



**APPLICATION ACCEPTED:** March 21, 2014  
**PLANNING COMMISSION:** December 4, 2014  
**BOARD OF SUPERVISORS:** TBD

# County of Fairfax, Virginia

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**November 18, 2014**

## **STAFF REPORT**

**RZ/FDP 2014-LE-008**

### **LEE DISTRICT**

**APPLICANT:** Long Branch Partners, L.L.C

**EXISTING ZONING:** R-1

**PROPOSED ZONING:** PDH-4

**PARCEL(S):** 90-4 ((1)) 17

**ACREAGE:** 15.33 acres

**DENSITY:** 2.48 du/ac

**OPEN SPACE:** 58.7%

**PLAN RECOMMENDATION:** Residential; 3-4 du/ac

**PROPOSAL:** The applicant seeks to rezone the subject property to PDH-4 and concurrent approval of a conceptual and final development plan to permit the development of 38 single-family attached units.

### **REQUESTED WAIVERS AND MODIFICATIONS:**

Modification of the requirements of PFM Section 7-0406.8A to allow a minimum 30-foot pavement radius within the cul-de-sac terminating the extension of Thomas Grant Drive.

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**Michael D. Van Atta**

## **STAFF RECOMMENDATIONS:**

Staff recommends approval of RZ 2014-LE-008 subject to the execution of proffers consistent with those found in Appendix 1 of this report.

Staff recommends approval of FDP 2014-LE-008.

Staff recommends approval of a modification of the requirements of PFM Section 7-0406.8A to allow a minimum 30-foot pavement radius within the cul-de-sac terminating the extension of Thomas Grant Drive.

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.

N:\Applications\RZ\_FDP 2014-LE-008 Long Branch\Staff Report



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

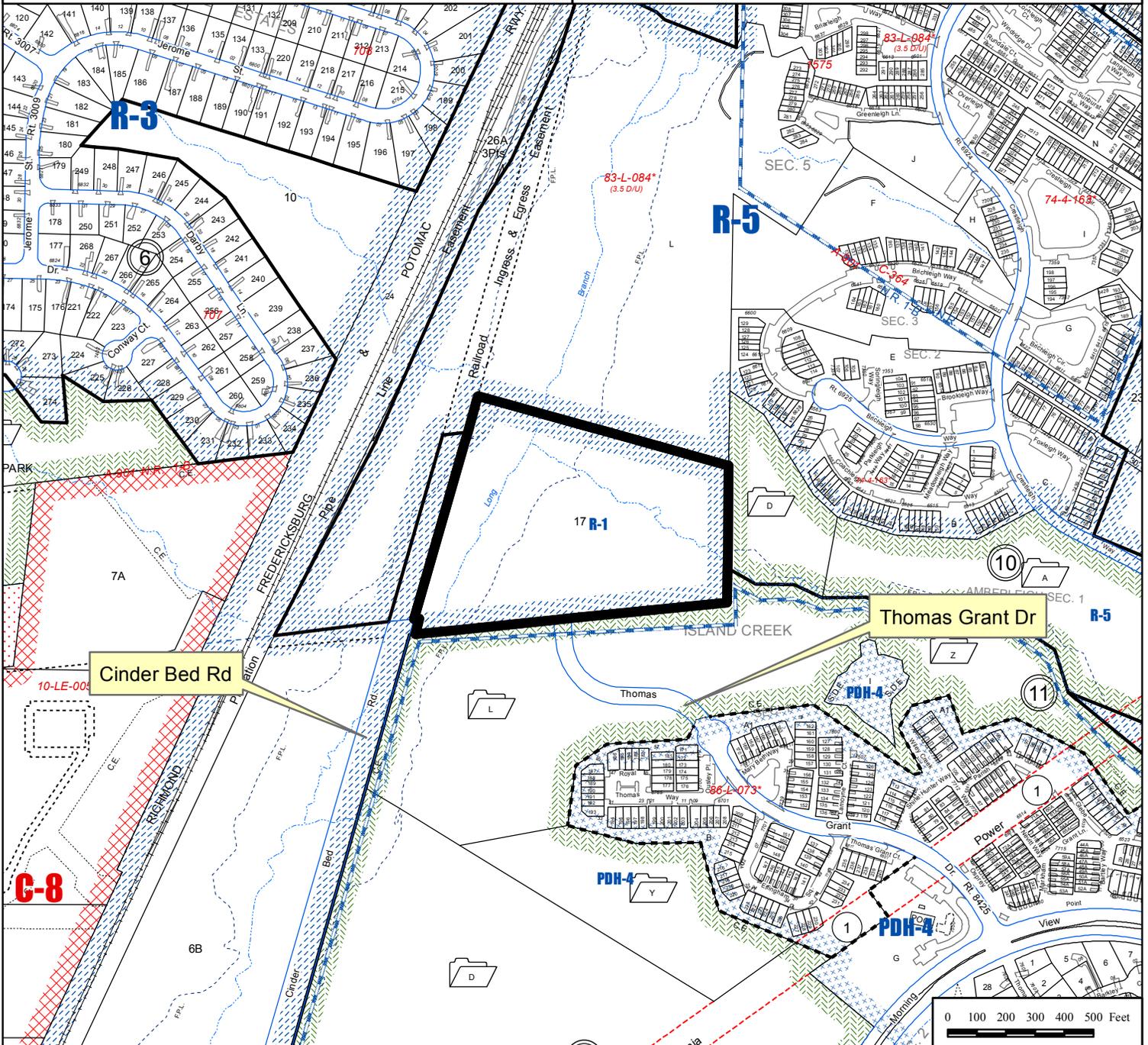
**RZ 2014-LE-008**

Applicant: LONG BRANCH PARTNERS, L.L.C.  
Accepted: 03/21/2014  
Proposed: RESIDENTIAL  
Area: 15.33 AC OF LAND; DISTRICT - LEE  
Zoning Dist Sect:  
Located: EAST SIDE OF CINDER BED ROAD AT ITS NORTHERN TERMINUS  
Zoning: FROM R- 1 TO PDH- 4  
Overlay Dist:  
Map Ref Num: 090-4- /01/ /0017

# Final Development Plan

**FDP 2014-LE-008**

Applicant: LONG BRANCH PARTNERS, L.L.C.  
Accepted: 03/21/2014  
Proposed: RESIDENTIAL  
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Located: EAST SIDE OF CINDER BED ROAD AT ITS NORTHERN TERMINUS  
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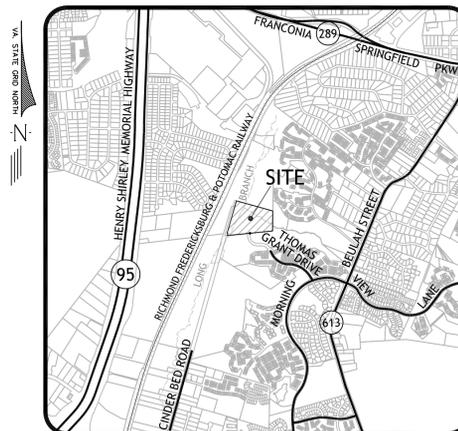


# O'CONNELL PROPERTY

## CONCEPTUAL DEVELOPMENT PLAN FINAL DEVELOPMENT PLAN (CDP/FDP)

Lee District  
Fairfax County, Virginia

DECEMBER 11, 2013  
FEBRUARY 10, 2014  
JUNE 17, 2014  
AUGUST 7, 2014  
SEPTEMBER 23, 2014  
OCTOBER 20, 2014  
NOVEMBER 12, 2014



VICINITY MAP  
SCALE 1"=2000'

### SHEET INDEX

1	COVER SHEET
2	NOTES & DETAILS
3	EXISTING CONDITIONS MAP
4	EXISTING VEGETATION MAP
5	CDP/FDP LAYOUT
5A	FCPA LAND CONEYANCE EXHIBIT
6	LANDSCAPE PLAN
7-8	PRELIMINARY BMP ANALYSIS
9-10	PRELIMINARY SWM ANALYSIS
11	ADEQUATE OUTFALL ANALYSIS
12	ILLUSTRATIVE
13	AMENITIES PLAN

### APPLICANT:

LONG BRANCH PARTNERS, LLC  
c/o SOMERVILLE MANAGEMENT GROUP  
6715 LITTLE RIVER TURNPIKE  
SUITE 100  
ANNANDALE, VIRGINIA 22003  
(703) 642-1620

### CIVIL ENGINEER:



### ATTORNEY:

WALSH COLUCCI LUBELEY & WALSH PC  
2200 CLARENDON BLVD.  
THIRTEENTH FLOOR  
ARLINGTON, VIRGINIA 22201-3359  
(703) 528-4700 FAX: (703) 525-3197

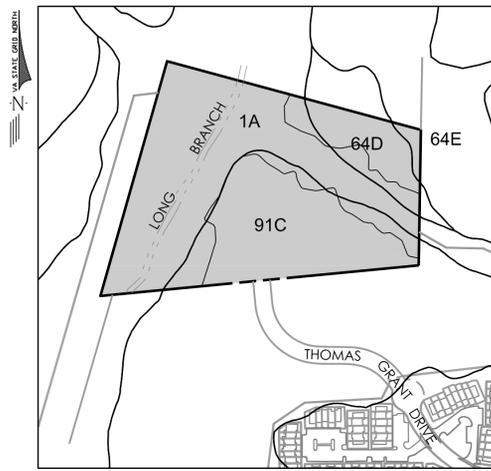


**GENERAL NOTES**

- ALL REFERENCES HEREIN TO ZONING ORDINANCE SHALL REFER TO THE FAIRFAX COUNTY ZONING ORDINANCE. ALL REFERENCES HEREIN TO PROPERTY, PARCEL OR SITE SHALL REFER TO THE SUBJECT PROPERTY.
- THE SUBJECT PROPERTY IS LOCATED IN THE LEE DISTRICT, ON FAIRFAX COUNTY TAX MAP 90-4 ((1)) 17, AND IS OWNED BY JEAN MARY O'CONNELL NADER.
- THE PROPERTY IS CURRENTLY ZONED R-1 AND IS PROPOSED TO BE REZONED PDH-4.
- THE BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY OF THIS PROPERTY PERFORMED BY URBAN, LTD. IN AUGUST, 2013.
- THE TOPOGRAPHY SHOWN HEREON IS AT TWO FOOT CONTOUR INTERVAL, BASED ON A FIELD SURVEY PERFORMED BY URBAN, LTD. IN OCTOBER, 2013.
- BASED UPON COUNTY MAPPING THERE ARE FLOODPLAINS AND RESOURCE PROTECTION AREAS LOCATED ON THE PROPERTY.
- ALL KNOWN EASEMENTS 25 FEET OR MORE IN WIDTH ON THE PROPERTY ARE SHOWN HEREIN.
- THERE ARE NO AREAS WITHIN THE PROPOSED DEVELOPED AREA THAT HAVE SCENIC ASSETS OR NATURAL FEATURES WORTH PROTECTING AND PRESERVING.
- THERE ARE NO KNOWN GRAVE OR BURIAL SITES ON THIS PROPERTY.
- ACCORDING TO THE COUNTYWIDE TRAILS PLAN, THERE IS ONE MINOR TRAIL PROPOSED ON THE PROPERTY. AN 8 FOOT WIDE ASPHALT TRAIL EXISTS ALONG THE EASTERN SIDE OF LONG BRANCH, SOUTH OF THE SUBJECT PROPERTY.
- THE USE AND DENSITY OF THE PROPOSED DEVELOPMENT CONFORMS TO THE RECOMMENDATIONS OF THE FAIRFAX COUNTY COMPREHENSIVE PLAN. THE PROPERTY IS LOCATED WITHIN THE SPRINGFIELD PLANNING DISTRICT (AREA IV) AND THE NEWINGTON COMMUNITY PLANNING SECTOR (S6). IT IS PLANNED FOR RESIDENTIAL USE AT 3 TO 4 DWELLING UNITS PER ACRE.
- THE PROPOSED DEVELOPMENT WILL NOT POSE ANY ADVERSE EFFECT ON ADJACENT OR NEIGHBORING PROPERTIES.
- SPECIAL AMENITIES WILL INCLUDE PRESERVATION OF THE EQC / RPA, CONSTRUCTION OF AN 8' WIDE ASPHALT TRAIL, A TOT LOT AND COMMUNITY RECREATION AREA.
- THE PROJECT IS ANTICIPATED TO BE DEVELOPED IN A SINGLE PHASE.
- A PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT DATED OCTOBER 18, 2013 HAS BEEN PREPARED BY ECS MID-ATLANTIC, LLC.
- A PRELIMINARY GEOTECHNICAL INVESTIGATION FOR THIS SITE HAS BEEN COMPLETED BY WHITLOCK DALRYMPLE POSTON & ASSOCIATES, INC. (WDP) DATED OCTOBER 24, 2013 ENTITLED "PROPOSED O'CONNELL PROPERTY - WDP PROJECT NO. 13146".
- WETLANDS SHOWN HEREIN WERE DELINEATED BY WSSI, INC. (WETLAND STUDIES AND SOLUTIONS, INC.) AS SHOWN IN "WATERS OF THE U.S. DELINEATION AND RESOURCE PROTECTION AREA EVALUATION MAP, THOMAS GRANT PROPERTY" DATED AUGUST 5, 2013.
- THE PROPOSED DEVELOPMENT WILL CONFORM TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS EXCEPT AS MAY BE SPECIFIED OTHERWISE.
- PUBLIC WATER AND SEWER SHALL BE PROVIDED BY EXTENSION OF EXISTING SERVICE ON AND ADJACENT TO THE PROPERTY. SOLID WASTE REMOVAL SHALL BE PROVIDED BY PRIVATE CONTRACTORS.
- ALL PROPOSED UTILITIES, INCLUDING ELECTRIC, SHALL BE PLACED UNDERGROUND.
- PARKING WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE.
- HOUSE FOOTPRINTS SHOWN ARE ILLUSTRATIVE AND APPROXIMATE. THE SIZE AND CONFIGURATION OF THESE FOOTPRINTS MAY BE REVISED PROVIDED THAT THE MINIMUM SETBACKS TO THE PERIPHERY AND REQUIRED AMOUNT OF OPEN SPACE ARE NOT DIMINISHED.
- PURSUANT TO SECTION 16-403 OF THE ZONING ORDINANCE, MINOR MODIFICATIONS INCLUDING THE LIMITS OF CLEARING AND GRADING, LANDSCAPED OPEN SPACE AND LOCATIONS OF SIDEWALKS, UTILITIES, RECREATIONAL AMENITIES AND STORM WATER MANAGEMENT FACILITIES MAY OCCUR WITH FINAL SITE ENGINEERING WITHOUT REQUIRING AN AMENDMENT TO THIS CDP/FDP.
- LANDSCAPING WILL BE PROVIDED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ARTICLE 13 AND THIS CDP/FDP.
- SUBJECT TO MARKET CONDITIONS, IT IS ANTICIPATED THAT CONSTRUCTION OF THE PROPOSED DEVELOPMENT WILL COMMENCE AS SOON AS ALL NECESSARY COUNTY APPROVALS AND PERMITS ARE OBTAINED.
- STORMWATER MANAGEMENT FACILITIES WILL CONFORM TO ALL DPWES AND PFM REQUIREMENTS. APPLICANT RESERVES THE RIGHT TO ADD ADDITIONAL BIORETENTION FACILITIES IF DEEMED REQUIRED AT TIME OF FINAL ENGINEERING.
- PRIVATE STREETS AND SURFACE PARKING AREAS NOT WITHIN PRIVATE DRIVEWAYS ARE TO BE LOCATED ON COMMON HOMEOWNERS ASSOCIATION (HOA) PROPERTY AND WILL BE OWNED AND MAINTAINED BY THE HOA.
- BASED UPON THE PHASE I SITE INVESTIGATION, THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4 AND 355; ALL HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA DEPARTMENT OF WASTE MANAGEMENT REGULATIONS VR 672-10-1-VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND/OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280; TO BE GENERATED, UTILIZED, STORED, TREATED AND/OR DISPOSED OF ON-SITE.

**SOILS MAP**

SCALE 1"=300'



**SOILS RATINGS**

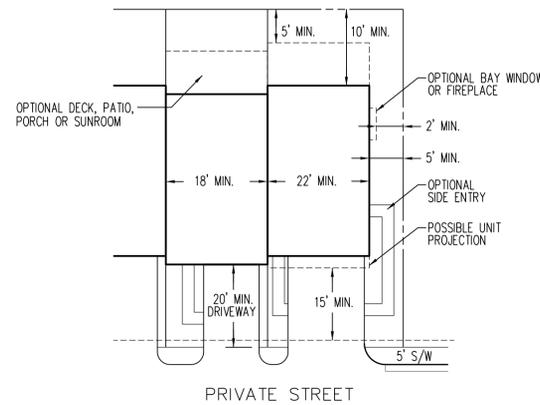
SOIL I.D. NUMBER	SERIES NAME	SUBSURFACE DRAINAGE	FOUNDATION SUPPORT	SLOPE STABILITY	ERODIBILITY	INFILTRATION SUITABILITY	GEOTECHNICAL REPORT RECD.
1A	ALBANO SILT LOAM	POOR-W,S	POOR-B,W,C	MODERATE	LOW	POOR-W,S	YES
64D	JACKLAND AND HAYMARKET SOILS (STONY)	POOR-P,C,S	POOR-P,C,B	LOW	MEDIUM	POOR-C,P,S	YES
64E	JACKLAND AND HAYMARKET SOILS (STONY)	POOR-P,C,S	POOR-P,C,B	LOW	MEDIUM	POOR-C,P,S	YES
91C	SASSAFRAS-MARUMSCO COMPLEX	POOR-P,C,S	POOR-U,P,C,B	LOW-MOD.	HIGH	POOR-P,C,U	YES

**SOILS NOTES:**

- SOILS INFORMATION AND MAPPING PROVIDED BY THE OFFICIAL 2011 FAIRFAX COUNTY SOIL MAPS.
- GEOTECHNICAL REPORT REQUIRED AT TIME OF SITE PLAN.

**TYPICAL SFA LOT DETAIL**

N.T.S.



**TYPICAL LOT/UNIT NOTES:**

- THE TYPICAL LOT DETAILS ARE INTENDED TO ESTABLISH MINIMUM YARD AREAS AND SETBACKS. THE FOOTPRINTS SHOWN ARE ILLUSTRATIVE AND MAY NOT REPRESENT THE ACTUAL FOOTPRINT. ALTERNATIVE FOOTPRINTS MAY BE USED.
- EXTENSIONS INTO MINIMUM REQUIRED YARDS NOT SPECIFIED BELOW SHALL BE GOVERNED BY ARTICLE 2-412 OF THE ZONING ORDINANCE.
- MINIMUM DRIVEWAY LENGTH IS 20 FEET, MEASURED FROM FACE OF GARAGE DOOR TO EDGE OF SIDEWALK.
- BAY WINDOWS AND FIREPLACES MAY EXTEND UP TO 3 FEET INTO ANY MINIMUM REQUIRED YARD BUT NOT CLOSER THAN 2 FEET TO ANY SIDE LOT LINE.
- DECK MODIFICATIONS MAY INCLUDE BUT ARE NOT LIMITED TO: LATTICE WORK, PERGOLAS, TRELLISES AND OVERHANGING PLANTER BOXES.
- ENTRY STAIRS, STOOPS, CANOPIES AND/OR PORCHES MAY EXTEND UP TO 5 FEET INTO YARDS BUT NOT CLOSER THAN 2 FEET TO ANY SIDE LOT LINE.
- ENCLOSED PORCHES / SUNROOMS MAY EXTEND INTO REAR YARDS BUT NOT CLOSER THAN 5 FEET FROM THE REAR LOT LINE AND MAY NOT PROJECT BEYOND THE SIDE OF THE HOUSE.
- ANY UNCOVERED DECKS / BALCONIES IN THE FRONT MAY PROJECT UP TO 8 FEET FROM THE FACADE
- A PRIVACY YARD OF AT LEAST 200 SQUARE FEET SHALL BE PROVIDED FOR EACH UNIT.
- END UNITS TO ACCOMMODATE A TWO-CAR GARAGE.

**ZONING AND AREA TABULATIONS**

TOTAL SITE AREA	=	667,743 S.F. OR 15.3293 AC.
DEDICATION FOR THOMAS GRANT DRIVE CUL-DE-SEC:	=	0.10 AC +/-
DEDICATION FOR PARKLAND TO FCPA:		
OUTSIDE RPA:	=	1.26 AC +/-
WITHIN RPA:	=	9.41 AC +/-
TOTAL PARKLAND DEDICATION:	=	10.67 AC +/-
* DUE TO FLOODPLAINS & MARINE CLAYS COMPRISING OVER 30% OF THE SUBJECT SITE, ARTICLE 2-308(2) OF THE FAIRFAX COUNTY ZONING ORDINANCE APPLIES, WHERE...		
* 30% OF GROSS SITE AREA IS CALCULATED AT FULL DENSITY.		
* PERCENTAGE OF ENVIRONMENTALLY SENSITIVE AREAS OUTLINED IN ARTICLE 2-308(2) MINUS 30% IS CALCULATED AT HALF DENSITY. IN THIS CASE, 74% - 30% = 44%.		
* REMAINING PERCENTAGE OF GROSS SITE AREA IS CALCULATED AT FULL DENSITY. IN THIS CASE, 26%.		
EXISTING ZONING	=	R-1
PROPOSED ZONING	=	PDH-4
* ALLOWABLE DENSITY:		
30% OF GROSS SITE	=	4.5988 AC x 4 DU/AC = 18.3952 DU
44% OF GROSS SITE	=	6.7449 AC x 4 DU/AC = 26.9796 x 50% = 13.4898 DU
26% OF GROSS SITE	=	3.9856 AC x 4 DU/AC = 15.9424 DU
TOTAL ALLOWABLE DENSITY	=	47.8274 DU OR 3.12 DU/AC
PROPOSED DENSITY	=	38 SFA UNITS/15.3293 AC = 2.48 DU/AC
MINIMUM LOT AREA	=	NONE, MIN. 200 S.F. PRIVACY YARD REQ'D.
MINIMUM LOT WIDTH	=	NONE
MINIMUM YARD SETBACKS:		
FRONT YARD	=	15 FEET
SIDE YARD	=	5 FEET
REAR YARD	=	10 FEET
PROPOSED UNIT HEIGHT	=	35 FEET MAXIMUM
OPEN SPACE REQUIRED	=	20% OR 3.07 AC.
OPEN SPACE PROVIDED	=	±58.7% OR ±9.0 AC.
ACTIVE REC. AREA PROVIDED	=	±16,350 S.F. TOT LOT/COMMUNITY GATHERING & COMMUNITY BACKYARD/ADULT FITNESS AREAS

**PARKING TABULATIONS**

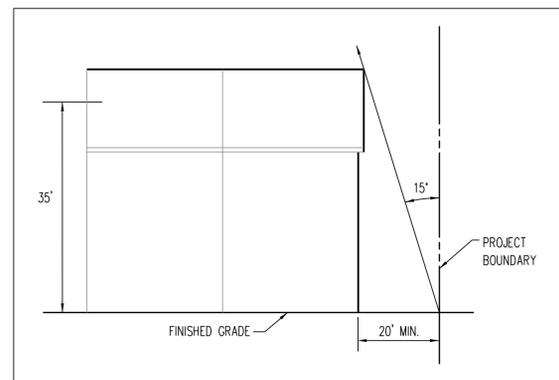
TOTAL NUMBER OF UNITS	=	38
PARKING SPACES REQUIRED	=	103 SPACES (2.70 SPACES PER UNIT)
PARKING SPACES PROVIDED:		
GARAGE (1 SPACE, INTERIOR UNITS)	=	26 SPACES
GARAGE (2 SPACES, END UNITS)	=	24 SPACES
OFF-STREET (GUESTS)	=	±24 SPACES
SUBTOTAL	=	±74 SPACES
DRIVEWAY (1 SPACE, INTERIOR UNITS)	=	26 SPACES
DRIVEWAY (2 SPACES, END UNITS)	=	24 SPACES
TOTAL SPACES PROVIDED	=	124 SPACES (3.26 SPACES PER UNIT)
(AN ADDITIONAL 30 SPACES ARE AVAILABLE ON ONE SIDE OF THOMAS GRANT DRIVE)		

**REQUESTED WAIVERS/MODIFICATIONS**

- MODIFICATION OF SECTION 7-0406.8A OF THE PUBLIC FACILITIES MANUAL TO ALLOW A MINIMUM 30 FOOT PAVEMENT RADIUS WITHIN THE CUL-DE-SAC TERMINATING THOMAS GRANT DRIVE IN ORDER TO MINIMIZE CLEARING AND GRADING.
- WAIVER OF PUBLIC FACILITIES MANUAL SECTION 6-0302.2 REGARDING ON-SITE DETENTION REQUIREMENTS FOR 2 & 10 YEAR STORM EVENTS.
- WAIVER OF THE PROHIBITION OF UNDERGROUND STORMWATER DETENTION FACILITIES FOR RESIDENTIAL DEVELOPMENTS PER SECTION 6-0303.8 OF THE PUBLIC FACILITIES MANUAL. THE DESIGN AND MAINTENANCE OF THE PROPOSED UNDERGROUND STORMWATER DETENTION FACILITIES SHOWN SHALL CONFORM TO ALL REQUIREMENTS OF THE PUBLIC FACILITIES MANUAL.

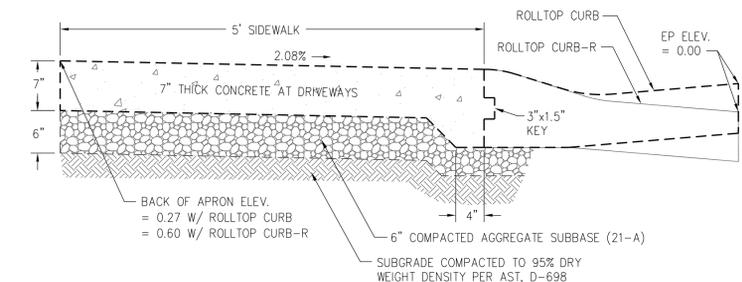
**ANGLE OF BULK PLANE**

N.T.S.



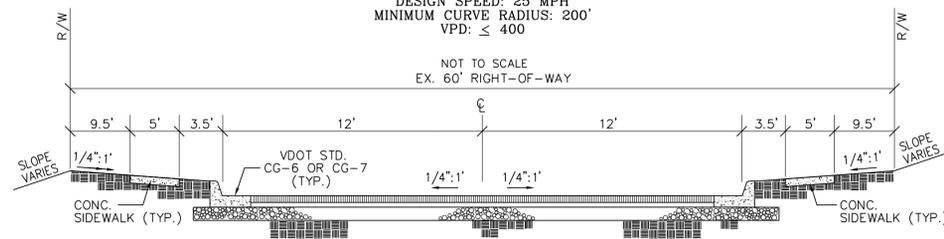
**DRIVEWAY ENTRANCE WITH 5' SIDEWALK DETAIL**

N.T.S.



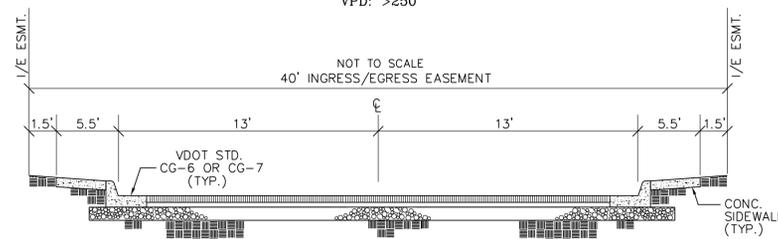
**TYPICAL CROSS SECTION THOMAS GRANT DRIVE - NO PARKING**

DESIGN SPEED: 25 MPH  
MINIMUM CURVE RADIUS: 200'  
VPD: ≤ 400



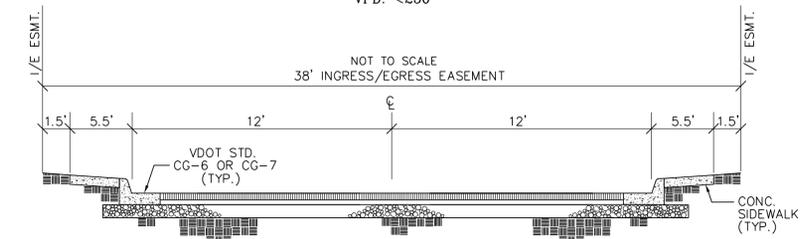
**TYPICAL CROSS SECTION 26' PRIVATE STREET - NO PARKING**

VPD: >250



**TYPICAL CROSS SECTION 24' PRIVATE STREET - NO PARKING**

VPD: <250



- GENERAL NOTES:**
- FINAL PAVEMENT DESIGN TO OCCUR WITH CONSTRUCTION PLANS AND PROFILES.
  - SEE PLAN VIEW FOR ACTUAL SIDEWALK LOCATIONS.



**Client**  
LONG BRANCH PARTNERS  
c/o Somerville Mgmt. Group  
6715 Little River Turnpike, Suite 100  
Annandale, VA 22003  
703.642.1620  
Correspondent: Andy Somerville

**Revision / Issue**

No.	Description	Date
1.	DPZ Acceptance	12/11/13
2.	First Submission	02/10/14
3.	Second Submission	06/17/14
4.	Third Submission	08/07/14
5.	Fourth Submission	09/23/14
6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

**Issue**

Date	Description

**Project Name**  
O'CONNELL PROPERTY  
  
CDP/FDP  
Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No.: ZP-2144

Date: NOVEMBER 12, 2014

**Drawing Title**  
NOTES AND DETAILS

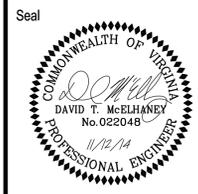
Scale: AS SHOWN  
Drawing Number

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\02-Notes.dwg [NOTES] November 12, 2014 - 10:10am jfghile

ZP-2144 O'CONNELL PROPERTY



7712 Little River Turnpike  
Annandale, Virginia 22003  
TEL 703.642.8080 FAX 703.642.8251  
www.urban-ld.com



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**Project Name**  
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CDP/FDP  
  
Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No.: ZP-2144

Date: NOVEMBER 12, 2014

Drawing Title  
EXISTING CONDITIONS

Scale: 1"=50'

Drawing Number  
**3**  
Sheet 3 of 13

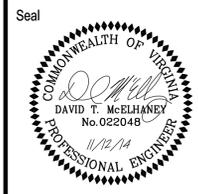


Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\03-Excond.dwg [CDP] November 12, 2014 - 8:04am jghille

ZP-2144 O'CONNELL PROPERTY



7712 Little River Turnpike  
Annandale, Virginia 22003  
TEL 703.642.8080 FAX 703.642.8251  
www.urban-ld.com



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Project Name  
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Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

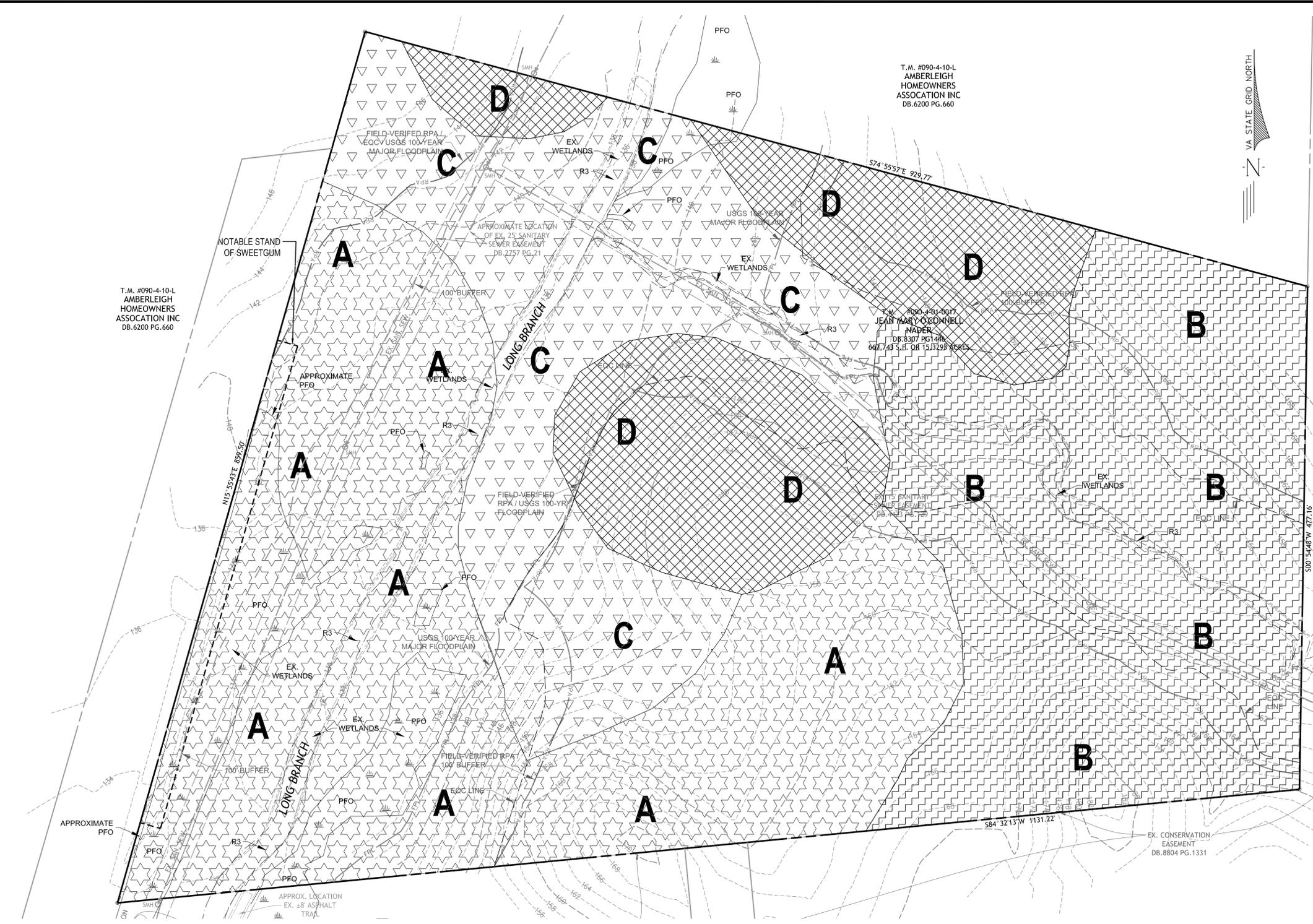
Project No.: ZP-2144

Date: NOVEMBER 12, 2014

Drawing Title  
**EXISTING VEGETATION MAP**

Scale: 1"=50'

Drawing Number  
**4**  
Sheet 4 of 13



T.M. #090-4-10-L  
AMBERLEIGH HOMEOWNERS ASSOCIATION INC  
DB.6200 PG.660

T.M. #090-4-10-L  
AMBERLEIGH HOMEOWNERS ASSOCIATION INC  
DB.6200 PG.660

T.M. #090-4-10-D  
FAIRFAX COUNTY PARK AUTHORITY  
DB.5668 PG.286

EX. 15' SANITARY SEWER EASEMENT  
DB.4529 PG.745

EX. CONSERVATION EASEMENT  
DB.8804 PG.1331

**EXISTING VEGETATION SUMMARY**

Cover Type	Primary Species	Successional Stage	Condition	Acreage	Comments	Cover Type	Primary Species	Successional Stage	Condition	Acreage	Comments
<b>A</b> Bottomland Forest	Tulip poplar ( <i>Liriodendron tulipifera</i> ), Sweetgum ( <i>Liquidambar styraciflua</i> ), White Oak ( <i>Quercus alba</i> ), Red Maple ( <i>Acer rubrum</i> )	Mature	Good	5.55 ac.	This cover type consists primarily of mature Tulip Poplar ( <i>Liriodendron tulipifera</i> ), Sweetgum ( <i>Liquidambar styraciflua</i> ), White Oak ( <i>Quercus alba</i> ) and Red Maple ( <i>Acer rubrum</i> ) ranging in size from 12-30" DBH. One area to note is the stand of 12-20" DBH Sweetgums on the western side of the property (See Plan). The understory is relatively clear and contains a wide variety of small trees including those found in the canopy as well as Black Cherry ( <i>Prunus serotina</i> ), American Beech ( <i>Fagus americana</i> ), and Silky Dogwood ( <i>Cornus amomum</i> ). Ferns and mosses are sporadic throughout on the ground plane.	<b>C</b> Bottomland Forest	Tulip poplar ( <i>Liriodendron tulipifera</i> ), White Oak ( <i>Quercus alba</i> ), Sweetgum ( <i>Liquidambar styraciflua</i> ), Red Maple ( <i>Acer rubrum</i> )	Young	Good	3.18 ac.	This cover type consists primarily of young forest. Tulip poplar ( <i>Liriodendron tulipifera</i> ) and White Oak ( <i>Quercus alba</i> ) dominate the canopy (12-20" DBH) while the remainder of the forest is composed of a mixture of smaller trees (3-10" DBH) including Sweetgum ( <i>Liquidambar styraciflua</i> ), Red Maple ( <i>Acer rubrum</i> ), American Beech ( <i>Fagus americana</i> ), Musclemwood ( <i>Carpinus Caroliniana</i> ) River Birch ( <i>Betula niga</i> ) and American Holly ( <i>Ilex opaca</i> ).
<b>B</b> Upland Forest	Tulip poplar ( <i>Liriodendron tulipifera</i> ), Red Oak ( <i>Quercus rubra</i> ), White Oak ( <i>Quercus alba</i> ), Pignut Hickory ( <i>Carya glabra</i> )	Mature	Good	4.11 ac.	This cover type is very similar to cover type 'A' however there is a larger abundance of Oaks and Hickory. The canopy consists primarily of Tulip Poplar and Red and White Oaks, while Sweetgum and Pignut Hickory play a secondary role. The understory is relatively clear and contains a variety of small trees (1-4" DBH) including Sweetgum ( <i>Liquidambar styraciflua</i> ), Red Maple ( <i>Acer rubrum</i> ) and Musclemwood ( <i>Carpinus caroliniana</i> ). Small pockets of ferns are scattered throughout this cover type.	<b>D</b> Bottomland Forest	Virginia Pine ( <i>Pinus virginiana</i> ), Tulip poplar ( <i>Liriodendron tulipifera</i> ), Sweetgum ( <i>Liquidambar styraciflua</i> ),	Mature/Young	Poor, Fair	2.49 ac.	This cover type consists of mature, 10-20" DBH, Virginia Pine ( <i>Pinus virginiana</i> ), Tulip Poplar ( <i>Liriodendron tulipifera</i> ) (10-20" DBH) and White Oak ( <i>Quercus alba</i> ) (10-20" DBH). The majority of the Virginia Pine are in poor health or have fallen over creating large gaps in the canopy for young successional trees in the understory. The understory is primarily composed of young Oak trees ( <i>Quercus alba</i> , <i>Quercus rubra</i> , <i>Quercus bicolor</i> ), Sweetgum ( <i>Liquidambar styraciflua</i> ), Red Maple ( <i>Acer rubrum</i> ), Pignut Hickory ( <i>Carya glabra</i> ), and American Beech ( <i>Fagus americana</i> ) (1/2" - 6" DBH)

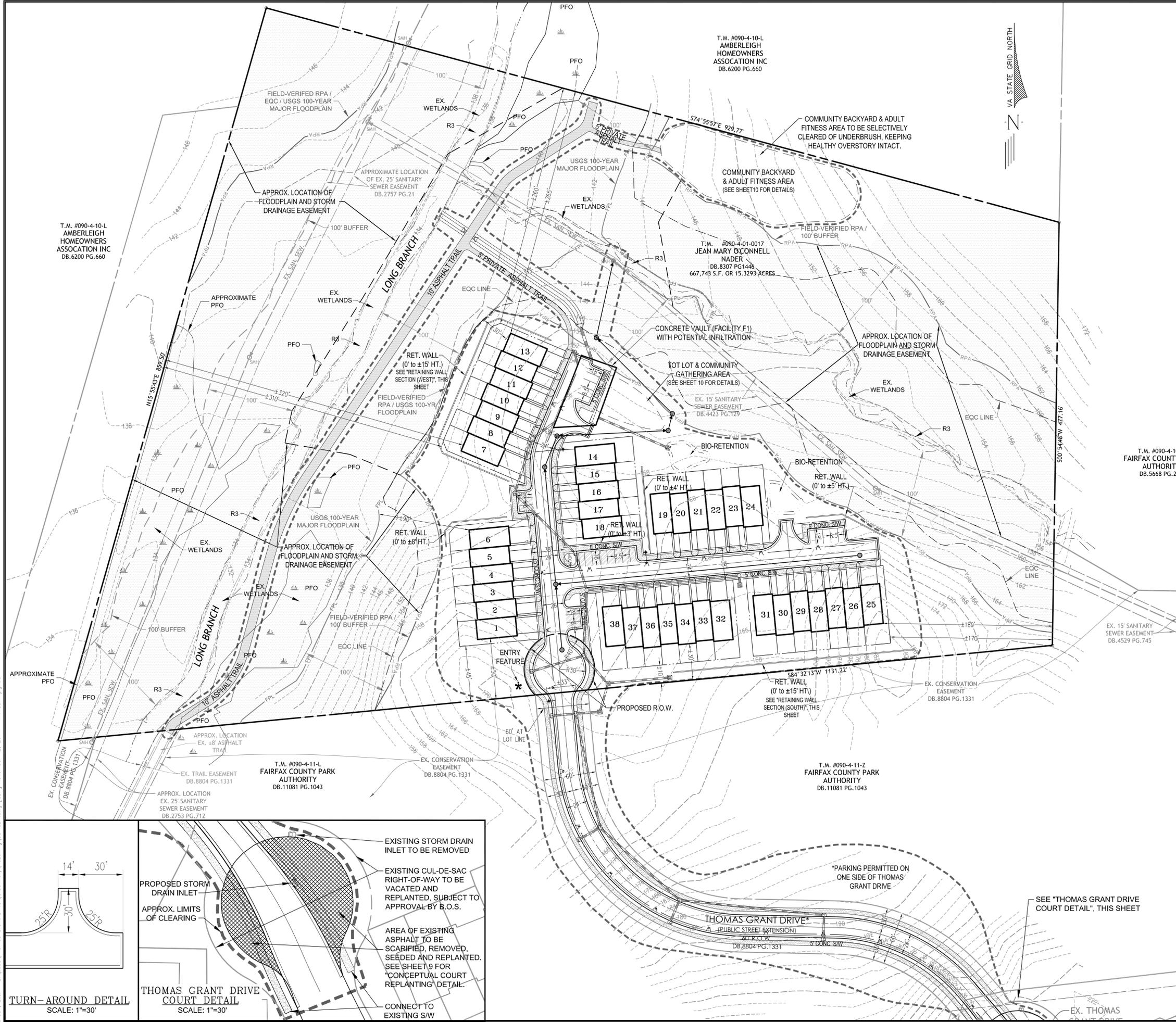


THIS PLAN PREPARED AND/OR APPROVED BY JOHN LIGHTLE, ISA CERTIFIED ARBORIST # MA-5174A

- Notes:
- \*dbh = diameter at breast height (trunk measured 4.5 ft. above the ground).
  - Field data collected during site visit on October 25, 2013
  - The entire site is covered with forest which continues off of the property, as a result there is not an existing treeline shown on this plan.

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ZP-2144 O'CONNELL PROPERTY



- LEGEND:**
- PROPOSED SANITARY SEWER
  - PROPOSED WATERMAIN
  - PROPOSED STORM DRAIN
  - - - - - LIMITS OF CLEARING & GRADING (APPROXIMATE LOCATION)
  - ▨ POSSIBLE PERMEABLE PAVERS (LOCATION SUBJECT TO FINAL SOILS REPORT AND FINAL ENGINEERING)
  - APPROXIMATE LOCATION OF LAND AREA TO BE CONVEYED TO FCPA

- NOTES:**
1. THE LOCATION OF PROPOSED TRAILS, UTILITY LINES, LOT LINES, SIDEWALKS, RETAINING WALLS AND SWM/BMP FACILITIES IS CONCEPTUAL AND SUBJECT TO ADJUSTMENT WITH FINAL ENGINEERING. THE FINAL LOCATION OF TRAILS AND ASSOCIATED CLEARING AND GRADING WILL BE DETERMINED IN THE FIELD SO AS TO MINIMIZE IMPACT TO SIGNIFICANT TREES.
  2. FIRE LANE SIGNS AND PAINT ARE REQUIRED. FINAL LOCATIONS TO BE DETERMINED AT SITE PLAN REVIEW.
  3. PROPOSED 5' ASPHALT TRAILS TO BE PLACED WITHIN A PRIVATE ACCESS EASEMENT. PRIVATE PROPERTY SIGNS SHALL BE POSTED AT THE JUNCTURE OF THE 10' PUBLIC ASPHALT TRAILS AND 5' PRIVATE ASPHALT TRAILS.

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Seal

DAVID T. McELHANE  
No. 022048  
11/12/14  
PROFESSIONAL ENGINEER

Client  
LONG BRANCH PARTNERS  
c/o Somerville Mgmt. Group  
6715 Little River Turnpike, Suite 100  
Annandale, VA 22003  
703.642.1620

Correspondent: Andy Somerville

Revision / Issue

No.	Description	Date
1.	DPZ Acceptance	12/11/13
2.	First Submission	02/10/14
3.	Second Submission	06/17/14
4.	Third Submission	08/07/14
5.	Fourth Submission	09/23/14
6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

Issue

Date	Description

Project Name  
**O'CONNELL PROPERTY**

CDP/FDP

Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No.: ZP-2144

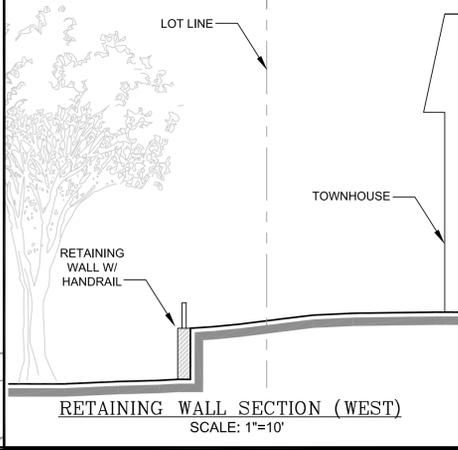
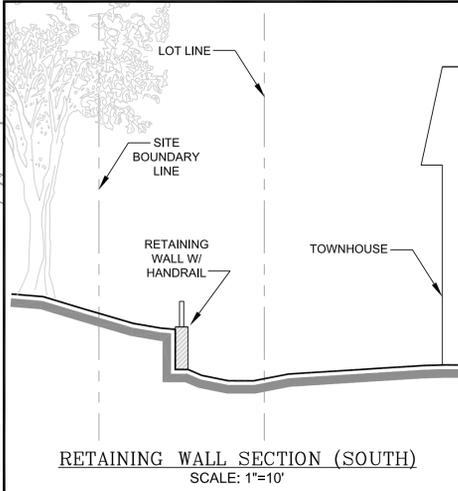
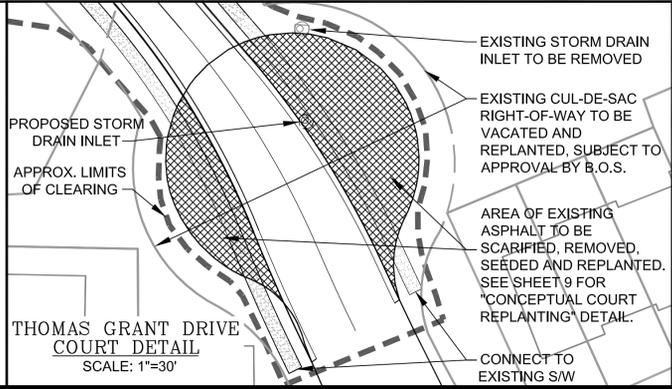
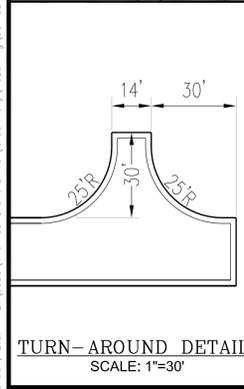
Date: NOVEMBER 12, 2014

Drawing Title  
**CDP/FDP LAYOUT**

Scale: 1"=50'

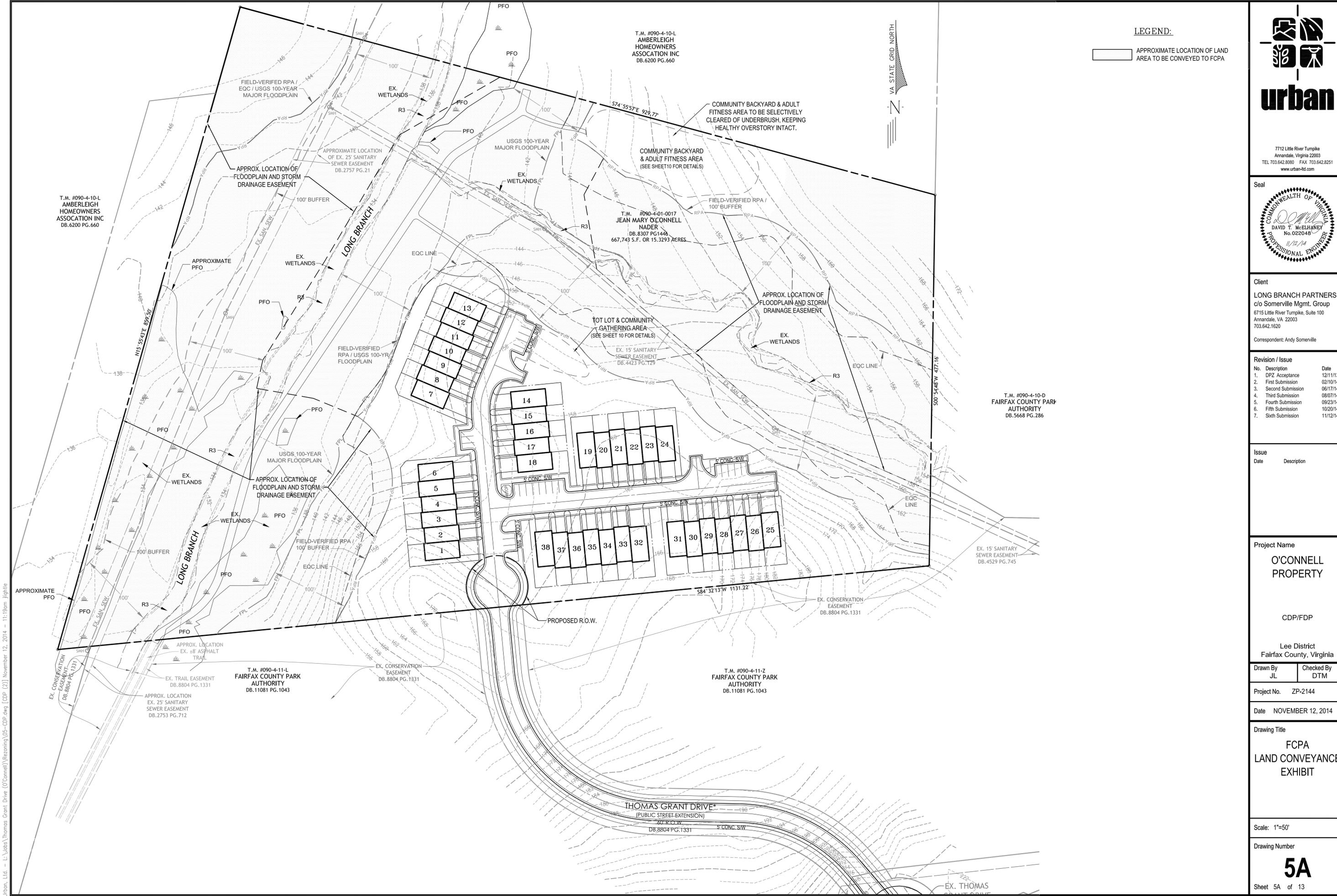
Drawing Number

**5**  
Sheet 5 of 13



Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\05-CDP.dwg [CDP] November 12, 2014 - 11:18am fightline

ZP-2144 O'CONNELL PROPERTY



**LEGEND:**

APPROXIMATE LOCATION OF LAND AREA TO BE CONVEYED TO FCPA



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6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

**Issue**

Date	Description

**Project Name**  
O'CONNELL PROPERTY  
  
CDP/FDP  
  
Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No.: ZP-2144

Date: NOVEMBER 12, 2014

**Drawing Title**  
FCPA  
LAND CONVEYANCE  
EXHIBIT

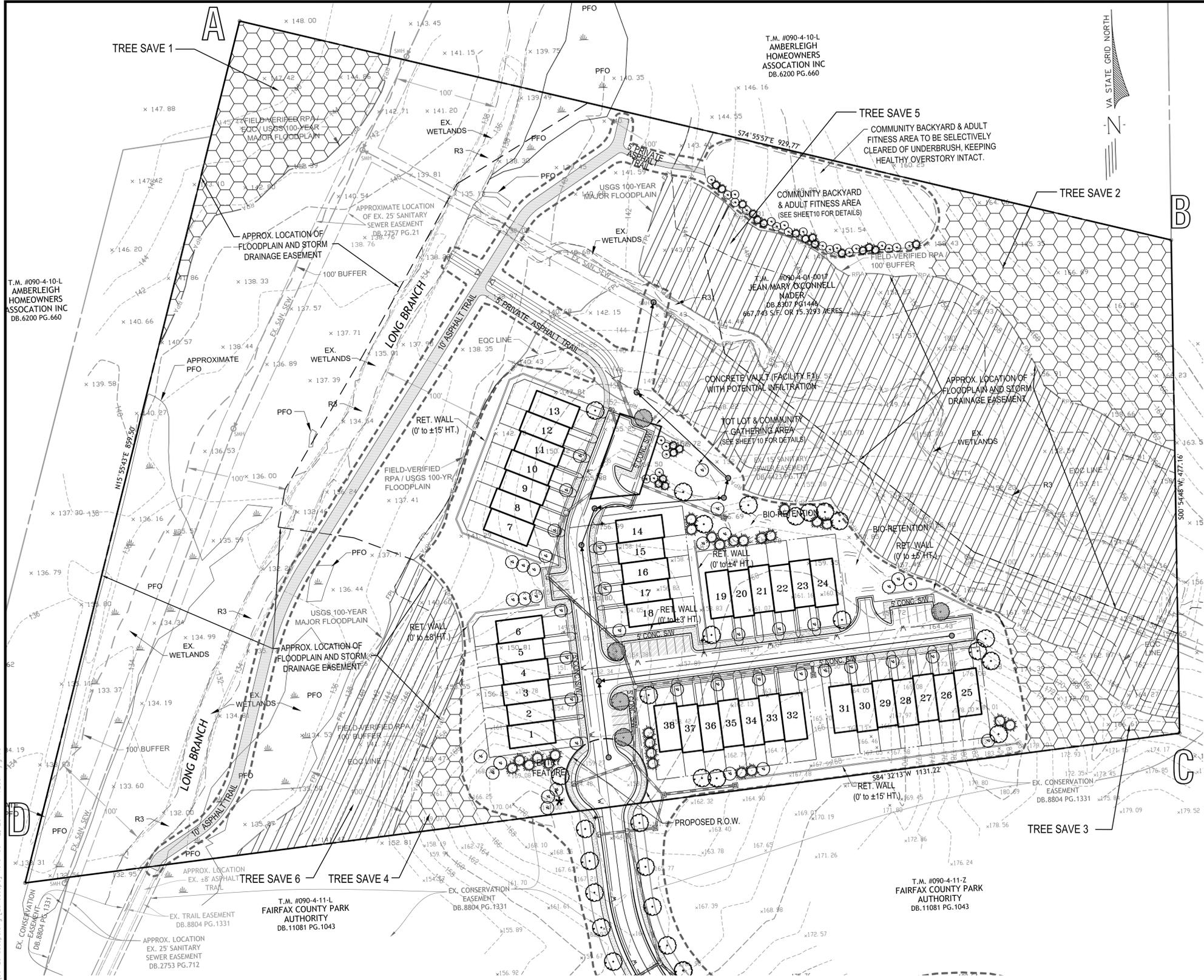
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Drawing Number

**5A**  
Sheet 5A of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\05-CDP.dwg [CDP (2)] November 12, 2014 - 11:19:09 jfhtille

ZP-2144 O'CONNELL PROPERTY



TREE PRESERVATION TARGET CALCULATIONS	
Gross Site Area (s.f.)	667,743
Pre-Development Area of Existing Tree Canopy (s.f.)	667,743
Percentage of Gross Site Area Covered by Existing Tree Canopy	100%
<b>Tree Preservation Target</b>	
10-Year Tree Canopy Requirement Percentage	20%
10-Year Tree Canopy Required (s.f.) (See "10-Year Tree Canopy Calculations" Table)	85,320
Percentage of the 10-Year Tree Canopy Requirement that Should be Met Through Tree Preservation (This is the "Tree Preservation Target")	100%
Area of the 10-Year Tree Canopy Requirement that Should be Met Through Tree Preservation (s.f.)	85,320
Area of the 10-Year Tree Canopy Requirement that Will be Met Through Tree Preservation (s.f.) (See "Tree Preservation Calculations" Table)	242,891
Proposed Percentage of 10-Year Tree Canopy Requirement that Will be Met Through Tree Preservation	285%
<b>Tree Preservation Target met (%)</b>	285% is greater than... 100%
<b>Tree Preservation Target met (s.f.)</b>	242,891 is greater than... 85,320

10-YEAR TREE CANOPY REQUIREMENT CALCULATIONS	
Gross Site Area (s.f.)	667,743
Deduction: Floodplain Dedication (s.f.)	-241,141
<b>Adjusted Gross Site Area (s.f.)</b>	<b>426,602</b>
Zone: PDH-4	
<b>Tree Canopy Required (s.f.)</b>	<b>20% 85,320</b>

10-YEAR TREE CANOPY PROVIDED	
<b>Total Canopy Area Provided Through Tree Preservation (s.f.)</b>	<b>242,891</b>
<b>Total Proposed Canopy Area (s.f.)</b>	<b>12,500</b>
<b>Total Tree Canopy Provided (s.f.)</b>	<b>255,391</b>

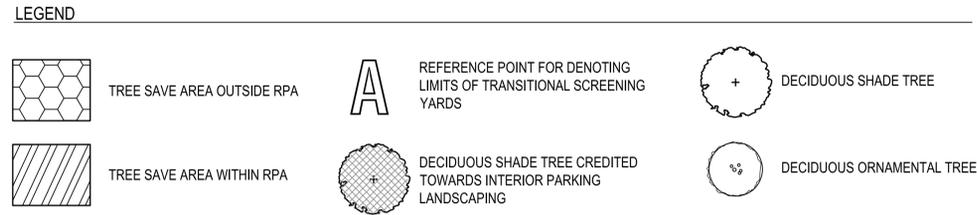
TREE PRESERVATION CALCULATIONS				
Tree Preservation Target (%)				100%
Tree Preservation Target (s.f.)				85,320
<b>Tree Preservation:</b>				
Tree Preservation Areas	Cover Type	S.F.	Credit Factor	Total
Tree Save Area 1	Normal	22,163	1.25	27,704
Tree Save Area 2	Normal	34,725	1.25	43,406
Tree Save Area 3	Normal	110,101	1.25	12,628
Tree Save Area 4	Normal	3,154	1.25	3,943
Tree Save Area 5	RPA/Community Area	131,000	1.00	131,000
Tree Save Area 6	RPA	24,212	1.00	24,212
<b>Total Tree Preservation Provided (s.f.)</b>				<b>242,891</b>

TRANSITIONAL SCREENING AND BARRIER CALCULATIONS	
<b>Buffer:</b>	<b>Required Transitional Screening / Barrier</b>
Adjunct Use (Group)	
<b>North: Buffer A-B</b>	None Required
Open Space (Amberleigh HOA)	
<b>East: Buffer B-C</b>	None Required
Open Space (Fairfax Park Authority)	
<b>South: Buffer C-D</b>	None Required
Open Space (Fairfax Park Authority)	
<b>West: Buffer D-A</b>	None Required
Open Space (Fairfax Park Authority)	

INTERIOR PARKING LOT LANDSCAPING CALCULATIONS	
Area to be Counted (s.f.)	4,437
Interior Landscaping Required (5%) (s.f.)	222
<b>Interior Landscaping Provided:</b>	
5 Shade Trees at 200 s.f. each	1,000
<b>Requirement is met...</b>	<b>1,000 s.f. is greater than... 222</b>

TREE PLANTING CALCULATIONS	
Canopy to be Met Through Tree Planting (s.f.)	-178,930
Air Quality Tree Planting (s.f.)	0
Energy Conservation Tree Planting (s.f.)	0
Water Quality Tree Planting (s.f.)	0
Wildlife Benefits Tree Planting (s.f.)	0
Native Tree Planting (s.f.)	0
Improved Cultivars & Varieties Tree Planting (s.f.)	0
Remaining Tree Planting Area (that does not qualify for higher multipliers) (s.f.)	12,500
<b>Total Tree Planting Canopy Provided (s.f.)</b>	<b>12,500</b>
<b>Offsite Planting Relief Requested?</b>	<b>No</b>
<b>Tree Bank or Tree Fund?</b>	<b>No</b>
<b>Canopy Area Requested to be Provided Through Offsite Tree Banking or Tree Fund (s.f.)</b>	<b>0</b>
<b>Amount to be Deposited into the Tree Preservation and Planting Fund</b>	<b>\$0.00</b>

PLANT SCHEDULE				
Botanical Name	Common Name	Size	Type	Remarks
<b>Cat. IV Deciduous Trees</b>				
Quercus phellos	Willow Oak	2" Cal.	B & B	Uniform branching pattern
Tilia americana	American Linden	2" Cal.	B & B	Uniform branching pattern
Ulmus americana 'Valley Forge'	Valley Forge American Elm	2" Cal.	B & B	Uniform branching pattern
<b>Cat. II Deciduous Trees</b>				
Amelanchier arborea	Downy Serviceberry	2" Cal.	B & B	Multi-stem, Min. 3 heavy stems
Cercis canadensis	Redbud	2" Cal.	B & B	Multi-stem, Min. 3 heavy stems
Magnolia virginiana	Sweetbay Magnolia	2" Cal.	B & B	Multi-stem, Min. 3 heavy stems
<b>Cat. II Evergreen Trees</b>				
Cryptomeria japonica	Japanese Cryptomeria	6" Ht.	B & B	Full to ground, Dense
Ilex opaca	American Holly	6" Ht.	B & B	Full to ground, Dense
Juniperus virginiana	Eastern Redcedar	6" Ht.	B & B	Full to ground, Dense



**NOTES**

1. LANDSCAPING LOCATIONS, SIZES, AND SPACING SHOWN IS CONCEPTUAL AND SUBJECT TO ADJUSTMENT AT TIME OF FINAL ENGINEERING. GENERAL DENSITY OF TREES SHOWN AND MINIMUM CANOPY COVERAGE REQUIREMENTS WILL BE PROVIDED.

2. THE PLANT SCHEDULE SHOWN HEREIN REPRESENTS A GENERAL PALETTE OF PROPOSED PLANT MATERIAL FOR THE SITE, THOUGH IS NOT INTENDED TO BE FULLY INCLUSIVE OF ALL VARIETIES THAT MAY BE PLANTED. FINAL PLANT LIST SELECTIONS WILL INCLUDE SPECIES LISTED IN PFM 12-0000 TABLE 12.17 OR AS APPROVED BY UFMD AT TIME OF SITE PLAN SUBMITTAL.

3. AREAS TO BE DISTURBED OUTSIDE OF THOMAS GRANT DRIVE RIGHT-OF-WAY AND WITHIN FAIRFAX COUNTY PARK AUTHORITY PROPERTY SHALL BE REFORESTED PER APPROVED PROFFERS FOR THIS APPLICATION.

THIS PLAN PREPARED AND/OR APPROVED BY JOHN LIGHTLE, ISA CERTIFIED ARBORIST # MA-5174A



**Client**  
LONG BRANCH PARTNERS  
c/o Somerville Mgmt. Group  
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703.642.1620  
Correspondent: Andy Somerville

**Revision / Issue**

No.	Description	Date
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2.	First Submission	02/10/14
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6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

**Issue**

Date	Description

**Project Name**  
O'CONNELL PROPERTY  
CDP/FDP  
Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No.: ZP-2144

Date: NOVEMBER 12, 2014

Drawing Title  
LANDSCAPE PLAN

Scale: 1"=50'  
Drawing Number

6  
Sheet 6 of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Resizing\06-Landscape.dwg [Landscape] November 12, 2014 - 11:20am Jlightle

ZP-2144 O'CONNELL PROPERTY

**PRELIMINARY BMP NARRATIVE:**

BMP REQUIREMENTS FOR THE SITE ARE BEING MET THROUGH THE USE OF THREE BIO-RETENTION FACILITIES AND FOUR PERVIOUS PAVEMENT AREAS. THE FACILITIES UTILIZED ON THIS SITE SHALL BE IN COMPLIANCE WITH SECTION 9VAC25-870-65 OF THE VIRGINIA STATE CODE FOR WATER QUALITY AND THE LATEST VERSION OF THE FAIRFAX COUNTY PFM.

A CONCRETE VAULT WITH INFILTRATION POTENTIAL HAS BEEN PROPOSED WITH THIS PLAN. HOWEVER, NO BMP CREDIT HAS BEEN TAKEN AT THIS TIME GIVEN THAT THE BMP REQUIREMENTS FOR THE SITE ARE SATISFIED WITH THE FACILITIES MENTIONED ABOVE.

BMP REQUIREMENTS FOR THE PROPOSED ROAD IMPROVEMENTS LOCATED OFFSITE HAVE ALREADY BEEN ACCOUNTED FOR WITH A PREVIOUS APPLICATION (PLAN #: 7818-DS-01). WITH THE PREVIOUS APPLICATION, THE BMP COMPUTATIONS FOR THE OVERALL SITE INCLUDED THE FUTURE ROAD EXTENSION LAND USE. THE SITE WAS PROFFERED TO DEDICATE THE RIGHT-OF-WAY FOR THE ROAD EXTENSION, THEREFORE, THEY INCLUDED THE ROAD LAND USE WITH THE BMP COMPUTATIONS. SINCE THE BMP REQUIREMENTS WERE PREVIOUSLY SATISFIED, IT HAS NOT BEEN INCLUDED IN THE BMP ANALYSIS WITH THIS APPLICATION.

PER SECTION 124-4-3.A OF THE COUNTY CODE, THE PRELIMINARY BMP COMPUTATIONS WERE COMPLETED USING THE 2013 DEQ VIRGINIA RUNOFF REDUCTION METHOD (VRRM) SPREADSHEET. THE COMPUTATIONS SHOW THAT THE TOTAL PHOSPHORUS LOAD REDUCTION REQUIRED FOR THIS SITE DEVELOPMENT IS 1.17 LBS PER YEAR. WITH THE BMP FACILITIES PROPOSED WITH THIS APPLICATION, THE TOTAL LOAD REDUCTION WILL BE SATISFIED PER SECTION 124-4-2 OF THE COUNTY CODE. PRELIMINARY COMPUTATIONS CAN BE FOUND ON SHEET 08.

FINAL COMPUTATIONS AND BMP LOCATIONS ARE SUBJECT TO CHANGE DURING FINAL ENGINEERING.

**PRELIMINARY BMP FACILITY NOTES:**

- PERVIOUS PAVEMENT TREATMENT AREA HAS BEEN SIZED AND SHOWN IN ACCORDANCE WITH THE 2013 DEQ STORMWATER MANAGEMENT REGULATIONS, AND DESIGN SPECIFICATIONS. PER THE 2013 VIRGINIA DCR STORMWATER DESIGN SPECIFICATION NO. 7, THE CONTRIBUTING EXTERNAL DRAINAGE AREA SHALL NOT EXCEED 2.5 TIMES THE SURFACE AREA OF THE PERVIOUS PAVEMENT (2.5:1 RATIO). OTHER DRAINAGE AREA THAT FLOWS TOWARDS THE PERVIOUS PAVEMENT WILL BE COLLECTED USING AN OVERFLOW STORM INLET, AND HAS NOT BEEN INCLUDED IN THE BMP COMPUTATIONS.
- BIORETENTION FACILITIES HAVE BEEN SIZED PER THE 2013 VIRGINIA DCR STORMWATER DESIGN SPECIFICATION NO. 9. EACH OF THE FACILITIES HAVE BEEN SHOWN AS A LEVEL 2 DESIGN PER TABLE 9.4 OF THE DCR DESIGN SPECIFICATION. THE ADDITIONAL SURFACE AREA OF THE BIORETENTION FACILITY HAS BEEN ACCOUNTED FOR WITH THIS APPLICATION PER THE LEVEL 2 DESIGN CRITERIA.
- AREAS AND CALCULATIONS SHOWN WITH THIS APPLICATION ARE FOR PRELIMINARY PURPOSES ONLY. THEY ARE SUBJECT TO CHANGE WITH FINAL ENGINEERING.

**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 (9-011 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)

- Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').
- 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 7.
- Provide:
 

Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
F1 (DRY POND)	2.42	3.26	5.68	4,500	6,800	+6 FT
F2 (INFILTRATION GRAVEL PIT OR CONCRETE VAULT)	0.87	0.00	0.87	2,000	6,000 OR MORE	+6 FT
Totals						
- Onsite drainage channels, outfalls and pipe systems are shown on Sheet 7. Pond inlet and outlet pipe systems are shown on Sheet 7.
- Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 5, 7. Type of maintenance access road surface noted on the plat is ASPHALT (asphalt, geoblock, gravel, etc.).
- Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 5.
- A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 7-11.
- 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 11.
- A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 11.
- Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 3.
- A submission waiver is requested for SWM DETENTION FOR 2 AND 10 YEAR STORM EVENTS UNDERGROUND DETENTION WITHIN RESIDENTIAL AREA
- Stormwater management is not required because OUTFALL IS ADEQUATE WITHOUT REQUIRING DETENTION



**LEGEND**

- DRAINAGE DIVIDE
- BMP TREATED AREAS

**GRAPHIC SCALE**

60 0 30 60 120 240  
 ( IN FEET )  
 1 inch = 60 ft.

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Seal  
 COMMONWEALTH OF VIRGINIA  
 DAVID T. McELHANEY  
 No. 022048  
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Issue

Date	Description

Project Name  
**O'CONNELL PROPERTY**

CDP/FDP

Lee District  
 Fairfax County, Virginia

Drawn By: JL  
 Checked By: DTM

Project No.: ZP-2144

Date: NOVEMBER 12, 2014

Drawing Title  
**PRELIMINARY BMP ANALYSIS**

Scale: 1"=50'

Drawing Number  
**7**  
 Sheet 7 of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\07-BMP Analysis.dwg [SWM-BMP] November 12, 2014 - 6:23am jlight

ZP-2144 O'CONNELL PROPERTY

**Virginia Runoff Reduction Method New Development Worksheet - v2.8 - June 2014**  
**To be used w/ DRAFT 2013 BMP Standards and Specifications**

**Site Data**

Project Name: O'Connell Property (BMP)
Date: 9/5/2014

data input cells  
 calculation cells  
 constant values

**1. Post-Development Project & Land Cover Information**

**Constants**

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

**Land Cover (acres)**

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land	0.00	0.00	1.20	9.89	11.09
Managed Turf (acres) – disturbed, graded for yards or other turf to be mowed/managed	0.00	0.00	0.71	1.12	1.83
Impervious Cover (acres)	0.00	0.00	1.13	1.28	2.41
<b>Total</b>					<b>15.33</b>

**Rv Coefficients**

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

**Land Cover Summary**

Forest/Open Space Cover (acres)	11.09
Weighted Rv(forest)	0.05
% Forest	72%
Managed Turf Cover (acres)	1.83
Weighted Rv(turf)	0.24
% Managed Turf	12%
Impervious Cover (acres)	2.41
Rv(impervious)	0.95
% Impervious	16%
<b>Total Site Area (acres)</b>	<b>15.33</b>
<b>Site Rv</b>	<b>0.21</b>
Post-Development Treatment Volume (acre-ft)	0.27
Post-Development Treatment Volume (cubic feet)	11,864
Post-Development Load (TP) (lb/yr)	7.45
Post-Development Load (TN) (lb/yr)	53.32
Total Load (TP) Reduction Required (lb/yr)	1.17

**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	1.20	9.89	11.09	72.34
Turf (acres)	0.00	0.00	0.71	1.12	1.83	11.94
Impervious (acres)	0.00	0.00	1.13	1.28	2.41	15.72
					15.33	100.00

Site Rv	0.21
Post Development Treatment Volume (ft3)	11864
Post Development TP Load (lb/yr)	7.45
Post Development TN Load (lb/yr)	53.32
Total TP Load Reduction Required (lb/yr)	1.17

Total Runoff Volume Reduction (ft3)	1758
Total TP Load Reduction Achieved (lb/yr)	1
Total TN Load Reduction Achieved (lb/yr)	10.88
Adjusted Post Development TP Load (lb/yr)	6.19
Remaining Phosphorous Load Reduction (Lb/yr) Required	0.00

**Land Cover Summary**

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	1.20	9.89	11.09	72.34
Turf (acres)	0.00	0.00	0.71	1.12	1.83	11.94
Impervious (acres)	0.00	0.00	1.13	1.28	2.41	15.72
					15.33	

**BMP Selections**

Practice	Credit Area (acres)	Downstream Practice
----------	---------------------	---------------------

Total Impervious Cover Treated (acres)	0.56
Total Turf Area Treated (acres)	0.57
Total TP Load Reduction Achieved in D.A. A (lb/yr)	1.27
Total TN Load Reduction Achieved in D.A. A (lb/yr)	10.88

**PRELIMINARY BMP CALCULATIONS**

**PRELIMINARY BMP CALCULATIONS NOTE:**

THE CALCULATIONS SHOWN ON THIS SHEET REFLECT PRELIMINARY ENGINEERING BASED ON THE 2013 VRRM SPREADSHEET. CALCULATIONS ARE SUBJECT TO CHANGE WITH FINAL ENGINEERING.

Drainage Area A Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)	0.00	0.00	1.20	9.89	11.09	0.05
Managed Turf (acres)	0.00	0.00	0.71	1.12	1.83	0.24
Impervious Cover (acres)	0.00	0.00	1.13	1.28	2.41	0.95
<b>Total</b>					<b>15.33</b>	

Post Development Treatment Volume (cf) 11864

**Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area A**

Practice	Unit	Description of Credit	Credit	Credit Area (acres)	Volume from Upstream RR Practice (cf)	Runoff Reduction (cf)	Remaining Runoff Volume (cf)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed
<b>3. Permeable Pavement</b>													
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "external" (upgradient) impervious pavement	45% runoff volume reduction	0.45	0.15	0	233	285	25	0.00	0.32	0.19	0.13	
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
<b>4. Grass Channel</b>													
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
	turf acres draining to grass channels	30% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
<b>5. Dry Swale</b>													
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00	
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00	
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00	
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00	
<b>6. Bioretention</b>													
6.a. Bioretention #1 or Urban Bioretention (Spec #9)	impervious acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
	turf acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
6.b. Bioretention #2 (Spec #9)	impervious acres draining to bioretention	80% runoff volume reduction	0.80	0.41	0	1131	283	50	0.00	0.89	0.80	0.09	
	turf acres draining to bioretention	80% runoff volume reduction	0.80	0.57	0	395	99	50	0.00	0.31	0.28	0.03	
<b>7. Infiltration</b>													
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	90% runoff volume reduction	0.90	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
	turf acres draining to infiltration	90% runoff volume reduction	0.90	0.00	0	0	0	25	0.00	0.00	0.00	0.00	
<b>8. Extended Detention Pond</b>													
8.a. ED #1 (Spec #15)	impervious acres draining to ED	0% runoff volume reduction	0.00	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
	turf acres draining to ED	0% runoff volume reduction	0.00	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00	
<b>9. Sheetflow to Filter/Open Space</b>													
9.a. Sheetflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00	
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00	
9.b. Sheetflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00	
	turf acres draining to conserved open space	50% runoff reduction volume for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00	
9.c. Sheetflow to Vegetated Filter Strip in A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	impervious acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00	
	turf acres draining to filter strip	50% runoff reduction volume for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac) 0.56  
 TOTAL TURF AREA TREATED (ac) 0.57

AREA CHECK OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	1.17
TOTAL RUNOFF REDUCTION IN D.A. A (cf)	1,758
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	1.27



7712 Little River Turnpike  
 Annandale, Virginia 22003  
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**Client**  
 LONG BRANCH PARTNERS  
 c/o Somerville Mgmt. Group  
 6715 Little River Turnpike, Suite 100  
 Annandale, VA 22003  
 703.642.1620  
 Correspondent: Andy Somerville

**Revision / Issue**

No.	Description	Date
1.	DPZ Acceptance	12/11/13
2.	First Submission	02/10/14
3.	Second Submission	06/17/14
4.	Third Submission	08/07/14
5.	Fourth Submission	09/23/14
6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

**Issue**  
 Date Description

**Project Name**  
 O'CONNELL  
 PROPERTY

CDP/FDP  
 Lee District  
 Fairfax County, Virginia

Drawn By JL Checked By DTM

Project No. ZP-2144

Date NOVEMBER 12, 2014

**Drawing Title**  
 PRELIMINARY  
 BMP ANALYSIS

Scale: 1"=50'

Drawing Number

**8**  
 Sheet 8 of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\07-BMP Analysis.dwg [SWM-BMP (2)] November 12, 2014 - 8:24am Jrightle

ZP-2144 O'CONNELL PROPERTY



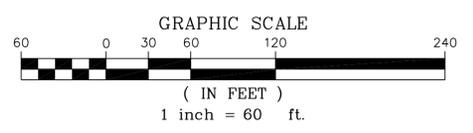
**EXISTING SWM DIVIDE**  
SCALE: 1"=80'



**PROPOSED SWM DIVIDE**  
SCALE: 1"=80'

**LEGEND**

- PROPOSED DRAINAGE DIVIDE TO POND OUTFALL
- AREA DRAINING TO POND
- EXISTING DRAINAGE DIVIDE TO POND OUTFALL



**PRELIMINARY SWM NARRATIVE:**

THE SITE AREA IS APPROXIMATELY 15.33 ACRES AND IS A COMBINATION OF HYDROLOGIC GROUP C & D SOILS (SEE SHEET 2 OF THE PLANS). THE MAJORITY OF THE SITE CONSISTS OF RPA, WITH A SMALL DEVELOPABLE AREA AVAILABLE ON-SITE AS SHOWN WITH THIS APPLICATION. AS CURRENTLY PROPOSED, THERE IS ONE POINT OF CONCENTRATED DISCHARGE FROM THE DEVELOPED SITE, WHICH OUTFALLS DIRECTLY INTO THE NATURAL STORMWATER CONVEYANCE SYSTEM OF THE MAJOR FLOOD PLAIN (LONG BRANCH). APPROXIMATELY 1.782 ACRES DRAIN TO LONG BRANCH AT THE DISCHARGE POINT (SEE ADEQUATE OUTFALL SHEET FOR ADDITIONAL INFORMATION). THE CONCENTRATED FLOW FROM THE SITE WILL BE DISCHARGED DIRECTLY INTO THE NATURAL STORMWATER CONVEYANCE SYSTEM OF THE MAJOR FLOODPLAIN VIA AN ADEQUATELY DESIGNED CHANNEL. THE CONCENTRATED OUTFALL THEN LEAVES THE SITE BOUNDARY VIA THE NATURAL STORMWATER CONVEYANCE SYSTEM KNOWN AS LONG BRANCH.

AT THE DISCHARGE POINT, A CONCRETE VAULT WITH INFILTRATION POTENTIAL (FACILITY F1) WILL BE UTILIZED IN ORDER TO REDUCE THE 1-YEAR POST DEVELOPMENT PEAK RUNOFF RATE FROM THE SITE TO BELOW THE PEAK RUNOFF RATE FOR THE SITE IN GOOD FORESTED CONDITION. THE VAULT IS CURRENTLY SIZED FOR SWM ASSUMING NO INFILTRATION. HOWEVER, THAT IS SUBJECT TO CHANGE BASED ON FINAL ENGINEERING. THE APPLICANT HAS SUBMITTED A PFM MODIFICATION OF PFM SECTION 6-0303.6, WHICH STATES THAT UNDERGROUND DETENTION FACILITIES ARE NOT PERMITTED WITHIN RESIDENTIAL DEVELOPMENTS, UNLESS SPECIFICALLY WAIVED BY THE BOARD OF SUPERVISORS IN CONJUNCTION WITH THE APPROVAL OF A REZONING APPLICATION.

THE APPLICANT HAS REQUESTED A PARTIAL SWM WAIVER OF PFM SECTION 6-0300 THAT REQUIRES DETENTION FOR THE 2 AND 10 YEAR STORM EVENTS. SINCE THE SITE IS LOCATED IN CLOSE PROXIMITY TO THE MAIN STREAM CHANNEL OF THE MAJOR FLOODPLAIN, AND GIVEN THE LARGE AREAS DRAINING TO THE LONG BRANCH CHANNEL AT THIS LOCATION, THE TIME OF CONCENTRATION FOR THE LONG BRANCH DRAINAGE SHED IS MUCH LARGER WHEN COMPARED TO THE TIME OF CONCENTRATION OF THE SITE. IF DETENTION FOR THE 2 AND 10-YEAR STORM EVENTS IS NOT PROVIDED, THE PEAK FLOW FROM THE SITE WILL ENTER THE MAJOR FLOODPLAIN CHANNEL PRIOR TO THE PEAK FLOW FOR THE ENTIRE DRAINAGE SHED, ALLOWING THE PEAK FLOW FROM THE SITE TO BE RELEASED PRIOR TO THE LONG BRANCH FLOWS REACHING THE CONFLUENCE POINT WILL ALLOW FOR THE FLOWS TO BE SPREAD OUT OVER A LONGER PERIOD OF TIME, WHICH WILL DECREASE THE CHANCES OF PEAKING THE FLOWS DOWNSTREAM. IF THE WAIVER IS APPROVED, THE VAULT WILL REQUIRE 420,500 CUBIC FEET OF STORAGE. IF SWM IS REQUIRED FOR THE 2 AND 10 YEAR STORM EVENTS, THE VAULT WILL REQUIRE 431,790 CUBIC FEET OF STORAGE.

SEE SHEET 10 FOR BOTH WAIVERS SPECIFIED IN THIS NARRATIVE.

**PRELIMINARY SWM ANALYSIS FOR THE POTENTIAL INFILTRATION CONCRETE VAULT FACILITY F1:**

AS STATED IN THE NARRATIVE, THE POTENTIAL INFILTRATION CONCRETE VAULT (FACILITY F1) WILL BE ANALYZED WITH THE INTENTIONS OF REDUCING THE 1-YEAR POST DEVELOPMENT PEAK RUNOFF RATE FROM THE SITE TO BELOW THE PEAK RUNOFF RATE FOR THE SITE IN GOOD FORESTED CONDITION.

IN ACCORDANCE WITH PFM SECTION 6-0203.4A(2), THE OUTFALL POINT WILL BE ANALYZED WITH THE RELEASE RATE BASED ON THE DEFINED SITE AREA IN GOOD FORESTED CONDITION. EXISTING AND PROPOSED DRAINAGE DIVIDES FOR THE OUTFALL POINT HAVE BEEN PROVIDED ON THIS SHEET IN ORDER TO DEMONSTRATE THE PRE AND POST DEVELOPMENT PEAK RUNOFF AREAS.

USING THE EQUATION REFERENCED IN SECTION 124-4.4.B.3.a OF THE COUNTY CODE, THE ALLOWABLE PEAK FLOW RATE FROM THE DEVELOPED SITE IS EQUAL TO 3.80 CFS. FACILITY F1 HAS BEEN SIZED WITH THIS PLAN IN ORDER TO REDUCE THE DEVELOPED PEAK FLOW RATE FOR THE 1 YEAR STORM TO BELOW GOOD FORESTED CONDITION. PER THE FAIRFAX COUNTY PFM AND THE COUNTY CODE, THIS WILL SATISFY THE RELEASE RATE REQUIREMENTS FOR THE SITE.

PRELIMINARY BORINGS HAVE BEEN PERFORMED IN THE LOCATION OF THE POTENTIAL INFILTRATION CONCRETE VAULT (FACILITY F1), AND THE AVERAGE INFILTRATION RATE CALCULATED WAS 15.25 INCHES PER HOUR. ADDITIONAL BORINGS WILL BE PERFORMED IN THIS AREA IN ACCORDANCE WITH THE FAIRFAX COUNTY PFM AND THE COUNTY CODE IF INFILTRATION IS TO BE UTILIZED.

IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN SECTION 124-4.4.B OF THE COUNTY CODE, THE RELEASE RATE REQUIREMENT WILL BE SATISFIED. ADDITIONAL CALCULATIONS WILL BE INCLUDED WITH THE FINAL SITE PLAN.

**PRELIMINARY SWM NOTE:**

AREAS AND CALCULATIONS SHOWN WITH THIS APPLICATION ARE FOR PRELIMINARY PURPOSES ONLY. THEY ARE SUBJECT TO CHANGE WITH FINAL ENGINEERING.

SWM WAIVERS



September 22, 2014

Fairfax County Plan Control  
Fairfax County Plan and Document Control  
12055 Government Center Parkway  
Fairfax, VA 22035-5503

Re: O'Connell Property

To Whom It May Concern,

We are requesting a waiver of the requirements of the Fairfax County Public Facilities Manual (PFM) section 6-0303.6 to allow underground detention facilities in a residential development for the above mentioned project.

The majority of the site is encumbered by RPA for the stormwater conveyance system known as Long Branch, and also one of its tributaries. For this season, the developable area of the site is very minimal. The project currently consists of two concentrated outfall points, which both require detention of the 1-year, 24-hour storm event in order to comply with adequate outfall requirements in Chapter 124 of the County Code.

Due to existing conditions and environmental constraints, additional space is not available on-site to provide an above ground detention facility for the northern outfall point. We are requesting this waiver to allow an underground detention facility in a residential area to meet the SWM detention and adequate outfall requirements of the PFM and the County Code since off-site detention cannot be provided.

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

Sincerely,

**URBAN, LTD**

Trevor Lantzy, P.E.  
Project Manager

Urban, Ltd. 7712 Little River Turnpike Annandale, Virginia 22003 PH 703 642 8080 FX 703 642 8251 www.urban-ld.com  
Annandale, VA Chantilly, VA Winchester, VA Wilmington, NC



December 19, 2013

Fairfax County Plan Control  
Fairfax County Plan and Document Control  
12055 Government Center Parkway  
Fairfax, VA 22035-5503

Re: O'Connell Property

To Whom It May Concern:

The applicant is requesting a partial waiver of the requirements of PFM 6-0300 to provide detention for the 2 and 10-year storms. The applicant is proposing to provide detention for the 1-year storm event with this application.

The site is located west of the intersection of Beulah Street & Crestleigh Ways east of Loisdale Park and the railroad tracks which run parallel to I-95. The major floodplain is located on-site and runs parallel to the western property line of the site. A rezoning application associated with the site has been submitted and is attached as Appendix A.

The site area is approximately 15.33 acres and is a combination of hydrologic group C & D soils (see sheet 2 of the plans). The majority of the site encumbered by the RPA and there is a small developable area available on-site as shown on sheet 3. As currently proposed there are two points of concentrated discharge from the site directly into the stream channel of the major flood plain (Long Branch). Approximately 1,782 acres and 1,789 acres drain to Long Branch at the northern and the southern confluence points from the site respectively (see sheet 8).

The concentrated flow from the site will be discharged directly into the major floodplain via adequately designed channels. The applicant is proposing a potential SWM facility upstream of the southern discharge point which will provide detention for the 1-year storm. Due to topographic and RPA constraints, the SWM facility will require retaining walls to achieve the required volume for the 1-year storm event.

Since the site is located very close to the stream channel of the major floodplain and the large areas draining to Long Branch at this location, the time of concentration for the Long Branch drainage shed is very large compared to the time of concentration of the site. If detention for the 2 and 10-year events is not provided, the peak flow from the site will enter the major floodplain long before the peak from the entire drainage shed reaches the confluence points. Providing stormwater detention for this site would delay the time it takes for the water from the site to reach the stream channel of the floodplain and would contribute to higher peak flow in the stream.

Urban, Ltd. 7712 Little River Turnpike Annandale, Virginia 22003 PH 703 642 8080 FX 703 642 8251 www.urban-ld.com  
Annandale, VA Chantilly, VA Winchester, VA Wilmington, NC

Fairfax County Plan Control  
December 19, 2013

Page 2 of 2

Based on the above analysis we believe that due to the site constraints and the site being located down in the drainage shed for Long Branch there is enough justification to waive the requirement for the 2 and 10 year detention. It is our opinion that it would be beneficial to not provide detention in this case since the peak from the site would get to the stream channel quicker and not contribute to increasing the flow in the stream later when more flow from the watershed has reached the confluence points from the site.

Please feel free to contact me with any questions or comments.

Sincerely,

**URBAN, LTD.**

Adil Chauhan, P.E.  
Project Manager




**urban**

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Seal



Client

**LONG BRANCH PARTNERS**  
c/o Somerville Mgmt. Group  
6715 Little River Turnpike, Suite 100  
Annandale, VA 22003  
703.642.1620

Correspondent: Andy Somerville

Revision / Issue

No.	Description	Date
1.	DPZ Acceptance	12/11/13
2.	First Submission	02/10/14
3.	Second Submission	06/17/14
4.	Third Submission	08/07/14
5.	Fourth Submission	09/23/14
6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

Issue

Date	Description

Project Name

**O'CONNELL PROPERTY**

CDP/FDP

Lee District  
Fairfax County, Virginia

Drawn By JL	Checked By DTM
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Project No. ZP-2144

Date NOVEMBER 12, 2014

Drawing Title

**PRELIMINARY  
SWM / BMP**

Scale: 1"=50'

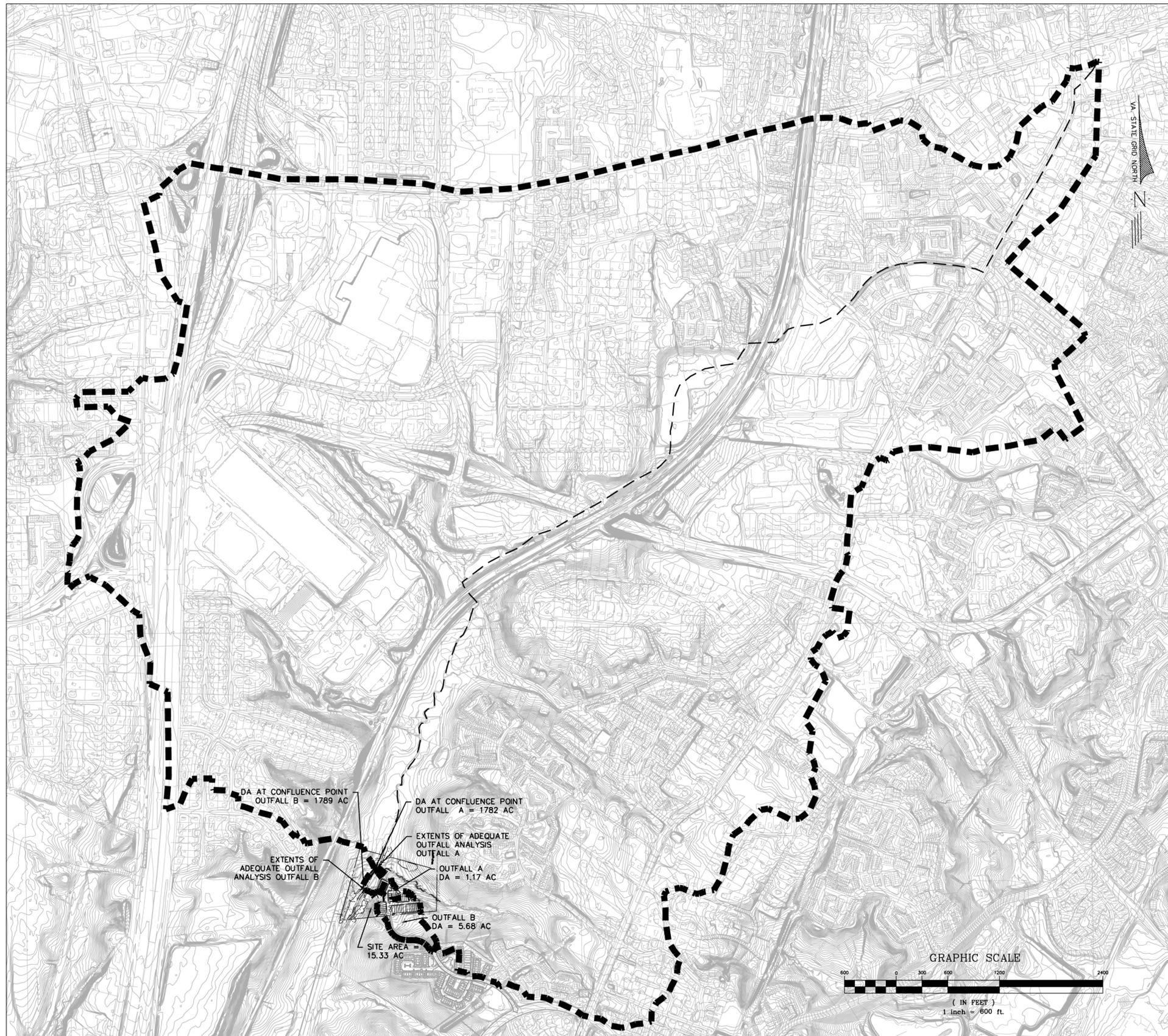
Drawing Number

**10**

Sheet 10 of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\07-SWM.dwg [SWM-BMP (2)] November 12, 2014 - 11:24am jlight

ZP-2144 O'CONNELL PROPERTY



**LEGEND**  
 - - - - - DRAINAGE DIVIDE

**PRELIMINARY OUTFALL NARRATIVE:**

THERE ARE TWO POINTS OF CONCENTRATED DISCHARGE FROM THE SITE. OUTFALL "A" IS LOCATED NEAR THE NORTHERN PROPERTY LINE, DOWNSTREAM OF POTENTIAL INFILTRATION GRAVEL PIT OR CONCRETE VAULT FACILITY F2. OUTFALL "B" IS LOCATED NEAR THE MIDDLE OF THE SITE DOWNSTREAM OF POND F1. BOTH OUTFALLS DISCHARGE INTO A NATURAL STORMWATER CONVEYANCE SYSTEM KNOWN AS LONG BRANCH, WHICH FLOWS THROUGH THE SITE FROM THE NORTHERN PROPERTY LINE TO THE SOUTHERN PROPERTY LINE. THE REMAINDER OF THE SITE SHEET FLOWS IN TO THE NATURAL STORMWATER CONVEYANCE SYSTEM. IN ACCORDANCE WITH SECTION 124-4-4 OF THE COUNTY CODE, ONLY THE CONCENTRATED OUTFALLS HAVE BEEN ANALYZED FOR ADEQUATE CHANNEL AND FLOOD PROTECTION.

AT OUTFALL "A" APPROXIMATELY 1.2 ACRES ARE DISCHARGED IN TO THE POTENTIAL INFILTRATION GRAVEL PIT OR CONCRETE VAULT FACILITY F2, WHICH IS THEN RELEASED IN TO THE NATURAL STORMWATER CONVEYANCE SYSTEM OF LONG BRANCH VIA A PROPOSED ADEQUATELY DESIGNED DITCH. THE DRAINAGE AREA WITHIN LONG BRANCH AT THIS POINT IS APPROXIMATELY 1,782 AC, AND BASED ON THE LAND AREA, THE DEVELOPMENT SITES CONTRIBUTING DRAINAGE AREA IS LESS THAN 1% OF THE TOTAL WATERSHED AREA. PER SECTION 124-4-4.B.5.a OF THE COUNTY CODE, THE LIMITS OF THE ADEQUATE OUTFALL ANALYSIS IS AT THIS POINT.

OUTFALL "B" IS LOCATED DOWNSTREAM OF FACILITY F1. THE FLOW FROM FACILITY F1 DISCHARGES INTO AN ADEQUATELY DESIGNED DITCH WHICH DISCHARGES INTO THE NATURAL STORMWATER CONVEYANCE SYSTEM OF LONG BRANCH. THE DRAINAGE AREA IN LONG BRANCH AT THIS POINT IS APPROXIMATELY 1,789 AC, AND BASED ON THE LAND AREA, THE DEVELOPMENT SITES CONTRIBUTING DRAINAGE AREA IS LESS THAN 1% OF THE TOTAL WATERSHED AREA. PER SECTION 124-4-4.B.5.a OF THE COUNTY CODE, THE LIMITS OF THE ADEQUATE OUTFALL ANALYSIS IS AT THIS POINT.

**PRELIMINARY OUTFALL ANALYSIS FOR POND F1:**

PER SECTION 124-4-4 OF THE COUNTY CODE, CHANNEL PROTECTION AND FLOOD PROTECTION ARE TO BE ADDRESSED WITH THE ADEQUATE OUTFALL ANALYSIS WITHIN FAIRFAX COUNTY.

SECTION 124-4-4.B.3.a OF THE COUNTY CODE STATES THAT WHEN OUTFALLING IN TO A NATURAL STORMWATER CONVEYANCE SYSTEM, THE CHANNEL PROTECTION REQUIREMENT OF ADEQUATE OUTFALL MAY BE SATISFIED BY REDUCING THE 1 YEAR, 24 HOUR POST-DEVELOPMENT PEAK FLOW RATE AT THE OUTFALL POINT TO BELOW THE PEAK FLOW RATE CALCULATED USING GOOD FORESTED CONDITION.

SECTION 124-4-4.C OF THE COUNTY CODE STATES IN ORDER TO PROVIDE ADEQUATE FLOOD PROTECTION, THE POST DEVELOPMENT PEAK FLOW FOR THE 10 YEAR, 24 HOUR STORM MUST BE CONTAINED WITHIN THE CONFINES OF THE NATURAL STORMWATER CONVEYANCE SYSTEM. THE NATURAL STORMWATER CONVEYANCE SYSTEM IS DEFINED AS THE "MAIN CHANNEL OF A NATURAL STREAM AND THE FLOOD-PRONE AREA ADJACENT TO THE MAIN CHANNEL". SINCE THERE IS 100-YEAR FLOODPLAIN LOCATED AROUND THE CHANNEL, THE CONFINES OF THE CONVEYANCE SYSTEM WILL INCLUDE THE FLOODPLAIN AREA.

**CONCENTRATED OUTFALL A:**

**CHANNEL PROTECTION:**

IN ACCORDANCE WITH THE EQUATION REFERENCED IN SECTION 124-4-4.B.3.a OF THE COUNTY CODE, AND THE USE OF THE DETENTION METHOD FOR THE 1-YEAR 24 HOUR STORM FOR THE POTENTIAL INFILTRATION GRAVEL PIT OR CONCRETE VAULT FACILITY F2, THE ALLOWABLE PEAK FLOW RATE FROM THE FACILITY IS EQUAL TO ±0.01 CFS. FACILITY F2 (POTENTIAL INFILTRATION GRAVEL PIT OR CONCRETE VAULT) HAS BEEN SIZED WITH THIS APPLICATION IN ORDER TO INFILTRATE THE 1 YEAR, 24 HOUR STORM, WHICH PRODUCES A RELEASE RATE OF LESS THAN ±0.00 CFS AT THE OUTFALL POINT. IN ACCORDANCE WITH CHAPTER 124 OF THE COUNTY CODE, THE CHANNEL PROTECTION REQUIREMENT FOR THIS OUTFALL WILL BE SATISFIED WITH THE USE OF INFILTRATION. ADDITIONAL CALCULATIONS AND CROSSECTIONS WILL BE INCLUDED WITH THE FINAL SITE PLAN. SEE STORMWATER MANAGEMENT SHEET FOR ADDITIONAL INFORMATION REGARDING THE PRELIMINARY INFILTRATION FACILITY.

**FLOOD PROTECTION:**

PER PFM SECTION 6-0804, THE ANDERSON FORMULA HAS BEEN USED IN ORDER TO CALCULATE THE PEAK FLOW FOR THE LONG BRANCH WATERSHED. THE PRELIMINARY PEAK FLOW RATE FOR THE DRAINAGE AREA IS CALCULATED TO BE ±2035 CFS FOR THE 10-YEAR, 24 HOUR STORM. AFTER ANALYZING THE PEAK FLOW AT THE POINT OF ANALYSIS, IT WAS FOUND THAT THE 10-YEAR PEAK FLOW IS CONTAINED WITHIN THE CONFINES OF THE NATURAL STORMWATER CONVEYANCE SYSTEM.

IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN SECTION 124-4-4.C OF THE COUNTY CODE, THE FLOOD PROTECTION REQUIREMENT WILL BE SATISFIED. ADDITIONAL CALCULATIONS AND CROSSECTIONS WILL BE INCLUDED WITH THE FINAL SITE PLAN.

**CONCENTRATED OUTFALL B:**

**CHANNEL PROTECTION:**

IN ACCORDANCE WITH THE EQUATION REFERENCED IN SECTION 124-4-4.B.3.a OF THE COUNTY CODE, AND THE USE OF THE DETENTION METHOD FOR THE 1-YEAR 24 HOUR STORM FOR POND F1, THE ALLOWABLE PEAK FLOW RATE FROM THE POND IS EQUAL TO ±0.37 CFS. THE POND HAS BEEN SIZED WITH THIS APPLICATION IN ORDER TO DETAIN THE 1 YEAR, 24 HOUR STORM, AND HAS A RELEASE RATE OF LESS THAN ±0.37 CFS. IN ACCORDANCE WITH CHAPTER 124 OF THE COUNTY CODE, THE CHANNEL PROTECTION REQUIREMENT FOR THIS OUTFALL WILL BE SATISFIED. ADDITIONAL CALCULATIONS AND CROSSECTIONS WILL BE INCLUDED WITH THE FINAL SITE PLAN.

**FLOOD PROTECTION:**

PER PFM SECTION 6-0804, THE ANDERSON FORMULA HAS BEEN USED IN ORDER TO CALCULATE THE PEAK FLOW FOR THE LONG BRANCH WATERSHED. THE PRELIMINARY PEAK FLOW RATE FOR THE DRAINAGE AREA IS CALCULATED TO BE ±2035 CFS FOR THE 10-YEAR, 24 HOUR STORM. AFTER ANALYZING THE PEAK FLOW AT THE POINT OF ANALYSIS, IT WAS FOUND THAT THE 10-YEAR PEAK FLOW IS CONTAINED WITHIN THE CONFINES OF THE NATURAL STORMWATER CONVEYANCE SYSTEM.

IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN SECTION 124-4-4.C OF THE COUNTY CODE, THE FLOOD PROTECTION REQUIREMENT WILL BE SATISFIED. ADDITIONAL CALCULATIONS AND CROSSECTIONS WILL BE INCLUDED WITH THE FINAL SITE PLAN.

**PRELIMINARY OUTFALL NOTE:**

AREAS AND CALCULATIONS SHOWN WITH THIS APPLICATION ARE FOR PRELIMINARY PURPOSES ONLY. THEY ARE SUBJECT TO CHANGE WITH FINAL ENGINEERING.

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Seal

Client  
**LONG BRANCH PARTNERS**  
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 Annandale, VA 22003  
 703.642.1620

Correspondent: Andy Somerville

Revision / Issue		
No.	Description	Date
1.	DPZ Acceptance	12/11/13
2.	First Submission	02/10/14
3.	Second Submission	06/17/14
4.	Third Submission	08/07/14
5.	Fourth Submission	09/23/14
6.	Fifth Submission	10/20/14
7.	Sixth Submission	11/12/14

Issue	
Date	Description

Project Name  
**O'CONNELL PROPERTY**

CDP/FDP

Lee District  
 Fairfax County, Virginia

Drawn By: JL  
 Checked By: DTM

Project No. ZP-2144

Date: NOVEMBER 12, 2014

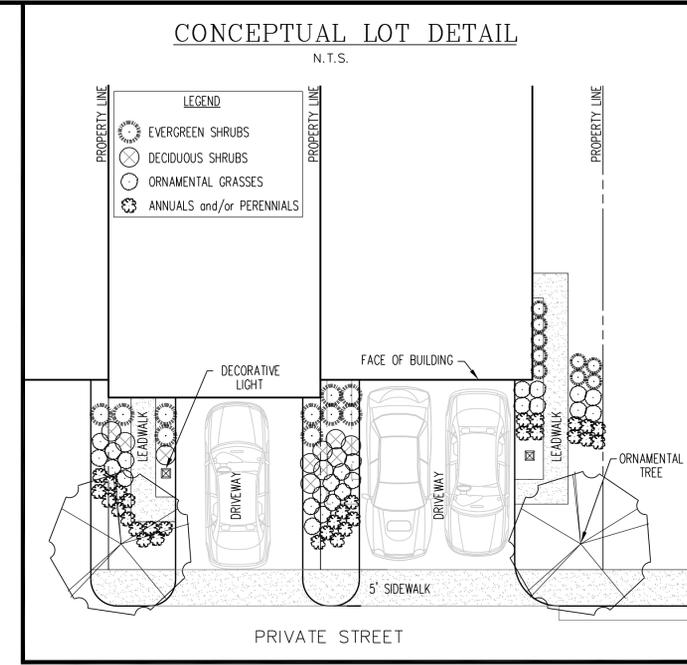
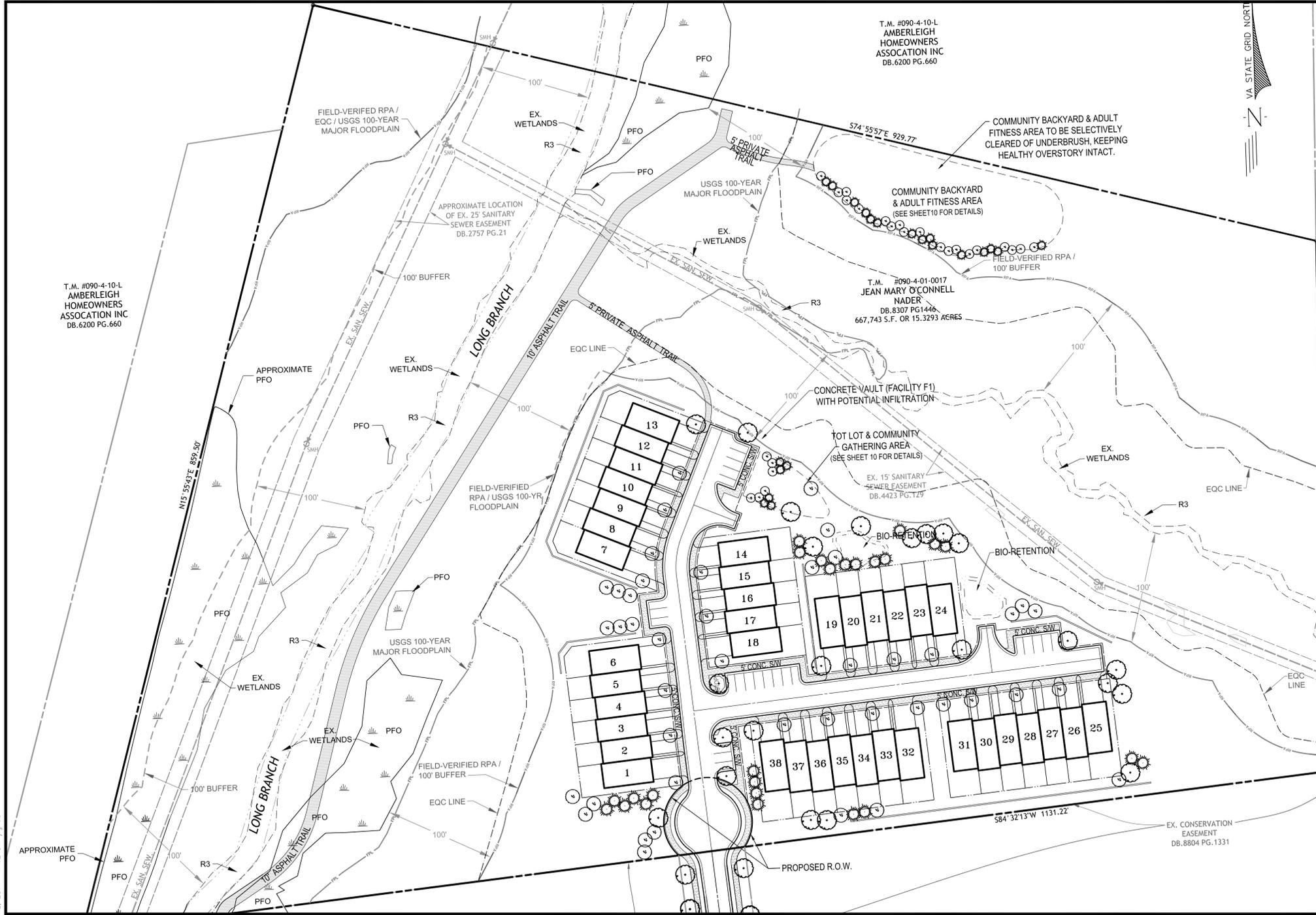
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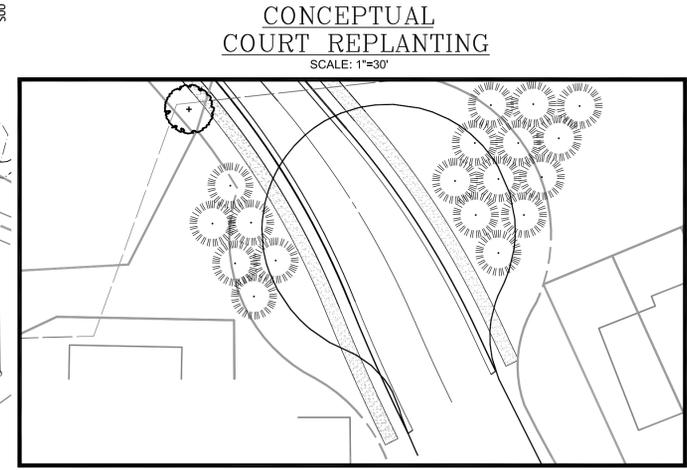
Drawing Number  
**11**  
 Sheet 11 of 13

Urban, Ltd. - L:\Jobs\Thomas Geant Drive (O'Connell)\R zoning\08-Outline.dwg [OUTFALL (2)] November 12, 2014 - 8:26am light

ZP-2144 O'CONNELL PROPERTY



THESE DETAILS ARE CONCEPTUAL AND REPRESENT THE GENERAL APPEARANCE, QUALITY OF DESIGN AND MATERIALS PROPOSED. REFINEMENT AND REVISION MAY OCCUR WITH FINAL DESIGN DEVELOPMENT AND ENGINEERING. WALKWAY AND SIDEWALK MATERIAL MAY BE BRICK, CONCRETE, ASPHALT, OR STAMPED ASPHALT. FINAL LOCATION OF ELEMENTS INCLUDING PLANT MATERIAL AND PAVING MAY BE ADJUSTED SUBJECT TO TOPOGRAPHY, LOCATION OF UTILITIES, ARCHITECTURAL FEATURES AND OTHER CONSTRAINTS.



CONCEPTUAL ARCHITECTURALS\*



\* CONCEPTUAL ARCHITECTURAL IMAGES SHOWN FOR ARCHITECTURAL REPRESENTATION ONLY, NOT FOR LANDSCAPING. FOR LANDSCAPING CONCEPT, REFER TO "CONCEPTUAL LOT DETAIL", THIS SHEET.

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DAVID T. McELHANEY  
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11/12/14  
PROFESSIONAL ENGINEER

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703.642.1620  
Correspondent: Andy Somerville

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Issue	
Date	Description

Project Name  
**O'CONNELL PROPERTY**  
  
CDP/FDP

Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No. ZP-2144

Date: NOVEMBER 12, 2014

Drawing Title  
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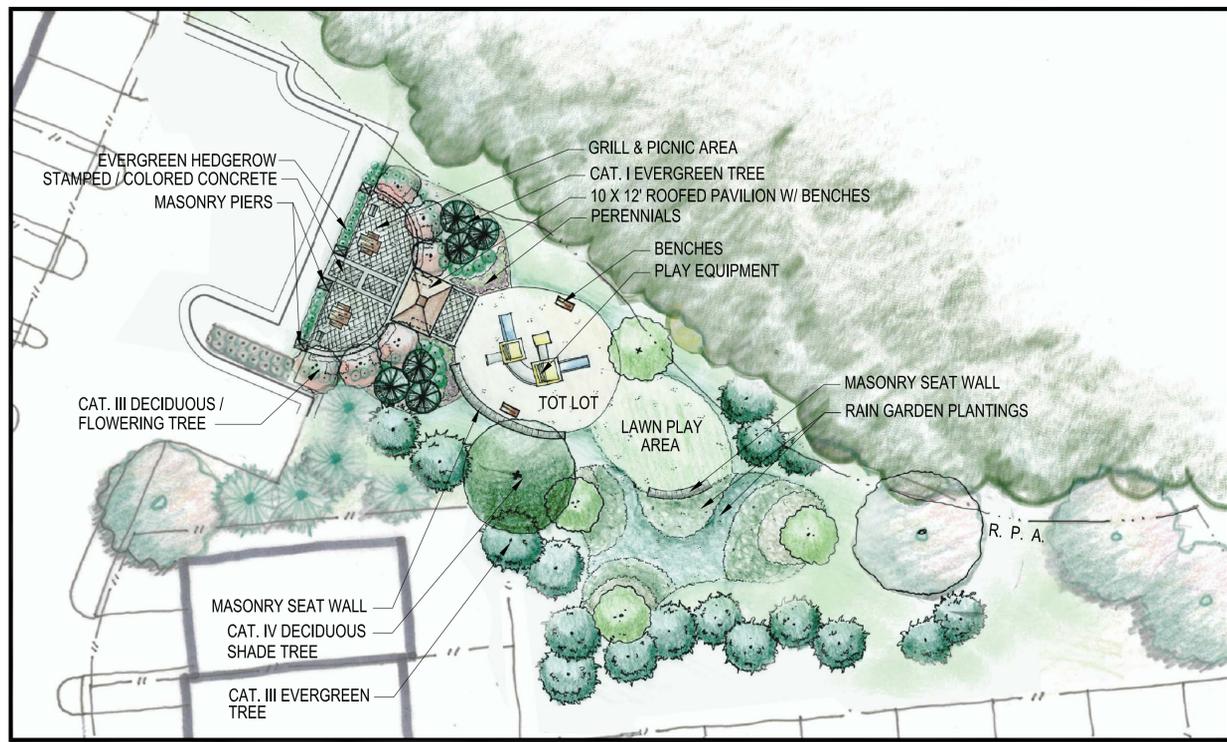
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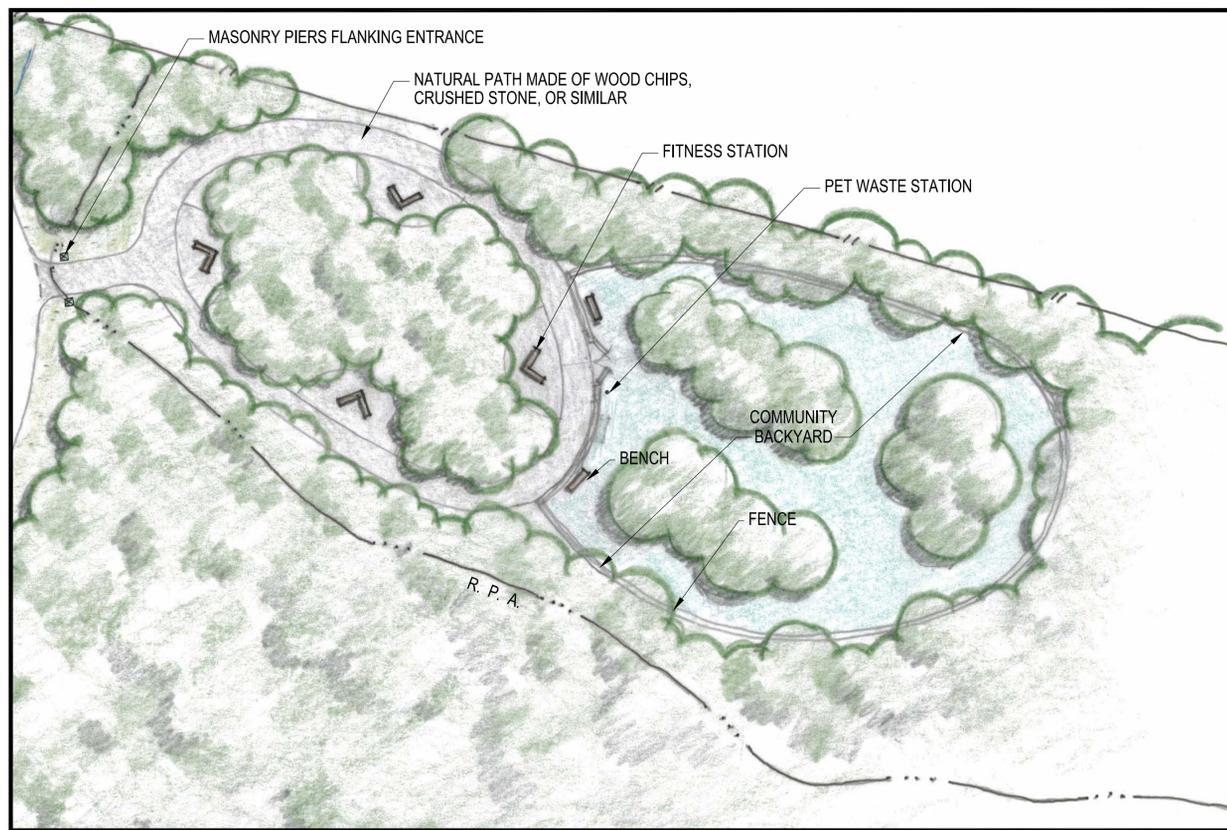
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Sheet 12 of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\09-ILLUSTRATIVE.dwg [illus] November 12, 2014 - 11:24am jrightie

ZP-2144 O'CONNELL PROPERTY



**A** TOT LOT & COMMUNITY GATHERING AREA  
N.T.S.



**B** COMMUNITY BACKYARD & ADULT FITNESS AREA  
N.T.S.

THESE RENDERINGS ARE CONCEPTUAL AND REPRESENT THE GENERAL APPEARANCE, QUALITY OF DESIGN AND MATERIALS PROPOSED. REFINEMENT AND REVISION MAY OCCUR WITH FINAL DESIGN DEVELOPMENT AND ENGINEERING. WALKWAY AND SIDEWALK MATERIAL MAY BE BRICK, CONCRETE, ASPHALT, OR STAMPED ASPHALT. FINAL LOCATION OF ELEMENTS INCLUDING PLANT MATERIAL, SITE FURNITURE AND PAVING MAY BE ADJUSTED SUBJECT TO TOPOGRAPHY, LOCATION OF UTILITIES AND OTHER ENGINEERING CONSTRAINTS.



**1** BENCH  
N.T.S.



**2** PLAY EQUIPMENT  
N.T.S.



**2A** PICNIC TABLE  
N.T.S.



**3** FITNESS STATIONS  
N.T.S.



**3A** STAMPED CONCRETE  
N.T.S.



**3B** GRILL  
N.T.S.



**4** RETAINING WALLS / MASONRY SEAT WALL  
N.T.S.



**4A** MASONRY PIER  
N.T.S.



**5** PET WASTE STATION  
N.T.S.



**6** STREET LAMP  
N.T.S.



**7** PAVILION  
N.T.S.

THIS SHEET FOR ILLUSTRATIVE PURPOSES ONLY

**urban**

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No. 022048  
11/12/14  
PROFESSIONAL ENGINEER

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Issue	
Date	Description

Project Name  
**O'CONNELL PROPERTY**

CDP/FDP

Lee District  
Fairfax County, Virginia

Drawn By: JL  
Checked By: DTM

Project No.: ZP-2144

Date: NOVEMBER 12, 2014

Drawing Title  
**AMENITIES PLAN**

Scale: N.A.

Drawing Number

**13**

Sheet 13 of 13

Urban, Ltd. - L:\Jobs\Thomas Grant Drive (O'Connell)\Rezoning\10-Amenities.dwg [illus] November 12, 2014 - 8:09am jlighte

ZP-2144 O'CONNELL PROPERTY

**A GLOSSARY OF TERMS FREQUENTLY  
USED IN STAFF REPORTS WILL BE  
FOUND AT THE BACK OF THIS REPORT**

**DESCRIPTION OF THE APPLICATION**

The applicant, Long Branch Partners, L.L.C., requests approval of RZ 2014-LE-008 and the associated Conceptual and Final Development Plan in order to permit a residential development on 15.33 acres of land north of the Island Creek subdivision in the Lee District. The applicant is proposing to rezone the property to PDH-4 to allow 38 single family attached units [2.48 dwelling units per acre (du/ac)] on two new private streets.

A reduced copy of the Conceptual Development Plan /Final Development Plan (CDP/FDP) is included at the front of this report. The proposed proffers, the Applicant's Affidavit and the Statement of Justification are contained in Appendices 1, 2 and 3, respectively.

**Waivers and Modifications:**

The following waivers and modifications have been requested:

- Modification of Section 7-0406.8A of the Public Facilities Manual (PFM) to allow a minimum 30-foot pavement radius within the cul-de-sac terminating Thomas Grant Drive.
- Waiver to allow the use of underground stormwater management and Best Management Practices (BMP) in a residential development per Section 6-0303.6 of the PFM. This waiver has not been acted upon at the time of publication of the staff report, although it has been submitted and is under review by the Department of Public Works and Environmental Services (DWPES). This waiver must be concurrently considered by the Board of Supervisors (BOS) with this application, and staff expects the review to be complete by that time.

**LOCATION AND CHARACTER**

**Location:**

The 15.33 acre site, also known as the O'Connell property, is located north of the Island Creek subdivision, southwest of the Amberleigh subdivision, and west of Amberleigh Park. Access would be provided via two private streets that tie into a public street extension of Thomas Grant Drive.

**Site Description:**

The O'Connell property is a single parcel of land that is currently heavily forested and undeveloped. Long Branch runs north to south along the western portion of the site, and an unnamed tributary runs northwest to southeast across the site. Associated with these water features are large areas of floodplain, wetland and Resource

Protection Areas (RPA). The site is also characterized by steep topography and marine clay soils. The site is immediately surrounded by wooded open space and parkland.

Per Sect. 2-308 of the Zoning Ordinance, if 30% or more of the total area of the lot is comprised by marine clays or floodplains and adjacent slopes in excess of 15% grade, then 50% of the maximum permitted density shall be calculated for that area of the lot which exceeds 30% of the total area of the lot. In this instance, 74% of the subject site contains those environmentally sensitive features. Therefore, the maximum allowable density permitted on this site per Sect. 2-308 is 3.12 du/ac.

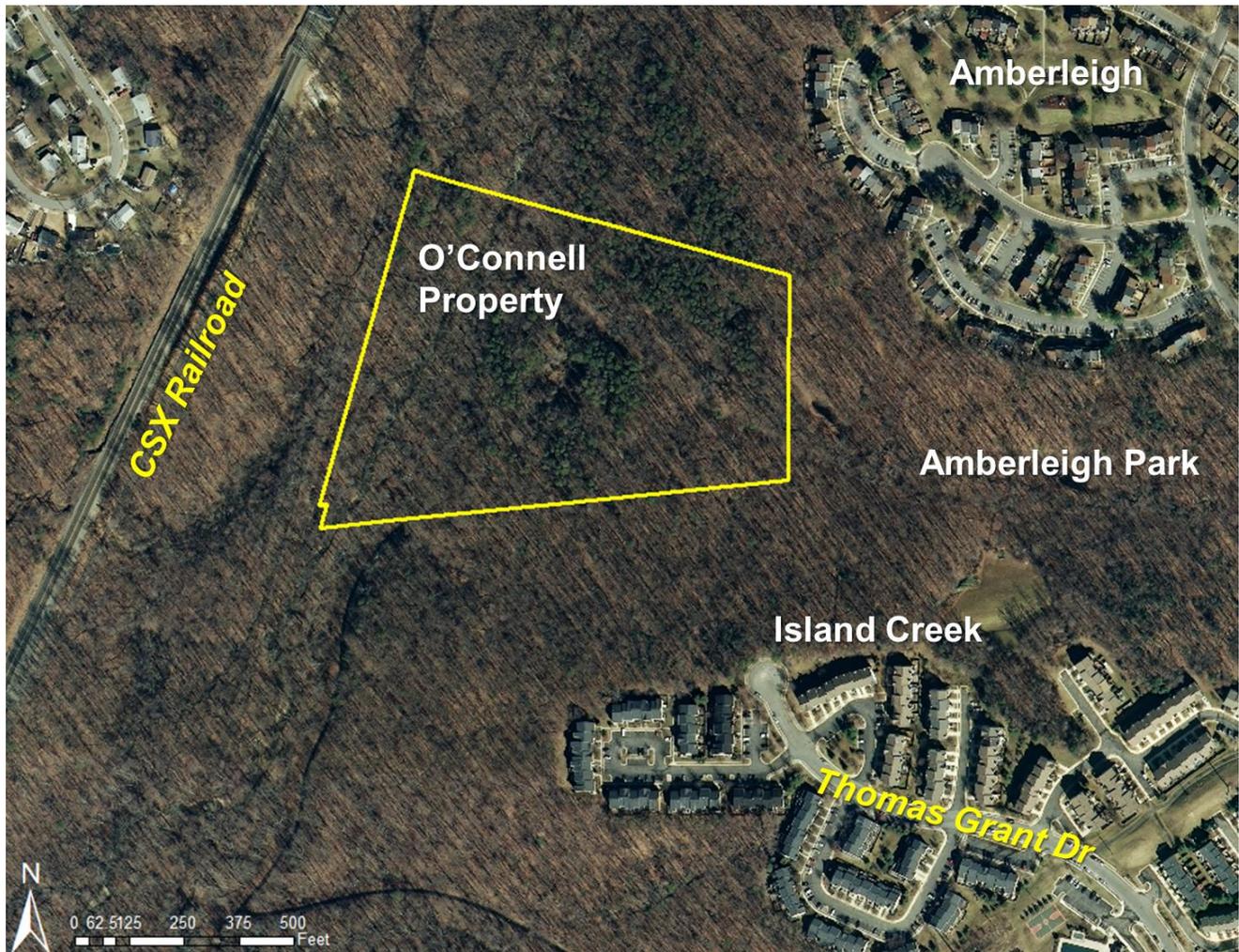


Figure 1: Ariel view of site (Source: Fairfax County GIS)

SURROUNDING AREA DESCRIPTION			
Direction	Existing Zoning	Existing Use	Plan
North	R-5	Homeowner Association (HOA) Open Space	Residential (3-4 DU/AC)
East	R-5	Amberleigh Park, Townhomes	Public Park
South	PDH-4	Island Creek Park, Townhomes	Public Park, Residential (3-4 DU/AC)
West	R-1, R-5	HOA Open Space	Private Open Space

## BACKGROUND

There are no previously accepted proffers or rezoning applications associated with the subject property. Access to the subject property was proffered pursuant to RZ 86-L-073 (Island Creek), which was approved on September 18, 1989. Proffer 26 of this approval dedicated a 60-foot wide right-of-way for a public road with ancillary grading and temporary construction easements to extend a public road (Thomas Grant Drive) from the Island Creek development to the property line of 90-4-((1)) 17 (the subject site).

## COMPREHENSIVE PLAN PROVISIONS

**Plan Area:** IV

**Planning District:** Springfield

**Planning Sector:** Newington Community Planning Sector (S6)

**Plan Map:** Residential @ 3-4 du/ac

### Plan Text:

In the Fairfax County Comprehensive Plan, 2013 Edition, Area IV, Springfield Planning District, Amended through 4-29-2014, S-6 Community Planning Sector, Page 75, the Plan, as applied to the application area, states the following:

*Tax Map 90-4((1))17 and the Island Creek subdivision (Tax Map parcels 90-4 ((11)) and 99-2 ((10))) are planned for residential use at 3-4 dwelling units per acre. Development should provide for extensive buffering between the industrial and residential areas as well as provide for the eventual reclamation of former gravel extraction sites in the area and adhere to the general policies for the Lehigh Area.*



### ***Proposed Layout***

Access to the development will be provided via an extension of Thomas Grant Drive. This public street extension will terminate in a cul-de-sac on the southern edge of the application site. Access to the proposed dwelling will be provided via one private street that will extend northward from the new Thomas Grant Drive extension cul-de-sac, and a second private street that will intersect the first private street at a perpendicular and extend eastward.

The CDP/FDP (Figure 2) concentrates the 38 proposed lots towards the southern portion of the site in order to respect the RPA, leaving the majority of the property undisturbed as wooded open space. Thirteen lots are situated along the west side of the north-south private street, and five more lots are situated on the east side of this street. Fourteen lots are located on the south side of the east-west private street, and six lots are located on the north side of this street. The proposed lots average 1,760 square feet in area. All dwellings will have a minimum 15-foot front yard setback, a 10-foot rear yard setback and a 5-foot side yard setback. Twenty-four guest parking spaces are provided throughout the development, in addition to a combination of two-car garages and two-car driveway spaces for end units and one-car garages and one-car driveway spaces for interior units. A tot lot and community gathering area is provided just north of the townhomes and a community backyard and adult fitness area is located across the RPA on the northern edge of the site (abutting the shared property line with Amberleigh). Stormwater is accommodated by three rain gardens and an underground concrete vault facility. Four retaining walls are also shown around the perimeter of the townhouse area, as well as an entry feature to the west of the cul-de-sac.

### ***Vehicular and Pedestrian Circulation***

As noted earlier, the CDP/FDP shows that the property will be accessed from an approximately 762-foot long extension of the existing Thomas Grant Drive, which runs through the Island Creek development. This public road extension will terminate in a cul-de-sac on the application site, allowing for emergency vehicle turnaround. From this point, a new private street will extend approximately 330 feet north, and another new private street will intersect the first private street and extend approximately 370 feet east. Both private streets will be 24 feet wide and will include hammerhead turnarounds. Five-foot concrete sidewalks are proposed on both sides of the private streets as well as on both sides of the public Thomas Grant Drive extension. In addition, a 10-foot wide asphalt trail is proposed to run north-south along the entire western portion of the site, with two 5-foot wide asphalt trails connecting the 10-foot trail to the townhomes and the community backyard and adult fitness area. Public access easements will be provided along the internal streets, sidewalks and trails to allow pedestrian connectivity throughout the site.

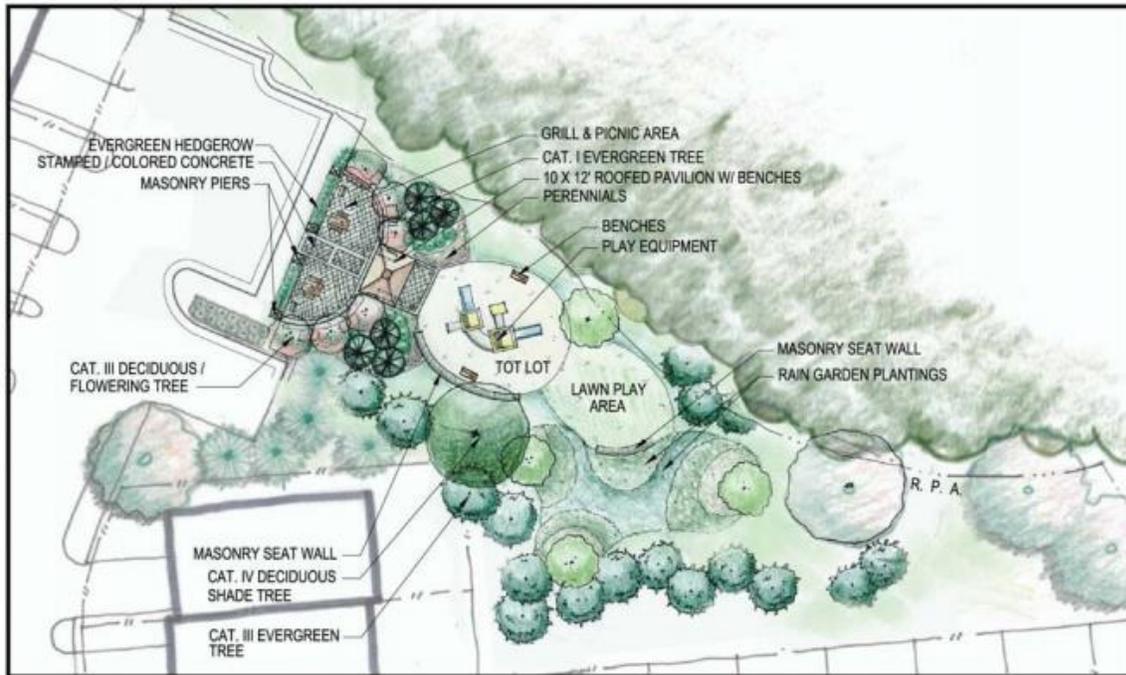
### ***Parking***

The parking tabulations on Sheet 2 of the CDP/FDP show the development will meet the Zoning Ordinance requirement of 103 parking spaces (38 units X 2.7 parking spaces). Each interior unit will have one parking space in the garage and one parking space in the driveway, and each end unit will have two parking spaces in the garage and two in the driveway. In addition, there will be twenty-four surface parking spaces for guest parking.

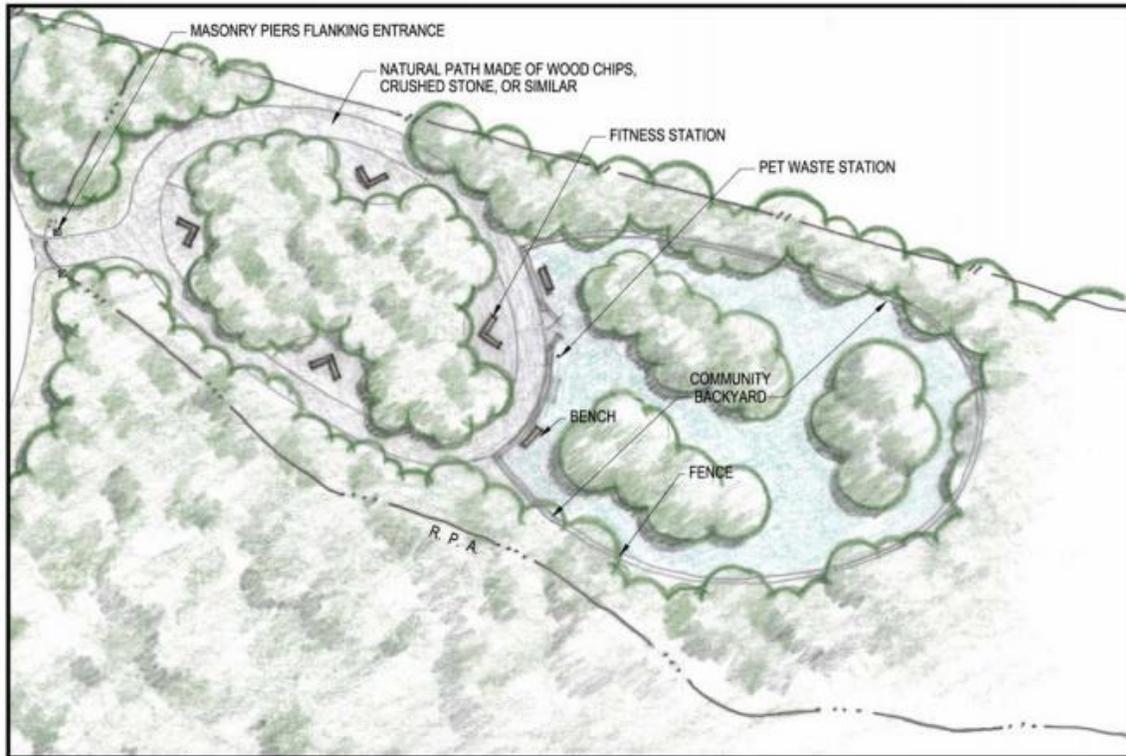
The applicant will exceed the required parking of 103 for a total of 124 spaces. A proffer is provided that requires the garages to be reserved for vehicle parking and the driveways to be at least 20 feet in length, excluding the sidewalk. An additional thirty parking spaces will be provided offsite along one side of the Thomas Grant Drive extension.

### ***Landscape and Open Space***

The proposal's 58.7 percent (9.0 acres) open space exceeds the minimum required 20 percent open space for the 15.33 acre site. This open space area is primarily comprised of Resource Protection Area (RPA). Sheet 6 of the CDP/FDP shows the proposed landscape design, and Sheet 13 shows additional open and community space details. The CDP/FDP shows six tree save areas at different locations throughout the site, both within and outside the RPA. The tot lot and community gathering area (Figure 3A) are located east of the terminus of the north-south private street, and north of the majority of the proposed townhomes. Moving eastward within this area, the plan shows a grill and picnic area, a roofed pavilion with benches, a tot lot with play equipment, a lawn/play area, and rain garden plantings. Evergreen and deciduous tree plantings will buffer this area from the townhomes. Deciduous trees will also be planted along the townhome frontages, and additional evergreen and deciduous trees will be planted throughout the townhome area. The community backyard and adult fitness area (Figure 3B) will consist of a looping natural path with four adult fitness stations and a fenced, grassy and wooded area east of the loop. This entire area will be selectively cleared of the understory, keeping healthy overstory intact. Additional landscaping will be added to buffer the community backyard and adult fitness area from the adjacent RPA.



**A** TOT LOT & COMMUNITY GATHERING AREA  
N.T.S.



**B** COMMUNITY BACKYARD & ADULT FITNESS AREA  
N.T.S.

Figure 3: Community Open Space

### ***Stormwater Management***

The site lies within the Long Branch sub-watershed of the Accotink Creek watershed. As proposed, there is one point of concentrated discharge from the site directly into the natural stormwater conveyance system of the major floodplain associated with Long Branch. At the discharge point, an underground concrete vault is proposed in order to reduce the 1-year post development peak runoff rate from the site to below the peak runoff rate for the site in good forested condition. A waiver has been submitted to the Board of Supervisors to allow the underground detention facility within a residential development.

The applicant will also be requesting a partial waiver of the detention requirements for 2-year and 10-year storm events at the time of site plan review. As part of the justification for such a waiver, the applicant stated that if detention for the 2-year and 10-year storm events is not provided, the peak flow from the site will enter the major floodplain channel prior to the peak flow for the entire drainage shed. This in turn would allow for the flows to be spread out over a longer period of time, decreasing the chances of peaking the flows downstream. The concrete vault facility will be designed with capacity to detain and infiltrate the 2-year and 10-year storm events, if needed. Best Management Practices (BMP) requirements for the site are being met through the use of three bio-retention rain garden facilities and four pervious pavement areas. With these proposed BMP facilities, the total phosphorus load reduction of 1.27 lbs. per year is 0.10 lbs. per year which is more than the required 1.17 lbs. per year.

### ***Architecture***

Sample architectural elevations have been provided on Sheet 12 of the CDP/FDP. The elevations depict units of similar design to the adjacent Island Creek subdivision. Each interior unit will include a one-car front-loaded garage (Figure 4), and the end units will include a two-car front-loaded garage. All of the proposed units will be constructed with a mixture of brick, stone, and HardiePlank or other comparable cement board. The unit sizes will average approximately 2,700 square feet for the three-level interior units, and 2,970 square feet for the three-level end units, which is slightly larger than these units in the surrounding neighborhoods. A proffer has been provided that requires that the design be generally consistent with quality and materials depicted in this image. Proffers have also been provided to allow the construction of decks, bay windows, patios, and other appurtenances in accordance with the lot typical shown on the CDP/FDP.



*Figure 4: Architectural Design*

## STAFF ANALYSIS

### Land Use

#### Residential Development Criteria (Appendix 4)

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 historic heritage, contributing to the provision of affordable housing, and being responsive to the unique, site specific considerations of the property. Accordingly, all rezoning requests for new residential development are evaluated based on the following eight criteria:

#### 1. Site Design

*The Site Design 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. In addition, the proposed development should provide useable, accessible and well-integrated open space, appropriate landscaping and other amenities.*

The applicant's proposal includes a large, undeveloped parcel near existing residential developments. The Comprehensive Plan specifically states that the subject property should be developed as a planned community with large open spaces and amenities. In addition, the Comprehensive Plan specifies that the subject property should be well-buffered from adjacent areas and should increase visual character and open space. Consistent with the adjacent Island Creek and Amberleigh communities to the north and south, the site is planned for 3-4 du/ac. The proposal for 38 single family attached houses on 15.33 acres yields a density of 2.48 du/ac, which falls below the recommended density range. (As previously noted, per Sect. 2-308, a density penalty must be applied to this site which makes the maximum allowable density on the site 3.12 du/ac.) In addition, the application will provide 58.7 percent open space (9 ac.).

The property is immediately surrounded by wooded open space, with residential communities of similar character making up the greater application site area. The application site is separated from the nearest adjacent residences by over 200 feet of heavily forested land. Furthermore, no proposed lot will be closer than approximately 500 feet to the nearest adjacent residence. Staff finds the proposed development of 38 townhomes to be compatible with the surrounding area.

The CDP/FDP shows multiple open space areas accessible by pedestrian pathways that include both active and passive amenity features. Details for this area, provided in the CDP/FDP and in Figure 3, show appropriate plantings and accent features such as benches and shade trees. In addition, the dedication of 10.67 acres to the Fairfax County Park Authority enhances connection between Amberleigh Park and Island Creek Park and the proposed 10-foot wide asphalt trail furthers future access from the application area to the Franconia-Springfield Metro Station. Public access easements ensure further

connectivity throughout the site. Staff finds that this criterion has been met.

### Neighborhood Context

*The Neighborhood Context Development Criterion requires the development proposal to fit into the fabric of the community as evidenced by an evaluation of the bulk/mass/orientation of proposed dwelling units, lot sizes, architectural elevations/materials, and changes to existing topography and vegetation in comparison to surrounding uses.*

In staff's opinion, the proposal is sensitive to the surrounding neighborhood context. The application site is separated from the adjacent communities by wooded open space and steep topography. With the proposed townhomes facing interior to the private streets, the lot orientation is logical. The proposed lot sizes (1,760 square feet on average) are slightly smaller than the surrounding neighborhoods (which range on average between 1,782 square feet and 1,872 square feet). The proposed townhomes, though slightly larger than the immediately surrounding neighborhoods, are in character with other townhomes in the greater community. Lastly, though some trees are being removed to allow for the development of the property, the applicant is well exceeding the tree preservation target area requirement, primarily through saving trees outside of the development area, and by providing plantings/landscaping in the development area.

### 2. Environment (Appendix 5)

*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.*

Approximately 74% of the subject site includes environmental constraints (Figure 5), including the presence of marine clay soils, steep topography, and water features. A sizeable portion of the property is within a floodplain and a much larger majority of the property falls within the RPA. That land which is outside of the floodplain and RPA contains marine clays. (Per Sect. 2-308 of the Zoning Ordinance, the maximum density permitted on the site is 3.12 du/ac.) No development is proposed within the floodplain, but much of the development will be atop marine clay soils and uphill from Long Branch. (A discussion regarding how the applicant will handle the marine clay soils is provided later in the report.)

While the applicant has made strides to pull back the limits of clearing and grading, there is still minor RPA encroachment along the northwestern corner of the townhome area. The applicant has proffered to include environmental features, including low-impact development features and rain barrels at the rear of all town home units, and to certify the entire property as a National Wildlife Federation Wildlife Habitat. The applicant has also proffered to obtain either Energy Star Qualified Homes certification or Earth Craft House certification for the 38 units. A discussion regarding the environmental concerns raised by staff follows.



Figure 5A: Chesapeake Bay Preservation Areas Map

CHESAPEAKE BAY PRESERVATION AREAS

LEGEND

Resource Protection Areas (RPAs)

1993 RPAs 

2003 RPAs 

2003 (Rev) RPAs 

Resource Management Areas (RMAs) 

07/12/2005

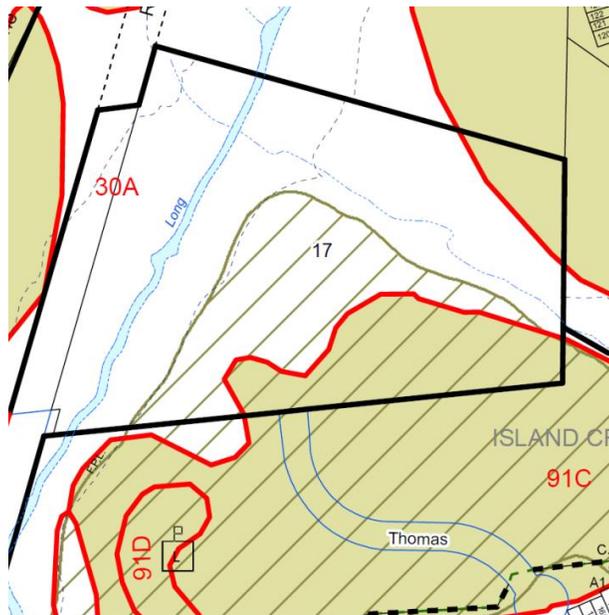


Figure 5B: Soils Map

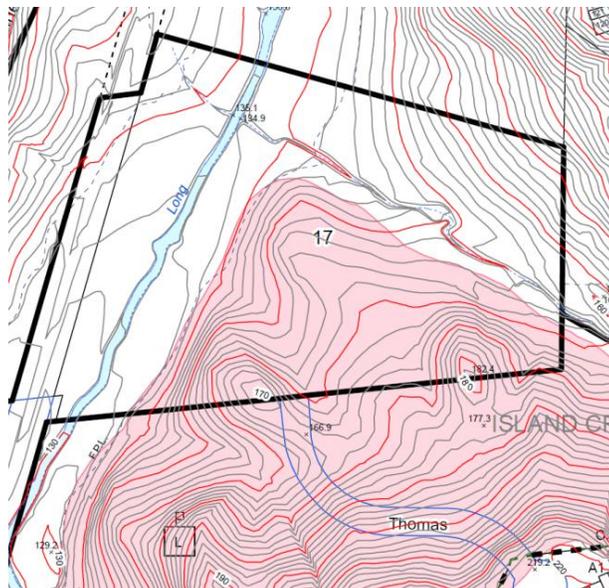
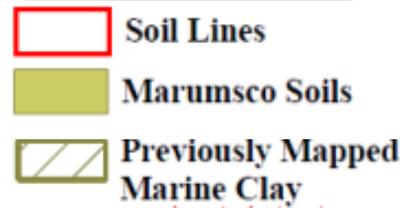


Figure 5C: 2' Contour Map

Figure 5: Environmental Constraints

***Geotechnical Analysis*** (Appendix 9)

The chief environmental concern on the property is the presence of marine clay soils. The applicant conducted and submitted a geotechnical study to the Fairfax County Geotechnical Review Board (GRB) for preliminary review. Based on this preliminary review, the GRB determined that the proposed rezoning appears feasible from a geotechnical standpoint. In addition, the GRB generally feels that the geotechnical-related issues related to the site can be adequately evaluated during the final engineering design phase, and addressed with proper construction practice and inspection. However, the GRB does recommend that the applicant address some issues during the final engineering-design phase and construction phase. Specifically, the GRB recommends that the applicant utilize retaining walls that require minimal excavation, and take into account the retaining wall locations relative to property lines and anticipated grading. Regarding the retaining wall near the southeast property line in particular, the GRB recommends that the applicant evaluate the survivability of vegetation existing on the adjoining Park Authority property to the south, and appropriately adjust limits of clearing and grading. Additional recommendations are included in Appendix 9 of the report. The applicant has proffered to submit a geotechnical study of the subject property and the Thomas Grant Drive extension (that incorporates the initial GRB recommendations) to the GRB at the time of site plan review.

***Stormwater Management Analysis*** (Appendix 7)

According to the applicant's stormwater narrative and adequate outfall analysis, the proposal will meet detention requirements with an underground concrete vault for the 1-year, 24 hour storm. The applicant has requested a waiver to the Board of Supervisors to allow an underground detention facility in a residential development. This waiver has not been acted upon at the time of publication of the staff report, although it has been submitted and is under review by the Department of Public Works and Environmental Services (DWPES).

The applicant does not propose to meet detention requirements for the 2-year and 10-year storm events on site in order to avoid peak flows of Long Branch downstream from the application property. If detention is provided on site for the 2-year and 10-year storm events, the peak flow from the site will coincide with the peak flow from the entire drainage shed. If detention is not provided on site for the 2-year and 10-year storm events, the peak flow from the site will enter Long Branch prior to the peak flow of the entire drainage shed, dispersing the flows over a longer period. This decreases the chances for flooding downstream. The waiver for the 2-year and 10-year storm events will be reviewed at the time of site plan review. If DPWES does not grant the waiver at site plan, the applicant will be required to meet detention for the 2-year and 10-year storm events on site, which the applicant will address with a concrete vault.

According to the applicant's preliminary BMP narrative, BMP requirements for the site will be met through the use of low impact development (LID) measures, including three bio-retention facilities (rain gardens) and four pervious pavement areas, which are

located throughout the site. The concrete vault will not take BMP credit as the BMP requirements for the site will be satisfied with the bio-retention facilities.

The Island Creek subdivision to the south satisfied its BMP requirements through the recordation of conservation easements that encompass the parcels to the east and west of the new Thomas Grant Drive extension. BMP requirements for the proposed Thomas Grant Drive extension located offsite were therefore accounted for with the approval of the Island Creek subdivision (RZ 86-L-073). Per the request of County staff, the applicant provided BMP calculations to show that the construction of the Thomas Grant Drive extension will not bring the Island Creek subdivision out of compliance with BMP requirements. The applicant calculated that approximately 0.8 acres of conservation easements that contribute to Island Creek's BMP would need to be vacated for the extension of Thomas Grant Drive. This would result in a minor reduction of the phosphorus removal rate to 59.3 percent, which is still higher than the 50 percent phosphorus removal rate required per approved Proffer 7 of RZ 86-L-073.

### 3. Tree Preservation & Tree Cover Requirements

#### ***Urban Forest Management Analysis*** (Appendix 8)

*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.*

The property contains significant areas of mature tree cover. In general, the proposal maintains the wooded character of the site. While the applicant is proposing to remove many of the existing trees, the project well exceeds the Zoning Ordinance requirement for tree preservation. The 20% requirement for 10-year tree canopy coverage calls for 85,320 square feet of tree canopy. The applicant has placed over one-third of the site within tree save areas, for a total of 242,891 square feet of tree canopy (5.6 acres) achieved by tree preservation. The community backyard and adult fitness area will be selectively cleared of the underbrush, leaving the healthy overstory intact in order to incorporate the site's wooded character into the proposal's community space. Staff encourages the applicant to commit to removing the understory in this area by hand as opposed to heavy machinery. In response to staff's concern of the community backyard and adult fitness area's close proximity to the RPA, the applicant has provided additional plantings to serve as a buffer. The addition of rain gardens and street landscaping supplement the proposal's tree cover, and the applicant has proposed numerous proffers that address tree preservation, including replanting plans. With these commitments, staff believes this criterion has been met.

### 4. Transportation (Appendix 6)

*Criterion 5 requires that development provide safe and adequate access to the surrounding road network, and that transit and pedestrian travel and interconnection of streets should be encouraged. In addition, alternative street designs may be appropriate where conditions merit.*

The proposed development will be accessed from an extension of the public street Thomas Grant Drive, north of the Island Creek development. The extension of this road was anticipated with the original Island Creek rezoning. The existing cul-de-sac located at the end of Thomas Grant Drive within the Island Creek subdivision will be removed and the street will be reconstructed to match the new proposed Thomas Grant Drive extension. The public Thomas Grant Drive extension will terminate at a new 30-foot wide cul-de-sac on the southern edge of the subject site, which the applicant has agreed to dedicate to VDOT. A north-south private street will connect to the new cul-de-sac, providing access within the proposed development. There will be an east-west private street intersecting the first private street at a perpendicular just north of the new cul-de-sac. In addition to the cul-de-sac, a hammerhead turnaround will be provided towards the end of each new private street for emergency vehicle access.

Each interior unit will have two parking spaces and each end unit will have four parking spaces. Twenty-foot long driveways will ensure that no cars overhang onto the sidewalks. There will also be twenty-four guest parking spaces on-site. In addition, parking will be available along one side of the Thomas Grant Drive extension and within the proposed cul-de-sac.

Sidewalks will be provided on both sides of the Thomas Grant Drive extension and on both sides of the internal private streets. Two private trails will connect the townhome area and the community backyard and adult fitness area to the 10-foot asphalt public trail that generally runs north-south along the western portion of the site. This trail will help connect pedestrians and cyclists to the Franconia-Springfield Metro station in the future. The applicant has proffered to provide public access easements over the site's private streets, sidewalks, and trails in order to allow pedestrian connectivity throughout the site. Overall, staff believes that safe and adequate vehicle and pedestrian circulation is provided.

#### 5. Public Facilities (Appendices 10 -13)

*Criterion 6 states that residential developments should offset their impacts upon 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.*

The applicant has proffered to provide a monetary contribution for public schools and recreational facilities. As stated earlier, the applicant has proposed BMPs and other stormwater measures that, subject to DPWES approval, will provide a tangible benefit to the proposed residents. Overall, staff believes this criterion is adequately addressed. Specific public facilities issues are discussed below.

#### **Park Authority Analysis** (Appendix 10)

In addition to the \$1,700 per non-ADU unit required for open space and recreational

features in the PDH district (per Sec. 6-110 and 16-404 of the Zoning Ordinance), the Park Authority requests that the applicant contribute a fair share contribution of \$893 per new resident for a total of \$99,123 to offset the effects to service levels at nearby facilities. The applicant has proffered to provide both the PDH contribution and the full fair share contribution. The applicant has also agreed to dedicate approximately 10.67 acres of land to the Park Authority, and to construct a public 10-foot wide asphalt trail along the western portion of the site, which will provide an essential pedestrian link for a future trail connection to the Franconia-Springfield Metro Station.

***Fairfax County Public Schools (FCPS) Analysis*** (Appendix 11)

The proposed development would be served by Island Creek Elementary School, and Hayfield Secondary schools. The total number of new students generated by the development is anticipated to be eight students (five elementary, one middle, two high school). Staff requests that the applicant contribute \$86,600 (or an amount equal to \$10,825 per student) to offset potential impacts from the additional students on the schools. The applicant has proffered to provide the \$86,600 (with an escalator clause) for capital improvements to Fairfax County schools in conformance with FCPS guidelines.

***Sanitary Sewer Analysis*** (Appendix 12)

The property is located within the Long Branch watershed, and would be ultimately serviced by the Noman M. Cole Pollution Control Plant in Lorton. An existing 24-inch line exists on the property and is adequate for the proposed use.

***Water Service Analysis*** (Appendix 13)

Water service for the property will be provided from an existing 12-inch main located approximately 450 feet south of the proposed site on Thomas Grant Drive. Additional water main extensions may be necessary to satisfy the fire flow requirements and accommodate water quality concerns.

6. Affordable Housing

*This Criterion states that 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 Fairfax County. This Criterion may be satisfied by the construction of units, dedication of land, or by a contribution to the Housing Trust Fund.*

As the applicant's proposal falls below the 50-unit minimum, the Affordable Dwelling Unit ordinance is not applicable. A proffer has been proposed that will provide a contribution to the housing trust fund in an amount equal to one-half of one percent of the value of all of the units approved at the time subdivision in accordance with Board of Supervisors' policy. This criterion has been met.

## 7. Heritage Resources

*This Criterion requires that developments address potential impacts on historical and/or archaeological resources through research, protection, preservation, or recordation.*

The applicant completed a Phase I archaeological assessment to determine if any resources are located on the property. The results indicated that nothing of significance exists on the site. No additional studies on the property are recommended. This criterion has been addressed.

## **ZONING ORDINANCE PROVISIONS (Appendix 14)**

### **Planned Development District Standards**

All rezoning proposals in a planned district must comply with the Zoning Ordinance provisions found in Article 6, Planned Development District Regulations and Article 16, Development Plans.

### **Article 6**

#### **Sect. 6-101 Purpose and Intent**

*This section states that the PDH District is established to encourage innovative and creative design, to ensure ample provision and efficient use of open space; to promote balanced development of mixed housing types and to encourage the provision of affordable dwelling units.*

The development has been designed to address the key issues present on the site including geotechnical concerns, effective stormwater management, and the protection of environmentally sensitive areas. The entire area that falls within the RPA will remain undisturbed with large amounts of tree canopy. The dedication of this area to the Park Authority provides vital connections between parks and to the proposed 10-foot asphalt trail along the western portion of the site. This trail will also help connect the development and adjacent neighborhoods to the Franconia-Springfield Metro Station in the future. A proposed network of pedestrian pathways throughout the subject site allows for logical circulation within the development and connectivity to community open space and amenities. Lastly, the applicant will meet the affordable housing requirement through a contribution to the housing trust fund.

While the site layout itself could be achieved through use of a conventional zoning district, the applicant has sought to address the P-District standards regarding creative and innovative design through the creation of community and open space areas within the proposed development. These areas include a tot lot and community gathering area, a community backyard and adult fitness area. With the inclusion of these open space areas, it is staff's opinion that the CDP/FDP meets the purpose and intent of the PDH District.

**Sect. 6-107, -109, and -110 Lot Size Requirements, Maximum Density, and Open Space**

*Section 6-107 states that a minimum of two acres is required for approval of a PDH District. Section 6-109 states that the maximum density for the PDH-4 District is 4 dwelling units per acre (du/ac). Par. 1 of Section 6-110 requires a minimum of 20% of the gross area as open space in the PDH-4 District. Par. 2 of Section 6-110 requires that recreational amenities be provided in the amount of \$1,700/du.*

The area of this rezoning application is 15.33 acres which meets the minimum district size requirement. The applicant proposes a density of 2.48 du/ac. The proposed density falls below the density range recommended by the Comprehensive Plan, as well as below the maximum density permitted on the site per Sect. 2-308 of the Zoning Ordinance (3.12 du/ac).. The applicant proposes to retain 58.7 percent of the site as open space, which is almost three times the minimum requirement in the Zoning Ordinance. The applicant has also proffered to provide the required monetary contribution per unit for recreation to be provided on-site. It is staff's opinion that this standard has been satisfied.

**Article 16****Section 16-101 General Standards**

*General Standard 1 states that 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.*

The Comprehensive Plan recommends the subject site for residential use at a density of 3-4 du/ac. A density penalty is applied due to the environmental constraints that exist on the site, decreasing the allowable density to 3.12 du/ac. The proposal for 38 townhomes at a density of 2.48 du/ac. as depicted on the CDP/FDP is below the allowable density and is in conformance with the Comprehensive Plan with respect to land use type, character and intensity and is consistent with surrounding development. Staff finds this standard is satisfied.

*General Standard 2 states that 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.*

It is staff's opinion that the CDP/FDP provides a functional layout with common open space as intended in the PDH District more so than would a development proposal under a conventional district. While townhome units at a similar density could be permitted under a conventional zoning district, there is no requirement for community open space. Also, the larger yard requirements in a conventional district would further reduce the ability to provide communal amenities or provide larger stormwater facilities. In exchange for the relaxation of these bulk standards, the Zoning Ordinance calls for an innovative project that provides a high quality residential environment with well-designed public spaces, attractive architectural design and high quality building materials. It is staff's opinion that these elements have been

provided as evidenced by the open space areas and walking paths, stormwater management features, and commitment to green building certified homes.

*General Standard 3 states that 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.*

The CDP/FDP preserves 58.7 percent of the site as open space while still providing for 38 townhomes at a density of 2.48 du/ac. Based on the shape of the property, the arrangement of the lots and private streets is logical. The site presently contains numerous mature trees and some steep slopes. While the removal of trees is unavoidable, the plan meets the tree preservation target area requirement primarily through tree save areas both inside and outside of the RPA. These tree saves areas will increase the buffer of the new development from adjacent homes. The site's layout has been organized to respect steep slopes, and four retaining walls will help stabilize slopes near some townhome units. It is staff's opinion that this standard has been met. As mentioned earlier, there is still minor RPA encroachment. Staff encourages the applicant to adjust the limits of clearing and grading so as to further respect the RPA boundary.

*General Standard 4 states that 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.*

The subject site is immediately surrounded by HOA open space and public parkland. The proposal enhances the parkland with dedication of the RPA. Like the proposed development, the surrounding Island Creek and Amberleigh subdivisions consist exclusively of single-family attached houses developed in conformance with the Comprehensive Plan. The subject site is the last piece of undeveloped land in the immediate vicinity. Finally, the GRB review has concluded that the proposed development atop marine clay soils and some steep slopes will not negatively affect the surrounding developments. It is staff's opinion that the proposal does not present an immediate conflict or negative effect on the use, value, or future development of any of surrounding properties.

*General Standard 5 states that 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 developed.*

Adequate public facilities and utility services are available including sewer service and stormwater management, subject to final review by DPWES at the time of subdivision approval. This standard is satisfied.

*General Standard 6 states that 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.*

The site layout includes internal pedestrian and vehicular connections to all parts of the development and the applicant is proffering to include public access easements over the site's streets, sidewalks, and trails. Vehicle access is provided via an extension of Thomas Grant Drive. Sidewalks are provided within the development and connect to existing sidewalks on Thomas Grant Drive. The proposed 10-foot trail serves as a vital trail connection in the area, aiding in the future connection of the site and surrounding neighborhoods to the Franconia – Springfield Metro station. It is staff's opinion that this standard is met.

### **Section 16-102 Design Standards**

*Design Standard 1 states that 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.*

The R-4 District bulk regulations require that single family dwellings maintain a front yard setback of 30 feet, a side yard setback of 10 feet, and a rear yard setback of 25 feet. The proposed development incorporates minimum front yard setbacks of 15 feet, minimum side yard setbacks of 5 feet, and minimum rear yard setbacks of 10 feet. However, no unit will be closer than 30 feet from any lot line, including 265 feet from the northern lot line, 180 feet from the eastern lot line, 30 feet from the southern lot line, and 320 feet from the western lot line. There are no transitional screening or barrier requirements for the site, but large areas of wooded open space will separate the development from the existing adjacent neighborhoods.

*Design Standard 2 states that 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.*

The application exceeds the open space and parking requirements that would typically be required for a conventional district. Any entry signage will conform to the provisions in Article 12. This standard has been met.

*Design Standard 3 states that 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.*

The application provides for a public cul-de-sac street measuring 30 feet in width and a hammerhead turnaround on each private street. The street layout is a logical response to the buildable area of the property and has been deemed acceptable by FCDOT, VDOT, and the Fire Marshal. Adequate sidewalks are provided along both sides of the private streets and

the Thomas Grant Drive extension, and a trail network is provided to link the open and community space with the remainder of the development. Overall, staff finds the vehicular and pedestrian circulation network depicted on the CDP/FDP acceptable; this standard has been met.

### **Waivers/Modifications:**

#### Modification of Section 7-0406.8A of the PFM to allow a minimum 30-foot pavement radius within the cul-de-sac terminating Thomas Grant Drive.

Section 7-0406.8A of the Public Facilities Manual (PFM) requires that the minimum pavement radius of a cul-de-sac shall be no less than 45 feet. The applicant is instead proposing a 30-foot pavement radius within the cul-de-sac terminating the Thomas Grant Drive extension in order to minimize clearing and grading. VDOT, FCDOT, the Fire Marshal, and FCPS have stated their support for the requested modification. Given the environmentally sensitive character of the application site, staff supports the requested modification as it will limit the clearing and grading necessary for the cul-de-sac. Staff does not object to this modification.

#### Waiver of the prohibition of underground stormwater detention facilities for residential developments per Section 6-0303.6 of the PFM.

PFM Section 6-0303.6 prohibits the use of underground detention facilities in residential developments unless specifically waived by the Board of Supervisors in conjunction with the approval of a rezoning, proffered condition amendment, special exception, or special exception amendment. Considerations taken into account may include possible impacts on public safety, the environment, and the burden of prospective maintenance of the facilities. The applicant has requested a waiver to permit underground detention in a residential area. The waiver has been advertised with this application, but a determination has not yet been made at the time of the publication of this staff report.

## **CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

Staff finds RZ/FDP 2014-LE-008 to be in conformance with the Comprehensive Plan and all applicable provisions of the Zoning Ordinance.

### **Staff Recommendations**

Staff recommends approval of RZ 2014-LE-008 subject to the execution of proffers consistent with those found in Appendix 1 of this report.

Staff recommends approval of FDP 2014-LE-008.

Staff recommends approval of a modification of the requirements of PFM Section 7-0406.8A to allow a minimum 30-foot pavement radius within the cul-de-sac terminating the extension of Thomas Grant Drive.

The applicant has requested a waiver to permit underground detention in a residential area. The waiver has been advertised with this application, but a determination has not yet been made at the time of the publication of this staff report.

It should be noted that it is not the intent of staff to recommend that the Board or Planning Commission, in adopting any development conditions or 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.

## **APPENDICES**

1. Draft Proffers
2. Affidavit
3. Statement of Justification
4. Residential Development Criteria
5. Environmental Analysis
6. Transportation (FCDOT and VDOT) Analysis
7. Stormwater Management Analysis
8. Urban Forest Management Analysis
9. Geotechnical Analysis
10. Park Authority Analysis
11. Fairfax County Public Schools
12. Sanitary Sewer Analysis
13. Water Service Analysis
14. Zoning Ordinance Provisions
15. Glossary

**PROFFERS**  
**Long Branch Partners, LLC**

**RZ 2014-LE-008**

**November 12, 2014**

Pursuant to Section 15.2-2303(A), *Code of Virginia*, (1950 as amended) and subject to Section 18-204 of the Zoning Ordinance of Fairfax County (1978, as amended), the property owners and Applicant, for themselves, their successors and/or assigns (herein referred to as the “Applicant”), hereby proffer that the development of the parcel under consideration and shown on the 2014 Fairfax County Tax Maps as TM 90-4 ((1)) 17 (the “Property”), shall be in accordance with the following conditions if, and only if, Rezoning application RZ 2014-LE-004 (this “Rezoning”) is granted.

1. Development Plan.
  - A. Development of the Property shall be in substantial conformance with the Conceptual Development Plan/Final Development Plan (“CDP”/“FDP”) prepared by Urban, Ltd., consisting of 14 sheets, dated December 11, 2013, as revised through November 12, 2014.
  - B. Notwithstanding that the CDP/FDP is presented on 14 sheets, it shall be understood that the proffered portion of the CDP shall be the entire plan shown on Sheet 5 relative to the number and location of points of access, the maximum number and type of dwelling units, the general amount and location of dedications, the amount and location of open space, the location of the limits of clearing and grading, and the general location and arrangement of the buildings. The Applicant has the option to request a Final Development Plan Amendment (“FDPA”) for elements other than the CDP elements from the Planning Commission for all or a portion of the CDP/FDP in accordance with the provisions set forth in Section 16-402 of the Zoning Ordinance with respect to the remaining elements.
  - C. Pursuant to Paragraph 4 of Section 16-403 of the Zoning Ordinance, minor modifications from the FDP may be permitted as determined by the Zoning Administrator. The Applicant shall have the flexibility to adjust the locations and lengths of retaining walls as may be required pursuant to final design and/or the recommendations of the Geotechnical Review Board; however, the general location of the retaining walls will remain in the areas shown on the FDP, and in no instance shall the retaining wall adjustment result in the location of a retaining wall on private lots or an encroachment into the limits of clearing and grading as indicated on the CDP/FDP.

2. Transportation

A. Thomas Grant Drive

- (1) The Applicant shall construct an extension of Thomas Grant Drive within the existing 60-foot wide right-of-way located between 2014 TM 90-4 ((11)) L and Z to VDOT standards (the "Thomas Grant Drive Extension"). The centerline of the Thomas Grant Drive extension shall be located approximately 30 feet from the existing edge of right of way, pavement shall be a minimum of 24 feet in width (as measured from face of curb to face of curb), and curb and gutter shall be provided on both sides of the Thomas Grant Drive Extension. As provided in Proffer 23 of RZ 86-L-073, the Applicant may utilize necessary ancillary grading and temporary construction easements adjacent to the existing Thomas Grant Drive Extension right-of-way at no additional cost to the Applicant for use of those ancillary grading and temporary construction easements during construction of the Thomas Grant Drive Extension (the "Necessary Ancillary Grading and Temporary Construction Easements").
- (2) The Applicant shall dedicate in fee simple to the Board of Supervisors at the time of subdivision plat approval the ROW area for the proposed cul-de-sac where the Applicant shall terminate the Thomas Grant Drive Extension (the "New Cul-de-Sac"). The New Cul-de-Sac shall have an approximately 30 foot radius to the curb and an approximately 40 foot radius to the right-of-way line as shown on the CDP/FDP.
- (3) The Thomas Grant Drive Extension and the New Cul-de-Sac shall be constructed to VDOT standards and open for public use, but not necessarily off-bond, prior to the issuance of the first Residential Use Permit for the Property. The Applicant shall diligently pursue VDOT acceptance of the Thomas Grant Drive Extension and the New Cul-de-Sac for secondary street maintenance in accordance with the process outlined in VDOT's Secondary Street Acceptance requirements.
- (4) The existing Thomas Grant Drive cul-de-sac shall be scarified and replaced with a typical local street cross section including curb and gutter consistent with the typical section of existing Thomas Grant Drive within the Island Creek community, and shall be constructed to VDOT standards and open for public use, but not necessarily off-bond, prior to the issuance of the first Residential Use Permit for the Property.

B. Private Streets.

- (1) The private streets shown in the CDP/FDP shall be constructed of materials and depth of pavement consistent with the Public Facilities manual ("PFM") standards for public streets.

- (2) Initial purchasers shall be advised of the requirement to maintain private streets and estimated costs prior to entering into a contract of sale. This requirement to maintain the private streets as constructed and the estimated maintenance costs shall be included in the homeowners' association documents prepared for the Property, and shall be recorded among the land records of Fairfax County
  - (3) A public access and emergency vehicle access agreement, in a form acceptable to the Office of the County Attorney, shall be provided over all private streets at the time of subdivision plat approval.
3. Trails and Sidewalks.
  - A. The Applicant shall construct a public 10-foot wide Type 1 Asphalt Trail within the Long Branch Floodplain/RPA (the "Long Branch Trail") as shown on the CDP/FDP prior to the issuance of the first Residential Use Permit for the Property.
  - B. The Applicant shall construct a 5-foot wide asphalt trail from the Long Branch Trail to the area adjacent to Lot 13 as shown on the CDP/FDP prior to the issuance of the first Residential Use Permit for the Property. This trail shall be maintained by the Property's homeowners association. A 10-foot wide public access and maintenance easement shall be recorded for this private trail at the time of subdivision plat approval.
  - C. The Applicant shall construct a private 5-foot wide asphalt trail from the Long Branch Trail to the Community Backyard and Adult Fitness Area as shown on the CDP/FDP prior to the issuance of the first Residential Use Permit for the Property. A 10-foot wide private access and maintenance easement shall be recorded for this private trail at the time of Subdivision plat approval for the use of and maintenance by the Property's homeowner's association. Signage marking this trail as "Private" may be installed adjacent to the Long Branch Trail.
  - D. The Applicant shall construct 5-foot wide concrete sidewalks along both sides of the Thomas Grant Drive Extension as shown on the CDP/FDP. The sidewalks shall connect to the existing sidewalks adjacent to TM 90-4 ((11)) 170 and 171-176. The sidewalks along the Thomas Grant Drive Extension shall be public sidewalks located within the Thomas Grant Drive Extension ROW and shall be constructed prior to the issuance of the first Residential Use Permit for the Property.
  - E. The Applicant shall construct 5-foot wide sidewalks within the Property's Common Areas as shown on the CDP/FDP. The sidewalks within the Property shall be private, shall be constructed concurrent with adjacent development of units within the Property, and shall ultimately connect to the asphalt trail described in Proffer 3B in the vicinity of Lot 13 as shown on the CDP/FDP. A five-foot wide public access easement shall be recorded on the areas designated

for sidewalks and driveways adjacent to Lots 1-13 and 36 to permit access to pedestrians who are traveling between the Long Branch Trail and the Thomas Grant Drive Extension. This public access easement shall connect to the public access easement described in Proffer 3B.

4. Landscape Plan. A landscape plan that shows, at a minimum, landscaping in conformance with the landscape design shown on Sheet 6 of the CDP/FDP shall be submitted concurrently with the first submission, and all subsequent submissions, of the site plan for review and approval of the Urban Forestry Management Division (“UFMD”), DPWES. The landscape plan shall include detailed streetscape and open space landscaping, and shall include native, non-invasive species to provide the greatest habitat benefit for wildlife. Said plan shall be coordinated with and approved by the Urban Forester. Street trees along the Thomas Grant Drive Extension and all deciduous trees shall be a minimum of 2 to 2.5 inch caliper at the time of planting. All evergreen trees shall be a minimum of 6 feet high at the time of planting. All landscaping and streetscaping along the Thomas Grant Drive Extension shall be installed prior to the issuance of the first Residential Use Permit for the Property. The Applicant shall provide maintenance and replacement of landscaping as necessary until final Bond Release, at which point the maintenance of all landscaping on the Property shall be the Homeowners Association's responsibility.

5. Tree Preservation.

- A. The Applicant shall submit a Tree Preservation Plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist, Registered Consulting Arborist, or a Licensed Landscape Architect and shall be subject to the review and approval of the Urban Forest Management Division (UFMD), DPWES.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on and off-site trees, living or dead with trunks 12 inches in diameter and greater (measured at 4 ½ feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet to either side of the limits of clearing and grading (the “Tree Inventory”). The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the CDP/FDP and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.

- B. The Applicant shall retain a professional arborist with experience in plant appraisal, to determine the replacement value of all trees 12 inches in diameter or greater located on the Property that are inventoried to be saved within 25 feet to either side of the limits of clearing and grading as identified on the Tree Inventory as provided with the Tree Preservation Plan. These trees and their value shall be identified on the Tree Inventory provided with the Tree Preservation Plan at the time of the first submission of the respective site plan(s). The replacement value shall take into consideration the age, size and condition of these trees and shall be determined by the so-called "Trunk Formula Method" contained in the latest edition of the Guide for Plan Appraisal published by the International Society of Arboriculture, subject to review and approval by UFMD.

At the time of the respective site plan approvals, the Applicant shall post a cash bond or a letter of credit payable to the County of Fairfax to ensure preservation and/or replacement of the trees for which a tree value has been determined in accordance with the paragraph above (the "Bonded Trees") that die or are dying due to unauthorized construction activities. The letter of credit or cash deposit shall be equal to 50% of the replacement value of the Bonded Trees. At any time prior to final bond release for the improvements on the Property constructed adjacent to the respective tree save areas, should any Bonded Trees die, be removed, or are determined to be dying by UFMD due to unauthorized construction activities, the Applicant shall replace such trees at its expense. The replacement trees shall be of equivalent size, species and/or canopy cover as approved by UFMD. In addition to this replacement obligation, the Applicant shall also make a payment equal to the value of any Bonded Tree that is dead or dying or improperly removed due to unauthorized construction activity. This payment shall be determined based on the Trunk Formula Method and paid to a fund established by the County for furtherance of tree preservation objectives. Upon release of the bond for the improvements on the Property constructed adjacent to the respective tree save areas, any amount remaining in the tree bonds required by this proffer shall be returned/released to the Applicant.

- C. The Applicant shall retain the services of a certified arborist or landscape architect and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the Applicant's certified arborist or landscape architect shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing

as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.

- D. Clearing, grading and construction shall strictly conform to the limits of clearing and grading as shown on the CDP/FDP, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the CDP/FDP, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFM, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.
- E. All trees shown to be preserved on the tree preservation plan shall be protected by temporary tree protection fencing. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to a six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" proffer below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. At least three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed corrected, as determined by the UFMD, DPWES.

- F. The Applicant shall root prune as needed to comply with the tree preservation requirements of these proffers. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

- (1) Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
  - (2) Root pruning shall take place prior to any clearing and grading, or demolition of structures.
  - (3) Root pruning shall be conducted with the supervision of a certified arborist.
  - (4) An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete.
- G. The demolition of all existing features and structures within areas protected by the limits of clearing and grading as shown on the CDP/FDP shall be done by hand without heavy equipment and conducted in a manner that does not impact individual trees and/or groups of trees that are to be preserved.
- H. During any clearing or tree/vegetation/structure removal a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by the UFMD. The Applicant shall retain the services of a certified arborist or landscape architect to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation proffers, and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by the UFMD, DPWES.
6. Stormwater Management/Best Management Practices/Low Impact Development ("LID") Techniques.
- A. Stormwater management shall be provided within a concrete underground infiltration vault system in the general location shown on the CDP/FDP (the "Stormwater Management Facility"). The Stormwater Management Facility shall be designed to meet Public Facility Manual requirements unless waived or modified.
  - B. Supplementary innovative low impact development ("LID") measures shall be used on the Property, including, but not necessarily limited to, a bio-retention facility (rain garden), grassy swales, and or permeable pavers subject to DPWES approval.
7. Recreational Facilities.
- A. Pursuant to Paragraph 2 of Section 6-409 of the Zoning Ordinance regarding developed recreational facilities, the Applicant shall provide a minimum expenditure of \$1,700 per developed unit (\$64,600 for 38 units) at the time of Residential Use Permit issuance for each dwelling unit for the development of

recreational facilities within the Property. Recreational facilities shall include, but are not limited to: a fenced Community Backyard (cleared of understory vegetation; however, mature trees that are 12 inches or greater in diameter and in healthy condition are to be retained, and the forest floor is to be kept seeded with grass or other stabilizing vegetation or mulch, as necessary, to prevent the forest floor from becoming unusable for passive recreational use), an Adult Fitness Area (masonry piers will flank the private trail to demark this area as a private amenity area; understory vegetation will be cleared; however, mature trees that are 12 inches or greater in diameter are to be retained; and fitness stations will be installed), a tot lot (including a benches, play equipment and a masonry seating wall), and a community gathering area (with a roofed pavilion, stamped concrete plaza, picnic tables, seating walls and grills,) as generally shown on Sheet 13 of the CDP/FDP. Lighting of the Community Back Yard and Adult Fitness Area shall not be permitted. The Applicant reserves the right to install additional recreational/play equipment, gazebos, benches, tables, and trash cans, or to install alternative surface material such as mulch, stone dust or decomposed granite in lieu of grass within Community Gathering Area and the Community Back Yard/Adult Fitness Area, without the need for an interpretation or approval of a PCA/Conceptual Development Plan Amendment (“CDPA”) or FDPA.

- B. Should, for some reason, the HOA seek to dedicate the Community Back Yard and/or the Adult Fitness Area to the Fairfax County Park Authority (“FCPA”) at some point in the future, then the FCPA shall be allowed to modify or remove the Community Back Yard and/or the Adult Fitness Area and to amend the trail easement to permit public access and maintenance without the need for a Proffered Condition Amendment, CDPA or FDPA.
8. Park Authority – Dedications, Contributions, and Replanting of the Necessary Ancillary Grading and Temporary Construction Easement Areas
- A. Approximately 10.67 acres +/- of the Application Property shall be dedicated to the FCPA for public park purposes as depicted on Sheet 5A of the CDP/FDP prior to Final Bond Release, or earlier if mutually agreed upon by the Applicant and the FCPA (the “Park Dedication Property”). The value of the Park Dedication Property shall not be deducted from the contribution proffered in 8.C. below. Approximately 9.41 acres of the Park Dedication Property is the entirety of the RPA areas and approximately 1.26 acres +/- of the Park Dedication Property is located outside of the RPA areas.
- (1) In accordance with 2-1102.4A of the Public Facilities Manual (“PFM”), final acceptance of the Park Dedication Property by FCPA will depend on the state of the land, if in a satisfactory condition, or a condition comparable to the one that pertained at the time of rezoning approval.
- (2) In accordance with 2-1102.4B of the PFM, as part of its Pre-Dedication Acceptance Process, and in accordance with Va. Code § 15.2-5707, as

amended, should the Park Dedication Property be found disturbed or disrupted (i.e., erosion from construction activities, or debris, on the site), the Applicant shall be required to take reasonable corrective actions, as outlined by FCPA, prior to FCPA assuming title. Any debris or waste that may currently be located on the Park Dedication Property shall be removed by the Applicant prior to dedication.

- B. As specified in Proffer 3. A., the Applicant shall construct a public 10-foot wide Type 1 Asphalt Trail within the Long Branch Floodplain/RPA (the “Long Branch Trail”) as shown on the CDP/FDP prior to the issuance of the first Residential Use Permit for the Property. In order to minimize site disturbance, the proposed trails within any designated tree save area shall be field located in consultation with UFMD, DPWES. If dedication of the Park Dedication Property has not yet occurred at the time of subdivision plat approval, then the Applicant shall record a public access easement over the trail at the time of subdivision plat approval. This public access easement may be removed at the time of the dedication of the Park Dedication Property at the election of the FCPA.
- C. Prior to the issuance of the first RUP, the Applicant shall contribute \$893.00 per new resident that is generated pursuant to this rezoning application to the Fairfax County Park Authority, which is \$99,123.00 based on the construction of 38 single family detached homes.
- D. The Applicant shall replant the areas within the Necessary Ancillary Grading and Temporary Construction Easements in accordance with Sect. 12-0516.3 of the Public Facility’s Manual, which requires that the disturbed area be restored to a condition similar to its natural state and that native species suitable for the proposed site conditions be provided approximating the species composition existing prior to clearing.

9. Architectural Design.

- A. The architectural design of the units shall be generally consistent with the quality of construction and materials as shown on Sheet 12 of the CDP/FDP.
  - (1) All units shall be constructed with a mixture of brick and/or stone, and HardiePlank or other comparable cement board. No vinyl or wood siding shall be used on the building facades.
    - i. A minimum of 50% of calculated area of the front facades of each stick of single family attached homes, excluding the area used for windows, doors and their surrounding moldings shall be comprised of brick and/or stone.
    - ii. Fenestration and/or doorways shall comprise a minimum of 25% of the front façade and 20% of rear facades of all units.
    - iii. Fenestration and/or doorways shall comprise a minimum of 20% of the side facades of all end units.

- iv. Facades may include elements such as box bay windows, covered doorways and dormers to create architectural interest and variety.
    - v. A variety of colors, tones, materials and/or articulation shall be provided for the rear façades to provide visual breaks within individual sticks of units.
  - B. Decks, , patios, porches, sunrooms, balconies, bay windows chimneys, areaways, mechanical equipment and other similar appurtenances may encroach into minimum yards as depicted on the “Typical SFA Lot Detail” and qualified by the “Typical Lot/Unit Notes” contained on the CDP/FDP, and as may also be permitted by Sect. 2-412 and Article 10 of the Zoning Ordinance. The restrictions and limitations of this proffer shall be disclosed to initial purchasers prior to contract ratification and further disclosed in the HOA documents.
  - C. The elevations will be refined as a result of final design and engineering so long as the quality of the buildings remains in substantial conformance with those shown on the approved CDP/FDP and the materials are as stated within this proffer.
  - D. All visible areas of retaining walls that require a building permit (walls that are 3 feet or greater in height) shall be faced with stone, brick, or decorative masonry materials, or shall be constructed as a rock gravity wall. Other minor landscaping walls that do not require issuance of a building permit (walls that are less than 3 feet in height) are permitted in any private yard or common open space location and may be constructed of materials as determined appropriate by the Applicant or homeowner’s association.
- 10. Sustainable Design.
  - A. All new dwelling units shall be designed and constructed to achieve one of the following:
    - (1) Certification in accordance with the 2012 National Green Building Standard (NGBS) using the ENERGY STAR® Qualified Homes path for energy performance, as demonstrated through documentation submitted to the Environment and Development Review Branch (“EDRB”) of the Department of Planning and Zoning (“DPZ”) from a home energy rater certified through the Home Innovation Research Labs that demonstrates that each dwelling unit has attained the certification prior to the issuance of the Residential Use Permit (“RUP”) for each dwelling.
    - (2) As an alternative, each new house shall be designed and constructed to achieve certification in accordance with the Earth Craft House Program as demonstrated through documentation provided to DPWES and DPZ prior to the issuance of the RUP for each dwelling.

- B. The Applicant shall provide working rain barrels at the rear of each townhouse unit and shall provide documentation to each initial purchaser regarding the benefits of rain barrel use, and the proper use and maintenance of the rain barrel. Information regarding the rain barrels' use and maintenance shall be specified in the homeowners' association documents.
  - C. The Applicant shall certify the entire Property as a National Wildlife Federation Wildlife Habitat prior to final bond release. Information regarding this certification shall be provided to each initial purchaser and shall be specified in the homeowners' association documents.
  - D. Prior to the issuance of site plan approval, the Applicant shall submit a plan to DPWES for the diversion of Construction and Demolition Debris waste from landfills and into recycling with a goal of achieving 50% recycling, repurposing and reuse efficiency, not including soils exported offsite. Repurposing and/or reuse of waste materials may include incineration of residual materials after mechanized processing by a Materials Recovery Facility.
11. Use of Garages, Driveways and Common Area Parking Spaces.
- A. Any conversion of garages that will preclude the parking of vehicles within the garage is prohibited. A covenant setting forth this restriction shall be recorded among the land records of Fairfax County in a form approved by the County Attorney prior to the sale of any lots and shall run to the benefit of the HOA and the Board of Supervisors. This restriction shall also be disclosed in the HOA documents. Prospective purchasers shall be advised of this use restriction in writing, prior to entering into a contract of sale.
  - B. All driveways shall be a minimum of 20 feet in length as measured outward from the face of the garage door to the edge of sidewalk to ensure that no vehicles will overhang the sidewalk. 1 garage parking space and 1 driveway parking space will be provided for each single-garage unit (interior units), and two garage parking spaces and two driveway spaces will be provided for each double-garage unit (end units), for a total of 2 or 4 designated parking spaces for each unit. Vehicles parked on individual driveways shall not be permitted to overhang on the Property's sidewalks. This restriction shall be included in the homeowner's association documents prepared for the Property.
  - C. No parking of recreational vehicles (RVs), boats or trailers shall be permitted on the Property. This restriction shall be included in the homeowners' association documents prepared for the Property.
  - D. The Homeowners Association shall have the ability to assign or restrict common parking spaces, following the procedures designated by the State of Virginia for the use of common areas.

12. HOA Responsibilities.

A. Disclosure.

- (1) Prior to entering into a contract of sale, prospective initial purchasers shall be notified in writing by the applicant and shall acknowledge receipt of notification in writing:
  - i. Of the maintenance responsibility for the private streets, sidewalks, private trails, SWM/BMP facilities (including pervious pavers and rain gardens, if any), common area and open space amenities, retaining walls, landscaping, rain barrels;
  - ii. That the Property is a Certified Wildlife Habitat and the requirements to retain certification;
  - iii. That no vehicle parked on a private driveway may overhang the abutting sidewalk;
  - iv. That no parking of recreational vehicles (RVs), boats or trailers shall be permitted on the Property; and,
  - v. That any conversion that will preclude the parking of vehicles within garages is prohibited.
- (2) The initial deeds of conveyance and HOA governing documents shall expressly contain these disclosures.
- (3) These disclosures shall also be recorded among the land records of Fairfax County.

- B. Funding. Prior to site plan approval, the Applicant shall establish and seed a reserve fund for the HOA in the amount of \$250.00 per unit (\$9,500.00 for 38 units). The Applicant shall contribute an additional \$250.00 prior to issuance of a building permit for each, individual unit developed on Lots 1-38. In total, the seed reserve fund for the HOA shall be \$500.00 per unit or \$19,000.00.

13. Schools Contribution. At the time of site plan approval the Applicant shall contribute the amount of \$10,825.00 per new student generated by the Application to the Fairfax County Board of Supervisors for the construction of capital improvements to Fairfax County public schools to which the students generated by the Property are scheduled to attend. (8 new students = \$86,600.00). The amount of this contribution shall increase if the County approves an increase to current student ratio or contribution amount prior to the issuance of the first RUP for the Property.

14. **Housing Trust Fund Contribution.** Prior to the issuance of the first building permit, the Applicant shall contribute to the Fairfax County Housing Trust Fund ("HTF") the sum equal to one-half percent (1/2%) of the value of all of the units approved at the time of site plan on the Property. The percentage shall be based on 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. The projected sales price shall be proposed by the Applicant in consultation with the Fairfax County Department of Housing and Community Development ("HCD") and shall be approved by HCD and DPWES.
15. **Geotechnical Review.** Prior to site plan approval, and in accordance with the provisions of the Public Facilities Manual, the Applicant shall submit a geotechnical study of the Application Property and the Thomas Grant Drive Extension to the Geotechnical Review Board through DPWES and shall incorporate appropriate engineering practices as recommended by the Geotechnical Review Board and DPWES to alleviate potential structural problems, to the satisfaction of DPWES. The recommendations of the Geotechnical Review Board shall be implemented.
16. **Lighting.** All outdoor lighting on the Property shall be in substantial conformance with that shown on Sheet 13 of the CDP/FDP and shall be in compliance with Part 9 of Article 14, Outdoor Lighting Standards.
17. **Signs.** Signs shall be in conformance with Article 12 of the Zoning Ordinance.
18. **Construction Activity.**
  - A. Outdoor construction activities, any associated construction deliveries, any construction related loading or unloading of vehicles, and any construction related trash collection on the Property shall only occur between the hours of 7:00 a.m. and 9:00 p.m., Monday through Saturday, and between the hours of 9:00 a.m. and 9:00 p.m. on Federal Holidays, exclusive of Thanksgiving, Christmas, New Year's Day, Memorial Day, the 4<sup>th</sup> of July and Labor Day, on which no construction activities shall occur. These hours shall be disclosed to all contractors and sub-contractors who perform work on the Property during site construction, and shall be posted on the Property or within the Thomas Grant Drive Extension Right-of-Way in a location visible to all workers in English and in Spanish.
  - B. Construction workers shall either park on the Property or on the Thomas Grant Drive Extension during the construction of the improvements on the Property or shall park in a remote location and be shuttled to the Property. Construction workers shall not be permitted to park on the existing Thomas Grant Drive or on any of the Private Streets within Island Creek.
  - C. All construction activities, including silt and dust control, and the use and disposal of any and all possible pollutants such as paint, gas, cement, etc. shall be performed in accordance with the County Code.

D. Construction Activity Contact Information

- (1) Prior to the commencement of construction on the Property, the Lee District Supervisor and the Presidents or other representatives of the homeowners associations as requested by the Supervisor shall be provided with the name, title, phone number and email address of a person to whom comments and/or complaints regarding construction activities may be directed.
    - i. Such correspondence shall be sent by U.S. Mail, return receipt requested and copies of the receipts and responses shall be made available to the County Staff upon request.
    - ii. As an alternative, the contact information detailed above may be provided to via email with a request for an acknowledgement that the information was received by the management companies or designated representatives and responses shall be made available to County Staff upon request.
  - (2) In addition, prior to the commencement of construction on the Property, a sign with the contact information specified above shall be posted on the Property and shall be updated and retained on the Property through all construction activities.
  - (3) Responses to comments/complaints shall be provided in an expeditious manner; which is no more than three (3) business days for non-emergency concerns, or within one (1) business day if the concern is of an urgent nature.
19. Zoning Administrator Consideration. Notwithstanding the foregoing, upon demonstration that despite diligent efforts or due to factors beyond the Applicants' control, proffered improvements such as, but not limited to, transportation, publically accessible park areas, trails and trail connections, and off-site easements have been delayed (due to, but not limited to, an inability to secure necessary permission for utility relocations, VDOT approval, 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 improvements.
20. Severability. If determined appropriate in accordance with the parameters stated in Par. 10D of Sect. 16-402 of the Ordinance, any of these lots or buildings within the Property may be subject to Proffered Condition Amendments and Final Development Plan Amendments without joinder or consent of the property owners of the other lots within the Property.

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Long Branch Partners, LLC  
Page 15

21. Successors and Assigns. These proffers will bind and inure to the benefit of the Applicant and his/her successors and assigns.
22. Counterparts. These proffers may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original document and all of which taken together shall constitute but one in the same instrument.

[SIGNATURES BEGIN ON NEXT PAGE]

APPLICANT/CONTRACT PURCHASER  
OF TAX MAP 90-4 ((1)) 17

LONG BRANCH PARTNERS, L.L.C.

By: \_\_\_\_\_  
Andrew J. Somerville III  
Its: Manager

[SIGNATURES CONTINUED ON NEXT PAGE]

Long Branch Partners, LLC  
RZ 2014-LE-008  
Signature Sheet

TITLE OWNER OF TAX MAP 90-4 ((1)) 17

By: \_\_\_\_\_  
Jean Mary O'Connell Nader, Successor Trustee  
under the Land Trust Agreement dated October 16, 1992

[SIGNATURES END]

**REZONING AFFIDAVIT**

DATE: November 14, 2014  
(enter date affidavit is notarized)

I, Inda E. Stagg, agent, do hereby state that I am an  
(enter name of applicant or authorized agent)

(check one)       applicant  
                          applicant's authorized agent listed in Par. 1(a) below

124854 e

in Application No.(s): RZ/FDP 2014-LE-008  
(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.)

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
* Long Branch Partners, L.L.C. Agents: Edwin W. Lynch, Jr. Andrew J. Somerville III (a/k/a Andrew J. Somerville)	P.O. Box 1607 Lorton, VA 22199	Applicant/Contract Purchaser from Title Owner
* Jean Mary O'Connell Nader, Successor Trustee under the Land Trust Agreement dated 10/16/92 f/b/o Anthony Miner O'Connell, R. Pierre Shevenell (formerly Sheila Ann O'Connell [deceased]), and Jean M. O'Connell Nader, both individually and as Trustee of this Trust, created under the Last Will and Testament of Harold A. O'Connell dated April 11, 1974 f/b/o Jean M. O'Connell Nader, Anthony Miner	c/o Elizabeth V.C. Morrrough 4020 University Drive, #300 Fairfax, VA 22030	Title Owner of Tax Map 90-4 ((1)) 17
	O'Connell, and R. Pierre Shevenell (formerly Sheila Ann O'Connell [deceased])	

(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: November 14, 2014  
(enter date affidavit is notarized)for Application No. (s): RZ/FDP 2014-LE-008  
(enter County-assigned application number (s))

124854e

**(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.

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
PHD Associates, LLC  Agents: Richard D. DiBella Mark W. Hamer Jeffrey K. Parsigian	42395 Ryan Road, Suite 112/614 Ashburn, VA 20148	Contract Purchaser from Long Branch Partners, LLC
Urban Engineering & Associates, Inc. t/a Urban Ltd.  Agents: David T. McElhaney Alvis H. Hagelis John (nmi) Lightle	7712 Little River Turnpike Annandale, Virginia 22003	Engineers/Agent
M.J. Wells & Associates, Inc.  Agents: Robin L. Antonucci William F. Johnson Lester E. Adkins III	1420 Spring Hill Road, Suite 610 McLean, Virginia 22102	Transportation Consultant/ Agent
Wetland Studies and Solutions, Inc.  Agents: Michael S. Rolband Mark W. Headly Beth A. Clements Boyd S. Sipe	5300 Wellington Branch Drive, #100 Gainesville, Virginia 20155	Environmental Consultant/Agent
SettleLand LLC  Agent: Stanley F. Settle Jr.	42395 Ryan Road, Suite 112/614 Ashburn, VA 20148	Consultant/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 Attachment to Par. 1(a)**

DATE: November 14, 2014  
 (enter date affidavit is notarized)

124854e

for Application No. (s): RZ/FDP 2014-LE-008  
 (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.

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
Walsh, Colucci, Lubeley & Walsh, P.C. (f/k/a Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.)	2200 Clarendon Boulevard Suite 1300 Arlington, Virginia 22201	Attorneys/Planners/Agent
Agents: Martin D. Walsh Lynne J. Strobel Timothy S. Sampson M. Catharine Puskar Sara V. Mariska G. Evan Pritchard Jonathan D. Puvak (former) Andrew A. Painter Matthew J. Allman Jeffrey R. Sunderland Elizabeth D. Baker Inda E. Staggs Elizabeth A. Nicholson Amy E. Friedlander		Attorney/Agent Attorney/Agent Attorney/Agent Attorney/Agent Attorney/Agent Attorney/Agent Attorney/Agent Attorney/Agent Attorney/Agent Planner/Agent Planner/Agent Planner/Agent Planner/Agent
Whitlock Dalrymple Poston & Associates, Inc.	10621 Gateway Boulevard, Suite 200 Manassas, VA 20110	Engineer/Agent
Agent: Robert F. Scheller		

(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: November 14, 2014
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2014-LE-008
(enter County-assigned application number(s))

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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)
Long Branch Partners, L.L.C.
P.O. Box 1607
Lorton, VA 22199

DESCRIPTION OF CORPORATION: (check one statement)

- [X] 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)

Managers: Edwin W. Lynch, Jr., Andrew J. Somerville III (a/k/a Andrew J. Somerville)
Members: Occoquan Land, LC, Somerville Management Group, Inc.

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name & title, e.g. President, Vice President, Secretary, Treasurer, etc.)

(check if applicable) [X] 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: November 14, 2014  
(enter date affidavit is notarized)for Application No. (s): RZ/FDP 2014-LE-008  
(enter County-assigned application number (s))124854e**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)Urban Engineering & Associates, Inc. t/a Urban Ltd.  
7712 Little River Turnpike  
Annandale, Virginia 22003**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)J. Edgar Sears, Jr.  
Brian A. Sears**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)M.J. Wells & Associates, Inc.  
1420 Spring Hill Road, Suite 610  
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 SHAREHOLDERS:** (enter first name, middle initial, and last name)

M.J. Wells &amp; 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.**)(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: November 14, 2014  
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2014-LE-008  
(enter County-assigned application number (s))

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**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Wetland Studies and Solutions, Inc.  
5300 Wellington Branch Drive, #100  
Gainesville, Virginia 20155

**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)

Michael S. Rolband, Former Sole Shareholder  
The Davey Tree Expert Company, Sole Shareholder

**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)

Walsh, Colucci, Lubeley & Walsh, P.C. (f/k/a Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.)  
2200 Clarendon Boulevard, Suite 1300  
Arlington, Virginia 22201

**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)

David J. Bomgardner, E. Andrew Burcher, Thomas J. Colucci, Michael J. Coughlin, Peter M. Dolan, Jr., Jay du Von, William A. Fogarty, John H. Foote, H. Mark Goetzman, Bryan H. Guidash, Michael J. Kalish, J. Randall Minchew, G. Evan Pritchard, M. Catharine Puskar, John E. Rinaldi, Kathleen H. Smith, Lynne J. Strobel, Garth M. Wainman, Nan E. Walsh,  
\*Former Shareholders (effective 12/1/14): Michael D. Lubeley, Martin D. Walsh

**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: November 14, 2014  
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2014-LE-008  
(enter County-assigned application number (s))

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**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

The Davey Tree Expert Company  
1500 N Mantua Street  
Kent, OH 44240

**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)

An employee-owned company with the only shareholder that owns 10% or more is The Reliance Trust Company, as trustee for the Davey 401(k) SOP and ESOP. There are in excess of thousands of members in this pension fund, none of whom own 10% or more of The Davey Tree Expert Company.

**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)

SettleLand LLC  
42395 Ryan Road, Suite 112/614  
Ashburn, VA 20148

**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)

Sole Member: Stanley F. Settle Jr.

**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: November 14, 2014  
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2014-LE-008  
(enter County-assigned application number (s))

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**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Whitlock Dalrymple Poston & Associates, Inc.  
10621 Gateway Boulevard, Suite 200  
Manassas, VA 20110

**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)

A. Rhett Whitlock, G. Andy Dalrymple, Randall W. Poston, J. Eric Peterson, Matthew J. Innocenzi, Robert J. Niber  
Whitlock Dalrymple Poston & Associates, Inc. (WDP) ESOP. 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)

Occoquan Land, LC  
10501 Furnace Road, Suite 208  
Lorton, VA 22079

**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)

Edwin W. Lynch, Jr.  
Molly C. Lynch

**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: November 14, 2014  
(enter date affidavit is notarized)

for Application No. (s): RZ/FDP 2014-LE-008  
(enter County-assigned application number (s))

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**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)  
Somerville Management Group, Inc.  
6715 Little River Turnpike, Suite 100  
Annandale, VA 22003

**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)  
Andrew J. Somerville III (a/k/a Andrew J. Somerville)

**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)  
PHD Associates, LLC  
42395 Ryan Road, Suite 112/614  
Ashburn, VA 20148

**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)  
Managing Members: Richard D. DiBella, Mark W. Hamer, Jeffrey K. Parsigian  
Members: Richard D. DiBella, Mark W. Hamer, Jeffrey K. Parsigian, Rosaleen A. Hance

**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: November 14, 2014  
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for Application No. (s): RZ/FDP 2014-LE-008  
(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)  
None

(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**)

(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 AFFIDAVIT**

DATE: November 14, 2014  
(enter date affidavit is notarized)

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for Application No. (s): RZ/FDP 2014-LE-008  
(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: November 14, 2014  
(enter date affidavit is notarized)

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for Application No. (s): RZ/FDP 2014-LE-008  
(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.)**

Edwin W. Lynch, Jr. and Molly C. Lynch each donated in excess of \$100 to John Foust for Congress.

**(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

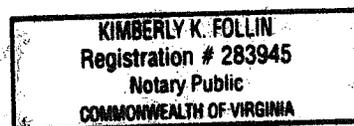
Inda E. Stagg, agent

(type or print first name, middle initial, last name, and title of signee)

Subscribed and sworn to before me this 14 day of November 20 14, in the State/Comm. of Virginia, County/City of Arlington.

Kimberly K. Follin  
Notary Public

My commission expires: 11/30/2015





Inda E. Stagg  
Senior Land Use Planner  
(703) 528-4700 Ext. 5423  
istagg@thelandlawyers.com

**WALSH COLUCCI  
LUBELEY & WALSH PC**

November 3, 2014

**Via Hand Delivery**

Barbara C. Berlin  
Director, DPZ/ZED  
12055 Government Center Parkway, Suite 801  
Fairfax, Virginia 22035

Re: Statement of Justification – Rezoning to the PDH-4 District  
Long Branch Partners, L.L.C. (the "Applicant")  
TM 90-4 ((1)) 17 (the "O'Connell Property")

Dear Ms. Berlin:

Please accept this statement as justification for the Applicant's proposal to rezone the 15.33 acre O'Connell Property from the R-1 District to the PDH-4 District for the development of 38 single family attached homes (townhomes) at a density of 2.48 dwelling units per acre.

**Property Location and Current Zoning Classification**

The 15.33 acre O'Connell Property is located within the Lee Magisterial District. The O'Connell Property is a single parcel of land that contains some steep topography, particularly in association with Long Branch, which runs generally north/south, and an unnamed tributary that runs northwest/southeast through the Property. Associated with these areas are some floodplain, wetland and Resource Protection Areas. No development is proposed within these environmentally sensitive areas.



The O'Connell Property is surrounded by wooded open space areas and parkland: Amberleigh HOA open space to the north and west (R-5), unconstructed Cinder Bed Road right-of-way ("ROW") to the west (no zoning district), and Fairfax County Park Authority property to the south (PDH-4) and east (R-5). Further to the south is the Island Creek development, which is zoned PDH-4. The O'Connell Property is currently zoned to the R-1 District and is undeveloped.

ATTORNEYS AT LAW

703 528 4700 ■ WWW.THELANDLAWYERS.COM  
2200 CLARENDON BLVD. ■ SUITE 1300 ■ ARLINGTON, VA 22201-3359

LOUDOUN 703 737 3633 ■ WOODBRIDGE 703 680 4664

There is no road constructed to the O'Connell Property at this time. ROW to the O'Connell Property was proffered pursuant to the approval of RZ 86-L-073 (the zoning action that approved the Island Creek Subdivision) to ensure that the O'Connell Property would not be land-locked. This ROW is a continuation of Thomas Grant Drive (Rt. 8425) and was recorded prior to the dedication of Parcel 90-4 ((11)) L to the Fairfax County Park Authority at the time that Island Creek Subdivision was constructed.

### **Zoning History**

There are no previously accepted proffers or rezoning actions that encumber development of the O'Connell Property.

Access to the O'Connell Property was proffered pursuant to RZ 86-L-073. Proffer 26 from that rezoning action states,

"Subject to DEM and OCP approval, the applicant shall dedicate a 60-foot wide right-of-way for a public road, together with ancillary grading and temporary construction easements adjacent thereto, as determined to be necessary by DEM and/or VDOT. This dedicated right-of-way, together with said easements, shall run from a public road in Development Bay A to the property line of the parcel identified on Fairfax County Tax Maps as 90-4-((1)), Parcel 17, as shown on the FDP. No construction or design is provided by this proffer."

Note: Parcel 17 is the O'Connell Property and the "public road in Development Bay A" is Thomas Grant Drive. No subsequent PCA application amended Proffer 26.

### **Comprehensive Plan Recommendations and Response**

#### **Plan Map – Residential Use at 3-4 du/ac and Private Open Space**

The Property is located in the Springfield Planning District (Area IV); Newington Community Planning Sector (S6). Par. 8 Specifically applies:

"Tax Map 90-4((1)) 17 and the Island Creek subdivision (Tax Map parcels 90-4((11)) and 99-2((10))) are planned for residential use at 3-4 dwelling units per acre. Development should provide for extensive buffering between the industrial and residential areas as well as provide for the eventual reclamation of former gravel extraction sites in the area and adhere to the general policies for the Lehigh Area.

"Any development in this area should be carefully designed to be well-buffered from adjacent areas. Reclamation should increase its visual character and open space desirability through earth berming, runoff retention ponding, plantings, and other measures. Development should consist of a planned community with a variety of dwelling unit types, large

open spaces, and amenities. Access to Beulah Street should align with the Kingstowne Village Parkway and connect to Morning View Lane in the Landsdowne subdivision. The Joseph Alexander Transportation Center and the Franconia-Springfield Parkway connection to Beulah Street will make the area more accessible to mass transit."

Response to Recommendation – Development of the O'Connell Property is proposed at 2.48 du/ac, which is below the low end of the 3-4 du/ac density recommended in the Comprehensive Plan. Substantial buffering is provided by the protection of the Resource Protection Areas located on the western, north and eastern portions of the O'Connell Property. The proposed development of the O'Connell Property is approximately 500 feet from the existing development in the Island Creek Subdivision to the south.

### **Requested Waivers and Modifications**

The following waivers and modifications are requested as part of the Application:

- Waiver of the on-site detention requirements (PFM 6-0302.2) for the 2 and 10 year storm events.
  - In this watershed, there are approximately 1700 acres of land that drain to the point of discharge on the O'Connell Property. Based on a preliminary adequate outfall analysis, the outfall for this development is adequate without requiring detention of the 2 and 10 year storm events.
  - The time of concentration associated with the approximately 1,700 acre watershed is very long compared to the time of concentration from the O'Connell Property. It would be beneficial to allow the flow of water from the O'Connell Property to reach the floodplain earlier, rather than later, because then it would not coincide with the peak flow from the larger approximately 1,700 acre drainage area of this major floodplain.
- Modification of PFM 7-0406.8A to allow a minimum 30 ft. pavement radius (60 ft. diameter) within the cul-de-sac terminating the extension of Thomas Grant Drive in order to minimize clearing and grading.
- Waiver of the prohibition of underground stormwater detention facilities for residential developments (PFM 6-0303.8). The design and maintenance of the proposed underground SW detention facilities shown shall conform to all requirements of the Public Facilities Manual.

### **Conclusion**

The O'Connell's are long time owners of the O'Connell Property. The O'Connell's owned their property when the nearby Island Creek and Amberleigh neighborhoods were rezoned and constructed; however, it was not feasible for the O'Connell's to develop

Statement of Justification – Long Branch Partners, L.L.C.  
November 3, 2014  
Page 4 of 4

their property at that time. Access to the O'Connell Property was ensured pursuant to the proffers accepted with the Island Creek rezoning and by subsequent deeds between the Board of Supervisors and the Fairfax County Park Authority. This proposed development provides a development pattern similar to that of Island Creek and is similar to what may have been developed if the O'Connell Property had been included in the Island Creek rezoning as recommended at that time. This development proposal does not seek to maximize the development density permitted pursuant to the Comprehensive Plan. Much thought was given to this development and its conformance with the Comprehensive Plan. Environmentally sensitive areas have been avoided. For these reasons and those reasons stated in this Statement of Justification and in the attached document that addresses the General Standards and Residential Development Criteria, the proposed development should be permitted approval.

The Applicants are pleased to present this Application for consideration and look forward to working with staff and the community in the process of rezoning the O'Connell Property.

Please let me know if you have any questions or require further information.

Very truly yours,

WALSH, COLUCCI, LUBELEY & WALSH, P.C.



Inda E. Stagg  
Senior Land Use Planner

Enclosures

cc: Andy Somerville; Long Branch Partners, L.L.C.  
Bill Lynch; Long Branch Partners, L.L.C.  
Dave McElhaney; Urban, Ltd.  
Al Hagelis; Urban, Ltd.  
Robin Antonucci; Wells + Associates  
Lester Adkins; Wells + Associates  
Mark Headley & Beth Clements; Wetlands Studies and Solutions, Inc. (email only)  
Martin D. Walsh; Walsh, Colucci, Lubeley & Walsh P.C.

## 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. Some of these sites and structures have been 1) listed in, or determined eligible for listing in, the National Register of Historic Places or the Virginia Landmarks Register; 2) determined to be a contributing structure or site 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 in, or having a reasonable potential as determined by the county, for meeting the criteria for listing in, the Fairfax County Inventory of Historic 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.



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** November 3, 2014

**TO:** Barbara Berlin, Director  
Zoning Evaluation Division, DPZ

**FROM:** Pamela G. Nee, Chief  
Environment and Development Review Branch, DPZ

**SUBJECT:** Environmental Assessment: RZ/FDP 2014-LE-008  
Long Branch Partners

This memorandum, prepared by Mary Ann Welton, includes citations from the Comprehensive Plan that provide guidance for the evaluation of the subject rezoning application (RZ), Final Development Plan(FDP) and proffers revised through October 20, 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, Policy Plan, 2013 Edition, Environment section as amended through July 1, 2014, page 7-8 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 k. For new development and redevelopment, apply better site design and low impact development (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. . . .
- Encourage cluster development when designed to maximize protection of ecologically valuable land. . . .
- 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.
- Where appropriate, use protective easements in areas outside of private residential lots as a mechanism to protect wooded areas and steep slopes. . . .
- 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.”

The Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition, Environment section as amended through July 1, 2014, page 10 states:

**“Objective 3: Protect the Potomac Estuary and the Chesapeake Bay from the avoidable impacts of land use activities in Fairfax County.**

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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 July 1, 2014, page 11-12 states:

**“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 July 1, 2014, 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 Policy Plan, 2013 Edition, Environment section as amended through July 1, 2014, page 12 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. . . .”

The Fairfax County Comprehensive Plan, 2013 Edition, Policy Plan, Environment, as amended through July 1, 2014, page 19-21 states:

**“Objective 13: Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.**

Policy a. In consideration of 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 may 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 best practices for water conservation, such as water efficient landscaping and innovative wastewater technologies, that can serve to reduce the use of potable water and/or reduce stormwater runoff volumes;
- 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;
- Reuse, preservation and conservation of existing buildings, including historic structures;

- Retrofitting of other green building practices within existing structures to be preserved, conserved and reused;
- Energy and water usage data collection and performance monitoring;
- Solid waste and recycling management practices; and
- Natural lighting for occupants.

Encourage commitments to implementation of green building practices through certification under established green building rating systems for individual buildings (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design for New Construction [LEED-NC<sup>®</sup>] or the U.S. Green Building Council's Leadership in Energy and Environmental Design for Core and Shell [LEED-CS<sup>®</sup>] program or other equivalent programs with third party certification). An equivalent program is one that is independent, third-party verified, and has regional or national recognition or one that otherwise includes multiple green building concepts and overall levels of green building performance that are at least similar in scope to the applicable LEED rating system. Encourage commitments to the attainment of the ENERGY STAR<sup>®</sup> rating where available. Encourage certification of new homes through an established residential green building rating system that incorporates multiple green building concepts and has a level of energy performance that is comparable to or exceeds 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 c. Ensure that zoning proposals for residential development that are not otherwise addressed in Policy b above will incorporate green building practices sufficient to attain certification under an established residential green building rating system that incorporates multiple green building concepts and that includes an ENERGY STAR Qualified Homes designation or a comparable level of energy performance. Where such zoning proposals seek development at or above the mid-point of the Plan density range, ensure that county expectations regarding the incorporation of green building practices are exceeded in two or more of the following measurable categories: energy efficiency; water conservation; reusable and recycled building materials; pedestrian orientation and alternative transportation strategies; healthier indoor air quality; open space and habitat conservation and restoration; and greenhouse gas emission reduction. As intensity or density increases, the expectations for achievement in the area of green building practices would commensurately increase.”

## ENVIRONMENTAL ANALYSIS

This section characterizes the environmental concerns raised by an evaluation of this site and the proposed development. 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. This application seeks approval of a rezoning from R-1 to PDH-4 to develop 38 single-family attached homes at a density of 2.48 dwelling units per acre.

**Resource Protection Area/Environmental Quality Corridor:** The 15.33 acre subject property falls within the Accotink Creek Watershed east of the Interstate 95 and the Richmond Fredericksburg & Potomac Railway. Long Branch Stream Valley and Stream Valley Park traverses the subject property in a north south direction on its west side. The subject property is currently densely vegetated with deciduous bottomland forest species including tulip poplar, white oak, red oak and red maple. Long Branch Resource Protection Area (RPA) and Environmental Quality Corridor (EQC) affect approximately 11 acres of the 15.33 acre site or 71%. The RPA is more extensive than the EQC. In some areas of the proposed development, the limits of clearing and grading is adjacent to the RPA. Staff recommends that the proposed limits of clearing and grading adjacent to the RPA be tightened to ensure that there is no encroachment into the RPA.

**Stormwater Quality Best Management Practices and Outfall Adequacy:** The stormwater narrative indicates that water quality control requirements will be met through the installation of three bioretention facilities and four pervious pavement areas. Water quantity control requirements will be met by one dry detention pond proposed to be located centrally within the developed portion of the subject property. Regarding outfall adequacy, two areas will serve the subject site. Outfall A is located on the northern portion of the site and Outfall B is located downstream the stormwater dry pond. The preliminary analysis for the proposed dry detention pond on Sheet #9 of the development plan indicates that the release rate for the pond will meet the requirements of the County's Stormwater Management Ordinance. The adequacy of stormwater management/best management practice (SWM/BMP) facilities and outfall adequacy 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.

[http://www.fairfaxcounty.gov/dpwes/stormwaterordinance/chapter\\_124.pdf](http://www.fairfaxcounty.gov/dpwes/stormwaterordinance/chapter_124.pdf)

Staff from the DPWES administers the stormwater management ordinance, which became effective July 1, 2014.

**Transportation Generated Noise:** Because of the proximity of the site to Interstate 95 and the Richmond, Fredericksburg & Potomac Railway, the applicant commissioned an Acoustical Analysis performed by Phoenix Noise and Vibration, entitled O'Connell Property, Phase I, dated June 27, 2014 to determine if the subject property is affected by transportation generated noise. The analysis concluded that noise levels at the site were found to be 60 decibels or less; therefore, transportation generated noise is not an issue for this application based upon the Comprehensive Plan guidance for noise attenuation.

**Soil Constraints:** A Soils Map insert for the subject property is depicted on Sheet #2 of the development plan. This generalized information indicates that the site's parent soils could pose constraints to development. A preliminary geotechnical analysis was performed by Whitlock Darymple Poston & Associates, Inc., dated September 2, 2014. The analysis offers recommendations for appropriate site preparation and building and construction methods which should be implemented to address the soil limitations. The applicant is encouraged to follow the consultant's specific recommendations, as well as any other recommendations offered by the Fairfax County Geotechnical Review Board.

**Green Building Practices:** This application seeks approval for 38 single-family attached homes on 15.33 acres of land at a density of 2.48 dwelling units per acre on land which is proposed to be rezoned from R-1 to the PDH-4 Zoning District. The applicant has provided a proffered commitment for the attainment of Earthcraft House or the 2012 National Green Building Standard (NGBS) using the Energy Star Qualified Homes for energy performance. In addition, the applicant has also provided these commitments:

- Certification of the entire property as a National Wildlife Federation habitat;
- A rain barrel for each new home; and
- A plan to divert at least 50% of the construction debris for recycling or re-use to be submitted at site plan review.

Regarding the recycling and re-use of building materials, staff is concerned that unless significant detail is provided with such a commitment including the demonstration of a hauler agreement that this commitment could be difficult to track and could become problematic at bond release, if it is not completed exactly as prescribed by the proffer. The applicant may pursue this effort, but eliminate it as a proffered commitment.

**Tree Preservation/Restoration:** The subject property is vegetated with a dense bottomland forest canopy. Much of the site is environmentally sensitive land and, for that reason, much of the existing canopy will be preserved. The applicant is encouraged to work with the Urban Forestry Management Division of DPWES to protect the existing canopy and tree root systems to avoid damage during the construction process and particularly during the construction of the retaining walls.

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**COUNTYWIDE TRAILS MAP:**

The Countywide Trails Plan map depicts a minor paved trail on the west side of the subject property traversing Long Branch stream valley. The applicant proposes a 10 foot wide stream valley trail in this location.

PGN/MAW



# County of Fairfax, Virginia

## MEMORANDUM

DATE: November 17, 2014

TO: Barbara Berlin, Director  
Zoning Evaluation Division, DPZ

FROM: Michael A. Davis, Acting Chief  
Site Analysis Section, DOT *JCH for MAD*

FILE: 3-4(RZ 2014-LE-008)

SUBJECT: RZ 2014-LE-008; Long Branch Partners, LLC  
Tax Map: 090-4 ((01)) 0017

This department has reviewed the rezoning plat and the draft proffers revised through November 12, 2014 and November 14, 2014, respectively. We have the following comments.

Staff continues to have concerns over the timing of several proffered improvements at subdivision plat approval, as proposed by the applicant. The applicant has proffered to dedicate the proposed ROW for the cul-de-sac where the Thomas Grant Drive Extension terminates and to record public access easements and emergency vehicle access easements at subdivision plat approval. The proposed ROW and easements boundaries may change at the time of site plan when the proposed development undergoes final engineering and detailed review to ensure that the application meets all standards and Zoning Ordinance requirements. Staff's proposed timing of proffered improvements at site plan approval is potentially a benefit to the applicant in the event that re-recording of easements or ROW boundaries would be needed as a result of site plan changes. We are working with the applicant to resolve the issue.

The proposed ROW for the cul-de-sac at the end of Thomas Grant Drive Extension should include one foot behind the proposed sidewalk for VDOT maintenance purpose.

Finally, all curb ramps should be ADA compliant.

MAD/AY



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** November 13, 2014

**TO:** Michael Van Atta  
Staff Coordinator, Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Bel Pachhai, PE, CFM, Senior Engineer III Bel Pachhai  
Site Development and Inspections Division  
Department of Public Works and Environmental Services

**SUBJECT:** Rezoning Application #RZ 2014-LE-008; Final Development Plan #FDP 2014-LE-008; O'Connell Property; FDP Plat dated February 10, 2014; Accotink Creek Watershed; LDS Project # 25754-ZONA-001-1; Tax Map #90-4-01-17; Lee District

We have reviewed the subject application based on revised plan and offer the following stormwater management comments.

### Chesapeake Bay Preservation Ordinance (CBPO)

There is Resource Protection Area (RPA) on this site. RPA delineation for this property shall be submitted separately and shall be approved prior to site plan approval.

Water Quality Impact Assessment may be required and it could be incorporated into the plan. (LTI 06-07)

### Floodplain

There is a major flood plain located within the property. A floodplain study shall be submitted separately and approved prior to site plan approval. (PFM 6-1401.1)

### Downstream Drainage Complaints

There are no recent downstream drainage complaints on file.

### Stormwater Detention

Applicant indicated that detention for 1 year 24 hour storm will be provided by installing underground concrete vault. If underground concrete vault is chosen then PFM modification request shall be made to the board along with this rezoning application. The applicant indicated that a partial waiver will be requested for detention of 2 and 10 year storm events. Stormwater detention for 2 and 10 year storm events must be provided if not waived in order to avoid adverse impacts on downstream properties.

### Water Quality Control

Applicant stated on sheet #8 that the stormwater quality control requirements will be met for this development by providing permeable pavement (Level 1) and Bioretention Basin (Level 2)

Michael Van Atta, Staff Coordinator  
Re-Zoning #RZ 2014-LE-008; Final Development Plan #FDP 2014-LE-008; O'Connell  
Property  
LDS Project #25754-ZONA-001-1  
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but based on preliminary soil report, these practices may not be feasible due to poor infiltration capacity of the underlying soil. One Dry detention pond is also proposed with this plan, however no BMP credit is taken from this facility.

In site plan submission, a detail BMP computation must be provided. Furthermore, every effort shall be made to provide BMP more than that of minimum necessary.

#### Onsite Major Storm Drainage System and Overland Relief

Applicant needs to provide an overland relief narrative and arrows showing runoff flow path of the 100-year storm event. Cross-sections at key locations must be shown on the site plan.

#### Downstream Drainage System

An outfall narrative has been provided for channel protection. Adequacy of outfall system shall be shown on the site plan.

#### Drainage Diversion

During the development, the natural drainage divide shall be honored. If natural drainage divides cannot be honored, a drainage diversion justification narrative must be provided. The increase and decrease in discharge rates, volumes, and durations of concentrated and non-concentrated Stormwater runoff leaving a development site due to the diverted flow shall not have an adverse impact (e.g., soil erosion; sedimentation; yard, dwelling, building, or private structure flooding; duration of ponding water; inadequate overland relief) on adjacent or downstream properties. (PFM 6-0202.2A)

#### Stormwater Planning Comments

This case is located in the Accotink Creek Watershed. Please visit <http://www.fairfaxcounty.gov/dpwes/watersheds/accotinkcreek.htm> for more details.

#### Dam Breach

None of this property is within the dam breach inundation zone.

#### Stormwater Management Proffers

Comments on the draft proffers will be provided separately once we receive the draft proffers.

Please contact me at 703-324-1698 if you require additional information.

BP/

cc: Fred Rose, Chief, Watershed Planning & Assessment Branch, Stormwater Planning  
Division, DPWES



Michael Van Atta, Staff Coordinator  
Re-Zoning #RZ 2014-LE-008; Final Development Plan #FDP 2014-LE-008; O'Connell  
Property  
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Don Demetrius, Chief, Watershed Evaluation Branch, SPD, DPWES  
Bijan Sistani, Chief, South Branch, SDID, DPWES  
Zoning Application File





# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** October 8, 2014

**TO:** Michael Van Atta, Staff Coordinator  
Department of Planning and Zoning

**FROM:** Samantha Wangsgard, Urban Forester II  
Forest Conservation Branch, DPWES

**SUBJECT:** O'Connell Property; RZ/FDP 2014-LE-008

The following comments are based on a review of the resubmission of RZ/FDP Application 2014-LE-008 date stamped "Received Department of Planning and Zoning, September 23, 2014". A number of the comments from the April, July and August memos have not been adequately addressed and have been included below in addition to new comments generated based on revisions that have been made since the last submission.

1. **Comment:** The Transitional Screening and Barrier Calculations table on Sheet 6 still shows that transitional screening/barriers are not required along the eastern property boundary. As previously stated, the Fairfax County Park Authority land to the east is zoned R-5 and as such transitional screening Type 1 which consists of an unbroken strip of open space a minimum of twenty-five (25) feet wide and planted as specified in ZO 13-303.3A(1)-(3) is required as well as a Type B or A Barrier as described in ZO 13-304.4 are required.

**Recommendation:** Revise the table to identify what is required for transitional screening and what is being provided.

2. **Comment:** It appears that the proposed limits of clearing and grading will encroach on the RPA.

**Recommendation:** The limits of clearing and grading should be revised so that they do not encroach in the RPA and a replanting plan should be provided. Additionally, development condition language should be provided stating that a replanting plan in conformance with the standards of PFM Section 6-1311 will be provided.

3. **Comment:** It is unclear how the construction of the dog park, adult fitness area and associated infrastructure will impact the existing trees and it is unclear how the site will be selectively cleared of underbrush and what is considered healthy overstory.

Department of Public Works and Environmental Services  
Urban Forest Management Division

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**Recommendation:** Further details on how the dog park, adult fitness area and associated infrastructure will be installed, what selectively clearing the underbrush will entail and an inventory and condition analysis of the trees within the dog park and fitness area should be provided.

4. **Comment:** Given the nature of the tree cover on this site, and depending upon the ultimate development configuration provided, several proffers will be instrumental in assuring adequate tree preservation and protection throughout the development process.

**Recommendation:** Recommend the following proffer language to ensure effective tree preservation:

Tree Preservation: “The applicant shall submit a Tree Preservation Plan and Narrative as part of the first and all subsequent site/subdivision plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on and off-site trees, living or dead with trunks 8 inches in diameter and greater (measured at 4 ½ -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet to either side of the limits of clearing and grading. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the RZ/FDP and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.”

Tree Preservation Walk-Through. “The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the Applicant’s certified arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done

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**Land Development Services, Environmental and Site Review Division**  
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using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.”

Limits of Clearing and Grading. “The Applicant shall conform strictly to the limits of clearing and grading as shown on the RZ/FDP, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the RZ/FDP, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.”

Tree Preservation Fencing: “All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the “Root Pruning” proffer below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES.”

Root Pruning. “The Applicant shall root prune, as needed to comply with the tree preservation requirements of these proffers. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
- Root pruning shall take place prior to any clearing and grading, or demolition of structures.
- Root pruning shall be conducted with the supervision of a certified arborist.



- An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete.”

Demolition of Existing Structures. “The demolition of all existing features and structures within areas protected by the limits of clearing and grading areas shown on the RZ/FDP shall be done by hand without heavy equipment and conducted in a manner that does not impact individual trees and/or groups of trees that are to be preserved as reviewed and approved by the UFMD, DPWES.”

Site Monitoring. “During any clearing or tree/vegetation/structure removal on the Applicant Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by the UFMD. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation proffers, and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by the UFMD, DPWES.”

SW/

UFMDID #: 189680

cc: DPZ File





# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** October 27, 2014

**TO:** Mike Van Atta, Staff Coordinator  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** *JKS*  
Kanthan Siva, P.E., Staff Coordinator, Geotechnical Review Board (GRB)  
Chief Geotechnical Engineer, Site Development and Inspections Division,  
Department of Public Works and Environmental Services

**SUBJECT:** Rezoning Application RZ 2014-LEE-008; Conceptual Development Plan and  
Final Development Plan (CDP/FDP);  
O'Connell Property, Tax Map Number/s; 090-4 ((1)) 0017; Lee District

RECEIVED  
Department of Planning & Zoning

OCT 29 2014

Zoning Evaluation Division

The GRB has reviewed the geotechnical report prepared by WDP & Associates, Inc. (dated September 2, 2014) and the subject CDP/FDP prepared by Urban, Ltd. (last revised September 23, 2014) proposed under re-zoning application number RZ 2014-LE-008. The GRB has also reviewed the list of community concerns & questions as compiled in a memo dated October 8, 2014 by Mr. Jeff Saffelle (Land Use chair of Island Creek).

The CDP/FDP approximately depicts the anticipated layout and conceptual grading for the proposed project; i.e., the CDP/FDP does not have final grading and construction details. The field exploration, laboratory testing, engineering analyses and evaluation of the above-referenced geotechnical report were based on the preliminary details of the CDP/FDP. As such, the current report is considered preliminary. But based on a review of the preliminary report and CDP/FDP, the GRB feels that the above-referenced re-zoning (project) generally appears feasible from a geotechnical standpoint. But there are some issues that should be addressed during the final engineering-design phase and construction phase, and offer the following suggestions:

1. The CDP/FDP anticipates several retaining walls being across the project, with some created in new fill and others in cut. Certain types of retaining wall types (such as rock gravity mentioned in Proffer 9.D, Amenities Plan, etc.) will require additional excavation during their installation. Hence, the choice of wall-types being proposed for the project should not be restrictive, and should consider their proximity to nearby property lines, their anticipated grading, etc.
2. The retaining wall near the southeast property line has an anticipated height of up to 10 ft. and will be created by excavation. The survivability of nearby vegetation existing on

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the adjoining property should be evaluated, and the final grading and limits of clearing should be appropriately adjusted.

3. The GRB generally feels that the geotechnical-related concerns of the community will be adequately evaluated during the final engineering design phase, and addressed with proper construction practice and inspection. Specific responses to the concerns are attached at the end of this memo.
4. A final geotechnical report should be prepared by the geotechnical engineer per Public Facilities Manual (PFM) prior to construction permitting. The final geotechnical report should be submitted to DPWES and reviewed by the GRB, and any review comments should be satisfactorily resolved. The final should also incorporate suggestions and comments from the review of the preliminary geotechnical report that were issued to the applicant's geotechnical engineer in letter (copy attached at the end of this memo).

Attachments: Response to community concerns from GRB Member 1  
Response to community concerns from GRB Member 2  
Response to community concerns from GRB Member 3  
Preliminary geotechnical report review comments (October 28, 2014)

cc: Jack Weyant, Director, Site Development and Inspections Division, DPWES  
Bijan Sistani, P.E., Chief, South Branch, SDID, LDS, DPWES  
DPWES Zoning Application Review Files (25754-ZONA-001-1)  
Geotechnical File

### Long Branch Parcel Rezoning

1. The Geotechnical Consultant will make an appropriate investigation that includes an appropriate level of soil test borings and laboratory tests. Following the completion of the field and laboratory testing, the Geotechnical will make appropriate engineering analyses to determine if there is a potential for landslides to develop. If there is a potential for landslides, the Geotechnical Consultant will design appropriate mitigation methods. These designs will be reviewed by Fairfax County and the GRB before approval.
  2. It is the responsibility of the Geotechnical Consultant to perform an adequate geotechnical investigation. If the borings are not sufficient in terms of quantity or depth, the County and the GRB will not approve the Geotechnical Consultant's report.
  3. Potential deep shifts of the ground are extremely unlikely. Ground movement is only likely to occur by a landslide type movement. Such movement rarely occurs deeper than about 15 feet.
  4. The soils at the site are no more susceptible to earthquakes than most soils. They likely have a seismic site classification of C. Soils that are highly susceptible to earthquake damage are liquefiable soils, such as very loose sands below the water table. An earthquake of a magnitude as recently occurred in the region is not expected to cause landslide activity or soil liquefaction at this site.
  5. This question is answered by Question No. 1. The Geotechnical Consultant will address both short-term and long-term conditions, including potential changes in groundwater levels.
  6. The Geotechnical Consultant will assess the groundwater conditions at the site, including on the long-term basis as well as major storm impacts. There are reliable design and construction methodologies that can be employed to make the site developable.
- 7 & 8, Stormwater related
9. The Geotechnical Consultant will address all proposed grading plans, conduct appropriate stability analyses, and develop recommendations to develop the site such that potential slides are not a concern.
  10. The phrase, worst examples of marine clay, is unclear. As noted above, the Geotechnical Consultant will investigate the site to determine the extent of the marine clay.
  11. It will only be necessary to remove soils required to render the site safe from a stability standpoint. Removal of soils might not necessarily be marine clay soils, as would be the case for removing soil that is considered to be driving force weight. In fact, it might not be necessary to remove any soils, other than those necessary to accomplish the grading plan. The analyses might indicate that the site is stable or the Geotechnical Consultant might design stabilization measures such as below-ground drilled shaft walls.
  12. The presence of water will not cause foundations to shift. Water can be contributory to landslide movement; however, the geotechnical consultant will use credible water levels in his analyses.

13 thru 19, Stormwater related

J. Christopher Giese, P.E.

Fairfax County Geotechnical Review Board

DR 013

**From:** [REDACTED]  
**Sent:** Monday, October 13, 2014 7:31 AM  
**To:** Sivapalarasah, Kanthan; [REDACTED]  
**Subject:** Re: FW: GRB - O'Connell Property (Long Branch) Re-Zoning (RZ 2014-LE-008/2575...  
**Attachments:** GRBReview\_OConnell\_10-13-14.doc

Kanthan:

Specific responses to geotechnical engineering questions from nearby communities is attached.

Dan Rom  
GRB Member

Mike: Thank you for allowing Island Creek to directly address our concerns to the Geotechnical Review Board overlooking the Long Branch Partners' rezoning application next to Island Creek. Please find the questions below:

#### Questions For GRB Review Of Long Branch Parcel Rezoning:

1. We know there is a significant amount of marine clay on and under the Long Branch property, what is planned to stabilize it?  
Response: Soil exploration will be performed to identify the extent of the marine clay. The engineer will analyze the findings and determine if the marine clay is potentially "unstable." If potentially unstable conditions are identified, the engineer will make recommendations to remediate the problem. This is standard operating procedure in Fairfax County.
2. One of our main concerns is that the tests are not deep enough to make sure they only hit one lense (layer) of clay and not deep enough to identify potential other layers (lenses) that lurk underneath. No one knows for sure.  
Response: The GRB will determine if, in their opinion, the soil borings are deep enough. Fairfax County marine clay instability is usually based on the presence of these soils in the uppermost 25 feet.
3. Slides are not our only concern. We want to know what steps have been taken to identify potential shifts deep in the ground that will cause foundation damage?  
Response: A "ground shift" would presumably refer to slope instability. The engineer will evaluate the subsurface conditions with respect to the existing and proposed surface contours and determine if there is potential for instability.
4. Like earthquakes, marine clay shifts can manifest themselves deep in the earth. This movement of earth, not just slides, has been the culprit in most cases such as Rose Hill, Lorton Station, Ft. Washington Maryland, etc. There seems very limited ways to avoid this issue due to the extremely poor conditions of the soils in question.  
Response: Typical marine clay slope instability is due to the presence of the clay in the uppermost 25 feet. Slides from marine clay at depths greater than 25 feet are unlikely.
5. How does the developer specifically propose to mitigate the marine clay stability issues? One can attempt to stabilize marine clays for construction but as is mentioned in question 6, the underlying conditions will hurt stability.

Response: Based on the geotechnical engineer's findings, ground stabilization may be in the form of grading, removal and replacement, installation of stabilizing piers, or other methods.

6. The water maps of Fairfax County show significant water traversing underneath the ground throughout the Long Branch and Park Authority properties involved in this application. Considering that the property sits right next to a flood zone, is under an RPA, and has significant slopes on at least two sides of the planned development, how can this property be safe for building? Water will exist above and below the ground, no matter what the applicant does to mitigate the circumstances. We fear channels will form underneath the ground and put not only new Long Branch homes in danger (if built) but Island Creek homes as well.
7. How is it safe for the applicant to ask for a storm water management waiver down to a 24 hour/1 year storm under such precarious conditions? Island Creek strongly opposes this waiver.
8. At the same time this development is being addressed for rezoning, another applicant has received approval to build a series of car dealerships off Loisdale Road, just west of Long Branch. As the Long Branch Partners wish to do, the Safford GMC/Hyundai Dealership has been granted permission to release their storm water into Long Branch as well, east of the railroad tracks into the same space the Long Branch Partners wish to release for their project. Considering the already deteriorating conditions of Long Branch Creek, this seems to only put the Long Branch waterway into a more perilous condition. How can that be allowed?
9. The Long Branch Partners have shown little concern for the slopes that lead down from the end of the current Thomas Grant Drive Cul-De-Sac onto their property. They will be cutting into the slope and we feel there are not enough preventive barriers put in place to prevent an eventual slide. Response: The geotechnical engineer is tasked with confirming the stability of the site in question along with that on adjoining properties that may be affected.
10. At the same time, the proposed Thomas Grant Extension potentially sits on top of some of the worst examples of marine clay. The extension road will have gutters, so additional runoff will occur below the surface on these slopes. It seems pretty obvious, that if additional measures are not taken, that road will eventually slide. The road itself has zero barriers put in place to prevent a slide (as far as we know from the information gathered). At one point during this process, the county was considering whether the Thomas Grant Extension could be built at all. Response: The geotechnical engineer is tasked with evaluating the effects of additional groundwater as it may affect marine clay instability. If a potential problem is identified, then remedial measures will be recommended.
11. The Long Branch Partners Geotech Review by WDP specifically states that over 60% of the property they wish to build on contains Stratum 2 soils, considered extremely unsafe and not recommended for building. Even if the developer terraforms the entire area, it would be impossible to remove all of those soils. How can

they possibly build on this site under those conditions? The stratum 2 soils will always be there.

Response: The presence of marine clay soils does not necessarily indicate a potentially unstable condition exists. If potentially unstable conditions are identified, remedial measures will be recommended. If the cost of the remediation is excessive, the developer must make a decision regarding the feasibility of the project.

12. Additionally, their test borings show 7 of the 15 sites filling with water overnight. That's approximately 40%. What will keep these foundations from shifting? With soils so extremely wet, common sense dictates it seems impossible to keep those soils dry.

Response: The presence of groundwater is a natural phenomenon. Foundation "shifting" due to the presence of groundwater is generally related to shrink-swell conditions if the soil moisture content changes. Experience has shown that foundations embedded a minimum of four feet into marine clay are deep enough that they will not be affected by soil shrink-swell action.

13. How exactly will the Long Branch Partners mitigate their storm water management issues? They appear to want to use the non-buildable portion of their 15 acres as a release point. Yet, they also wish to build a series of trails and exercise areas within—including an asphalt trail. Will not all those circumstances just rush their stormwater to Long Branch quicker and more haphazardly than necessary. How will this affect the Accotink Watershed?
14. If any portion of this application is approved, the applicant will clear and grade a significant amount of terrain for the Thomas Grant Extension. Since this land was used as part of Island Creek's BMP for storm water runoff, will this road put Island Creek out of balance with all the watershed regulations?
15. Considering all water issues surrounding this property, how can the County approve of the Long Branch Partners wish to handle most of their storm water management via more natural ways than using bio-retention ponds?
16. Staff review shows 74% of the land has constraints from the floodplain, marine clay, EQC & RPA. Did the applicant delineate from the EQC and how does that affect Island Creek?
17. What is the water quality impact assessment?
18. What is the applicant's answer to a 100-year storm runoff flow?
19. As far as we know, the applicant has yet to adhere to the new Storm Water Management ordinances.

**From:** Jim Collin [REDACTED] JC (1/3)  
**Sent:** Friday, October 10, 2014 4:32 PM  
**To:** Sivapalarasah, Kanthan; 'Christopher Giese ([REDACTED]); 'Daniel S. Rom ([REDACTED])'  
**Subject:** Re: GRB - O<sup>1</sup>Connell Property (Long Branch) Re-Zoning (RZ 2014-LE-008/25754-SR-001)  
**Attachments:** Questions For GRB Review\_JGC Responses\_14.10.10.doc

My responses are attached.



James G. Collin Ph.D., P.E., D.GE., F. ASCE  
The Collin Group, Ltd.

Questions For GRB Review Of Long Branch Parcel Rezoning:

1. We know there is a significant amount of marine clay on and under the Long Branch property, what is planned to stabilize it?  
Response: GSA will be performed by the developer. If any slopes have FS below 1.25 the Developer will be required to raise the FS to above 1.25 by changing the grading plan, adding drilled shafts, etc.
2. One of our main concerns is that the tests are not deep enough to make sure they only hit one lense (layer) of clay and not deep enough to identify potential other layers (lenses) that lurk underneath. No one knows for sure.  
Response: The GRB has the experience to assess the borings and determine if they have been performed to an adequate depth or not.
3. Slides are not our only concern. We want to know what steps have been taken to identify potential shifts deep in the ground that will cause foundation damage?  
Response: A proper GSA will identify both shallow and deep failure surfaces and make sure that an adequate FS is obtained.
4. Like earthquakes, marine clay shifts can manifest themselves deep in the earth. This movement of earth, not just slides, has been the culprit in most cases such as Rose Hill, Lorton Station, Ft. Washington Maryland, etc. There seems very limited ways to avoid this issue due to the extremely poor conditions of the soils in question.  
Response: See responses above
5. How does the developer specifically propose to mitigate the marine clay stability issues? One can attempt to stabilize marine clays for construction but as is mentioned in question 6, the underlying conditions will hurt stability.  
Response: See responses above.
6. The water maps of Fairfax County show significant water traversing underneath the ground throughout the Long Branch and Park Authority properties involved in this application. Considering that the property sits right next to a flood zone, is under an RPA, and has significant slopes on at least two sides of the planned development, how can this property be safe for building? Water will exist above

and below the ground, no matter what the applicant does to mitigate the circumstances. We fear channels will form underneath the ground and put not only new Long Branch homes in danger (if built) but Island Creek homes as well.

7. How is it safe for the applicant to ask for a storm water management waiver down to a 24 hour/1 year storm under such precarious conditions? Island Creek strongly opposes this waiver.
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9. The Long Branch Partners have shown little concern for the slopes that lead down from the end of the current Thomas Grant Drive Cul-De-Sac onto their property. They will be cutting into the slope and we feel there are not enough preventive barriers put in place to prevent an eventual slide.
10. At the same time, the proposed Thomas Grant Extension potentially sits on top of some of the worst examples of marine clay. The extension road will have gutters, so additional runoff will occur below the surface on these slopes. It seems pretty obvious, that if additional measures are not taken, that road will eventually slide. The road itself has zero barriers put in place to prevent a slide (as far as we know from the information gathered). At one point during this process, the county was considering whether the Thomas Grant Extension could be built at all.
11. The Long Branch Partners Geotech Review by WDP specifically states that over 60% of the property they wish to build on contains Stratum 2 soils, considered extremely unsafe and not recommended for building. Even if the developer terra-forms the entire area, it would be impossible to remove all of those soils. How can they possibly build on this site under those conditions? The stratum 2 soils will always be there.  
Response: If needed, the soils can be remediated using existing ground improvement techniques to assure a stable site.
12. Additionally, their test borings show 7 of the 15 sites filling with water overnight. That's approximately 40%. What will keep these foundations from shifting? With soils so extremely wet, common sense dictates it seems impossible to keep those soils dry.  
Response: Just because the boring indicate perched water does not mean that the stability of the site is jeopardized.

13. How exactly will the Long Branch Partners mitigate their storm water management issues? They appear to want to use the non-buildable portion of their 15 acres as a release point. Yet, they also wish to build a series of trails and exercise areas within—including an asphalt trail. Will not all those circumstances just rush their stormwater to Long Branch quicker and more haphazardly than necessary. How will this affect the Accotink Watershed?
14. If any portion of this application is approved, the applicant will clear and grade a significant amount of terrain for the Thomas Grant Extension. Since this land was used as part of Island Creek's BMP for storm water runoff, will this road put Island Creek out of balance with all the watershed regulations?
15. Considering all water issues surrounding this property, how can the County approve of the Long Branch Partners wish to handle most of their storm water management via more natural ways than using bio-retention ponds?
16. Staff review shows 74% of the land has constraints from the floodplain, marine clay, EQC & RPA. Did the applicant delineate from the EQC and how does that affect Island Creek?
17. What is the water quality impact assessment?
18. What is the applicant's answer to a 100-year storm runoff flow?
19. As far as we know, the applicant has yet to adhere to the new Storm Water Management ordinances.



# County of Fairfax, Virginia

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

OCT 28 2014

Robert F. Scheller, P.E.  
Whitlock Dalrymple Poston (WDP) & Associates  
10621 Gateway Boulevard, Suite 200  
Manassas, Virginia 20110

Reference: Preliminary Geotechnical Report for O'Connell Property, Project # 25754-SR-001 & RZ 2014-LE-008, Tax Map #090-4 ((1)) 0017, Lee District, Type: Residential

Dear Mr. Scheller:

The referenced geotechnical report dated September 2, 2014, prepared on behalf of Long Branch Partners, LLC and with your Project Number 13146, has been reviewed. The report was submitted in partial response to community concerns to the proposed re-zoning (number RZ 2014-LE-008) as depicted on the conceptual development plan (CDP) by Urban, Ltd.

The reviewed report is considered preliminary since its field exploration, engineering evaluation and analyses were based on the preliminary grading depicted on the CDP. The review of the preliminary report is complete, and resulted in the following comments:

1. Comments from the Geotechnical Review Board (GRB) members attached at the end of this letter.
2. Review comments from the GRB staff coordinator:
  - a. Infiltration testing and additional borings should also be performed to support the design of any such facilities per PFM 4-0700 and Virginia DEQ Design Standard #8, including determination of Seasonal High Water Table.
  - b. Additional and/or deeper test-borings will likely be needed for the preparation of the final report. Suggested areas include in front of Southeast retaining wall, near Northeast retaining wall, near Northwest retaining walls (in lot 6) and near Northwest wall in lot 7. Additional laboratory testing is also expected.
  - c. Final global stability analyses of critical slopes should be evaluated in the final report, including those across retaining walls taller than 8 ft. and the new embankment of Thomas Grant Drive. It is also suggested to evaluate across a section extending between lot 6's retaining wall and the SWM basin.
  - d. Final field exploration, slope analysis and recommendations should also be provided for the proposed SWM pond, per Public Facilities Manual (PFM) section 6-1605.

Department of Public Works and Environmental Services  
Land Development Services, Site Development and Inspections Division  
12055 Government Center Parkway, Suite 535  
Fairfax, Virginia 22035-5503  
Phone 703-324-1720 • TTY 703-324-1877 • FAX 703-653-1782



Robert F. Scheller, P.E.  
Project #25754-SR-001-1  
Page 2 of 2.

Based on the outcome of the proposed re-zoning application, a final geotechnical report should be prepared. The final report should be in accordance with the PFM, and shall be based on the final grading plan. The final report should also address the above preliminary comments and suggestions.

If you have any questions, please contact me at 703-324-1720.

Sincerely,



Umakanthan Sivapalarasah, P.E.  
Chief Geotechnical Engineer  
Site Development and Inspections Division (SDID)

Attachments: Review comments from GRB Member 1  
Review comments from GRB Member 2  
Review comments from GRB Member 3

cc: David McElhaney, P.E., Urban, Ltd.  
Bill Lynch, Long Branch Partners, LLC  
Bijan Sistani, P.E., Chief, South Branch, SDID, LDS, DPWES  
Geotechnical File

GRB MEMBER #1

October 3, 2014

O'Connell Property  
WDP & Associates No. 13146, dated September 2, 2014  
Fairfax Co. Submission No. RZ 2014-LE-008 / 25754-SR-001-1  
My Review No. 1426

Dear Mr. Siva:

I have reviewed the above-report and I offer the following comments.

1. The direct shear test was run on a sample from TP-2. I could not find a log for TP-2 nor was the location of TP-2 indicated on Soil Boring Location Plan.
2. TP-5 was noted on the Soil Boring Plan but I could not find the log. Section 3.1 of the report describes the soil test borings. Should there be a Section 3.2 for test pits? There is a log for TB-5. Is something mislabeled?
3. The infiltration tests at B-8 and B-13 were not located within or adjacent to a bioretention facility or a SWMP. Infiltration tests should be run within the facility footprints for the final report.
4. The report indicated in three locations that the "exposed" fat clays and elastic silts should be undercut. This is correct; however, the word should be "all." This put the onus on the inspector to periodically hand auger to check that no expansive soils are lurking beneath the surface,
5. Indicate the frequency of CBR sampling required.
6. The residual direct shear test should be run on marine clay rather than a material described as a very fine cemented sand and clay.
7. The shape of the wall in Sections C and D is distorted. Run the analysis with the circle going below the wall. Running the circle through the wall could yield a higher value. It is not likely that the wall will shear off. Section D – add a floor load of some nominal value; the floor slab will weigh at least 70 psf.
8. Sections A and B – the circle only slices through a thin section of the weak layer. Run a sliding block with the lower block line remaining within the weak stratum.
9. Section D – the water level drops down, even within the pond. Use a horizontal level across the page at normal pool elevation.

If you have any questions, please call me.

J. Christopher Giese, P.E.  
Fairfax County Geotechnical Board

## GRB Member #2

September 23, 2014

County of Fairfax  
Dept of Public Works & Environmental Services  
Land Development Services  
Attn: Mr. Kanthan Siva, P.E.  
12055 Government Center Parkway, Suite No. 444  
Fairfax, Virginia 22035-5503

Re: O'Connell Property Rezoning  
RZ 2014-LE-008/25754-SR-001-1  
Franconia, Virginia

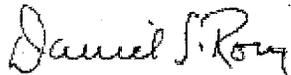
Dear Mr. Siva:

In accordance with your request, I have reviewed the WDP, Inc. report dated September 2, 2014, for the proposed rezoning of a property for residential development. The review was requested as part of a feasibility study only. The site is underlain with Sassafras-Marumsc (91) soils which include Fat CLAY and Elastic SILT.

In my opinion, the scope of the exploration was satisfactory for a feasibility study. The extent of the *marine clay* soils was defined, and slope stability analyses, performed with reasonably conservative shear strength values, showed satisfactory factors of safety for the slopes within the current concept.

On the basis of my review, there does not appear to be a potential negative impact on adjacent sites with respect to slope stability. Should the project advance to the final design concept stage it will be necessary to perform additional soil borings. Also, additional slope stability analyses will be warranted for a final design concept. With the exception of the limitations noted herein, I do not detect any potential geotechnical engineering limitations to the proposed residential development of the property. If you have any questions regarding the above, please call.

Sincerely,



Daniel S. Rom, P.E.  
Commonwealth of Virginia No. 12511

GRB MEMBER #3

September 29, 2014

Mr. Kanthan Siva, P.E.  
Chief Geotechnical Engineer  
Environmental and Facilities Review Division  
Office of Site Development Services  
Department of Public Works and Environmental Management  
Fairfax County, VA

Reference: Geotechnical Report for O'Connell Property  
County Submission # RZ2014-LE-008/25754-SR-001-1

Dear Kanthan:

In accordance with your memorandum dated September 15, 2014, I have reviewed the following materials:

- 1.) *Geotechnical Investigation Proposed O'Connell Property, Franconia, Fairfax County, VA*, prepared by WDP, dated September 2, 2014.
- 2.) Civil Drawings (Sheets 1-10), prepared by Urban, dated August 7, 2014.

It is my understanding that this is a preliminary review during the rezoning application review by Fairfax County and that concerns by an adjacent community with respect to the effect of the proposed development on the global stability of slopes effecting adjacent property.

I have several questions/issues with the global stability analysis that should be addressed prior to final submittal but believe that the project can be developed without exposing the adjacent properties to an increased potential for global stability problems.

1. A more detailed discussion of the soil properties used in the stability analysis should be provided. What testing was performed to assess the shear strength of the soils? What published correlation between index properties and estimated shear strength were used?
2. The search limits for section AA do not seem large to have captured the most critical failure surface. The limits should be expanded and then narrowed down if necessary to locate the minimum factor of safety.
3. The shear strength of the retaining wall should be increased so that failure surfaces do not penetrate the wall. This will result in more accurate factors of safety for the analysis at the retaining walls.

4. Many retaining walls are proposed for the development. The final submittal should make sure that an adequate number of walls are analyzed and that the critical case is covered.

If you have any questions concerning the above information please do not hesitate to contact me.

Sincerely,

James G. Collin, PH.D., P.E.



# 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:** October 8, 2014

**SUBJECT:** RZ/FDP 2014-LE-008, Long Branch Partners - ADDENDUM  
Tax Map Number: 90-4 ((1)) 17

### BACKGROUND

Park Authority staff has reviewed the proposed Development Plan and draft proffers dated September 23, 2014, for the above referenced application. The comments in this memorandum are in addition to those provided in a previous memorandum dated August 20, 2014.

### ANALYSIS AND RECOMMENDATIONS

#### Recreational Impact of Residential Development:

The Policy Plan-guided fair share contribution request of \$893 per new resident is intended to allow the Park Authority to build additional recreational facilities at nearby parks as the population increases. Draft Proffer 8C provides a \$99,123 contribution to offset the impacts of 38 new homes on the subject property. Proffer 8B states that the cost of constructing the 10' wide Long Branch Trail as shown on the Countywide Trails Plan Map will be deducted from the recreational facility contribution amount noted in Proffer 8C. Staff requests that the full fair share contribution amount be provided to the Park Authority for the types of publicly provided recreational facilities that are not provided onsite, such as athletic fields, sport courts, skate parks, etc.

#### Onsite Facilities:

Previous versions of the development plan showed a Community Recreation Area in the woods with a fenced dog park area and outdoor fitness stations. The development plan notes that the area would be "selectively cleared of underbrush, keeping the healthy overstory intact." Staff notes the area is sloped and clearing the understory will likely lead to increased sedimentation and nutrient loading to Long Branch. In a previous review of the application, staff noted the close proximity of the dog park area to the RPA and suggested mitigation measures to ensure the impacts of pet waste on stream water quality (and Chesapeake Bay downstream) will be minimized. Instead of committing to mitigation measures, the applicant has relabeled the fenced

dog area as a Community Back Yard; however, it is likely to still be used by residents as an off-leash dog park. The Park Authority continues to recommend the following mitigation measures:

1. Provide waste bag dispenser and trash can and signage to encourage clean up.
2. Provide a vegetated buffer between the dog park area and the RPA line to intercept and filter pollutants from water running off the area.
3. Include a stone dust or decomposed granite surface for the enclosed dog park area. Preferably, the area should be graded to < 4% slope to avoid the need for continual resurfacing.
4. Ensure perpetual private maintenance of the area by the HOA by including maintenance responsibility and funding mechanisms in the HOA covenants.

Easements or Grading on Park Authority Land:

Access to the subject property will be via extension of Thomas Grant Drive through parkland in a 60' wide road right-of-way dedication that was established at the time of approval of the Island Creek subdivision and dedication of Island Creek Park to the Park Authority. Proffers for the Island Creek subdivision also allowed for ancillary grading beyond the 60' right of way. Draft Proffer 2A(1) states the applicant "may utilize necessary ancillary grading and temporary construction easements...at no additional cost to the Applicant." However, the applicant must still acquire a Letter of Permission and/or Easement from the Park Authority through the regular application process. Applications for a Right of Entry License, Easement, and/or Construction Permit are available from the Easement Coordinator, Fairfax County Park Authority, Planning and Development Division, 12055 Government Center Parkway, Suite 406, Fairfax, Virginia 22035; main telephone number (703) 324-8741.

Trails:

The applicant has committed to construct a public 10-foot wide asphalt trail within the Long Branch RPA as shown on the Countywide Trails Plan Map. This trail should be substantially complete and open to the public at the time of the first RUP, not the final RUP as noted in draft Proffer 3A. (The final RUP is difficult to track and may not occur for years.) Additionally, since the applicant has agreed to dedicate the Long Branch Stream Valley RPA to the Park Authority for public park purposes, the Park Authority will need easements across the applicant's private roads and trails to access the 10' wide Long Branch Trail for maintenance.

Land Dedication:

Because of the proximity to two County parks, the existence of the RPA and the need for a trail connection, a large portion of the subject property meets the Park Authority's land acquisition criteria. The applicant has committed in draft Proffer 8A to dedicate 10.67 acres of the application property to the Park Authority, 9.41 acres of which is in the RPA, for public park purposes. The Park Authority requests that the applicant include in the development plan a separate sheet that clearly outlines the land dedication area.

### **SUMMARY OF RECOMMENDATIONS**

- Provide the full fair share contribution amount of \$99,123 to the Park Authority for the types of recreational facilities that cannot be provided onsite.
- Commit to appropriate mitigation measures related to the fenced Community Back Yard to ensure the impacts of pet waste on stream water quality (and Chesapeake Bay downstream) will be minimized.
- Apply for a Letter of Permission and/or Easement from the Park Authority through the regular application process for rights of entry and temporary easements for ancillary grading on parkland related to the construction of Thomas Grant Drive.
- Commit to completing the Long Branch Trail and opening it to the public at the time of issuance of the first RUP for the application property.
- Provide access easements to the Park Authority across the development's private roads and trails to allow for access to the Long Branch Trail for maintenance purposes.
- Include a separate sheet in the development plan that clearly outlines the area of land to be dedicated to the Park Authority for public park purposes.

Please note the Park Authority would like to review and comment on proffers and development conditions related to park and recreation issues. We request that draft and final proffers and development conditions be submitted to the assigned reviewer noted below for review and comment prior to completion of the staff report and prior to final Board of Supervisors approval.

FCPA Reviewer: Andrea Dorlester  
DPZ Coordinator: Michael Van Atta

Copy: Cindy Walsh, Director, Resource Management Division  
Liz Crowell, Manager, Cultural Resource Management & Protection Section  
Brian Williams, Land Acquisition & Management Branch  
Elizabeth Cronauer, Trail Coordinator  
Michael Van Atta, DPZ Coordinator  
Chron File  
File Copy



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 17, 2014

**TO:** Barbara Berlin, Director  
Zoning Evaluation Division  
Fairfax County Department of Planning & Zoning

**FROM:** Aimee Holleb, Assistant Director *AH*  
Office of Facilities Planning Services

**SUBJECT:** RZ/FDP 2014-LE-008, Long Branch Partners (Updated)

**ACREAGE:** 15.33 acres

**TAX MAP:** 90-4 ((1)) 17

**PROPOSAL:**

The application requests to rezone the site from R-1 to PDH-4 district. The proposal would permit a maximum of 38 townhouses. The site is currently vacant, however, under the current R-1 zoning, the site could be developed with up to 15 single family detached houses. A prior review memo for this application was provided on April 3, 2014.

**ANALYSIS:**

School Capacities

The schools serving this area are Island Creek Elementary, and Hayfield Secondary schools. The chart below shows the existing school capacity, enrollment, and projected enrollment.

School	Capacity 2013 / 2018	Enrollment (9/30/13)	Projected Enrollment 2014-15	Capacity Balance 2014-15	Projected Enrollment 2018-19	Capacity Balance 2018-19
Island Creek ES	867 / 867	745	860	7	873	-6
Hayfield MS	1,269 / 1,269	886	868	401	997	272
Hayfield HS	2,228 / 2,228	1,905	1,925	303	2,071	157

Capacities based on 2015-2019 Capital Improvement Program (December 2013)

Project Enrollments based on 2013-14 to 2018-19 6-Year Projections (April 2013)

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 2018-19 and are updated annually. At this time, if development occurs within the next five years, Hayfield Secondary is projected to have surplus capacity; Island Creek ES is projected to have a slight capacity deficit. Beyond the six year projection horizon, enrollment projections are not available.

Capital Improvement Program Projects

The 2015-19 Capital Improvement Program (CIP) does not include any specific projects at the impacted schools. The projected slight capacity deficit at Island Creek ES could potentially be accommodated with Temporary Facilities and/or interior modifications.

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.

Existing (Potential By-right)

School level	Single Family Detached ratio	Potential # of units	Estimated Student yield
Elementary	.273	15	4
Middle	.086	15	1
High	.177	15	3

**8 total**

2012 Countywide student yield ratios (September 2013)

Proposed

School level	Single Family Attached ratio	Proposed # of units	Estimated Student yield
Elementary	.243	38	9
Middle	.060	38	2
High	.127	38	5

**16 total**

2012 Countywide student yield ratios (September 2013)

**RECOMMENDATIONS:**

Proffer Contribution

A net of 8 new students is anticipated (5 Elementary, 1 Middle, 2 High). Based on the approved Residential Development Criteria, a proffer contribution of \$86,600 (8 x \$10,825) is recommended to offset the impact that new student growth will have on surrounding schools. It is recommended that the proffer contribution funds be directed as follows:

*...to be utilized for capital improvements to Fairfax County public schools to address impacts on the school division resulting from [the applicant's development].*

It is also recommended proffer payment occur 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*

Barbara Berlin  
October 17, 2014  
Page 3  
RZ/FDP 2014-LE-008, Long Branch Partners (Updated)

*ratio and/or contribution. If the County should decrease the ratio or contribution amount, the Applicant shall provide the greater of the two amounts.*

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.

**ADDITIONAL INFORMATION:**

FCPS is in the early stages of a potential Richmond Highway Corridor Study that will review attendance areas and capacity utilizations. Hayfield Secondary school could potentially be impacted by the outcome of this study.

AJH/gjb

Attachment: Locator Map

cc: Tammy Derenak Kaufax, Chairman, School Board Member, Lee District  
Dan Storck, School Board Member, Mount Vernon District  
Ted Velkoff, Vice-Chairman, School Board Member, At-Large  
Ilryong Moon, Chairman, School Board Member, At-Large  
Ryan McElveen, School Board Member, At-Large  
Jeffrey Platenberg, Assistant Superintendent, Facilities and Transportation Services  
Deborah Tyler, Assistant Superintendent, Region 3  
Kevin Sneed, Special Projects Administrator, Design and Construction Services  
Martin Grimm, Principal, Hayfield Secondary School  
Michael Macrina, Principal, Island Creek Elementary School



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** April 11, 2014

**TO:** Michael Van Atta  
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 2014-LE-008**  
**Tax Map No. 090-4-((01))-0017**

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 Long Branch (M-6) watershed. It would be sewerred into the Noman M. Cole Pollution Control Plant (NMCPCP).
2. Based upon current and committed flow, there is excess capacity in the NMCPCP. 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 24 inch line on the property 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.

<u>Sewer Network</u>	<u>Existing Use +Application</u>		<u>Existing Use + Application +Previous Applications</u>		<u>Existing Use + Application + Comp Plan</u>	
	<u>Adeq.</u>	<u>Inadeq</u>	<u>Adeq.</u>	<u>Inadeq</u>	<u>Adeq.</u>	<u>Inadeq</u>
Collector	X		X		X	
Submain	X		X		X	
Main/Trunk	X		X		X	

5. **Other pertinent comments:**





FAIRFAX COUNTY WATER AUTHORITY  
8560 Arlington Boulevard, Fairfax, Virginia 22031  
www.fairfaxwater.org

**PLANNING & ENGINEERING  
DIVISION**

Jamie Bain Hedges, P.E.  
Director  
(703) 289-6325  
Fax (703) 289-6382

March 28, 2014

Ms. Barbara Berlin, Director  
Fairfax County Department of Planning and Zoning  
12055 Government Center Parkway, Suite 801  
Fairfax, Virginia 22035-5505

Re: RZ 2014-LE-008  
FDP 2014-LE-008  
O'Connell Property  
Tax Map: 90-4

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. The closest water main available is an existing 12-inch diameter main located approximately 450 feet to the south of the proposed site on Thomas Grant Drive (see the enclosed water system map).
3. 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 Ross Stilling at 703-289-6343.

Sincerely,

A handwritten signature in cursive script that reads "Traci K. Goldberg".

Traci K. Goldberg, P.E.  
Manager, Planning Department

## ARTICLE 6

### PLANNED DEVELOPMENT DISTRICT REGULATIONS

#### PART 1    6-100 PDH PLANNED DEVELOPMENT HOUSING DISTRICT

##### 6-101    **Purpose and Intent**

The PDH District is established to encourage innovative and creative design and to facilitate use of the most advantageous construction techniques in the development of land for residential and other selected secondary uses. The district regulations are designed to insure ample provision and efficient use of open space; to promote high standards in the layout, design and construction of residential development; to promote balanced developments of mixed housing types; to encourage the provision of dwellings within the means of families of low and moderate income; and otherwise to implement the stated purpose and intent of this Ordinance.

To these ends, rezoning to and development under this district will be permitted only in accordance with a development plan prepared and approved in accordance with the provisions of Article 16.

##### 6-102    **Principal Uses Permitted**

The following principal uses shall be permitted subject to the approval of a final development plan prepared in accordance with the provisions of Article 16, and subject to the use limitations set forth in Sect. 106 below.

1. Affordable dwelling unit developments.
2. Dwellings, single family detached.
3. Dwellings, single family attached.
4. Dwellings, multiple family.
5. Dwellings, mixture of those types set forth above.
6. Public uses.

##### 6-103    **Secondary Uses Permitted**

The following secondary uses shall be permitted only in a PDH District which contains one or more principal uses; only when such uses are presented on an approved final development plan prepared in accordance with the provisions of Article 16; and subject to the use limitations set forth in Sect. 106 below.

1. Accessory uses, accessory service uses and home occupations as permitted by Article 10.
2. Automated teller machines, located within a multiple family dwelling.
3. Business service and supply service establishments.

## FAIRFAX COUNTY ZONING ORDINANCE

4. Commercial and industrial uses of special impact (Category 5), limited to:
  - A. Automobile-oriented uses
  - B. Drive-in financial institutions
  - C. Drive-through pharmacies
  - D. Golf courses, country clubs
  - E. Golf driving ranges
  - F. Marinas, docks and boating facilities, commercial
  - G. Quick-service food stores
  - H. Service stations
  - I. Service station/mini-marts
  - J. Vehicle light service establishments
5. Commercial recreation uses (Group 5), limited to:
  - A. Billiard and pool halls
  - B. Bowling alleys
  - C. Commercial swimming pools, tennis courts and similar courts
  - D. Health clubs
  - E. Miniature golf courses
  - F. Skating facilities
6. Community uses (Group 4).
7. Eating establishments.
8. Financial institutions.
9. Garment cleaning establishments.
10. Institutional uses (Group 3).
11. Interment uses (Group 2).
12. Kennels, limited by the provisions of Sect. 106 below.

## PLANNED DEVELOPMENT DISTRICT REGULATIONS

13. Light public utility uses (Category 1).
14. Offices.
15. Outdoor recreation uses (Group 6), limited to:
  - A. Riding or boarding stables
  - B. Veterinary hospitals, but only ancillary to riding or boarding stables
  - C. Zoological parks
16. Personal service establishments.
17. Quasi-public uses (Category 3), limited to:
  - A. Alternate uses of public facilities
  - B. Child care centers and nursery schools
  - C. Churches, chapels, temples, synagogues and other such places of worship with a child care center, nursery school or private school of general or special education
  - D. Colleges, universities
  - E. Conference centers and retreat houses, operated by a religious or nonprofit organization
  - F. Congregate living facilities
  - G. Cultural centers, museums and similar facilities
  - H. Dormitories, fraternity/sorority houses, rooming/boarding houses, or other residence halls
  - I. Independent living facilities
  - J. Medical care facilities
  - K. Private clubs and public benefit associations
  - L. Private schools of general education
  - M. Private schools of special education
  - N. Quasi-public parks, playgrounds, athletic fields and related facilities
18. Repair service establishments.

## FAIRFAX COUNTY ZONING ORDINANCE

19. Retail sales establishments.
20. Transportation facilities (Category 4), limited to:
  - A. Bus or railroad stations
  - B. Electrically-powered regional rail transit facilities
  - C. Heliports
  - D. Helistops
  - E. Regional non-rail transit facilities
21. Veterinary hospitals.

**6-104 Special Permit Uses**

For specific Group uses, regulations and standards, refer to Article 8.

1. Group 8 - Temporary Uses.
2. Group 9 - Uses Requiring Special Regulation, limited to:
  - A. Home professional offices
  - B. Accessory dwelling units

**6-105 Special Exception Uses**

1. Subject to the use limitations presented in Sect. 106 below, any use presented in Sect. 103 above as a Group or Category use may be permitted with the approval of a special exception when such use is not specifically designated on an approved final development plan.
2. Category 5 - Commercial and Industrial Uses of Special Impact, limited to:
  - A. Bed and breakfasts
  - B. Commercial off-street parking in Metro Station areas as a temporary use
  - C. Fast food restaurants

**6-106 Use Limitations**

1. All development shall conform to the standards set forth in Part 1 of Article 16.
2. All uses shall comply with the performance standards set forth in Article 14.

## PLANNED DEVELOPMENT DISTRICT REGULATIONS

3. When a use presented in Sect. 103 above as a Group or Category use is being considered for approval on a final development plan, the standards set forth in Articles 8 or 9 shall be used as a guide.

When a use presented in Sect. 103 above as a Group or Category use is being considered for approval as a special exception use, pursuant to Sect. 105 above, the use shall be subject to the provisions of Article 9 and the special permit standards of Article 8, if applicable. Provided that such use is in substantial conformance with the approved conceptual development plan and any imposed development conditions or proffered conditions and is not specifically precluded by the approved final development plan, no final development plan amendment shall be required.

In either of the above, all Category 3 medical care facility uses shall be subject to the review procedures presented in Part 3 of Article 9. In addition, a Group 3 home child care facility shall be subject to the plan submission requirements and additional standards set forth in Sect. 8-305.

4. All uses permitted pursuant to the approval of a final development plan shall be in substantial conformance with the approved final development plan as provided for in Sect. 16-403.
5. Secondary uses of a commercial and office nature shall be permitted only in a PDH District which has a minimum of fifty (50) residential dwelling units, except that the Board, in conjunction with the approval of a conceptual development plan in order for further implementation of the adopted comprehensive plan, may modify this limitation for the Group 6 outdoor recreation special permit uses and the Category 5 special exception uses of golf courses, country clubs and golf driving ranges.
6. Secondary uses of a commercial nature, except Group 6 outdoor recreation uses, golf courses, country clubs, golf driving ranges and offices, shall be designed to serve primarily the needs of the residents of the planned development in which they are located, and such uses, including offices, shall be designed so as to maintain and protect the residential character of the planned development and adjacent residential neighborhoods as well. In order to accomplish these purposes:
  - A. Commercial and office uses shall be conducted within a completely enclosed building with no outside display except those uses which by their nature must be conducted outside a building.
  - B. When located within the same building as residential uses, commercial and office uses shall be limited to the lowest two (2) floors.
  - C. The maximum total land area, including all at-grade off-street parking and loading areas in connection therewith, devoted to commercial and office uses, except Group 6 outdoor recreation uses, golf courses, country clubs and golf driving ranges, shall be as follows:
    - (1) PDH-1 through PDH-4: 400 square feet of commercial/dwelling unit.
    - (2) PDH-5 through PDH-20: 300 square feet of commercial/dwelling unit.

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- (3) PDH-30 and PDH-40: 200 square feet of commercial/dwelling unit.

However, the Board may allow an increase in the commercial land area if there is a single commercial area proposed to serve two or more contiguous PDH Districts which are planned and designed as a single planned development and which are zoned concurrently. The Board may approve such an increase with the concurrent approval of a conceptual and final development plan which shows the layout, uses and intensity of the commercial land area. In such instance, the land area devoted to commercial use may be based on the total number of dwelling units in the PDH Districts, provided, however, that the resultant commercial land area shall not exceed twice that which would have been permitted otherwise for the individual PDH District in which the commercial land area is located.

In no instance, however, shall office uses occupy more than ten (10) percent of the total gross floor area.

7. Service stations, service station/mini-marts and vehicle light service establishments shall be permitted only under the following conditions:
  - A. Located in a commercial center consisting of not less than three (3) commercial establishments, such commercial establishments to be other than automobile-related.
  - B. There shall be no vehicle or tool rental and no outdoor storage or display of goods offered for sale, except for the outdoor storage and display of goods permitted at a service station or service station/mini-mart. In addition, there shall be no separate freestanding sign associated with the use except as required by Chapter 10 of The Code, and no wrecked, inoperative or abandoned vehicles may be temporarily stored outdoors for a period in excess of seventy-two (72) hours and there shall be no more than two (2) such vehicles on site at any one time.
8. Signs shall be permitted only in accordance with the provisions of Article 12, and off-street parking and loading facilities and private streets shall be provided in conformance with the provisions of Article 11.
9. Kennels and veterinary hospitals shall be located within a completely enclosed building which is adequately soundproofed and constructed so that there will be no emission of odor or noise detrimental to other property in the area. In addition, the Health Department shall approve the construction and operation of all veterinary hospitals prior to issuance of any Building Permit or Non-Residential Use Permit.
10. Zoological parks shall be subject to the following:
  - A. All such uses shall be subject to and operated in compliance with all applicable Federal, State and County regulations.

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- B. The Director of the Department of Animal Control shall review the operation of the zoological park on a quarterly basis and shall have the right to conduct unannounced inspections of the facility during daylight hours.
  - C. The keeping of all animals including wild or exotic animals as defined in Chapter 41.1 of The Code may be permitted with the approval of the Director of the Department of Animal Control, upon a determination that the animal does not pose a risk to public health, safety and welfare and that there will be adequate feed and water, adequate shelter, adequate space in the primary enclosure for the particular type of animal depending upon its age, size and weight and adequate veterinary care.
11. Drive-through pharmacies shall be permitted only on a lot which is designed to minimize the potential for turning movement conflicts and to facilitate safe and efficient on-site circulation and parking. Adequate parking and stacking spaces for the use shall be provided and located in such a manner as to facilitate safe and convenient vehicle and pedestrian access to all uses on the lot. In addition, signs shall be required to be posted in the vicinity of the stacking area stating the limitations on the use of the window service and/or drive-through lane. Such signs shall not exceed two (2) square feet in area or be located closer than five (5) feet to any lot line.

**6-107 Lot Size Requirements**

- 1. Minimum district size: Land shall be classified in the PDH District only on a parcel of two (2) acres or larger and only when the purpose and intent and all of the standards and requirements of the PDH District can be satisfied.
- 2. Minimum lot area: No requirement for each use or building, provided that a privacy yard, having a minimum area of 200 square feet, shall be provided on each single family attached dwelling unit lot, unless waived by the Board in conjunction with the approval of a development plan.
- 3. Minimum lot width: No requirement for each use or building.

**6-108 Bulk Regulations**

The maximum building height, minimum yard requirements and maximum floor area ratio shall be controlled by the standards set forth in Part 1 of Article 16.

**6-109 Maximum Density**

- 1. For purposes of computing density, the PDH District is divided into subdistricts in which the residential density is limited as set forth below, except that the maximum density limitations may be increased in accordance with the requirements for affordable dwelling units set forth in Part 8 of Article 2 and shall be exclusive of the bonus market rate units and/or bonus floor area, any of which is associated with the provision of workforce dwelling units, as applicable.

<b>Subdistrict</b>	<b>Density</b>
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PDH-1	1 dwelling unit per acre
PDH-2	2 dwelling units per acre
PDH-3	3 dwelling units per acre
PDH-4	4 dwelling units per acre
PDH-5	5 dwelling units per acre
PDH-8	8 dwelling units per acre
PDH-12	12 dwelling units per acre
PDH-16	16 dwelling units per acre
PDH-20	20 dwelling units per acre
PDH-30	30 dwelling units per acre
PDH-40	40 dwelling units per acre

2. The Board may, in its sole discretion, increase the maximum number of dwelling units in a PDH District in accordance with and when the conceptual and the final development plans include one or more of the following; but in no event shall such increase be permitted when such features were used to meet the development criteria in the adopted comprehensive plan and in no event shall the total number of dwellings exceed 125% of the number permitted in Par. 1 above.
  - A. Design features, amenities, open space and/or recreational facilities in the planned development which in the opinion of the Board are features which achieve an exceptional and high quality development - As determined by the Board, but not to exceed 5%.
  - B. Preservation and restoration of buildings, structures, or premises which have historic or architectural significance - As determined by the Board, but not to exceed 5%.
  - C. Development of the subject property in conformance with the comprehensive plan with a less intense use or density than permitted by the current zoning district - As determined by the Board in each instance, but not to exceed 10%.

**6-110 Open Space**

1. The following minimum amount of open space shall be provided in each PDH subdistrict:

Subdistrict	Open Space	Affordable Dwelling Unit Development Open Space
PDH-1	25% of the gross area	Not Applicable
PDH-2	20% of the gross area	18% of the gross area
PDH-3	20% of the gross area	18% of the gross area
PDH-4	20% of the gross area	18% of the gross area
PDH-5	35% of the gross area	31% of the gross area
PDH-8	25% of the gross area	22% of the gross area
PDH-12	30% of the gross area	27% of the gross area
PDH-16	35% of the gross area	31% of the gross area
PDH-20	35% of the gross area	31% of the gross area
PDH-30	45% of the gross area	40% of the gross area
PDH-40	35% of the gross area	31% of the gross area

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2. As part of the open space to be provided in accordance with the provisions of Par. 1 above, there shall be a requirement to provide recreational facilities in all PDH Districts. The provision of such facilities shall be subject to the provisions of Sect. 16-404, and such requirements shall be based on a minimum expenditure of \$1700 per dwelling unit for such facilities and either:
  - A. The facilities shall be provided on-site by the developer in substantial conformance with the approved final development plan, and/or
  - B. The Board may approve the provision of the facilities on land which is not part of the subject PDH District.

Notwithstanding the above, in affordable dwelling unit developments, the requirement for a per dwelling unit expenditure shall not apply to affordable dwelling units.

**6-111****Additional Regulations**

1. Refer to Article 16 for standards and development plan requirements for all planned developments.
2. Refer to Article 2, General Regulations, for provisions which may qualify or supplement the regulations presented above, including the shape factor limitations contained in Sect. 2-401.

**ARTICLE 16****DEVELOPMENT PLANS****PART 1 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 PDH, PRM, PDC, PRC Districts the bulk regulations and landscaping and screening provisions shall generally conform to the provisions of that conventional

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zoning district which most closely characterizes the particular type of development under consideration. In the PTC District, such provisions shall only have general applicability and only at the periphery of the Tysons Corner Urban Center, as designated in the adopted comprehensive plan.

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.

## 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 a 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 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 staggered 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	PDH	Planned Development Housing
ADU	Affordable Dwelling Unit	PFM	Public Facilities Manual
ARB	Architectural Review Board	PRC	Planned Residential Community
BMP	Best Management Practices	RC	Residential-Conservation
BOS	Board of Supervisors	RE	Residential Estate
BZA	Board of Zoning Appeals	RMA	Resource Management Area
COG	Council of Governments	RPA	Resource Protection Area
CBC	Community Business Center	RUP	Residential Use Permit
CDP	Conceptual Development Plan	RZ	Rezoning
CRD	Commercial Revitalization District	SE	Special Exception
DOT	Department of Transportation	SEA	Special Exception Amendment
DP	Development Plan	SP	Special Permit
DPWES	Department of Public Works and Environmental Services	TDM	Transportation Demand Management
DPZ	Department of Planning and Zoning	TMA	Transportation Management Association
DU/AC	Dwelling Units Per Acre	TSA	Transit Station Area
EQC	Environmental Quality Corridor	TSM	Transportation System Management
FAR	Floor Area Ratio	UP & DD	Utilities Planning and Design Division, DPWES
FDP	Final Development Plan	VC	Variance
GDP	Generalized Development Plan	VDOT	Virginia Dept. of Transportation
GFA	Gross Floor Area	VPD	Vehicles Per Day
HC	Highway Corridor Overlay District	VPH	Vehicles per Hour
HCD	Housing and Community Development	WMATA	Washington Metropolitan Area Transit Authority
LOS	Level of Service	WS	Water Supply Protection Overlay District
Non-RUP	Non-Residential Use Permit	ZAD	Zoning Administration Division, DPZ
OSDS	Office of Site Development Services, DPWES	ZED	Zoning Evaluation Division, DPZ
PCA	Proffered Condition Amendment	ZPRB	Zoning Permit Review Branch
PD	Planning Division		
PDC	Planned Development Commercial		