North-South Road in Phase 1. The CDP/FDP shows a fence along three sides of the staging area and a row of evergreen trees along Sunrise Valley Drive to help screen construction activities from the adjacent properties. However, staff recommends a development condition to ensure that the proposed fence and trees are located

along the entire perimeter of the staging area and out of the sight distance requirements along Sunrise Valley Drive.

**Land Swap:** As previously mentioned in the description of the applications, PCA C-696 seeks approval to delete 22,271 square feet of land from from Tax Map 15-4((5)) 5A, (which was originally part of a 63 acre Dulles Station development (RZ C-696) and was recently rezoned to the PRM District in RZ 2012-DR-016 by Dulles Rockhill Partners, LP) and include it with the concurrent rezoning request. The accepted proffers for RZ 2012-DR-016 allowed for this land swap.

**Residential Amenities:** In addition to the proposed Metro Plaza, public parks and open space previously discussed, the applicant proffered to provide, as part of any residential building, facilities designed to meet the onsite recreational needs of the future residents of such building, including, but not limited to exercise rooms, swimming pools, activity courts, club rooms, meeting rooms, media centers and cyber cafes. The applicant has also proffered to meet the minimum expenditure for on-site recreational facilities in the Planned District.

**Bike Amenities:** Bicycle storage facilities are proposed within the County-owned parking garage, throughout the site and within private buildings and associated parking garages. Sheet A-203 shows a storage area for approximately 100 bicycles on the P2 Level of the County-owned parking garage near the northeast pedestrian access point from the Metro Plaza. Sheet A-100 provides a detailed chart showing 88 short term and 422 long term spaces for bicycle parking and storage. The applicant has also proffered to provide bicycle racks and/or bike storage areas within each Land Bay, with the specific amounts and locations finalized prior to site plan approval in consultation with the FCDOT Bicycle Coordinator. Bicycle racks located outside of buildings and inside parking garages shall be inverted U style racks or other design approved by FCDOT. The minimum number of bike parking/storage spaces provided for Land Bays A, B and D shall be as stated in the tabulation included as part of Sheet A-100 of the CDP/FDP.

**Parking Tabulations:** The Zoning Ordinance requires 3,488 parking spaces for all of the proposed private uses on the site, including bonus density associated with workforce housing. The applicant proposes to meet this requirement and to provide the parking within associated parking garages located below buildings throughout the property and on portions of the private street along the western boundary line. In addition, the applicant proposes 2,108 parking spaces within a County-owned parking garage, which will serve the Metrorail station. Proffer 42 indicates that parking for all uses within the proposed development will be provided in accordance with the parking requirements of Article 11 of the Fairfax County Zoning Ordinance, as determined by DPWES. The maximum number of parking spaces for the residential units will be the minimum number of parking spaces required under Article 11 of the Zoning Ordinance. In addition, the applicant has committed to seek a parking reduction in the future, based on

proximity to the future Innovation Center Metrorail Station and consistent with the parking rates used in other TOD areas in the County, as generally outlined on Sheet C-2b of the CDP/FDP, prior to site plan approval for the first new office or residential building on the Property.

**Stormwater Management (SWM):** The 14.68 acre property falls within the Horsepen Creek watershed. The stormwater management (SWM) narrative on Sheet C-11 of the CDP/FDP indicates that the subject property is part of the original drainage area for the regional pond constructed with Dulles Station, which is located southeast of the subject property on Tax Map 15-4 ((5)) 3 and approved by site plan in SP 6848-PI-02-1. Stormwater from the subject property drains to the southeast to this SWM pond, which was designed to handle a total drainage area of 121 acres and provide both quality and quantity controls for the two and ten year, 24 hour storm events. Outfall from this pond discharges through a spillway into Merrybrook Run.

In addition to the minimum requirements for stormwater management provided by the existing regional pond, the applicant proposes several on-site Best Management Practices (BMP) facilities, which include bio-retention facilities, permeable pavers, three underground sand filters and seven rainwater harvesting cisterns on-site. These facilities are proposed to meet the Comprehensive Plan by providing stormwater measures sufficient to attain rainwater management credit as specified in the Comprehensive Plan. The applicant has proffered to design the stormwater management facilities in conformance with the recently adopted County Stormwater Management Ordinance and applicable recommendations contained in the Comprehensive Plan text for the Property. A separate waiver request, 6848-WPFM-005-1, to allow the proposed underground sand filters and cisterns within the residential development in accordance with PFM § 6-0303.8, was submitted to the Department of Public Works and Environmental Services (DPWES) (see Proffer 53 and the conditions attached to SWM analysis in Appendix 17 of this Staff Report). Sheets C-11 through 30 of the CDP/FDP provide the SWM computations for the proposed detention and phosphorous removal facilities.

In addition, the applicant proffered to incorporate an additional alternative BMP treatment method on the Metro Plaza through the use of bio-filtration as shown on Exhibit A instead of permeable pavers shown on Sheet C-9 of the CDP/FDP. This alternative may be implemented as a partial or an entire replacement of what is shown on the CDP/FDP for this area. Any alternative treatment methods used will treat no less than the quantities of stormwater intended to be treated in the original design.

**Residential Development Criteria/ Transit-Oriented Design Guidelines/ Planned Development Standards Analysis**

*Fairfax County expects new residential development to enhance the community by fitting into the fabric of the neighborhood, respecting the environment, addressing transportation impacts, addressing impacts on public facilities, being responsive to our historic heritage, contributing to the provision of affordable housing, and being responsive to the unique site specific considerations of the property. Fairfax County also seeks to accommodate future residential and employment growth and expand choices for residents and employees by encouraging transit-oriented development (TOD) as a means to achieve compact, pedestrian-oriented, mixed-use communities focused around existing and planned rail transit stations. To that end, the Board of Supervisors adopted the Residential Development Criteria and the TOD Guidelines contained in the Policy Plan, to be used in evaluating zoning requests for new residential development and summarized below. Below is a summary of these criteria and guidelines, which are detailed further in Appendix 9.*

*Planned Zoning Districts are also reviewed in accordance with the General and Design Standards of Sections 16-101 and 16-102 of the Zoning Ordinance. Those standards are also summarized as part of the review below and provided in its entirety in Appendix 10. The PRM District was established to provide for high density, multiple family residential development, generally with a minimum density of 40 dwelling units per acre; or for mixed use development consisting primarily of multiple family residential development, generally with a density of at least 20 dwelling units per acre, with secondary office and/or other commercial uses. PRM Districts are intended to be limited to areas where such high density residential or residential mixed use development is in accordance with the adopted comprehensive plan, such as within areas delineated as Transit Station Areas, and Urban and Suburban Centers. The PRM District regulations are intended to promote high standards in design and layout, to encourage compatibility among uses within the development and integration with adjacent developments, and otherwise implement the stated purpose and intent of this ordinance.*

Staff has combined the review of the Residential Development Criteria and TOD Guidelines in the Policy Plan with the review of the Planned District General and Design Standards, along with the staff analysis reflected in the agency memos found in the appendices of this report. The following review uses the Residential Development Criteria as the format for the analysis *(references to these standards and guidelines are in italics).*

**Conformance with the Site Specific Comprehensive Plan Recommendations**
*(See also TOD Guidelines 1, 2, 4 and 16 in Appendix 9 and Planned District General Standard 1 in Appendix 10)*

The 14.68 acre subject property is in Land Unit A-1 of the Dulles Suburban Center. The property is currently vacant and is within one quarter mile of the future Innovation Center Metrorail Station, with a smaller portion of the property just beyond the one quarter mile from the planned Metrorail station. The Comprehensive Plan includes transit-related development options for mixed-use

including up to 3.0 FAR within one quarter mile of the transit station platform and up to 2.0 FAR within one half mile of the platform.

Use and Intensity

The applicant proposes to develop under Land Unit A-1's Tier 1 (within ¼ mile of the Metro station) and Tier 2 (¼ to ½ mile from the Metro station) transit-oriented development mixed use options. The proposal includes office, residential, hotel and ground floor retail uses at up to 2.82 FAR (3.01 FAR including bonus density), resulting in 1,546,041 square feet (1,646,041 square feet including bonus density) of development. In addition, the application proposes to develop several transit-related facilities including a County-owned parking structure serving Metrorail, multiple bus bays, a Kiss N Ride and bicycle facilities, all of which are encouraged by the Comprehensive Plan. Staff estimates more than 90 percent, of the property is within a ¼ mile of the future Metrorail station while the remaining less than 10 percent is within ¼ to ½ mile of the planned Metro station. The Comprehensive Plan guidance on intensity recommends that intensity should be based on the proportion of property in each area if a property is split between two tiers. Given this guidance, and staff estimates of the proportion of the property within each Tier, the overall proposed FAR of 2.82 is in general conformance with the Comprehensive Plan's recommended range of 2.0 to 3.0 FAR and 1.0 to 2.0 FAR for Tier 1 and Tier 2, respectively.

According to the Building Data Chart on Sheet A-100, the proposed development would result in approximately 42 percent nonresidential uses (of those, 31 percent are office uses) and approximately 58 percent residential uses. The Comprehensive Plan generally recommends up to 45 percent and 40 percent of the total development be office use in Tier 1 and Tier 2, respectively. Furthermore, the Comprehensive Plan generally recommends at least 50 percent of the total development be residential use in Tier 1 and Tier 2. Therefore, the proposed mix of residential and office uses are in in general conformance with the Comprehensive Plan.

In addition to the Plan recommendations for use and intensity, the proposal should meet other Plan recommendations for Land Unit A-1 of the Dulles Suburban Center. These recommendations are generally summarized below and further explained in Appendix 8.

- Affordable Housing: workforce housing equal to 16 percent of the total units and a contribution of $3 of nonresidential development to the Housing Trust Fund;

- Grid of Streets: new grid of streets within the development with coordinated site access with surrounding properties and the planned Metrorail station;

- Bike facilities: bike parking on-site and on-road bike lanes along Sunrise Valley Drive in both directions;

- Transportation Demand Management (TDM): trip reduction goal of 45 percent;

- Parking Management: parking studies should be provided to reduce the minimum parking requirement;

- Stormwater Management: emphasis on low impact development (the total volume of runoff released as well as the peak release rate for the one and two year, 24-hour storm in the post-developed condition should be equal to or less than the total runoff volume and peak release rate in the existing condition for the same storm).

- Green Building: LEED silver or equivalent for nonresidential development and LEED certification or equivalent for residential;

- Noise attenuation: noise studies should be provided during rezoning review;

- Urban and community parks: should be provided assuming 1.5 acres of Urban parkland per 1,000 residents and one acre of urban park space per 10,000 employees;

- Recreational Needs: while many developments will include urban parks as amenities, contributions of recreational facilities are also needed to ensure a park system that creates a wide range of needs. Creative approaches to providing for sports needs will be necessary, including integrating facilities within development areas, on rooftops, over SWM facilities, in utility corridors;

- Schools: existing schools are projected to significantly exceed the available capacity at the elementary, middle and high school levels. Developers should provide for additional capacity.

- High quality urban design focused on creating a walkable environment: Streetscapes may vary but at the least include a minimum Building Zone area of 4 feet in width, Sidewalk of 6 feet in width and Landscape panel of 6 feet in width for a total of 16 feet in width;

- Parking Garages: exposed structures should be treated carefully with architectural details and landscaping to mitigate negative impacts from exposed garages.

Additional analysis of these development recommendations is provided in relevant sections below.

In addition to, and in accordance with the TOD Guidelines, which indicate that high density development should be focused and concentrated close to the rail transit station, (and where feasible, above the rail transit station); the applicant has proposed a transit-oriented mixed use development layout that would create a walkable, transit-oriented neighborhood envisioned for Land Unit A-1 of the Dulles Suburban Center. The subject property is located within one quarter mile of the transit station area for the Innovation Center Metrorail Station, which is an area where the Comprehensive Plan encourages higher intensity and mixed-use development. Staff feels the proposal is consistent with that envisioned for a higher-intensity, more urban use of the land adjacent to transit.

**Residential Development Criteria 1: Site Design** *(See also TOD Guidelines 3, 6, and 14 in Appendix 9 and Planned District General and Design Standards 1 and 2 in Appendix 10*)

*This criterion requires that the development proposal address consolidation goals in the plan, further the integration of adjacent parcels, and not preclude adjacent parcels from developing in accordance with the Plan. The development should provide for a logical design with appropriate relationships within the development.*

*Consolidation: Developments should provide parcel consolidation in conformance with any site specific text and applicable policy recommendations of the Comprehensive Plan. Should the Plan text not specifically address consolidation, the nature and extent of any proposed parcel consolidation should further the integration of the development with adjacent parcels. In any event, the proposed consolidation should not preclude nearby properties from developing as recommended by the Plan.*

The Comprehensive Plan recommends transit-oriented mixed use development for the subject property (consisting of three tax map parcels located within one quarter mile of the future Metrorail station) provided that a new grid of streets is created within the development with coordinated site access to surrounding properties and the planned Metrorail station. Two new public streets (North-South Road and East-West Road) and one private street are proposed within the development. Additional improvements to Sunrise Valley Drive and Carta Way are proposed to account for Metrorail buses and additional trips associated with the Metrorail station. Vehicular access to both private and public uses is proposed from all of these streets. Pedestrian circulation and access is also proposed to be provided through new sidewalks on both sides of these streets leading to the Metrorail station to the northeast, existing Dulles Station sidewalks to the east; existing Dulles Corner sidewalks to the west and new sidewalks to the south associated with the recently approved Dulles Rockhill residential development (which, as previously mentioned, initiated a land swap with the applicant to facilitate the

creation of a new grid of streets within the transit station area). With these commitments, staff feels that the development proposal will not preclude the development of any of the surrounding unconsolidated parcels from developing in conformance with the Plan.

*Layout: The layout should provide logical, functional and appropriate relationships among the various parts (e. g. dwelling units, yards, streets, open space, stormwater management facilities, existing vegetation, noise mitigation measures, sidewalks and fences); provide dwelling units that are oriented appropriately to adjacent streets and homes; provide convenient access to transit facilities; identify all existing utilities and make every effort to identify all proposed utilities and stormwater management outfall areas; and encourage utility collocation where feasible.*

The proposed development program includes a total of seven buildings, a Metrorail entrance pavilion, three on-site parks, a County-owned parking garage, and other County-owned Metrorail related facilities (Metro Plaza, bus bays and Kiss N Ride). The location of the WMATA Metrorail entrance pavilion is proposed to be on the northeast corner of the site.

The proposed eight level (six above and two below grade) County-owned parking garage, Kiss N Ride lot and four bus bays are generally located within a short walking distance to the proposed Metro Plaza and Metrorail entrance pavilion. Two privately owned buildings (which include a 120 foot tall, 90,000 square foot hotel building with 190 rooms located along Sunrise Valley Drive; and a 120 foot tall; 346,000 square foot residential building with 345 units) border these facilities and provide approximately 50,000 square feet of ground floor retail fronting the proposed Metro Plaza. Associated parking for these uses is provided below the buildings. The Metro Plaza area is also shown to extend further west to create an ultimate one acre Metro Plaza between the Hotel and Residential buildings. Four of the tallest proposed buildings on the site (including two 180 foot tall office buildings totaling 479,000 square feet and two 180 foot tall residential buildings, totaling 499,000 square feet with 535 units) are proposed to the west of the North-South Road and would taper down in height to one lower-rise, 70 foot tall residential building with 125 units in Land Bay D. Associated parking for all of these buildings would be located below the buildings. A large urban park (approximately 0.85 acres) is proposed to be located between these residential buildings to help transition high rise buildings to low rise both on and off site.

As shown in the proposed layout, the building footprints are proposed to be oriented to the street edge to create an urban form. Carta Way and the new North-South Road are proposed to provide the primary north and south pedestrian connections to the Metrorail station. The proposed Private Road and East-West Road will provide the primary east and west pedestrian connections. Streetscaping for these pedestrian connections is proposed to vary in dimension ranging from approximately 16 feet to 20 feet from building face to face of curb. Six foot wide sidewalks and landscape amenity panels are proposed. Staff feels that this layout is both functional and logical. However, staff is concerned about the proposed streetscaping for the North-South Road.

Issue: North-South Road Streetscape

North-South Road is proposed to be a public local street running through the middle of the site and providing access to four Buildings, a private street and the County-owned parking garage. The applicant has committed to work diligently with VDOT and FCDOT during the site plan approval processes to ensure that these streets and the areas designated as landscape amenity panels and sidewalks can be accepted for public maintenance by VDOT. However, in anticipation of site plan review, the applicant has shown a streetscape on North-South Road that does not include street trees on both sides of the street north of the Urban Park due to potential conflicts with vehicular sight distance from the proposed vehicular access points from Buildings A3, A2, and B2 and the County parking garage. In addition, if during site plan review, it is determined that any SWM facilities or utilities need to be located in the landscape amenity panel, the applicant has also proffered to:

1) reduce the public dedication area to be 18 inches from the back of curb to 18 inches to the back of the opposing curb (or simply the street lanes),
2) privately maintain the landscape amenity panels and sidewalks, and
3) record public access easements in forms acceptable to the County Attorney.

Staff is concerned that these two scenarios would result in a streetscape that is not consistent with the Comprehensive Plan and feels the proposed alternative to plant low lying vegetation in lieu of street trees is unacceptable. Therefore, staff recommends a development condition that provides additional streetscape options and performance standards that would ensure streetcaping is provided to the maximum extent possible. Imposition of this development condition would address staff's concern about the streetscape.

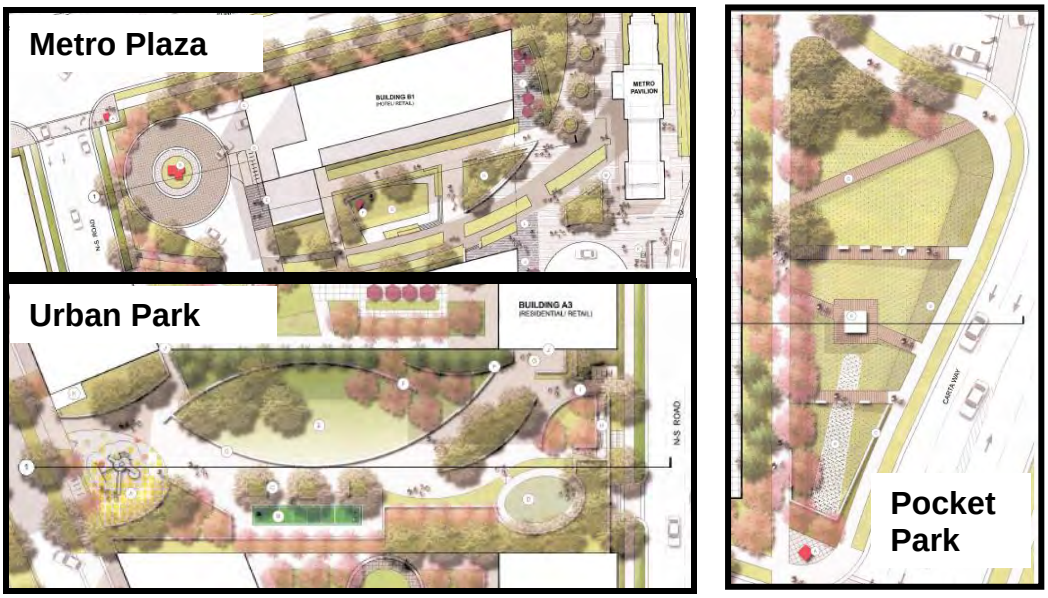
*Design Guidelines*

The Comprehensive Plan recommends design features such as: interesting and varied building facades; building articulation and step backs to minimize bulk and mass; and building arrangement that frames and defines streets and give deliberate form to the street and sidewalk areas. The applicant has provided Design Guidelines as Exhibit B to the proffers, illustrative Metro Plaza detail plans, and site and building section exhibits on the CDP/FDP to demonstrate the design features of the proposed mixed-use, transit-oriented development. Exhibit B, "Design Guidelines Innovation Center South and the Innovation Center Station Garage" includes a vision for the TOD, the project master plan, design standards and pedestrian circulation details. These guidelines are illustrative of the general quality and character of the development proposed. The applicant has committed to a complimentary design theme for buildings, although each building may have its own distinctive architectural character. The buildings would frame the adjacent streets and establish an urban form. All buildings and parking garages would be architecturally finished on all four sides with compatible materials, detailing and features, although the facades, including the facades of the garages, may not be identical. In general, Staff feels that urban design will be adequately addressed with the imposition of the streetscape development conditions previously mentioned.

*Open Space, and Landscaping and Amenities: Developments should provide usable, accessible, and well-integrated open space. Appropriate landscaping should be provided in parking lots, in open space areas, along streets, in and around stormwater management facilities, and on individual lots. .*

The PRM District requires a minimum of 20 percent open space. The applicant proposes to meet this requirement. Sheet C-5 of the CDP/FDP shows approximately 2.8 acres of public open space provided for a Metro Plaza on the northeast corner of the site, an Urban Park located between Buildings A3/A4 and D1, and a Pocket Park located on the southeast corner of the site. In addition, approximately 1.2 acres of private open space is provided for the four proposed

residential buildings, and approximately one acre of open space is accounted for sidewalks and other spaces located throughout the site. Sheets L-6A-1, L-6B-1 and L-6C-1 provide enlargements of the ultimate Metro Plaza, Urban Park and Pocket Park shown below.




The applicant has also proffered to provide interim improvements in Phase 1 to the Metro Plaza, as shown on Sheet L-4a of the CDP/FDP to activate the Metro Plaza upon opening of the Metrorail station. These interim improvements would include a walkway system and/or careful integration of paving surfaces and includes benches, seat walls, bike racks, picnic lawn areas, landscaping, garbage containers and mobile restrooms, and may also include provision of interim "place making" uses, such as pop-up retail or service uses, on the Property immediately adjacent to at the Metro Plaza in Land Bay B.

Issue: Construction Staging Area in Phase 1 and Subsequent Phases

The applicant proposes to construct the County-owned Metrorail parking garage and the other Metrorail related facilities during the first phase of the development. As part of this phase, the applicant also proposes to clear and grade the entire site and to use the area to the west of the new North-South Road as a temporary construction staging area. Staff is concerned about the visual appearance of the construction staging area during Phase 1 and subsequent phases from the adjacent properties. The CDP/FDP shows a fence along three sides of the staging area with a row of evergreen trees along Sunrise Valley Drive, and a 50 foot wide landscaping strip along the western boundary to help screen construction activities from the adjacent properties. However, staff recommends a development condition to ensure that the proposed fence and trees are located out of the sight distance requirements along Sunrise Valley Drive and the new East-West Road and that

the southern construction area is reduced in size to allow a row of evergreen trees along the southern boundary.

*Amenities such as benches, gazebos, recreational amenities, play areas for children, walls and fences, special paving treatments, street furniture, and lighting should be provided*

Streetscape improvements along streets are depicted on the CDP/FDP. Benches, bike racks, trash receptacles and street lights are also proposed along these streets and shown on Sheet L-8 of the CDP/FDP.

In summary, staff feels that the applicant has provided a quality site layout required for a PRM District and has met Residential Development Criteria 1.

**Residential Development Criteria 2: Neighborhood Context** (*See also TOD Guidelines 9 and 10 in Appendix 9 and Planned District General Standards 2 and 4 and Design Standard 1 in Appendix 10)*

*While developments are not expected to be identical with the existing development within which they are to be located, this Criterion states that they should fit into the fabric of the community.*

As discussed earlier in this report, the site is currently undeveloped but is approved to be developed with two hotels and a service station with a total of 324,000 gross square feet. Adjacent development includes mixed use developments to the south and east (Dulles Rockhill and Dulles Station) and to the west (Dulles Corner). The Comprehensive Plan recommends transit-oriented mixed use development up to 3.0 FAR provided that the proposed development program creates a grid of streets with coordinated access to the Metrorail station and a high quality urban design focused on creating a walkable environment. As previously mentioned, the applicant proposes a layout that would integrate Metrorail facilities with approximately 1.65 million square feet of private office, retail, hotel and residential uses. The layout includes both public and private streets with public access and sidewalks on both sides to continue the implementation of the walkable, transit-oriented neighborhood envisioned in Land Unit A of the Dulles Suburban Center. Redevelopment of this portion of Land Unit A-1 began with the adjacent Dulles Station and Dulles Corner mixed use developments. The subject property and the surrounding areas are located within the transit station area for the Innovation Center Metrorail Station, which is an area where the Comprehensive Plan encourages higher intensity and mixed-use development. Staff feels the proposal is consistent with that envisioned for a higher-intensity, more urban use of the land adjacent to transit. The applicant has provided: 1) additional roads needed to support the necessary street grid for existing and future development of the surrounding neighborhoods; 2) additional capacity on Sunrise Valley Drive and Carta Way to include buses and on road bicycle lanes, 3) a layout that allows for a more efficient configuration of the

Metrorail facilities including the Kiss N Ride; bus bays and parking garage than previous development plans associated with the WMATA Regional Metrorail plan, 4) streetscapes that incorporate landscaping and sidewalks that connect to all nearby properties as well as pave the way to the future Metrorail station; 4) public open space areas including a Metro Plaza with seating and amenities for pedestrians as they walk to and from the Metrorail station; and 5) architectural features which reflect an urban character.

*In addition to the neighborhood context criteria, Planned Development General Standards 2 and 4, and Design Standard 1 state the development shall result in a development achieving more of the stated purpose and intent than a conventional zoning district, shall be designed to prevent substantial injury to the use and value of existing surrounding development and shall generally conform to the provisions of the corresponding conventional district to complement adjacent properties. Furthermore, the Policy Plan encourages land use patterns that maintain stability in established neighborhoods, and encourages infill development that is compatible with the existing land use and at a compatible scale.*

The PRM District bulk regulations require building heights and yard requirements controlled by the provisions of Article 16 of the Zoning Ordinance; and a maximum floor area ratio (FAR) of 3.0 excluding bonus density associated with affordable and workforce dwelling units. The proposed FAR is 3.01, including bonus density associated with the provision of 15.6 percent workforce dwelling units. The building heights and yard requirements, as controlled by Article 16, would require the development to be generally in conformance with the R-30 and/or C-4 regulations (the most comparable conventional districts). Although the setbacks proposed with this project are significantly less than those which would be required by a conventional district, Staff believes that they are both appropriate and necessary to achieve the urban, street-oriented, pedestrian-friendly development envisioned by the Plan. In addition, the Building Data Chart on Sheet A-100 of the CDP/FDP shows maximum building heights for all buildings that are consistent with the Comprehensive Plan recommendations for transit station areas. Furthermore, as discussed earlier in this report, staff feels that the proposed layout will have no adverse impact on the abutting properties, which are zoned to the PDC and PRM districts and utilize similar urban bulk standards. In staff's opinion, the applicant proposed a development that will fit into the context of the neighborhood and this criterion has been adequately addressed.

**Residential Development Criteria 3: Environment** *(See Appendix 11 for Environmental Staff Analysis, TOD Guideline 12 in Appendix 9 and Planned District General Standards 3 and 4 in Appendix 10)*

*This Criterion requires that developments respect the natural environment by conserving natural environmental resources, account for soil and topographic conditions and protect current and future residents from the impacts of noise and*

*light. Developments should minimize off-site impacts from stormwater runoff and adverse water quality impacts.*

1) Water Quality Protection and Stormwater Management Best Management Practices:

The 14.68 acre subject property is situated within the Horsepen Creek watershed. The site is currently undeveloped with a dense deciduous canopy, and it is located within Land Unit A of the Dulles Suburban Center, south of the Dulles Airport Access Road, east of Sunrise Valley Drive. The applicant has developed a stormwater management program for the proposed mixed use development which includes office, residential, hotel and a transit station area parking garage to serve the future Innovative Center Transit Station. The stormwater management plan for the site includes measures which support reuse, detention, extended detention and infiltration in areas where the soils are suitable. Proffer #53 enumerates the following low impact development techniques which shall be used to retain and treat runoff onsite:

- Bio-retention/bio-filtration facilities;
- Vegetated swales;
- Vegetated roofs;
- Porous pavers;
- Tree box filters;
- Disconnected impervious areas with soil amendments; and
- Rainwater cisterns for seven of the eight proposed structures (excluding the Innovation Center parking garage).

The applicant commits to design all the stormwater facilities in conformance with the site specific Comprehensive Plan text for the subject property through the attainment of the Rainwater Management Credit for the most current version of LEED–NC or LEED–CS rating system. This commitment to achieve the Rainwater Management Credit is reiterated in the stormwater management narrative on Sheet 11 of the development plan.

To ensure clarity and enforceability, staff recommends that the applicant provide more detail regarding the actual location, installation and construction phasing of the stormwater management facilities. In addition, staff recommends that language be added to the stormwater management proffer #53.E. to ensure collaboration with the Environment and Development Review Branch (EDRB) in the event that the applicant seeks another equivalent system other than the United States Green Council's (USGBC) LEED-NC or LEED-CS rating system which created the Rainwater Management Credit. The applicant has revised the proffers to ensure collaboration occurs in the future.

The adequacy of stormwater management/best management practice (SWM/BMP) facilities and outfall will be subject to review and approval by the Department of Public Works and Environmental Services (DPWES).

On May 24, 2011, the Virginia Soil and Water Conservation Board adopted Final Stormwater Regulations, which became effective September 13, 2011. The regulations require all local governments in Virginia to adopt and enforce new stormwater management requirements; these new requirements must be effective on July 1, 2014. In support of this legislation, the Fairfax County Board of Supervisors adopted the Stormwater Management Ordinance as an amendment to the Code of Fairfax County on January 28, 2014. Staff from the DPWES will administer the stormwater management ordinance, effective July 1, 2014. The applicant will be required to comply with the new requirements for this development if the applicant has not, prior to July 1, 2014, obtained VSMP permit coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities. This proposed development may not be grandfathered from the new ordinance as a result of approval of this zoning application. The applicant should, therefore, design the proposed stormwater management system consistent with new stormwater management requirements. A link to the recently adopted ordinance is below.

http://www.fairfaxcounty.gov/dpwes/stormwaterordinance/chapter_124.pdf

2) Transportation Generated Noise: The Comprehensive Plan guidance, both specific site guidance and general Policy Plan guidance, recommends that interior noise levels for new residential development and other noise sensitive uses should not exceed DNL 45 dBA in interior areas and 65 dBA for outdoor recreational areas. In support of Comprehensive Plan guidance regarding transportation generated noise, Proffer 90 provides a commitment to mitigate transportation generated noise for new residential uses and the proffer cites the appropriate building material specifications to meet this commitment. The proffer also provides a commitment to full disclosure to future residences about the proximity of Dulles International to the subject property. Staff recommended that the proffer be expanded to include a commitment to ensure that transportation generated noise in outdoor recreational areas will not exceed 65 decibels; the applicant has revised the proffers to address this concern.

3) Soil Constraints: Sheet C-2a of the development plan includes a soil legend insert which is not the most currently adopted Soil Survey for Fairfax County. The applicant is encouraged to reference the 2011 Soil Survey for this site. The Jackland and Haymarket soils, (very rocky soil) is the predominant type which characterizes the subject property, and it has high shrink swell potential which poses a significant constraint to development. The applicant should perform a geotechnical analysis prior to development occurring on the subject property during site plan review.

4) Green Buildings: In specially designated areas of the County such as suburban centers and transit station areas, the Policy Plan includes guidance in support of the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. However, the site specific plan text for Land Unit A, Dulles Suburban Center, as noted above, states "Future development throughout Land Unit A should follow this guidance, with the exception of non-residential development within the Innovation Center TSA which should go beyond this guidance by achieving, at a minimum, LEED Silver certification or the equivalent."

   In support of the Comprehensive Plan green building policy, the applicant has provided the following commitments:

   - Office, Hotel and other non-residential (excluding Metro facilities)
     - Proffers 56, 57 support LEED Gold certification without an escrow; and
     - LEED Silver certification with a green building escrow in the amount of $2.00 per square foot in the event that the points for LEED Gold certification fall short.

   - Multifamily Residential

     - Proffers 55, 57 provide a commitment to seek LEED NC Silver certification or the equivalent for the proposed multi-family residential buildings. If the applicant demonstrates that the project is on track for LEED Silver certification, then an escrow would not be posted.
     - In the event that the goal to seek LEED Silver falls short of the necessary points, then the applicant has proffered to post a green building escrow in the amount of $2.00 per square foot for the specific building and the escrow would be released to the applicant upon demonstration of attainment of certification.
     - The proffer appropriately includes alternative residential rating systems which may be sought without an escrow such as Earth Craft or the 2012 National Green Building Standard using the Energy Star Qualified Homes path for energy performance.

5) Sustainable Energy: The applicant has proffered to provide at least one electric vehicle charging station, and ancillary wiring and infrastructure necessary to increase the number of electric vehicle charging stations, within each parking garage on the site (excluding the County-owned Parking Garage).

**Residential Development Criteria 4: Tree Preservation and Tree Cover Requirements** (*See Appendix 12 for UFM Staff Analysis, TOD Guideline 12 in Appendix 9 and Planned District General Standard 3 in Appendix 10*)

*This Criterion states that all developments should be designed to take advantage of existing tree cover and developed appropriately to disturb as little existing tree cover as possible, including the extension of utility improvements to the site.*

*General Standard 3 for planned districts expects developments to protect and preserve to the extent possible natural features such as trees.*

This site is currently undeveloped with mature trees consisting of oaks, maples and hickories. The applicant proposes to redevelop the site with transit-oriented mixed use development. As part the development, 56,620 square feet of tree canopy is required to meet the 10 year tree canopy requirements on the site. Sheet L-1 of the CDP/FDP shows the landscape plan for the site and indicates a total proposed tree canopy of 76,700 square feet. No existing trees are proposed to be preserved. A deviation of the tree preservation target is requested to allow redevelopment of the site for Metrorail related facilities and transit-oriented development. For trees not planted within an 8-foot wide minimum planting area, or those that do not meet the minimum planting area required by the PFM, the applicant has proffered to provide details for alternative designs showing how the proposed planting spaces will provide for normal tree growth and performance by installing structural cells or an equivalent solution acceptable to Urban Forest Management (UFM.) The applicant has also proffered to conform to the limits of clearing and grading as shown on the CDP/FDP.

UFM has reviewed the application and indicated some technical concerns, which include: 1) trees located within the VDOT right of way and within five feet of proposed utility easements cannot be counted toward meeting the 10 year tree canopy requirement; 2) additional canopy credits could be provided in exchange for the planting of trees in a manner that provide specific environmental and ecological benefits or for the use of species that are resistant to disease, pests, decay and the negative impacts imposed by harsh environmental conditions; 3) the proposed street trees on grade option on Sheet L-7a should be tilled to a depth of 6-8 inches to improve rooting into the undisturbed soil and reduce potential drainage problems; and 4) Proffer 66A (Alternative Planting Width Detail) should provide for a minimum of four feet of open surface width. The applicant has revised the CDP/FDP to address these concerns. Staff has also written a development condition to ensure that the 10 year tree canopy is met in accordance with PFM 12-0511 and PFM Table 12.10, which allows for opportunities to receive additional canopy credits in exchange for the planting of trees in a manner that provides specific environmental and ecological benefits or for the use of species that are resistant to disease, pests, decay and the negative impacts imposed by harsh environmental conditions. At the time of site plan review, the appropriate canopy area multiplier and discrete area of canopy associated with trees planted for these purposes shall be clearly identified on the landscape plan plant schedule and 10-year tree canopy calculations as shown on Table 12.10. In addition, no trees counted toward tree canopy shall be located in the VDOT right of way. With these conditions, staff feels that Development

Criteria 4 and Planned District General Standard 3 have been adequately addressed.

**Residential Development Criteria 5: Transportation** *(See Appendix 13 for FCDOT and VDOT Staff Analysis, TOD Guideline 7, 8 and 9 in Appendix 9 and Planned District General Standard 5 and 6 and Design Standard 3 in Appendix 10)*

*All rezoning applications for residential development should implement measures to address planned transportation improvements. Applicants should offset their impacts to the transportation network. Accepted techniques should be utilized for analysis of the development's impact on the network. Residential development considered under these criteria will range widely in density and, therefore, will result in differing impacts to the transportation network. Some criteria will have universal applicability while others will apply only under specific circumstances. Regardless of the proposed density, applications will be evaluated based upon the following principles, although not all of the principles may be applicable.*

The applicant proposes to integrate County-owned Metrorail facilities, which generally include a Kiss N Ride, four bus bays, and an approximately 2,108 space parking garage, with a Washington Metropolitan Transit Authority (WMATA) owned Metrorail entrance pavilion and other private office, retail, hotel and residential uses. In an attempt to address the impact of this proposed development, the applicant has proffered to a number of road improvements shown on Sheet C-7 of the CDP/FDP. These improvements generally include two new public streets (North-South Road and East-West Road) and one private street within the development. Additional improvements to Sunrise Valley Drive and Carta Way are proposed around the proposed development to account for Metrorail buses and additional trips associated with the Metrorail station. These road improvements are necessary to help establish a new grid of streets within the Metrorail station area. Vehicular access to both private and public facilities is proposed from all of these streets. Pedestrian circulation and access is also proposed to be provided through new sidewalks on both sides of these streets leading to the Metrorail station to the northeast, existing Dulles Station sidewalks to the east; existing Dulles Corner sidewalks to the west and new sidewalks to the south associated with the recently approved Dulles Rockhill residential development.

In addition, the applicant has proposed to phase the construction of the development as shown on Sheet C-8 of the CDP/FDP. The first phase would include the County-owned Metrorail parking garage and the other Metrorail related facilities while constructing through and turn lane improvements for Sunrise Valley Drive, the new North-South Road, Carta Way and the eastern portion of the new East-West Road. The streetscapes along Carta Way, a portion of the East-West Road and the eastside of the North-South Road would also be provided, as well as bike lanes along Sunrise Valley Drive.

Other improvements include:

- Transportation Demand Management (TDM): a TDM program is proposed to meet aggressive trip reduction goals of 45 percent in the am and pm peak hours. In response to staff comments, the applicant has agreed to:

  1) Provide an Incentive Fund to encourage Metrorail ridership
  2) Monitor their TDM program with annual traffic counts and surveys every three years. (This is a significant improvement from monitoring programs in the past. Annual traffic counts will enable the county to review the status of transportation in the area and identify future concerns or areas for improvement.)
  3) Pay a $75 per day non-compliance fee for failure to submit their annual report by the date outlined in the proffers. (Assuring that TDM programs are operating as proffered is very important to the County, and the annual reports provide information on the TDM programs, and commuter behavior.)
  4) Commit to a detailed implementation plan for the TDM program that will also provide the flexibility to modify the program both to address changes necessary during the life of the project.

- Traffic Signals: New traffic signals with uninterrupted power supplies and pedestrian enhancements are proposed for five major intersections around the site. The applicant agreed to conduct several warrant studies during various stages of the development to ensure that these traffic signals are installed. If after bond release of the last building on site, a traffic signal is still not warranted, the applicant will contribute a pro-rata share to the County for other transportation related improvements within the vicinity of the subject property. Staff agrees with this approach.

- Bicycle Parking: Staff recommended that the applicant provide bicycle spaces on-site. Bicycle storage facilities are proposed within the County-owned parking garage, throughout the site and within private buildings and associated parking garages. Sheet A-203 shows a storage area for approximately 100 bicycles on the P2 Level of the County-owned parking garage near the northeast pedestrian access point from the Metro Plaza. Sheet A-100 provides a detailed chart showing 88 short term and 422 long term spaces for bicycle parking and storage. The applicant has also proffered to provide bicycle racks and/or bike storage areas within each Land Bay, with the specific amounts and locations finalized prior to site plan approval in consultation with the FCDOT Bicycle Coordinator.

The Fairfax County Department of Transportation has reviewed the subject application including the Conceptual Development Plan/Final Development Plan (CDP/FDP) dated August 1, 2013, as revised through March 27, 2014, and offers the following comments. Resolutions are provided following the concern:

- The proposed intersection spacing on North-South Road between Sunrise Valley Drive and the Private Drive/Site Driveway is not recommended by FCDOT staff. While the Traffic Impact Analysis shows the projected 150-foot vehicle queue would technically be contained within the 150-foot proposed northbound left turn lane, the proposed intersection spacing leaves no additional storage capacity if the analysis undersold the projected volumes. Also, if traffic backs up from the northern intersection at Sunrise Valley Drive into this intersection in the future, the reduced intersection spacing may not allow a potential traffic signal to function adequately. Therefore the only alternative would be to restrict the Private Drive/Site Driveway to right-in/right- out conditions. FCDOT preferred the intersection be relocated closer to the mid-point of North-South Drive in order to provide as much flexibility to implement traffic mitigation measures that do not reduce the overall capacity of an intersection such as a right-out/right- in situation.

  Staff acknowledges that VDOT has approved the intersection spacing exception; however, the applicant has been notified that this issue may need to be revisited if the development is modified or amended in the future in a rezoning application (such as a proffered condition amendment or final development plan amendment).

- The reduced streetscape along North-South Road is not a desirable condition for a public street. It also diminishes the pedestrian experience along the central roadway of the proposed development. Due to the the applicant's placement of the Private Drive, the vehicle entrance to the D1 building, and the footprint of building A3, conflicts arose with adequate sight distance. As a result, the landscaping was removed along two-thirds of the roadway.

  FCDOT had recommended the applicant explore alternatives such as relocating/consolidating entrances or adjusting the footprint of the building in order to allow for larger planting areas outside of the sight lines. Staff has written development conditions to improve this streetscape by ensuring that other pedestrian enhancements and alternatives for tree plantings that are listed in the Public Facility Manual are provided.

- The proposed striping on Carta Way just south of the East-West Road intersection should either be removed or modified in order to retain the two existing travel lanes and not reduce the capacity of the roadway to one lane as shown on the CDP/FDP. The proposed striping was introduced as an interim mitigation measure for a previous sight distance issue between the East-West Road and Kiss and Ride entrance until a traffic signal was warranted at East-West Road. However, through a redesign of the Kiss and Ride facility the sight distance issue may have been resolved and the striping may no longer be needed.

The applicant has revised the CDP/FDP and proffers to address this concern.

- The proposed sidewalk along the east side of Carta Way should be redesigned to meet the VDOT sidewalk standard and should try to minimize the need for a retaining wall along the existing parking structure.

  The applicant has revised the CDP/FDP and proffers to address this concern.

- The lane transition on southbound Carta Way south of the Kiss and Ride entrance is substandard and will contribute to improper lane use or vehicles encroaching into adjacent lanes. The slight curvature of the curb and gutter line should be adjusted to allow for a continuous 14-foot travel lane between the two access points.

  This concern will be addressed during site plan review.

- The proposed dual left turn lanes on Sunrise Valley Drive at Carta Way should include a design element such as a striped or raised median modified taper at the end of the inside lane to prevent vehicles from the inside left turn lane at Dulles Technology Drive from driving through the intersection and conflicting with the outside left turn lane vehicles.

  This concern will be addressed during site plan review.

- Bicycle racks should be provided on the plaza near/adjacent to the proposed Metrorail pedestrian entrance. Such amenities should be placed in a location so as not to conflict with any necessary maintenance clear zones for the pedestrian head house and/or elevated walkways.

  This concern will be addressed with a future rezoning application associated with the WMATA owned Metrorail entrance pavilion.

Virginia Department of Transportation (VDOT) Analysis

In a Memo dated February 16, 2014, VDOT indicated that they completed their review of the traffic impact assessment for the proposal and indicated that the study was generally acceptable (see Appendix 13). Upon build out of the proposal, the site is anticipated to generate about 1000 new AM peak hour trips and about 1200 new PM peak hour trips. The traffic analysis was conducted for existing conditions, future conditions without / with site development for 2020 and future conditions with Comprehensive Plan build out, enhanced street grid envisioned in the draft comprehensive plan and with / without a Dulles Airport Access Road crossing along existing Sunrise Valley Drive for 2030.

VDOT also reviewed the latest CDP/FDP and had the following concerns. Resolutions are provided after the concern.

- A waiver request of Article 17, Paragraphs 12-14 of Section 17-201 should not be approved as many required elements, such as street lights, are not shown on these plans.

  Staff does not support this waiver request at this time and the concern will be addressed during site plan review.

- Three minor concerns with the proposed Carta Way geometry, include: 1) need flexibility to adjust lane transitions during site plan review, 2) the proposed retaining wall on the east side of Carta Way wall is undesirable and proffers should provide flexibility to remove it with alternative designs and 3) the lane widths are too narrow to allow shared bicycle lanes.

  The applicant has reserved the right to seek minor modifications to the CDP/FDP through Section 16-403 of the Zoning Ordinance. In addition, the applicant has revised the proffers to allow for an alternative sidewalk design on the east side of Carta Way and the applicant will seek a waiver at site plan to allow the shared bicycle lanes on Carta Way.

- Need flexibility to adjust lane transitions for the North-South Road during site plan review.

  As previously mentioned, the applicant has reserved the right to seek minor modifications to the CDP/FDP through Section 16-403 of the Zoning Ordinance.

- Three concerns with the proposed streetscaping, include: 1) All trees along Sunrise Valley Drive west of N-S Road should be eliminated as they block sight distance unless traffic signals with emergency power backup are provided, 2) a limited number of trees could be provided along the west side of North-South Road between the entrance to Building A3 and the Private Avenue if they are limbed up and do not otherwise block sight distance, and 3) a limited number of trees could be provided along the west side of North-South Road between the entrance to Building A3 and Building D1 if they are limbed up and do not otherwise block sight distance.

  The applicant has proffered to provide uninterrupted power supplies for each traffic signal installed and committed to not construct Building A2 until such time as the appropriate intersection sight distance for left turns is provided from the North-South Road onto Sunrise Valley Drive as reflected on the CDP/FDP and so long as there are no impacts to the required streetscape, as determined by DPZ. Staff has also written a development

condition as previously discussed in Residential Development Criteria 4 (Tree Preservation and Tree Cover Requirements) which will require the applicant to use alternative tree plantings offered in the Public Facility Manual to achieve the required tree canopy on the site.

- Tree Rain Gardens cannot be constructed in the public right of way.

  Staff has prepared a development condition to ensure that these trees are not in the right of way.

- Street Tree Details on Sheets L-7a and L-7b need to be revised to ensure that the curb is not supported or backed up with compacted soil.

  The applicant has revised these street tree details.

Overall, staff feels that Development Criterion 4 has been addressed with development conditions and proffers.

**Public Facilities Analyses** *(See Appendices 14 through 20 for Specific Staff Analysis, Residential Development Criteria 6 and TOD Guideline 15 in Appendix 9, and Planned District General Standard 5 in Appendix 10)*

*Criterion 6 states that residential developments should offset their impacts upon the public facility systems (i.e. schools, parks, libraries, police, fire and rescue, stormwater management and other publicly owned community facilities.) Impacts may be offset by the dedication of land, construction of public facilities, contribution of in-kind goods, services or cash earmarked for those uses, and/or monetary contributions to be used toward funding capital improvement projects.*

*In addition to the public facilities criteria, General Standard 5 for planned districts state that planned development shall be located in an area in which transportation, police and fire protection, other public facilities and public utilities, including sewerage, are or will be available and adequate for the uses proposed.*

***Fire and Rescue** (Appendix 14)*

The subject property would be serviced by the Fairfax County Fire and Rescue Department Station #436, Frying Pan. The requested rezoning currently meets fire protection guidelines and the Fire Marshal has coordinated with the development of the proffers regarding landscaping and streetscape.

***Fairfax County Water Authority** (Appendix 15)*

The subject property is located within the Fairfax Water service area. Adequate domestic water service is available to the site from existing water mains located at

the property. Relocation of water facilities and additional water main extensions may also be required.

***Environmental & Site Review Division, Stormwater Management***, *DPWES (Appendices 16 and 17 for DPWES Analysis; see also TOD Guideline #12 and Residential Development Criteria #3 and 6 in Appendix 9.)*

The 14.68 acre subject property falls within the Horsepen Creek watershed. The stormwater management (SWM) narrative on Sheet C-11 of the CDP/FDP indicates that the subject property is part of the original drainage area for the regional pond constructed with Dulles Station, which is located southeast of the subject property on Tax Map 15-4 ((5)) 3 and approved by site plan in SP 6848-PI-02-1. Stormwater from the subject property drains to the southeast to this SWM pond, which was designed to handle a total drainage area of 121 acres and provide both quality and quantity controls for the 2 and 10 year, 24 hour storm events. Outfall from this pond discharges through a spillway into Merrybrook Run.

In addition to the minimum requirements for stormwater management provided by the existing regional pond, the stormwater management plan for the site includes measures which support reuse, detention, extended detention and infiltration in areas where the soils are suitable. Proffer 53 enumerates the following low impact development techniques which shall be used to retain and treat runoff onsite:

- Bio-retention/bio-filtration facilities;
- Vegetated swales;
- Vegetated roofs;
- Porous pavers;
- Tree box filters;
- Disconnected impervious areas with soil amendments; and
- Rainwater cisterns for 7 of the 8 proposed structures (excluding the Innovation Center parking garage).

The applicant commits to design all the stormwater facilities in conformance with the site specific Comprehensive Plan text for the subject property through the attainment of the Rainwater Management Credit for the most current version of LEED–NC or LEED–CS rating system. This commitment to achieve the Rainwater Management Credit is reiterated in the stormwater management narrative on Sheet 11 of the development plan.

DPWES staff reviewed the application and provided comments:

1) Stormwater Detention: With regard to the waiver request for the three proposed underground sand filters, 6848-WPFM-005-1, DPWES recommends that the Board approve the waiver subject to conditions dated April 10, 2014, which are contained in Appendix 17. In addition, the applicant proffered to execute an agreement with the County in a form satisfactory to the County Attorney

providing for the perpetual maintenance of all stormwater management facilities. With this proffer and the imposition of the development conditions, staff feels that this comment is addressed.

2) Outfall: The applicant has identified the point where the drainage area exceeds 100 times the contributing site area (ZO 1 8-202. 10.F(2)(c)). Final determination of the adequacy of these improvements will be made during site plan review, where the applicant will be required to provide additional stability analysis of each outfall to Merrybrook Run.

3) SWM Regulations: Staff notes that on May 24, 2011, the Virginia Soil and Water Conservation Board adopted Final Stormwater Regulations, which became effective September 13, 2011. The regulations require all local governments in Virginia to adopt and enforce new stormwater management requirements; these new requirements must be effective on July 1, 2014. In support of this legislation, the Fairfax County Board of Supervisors adopted the Stormwater Management Ordinance as an amendment to the Code of Fairfax County on January 28, 2014. Staff from the DPWES will administer the stormwater management ordinance, effective July 1, 2014. The applicant will be required to comply with the new requirements for this development if the applicant has not, prior to July 1, 2014, obtained VSMP permit coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities. This proposed development may not be grandfathered from the new ordinance as a result of approval of this zoning application. The applicant should, therefore, design the proposed stormwater management system consistent with new stormwater management requirements.

4) Additional Comment: The height of the proposed retaining wall adjacent to the proposed bio-retention facility in the Pocket Park should be labeled on the CDP/FDP and the bio-retention facility should be located outside the influence line of the retaining wall. The applicant has indicated that the wall is approximately 1 to 2.5 feet tall and would not be impacted by the facility.

In general, staff feels that the proposal meets stormwater criteria in Development Criterion 6 provided that the highlighted concerns are addressed at site plan review.

***Sanitary Sewer Analysis*** *(Appendix 18)*

The property is located in the Horsepen Creek Watershed, and would be sewered into the Blue Plains Treatment Plant. Adequate sanitary sewer capacity is available from an existing 10-inch line located at the intersection of Sayward Boulevard and Dulles Station Boulevard.

***Fairfax County Public Schools*** *(Appendix 19)*

The proposed development would be served by Coates Elementary School, Carson Middle School and Westfields High School. Coates Elementary and Carson Middle Schools are projected to be over capacity by the 2017-2018 school year. The total number of students generated by this development is anticipated to be 99: 55 elementary, 16 middle and 28 high school students. An appropriate contribution to offset the school impact of the proposed development would be $1,071,675 (99 students X $10,825 per student), which is the current accepted per student rate. The applicant has proffered to contribute this amount (or the amount as adjusted by the County should the County revise the accepted ratio of students per multifamily unit or the contribution per student in the future) to DPWES for transfer to the Fairfax County School Board with such sum to escalate from the date of rezoning approval based on Section 15,2-2303.3 of the Code of Virginia. In addition, FCPS is actively seeking a new elementary and high school site in this region to address anticipated growth from existing and planned development. No sites have been identified and no additional commitments were provided with this application.

***Fairfax County Park Authority*** *(Appendix 20)*

According to Fairfax County Park Authority (FCPA) calculations, the proposed development will add approximately 1,618 new residents to the current population of the Dranesville Magisterial District. Using adopted service level standards, FCPA staff identified a need for all types of parkland and recreational facilities in this area. Existing nearby parks (Arrowbrook, Dulles Corner, Hutchinson School Site, Merrybrook Run Stream Valley) meet only a portion of the demand for parkland generated by the proposed development within one mile of the subject property. In addition to parkland, the recreational facilities in greatest need in this area include basketball courts, playgrounds, adult softball diamonds, rectangle fields, and trails.

Due to the proximity of the future Metrorail station, the Urban Parks Framework, which emphasizes form and function, was determined to be applicable for this application. Applying the urban park standard, the proposed development generates a need for about 2.65 acres of urban park space. In addition to parkland, the proposed development also generates a need for local-serving recreational facilities that should be provided onsite, such as playgrounds, basketball courts, and other small-scale facilities.

On-Site: The applicant proposes a series of three publicly-accessible park spaces, labelled Metro Plaza, Urban Park and Pocket Park that total approximately 2.8 acres, which includes the roundabout area near the proposed Hotel Building (B1). In addition, the applicant has proffered to expend a minimum of $1,700.00 per market-rate residential unit on such recreation facilities based on Sections 6-110 and 16-404 of the Zoning Ordinance. Prior to final bond release for any site plan,

the balance of any funds not expended on-site would be contributed to the Fairfax County Park Authority for the provision of recreation facilities located in proximity to the Property. Overall, staff feels that the applicant is proposing an integrated series of public parks on-site that meet the expectations of the Comprehensive Plan. However, staff feels the applicant should explore additional opportunities for public spaces along the Sunrise Valley Drive frontage to complement the proposed on road bicycle lanes. The applicant should also consider providing direct access for residents to the Urban Park from Building D1.

Fair Share: In addition to the on-site improvements, which only offset a portion of the impact to provide recreational facilities for new residents generated by the development, the Park Authority requests a fair share contribution of $893 per new resident to offset the impacts to park and recreation service levels. To offset the additional impact from both the proposed residential and commercial uses, the applicant should contribute $1,627,124. The applicant has proffered to contribute $500,000 to the Fairfax County Park Authority for public parks in the vicinity of the subject property.

**Affordable Housing** (see Residential Development Criteria 7 and TOD Guideline 5 in Appendix 9 and 10)

*This Criterion states that a goal of Fairfax County is to ensure an adequate supply of housing for low- and moderate-income families, those with special accessibility requirements, and those with other special needs. This Criterion may be satisfied by the construction of units, dedication of land, or by a contribution to the Housing Trust Fund.*

The Comprehensive Plan specifically encourages the provision of workforce housing as part of the residential component of the development. The applicant is proposing to provide 15.6 percent of the total units as Workforce Dwelling Units (WDUs). These WDUs would be administered as set forth in the Board of Supervisors' Workforce Dwelling Unit Administrative Policy Guidelines dated October 15, 2007. As such, staff believes that this criterion has been met.

**Heritage Resources** (Residential Development Criterion 8)

*This Criterion requires that developments address potential impacts on historical and/or archaeological resources through research, protection, preservation, or recordation.*

The Applicant has provided Phase I, II, and III archaeological studies that were conducted and prepared by a consultant. No further archaeological work is required.

**ZONING ORDINANCE PROVISIONS** (See Appendix 10)

**PRM Use Limitations (Sect. 6-406)**

- *Meet the standards of 16-101 (General Standards) and 16-102 (Design Standards).* These general and design standards have been evaluated as part of the review of the Residential Development Review Criteria and Transit-Oriented Design review section of this report. Staff finds that these standards have been met.

- *Provide a CDP and FDP in accordance with specific urban design requirements and streetscape plans*. The applicant has proffered to develop the site according to a CDP/FDP, which includes detailed landscaping, an urban streetscape, building elevations, transportation improvements and pedestrian amenities that are expected in a mixed-use, transit-oriented development.

- *Multifamily dwellings shall be the principal residential type. Single family attached dwellings may be allowed at the periphery of the development to provide a transition from the high density development to adjacent lower density development.* Multifamily dwellings are the principal residential type in the PRM District and the subject property.

- *Be designed to be harmonious with neighboring properties*. As noted earlier in this report, staff believes that the proposed development has been designed to be harmonious with the neighboring properties.

- *Use the standards of Article 9 to evaluate uses categorized as Special Exception uses.* Any of the uses not established in the proffers and allowed in the District by-right may be permitted with approval of a final development plan amendment, special exception or special permit, as applicable.

- *Have 50 percent of the total gross floor area devoted to multifamily residential use.* With a proposed minimum of 50 percent residential and maximum of 58 percent, the proposed development meets this use limitation.

- *Prohibit drive-through facilities.* Drive-through facilities would be prohibited under the proposed proffers.

- *Provide parking in accordance with Article 11, including possible parking reductions based on hourly parking accumulation characteristics of the various uses and/or proximity to a mass transit station, with the intention that a substantial portion of the required parking be provided in parking structures.* The required off-street parking would be provided by a parking

garages that would be below the proposed buildings. In addition, a County-owned parking garage would be provided to serve the future Metrorail station. The maximum number of parking spaces for the residential, office, hotel and commercial uses will be the minimum number of parking spaces required under Article 11 of the Zoning Ordinance. In addition the proffers reserve the right of the applicant to seek a parking reduction in the future based on proximity to the Metrorail station.

- *Provide signage in accordance with Article 12.* The applicant has proffered to provide signage in accordance with Article 12 or pursuant to a Comprehensive Sign Plan application approved in accordance with the Zoning Ordinance.

- *Comply with the performance standards of Article 14, relating to lighting and noise.* The applicant has proffered to meet or exceed these performance standards.

**Lot Size Requirements** (6-407)

Section 6-407 requires that all developments in the PRM District have a minimum district size of two acres. The subject site is 14.68 acres in size and meets this requirement.

**Maximum Density** (6-408)

Par. 2 of Sect. 6-408 states that the maximum floor area ratio for the PRM District is 3.0. The overall FAR would be 3.01 FAR including bonus density associated with the provision of workforce dwelling units (WDU).

**Open Space** (Sect. 6-209 and Sect. 6-409)

The current open space regulations require twenty percent of the gross area in the PRM District be landscaped open space. In addition, recreational amenities are required in accordance with the Planned District regulations including pools and indoor exercise facilities (minimum expenditure of $1,700 per unit).

According to the CDP/FDP, 20 percent open space will be provided on the subject property. As discussed earlier in this report, this open space will consist of parks, plazas and open space areas, as well as courtyard recreational areas. In addition, the applicant has agreed to proffer to expend a minimum of $1,700 per market rate multifamily residential unit on-site. These facilities will include a fitness center, pool, pergolas, fire pits, seating areas and a multi-use outdoor recreation area. Staff finds that the application has met both elements of the PRM open space requirements.

**Waivers/Modifications:**

Modification of the loading requirement in favor of the loading spaces provided on the CDP/FDP.

The applicant proposes to integrate County-owned Metrorail facilities, which generally include a Kiss N Ride, four bus bays, and an approximately 2,108 space parking garage, with a WMATA owned Metrorail entrance pavilion and other private office, retail, hotel and residential uses. The applicant seeks approval of 1,646,041 gross floor area (GFA) at an overall floor area ratio of 3.01 (including bonus density associated with the provision of workforce dwelling units (WDU)). The Zoning Ordinance requires 47 loading spaces for these uses. However, the applicant proposes to consolidate the loading functions and provide nine loading spaces near the garage entrances to the buildings. The applicant also indicated that adequate space is available to coordinate and schedule the residential needs with other loading functions. Additional loading spaces are available on the private street. Staff does not object to the waiver request since this request would limit loading functions to one side of each building reducing potential conflicts with travel-ways leading to the future Metrorail station.

Waiver to locate underground facilities in a residential area (PFM Section 6-0303.8), subject to Waiver #6848-WPFM-005-1 Conditions dated April 10, 2014 (contained in Appendix 17 as Attachment A.)

As previously mentioned, the stormwater narrative indicates that stormwater drains to the southeast to an off-site regional pond in Dulles Station, which was designed to handle a total drainage area of 121 acres and provide both quality and quantity controls for the two and ten year, 24 hour storm events. Outfall from this pond discharges through a spillway into Merrybrook Run.

In addition to the minimum requirements for stormwater management provided by the existing regional pond, the stormwater management plan for the site includes measures which support reuse, detention, extended detention and infiltration in areas where the soils are suitable. The applicant has filed a waiver request (Waiver #6848-WPFM-005-1) to control stormwater by using underground detention in a residential development. The applicant has also proffered to execute an agreement with the County in a form satisfactory to the County Attorney providing for the perpetual maintenance of all stormwater management facilities. DPWES recommends that the Board approve the waiver to locate underground facilities in a residential area, subject to Waiver #6848-WPFM-005-1 conditions dated April 10, 2014, as contained in the Appendix 17.

Deviation from the tree preservation target percentage in favor of the proposed landscaping shown on the CDP/FDP and as proffered.

The Zoning Ordinance requires 10 percent of the site to include tree cover. The applicant is proposing to exceed the 10 percent tree cover on the site through the proposed landscaping plan shown on Sheet L-1 of the CDP/FDP. The applicant has requested a modification of the tree preservation target area and has submitted justification to DPWES indicating that conformance would preclude development of the use and intensity permitted by the Zoning Ordinance and because construction activities could reasonably be expected to impact existing trees. While the property contains mature trees, those mature trees would have been removed with the construction of the previously approved hotels and service station on the site. The applicant proposes to replace these uses with a transit-oriented mixed use development near the future Innovation Center Metrorail Station and provide a landscape plan that would exceed the tree canopy requirements for the site. As previously discussed, staff has written development conditions to ensure that the tree canopy is met on the site and to provide alternative tree planting options according to the Public Facility Manual that would help achieve this requirement in the proposed streetscapes. With this proposal and the proposed development conditions, staff feels that both of the prerequisites for the deviation have been met, and as such, staff supports the requested waiver.

Waiver of the Use Limitations on Corner Lots in Section 2-505 of the Zoning Ordinance to permit landscaping and sign walls within the sight triangles formed by the streets along the corner lot

For every corner lot, the Zoning Ordinance prohibits structures, plantings and other objects from being located within a 30 foot site triangle formed by the streets along the corner lot. Adequate sight distance must also be maintained between two horizontal planes starting at 3.5 feet and ending at 10 feet above the established grade. The applicant seeks a waiver of this requirement to allow the building and landscaping to be located in a manner consistent with the Comprehensive Plan recommendations. The CDP/FDP shows the buildings oriented to the street edge, which creates an urban form that would complement the existing Dulles Station development to the east and would be consistent with transit oriented development policies. Staff does not object to the waiver request provided that the proposal does not restrict functional sight distance for drivers entering or exiting travel intersections, aisles or driveways. The applicant has provided sight distance triangles on the CDP/FDP and proffered to seek consultation from the Zoning Administrator to shift locations of various streetscape elements to accommodate final architectural design and sight distance requirements during site plan review. Building A2 shall also not be constructed until adequate sight distance left from the North-South Road is provided through the provision of a traffic light and that the streetscape shown on the CDP/FDP along Sunrise Valley Drive can be achieved.

Modifications of the peripheral lot landscaping and screening requirements, and the transitional screening requirements between uses on a common development plan in favor of that shown on the CDP/FDP, as proffered and conditioned.

The Zoning Ordinance requires peripheral lot landscaping when the site contains more than 20 parking spaces and transitional screening between residential and commercial uses. Par. 3 of Section 13-203 and Par. 1 of Section 13-305 indicates that the peripheral lot landscaping and the transition screening requirements may be modified if there are no deleterious effects on the existing or planned development of adjacent properties and the compatibility between the proposed uses has been addressed through a combination of the location and arrangement of buildings or through architectural or landscaping treatments. The Comprehensive Plan recommends transit-oriented mixed use development on the subject property provided that Metrorail station facilities are integrated within the proposed development and a street grid serving the property and adjacent properties is created for high quality urban design focused on creating a walkable environment. The applicant has proposed a development program which integrates Metrorail Station facilities with residential, office and commercial uses while providing for road improvements that would be essential to creating a street grid that serves the property, the Metrorail station and adjacent properties and allows for a walkable environment. As previously discussed, staff has written development conditions to ensure that the tree canopy is met on the site and that alternative tree planting options according to the Public Facility Manual are provided within the proposed streetscapes. In addition, a development condition ensuring that the temporary construction staging area shown on the CDP/FDP is screened from the adjacent properties with evergreen trees along all four sides. With the proffers and the proposed development conditions, staff feels that intent of the screening requirements has been achieved.

Modification of the private street limitations of Section 11-302 of the Fairfax County Zoning Ordinance.

The applicant has requested a waiver of the 600 foot maximum length for a private street on the west side of the property serving office and residential uses. The use of private streets provides the applicant with opportunities to increase the peripheral buffers of the site and incorporate Metrorail station facilities on the site. The applicant has proffered to construct private streets in conformance with the Public Facilities Manual (PFM) and utilize materials and depth of pavement consistent with the PFM. The applicant also proffered to establish a maintenance account within a Community Association. Staff supports the waiver request.

Modification of PFM Standard 12-0702.1B2 to permit the reduction of the minimum planting width requirement from eight feet as shown on the CDP/FDP and described in the proffers.

The PFM requires that, at a minimum, street trees be planted in an eight (8) foot wide planting strip. The applicant is seeking a modification of this requirement in select locations of the site, primarily along internal streets, based on the premise that an at-grade eight foot wide planting strip is too wide to facilitate a pedestrian-

oriented streetscape. For that reason, in select locations as shown on the CDP/FDP, the applicant proposes to provide eight (8) foot wide planting beds for street trees, but to cantilever the sidewalk two to four feet over such planting beds. The result is that an eight foot wide planting area would be provided for the trees, but only four to six feet of such area would be visible from grade level. In order to ensure the survivability of the trees, the applicant proposes to install structural soil and/or structural cells within these eight foot wide planting areas. The applicant's proposed landscaping plan has been reviewed by the UFM and their recommendations have been incorporated into the proffers. Additional development conditions have been written to provide tree planting alternatives within the proposed streetscape. With these commitments, staff supports the requested modification.

## CONCLUSIONS AND RECOMMENDATIONS

### Staff Conclusions

The applicant proposes to integrate County-owned Metrorail facilities, which generally include a Kiss N Ride, four bus bays, and an approximately 2,108 space parking garage, with a Washington Metropolitan Transit Authority (WMATA) owned Metrorail entrance pavilion and other private office, retail, hotel and residential uses. The applicant seeks approval of 1,646,041 gross floor area (GFA) at an overall floor area ratio of 3.01 (including bonus density associated with the provision of workforce dwelling units (WDU)). A maximum of 501,000 square feet of office, 90,000 square feet of hotel, 104,000 square feet of retail and 951,041 square feet of multifamily residential use (with approximately 1,005 units) is proposed to be located in seven buildings.

Staff feels the proposal is consistent with that envisioned for a higher-intensity, more urban use of the land adjacent to transit. The applicant has provided: 1) additional roads needed to support the necessary street grid for existing and future development of the surrounding neighborhoods; 2) additional capacity on Sunrise Valley Drive and Carta Way to include buses and on road bicycle lanes, 3) a layout that allows for a more efficient configuration of the Metrorail facilities including the Kiss N Ride, bus bays and parking garage than previous development plans associated with the WMATA Regional Metrorail Plan, 4) streetscapes that incorporate landscaping and sidewalks that connect to all nearby properties as well as pave the way to the future Metrorail station; 5) public open space areas including a Metro Plaza with seating for pedestrians as they walk to and from the Metrorail station; and 6) architectural features which reflect an urban character.

However, one consistent issue that staff has struggled to resolve during the review of the applications is streetscape on both sides of the North-South Road north of the proposed Urban Park. The proposal to provide low lying vegetation in lieu of

street trees is unacceptable. Staff feels that the applicant should commit to additional pedestrian enhancements and alternatives for tree plantings that are provided in the Public Facility Manual to ensure that the streetscape is provided in conformance with the Comprehensive Plan. Staff recommends stronger and more specific development conditions to assist in achieving this streetscape, which are included in Appendix 2. Only with imposition of these development conditions, will staff feel that the proposed applications are in harmony with the recommendations of the Comprehensive Plan and in conformance with the applicable Zoning Ordinance provisions.

**Staff Recommendations**

Staff recommends approval of PCA C-696-10.

Staff recommends approval of RZ 2009-HM-017, subject to the execution of proffers consistent with those contained in Appendix 1.

Staff recommends approval of CDP 2009-HM-017, subject to imposition of the development conditions contained in Appendix 2.

Staff recommends approval of FDP 2009-HM-017, subject to the Board's approval of the concurrent rezoning application.

Staff recommends approval of a modification of the loading requirement in favor of the loading spaces depicted on the CDP/FDP.

Staff recommends that the Board of Supervisors direct the Director of DPWES to permit a deviation from the tree preservation target percentage in favor of the proposed landscaping shown on the CDP/FDP and as proffered.

Staff recommends approval of a modification of the Use Limitations on Corner Lots in Section 2-505 of the Zoning Ordinance to permit the proposed building, landscaping and sign locations within the Zoning Ordinance sight triangles formed by the streets along the corner lot as shown on the CDP/FDP and as proffered.

Staff recommends approval of a waiver of the Board of Supervisor's policy to permit the location of the underground stormwater management facilities in a residential area (PFM Section 6-0303.8), subject to Waiver #6848-WPFM 005-1 Conditions, dated April 10, 2014.

Staff recommends approval of a modification of the peripheral lot landscaping and screening requirements in favor of that shown on the CDP/FDP as proffered and conditioned.

Staff recommends approval of a modification of the private street limitations of Section 11-302 of the Fairfax County Zoning Ordinance.

Staff recommends approval of a modification of PFM Standard 12-0702.1B2 to permit the reduction of the minimum planting width requirement from eight feet as shown on the CDP/FDP and described in the proffers.

It should be noted that it is not the intent of Staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. It should be further noted that the content of this report reflects the analysis and recommendation of Staff; it does not reflect the position of the Board of Supervisors.

The approval of this rezoning does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application. For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

## APPENDICES

1. Draft Proffers RZ 2009-HM-017
2. CDP Conditions CDP 2009-HM-017
3. Affidavits (RZ/FDP 2009-HM-017, PCA C-696-10)
4. Statement of Justification
5. Previously Approved Proffers (PCA C-698)
6. Federal Transit Administration Amended Record of Decision
7. Board Matter - Land Exchange Agreement
8. Land Use Analysis (Plan Citations)
9. Residential Development Criteria and Transit-Oriented Development Guidelines
10. Planned Development General and Design Standards
11. Environmental Analysis
12. Urban Forest Management Analysis
13. FCDOT and VDOT Transportation Analysis
14. Fire and Rescue Analysis
15. Water Service Analysis
16. DPWES Stormwater Management Analysis
17. DPWES Analysis of Waiver #6848-WPFM 005-1 Request
18. DPW Sanitary Sewer Analysis
19. FCPS Schools Analysis
20. FCPA Park Authority Analysis
21. Glossary of Terms

# Innovation Center South and the Innovation Center Station Garage

RZ 2009-HM-017

~ PROFFER STATEMENT ~

April 28, 2014

**Table of Contents**

**Page**


CONCEPTUAL DEVELOPMENT PLAN/FINAL DEVELOPMENT PLAN ..... 2
1. Substantial Conformance ..... 2
2. Elements of CDP ..... 2
3. Principal and Secondary Uses ..... 2
4. Modifications ..... 2
5. Maximum Density/ Bonus Density ..... 3
6. Phasing ..... 3
7. Density Credit ..... 3
8. Fire Marshal Coordination ..... 4
PERMITTED USES ..... 4
9. Mix of Permitted Uses. ..... 4
10. PRM "Temporary Uses" Permitted Without a Temporary Special Permit. ..... 4
11. Festivals, Fairs or Similar Activities ..... 5
12. Unmanned Freestanding Automatic Teller Machines ..... 5
13. Retail Kiosks/Movable Carts/Mobile Vendors ..... 6
14. Cellar Space ..... 6
TRANSPORTATION ..... 6
15. Grid of Streets ..... 6
16. Rights-of-Way ..... 7
17. Public Access Easements ..... 8
18. Transportation Phasing ..... 8
19. On-Site Road Improvements ..... 8
20. Traffic Signals. ..... 12
21. Sight Lines ..... 14
22. Route 28 Station South Transportation Fund ..... 14
TRANSPORTATION DEMAND MANAGEMENT (excluding Metro Station Facilities) ..... 14
23. Dulles Area Transportation Association ..... 14
24. TDM Administrative Group ..... 14
25. Trip Reduction Objective ..... 14
26. TDM Program Components ..... 15
27. Process of Implementation ..... 15
28. TDM Program Manager ..... 15

29. TDM Work Plan (later the "Annual Report") and Annual Budget ..... 15
30. TDM Account ..... 16
31. TDM Remedy Fund ..... 16
32. TDM Incentive Fund ..... 17
33. Monitoring ..... 17
34. Remedies ..... 17
35. Additional Trip Counts ..... 18
36. Review of Trip Reduction Goals ..... 18
37. Continuing Implementation ..... 18
38. Notice to Owners ..... 18
39. Enforcement ..... 18
BICYCLE FACILITIES ..... 18
40. Bicycle Parking and Storage ..... 18
41. Bicycle Lanes ..... 19
PARKING (EXCLUDING METRO STATION FACILITIES) ..... 19
42. Parking Requirements ..... 19
43. On-Street Parking Spaces on the Private Drive ..... 19
44. Parking Restrictions ..... 19
45. Parking for Residential Uses ..... 20
46. Paid Parking for Non-Residential Uses ..... 20
47. Commercial Off-Street Parking. ..... 20
48. Parking Controls ..... 20
49. Electrical Vehicle Charging ..... 20
50. Future Parking Reductions ..... 20
51. Parking During Construction ..... 21
52. Future Parking Rate Revisions in the Zoning Ordinance ..... 21
STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES ..... 21
53. Storm Water Management Plan ..... 21
DESIGN ..... 22
54. Design Guidelines ..... 22
55. Environmental Design Practices for Multi-Family Residential. ..... 23
56. Environmental Design Practices for Non-Residential (including Office and Hotel, but excluding Metro Station Facilities) ..... 24
57. Environmental Design – General (Residential and Non-Residential). ..... 25
58. Additional Design ..... 26

59. Signage ..... 26
60. Lighting ..... 26
61. Telecommunications Equipment ..... 26
62. Building Heights ..... 27
LANDSCAPING ..... 27
63. Limits of Clearing and Grading ..... 27
64. Landscaping ..... 27
65. Detailed Landscape Plans ..... 27
66. Alternative Planting Width Details ..... 28
67. Tree Replacement ..... 28
68. Open Space ..... 28
69. Utility Locations ..... 28
70. Parking Deck Landscaping and Amenities ..... 29
PARKS AND RECREATIONAL FACILITIES ..... 29
71. Plazas ..... 29
72. Metro Plaza ..... 29
73. Urban Park ..... 30
74. Pocket Park ..... 30
75. Plaza Phasing ..... 31
76. Plaza Access Management Plan ..... 31
77. Means of Enforcing Restrictions ..... 31
78. Other Means of Minimizing Vehicular Use of the Plazas ..... 31
79. Signage ..... 31
80. Communications ..... 31
81. Deliveries. ..... 32
82. Plaza Management Exceptions ..... 32
83. Amenities and Facilities for Residents. ..... 32
84. Parks Contribution ..... 32
SCHOOLS ..... 33
85. Public School Contribution ..... 33
86. Adjustments to School Contribution ..... 33
WORKFORCE HOUSING ..... 33
87. ADUs ..... 33
88. Workforce Dwelling Units ("WDUs") ..... 33

89. Non-Residential Contribution for Workforce Housing ..... 33
NOISE ATTENUATION FOR RESIDENTIAL USES ..... 34
90. Noise Study ..... 34
COMMUNITY ASSOCIATION ..... 35
91. Establishment of COA ..... 35
MISCELLANEOUS ..... 35
92. Tax District Buyouts for Certain Residential Uses ..... 35
93. Severability ..... 36
94. Adjustment in Contribution Amounts ..... 36
95. Site Excavation and Blasting ..... 36
96. Construction Management ..... 37
97. Universal Design ..... 37
98. Zoning Administrator Consideration ..... 37
99. Successors and Assigns ..... 38
100. Counterparts ..... 38

Board of Supervisors of Fairfax County;
Nugget Joint Venture, L.C.
RZ 2009-HM-017
Tax Map: 15-2((1)) Parcel 13 (pt.),
Tax Map: 15-4((5)) Parcel 5B and Parcel 5A (pt.)

# PROFFER STATEMENT

April 28, 2014

Pursuant to Section 15.2-2303 (A) of the Code of Virginia (1950, as amended) ("Code of Virginia") and Section 18-204 of the Zoning Ordinance of Fairfax County (1978, as amended) ("Ordinance"), the applicant (as defined below) and title owners, for themselves and their successors and/or assigns (hereinafter collectively referred to as the "Applicant"), hereby proffer that the development of the parcels under consideration and shown on the Fairfax County 2014 Tax Maps as 15-2((1)) Parcel 13 (pt.), 15-4((5)) Parcel 5B and Parcel 5A (pt.) (collectively, the "Property") shall be in accordance with the following conditions ("Proffers") if, and only if, Rezoning/Final Development Plan Application RZ/FDP 2009-HM-017 ("Rezoning") is granted by the Board of Supervisors of Fairfax County, Virginia to the PRM District. In the event said application request is denied or the Board's approval is overturned by a court of competent jurisdiction, these proffers shall be null and void. Approval of this Rezoning application shall supersede and replace all prior approvals on the Property, and all proffers, conditions, and development plans associated therewith shall be null and void.

## PREAMBLE – OVERVIEW OF PROPOSED DEVELOPMENT

Nugget Joint Venture, L.C. ("Nugget JV") is the owner of certain land located in Fairfax County, Virginia ("County"), consisting of approximately 11.65 acres and having a tax assessment number as 15-2((1)) Parcel 13 (pt.) ("Parcel 13") and 15-4((5)) Parcel 5A (pt.) ("Parcel 5A") (collectively, the "Nugget Parcel").[1] Fairfax County is the title owner of certain land located in the County, consisting of 3.03 acres and having a tax assessment number as 15-4((5)) Parcel 5B ("County Parcel") and has joined this application. The Nugget Parcel and the County Parcel are collectively 14.68 acres and are hereinafter referred to as the "Property." Nugget JV, Dulles Rockhill Partners and County are hereinafter referred to as the "Applicant". The Property currently consists of undeveloped land.

Phase II of the Dulles Corridor Metrorail Project contemplates that a new Metrorail station, to be named the Innovation Center Station ("Metro Station"), be constructed and placed in the median of the Dulles International Airport Access Highway/Dulles Toll Road ("Toll Road"). In connection with the construction of the Metro Station, a structured public parking garage containing approximately 2,108 spaces ("Parking Facilities"), a minimum of sixteen (16) kiss and ride facilities ("Kiss and Ride Facilities"), four (4) bus bays ("Bus Bays"), and secure bicycle storage facilities and associated amenities for between 80 to 100 bicycles ("Bicycle

[1] The Nugget Parcel includes a Boundary Line Adjustment Agreement with Dulles Rockhill Partners Limited Partnership ("Dulles Rockhill Partners") for approximately 0.51 acres of Parcel 5A. Nugget JV does not currently own this portion of the Property, but Dulles Rockhill Partners, as title owner, has joined the application as an applicant and has executed these Proffers.

Storage Facilities") will also be constructed. The Parking Facilities Kiss and Ride Facilities, Bus Bays and Bicycle Storage Facilities, together with the other elements comprising the Metro Station's Facilities are sometimes collectively referred to as the "Metro Station Facilities." The Metro Station Facilities will be located on the Property to serve the Metro Station and will be owned, maintained and operated by the County and/or the Washington Metropolitan Area Transit Authority ("WMATA").

Nugget JV and the County intend to enter into an Infrastructure Development Agreement, including a Proffer Allocation Agreement, prior to the approval of this Application (the "Development Agreement"), pursuant to which all improvements in these Proffers will be implemented and responsibility allocated and assigned according to the Development Agreement. Whenever herein a proffer establishes an obligation that applies to a specific Land Bay, then the term "Applicant" shall mean the owner undertaking such development according to the Development Agreement.

**CONCEPTUAL DEVELOPMENT PLAN/FINAL DEVELOPMENT PLAN**

1. Substantial Conformance. The Property shall be developed in substantial conformance with the Conceptual Development Plan ("CDP") and Final Development Plan ("FDP") entitled "Innovation Center South and the Innovation Center Station Garage" dated August 1, 2013 and revised through April 21, 2014, prepared by Dewberry Consultants LLC, consisting of 76 sheets. The CDP and the FDP are collectively referred to in these Proffers as "CDP/FDP."

2. Elements of CDP. Notwithstanding the fact that the CDP and FDP are presented on the same plan, the elements that are components of the CDP are limited to the points of perimeter access, the maximum number and type of dwelling units, the maximum square footage of non-residential uses, the minimum and maximum building heights, the minimum percent of open space, the location of the limits of clearing and grading, setbacks from peripheral lot lines and the general location and arrangement of the buildings and parking facilities, and only a future amendment to such elements shall require a subsequent Conceptual Development Plan Amendment ("CDPA") or Proffered Condition Amendment ("PCA"). The Applicant reserves the right to request a Final Development Plan Amendment ("FDPA") for elements other than CDP/FDP elements referenced above from the Planning Commission for all or a portion of the FDP in accordance with Section 16-402 of the Ordinance if such amendment is in accordance with these Proffers, as determined by the Fairfax County Zoning Administrator ("Zoning Administrator").

3. Principal and Secondary Uses. The principal uses on the Property shall be multi-family residential dwellings and public uses, as identified on the CDP/FDP, with secondary office, hotel, retail, service and other uses, including uses listed in the CDP/FDP notes and in Proffers 9 through 14 below, and may include accessory uses and/or accessory service uses as defined in the Ordinance.

4. Modifications. Minor modifications to the CDP/FDP may be permitted pursuant to Paragraph 4 of Section 16-403 of the Ordinance.

5. Maximum Density/ Bonus Density. The maximum gross floor area ("GFA") that may be constructed on the Property shall be 1,646,041 square feet, which is inclusive of potential bonus density associated with providing affordable or workforce housing. The Applicant reserves the right to construct a lesser amount of GFA. Any bonus density associated with the provision of affordable or workforce dwelling units in accordance with Proffers 87 and 88 may be allocated to any use category, and, may be allocated to any building, subject to the Maximum Zoning Height (as defined in Proffer 62). GFA may be shifted among any of the buildings provided the maximum height shown for each building is not exceeded, the minimum height for each building is not reduced, the overall urban form and building type shown on the CDP/FDP are maintained, and such adjustments are consistent with these Proffers. The minimum and maximum building gross floor areas and building heights (stories) are stated on the Estimated Building Gross Floor Area Chart on Sheet A-100.

6. Phasing. The proposed development includes seven (7) buildings and the Metro Station Facilities structure (Building C1) in four (4) Land Bays (A, B, C and D), which are identified on the CDP/FDP as Buildings A1, A2, A3, A4, B1, B2 and D1. Development of each building may proceed in any order provided that each such building provides, at a minimum, the phasing conditions depicted for such building on the CDP and that all proffers that apply to such building are addressed with the development of that building.

A. The Applicant shall construct the grid of streets and provide pedestrian improvements, public parks, private amenities and public facilities on the Property in conjunction with the development of each individual building in accordance with the phasing sheet contained as Sheet C-8 in the CDP/FDP ("Phasing Plan") and as further described in these Proffers. In addition, interim uses and improvements as outlined in Proffers 10 and 72 and as may be determined at time of site plan approval shall be provided commensurate with the construction of each building in consultation with the Fairfax County Department of Transportation ("FCDOT"). Adjustments to the phasing may be approved with FDPA approvals without the requirement for a PCA or CDPA, provided the adjustments do not materially adversely affect the other phases and are in substantial conformance with the CDP.

B. For purposes of these Proffers, the term "construct" shall mean (A) in regard to road improvements, that a committed road improvement is substantially complete and is available for use by the public for travel, whether or not such improvement has been accepted for maintenance by the Virginia Department of Transportation ("VDOT"), and (B) in regard to parks and recreation facilities, that a committed publicly accessible park space or recreation facility improvement is substantially complete and open to use by the public for use in accordance with the Urban Parks Framework applied by the Fairfax County Park Authority ("FCPA").

7. Density Credit. The Applicant reserves intensity/density credit as may be permitted by the provisions of the Ordinance for all eligible dedications described herein or as may be required by the County, VDOT or any other public entity.

8. Fire Marshal Coordination. The Applicant has coordinated the layouts depicted on the CDP/FDP with the Fire Marshal. Further changes to the CDP and FDP may be permitted without the requirement for a PCA/CDPA or FDPA in response to the review of site plans by the Fire Marshal, including adjustments to the streetscape and perimeter building areas as necessary to allow for required emergency vehicle access, provided such modifications are made in consultation with the Fairfax County Department of Planning and Zoning ("DPZ"), FCDOT and the Urban Forest Management Division ("UFMD") of the Department of Public Works and Environmental Services ("DPWES") in substantial conformance with the CDP/FDP and these Proffers with the intent to provide the streetscape shown on the CDP/FDP. The overall tree canopy shown on the CDP/FDP shall not be reduced, but locations and tree types may be modified subject to UFMD review and approval and in accordance with the Design Guidelines, as described in Proffer 54 below and attached as Exhibit B.

**PERMITTED USES**

9. Mix of Permitted Uses.

A. The principal uses, which shall be permitted on the Property, are multi-family dwellings, public uses (such as the Metro Station Facilities) and all related facilities.

B. In addition to the principal uses, office, hotel, and retail sales and service establishments shall be permitted as secondary uses. All secondary uses listed in Section 6-403 of the Ordinance, however, may also be permitted. For example, the CDP/FDP (Sheet C-4) includes an option to develop a child care center as part of this Rezoning. The child care center would include approximately 12,000 square feet of GFA, up to 150 children, approximately 35 employees, an outdoor play area of approximately 6,000 square feet, and would operate between the hours of 6:00 a.m. and 7:00 p.m. daily. Other secondary uses and special exception uses may be permitted if the Applicant processes and obtains approval of a FDPA or Special Exception ("SE"). Notwithstanding the above, no drive-through windows or facilities or any freestanding single occupant retail pad sites or buildings shall be developed.

C. The permitted principal and secondary uses shall not result in any additional buildings beyond those represented on the CDP/FDP. Notwithstanding, the Applicant reserves the right, however, to construct, place or install temporary or movable structures (including kiosks, carts, shipping containers, etc.) to establish Group 8 Temporary Uses, including the hosting of special events on the Plazas and construction and sales/marketing trailers on an interim basis, all without the necessity of an amendment to the CDP/FDP or Proffers, if such do not alter the limits of clearing and grading.

10. PRM "Temporary Uses" Permitted Without a Temporary Special Permit.

A. Festivals, fairs or similar activities, as defined in Proffer 11 below;

B. Farmers' markets;

C. Promotional activities of retail merchants, hotel operators and office tenants, both on an individual and collective basis;

D. Sales, marketing and rental offices;

E. Commercial or construction off-street surface parking spaces within Land Bays and building footprints prior to ultimate development;

F. Mobile food or retail sales carts, trucks or other vehicles (e.g., District Taco cart or London Fashion Bus) that would visit the Property at specific times during the day but would not park overnight; or

G. Pop-up retail uses established on a short term basis offering a variety of creative products or services, including, but not limited to, the retail sale of boutique and vintage clothing, cosmetics, home wares, accessories, flowers, gallery art, sports and team merchandise, seasonal items and other items or services promoting specific branding opportunities.

11. Festivals, Fairs or Similar Activities. The Applicant shall be permitted to provide festivals, fairs, contests, sports events, music, theatrical and other performances, public gathering functions or similar activities on the Property, subject to the limitations below, either in interim surface parking lots, within the Plazas (as defined in Proffer 71) or within other publically accessible privately owned open space as shown on the CDP/FDP. If not a Temporary Use as defined in Proffer 10 or a recurring event, then the Applicant shall coordinate with the Zoning Administrator regarding the issuance or approval of a temporary Special Permit as may be required under the Ordinance. All activities shall occur in accordance with the following provisions:

A. Maximum of 64 events per year;

B. May be provided with or without admission or other fees;

C. Sponsored by the Applicant, or their designee, a civic organization, public entity including the FCPA, local chamber of commerce, charitable organization, service club, non-profit or similar entity;

D. Complies with all Health Department regulations;

E. Shall not block or impede any fire lane or access to the Metro Station and the Metro Station Facilities; and

F. Shall conform to the standards contained in the Design Guidelines, as described in Proffer 54 below and attached as Exhibit B.

12. Unmanned Freestanding Automatic Teller Machines. The Applicant shall be permitted to install up to five (5) free-standing, unmanned bank teller ("ATM") or other automated machines such as ticket, parking or Metro card machines on the Property; the footprint of each machine shall not exceed sixteen (16) square feet or any larger industry

standard size in the event industry standard sizes change. The ATMs or other machines shall not be counted toward the maximum amount of retail or non-residential GFA permitted on the Property referenced above. ATMs and other machines may be located in kiosks or in a manner that does not interfere with pedestrian movements or safety. This limitation on free standing ATMs and other machines shall not preclude additional ATMs and other machines within buildings or on building facades.

13. Retail Kiosks/Movable Carts/Mobile Vendors. The Applicant shall be permitted to operate movable carts, which shall be defined as temporary, transportable kiosks or containers that (a) serve a retail purpose and/or (b) mobile food trucks or other retail sales vendors, provided the first ten (10) kiosks shall not be counted toward the maximum amount of retail or non-residential GFA permitted on the Property referenced below. Except during times that festivals, fairs or similar activities are being conducted, the maximum number of temporary, transportable kiosks shall not exceed fifteen (15) per Plaza at any given time. Each kiosk/cart shall be no more than 120 square feet. In addition, one newsstand shall be permitted to be up to 1,500 square feet maximum size, which, if not portable, shall, notwithstanding the first sentence of this Proffer 13, be counted against the maximum amount of retail or non-residential GFA permitted on the Property. The carts may be located within Plaza areas and parking areas, as determined by the Applicant, provided that, cumulatively, said carts do not negatively impact streetscape, do not interfere with pedestrian movements, safety or fire/emergency access, and conform to the standards set forth in the Design Guidelines, as described in Proffer 54 below and attached as Exhibit B.

14. Cellar Space. The Applicant reserves the right to utilize Cellar Space constructed as part of the proposed development for all Permitted Uses; provided, however, that the Applicant shall be required to provide parking for the Cellar Space in accordance with the requirements of Article 11 of the Ordinance, as qualified by these Proffers. Any Cellar Space in the buildings shall not contain habitable residential units.

**TRANSPORTATION**

15. Grid of Streets. With the development of each building within a Land Bay, the frontage improvements along the existing and/or proposed public and/or private streets abutting such building, as generally depicted on the CDP/FDP Phasing Plan, shall be constructed and open for use by the public. The functional classification of the roadways comprising the grid of streets on the Property is summarized below:

| Street | Classification |
|---|---|
| Sunrise Valley Drive | Minor Arterial (Public) |
| Sayward Boulevard | Collector Street (Public) |
| Carta Way | Collector Street (Public) |
| North-South Road | Local Street (Public) |

| | |
|---|---|
| East-West Road | Local Street (Public) |
| Private Drive | Service Street (Private) |

16. Rights-of-Way. The Applicant shall dedicate and convey in fee simple to the Board of Supervisors rights-of-way for each of the public streets listed in Proffer 15 above. Dedication shall include the area of the landscape amenity panel and sidewalk and shall occur at the time of site plan approval unless further qualified by these Proffers.

A. The Applicant shall work diligently with VDOT and FCDOT during the site plan approval processes to ensure that all proposed public streets and areas designated as landscape amenity panels/sidewalks can be accepted for public maintenance as part of VDOT's Secondary Street Acceptance Requirements ("SSAR"). The Applicant shall locate all electrical vaults outside any future right-of-way limits. The public maintenance provisions shall be subject to the following exceptions:

i. If at the time of site plan approval, it is determined that stormwater management facilities or other similar facilities are proposed to be located beneath the landscape amenity panel/sidewalk and such facility locations would prevent VDOT and/or the County from accepting the landscape amenity panel/sidewalk within the right-of-way, the Applicant shall then provide dedication 18 inches from the back of curb to 18 inches from the back of the opposing curb for the street section and shall grant a public sidewalk and utility easement in a form acceptable to the Office of the County Attorney over the area of the amenity panel/sidewalk. This easement shall allow for the installation of signage necessary for safety and operation of the street, as well as parking regulation equipment by VDOT and/or the County.

ii. If at the time of site plan approval it is unclear whether stormwater management facilities, electric vaults or other similar facilities proposed to be located beneath the landscape amenity panel/sidewalk would be acceptable to VDOT and/or the County, then the Applicant shall provide dedication 18 inches from the back of curb to 18 inches from the back of the opposing curb for the street section at the time of site plan approval and shall reserve for potential future dedication the landscape amenity panels and sidewalk areas. A temporary public access easement in a form acceptable to the Office of the County Attorney shall be recorded over the reserved landscape amenity panel/sidewalk until such time as those areas are dedicated. Conveyance of the amenity panel/sidewalk areas to the BOS shall then occur following

construction of the street and streetscape improvements and final street acceptance inspection by Fairfax County and/or VDOT.

iii. Should it be determined following final street acceptance inspection that the landscape amenity panel/sidewalk areas are not acceptable to VDOT to be included in the right-of-way as evidence by VDOT's written certification, then the reservation of potential future dedication of the landscape amenity panel/sidewalk areas shall be released and the Applicant shall grant a permanent public access and maintenance agreement in a form acceptable to the County Attorney over such areas. These easements shall allow for the installation of signage necessary for the safety and operation of the street, as well as parking regulation equipment by VDOT and/or the County. In such event, a PCA, CDPA and/or FDPA will not be required.

17. Public Access Easements. The Applicant shall grant public access easements over the travel ways on the Plazas (as defined in Proffer 71) for both vehicular and pedestrian traffic, as applicable, over the Private Drive, and over certain other portions of the Plazas for pedestrian traffic and public access, including access to the bridge connecting to the Metro Station. The easements shall also allow for the installation of signage necessary for safety and operation of the abutting streets.

With the development of Buildings A1, A2, A3, A4 and D1, the Private Drive as shown on the CDP/FDP in the Phasing Plan, shall be constructed and open for use by the public. The form of the public access easement shall be acceptable to the County Attorney. The public access easement shall expressly permit (i) the temporary closure of a portion of any of the Plazas in connection with construction and special events and otherwise as permitted or required pursuant to an approved Plaza Access Management Plan in accordance with Proffer 76 and (ii) the uses contemplated on the Plazas pursuant to these Proffers and the CDP/FDP, including such uses as special events, public art, outdoor seating (including outdoor seating associated with restaurants), kiosks, mobile food trucks, etc., provided at all times (including during periods of temporary closure) access to the Metro Station platform, the Metro Station Facilities and fire/emergency access is maintained. Any public access easements for pedestrian access that are underneath a building or garage shall be limited vertically in scope to the actual upper and lower area of such breezeway or similar pass through.

18. Transportation Phasing. The transportation improvements provided for in these Proffers shall be constructed in phases as set forth in Proffer 6 or as qualified in Proffer 19 below.

19. On-Site Road Improvements. All on-site public road improvements, on-site service streets together with appropriate/required pavement transitions shall be constructed with the development of individual buildings, and prior to issuance of the first RUP or Non-RUP for the subject new office, hotel, or residential building, or Metro Station Facility as applicable. The Applicant reserves the right, in its sole discretion, to complete such ultimate improvements and any of the other improvements described in this Proffer 19, as a single public improvement

project or in other separate segments, as long as at least the frontage improvements for each respective building and/or Metro Station Facility have been constructed prior to issuance of the first RUP or Non-RUP for that same new building and/or facility. The on-site road improvements shall generally consist of the following:

A. *Sunrise Valley Drive Frontage Improvements*. Sunrise Valley Drive shall be improved to provide for two (2) through lanes in each direction (eastbound and westbound), a raised concrete median, a four foot (4') wide on-road bike lane both eastbound and westbound (exclusive of the adjacent two foot (2') gutter pans), an eight foot (8') wide sidewalk on the south side of the alignment and a single exclusive westbound left-turn lane at the North-South Road as generally reflected in the CDP/FDP consistent with the Phasing Plan and based on a 40 mile per hour (mph) design speed. These roadway improvements to Sunrise Valley Drive, as generally described and referenced above, shall be provided prior to issuance of the first Non-RUP for the Metro Station Facilities, as generally shown on the CDP/FDP. Those streetscape improvements along Sunrise Valley Drive associated with Land Bays A and B shall be constructed commensurate with Buildings A1, A2 and B1, as further qualified by Proffer 21.

B. *Carta Way Improvements*. Prior to the issuance of a Non-RUP for the Metro Station Facilities, Carta Way will be constructed from its current terminus north to intersect Sunrise Valley Drive as a four-lane, undivided roadway with sidewalks along both the east and west sides of Carta Way as generally depicted on the Phasing Plan of the CDP/FDP and based on a design speed of 30 mph. The final design and extent of these ultimate improvements to Carta Way as generally described and referenced below shall be determined prior to the submission of the site plan for the Metro Station Facilities.

i. The Applicant shall construct streetscape improvements on the east side of proposed Carta Way within the existing right-of-way which shall include a four foot (4') buffer strip and a five foot (5') wide sidewalk. Notwithstanding, at the time of final engineering and site plan approval for the Metro Station Facilities, the Applicant shall consider the feasibility of an alternative design for these streetscape improvements that meets VDOT's sidewalk standard but further minimizes or eliminates the need for a retaining wall (e.g., grade to the face of the existing parking garage).

ii. In conjunction with the Carta Way improvements described above, the Applicant shall design and construct a total of four (4) saw tooth Bus Bays with shelters along the west side of Carta Way between the entrance to the planned Kiss and Ride Facilities and Sunrise Valley Drive as shown on the CDP/FDP. The Bus Bay area shall be distinguished from the adjacent travel lanes associated with Carta Way through the use of concrete or other such differing materials. Prior to the submission of the first site plan for the Metro Station Facilities, the Applicant shall coordinate the final design of these bays and shelters with FCDOT.

C. *North-South Road*. Prior to the issuance of a Non-RUP for the Metro Station Facilities, a new North-South Road shall be constructed by the Applicant extending south from Sunrise Valley Drive to the new East-West Road. This new local road shall consist at a minimum of two (2) northbound lanes and two (2) southbound lanes, as well as construction of the streetscape along the Land Bay C frontage. The streetscape along the frontages of Land Bays A, B and D shall be constructed as shown on the CDP/FDP, as may be modified and/or as generally described below. The streetscape associated with each of Buildings A2, A3, B1, B2 or D1 building frontage will be constructed in conjunction with the individual building.

D. *East-West Road - Carta Way to North-South Road*. If not previously constructed by others, then prior to the issuance of a Non-RUP for the Metro Station Facilities, the Applicant shall construct or finish the construction of a new local street referred to as the East-West Road, as shown on the CDP/FDP, extending west from existing Carta Way to the North-South Road. Notwithstanding what is shown on the CDP/FDP, the area of right-of-way dedication along the Land Bay C frontage may be shifted to 18 inches behind the back of curb if needed to meet the tree canopy requirements. In such event, the Applicant shall provide a public access and maintenance easement, in a form acceptable to the County Attorney, over the streetscape (including the landscape amenity panel and sidewalk).

E. *East-West Road - North-South Road to Private Drive*. If not previously constructed by others, then prior to the issuance of the first Non-RUP for Building D1, the Applicant shall construct or finish the construction of another portion of a new local street known as the East-West Road from the North-South Road west to the Private Drive and then south to Sayward Boulevard as generally reflected in the CDP/FDP, and specifically in the Phasing Plan. Notwithstanding what is shown on the CDP/FDP, the area of right-of-way dedication along the Land Bay D frontage may be shifted to 18 inches behind the back of curb if needed to meet the tree canopy requirements. In such event, the Applicant shall provide a public access and maintenance easement, in a form acceptable to the County Attorney, over the streetscape (including the landscape amenity panel and sidewalk).

F. *Construction of East-West Road by Others.* In the event the East-West Road has been completely constructed by others prior to the submission of a site plan for the Metro Station Facilities, then the Applicant shall contribute to the County one-half of the hard and soft costs associated with the design and construction of said road as evidenced by invoices. The Applicant's intent for such contribution is that the monies shall be released by the County to the party responsible for the road's design and construction.

G. *Intersection Improvements*. The Applicant shall construct the following intersection improvements as described below and reflected in the CDP/FDP and on the Phasing Plan.

i. *Carta Way/East-West Road*. Prior to the issuance of the Non-RUP for the Metro Station Facilities, the Applicant shall construct the following improvements as described more fully below:

(1) Remove all or a portion of the raised median on Carta Way as may be recommended by VDOT in order to facilitate the connection of the new East-West Road;

(2) If the installation of a new signal has not been approved by VDOT for this intersection as more fully described in Proffer 20.C or VDOT determines sufficient sight distance is not available for vehicles exiting the East-West Road onto northbound Carta Way, then, in conjunction with the construction of the Metro Station Facilities and only if required by VDOT and FCDOT, the Applicant in the interim may stripe out a portion of the pavement along the western curb line on Carta Way south of the East-West Road in order to increase the sight distance for vehicles turning onto Carta Way from the East-West Road; and

(3) In the event VDOT and FCDOT require restriping of the pavement referenced in subparagraph (2), then the Applicant shall contribute to the County at the time of issuance of the Non-RUP for the Metro Facilities, the cost to restripe the pavement in the event VDOT approves a signal at this location in the future.

H. *VDOT Approval*. All public street improvements, lane use designations, signal installations, crosswalks and/or other pavement markings proposed herein and reflected on the CDP/FDP are subject to VDOT review and approval at the time of site plan. Any changes to the same identified at time of site plan submission, shall be coordinated with the FCDOT and DPZ and may not require a PCA/CDPA and/or FDPA.

I. *Supplemental Traffic Analyses*. At the time of site plan submission for each new building located within Land Bays A, B and D and subsequent to approval of this Rezoning, supplemental operational traffic analyses of the points of access to those Land Bays shall be provided if required by VDOT or FCDOT. For purposes of this Proffer, such analyses shall only be required if the building generates more than an additional 100 peak hour directional trips (either inbound or outbound) over that reflected in the *Innovation Center South Traffic Impact Analysis* prepared by Wells + Associates dated October 21, 2013, as revised through January 3, 2014 (the "Traffic Impact Analysis"). Such supplemental operational analyses shall be limited to an assessment of those driveways and/or intersections directly serving the particular building and Property. The Applicant shall identify such roadway improvements and/or transportation enhancements which may be needed to address the results of the operational analyses and shall discuss those results with FCDOT and VDOT to

determine what, if any, additional mitigation measures may be required to those intersections and/or driveways directly serving the Property.

J. *Installation of Streetscape and Pedestrian Improvements*.

i. Community Association Maintenance. The Applicant agrees, that (i) the Applicant or the Community Association contemplated in Proffer 91 herein shall maintain any of such improvements that are not in the public right-of-way and shall maintain such improvements that are in the public right-of-way that VDOT will not accept for maintenance (see Proffer 16) or (ii) for any improvements to be located in the public right-of-way, the Applicant will use materials acceptable to VDOT if VDOT will not consent to the maintenance of such elements by the Applicant. The Community Association documents shall disclose the existence of such maintenance obligations, if applicable.

ii. Streetscape and Pedestrian Improvements. Streetscape improvements and plantings shall be installed as indicated on the CDP/FDP prior to the final RUP and/or Non-RUP associated with the public improvement plan or site plan that includes such improvements. In addition to the provisions contained in Proffer 69 below for utilities, the Applicant reserves the right, in consultation with the Zoning Administrator, to shift the locations of the various streetscape elements to accommodate final architectural design, VDOT requirements, utilities and layout considerations, and sight distance requirements, provided that the tree canopy on CDP/FDP is maintained as reviewed and approved by UFMD.

K. *Metro Station Facilities Dedication*. The Applicant shall dedicate and convey in fee simple to the Board of Supervisors approximately 2.6 acres of Parcel 13 prior to the first site plan approval for the project, or sooner upon written request by the County. Such dedicated area shall be combined with Parcel 5B and used in conjunction with the development of the Metro Station Facilities, as and to the extent shown on Sheet A-100 of the CDP/FDP.

20. Traffic Signals.

A. As reflected in the Traffic Impact Analysis, the Applicant anticipates the installation of up to five (5) new traffic signals in the area surrounding and/or proximate to the Property. Towards that end, the Applicant shall complete and submit to VDOT and FCDOT warrant studies for the installation of these new traffic signals at the following locations:

i. Sunrise Valley Drive/North South Road

ii. Sunrise Valley Drive/Carta Way

iii. Sunrise Valley Drive/Sayward Boulevard

iv. Carta Way/East-West Road

v. Carta Way/Sayward Boulevard

B. Warrant studies shall be completed and submitted in accordance with the submission of site plans as follows:

i. Within six (6) months after the issuance of the Non-RUP for the Metro Station Facilities.

ii. Prior to issuance of the first RUP or Non-RUP for the 2nd new building on the Property.

iii. Prior to issuance of the first RUP or Non-RUP for the 4th new building on the Property.

iv. No earlier than six (6) months after the issuance of the first RUP or Non-RUP for the last new building on the Property but in any event no later than bond release for the last new building.

v. The warrant studies shall include an assessment of then-existing traffic conditions associated with the completion of the building trigger (i.e., 2nd, 4th and last new building) as well as full build out.

C. If any signal location identified in Subparagraph A is deemed warranted by VDOT after having reviewed any warrant study completed in accordance with the timelines established in Subparagraph B and approved it for installation, then such traffic signal, including pedestrian enhancements and uninterrupted power supply systems ("UPS") (as may be required by VDOT,) shall be designed, equipped and installed by the Applicant. In such event, no further warrants shall be required for that individual location and this proffer is of no further force or effect.

D. If a signal is deemed not warranted by VDOT at any of the locations identified in Subparagraph A after having reviewed the triggered warrant study, then such location shall be reviewed again in accordance with the schedule outlined in Proffer 20.B.i through iii.

E. If a signal is deemed not warranted by VDOT at any of the locations identified in Subparagraph A at the time identified in Proffer 20.B.iv, then the Applicant shall contribute to the County, its PM peak hour pro-rata share (as identified below) of the costs associated with the future installation of a signal as these locations by others:

i. Sunrise Valley Drive/North-South Road (33%);

ii. Sunrise Valley Drive/Carta Way (25%);

iii. Sunrise Valley Drive/Sayward Boulevard (20%);

iv. Carta Way/East-West Road (18%); and

v. Carta Way/Sayward Boulevard (21%).

The County, in its sole discretion, may use any such signal funds contributed by the Applicant in accordance with this Proffer for other transportation related improvements within close proximity to the Property.

21. Sight Lines. All sight lines at building entrances and street intersections shall comply with VDOT's Road Design Manual (Appendix F, Table 2-7) as generally depicted in the CDP/FDP and shall be refined at the time of applicable site plans. Notwithstanding the aforementioned, no building shall be constructed on Building Site A2 until such time as the appropriate intersection sight distance is provided from the North-South Road onto Sunrise Valley Drive as reflected on the CDP/FDP and as long as there are no impacts to the required streetscape as determined by DPZ.

22. Route 28 Station South Transportation Fund. The Applicant shall make a one-time contribution to a fund established by the County for transportation improvements in the Route 28 Station South area. Such contribution shall be paid in conjunction with the issuance of the first RUP or Non-RUP for each new building to be constructed on the Property at a rate to be established by the Board of Supervisors, but in any event no more than $1.75 per gross square feet of new office uses on the Property and $250 per new residential unit on the Property. The Applicant shall receive credit against the contributions referenced above for the following in-kind contributions:

A. The value of the approximate 2.6 acres dedicated to the County for the construction of the Metro Station Facilities, as described more fully in Proffer 19.K based on the PRM zoning district valuation.

B. Costs incurred by the Applicant to reconstruct Sunrise Valley Drive along the full frontage of the Property which advance the improvement beyond those reasonably expected with Phase 1 of the project. These improvements are exclusive of streetscape improvements.

**TRANSPORTATION DEMAND MANAGEMENT (excluding Metro Station Facilities)**

23. Dulles Area Transportation Association. The Applicant shall join and participate in the Dulles Area Transportation Association ("DATA").

24. TDM Administrative Group. The Applicant shall establish a TDM Administrative Group ("AG") to fund, implement and administer the transportation demand management program ("TDM Program") for the Property as described more fully below. The AG shall include, at a minimum, one representative for each of Land Bays A through D. Prior to approval of the first site plan for new development on the Property, evidence shall be provided to FCDOT that the AG has been established.

25. Trip Reduction Objective. The objective of this TDM Program shall be to reduce the vehicle trips generated by the planned new office and residential uses (excluding hotel and secondary retail uses) during weekday peak hours in accordance with the County's TDM Guidelines for Fairfax County, dated January 1, 2013. The vehicle trip reduction goal for new

office and residential uses to be constructed on the Property is forty-five percent (45%). To determine the maximum total peak hour trips expected to be generated by the Property, the Applicant shall multiply the total number of residential and vehicle trips that would be expected to be generated by the proposed office and residential uses as determined by the application of the Institute of Traffic Engineers, 9th Edition, Trip Generation rates and/or equations ("ITE Trip Generation") by the appropriate percentage goal; the product of which shall be referred to herein as the "Maximum Trips After Reduction." For purposes of this calculation, the maximum number of dwelling units proposed to be constructed on the Property is 925 (plus those additional units associated with bonus density) and the gross square footage of office area is 501,000, and these amounts shall be applied to the calculation described in the preceding sentence.

26. TDM Program Components. The TDM Program may include, but not necessarily be limited to, the following components:

A. Property-wide TDM Program Management;

B. Dissemination of County/Regional Program Information;

C. Live-Work-Play Marketing;

D. Bicycle facilities, as set forth in Proffer 40;

E. Regular monitoring/reporting; and/or

F. Parking Management.

27. Process of Implementation. The TDM Program shall be implemented as follows, provided that modifications, revisions, and supplements to the implementation process as set forth herein as coordinated with FCDOT can be made without requiring a PCA/CDPA and/or FDPA.

28. TDM Program Manager. The Applicant shall appoint and continuously employ, or cause to be employed, a TDM Program Manager ("TPM") for the Property. The TPM shall be appointed no later than sixty (60) days after the issuance of the first building permit for the first new office or residential building to be constructed on the Property. The TPM duties may be part of other duties associated with the appointee. The Applicant shall notify FCDOT and the District Supervisor in writing within ten (10) days of the appointment of the TPM. Thereafter, the Applicant (or AG as applicable) shall do the same within ten (10) days of any change in such appointment.

29. TDM Work Plan (later the "Annual Report") and Annual Budget. If not already effectuated for the then-current calendar year, the TPM shall prepare and submit to FCDOT an initial TDM Work Plan ( "TDMWP") (and thereafter an Annual Report and Annual Budget as described below) no later than 180 days after issuance of the first building permit associated with the first new residential or office building on the Property. The Annual Report shall include, at a minimum:

A. Details as to the start-up/on-going components of the TDM Program;

B. The budget needed to implement the TDM program ("TDM Budget") for the coming calendar year;

C. A determination of the applicable Maximum Trips After Reduction for the Property in accordance with the above; and

D. Provision of the specific details associated with the monitoring and reporting requirements of the TDM program in accordance with the TDM plan.

The initial Annual Report and subsequent Annual Report shall be reviewed by FCDOT. If FCDOT has not responded with any comments within sixty (60) days after submission, then the TDM Program shall be deemed approved, and the TDM Program shall be implemented. If FCDOT responds with comments on the TDM Program and/or TDM Budget, then the TPM will meet with FCDOT staff within fifteen (15) days of receipt of the County's comments. Thereafter, but in any event, no later than thirty (30) days after the meeting, the TPM shall submit such revisions to the TDM Program as discussed and agreed to with FCDOT and begin implementation of the approved program and fund the approved TDM Budget.

Thereafter, the TPM shall by no later than May 1st of each calendar year submit an Annual Report summarizing the results of the TDM Program and updating the TDM Program and TDM Budget for the coming calendar year. The Annual Reports shall be subject to the same review and approval process as described in this Proffer 29 for the initial submission.

30. TDM Account. If not previously established, the TPM shall establish a separate interest bearing account with a bank or other financial institution qualified to do business in Virginia ("TDM Account") within thirty (30) days after approval of the initial TDMWP and subsequent Annual Report and TDM Budget. All interest earned on the principal shall remain in the TDM Account and shall be used by the TPM for TDM purposes. The TDM Account shall be funded by the Applicant through the TPM. Funds in the TDM Account shall not be utilized for purposes other than to fund TDM strategies/programs and/or specific infrastructure needs as may be approved in consultation with FCDOT. Funding of the TDM Account shall be in accordance with the TDM Budget for the TDM Program elements to be implemented in each calendar year. The TPM shall provide written documentation to FCDOT demonstrating the establishment of the TDM Account within ten (10) days of its establishment. The TDM Account shall be replenished annually thereafter following the establishment of each year's TDM Annual Budget and submission of the Annual Report. The TDM Account shall be managed by the TPM.

31. TDM Remedy Fund. At the same time the TPM creates and funds the TDM Account, the TPM shall establish a separate interest bearing account (referred to as the "TDM Remedy Fund") with a bank or other financial institution qualified to do business in Virginia. Such funding of the TDM Remedy Fund shall be made one time at the rate of $0.20 per gross square foot of new office uses and $0.10 per gross square foot of new residential uses to be constructed on the Property. Funding shall be provided by the Applicant prior to the issuance of the first RUP for the first new residential or first Non-RUP for the first new office building constructed on the Property. This amount shall be adjusted annually as set forth in Proffer 94

below. Funds from the TDM Remedy Fund shall be drawn upon only for purposes of immediate need for TDM funding and may be drawn on prior to any TDM Budget adjustments as may be required.

32. TDM Incentive Fund. The "TDM Incentive Fund" is an account into which the Applicant through the TPM, shall deposit contributions to fund a multimodal incentive program for initial purchasers/lessees within the residential (non-hotel) component of the development. Such contributions shall be made one time at the rate of $0.02 per gross square foot of new residential and offices uses constructed on the Property and provided prior to the issuance of the first RUP or Non-RUP, as applicable. This amount shall be adjusted annually as set forth in Proffer 94 below. If funds remain after incentives are provided to initial purchasers/lessees, the Applicant shall continue to provide incentives until the fund is depleted.

33. Monitoring. The TPM shall verify that the proffered trip reduction goals are being met through the provision of person surveys, trip counts of residential uses and/or other such methods as may be reviewed and approved by FCDOT. Surveys shall be conducted and traffic counts collected for the Property beginning with the first January after issuance of the first initial RUP or Non-RUP for the first new building on the Property. Surveys shall be conducted every three (3) years and Vehicular Traffic Counts shall be collected annually until the results of three (3) consecutive annual traffic counts conducted upon Build Out (as defined herein) show that the applicable trip reduction goals for the Property have been met. For purposes of these TDM Proffers only, "Build Out" is defined as 100% of the new office and residential buildings on the Property, as reflected on the CDP/FDP, being constructed and each are at least 85% occupied. Any time during which Person Survey response rates do not reach 20%, FCDOT may request additional surveys be conducted the following year. At such time and notwithstanding Proffer 37 below, Person Surveys and Vehicular Traffic Counts shall thereafter be provided every five (5) years. Notwithstanding the aforementioned, at any time prior to or after Build Out, FCDOT may suspend such Vehicle Traffic Counts and/or Person Surveys if conditions warrant such without the need for a PCA.

34. Remedies. If the TDM Program monitoring reveals that the Maximum Trips After Reduction for the Property is exceeded, then the TPM shall meet and coordinate with FCDOT to address, develop and implement such remedial measures as may be, but not limited to those, identified in the TDM Plan and Annual Report.

A. Such remedial measures (each a "Remedy") shall be funded by the TDM Remedy Fund; the amount of additional monies to be expended annually on remedial measures shall be based on the following scale:

| Trip Goals Exceeded | Remedy Expenditure |
|---|---|
| Up to 1% | No Remedy needed |
| 1.1% to 3% | 3% of Remedy fund |
| 3.1% to 6% | 6% of Remedy Fund |
| 6.1% to 10% | 10% of Remedy Fund |
| Over 10% | 15% of Remedy Fund |

B. There is no requirement to replenish the TDM Remedy Fund at any time. Any cash left in the Remedy Fund shall be released to the Applicant once three (3) consecutive counts conducted upon Build Out show that the Maximum Trips After Reduction has not been exceeded.

35. Additional Trip Counts. If an Annual Report indicates that a change has occurred that is significant enough to reasonably call into question whether the applicable vehicle trip reduction goals continue to be met, then FCDOT may require the TPM to conduct additional Trip Counts within ninety (90) days to determine whether in fact such objectives are being met. If any such Trip Counts demonstrate that the applicable vehicle trip reduction goals are not being met, then the TPM shall meet with FCDOT to review the TDM strategies in place and to develop modifications to the TDM Plan to address the surplus of trips.

36. Review of Trip Reduction Goals. At any time and concurrent with remedial actions as outlined in Proffer 34, the Applicant may request that FCDOT review the vehicle trip reduction goals established for the Property and set a revised lower goal for the Property consistent with the results of such surveys and traffic counts provided for by this Proffer or consistent with future changes in County policy. In the event a revised lower goal is established for the Property, the Maximum Trips After Reduction shall be revised accordingly for the subsequent review period without the need for a PCA.

37. Continuing Implementation. The Applicant through the TPM shall bear sole responsibility for the implementation of the TDM Program and compliance with this Proffer. The Applicant through the TPM shall continue to administer the TDM Program in the ordinary course in accordance with this Proffer including submission of Annual Reports.

38. Notice to Owners. The current owner shall advise all successor owners and/or developers of their funding obligations pursuant to the requirements of this Proffer prior to purchase and the requirements of the TDM Program, including the annual contribution to the TDM Program (as provided herein), shall be included in all initial and subsequent purchase documents.

39. Enforcement. If the TPM fails to timely submit a report to FCDOT as required by this Proffer, the County will thereafter issue the TPM a written notice stating the TPM has violated the terms of this Proffer and providing the TPM with sixty (60) days within which to cure such violation. If after such sixty (60) day period the TPM has not submitted the delinquent report, then the Applicant shall be subject to a penalty of $75 per day until such time as the report is submitted to FCDOT. Such penalties shall be payable to the County and shall be used for transit, transportation, or congestion management improvements within the vicinity of the Property.

**BICYCLE FACILITIES**

40. Bicycle Parking and Storage. Bicycle racks and/or bike storage areas shall be provided within each Land Bay, with the specific amounts and locations finalized prior to site plan approval in consultation with the FCDOT Bicycle Coordinator or his designee. Bicycle racks located outside of buildings and inside parking garages shall be inverted U style racks or

other design approved by FCDOT. The minimum number of bike parking/storage spaces provided for Land Bays A, B and D shall be as stated in the tabulation included as part of Sheet A-100 of the CDP/FDP. Signage shall be posted on the exterior side of buildings closest to entrances to bike parking/storage space and on certain permitted wayfinding signage to indicate bike parking/storage.

41. Bicycle Lanes. Subject to VDOT approval and in combination with the street and streetscape improvements identified in these Proffers, pavement and striping for an on-street bicycle lane along the Sunrise Valley Drive frontage of Land Bays A and B shall be provided as depicted on the CDP/FDP with the final dimension determined at prior to site plan approval and in consultation with the FCDOT Bicycle Coordinator or his designee. In addition, the Applicant shall designate the outside lane along northbound and southbound Carta Way with a sharrow (shared-lane marking) if requested by FCDOT and subject to VDOT approval.

**PARKING (EXCLUDING METRO STATION FACILITIES)**

42. Parking Requirements. Parking on the Property shall be provided in accordance with the parking requirements for the PRM District as set forth in Article 11 of the Zoning Ordinance, subject to the processing of the parking reduction(s) described in Proffer 50, and as shown on Sheet C-2b of the CDP/FDP. The exact number of parking spaces to be provided for each Land Bay shall be refined and determined at the time of site plan approval based on the specific uses of each Land Bay. If changes in the mix of uses or unit types result in parking greater than that anticipated on the CDP/FDP (e.g., bonus density developed), the additional parking spaces shall be accommodated within the proposed parking garages and other facilities, so long as the maximum height and footprints of the parking garages and other facilities do not increase from that shown on the CDP/FDP. As development and parking construction is phased, the Applicant reserves the right to provide parking in excess of the minimum required per Ordinance, provided that upon the completion of all buildings shown on the CDP/FDP, parking does not exceed the minimum number required by Article 11 of the Ordinance as it exists today.

43. On-Street Parking Spaces on the Private Drive. On-street parking may be provided along the Private Drive reflected on the CDP/FDP to meet the parking requirements of the Zoning Ordinance, so long as such spaces are striped and meet the dimension requirements of the PFM, subject to receiving approval of any necessary waivers and/or modifications. Parking spaces on the Private Drive that are included as required spaces shall not be restricted at any time. Parking on the Private Drive may be restricted through appropriate signage or such other means as determined appropriate by the Applicant as to respective Land Bays, and on-street parking along future public streets prior to dedication, that otherwise are not required to satisfy the parking requirements may be used as temporary or short term parking, car-sharing parking and/or similar uses.

44. Parking Restrictions. All Land Bays may provide gated/restricted parking within the parking garages and other facilities within the respective Land Bays. If gates are provided in any of the parking garages or other facilities, then such gates should be located to provide sufficient stacking capacity within the parking garage or facility to prevent vehicles from stacking onto public roads.

45. Parking for Residential Uses. If parking is to be assigned to specific dwelling units, not less than one space shall be assigned to each unit, including WDUs. Otherwise, dwelling units shall be offered exclusive of parking such that parking shall be available at a separate cost.

46. Paid Parking for Non-Residential Uses. The Applicant may charge for parking within Land Bays A or B, on a per space basis, at rates that the Applicant deems to be market-competitive.

47. Commercial Off-Street Parking.

A. Commercial off-street parking may be provided on an interim basis in new surface lots to be constructed on the Property without approval of an FDPA.

B. With approval of an FDPA, commercial off-street parking may be provided on an interim basis in new parking structures built to support the new on-site uses, which due to phasing may have excess parking capacity.

C. Prior to site plan approval or issuance of a Non-RUP for commercial off-street parking in new surface lots or garages (excluding the Metro Station Facilities on Land Bay C), the Applicant shall provide an operational traffic analysis ("Operational Analysis") of points of access to such parking facilities. Such Operational Analysis shall be limited to an assessment of those driveways serving the particular parking facilities (surface or structure) and any proposed access controls. The Applicant shall identify such improvements and/or transportation enhancements needed to address the results of the operational analyses and shall discuss those results with FCDOT and VDOT to determine what if any additional mitigation measures may be required. In no event, shall the Applicant be required to provide additional improvements to any but those intersection and/or driveways directly serving the commercial parking.

48. Parking Controls. The Applicant shall provide controlled access to the parking garages and other Facilities and shall ensure that the control equipment is capable of counting vehicles entering and exiting the garages (with the exception of the Metro Station Facilities on Land Bay C) and Facilities. Such controls shall direct vehicles to available spaces and shall be located so as to avoid vehicle stacking on the public streets.

49. Electrical Vehicle Charging. In each parking structure on the Property (excluding the Metro Station Facilities), the Applicant shall provide a minimum of one (1) electric vehicle charging station that serves two (2) parking spaces for electric cars and conduit to facilitate additional recharging stations if demand dictates in the future.

50. Future Parking Reductions. Notwithstanding Proffer 42 above, the Applicant shall submit and pursue approval of a parking reduction from the Board of Supervisors, as generally outlined on Sheet C-2b of the CDP/FDP, prior to site plan approval for the first new office or residential building on the Property. Thereafter, the Applicant may request approval of further parking reductions from the Board of Supervisors as such reductions are permitted by the

Ordinance. Any modification to the parking requirement or layout resulting from a reduction approved by the County shall not require a PCA and/or CDPA/FDPA.

51. Parking During Construction. At time of each site plan following the establishment of the first use, the Applicant shall demonstrate how the parking requirement for the existing uses will be satisfied during construction, and the Applicant shall be permitted to use valet, stacked and off-site parking arrangements during such periods of construction, as reasonably approved by FCDOT and DPWES. The Applicant shall be permitted to provide parking on the Property in either surface parking lots or then-existing parking facilities that contain spaces above the required number to accommodate construction workers during the development of the project.

52. Future Parking Rate Revisions in the Zoning Ordinance. The Applicant reserves the right to provide parking at revised rates as may be permitted by a future amendment to the Zoning Ordinance. Optional use of revised rates shall not require a CDPA, PCA or FDPA, provided there is no increase in the size or height of above-grade parking structures and other facilities beyond minor adjustments to what is shown on the CDP/FDP.

**STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES**

53. Storm Water Management Plan. The Applicant's stormwater management facilities shall be designed in accordance with the Comprehensive Plan for the Property and with local and state laws. In addition, stormwater runoff associated with the development shall be addressed as shown on the CDP/FDP and consistent with SWM Waiver Request #6848-WPFM-005-1 conditions dated April 10, 2014 (or such conditions as may otherwise be imposed with any related waiver requests). The stormwater design shall seek to minimize the effect of the proposed impervious cover, including application of stormwater reuse, retention, detention, extended filtration and, where soils and infrastructure allow, infiltration to improve downstream waters. The stormwater management measures may be phased with development.

A. The Applicant will incorporate low impact development ("LID") techniques of stormwater management to reduce or delay runoff volumes entering the nearby regional stormwater pond facility and local streams (see Sheet C-9 of the CDP/FDP). These LID practices may include, but are not limited to, bioretention or biofiltration facilities (commonly known as rain gardens), vegetated swales, porous pavement, vegetated roofs, tree box filters and the collection and reuse of stormwater runoff. LID techniques of stormwater management shall be incorporated into the proposed street designs where allowed and practicable. Notwithstanding and in lieu of what is depicted on the CDP/FDP, the Applicant reserves the right to develop the surface of the Metro Plaza substantially in conformance with the conceptual drawing attached as Exhibit A. This drawing proposes to incorporate an alternative stormwater treatment method through the use of biofiltration. This alternative may be implemented as a partial or entire replacement of what is shown on the CDP/FDP for this area. Any alternative treatment methods used shall treat no less than the quantities of stormwater intended to be treated in the original design (as contemplated on the CDP/FDP).

B. The Applicant shall coordinate its stormwater management controls among adjacent and nearby developments to achieve stormwater management goals in an efficient manner. Stormwater management may be fulfilled or supplemented through the use of an off-site regional pond facility owned by the County, provided any improvements or upgrades that may be needed to accommodate the stormwater outfall from the Property are made prior to its actual use by the Applicant.

C. The Applicant shall design the stormwater management facilities in conformance with the recently adopted County Stormwater Management Ordinance and applicable recommendations contained in the Comprehensive Plan text for the Property. Two-year and ten-year 24 hour detention for the site will be provided in the regional pond, H-9. Runoff reduction practices will be used on-site to the maximum extent practical to manage runoff. These types of practices include, but are not limited to, bioretention, permeable pavement, disconnected impervious areas, soil amendments and/or rainwater harvesting from rooftops of proposed buildings.

D. Stormwater runoff associated with the development shall be controlled such that either: (a) the total phosphorus load for the property is no greater than what would be required for new development pursuant to State stormwater regulations or the County's stormwater management ordinance; or (b) an equivalent level of water quality control is provided.

E. The Applicant shall provide a stormwater management plan that will attain the Rainwater Management credit of the most current version of LEED-NC or LEED-CS rating system (or equivalent of this/these credit(s)) and as reviewed and approved by the EDRB during site plan review.

F. As an alternative to the minimum guidelines above, the Applicant may pursue stormwater management measures and/or downstream improvements to optimize site-specific stormwater management and stream protection/restoration needs, consistent with any adopted watershed management plan(s) that is/are applicable to the Property.

G. Should the U.S. Environmental Protection Agency, the Commonwealth of Virginia, Fairfax County, or their designee, issue new or additional stormwater management requirements or regulations affecting the Property, the Applicant reserves the right to accommodate necessary changes to its stormwater facility designs without the requirement to amend the CDP/FDP or these Proffers, provided the facility design is substantially in conformance with the CDP/FDP.

**DESIGN**

54. Design Guidelines. The architectural guidelines for the Property with respect to building scale and massing, building siting, screening of parking structures, the design of the Plazas, and streetscape are set forth in the design guidelines attached as Exhibit B ("Design Guidelines"). The Design Guidelines are intended to be illustrative of the general quality and

character of the development. Modifications to these elements as shown in the Design Guidelines shall not require an amendment to the Proffers or CDP/FDP, and are permitted provided the changes are in substantial conformance with the CDP elements and the general character and quality of the Design Guidelines, as determined by the Zoning Administrator, and provided that such changes are uniform throughout the Property so that the buildings and improvements within a block have a complimentary design theme. The foregoing is not intended to prohibit each building having its own distinctive architectural character.

55. Environmental Design Practices for Multi-Family Residential.

*Target of LEED Certification or Equivalent.*

A. The Applicant will include, as part of the site plan submission and building plan submission, a list of specific credits within the most current version at the time of the building's registration of the U.S. Green Building Council's Leadership in Energy and Environmental Design New Construction (LEED-NC) rating system, or at the Applicant's option, other equivalent rating system determined to be applicable to the building in consultation with the Environment and Development Review Branch ("EDRB") of DPZ. A LEED-accredited professional (LEED-AP) who is also a professional engineer or licensed architect will provide certification statements at both the time of site plan review and the time of building plan review confirming that the items on the list will meet at least the minimum number of credits necessary to attain LEED certification of the project.

B. Should the Applicant elect to use the LEED system in lieu of an equivalent program, the Applicant will designate the Chief of the EDRB of DPZ as a team member in the U.S. Green Building Council's ("USGBC") LEED Online system. This team member will have privileges to review the project status and monitor the progress of all documents submitted by the project team, but will not be assigned responsibility for any LEED credits and will not be provided with the authority to modify any documentation or paperwork.

C. Prior to the building plan approval, the Applicant will submit documentation to the EDRB regarding the USGBC's preliminary review of design-oriented credits in the LEED program, should the Applicant elect to use the LEED system in lieu of an equivalent program. This documentation will demonstrate that the building is anticipated to attain a sufficient number of design-related credits that, along with the anticipated construction-related credits, will be sufficient to attain LEED Silver certification. Prior to release of the bond for the building, the Applicant shall provide documentation to the EDRB demonstrating the status of attainment of at least LEED certification from the USGBC for the building.

D. If the USGBC review of design-oriented credits indicates that the project is not anticipated to attain a sufficient number of design-related credits to support attainment of LEED Silver certification, the Applicant shall post a "green building escrow" in the form of cash or a letter of credit from a financial institution acceptable to DPWES as defined in the Public Facilities Manual, in the amount of

$2.00 per gross square foot. This escrow will be in addition to and separate from other bond requirements and will be released upon demonstration of attainment of LEED certification or higher level of certification, by the USGBC, under the most current version at the time of the building's registration of the LEED-NC rating system or other LEED rating system determined, by the USGBC. The provision to the EDRB of documentation from the USGBC that the building has attained LEED certification will be sufficient to satisfy this commitment.

56. Environmental Design Practices for Non-Residential (including Office and Hotel, but excluding Metro Station Facilities).

*Target of LEED Silver Certification or Equivalent.*

A. The Applicant will include as part of each site plan and building plan submissions for any office or hotel building to be constructed on the Property, a list of specific credits within the most current version at the time of the building's registration of the U.S. Green Building Council's Leadership in Energy and Environmental Design - New Construction (LEED-NC) rating system, or, at the Applicant's option, another LEED rating system determined to be applicable to each new building by the USGBC and approved by the EDRB that the Applicant anticipates attaining. At least one principal participant of the Applicant's project team shall be a LEED Accredited Professional, who is also a professional engineer or licensed architect and will provide certification statements at both the time of site plan review and the time of building plan review confirming that the items on the list are expected to meet at least the minimum number of credits necessary to attain LEED Silver certification for each new non-residential building.

B. Prior to site plan approval, the Applicant will designate the Chief of the EDRB as a team member in the USGBC's LEED Online system. This team member will have privileges to review the project status and monitor the progress of all documents submitted by the project team, but will not be assigned responsibility for any LEED credits and will not be provided with the authority to modify any documentation or paperwork.

C. Prior to building plan approval for each non-residential building to be constructed, the Applicant will submit documentation to the EDRB regarding the USGBC's preliminary review of design-oriented credits in the LEED program. This documentation will demonstrate that the building is anticipated to attain a sufficient number of design-related credits that, along with the anticipated construction-related credits, will be sufficient to attain LEED Gold certification. Prior to release of the bond for the respective building, the Applicant shall provide documentation to the EDRB demonstrating the status of attainment of LEED certification from the USGBC for the building to which the bond relates.

D. As an alternative to the actions outlined in, and in lieu of the requirements of, paragraphs (A) through (C) above, or if the USGBC's review of design-oriented credits indicates that the specific office building or hotel is not

anticipated to attain a sufficient number of design-related credits, along with the anticipated construction-related credits, to support attainment of LEED Gold certification, prior to building plan approval, the Applicant shall post a "green building escrow" in the form of cash or a letter of credit from a financial institution acceptable to DPWES as defined in the Public Facilities Manual, in the amount of $2.00 per gross square foot for the respective building. This escrow will be in addition to and separate from other bond requirements and will be released upon demonstration of attainment of certification by the USGBC under the most current version of the LEED-NC rating system or, at the Applicant's option, other LEED rating system determined, by the USGBC, and approved by the EDRB, to be applicable to each building. The provision to the EDRB of documentation from the USGBC that such building has attained LEED Silver certification will be sufficient to satisfy this commitment.

57. Environmental Design – General (Residential and Non-Residential).

A. If the Applicant provides to the EDRB, within three (3) years after issuance of the final RUP/non-RUP for the building, documentation demonstrating that the LEED certification specified above in these Proffers for the particular type of building has not been attained, but that the building has been determined by the USGBC to fall within three (3) points of achieving attainment of such LEED certification, then fifty percent (50%) of the escrow will be released to the Applicant; the other fifty percent (50%) will be released to the County and will be posted to a fund within the County budget supporting implementation of County environmental initiatives.

B. If the Applicant fails to provide, within three (3) years after issuance of the final RUP/Non-RUP for a particular building, documentation to the EDRB demonstrating attainment of the LEED certification specified above for the particular type of building, or provides to the EDRB documentation demonstrating that the particular building has fallen short of the specified LEED certification by greater than three (3) points, then the entirety of the escrow for that building will be released to the County and will be posted to a fund within the County budget supporting implementation of County environmental initiatives.

C. If the Applicant provides documentation from the USGBC demonstrating, to the satisfaction of the EDRB, that USGBC completion of the review of the required LEED certification application has been delayed through no fault of the Applicant, or the Applicant's contractors or subcontractors, then the time frame may be extended as determined appropriate by the Zoning Administrator, and no release of escrowed funds shall be made to the Applicant or to the County during the extension.

D. The Applicant further reserves the right to fulfill the requirements of these Environmental Design Practices Proffers through certification of any building by any reasonable alternative to the LEED program that offers similar objective third party review of "green building" or energy efficient measures, provided such

alternative has been approved by the EDRB in advance. Under such alternatives, the process and procedures outlined above, may be modified to reflect the alternative program. Such alternative rating systems for a multi-family residential building may include, but shall not be limited to, the EarthCraft Program or the 2012 National Green Building Standards (NGBS) using the EnergyStar performance path. If an alternative rating systems is selected and approved by the EDRB, the Applicant shall demonstrate attainment of the selected certification from a rater recognized through the selected program prior to the issuance of the final RUP or Non-RUP.

58. Additional Design. All buildings and parking structures and the Metro Station Facilities where they front on the new North-South Road and the new East-West Road shall be architecturally finished (all four (4) sides) with compatible materials, detailing and features, provided such facades (including the facades of garages associated with a building) need not be identical. Garage facades shall be designed to screen the view of vehicles from the surrounding area and shall include materials consistent with those materials shown on the CDP/FDP and used on the associated building and/or incorporate innovative design techniques such as incorporation of public art, vegetative screens or other screening techniques, provided such facade treatments are consistent with the standards set forth in the Design Guidelines, and need not have facades identical to the associated building.

59. Signage. All signage provided on the Property shall comply with Article 12 of the Ordinance. All directional and way finding signage shall be consistent, both in terms of materials and design, throughout the development. The Applicant reserves the right to obtain approval of a Comprehensive Sign Plan ("CSP") at any time that would permit modifications to the provisions of Article 12 of the Ordinance without obtaining a PCA, CDPA or FDPA. The Applicant shall cooperate with WMATA to identify locations for directional signage to the Metro Station platform and the Metro Station Facilities.

60. Lighting. All outdoor lighting fixtures shall be in accordance with the Performance Standards contained in Part 9 (Outdoor Lighting Standards) of Article 14 of the Ordinance. Fixtures used to illuminate streets, parking areas and walkways shall not exceed thirty (30) feet in height, measured from their base to the top of the light standard, shall be of low intensity design and shall utilize full cut-off fixtures which shall focus directly on the Property. All upper level parking deck lighting fixtures shall not exceed a height of seventeen (17) feet measured from their base to the top of the light standard and shall be uniform in design, whether temporary or permanent. Lighting within the private parking decks shall be installed between the ceiling beams to reduce glare unless such lighting is otherwise screened by the parking structure design. Notwithstanding the restrictions provided in the previous paragraph, the Applicant reserves the right to provide architectural lighting and other lighting associated with the buildings and Plazas consistent with the Design Guidelines, provided as Exhibit B attached hereto.

61. Telecommunications Equipment. Telecommunications equipment may be placed on the proposed residential and non-residential buildings' rooftops. Any such facilities must comply with the applicable requirements of the Ordinance and be screened and/or setback sufficiently from the perimeter of the roof and penthouse such that they are not visible from the streets, forming the boundary of the Property, at street level. Other screening measures may be

used such as including the facilities as part of the architecture of the buildings, utilizing compatible colors, or employing telecommunication screening material and flush mounted antennas. Telecommunications equipment may also be architecturally integrated onto the facades of the buildings where necessary to ensure on-street and/or open space coverage.

62. Building Heights. Building heights for each building shall not exceed the maximum or be less than the minimum building heights shown on Sheet A-100 of the CDP/FDP as "Maximum Height," "Minimum Height" and "Stories", except in connection with the use of residential bonus density which would permit additional building height to accommodate such residential bonus units. Building heights shall be exclusive of those structures that are excluded from the maximum height regulations as set forth in Section 2-506 of the Ordinance. All building penthouses/rooftop structures shall be integrated into the architecture of the building below and shall be consistent with the Design Guidelines, provided as Exhibit B attached hereto.

**LANDSCAPING**

63. Limits of Clearing and Grading. The Applicant shall conform to the limits of clearing and grading as shown on the CDP/FDP, subject to allowances provided in these Proffers and for the installation of fences, utilities (including storm water management and BMP facilities), public improvements (i.e., roads, streetscapes, entrances, sidewalks, degraded soil and slope conditions) and/or trails, which shall be located in the least disruptive manner necessary as determined by UFMD. A replanting plan shall be developed and implemented, subject to approval by UFMD, for any areas protected by the limits of clearing and grading that must be disturbed for such trails, utilities, roads or similar uses, if any such areas are identified at the time of site plan, as described herein.

64. Landscaping. The CDP/FDP includes a conceptual Landscape Plan commencing on Sheet L-1 of the CDP/FDP, consisting of overall plans and concepts for the Property. Actual types, quantities and species of vegetation shall be determined pursuant to more detailed landscape plans submitted at the time of the first and all subsequent CDP/FDP, CDPA, FDPA and site plans. Landscaping may be modified during site plan review to allow for final engineering and design considerations, including, but not limited to, final utility locations, LID facilities, sight distance requirements and other applicable requirements, provided that such modifications are in substantial conformance with the CDP/FDP and subject to UFMD approval and are consistent with the Design Guidelines, provided as Exhibit B attached hereto.

65. Detailed Landscape Plans. As part of the site plan submission for each building on the Property, a detailed landscape plan shall be submitted to the UFMD for review and approval. The planting and landscaping materials shown on each detailed landscaping plan shall be in substantial conformance with those shown on the approved CDP/FDP, and shall include, among other things, irrigation information, design details for tree wells and other similar planting areas on structures and along streets, the composition of planting materials, methods for providing suspended pavement over tree root zones to prevent soil compaction, and methods for ensuring the viability of plantings on structures. Adjustments to the type and location of vegetation and the design of landscaped areas and streetscape improvements/plantings may be permitted in consultation with DPZ, and as approved by UFMD. The Applicant shall not plant any known invasive plant species at the Property.

66. Alternative Planting Width Details. Site plans submitted for the respective phases of development shall include a landscape plan for that phase of development in conformance with the CDP/FDP. Tree species and planting sites are set forth on the CDP/FDP, subject to revision as may be approved by the UFMD. Where minimum planting widths of 8-feet cannot be provided, the Applicant shall use structural cell technology, or other measures acceptable to and approved by UFMD, to satisfy the following specifications for all planting sites:

A. A minimum of four (4) feet open surface width and sixteen (16) square feet open surface area for Category III and Category IV trees, with the tree located in the center of the open area;

B. A minimum rooting area eight (8) feet wide (may be achieved with techniques to provide un-compacted soil below pavement), with no barrier to root growth within four (4) feet of the base of the tree;

C. Soil volume for Category III and Category IV trees shall be a minimum of 700 cubic feet for a single tree. For two (2) trees planted in a contiguous planting area, a total soil volume of at least 1,200 cubic feet shall be provided. For three (3) or more trees planted in a contiguous area, the soil volume shall equal at least 500 cubic feet per tree. A contiguous area shall be any area that provides root access and soil conditions favorable for root growth throughout the entire area;

D. Soil specifications in planting sites shall be provided in the planting notes to be included in all subsequent site plan submissions; and

E. It is expected that some street tree planting sites will be designed to accommodate bio-retention functions.

67. Tree Replacement. The Applicant shall replace any new tree that is planted on the Property and is counted toward meeting the overall tree canopy requirement, that is damaged, such that thirty percent (30%) or more of the crown is no longer viable, as a result of maintenance to the stormwater management facilities, or related underground infrastructure, with a tree of equal or greater size. The size of the replacement tree shall be based on the caliper size of the tree to be replaced as shown on the final site plan.

68. Open Space. Provision of publicly-accessible Plazas, park and open space areas shall be in substantial conformance with the concepts, locations and minimum acreages depicted on the CDP/FDP and as further defined in these Proffers and the Design Guidelines, and may be adjusted at the time of CDP/FDP and site plan approval to allow for final engineering and design considerations.

69. Utility Locations. Utilities, including, but not limited to water, electric, sanitary sewer and storm sewer utility lines, shall be installed within the street network to the maximum extent feasible as determined by DPWES or shall be placed in locations that do not conflict with the landscaped open space areas and streetscape elements shown on the CDP/FDP. If there is no other option, utilities may be placed within open space or streetscape areas provided that the long-term health of trees and other plantings is ensured by the provision of sufficient soil volume

as shown on the CDP/FDP, as determined by the UFMD. Adjustments to the type and location of plantings shall be permitted to avoid conflicts with utilities and other site engineering considerations. If at the time of site plan approval, street trees shown on the CDP/FDP are in conflict with existing or proposed utilities and alternative locations for the street trees satisfactory to UFMD cannot be accommodated, the Applicant shall modify the location of utilities to ensure that the trees shown on the CDP/FDP can be provided.

70. Parking Deck Landscaping and Amenities. The Applicant shall provide planting areas, landscaping and amenities on the top level of any parking garages (where no additional structures are to be built above) as shown on the CDP/FDP in accordance with requirements of the Public Facilities Manual.

**PARKS AND RECREATIONAL FACILITIES**

71. Plazas. The Applicant shall provide plazas, urban parks and other publicly accessible areas (collectively referred to as the "Plazas") and associated amenities generally as depicted on Sheets L-1 and L-4 of the CDP/FDP and as described in the Design Guidelines. The exact elements that comprise such amenities shall be determined at time of site plan review for the first building adjacent to such amenities and such amenities shall be constructed in accordance with the Phasing Plan included in the CDP/FDP. Such amenities may include such furniture, fixtures and finishes consistent with the creation of a hardscape public park or gathering space and consistent with the Design Guidelines including, but not limited to, paving, furniture, screening walls, pedestrian ways, focal points, landscaping/planters, public art, and performance/demonstration space consistent with an urban park. Additional site amenities may be provided at time of site plan review provided they are consistent with the Design Guidelines. Access and use of the Plazas by the public shall be authorized and regulated by the Plaza Access Management Plan described in Proffer 76 below. The Plazas shall be privately maintained.

72. Metro Plaza. The Applicant shall provide a street-level park of approximately 1.14 acres located adjacent to the Metro Station Facilities and consistent with the Design Guidelines.

A. The Applicant shall initially provide interim improvements (Phase 1) to the Metro Plaza, as shown on Sheet L-4A of the CDP/FDP to activate the Metro Plaza upon opening of the Metro Station. These interim improvements shall include an extensive walkway system and/or careful integration of paving surfaces and includes benches, seat walls, bike racks, picnic lawn areas, landscaping, garbage containers and mobile restrooms, and may also include provision of interim "place making" uses, such as pop-up retail or service uses (collectively, "Temporary Retail Use Establishments"), on the Property immediately adjacent to at the Metro Plaza. Said Temporary Retail Use Establishments may be housed in temporary buildings such as storage/shipping containers, movable carts, kiosks or food trucks or similar retail sales or service vehicles, or a combination thereof. Any Temporary Retail Use Establishment shall be installed in conformance with the Design Guidelines and in the general location depicted on Sheet L-4A of the CDP/FDP. The minimum interim improvements shall consist of 5,000 square feet of land area and up to eight (8) different Temporary Retail Use Establishments.

B. Ultimately, the Applicant shall also provide permanent improvements to the Metro Plaza, including hardscaping, landscaping, bike racks and bench seating, a terraced lawn panel with stepped seating for people watching and viewing events and public art as a focal element, as conceptually shown on Sheet L-6A-1 of the CDP/FDP, contingent on agreements with WMATA and the County. Space and requisite utility connections in accordance with FCDOT specifications (electric and telecommunications) shall also be provided for a multi-modal commuter information kiosk; said kiosk to be provided by others. The Metro Plaza shall be constructed prior to the issuance of the initial RUP or Non-RUP for the Metro Station Facilities or Building B2, whichever shall occur first.

C. If approved as part of a Comprehensive Sign Plan for the Property, the Applicant may install a video display or provide a moveable screen on the façade of Building B2 facing the park or located in the plaza area animating the Metro Plaza. Details of the video wall or flexible screen (including size, content, lighting and sound) shall be provided in the Comprehensive Sign Plan application.

D. As noted in Proffer 53, Exhibit A provides an alternative stormwater treatment method for the Metro Plaza.

E. As depicted on Sheet C-4 of the CDP/FDP, there is an area in the Metro Plaza on the west, south and east sides of the Metro Station's pavilion that is marked as the "15' Metro Clear Zone." This area will be subject to additional engineering and improvement through a future Special Exception, FDPA or other zoning application for the Metro Station. The Special Exception design shall be coordinated and consistent with the design shown on the CDP/FDP. The use of the 15' Metro Clear Zone is established by this Application.

73. Urban Park. The Applicant shall provide an Urban Park at street level from the west and accessible from the east of approximately 0.85 acres to be located adjacent and between Buildings A3, A4 and D1. The Urban Park shall include features such as, but not limited to, lawn panels, hardscape and landscape areas, bench seating, a bocce ball court, seating with engraved game boards (e.g., chess), children's play area, decorative screen wall and dog park as conceptually shown on Sheets L-6B-1 and L-6B-2 of the CDP/FDP and consistent with the Design Guidelines. More specific details shall be determined at time of site plan approval for the first of the buildings referenced in the first sentence above. The Urban Park shall be constructed prior to the issuance of the first RUP for such buildings. The Urban Park shall be privately maintained and shall be designed to coordinate with or connect to the private courtyards of the residential buildings.

74. Pocket Park. The Applicant shall provide a Pocket Park of approximately 0.32 acres designed for casual use by transit users and as a neighborhood park for demonstrating protection, preservation and sustainability of natural resources. The design shall include native planting, a wooden deck and boardwalk system over a bio-retention area, benches, educational and information kiosk, and an art feature display, as conceptually shown on Sheets L-4, L-6C-1, and L-9 (Views 3 and 4) of the CDP/FDP and consistent with the Design Guidelines. Further, an interpretative sign may be added subject to Article 12 of the Ordinance or a CSP. More specific

details shall be determined at time of site plan approval for the Metro Station Facilities and construction of the Pocket Park shall occur prior to the issuance of the Non-RUP for the Metro Station Facilities. The Pocket Park shall be privately maintained.

75. Plaza Phasing. The Plazas shall be constructed in phases and as generally shown on the CDP/FDP and in conformance with the Design Guidelines attached as Exhibit B. The applicable phased portion shall be substantially completed, i.e., open to the public and available for its intended purpose, prior to the issuance of the Non-RUP for the Metro Station Facilities for the improvements shown to be constructed with the Metro Station Facilities. The general location of the pedestrian connections to each Plaza associated with a particular phase/building is as set forth in the CDP/FDP.

76. Plaza Access Management Plan. Prior to the issuance of the Non-RUP for the Metro Station Facilities, the Applicant will implement a Plaza Access Management Plan to grant public access and to provide safe access and use of each Plaza to all persons by seeking to minimize the number of vehicles on the Plazas while preserving vehicular access. The plan shall be submitted to FCDOT and the Zoning Administrator for approval consistent with the parameters set forth in this Proffer. The plan will be provided as a supplement to office and retail leases and to residential/rental materials and will be posted on the project's or property manager's website. The Plaza Access Management Plan will be included in the packages of informational materials referenced in the TDM Plan.

77. Means of Enforcing Restrictions. Restrictions on accessing the Plazas are to be enforced by the deployment of physical barriers and/or on-site personnel.

A. Physical barriers will consist of any combination of the following (or new technology as it becomes available): removable bollards, retractable bollards, temporary barriers, stanchions and gates, as discussed and illustrated in the Design Guidelines.

B. On-site personnel will be deployed when access to any Plaza is restricted, except during times when it completely closed through the use of physical barriers (as described above). When deployed, the on-site personnel will be readily visible to those trying to access the particular Plaza. The on-site personnel will be provided heat/shelter, during times of inclement weather, to ensure that they are able to remain in appropriate position to manage traffic accessing the Plaza.

78. Other Means of Minimizing Vehicular Use of the Plazas. In addition to the foregoing restrictions on access, the Applicant may employ other means to minimize the number of vehicles on each Plaza, but such means shall be consistent with the Design Guidelines.

79. Signage. Signage will address Plaza access, as appropriate, will be easily seen and informative and will be consistent with the design in any subsequently-approved Comprehensive Sign Plan and the Design Guidelines.

80. Communications. Regular communications to residents and tenants regarding upcoming events and temporary closures will be provided via temporary signage, fliers, website postings, social media tools and other messaging tools.

81. Deliveries.

A. The Applicant shall endeavor to have all regularly scheduled deliveries directed to the designated service loading and receiving locations elsewhere on the project, and not in the Plazas.

B. Notwithstanding the above, the Applicant shall work with tenants, to the maximum extent practicable, to seek to ensure that the number of delivery trucks on any Plaza at any time shall be no more than three (3) and that deliveries shall not occur on the Metro Plaza during peak hour times for the Metrorail.

C. All office move-ins will be done through the garage loading docks.

82. Plaza Management Exceptions.

A. This will not preclude the Applicant from operating small service vehicles or passenger jitneys which would be appropriate on a sidewalk or surface other than a travel way in the ordinary course of property management, including without limitation to ferry users around the Plazas.

B. Subject to the requirements of any public access easement granted pursuant to Proffer 17, nothing in this Proffer, or the Plaza Access Management Plan will prohibit the Applicant from providing greater access restrictions or from closing all or any portion of the Plaza on a temporary or periodic basis, provided that access to the Metro Station and the Metro Station Facilities shall not be closed.

83. Amenities and Facilities for Residents.

A. The Applicant shall provide, as part of any residential building, facilities designed to meet the onsite recreational needs of the future residents of such building, including, but not limited to exercise rooms, swimming pools, activity courts, club rooms, meeting rooms, media centers and cyber cafes.

B. Pursuant to Paragraph 2 of Section 6-110 and Paragraph 2 of Section 16-404 of the Ordinance regarding developed recreational facilities, the Applicant shall expend a minimum of $1,700.00 per market-rate residential unit on such recreation facilities. In the event the total cost of the recreational improvements constructed on the Property is demonstrated to be less than $1,700.00 per unit for a particular residential building, the Applicant shall provide the remainder in a cash contribution to the FCPA for the development of active recreational facilities in the vicinity of the Property prior to the issuance of the final RUP for the particular building.

84. Parks Contribution. Prior to the issuance of the first RUP or Non-RUP for a building in the development, the Applicant shall contribute $500,000.00 to the Fairfax County Park Authority for public parks in the vicinity of the Property. The public parks monetary contribution shall escalate from the date of the approval of this Application to the date of payment in accordance with Proffer 94.

**SCHOOLS**

85. Public School Contribution. Per the Residential Development Criteria Implementation Motion adopted by the Board of Supervisors on September 9, 2002, and Criterion effective January 7, 2003, as adjusted, the Applicant shall contribute $10,825.00 per expected new student (assuming a ratio of 0.106 students per residential unit) to the Fairfax County School Board to be utilized for capital improvements to schools that any students generated by the Property will attend. Such contribution shall be made prior to the issuance of the first RUP for each residential building and shall be based on the actual number of dwelling units built in each building.

86. Adjustments to School Contribution. If, prior to site plan approval for the respective residential buildings, the County should modify the accepted ratio of students per subject multi-family unit or the amount of the contribution per student, the amount of the contribution shall be modified for that building to reflect the current ratio and/or contribution. If the County should decrease the ratio or contribution amount, the amount of the contribution shall be decreased to reflect the current ratio and/or contribution.

**WORKFORCE HOUSING**

87. ADUs. If required by the provisions of Part 8 of Article 2 of the Ordinance, Affordable Dwelling Units ("ADUs") shall be provided pursuant to said regulations unless modified by the ADU Advisory Board.

88. Workforce Dwelling Units ("WDUs"). The number of WDUs to be provided on the Property shall be equal to 15.6% of all dwelling units to be constructed on the Property. The WDUs shall be administered as set forth in the Board of Supervisors Workforce Dwelling Unit Administrative Guidelines adopted October 15, 2007.

89. Non-Residential Contribution for Workforce Housing. For all non-residential development, excluding commercial retail/services and public uses, the Applicant shall select, within its sole discretion, one of the following two options for contributing toward the provision of affordable and/or workforce housing within the greater Herndon and Dulles areas. These contributions shall be made to the Board of Supervisors, be deposited in a specific fund to be used solely for this purpose within the greater Herndon and Dulles areas, and shall be payable at the time of issuance of the initial Non-RUPs for office buildings or the hotel on the Property, excluding any ground floor retail/service uses and public uses; provided that if any ground floor retail/service use utilizes space above the ground floor (e.g., a two-level eating establishment), then such upper floor space shall also be excluded. The options shall consist of either (i) a one-time contribution of $3.00 for each square foot of GFA of office or hotel use, or (ii) an annual contribution of $0.25 for each square foot of GFA of new office or hotel use continuing for a total of sixteen (16) years. Should the Board of Supervisors adopt new policies for affordable housing contributions by non-residential developments in the greater Herndon and Dulles areas, the Applicant may, within its discretion, elect to comply with these policies in lieu of the contributions described herein without the necessity of a CDPA, PCA or FDPA.

**NOISE ATTENUATION FOR RESIDENTIAL USES**

90. Noise Study**.** The Applicant commits to meeting the Comprehensive Plan guidance which ensures that no new residential use shall be exposed to transportation generated noise levels in excess of 45 decibels for interior areas and 65 decibels for outdoor recreation areas. The Applicant shall provide an acoustical analysis which evaluates existing and future traffic and transit conditions and noise sources at least twenty-five (25) years into the future. If the noise study concludes that the new residential building will be affected by noise levels that require mitigation, then at the time of site plan submission, the Applicant shall submit a refined acoustical analysis. The refined acoustical analysis will incorporate findings from a building shell analysis based on the building plans to determine the appropriate noise attenuation measures. Such acoustical analysis shall be submitted to EDRB and DPWES for review. Based on the findings of that report, the Applicant shall show any noise impacted units on the site plan and shall provide the following noise attenuation measures, unless otherwise modified by the findings of the analysis.

A. In order to reduce interior noise to a level of approximately 45 dBA Ldn, dwelling units anticipated by the study to be impacted by traffic noise through windows and walls having levels projected to be greater than 70 dBA Ldn shall employ the following acoustical measures:

i. Exterior walls shall have a laboratory sound transmission class ("STC") rating of at least 45. Doors and glazing shall have a laboratory STC rating of at least 37 unless glazing constitutes more than 20% of any façade exposed to noise levels above 70 dBA Ldn. If glazing constitutes more than 20% of an exposed façade, then the glazing shall have a STC rating of up to 45 as dictated by the percent of glass.

ii. All surfaces shall be sealed and caulked in accordance with methods approved by the American Society for Testing and Materials ("ASTM") to minimize sound transmission.

B. In order to reduce interior noise to a level of approximately 45 dBA Ldn, dwelling units anticipated by the study to be impacted by highway noise having levels projected to be between 65 and 70 dBA Ldn, shall be constructed with the following acoustical measures:

i. Exterior walls should have a laboratory STC rating of at least 39. Doors and glazing shall have a laboratory STC rating of at least 28 unless glazing constitutes more than 20% of any façade exposed to noise levels of 65 to 70 dBA Ldn. If glazing constitutes more than 20% of an exposed façade, then the glazing shall have a STC rating of up to 39 as dictated by the percent of glass.

ii. All surfaces should be sealed and caulked in accordance with methods approved by the ASTM) to minimize sound transmission.

C. The Applicant shall provide noise attenuation measures as determined necessary from the acoustical analysis to ensure that traffic and transit related noise shall not exceed 65 decibels in the outdoor recreation areas.

D. Future residential tenants shall be provided full disclosure of the proximity to Dulles Airport and the potential of hearing airplane flyovers at this site even though the airplane noise levels do not exceed the noise threshold recommended by the FAA and the County.

**COMMUNITY ASSOCIATION**

91. Establishment of COA. Prior to issuance of the first RUP or Non-RUP for a new permanent building (excluding the Metro Station Facilities), the Applicant shall establish a "Community Association" in accordance with Virginia law. Such Community Association may consist of an umbrella owners association for the entire Property, as well as individual sub-associations or condominium owners' associations ("COAs") formed for specific buildings or groups of buildings. At a minimum, each COA, all owners of residential units (unless represented by and included in a COA) and the owners of each multi family, office and/or hotel building shall be members of the Community Association. The Community Association shall be responsible for the obligations specifically identified as its obligations in these Proffers, including, but not limited to, implementation of the TDM program, maintenance of the private streets (including the Private Drive) and pedestrian areas, maintenance of the publicly-accessible park areas, and notification obligations. Such governance documents shall be submitted to the Office of the County Attorney to ensure they provide for the various proffers and maintenance obligations not otherwise covered by separate agreement with the County or VDOT.

**MISCELLANEOUS**

92. Tax District Buyouts for Certain Residential Uses. Within sixty (60) days after the approval of the Rezoning application, the Applicant shall provide a written notice to the Director of the Real Estate Division of the Fairfax County Department of Tax Administration requesting a lump sum payment amount that represents the County's estimate of the present value of the future special improvements taxes that would have been payable to the Route 28 Highway Transportation Improvement Tax District ("Route 28 Tax District") attributable to the portion of the Property under the current PDC zoning classification and hereby rezoned to the PRM district to be developed for residential rental or condominium use. Such amount shall be determined in accordance with the formula and provisions as adopted by the Board of Supervisors for optional residential development within the Route 28 Tax District pursuant to Section 15.2-4608 of the Code of Virginia. After such payment, the portion of the Property used for residential uses shall not be subject to the applicable special improvement taxes for the Route 28 Tax District until and unless such land is thereafter developed with non-residential uses. Any special improvement taxes previously paid in the year the application is approved shall be credited towards the one-time payment on a prorated basis.

Further, at least sixty (60) days prior to recording any final residential condominium documents for portions of the Property located within the now existing Phase II Dulles Rail Transportation Improvement District (the "Phase II District"), the Applicant shall provide a

written notice to the Director of the Real Estate Division of the Fairfax County Department of Tax Administration advising that the Applicant intends to record condominium documents for that portion of the Property. Prior to recording the condominium documents, the Applicant shall pay to the County a sum equal to the then-present value of Phase II District taxes based on the use of that portion of the Property subject to the condominium prior to this Rezoning that will be lost as a result of recording the condominium documents, in accordance with a formula approved by the Fairfax County Board of Supervisors.

93. Severability. Pursuant to Section 18-204 of the Ordinance, any portion of the Property may be the subject of a PCA, SE, Special Permit ("SP"), CSP or FDPA without joinder and/or consent of the title owner of the other portions of the Property, provided that such PCA, SE, SP, CSP or FDPA does not materially adversely affect the other phases. Previously approved zoning applications applicable to the balance of the Property that is not the subject of such a PCA, SE, SP, CSP or FDPA shall otherwise remain in full force and effect.

94. Adjustment in Contribution Amounts. All proffers specifying monetary contributions shall adjust on a yearly basis from the base year of 2014 and change effective each January 1 thereafter, based on changes in the Consumer Price Index for all urban consumers (not seasonally adjusted) ("CPI-U") in effect in January of each year, as permitted by Section 15.2-2303.3 of the Code of Virginia.

95. Site Excavation and Blasting. If blasting is required on-site, the Applicant shall ensure that blasting is done pursuant to Fairfax County Fire Marshal requirements and all safety recommendations of the same, including without limitation, the use of blasting mats. In addition, the Applicant shall:

A. Retain a professional consultant to perform a pre-blast survey of each on-site and off-site building, to the extent that any of these buildings are located on the properties within two hundred and fifty (250) feet of the blast site;

B. Prior to any blasting being done, the Applicant shall provide written confirmation to DPWES that the pre-blast survey has been completed and provide a copy of the survey to Fairfax County upon request;

C. Require the blasting consultant to request access to any houses, wells, buildings, or swimming pools, by notification to the owners within two hundred and fifty (250) feet of the blast site. If permitted by the owner, determine the pre-blast conditions of these structures. The Applicant's consultant will be required to give a minimum of fourteen (14) days' notice of the scheduling of the pre-blast survey. The Applicant shall provide any property owners entitled to pre-blast inspections, the name, address and phone number of the blasting contractor's insurance carrier;

D. Require its consultant to place seismographic instruments prior to blasting to monitor shock waves. The Applicant shall provide seismographic monitoring records to County agencies upon their request;

E. Notify property owners within two hundred and fifty (250) feet of the blast site at least ten (10) days prior to blasting; no blasting shall occur until such notice has been given;

F. Upon receipt of a claim of actual damage resulting from said blasting, the Applicant shall cause its consultant to respond within five (5) days of meeting at the site of the alleged damage to confer with the property owner;

G. The Applicant will require blasting subcontractors to maintain necessary liability insurance to cover the costs of repairing any damages to structures, which are directly attributable to the blasting activity and shall take necessary action to resolve any valid claims in an expeditious matter; and

H. The consultant shall be required to provide an analysis of the potential for gas migration from the site to the Fire Marshal for review and approval prior to blasting. Appropriate gas migration mitigation and/or notification pursuant to County regulations shall be implemented.

96. Construction Management. The Applicant shall prepare and implement a construction management plan during construction of each phase, as appropriate, to provide safe and efficient pedestrian and vehicle circulation at all times on the Property and on the public roadways adjoining the Property. The management plan shall identify anticipated construction entrances, construction staging areas (including one for the Metro Station), construction vehicle routes and procedures for coordination with FCDOT and/or VDOT concerning construction material deliveries, lane or street closures, or other construction related activities to minimize disturbance on the surrounding road network. Construction staging areas shall be screened and landscaped as depicted on Sheet L-4A of the CDP/FDP, provided that any interim screening shall not be located within any sight distance triangle. The management plan shall be prepared by a qualified professional and submitted for review and comment to VDOT, FCDOT and DPWES upon submission of the initial site plan for each building.

97. Universal Design. A minimum of one percent (1%) of the total multifamily dwelling units shall be designed and constructed to include a selection of universal design features and options, as determined by the Applicant, which may include, but shall not be limited to, seat areas in master bath showers, lever type door handles, slip resistant flooring, optional hand held shower heads, and optional front load washers and dryers.

98. Zoning Administrator Consideration. Notwithstanding the foregoing, upon demonstration that despite diligent efforts or due to factors beyond the Applicant's control, proffered improvements such as, but not limited to, transportation, publicly accessible park areas, athletic fields, trail connections, and offsite easements, have been delayed (due to, but not limited to, an inability to secure necessary permission for utility relocations, VDOT approval for traffic signals, necessary easements and/or site plan approval, etc.) beyond the timeframes specified, the Zoning Administrator may agree to a later date for completion of these Proffered improvement(s).

99. Successors and Assigns. These Proffers will bind and inure to the benefit of the Applicant and their successors and assigns. Each reference to "Applicant" in this Proffer statement shall include within its meaning and shall be binding upon Applicant' successor(s) in interest and/or the owners from time to time of any portion of the Property during the period of their ownership. Once portions of the Property are sold or otherwise transferred, the associated proffers become the obligation of the purchaser or other transferee and shall no longer be binding on the seller or other transferee. With respect to any portion of the Property subject to a COA, the COA shall have liability for performance of any applicable proffers, but not the individual condominium owners.

100. Counterparts. These Proffers may be executed in one or more counterparts, each of which when so executed shall be deemed an original and all of which when taken together shall constitute but one and the same instrument.

[Signatures on next page]

Nugget Joint Venture, L.C.
RZ 2009-HM-017
Tax Map: 15-2((1)) Parcel (13 pt.),
Tax Map: 15-4((5)) Parcel 5B and Parcel 5A (pt.)

Signature Pages to Proffer Statement

**TITLE OWNER OF TAX MAP NO. 15-2((1))13 (pt.):**

**NUGGET JOINT VENTURE, L.C.**

By: **ALLEN & ROCKS, INC**., its manager

By: _____
Samuel A. Rocks, Vice President and Secretary

**TITLE OWNER OF TAX MAP NO. 15-4((5))5A (pt.):**

**DULLES ROCKHILL PARTNERS LIMITED PARTNERSHIP**

By: Crimson Development, Inc.
Its: General Partner

By: _____
R. Kevin Dougherty, President

Signature Pages to Proffer Statement

**TITLE OWNER OF TAX MAP NO. 15-4 ((5)) 5B:**

**BOARD OF SUPERVISORS OF FAIRFAX COUNTY**

By: _____
Edward L. Long, Jr.

Its: County Executive

## EXHIBITS

Exhibit A Metro Plaza Stormwater Management Alternative Plan

Exhibit B Design Guidelines

EXHIBIT A

Metro Plaza Stormwater Management Alternative Plan

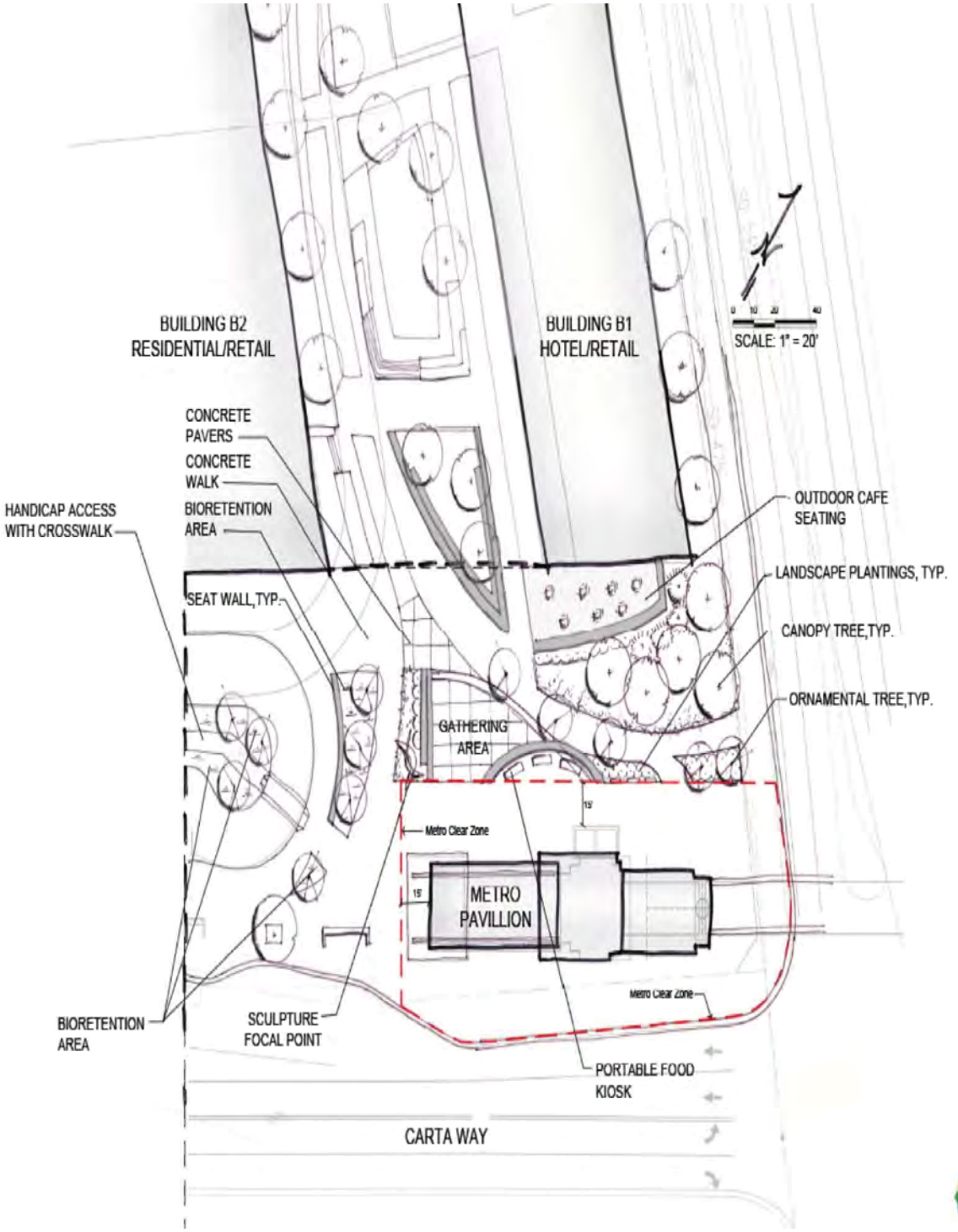

BUILDING B2
RESIDENTIAL/RETAIL
BUILDING B1
HOTEL/RETAIL
SCALE: 1" = 20'
CONCRETE PAVERS
CONCRETE WALK
BIORETENTION AREA
HANDICAP ACCESS WITH CROSSWALK
SEAT WALL, TYP.
OUTDOOR CAFE SEATING
LANDSCAPE PLANTINGS, TYP.
CANOPY TREE, TYP.
ORNAMENTAL TREE, TYP.
GATHERING AREA
Metro Clear Zone
METRO PAVILLION
BIORETENTION AREA
SCULPTURE FOCAL POINT
PORTABLE FOOD KIOSK
CARTA WAY

EXHIBIT B

Design Guidelines

# EXHIBIT B

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

## PROPOSED DESIGN GUIDELINES FOR

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

dcs DESIGN
DAVIS CARTER SCOTT

Dewberry

LSG LANDSCAPE ARCHITECTURE

APRIL 28, 2014

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APRIL 28, 2014

# VISION FOR INNOVATION CENTER SOUTH:

# A TWENTY-FIRST CENTURY TRANSIT-ORIENTED DEVELOPMENT

ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

1960 GALLOWS ROAD
SUITE 300
VIENNA, VIRGINIA, 22182
T: 703 915 3383

dcs DAVIS CARTER SCOTT Ltd
DESIGN

1676 INTERNATIONAL DRIVE
SUITE 500
McLEAN, VIRGINIA, 22102
T: 703 556 9275

Dewberry

8401 ARLINGTON BOULEVARD
FAIRFAX, VIRGINIA, 22031
T: 703 849 0518

LSG LANDSCAPE
ARCHITECTURE

1919 GALLOWS ROAD
SUITE 110
VIENNA, VIRGINIA, 22182
T: 703 821 2045

PROPOSED DESIGN GUIDELINES FOR

# INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE

## TABLE OF CONTENTS 1


**INTRODUCTION** 3

**DEVELOPMENT GOALS** 4

**DEVELOPMENT SUMMARY** 5

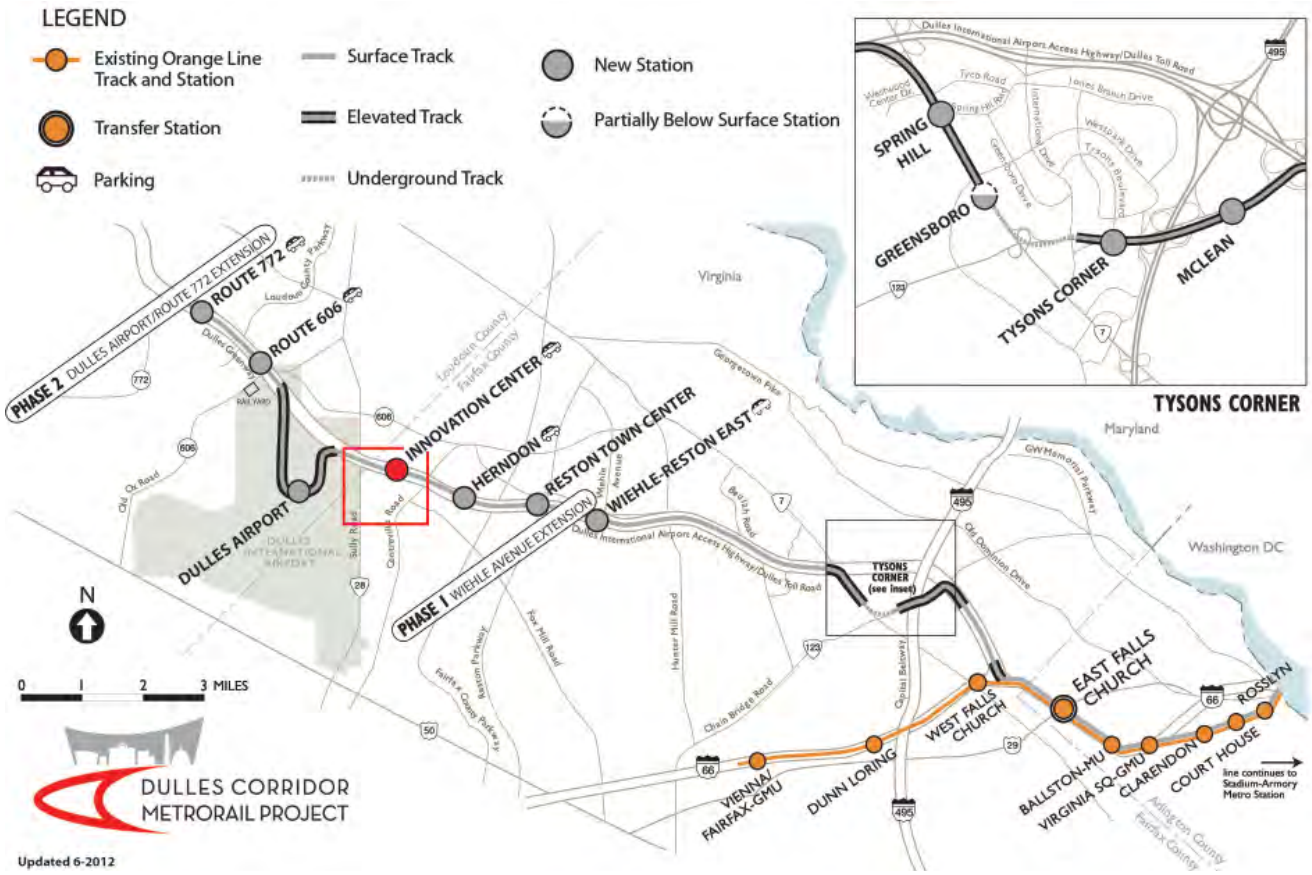
**FRAME WORK PLAN** 9
CONNECTIVITY 11

**DESIGN STANDARDS** 12
OVERVIEW 12
TYPICAL ARCHITECTURAL ELEVATIONS 14
PLAZAS, OPEN SPACES AND FOCAL POINTS (General) 16
METRO PLAZA SPECIFIC GUIDELINES 18
METRO PLAZAPEDESTRIAN CIRCULATION 22

**PHASE I INTERIM IMPROVEMENTS** 24
POCKET PARK SPECIFIC GUIDELINES 26
URBAN PARK SPECIFIC GUIDELINES 28
STREETSCAPE / PEDESTRIAN WALKWAY DESIGN 30
PLANT MATERIALS 36
PUBLIC ART 37
BICYCLE ACCESS / PARKING 38
LIGHTING 39

**CHARACTER OF BUILDINGS** 40
SPECIFIC BUILDING TYPOLOGIES 42
Type 1 – Low Rise Residential (Six Floors or Less) 42
Type 2 – Mid to High Rise Residential (Seven Floors or More) 45
Type 3 – Commercial Office 46
Type 4 – Hotel 48
TYPE 5 - Garages 48
TEMPORARY RETAIL 49
AWNINGS & CANOPIES 50
BANNERS 51
SIGNAGE 52
MECHANICAL EQUIPMENT 53
FENCES, WALLS, & SECURITY GATES / BARRIERS 54
FLAG POLES & FLAGS 55

*INNOVATION CENTER ON SILVER LINE*



*INNOVATION CENTER SOUTH SITE*

## INTRODUCTION

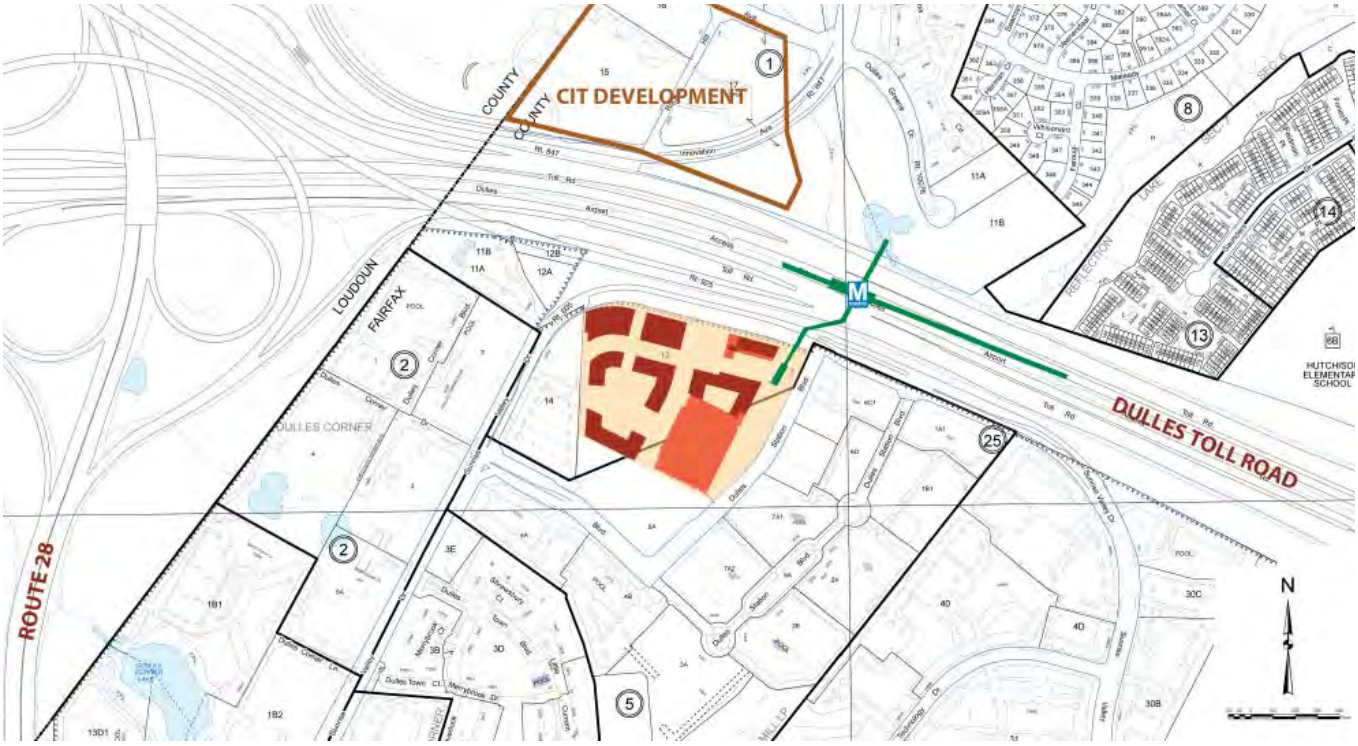
Innovation Center South is planned to be a transit-oriented, mixed use development providing a high quality built environment.

This 14.68 acre site is located in Fairfax County, Virginia and is directly adjacent to the planned Innovation Center Metro Station. Dulles Airport, one of the major economic engines of Northern Virginia and the Washington Metropolitan area as a whole, will be the next Silver Line station to the west and is also easily accessible via automobile.

The site enjoys close proximity to Route 28 and the Dulles Toll Road (Route 267), two of the most important highways in the region.

The Center for Innovative Technology (CIT), a driving force in the technology sector of the Virginia economy, is opposite Innovation Center South. The pedestrian bridges being constructed as part of the Silver Line will provide a direct connection between CIT and Innovation Center South.

The project is comprised of residential, office, retail, hotel uses and controlled parking facilities as well as a large public garage that will serve as a major park and ride facility for Metro's Silver Line. In conjunction with the Innovation Center Metro Station, the concomitant bus and other commuter facilities will make Innovation Center South into a major transit hub for this portion of Fairfax County.




*INNOVATION CENTER SOUTH SITE*

## DEVELOPMENT GOALS

Development of Innovation Center South will accomplish the following goals:

- ❖ Establish a new "place" where residents, guests, workers, commuters, shoppers and diners can interact in a vibrant plaza venue and gain access directly to the Innovation Metro Station.

- ❖ Provide for increased connectivity to ad-joining developments.

- Provide a compact, walkable public realm with gracious plazas and streetscape as well as access to the Innovation Metro Station and Garage, enhanced by retail and restaurant establishments where appropriate.

- Create programmable spaces within the principal plazas that can serve as a dynamic venue for a variety of events and public uses.

- Incorporate high levels of architectural and urban design into the project that is consistent from phase I to final development phase.

## DEVELOPMENT SUMMARY

The total Gross Floor Area (GFA) proposed for Innovation Center South is (up to 1,646,041 SF) which averages up to 3.0 FAR as allowed under the requested PRM zoning category and in conformance with the 3.0 FAR recommended in the Comprehensive Plan. While embracing flexibility in order to be able to respond to market demand, the proffers and Conceptual Development Plan/Final Development Plans will (CDP/FDP) also ensure a balanced community with a development framework that includes the following components:

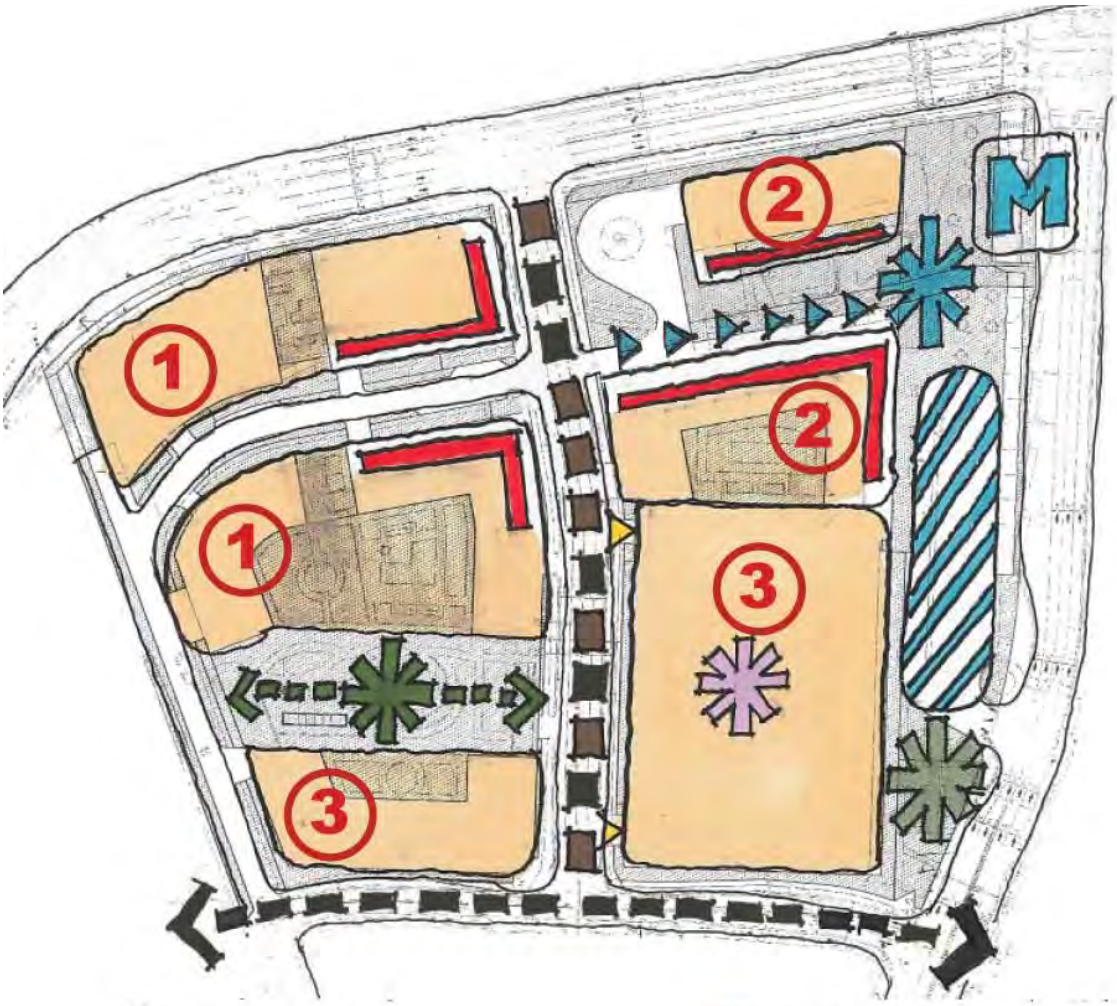
- A 2108 space garage to serve the Metro Station. [C1]
- A Kiss and Ride facility
- 4 Bus Bays
- Bicycle Facilities
- A strikingly designed plaza adjacent to the Metro Pavilion
- Two office buildings [A1, A2]
- A hotel [B1]
- Low and high rise residential [A3, A4, B2, D1]
- High quality retail
- An inviting and highly walkable streetscape
- A combination of on-street, underground and structured parking
- New public streets and private roads

*MASSING MODEL - VIEW FROM SOUTH*

*MASSING MODEL - VIEW FROM CARTA WAY*

*AERIAL VIEW FROM TOLL ROAD*

*FRAMEWORK PLAN*




- Pocket Park
- Metro Signage Entries
- New N/S Collector
- New E/W Collector
- 1 Height Zone 1 | up to 180′
- 2 Height Zone 2 | up to 120′
- 3 Height Zone 3 | up to 90′
- METRO
- Kiss & Ride
- Metro Garage
- Urban Park
- Metro Plaza
- Main Pedestrian Connection to Metro
- Height Zone
- Retail Frontage

## FRAMEWORK PLAN

The Framework Plan illustrates the principal concepts underlying the design of Innovation Center South. The tallest buildings (Height Zone 1 (up to 180') are located on Sunrise Valley Drive away from lower rise residential areas. Height Zone 2 (up to 120') provides a tapering effect towards the lower rise development to the east and south. The lowest buildings in Innovation Center South, in Height Zone 3 (up to 90'), are adjacent to the existing and proposed low rise residential development.

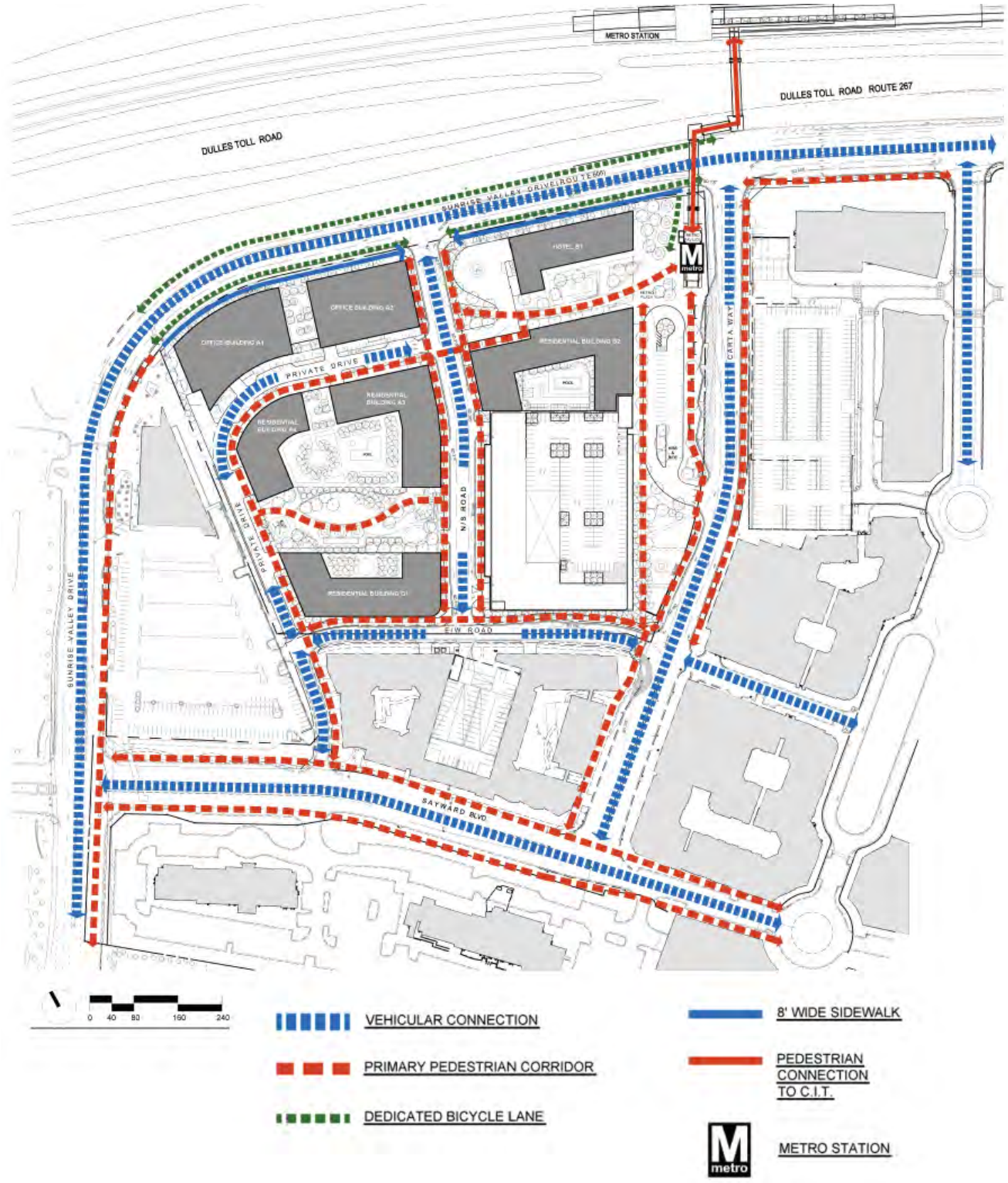
Tapering towards the south brings light and air to the interior spaces and creates compatiblity with the proposed residential development to the south side. The Metro Plaza opens up to the elaborate landscape of the metro park between the hotel and the residential tower.

The exposure on Toll Road creates opportunity for major corporate headquarters and upscale hotel. A formal plaza in front hotel main entrance establishes a gateway to the development and opens long views into and from this mixed use complex.

Retail development is concentrated on either side of the major pedestrian access to the Metro Plaza and on the street leading up to it. Major parking and loading for the Metro Garage and other parts of the development occurs on the new North/South street. The triad of principal open spaces (Metro Plaza, the Pocket Park and the Urban Park) will each have their own character as defined in these guidelines and each will make a unique contribution to the public realm.

A grid pattern of streets with high quality streetscape elements knits the whole composition together while the new East/ West street offers the opportunity to create connections to adjacent properties so that Innovation Center South can serve as a catalyst for the creation of a larger urban sector.

## *CONNECTIVITY*




*Future Development will be integrated to the existing grid and will be well connected with adjacent properties.*

## CONNECTIVITY

- The new North/South and East/West roads are connected to the existing road network and are intended to be primarily internal roads. Private Drive terminates at the New North/South Road and is envisioned as a pedestrian friendly street lined with retail and parallel parking on both sides. The Metro Plaza will serve as a focal point for both vehicular and pedestrian activity.

- Primary pedestrian connections are located along wide, well lit sidewalks accentuated by shade trees and street furniture. These features will also be integrated into the parks and public plazas, providing a safe and inviting environment for residents and visitors.

- Innovation Center South is connected to C.I.T. and new development on the north side of the Dulles Toll Road via an elevated pedestrian connection that passes through the Metro Station.

- A dedicated bicycle lane on Sunrise Valley Drive, with generous bicycle parking throughout the site and inside the parking garages, will encourage bikes as a viable alternative to automotive vehicles.

- The 8' wide sidewalk along Sunrise Valley Drive will be connected in the future with a wider network of pedestrian trails throughout Fairfax County.

# DESIGN STANDARDS

## OVERVIEW

Effective design guidelines define what is important to achieve from a civic perspective. The project is comprised of residential, office, retail, hotel uses and controlled parking facilities as well as a large public garage that will serve as a major park and ride facility for Metro's Silver Line. When using these guidelines to review, develop or alter a project within Innovation Center South it is as important to look to the intent of the recommendation as to the specific provisions. Thus, these guidelines are intended to create a framework for future decisions regarding the built environment in Innovation Center South that allows for flexibility and creativity.

To help establish this intent, the following is a partial list of common elements which occur in the urban environment with guideline statements that will aid both the County and the developer during the creation of Innovation Center South.

*VIEW FROM METRO PAVILLION*

*AERIAL PERSPECTIVE FROM CARTA WAY*

*With the exception of the Metro Garage, all 3492 cars that support the development are hidden under or behind the buildings leaving open areas for parks and plazas. The open areas are designed and programed with special care to become meeting and gathering spaces, to hold public events, or to provide adjacent retail with outdoor seating.*

*AERIAL PERSPECTIVE FROM SOUTH*

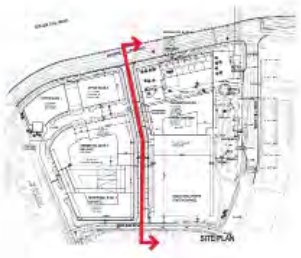
## *TYPICAL ARCHITECTURAL ELEVATIONS*

*ELEVATION A*

*ELEVATION B*

*ELEVATION A*

*ELEVATION B*



*Buildings are designed with extensive glazing & other high quality finishes. Ground floors have higher floor to floor height. Non-reflective, clear glass is encouraged to allow for integration between interiors and the streetscapes in order to make the buildings inviting and open. Building scale and proportions are balanced by alternating the materials and articulation of exterior walls.*

## TYPICAL ARCHITECTURAL ELEVATIONS

ELEVATION C

ELEVATION D

ELEVATION C

ELEVATION D

LEGEND

1 MASONRY / PRECAST
2 CLEAR GLASS
3 SPANDREL GLASS
4 ALUMINUM STOREFRONT
5 ARCHITECTURAL RAILING
6 METAL CANOPY
7 SIGNAGE
8 OVERHEAD DOOR
9 METAL TRELLIS
10 SYNTHETIC EIFS (STUCCO)
11 METAL PANELING

*The dynamic skyline is achieved by higher corner elements, as well as higher parapets and architecturally integrated mechanical penthouses. Throughout whole development, the use of earth tones and complementary colors creates harmony between the various building types.*

## PLAZAS, OPEN SPACES, COURTYARDS AND FOCAL POINTS (General)

Plazas, open space and special amenities make important contributions to the quality of the built environment when properly designed.

They should be an integral part of the overall concept and be compatible with the design of adjacent buildings. These key components of the public realm should be visually linked by the streescape elements to assist in wayfinding through Innovation Center South

The following general guidelines are intended to give direction to the design of these spaces whether public or private.

Specific guidelines for the Metro Plaza, immediately adjacent to the Metro Pavilion, the Urban Park of approximately 1 acre in the residential precinct and the Pocket park at the southern end of the Metro bus facility follow:

- Plazas should have ample provision for seating on planter and other walls as well as more traditional seating such as benches. Outdoor cafes should be encouraged.

- Highly landscaped residential courtyards should provide recreational facilities and amenities for the residents such as swimming pools, fire pits, exterior billiard tables, seating areas, etc.

- Landscape materials in plazas and open spaces should provide shade in summer and color throughout the year. Native landscape plantings should be used where practical.

- Where appropriate, quiet recreational facilities such as chess tables, art features, event spaces, multi-function lawns, bocce courts and playgrounds should be provided.

- Provision should be made for power, stage areas, sound systems and event lighting depending upon the character and purpose of the individual plaza or open space.

- Plazas should have central focal points of interest which help organize the space. This may be accomplished by public art, fountains and architectural features or the design of adjacent buildings.

- Landscape design, whether in public or private areas, should reinforce the architectural design objectives and screen views of parking areas, service areas, mechanical equipment, etc.

- In order to achieve a high quality pedestrian experience, kiosks should be located in a manner that does not impede the public way and utility zones should not be located in the center of the plaza.

- Open spaces should be visually linked by streetscape and other landscape elements to assist in wayfinding

*PUBLIC PLAZA*

## METRO PLAZA SPECIFIC GUIDELINES

The Metro Plaza is the largest public open space within Innovation Center South and will serve as the social and civic heart of Innovation Center South. This is the place where major public events such as festivals, farmers markets and fairs will occur. It is also an urban place consisting of a variety of spaces that encourage both private contemplation and person to person interaction. Symbolically, it is the interface between the private and public spheres as exemplified by the Metro Station and the hotel site which frame the plaza. Over an acre of well-designed urban hardscape and landscape, Metro Plaza also establishes a formal gateway at the intersection of Sunrise Valley Drive and Carta Way. As Innovation Center South develops, the north and south edges of the Plaza will be defined by private buildings containing ground floor retail. This will not only help activate the space but will also enhance the character of the Plaza.

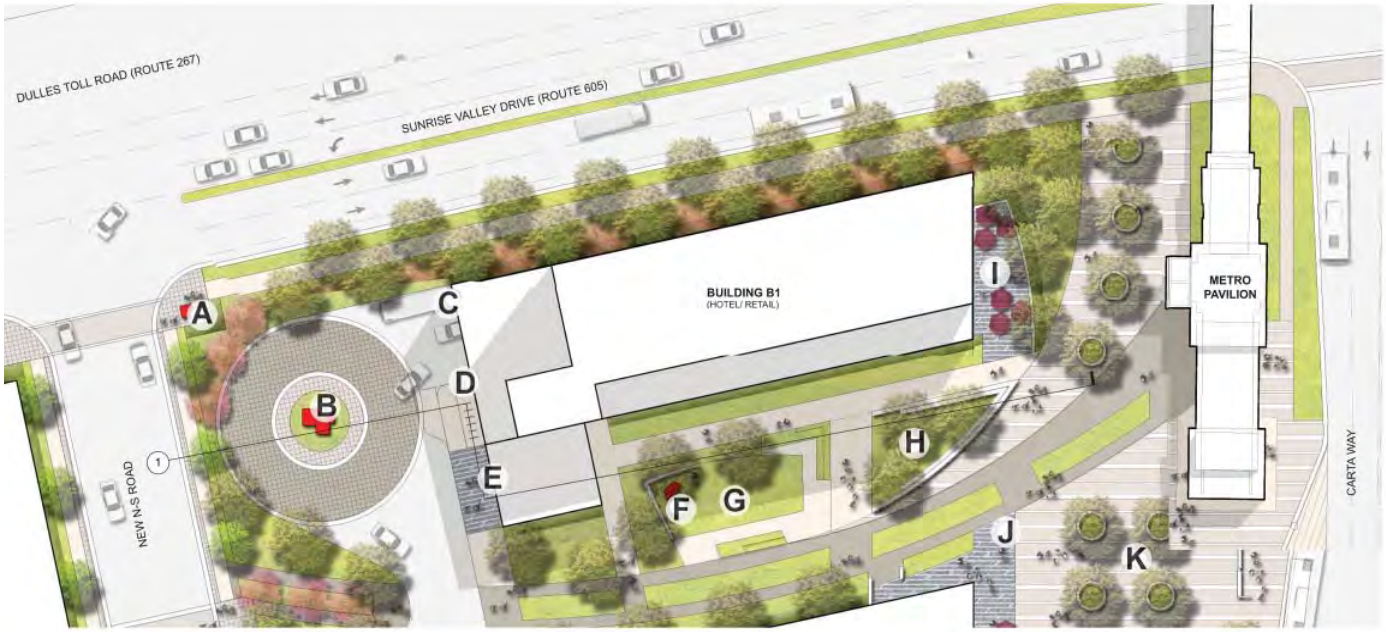
The Metro Pavilion will provide a visual terminus at the northeast corner of the Plaza while public art and other features will define the southern entry. The following primary design features characterize the Metro Plaza:

### Building Frontages

The buildings (architecture, functionality and relation to the ground plane) should be designed to foster active use of the plaza and to be enticing and easily accessible to the surrounding community. A variety of design strategies including placement of public art, installation of awnings or other entry details and use of signage as allowed under the Zoning Ordinance and an adopted Comprehensive Sign plan may be used to enhance and enliven the pedestrian experience, create additional visual interest, denote locations of retailers and communicate project and Metro related information to pedestrians. Specific recommendations for these buildings and adjunct uses are contained in the Building Design Guidelines portion of this document.

*STREET SCAPE*

## *METRO PLAZA*




### METRO PLAZA POTENTIAL ACTIVITIES

SERVE AS A MAJOR TRANSIT CORRIDOR AND UNIQUE PLACE-MAKING PLAZA FOR CIVIC GATHERING AND COMMERCIAL SUPPORT ACTIVITIES SUCH AS SEASONAL DECORATIONS & PROGRAMS.

- SCULPTURE DISPLAY
- PICNICKING AND GATHERING SPACE
- MULTI-PURPOSE LAWN USE
- OUTDOOR RETAIL AREA
- METRO BIKE STORAGE
- HOTEL ROUNDABOUT

A. SIGN
B. FOCAL POINT
C. LOADING AREA
D. GARAGE ENTRANCE
E. MAIN HOTEL ENTRANCE
F. ART FEATURE
G. MULTIFUNCTION LAWN
H. EVENT SPACE
I. OUTDOOR CAFE
J. RETAIL SPACE
K. WiFi BOOTH & CHARGING STATION

*A. The quality of the Metro Plaza will color the perceptions of thousands of Metro riders, especially first time passengers. Creating an environment that is attractive, inviting and convenient will encourage Metro users to stay and experience all Innovation Center South has to offer. The inviting park, long vistas framed by Class A buildings with first floor retail and the other amenities in and near Metro Park will create a place that encourages engagement by all who pass through.*

*OUTDOOR FURNITURE*

The Metro Plaza will provide a pedestrian-oriented focal point for Innovation Center South as well as gathering spaces well designed access to the Metro Station. Elements of the design will include:

*SEATING*

- An area of at least 5000 square feet suitable for performances, temporary displays, sculpture, etc. This is exclusive of any designated areas for temporary retail or kiosks.
- A variety of seating areas throughout the plaza, oriented toward restaurants with outdoor seating, as well as building entrances and other locations where seating would be convenient for broader public use. It is anticipated that both permanent and temporary seating will be provided.
- A public way identified with wayfinding to reach the Metro Station that will remain open during both special events and normal operations as defined in the proffers.
- Materials and design used for paving that help to visually differentiate Metro Plaza from surrounding streetscapes.

*SEATING WALL*

*MARKETS AND SEASONAL EVENTS*

- Install lighting sufficient to create a safe and friendly pedestrian experience.

- Provide benches, planter walls and other types of seating, which are not oriented toward restaurant use, on the Metro Plaza. Such seating will be designed and sited to ensure that the Metro Plaza is welcoming, and supports the needs of Metro users as well as employees, residents and patrons of temporary retail/restaurant uses or kiosks.

- Designate areas that allow for seasonal activities such as open-air farmers' markets, art fairs, concerts, theaters, contests, holiday festivities and the like.

- Place signage in strategic locations to provide information such as times of operation, seasonal uses, Metro signage, way-finding and other site information (public and private). The design and placement of signage will be subject to the provisions of the Zoning Ordinance and the adopted Comprehensive Sign Plan for the project.

*SEATING WALL*

*PLANTERS*

**METRO PLAZA PEDESTRIAN CIRCULATION**

The Metro Plaza prioritizes nonautomotive circulation, welcoming bicyclists and pedestrians from all directions to a protected space that provides access to adjoining buildings as well as the Metro Station. The retail component of each building and the Metro Pavilion create a public venue and community focus that is truly oriented to pedestrian use and access.

Except for food trucks or similar temporary retail and service facilities as may be allowed on the Plaza (please refer to the Temporary Retail portion of these guidelines), the vehicular access to the Plaza will be restricted to emergency services and maintenance. Access to the planned hotel's porte cochere and drop-off will be restricted through the use of dismountable bollards, signage, paving, operational controls or other methods to prohibit it from becoming an informal kiss and ride

Most of the Metro Plaza is only accessible by pedestrians. At build out, the ground plane of the Metro Plaza is to be treated with high quality materials that provide a mixture of color and texture that can be used to define particular gathering places and to guide circulation through the Metro Plaza. Examples

*DECORATIVE PAVING*

of these materials include brick or concrete pavers, cobblestones, ceramic pavers and brushed concrete among others. While interim treatment of portions of the Metro Plaza surface with stamped asphalt is acceptable where construction damage is anticipated, the area immediately next to the Metro Pavilion, to be constructed in conjunction with the Metro garage, will be finished in high quality paving materials as described above.

Bollards and/or planters may be used to restrict vehicular access. If these are used they should be attractive and coordinated with the high caliber design of the plaza paving, street furnitures and other features as well as the architecture of the adjacent buildings and street furniture. The Streetscape section of these Design Guidelines provides examples of acceptable products and materials. Metro Plaza lighting will accentuate the boundaries of the pedestrian-only areas, particularly for evening use of the Metro Plaza.

Bicycles may enter the Metro Plaza at pedestrian access points, and open air bicycle parking will be available in several locations. Bicycle parking will also be placed within the private and Metro garages in designated bicycle storage rooms so that bicycles may be secured indoors prior to entering the Metro Plaza. Please refer to the Bicycle Parking/ Access Section of these guidelines for further detail.

*BOLLARDS*

## PHASE 1 INTERIM IMPROVEMENTS

By the commencement of passenger service on Phase 2 of the Silver Line, the Metro Pavilion pavilion, Metro Garage, Kiss and Ride and Metro Bus facility will be completed along with Carta Way, the new North/South street and the section of the new East/West street connecting Carta Way and the new North/South street. It is intended that Building B2 (residential/retail) will be constructed or under construction at the same time. This is important because the planned ground floor retail will not only enhance the physical connection between the Metro Garage and the Metro Pavilion but will also offer goods and services appealing to Metro riders. Additionally, the site of Building B1 (hotel/retail) provides the principal east west pedestrian connection between the rest of Innovation Center South and the Metro Station.

However, given the uncertainty of market conditions, it is possible that one or both buildings will not have been constructed or that construction will not be imminent. In that case interim improvements will be undertaken to insure the goal of providing a pleasing pedestrian environment for Metro users will be achieved. The building sites will be graded and planted with either lawn or another suitable ground cover such as a hardy sedum. Impervious walking paths will be constructed connecting Metro Plaza to the rest of the site. An area of approximately 5000 (minimum) square feet will be constructed on the eastern side of the B2 site. The exact size of the space to be determinedas the design progresses and uses are further defined. The purpose of this space is to allow for a variety of functions and activities that will:

- Create a frame/edge for the sidewalk leading from the Metro Garage to the Metro Station entrance
- Accommodate food trucks and other temporary uses (please see that section of these guidelines for further information) that can cater to Metro riders and people in nearby developments.

*RETAIL LINED SIDEWALK*

- Provide a place where events such as musical performances or farmer's markets can take place

Physically this space will contain the following elements:

- Paved areas of sufficient strength to accommodate a limited number of food and farmer's trucks
- Quick growing landscape screening such as Leland cypress to create a visual edge for the space
- Movable planters that can assume various configurations depending on how the space is being used
- Bicycle racks
- At least one location with electrical outlets
- An area with tables and seating
- Trash Receptacles
- Attractive temporary Restrooms

## POCKET PARK SPECIFIC GUIDELINES

The Pocket Park will serve a number of different functions including: establishing a sense of entry into Innovation Center from the south; serving as a bio retention area; providing landscape screening for a portion of the Metro Garage; and creating a less active alternative to the Metro Plaza and Urban Park.

To fulfill these functions the Pocket Park should be designed as follows:

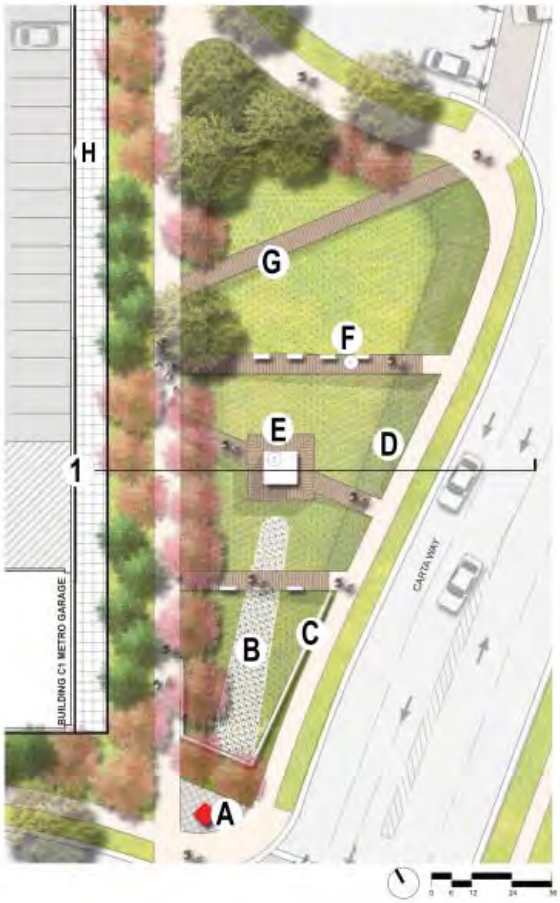
- Whenever possible use native plant materials, especially within the bio retention area. Informational signage should be installed that would inform passersby as to the purpose of the bio retention area and the importance of using native plants whenever possible.

- Provide connections either over or around the bio retention area that connect the sidewalks between the Metro Garage and Carta Way.

- Incorporate seating areas on the walkways and elsewhere. These should be positioned so that both sun and shade areas are available to users.

- Use public art, flag arrays, paving, lighting variations or some other special feature to establish an entry/focal point at the southern end of the site and to assist in wayfinding.

- Provide additional landscape along the Metro Garage side of the Pocket Park to soften the edge of the structure and to enhance the pedestrian experience.




## POCKET PARK

THE SMALL SCALE PARK SPACE PROVIDES A SERIES OF BOARDWALKS AND INFORMATION KIOSK AND AN ART FEATURE.

THE PLACE IS DESIGNED FOR CASUAL USE BY TRANSIT USERS AND IS SERVED AS A NEIGHBORHOOD PARK FOR DEMONSTRATING ON PROTECTION, PRESERVATION, AND STAINABILITY OF NATURAL RESOURCES.

- BOARDWALK
- BENCHES
- EDUCATIONAL AND INFORMATION KIOSK
- BIO-RETENTION FACILITY WITH NATURAL HABITAT
- KINETIC ART

A. ART FEATURE
B. STORMWATER BASIN
C. RETAINING WALL
D. SLOPE VEGETATION
E. INFORMATION KIOSK
F. BENCH
G. BOARDWALK
H. LIGHT WELL

1 SECTION

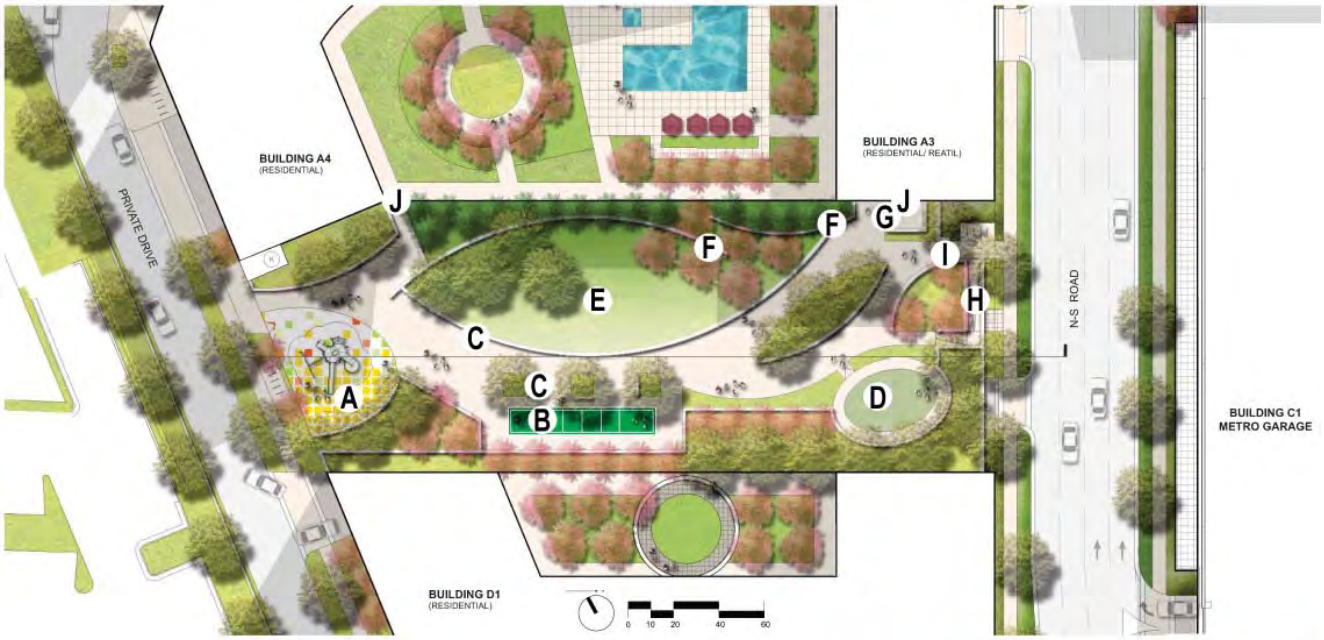
## URBAN PARK SPECIFIC GUIDELINES

At approximately one acre in size, the Urban Park is a large open space area within Innovation Center connecting the new North/ South Street and the Private Road to the west. The Park is flanked on the north by Buildings A3 and A4 and on the south by the Building D1. In both directions the majority of the park frontage is the private courtyards associated with each development. In the case of Buildings A3 and A4, the private courtyard is elevated approximately 30 feet above the general grade of the Urban Park while elevation of D1 is approximately 20 feet below the Urban Park. Additionally, the Urban Park itself rises approximately 6 feet from east to west.

These topographic challenges also create exciting design opportunities. For example, the retaining/garage wall for A3 and A4 will become a focal feature for the Park - as could the similar wall which will occur between the Park and Building D1. The elevation changes within the Park should be used to emphasize to the progression of space and enhance the pedestrian experience.

Specific guidelines for the Urban Park are as follows:

- To the extent possible, because of the grade changes, create visual connections between the private courtyards and the Urban Park and provide restricted access physical connections from the garage. These courtyards are not part of the public park.
- Use special treatments which could include materials, plantings and art on the wall supporting the plaza for Buildings A3 and A4 to create visual interest and to help frame the Park.
- Create a series of outdoor rooms within the Urban Park that can accommodate a variety of activities including events, structured and unstructured play/games, casual interaction and more quiet activities such as reading. This could include formal play areas such as bocce ball or volley ball courts, un-programmed lawn areas, an amphitheater or other venue designed for public events and a playground.
- Ensure that the safety railing or wall adjacent to Building D1's courtyard is attractive and that it contributes to the overall aesthetics of the Urban Park as well as providing visual access.
- Use a variety of materials including lawn panels,different paving materials and lighting patterns to help create the outdoor rooms mentioned above.
- Incorporate public art as defined later in these guidelines, into the fabric of the Urban Park.
- Provide seating walls and other seating options throughout the park.




## URBAN PARK

SMALL SCALE OPEN SPACE DESIGNED FOR CASUAL USE BY PEOPLE WORKING AND LIVING IN THE IMMEDIATE AREA. MULTI-PURPOSE LAWN AREA.

- AMPHITHEATER
- PLAYGROUND
- SEATING WITH ENGRAVED GAME BOARDS
- PICNIC AND GATHERING AREA

A. PLAYGROUND
B. BOCCE BALL COURT
C. SEATWALL / GAME BOARD
D. DOG PARK (ARTIFICIAL TURF)
E. MOUNDED LAWN AREA/ MULTIFUNCTION SPACE
F. DECORATIVE SCREEN WALL
G. PUBLIC PATIO SPACE
H. HANDICAP RAMP
I. STAIR
J. PARK ENTRANCE
K. ELEVATOR

*URBAN PARK*

*CROSSWALKS*

## STREETSCAPE / PEDESTRIAN WALKWAY DESIGN

The streetscape is one of the most important public spaces in Innovation Center South. As such the success of its design is of critical importance to the overall success of the project aesthetically and commercially. Consisting of the street, the sidewalk, the street furniture and the facades that front on to it, the streetscape is the interrelationship between all of these elements. Well-designed streetscapes establish an important visual link throughout an area and should also contribute to and help establish a place's overall identity. The following recommendations are intended to provide guidance in the development of the components of the streetscape.

- Sidewalks may be concrete, brick or other acceptable material but can incorporate decorative elements such as paver banding, color, interesting patterning in the concrete or other elements in order to help define and enhance the identity of the various areas within Innovation Center and to assist in wayfinding.

- Except in those cases such as building entrances, focal points and other special places, the design, materials and street furniture should be consistent throughout Innovation Center South.

- Street trees should be planted in grates and generally placed 30 to 40 feet on center. Variations in the street tree pattern to acknowledge building or store entrances and other significant features shall be allowed as well as to introduce variations in the rhythm of the streetscape.

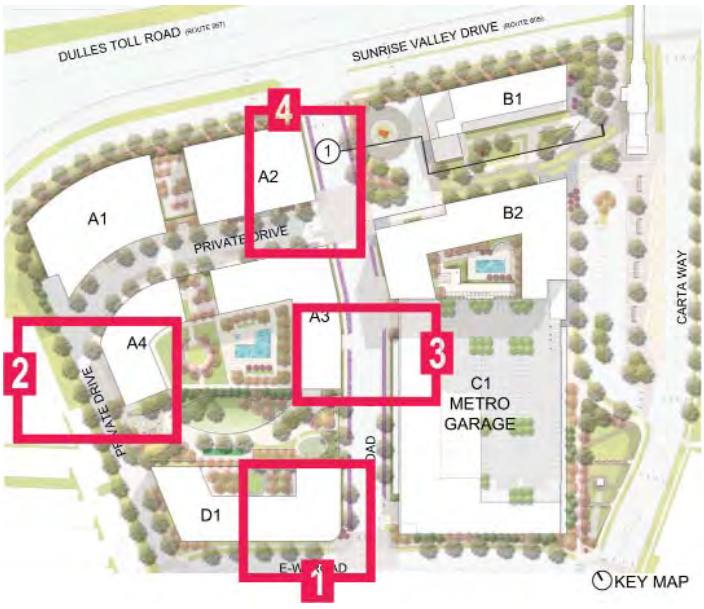
- Subject to an approved Comprehensive Sign Plan and/or the provisions of the Zoning Ordinance, decorative banners are encouraged.

- Street furniture, including but not limited to bollards, benches, trash receptacles, and bike racks shall be selected from commercially available models which combine user comfort, low maintenance

and high vandal resistance. Street furnishings shall be placed so as to not impede pedestrian traffic. Street furnishings shall be of high quality, and consistent with the style and color of the selected streetscape light fixtures as well as with the overall architectural vocabulary of Innovation Center. The design and placement of street furniture should compliment and enhance the architecture of the built environment as well as contributing to the pedestrian experience. In general, street furniture should be consistent throughout Innovation Center South except for those focal points such as the Metro Plaza which warrant unique design.

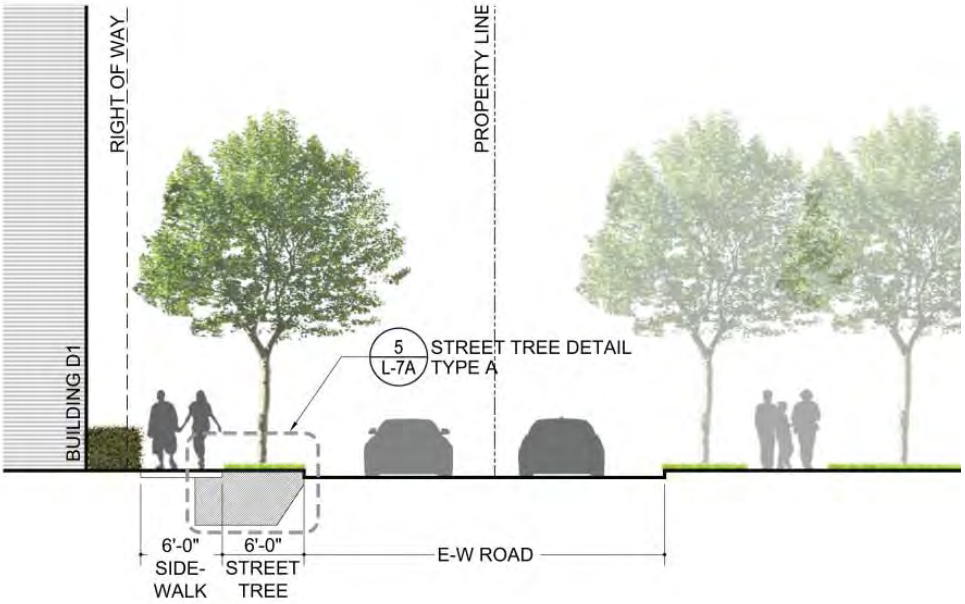
- At street intersections and other locations where there may be pedestrians crossing roadways, crosswalks that are visually and, where appropriate, texturally distinct treatments are desirable. Several approaches are used including StreetPrint or similar materials embedded in the roadway, pavers or painted stripes. Where appropriate, traffic signals that address pedestrian movements are recommended and should be properly timed to support pedestrian crossings.

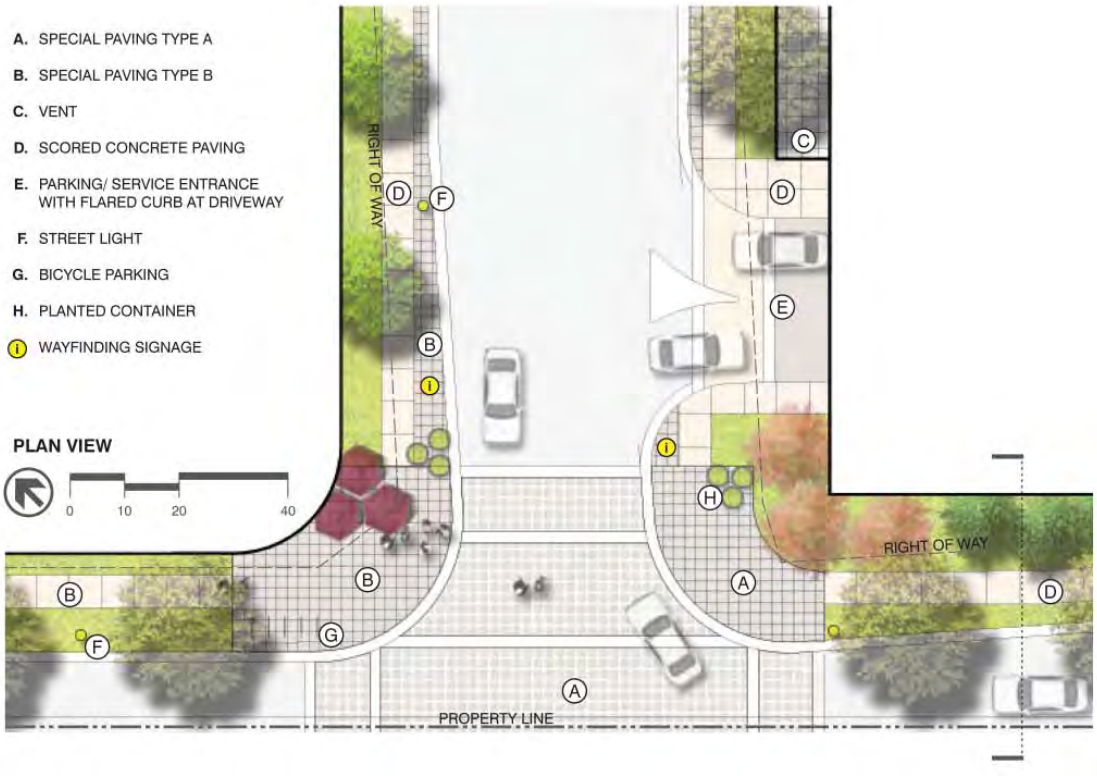
- As shown on the following drawings, sidewalks will generally consist of a 4 foot wide building influence area, six foot walking area and a six foot landscaped area except as otherwise specified in the CDP/FDP. However, the specific dimensions may be modified to best accommodate and support the adjacent buildings and uses. Such modifications may include but are not limited to clustering some or all of the landscaped zone to provide additional hard surface area for outdoor cafes, narrowing or widening the overall dimension of the sidewalks to accommodate specific functional or aesthetic conditions, or to enhance the growth environment for plantings or to create shaded seating areas etc. In no case should such modifications create unsafe conditions for the pedestrian.




*KEY FOR TYPICAL STREETSCAPE SECTIONS*

*EAST/WEST ROAD*




*TYPICAL STREETSCAPE SECTIONS*

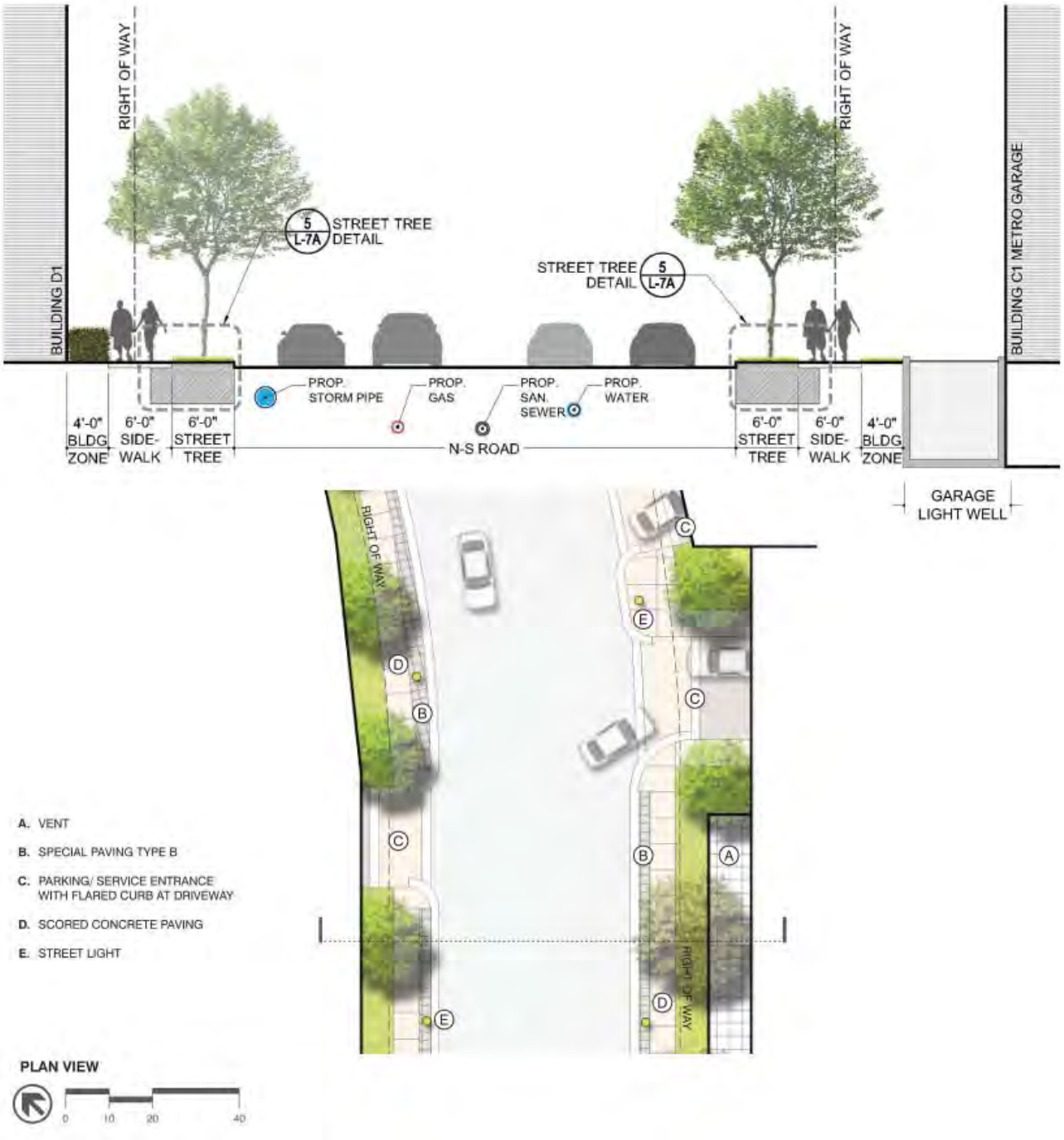
1

## *PRIVATE DRIVE*

2

## *TYPICAL STREETSCAPE SECTIONS*

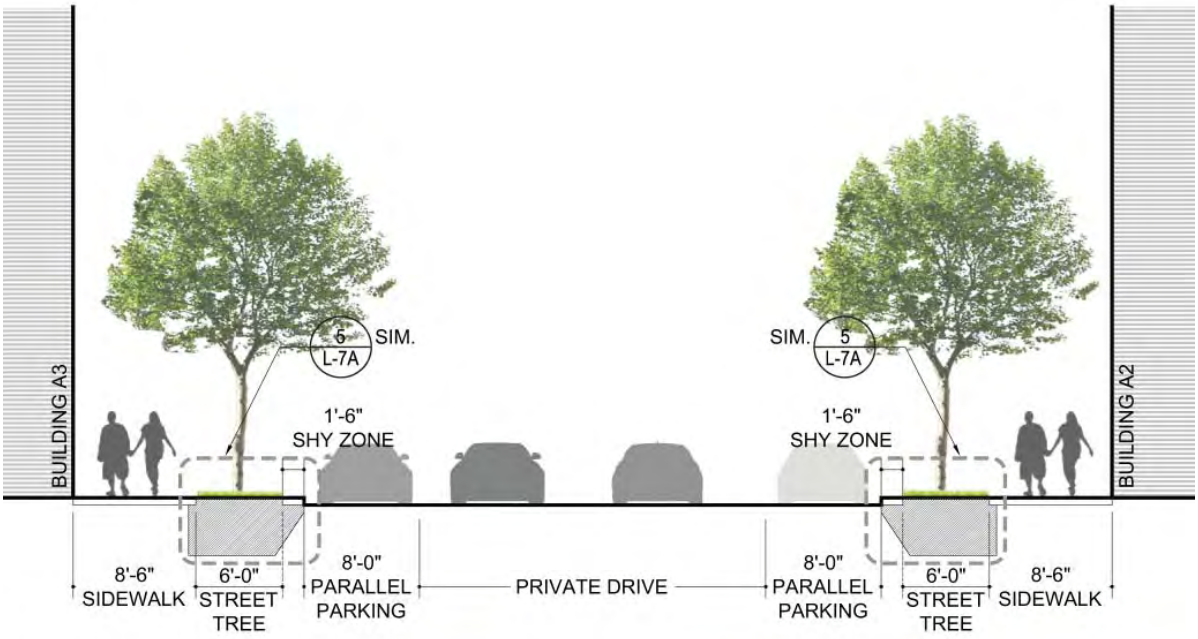
## *NORTH/SOUTH ROAD*

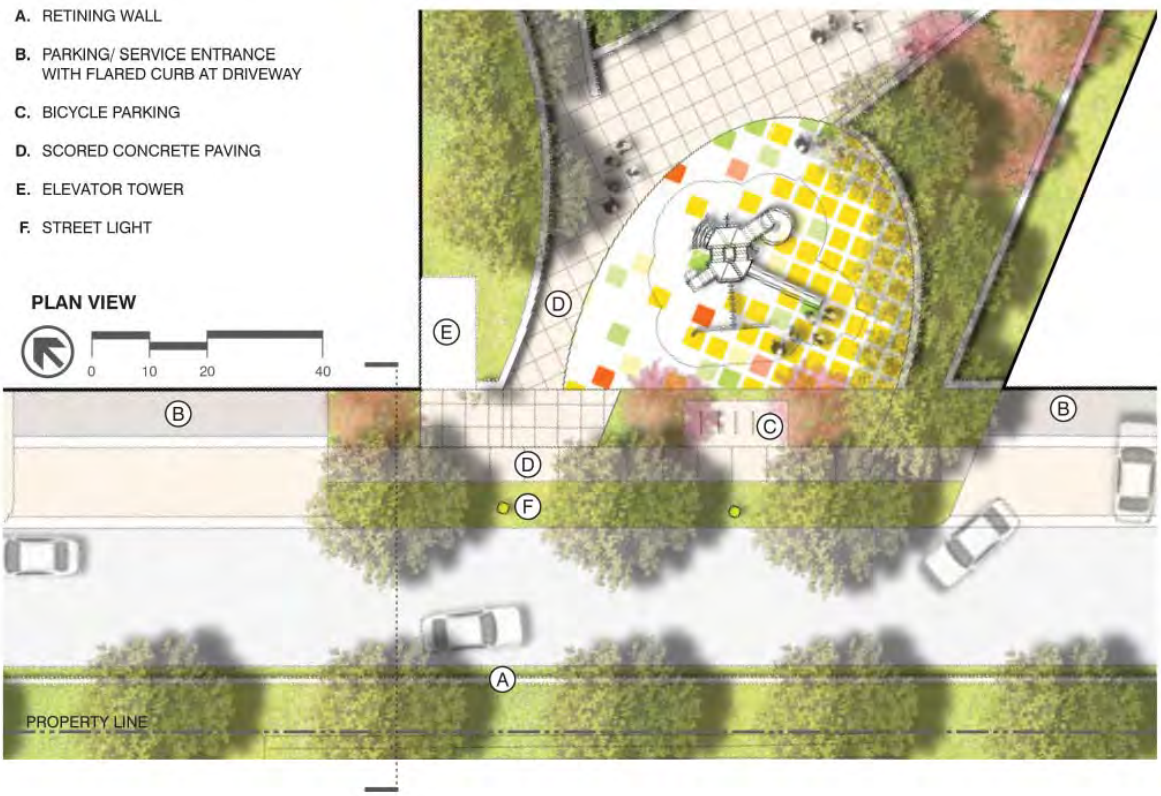



## *TYPICAL STREETSCAPE SECTIONS*

3

## PRIVATE ROAD




4

## TYPICAL STREETSCAPE SECTIONS

## PLANT MATERIALS

Proposed plant materials shall comply with the sizing and grading standards of the latest edition of American Standard for Nursery Stock. These standards include the following:

- ❖ Specific species of plants to be used in Innovation Center South will be in conformance with Fairfax County Public Facilities Manual.

- ❖ To ensure consistency in street tree plantings throughout Innovation Center South, a master plant list shall be established with the first Site Plan. Future site plans shall select from the same list and install plant materials of equal or greater quality.

- ❖ All landscaping planting shall be installed in accordance with the approved plan and within 6 months of substantial completion of each building on the site. At the time of installation, minimum tree sizes shall be as follows:

    - Deciduous canopy or shade trees: 3 to 3 1/2 inches in caliper.
    - Deciduous ornamental trees: 2 to 2 1/2 inches in caliper.
    - Evergreen trees: 7 to 9 feet in height.
    - Evergreen shrubs: 18 to 24 inches spread.
    - Deciduous shrubs: 3 to 4 feet in height.

- ❖ Tree pits for street tree plantings shall be a minimum of 4'x6' with a continuous amended soil panel filled with structural soil per UFMD approval.

- ❖ Important locations such as corners, intersections or screening for parking structures, may require larger trees to be installed.

- ❖ Trees and shrubs used for screening purposes shall be predominantly evergreen.

- ❖ Native landscape plantings should be selected and specified where practical.

- ❖ Irrigation shall be provided where necessary as determined by a licensed landscape arhitect.

HONEY LOCUST

LEYLAND CYPRESS

RED MAPLE

ORNAMENTAL DOGWOOD

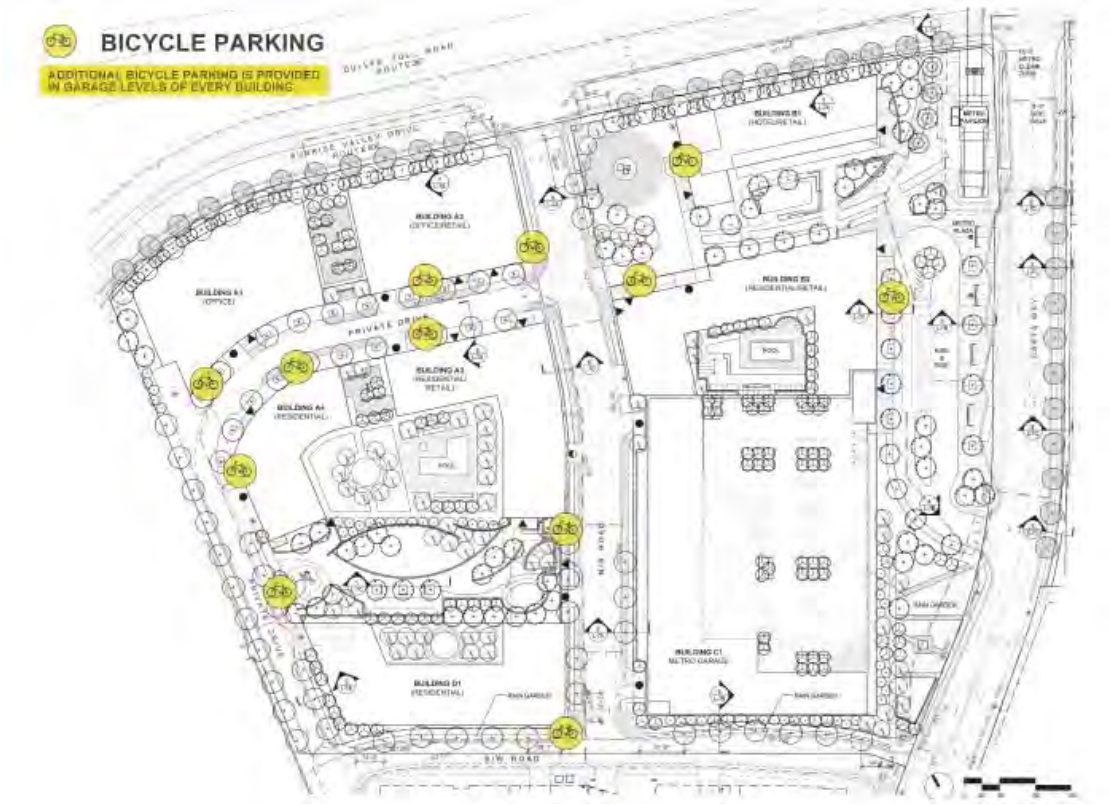
*PROPOSED MAJOR SPECIES*

**PUBLIC ART**

Both temporary and permanent artwork should be integrated into the design of buildings, public spaces, landscapes and community infrastructure. Such art may be either passive, interactive or kinetic. The selection and placement of works of art provides an opportunity to interact with the community and contribute to the sense of place within Innovation Center South. Artist-led projects that engage the community and consultation with local arts advocacy organizations should be included in the overall public art program for Innovation Center South.

Efforts shall be made to ensure that varieties of public art are introduced throughout Innovation center South.

**BICYCLE ACCESS / PARKING**



*BICYCLE PARKING*

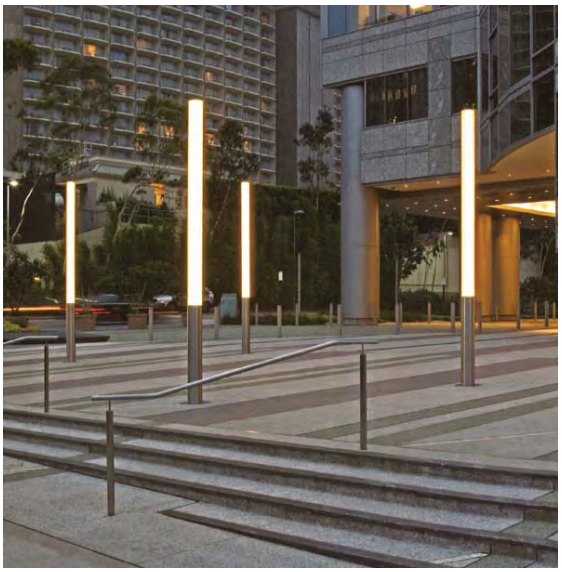
Bicycling is becoming the transportation alternative of choice for many commuters throughout the Washington region. Increasingly, workers and others are choosing to make the trip from home to work, Metro or other mass transit on two wheels. Because of Innovation Center South's role as a gateway to the Metro system, as well as being a vibrant mixed use community, particular attention is then due to the provision and placement of bicycle parking and access in Innovation Center South.

As mentioned in the Metro Plaza specific section of this document, a location for a central bicycle facility that can accommodate not only bicycle parking but also, potentially, sales and service will be selected as the design of the Innovation Center South evolves. Bicycle parking will also be placed within the private garages and the Metro garage in designated bicycle storage rooms so that bicycles may be secured indoors prior to entering the Metro Plaza or Metro system. Additionally, bicycle racks will be placed at strategic locations throughout Innovation Center South. Including beneath the pedestrian bridge and within the Metro Garage. The number of spaces shall be determined at the time of site plan approval.

## LIGHTING

Lighting should accomplish a number of objectives in the built environment; creating a sense of security which encourages evening activity, highlighting architectural or urban design features, assisting in wayfinding and, when used creatively, creating color and drama. The following guidelines are intended to provide direction of the installation and use of lighting and lighting fixtures in Innovation Center South.

- Lighting shall meet the performance standards set forth in the Fairfax County Zoning Ordinance.
- An attractive lighting fixture and standard that can provide both pedestrian and vehicular lighting should be selected and used throughout the project.
- This lighting standard and fixture should reflect the architectural theme of the project and coordinate with the street furniture.
- Light pattern shields shall be used to diminish inadvertent up lighting.
- For any building or project, exterior lighting should be compatible with and appropriate for the building architecture, materials, and colors.
- Lighting should be designed and located to accommodate public safety without creating glare or high intensity.
- The use of wall sconces, lanterns or other lighting to delineate building entrances is encouraged.



*LIGHTING FIXTURES*

## CHARACTER OF BUILDINGS

The architecture of Innovation Center South and the visual synergy between the individual buildings and the streets and other public spaces will be a critical element in achieving a sense of place. It is important that the buildings be generally constructed close to the street's build-to line and establish a continuity between the structures in the community while, at the same time, allowing for architectural innovation and creativity. The following guidelines are meant to define those elements of the buildings which are most important to the public realm while providing sufficient flexibility to create a dynamic urban environment that balances consistent urban design with architectural diversity. In no manner are these guidelines to be construed as dictating a particular architectural style or approach.

The architecture at Innovation Center South should distinguish itself from other projects in Fairfax County in order to create a unique, urban-scale, mixed used development. Architectural forms and features should be bold enough and clear enough to make each building easily comprehensible and allow pedestrians to perceive a sense of scale.

- The design vocabulary used for the individual buildings should reflect the principal use of the structure whether it is residential, office, retail, hotel or public use.

- In the case of buildings with retail uses on the ground floor, the mercantile character of the use should be clearly evident through the use of signage, awnings, display windows or other mechanisms. Entries into retail spaces should be from the street wherever possible and buildings should be predominantly oriented to pedestrian spaces.

- Buildings placed on parking podiums with minimal ground floor uses such as lobbies should present an interesting façade to the street and should reflect a pedestrian scale as well as screen parking and equipment from pedestrians. Methods for achieving this include the use of false display windows, public art and articulation of the façade through changes in materials or architectural detailing.

- The overall color of the buildings should be light in character although darker materials or colors may be used for accents and to call attention to specific architectural features.

- Long expanses of wall unrelieved by fenestration or architectural articulation are to be avoided including exposed parking structures. The garage treatments will screen parking from pedestrian view

- Building entries should be clearly delineated and readily visible.

- It is the intent of the planning at Innovation Center South to provide a pedestrian friendly environment. To that end the use of a combination of arcades, awnings and canopies, where appropriate, to provide a convenient and protected pedestrian passage along the retail frontages is encouraged.

- Mechanical equipment, whether located on the top of buildings in the case of commercial and some residential structures or ground mounted should be screened from view in an attractive yet unobtrusive manner. This can include the use of screening walls, penthouse enclosures that serve as architectural features, and landscaping.

- Articulation of building tops is encouraged in order to create a more interesting skyline for the overall development and add interest to individual buildings.

*ABOVE GRADE PARKING LEVEL TREATMENT*

This may be accomplished in a number of different ways including manipulation of the parapet, introduction of tower elements at entrances and/or strategic corners, (occupying no more than 50% of the roof area)and use of setbacks in the upper building floors provided that such features occupy no more than 50% of the roof area.

- Placement of buildings shall be as generally shown on the CDP/FDP and shall follow the build-to lines implied there and on the street sections.

## SPECIFIC BUILDING TYPOLOGIES

Innovation Center South will have a variety of building types. The following examples demonstrate the currently envisioned typologies. The examples shown of each building type are meant to describe a visual reference point and are not intended to describe a definitive architectural design. However, buildings of different typologies should relate well to their neighbors as well as to the visual context of Innovation Center South while still clearly communicating the predominant purpose of the building.

### Type 1 – Low Rise Residential (Six Floors or Less)

There is one low rise residential building (Building D1) planned for Innovation Center South. The public facades will be carefully articulated to provide pedestrian scaled architecture. The overall character of the architecture will clearly convey the appearance of residential use.

Although no retail development is anticipated for this building, architectural detailing and apartment entries will provide visual interest for pedestrians. Seating may be provided if appropriate.

Should retail be introduced at this location, it's placement and design should conform to the recommendations for that use stated elsewhere in these guidelines.

DOLCE

*RESIDENTIAL RAISED COURTYARD*

*PROPOSED EXTERIOR FINISHES AND DETAILING*

This can be achieved through the use of different fenestration and individual apartment entrances. Parking is placed in a free standing garage under the urban park and is screened from view by the mass of the building. Any portion of the garage that is exposed to view will be designed as per the Guidelines for garages in this building typology section. Special attention needs to be given to the design of this building in terms of materials and/or detailing since it serves as the transition between Innovation Center South and the generally low rise development to the South and East.

**Type 2 – Mid to High Rise Residential (Seven Floors or More)**

Mid to High rise residential buildings (B2, A3, A4), generally described as being greater than six floors in height and which may be as tall as 16 stories, should retain a clear residential identity above the podium that contains retail and the parking garage. This can be accomplished through the use of vertical window openings, balconies, bay windows, façade detailing and other devices. Building entrances should be clearly delineated. Benches may be included as part of the streetscape at building entrances.

*RESIDENTIAL BUILDINGS*

*HIGH RISE RESIDENTIAL*

*COMMERCIAL OFFICE / RETAIL BASE*

Since these buildings are generally located in the areas of the project that should have a have a fairly high level of pedestrian activity, the first floor of these buildings, even if residential or parking, should maintain the essential character and articulation of retail development. This can be achieved through the detailing of the façade materials, public art, shadow box display windows and other methods. In those cases where these buildings have parking located above grade, the skin of this portion of the structure should be integrated into the overall building design as per the Guidelines for garages in this building typology section. Lobbies and first floor amenity areas should be readily visible and attractive from the street where possible.

**Type 3 – Commercial Office**

Office buildings will be the dominant building type along the Dulles Toll Road. It is important that these buildings exhibit a high quality of design. Inclusion of special features such as articulated building tops should be included in any design. Also, because retail will generally be located in the base of the buildings it is also necessary that ground floor facades exhibit a strong retail identity through the devices identified above.

Parking for the office buildings may occur both above and below grade. The above grade office parking areas will be skinned with similar façade materials to the rest of the building.

*COMMERCIAL OFFICE*

**Type 4 – Hotel**

The hotel building should possess its own unique architectural identity which will be informed to some degree by the hotel brand or flag. Notwithstanding, the hotel design should be harmonious with the overall design of Innovation Center South. Vehicle drop-off by patrons and valet parking services may be provided on the Metro Plaza at the location shown in the CDP/ FDP. Special care should be taken to insure that this area does not become an informal kiss and ride location for Metro patrons. Methods to achieve this include care in the design and placement of landscaping or bollards, operational controls, grade seperation if possible and other methods. Special attention should be paid to the south facing façade adjacent to the Metro Plaza. Given the state of the hotel market at the time these guidelines are being developed, it is not possible to predict when or what type of hotel will be developed. Because of this and the location relative to Metro Plaza, an interim improvements phase for the site prior to construction is included in these guidelines. Consideration may also be given to placing another use at this location although this would require that the FDI be amended.

**TYPE 5 - Garages**

How automobile parking is addressed within an urban context is a critical element of the overall design. In those cases where parking acts as an above grade podium for another use thermal and noise mitigationwill be provided. The façade of the parking level(s) should be integral to the overall building design. Methods for accomplishing this include the use of the same materials as used on the rest of the façade and incorporating spandrel glass to simulate glazing, installing decorative screens or public art. No more than 50% of the area of the façade abutting an adjacent street should be open and/or unscreened. Lighting within the garage should be controlled so as to not produce undue glare either on the sidewalk or adjacent buildings. In those cases where mechanical ventilation is required, intakes

and exhaust should be integrated either into facade or landscaping and be designed to produce a minimum amount of noise.

Because of its size and location, the design of the Metro garage is especially important. At the same time the need to provide commuter parking at rates comparable to other garages in the Metro system is also essential to the building's program.

Both objectives can be accomplished by integrating cost effective but attractive detailing into the façade design, use of planting and landscaping adjacent to or incorporated into the structure, and using stair and elevator towers to add visual interest special emphasis should be placed on the design of the first level of the garage since that is the place with the most impact on pedestrian perceptions of the building. Signage for the garage should be coordinated with that of the rest of Innovation Center South.

**TEMPORARY RETAIL**

Temporary retail such as vending carts, pop-up retail and food trucks can be an attribute to the urban environment. They provide additional vitality to the street and offer alternative places to dine and shop as well as allowing persons with small amounts of capital to enter into the business world. However, such facilities can also be detrimental if poorly designed, located or maintained. The following are specific guidelines for temporary retail:

- Vending carts (such as food or beverage carts) or kiosks shall be constructed of quality materials and finishes, with signage and graphics professionally executed. Overall dimensions generally should not exceed six feet by ten feet, with a maximum height of nine feet including any awning.

- Food or vending trucks should be well maintained with signage and graphics professionally executed. The use of generators is not encouraged.

*TEMPORARY POP-UP RETAIL*

*AWNINGS AND CANOPIES*

- Appropriate areas within the Metro Plaza and on the street should be designated as temporary retail locations as the design of Innovation Center South evolves. In general these locations should not interfere with either pedestrian or vehicular traffic, should not create sightline issues at either intersections or parking or loading entrances and should not negatively impact the operations of permanent retail or restaurant spaces. In no case should such facilities block or otherwise interfere with access to Metro or create problems with respect to noise, illumination, sanitation or visual clutter.

- The use of converted shipping containers and similar structures may be considered provided that they are well designed and maintained and are consistent with the owerall imageo f Innovation Center South.

- Supportive infrastructure such as seating, temporary restrooms and additional trash receptacles should be integrated into the design of areas identified for temporary retail.

- Consideration should be given in the design of Metro Plaza to incorporating electrical infrastructure for temporary retail. Public toilets will be located in the Metro Station.

**AWNINGS AND CANOPIES**

Awnings and canopies can be an important element in creating retail identity or in designating building entrances or other features. Awnings should complement the architecture not compete with it. In general, they should accent windows and doorways. Internal illumination may be allowed. Building canopies should be permanent structures that highlight building entries. Residential or hotel canopies may extend to the back of curb. Attachment or incorporation of the building name and/or address on canopies is encouraged. Awning designs should be selected from a palette/ menu established at the time of first site plan to ensure consistency.

Other use of canopies as signs will be governed by the provisions of the Zoning Ordinance or an accepted Comprehensive Sign Plan. Specific guidelines are as follows:

- Fabric awnings or canopies generally should be simple in design with subdued patterns with a minimum image, sign text and background colors.
- Awning or canopy edges must be generally straight or geometric. Scalloped or crenulated edges should be avoided.
- Fabric awnings or canopies must be constructed of quality materials and be securely attached to their frames.
- Colors should be compatible with building architecture and other awnings on the building or within Innovation Center South.

**BANNERS**

Banners, as further defined in the Comprehensive Sign plan, are encouraged in Innovation Center South because they add color and visual interest to the built environment

There are two types of banners. The first is decorative or seasonal banners, generally vertical in design. This type is a proven method of introducing both color and continuity into urban spaces and is normally mounted on light standards but may be in stand-alone arrays as defined in the Comprehensive Sign Plan.

The second type is announcement or event banners which may be designed to be placed on the same brackets as decorative banners or, more commonly, are horizontal in nature and stretch from one side of the street to the other. A distinction should be made between this type of banner which installed to promote public events or for other civic purposes and leasing or other commercial signage.

*BANNERS*

When approved decorative or seasonal banners are used at Innovation Center South they should be part of a system, with the content being changed seasonally.
Announcement banners, if approved, should be put in place no sooner than two weeks before the event and removed within a reasonable time thereafter. Approved banners must be professionally fabricated of durable, weather-resistant material.

Placement and size of banners and the amount of allowed signage or message area is subject to the provisions of the Zoning Ordinance or an accepted Comprehensive Sign Plan.

## SIGNAGE

A Comprehensive Sign Plan shall be developed for Innovation Center South as outlined in the proffers. However, the quality, quantity and overall appearance of signs are such critical components of urban spaces it is appropriate to include standards that relate to the rest of these Design Guidelines and that will be used in the development of the Comprehensive Sign Plan.

When well designed, signs, including animated signs and movie screens promote commercial activity, introduce color and interest to the streetscape and provide necessary information. When poorly designed the effect is exactly the opposite. The following guidelines are intended to provide direction in the design, size and placement of signage throughout the Innovation Center South and direction for the development of the future comprehensive signage program:

- Signs for retail businesses shall be distinctive from their neighbors in terms of color, graphic design and other elements. Cohesiveness should be derived from generally common placement and size.

- The allowed signage area should be determined by the use, character and width of the adjacent roads.

- Store fronts and buildings along pedestrian streets can communicate more information and generally be smaller than for major streets where signage should be larger but very simple in order to communicate effectively.

- Retail sign packages should consist of three levels of signs; one that communicates with motorists and the person across the street; a smaller sign aimed at the person down the block and, finally; a combination of signs and high quality storefront design that reaches out to the person immediately in front of the shop. Projecting retail signs are encouraged as are restaurant menu boards mounted flash to the building and close to the shop entrance.

- Marquee signs are encouraged for businesses where such signs are traditional such as movie houses or performance venues.

- Illuminated signs should not disturb nearby uses, particularly residential uses, and should not create glare or excessive brightness.

- Animated signs may be considered in Comprehensive Sign Plan

## MECHANICAL, ELECTRICAL AND SIMILAR BUILDING EQUIPMENT

Mechanical, Electrical and similar infrastructure is integral to building functionality. However, the visual and auditory impact of such installations can and should be minimized as per the following guidelines.

- Electrical and mechanical equipment as well as propane tanks, generators, etc., shall be screened from public view by means of integration within the architectural elements of the building or by the use of berms, walls,

plant material or other appropriate means.

- Noise-producing mechanical equipment shall be located and screened so as to eliminate or reduce visual and auditory impact upon adjacent uses.

- Roof-top mechanical equipment shall be screened by an appropriate barrier or enclosure as per the standards included in the proffers but should generally not exceed 50% of the overall roof area.

- Vents or other mechanical façade penetrations on buildings should be an integral part of the architecture.

- Flues, vents, and pipes on the roof shall be painted a flat black or a color that matches their background or roof material color in order to reduce their visibility.

- Signal control boxes and similar devices shall not be located as to be a hindrance to pedestrians.

- Telecom equipment such as antennas, satellite dishes and cell phone equipment should be disguised or integrated into the architecture to the extent possible.

- Mechanical or electrical equipment located within plazas should be minimally visible and should not impede pedestrian movement.

**FENCES, WALLS, & SECURITY GATES / BARRIERS**

Fences, walls and similar installations are necessary parts of the urban environment and can be either positive or negative depending upon their purpose, location and design.

- Temporary fencing that is required during construction must be removed once the construction is substantially complete. Such fencing should be safe and attractive and may include art or other signage as allowed in the Comprehensive Sign Plan or Zoning Ordinances in order to enhance the pedestrian experience.

- Permanent perimeter or property line fencing or walls are prohibited, except for security purposes and for retaining walls which provide topographic relief and for control of pedestrian access. Electrical, mechanical or other equipment within the property may be secured by fences, walls, landscaping or other barriers. Such walls or fences shall be consistent with the architecture of adjacent buildings, integrated into the overall design and may be used to channel but not to obstruct pedestrian or vehicular movement, or sight lines.

- Security gates or barriers are generally prohibited except for situations where security is essential. The design and color of such gates or barriers must be consistent with that of adjacent buildings and the overall urban design.

- Permanent chain link fences are prohibited.

- In general, fences, walls and gates should be located so as to be as inconspicuous as possible to public view or should be incorporated into the overall building or landscape design.

- Fences, walls or gates may require screening by berms and/or landscaping in order to soften their visibility from adjacent streets and should be incorporated into the landscaping as a design element.

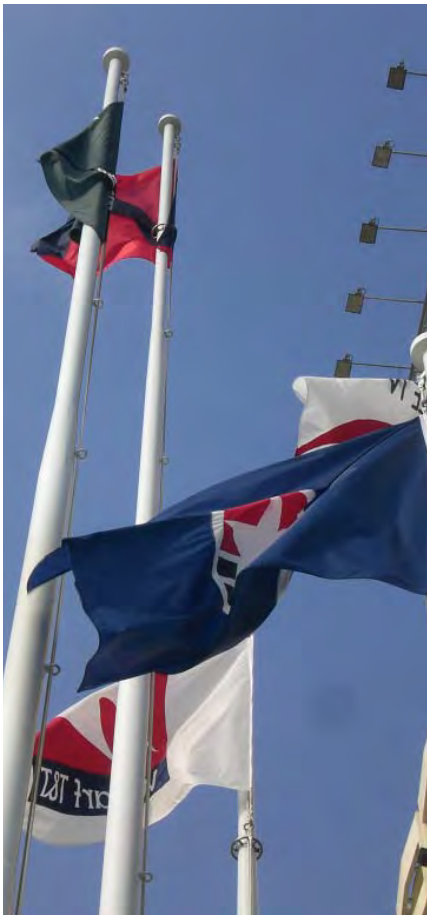
- Fencing or wall materials should be of high quality and should be compatible with adjacent architecture or other improvements in terms of design, color and other elements.

- All retaining walls should be architecturally treated as indicated on the CDP/FDP.

## FLAG POLES & FLAGS

The use of flags either as a method of conveying public spirit, identifying public spaces or buildings or establishing corporate identity is a common practice in cities and towns. However, the overuse or indiscriminate use of flags should not be allowed, except when used to commemorate or acknowledge public events or celebrations. The following guidelines outline appropriate use of flags in Innovation Center South.

- The height of the flag poles should relate proportionately to each other and to adjacent buildings and public spaces.
- No more than two flags may be flown on any pole.
- Only one corporate identity flag may be used on any building or flag array.
- In the case of flag arrays in public spaces, the location of the poles shall be consistent with the overall design and shall not create an impediment to pedestrian movement.
- Illumination of flags may be approved if the illumination is discreet and does not result in glare being projected onto adjacent streets or properties.
- The display of the United States or other governmental flags should follow the commonly accepted protocols.



*FLAG POLES AND FLAGS*

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ROCKS
ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

1960 GALLOWS ROAD
SUITE 300
VIENNA, VIRGINIA, 22182
T: 703 915 3383

dcs DAVIS CARTER SCOTT LTD
DESIGN

1676 INTERNATIONAL DRIVE
SUITE 500
McLEAN, VIRGINIA, 22102
T: 703 556 9275

Dewberry

8401 ARLINGTON BOULEVARD
FAIRFAX, VIRGINIA, 22031
T: 703 849 0518

LSG LANDSCAPE ARCHITECTURE

1919 GALLOWS ROAD
SUITE 110
VIENNA, VIRGINIA, 22182
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ENGINEERING COMPANY
REAL ESTATE DEVELOPERS SINCE 1958

# VISION FOR INNOVATION CENTER SOUTH:

## A TWENTY-FIRST CENTURY TRANSIT-ORIENTED DEVELOPMENT

**APPENDIX 2**

**PROPOSED CONCEPTUAL DEVELOPMENT PLAN CONDITIONS**

**CDP 2009-HM-017**

**April 30, 2014**

If it is the intent of the Board of Supervisors to approve Conceptual Development Plan CDP 2009-HM-017 for a transit-oriented mixed use development integrating Metro related facilities located at Tax Maps 15-2((1)) 13pt., 15-4((5)) 5B and 15-4 ((5)) 5A, staff recommends that the Board of Supervisors condition the approval by requiring conformance with the following development conditions.

1. Development of the property shall be in substantial conformance with the Conceptual Development Plan ("CDP") and Final Development Plan ("FDP") entitled “Innovation Center South and the Innovation Center Station Garage” dated August 1, 2013 and revised through April 21, 2014, prepared by Dewberry Consultants LLC.

2. The Metrorail facilities shall be subject to the Design Guidelines attached as Exhibit B of the proffers as they pertain to the provision of accessory uses, structures, public art and other amenities.

3. The 10-year tree canopy shall be met on-site during all construction phases in accordance with Section 12-0511 of the Public Facility Manual (PFM) and the Table 12.10 in the PFM (10-year Tree Calculation Worksheet Table), which allows for opportunities to receive additional canopy credits in exchange for the planting of trees in a manner that provide specific environmental and ecological benefits or for the use of species that are resistant to disease, pests, decay and the negative impacts imposed by harsh environmental conditions. At the time of site plan review, the appropriate canopy area multiplier and discrete area of canopy associated with trees planted for these purposes shall be clearly identified on the landscape plan plant schedule and the 10-year tree canopy calculations as shown on Table 12.10 of the PFM.

   In addition, no trees counted toward tree canopy shall be located in the VDOT right of way.

4. The Bio-Retention Street Trees shown on Sheets L-7b and L-7c shall not be located in the VDOT right of way.

5. In areas shown on the CDP/FDP that do not meet the Comprehensive Plan recommendations for street trees planted within a 6 foot landscape

amenity between the street curb and the sidewalk (specifically the areas on both sides of the North-South Road north of the Public Park and the area along the north side of the East-West Road), the applicant shall incorporate additional pedestrian enhancements during site plan review that include but are not limited to:

- Smaller category tree plantings (not counted toward the tree canopy requirements) that would be upright in nature and provide minimal shade,
- Street awnings with flower boxes or umbrellas for shade, shelter, and scaling elements,
- Seating Walls
- A mix of ground covers as indicated in Development Condition 3,
- climbing vines,
- Painted wall murals,
- Potted plants used to define zones and provide green material,
- Street furnishings with a combination of both fixed and moveable fixtures to allow users to create their own conversation zones, and
- Banners and flower pots on lamp posts

These features shall be reviewed and approved by Urban Forest Management (UFM), the Department of Transportation and the Department of Planning and Zoning prior to site plan approval.

6. The proposed landscaping and temporary fencing on the north side of the Construction Storage and Staging Areas shown on Sheet L-4A of the CDP/ FDP shall be out of the sight distance requirements along Sunrise Valley Drive. The Construction Storage and Staging Area located on the southwest corner of the site shall also be reduced in size to allow the planting of a row of evergreen trees along the East-West Road, similar to the tree plantings shown along Sunrise Valley Drive. These trees shall be located out of the sight distance requirements along the East-West Road in a manner to help screen construction activities from the adjacent properties to the south, as reviewed and approved by UFM.

The proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board.

# REZONING AFFIDAVIT

DATE: APR 17 2014
(enter date affidavit is notarized)

I, David S. Houston, do hereby state that I am an
(enter name of applicant or authorized agent)

105307c

(check one) [ ] applicant
[✓] applicant's authorized agent listed in Par. 1(a) below

in Application No.(s): RZ/FDP 2009-HM-017
(enter County-assigned application number(s), e.g. RZ 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS,** and **LESSEES** of the land described in the application,* and, if any of the foregoing is a **TRUSTEE,**** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS,** and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

(**NOTE**: All relationships to the application listed above in **BOLD** print must be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

| **NAME** (enter first name, middle initial, and last name) | **ADDRESS** (enter number, street, city, state, and zip code) | **RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above) |
|---|---|---|
| NUGGET JOINT VENTURE, L.C.<br>AGENTS:<br>SAMUEL A. ROCKS<br>NICHOLAS P.H. ROCKS<br>MICHAEL R. F. ROCKS<br>MICHAEL J. HELLYER<br>S. RANDALL COHEN | 1960 GALLOWS ROAD, SUITE 300<br>VIENNA, VIRGINIA 22182 | APPLICANT/TITLE OWNER OF TAX MAP NUMBER 015-2 ((1)) 13 |
| FAIRFAX COUNTY BOARD OF SUPERVISORS<br>AGENTS:<br>EDWARD L. LONG, JR., COUNTY EXECUTIVE | 12000 GOVERNMENT CENTER PKWAY, #533<br>FAIRFAX, VIRGINIA 22035 | TITLE OWNER OF TAX MAP NO. 015-4 ((5)) 5B |

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued on a "Rezoning Attachment to Par. 1(a)" form.

* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.

** List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

**Rezoning Attachment to Par. 1(a)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307C

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

(**NOTE**: All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

| **NAME** (enter first name, middle initial, and last name) | **ADDRESS** (enter number, street, city, state, and zip code) | **RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above) |
|---|---|---|
| DULLES ROCKHILL PARTNERS, LIMITED PARTNERSHIP<br>AGENTS:<br>RYAN S. WHITTIER<br>R. KEVIN DOUGHERTY | 455 SPRING PARK PLACE, SUITE 100<br>HERNDON, VIRGINIA 20170 | TITLE OWNER OF TAX MAP NO. 015-4 ((5)) 5A |
| DAVIS, CARTER, SCOTT LTD<br>AGENTS:<br>DOUGLAS N. CARTER<br>JASNA BIJELIC<br>J. STEVE SAVILLE<br>C. ROBERT ATKINSON | 1676 INTERNATIONAL DRIVE, SUITE 500<br>MCLEAN, VIRGINIA 22102 | ARCHITECTS/AGENTS |
| REED SMITH LLP<br>AGENTS:<br>ROBERT A. LAWRENCE<br>GRAYSON P. HANES<br>BENJAMIN F. TOMPKINS<br>LINDA S. BROYHILL<br>DAVID S. HOUSTON<br>SARAH L. BUZBY | 3110 FAIRVIEW PARK DRIVE, SUITE 1400<br>FALLS CHURCH, VIRGINIA 22042 | ATTORNEYS/AGENTS |
| M.J. WELLS & ASSOCIATES, INC.<br>AGENTS:<br>ROBIN L. ANTONUCCI<br>JENNIFER N. CARPENTER<br>(former employee)<br>WILLIAM F. JOHNSON<br>KEVIN R. FELLIN<br>BRIAN J. HORAN<br>ANDREW C. BUNTUA | 1420 SPRING HILL ROAD, SUITE 610<br>MCLEAN, VIRGINIA 22102 | TRANSPORTATION CONSULTANTS/AGENTS |
| DEWBERRY CONSULTANTS LLC<br>AGENTS:<br>JOHN W. EWING, P.E.<br>JANICE M. CENA | 8401 ARLINGTON BOULEVARD<br>FAIRFAX, VIRGINIA 22031 | ENGINEERS/PLANNERS/AGENTS |

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

105307C

**Rezoning Attachment to Par. 1(a)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

(**NOTE**: All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

| **NAME** (enter first name, middle initial, and last name) | **ADDRESS** (enter number, street, city, state, and zip code) | **RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above) |
|---|---|---|
| HESLIN & ASSOCIATES, LLC<br>AGENT:<br>CHRISTOPHER H. HESLIN | 1960 GALLOWS ROAD, SUITE 315<br>VIENNA, VIRGINIA 22182 | FINANCIAL ADVISOR/AGENT |
| ARUP USA, INC.<br>AGENTS:<br>RAYMOND A. GRILL<br>ANDREW MORGAN | 77 WATER STREET<br>NEW YORK, NY 10005 | NOISE CONSULTANT/AGENTS |
| WILLIAM H. GORDON ASSOCIATES, INC.<br>AGENTS:<br>ROBERT W. WALKER<br>J. SCOTT PETERSON<br>TREVOR M. LANTZY<br>STEVEN C. PANDISH<br>HARRY C. HIGMAN<br>OOMER F. SYED<br>WILBUR L. PEART<br>KEVIN K. KURDZIOLEK | 4501 DALY DRIVE<br>CHANTILLY, VA 20151 | ENGINEERS/AGENTS |
| LSG LANDSCAPE ARCHITECTURE INC.<br>AGENTS:<br>ROBERT K. ESSELBURN<br>STEVE H. CHOI | 1919 GALLOWS ROAD<br>SUITE 110<br>TYSONS, VA 22132 | LANDSCAPE ARCHITECTS/AGENTS |
| HAMMEL, GREEN AND ABRAHAMSON, INC.<br>AGENTS:<br>SONJA SHIELDS | 44 CANAL CENTER PLAZA<br>SUITE 100<br>ALEXANDRIA, VA 22314 | ARCHITECTS/ENGINEERS/AGENTS |

(check if applicable) [ ] There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number(s))

1(b). The following constitutes a listing*** of the **SHAREHOLDERS** of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders, **and if the corporation is an owner of the subject land, all of the OFFICERS and DIRECTORS of such corporation:**

(**NOTE:** Include **SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES,** and **REAL ESTATE INVESTMENT TRUSTS** herein.)

CORPORATION INFORMATION

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
NUGGET JOINT VENTURE, L.C.
1960 GALLOWS ROAD, SUITE 300
VIENNA, VIRGINIA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.

[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.

[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF SHAREHOLDERS:** (enter first name, middle initial, and last name)
SAMUEL A. ROCKS
S. RANDALL COHEN, TRUSTEE dated 1/1/2000 f/b/o
NICHOLAS P.H. ROCKS, BENEFICIARY
THE CHIEF'S GRANDCHILDREN HOLDINGS, LLC

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name & title, e.g. **President, Vice President, Secretary, Treasurer,** etc.)
Allen & Rocks, Inc., Manager

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued on a "Rezoning Attachment 1(b)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
THE CHIEF'S GRANDCHILDREN HOLDINGS, LLC
1960 GALLOWS ROAD, SUITE 300
VIENNA, VIRGINIA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

- [✓] There are 10 or less shareholders, and all of the shareholders are listed below.
- [ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
Suzanne Rocks Gray, Trustee of the Caroline J. Gray Revocable Trust U/A Dated 8/14/2012
Suzanne Rocks Gray, Trustee of the Preston D. G. Gray Revocable Trust U/A Dated 8/14/2012
Suzanne Rocks Gray, Trustee of the Harrison R. Gray Revocable Trust U/A Dated 8/14/2012
Suzanne Rocks Gray, Trustee of the Reagan R. Gray Revocable Trust U/A Dated 8/14/2012 *Continued below

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
SAMUEL A. ROCKS, MANAGER
NICHOLAS P.H. ROCKS, MANAGER

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
THE CHIEF'S GRANDCHILDREN HOLDINGS, LLC (Continued from above)
1960 GALLOWS ROAD, SUITE 300
VIENNA, VIRGINIA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

- [ ] There are 10 or less shareholders, and all of the shareholders are listed below.
- [ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

*Michael R.F. Rocks, Trustee of the Michael R.F. Rocks Revocable Trust U/A dated 8/19/08
Hilary G. Rocks, Trustee of the Hilary G. Rocks Revocable Trust U/A dated 8/19/08
Samuel A. Rocks, Trustee of the Samantha C. Rocks Revocable Trust U/A dated 9/5/2012
Samuel A. Rocks, Trustee of the Emma M. Rocks Revocable Trust U/A dated 9/5/2012 * Continued on following page

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

105307c

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
THE CHIEF'S GRANDCHILDREN HOLDINGS, LLC (continued from previous page)
1960 GALLOWS ROAD, SUITE 300
VIENNA, VIRGINIA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
* Continued from previous page
Samuel A. Rocks, Trustee of the Hanna E. Rocks Revocable Trust U/A Dated 8/22/2012
Samuel A. Rocks, Trustee of the Trevor A. Rocks Revocable Trust U/A Dated 8/16/2012

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Crimson Development, Inc.
455 Spring Park Place, Suite 100
Herndon, VA 20170

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
Thomas D. Simmons, Jr.
Wolfram (nmi) Vedder
R. Kevin Dougherty

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

R. Kevin Dougherty, President
Thomas D. Simmons, Jr., Treasure/VP of Finance
Wolfram (nmi) Vedder, Secretary/VP of Development
R. Warren Walters, VP of Investment
Phyllis H. Milstead, VP
Deborah A. Vowell, Asst. Secretary

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Allen & Rocks, Inc.
1960 Gallows Road, Suite 300
Vienna, VA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
Samuel A. Rocks
Nicholas P.H. Rocks

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

Nicholas P.H. Rocks, Director/President
Samuel A. Rocks, Director/VP/Secretary
Roger T. Brusnahan, Director/VP/CFO/Asst. Secretary
S. Randall Cohen, Director/VP/General Counsel/Asst. Secretary
David M. Thomas, VP/Director of Property Management
Michael R.F. Rocks, VP/Associate General Counsel
Susan H. Gladwin, Asst. VP/Asst. Secretary

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
M.J. WELLS & ASSOCIATES, INC.
1420 Spring Hill Road, Suite 610
McLean, VA 22102

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
M.J. Wells & Associates, Inc. Employee Stock Ownership Trust. All employees are eligible plan participants; however, no one employee owns 10% or more of any class of stock.

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
DEWBERRY CONSULTANTS LLC
8401 ARLINGTON BOULEVARD
FAIRFAX, VIRGINIA 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
THE DEWBERRY COMPANIES LC, Member
JAMES L. BEIGHT, Member
DENNIS M. COUTURE, Member

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307 e

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
FSI No. 2 Corporation -
Two Houston Center, Suite 2907
Houston, TX 77010

**DESCRIPTION OF CORPORATION:** (check one statement)

- [✓] There are 10 or less shareholders, and all of the shareholders are listed below.
- [ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
Fayez Sarofim & Co.*

*Does not own 10% or more of Dulles Rockhill Partners Limited Partnership, Title Owner of Tax Map No. 015-4 ((5)) 5A

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
Fayez (nmi) Sarofim, Chairman & CEO; Christopher B. Sarofim, Vice Chairman; W. Gentry Lee, President; Raye G. White, VP and Secretary & Treasurer; Charles Sheedy, Senior VP; Ralph B. Thomas, Senior VP; Alan R. Christensen, VP & COO; Daniel S. Cumrine, VP & CFO; Robert M. Hopson II, VP & Asst. Secretary; John M. Ratcliff, VP

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
The Dewberry Companies LC
8401 Arlington Boulevard
Fairfax, Virginia 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- [ ] There are 10 or less shareholders, and all of the shareholders are listed below.
- [✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
Members: Barry K. Dewberry, Karen S. Grand Pre; Thomas L. Dewberry; Michael S. Dewberry Credit Shelter Trust u/a/d 11/23/05 (f/b/o Michael S. Dewberry II, Katie Anne Dewberry and two minor children of Michael S. Dewberry)

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

105307c

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Davis, Carter, Scott Ltd
1676 International Drive, #500
McLean, Virginia 22102

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
Douglas N. Carter, Lena I. Scott, Patricia A. Appleton, C. Robert Atkinson, Marcia K. Calhoun, Christine C. Garrity, Christopher L. Garwood, Alan K. Houde

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**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
LSG Landscape Architecture Inc.
1919 Gallows Road, Suite 110
Vienna, VA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
Mark R. Lewis, ASLA
Mark C. Gionet, ASLA AICP
Robert K. Esselburn, ASLA
Connie Yunhui Fan, ASLA

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

105307C

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
ARUP USA, INC.
77 Water Street
New York, NY 10005

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[✓] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
William H. Gordon Associates, Inc.
4501 Daly Drive
Chantilly, VA 20151

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
William H. Gordon
Joseph W. McClellan

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Hammel, Green and Abrahamson, Inc.
44 Canal Center Plaza
Suite 100
Alexandria, VA 22314

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[✓] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
NONE

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
NONE

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Heslin & Associates LLC
1960 Gallow Road, Suite 305
Vienna, VA 22182

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
Christopher H. Heslin
Teresa K. Heslin

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [ ] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number(s))

1(c). The following constitutes a listing*** of all of the **PARTNERS,** both **GENERAL** and **LIMITED**, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

**PARTNERSHIP NAME & ADDRESS:** (enter complete name, number, street, city, state and zip code)
Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLE OF THE PARTNERS** (enter first name, middle initial, last name, and title, e.g. **General Partner, Limited Partner, or General and Limited Partner**)

See Rezoning Attachment to Par. 1(c)

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued on a "Rezoning Attachment to Par. 1(c)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Abbot, Kevin C.
Abdalla, Tarek F.
Alexander, Eric L.
Allen, Thomas L.
Andrews, Alex T.
Arnold, Roy W.
Atallah, Ana
Baker, Scott D.
Barber, William James Greshman
Barnes, James J.
Bartfeld, Arnold L.
Bastier, Ellen L.
Beale, Giles W.
Beale, Timothy (NMI)
Begley, Sara A.
Beilke, Michele J.
Bell, Gordon F. (former)
Bernier, Maria N.
Bernstein, Leonard A.
Bettino, Diane A.
Bhattacharyya, Gautam (NMI)
Bickham, J. D.
Binder, Justus (NMI)
Binis, Barbara R.
Birt, Steven James
Blasier, Peter C.
Boehner, Russell J. (former)
Bolden, A.S.
Bonessa, Dennis R.
Booker, Daniel I.
Borg, Christopher (NMI)
Boutcher, David J.
Boven, Douglas G. (former)
Bovich, John P.
Box, Tamara (NMI)
Bradley, Patrick E.
Brennan, James C.
Broughton, Kenneth E.
Bresch, Jeffrey J. (former)
Brown, Andew Kenneth (former)
Brown, Charles A.
Brown, Claude (NMI)
Brown, Jon J.
Brown, Michael K.
Burke, Carol M.
Burroughs, Benton (former)
Cameron, Douglas E.
Cameron, Scott P. (former)
Campos, Lorraine M.
Caplan, Gary S. (former)
Carder, Elizabeth B.
Cardozo, Raymond A.
Casdagli, Emma Frances (former)
Cassidy, Peter J.
Charot, Benoît (NMI)
Cheung, Janet Bo Chun
Clark, Peter S.
Cobetto, Jack B.
Cody, Daniel A.
Cohen, David R.
Colen, Frederick H. (former)
Colman, Abraham J.
Conner, Walter T.
Connoley, Mark F.
Connors, Eugene K. (former)
Convery, J. F.
Cooper, Steven (NMI)
Cotler, Alan K.
Cousté, Marina (NMI)
Davies, Colleen T.
Davis, James M.
Dentice, Nathan (NMI)
Dermody, Debra H.
DiFiore, Gerard S.
Dilling, Robert M.
Dillon, Lee Ann
DiNome, John A.
Dittoe, John E. (former)
Doron, Uri (NMI) (former)
Drew, Jeffery R.
Dubelier, Eric A.
Dumville, Samuel M. (former)
Duronio, Carolyn D.
East, Lindsay T. (former)
Ellis, Peter M.
Ellison, John N.
Enochs, Craig R.
Epstein, Bette B. (former)
Eskilson, James (NMI)
Estrada, Edward J.
Evagora, Kyri (NMI)
Fagelson, Ian B. (former)
Falkner, Robert P.
Fawcett, David B.
Flatley, Lawrence E. (former)
Fogle, Paul D.
Fosh, Michael John J.
Francis, Ronald L.
Frank, Ronald W.
Freeman, Lynne (NMI)
Frenier, Diane M.
Fritton, Karl A.
Gabbert, Dale (NMI) (former)
Gallatin, James P. (former)
Gallo, Frank J.
Gasparetti, Lorenzo E.
Geist, Melissa A.
Gentile, Pasquale D.
Graumlich, Betty S.W.
Green, Terry R. (former)
Greenblatt, Lewis B.
Green-Kelly, Diane
Greer, Amy J.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Greeson, Thomas W. (former)
Grellet, Luc (NMI)
Grignon, Margaret A.
Grimes, David M.
Gross, Dodi Walker
Guadagnino, Frank T. (former)
Gunn, Richard M.
Gwynne, Kurt F.
Haag, Edmund L.
Hackett, Mary J.
Halbreich, David M.
Hammodi, Zaid A.
Hansson, Leigh T.
Hardin, Julie A.
Hardy, Peter A.
Hargreaves, Phillip M. (former)
Hartley, Simon P.
Hartman, Ronald G.
Hasselman, Scot T.
Hawley, Terence N.
Healy, Christopher W.
Heffler, Curt L.
Hemming, Seth M.
Hewetson, Charles M.
Hill, Robert J.
Hill, Thomas E.
Hirsch, Austin L.
Hitt, Leo N.
Ho, Delpha (NMI)
Hofmeister Jr., Daniel J.
Holloway, Wanda (NMI)
Honigberg, Carol C. (former)
Hooper, John P.
Horrigan, Courtney C.T.
Houston, Marsha A.
Hultquist, James T.
Husar, Linda S.
Iino, John M.
Illouz, Stephane (former)
Ince, Thomas A.
Innamorato, Don A.
Jared, Cynthia (NMI)
Jaskot, Paul J.
Jeffcott, Robin B.
Jenkinson, Andrew P.
Jong, Denise (NMI)
Jordan, Gregory B. (former)
Kabnick, Lisa D.
Karides, Constantine (NMI)
Kaufman, Marc S.
Kaung, Alexander Wai Ming
Kirk, Dusty E.
Kirkpatrick, Stephen A.
Klein, Murray J. (former)
Kohn, Steven M. (former)
Kozlov, Herbert F.
Kramer, Ann (NMI)
Krasik, Carl (NMI) (former)
Lai, Ivy (NMI)
Lasher, Lori L.
Leech, Frederick C.
Leiderman, Harvey L.
Li, Lianjun (NMI)
Loepere, Carol C.
LoVallo, Michael A.
Lowenstein, Michael E.
Lyons, Stephen M.
Magera, George F. (former)
Maguire, Nicola
Mahone, Glenn R.
Maiden, Todd O.
Mantell, Nanette W. (former)
Martin, James C.
Martini, John D.
McAllister, David J.
McCarroll, James C.
McConnell, Stephen J.
McDavid, George E.
McGarrigle, Thomas J.
McNair, James E.
McNichol, William J. (former)
Mehfoud, Kathleen S. (former)
Melodia, Mark S.
Mercadante, James A.
Metro, Joseph W.
Miller, Edward S.
Miller, Jesse L.
Miller, Steven A.
Min, Catharina Y.
Moberg, Marilyn A.
Mok, Kar Chung
Moller. Charlotte (NMI)
Morrison, Alexander David
Munsch, Martha H.
Napolitano, Perry A.
Naugle, Louis A. (former)
Nelson, Jack R.
Nicholas, Robert A.
O'Brien, Kathyleen A.
O'Donoghue, Cynthia
O'Neil, Mark T.
Paisley, Belinda L.
Parker, Roger J.
Patterson, Lorin E.
Pearman, Scott A.
Peck, Daniel F.
Pedretti, Mark G.
Pepper, Michael Ross David
Petersen, Matthew J.
Peterson, Kurt C.
Philipps, Richard P. (former)
Phillips, Robert D.
Phillips, Robert N.
Pierre, Yvan-Claude J.
Pike, Jon R.
Poe, Alexandra (NMI)
Pollack, Michael B.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

105307c

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner)**

Powell, David C.
Pryor, Gregor J.
Quenby, Georgia M.
Quinn, Jonathan S. (former)
Radley, Lawrence J.
Rahl, James A. (former)
Raju, Ajay K. (former)
Rawles, Douglas C.
Raymond, Peter D.
Reed, W. F. (former)
Reid, Graham M.
Reinke, Donald C.
Robinson, Richard A.
Roche, Brian D.
Rosen, Barry S.
Rosenbaum, Joseph I.
Rosenberg, Carolyn H.
Roth, Robert A.
Rowan, Vincent (NMI)
Rubenstein, Donald P.
Ryan, Catherine S.
Rydstrom, Kirsten R.
Rymer, Philip R.
Sanders, James L.
Sanders, Michael (NMI)
Sauvage, Nicolas C. (former)
Schaffer, Eric A.
Schatz, Gordon B. (former)
Schlecker, David M.
Schlesinger, Matthew J.
Schmarak, Bradley S.
Schwartz, Wendy H. (former)
Scogin, Hugh T. (former)
Scott, Michael T.
Seaman, Charles H.
Sedlack, Joseph M.
Sessa, Stephen E.
Shanus, Stuart A.
Sharma, Asha Rani
Shaw, Nick J.
Shay-Byrne, Olivia
Short, Carolyn P.
Shugrue, John D.
Siev, Jordan W.
Sigelki, Duane F.
Simons, Robert P.
Singer, Paul M, (former)
Skrein, Michael (NMI)
Slater, Phillip B. (former)
Smersfelt, Kenneth M.
Smith, John L.
Smith, Robert M.
Snyder Bagnell, Nicole
Sollie, Kyle O.
Sorensen, Anker
Spafford, Richard A.
Speed, Nick (NMI)
Springer, Claudia Z.
Stanley, David E.
Stephenson, Leon
Stewart, George L.
Stimpson, Barry P.
Suddath, Thomas H.
Süss, Philipp T.
Sussman, Allen Z. (former)
Swinburn, Richard G.
Tabachnick, Gene A. (former)
Tandler, James R.
Tashman, Matthew E.
Taylor, Andrew D.
Taylor, Philip M.
Teare, Peter A.
Terras, Alexander (NMI)
Thallner, Karl A.
Thomas Alexander Y.
Thompson, Barry J. (former)
Thompson, David A.
Thompson, Gary S.
Tillman, Eugene (former)
Tocci, Gary M.
Todd, Thomas (former)
Tompkins, Benjamin F.
Toms, Jason (NMI)
Turner, Paul B.
Unkovic, John C. (former)
Vishneski, John S.
Vitsas, John L.
von Waldow, Arnd N.
Wasserman, Mark W. (former)
Watt, Christopher
Weiss, David E.
Weissman, David L.
Weissman, Sonja S.
Weller, Charles G.
Wells, Kristin I.
Weyman, Mark L. (former)
Wilkinson, James F.
Wilkinson, John NR
Wolff, Sarah R.
Wood, Douglas J.
Wray, Richard K. (former)
Yam, Perry (NMI)
Yan, Betty (NMI)
Yan, Jay J.
Yoo, Thomas J.
Zoeller, Lee A.
Zurzolo, Tracy L.

New Partners as of October, 2013

Alfieri, Paul M.
Armao, Joseph P.
Berman, Patricia (NMI)

Continued on next page -

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

New Partners as of October, 2013
continued:

Boranian, Steve J.
Brown, Bryan K.
Dakessian, Mardiros H.
Hagan, John F.
Hatfield, Jacqueline A.
Hryck, David M.
Katsambas, Panagiotis (NMI)
Klett, Alexander (NMI)
Korenblatt, Jeffrey S.
Krebs-Markrich, Julia (NMI)
Kugler, Stefan (NMI)
Kwuon, Janet H.
Lackert, Clark W.
Lackner, Marc A.
MacElhone, Isabelle (NMI)
Minniti, Cindy S.
Mitchell, Jonah D.
O'Neil, Michael (NMI)
Richthammer, Etienne (NMI)
Scheve, Stephen E.
Schryber, John W.
Solomon, Jonathan (NMI)
Suleman, Sakil A.
Temple, Mark D.
Theodorou, Demitris (NMI)
Watterson, Kim M.
Wong, Patrick (NMI)
Zaman, Peter O.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307C

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Dulles Rockhill Partners Limited Partnership
455 Springpark Place, Suite 100
Herndon, VA 20170

(check if applicable) [ ] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

General Partner:

Crimson Development, Inc.*

Limited Partners:

WDV 2006 Limited Partnership
Thomas D. Simmons, Jr.*
TDS Interests, Ltd.*
DATS Interests, Ltd. *
Stephen P. Simmons*
Deborah Ann Vowell*
Eckhard (nmi) Vedder*
Simmons 1987 Basket Trust*
R. Kevin Dougherty
Mitchell J. Bonnano*
The Mary Lawrene Porter Trust*
Fayez Sarofim
James A. Reynolds*
Russell M. Frankel*
Robert M. Hopson III*
Charles E. Sheedy*
FSI No. 2 Corporation
Montague-Betts Company*
W. Earle Betts III*
D.W.B. Associates*
Betts Family, L.C.*
G. Richard Patton*
Gwen M. Soileau*
Beeman E. Strong, III*
Matthew J. Sheedy*
R. Warren Walters*

* Does not own 10% or more of the Applicant/Title Owner of Tax Map No. 15-4 ((5)) 5A

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307c

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

WDV 2006 Limited Partnership
221 West 6th Street, Suite 880
Austin, TX 78701

(check if applicable) [ ] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

General Partner:

The Vedder Company*

Limited Partners:

Wolfram (nmi) Vedder
Deidre (nmi) Vedder

*Does not own 10% or more of Dulles Rockhill Partners Limited Partnership, Title Owner of Tax Map No. 015-4 ((5)) 5A

(check if applicable) [ ] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307e

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number(s))

==========

1(d). One of the following boxes **must** be checked:

[ ] In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land:

[✓] Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

**EXCEPT AS FOLLOWS:** (**NOTE**: If answer is none, enter "**NONE**" on the line below.)

None

(check if applicable) [ ] There are more interests to be listed and Par. 2 is continued on a "Rezoning Attachment to Par. 2" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

105307C

for Application No. (s): RZ/FDP 2009-HM-017
(enter County-assigned application number(s))

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than $100, singularly or in the aggregate, with any of those listed in Par. 1 above.

**EXCEPT AS FOLLOWS: (NOTE:** If answer is none, enter "**NONE**" on line below.)
None

**(NOTE: Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)**

(check if applicable) [ ] There are more disclosures to be listed and Par. 3 is continued on a "Rezoning Attachment to Par. 3" form.

4. **That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.**

**WITNESS the following signature:**

(check one) [ ] Applicant [✓] Applicant's Authorized Agent

DAVID S. HOUSTON
(type or print first name, middle initial, last name, and title of signee)

Subscribed and sworn to before me this 17th day of April 2014, in the ~~State~~/Comm. of VIRGINIA, County/~~City~~ of FAIRFAX

Jaima S. Brown
Notary Public

My commission expires: August 31, 2016
Notary Registration No.: 153632

JAIMA BROWN
Notary Public
Commonwealth of Virginia
153632
My Commission Expires Aug 31, 2016

# REZONING AFFIDAVIT

DATE: APR 1 7 2014
(enter date affidavit is notarized)

I, David S. Houston, do hereby state that I am an
(enter name of applicant or authorized agent)

1228496

(check one) [ ] applicant
[✓] applicant's authorized agent listed in Par. 1(a) below

in Application No.(s): PCA C-696-10
(enter County-assigned application number(s), e.g. RZ 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS,** and **LESSEES** of the land described in the application,* and, if any of the foregoing is a **TRUSTEE,**** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS,** and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

(**NOTE**: All relationships to the application listed above in **BOLD** print must be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

| **NAME** (enter first name, middle initial, and last name) | **ADDRESS** (enter number, street, city, state, and zip code) | **RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above) |
|---|---|---|
| DULLES ROCKHILL PARTNERS LIMITED PARTNERSHIP<br>AGENTS:<br>RYAN S. WHITTIER<br>R. KEVIN DOUGHERTY | 455 SPRING PARK PLACE, SUITE 100<br>HERNDON, VIRGINIA 20170 | APPLICANT/TITLE OWNER OF TAX MAP NO. 015-4 ((5)) 5A |

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued on a "Rezoning Attachment to Par. 1(a)" form.

* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.

** List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

**Rezoning Attachment to Par. 1(a)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

12284b

(**NOTE**: All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

| **NAME** (enter first name, middle initial, and last name) | **ADDRESS** (enter number, street, city, state, and zip code) | **RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above) |
|---|---|---|
| DAVIS, CARTER, SCOTT LTD<br>AGENTS:<br>DOUGLAS N. CARTER<br>JASNA BIJELIC<br>J. STEVE SAVILLE<br>C. ROBERT ATKINSON | 1676 INTERNATIONAL DRIVE, SUITE 500<br>MCLEAN, VIRGINIA 22102 | ARCHITECTS/AGENTS |
| REED SMITH LLP<br>AGENTS:<br>ROBERT A. LAWRENCE<br>GRAYSON P. HANES<br>BENJAMIN F. TOMPKINS<br>LINDA S. BROYHILL<br>DAVID S. HOUSTON<br>SARAH L. BUZBY | 3110 FAIRVIEW PARK DRIVE, SUITE 1400<br>FALLS CHURCH, VIRGINIA 22042 | ATTORNEYS/AGENTS |
| M.J. WELLS & ASSOCIATES, INC.<br>AGENTS:<br>ROBIN L. ANTONUCCI<br>WILLIAM F. JOHNSON<br>KEVIN R. FELLIN<br>BRIAN J. HORAN<br>ANDREW C. BUNTUA | 1420 SPRING HILL ROAD, SUITE 610<br>MCLEAN, VIRGINIA 22102 | TRANSPORTATION CONSULTANTS/AGENTS |
| DEWBERRY CONSULTANTS LLC<br>AGENTS:<br>JOHN W. EWING, P.E.<br>JANICE M. CENA | 8401 ARLINGTON BOULEVARD<br>FAIRFAX, VIRGINIA 22031 | ENGINEERS/PLANNERS/AGENTS |

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

**Rezoning Attachment to Par. 1(a)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

(**NOTE**: All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

| **NAME** (enter first name, middle initial, and last name) | **ADDRESS** (enter number, street, city, state, and zip code) | **RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above) |
|---|---|---|
| MCGUIRE WOODS LLP | 1750 TYSONS BOULEVARD, SUITE 1800<br>TYSONS CORNER, VA 22102 | |
| AGENTS: | | |
| SCOTT E. ADAMS | | ATTORNEY/AGENT |
| LIANNE E. CHILDRESS | | ATTORNEY/AGENT |
| DAVID R. GILL | | ATTORNEY/AGENT |
| JONATHAN P. RAK | | ATTORNEY/AGENT |
| GREGORY A. RIEGLE | | ATTORNEY/AGENT |
| MARK M. VIANI | | ATTORNEY/AGENT |
| KENNETH W. WIRE | | ATTORNEY/AGENT |
| SHERI L. AKIN | | PLANNER/AGENT |
| LISA M. CHIBLOW | | PLANNER/AGENT |
| LORI R. GREENLIEF | | PLANNER/AGENT |

(check if applicable) [ ] There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number(s))

1(b). The following constitutes a listing*** of the **SHAREHOLDERS** of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders, **and if the corporation is an owner of the subject land, all of the OFFICERS and DIRECTORS of such corporation:**

(**NOTE:** Include **SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES,** and **REAL ESTATE INVESTMENT TRUSTS** herein.)

CORPORATION INFORMATION

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Davis, Carter, Scott Ltd
1676 International Drive, #500
McLean, Virginia 22102

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.

[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.

[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF SHAREHOLDERS:** (enter first name, middle initial, and last name)
Douglas N. Carter, Lena I. Scott, Patricia A. Appleton, C. Robert Atkinson, Marcia K. Calhoun, Christine C. Garrity, Christopher L. Garwood, Alan K. Houde

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name & title, e.g. **President, Vice President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued on a "Rezoning Attachment 1(b)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
Crimson Development, Inc.
455 Spring Park Place, Suite 100
Herndon, VA 20170

**DESCRIPTION OF CORPORATION:** (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
Thomas D. Simmons, Jr.
Wolfram (nmi) Vedder
R. Kevin Dougherty

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

R. Kevin Dougherty, President
Thomas D. Simmons, Jr., Treasure/VP of Finance
Wolfram (nmi) Vedder, Secretary/VP of Development
R. Warren Walters, VP of Investment
Phyllis H. Milstead, VP
Deborah A. Vowell, Asst. Secretary

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

**DESCRIPTION OF CORPORATION:** (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

1228496

DATE: APR 17 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
M.J. WELLS & ASSOCIATES, INC.
1420 Spring Hill Road, Suite 610
McLean, VA 22102

**DESCRIPTION OF CORPORATION:** (check one statement)

- [ ] There are 10 or less shareholders, and all of the shareholders are listed below.
- [✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
M.J. Wells & Associates, Inc. Employee Stock Ownership Trust. All employees are eligible plan participants; however, no one employee owns 10% or more of any class of stock.

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
DEWBERRY CONSULTANTS LLC
8401 ARLINGTON BOULEVARD
FAIRFAX, VIRGINIA 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- [✓] There are 10 or less shareholders, and all of the shareholders are listed below.
- [ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
THE DEWBERRY COMPANIES LC, Member
JAMES L. BEIGHT, Member
DENNIS M. COUTURE, Member

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

122849b

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
FSI No. 2 Corporation
Two Houston Center, Suite 2907
Houston, TX 77010

**DESCRIPTION OF CORPORATION:** (check one statement)

- [✓] There are 10 or less shareholders, and all of the shareholders are listed below.
- [ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)
Fayez Sarofim & Co.*

*Does not own 10% or more of Dulles Rockhill Partners Limited Partnership, Applicant/Title Owner of Tax Map No. 015-4 ((5)) 5A

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
Fayez (nmi) Sarofim, Chairman & CEO; Christopher B. Sarofim, Vice Chairman; W. Gentry Lee, President; Raye G. White, VP and Secretary & Treasurer; Charles Sheedy, Senior VP; Ralph B. Thomas, Senior VP; Alan R. Christensen, VP & COO; Daniel S. Cumrine, VP & CFO; Robert M. Hopson II, VP & Asst. Secretary; John M. Ratcliff, VP

==========

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)
The Dewberry Companies LC
8401 Arlington Boulevard
Fairfax, Virginia 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- [ ] There are 10 or less shareholders, and all of the shareholders are listed below.
- [✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- [ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)
Members: Barry K. Dewberry, Karen S. Grand Pre; Thomas L. Dewberry; Michael S. Dewberry Credit Shelter Trust u/a/d 11/23/05 (f/b/o Michael S. Dewberry II, Katie Anne Dewberry and two minor children of Michael S. Dewberry)

==========

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [ ] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number(s))

1(c). The following constitutes a listing*** of all of the **PARTNERS**, both **GENERAL** and **LIMITED**, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

**PARTNERSHIP NAME & ADDRESS:** (enter complete name, number, street, city, state and zip code)
Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLE OF THE PARTNERS** (enter first name, middle initial, last name, and title, e.g. **General Partner, Limited Partner, or General and Limited Partner**)

See Rezoning Attachment to Par. 1(c)

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued on a "Rezoning Attachment to Par. 1(c)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Rezoning Attachment to Par. 1(c)**

122849 b

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Abbot, Kevin C.
Abdalla, Tarek F.
Alexander, Eric L.
Allen, Thomas L.
Andrews, Alex T.
Arnold, Roy W.
Atallah, Ana
Baker, Scott D.
Barber, William James Greshman
Barnes, James J.
Bartfeld, Arnold L.
Bastier, Ellen L.
Beale, Giles W.
Beale, Timothy (NMI)
Begley, Sara A.
Beilke, Michele J.
Bell, Gordon F. (former)
Bernier, Maria N.
Bernstein, Leonard A.
Bettino, Diane A.
Bhattacharyya, Gautam (NMI)
Bickham, J. D.
Binder, Justus (NMI)
Binis, Barbara R.
Birt, Steven James
Blasier, Peter C.
Boehner, Russell J. (former)
Bolden, A.S.
Bonessa, Dennis R.
Booker, Daniel I.
Borg, Christopher (NMI)
Boutcher, David J.
Boven, Douglas G. (former)
Bovich, John P.
Box, Tamara (NMI)
Bradley, Patrick E.
Brennan, James C.
Broughton, Kenneth E.
Bresch, Jeffrey J. (former)
Brown, Andew Kenneth (former)
Brown, Charles A.
Brown, Claude (NMI)
Brown, Jon J.
Brown, Michael K.
Burke, Carol M.
Burroughs, Benton (former)
Cameron, Douglas E.
Cameron, Scott P. (former)
Campos, Lorraine M.
Caplan, Gary S. (former)
Carder, Elizabeth B.
Cardozo, Raymond A.
Casdagli, Emma Frances (former)
Cassidy, Peter J.
Charot, Benoît (NMI)
Cheung, Janet Bo Chun
Clark, Peter S.
Cobetto, Jack B.
Cody, Daniel A.
Cohen, David R.
Colen, Frederick H. (former)
Colman, Abraham J.
Conner, Walter T.
Connoley, Mark F.
Connors, Eugene K. (former)
Convery, J. F.
Cooper, Steven (NMI)
Cotler, Alan K.
Cousté, Marina (NMI)
Davies, Colleen T.
Davis, James M.
Dentice, Nathan (NMI)
Dermody, Debra H.
DiFiore, Gerard S.
Dilling, Robert M.
Dillon, Lee Ann
DiNome, John A.
Dittoe, John E. (former)
Doron, Uri (NMI) (former)
Drew, Jeffery R.
Dubelier, Eric A.
Dumville, Samuel M. (former)
Duronio, Carolyn D.
East, Lindsay T. (former)
Ellis, Peter M.
Ellison, John N.
Enochs, Craig R.
Epstein, Bette B. (former)
Eskilson, James (NMI)
Estrada, Edward J.
Evagora, Kyri (NMI)
Fagelson, Ian B. (former)
Falkner, Robert P.
Fawcett, David B.
Flatley, Lawrence E. (former)
Fogle, Paul D.
Fosh, Michael John J.
Francis, Ronald L.
Frank, Ronald W.
Freeman, Lynne (NMI)
Frenier, Diane M.
Fritton, Karl A.
Gabbert, Dale (NMI) (former)
Gallatin, James P. (former)
Gallo, Frank J.
Gasparetti, Lorenzo E.
Geist, Melissa A.
Gentile, Pasquale D.
Graumlich, Betty S.W.
Green, Terry R. (former)
Greenblatt, Lewis B.
Green-Kelly, Diane
Greer, Amy J.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

122849b

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Greeson, Thomas W. (former)
Grellet, Luc (NMI)
Grignon, Margaret A.
Grimes, David M.
Gross, Dodi Walker
Guadagnino, Frank T. (former)
Gunn, Richard M.
Gwynne, Kurt F.
Haag, Edmund L.
Hackett, Mary J.
Halbreich, David M.
Hammodi, Zaid A.
Hansson, Leigh T.
Hardin, Julie A.
Hardy, Peter A.
Hargreaves, Phillip M. (former)
Hartley, Simon P.
Hartman, Ronald G.
Hasselman, Scot T.
Hawley, Terence N.
Healy, Christopher W.
Heffler, Curt L.
Hemming, Seth M.
Hewetson, Charles M.
Hill, Robert J.
Hill, Thomas E.
Hirsch, Austin L.
Hitt, Leo N.
Ho, Delpha (NMI)
Hofmeister Jr., Daniel J.
Holloway, Wanda (NMI)
Honigberg, Carol C. (former)
Hooper, John P.
Horrigan, Courtney C.T.
Houston, Marsha A.
Hultquist, James T.
Husar, Linda S.
Iino, John M.
Illouz, Stephane (former)
Ince, Thomas A.
Innamorato, Don A.
Jared, Cynthia (NMI)
Jaskot, Paul J.
Jeffcott, Robin B.
Jenkinson, Andrew P.
Jong, Denise (NMI)
Jordan, Gregory B. (former)
Kabnick, Lisa D.
Karides, Constantine (NMI)
Kaufman, Marc S.
Kaung, Alexander Wai Ming
Kirk, Dusty E.
Kirkpatrick, Stephen A.
Klein, Murray J. (former)
Kohn, Steven M. (former)
Kozlov, Herbert F.
Kramer, Ann (NMI)
Krasik, Carl (NMI) (former)
Lai, Ivy (NMI)
Lasher, Lori L.
Leech, Frederick C.
Leiderman, Harvey L.
Li, Lianjun (NMI)
Loepere, Carol C.
LoVallo, Michael A.
Lowenstein, Michael E.
Lyons, Stephen M.
Magera, George F. (former)
Maguire, Nicola
Mahone, Glenn R.
Maiden, Todd O.
Mantell, Nanette W. (former)
Martin, James C.
Martini, John D.
McAllister, David J.
McCarroll, James C.
McConnell, Stephen J.
McDavid, George E.
McGarrigle, Thomas J.
McNair, James E.
McNichol, William J. (former)
Mehfoud, Kathleen S. (former)
Melodia, Mark S.
Mercadante, James A.
Metro, Joseph W.
Miller, Edward S.
Miller, Jesse L.
Miller, Steven A.
Min, Catharina Y.
Moberg, Marilyn A.
Mok, Kar Chung
Moller. Charlotte (NMI)
Morrison, Alexander David
Munsch, Martha H.
Napolitano, Perry A.
Naugle, Louis A. (former)
Nelson, Jack R.
Nicholas, Robert A.
O'Brien, Kathyleen A.
O'Donoghue, Cynthia
O'Neil, Mark T.
Paisley, Belinda L.
Parker, Roger J.
Patterson, Lorin E.
Pearman, Scott A.
Peck, Daniel F.
Pedretti, Mark G.
Pepper, Michael Ross David
Petersen, Matthew J.
Peterson, Kurt C.
Philipps, Richard P. (former)
Phillips, Robert D.
Phillips, Robert N.
Pierre, Yvan-Claude J.
Pike, Jon R.
Poe, Alexandra (NMI)
Pollack, Michael B.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

122849b

DATE: APR 1 7 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Powell, David C.
Pryor, Gregor J.
Quenby, Georgia M.
Quinn, Jonathan S. (former)
Radley, Lawrence J.
Rahl, James A. (former)
Raju, Ajay K. (former)
Rawles, Douglas C.
Raymond, Peter D.
Reed, W. F. (former)
Reid, Graham M.
Reinke, Donald C.
Robinson, Richard A.
Roche, Brian D.
Rosen, Barry S.
Rosenbaum, Joseph I.
Rosenberg, Carolyn H.
Roth, Robert A.
Rowan, Vincent (NMI)
Rubenstein, Donald P.
Ryan, Catherine S.
Rydstrom, Kirsten R.
Rymer, Philip R.
Sanders, James L.
Sanders, Michael (NMI)
Sauvage, Nicolas C. (former)
Schaffer, Eric A.
Schatz, Gordon B. (former)
Schlecker, David M.
Schlesinger, Matthew J.
Schmarak, Bradley S.
Schwartz, Wendy H. (former)
Scogin, Hugh T. (former)
Scott, Michael T.
Seaman, Charles H.
Sedlack, Joseph M.
Sessa, Stephen E.
Shanus, Stuart A.
Sharma, Asha Rani
Shaw, Nick J.
Shay-Byrne, Olivia
Short, Carolyn P.
Shugrue, John D.
Siev, Jordan W.
Sigelki, Duane F.
Simons, Robert P.
Singer, Paul M, (former)
Skrein, Michael (NMI)
Slater, Phillip B. (former)
Smersfelt, Kenneth M.
Smith, John L.
Smith, Robert M.
Snyder Bagnell, Nicole
Sollie, Kyle O.
Sorensen, Anker
Spafford, Richard A.
Speed, Nick (NMI)
Springer, Claudia Z.
Stanley, David E.
Stephenson, Leon
Stewart, George L.
Stimpson, Barry P.
Suddath, Thomas H.
Süss, Philipp T.
Sussman, Allen Z. (former)
Swinburn, Richard G.
Tabachnick, Gene A. (former)
Tandler, James R.
Tashman, Matthew E.
Taylor, Andrew D.
Taylor, Philip M.
Teare, Peter A.
Terras, Alexander (NMI)
Thallner, Karl A.
Thomas Alexander Y.
Thompson, Barry J. (former)
Thompson, David A.
Thompson, Gary S.
Tillman, Eugene (former)
Tocci, Gary M.
Todd, Thomas (former)
Tompkins, Benjamin F.
Toms, Jason (NMI)
Turner, Paul B.
Unkovic, John C. (former)
Vishneski, John S.
Vitsas, John L.
von Waldow, Arnd N.
Wasserman, Mark W. (former)
Watt, Christopher
Weiss, David E.
Weissman, David L.
Weissman, Sonja S.
Weller, Charles G.
Wells, Kristin I.
Weyman, Mark L. (former)
Wilkinson, James F.
Wilkinson, John NR
Wolff, Sarah R.
Wood, Douglas J.
Wray, Richard K. (former)
Yam, Perry (NMI)
Yan, Betty (NMI)
Yan, Jay J.
Yoo, Thomas J.
Zoeller, Lee A.
Zurzolo, Tracy L.

New Partners as of October, 2013

Alfieri, Paul M.
Armao, Joseph P.
Berman, Patricia (NMI)

Continued on next page -

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Reed Smith LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner)**

New Partners as of October, 2013
continued:

Boranian, Steve J.
Brown, Bryan K.
Dakessian, Mardiros H.
Hagan, John F.
Hatfield, Jacqueline A.
Hryck, David M.
Katsambas, Panagiotis (NMI)
Klett, Alexander (NMI)
Korenblatt, Jeffrey S.
Krebs-Markrich, Julia (NMI)
Kugler, Stefan (NMI)
Kwuon, Janet H.
Lackert, Clark W.
Lackner, Marc A.
MacElhone, Isabelle (NMI)
Minniti, Cindy S.
Mitchell, Jonah D.
O'Neil, Michael (NMI)
Richthammer, Etienne (NMI)
Scheve, Stephen E.
Schryber, John W.
Solomon, Jonathan (NMI)
Suleman, Sakil A.
Temple, Mark D.
Theodorou, Demitris (NMI)
Watterson, Kim M.
Wong, Patrick (NMI)
Zaman, Peter O.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

1228496

DATE: APR 17 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons Corner, VA 22102

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Adams, John D.
Alphonso, Gordon R.
Anderson, Arthur E., II
Anderson, Mark E.
Andre-Dumont, Hubert
Bagley, Terrence M.
Barger, Brian D.
Becker, Scott L.
Becket, Thomas L.
Belcher, Dennis I.
Bell, Craig D.
Bilik, R. E.
Blank, Jonathan T.
Boland, J. W.
Brenner, Irving M.
Brooks, Edwin E.
Brose, R. C.
Burk, Eric L.
Busch, Stephen D.
Cabaniss, Thomas E.
Cacheris, Kimberly Q.
Cairns, Scott S.
Capwell, Jeffrey R.
Cason, Alan C.
Chaffin, Rebecca S.
Chapman, Jeffrey J.
Cockrell, Geoffrey C.
Covington, Peter J.
Cramer, Robert W.
Cromwell, Richard J.
Culbertson, Craig R.
Cullen, Richard (nmi)
Daglio, Michael R.
De Ridder, Patrick A.
Dickerman, Dorothea W.
DiMattia, Michael J.
Dooley, Kathleen H.
Downing, Scott P.
Edwards, Elizabeth F.
Ensing, Donald A.
Ey, Douglas W., Jr.
Farrell, Thomas M.
Feller, Howard (nmi)
Finkelson, David E.
Foley, Douglas M.
Fox, Charles D., IV
Franklin, Ronald G.
Fratkin, Bryan A.
Freedlander, Mark E.
Freeman, Jeremy D.
Fuhr, Joy C.
Gambill, Michael A.
Gibson, Donald J., Jr.
Glassman, Margaret M.
Glickson, Scott L.
Gold, Stephen (nmi)
Goldstein, Philip (nmi)
Grant, Richard S.
Greenberg, Richard T.
Greene, Christopher K.
Greenspan, David L.
Gresham, A. B.
Grieb, John T.
Harmon, Jonathan P.
Harmon, T. C.
Hartsell, David L.
Hatcher, J. K.
Hayden, Patrick L.
Hayes, Dion W.
Heberton, George H.
Hedrick, James T., Jr.
Horne, Patrick T.
Hornyak, David J.
Hosmer, Patricia F.
Hutson, Benne C.
Isaf, Fred T.
Jackson, J. B.
Jewett, Bryce D., III
Jordan, Hilary P.
Justus, J. B.
Kahn, Brian A.
Kanazawa, Sidney K.
Kane, Matthew C.
Kang, Franklin D.
Kannensohn, Kimberly J.
Katsantonis, Joanne (nmi)
Keeler, Steven J.
Kerr, James Y., II
Kilpatrick, Gregory R.
King, Donald E.
Kittrell, Steven D.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

122849b

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons Corner, VA 22102

(check if applicable) [✓] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Kobayashi, Naho (nmi)
Konia, Charles A.
Kratz, Timothy H.
Kromkowski, Mark A.
Krueger, Kurt J.
Kutrow, Bradley R.
La Fratta, Mark J.
Lamb, Douglas E.
Lias-Booker, Ava E.
Little, Nancy R.
Long, William M.
Manning, Amy B.
Marianes, William B.
Marshall, Gary S.
Marshall, Harrison L., Jr.
Marsico, Leonard J.
Martin, Cecil E., III
Martin, George K.
Martinez, Peter W.
Mason, Richard J.
Mathews, Eugene E., III
Mayberry, William C.
McDonald, John G.
McFarland, Robert W.
McGinnis, Kevin A.
McIntyre, Charles W.
McKinnon, Michele A.
McLean, J. D.
McRill, Emery B.
Michalik, Christopher M.
Milianti, Peter A.
Miller, Amy E.
Moldovan, Victor L.
Muckenfuss, Robert A.
Mullins, P. T.
Murphy, Sean F.
Nahal, Hardeep S.
Natarajan, Rajsekhar (nmi)
Neale, James F.
Nesbit, Christopher S.
Newhouse, Philip J.
O'Grady, John B.
Oakey, David N.
Older, Stephen E.
Oostdyk, Scott C.
Padgett, John D.
Parker, Brian K.
Perzek, Philip J.
Phillips, Michael R.
Pryor, Robert H.
Pusateri, David P.
Rak, Jonathan P.
Reid, Joseph K., III
Richardson, David L.
Riegle, Gregory A.
Riley, James B., Jr.
Riopelle, Brian C.
Roberts, Manley W.
Robinson, Stephen W.
Roeschenthaler, Michael J.
Rogers, Marvin L.
Rohman, Thomas P.
Ronn, David L.
Rosen, Gregg M.
Rust, Dana L.
Satterwhite, Rodney A.
Scheurer, P. C.
Schewel, Michael J.
Schmidt, Gordon W.
Sellers, Jane W.
Shelley, Patrick M.
Simmons, L. D., II
Simmons, Robert W.
Slaughter, D. F.
Slone, Daniel K.
Spahn, Thomas E.
Spitz, Joel H.
Spivey, Angela M.
Stallings, Thomas J.
Steen, Bruce M.
Stein, Marta A.
Stone, Jacquelyn E.
Swan, David I.
Symons, Noel H.
Tackley, Michael O.
Tarry, Samuel L., Jr.
Thanner, Christopher J.
Thornhill, James A.
Van Horn, James E.
Vaughn, Scott P.
Vick, Howard C., Jr.
Viola, Richard W.
Wade, H. L., Jr.
Walker, John T., IV
Walker, Thomas R.
Walker, W. K., Jr.
Westwood, Scott E.
Whelpley, David B., Jr.
White, H. R., III
White, Walter H., Jr.
Wilburn, John D.
Williams, Steven R.
Woodward, Michael B.
Wren, Elizabeth G.

Former Partners:
McElligott, James P.
Young, Kevin J.

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

Dulles Rockhill Partners Limited Partnership
455 Springpark Place, Suite 100
Herndon, VA 20170

(check if applicable) [ ] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

General Partner:

Crimson Development, Inc.*

Limited Partners:

WDV 2006 Limited Partnership
Thomas D. Simmons, Jr.*
TDS Interests, Ltd.*
DATS Interests, Ltd. *
Stephen P. Simmons*
Deborah Ann Vowell*
Eckhard (nmi) Vedder*
Simmons 1987 Basket Trust*
R. Kevin Dougherty
Mitchell J. Bonnano*
The Mary Lawrene Porter Trust*
Fayez Sarofim
James A. Reynolds*
Russell M. Frankel*
Robert M. Hopson III*
Charles E. Sheedy*
FSI No. 2 Corporation
Montague-Betts Company*
W. Earle Betts III*
D.W.B. Associates*
Betts Family, L.C.*
G. Richard Patton*
Gwen M. Soileau*
Beeman E. Strong, III*
Matthew J. Sheedy*
R. Warren Walters*

* Does not own 10% or more of the Applicant/Title Owner of Tax Map No. 15-4 ((5)) 5A

(check if applicable) [✓] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**Rezoning Attachment to Par. 1(c)**

1228496

DATE: APR 17 2014
(enter date affidavit is notarized)

for Application No. (s): PCA C-696-10
(enter County-assigned application number (s))

**PARTNERSHIP NAME & ADDRESS:** (enter complete name & number, street, city, state & zip code)

WDV 2006 Limited Partneship
221 West 6th Street, Suite 880
Austin, TX 78701

(check if applicable) [ ] The above-listed partnership has no limited partners.

**NAMES AND TITLES OF THE PARTNERS:** (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

General Partner:

The Vedder Company*

Limited Partners:

Wolfram (nmi) Vedder
Deidre (nmi) Vedder

*Does not own 10% or more of Dulles Rockhill Partners Limited Partnership, Applicant/Title Owner of Tax Map No. 015-4 ((5)) 5A

(check if applicable) [X] There is more partnership information and Par. 1(c) is continued further on a "Rezoning Attachment to Par. 1(c)" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number(s))

==========

1(d). One of the following boxes **must** be checked:

[ ] In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land:

[✓] Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

**EXCEPT AS FOLLOWS:** (**NOTE**: If answer is none, enter "**NONE**" on the line below.)

None

(check if applicable) [ ] There are more interests to be listed and Par. 2 is continued on a "Rezoning Attachment to Par. 2" form.

**REZONING AFFIDAVIT**

DATE: APR 1 7 2014
(enter date affidavit is notarized)

1228496

for Application No. (s): PCA C-696-10
(enter County-assigned application number(s))

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than $100, singularly or in the aggregate, with any of those listed in Par. 1 above.

**EXCEPT AS FOLLOWS: (NOTE:** If answer is none, enter "**NONE**" on line below.)

* Donald E. King of McGuireWoods LLP donated in excess of $100 to John Foust.

**(NOTE: Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)**

(check if applicable) [ ] There are more disclosures to be listed and Par. 3 is continued on a "Rezoning Attachment to Par. 3" form.

**4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.**

**WITNESS the following signature:**

(check one) [ ] Applicant [✓] Applicant's Authorized Agent

DAVID S. HOUSTON
(type or print first name, middle initial, last name, and title of signee)

Subscribed and sworn to before me this 17th day of April 2014, in the ~~State~~/Comm. of VIRGINIA, County/~~City~~ of FAIRFAX

Jaima L. Brown
Notary Public

My commission expires: August 31, 2016
Notary Registration No.: 153632

JAIMA BROWN
Notary Public
Commonwealth of Virginia
153632
My Commission Expires Aug 31, 2016

RECEIVED
Department of Planning & Zoning
SEP 26 2013
Zoning Evaluation Division

**RZ 2009-HM-017/FDP 2009-HM-017[1]**

**INNOVATION CENTER SOUTH AND THE INNOVATION CENTER STATION GARAGE**

**AMENDED STATEMENT OF JUSTIFICATION**

**Proposed PRM District**

**Application of Nugget Joint Venture, L.C.**

Revised September 25, 2013

1. Introduction

Nugget Joint Venture, L.C. ("Applicant") is the owner of certain land located in Fairfax County, Virginia, consisting of approximately 11.65 acres and having a tax assessment number as 015-2-((01))-0013 pt. ("Parcel 13") and 015-4-((05))-0005A pt. ("Parcel 5A") (collectively, the "Nugget Parcel").[2] Fairfax County is the owner of certain land located in Fairfax County, Virginia, consisting of a 3.03 acres and having a tax assessment number as 015-4-((05))-0005B ("Original County Parcel"). The Nugget Parcel and the Original County Parcel are collectively 14.68 acres and are hereinafter referred to as the "Property." The subject application is a request to rezone the Property from the Planned Development Commercial (PDC) District to the Planned Development Residential Mixed Use (PRM) District.[3]

The County has agreed to allow and requested that the Applicant pursue the land use planning, design, and other work activities necessary to obtain approval of this rezoning and has

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[1] Due to recent redistricting of the boundaries of the various magisterial districts in the County, the Property is now located in the Dranesville District.

[2] The Nugget Parcel includes a Boundary Line Adjustment Agreement with Dulles Rockhill Partners Limited Partnership for approximately 0.51 acres of Parcel 5A. The Applicant does not currently own this portion of the Property but Dulles Rockhill Partners has previously joined this application. A new notarized authorization and endorsement from Dulles Rockhill Partners is also being submitted concurrently with this narrative.

[3] Concurrently with this PRM rezoning request, Dulles Rockhill Partners Limited Partnership has submitted and is processing, in cooperation with the Applicant, three applications scheduled for public hearing on November 21, 2013 which include a Proffered Condition Amendment application (PCA C-696-9) to delete land area from the applicable proffers and development plan for Parcel 5A, as it currently exists as part of the Dulles Station project, a Proffered Condition Amendment to swap an equal amount of land area from Parcel 13 and Parcel 5A (PCA C-696-03), and a Rezoning application to rezone 4.77 acres, including Nugget Joint Venture's land from Parcel 13, from PDC to PRM (RZ 2012-DR-016). The Applicant acknowledges that these applications are pending approval and that the PCA application to include land from Parcel 5A into Parcel 13 may not be accepted by Fairfax County DPZ-ZED until the Board approves PCA C-696-03.

appointed the Applicant to act as its agent with respect to the Innovation Center Metro Station project (as described below), subject to and in accordance with the terms of a Real Estate Exchange Agreement authorized by the Board of Supervisors. A public hearing and the Board's approval of the exchange occurred on July 30, 2013.

2. Background

The Property is currently vacant and zoned to the Planned Development Commercial (PDC) District. This zoning district was originally established on August 25, 1975, with the approval of Rezoning Application C-698.[4] The original development program was the subject of amendment on August 2, 1993, with the approval of a PCA/CDPA/FDPA in Application C-698. The land area contained approximately 11.65 acres. In proffers dated July 30, 1993, the Applicant proffered to convey a three (3) acre portion of the Nugget Parcel (from Parcel 13) to Fairfax County for use as a public transportation facility. This area, however, has not been severed from Parcel 13 nor conveyed to the Board at this point in time.

In subsequent proffers dated April 26, 2002, the applicant in application number PCA C-696-4 proffered to convey the three (3) acre parcel that is now the Original County Parcel to the Board, also for use as a public transportation facility. Pursuant to these transportation facility proffers, planners for the future Metro Station (as defined below) developed a conceptual layout for a parking garage on the combined six (6) acres proffered by these two zoning applications to serve the station.

3. Innovation Center Metrorail Station and Garage

Phase II of the Dulles Corridor Metrorail Project contemplates that a new Metrorail station, to be named the Innovation Center Station (the "Metro Station"), be constructed and placed in the median road/airport access highway near the intersection of the Dulles International Airport Access Highway/Dulles Toll Road (the "Toll Road") and Route 28. In connection with the construction of the Metro Station, a parking garage containing approximately 2,028 spaces, kiss and ride spots, bus depots (which are to be located outside of the parking structure), and ancillary transit features for the Metro Station are to be constructed to the south of the Toll Road (the foregoing shall be referred to, collectively, as the "Garage"). The Garage will be located on the Property to serve the Metro Station and will be owned, maintained and operated by the County.

The Garage will be designed and constructed to meet the space, functional, and operational requirements of the Metropolitan Airports Authority ("MWAA"). The County, MWAA and the Applicant believe that a better and more integrated transit oriented development ("TOD") plan is achieved if the Garage is located further south, as opposed to the location that was originally proposed directly adjacent to the Toll Road.

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[4] Parcel 5A is zoned PDC pursuant to Case No. C-696, as amended, but is currently subject to a rezoning request to the PRM District in Case No. RZ 2012-DR-016/FDP 2012-DR-016. As noted in footnote #3, a 0.51 acre portion of Parcel 13 is included in such request and not considered part of the Nugget Parcel.

4. Comprehensive Plan

The Applicant originally submitted this application in 2009. In fact, the application was accepted for processing on July 9, 2009. An amendment to the application was thereafter submitted on February 16, 2012. Processing of the application was held in abeyance to permit the County to amend the current Comprehensive Plan designation for the land unit that the Property is located in as part of the Dulles Suburban Center. Specifically, the Route 28 South Station Special Study (ST 09-III-DS1) for Land Unit A ("Plan Amendment"). The Plan Amendment recommends transit oriented development for the Property and is scheduled to be adopted by the Board of Supervisors later this year.

As noted above, the County and the Applicant now desire to reactivate the application to allow for a coordinated joint development of the Garage and the remainder of the Property. Further, the County and the Applicant desire to commence certain design-related and zoning-related work and obtain various approvals to meet the completion date requirement for the Garage and for the Metro Station by June 2018. Such coordination also includes the entitlement of the Nugget Parcel for transit oriented mixed use development.

The Property is located within Land Unit A of the Dulles Suburban Center area as designated in the Area III portion of the Fairfax County Comprehensive Plan. Land Unit A encompasses the highest planned densities within the Dulles Suburban Center. The Property is immediately adjacent to the proposed Metro Station. It is therefore within the core area of Land Unit A, which is defined as a transit-oriented core that is generally within one-quarter mile of the Metro transit station. According to the Comprehensive Plan recommendations currently being considered by the Plan Amendment, this core area is large enough for the development of an urban concentration of uses.

In order to implement the Comprehensive Plan and meet the County's deadline for completion of the Garage, a rezoning of the Property to the PRM District is necessary. The relocation of the proposed Metro Station Garage is supported by the Department of Planning and Zoning, the Department of Public Works and Environmental Services and the Department of Transportation. The Plan Amendment will recognize the strategic location of the Property immediately adjacent to the Metro Station.

5. Development Program

The Applicant's proposed development program includes multi-family residential as the primary use, along with office, hotel, eating establishments, retail, other support services and Metro-related transportation facilities as secondary uses. The proposed transit oriented PRM development will incorporate access to the station platform. Because of the Property's proximity to the Metro Station, an intensity of up to 3.0 FAR is envisioned to maximize the Property's ability to take advantage of Metro ridership for the mix of uses in an urban setting. The proposed overall density depicted on the CDP/FDP is 1,546,041 square feet of gross floor area

(3.0 FAR).[5] The total floor area factors in a density credit for the benefit of Parcel 13 from a street dedication in 1995. Sheet 3 of the CDP/FDP includes a tabulation of density for each of the proposed uses.

Relocation of the Garage enables true transit oriented development of the Property near the Metro Station. The Applicant intends to now offer and utilize an urban streetscape on Sunrise Valley Drive. Overall, the goal is to create a mixed use TOD on the Property that would permit residential, office and hotel occupants to be located closer to the station, thereby creating a more vibrant station community, as well as substantially increasing Metro ridership. The proposed CDP/FDP depicts the relocation of the Garage.

By relocating the Garage as proposed, transit oriented development can occur immediately adjacent to the Metro Station. The quality and scope of development near the station, made possible by the relocation, will provide substantial additional tax revenues to the County, with relatively minor public infrastructure costs. The proposed development will incorporate an urban design that will create a pedestrian-focused sense of place, with an integrated pedestrian system. A balanced mix of residential, office and hotel uses is proposed. In addition, a street-level the mix of support service and retail uses will be provided for pedestrian and mass transit rider convenience. The Applicant believes the mix of uses will encourage different types of activity throughout the day, will ensure the efficient use of transit, and promote increased ridership during peak and off-peak travel periods in all directions. Reverse ridership during morning and evening peak hours and off-peak ridership will help make Metro more cost efficient.

The Applicant's TOD plan will create an employment base adjacent to transit facilities. The proposed mix of hotel, office and retail uses on the Property will offer a variety of employment opportunities near the transit facility for a range of different income levels. Support retail will allow residents of the transit oriented development to live and shop in close proximity to employment opportunities. Multi-family housing units near the Metro Station will offer transportation savings and opportunities for housing convenient to employment centers. This development will also provide a supply of affordable/workforce housing in conformance with County policies and the Comprehensive Plan.

6. Parking and Loading

Sheet 3A of the CDP/FDP includes the parking tabulation and indicates that the required number of parking spaces will be provided. Since the Property is located within 1/4 mile of the planned Innovation Center Metrorail Station, the Applicant reserves the right, however, to request a reduction of required off-street parking pursuant to Section 11-102 of the Zoning Ordinance (Paragraphs 4, 5, 26 and 27). If requested, this request would be justified and feasible because of the types of uses proposed and the staggered peak hours of such uses as part of a transit oriented development. The use of available parking can be maximized throughout the day

[5] If the overall land area of the Property were used to calculate density (i.e., 14.68 acres), the proposed FAR would be significantly less because the Garage serving the Metro Station is not considered gross floor area and no density has been taken from Parcel 5B.

and evening because of the proposed mix of uses. The Applicant anticipates that many of the project's residents, visitors, tenants, and patrons will use modes of transportation other than single occupant vehicles to travel to/from the development. To further encourage the use of alternate modes, and regardless whether a reduction request is made, the Applicant intends to implement a comprehensive Transportation Demand Management (TDM) program. One key element of this program will be to develop a parking management plan, which shall include, but not be limited to, unbundling of parking and a reduction in the number of spaces required to serve each use as outlined in Article 11 of the Zoning Ordinance.

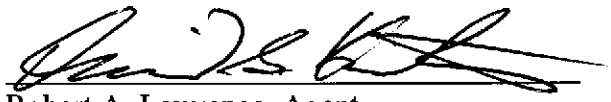
Loading spaces for the proposed development will be as represented on the CDP/FDP. Specifically, eight (8) loading spaces are planned for the proposed six (6) buildings. By strict application of Article 11, twenty-one (21) loading spaces would be required. The Applicant's experience is that such a standard is excessive, especially in a TOD environment, so a request is hereby made to modify the standard in favor of the number of spaces proposed. The proposed development conforms to all other current applicable land development ordinances, regulations and adopted standards.

7. Conclusion

Approval of this application will help the County realize its goal of completing the Metro Station Garage in a timely manner for the opening of Phase 2, while obtaining all of the benefits to be derived from providing transit oriented mixed use development in close proximity to mass transit.

Respectfully Submitted,

Reed Smith LLP



Robert A. Lawrence, Agent
David S. Houston, Agent

**PCA C-698**
Ralph D. Rocks, et al.
July 30, 1993

**PROFFERS**

Pursuant to Section 15.1-491(a) of the 1950 Code of Virginia, as amended, the undersigned proffer the following conditions provided the Board of Supervisors approves this Proffered Condition Amendment application as proffered herein. For the purpose of these proffers, the term "Developer" refers to the undersigned or their successor or assigns.

1. **Previous Proffers**. Upon acceptance of these proffers, the proffers of RZ C-698 are hereby superseded and rendered null and void. The new proffers created herein relate only to the property, which is referenced on Fairfax County Tax Map as 15-2 ((1)) Parcel 13 (the "Subject Property").

2. **Conceptual/Final Development Plan**. Development of the property shall be in substantial conformance with the Conceptual/Final Development Plan entitled "Dulles Town Center", "Site Plan 6 Phase One" prepared by Ward and Hall and Assoc. (the "CDP/FDP"). Said Plan provides for 324,000 square feet of development (exclusive of the transit facility described hereinafter) with the following uses included in the Phase I buildings shown on the FDP: 200 seat restaurant, 225 Hotel Rooms, a

400 seat theater, 6,500 square feet of retail and bank, a 4,800 square foot pool area and a 2,100 square foot service station. In addition to these Phase I uses, Phase II provides for the following additional uses subject to approval of a Final Development Plan: 200 seat restaurant, 225 Hotel Rooms, 400 theater seats and 6,500 square feet of retail and bank. It is recognized that said CDP/FDP is subject to modifications necessary to accommodate the realignment of Horse Pen Road across the frontage of the Subject Property and the 500 foot spacing of entrance points to the site, per the attached plan marked Exhibit A, and the modifications to the CDP/FDP that are necessary to accommodate the conveyance of the 3 acre site referenced in paragraph 5 hereinafter.

3. **Final Development Plan Amendment**. Notwithstanding the Conceptual Development Plan and the Final Development Plan are presented together on the same plan, it shall be understood that the CDP shall be the entire plan relative to the points of access, and the general location of buildings, on-site circulation, and common open space areas, and that the Developer has the option

to request a Final Development Plan Amendment ("FDPA") from the Planning Commission for a portion of the plan in accordance with the provisions set forth in Section 16-402 of the Zoning Ordinance, and these proffers.

4. **Minor Deviations**. Minor deviations from the FDP may be permitted pursuant to paragraph 4 of Section 16-403 of the Zoning Ordinance.

5. **Transit Site**. Subject to receiving density credit pursuant to Section 2-308 of the Zoning Ordinance, the Developer will dedicate and convey in fee simple to Fairfax County or its designee, a three acre portion of the subject property as is more particularly located on the attached plat marked Exhibit B unless the Developer and the County mutually agree on an alternative configuration. Said dedication and conveyance shall be for use as a public transportation destination station, Kiss & Ride lot, Park and Ride facility, rail/bus transit station or other public transportation facility (herein referred to as the "Transportation Facility"). At the time of dedication, all necessary easements

shall be granted or assigned (at no cost to the County) by Developer.

The dedication of said 3 acre site shall be subject to mutually agreed upon reasonable reservation of easements by Developer for construction, access, and stormwater drainage and management. The right to such easements shall survive dedication. Actual dedication shall be made upon demand by Fairfax County, upon the first to occur of the following:

(a) Within thirty (30) days of approval by VDOT of the subject site for a Transportation Facility as previously defined.
(b) The first site plan approval for the subject property.
(c) June 30, 1994.

Any development within the 3 acre site shall require Final Development Plan approval pursuant to § 16-402 et seq. prior to site plan approval. Any FDP for the 3 acre site shall require the then owner of the 3 acre site to provide a screening and buffer area consisting

of existing trees and supplemental plantings with a minimum depth of thirty (30) feet and an average depth of 50' along the lot line of the 3 acre site which is contiguous to the Subject Property. Any FDP within the 3 acre site shall provide for control of the heights of structures by a forty five (45) degree angle of bulk plane as determined from the lot line of the Subject Property. The owners of the Subject Property or the 3 acre site may submit either a Proffered Condition Amendment (PCA), a Conceptual Development Plan amendment (CDPA), and/or a Final Development Plan Amendment (FDPA) on the property so owned without the joinder and/or consent of the other if such application does not geographically affect the other property. For future zoning enforcement, the Subject Property and the 3 acre site shall be deemed separate parcels after the 3 acre site is conveyed pursuant to the provisions of this paragraph 5. Any modification or amendments of any of the FDPs shall be subject to the approval of the Planning Commission.

6. Road Construction/Contribution.

a. Prior to the issuance of the first non-residential use permit for the Subject Property, a four lane divided Horse Pen Road shall be constructed to a standard required by VDOT across the frontage of the subject property within a dedicated right of way with the horizontal alignment in general conformance with the attached plan (Exhibit A) said dedication shall be made subject to a reservation of density credit pursuant to Section 2-308 of the Zoning Ordinance. If such right-of-way is acquired by the Dulles Toll Road Corporation, no density credit shall be awarded for this land area. The right-of-way and all ancillary easements shall be dedicated and conveyed in fee simple to the Board of Supervisors prior to the issuance of the first non-residential use permit, or upon demand by Fairfax County or VDOT, no earlier than twenty-four (24) months from the date of approval of this PCA, whichever event first occurs.

b. The Developer shall contribute the sum of $315,043.00 to Fairfax County to be used for road improvements within the general vicinity of the Subject Property as determined by the Board of Supervisors. This sum shall be payable at the time of each Building Permit approval at the rate of $.9724 per square foot, for each square foot of building space proposed for construction under a given Building Permit, until said sum is paid in full. Said contribution amounts shall be subject to inflationary increase/decrease adjustments in the Construction Cost Index from the Engineering News Record from the date of this Proffered Condition to the date when each contribution is made.

7. **Recreation**. The Developer shall contribute the sum of $12,500 to the Fairfax County Park Authority for the acquisition and development of active recreation facilities in Land Unit D-1 of the Dulles Suburban Center Plan located south of Frying Pan Road, or other locations within the general vicinity of the property. Said sum shall be due and payable prior to the issuance

of the first building permit for the subject property. Said contribution amount shall be subject to the inflationary increase/decrease adjustments in the Construction Cost Index from the Engineering News Record from the date of this proffered condition to the date that a contribution is made.

8. Shuttle service shall be provided from each hotel to and from Dulles Airport.

9. **Counterparts**. These proffers may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, and all of which taken together shall constitute but one and the same instrument.

The G.W.H. Virginia Corporation hereby executes these proffers as the record owner of Tax Map No. 15-2 ((1)) Parcel 13 and the Developer referenced herein.

G.W.H. VIRGINIA CORPORATION

By: Ralph D Rocks
Ralph D. Rocks, President

Ralph D. Rocks and Jean W. Rocks, owners of Tax Map No. 15-2 ((1)) Parcels 3, 5 and 9, hereby execute these proffers solely to evidence their consent to the deletion and termination of the proffers of RZ C-698.

Ralph D. Rocks

Samuel A. Rocks, Attorney-in-fact for Jean W. Rocks

The Nugget Joint Venture hereby executes these proffers as the legal owner of Tax Map 15-2 ((1)) Parcel 13 by virtue of an Indenture.

NUGGET JOINT VENTURE

By: Samuel A. Rocks
Joint Venturer

Attachments

PCACLN.730

RECEIVED
Department of Planning & Zoning
FEB 07 2008
Zoning Evaluation Division

# AMENDED
# RECORD OF DECISION

## by the Federal Transit Administration

## Dulles Corridor Metrorail Project
## Fairfax and Loudoun Counties, Virginia

### DECISION

The Federal Transit Administration (FTA), in accordance with 23 CFR part 771, the regulation that governs the Federal environmental review process for transportation projects funded by the FTA, has decided that the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended, have been satisfied for the Dulles Corridor Metrorail Project. The Project, a planned extension of the Washington Metropolitan Area Transit Authority (WMATA) regional Metrorail system in Fairfax and Loudoun Counties, Virginia, will include 23.1 miles of electrically-powered rapid rail transit operating in an exclusive right-of-way with at-grade, aerial, and subway sections, 11 new stations, parking facilities, new and improved yard and shop facilities, rail vehicles, fare collection equipment, communications and train control systems, and ancillary facilities for the distribution of electrical power and stormwater management.

This FTA Record of Decision (ROD) applies to the Locally Preferred Alternative ("the Project"), as described in the Project's December 2004 *Final Environmental Impact Statement and Section 4(f) Evaluation* (Final EIS) and modified in the February 2006 *Preliminary Engineering Design Refinements Environmental Assessment*. This Amended ROD replaces the FTA Record of Decision previously issued in March 2005. The Project sponsor,[1] the Virginia Department of Rail and Public Transportation (DRPT), seeks financial assistance from FTA for the first phase of the Project (the Extension to Wiehle Avenue), which will extend from the existing Metrorail Orange Line near the West Falls Church Station and terminate at Wiehle Avenue in Reston. The second phase of the project (the Extension to Dulles Airport/Route 772) will extend west from Wiehle Avenue to Dulles International Airport and eastern Loudoun County. Once constructed and accepted by WMATA, each phase of the Project will be operated as part of the regional Metrorail system.

In addition to FTA, the Federal Aviation Administration (FAA) participated in the Project's NEPA review as a cooperating agency because construction of the Project requires the use of airport property and FAA's approval of the change in the Airport Layout Plan.

[1] Up to now, the Virginia Department of Rail and Public Transportation (DRPT) has been the sponsoring agency and the presumed recipient of any grant provided by FTA. However, the Metropolitan Washington Airports Authority (MWAA) is working with DRPT and FTA to take over as the Project sponsor, and if this change occurs, MWAA will become the recipient of any FTA grant already in place or awarded after such a transition. As a condition of any grant, FTA will require that the Project sponsor construct the Project in accordance with the environmental record referenced herein. (The Washington Metropolitan Area Transit Authority (WMATA) is not a Project sponsor, but is serving as technical manager to the Project since WMATA will assume ownership and operation of the Project after it is constructed.)

received
11-21-07

## BACKGROUND

The Dulles Corridor, located in Northern Virginia, west of the nation's capital, is home to several of the Washington metropolitan region's most dynamic and rapidly growing activity centers. Extending from the vicinity of West Falls Church Metrorail Station in Fairfax County, Virginia, to Route 772 in Loudoun County, Virginia, the 23.1-mile corridor includes the high-density office buildings and regional shopping centers of Tysons Corner; the residences, shopping centers, and suburban office complexes of the Reston-Herndon area; the rapidly growing Washington Dulles International Airport (Dulles Airport); and an emerging residential and employment center in eastern Loudoun County.

With the Dulles Corridor's increasing attractiveness as a place to live and work, travel in the corridor has been steadily growing over the past 15 years. This increasing travel demand has strained the capacity of the existing transportation network, causing delays and increasing travel times between activity centers within the corridor and the region. The central and eastern portions of the corridor currently experience some of the region's worst traffic congestion.

Over the next 25 years, continued development of the corridor as a regional employment destination and the maturation of residential communities and commercial areas within the corridor are expected to far outpace the growth of the region as a whole. Parallel increases in travel demand are projected to exceed the capacity of the corridor's already overburdened transportation system, resulting in severely congested conditions on numerous routes, further degradation of air quality, and a threat to the valued quality of life in the Dulles Corridor.

Planned roadway enhancements in the corridor are not expected to relieve the current levels of congestion and the ability to further expand roadway capacity beyond currently planned improvements is constrained by right-of-way limitations and federal air quality standards. For these reasons, alternative transportation improvements in the Dulles Corridor that would increase capacity and improve mobility without further expanding roadways, such as a high-quality, high-capacity rapid transit line, have long been the focus of public and private sector studies.

Rapid transit in the Dulles Corridor was initially explored in the 1950s as part of the planning of Dulles Airport. At that time, it was decided to reserve the median of the Dulles International Airport Access Highway (DIAAH), previously known as the Dulles Airport Access Road, for future transit access to the airport. In the late 1960s the need for transit in the corridor was evaluated during the planning of the regional Metrorail system. While Metrorail's original Adopted Regional System did not include a connection to Dulles Airport, extending rapid transit service to the airport has remained a local and regional goal.

In the 1990s, providing a rapid transit connection to Dulles Airport was evaluated in the *Dulles Corridor Transportation Study* (1997) and the *Supplement to the Dulles Corridor Transportation Study* (1999). The former, a Major Investment Study (MIS), recommended developing a rail line between the Metrorail Orange Line and Route 772 primarily using the median of the DIAAH.

The MIS Supplement in 1999 recommended developing this rail line through a phased implementation program that would begin with enhanced express bus services, then use bus rapid transit (BRT) technology to institute rapid transit service in the Dulles Corridor as quickly as possible. BRT is an emerging transit mode in which buses are used to provide high-quality service akin to a rapid rail system. The BRT line would then be converted to rail use over time.

The recommended transit alternatives for the Dulles Corridor were evaluated in the *Dulles Corridor Rapid Transit Project Draft Environmental Impact Statement and Section 4(f) Evaluation* (Draft EIS) published in June 2002. The results of the evaluation assisted the Commonwealth of Virginia, MWAA, WMATA, FTA, FAA, local and regional decision-makers, and the public in understanding the potential effects of the alternatives under consideration for the project. Based on the analysis contained in the Draft EIS, public comments received on the document, and agency coordination, in late 2002 an extension of the WMATA Metrorail from the existing Orange Line to Route 772 in Loudoun County was selected as the Locally Preferred Alternative (LPA) for the project by both the Commonwealth Transportation Board (CTB) and the WMATA Board of Directors. Like the alternative recommended in the 1997 MIS, the rail line would primarily use the median of the DIAAH, leaving the highway to directly serve Tysons Corner and Dulles Airport. However, unlike the recommendations of the MIS Supplement, the selected LPA was not proposed to be developed through a phased implementation program that included BRT as an interim step to rail.

Following the publication of the Draft EIS and selection of the Metrorail Alternative as the LPA, additional agency and public coordination resulted in revisions to the selected LPA. The potential effects of these changes—which included design modifications to the preferred alignment and facilities, adjustment of opening years, and scheduling construction of the project in two phases—were documented in the *Dulles Corridor Rapid Transit Project Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation* (Supplemental Draft EIS) published in October 2003. Although many of the merits and potential impacts of the proposed LPA were similar to those presented in the Draft EIS, the Supplemental Draft EIS allowed decision makers to fully and explicitly examine the effects of the revised LPA compared to the Metrorail Alternative evaluated in the Draft EIS and a No Build Alternative. Based on the analysis contained in the Supplemental Draft EIS, public comments received on the document, and agency coordination, in March 2004 the CTB approved the revision of the LPA to incorporate the elements required for phased construction and the design refinements outlined in the Supplemental Draft EIS and recommended in its Public Hearings Report. In April 2004, the WMATA Board of Directors approved the revision of the LPA. The Transportation Planning Board of the Metropolitan Washington Council of Governments included the LPA in the 2005 Constrained Long-Range Transportation Plan for metropolitan Washington, D.C.

The Final EIS was developed to respond to comments and issues raised during the circulation of the Draft EIS and the Supplemental Draft EIS and to provide more detailed information on the design of proposed mitigation measures for unavoidable adverse impacts associated with the Project. The Final EIS was published in December 2004.

In February 2006, an Environmental Assessment (the 2006 EA) was prepared to assess the environmental impacts of modifications that were made to the design of the Project's initial construction phase during preliminary engineering (PE). These design refinements came about after the publication of the Final EIS and issuance of the original FTA Record of Decision in March 2005.

## BASIS FOR DECISION

FTA's decision is based on information contained in the Draft EIS (June 2002), the Supplemental Draft EIS (October 2003), the Final EIS (December 2004), and the Preliminary Engineering Design Refinements Environmental Assessment (February 2006), which together constitute the detailed statement on environmental impacts required by NEPA and the Federal transit statutes (49 USC 5324(b)). The statement identifies the Preferred Alternative and includes a review of the purpose and need for the Project, its goals and objectives, consideration of alternatives, environmental impacts, and measures to minimize harm. FTA has reviewed this statement and notes that the Metrorail Alternative was selected over other alternatives considered because it:

- provided better access to corridor activity centers;
- provided better access to other regional activity centers
- did not require a mode transfer to access the regional Metrorail system;
- provided shorter travel times for trips within the corridor;
- provided the greatest increase in person throughput capacity in the corridor;
- attracted the highest number of total riders and new riders;
- better supported the comprehensive planning efforts of Fairfax and Loudoun counties;
- allowed for more transit-oriented development to be focused in station areas;
- increased the overall mobility within the corridor, the counties, and the region;
- conformed with regional air quality plans; and
- had the highest level of public and agency support.

The FAA has determined that the use of airport property for the Project is consistent with the terms of Section VII.G of FAA's *Policy and Procedures Concerning the Use of Airport Revenue* (64 FR 7696-7723). Public transit access to Dulles International Airport was envisioned in the airport's original Master Plan, and the Project will not affect airport operations. The median of the airport access highway was initially reserved for a future rail line when the airport was constructed in the early 1960s. In 1985, when the Master Plan was updated, FAA recommended that the median of airport access highway continue to be reserved for a future transit line and anticipated that this would likely be an expansion of the region's Metrorail system. On airport property, the rail line will be located either underground or along existing roadways; the station at the main terminal will be located underground. Other related facilities will be located in an airport buffer zone on land that would not otherwise be used for airport

development. The improved mobility and access provided by the Project will benefit the airport's operator, tenants, and air passengers.

## ALTERNATIVES CONSIDERED

Numerous alternatives were evaluated throughout the various stages of the environmental review phase of the Project. Consistent with the Project's evaluation methodology, the effectiveness of each alternative was assessed based on social, environmental, economic, and transportation factors. The evaluation process applied increasingly detailed and comprehensive measures of effectiveness to a decreasing number of alternatives. This process allowed decision-makers to identify similarities, differences, and trade-offs between each alternative, and to carry forward those alternatives that were determined to best achieve the following:

- Improve transportation service;
- Increase transit ridership;
- Support future development;
- Support environmental quality;
- Provide cost-effective, achievable transportation choices; and
- Serve diverse populations.

The formal NEPA review process began with the Notice of Intent, which was published on June 26, 2000, and a series of scoping meetings, which were held July 25-27, 2000. The initial set of alternatives considered for the Project included various rapid transit modes, alignments, station locations, and ancillary facilities. These alternatives were based on recommendations from the *Dulles Corridor Transportation Study* (1997), the *Supplement to the Dulles Corridor Transportation Study* (1999), and the comments received during the scoping meetings. These initial alternatives were then subjected to a two-phase screening process to determine which should be advanced for more detailed evaluation in the Draft EIS. For the initial screening process, most measures were qualitative. Criteria included consistency with land use plans, order of magnitude capital costs, access to activity centers within the Dulles Corridor and the region, and compatibility with existing infrastructure, among others. Alternatives carried forward from initial screening were subjected to a more rigorous evaluation in intermediate screening. In this phase of evaluation, many of the criteria applied during initial screening were measured more quantitatively. Alternatives that performed well were advanced for more detailed evaluation in the Draft EIS. The results of the screening evaluation are documented in detail in the Project's *Final Alternatives Analysis Report* (May 2001). Additional alternatives evaluated are documented in the *Final Alternatives Analysis Report Addendum* (December 2004.)

### Draft Environmental Impact Statement

The Draft EIS evaluated the potential effects of several alternative transit improvements for the Dulles Corridor. In addition to a No Build Alternative, four Build Alternatives that primarily ran

along the Dulles Connector Road, the DIAAH, and the Dulles Greenway were evaluated. The alternatives included:

- **No Build (Baseline) Alternative.** The No Build Alternative represented the "no-action alternative" required by the Council of Environmental Quality's (CEQ's) regulations for implementing NEPA, and provided a baseline for comparison against which the other alternatives were evaluated in the Draft EIS. The No Build Alternative included existing highway and public transportation infrastructure in the Dulles Corridor, and transportation system improvements, aside from the Project, that were included in the Washington metropolitan region's constrained long-range transportation plan and planned for implementation by 2025.
- **Bus Rapid Transit (BRT) Alternative.** BRT is a bus-based transit system that operates like a rail system. Passengers on BRT are provided rail-like amenities such as off-board fare collection, level boarding, enhanced stations, and platforms. Because it often takes advantage of pre-existing roadway facilities, BRT is generally a lower-cost transit technology than rail. Three alignment options were considered for the BRT Alternative in the Draft EIS.
- **Metrorail Alternative.** Metrorail is the region's rapid rail system. It is powered by an electrified third rail and operates in exclusive rights-of-way. By using multiple-car trains, Metrorail is capable of moving high volumes of passengers. Key features of the Metrorail system include fixed stations, dedicated rights-of-way, advanced fare collection, relatively simple transfers between different lines, and multiple-door boarding from level platforms. For the Metrorail Alternative, four alignment options were considered in Tysons Corner, and three sites were considered for a Metrorail Service & Inspection (S&I) Yard in Loudoun County.
- **BRT/Metrorail Alternative.** This alternative combined the BRT and Metrorail alternatives. Metrorail would be constructed in the eastern part of the Dulles Corridor as far as Tysons Corner, and BRT would be constructed in the western part of the corridor to Route 772 in Loudoun County.
- **Phased Implementation Alternative.** This alternative combined the other three Build Alternatives into a program of rapid transit improvements that would be implemented in stages (BRT, then BRT/Metrorail, then Metrorail). This approach would allow decision-makers to begin to address the travel needs in the corridor with rapid transit in the near term, while allowing for future development of rail.

Each of the Build Alternatives included several stations located in the median of the DIAAH, which were similar to stations on the existing Metrorail system. The BRT stations were designed to allow future conversion to rail stations. The alternatives also included the development of station and ancillary facilities such as parking and bus transfer facilities, a bus maintenance and storage facility, a rail service and inspection yard (S&I Yard), rail traction power substations and tie-breaker stations, and stormwater management facilities.

Supplemental Draft Environmental Impact Statement

Based on subsequent public and agency coordination after the completion of the Draft EIS and after an LPA was recommended and selected, the Project sponsor identified a series of modifications to the project to resolve outstanding design issues, reduce environmental and community impacts, and allow for construction of the project in two phases. The Supplemental Draft EIS was prepared to assist decision-makers and the public in understanding the effects of the proposed modifications to the selected LPA. A comparative evaluation was presented for the following alternatives:

- No Build Alternative. The No Build Alternative for the Supplemental Draft EIS was the same as the Baseline Alternative defined in the Draft EIS. The alternative included existing transportation infrastructure and services, as well as improvements included in the region's constrained long-range plan and planned to be implemented by 2025. The No Build Alternative provided a baseline for comparison against which the other alternatives were evaluated.
- Metrorail Alternative (T6/Y15). This alternative was the Metrorail Alternative evaluated in the Draft EIS and originally selected as the LPA (with Alignment T6 through Tysons Corner and a new S&I Yard at Site 15). The alternative generally followed an alignment between the Metrorail Orange Line near West Falls Church Station and Route 772 in Loudoun County, using the median of the Dulles Connector Road, the DIAAH, and the Dulles Greenway. It included 11 new stations and ancillary facilities, such as a new Metrorail S&I Yard, traction power substations, tie-breaker stations, and stormwater management ponds. The Metrorail Alternative (T6/Y15) was included in the Supplemental Draft EIS to facilitate understanding of the changes in effects associated with the proposed modifications to the LPA.
- Proposed LPA. The proposed LPA was similar to the Metrorail Alternative (T6/Y15) in terms of alignment, stations, facilities, and operating characteristics. The primary difference between the two alternatives was that the LPA was to be implemented in two phases. For the Wiehle Avenue Extension, Metrorail would be constructed from the Metrorail Orange Line through Tysons Corner to Wiehle Avenue, with interim express bus service in the western portion of the corridor until rail service could be extended. The Wiehle Avenue Extension was anticipated to open in 2011 with the full LPA opening in 2015. The impacts associated with operating the Wiehle Avenue station temporarily as an end-of-line station were evaluated. Other differences between the proposed LPA and the Metrorail Alternative (T6/Y15) included additional improvements at West Falls Church S&I Yard to accommodate operation of the Wiehle Avenue Extension prior to construction of the remainder of the LPA; adjustments to alignment plans and profiles for a variety of purposes including to reduce potential noise impacts, visual impacts, costs, and to improve operational efficiency; and design modifications of station site plans and ancillary facilities to address operational changes and to respond to concerns of local jurisdictions and landowners.

Final Environmental Impact Statement

The Final EIS was developed to respond to comments and issues raised during the circulation of the Draft EIS and the Supplemental Draft EIS and to provide more detailed information on the design of proposed mitigation measures for unavoidable impacts associated with the Project. The Final EIS presented an evaluation of the following alternatives:

- **No Build Alternative.** The No Build Alternative for the Final EIS is similar to the No Build Alternative defined in the Supplemental Draft EIS, but updated to reflect current conditions. The alternative includes existing transportation infrastructure and services, as well as improvements included in the region's constrained long-range plan and planned to be implemented by 2025. The No Build Alternative provides a baseline for comparison against which the other alternatives were evaluated.
- **Wiehle Avenue Extension.** The initial construction phase of the LPA was evaluated as a stand-alone alternative in the Final EIS. This alternative includes the first 11.6 miles of the Project from the existing Metrorail Orange Line near West Falls Church through Tysons Corner to Wiehle Avenue. The Wiehle Avenue Extension follows the Dulles Connector Road, Routes 123 and 7 in Tysons Corner, and the Dulles International Airport Access Highway (DIAAH). It includes 5 new stations, additional commuter parking, improvements to the existing Metrorail Service and Inspection Yard at West Falls Church, and required ancillary facilities. Express bus service would be provided by local transit operators between Wiehle Avenue and the western portion of the corridor.
- **LPA.** The LPA in the Final EIS is the entire 23.1-mile Metrorail extension, which is the subject of this Record of Decision. The LPA extends along the Dulles Connector Road, Routes 123 and 7, the DIAAH, and the Dulles Greenway between the Metrorail Orange Line and Route 772 in Loudoun County. It includes direct Metrorail service to Tysons Corner and Dulles Airport. The LPA includes 11 new stations, additional commuter parking, a new Metrorail Service & Inspection Yard on Dulles Airport property, improvements to the existing West Falls Church Service and Inspection Yard, and required ancillary facilities such as traction power substations, tie-breaker stations, and stormwater management ponds. The LPA would be constructed in two phases, the first phase being the Wiehle Avenue Extension described above, and the second phase being the further extension from Wiehle Avenue through the Airport to the terminus at Route 772 on the Dulles Greenway. Express bus service would be provided by local transit operators between Wiehle Avenue and the western portion of the corridor until Metrorail is extended to Route 772. This alternative, as modified by the Preliminary Engineering Design Refinements Environmental Assessment (2006 EA), discussed below, is the subject of this Amended Record of Decision.

Preliminary Engineering Design Refinements Environmental Assessment (2006 EA)

In early 2006, an Environmental Assessment (2006 EA) was prepared to assess the environmental impacts of modifications that were made to the design of the Project's initial

construction phase during preliminary engineering (PE). These design refinements came about after the publication of the Final EIS and issuance of the original FTA Record of Decision in March 2005. The 2006 EA presented an evaluation of the following two alternatives of limited scope, with variations primarily in the Tysons Corner area:

- Final EIS Wiehle Avenue Extension. This alternative is identical to initial phase of the LPA evaluated in detail in the Final EIS.

- PE Wiehle Avenue Extension. This alternative reflects the design refinements made during preliminary engineering (PE), including: a shift of the alignment from the southern edge to the median of Route 7 and reconfiguration of the roadway travel lanes, narrower track centers (outside station areas), simplified aerial guideway structures and architectural treatments, alternative station designs, and a revised connection with the existing Metrorail Orange Line. The tunnel portion of the Route 7 alignment would be shortened in length from approximately 5,000 feet to 3,000 feet, and the underground Tysons Central 7 Station would be replaced with an at-grade station in the Route 7 median. In addition, the site of the Dulles Storage and Inspection (S&I) Yard that was originally envisioned as an element only of Phase 2 of the Project would be used for soil fill and disposal during construction of the Wiehle Avenue Extension (Phase 1).

Two changes proposed in the 2006 EA have not been incorporated into the Project. The 2006 EA proposed to store and maintain the Project's additional rail vehicles at existing WMATA storage and maintenance facilities and to forgo the expansion of the West Falls Church Storage and Inspection (S&I) Yard. That change has not been accepted and the expansion of the West Falls Church S&I Yard, as described in the FEIS, will proceed and remains an element of the Project that is the subject of this Amended ROD. The 2006 EA also proposed to forgo some elevators at Phase 1 stations, especially in the Tyson's Corner area, to reduce the Project's cost. Numerous public comments opposing this change (see Attachment B) were received during the comment period for the 2006 EA, and in response to those comments, FTA and the Project sponsor have decided to retain those elevators.

On the basis of the 2006 EA, FTA has found that the PE design refinements would result in no significant changes in impacts and no new significant impacts from those evaluated in the Final EIS.

## ENVIRONMENTAL IMPACTS AND MEASURES TO MINIMIZE HARM

The Project's effects on the existing social, environmental, economic, and transportation conditions in the Dulles Corridor were assessed in the Final EIS and the subsequent 2006 EA. Because most of the Metrorail extension would be built along existing roadways or within the medians of highways (e.g., the Dulles Connector Road, the DIAAH, and the Dulles Greenway), the anticipated environmental and community impacts are limited, in spite of the length and complexity of the Project.

FTA notes the following environmental impacts of the Project in reaching a decision:

- **Property Acquisition.** Construction of the Project and its facilities will require the acquisition of approximately 22 acres of privately-owned commercial property and 4 acres of privately owned residential property. One commercial business, an automotive repair facility, will be displaced to accommodate Project facilities. A portion of a self-storage business will also be acquired, but the business will be able to continue operations. There will be no residential displacements. Additional private property and business displacements will be required temporarily to accommodate construction activities or maintain traffic during construction. All property acquisitions and relocations will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended, and its implementing regulation at 49 CFR part 24.

  Another 159 acres of government-owned or controlled property will also be used for the Project's line and track, stations, rail yard, and ancillary facilities. This includes the acquisition of property interests in the median and other parts of the Dulles International Airport Access Highway and Dulles Connector Road, and in parts of the Dulles Airport property itself, including the site of the Service & Inspection Yard and portions of eight parcels that are currently leased to commercial entities. The U.S. Department of Transportation (U.S. DOT) owns the Access Highway, the Connector Road and the Dulles Airport property. The Metropolitan Washington Airports Authority (MWAA) leases the property from the U.S. DOT (the current lease extends through the year 2067) and has sublet certain commercial parcels to private businesses. If necessary, the Project sponsor will seek conveyance of property interests or easements on the Access Highway, Connector Road, and Airport needed for the Project's construction and operation from MWAA and the U.S. DOT. The acquired property interest will be adequate to ensure the Project sponsor's continuing control of the Project facilities throughout the useful life of the Project.

- **Land Use.** The Project is expected to have positive effects on commercial and residential properties located near transit stations, and contribute to more sustainable and transit-supportive economic development by focusing higher-density residential and commercial land uses around the station areas.

- **Historic and Archaeological Resources.** The effects of the Project on historic and archaeological resources have been assessed in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC §470f), and its implementing regulations (36 CFR 800). The Project will have an adverse effect on the Dulles Airport Historic District by altering the historic views of the main terminal for travelers approaching via the DIAAH. The Project will have no effects on known archaeological resources. The measures to be taken to avoid, minimize and mitigate the adverse effects on this historic resource and on any archaeological resources that may be encountered during construction activities are set forth in the Section 106 Memorandum of Agreement (MOA) among FTA, DRPT, and the Virginia Department of

Historic Resources. A copy of the signed MOA is included herein as Attachment C. FTA will require compliance with the MOA by the Project sponsor, even if the lead sponsoring agency changes.

- **Wetlands.** The Project will affect approximately 5 acres of wetlands, which are primarily located in the vicinity of the Service and Inspection Yard on Dulles Airport property. Practicable mitigation measures are described in the Final EIS and summarized herein in Attachment A.
- **Noise and Vibration.** Without noise mitigation, operation of the Project was predicted to exceed FTA noise impact criteria at many sensitive receptors along the alignment, primarily residences along the Dulles Connector Road. During preliminary engineering, additional noise analyses were conducted to confirm mitigation requirements. Track edge barriers (parapets) will be installed to reduce the noise levels from Metrorail train passbys along all aerial sections of the track. For at-grade locations where noise levels at sensitive receptors are predicted to exceed FTA criteria, track edge barriers will also be installed as described in Attachment A. During construction, noise and vibration levels from construction activities may temporarily impact nearby sensitive receptors.
- **Traffic and Transportation.** The Project will result in changes to traffic conditions as people change their travel patterns to access the new transit stations, affecting some of the neighborhoods that surround certain stations. Although they would experience such traffic-related effects, these neighborhoods would also directly benefit from the mobility and accessibility that the transit improvements would bring. The Project includes roadway improvements needed for vehicular access to stations or facilities and additional roadway improvements to address opening year traffic congestion in the vicinity of the new Metrorail stations.
- Construction of the Project will impede access to residences or to building entrances or to the parking area of businesses. It may also necessitate temporary relocation of parking either for safety reasons or if property is needed for construction staging areas. Construction-related disruptions to access will generally be short-term and temporary.

Throughout the process of developing and evaluating alternatives and coordinating with the public and other stakeholders, the Project sponsor and FTA made considerable effort to incorporate measures to minimize the Project's potential social, environmental, economic and transportation impacts. The Final EIS and 2006 EA provide a description of the mitigation measures that are now incorporated into the Project to avoid and minimize adverse impacts. FTA will ensure that the Project sponsor designs and builds the Project in accordance with the mitigation measures contained in the Final EIS and 2006 EA and summarized in Attachment A. In addition, FTA will require that the Project sponsor establishes a mitigation-monitoring program to ensure adequate communication of mitigation and design commitments to the teams working on final design and construction, and to provide a means for the Project sponsor and FTA to track the progress in accomplishing the mitigation commitments. FTA will monitor

implementation of mitigation measures through quarterly reviews during design and construction or other appropriate means.

## PUBLIC COORDINATION AND COMMENTS

During the preparation of the Draft EIS and the Supplemental Draft EIS, a comprehensive public involvement program was conducted to provide citizens, businesses, and organizations with an interest in the Project the opportunity to keep informed of project developments, to participate in project planning and to provide recommendations to decision-makers for the selection of the LPA. In order to facilitate public participation in project planning and design, several different outreach techniques were employed to reach a wide range of participants. These included a variety of information dissemination outlets and interactive techniques in addition to meetings and coordination and public hearings as described below.

### Public Outreach

A number of different techniques and activities were conducted over the course of the environmental review process in order to ensure that the public remained informed of project developments and were provided the opportunity to comment throughout project planning and design. Major activities conducted for the project included a call-in line, mailing list, newsletter, update bulletins, comment forms, website, and email address, as well as the distribution of project materials through the project kiosk and information center, libraries and community centers. Other outreach techniques included representation at community fairs and festivals, and presentations to communities and businesses.

### Public Coordination Meetings and Hearings

As required by Federal transit laws [49 USC §5323(b) and §5324(b)], public coordination meetings and public hearings were held. Notices of public hearings were also provided. Meetings were held with the general public and stakeholders on an as-needed basis to understand issues of concern, to inform them on the development and evaluation of potential alternatives, and to discuss the selection of the LPA. Public meetings held to support the development of the project included public scoping meetings, public information meetings, stakeholder meetings, and public hearings on the Draft EIS and the Supplemental Draft EIS, as well as a post-hearing conference as detailed in Chapter 11 of the Final EIS. Additional meetings and a public hearing were held during preliminary engineering to review and seek comment on the proposed design refinements presented in the 2006 EA.

To maintain public and stakeholder support for the project, the Project sponsor will continue public outreach efforts throughout preliminary engineering, final design and construction. The focus of these outreach activities will be to keep the public, stakeholders, and affected property owners informed about the project's progress. Continuing outreach efforts will include participation in community outreach activities and public information meetings and events, circulation of project newsletters, brochures, and fact sheets, project website updates, and development of presentations or meeting materials for interested parties.

Comments on the Final EIS and 2006 EA

The Notice of Availability of the Final EIS was published in the Federal Register on December 23, 2004. During the Final EIS circulation period, comment letters were received from one Federal agency, the District of Columbia, and one interest group. Responses to the comments received on the Final EIS were provided in the original ROD of March 2005. Responses to comments received on the 2006 EA are contained in Attachment B of this Amended ROD.

DETERMINATIONS AND FINDINGS

On the basis of the determinations made in compliance with relevant portions of federal law, the FTA finds that the Project, as described as the Final EIS and 2006 EA, and including the mitigation measures identified in those documents and summarized in this ROD, satisfies the requirements of the National Environmental Policy Act of 1969, 49 USC 5301(e) and 5324(b), , the Clean Air Act of 1970, and the Department of Transportation Act of 1966 (all as amended) and complies with Executive Orders 11988, 11990, and 12898, as specified below.

Environmental Protection (49 USC Section 5301(e) and 5324(b))

The environmental record for the Project includes the previously referenced Draft EIS (June 2002), the Supplemental Draft EIS (October 2003), the Final EIS (December 2004), and the PE Design Refinements EA (February 2006), and all attachments thereto. Cumulatively, these documents represent the detailed statement required by both NEPA and the Federal transit laws, 49 USC Sections 5301(e) and 5324(b), regarding:

- the environmental impacts of the proposed Project;
- adverse environmental effects that cannot be avoided;
- alternatives to the proposed Project; and
- irreversible and irretrievable impacts on the environment.

On the basis of the evaluation of social, economic, and environmental impacts presented in the Final EIS and 2006 EA, and the written and oral comments offered by the public and other agencies, FTA has determined, in accordance with 49 USC 5324(b), that:

- An adequate opportunity was afforded for the presentation of views by all parties with a significant economic, social, or environmental interest in the Project;
- Fair consideration has been given to the preservation and enhancement of the environment and to the interest of the community in which the proposed Project is to be located; and
- All reasonable steps have been taken to minimize the adverse environmental effects of the Project, and where adverse environmental effects remain, no feasible and prudent alternative to the effects exist.

## Conformity with Air Quality Plans

The Clean Air Act of 1970, as amended, requires that Federally-funded transportation projects in air quality nonattainment and maintenance areas conform to the State Implementation Plan (SIP) for eliminating or reducing the severity and number of violations of the national ambient air quality standards (NAAQS). The regulation of the U.S. Environmental Protection Agency implementing this provision of the Clean Air Act (40 CFR Parts 51 and 93) establishes criteria for demonstrating that a transportation project is in conformity with the goals of the SIP. The Washington metropolitan area in which the Dulles Corridor Metrorail Project is located is classified as an ozone non-attainment area. The Project is therefore subject to the conformity requirements of the EPA regulation. The primary project-level conformity requirements of the EPA regulation dictate that the project comes from a conforming regional transportation plan and program and that the project not cause or contribute to any localized violation of the NAAQS.

The Project is included in the 2005 Constrained Long-Range Plan (CLRP), a plan that has been duly adopted by the Metropolitan Washington Council of Governments (MWCOG) Transportation Planning Board and has been found by MWCOG to conform to the relevant State Implementation Plans (SIPs) (i.e., those of Virginia, Maryland, and the District of Columbia). FHWA and FTA have reviewed and concurred in that conformity determination for the CLRP. Near-term project activities are included in the FY 2005–2010 Transportation Improvement Program (TIP) adopted by MWCOG. The TIP has also been found by MWCOG, FHWA, and FTA to conform with air quality plans for the area. In addition, micro-scale air quality analyses in the Final EIS indicate that no localized violations of the National Ambient Air Quality Standards will result from implementation of the Project. Therefore, FTA finds that the Project conforms to air quality plans for the area.

## Section 4(f) Determination

Section 4(f) of the Department of Transportation (DOT) Act of 1966 (49 USC 303) affords special protection to parks, recreation areas, wildlife refuges, and historic sites, by prohibiting use of such properties for a transportation project unless there is no feasible and prudent alternative to such use and the project includes all possible planning to minimize the harm to the protected resource. Based on the evaluation conducted and coordination with the U.S. Department of the Interior, the Project would result in a permanent physical use of one section 4(f) resource, the Dulles International Airport Historic District and the potential permanent physical use of another section 4(f) resource, the Hunter Mill Road Proposed Historic District, depending on that district's final boundaries.

The Dulles International Airport Historic District will be affected by the placement of the Project alignment within the median of the DIAAH and by the addition of inbound and outbound portals within the district boundaries. This would result in a use of a contributing element to the district (the historic viewshed) and require the physical use of property within the historic district boundaries. The median of the DIAAH was historically reserved for a transit guideway to the

Airport. FTA has determined that there is no prudent and feasible alternative to the use of the Dulles International Airport Historic District that would serve the purpose of the project of providing high-capacity transit service to the Airport. FTA has further determined that the Project includes all possible planning to minimize harm to the Dulles International Airport Historic District, as detailed in the Section 106 MOA and the Final EIS.

The rail alignment, stormwater management ponds, and traction power substations may fall within the Hunter Mill Road Proposed Historic District, whose exact boundaries have not been established. The Project facilities within the likely boundaries of the historic district would not use any contributing element of the historic district. Minor proximity impacts identified would not substantially impair the historic features of the protected resources. Construction activities will not result in additional permanent impacts to the Section 4(f) resource. FTA has determined that there is no feasible and prudent alternative to the use of the Hunter Mill Road Proposed Historic District and that the Project includes all possible planning to minimize harm, as detailed in the Section 106 MOA and the Final EIS.

Floodplain Finding

Executive Order 11988, "Floodplain Management and Protection," and U.S. DOT Order 5620.2 state that FTA may not approve an alternative involving a significant floodplain encroachment unless FTA can make a finding that the proposed encroachment is the only practicable alternative. The major purposes of Executive Order 11988 are to avoid Federal support for floodplain development; to prevent uneconomic, hazardous, or incompatible use of floodplains; to restore and preserve the natural and beneficial floodplain values; and to be consistent with the standards and criteria of the National Flood Insurance Program.

Based on a review of the Federal Emergency Management Agency maps, the Project will cross portions of the 100-year base floodplains of several streams along the alignment, including Pimmit Run, Scotts Run, Difficult Run, Horsepen Run, and Broad Run. The Project will span these streams parallel to existing roadway structures, thereby minimizing impacts to floodplains. The placement of new piers to span these streams will not increase the surface elevation of the 100-year flood at any location by more than one foot, nor will the Project increase the risks of off-site flooding. All Project facilities located within floodplains will be designed to comply with Federal, State, and local regulations and the Project sponsor will comply with all applicable regulations or ordinances governing construction in floodplains.

FTA finds that the Project's encroachment on floodplains has been minimized to the extent practicable and that the remaining encroachments represent the only practicable alternative. During final design and construction, the Project sponsor will continue to explore design measures to reduce floodplain encroachments even further.

## Wetlands Finding

Executive Order 11990, "Protection of Wetlands," directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

The Project will destroy approximately 5 acres of wetlands. The Project sponsor will provide compensatory mitigation for these unavoidable wetland impacts. A 1:1 replacement ratio for impacts to the approximately 1 acre of emergent wetlands, and a 2:1 replacement ratio for impacts to the approximately 4 acres of forested wetlands will be used. Because on-site mitigation is not allowable on airport property due to potential wildlife interference with airport operations, an off-site location for mitigation will be used. Permanent impacts will be mitigated through the purchase of credits at an existing regional wetland bank, if available. Otherwise, an appropriate wetlands mitigation site of a size consistent with the replacement ratios above will be found and developed into wetlands in accordance with conditions on a Section 404 permit expected to be issued by the U.S. Army Corps of Engineers (COE). The Section 404 Permit is required by the COE and a Virginia Water Protection Permit will also be required from the Virginia Department Environmental Quality (VDEQ).

Impacts to wetlands during construction activities will be minimized through the use of Best Management Practices recommended by state and regional agencies, such as pollution control devices, installation and maintenance of runoff diversion structures and secondary containment structures. All temporarily disturbed wetland areas will be restored to pre-construction conditions by re-vegetating these areas with the appropriate cover type, as required by applicable permits.

FTA finds that the wetland impacts of the Project have been minimized to the extent practicable, and that there is no practicable alternative to construction in the wetlands and that all practicable measures to minimize harm to the wetlands have been included in the Project. During final design, the Project sponsor will coordinate with COE and VDEQ to obtain the necessary permits and will continue to consider measures to reduce permanent and temporary wetland impacts even further.

## Environmental Justice

Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations"), provides, in relevant part, that FTA identify and address "disproportionately high and adverse human health or environmental effects" of federally-funded mass transit projects on minority populations and low-income populations, and that FTA "conduct its programs, policies, and activities in a manner that ensures that such programs, policies, and activities do not have the effect of subjecting persons...to discrimination...because of their race, color, or national origin."

On the basis of the evaluation in the Final EIS and 2006 EA, FTA has determined that the adverse health and environmental effects of the Project will not be disproportionately borne by minority or low-income populations, and furthermore, that all persons within the study area will enjoy improved mobility as a result of the Project.

Susan Borinsky

Susan Borinsky
Regional Administrator
Federal Transit Administration
Region III

Nov. 17, 2006
Date

Board Agenda Item
July 30, 2013

4:30 p.m.

Public Hearing Regarding the Proposed Real Estate Exchange Agreement between the Board of Supervisors and Rocks Engineering Company and Nugget Joint Venture, LC (collectively, "RECO") (Dranesville District)

ISSUE:
Public hearing in accordance with Va. Code Ann. § 15.2-1800 (2013) regarding the proposed Real Estate Exchange Agreement (the "Agreement"), between the County and RECO for the purpose of property exchange and acquisition to develop a joint development plan with RECO, and for RECO to pursue Land Use Entitlement Approvals as defined in the Agreement for a joint development plan, including the rezoning of the property for the Phase 2 Dulles Corridor Metrorail - Innovation Center Station Garage.

RECOMMENDATION:
The County Executive recommends the Board of Supervisors (Board) approve the proposed Real Estate Exchange Agreement and authorize the County Executive to sign the proposed Real Estate Exchange Agreement.

TIMING:
On July 9, 2013, the Board authorized advertisement of a public hearing to be held on July 30, 2013, commencing at 4:30 p.m.

BACKGROUND:
Phase 2 of the Dulles Corridor Metrorail project includes a new station named Innovation Center Station near the Route 28 and Dulles International Airport Access Highway (DIAAH) and Dulles Toll Road (the "Toll Road") intersection. In connection with the construction of the new rail station, a parking garage containing approximately 2,028 spaces, kiss and ride spots, bus depots, and ancillary transit features (collectively, the "Garage") for the Metrorail Station is to be constructed to the south of the Toll Road. The Innovation Center Station Metrorail Garage is planned to be owned, maintained, and operated by the County. The County recognizes that this Garage is an important component of the proposed private development immediately adjacent to the Garage site. County staff believes that a better and more integrated plan is achieved if the Garage is located further south within the block, as opposed to the location proposed by MWAA, directly adjacent to the Toll Road.

Board Agenda Item
July 30, 2013

The proposed Agreement provides a path to achieve the joint integrated development plan through an exchange/acquisition of property between the County and RECO and a rezoning to allow the joint development and the alternate Garage location.

The Agreement establishes general terms and conditions for the Garage including the following:

- Appoints RECO as the County's agent for the limited purposes of pursuing, prosecuting and obtaining the Land Use Entitlement Approvals for the joint County RECO development plan, including the rezoning of the Garage property to Planned Residential Mixed-Use (PRM);
- Authorizes RECO to commence with certain land use planning, design, and other work activities necessary to obtain the Land Use Entitlement Approvals;
- Requires RECO to consult and coordinate with the County regarding the design of the integrated, joint development plan;
- Provides a budget that represents fair and reasonable compensation to RECO for the Garage share of the work performed by RECO during the Land Use Entitlement Approvals process;
- Provides for the exchange of property and property acquisition to develop the joint development plan;
- Includes a cost cap for the County cost to design and construct the Garage; and
- In the event that all requirements for the joint PRM approval are not achieved, or the cost to design the Garage is too high, it provides an alternate option for County implementation of the Garage.

All parties agree to pursue negotiations of the following from and after the execution of the Agreement and until final PRM approval:

- Final Development Agreement;
- Infrastructure Agreement;
- Declaration of Easements Covenants, and Restrictions; and
- Proffer Allocation Agreement.

The Agreement stipulates an approval of these agreements concurrent with the approval of the rezoning of the property by May 20, 2014, unless mutually extended to a later date.

Board Agenda Item
July 30, 2013

FISCAL IMPACT:
Subject to RECO obtaining the joint PRM approvals within the timeline, and the Garage cost cap being met, the County will reimburse RECO for its actual cost expended for the rezoning, up to a cap of $400,000, which is a part of the total project cost.

ENCLOSED DOCUMENTS:
Attachment 1: Resolution
Attachment 2: Agreement

STAFF:
Robert A. Stalzer, Deputy County Executive
Om Jahagirdar, Assistant County Attorney
Fred Selden, Director, Department of Planning and Zoning
Jose A. Comayagua, Director, Facilities Management Department
Tom Biesiadny, Director, Department of Transportation
James W. Patteson, Director, Department of Public Works and Environmental Services (DPWES)
Ronald N. Kirkpatrick, Deputy Director, DPWES, Capital Facilities

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 11, 2014

**TO:** Barbara Berlin, Director
Zoning Evaluation Division, DPZ

**FROM:** Pamela G. Nee, Chief PGN
Environment and Development Review Branch, DPZ

**SUBJECT:** **Land Use Analysis:**
RZ/FDP 2009-HM-017 (Rocks) concurrent with PCA C-696-10

The memorandum, prepared by Faheem Darab, includes citations from the Comprehensive Plan that provide guidance for the evaluation of the development plans dated August 01, 2013 and revised through March 27, 2014; and draft proffers dated March 27, 2014. The extent to which the application conforms to the applicable guidance contained in the Comprehensive Plan is noted. Possible solutions to remedy identified issues are suggested. Other solutions may be acceptable, provided that they achieve the desired degree of mitigation and are also compatible with Plan policies.

## DESCRIPTION OF THE APPLICATION

The applicant, Nugget Joint Venture L.C., is requesting a rezoning and final development plan with a concurrent proffered condition amendment. The requested rezoning is for 14.68 acres that includes 11.14 acres of land on tax map parcel 15-2 ((1)) 13, 0.51 acre on tax map parcel 15-4 ((5)) 5A and 3.03 acres on tax map parcel 15-4 ((5)) 5B. The proffer condition amendment proposes a land swap of 0.51 acre of parcel 5A for an equal area of land from parcel 13.

The rezoning application proposes a change from the existing PDC zone (planned development commercial) to the PRM zone (planned residential mixed use). The proposed development would be a transit-oriented, mixed use project comprised of four multifamily residential buildings (up to 925 dwelling units, excluding bonus units), a 190 room hotel, two office buildings, ground floor retail, transit parking facilities, bus bays, bicycle facilities and a kiss and ride facilities. The development would include a mixture of medium and highrise buildings up to 180 feet in height. More than ¾ of the site is within ¼ mile of the planned Innovation Center Metro Station. The remainder of the site is within ½ mile of the planned Metro station. The total

development would include 1,646,041 square feet of gross floor area, including bonus density. The application proposes a 2.82 FAR for the site (3.05 including bonus density).

## LOCATION AND CHARACTER OF THE AREA

The subject property is located south of Sunrise Valley Drive, generally west of Dulles Station Boulevard and generally north of Sayward Boulevard and is currently undeveloped. Land to the east is zoned Planned Development Commercial (PDC) and has been developed as part of the Dulles Station development. This includes an immediately adjacent six-story office building and associated 7-story parking structure, and the Camden Apartments, a low-rise multifamily residential development. The land to the south is zoned Planned Residential Mixed Use (PRM) and is currently vacant but was recently approved as the Dulles Rockhill development, a medium rise multifamily residential building. Land to the west of the subject property is zoned C-3 and is developed with a mid-rise office building.

## COMPREHENSIVE PLAN CITATIONS:

### Land Unit A General Land Use Recommendations

Fairfax County Comprehensive Plan, 2013 Edition, Dulles Suburban Center, as amended through March 04, 2014, Dulles Suburban Center Land Unit Recommendations, Land Unit A General Land Unit Recommendations p. 56-60:

"Land Use

The planned land use pattern in Land Unit A focuses most future growth within walking distance of the future Innovation Center Metrorail station which is generally considered to be within ¼ and ½ mile from the station. Intensities will be highest in areas with the closest proximity to the station, tapering down to lower density areas in the rest of the land unit. The land units south of the Merrybrook Run Stream Valley, A-2, A-3 and A-4, have been developed with a mix of office, hotel and residential uses in accordance with the plan and it is anticipated that these land units will maintain their existing character, uses and intensities.

This land unit is planned for a complementary mix of land uses including office, residential, hotel and support retail. Development in this land unit should provide for the incorporation of future transit related facilities and pedestrian and vehicular access to transit.

...

In reviewing development proposals, the following land use guidelines should also be considered:

...

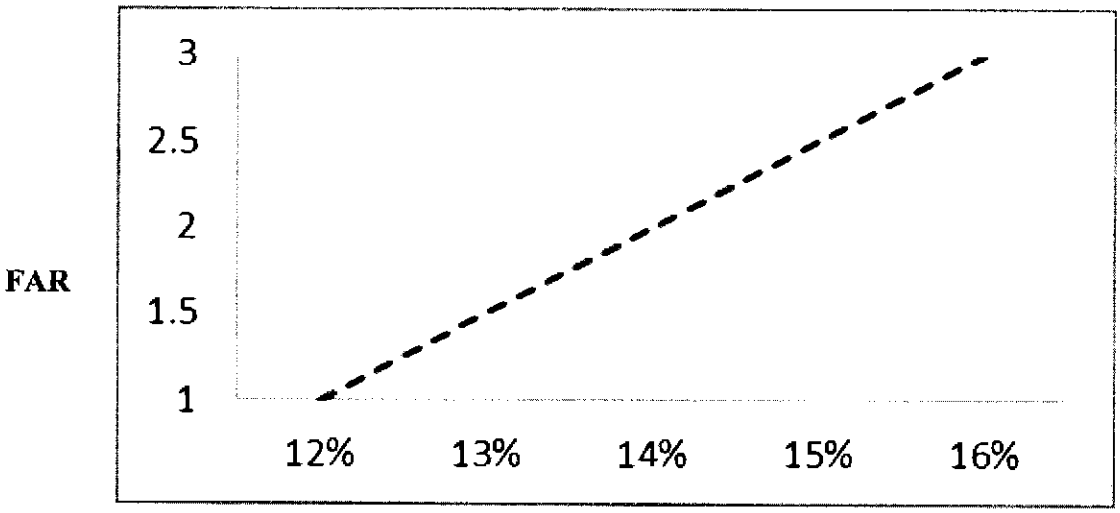
- Compatible Development - All development proposals will need to ensure that projects function in a compatible, well-designed, efficient manner; are consistent with the land use guidance and development potential of the individual subunits; are compatible with the development on adjacent properties; reflect coordinated phasing of improvements as needed (for example, frontage improvements); are consistent with the overall intent of the

land use concept to achieve a desired urban form and mix of uses; and do not preclude adjacent parcels from developing in conformance with the Plan.

...

- Affordable and Workforce Housing - Future development should conform to county policies on affordable housing which includes conformance to the Affordable Dwelling Unit Ordinance (ADU) and the Policy Plan's Workforce Housing (WDU) Policy and Guidelines. Proposals seeking up to a 1.0 FAR should meet the current policy objective of approximately 12 percent of total units as Workforce Dwelling Units (WDU). The exception is proposed intensity higher than 1.0 FAR which should provide a greater contribution. Proposals for development between a 1.00 and a 3.0 FAR should provide at a minimum proportionally 12 percent to 16 percent of total units as WDUs as shown in Figure 15. The residential use should integrate a variety of housing types, consistent with WDU guidelines, such as units for families, senior housing and residential studio units. In addition, bonus units or bonus square footage, as provided for in the WDU policy, is excluded from the planned intensity.

**Figure 15: Percentage of WDU**




Non-residential development in the TSA should contribute $3.00 per non-residential square foot unless superseded by Board of Supervisors action on a countywide policy. This amount is to be adjusted annually based on the Consumer Price Index and may be contributed to a housing trust fund that will be used to create affordable and workforce housing opportunities near Metrorail stations. The contribution may be made over a period of time to be determined at the time of rezoning but not less than 25 cents per non-residential square foot each year. Such developments may provide an equivalent contribution of land or affordable units in lieu of a cash contribution. Non-residential contributions could also be used to fund affordable housing opportunities in the TSA through a partnership. If non-residential floor area is achieved through a bonus for providing WDUs, the bonus floor area should not be included when calculating the

contribution amount. Ground level retail located in office, hotel, and residential buildings should also not be included when calculating the contribution amount. In addition, educational as well as other institutional and governmental uses should not be included."

**Land Unit A-1 Land Use Recommendations**

Fairfax County Comprehensive Plan, 2013 Edition, Dulles Suburban Center, as amended through March 04, 2014, Dulles Suburban Center Land Unit Recommendations, Land Unit A-1 Land Use Recommendations p. 60-61:

"Land Unit A-1: Innovation Center Transit Station-South

Land Unit A-1 is the southern portion of the Innovation Center Transit Station Area, is 330 acres and is developed with a mix of office, hotel, residential and support retail uses. This area is planned for transit-oriented development (TOD) which focuses growth within walking distance of the Metrorail station. Intensities should be highest in areas with the closest proximity to the station, recognizing that relatively new existing development is approved for intensities significantly below the plan and may not redevelop in the future. To provide guidance on how intensity should gradually decrease with distance, the land unit is divided into three areas as shown on the table below. For purposes of tiered planned intensity, the ¼ mile and ½ mile radius is measured from the center of the platform where it meets the bridge.

| **Figure 16: Land Unit A-1 Tiered Planned Intensity** | |
|---|---|
| Distance From Metrorail Station | Range of Intensity (FAR) |
| Tier 1: Within ¼ Mile | 2 to 3 FAR |
| Tier 2: ¼ to ½ Mile | 1 to 2 FAR |
| Beyond ½ Mile | 0.75 to 1.5 FAR |

The mixed-use recommendations that follow seek to establish parameters for future development by providing percentages for residential and non-residential uses. These percentages are meant to be guides and may need to be adjusted on a case by case basis in order to further other planning objectives such as implementing the grid of streets and securing land for parks and public facilities. If a property is split between two Tiers, intensity should be based on the proportion of property in each area. Furthermore, this balance among uses may not always be achievable, at least on an interim basis, due to market demand or other economic factors. In such cases, appropriate commitments should insure that interim development does not alter the character of the Transit Station Area and that ultimately a mix of uses will be in place consistent with Plan guidance.

Tier 1: Within a ¼ Mile of Metrorail

The Tier 1 area is within a ¼ mile of the Metrorail station and is planned for intensity within a 2.0 to 3.0 FAR range. The area is planned for a balanced mix of residential, office, hotel

and retail uses. The percentage of office uses can be up to 45 percent of development in Tier 1. Individual developments may have flexibility to build more than 45 percent of office if other developments are built or rezoned with a use mix that contains proportionally less office. The residential component in Tier 1 should be on the order of 50 percent or more of total development. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile.

Tier 2: ¼ to ½ Mile of Metrorail

The Tier 2 area includes property within a ½ mile from the Metrorail station and is planned for intensity within 1.0 to 2.0 FAR. The area is planned predominantly for residential uses with a mix of other uses including office, hotel and supporting retail. In Tier 2, the residential component should be on the order of 50 percent or more of total development. The percentage of office uses can be up to 40 percent of development in Tier 2. Individual developments may have flexibility to build more than the stated percentages if other developments are built or rezoned with a use mix that maintains these proportions for the entire Tier 2 Area. Hotel, ground level retail and support service uses add to the vibrancy and enhance the mixed use environment and are encouraged in the broader mix of uses. Support retail uses should to be located in office, hotel or residential buildings and be complementary to other uses with the object of allowing residents and employees to minimize daily reliance on the automobile."

**COMPREHENSIVE PLAN MAP: Mixed Use**

**LAND USE ANALYSIS**

The 14.68 acre subject property is in Land Unit A-1 of the Dulles Suburban Center. The property is currently vacant. The current zoning approval, PCA/CDPA/FDPA C-698 was approved in August of 1993 and revised the development program for the PDC zoned property. The approval allows for an overall FAR of 0.55 with a total of 324,000 square feet of hotel and service station uses. The approval occurred under the Comprehensive Plan's option for Land Unit A which allows for mixed use at up to 1.0 FAR. The property is within ¼ mile of the planned Innovation Center Metro station, with a smaller portion of the property just beyond ¼ mile from the planned Metro station. The Comprehensive Plan also includes transit-related development options for mixed-use including up to 3.0 FAR within a ¼ mile of the transit station platform and up to 2.0 FAR within a ½ mile of the platform.

**USE AND INTENSITY**

The applicant is requesting to develop under Land Unit A-1's Tier 1 (within 1/4 mile of the Metro station) and Tier 2 (1/4 to 1/2 mile from the Metro station) transit-oriented development mixed use options. The proposal includes office, residential, hotel and ground floor retail uses at up to 2.82 FAR (3.05 FAR including bonus density), resulting in 1,546,041 square feet (1,646,041 square feet including bonus density) of development. In addition, the application proposes to develop several transit-related facilities including a parking structure serving Metro, multiple bus bays, a kiss and ride and bicycle facilities, all of which are encouraged by the Comprehensive Plan. Staff estimates more than 90%, of the property is within ¼ mile of the planned Metro station while the remaining less than 10% is within ¼ to ½ mile of the planned Metro station. The Comprehensive Plan guidance on intensity states (p. 61): "If a property is split between two Tiers, intensity should be based on the proportion of property in each area." Given this guidance, and staff estimates of the proportion of the property within each Tier, the overall proposed FAR of 2.82 is in general conformance with the Comprehensive Plan's recommended range of 2 to 3 FAR and 1 to 2 FAR for Tier 1 and Tier 2, respectively.

According to the applicant's statement of justification, the proposed development would result in approximately 43% offices uses and approximately 52% residential uses. The Comprehensive Plan generally recommends up to 45% and 40% of the total development be office use in Tier 1 and Tier 2, respectively. Furthermore, the Comprehensive Plan generally recommends at least 50% of the total development be residential use in Tier 1 and Tier 2. Therefore, the proposed mix of residential and office uses are in in general conformance with the Comprehensive Plan.

<u>Affordable /Workforce Housing</u>
The applicant proffers to provide a total of 15.6% Workforce Dwelling Units on the property, based on an intensity of 2.82 FAR. The WDUs will be administered as set forth in the Board of Supervisors Workforce Dwelling Unit Administrative Guidelines adopted October 15, 2007. In addition, the applicant proffers to provide non-residential contributions to support the provision of workforce housing in the local area. This is in conformance with the Comprehensive Plan's land use recommendations for affordable and workforce housing (p. 60).

**URBAN DESIGN**

The Dulles Suburban Center's Land Unit A text provides detailed urban design guidance, summarized where the Comprehensive Plan states (p. 76):

"Urban Design Recommendations

The urban design recommendations provide direction for creating urban places within the area. These are organized into two sections, the Pedestrian Realm Recommendations and the Building and Site Design Recommendations."

Streetscape
The applicant provides streetscaping generally consistent with the Comprehensive Plan's urban design recommendations, with the exception of the proposed north-south street running through the center of the property. Street trees are not being provided along this street, as recommended by the Comprehensive Plan. Efforts should be made to take full advantage of the urban design flexibility offered by the Comprehensive Plan and other governing documents in order to provide optimal solutions for the streetscape and street trees in particular.

Design Guidelines Document
The Design Guidelines dated March 27, 2014 should be checked to confirm that they contain the latest version of development plan graphics. For example, on page 19, the Metro Plaza development plan graphic displays an older version of the design that has been revised in the March 27th set of development plans.

## CONCLUSION

The revised development plans demonstrates multiple improvements over the original submission. However, one outstanding issue remains. As noted above, solutions should be reached to better meet the Comprehensive Plan's urban design guidance regarding street trees.

PGN/AFD

## APPENDIX 9

## RESIDENTIAL DEVELOPMENT CRITERIA

Fairfax County expects new residential development to enhance the community by: fitting into the fabric of the neighborhood, respecting the environment, addressing transportation impacts, addressing impacts on other public facilities, being responsive to our historic heritage, contributing to the provision of affordable housing and, being responsive to the unique site specific considerations of the property. To that end, the following criteria are to be used in evaluating zoning requests for new residential development. The resolution of issues identified during the evaluation of a specific development proposal is critical if the proposal is to receive favorable consideration.

Where the Plan recommends a possible increase in density above the existing zoning of the property, achievement of the requested density will be based, in substantial part, on whether development related issues are satisfactorily addressed as determined by application of these development criteria. Most, if not all, of the criteria will be applicable in every application; however, due to the differing nature of specific development proposals and their impacts, the development criteria need not be equally weighted. If there are extraordinary circumstances, a single criterion or several criteria may be overriding in evaluating the merits of a particular proposal. Use of these criteria as an evaluation tool is not intended to be limiting in regard to review of the application with respect to other guidance found in the Plan or other aspects that the applicant incorporates into the development proposal. Applicants are encouraged to submit the best possible development proposals. In applying the Residential Development Criteria to specific projects and in determining whether a criterion has been satisfied, factors such as the following may be considered:

- the size of the project
- site specific issues that affect the applicant's ability to address in a meaningful way relevant development issues
- whether the proposal is advancing the guidance found in the area plans or other planning and policy goals (e.g. revitalization).

When there has been an identified need or problem, credit toward satisfying the criteria will be awarded based upon whether proposed commitments by the applicant will significantly advance problem resolution. In all cases, the responsibility for demonstrating satisfaction of the criteria rests with the applicant.

### 1. Site Design:

All rezoning applications for residential development should be characterized by high quality site design. Rezoning proposals for residential development, regardless of the proposed density, will be evaluated based upon the following principles, although not all of the principles may be applicable for all developments.

a) *Consolidation:* Developments should provide parcel consolidation in conformance with any site specific text and applicable policy recommendations of the Comprehensive Plan. Should the Plan text not specifically address consolidation, the nature and extent of any proposed parcel consolidation should further the integration of the development with adjacent parcels. In any event, the proposed consolidation should not preclude nearby properties from developing as recommended by the Plan.

b) *Layout:* The layout should:

- provide logical, functional and appropriate relationships among the various parts (e. g. dwelling units, yards, streets, open space, stormwater management facilities, existing vegetation, noise mitigation measures, sidewalks and fences);
- provide dwelling units that are oriented appropriately to adjacent streets and homes;
- include usable yard areas within the individual lots that accommodate the future construction of decks, sunrooms, porches, and/or accessory structures in the layout of the lots, and that provide space for landscaping to thrive and for maintenance activities;
- provide logical and appropriate relationships among the proposed lots including the relationships of yards, the orientation of the dwelling units, and the use of pipestem lots;
- provide convenient access to transit facilities;
- Identify all existing utilities and make every effort to identify all proposed utilities and stormwater management outfall areas; encourage utility collocation where feasible.

c) *Open Space:* Developments should provide usable, accessible, and well-integrated open space. This principle is applicable to all projects where open space is required by the Zoning Ordinance and should be considered, where appropriate, in other circumstances.

d) *Landscaping:* Developments should provide appropriate landscaping: for example, in parking lots, in open space areas, along streets, in and around stormwater management facilities, and on individual lots.

e) *Amenities:* Developments should provide amenities such as benches, gazebos, recreational amenities, play areas for children, walls and fences, special paving treatments, street furniture, and lighting.

**2. Neighborhood Context:**

All rezoning applications for residential development, regardless of the proposed density, should be designed to fit into the community within which the development is to be located. Developments should fit into the fabric of their adjacent neighborhoods, as evidenced by an evaluation of:

- transitions to abutting and adjacent uses;
- lot sizes, particularly along the periphery;
- bulk/mass of the proposed dwelling units;
- setbacks (front, side and rear);
- orientation of the proposed dwelling units to adjacent streets and homes;
- architectural elevations and materials;
- pedestrian, bicycle and vehicular connections to off-site trails, roadways, transit facilities and land uses;
- existing topography and vegetative cover and proposed changes to them as a result of clearing and grading.

It is not expected that developments will be identical to their neighbors, but that the development fit into the fabric of the community. In evaluating this criterion, the individual circumstances of the property will be considered: such as, the nature of existing and planned development surrounding and/or adjacent to the property; whether the property provides a transition between different uses or densities; whether access to an infill development is through an existing neighborhood; or, whether the property is within an area that is planned for redevelopment.

**3. Environment:**

All rezoning applications for residential development should respect the environment. Rezoning proposals for residential development, regardless of the proposed density, should be consistent with the policies and objectives of the environmental element of the Policy Plan, and will also be evaluated on the following principles, where applicable.

a) *Preservation:* Developments should conserve natural environmental resources by protecting, enhancing, and/or restoring the habitat value and pollution reduction potential of floodplains, stream valleys, EQCs, RPAs, woodlands, wetlands and other environmentally sensitive areas.

b) *Slopes and Soils:* The design of developments should take existing topographic conditions and soil characteristics into consideration.

c) *Water Quality:* Developments should minimize off-site impacts on water quality by commitments to state of the art best management practices for stormwater management and better site design and low impact development (LID) techniques.

d) *Drainage:* The volume and velocity of stormwater runoff from new development should be managed in order to avoid impacts on downstream properties. Where drainage is a particular concern, the applicant should demonstrate that off-site drainage impacts will be mitigated and that stormwater management facilities are designed and sized appropriately. Adequate drainage outfall should be verified, and the location of drainage outfall (onsite or offsite) should be shown on development plans.

e) *Noise:* Developments should protect future and current residents and others from the adverse impacts of transportation generated noise.

f) *Lighting:* Developments should commit to exterior lighting fixtures that minimize neighborhood glare and impacts to the night sky.

g) *Energy:* Developments should use site design techniques such as solar orientation and landscaping to achieve energy savings, and should be designed to encourage and facilitate walking and bicycling. Energy efficiency measures should be incorporated into building design and construction.

**4. Tree Preservation and Tree Cover Requirements:**

All rezoning applications for residential development, regardless of the proposed density, should be designed to take advantage of the existing quality tree cover. If quality tree cover exists on site as determined by the County, it is highly desirable that developments meet most or all of their tree cover requirement by preserving and, where feasible and appropriate, transplanting existing trees. Tree cover in excess of ordinance requirements is highly desirable. Proposed utilities, including stormwater management and outfall facilities and

sanitary sewer lines, should be located to avoid conflicts with tree preservation and planting areas. Air quality-sensitive tree preservation and planting efforts (see Objective 1, Policy c in the Environment section of this document) are also encouraged.

**5. Transportation:**

All rezoning applications for residential development should implement measures to address planned transportation improvements. Applicants should offset their impacts to the transportation network. Accepted techniques should be utilized for analysis of the development's impact on the network. Residential development considered under these criteria will range widely in density and, therefore, will result in differing impacts to the transportation network. Some criteria will have universal applicability while others will apply only under specific circumstances. Regardless of the proposed density, applications will be evaluated based upon the following principles, although not all of the principles may be applicable.

a) *Transportation Improvements:* Residential development should provide safe and adequate access to the road network, maintain the ability of local streets to safely accommodate traffic, and offset the impact of additional traffic through commitments to the following:

- Capacity enhancements to nearby arterial and collector streets;
- Street design features that improve safety and mobility for non-motorized forms of transportation;
- Signals and other traffic control measures;
- Development phasing to coincide with identified transportation improvements;
- Right-of-way dedication;
- Construction of other improvements beyond ordinance requirements;
- Monetary contributions for improvements in the vicinity of the development.

b) *Transit/Transportation Management:* Mass transit usage and other transportation measures to reduce vehicular trips should be encouraged by:

- Provision of bus shelters;
- Implementation and/or participation in a shuttle bus service;
- Participation in programs designed to reduce vehicular trips;
- Incorporation of transit facilities within the development and integration of transit with adjacent areas;
- Provision of trails and facilities that increase safety and mobility for non-motorized travel.

c) *Interconnection of the Street Network: Vehicular connections between neighborhoods should be provided, as follows:*

- Local streets within the development should be connected with adjacent local streets to improve neighborhood circulation;
- When appropriate, existing stub streets should be connected to adjoining parcels. If street connections are dedicated but not constructed with development, they should be identified with signage that indicates the street is to be extended;
- Streets should be designed and constructed to accommodate safe and convenient usage by buses and non-motorized forms of transportation;
- Traffic calming measures should be implemented where needed to discourage cut-through traffic, increase safety and reduce vehicular speed;

- The number and length of long, single-ended roadways should be minimized;
- Sufficient access for public safety vehicles should be ensured.

d) *Streets:* Public streets are preferred. If private streets are proposed in single-family detached developments, the applicant shall demonstrate the benefits for such streets. Applicants should make appropriate design and construction commitments for all private streets so as to minimize maintenance costs which may accrue to future property owners. Furthermore, convenience and safety issues such as parking on private streets should be considered during the review process.

e) *Non-motorized Facilities:* Non-motorized facilities, such as those listed below, should be provided:

- Connections to transit facilities;
- Connections between adjoining neighborhoods;
- Connections to existing non-motorized facilities;
- Connections to off-site retail/commercial uses, public/community facilities, and natural and recreational areas;
- An internal non-motorized facility network with pedestrian and natural amenities, particularly those included in the Comprehensive Plan;
- Offsite non-motorized facilities, particularly those included in the Comprehensive Plan;
- Driveways to residences should be of adequate length to accommodate passenger vehicles without blocking walkways;
- Construction of non-motorized facilities on both sides of the street is preferred. If construction on a single side of the street is proposed, the applicant shall demonstrate the public benefit of a limited facility.

f) *Alternative Street Designs:* Under specific design conditions for individual sites or where existing features such as trees, topography, etc. are important elements, modifications to the public street standards may be considered.

**6. Public Facilities:**

Residential development impacts public facility systems (i.e., schools, parks, libraries, police, fire and rescue, stormwater management and other publicly owned community facilities). These impacts will be identified and evaluated during the development review process. For schools, a methodology approved by the Board of Supervisors, after input and recommendation by the School Board, will be used as a guideline for determining the impact of additional students generated by the new development.

Given the variety of public facility needs throughout the County, on a case-by-case basis, public facility needs will be evaluated so that local concerns may be addressed.

All rezoning applications for residential development are expected to offset their public facility impact and to first address public facility needs in the vicinity of the proposed development. Impact offset may be accomplished through the dedication of land suitable for the construction of an identified public facility need, the construction of public facilities, the contribution of specified in-kind goods, services or cash earmarked for those uses, and/or monetary contributions to be used toward funding capital improvement projects. Selection of the appropriate offset mechanism should maximize the public benefit of the contribution.

Furthermore, phasing of development may be required to ensure mitigation of impacts.

**7. Affordable Housing:**

Ensuring an adequate supply of housing for low and moderate income families, those with special accessibility requirements, and those with other special needs is a goal of the County. Part 8 of Article 2 of the Zoning Ordinance requires the provision of Affordable Dwelling Units (ADUs) in certain circumstances. Criterion #7 is applicable to all rezoning applications and/or portions thereof that are not required to provide any Affordable Dwelling Units, regardless of the planned density range for the site.

a) *Dedication of Units or Land:* If the applicant elects to fulfill this criterion by providing affordable units that are not otherwise required by the ADU Ordinance: a maximum density of 20% above the upper limit of the Plan range could be achieved if 12.5% of the total number of single-family detached and attached units are provided pursuant to the Affordable Dwelling Unit Program; and, a maximum density of 10% or 20% above the upper limit of the Plan range could be achieved if 6.25% or 12.5%, respectively of the total number of multifamily units are provided to the Affordable Dwelling Unit Program. As an alternative, land, adequate and ready to be developed for an equal number of units may be provided to the Fairfax County Redevelopment and Housing Authority or to such other entity as may be approved by the Board.

b) *Housing Trust Fund Contributions:* Satisfaction of this criterion may also be achieved by a contribution to the Housing Trust Fund or, as may be approved by the Board, a monetary and/or in-kind contribution to another entity whose mission is to provide affordable housing in Fairfax County, equal to 0.5% of the value of all of the units approved on the property except those that result in the provision of ADUs. This contribution shall be payable prior to the issuance of the first building permit. For for-sale projects, the percentage set forth above is based upon the aggregate sales price of all of the units subject to the contribution, as if all of those units were sold at the time of the issuance of the first building permit**,** and is estimated through comparable sales of similar type units. For rental projects, the amount of the contribution is based upon the total development cost of the portion of the project subject to the contribution for all elements necessary to bring the project to market, including land, financing, soft costs and construction. The sales price or development cost will be determined by the Department of Housing and Community Development, in consultation with the Applicant and the Department of Public Works and Environmental Services. If this criterion is fulfilled by a contribution as set forth in this paragraph, the density bonus permitted in a) above does not apply.

**8. Heritage Resources:**

Heritage resources are those sites or structures, including their landscape settings, that exemplify the cultural, architectural, economic, social, political, or historic heritage of the County or its communities. Such sites or structures have been 1) listed on, or determined eligible for listing on, the National Register of Historic Places or the Virginia Landmarks Register; 2) determined to be a contributing structure within a district so listed or eligible for listing; 3) located within and considered as a contributing structure within a Fairfax County Historic Overlay District; or 4) listed on, or having a reasonable potential as determined by the County, for meeting the criteria for listing on, the Fairfax County Inventories of Historic or Archaeological Sites.

In reviewing rezoning applications for properties on which known or potential heritage resources are located, some or all of the following shall apply:

a) Protect heritage resources from deterioration or destruction until they can be documented, evaluated, and/or preserved;

b) Conduct archaeological, architectural, and/or historical research to determine the presence, extent, and significance of heritage resources;

c) Submit proposals for archaeological work to the County for review and approval and, unless otherwise agreed, conduct such work in accordance with state standards;

d) Preserve and rehabilitate heritage resources for continued or adaptive use where feasible;

e) Submit proposals to change the exterior appearance of, relocate, or demolish historic structures to the Fairfax County Architectural Review Board for review and approval;

f) Document heritage resources to be demolished or relocated;

g) Design new structures and site improvements, including clearing and grading, to enhance rather than harm heritage resources;

h) Establish easements that will assure continued preservation of heritage resources with an appropriate entity such as the County's Open Space and Historic Preservation Easement Program; and

i) Provide a Fairfax County Historical Marker or Virginia Historical Highway Marker on or near the site of a heritage resource, if recommended and approved by the Fairfax County History Commission.

## ROLE OF DENSITY RANGES IN AREA PLANS

Density ranges for property planned for residential development, expressed generally in terms of dwelling units per acre, are recommended in the Area Plans and are shown on the Comprehensive Plan Map. Where the Plan text and map differ, the text governs. In defining the density range:

- the "base level" of the range is defined as the lowest density recommended in the Plan range, i.e., 5 dwelling units per acre in the 5-8 dwelling unit per acre range;
- the "high end" of the range is defined as the base level plus 60% of the density range in a particular Plan category, which in the residential density range of 5-8 dwelling units per acre would be considered as 6.8 dwelling units per acre and above; and,
- the upper limit is defined as the maximum density called for in any Plan range, which, in the 5-8 dwelling unit per acre range would be 8 dwelling units per acre.
- In instances where a range is not specified in the Plan, for example where the Plan calls for residential density up to 30 dwelling units per acre, the density cited in the Plan shall be construed to equate to the upper limit of the Plan range, and the base level shall be the upper limit of the next lower Plan range, in this instance, 20 dwelling units per acre.

## APPENDIX 11

## GUIDELINES FOR TRANSIT-ORIENTED DEVELOPMENT

Fairfax County seeks to accommodate future residential and employment growth and expand choices for residents and employees by encouraging transit-oriented development (TOD) as a means to achieve compact, pedestrian-oriented, mixed-use communities focused around existing and planned rail transit stations.

The following guidelines and design principles are intended to effect well-planned transit-oriented development and should be considered in planning efforts as new station areas are identified and when an existing station area is subject to a major replanning effort. When applicable, these principles should be used in the review of major rezoning cases for development around planned and existing rail transit stations. These guidelines are intended to provide guidance for TOD in addition to the specific guidance found in Area Plans for each station area.

### 1. Transit Proximity and Station Area Boundaries:

*Focus and concentrate the highest density or land use intensity close to the rail transit station, and where feasible, above the rail transit station.*

This TOD area may be generally defined as a ¼ mile radius from the station platform with density and intensity tapering to within a ½ mile radius from the station platform, or a 5-10 minute walk, subject to site-specific considerations. Station-specific delineations should allow for the consideration of conditions such as roads, topography, or existing development that would affect the frequency of pedestrian usage of transit and therefore affect the expected walking distance to a station within which higher intensity development may be appropriate. Higher intensities within the delineated area may be appropriate if barriers are overcome and demonstrable opportunities exist to provide pedestrians a safe, comfortable and interesting walk to transit. To protect existing stable neighborhoods in the vicinity of transit but not planned for transit-oriented development or redevelopment, and to focus density toward the station, Area Plans should include clearly delineated boundaries for transit-oriented development based upon these criteria and a recognition of the respective differences in service levels and capacity of heavy rail, commuter rail and light rail transit which influence the overall density and intensity appropriate for a particular station area.

### 2. Station-specific Flexibility:

*Examine the unique characteristics and needs of a particular station area when evaluating TOD principles to ensure the appropriate development intensity and mix of land uses relative to the existing and planned uses for the surrounding areas.*

Each of Fairfax County's planned and existing rail transit stations has a unique character in terms of surrounding land uses, transportation infrastructure and roadways, environmental and topographical characteristics, and location within the rail system. Although each individual station should balance node and place functions to some extent, the value of the system as a whole can be enhanced if there is some degree of specialization, which can enhance the goals of TOD. Implementation of TOD within Transit Station Area (TSA) boundaries established in Area Plans, should consider the characteristics of the larger area surrounding the TSA (e.g., stable residential neighborhood, revitalization area, urban center). Transit station areas within a larger

mixed-use center should be integrated into the overall planning fabric of the mixed-use center.

**3. Pedestrian and Bicycle Access:**

*Provide safe pedestrian and bicycle travel to and from and within the station area.*

Non-motorized access and circulation are critical elements of successful TODs and should be encouraged. Techniques to promote maximum pedestrian and bicycle access must include an integrated pedestrian and bicycle system plan with features such as on-road bicycle lanes, walkways, trails and sidewalks, amenities such as street trees, benches, bus shelters, adequate lighting, covered walkways, pedestrian aids such as moving sidewalks and escalators, covered and secure bicycle storage facilities close to the station, shower and changing facilities, a pedestrian-friendly street network, and appropriate sidewalk width. Conflict between vehicles and pedestrians/bicyclists should be minimized. This may be achieved through the appropriate location of parking facilities including kiss-and-ride facilities, and the appropriate location and design of access roads to the rail transit station. Planning for accessible trail systems should consider distances traveled by both pedestrians and cyclists and should provide usable trails and other systems beyond the Transit Station Area.

**4. Mix of Land Uses:**

*Promote a mix of uses to ensure the efficient use of transit, to promote increased ridership during peak and off-peak travel periods in all directions, and to encourage different types of activity throughout the day.*

A balanced mix of residential, office, retail, governmental, institutional, entertainment and recreational uses should be provided to encourage a critical mass of pedestrian activity as people live, work and play in these areas. The appropriate mix of uses should be determined in the Area Plans by examining the unique characteristics and needs of each station area. Specific development plans that conflict with the achievement of the mix of uses planned for that station area are discouraged.

**5. Housing Affordability:**

*Provide for a range of housing opportunities by incorporating a mix of housing types and sizes and including housing for a range of different income levels.*

Housing within TODs should be accessible to those most dependent on public transportation, including older adults, persons with disabilities and other special needs, and persons with limited income. Housing should be provided within the residential component of a TOD for low and moderate income residents. Affordable and workforce housing should be provided on-site or, if an alternative location can provide a substantially greater number of units, in adjacent areas within the TOD. Housing for seniors is encouraged to the extent feasible.

**6. Urban Design:**

*Encourage excellence in urban design, including site planning, streetscape and building design, which creates a pedestrian-focused sense of place.*

A pleasant pedestrian environment can contribute to the quality of a transit experience, which is also a pedestrian activity. Urban design elements to achieve an appropriate sense of place and a pleasant pedestrian environment may include any or all of the following: well-landscaped public spaces such as squares and plazas; urban parks; courtyards; an integrated pedestrian system; street-oriented building forms with a pedestrian focus; compact development; appropriate street width and block size; measures to mitigate the visual impact and presence of structured parking; and, high-quality architecture.

**7. Street Design:**

*Provide a grid of safe, attractive streets for all users which provide connectivity throughout the site and to and from adjacent areas.*

The street grids around transit station areas should be designed at a scale that facilitates safe pedestrian and cyclist movement and provides for vehicular circulation and capacity. Street design should incorporate elements such as lighting, appropriate street width, sidewalk width and intersection dimensions to allow for pedestrian, bicycle and vehicular use, and should be designed to provide universal access to people with a range of abilities and disabilities. The design of streets should encourage lower traffic speeds and superior pedestrian circulation through provision of on-street parking, street trees, and other features and amenities.

**8. Parking:**

*Encourage the use of transit while maximizing the use of available parking throughout the day and evening and minimizing the visual impact of parking structures and surface parking lots.*

Proper size and location of parking facilities contribute to creation of a pedestrian- and transit-supportive environment. The use of maximum parking requirements, shared use parking facilities, incentive programs to reduce automobile usage, carpooling, metered parking, car-sharing programs, neighborhood parking programs, and other techniques can encourage the use of transit while also maximizing the use of parking spaces at different times of day. Efforts to provide urban design elements such as on-street parking, placement of parking structures underground and minimizing surface parking lots are encouraged. Wherever possible, ground floor uses and activities should be incorporated into structured parking, particularly where parking structures are located along streets where pedestrian activity is encouraged. Location of commuter garages should be sensitive to pedestrian and bicycle activity within and adjacent to the Transit Station Area and adjacent neighborhoods.

**9. Transportation and Traffic:**

*Promote a balance between the intensity of TOD and the capacity of the multimodal transportation infrastructure provided and affected by TOD, and provide for and accommodate high quality transit, pedestrian, and bicycle infrastructure and services and other measures to limit single occupant vehicle trips.*

A TOD should contain the following characteristics relating to transportation and traffic:

- A multimodal transportation infrastructure, with an emphasis on pedestrian and biking facilities, that offer a choice in transportation modes providing convenient and reliable alternatives to driving to a station area, particularly those station areas without parking.

- A design that accommodates, but minimizes single occupant vehicle trips. Additional measures to minimize single occupant vehicle trips, including Transportation Demand Management measures, should be identified and applied.

- Traffic-calming measures, design techniques and road alignment that balance pedestrian and bicycle accessibility and vehicular access.

The cumulative impacts of TOD on transportation infrastructure should be evaluated in the TOD area, and improvements provided where needed. *The impacts on roads:* Where applicable, a higher level of delay is acceptable for vehicular traffic within TOD areas. A non-degradation policy should be applied to areas immediately adjacent to a TOD area and to arterials serving the TOD area. This policy requires that traffic flow in these adjacent areas and on arterials serving the TOD area perform no worse after development of a TOD takes place. Where it is not possible or appropriate to maintain a non-degradation policy, in lieu of additional road capacity, there can be improvements, measures and/or monetary contributions to a fund to enable the application of techniques to reduce vehicle trips by an appropriate amount in and around the TOD area. *The impacts on transit, pedestrian, and bicycle facilities:* A high level of service should be maintained for transit users that minimizes delay, the need for transfers, and transfer delay. Where it is not possible to maintain a high level of transit service because of extraordinarily high costs, monetary contributions to a fund for the eventual improvement of transit service can be provided in lieu of the maintenance of a high quality transit service. An acceptable level of transit service nevertheless should be maintained during TOD development. A high level of service should be maintained for pedestrians and cyclists, including safety and security, direct pathways, reasonable grades, and minimized delays at intersections.

**10. Vision for the Community:**

*Strive to achieve a broadly inclusive, collaborative, community participation process when evaluating TOD plans that propose substantial changes in use, intensity or density for existing or new transit station areas planning efforts.*

Broad-based support and collaboration can be achieved through planning processes that encourage involvement and participation. These processes should utilize a range of tools and techniques for engaging the community and other interested stakeholders. While the particulars of the process should relate to each station, planning processes should include the use of citizen task forces, the Area Plans Review process and other means to result in the following: (1) a collaborative and interactive formulation of a cohesive vision for the transit station area before specific development proposals are formally considered; (2) a TOD vision that is integrated with and complements surrounding neighborhoods; (3) incorporation of a broad range of aspirations and needs of those communities; (4) active participation by county planning officials, supervisors, community groups and developers to identify, and encourage broad-based involvement and participation by, a wide range of stakeholders, including all interested citizens' associations; and (5) continuing stakeholder involvement on a collaborative basis in framing development proposals ultimately considered for specific parcels.

**11. Regional Framework:**

*Provide a more efficient land use pattern by concentrating growth around existing and planned transit station areas.*

Maximizing development around transit can provide a regional benefit by accommodating some of the region's projected employment and residential growth, as well as making jobs accessible by transit. In instances where substantial changes in use, density or intensity are being considered as part of station area planning, the implications and impacts on the transit system should be considered. Cumulative impacts on transit service and capacity as well as on traffic capacity should be evaluated in a transit-oriented development, and improvements evaluated where needed. These planning efforts should include coordination and cooperation with adjacent jurisdictions, regional organizations, and transit providers, such as WMATA and VRE. The use of Transfer of Development Rights (TDR's) should be examined as a technique to relocate zoned density to TOD areas if it results in future development that agrees with Comprehensive Plan recommendations.

**12. Environmental Considerations:**

*Seek opportunities for mitigating environmental impacts of development.*

The environmental benefits of compact, mixed use development focused around transit stations can include improved air quality and water quality through the reduction of land consumption for development in other areas. The utilization of land near transit and the existing infrastructure allows the County to accommodate increasing growth pressures in a smaller area served by infrastructure. Improvements in air quality due to reduced vehicle miles traveled and reduced automobile emissions can also be viewed as a benefit of TOD. Environmental impacts (such as impacts on mature trees and stormwater runoff) of proposed development should be examined and mitigated to minimize potential negative impacts. Low Impact Development Techniques, such as rain gardens and green roofs, should be incorporated into proposed developments to reduce potential impacts of stormwater runoff from these areas. Development in TODs should be designed in a manner that conserves natural resources; the application of energy and water conservation measures should be encouraged. Sites undergoing redevelopment should optimize stormwater management and water quality controls and practices for redevelopment consistent with revitalization goals.

**13. Economic Benefits:**

*Create an employment base and encourage commercial revitalization adjacent to transit facilities.*

Development around transit stations can help to address housing and transportation costs in the County by providing opportunities to balance these costs in TODs. Employment uses near transit can provide opportunities for lowered transportation costs for employees. Additionally, housing near transit offers similar transportation savings and opportunities for housing near employment. Opportunities to create new small business opportunities as well as assist in the retention of existing small businesses should be evaluated as part of TOD planning.

**14. Open Space:**

*Provide publicly-accessible, high-quality, usable open space.*

Urban parks and open space contribute to a development's sense of place and are integral amenities offered to residents, workers and shoppers. Transit-oriented development plans should provide amenities such as public gathering spaces, civic focal points, plazas and open green space and offer a variety of activities such as dining, casual games and recreation, performances, visual arts and special events. These spaces should be accessible to the larger community as well as the immediate transit-oriented development area. Development plans should also incorporate open space preservation, such as stream valleys, where appropriate, and provide access to the County's network of parks and trails.

**15. Public Facilities and Infrastructure:**

*Evaluate opportunities to include public facility improvements and services within the TOD area.*

TOD may provide opportunities to improve public facilities. Locating public facilities in station areas provides important public services in areas accessible to public transportation and can increase activity within the TOD. Cumulative impacts of development in a TOD on public facilities and transit access facilities should be identified and offset. Such impacts include those on schools, parks, libraries, police, fire and rescue, water and sewer, stormwater management and other publicly owned community facilities. Current data on station access facilities and demand should be used as available, to assess needs for replacement or enhancement of facilities such as bus bays, taxi access, substations and parking.

**16. Phasing of Development:**

*Ensure that projects are phased in such a way as to include an appropriate mix of uses in each phase of the development.*

A balanced mix of residential and nonresidential uses should be provided to encourage a critical mass of pedestrian activity. However, concurrent development of all uses may not be feasible due to market conditions. In instances where a certain mix of uses is critical to the success of the TOD, the development should include a commitment to phase the project in such a way as to include an appropriate mix of uses in each phase to help ensure the long-term success of the mixed-use development. It may also be appropriate, when a project's overall success depends on certain specific elements, to make later phases contingent on completion of those elements. Phasing the development can minimize the potential impacts on the surrounding community and increase amenities for residents, employees, and visitors within the transit-oriented development area. Phasing plans should include pedestrian and bicycle access plans to allow proper non-motorized access throughout the development phases. Provision of open space and recreational amenities should be phased as well so that provision or these facilities is not postponed until final phasing of a development.

## APPENDIX 11

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Fairfax County seeks to accommodate future residential and employment growth and expand choices for residents and employees by encouraging transit-oriented development (TOD) as a means to achieve compact, pedestrian-oriented, mixed-use communities focused around existing and planned rail transit stations.

The following guidelines and design principles are intended to effect well-planned transit-oriented development and should be considered in planning efforts as new station areas are identified and when an existing station area is subject to a major replanning effort. When applicable, these principles should be used in the review of major rezoning cases for development around planned and existing rail transit stations. These guidelines are intended to provide guidance for TOD in addition to the specific guidance found in Area Plans for each station area.

### 1. Transit Proximity and Station Area Boundaries:

*Focus and concentrate the highest density or land use intensity close to the rail transit station, and where feasible, above the rail transit station.*

This TOD area may be generally defined as a ¼ mile radius from the station platform with density and intensity tapering to within a ½ mile radius from the station platform, or a 5-10 minute walk, subject to site-specific considerations. Station-specific delineations should allow for the consideration of conditions such as roads, topography, or existing development that would affect the frequency of pedestrian usage of transit and therefore affect the expected walking distance to a station within which higher intensity development may be appropriate. Higher intensities within the delineated area may be appropriate if barriers are overcome and demonstrable opportunities exist to provide pedestrians a safe, comfortable and interesting walk to transit. To protect existing stable neighborhoods in the vicinity of transit but not planned for transit-oriented development or redevelopment, and to focus density toward the station, Area Plans should include clearly delineated boundaries for transit-oriented development based upon these criteria and a recognition of the respective differences in service levels and capacity of heavy rail, commuter rail and light rail transit which influence the overall density and intensity appropriate for a particular station area.

### 2. Station-specific Flexibility:

*Examine the unique characteristics and needs of a particular station area when evaluating TOD principles to ensure the appropriate development intensity and mix of land uses relative to the existing and planned uses for the surrounding areas.*

Each of Fairfax County's planned and existing rail transit stations has a unique character in terms of surrounding land uses, transportation infrastructure and roadways, environmental and topographical characteristics, and location within the rail system. Although each individual station should balance node and place functions to some extent, the value of the system as a whole can be enhanced if there is some degree of specialization, which can enhance the goals of TOD. Implementation of TOD within Transit Station Area (TSA) boundaries established in Area Plans, should consider the characteristics of the larger area surrounding the TSA (e.g., stable residential neighborhood, revitalization area, urban center). Transit station areas within a larger

mixed-use center should be integrated into the overall planning fabric of the mixed-use center.

**3. Pedestrian and Bicycle Access:**

*Provide safe pedestrian and bicycle travel to and from and within the station area.*

Non-motorized access and circulation are critical elements of successful TODs and should be encouraged. Techniques to promote maximum pedestrian and bicycle access must include an integrated pedestrian and bicycle system plan with features such as on-road bicycle lanes, walkways, trails and sidewalks, amenities such as street trees, benches, bus shelters, adequate lighting, covered walkways, pedestrian aids such as moving sidewalks and escalators, covered and secure bicycle storage facilities close to the station, shower and changing facilities, a pedestrian-friendly street network, and appropriate sidewalk width. Conflict between vehicles and pedestrians/bicyclists should be minimized. This may be achieved through the appropriate location of parking facilities including kiss-and-ride facilities, and the appropriate location and design of access roads to the rail transit station. Planning for accessible trail systems should consider distances traveled by both pedestrians and cyclists and should provide usable trails and other systems beyond the Transit Station Area.

**4. Mix of Land Uses:**

*Promote a mix of uses to ensure the efficient use of transit, to promote increased ridership during peak and off-peak travel periods in all directions, and to encourage different types of activity throughout the day.*

A balanced mix of residential, office, retail, governmental, institutional, entertainment and recreational uses should be provided to encourage a critical mass of pedestrian activity as people live, work and play in these areas. The appropriate mix of uses should be determined in the Area Plans by examining the unique characteristics and needs of each station area. Specific development plans that conflict with the achievement of the mix of uses planned for that station area are discouraged.

**5. Housing Affordability:**

*Provide for a range of housing opportunities by incorporating a mix of housing types and sizes and including housing for a range of different income levels.*

Housing within TODs should be accessible to those most dependent on public transportation, including older adults, persons with disabilities and other special needs, and persons with limited income. Housing should be provided within the residential component of a TOD for low and moderate income residents. Affordable and workforce housing should be provided on-site or, if an alternative location can provide a substantially greater number of units, in adjacent areas within the TOD. Housing for seniors is encouraged to the extent feasible.

**6. Urban Design:**

*Encourage excellence in urban design, including site planning, streetscape and building design, which creates a pedestrian-focused sense of place.*

A pleasant pedestrian environment can contribute to the quality of a transit experience, which is also a pedestrian activity. Urban design elements to achieve an appropriate sense of place and a pleasant pedestrian environment may include any or all of the following: well-landscaped public spaces such as squares and plazas; urban parks; courtyards; an integrated pedestrian system; street-oriented building forms with a pedestrian focus; compact development; appropriate street width and block size; measures to mitigate the visual impact and presence of structured parking; and, high-quality architecture.

**7. Street Design:**

*Provide a grid of safe, attractive streets for all users which provide connectivity throughout the site and to and from adjacent areas.*

The street grids around transit station areas should be designed at a scale that facilitates safe pedestrian and cyclist movement and provides for vehicular circulation and capacity. Street design should incorporate elements such as lighting, appropriate street width, sidewalk width and intersection dimensions to allow for pedestrian, bicycle and vehicular use, and should be designed to provide universal access to people with a range of abilities and disabilities. The design of streets should encourage lower traffic speeds and superior pedestrian circulation through provision of on-street parking, street trees, and other features and amenities.

**8. Parking:**

*Encourage the use of transit while maximizing the use of available parking throughout the day and evening and minimizing the visual impact of parking structures and surface parking lots.*

Proper size and location of parking facilities contribute to creation of a pedestrian- and transit-supportive environment. The use of maximum parking requirements, shared use parking facilities, incentive programs to reduce automobile usage, carpooling, metered parking, car-sharing programs, neighborhood parking programs, and other techniques can encourage the use of transit while also maximizing the use of parking spaces at different times of day. Efforts to provide urban design elements such as on-street parking, placement of parking structures underground and minimizing surface parking lots are encouraged. Wherever possible, ground floor uses and activities should be incorporated into structured parking, particularly where parking structures are located along streets where pedestrian activity is encouraged. Location of commuter garages should be sensitive to pedestrian and bicycle activity within and adjacent to the Transit Station Area and adjacent neighborhoods.

**9. Transportation and Traffic:**

*Promote a balance between the intensity of TOD and the capacity of the multimodal transportation infrastructure provided and affected by TOD, and provide for and accommodate high quality transit, pedestrian, and bicycle infrastructure and services and other measures to limit single occupant vehicle trips.*

A TOD should contain the following characteristics relating to transportation and traffic:

- A multimodal transportation infrastructure, with an emphasis on pedestrian and biking facilities, that offer a choice in transportation modes providing convenient and reliable alternatives to driving to a station area, particularly those station areas without parking.

- A design that accommodates, but minimizes single occupant vehicle trips. Additional measures to minimize single occupant vehicle trips, including Transportation Demand Management measures, should be identified and applied.

- Traffic-calming measures, design techniques and road alignment that balance pedestrian and bicycle accessibility and vehicular access.

The cumulative impacts of TOD on transportation infrastructure should be evaluated in the TOD area, and improvements provided where needed. *The impacts on roads:* Where applicable, a higher level of delay is acceptable for vehicular traffic within TOD areas. A non-degradation policy should be applied to areas immediately adjacent to a TOD area and to arterials serving the TOD area. This policy requires that traffic flow in these adjacent areas and on arterials serving the TOD area perform no worse after development of a TOD takes place. Where it is not possible or appropriate to maintain a non-degradation policy, in lieu of additional road capacity, there can be improvements, measures and/or monetary contributions to a fund to enable the application of techniques to reduce vehicle trips by an appropriate amount in and around the TOD area. *The impacts on transit, pedestrian, and bicycle facilities:* A high level of service should be maintained for transit users that minimizes delay, the need for transfers, and transfer delay. Where it is not possible to maintain a high level of transit service because of extraordinarily high costs, monetary contributions to a fund for the eventual improvement of transit service can be provided in lieu of the maintenance of a high quality transit service. An acceptable level of transit service nevertheless should be maintained during TOD development. A high level of service should be maintained for pedestrians and cyclists, including safety and security, direct pathways, reasonable grades, and minimized delays at intersections.

**10. Vision for the Community:**

*Strive to achieve a broadly inclusive, collaborative, community participation process when evaluating TOD plans that propose substantial changes in use, intensity or density for existing or new transit station areas planning efforts.*

Broad-based support and collaboration can be achieved through planning processes that encourage involvement and participation. These processes should utilize a range of tools and techniques for engaging the community and other interested stakeholders. While the particulars of the process should relate to each station, planning processes should include the use of citizen task forces, the Area Plans Review process and other means to result in the following: (1) a collaborative and interactive formulation of a cohesive vision for the transit station area before specific development proposals are formally considered; (2) a TOD vision that is integrated with and complements surrounding neighborhoods; (3) incorporation of a broad range of aspirations and needs of those communities; (4) active participation by county planning officials, supervisors, community groups and developers to identify, and encourage broad-based involvement and participation by, a wide range of stakeholders, including all interested citizens' associations; and (5) continuing stakeholder involvement on a collaborative basis in framing development proposals ultimately considered for specific parcels.

**11. Regional Framework:**

*Provide a more efficient land use pattern by concentrating growth around existing and planned transit station areas.*

Maximizing development around transit can provide a regional benefit by accommodating some of the region's projected employment and residential growth, as well as making jobs accessible by transit. In instances where substantial changes in use, density or intensity are being considered as part of station area planning, the implications and impacts on the transit system should be considered. Cumulative impacts on transit service and capacity as well as on traffic capacity should be evaluated in a transit-oriented development, and improvements evaluated where needed. These planning efforts should include coordination and cooperation with adjacent jurisdictions, regional organizations, and transit providers, such as WMATA and VRE. The use of Transfer of Development Rights (TDR's) should be examined as a technique to relocate zoned density to TOD areas if it results in future development that agrees with Comprehensive Plan recommendations.

**12. Environmental Considerations:**

*Seek opportunities for mitigating environmental impacts of development.*

The environmental benefits of compact, mixed use development focused around transit stations can include improved air quality and water quality through the reduction of land consumption for development in other areas. The utilization of land near transit and the existing infrastructure allows the County to accommodate increasing growth pressures in a smaller area served by infrastructure. Improvements in air quality due to reduced vehicle miles traveled and reduced automobile emissions can also be viewed as a benefit of TOD. Environmental impacts (such as impacts on mature trees and stormwater runoff) of proposed development should be examined and mitigated to minimize potential negative impacts. Low Impact Development Techniques, such as rain gardens and green roofs, should be incorporated into proposed developments to reduce potential impacts of stormwater runoff from these areas. Development in TODs should be designed in a manner that conserves natural resources; the application of energy and water conservation measures should be encouraged. Sites undergoing redevelopment should optimize stormwater management and water quality controls and practices for redevelopment consistent with revitalization goals.

**13. Economic Benefits:**

*Create an employment base and encourage commercial revitalization adjacent to transit facilities.*

Development around transit stations can help to address housing and transportation costs in the County by providing opportunities to balance these costs in TODs. Employment uses near transit can provide opportunities for lowered transportation costs for employees. Additionally, housing near transit offers similar transportation savings and opportunities for housing near employment. Opportunities to create new small business opportunities as well as assist in the retention of existing small businesses should be evaluated as part of TOD planning.

**14. Open Space:**

*Provide publicly-accessible, high-quality, usable open space.*

Urban parks and open space contribute to a development's sense of place and are integral amenities offered to residents, workers and shoppers. Transit-oriented development plans should provide amenities such as public gathering spaces, civic focal points, plazas and open green space and offer a variety of activities such as dining, casual games and recreation, performances, visual arts and special events. These spaces should be accessible to the larger community as well as the immediate transit-oriented development area. Development plans should also incorporate open space preservation, such as stream valleys, where appropriate, and provide access to the County's network of parks and trails.

**15. Public Facilities and Infrastructure:**

*Evaluate opportunities to include public facility improvements and services within the TOD area.*

TOD may provide opportunities to improve public facilities. Locating public facilities in station areas provides important public services in areas accessible to public transportation and can increase activity within the TOD. Cumulative impacts of development in a TOD on public facilities and transit access facilities should be identified and offset. Such impacts include those on schools, parks, libraries, police, fire and rescue, water and sewer, stormwater management and other publicly owned community facilities. Current data on station access facilities and demand should be used as available, to assess needs for replacement or enhancement of facilities such as bus bays, taxi access, substations and parking.

**16. Phasing of Development:**

*Ensure that projects are phased in such a way as to include an appropriate mix of uses in each phase of the development.*

A balanced mix of residential and nonresidential uses should be provided to encourage a critical mass of pedestrian activity. However, concurrent development of all uses may not be feasible due to market conditions. In instances where a certain mix of uses is critical to the success of the TOD, the development should include a commitment to phase the project in such a way as to include an appropriate mix of uses in each phase to help ensure the long-term success of the mixed-use development. It may also be appropriate, when a project's overall success depends on certain specific elements, to make later phases contingent on completion of those elements. Phasing the development can minimize the potential impacts on the surrounding community and increase amenities for residents, employees, and visitors within the transit-oriented development area. Phasing plans should include pedestrian and bicycle access plans to allow proper non-motorized access throughout the development phases. Provision of open space and recreational amenities should be phased as well so that provision or these facilities is not postponed until final phasing of a development.

## 16-100 STANDARDS FOR ALL PLANNED DEVELOPMENTS

### 16-101 General Standards

A rezoning application or development plan amendment application may only be approved for a planned development under the provisions of Article 6 if the planned development satisfies the following general standards:

1. The planned development shall substantially conform to the adopted comprehensive plan with respect to type, character, intensity of use and public facilities. Planned developments shall not exceed the density or intensity permitted by the adopted comprehensive plan, except as expressly permitted under the applicable density or intensity bonus provisions.

2. The planned development shall be of such design that it will result in a development achieving the stated purpose and intent of the planned development district more than would development under a conventional zoning district.

3. The planned development shall efficiently utilize the available land, and shall protect and preserve to the extent possible all scenic assets and natural features such as trees, streams and topographic features.

4. The planned development shall be designed to prevent substantial injury to the use and value of existing surrounding development, and shall not hinder, deter or impede development of surrounding undeveloped properties in accordance with the adopted comprehensive plan.

5. The planned development shall be located in an area in which transportation, police and fire protection, other public facilities and public utilities, including sewerage, are or will be available and adequate for the uses proposed; provided, however, that the applicant may make provision for such facilities or utilities which are not presently available.

6. The planned development shall provide coordinated linkages among internal facilities and services as well as connections to major external facilities and services at a scale appropriate to the development.

## 16-102 Design Standards

Whereas it is the intent to allow flexibility in the design of all planned developments, it is deemed necessary to establish design standards by which to review rezoning applications, development plans, conceptual development plans, final development plans, PRC plans, site plans and subdivision plats. Therefore, the following design standards shall apply:

1. In order to complement development on adjacent properties, at all peripheral boundaries of the planned development district, the bulk regulations and landscaping and screening provisions shall generally conform to the provisions of that conventional zoning district which most closely characterizes the particular type of development under consideration.

2. Other than those regulations specifically set forth in Article 6 for a particular P district, the open space, off-street parking, loading, sign and all other similar regulations set forth in this Ordinance shall have general application in all planned developments.

3. Streets and driveways shall be designed to generally conform to the provisions set forth in this Ordinance and all other County ordinances and regulations controlling same, and where applicable, street systems shall be designed to afford convenient access to mass transportation facilities. In addition, a network of trails and sidewalks shall be coordinated to provide access to recreational amenities, open space, public facilities, vehicular access routes, and mass transportation facilities.

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 9, 2014

**TO:** Barbara Berlin, Director
Zoning Evaluation Division, DPZ

**FROM:** Pamela G. Nee, Chief
Environment and Development Review Branch, DPZ

**SUBJECT:** **ENVIRONMENTAL ASSESSMENT** for: **RZ/CDP/FDP 2009-HM-017**
Innovation Center South and Station Garage **PCA –C-696-10**

This memorandum, prepared by Mary Ann Welton, includes citations from Comprehensive Plan that provide guidance for the evaluation of the subject Rezoning application (RZ), Proffered Condition Amendment (PCA), Conceptual Development Plan (CDP) and Final Development Plan (FDP) and proffers, revised through March 27, 2014. The extent to which the application conforms to the applicable guidance contained in the Comprehensive Plan is noted. Possible solutions to remedy identified issues are suggested. Other solutions may be acceptable, provided that they achieve the desired degree of mitigation and are in harmony with Plan policies.

**COMPREHENSIVE PLAN CITATIONS:**

The Comprehensive Plan is the basis for the evaluation of this application. The assessment of the proposal for conformity with the environmental recommendations of the Comprehensive Plan is guided by the following citations from the Plan:

The Fairfax County Comprehensive Plan, 2013 Edition, Area III Dulles Suburban Center Land Unit Recommendations, as amended through March 4, 2014, page 53 states:

> "...8. Provision of stormwater management by the use of Best Management Practices which contribute to Objectives of this Dulles Suburban Center Plan calling for design of stormwater detention systems that blend with and augment features of the natural environment and contribute to the aesthetics of their sites...."

The Fairfax County Comprehensive Plan, 2013 Edition, Area III Dulles Suburban Center Land Unit Recommendations, as amended through March 4, 2014, pages 71-73 state:

**Department of Planning and Zoning**
Planning Division
12055 Government Center Parkway, Suite730
Fairfax, Virginia 22035-5509
Phone 703-324-1380
Fax 703-324-3056
www.fairfaxcounty.gov/dpz/



DEPARTMENT OF PLANNING & ZONING

Environmental Stewardship

Promoting environmental stewardship in Land Unit A includes innovative stormwater management, the provision of green buildings and addressing noise sensitive uses. These practices will ensure that this area develops as a sustainable community, creating a healthy and environmentally responsible place.

**Stormwater Management**

Future development offers considerable opportunities to improve upon past stormwater management practices in furtherance of efforts to protect and restore local streams and to reduce pollutant loads entering the Potomac River and Chesapeake Bay. Low impact development (LID) techniques of stormwater management can serve to reduce runoff volumes entering local streams and can more easily be incorporated within densely developed areas than more traditional detention and retention ponds. These LID practices can include, but are not limited to, bioretention or biofiltration facilities (commonly known as rain gardens), vegetated swales, porous pavement, vegetated roofs, tree box filters and the collection and reuse of stormwater runoff.

Environmentally-friendly stormwater design should be an integral design principle that will be part of the conceptual stage of site development for all future development, recognizing that stormwater management measures may be phased with development. The stormwater design should first seek to minimize the effect of impervious cover, followed by the application of stormwater reuse, retention, detention, extended filtration and, where soils and infrastructure allow, infiltration to improve downstream waters. The incorporation of stormwater management strategies in parks and other open space areas within Land Unit A may support this approach while providing recreational amenities and there may be opportunities to incorporate LID practices within other open space areas.

Coordination of stormwater management controls among multiple development sites may also be effective in achieving stormwater management goals in an efficient manner. Stormwater management and water quality controls should be optimized for all future development projects consistent with the scale of such projects.

Any development proposals in the area should be reviewed on a case-by-case basis for the appropriate optimization of stormwater management and water quality controls allowing for flexibility in specific approaches taken to achieve these guidelines.

• Stormwater quantity and quality control measures should be provided with the goal of reducing the total runoff volume or significantly delaying its entry into the stream system. In furtherance of stream protection and/or restoration through replication of natural hydraulic conditions, the emphasis should be on LID techniques that evapotranspire water, filter water through vegetation and/or soil, return water into the ground or reuse it.

• LID techniques of stormwater management should also be incorporated into new and redesigned streets where allowed and practicable.

In addition, at a minimum, the following guidelines should be followed for any application for which a floor area ratio (FAR) of 1.0 or more is proposed:

1. For sites that have greater than 50 percent impervious cover in the existing condition, the total volume of runoff released from the site in the post-developed condition for the 2-year, 24-hour storm should be at least 25 percent less than the total volume of runoff released in the existing condition for the same storm. Furthermore, the peak runoff rate for the 2-year, 24-hour storm in the post-developed condition should be at least 25 percent less than the existing condition peak runoff rate for the same storm.

2. For sites that have 50 percent or less impervious cover in the existing condition, the total volume of runoff released as well as the peak release rate for the 1- and 2-year, 24-hour storm in the post-developed condition should be equal to or less than the total runoff volume and peak release rate in the existing condition for the same storm.

3. In addition to item 1 or 2 above, stormwater runoff associated with the development should be controlled such that either: (a) the total phosphorus load for the property is no greater than what would be required for new development pursuant to Virginia's Stormwater Regulations/the county's Stormwater Management Ordinance; or (b) an equivalent level of water quality control is provided.

   As an alternative to items 1, 2 and 3 above, stormwater management measures may be provided that are sufficient to attain the Rainwater Management credit of the most current version of LEED-NC or LEED-CS rating system (or equivalent of this/these credit(s)).
   As an alternative to the minimum guidelines above, stormwater management measures and/or downstream improvements may be pursued to optimize site-specific stormwater management and stream protection/restoration needs, consistent with the adopted watershed management plan(s) that is/are applicable to the site. Such efforts should be designed to protect downstream receiving waters by reducing stormwater runoff volumes and peak flows from existing and proposed impervious surfaces to the maximum extent practicable, consistent with watershed plan goals.

**Green Building**
The Policy Plan's Environment section provides guidance for green building practices and standards applicable to Suburban Centers and Transit Station Areas. Future development throughout Land Unit A should follow this guidance, with the exception of non-residential development within the Innovation Center TSA which should go beyond this guidance by achieving, at a minimum, LEED Silver certification or the equivalent. Achievement of higher levels of LEED certification, both within and outside of the TSA is also encouraged. A broad

range of practices can be pursued in support of or in addition to green building certification. These include, but are not limited to: the provision of green roofs (also referred to as vegetated roofs), the incorporation of solar orientation and landscaping strategies for energy conservation, on-site renewable energy production, the use of low energy lighting fixtures, the use of recycled materials during construction, and the reuse of grey water where allowed. The application of these practices should be encouraged.

**Noise**

Proposed residential uses, outdoor activity areas and other noise sensitive uses may be affected by proximity to the Dulles Toll Road and Metrorail. In addition, a small portion of the Land Unit near Route 28 is located within an area with projected aircraft noise impacts above DNL 60 where current and/or projected future highway noise levels exceed DNL 75 dBA (a day-night weighted average noise level) or where projected aircraft noise exposures exceed DNL 60 dBA.

Broader planning goals for the Innovation Center TSA may suggest that sites near the Dulles Toll Road and Metrorail would be appropriate for residential development and/or other noise-sensitive uses, even where projected noise impacts may exceed DNL 75 dBA. However, design approaches may be available that would shield noise-sensitive areas from these impacts. Efforts should be taken to design noise-sensitive uses to minimize, if not avoid, the exposure of facades of noise-sensitive interior spaces to noise levels above DNL 75 dBA.

Where residential or other noise sensitive uses are proposed near rail and major highways, such proposals should only be considered with the provision of a noise study during the review of the development, appropriate commitments to noise mitigation measures and potentially commitments to the provision of disclosure statements and may necessitate a post-development noise study if feasible. The noise study during development review should clearly define the noise levels impacting the proposed uses as a measure of dBA DNL. The noise study should include noise contours and/or noise impacts at each façade of each affected building with current noise levels and future noise levels based on a minimum 20-year traffic volume projection for the roadway and other transportation noise sources. In addition, the noise study should identify differing noise levels that may affect building facades at different elevations.

For those studies that indicate noise levels in excess of DNL 65 dBA on proposed noise sensitive uses, appropriate mitigation measures should be provided with the goal of achieving DNL 45 dBA for interior space and DNL 65 dBA for outdoor recreation areas. Attenuation may include siting and orientation of the noise sensitive use, as well as the use of appropriate building materials and noise barriers.

In areas where projected noise impacts at affected building facades will exceed DNL 75 dBA, and for dwelling units where outdoor spaces including balconies will be projected to be exposed to noise levels that exceed DNL 65 dBA, disclosure statements should be provided to potentially affected residents and users within the impacted uses or units, which clearly identify the mitigated and unmitigated noise levels for interior space and the noise levels for any affected balconies in addition to noise mitigation for interior space and outdoor recreational areas. Post-development noise studies should be conducted in order to help staff evaluate the effectiveness of noise mitigation measures."

The Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition, Environment section as amended through February 12, 2013, page 7-9 states:

**"Objective 2:** **Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Fairfax County.**

Policy a. Maintain a best management practices (BMP) program for Fairfax County and ensure that new development and redevelopment complies with the County's best management practice (BMP) requirements. . . .

Policy j. Regulate land use activities to protect surface and groundwater resources. . . .

Policy k. For new development and redevelopment, apply better site design and low impact design (LID) techniques such as those described below, and pursue commitments to reduce stormwater runoff volumes and peak flows, to increase groundwater recharge, and to increase preservation of undisturbed areas. In order to minimize the impacts that new development and redevelopment projects may have on the County's streams, some or all of the following practices should be considered where not in conflict with land use compatibility objectives:

- Minimize the amount of impervious surface created.
- Site buildings to minimize impervious cover associated with driveways and parking areas and to encourage tree preservation.
- Where feasible, convey drainage from impervious areas into pervious areas. . . .

- Encourage fulfillment of tree cover requirements through tree preservation instead of replanting where existing tree cover permits. Commit to tree preservation thresholds that exceed the minimum Zoning Ordinance requirements. . . .

- Encourage the use of innovative BMPs and infiltration techniques of stormwater management where site conditions are appropriate, if consistent with County requirements.

- Apply nonstructural best management practices and bioengineering practices where site conditions are appropriate, if consistent with County requirements.

- Encourage shared parking between adjacent land uses where permitted.

- Where feasible and appropriate, encourage the use of pervious parking surfaces in low-use parking areas.

- Maximize the use of infiltration landscaping within streetscapes consistent with County and State requirements."

The Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition, Environment section as amended through February 12, 2013, page 10 states:

"**Objective 3:** **Protect the Potomac Estuary and the Chesapeake Bay from the avoidable impacts of land use activities in Fairfax County.**

Policy a. Ensure that new development and redevelopment complies with the County's Chesapeake Bay Preservation Ordinance...."

The Fairfax County Comprehensive Plan Policy Plan, 2013 Edition, Environment section as amended through February 12, 2013, pages 11 and 12 states:

. . . "Federal agencies with noise mitigation planning responsibilities have worked with the health community to establish maximum acceptable levels of exposure (Guidelines for Considering Noise in Land Use Planning and Control). These guidelines expressed in terms of sound pressure levels are; DNL 65 dBA for outdoor activity areas, DNL 50 dBA for office environments, and DNL 45 dBA for residences, schools, theaters and other noise sensitive uses. . . .

**Objective 4:** **Minimize human exposure to unhealthful levels of transportation generated noise.**

Policy a: Regulate new development to ensure that people are protected from unhealthful levels of transportation noise. . .

New development should not expose people in their homes, or other noise sensitive environments, to noise in excess of DNL 45 dBA, or to noise in excess of DNL 65 dBA in the outdoor recreation areas of homes. To achieve these standards new residential development in areas impacted by highway noise between DNL 65 and 75 dBA will require mitigation. New residential development should not occur in areas with projected highway noise exposures exceeding DNL 75 dBA."

The Fairfax County Comprehensive Plan Policy Plan, 2013 Edition, Environment section as amended through February 12, 2013, on page 12, states:

**"Objective 6: Ensure that new development either avoids problem soil areas, or implements appropriate engineering measures to protect existing and new structures from unstable soils.**

Policy a: Limit densities on slippage soils, and cluster development away from slopes and potential problem areas...

Policy b: Require new development on problem soils to provide appropriate engineering measures to ensure against geotechnical hazards."

The Fairfax County Comprehensive Plan, 2013 Edition, Policy Plan, Environment, as amended through February 12, 2013, page 18 states:

**"Objective 10: Conserve and restore tree cover on developed and developing sites. Provide tree cover on sites where it is absent prior to development.**

Policy a: Protect or restore the maximum amount of tree cover on developed and developing sites consistent with planned land use and good silvicultural practices.

Policy b: Require new tree plantings on developing sites which were not forested prior to development and on public rights of way...."

The Fairfax County Comprehensive Plan, 2013 Edition, Policy Plan, Environment, as amended through February 12, 2013, page 19 states:

**"Objective 13: Design and construct buildings and associated landscapes to use energy water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.**

Policy a. Consistent with other Policy Plan objectives, encourage the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. These practices can include, but are not limited to:

- Environmentally-sensitive siting and construction of development.
- Application of low impact development practices, including minimization of impervious cover (See Policy k under Objective 2 of this section of the *Policy Plan*).
- Optimization of energy performance of structures/energy-efficient design.
- Use of renewable energy resources.
- Use of energy efficient appliances, heating/cooling systems, lighting and/or other products.
- Application of water conservation techniques such as water efficient landscaping and innovative wastewater technologies.
- Reuse of existing building materials for redevelopment projects.
- Recycling/salvage of non-hazardous construction, demolition, and land clearing debris.
- Use of recycled and rapidly renewable building materials.
- Use of building materials and products that originate from nearby sources.
- Reduction of potential indoor air quality problems through measures such as increased ventilation, indoor air testing and use of low-emitting adhesives, sealants, paints/coatings, carpeting and other building materials.

Encourage commitments to implementation of green building practices through certification under established green building rating systems (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) program or other comparable programs with third party certification). Encourage commitments to the attainment of the ENERGY STAR® rating where applicable and to ENERGY STAR qualification for homes. Encourage the inclusion of professionals with green building accreditation on development teams. Encourage commitments to the provision of information to owners of buildings with green building/energy efficiency measures that identifies both the benefits of these measures and their associated maintenance needs.

Policy b. Ensure that zoning proposals for nonresidential development and zoning proposals for multifamily residential development of four or more stories within the Tysons Corner Urban Center, Suburban Centers, Community Business Centers and Transit Station Areas as identified on the Concept Map for Future Development incorporate green building practices sufficient to attain certification through the LEED program or its equivalent, where applicable, where these zoning proposals seek at least one of the following:

- Development in accordance with Comprehensive Plan Options;
- Development involving a change in use from what would be allowed as a permitted use under existing zoning;
- Development at the Overlay Level; or
- Development at the high end of planned density/intensity ranges. For nonresidential development, consider the upper 40% of the range between by-right development potential and the maximum Plan intensity to constitute the high end of the range...."

**ENVIRONMENTAL ANALYSIS**

This section characterizes the environmental concerns raised by an evaluation of this site and the proposed land use. Solutions are suggested to remedy the concerns that have been identified by staff. There may be other acceptable solutions. Particular emphasis is given to opportunities provided by this application to conserve the County's remaining natural amenities. Analysis for this application addresses the overall conceptual development plan and proffered commitments for the subject property.

**Water Quality Protection and Stormwater Management Best Management Practices**
The 14.68 acre subject property is situated within the Horsepen Creek watershed. The site is currently undeveloped with a dense deciduous canopy, and it is located within Land Unit A of the Dulles Suburban Center, south of the Dulles Airport Access Road, east of Sunrise Valley Drive.

The applicant has developed a stormwater management program for the proposed mixed use development which includes office, residential, hotel and a transit station area parking garage to serve the future Innovative Center Transit Station. The stormwater management plan for the site includes measures which support reuse, detention, extended detention and infiltration in areas where the soils are suitable. Proffer #53 enumerates the following low impact development techniques which shall be used to retain and treat runoff onsite:

- Bioretention/biofiltration facilities;
- Vegetated swales;

- Vegetated roofs;
- Porous pavers;
- Tree box filters;
- Disconnected impervious areas with soil amendments; and
- Rainwater cisterns for 7 of the 8 proposed buildings, excluding the Innovation Center parking garage.

The proffer commits to design all the stormwater facilities in conformance with the site specific Comprehensive Plan text for the subject property through the attainment of the Rainwater Management Credit for the most current version of LEED–NC or LEED–CS rating system. This commitment to achieve the Rainwater Management Credit is reiterated in the stormwater management narrative on Sheet 11 of the development plan.

To ensure clarity and enforceability, staff recommends that the applicant provide more detail regarding the actual location, installation and construction phasing of the stormwater management facilities. In addition, staff recommends that language be added to the stormwater management proffer #53.E. to ensure collaboration with the Environment and Development Review Branch (EDRB) in the event that the applicant seeks another equivalent system other than the United States Green Council's (USGBC) LEED-NC or LEED-CS rating system which created the Rainwater Management Credit.

The adequacy of stormwater management/best management practice (SWM/BMP) facilities and outfall will be subject to review and approval by the Department of Public Works and Environmental Services (DPWES).

On May 24, 2011, the Virginia Soil and Water Conservation Board adopted Final Stormwater Regulations, which became effective September 13, 2011. The regulations require all local governments in Virginia to adopt and enforce new stormwater management requirements; these new requirements must be effective on July 1, 2014. In support of this legislation, the Fairfax County Board of Supervisors adopted the Stormwater Management Ordinance as an amendment to the Code of Fairfax County on January 28, 2014. Staff from the DPWES will administer the stormwater management ordinance, effective July 1, 2014. The applicant will be required to comply with the new requirements for this development if the applicant has not, prior to July 1, 2014, obtained VSMP permit coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities. This proposed development may not be grandfathered from the new ordinance as a result of approval of this zoning application. The applicant should, therefore, design the proposed stormwater management system consistent with new stormwater management requirements. A link to the recently adopted ordinance is below.

http://www.fairfaxcounty.gov/dpwes/stormwaterordinance/chapter_124.pdf

**Traffic Noise** Regarding transportation generated noise, the Policy Plan guidance, recommends that interior noise levels for new residential development and other noise sensitive uses should not exceed DNL 45 dBA in interior areas and 65 dBA for outdoor recreational areas. In support

of Comprehensive Plan guidance regarding transportation generated noise Proffer #90 provides a commitment to mitigate transportation generated noise for new residential uses and the proffer cites the appropriate building material specifications to meet this commitment. The proffer also provides a commitment to full disclosure to future residences about the proximity of Dulles International to the subject property. Staff recommends that the proffer be expanded to include a commitment to ensure that transportation generated noise in outdoor recreational areas will not exceed 65 decibels.

**Soil Constraints:** Sheet C-2a of the development plan includes a soil legend insert which is not the most currently adopted Soil Survey for Fairfax County. The applicant is encouraged to reference the 2011 Soil Survey for this site. The **Jackland and Haymarket, very rocky** soil is the predominant type which characterizes the subject property, and it has high shrink swell potential which poses a significant constraint to development. The applicant should provide a proffer commitment to perform a geotechnical analysis prior to development occurring on the subject property.

**Tree Preservation/Restoration:** The subject property is characterized by mixed, dense tree cover. The applicant is encouraged to work with the Urban Forestry Management Division (UFMD) of DPWES to preserve as much of the existing vegetation as possible and to look for additional opportunities to restore tree cover. The applicant is encouraged to maintain tree cover on the portions of the site which are not planned for immediate development.

**Green Buildings:** The site specific Comprehensive Plan text for Land Unit A, Dulles Suburban Center, recommends that non-residential development within the Innovation Center TSA achieve, at a minimum, LEED Silver certification or the equivalent. Residential development is subject to the Policy Plan guidance that recommends LEED certification or the equivalent.

In support of these Comprehensive Plan green building recommendations, the applicant has provided the following commitments:

- Office, Hotel and other non-residential (excluding Metro facilities)
  - Proffers 56, 57 support LEED Gold certification without an escrow; and
  - LEED Silver certification with a green building escrow in the amount of $2.00 per square foot in the event that the points for LEED Gold certification fall short.
- Multi-family residential
  - Proffers 55, 57 provide a commitment to seek LEED NC Silver certification or the equivalent for the proposed multi-family residential buildings. If the applicant demonstrates that the project is on track for LEED Silver certification, then an escrow would not be posted.
  - In the event that the goal to seek LEED Silver falls short of the necessary points, then the applicant has proffered to post a green building escrow in the amount of $2.00 per square foot for the specific building and the escrow would be released to the applicant upon demonstration of attainment of certification.
  - The proffer appropriately includes alternative residential rating systems which may be sought without an escrow such as Earth Craft or the 2012 National Green

Building Standard using the Energy Star Qualified Homes path for energy performance.

The applicant has incorporated the majority of staff's recommended changes into this proffer. Two minor changes remain outstanding. If the recommended proffer changes are incorporated into the proffer statement, then the green building commitment for this application will conform to the Plan guidance.

PGN: MAW

# County of Fairfax, Virginia

MEMORANDUM

**DATE:** April 9, 2014

**TO:** Mr. William J. O'Donnell Jr., Staff Coordinator
Zoning Evaluation Division, DPZ

**FROM:** Craig Herwig, Urban Forester III
Forest Conservation Branch, DPWES

**SUBJECT:** Dulles Suburban Center; RZ/FDP 2009-HM-017

**RE:** Request for assistance dated March 31, 2014

This review is based on the Conceptual/Final Development Plan RZ/FDP 2009-D-017 and Proffer Statement, stamped as "Received, Department of Planning and Zoning, March 31, 2014."

General Comment: Comments and recommendations on the previously submitted CDP/FDP have been provided in my memo dated March 11, 2014. The following comments and recommendations result from those not adequately addressed on the previously submitted CDP/FDP, revised proffers, comment response matrix, and updated waivers and modifications.

1. **Comment:** The Applicant is requesting a modification to permit the required tree canopy to be calculated on the overall development area. Numerous trees proposed to be planted within the development area are located with the VDOT rights of way and within proposed utility easements. Trees proposed to be planted fully within the rights of way shall not be claimed toward meeting the 10-year tree canopy requirements or the screening and landscape requirements of Article 13 of the Zoning Ordinance. Further, trees shall not be planted within any existing or proposed public utility easements that are required to be delineated on the plan, or within 5-feet of storm drainage easements that contain pipes. In addition, trees shall not be planted in an area which interfere with the existing or proposed utilities or obstruct or interfere with access to proposed or existing utilities. Trees in public utility easements, even with a letter of permission shall not be granted tree canopy credit and shall not be credited.

   **Recommendation:** The Applicant should relocate trees out of the VDOT rights of way and existing or proposed utility easements to allow canopy credit toward meeting the 10-year tree canopy requirement.

**Department of Public Works and Environmental Services**
**Urban Forest Management Division**
12055 Government Center Parkway, Suite 518
Fairfax, Virginia 22035-5503
Phone 703-324-1770, TTY: 703-324-1877, Fax: 703-803-7769
www.fairfaxcounty.gov/dpwes

2. **Comment:** It is unclear how the 10-year tree canopy requirements will be met for this site. In addition, the applicant has not taken advantage of opportunities to receive additional canopy credits.

   **Recommendation:** Preliminary 10-year tree canopy calculations in accordance with PFM 12-0511 and PFM Table 12.10 should be provided on the CDP/FDP demonstrating how Article 13, 10-year tree canopy requirements will be met. There are opportunities to receive additional canopy credits in exchange for the planting of trees in a manner that provide specific environmental and ecological benefits or for the use of species that are resistant to disease, pests, decay and the negative impacts imposed by harsh environmental conditions. The appropriate canopy area multiplier and discrete area of canopy associated with trees planted for these purposes should be clearly identified on the landscape plan plant schedule and 10-year tree canopy calculations as shown on Table 12.10.

3. **Comment:** The proposed locations of street trees to be planted in accordance with the new planting detail #7 on sheet L-7A is unclear.

   **Recommendation:** The Applicant should show and identify the proposed locations of trees to be planted in accordance with the new planting detail #7.

4. **Comment:** The soil interface between the amended soil and the undisturbed soil as shown in the new planting detail #7 may cause problems with rooting and drainage. A note should be added to planting detail #7 describing this action.

   **Recommendation:** The soil interface between the amended soil and the undisturbed soil as shown in planting detail #7 should be tilled to a depth of 6-8 inches to improve rooting into the undisturbed soil and reduce potential drainage problems. A note should be added to planting detail #7 describing this action.

5. **Comment:** Proffer #66 A., *Alternative Planting Width Detail* does not appear to be in conformance with the recommended UFMD proffer language. The UFMD recommended proffer language *Alternative Planting Width Detail* states "A minimum of 4 feet open surface width and 16 square feet open surface area for Category III and IV trees, with the tree located in the center of the open area. The Applicants proposed proffer language states a minimum of 2.5 feet open surface width.

   **Recommendation:** The Applicant should change Proffer 66A to state, as recommended by UFMD; "A minimum of 4 feet open surface width…"

6. **Comment:** Proffer #8 states; "The Applicant has coordinated the layouts depicted on the CDP/FDP with the Fire Marshal." And further; "The overall tree canopy shown on the CDP/FDP shall not be reduced, but locations and tree types may be modified subject to UFMD review and approval and in accordance with the Design Guidelines as described in Proffer 54 below and attached as Exhibit B." Exhibit B is a blank sheet and it is unclear where trees will be relocated and how the required 10-year tree canopy will be met in the event that, after review by the Fire Marshal, the location and species of trees depicted on the CDP/FDP are not in conformance with the Fire Marshal's requirements.

**Recommendation:** The Applicant should demonstrate where trees will be relocated and what species will be substituted in the event the review by the Fire Marshal's office will not be allowed. In addition, Exhibit B should be included with the proposed Proffers.

Please feel free to contact me with any questions or concerns.

CSH/

UFMDID #: 185561

cc: DPZ File

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 14, 2014

**TO:** Barbara Berlin, Director
Zoning Evaluation Division, Department of Planning & Zoning

**FROM:** Michael A. Davis, Acting Chief
Site Analysis Section, Department of Transportation

**FILE:** RZ 2009-HM-017

**SUBJECT:** Nugget Joint Venture L.C. & Board of Supervisors of Fairfax County, VA
Tax Map: #15-2 ((1)) 13 (pt.)
#15-4 ((5)) 5B and 5A (pt.)

Innovation Center South is a proposed transit-oriented, mixed use development located adjacent to the Innovation Center South Metrorail Station, which is part of the Dulles Metrorail Silver Line Extension Phase 2 Project and located south of the Dulles Airport Access and Toll Road (Route 267) at the intersection of Sunrise Valley Drive and Carta Way. The project is comprised of residential, office, retail, and hotel uses as well as a large public parking garage for Metrorail commuters, a Fairfax Connector transit hub and a kiss-and-ride lot that will serve as a major park and ride facility for this area of the county.

This department has reviewed the subject application including the Conceptual Development Plan/Final Development Plan (CDP/FDP) dated August 1, 2013, as revised through March 27, 2014, and offers the following comments:

- The proposed intersection spacing on North-South Road between Sunrise Valley Drive and the Private Drive/Site Driveway is not recommended by FCDOT staff. While the Traffic Impact Analysis shows the projected 150-foot vehicle queue would technically be contained within the 150-foot proposed northbound left turn lane, the proposed intersection spacing leaves no additional storage capacity if the analysis undersold the projected volumes. Also, if traffic backs up from the upstream intersection at Sunrise Valley Drive into this intersection in the future, the reduced intersection spacing may not allow a potential traffic signal to function adequately. Therefore the only alternative would be to restrict the Private Drive/Site Driveway to right-in/right-out conditions. FCDOT preferred the intersection be relocated closer to the mid-point of North-South Drive in order to provide as much flexibility to implement traffic mitigation measures that do not reduce the overall capacity of an intersection such as a right-out/right- in situation. We acknowledge that VDOT has approved the intersection spacing exception, however we reserve the right to revisit the

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intersection spacing issue if the proposed development is ever modified or amended in the future.

- The reduced streetscape along North-South Road is not a desirable condition for a public street. It also diminishes the pedestrian experience along the central roadway of the proposed development. Due to the applicant's placement of the Private Drive, the vehicle entrance to the D1 building, and the footprint of building A3, conflicts arose with adequate sight distance. As a result, the landscaping was removed along two-thirds of the roadway. FCDOT had recommended the applicant explore alternatives such as relocating/consolidating entrances or adjusting the footprint of the building in order to allow for larger planting areas outside of the sight lines. The applicant has not pursued this.

- The proposed striping on Carta Way just south of the East-West Road intersection should either be removed or modified in order to retain the two existing travel lanes and not reduce the capacity of the roadway to one lane as shown on the CDP/FDP. The proposed striping was introduced as an interim mitigation measure for a previous sight distance issue between the East-West Road and Kiss and Ride entrance until a traffic signal was warranted at East-West Road. However, through a redesign of the Kiss and Ride facility the sight distance issue may have been resolved and the striping may no longer be needed.

- The proposed sidewalk along the east side of Carta Way should be redesigned to meet the VDOT sidewalk standard and should try to minimize the need for a retaining wall along the existing parking structure. The applicant has indicated in discussions that they will pursue a design that does not have a retaining wall.

- The lane transition on southbound Carta Way south of the Kiss and Ride entrance is substandard and will contribute to improper lane use and/or vehicles encroaching into adjacent lanes. The slight curvature of the curb and gutter line should be adjusted to allow for a continuous 14-foot travel lane between the two access points.

- The proposed dual left turn lanes on Sunrise Valley Drive at Carta Way should include a design element such as a striped or raised median modified taper at the end of the inside lane to prevent vehicles from the inside left turn lane at Dulles Technology Drive from driving through the intersection and conflicting with the outside left turn lane vehicles.

- Bicycle racks should be provided on the plaza near/adjacent to the proposed Metrorail pedestrian entrance. Such amenities should be placed in a location so as not to conflict with any necessary maintenance clear zones for the pedestrian head house and/or elevated walkways.

MAD/EAI

COMMONWEALTH of VIRGINIA
DEPARTMENT OF TRANSPORTATION
4975 Alliance Drive
Fairfax, VA 22030

Charlie Kilpatrick
COMMISSIONER

April 11, 2014

**To:** Ms. Barbara Berlin
Director, Zoning Evaluation Division

**From:** Paul J. Kraucunas
Land Development Program Manager

**Subject:** **RZ 2009-HM-017**
**Innovation Center South**

All submittals subsequent to the first submittal shall provide a response letter to the previous VDOT comments. Submittals without comment response letters are considered incomplete and will be returned without review.

This office has reviewed the latest application for this project and offers the following comments.

**Sheet C-2a**

1. The Zoning Ordinance Waiver of Article 17, Paragraphs 12-14 of Section 17-201 should not be approved as many required elements, such as street lights, are not shown on these plans.

**Sheet C-4**

2. The lane transitions for SB Carta Way just north of E-W Road are too short and undesirable. Suggest that a proffer be prepared to allow minor modifications of this roadway at Site Plan.

3. The proposed retaining wall is undesirable (maintenance and "hole" between wall and adjacent parking garage. Suggest that a proffer be prepared that would allow minor modifications to the sidewalk and grading behind the curb at Site Plan to reduce or eliminate the need for a retaining wall.

4. The lane widths on Carta Way are too narrow to be designated as "sharrow bike lanes".

**Sheet C-7** (See Sheet C-4 comments as well)

5. The slight lane shift on N-S Road at the intersection with E-W Road is undesirable and should be removed. Suggest that a proffer be prepared to allow minor modifications of this roadway at Site Plan.

**Sheet C-9**

6. It is not clear how SWM/BMP will be provided for all public roadways including Sunrise Valley Drive and Carta Way.

**Sheet L-1**

7. All the trees along Sunrise Valley Drive west of N-S Road should be eliminated as they block sight distance unless traffic signals with emergency power backup are provided.

8. Some limited number of trees could be provided along the west side of N-S Road between the entrance to Building A3 and the Private Avenue if they are limbed up and do not otherwise block sight distance.

9. Some limited number of trees could be provided along the west side of N-S Road between the entrance to Building A3 and Building D1 if they are limbed up and do not otherwise block sight distance.

**Sheet L-2**

10. Rain Gardens have been relocated from the private street to E-W Road (public). As the requisite agreement between VDOT and Fairfax County has not been approved by both parties rain gardens (or other SWM/BMP devices) cannot be constructed in the ROW.

**Sheet L-7A**

11. Street Tree Detail 5 is unacceptable as the curb is not supported or backed up with compacted soil (see Detail 6).

**Sheet L-7B**

12. Street Tree Detail 4 is unacceptable as the curb is not supported or backed up with compacted soil (see Detail 5).

13. Street Tree Detail 6 is unacceptable as the curb is not supported or backed up with compacted soil (see Detail 5).

**General**

14. The applicant has submitted two Access Management Exceptions and four Design Waivers for this project. <u>These have been approved.</u>

COMMONWEALTH of VIRGINIA
DEPARTMENT OF TRANSPORTATION
GREGORY A. WHIRLEY
COMMISSIONER
4975 Alliance Drive
Fairfax, VA 22030

February 16, 2014

Ms. Elizabeth A. Iannetta, P.E.
Senior Transportation Planner
Site Analysis Section
Fairfax County Department of Transportation
4050 Legato Road
Suite 400
Fairfax, Virginia 22033

Subject: **Innovation Center South TIA**

Dear Ms. Iannetta:

VDOT has completed our review of the revised traffic study for this project that was submitted on January 6, 2014. These findings will be entered into the VDOT LandTrack webpage and will be sent to the submitting engineer. Please enter these comments into the public record for this application. .

The Applicant proposes to rezone the property to a Planned Residential Mixed Use Zoning district. The site which is 14.68 acres is located south and east of Sunrise Valley Drive, west of Centerville Road and north of Coppermine Road. The development plan for the site includes three residential building with a total of up to 1,040 dwelling units, 50,000 gross square feet of retail uses, a 190 room hotel, and two office building totaling up to 556,000 square feet. Additionally a new 2,024 space parking garage with a kiss- n -ride facility and bus bays will be constructed on site to support the new Innovation Center station on WMATA Silver line which is anticipated to open in the year 2018. The parking garage is considered as a back ground development as the full build out the site is anticipated in 2020.

Upon build out the site is anticipated to generate about 1000 new AM peak hour trips and about 1200 new PM peak hour trips. The traffic analysis is conducted for existing conditions, future conditions without / with site development for 2020 and future conditions with comprehensive plan build out, enhanced street grid envisioned in the draft comprehensive plan and with / without a DAAR crossing along existing Sunrise Valley Drive for 2030.

We find the revised study to be generally acceptable. No resubmission will be required.

The following comments and observations are provided for you use and information:

1. The proposed development density is not consistent with the current comprehensive plan. We understand that the County is evaluating an amendment to the Comprehensive Plan for this area and the draft Comprehensive Plan Amendment text includes consideration for densities up to a 3.0 FAR for the site as discussed at the scoping meeting with County staff.

2. The study recommends that the applicant should develop a comprehensive Transportation Demand Management program in order to take full advantage of the transit and multi-modal opportunities that will be available in close proximity. While this is a good strategy to maximize the use of multi-modal opportunities available, it is recommended to have a regular and continuous monitoring program in place to determine the effectiveness of the TDM program and any adjustments or enhancements that may be needed to the program.

3. Stop control condition was analyzed for intersection #4, but not for #5 and #6. Analysis or this intersection for the stop condition will likely be required with any subsquent Final Development Plan or Site Plan.

4. The EB through movement queue (#676') at Sunrise Valley Dr and Dulles Station Blvd intersection is longer than link length. The result indicates 95$^{th}$ precentile volume exceeds capacity and queue may be longer. This condition does not occur for every roadway grid analyzed. The engineer has also explained that such drivers find this movement difficult they would likely take a different route.

5. Although the analysis result summary tables show the queues at Sunrise Valley Dr & N-S Rd intersection and the adjacent intersection of N-S Rd & Private St could be accommodated, the storage spaces still look tight. This condition may need to be examined in the future if queues extend back through the intersection from the adjacent signal on Sunrise Valley Drive.

Please contact me if you have any questions.

Sincerely,

*Paul J. Kraucunas*

Paul J. Kraucunas, P.E.
Land Development Program Manager
Northern Virginia District

cc: Angela Rodeheaver (FCDOT)
Michael Davis (FCDOT)
William O'Donnell (FCDPZ/ZED)

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 16, 2014

**TO:** Barbara C. Berlin, Director
Zoning Evaluation Division
Department of Planning and Zoning

**FROM:** Eric Fisher, GIS Coordinator
Information Technology Section
Fire and Rescue Department

**SUBJECT:** Fire and Rescue Department Preliminary Analysis of Rezoning/Final Development Plan Application RZ 2009-HM-017

The following information is submitted in response to your request for a preliminary Fire and Rescue Department analysis for the subject:

1. The application property is serviced by the Fairfax County Fire and Rescue Department Station **#436, Frying Pan**

2. After construction programmed ___(n/a)____ this property will be serviced by the fire station _____(n/a)_____

Fairfax Water
FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

October 21, 2013

PLANNING & ENGINEERING DIVISION
Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

Ms. Barbara Berlin, Director
Fairfax County Department of Planning and Zoning
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5505

Re: RZ 2009-HM-017
PCA C-696-10
Innovation Center South
Tax Map: 15-4

Dear Ms. Berlin:

The following information is submitted in response to your request for a water service analysis for the above application:

1. The property can be served by Fairfax Water.

2. Adequate domestic water service is available at the site from an existing 12-inch water main located in Sayward Boulevard. See the enclosed water system map.

3. Fairfax Water will require the existing gaps in the distribution system along Sunrise Valley Drive and Dulles Station Boulevard to be closed with the build-out of the Dulles Station Development.

4. Depending upon the configuration of the on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality concerns.

If you have any questions regarding this information please contact Dave Guerra at (703) 289-6343.

Sincerely,

Traci K. Goldberg

Traci K. Goldberg, P.E.
Manager, Planning Department

Enclosure
cc: Bill Ewing, Dewberry

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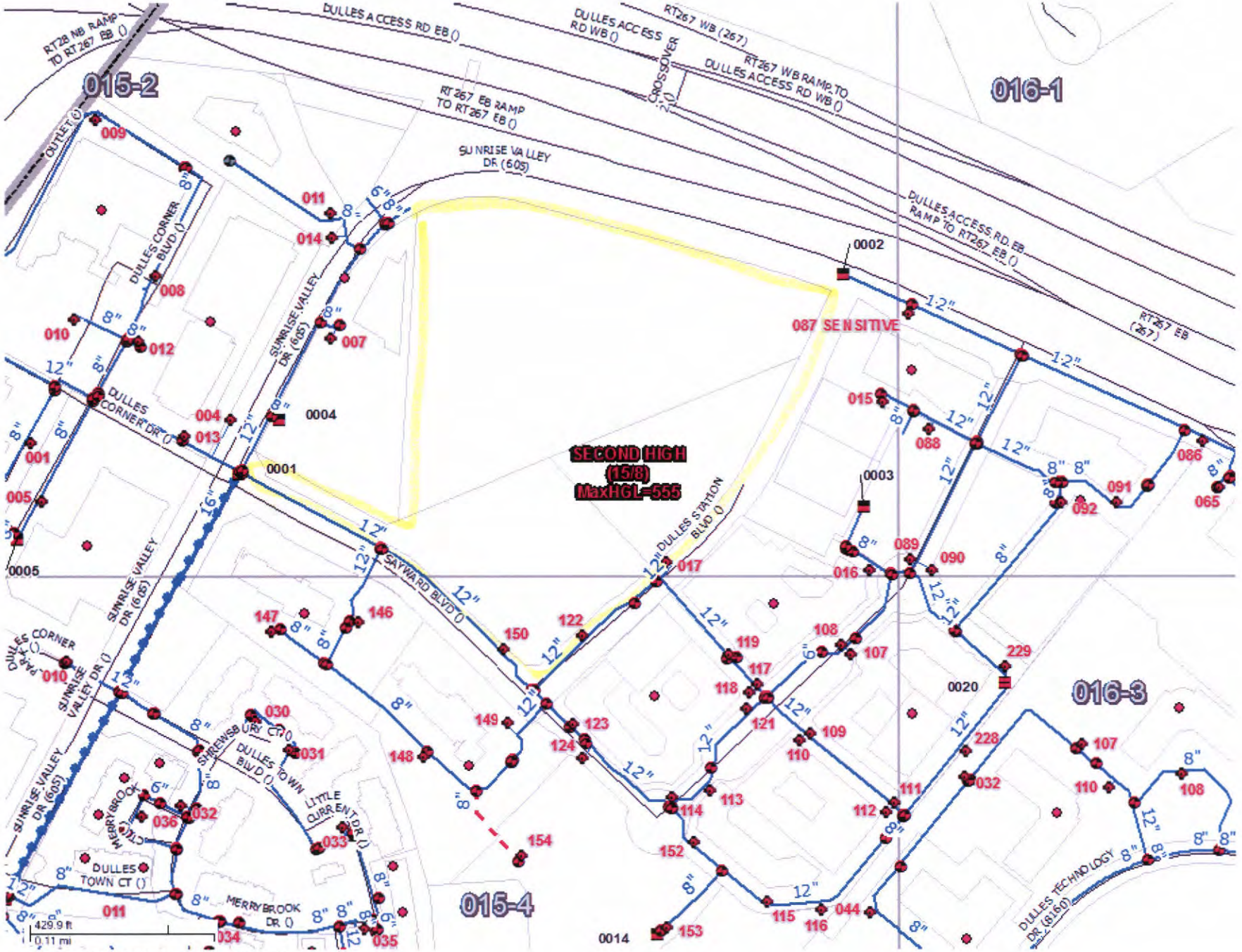

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 9, 2014

**TO:** William O'Donnell, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

**FROM:** Aileen M. Santiago, Stormwater Engineer
Site Development and Inspections Division
Department of Public Works and Environmental Services

**SUBJECT:** Innovation Center South and Innovation Center Station Garage, RZ/FDP 2009-HM-017 received March 27, 2014, Tax Map #15-2-((01))-0013 (parcel 13); 15-4-((05))-0005A (parcel 5A), Dranesville District

We have reviewed the subject application and offer the following stormwater management comments.

Chesapeake Bay Preservation Ordinance (CBPO)
There is no Resource Protection Area (RPA) on this site

Water Quality Control
The applicant indicates that water quality requirements as well as the stormwater management plan for this application has been prepared in accordance with the applicable criteria under Article 4 of the Fairfax County New Stormwater Management Ordinance as approved by the Board of Supervisors on January 28, 2014, effective on July 1, 2014.

Water quality controls (BMP) are required for the proposed new development (CBPO 118-3-2(f)((2)). Applicant states on sheet C-11 that the total development will not exceed 0.41/lb/ac/yr of phosphorus load by proposing a combination of onsite BMP measures together with an existing regional extended detention dry pond, H-9, built with plan #6848-PI-02-2 and located offsite. In accordance with plan #6848-PI-02-2 and computations provided on sheet C-11, the H-9 pond serves the development site (14.68 acres) with water quality control measures that equates to a pro rata phosphorus removal load of 3.92 lb/year.

The onsite BMP facilities listed below and shown on the proposed CDP/FDP plan are permitted under the Virginia Stormwater BMP Clearinghouse website as required under Article 4 of the

**Department of Public Works and Environmental Services**
**Land Development Services**
12055 Government Center Parkway, Suite 535
Fairfax, Virginia 22035-5503
Phone 703-324-1720 • TTY 711 • FAX 703-324-8359

Stormwater Management Ordinance as approved by the Board on January 28, 2014.

The applicant has provided on sheet C-11 the approximate location and volume of storage for each of the following onsite BMP facilities:

- (1) Bioretention facility
- (1) Permeable Pavers area
- (3) Sand Filters
- (1) Rooftop disconnection with soil amendment
- (7) rainwater harvesting cisterns (RWHS)

Runoff Reduction credit (treatment volume credit) is only available for dedicated year-round drawdown/demand for the water. An approximate storage volume of Runoff Reduction Credit was provided on sheet C-9 based on grey water demand for cisterns in accordance with the American Society of Plumbing Engineers (ASPE) Plumbing Engineering Design Handbook . Applicant indicates that the feasibility of using RWHS to serve onsite cooling towers will be evaluated with the site plan.

Applicant indicates that the 7 proposed RWHS are internal to the building in a location to be determined by the Owner/Architect/Engineer. Location(s) of the RWHS will be required on the construction plan. (PFM 6-1315).

A separate waiver request, 6848-WPFM-005-1, to allow the proposed underground sand filter vaults within the residential development in accordance with PFM § 6-0303.8, was submitted to DPWES January 03, 2014 and revised on March 26, 2014. The Board of Supervisors must take action on the waiver request in conjunction with the rezoning application, RZ/FDP 2009-HM-017. On April 10, 2014 DPWES recommended that the Board approve the waiver with conditions.

A private maintenance agreement will be required for all the proposed onsite BMP facilities. All SWM facilities shall be privately maintained.

Floodplain
There are no regulated floodplains on the property.

Downstream Drainage Complaints
There are no downstream drainage complaints on file.

Stormwater Detention
Stormwater detention is required, if not waived (PFM 6-0301.3). The applicant indicates that detention (water quantity) requirements as well as the stormwater management plan for this application has been prepared in accordance with the applicable criteria under Article 4 of the

Fairfax County New Stormwater Management Ordinance as approved by the Board of Supervisors on January 28, 2014, effective on July 1, 2014.

The narrative on sheet C-11 states that detention requirement of the New Stormwater Management Ordinance is met with existing offsite extended detention dry pond, H9, built with plan #6848-PI-02-2. Applicant needs to clearly state that the total runoff peak flow rate released from the site in the post development condition does not exceed the pre development 2-year and 10 –year peak flow rate, of the 24 hour storm event. In addition, proposed CN value and time of concentration for proposed development needs to be provided for comparison with design criteria employed when the pond was designed.

The use of an offsite pond will require an onsite detention waiver approval (PFM 6-0301.3).

Site Outfall

An outfall narrative has been provided and the applicant has identified Merrybrook Run as the point where the total drainage area is greater than 1 square mile.

The outfall narrative needs to describe the existing conditions and stability of each site outfall extended downstream from the site to Merrybrook Run. The outfall narrative for outfall #3 should mention the additional offsite runoff from Sunrise Valley Drive. Stability of existing open channels between the site and Merrybrook Run were not described.

The PFM outfall requirements of the extent of review and analysis shall be fully addressed during site plan submission. (PFM 6-0203 & 6-0204). A summary description of how outfall requirements for channel protection and flood protection will meet minimum criteria under Article 4 of the Fairfax County New Stormwater Management Ordinance should be provided with this application.

Overland relief must be provided in the form of a fail-safe bypass or overflow that ensures that if a complete failure of storm sewer system occurs (including proposed cisterns and underground sand filter structures) no building will be flooded or damaged by the design flow.

Additional Comment

The applicant should label the height of the proposed retaining wall located adjacent to the proposed bioretention facility. The bioretention facility must be located outside the influence line of the retaining wall.

Please contact me at 703-324-1464 if you require additional information.

AS/

cc: Don Demetrius, Chief, Watershed Projects Evaluation Branch, SPD, DPWES
Fred Rose, Chief, Watershed Planning & Assessment Branch, SPD, DPWES
Shahab Baig, Chief, North Branch, SDID, DPWES

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 10, 2014

**TO:** William O'Donnell, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

**FROM:** Aileen M. Santiago, Stormwater Engineer
Site Development and Inspection Division
Department of Public Works and Environmental Services

**SUBJECT:** Innovation Center South and the Innovation Center Station Garage RZ/FDP 2009-HM-017 and PCA C-696-10, Conceptual Development Plan (CDP)/ Final Development Plan (FDP) dated March 27, 2014, Tax Map # 015-4-05-0005B, Tax Map # 015-4-05-0005A Part and # 015-2-01- 0013 Part; Dranesville District

**REFERENCE:** Waiver #6848-WPFM-005-1 for the Location of Underground Facilities in a Residential Area

We have reviewed the referenced submission for consistency with Section 6-0303.8 of the Public Facilities Manual (PFM) which restricts use of underground stormwater management facilities located in a residential development (Attachment B). The Board of Supervisors (Board) may grant a waiver after taking into consideration possible impacts on public safety, the environment, and the burden placed on prospective property owners for maintenance. Underground stormwater management facilities located in residential developments allowed by the Board:

- shall be privately maintained;
- shall be disclosed as part of the chain of title to all future owners responsible for maintenance of the facilities;
- shall not be located in a County storm drainage easement; and,
- shall have a private maintenance agreement, in a form acceptable to the Director of the Department of Public Works and Environmental Services (DPWES), executed before the construction plan is approved.

The applicant has proposed 3 (three) underground sand filter facilities for its planned residential mixed use district (PRM) in the Innovation Center South and Innovation Center Station Garage project as shown on sheet C-9 of referenced CDP/FDP dated March 27, 2014.

The planned development is comprised of four multi-family residential buildings with 925 residential units, 190 room hotel (+/- 90,000 SF), two office buildings (+/- 501,000 SF) , street level retail ( +/- 84,000 SF), transit parking structure and Kiss & Ride/transit facility.

**Department of Public Works and Environmental Services**
**Land Development Services, Site Review and Inspection Division**
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In addition, there are a total of 7 rainwater harvesting cisterns (1 for each building); however these are currently planned to be located internal to the building at locations to be determined by the Owner/Architect/Engineer.

The proposed underground sand filter facilities are provided in accordance with the anticipated proffers for this project and Fairfax County Stormwater Management Ordinance.

ANALYSIS
An analysis of the possible impacts on public safety, the environment, and the burden placed on the owners for maintenance is as follows.

Impacts on Public Safety – Two of the underground SWM/BMP facilities are proposed to be located just outside the footprint of the proposed buildings. The third underground SWM/BMP facility will be partially below the footprint of a proposed building. The access points to the facility will be visible for all facilities.

With respect to safety, locations within a paved parking lot or next to a travel lane are places where children are less likely to play and gain unauthorized access to the SWM facilities. Locking manholes and doors must be provided at each access point.

If it is the intent of the Board to approve the waiver request, the property owner shall provide liability insurance in an amount acceptable to Fairfax County as a waiver condition. A typical liability insurance amount is $1,000,000 against claims associated with underground facilities. The private maintenance agreement shall also hold Fairfax County harmless from any liability associated with the facilities.

Impacts on the Environment – The surrounding areas are developed and the underground facilities would outfall into an existing piped storm drainage system. Therefore, staff does not believe that there will be any adverse impact on the environment from the proposed underground facility.

Burden Placed on Property Owner for Maintenance and Future Replacement –

*The maintenance:* The engineer has provided $39,250.00 as an estimate of the annual maintenance cost for the three (3) sand filter facilities, staff finds this estimate reasonable. Before site plan approval, $785,000.00 should be placed into escrow to fund 20 years of maintenance. About $849 per new apartment would be escrow. These monies would not be available to the owner until bond release.

If it is the intent of the Board to approve the waiver request, the property owner must execute a maintenance agreement prior to site plan approval. Staff recommends the property owner be required to establish a financial plan for the operation, inspection, and maintenance of the underground facilities. The property owner should be required to establish a fund for the annual maintenance. Staff recommends that the property owner provide an initial deposit in an escrow account in an amount equal to the estimated costs for the first 20 years of maintenance of the facility.

*Future Replacement:* The property owner should also be required, as a waiver condition, to address future replacement of the underground facilities as part of its private maintenance

agreement with the County. In order to maximize the useful life of the underground facility, the property owner must be required to construct the underground facilities with reinforced concrete products only. A replacement cost fund, based on an estimated 50-year lifespan for concrete products, should be established. The replacement reserve fund must be separate from the annual maintenance fund to ensure the monies are available at the time replacement is necessary and have not been previously spent on maintenance activities. The engineer has estimated the construction cost of the three (3) sand filter facilities to be $785,000.00; staff finds this estimate reasonable. The owner would be expected to contribute about $43/year per each new apartment to fund the facilities replacement.

A minimum height of 72" is required to facilitate maintenance within the underground stormwater structures. Accessibility to the underground facilities is of concern as to provide sufficient head room above the facilities for maintenance purposes. To provide greater accessibility for maintenance purposes, staff recommends the applicant provide a minimum 72" of interior structure height for all underground stormwater facilities.

The applicant must also provide that disclosure will be made in the chain of title of the homeowners' responsibility for maintenance and the associated waiver conditions.

RECOMMENDATION

DPWES recommends that the Board approve the waiver to locate underground facilities in a residential area for the Innovation Center South and the Innovation Center Station Garage development plan, subject to Waiver # 6848-WPFM-005-1 Conditions dated April 10, 2014, as contained in Attachment A.

If you have any questions, or need further assistance, please contact me at 324-1720.

ATTACHED DOCUMENTS:

Attachment A – Waiver #6848-WPFM-005-1 Conditions, Innovation Center South and the Innovation Center Station Garage, dated April 10, 2014
Attachment B – PFM Section 6-0303.8

cc: Robert A. Stalzer, Deputy County Executive
James Patteson, Director, DPWES
Michelle Brickner, Director, Land Development Services, DPWES
Jack Weyant, Director, Site Development and Inspections Division
Bill Schell, Director, Maintenance and Stormwater Management Division, DPWES
Shahab Baig, North Branch Chief, SDID, DPWES
Zoning Application File (6848-ZONA-009)
Waiver File

ATTACHMENT A

**Waiver Request #6848-WPFM-005-1 Conditions**

Innovation Center South
and the Innovation Center Station Garage
RZ/FDP 2009-HM-017;
PCA C-696-10
April 10, 2014

1. The underground facility shall be constructed in accordance with the development plan and these conditions as determined by the Director of the Department of Public Works and Environmental Services (DPWES).

2. To provide greater accessibility for maintenance purposes, the underground facility shall have a minimum height of 72 inches.

3. The underground facility shall be constructed of reinforced concrete products only.

4. The underground facility shall incorporate appropriate safety features, such as locking manholes and doors, as determined by DPWES at the time of construction plan submission.

5. The underground facility shall be privately maintained and shall not be located in a county storm drain easement.

6. A private maintenance agreement, as reviewed and approved by the Fairfax County Attorney's Office, shall be executed and recorded in the land records of the county prior to final site plan approval. The maintenance agreement shall run with the land, its successors and assigns. The private maintenance agreement shall include:

- a condition that the property owner and its successors or assigns shall not petition the county to assume the maintenance, or the replacement, of the underground facility;
- a reference to the establishment of the reserve funds for the maintenance and replacement of the underground facility;
- a reference to the operation, inspection, and maintenance procedures detailed in the site plan;
- a condition that the property owner provide and continuously maintain liability insurance; a typical liability insurance amount is at least $1,000,000 against claims associated with underground facility; and
- a statement that Fairfax County shall be held harmless from any liability associated with the facility.

ATTACHMENT A

7. Operation, inspection, and maintenance procedures associated with the underground facility shall be included in the site plan to ensure the safe operation, inspection, and maintenance of the facility. The procedures shall include:

- establishment of procedures to facilitate inspection by the county including, but not limited, to
- an advance notice procedure,
- a requirement for inspection of transitional screening,
- a requirement for contact information,
- the procedure for obtaining the access keys,
- the procedure to ensure the access points to the facility are not blocked; and
- establishment of operation and maintenance procedures to
- ensure the facility will continue to control the stormwater generated from the site,
- continue to minimize the possibility of clogging events, and

8. A financial plan for the property owner to finance regular maintenance and full life-cycle replacement costs shall be established prior to site plan approval. The financial plan shall include:

- a separate line item in the annual budget for operation, inspection, and maintenance shall be established;
- a reserve fund for future replacement of the underground facility shall be established to receive annual deposits based on the initial construction costs and an estimated 50-year lifespan for concrete products; and
- prior to final construction plan approval, the property owner shall escrow sufficient funds which will cover a 20-year maintenance cycle of the underground facility; these monies shall not be made available to the owner until after final bond release.

ATTACHMENT B

**The Public Facilities Manual (PFM) Section 6-0303.8 (24-88-PFM, 83-04-PFM)**

Underground detention facilities may not be used in residential developments, including rental townhouses, condominiums and apartments, unless specifically waived by the Board of Supervisors (Board) in conjunction with the approval of a rezoning, proffered condition amendment, special exception, or special exception amendment. In addition, after receiving input from the Director regarding a request by the property owner(s) to use underground detention in a residential development, the Board may grant a waiver if an application for rezoning, proffered condition amendment, special exception, and special exception amendment was approved prior to, June 8, 2004, and if an underground detention facility was a feature shown on an approved proffered development plan or on an approved special exception plat. Any decision by the Board to grant a waiver shall take into consideration possible impacts on public safety, the environment, and the burden placed on prospective owners for maintenance of the facilities. Any property owner(s) seeking a waiver shall provide for adequate funding for maintenance of the facilities where deemed appropriate by the Board. Underground detention facilities approved for use in residential developments by the Board shall be privately maintained, shall be disclosed as part of the chain of title to all future homeowners (e.g. individual members of a homeowners or condominium association) responsible for maintenance of the facilities, shall not be located in a County storm drainage easement, and a private maintenance agreement in a form acceptable to the Director must be executed before the construction plan is approved. Underground detention facilities may be used in commercial and industrial developments where private maintenance agreements are executed and the facilities are not located in a County storm drainage easement.

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** November 6, 2013

**TO:** William J. O'Donnell Jr.
Zoning Evaluation Division
Department of Planning and Zoning

**FROM:** Sharad Regmi, P.E.
Engineering Analysis and Planning Branch

**SUBJECT:** Sanitary Sewer Analysis Report

**REF:** **Application No. RZ/FDP 2009-HM-017; PCA C-696-10**
**Tax Map No. 15-2((1)) 13pt. and 15-4 ((5)) 5A**

The following information is submitted in response to your request for a sanitary sewer analysis for above referenced application:

1. The application property is located in the E-branch (A-2) watershed. It would be sewered into the Blue Plains Treatment Plant.

2. Based upon current and committed flow, there is excess capacity in the Blue Plains Treatment. For purposes of this report, committed flow shall be deemed that for which fees have been paid, building permits have been issued, or priority reservations have been established by the Board of Supervisors. No commitment can be made, however, as to the availability of treatment capacity for the development of the subject property. Availability of treatment capacity will depend upon the current rate of construction and the timing for development of this site.

3. An existing 10 inch line located at the intersection of the Sayward Blvd. and Dullus Station Blvd. is adequate for the proposed use at this time.

4. The following table indicates the condition of all related sewer facilities and the total effect of this application.

| | Existing Use +Application | | Existing Use + Application +Previous Applications | | Existing Use + Application + Comp Plan | |
|---|---|---|---|---|---|---|
| Sewer Network | Adeq. | Inadeq | Adeq. | Inadeq | Adeq. | Inadeq |
| Collector | X | | X | | X | |
| Submain | X | | X | | X | |
| Main/Trunk | X | | X | | X | |

5. **Other pertinent comments**:

FAIRFAX COUNTY WASTEWATER MANAGEMENT
Quality of Water = Quality of Life

**Department of Public Works and Environmental Services**
**Wastewater Planning & Monitoring Division**
12000 Government Center Parkway, Suite 358
Fairfax, VA 22035
**Phone**: 703-324-5030, **Fax**: 703-803-3297
www.fairfaxcounty.gov/dpwes

FAIRFAX COUNTY
PUBLIC SCHOOLS

Department of Facilities and Transportation Services
Office of Facilities Planning Services
8115 Gatehouse Road, Suite 3200
Falls Church, Virginia 22042

October 29, 2013
**Revised November 5, 2013**

**TO:** Barbara Berlin, Director
Zoning Evaluation Division
Fairfax County Department of Planning & Zoning

**FROM:** Lee Ann Pender, Director
Office of Facilities Planning Services

**SUBJECT:** RZ/FDP 2009-HM-017 & PCA C-696-10, Nugget Joint Venture (Updated)

**ACREAGE:** 14.68 acres

**TAX MAP:** 15-2 ((1)) 13 pt. & 15-4 ((5)) 5A pt., 5B

**PROPOSAL:**
The application requests to rezone the site from PDC and PRM district to PRM district. The site is located adjacent to the future Innovation Center Metro Station. The proposed rezoning would develop the site into a transit oriented mixed use development. The development would contain 940 multi-family residential units.

**ANALYSIS:**
*School Capacities*
The schools serving this area are Coates Elementary, Carson Middle and Westfield High schools. The chart below shows the existing school capacity, enrollment, and projected enrollment.

| School | Capacity 2012 / 2017 | Enrollment (9/30/12) | Projected Enrollment 2013-14 | Capacity Balance 2013-14 | Projected Enrollment 2017-18 | Capacity Balance 2017-18 |
|---|---|---|---|---|---|---|
| Coates ES | 773 / 773 | 778 | 882 | -109 | 1,379 | -606 |
| Carson MS | 1,350 / 1,350 | 1,358 | 1,398 | -48 | 1,506 | -156 |
| Westfield HS | 2,786 / 2,786 | 2,791 | 2,694 | 92 | 2,658 | 128 |

*Capacities based on 2014-2018 Capital Improvement Program (November 2012)*
*Project Enrollments based on 2012-13 to 2017-18 6-Year Projections (April 2012)*

The school capacity chart above shows a snapshot in time for student enrollments and school capacity balances. Student enrollment projections are done on a six year timeframe, currently through school year 2017-18 and are updated annually. At this time, if development occurs within the next five years, Coates and Carson are projected to be over capacity. Westfield is projected to have a capacity balance. Beyond the six year projection horizon, enrollment projections are not available.

*Capital Improvement Program Projects*
The 2014-18 Capital Improvement Program (CIP) does not include any capital projects at the subject schools. However, the CIP does include the unfunded need for a West County Elementary School and South West County High School. These future facilities could potentially impact Coates Elementary School and Westfield High School.

*Development Impact*
Based on the number of residential units proposed, the chart below shows the number of anticipated students by school level based on the current countywide student yield ratio.

Proposed

| School level | Mid/High-rise Multi-family ratio | Proposed # of units | Proposed Student yield |
|---|---|---|---|
| Elementary | .059 | 940 | 55 |
| Middle | .017 | 940 | 16 |
| High | .030 | 940 | 28 |
| | | | **99 total** |

*2012 Countywide student yield ratios (August 2013)*

**RECOMMENDATIONS:**
*Proffer Contribution*
A net of 99 new students is anticipated (55 Elementary, 16 Middle and 28 High School). Based on the approved Residential Development Criteria, a proffer contribution of $1,143,252 (99 x $11,548) is recommended to offset the impact that new student growth will have on surrounding schools. It is recommended that the proffer contribution be directed toward schools in Cluster VIII or to schools in the Westfield High School Pyramid at the time of site plan or first building permit approval. A proffer contribution at the time of occupancy is not recommended since this does not allow the school system adequate time to use the proffer contribution to offset the impact of new students.

In addition, an "escalation" proffer is recommended. The suggested per student proffer contribution is updated on an annual basis to reflect current market conditions. The amount has decreased over the last several years because of the down turn in the economy and lower construction costs for FCPS. As a result, an escalation proffer would allow for payment of the school proffer based on either the current suggested per student proffer contribution at the time of zoning approval or the per student proffer contribution in effect at the time of development, whichever is greater. This would better offset the impact that new student yields will have on surrounding schools at the time of development. For your reference, below is an example of an escalation proffer that was included as part of an approved proffer contribution to FCPS.

> *Adjustment to Contribution Amounts. Following approval of this Application and prior to the Applicant's payment of the amount(s) set forth in this Proffer, if Fairfax County should increase the ratio of students per unit or the amount of contribution per student, the Applicant shall increase the amount of the contribution for that phase of development to reflect the then-current ratio and/or contribution. If the County should decrease the ratio or contribution amount, the Applicant shall provide the greater of the two amounts.*

As noted in the FY 2014-18 Capital Improvement Program, FCPS is actively seeking a new elementary school site and high school site in this region to address anticipated growth from existing and planned development. Both of these schools are identified as line items in the Capital Improvement Program (Attached).

With a projected capacity deficit in the 2017-18 school year of 606 students at Coates Elementary and 284 students at McNair Elementary, the West County Elementary School CIP project is a critical need for the school system. The overcrowding at these schools totals approximately 900 students, or about the capacity of an elementary school. Current discussions for the upcoming 2015-19 Capital Improvement Program anticipate moving the project forward to open in time for the 2019-20 school year. If moved forward, this project would be considered as part of the 2015 School Bond.

However, the challenge for the school system is locating a site for the school. This area of the County has experienced significant growth over the past several years, leaving limited options for a potential

school site. An ideal location would be in close proximity to the Coates and McNair attendance areas (Map Attached). While a traditional elementary school site would need 8-12 acres of land, a school with an urban design would reduce the need to about 3-4, buildable acres (or potentially less if co-located with a recreation field).

It is recommended these school facility needs be taken into consideration during the evaluation of rezoning applications in this region, and that special diligence be paid to locating an elementary school site that would facilitate opening an new elementary school for the 2019-20 school year. These needs are noted in the County's Comprehensive Plan text for the area (Page 20 of the Draft Comprehensive Plan Text for Dulles Suburban Center, Land Unit A).

*Proffer Notification*
It is also recommended that the developer proffer notification be provided to FCPS when development is likely to occur or when a site plan has been filed with the County. This will allow the school system adequate time to plan for anticipated student growth to ensure classroom availability.

LAP/gjb

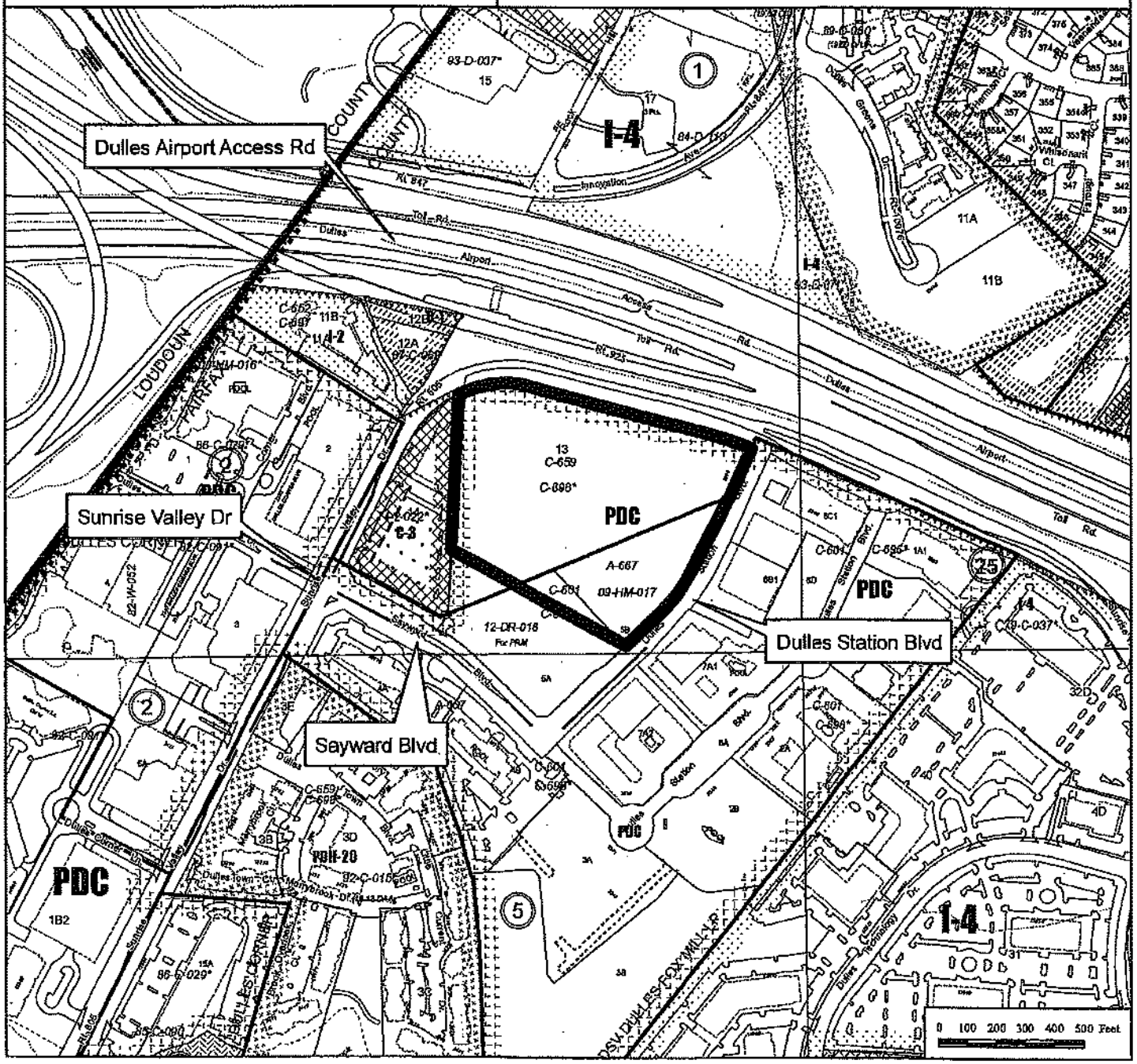
Attachment: Locator Map, CIP Text, Coates and McNair Attendance Area Map

cc: Pat Hynes, School Board Member, Hunter Mill District
Jane Strauss, School Board Member, Dranesville District
Kathy Smith, School Board Member, Sully District
Ilryong Moon, Chairman, School Board Member, At-Large
Ryan McElveen, School Board Member, At-Large
Ted Velkoff, School Board Member, At-Large
Jeffrey Platenberg, Assistant Superintendent, Facilities and Transportation Services
Fabio Zuluaga, Cluster VIII, Assistant Superintendent
Tim Thomas, Principal, Westfield High School
August Frattali, Principal, Carson Middle School
Toni Rose, Principal, Coates Elementary School

# Rezoning Application

**RZ 2009-HM-017**

| | |
|---|---|
| Applicant: | NUGGET JOINT VENTURE, L.C. |
| Accepted: | 07/09/2009- AMENDED 09/30/2013 |
| Proposed: | MIXED USE |
| Area: | 14.68 AC OF LAND; DISTRICT - DRANESVILLE |
| Zoning Dist Sect: | |
| Located: | EAST SIDE OF SUNRISE VALLEY DRIVE WEST SIDE OF DULLES STATION BLVD. AND SOUTH OF THE DULLES AIRPORT ACCESS ROAD |
| Zoning: | FROM PDC TO PRM, FROM PRM TO PRM |
| Overlay Dist: | |
| Map Ref Num: | 015-2- /01/ /0013 015-4- /05/ /0005A /05/ /0005B |



FAIRFAX COUNTY PUBLIC SCHOOLS

Facilities and Transportation Services

ADOPTED

# Capital Improvement Program

Fiscal Years 2014-18

New: Mason Crest Elementary School

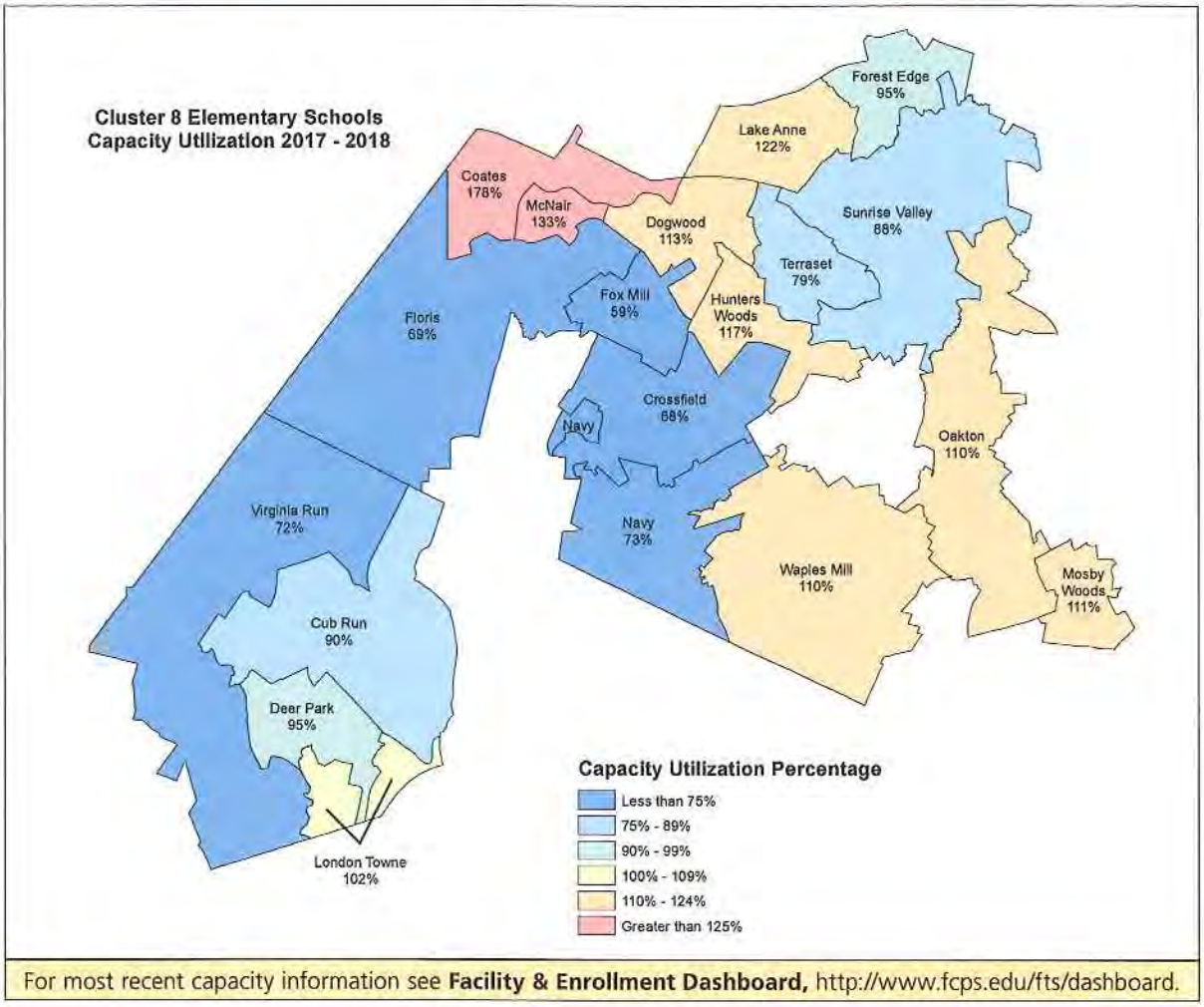
Building the Future...Child by Child

## Cash Flow Sheets

| Project | Revised Budget | Prior Year Expenditures | FY 2014 Expenditures | FY 2015 Expenditures | FY 2016 Expenditures | FY 2017 Expenditures | FY 2018 Expenditures | Projected FY 2019-FY 2023 |
|---|---|---|---|---|---|---|---|---|
| Eastern Fairfax ES | $ 20,940,062 | $ 63,000 | $ 108,000 | $ 3,827,192 | $ 11,267,585 | $ 5,674,285 | | |
| Route 1 area ES | $ 21,169,348 | | | $ 3,854,672 | $ 12,865,806 | $ 4,311,342 | $ 337,528 | |
| Fairfax/Oakton Area ES | $ 25,794,464 | | | | | | | $ 25,794,464 |
| West County ES | $ 24,943,488 | | | | | | $ 108,000 | $ 24,835,488 |
| South West County High School | $ 109,123,155 | | | | $ 2,271,200 | $ 3,151,200 | $ 13,489,986 | $ 90,210,769 |
| *Total New School Construction* | $ *201,970,517* | $ *63,000* | $ *108,000* | $ *7,681,864* | $ *26,204,591* | $ *13,136,827* | $ *13,935,514* | $ *140,840,721* |
| *Unfunded Portion* | $ *201,907,517* | $ *108,000* | $ *7,681,864* | $ *26,204,591* | $ *13,136,827* | $ *13,935,514* | $ *140,840,721* | |
| Spring Hill ES | $ 5,583,145 | $ 4,878,201 | $ 704,944 | | | | | |
| Fairfax Villa ES | $ 4,185,746 | $ 2,889,322 | $ 1,296,424 | | | | | |
| Union Mill ES | $ 3,976,975 | $ 2,744,698 | $ 1,232,277 | | | | | |
| Greenbriar East ES | $ 4,186,501 | $ 2,895,545 | $ 1,290,956 | | | | | |
| Marshall Road ES | $ 5,430,925 | $ 779,218 | $ 2,893,481 | $ 1,758,225 | | | | |
| Lemon Road ES | $ 3,563,000 | $ 2,150,091 | $ 1,412,909 | | | | | |
| Tyson's Area ES Addition | $ 7,195,000 | | | | | | | $ 7,195,000 |
| South Lakes HS Addition | $ 17,008,316 | | | | | | | $ 17,008,316 |
| *Total Capacity Enhancements* | $ 51,129,607 | $ 16,337,075 | $ 8,830,991 | $ 1,758,225 | | | | $ 24,203,316 |
| *Unfunded Portion* | $ 24,203,316 | | | | | | | $ 24,203,316 |
| Canterbury Woods | $ 17,692,860 | $ 17,275,371 | $ 417,489 | | | | | |
| Clermont | $ 15,589,715 | $ 2,347,271 | $ 8,680,550 | $ 4,541,894 | | | | |
| Terraset | $ 20,739,764 | $ 643,069 | $ 6,972,324 | $ 4,051,537 | $ 9,072,834 | | | |
| Sunrise Valley | $ 16,215,446 | $ 2,208,208 | $ 9,356,518 | $ 4,650,720 | | | | |
| Garfield | $ 15,523,245 | $ 2,762,392 | $ 9,137,707 | $ 3,623,146 | | | | |
| Terra Centre | $ 17,061,922 | $ 3,702,717 | $ 10,048,022 | $ 3,311,183 | | | | |
| Westgate | $ 17,443,085 | $ 3,043,830 | $ 10,256,804 | $ 4,142,451 | | | | |
| Haycock | $ 17,426,488 | $ 891,870 | $ 5,971,605 | $ 8,981,795 | $ 1,581,218 | | | |
| Ravensworth | $ 16,291,582 | $ 806,412 | $ 4,855,865 | $ 8,525,812 | $ 2,103,493 | | | |
| Woodlawn | $ 20,230,428 | $ 978,321 | $ 3,893,542 | $ 10,983,654 | $ 4,374,911 | | | |
| Forestville | $ 15,484,357 | $ 539,757 | $ 3,376,747 | $ 9,126,919 | $ 2,440,934 | | | |
| North Springfield | $ 17,980,042 | $ 701,697 | $ 2,284,157 | $ 10,403,921 | $ 4,590,267 | | | |
| Springfield Estates | $ 15,692,021 | $ 439,970 | $ 341,854 | $ 7,132,929 | $ 7,767,268 | | | |
| Keene Mill | $ 17,815,860 | $ 434,340 | $ 434,340 | $ 8,116,670 | $ 8,709,740 | $ 120,770 | | |
| Bucknell | $ 15,116,775 | $ 213,474 | $ 365,956 | $ 4,963,354 | $ 9,573,991 | | | |
| Cherry Run | $ 16,984,159 | | $ 242,284 | $ 415,344 | $ 6,039,107 | $ 8,821,703 | $ 1,175,721 | |
| Waynewood | $ 19,057,254 | | $ 263,751 | $ 425,145 | $ 4,559,851 | $ 10,058,678 | $ 3,749,829 | |
| Stratford Landing | $ 19,577,656 | | $ 271,500 | $ 465,429 | $ 3,774,482 | $ 11,175,529 | $ 3,890,716 | |
| Newington Forest | $ 18,211,986 | | $ 215,837 | $ 431,674 | $ 4,387,310 | $ 9,344,696 | $ 3,832,469 | |
| Hollin Meadows | $ 19,969,297 | | $ 238,299 | $ 476,597 | $ 4,992,648 | $ 10,614,697 | $ 3,647,056 | |
| White Oaks | $ 19,231,032 | | $ 279,669 | $ 550,601 | $ 6,134,924 | $ 10,409,998 | $ 1,755,840 | |
| Mt. Vernon Woods | $ 18,030,379 | | | $ 450,274 | $ 241,814 | $ 10,149,099 | $ 6,747,940 | $ 441,252 |
| Belle View | $ 19,565,191 | | | | $ 484,907 | $ 484,907 | $ 6,589,198 | $ 12,026,179 |
| Annandale Terrace | $ 20,705,616 | | | | $ 520,149 | $ 520,149 | $ 7,016,828 | $ 12,648,490 |
| Clearview | $ 21,152,973 | | | | $ 532,071 | $ 532,071 | $ 8,459,281 | $ 11,629,551 |
| Silverbrook | $ 22,311,646 | | | | | | $ 875,015 | $ 21,436,630 |

Note: Numbers in Burgundy represent unfunded amounts.

# Cluster VIII Elementary School Capacity Utilization 2017-18




For most recent capacity information see **Facility & Enrollment Dashboard,** http://www.fcps.edu/fts/dashboard.

**Coates**: Potential relief from new West County Elementary School/Dulles Area Study

**Crossfield**: Potential impact from new West County Elementary School/Dulles Area Study

**Dogwood**: Potential relief from new West County Elementary School/Dulles Area Study

**Floris**: Potential impact from new West County Elementary School/Dulles Area Study

**Forest Edge**: Potential for boundary adjustment with Lake Anne (sending school); potential impact from AAP realignment

**Fox Mill**: Potential impact from new West County Elementary School/Dulles Area Study

**Hunters Woods**: Potential for AAP relocation

**Lake Anne**: Potential for boundary adjustment with Forestville in Cluster I and Forest Edge (receiving schools)

**McNair**: Potential relief from new West County Elementary School/Dulles Area Study

**Mosby Woods**: Potential relief from new Fairfax/Oakton Area Elementary School; potential AAP realignment

**Navy**: Potential impact from new West County Elementary School/Dulles Area Study

**Oakton**: Potential for boundary adjustment with Flint Hill in Cluster II (receiving school) and new Fairfax/Oakton Area Elementary School

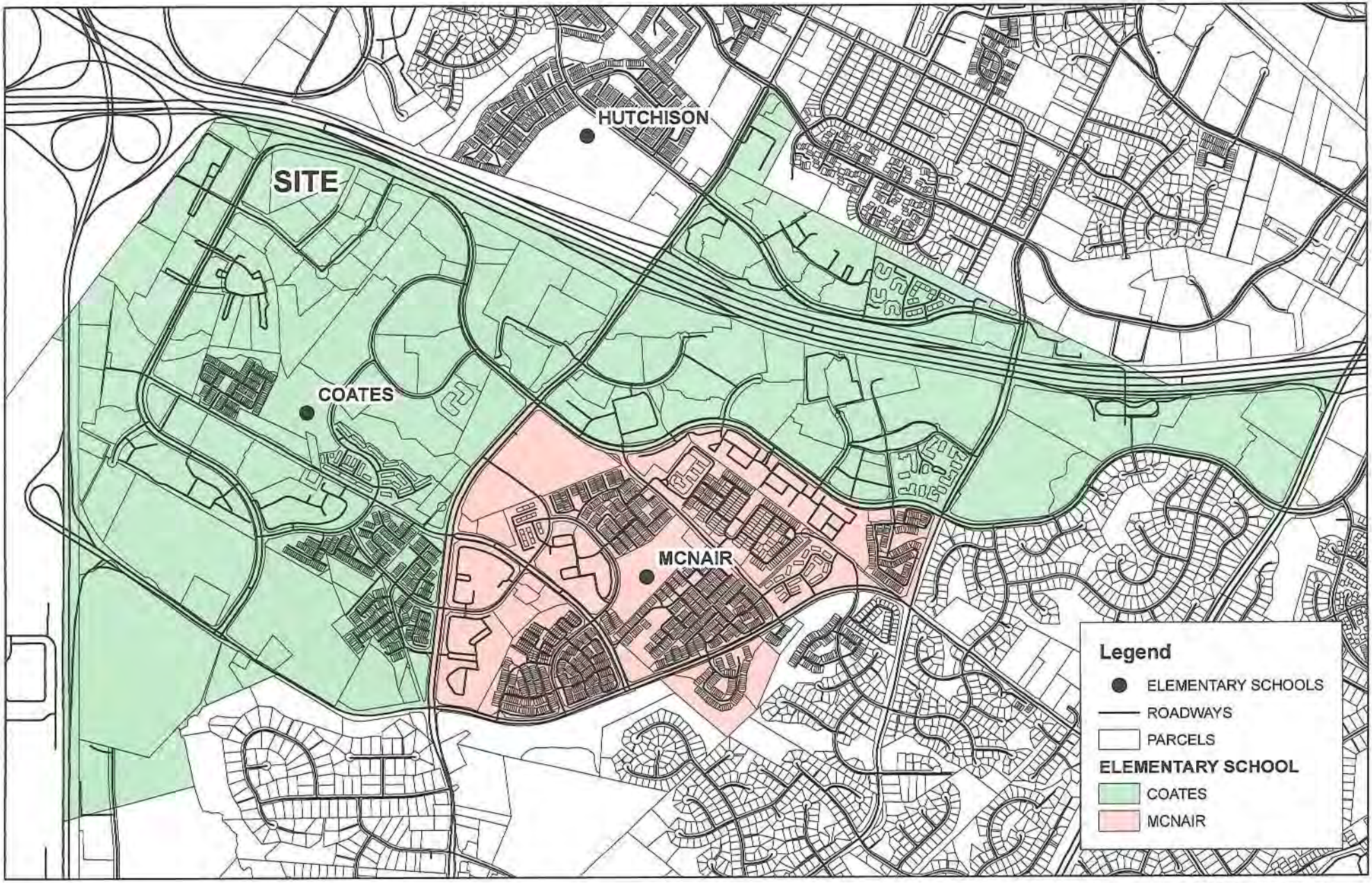
**Sunrise Valley**: Renovation to be completed in FY 2015

**Terraset**: Renovation to be completed in FY 2016; capacity surplus, potential receiving school for new programs

**Virginia Run**: Potential receiving school for new programs; potential impact from AAP realignment

**Waples Mill**: Potential impact from new Fairfax/Oakton Area Elementary School/Dulles Area Study

# 2013 - 2014 Attendance Areas
# Coates ES and McNair ES

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November 5, 2013

FAIRFAX COUNTY PUBLIC SCHOOLS

Department of Facilities and Transportation Services

Office of Facilities Planning Services
8115 Gatehouse Rd.
Falls Church, VA 22042
Office Phone 571-423-2320

# FAIRFAX COUNTY PARK AUTHORITY

# M E M O R A N D U M

**TO:** Barbara Berlin, AICP, Director
Zoning Evaluation Division
Department of Planning and Zoning

**FROM:** Sandy Stallman, AICP, Manager
Park Planning Branch, PDD

**DATE:** April 09, 2014

**SUBJECT:** RZ/FDP 2009-HM-017, Nugget Joint Venture (Rocks) – Revised
Tax Map Numbers: 15-2((1))13 & 15-4((5))5B

## BACKGROUND

The Park Authority has reviewed the proposed Development Plan dated March 27, 2014, for the above referenced application. This memo is intended to replace the previous memo dated March 21, 2014. The Development Plan shows 871,041 square feet of residential uses (or 925 new multi-family dwelling units), 501,000 square feet of office uses, 84,000 square feet of retail uses, and 90,000 square feet of hotel uses for a total of 1,546,041 square feet of gross floor area distributed among six buildings on a 14.7-acre parcel to be rezoned from the Planned Development Commercial (PDC) District to the Planned Development Residential Mixed Use (PRM) District with proffers. Due to the subject property's location adjacent to the Innovation Center Metrorail Station, along with Comprehensive Plan guidance, the Park Authority recommends applying the Urban Parks Framework to this review. Based on an average multi-family household size of 1.75 in urban areas, the development could add 1,618 new residents (925 x 1.75 = 1,618) to the Dranesville Supervisory District.

## COMPREHENSIVE PLAN GUIDANCE

The County Comprehensive Plan includes both general and specific guidance regarding parks and resources. The Policy Plan describes the need to mitigate adverse impacts to park and recreation facilities caused by growth and development; it also offers a variety of ways to offset those impacts, including contributions, land dedication, development of parks and facilities, and others (Parks and Recreation, Objective 6, p.8). The Parks and Recreation element of the Policy Plan includes an Urban Parks Framework that provides an urban parkland standard and detailed guidance on urban park development. Natural and cultural resource protection is addressed in multiple objectives, focusing on protection, preservation, and sustainability of resources (Parks and Recreation Objectives 2 and 5, p.5-7).

The Dulles Suburban Center Area recommendations in the Area III Plan describe the importance of neighborhood parks, recreation, and trails. In particular, two major objectives for the Dulles Suburban Center related to parks and recreation include:

- "Ensure the provision of adequate parklands and recreational facilities to meet the needs of the Dulles Suburban Center workforce, residents and visitors. Incorporate active recreation facilities in conjunction with both nonresidential and residential development.

- Develop a Dulles Greenway system to provide non-vehicular access to recreational facilities, transit areas, and major tourist attractions. This Greenway system should afford passive recreation opportunities and provide linkages to the countywide and regional trails network."

The Plan further describes the importance of the Dulles Greenway system:

> "Development of such a greenway system, comprehensively integrated with other land uses, can return significant benefits to both the public and private sector in the Dulles Suburban Center. The positive impacts of carefully and imaginatively planned open space on real estate values, public health, resource preservation, and energy and infrastructure investments make development of the proposed Greenway system an important element in the total environment of this Suburban Center" (Area III, Dulles Suburban Center, Area-Wide Recommendations, Parks and Recreation, pg. 46).

Sunrise Valley Drive is identified as one such linkage in the Dulles Greenway system. The subject property has street frontage on Sunrise Valley Drive. One component of the Dulles Greenway system, as related to the proposed development, is the inclusion of urban parks that afford informal activities and programmed events intended to enhance leisure opportunities and social interaction. In addition, the Fairfax Countywide Trails Plan identifies Sunrise Valley Drive to include a major paved trail, which complements and supports the Dulles Greenway system implementation.

Finally, text from the Upper Potomac District chapter of the Great Parks, Great Communities 2010-2020 Comprehensive Park System Plan echoes recommendations in the Countywide Comprehensive Plan. Specific District chapter recommendations that relate to the proposed development include:

- "Promote the creation of new parks and pedestrian connections that will be within walking distance of the planned new Metrorail transit stations.

- Request trail connections and park facilities to be constructed as part of the development plan process.

- Use the Urban Parks Framework to set developer and community expectations for urban parks and review development proposals in transit oriented areas along the Dulles Toll Road."

## ANALYSIS AND RECOMMENDATIONS

Park and Recreation Needs:
Using adopted service level standards, staff has identified a need for all types of parkland and recreational facilities in this area. Existing nearby parks (Arrowbrook, Dulles Corner, Hutchinson School Site, Merrybrook Run Stream Valley) meet only a portion of the demand for parkland generated by residential development within one mile of the subject property. In addition to parkland, the recreational facilities in greatest need in this area include basketball courts, playgrounds, adult softball diamonds, rectangle fields, and trails.

Utilizing the Plan guidance in the Dulles Suburban Center cited above and coupled with the subject property's location adjacent to the Innovation Center Metrorail Station, it is appropriate to apply the Urban Parks Framework to this review, which emphasizes form and function. Applying the urban park standard (at least 1.5 acres of urban park space per 1,000 new residents and 1.0 acres per 10,000 new employees), the proposed development generates a need for about 2.65 acres of urban park space. In addition to parkland, the proposed development also generates a need for local-serving recreational facilities that should be provided onsite, such as playgrounds, basketball courts, and other small-scale facilities. The application also generates increased need for athletic fields that should be addressed.

Proposed Onsite Park and Recreational Facilities:
The Development Plan shows a series of three proposed publicly-accessible park spaces, labeled as 'Metro Plaza,' 'Urban Park,' and 'Pocket Park,' that total approximately 2.8 acres; staff considers a small portion of this amount to be streetscape however, in particular the hotel roundabout area included in Metro Plaza.

Draft proffers dated February 21, 2014, describe possible amenities for these park spaces, which may include "such furniture, fixtures and finishes consistent with the creation of a hardscape public park or gathering space and consistent with the Design Guidelines including paving, furniture, screening walls, pedestrian ways, focal points, landscaping/planters, public art, and performance/demonstration space consistent with an urban park." The Development Plan also shows a sidewalk and on-street bicycle lanes (committed in draft proffers dated February 21, 2014) along the Sunrise Valley Drive frontage of the subject property.

Draft proffers dated February 21, 2014 state that the Applicant may program these public park spaces with festivals, fairs, or similar activities. In addition, the Applicant has proffered to maintain public access to the park spaces by implementing a Plaza Access Management Plan approved by FCDOT and the Zoning Administrator.

- Overall, the Applicant is proposing an integrated series of publicly-accessible urban park spaces that meets the recommendations in the Comprehensive Plan.
- However, the Applicant should explore opportunities to provide publicly-accessible park spaces and amenities along the Sunrise Valley Drive frontage in order to achieve objectives of the Dulles Greenway system, which would also complement the future on-street bicycle lanes on Sunrise Valley Drive. Opportunities in particular include the private courtyard in between Buildings A1 and A2, and the hotel entry area by the roundabout.

**Metro Plaza** is an approximate 1.14-acre park located at the nexus of the future Innovation Center Metrorail Station, and proposed hotel and residential/retail building B2. The park space is described as "a major transit corridor and unique place-making plaza for civic gathering and commercial support activities such as seasonal decorations and programs." Features shown within the park space include an outdoor café, ground-floor and outdoor retail, sculpture displays, picnicking and gathering space, an event and multi-function lawn, and Metro bike storage. No publicly-accessible recreational facilities are associated with the park space.

Draft proffers dated February 21, 2014, state the Applicant may install, if approved as part of a Comprehensive Sign Plan, a video display on the façade of building B2 facing the park space or provide a moveable screen within the park space for use as video art displays (movies, artistic displays, etc.) for non-commercial activities.

**Urban Park** is an approximate 0.85-acre park located centrally in between residential buildings D1 and A4, and residential/retail building A3. The park space is described as "small scale open space designed for casual use by people working and living in the immediate area." Features shown within the park space include an amphitheater, playground, bocce ball court, seating with engraved game boards, mounded lawn area, public patio space, and off-leash dog park.

- Urban Park is sited about 1-2 stories above a private courtyard located in residential building D1; therefore, the Applicant should consider providing direct access for residents to Urban Plaza from this private courtyard, and ensure adequate safety fencing is installed on the Urban Park level.

**Pocket Park** is an approximate 0.32-acre park located adjacent to the southeast corner of the Metrorail parking garage that incorporates a stormwater basin with natural habitat for use as onsite stormwater management and bio-retention facility. The park space is shown with a series of boardwalks (some sections bridging over the stormwater basin), numerous benches, educational and information kiosks, and a kinetic art feature. No publicly-accessible recreational facilities are associated with the park space.

The Development Plan also shows three proposed private park spaces designed as courtyards within the respective three residential buildings, as well as two private courtyards associated with non-residential buildings. Two residential courtyards (Buildings A3/A4 and Building B2) are shown as raised rooftop features with an outdoor swimming pool, while the third residential courtyard (Building D1) is shown adjacent to Urban Park and sunken below grade with open space and landscaping. Draft proffers dated February 21, 2014, further state these park spaces and other private amenities for residents may include, but are not limited to, exercise rooms, swimming pools, activity courts, club rooms, meeting rooms, media centers and cyber cafes. These private facilities will apply towards the Zoning Ordinance requirement to expend $1,700 per non-ADU for onsite recreational facilities.

- The Applicant should consider providing direct access for residents to Urban Plaza from the private courtyard in building D1, and ensure adequate safety fencing is installed on the Urban Park level.

Recreational Impact of Residential Development:
The Fairfax County Zoning Ordinance requires provision of open space and recreational features within Planned Development Districts (see Zoning Ordinance Sections 6-110 and 16-404). The minimum expenditure for park and recreational facilities within these districts is set at $1,700 per non-ADU residential unit for recreational facilities to serve the development population. Whenever possible, the facilities should be located within the residential development site. With 925 non-ADUs proposed, the Ordinance-required amount to be spent onsite is $1,572,500 (925 non-ADUs x $1,700). Any portion of this amount not spent onsite should be conveyed to the Park Authority for recreational facility construction at one or more park sites in the service area of the development.

The $1,700 per unit funds required by Ordinance offset only a portion of the impact to provide recreational facilities for the new residents generated by this development. Typically, a large portion if not all of the Ordinance-required funds are used for recreational amenities onsite. As a result, the Park Authority is not compensated for the increased demands caused by residential development for other recreational facilities that the Park Authority must provide.

With the Countywide Comprehensive Policy Plan as a guide (Appendix 9, #6 of the Land Use section, as well as Objective 6, Policy a, b and c of the Parks and Recreation section), the Park Authority requests a fair share contribution of $893 per new resident with any residential rezoning application to offset impacts to park and recreation service levels. This allows the Park Authority to build additional or improve existing recreation facilities as the population increases. To offset the additional impact caused by the proposed development, the applicant should contribute $1,444,874 (1,618 new residents x $893) to the Park Authority for recreational facility development at one or more park sites located within the service area of the subject property. This is equivalent to approximately $1,562 per dwelling unit ($1,444,874 / 925 proposed units).

Recreational Impact of Commercial Development:
In addition to the residential development impact on recreational services and facilities, there will also be impacts from the proposed commercial development. Employees have a need to access recreational amenities at lunchtime or after work. Retail customers benefit from combining shopping trips with recreational activities. The Comprehensive Plan for the Dulles Suburban Center area calls for a combination of private and public funding to contribute toward new facilities to serve both residents and workers. Recent monetary contributions to offset the impacts of commercial development in Suburban Centers have averaged $0.27 per square foot. Applying this rate to the proposed 675,000 square feet of new non-residential uses, the Park Authority requests a contribution of $182,250 (675,000 sq. ft. x $0.27) for recreational facility development at one or more park sites located within the service area of the subject property.

Parks Contribution Proffer
Draft proffers dated February 21, 2014, state the Applicant will contribute $500,000 prior to the issuance of the first RUP or Non-RUP to the Fairfax County Park Authority for public parks in the vicinity of the development.

- This proffered park contribution amount is $1,127,124 less than the fair share amount requested to offset recreational impacts generated by the proposed residential and

commercial development. Fair share park contributions help fund capital improvements at nearby parks and new park facilities, such as athletic fields and other active recreation facilities, that are impacted by new development and are not provided onsite. In addition, the on-site park spaces will be credited towards the regulatory required amounts.

## SUMMARY OF RECOMMENDATIONS

This section summarizes the recommendations relating to parks:

1. The following table summarizes recreation contribution amounts consistent with the Zoning Ordinance and Comprehensive Plan guidance.

| Proposed Uses | P-District Onsite Expenditure Req't | Requested Park Proffer Amount | Total |
|---|---|---|---|
| Multi-family units | $1,572,500 | $1,444,874 | $2,556,985 |
| Commercial use | – | $182,250 | $182,250 |
| **Total** | **$1,572,500** | **$1,627,124** | **$2,739,235** |

   The proffered park contribution amount is $1,127,124 less than the amount requested to offset recreational impacts generated by the proposed residential and commercial development.
2. Overall, the Applicant is proposing an integrated series of publicly-accessible urban park spaces that meets the recommendations in the Comprehensive Plan. However, the Applicant should explore opportunities to provide publicly-accessible park spaces and amenities along the Sunrise Valley Drive frontage in order to achieve objectives of the Dulles Greenway system, which would also complement the future on-street bicycle lanes on Sunrise Valley Drive. Opportunities in particular include the private courtyard in between Buildings A1 and A2, and the hotel entry area by the roundabout.
3. Applicant should consider providing direct access for residents to Urban Plaza from the private courtyard in building D1, and ensure adequate safety fencing is installed on the Urban Park level.

Please note the Park Authority would like to review and comment on any revised proffers and development conditions related to park and recreation issues.

FCPA Reviewer: Jay Rauschenbach
DPZ Coordinator: Billy O'Donnell

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**GLOSSARY**

This Glossary is provided to assist the public in understanding
the staff evaluation and analysis of development proposals.
It should not be construed as representing legal definitions.
Refer to the Fairfax County Zoning Ordinance, Comprehensive Plan
or Public Facilities Manual for additional information.

**ABANDONMENT:** Refers to road or street abandonment, an action taken by the Board of Supervisors, usually through the public hearing process, to abolish the public's right-of-passage over a road or road right-of way. Upon abandonment, the right-of-way automatically reverts to the underlying fee owners. If the fee to the owner is unknown, Virginia law presumes that fee to the roadbed rests with the adjacent property owners if there is no evidence to the contrary.

**ACCESSORY DWELLING UNIT (OR APARTMENT):** A secondary dwelling unit established in conjunction with and clearly subordinate to a single family detached dwelling unit. An accessory dwelling unit may be allowed if a special permit is granted by the Board of Zoning Appeals (BZA). Refer to Sect. 8-918 of the Zoning Ordinance.

**AFFORDABLE DWELLING UNIT (ADU) DEVELOPMENT:** Residential development to assist in the provision of affordable housing for persons of low and moderate income in accordance with the affordable dwelling unit program and in accordance with Zoning Ordinance regulations. Residential development which provides affordable dwelling units may result in a density bonus (see below) permitting the construction of additional housing units. See Part 8 of Article 2 of the Zoning Ordinance.

**AGRICULTURAL AND FORESTAL DISTRICTS:** A land use classification created under Chapter 114 or 115 of the Fairfax County Code for the purpose of qualifying landowners who wish to retain their property for agricultural or forestal use for use/value taxation pursuant to Chapter 58 of the Fairfax County Code.

**BARRIER:** A wall, fence, earthen berm, or plant materials which may be used to provide a physical separation between land uses. Refer to Article 13 of the Zoning Ordinance for specific barrier requirements.

**BEST MANAGEMENT PRACTICES (BMPs):** Stormwater management techniques or land use practices that are determined to be the most effective, practicable means of preventing and/or reducing the amount of pollution generated by nonpoint sources in order to improve water quality.

**BUFFER:** Graduated mix of land uses, building heights or intensities designed to mitigate potential conflicts between different types or intensities of land uses; may also provide for a transition between uses. A landscaped buffer may be an area of open, undeveloped land and may include a combination of fences, walls, berms, open space and/or landscape plantings. A buffer is not necessarily coincident with transitional screening.

**CHESAPEAKE BAY PRESERVATION ORDINANCE:** Regulations which the State has mandated must be adopted to protect the Chesapeake Bay and its tributaries. These regulations must be incorporated into the comprehensive plans, zoning ordinances and subdivision ordinances of the affected localities. Refer to Chesapeake Bay Preservation Act, Va. Code Section 10.1-2100 et seq and VR 173-02-01, Chesapeake Bay Preservation Area Designation and Management Regulations.

**CLUSTER DEVELOPMENT:** Residential development in which the lots are clustered on a portion of a site so that significant environmental/historical/cultural resources may be preserved or recreational amenities provided. While smaller lot sizes are permitted in a cluster subdivision to preserve open space, the overall density cannot exceed that permitted by the applicable zoning district. See Sect. 2-421 and Sect. 9-615 of the Zoning Ordinance.

**COUNTY 2232 REVIEW PROCESS:** A public hearing process pursuant to Sect. 15.2-2232 (Formerly Sect. 15.1-456) of the Virginia Code which is used to determine if a proposed public facility not shown on the adopted Comprehensive Plan is in substantial accord with the plan. Specifically, this process is used to determine if the general or approximate location, character and extent of a proposed facility is in substantial accord with the Plan.

**dBA:** The momentary magnitude of sound weighted to approximate the sensitivity of the human ear to certain frequencies; the dBA value describes a sound at a given instant, a maximum sound level or a steady state value. See also Ldn.

**DENSITY:** Number of dwelling units (du) divided by the gross acreage (ac) of a site being developed in residential use; or, the number of dwelling units per acre (du/ac) except in the PRC District when density refers to the number of persons per acre.

**DENSITY BONUS:** An increase in the density otherwise allowed in a given zoning district which may be granted under specific provisions of the Zoning Ordinance when a developer provides excess open space, recreation facilities, or affordable dwelling units (ADUs), etc.

**DEVELOPMENT CONDITIONS:** Terms or conditions imposed on a development by the Board of Supervisors (BOS) or the Board of Zoning Appeals (BZA) in connection with approval of a special exception, special permit or variance application or rezoning application in a "P" district. Conditions may be imposed to mitigate adverse impacts associated with a development as well as secure compliance with the Zoning Ordinance and/or conformance with the Comprehensive Plan. For example, development conditions may regulate hours of operation, number of employees, height of buildings, and intensity of development.

**DEVELOPMENT PLAN:** A graphic representation which depicts the nature and character of the development proposed for a specific land area: information such as topography, location and size of proposed structures, location of streets trails, utilities, and storm drainage are generally included on a development plan. A development plan is s submission requirement for rezoning to the PRC District. A GENERALIZED DEVELOPMENT PLAN (GDP) is a submission requirement for a rezoning application for all conventional zoning districts other than a P District. A development plan submitted in connection with a special exception (SE) or special permit (SP) is generally referred to as an SE or SP plat. A CONCEPTUAL DEVELOPMENT PLAN (CDP) is a submission requirement when filing a rezoning application for a P District other than the PRC District; a CDP characterizes in a general way the planned development of the site. A FINAL DEVELOPMENT PLAN (FDP) is a submission requirement following the approval of a conceptual development plan and rezoning application for a P District other than the PRC District; an FDP further details the planned development of the site. See Article 16 of the Zoning Ordinance.

**EASEMENT:** A right to or interest in property owned by another for a specific and limited purpose. Examples: access easement, utility easement, construction easement, etc. Easements may be for public or private purposes.

**ENVIRONMENTAL QUALITY CORRIDORS (EQCs):** An open space system designed to link and preserve natural resource areas, provide passive recreation and protect wildlife habitat. The system includes stream valleys, steep slopes and wetlands. For a complete definition of EQCs, refer to the Environmental section of the Policy Plan for Fairfax County contained in Vol. 1 of the Comprehensive Plan.

**ERODIBLE SOILS:** Soils that wash away easily, especially under conditions where stormwater runoff is inadequately controlled. Silt and sediment are washed into nearby streams, thereby degrading water quality.

**FLOODPLAIN:** Those land areas in and adjacent to streams and watercourses subject to periodic flooding; usually associated with environmental quality corridors. The 100 year floodplain drains 70 acres or more of land and has a one percent chance of flood occurrence in any given year.

**FLOOR AREA RATIO (FAR):** An expression of the amount of development intensity (typically, non-residential uses) on a specific parcel of land. FAR is determined by dividing the total square footage of gross floor area of buildings on a site by the total square footage of the site itself.

**FUNCTIONAL CLASSIFICATION:** A system for classifying roads in terms of the character of service that individual facilities are providing or are intended to provide, ranging from travel mobility to land access. Roadway system functional classification elements include Freeways or Expressways which are limited access highways, Other Principal (or Major) Arterials, Minor Arterials, Collector Streets, and Local Streets. Principal arterials are designed to accommodate travel; access to adjacent properties is discouraged. Minor arterials are designed to serve both through traffic and local trips. Collector roads and streets link local streets and properties with the arterial network. Local streets provide access to adjacent properties.

**GEOTECHNICAL REVIEW:** An engineering study of the geology and soils of a site which is submitted to determine the suitability of a site for development and recommends construction techniques designed to overcome development on problem soils, e.g., marine clay soils.

**HYDROCARBON RUNOFF:** Petroleum products, such as motor oil, gasoline or transmission fluid deposited by motor vehicles which are carried into the local storm sewer system with the stormwater runoff, and ultimately, into receiving streams; a major source of non-point source pollution. An oil-grit separator is a common hydrocarbon runoff reduction method.

**IMPERVIOUS SURFACE:** Any land area covered by buildings or paved with a hard surface such that water cannot seep through the surface into the ground.

**INFILL:** Development on vacant or underutilized sites within an area which is already mostly developed in an established development pattern or neighborhood.

**INTENSITY:** The magnitude of development usually measured in such terms as density, floor area ratio, building height, percentage of impervious surface, traffic generation, etc. Intensity is also based on a comparison of the development proposal against environmental constraints or other conditions which determine the carrying capacity of a specific land area to accommodate development without adverse impacts.

**Ldn:** Day night average sound level. It is the twenty-four hour average sound level expressed in A-weighted decibels; the measurement assigns a "penalty" to night time noise to account for night time sensitivity. Ldn represents the total noise environment which varies over time and correlates with the effects of noise on the public health, safety and welfare.

**LEVEL OF SERVICE (LOS):** An estimate of the effectiveness of a roadway to carry traffic, usually under anticipated peak traffic conditions. Level of Service efficiency is generally characterized by the letters A through F, with LOS-A describing free flow traffic conditions and LOS-F describing jammed or grid-lock conditions.

**MARINE CLAY SOILS:** Soils that occur in widespread areas of the County generally east of Interstate 95. Because of the abundance of shrink-swell clays in these soils, they tend to be highly unstable. Many areas of slope failure are evident on natural slopes. Construction on these soils may initiate or accelerate slope movement or slope failure. The shrink-swell soils can cause movement in structures, even in areas of flat topography, from dry to wet seasons resulting in cracked foundations, etc. Also known as slippage soils.

**OPEN SPACE:** That portion of a site which generally is not covered by buildings, streets, or parking areas. Open space is intended to provide light and air; open space may be function as a buffer between land uses or for scenic, environmental, or recreational purposes.

**OPEN SPACE EASEMENT:** An easement usually granted to the Board of Supervisors which preserves a tract of land in open space for some public benefit in perpetuity or for a specified period of time. Open space easements may be accepted by the Board of Supervisors, upon request of the land owner, after evaluation under criteria established by the Board. See Open Space Land Act, Code of Virginia, Sections 10.1-1700, et seq.

**P DISTRICT:** A "P" district refers to land that is planned and/or developed as a Planned Development Housing (PDH) District, a Planned Development Commercial (PDC) District or a Planned Residential Community (PRC) District. The PDH, PDC and PRC Zoning Districts are established to encourage innovative and creative design for land development; to provide ample and efficient use of open space; to promote a balance in the mix of land uses, housing types, and intensity of development; and to allow maximum flexibility in order to achieve excellence in physical, social and economic planning and development of a site. Refer to Articles 6 and 16 of the Zoning Ordinance.

**PROFFER:** A written condition, which, when offered voluntarily by a property owner and accepted by the Board of Supervisors in a rezoning action, becomes a legally binding condition which is in addition to the zoning district regulations applicable to a specific property. Proffers are submitted and signed by an owner prior to the Board of Supervisors public hearing on a rezoning application and run with the land. Once accepted by the Board, proffers may be modified only by a proffered condition amendment (PCA) application or other zoning action of the Board and the hearing process required for a rezoning application applies. See Sect. 15.2-2303 (formerly 15.1-491) of the Code of Virginia.

**PUBLIC FACILITIES MANUAL (PFM):** A technical text approved by the Board of Supervisors containing guidelines and standards which govern the design and construction of site improvements incorporating applicable Federal, State and County Codes, specific standards of the Virginia Department of Transportation and the County's Department of Public Works and Environmental Services.

**RESOURCE MANAGEMENT AREA (RMA):** That component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

**RESOURCE PROTECTION AREA (RPA):** That component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline or water's edge that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. New development is generally discouraged in an RPA. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

**SITE PLAN:** A detailed engineering plan, to scale, depicting the development of a parcel of land and containing all information required by Article 17 of the Zoning Ordinance. Generally, submission of a site plan to DPWES for review and approval is required for all residential, commercial and industrial development except for development of single family detached dwellings. The site plan is required to assure that development complies with the Zoning Ordinance.

**SPECIAL EXCEPTION (SE) / SPECIAL PERMIT (SP):** Uses, which by their nature, can have an undue impact upon or can be incompatible with other land uses and therefore need a site specific review. After review, such uses may be allowed to locate within given designated zoning districts if appropriate and only under special controls, limitations, and regulations. A special exception is subject to public hearings by the Planning Commission and Board of Supervisors with approval by the Board of Supervisors; a special permit requires a public hearing and approval by the Board of Zoning Appeals. Unlike proffers which are voluntary, the Board of Supervisors or BZA may impose reasonable conditions to assure, for example, compatibility and safety. See Article 8, Special Permits and Article 9, Special Exceptions, of the Zoning Ordinance.

**STORMWATER MANAGEMENT:** Engineering practices that are incorporated into the design of a development in order to mitigate or abate adverse water quantity and water quality impacts resulting from development. Stormwater management systems are designed to slow down or retain runoff to re-create, as nearly as possible, the pre-development flow conditions.

**SUBDIVISION PLAT:** The engineering plan for a subdivision of land submitted to DPWES for review and approved pursuant to Chapter 101 of the County Code.

**TRANSPORTATION DEMAND MANAGEMENT (TDM):** Actions taken to reduce single occupant vehicle automobile trips or actions taken to manage or reduce overall transportation demand in a particular area.

**TRANSPORTATION SYSTEM MANAGEMENT (TSM) PROGRAMS:** This term is used to describe a full spectrum of actions that may be applied to improve the overall efficiency of the transportation network. TSM programs usually consist of low-cost alternatives to major capital expenditures, and may include parking management measures, ridesharing programs, flexible or staggared work hours, transit promotion or operational improvements to the existing roadway system. TSM includes Transportation Demand Management (TDM) measures as well as H.O.V. use and other strategies associated with the operation of the street and transit systems.

**URBAN DESIGN:** An aspect of urban or suburban planning that focuses on creating a desirable environment in which to live, work and play. A well-designed urban or suburban environment demonstrates the four generally accepted principles of design: clearly identifiable function for the area; easily understood order; distinctive identity; and visual appeal.

**VACATION:** Refers to vacation of street or road as an action taken by the Board of Supervisors in order to abolish the public's right-of-passage over a road or road right-of-way dedicated by a plat of subdivision. Upon vacation, title to the road right-of-way transfers by operation of law to the owner(s) of the adjacent properties within the subdivision from whence the road/road right-of-way originated.

**VARIANCE:** An application to the Board of Zoning Appeals which seeks relief from a specific zoning regulation such as lot width, building height, or minimum yard requirements, among others. A variance may only be granted by the Board of Zoning Appeals through the public hearing process and upon a finding by the BZA that the variance application meets the required Standards for a Variance set forth in Sect. 18-404 of the Zoning Ordinance.

**WETLANDS:** Land characterized by wetness for a portion of the growing season. Wetlands are generally delineated on the basis of physical characteristics such as soil properties indicative of wetness, the presence of vegetation with an affinity for water, and the presence or evidence of surface wetness or soil saturation. Wetland environments provide water quality improvement benefits and are ecologically valuable. Development activity in wetlands is subject to permitting processes administered by the U.S. Army Corps of Engineers

**TIDAL WETLANDS:** Vegetated and nonvegetated wetlands as defined in Chapter 116 Wetlands Ordinance of the Fairfax County Code: includes tidal shores and tidally influenced embayments, creeks, and tributaries to the Occoquan and Potomac Rivers. Development activity in tidal wetlands may require approval from the Fairfax County Wetlands Board.

**Abbreviations Commonly Used in Staff Reports**

| | |
|---|---|
| A&F | Agricultural & Forestal District |
| ADU | Affordable Dwelling Unit |
| ARB | Architectural Review Board |
| BMP | Best Management Practices |
| BOS | Board of Supervisors |
| BZA | Board of Zoning Appeals |
| COG | Council of Governments |
| CBC | Community Business Center |
| CDP | Conceptual Development Plan |
| CRD | Commercial Revitalization District |
| DOT | Department of Transportation |
| DP | Development Plan |
| DPWES | Department of Public Works and Environmental Services |
| DPZ | Department of Planning and Zoning |
| DU/AC | Dwelling Units Per Acre |
| EQC | Environmental Quality Corridor |
| FAR | Floor Area Ratio |
| FDP | Final Development Plan |
| GDP | Generalized Development Plan |
| GFA | Gross Floor Area |
| HC | Highway Corridor Overlay District |
| HCD | Housing and Community Development |
| LOS | Level of Service |
| Non-RUP | Non-Residential Use Permit |
| OSDS | Office of Site Development Services, DPWES |
| PCA | Proffered Condition Amendment |
| PD | Planning Division |
| PDC | Planned Development Commercial |
| PDH | Planned Development Housing |
| PFM | Public Facilities Manual |
| PRC | Planned Residential Community |
| RC | Residential-Conservation |
| RE | Residential Estate |
| RMA | Resource Management Area |
| RPA | Resource Protection Area |
| RUP | Residential Use Permit |
| RZ | Rezoning |
| SE | Special Exception |
| SEA | Special Exception Amendment |
| SP | Special Permit |
| TDM | Transportation Demand Management |
| TMA | Transportation Management Association |
| TSA | Transit Station Area |
| TSM | Transportation System Management |
| UP & DD | Utilities Planning and Design Division, DPWES |
| VC | Variance |
| VDOT | Virginia Dept. of Transportation |
| VPD | Vehicles Per Day |
| VPH | Vehicles per Hour |
| WMATA | Washington Metropolitan Area Transit Authority |
| WS | Water Supply Protection Overlay District |
| ZAD | Zoning Administration Division, DPZ |
| ZED | Zoning Evaluation Division, DPZ |
| ZPRB | Zoning Permit Review Branch |