

APPLICATION FORM

For Resource Protection Area (RPA) Encroachment Exceptions Pursuant to Article 6 of the
Chesapeake Bay Preservation Ordinance; Public Hearing Required

Part 1 – Property Information

Property Owner's Name: 7819 SOUTHDOWN RD LLC.
 Property Address: 7819 Southdown Road, Alexandria, Va. 22308
 Description (Lot# Subdivision): Wellington Villa, Section 1, Part of lot 15
 Project Name: Part of Lot 15, Wellington, Sec. 1
 Tax Map Number: 1022 18 0015A
 Magisterial District: Mount Vernon Permit #: _____

Part 2 -Exception Type

Check One	CBPO Section	Exception Types: (Refer to CBPO for detailed list of qualifications and limitations)
X	118-6-7	Loss of buildable area within an RPA on a lot or parcel recorded prior to November 18, 2003. The proposed construction encroaches into the seaward 50 feet of the RPA buffer.
	118-6-8(a)	Accessory structure within the RPA, where the principal structure was established (i.e. RUP issued) as of July 1, 1993 and the proposed construction encroaches into the 1993 RPA.
	118-6-8(b)	Accessory structure in the RPA, where the principal structure on the lot or parcel was established (i.e. RUP issued) between July 1, 1993 and November 18, 2003 and the construction encroaches into the 2003 RPA.
	118-6-9	General RPA Encroachment request for encroachments into either the 1993 or 2003 RPA that do not qualify for waivers under CBPO Article 5 and do not qualify under any of the above Sections.

Part 3 –General Description of Exception Request

Acres or Square Feet	Description of Exception Request
Property Area (acres or square feet)	29,914 sf
Disturbed Area in RPA (acres or square feet)	6,577
Impervious Area within RPA (acres or square feet)	4062
Brief Description of Project and RPA Encroachment	Construction of new home and elevated pool that is attached to the principal Structure

Check here if a Special Exception (SE) and/or Rezoning (RZ) application has been/will be submitted. The public hearing will be conducted by the Board of Supervisors in conjunction with the SE or RZ hearing.

Part 4 – Submission Checklist

Check	CBPO Section	Exception Types: (Refer to CBPO for detailed list of qualifications and limitations)
X	118-6-5(a)	Four (4) copies of this <i>application form</i> , completed and signed by the applicant.
X	118-6-5(b)	Four (4) copies of a <i>Water Quality Impact Assessment (WQIA)</i> . The WQIA may be submitted with the application as a combined document.
X	118-6-5(c)	Fourteen (14) copies of a <i>plat</i> which meets the submission requirements of Zoning Ordinance Section 9-011, paragraph 2. In addition, four (4) letter size copies of the plat that is suitable for reproduction and distribution.
X	118-6-5(d)	<i>Photographs</i> of the property showing existing structures, terrain and vegetation
X	118-6-5(e)	Four (4) copies of a <i>map identifying classification of soil types</i> , at a scale of one inch equals five hundred feet (1" = 500'), covering an area at least 500 feet beyond the perimeter of the proposed development.
X	118-6-5(f)	A <i>statement of justification</i> which addresses how the proposed development complies with the factors set forth in Sections 118-6-6(a) through (f). (See Part 5 below).
X	118-6-3(c)	A List of property owners, with addresses, to be notified (minimum of 5). Include all properties abutting, immediately across the street from, and within 500 feet of the subject property (including all properties which lie in adjacent municipalities). In addition, the name and address of a Homeowners or Civic Association that is within the immediate area that will be notified.
n/a	118-6-3(d)	If the exception is associated with a RZ or SE, the notification shall be conducted concurrently with the RZ or SE notification, and the public hearing will be conducted by the Board of Supervisors. Provide a list of owners, with addresses, to be notified in accordance with Zoning Ordinance Article 18 instead of CBPO Section 118-6-3(c).
X	104-1-3(d)	Application Fees (must be paid at the time of submission of the application)
X	101-2-9 and 112-17-109	Exception request fee: \$204 per lot (not to exceed \$876) for individual lots; \$876 for subdivisions or site plans.
X	101-2-9 and 112-17-109	WQIA fee (if submitted as a combined document): \$432 for single lot, \$1,652.40 for subdivision or site plan, per submission.
X	101-2-9 and 112-17-109	A public hearing is required for all exceptions under Article 6. There is an additional fee of \$438 per exception request.

Part 5 Statement of Justification checklist

Check	CBPO Section	Exception Types: (Refer to CBPO for detailed list of qualifications and limitations)
X	118-6-6(a)	The requested exception to the criteria is the minimum necessary to afford relief.
X	118-6-6(b)	Granting the exception will not confer upon the applicant any special privileges that are denied by this part to other property owners who are subject to its provisions and who are similarly situated.
X	118-6-6(c)	The exception is in harmony with the purpose and intent of this Chapter and is not of substantial detriment to water quality.
X	118-6-6(d)	The exception request is not based upon conditions or circumstances that are self-created or self-imposed.
X	118-6-6(e)	Reasonable and appropriate conditions are imposed, as warranted, that will prevent the allowed activity from causing a degradation of water quality.
X	118-6-6(f)	Other findings, as appropriate and required for the specific exception being applied for, are met. The additional criteria are listed in CBPO Sections 118-6-7(a) through (f), CBPO Section 118-6-8(a)(I) and (2), CBPO Section 118-6-8(b)(I) and (2), or CBPO Section 118-6-9.

Part 6

All information in this application and all documents submitted in support of this request are correct to the best of my knowledge and belief.

Applicant Name: 7819 SOUTHDOWN RD LLC (please print)

Authorized Agent(s): Hamid Matin

Business Location Address: 4124 Walney Road, Suite M

City: Chantilly State: Va ZIP: 20151

Telephone: 703-378-2101 Facsimile: 703-378-2102

Email Address: h.matin@pdg-eng.com

Business Phone Number: 703-378-2102 Cell Phone Number: 703-307-3588

Signature: _____ (Owner/Agent) Hamid Matin Date: 08/03/2023

SUBMIT TO: Customer and Technical Support Center
Site and Addressing Center
12055 Government Center Parkway, Suite 230
Fairfax, Virginia 22035



STATEMENT OF JUSTIFICATION

RPA EXCEPTION 118-6-7

Wellington Sec. 1, Part Lot 15,
Tax Map # 102-2 ((18)-0015A
7819 Southdown Road,
Alexandria, Va. 22308

We are requesting your approval of the RPA exception due to the loss of buildable area for the above-mentioned project. The lot was created as part of Wellington Subdivision in 1912, and part of it was conveyed in 1923 by deed. The parcel fronts on west side of Potomac River and is located within Wellington Villa neighborhood.

There is an existing house and outbuildings on this property. According to Fairfax County records the house was built in 1930. The lot was created and constructed prior to adoption of C-Bay Act.

This project consists of demolishing the existing structures, parking area and driveway, and constructing a new house with a pool.

This project meets the exception criteria outlined in the Chesapeake Bay Ordinance under Article 6, Section 118-6-7. The lot was created prior to July 1, 1993, the proposed land disturbance within RPA is less than 10,000 square feet, the impervious area is less than 5000 square feet, it meets the minimum size and setback requirements of R-2 zoning district, and the existing vegetation is being preserved to extend possible. Given the location of this parcel, which includes frontage on Potomac River, the buildable area of the lot is very limited, and the majority of it is lost to 1993 adopted C-Bay Act regulations.

There is bulkhead along the western shores of Potomac River that ranges approximately four to six feet in height. The wetlands are limited to the face of the bulkhead. There is a 100 year flood plain limit mapped on this property that runs approximately, between 15 to 25 feet west of the bulk head. The bulkhead was surveyed and a 100 feet buffer line was established as depicted on the plan and designated as "Field Located RPA".

With this plan, we are proposing 6,577 square feet of disturbance within RPA. We are also proposing to provide five Urban Planter Boxes and provided vegetated buffer area by providing 16 canopy trees, 32 understory trees, and 172 shrubs as shown on the attached plans.

118-6-6 – Required Findings

- (a) The approval of this waiver is the minimum necessary to provide relief from the buffer requirements. Given the zoning setback requirements, and the location of RPA, the house was designed to minimize the disturbance in RPA area. The disturbed area does not affect the 50 feet seaward buffer area.
- (b) The approval of this application will not confer any special privileges.
- (c) The exception is in harmony with the purpose and intent of the Chesapeake Bay Ordinance and is not a substantial detriment to water quality.
- (d) This condition is not self-created or self-imposed.
- (e) Stormwater management will be provided by using Urban Planter Boxes to prevent the degradation of water quality and to address stormwater management requirements.
- (f) The project as shown complies with the Performance Criteria as stated under section 118-3-2 and 3. A Water Quality Impact Assessment was filed (see WQIA-2023-00020). The project will comply with all required Erosion and Sedimentation controls per Chapter 104 of the County Code.

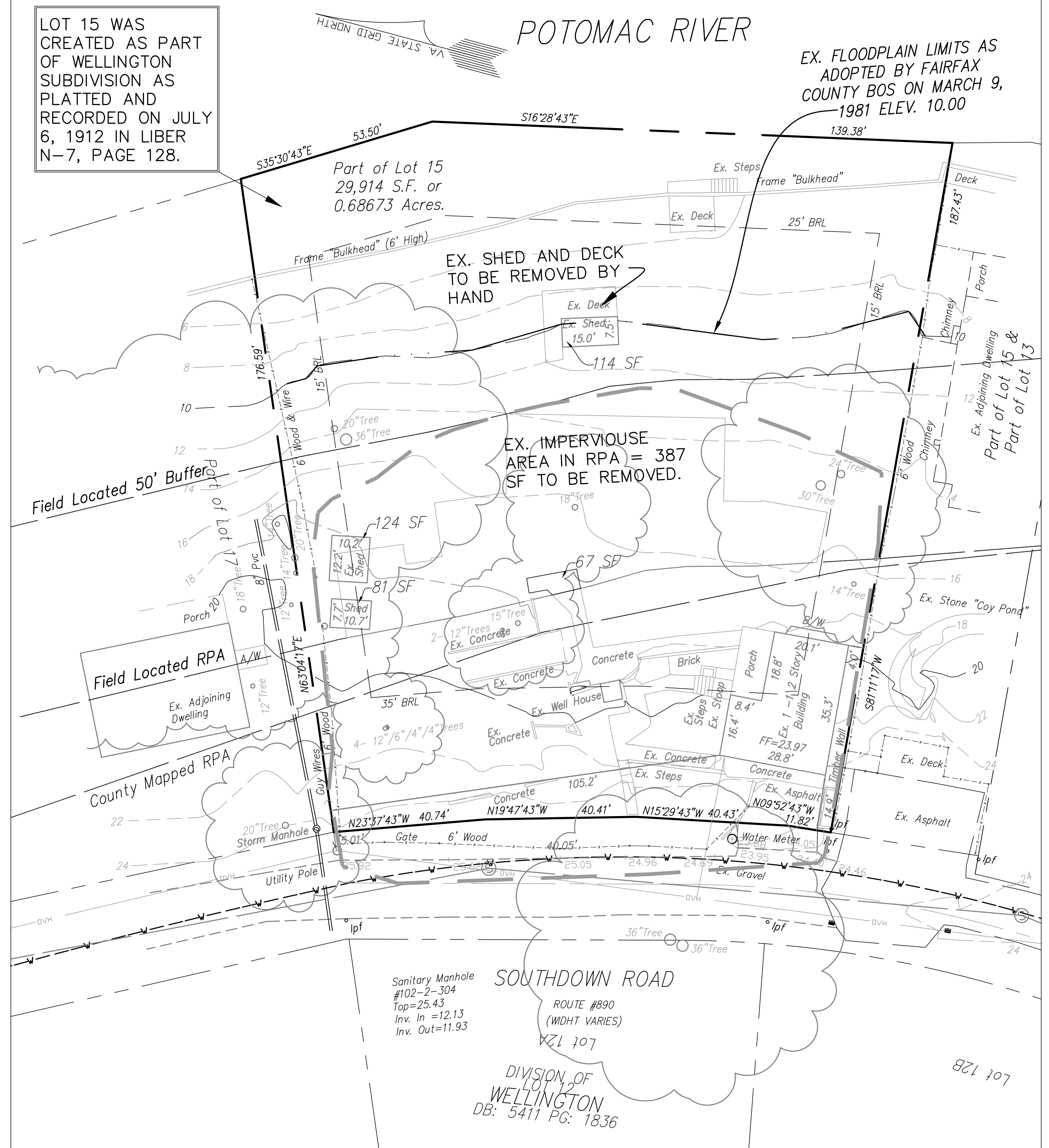
118-3-2 Performance Criteria

- (a) No more land is being disturbed than minimum required to establish the use and construct the new house and driveway.
- (b) Indigenous vegetation is being preserved to maximum extent possible.
- (c) The amount of impervious cover is minimized to extend possible.
- (d) The project will comply with all requirements of Erosion Sediment Control per Chapter 104 of the County Code.
- (e) As shown on the plans, the project will include five Urban Planter Boxes and will comply with Chapter 124 of the County Code.
- (f) There will be no disturbance to any wetlands. A certification will be provided at the time of submission of Infill Lot Grading Plan.
- (g) The project is being served by public sewer.
- (h) There are no agricultural activities proposed.
- (i) Buildable area is depicted on the plan.

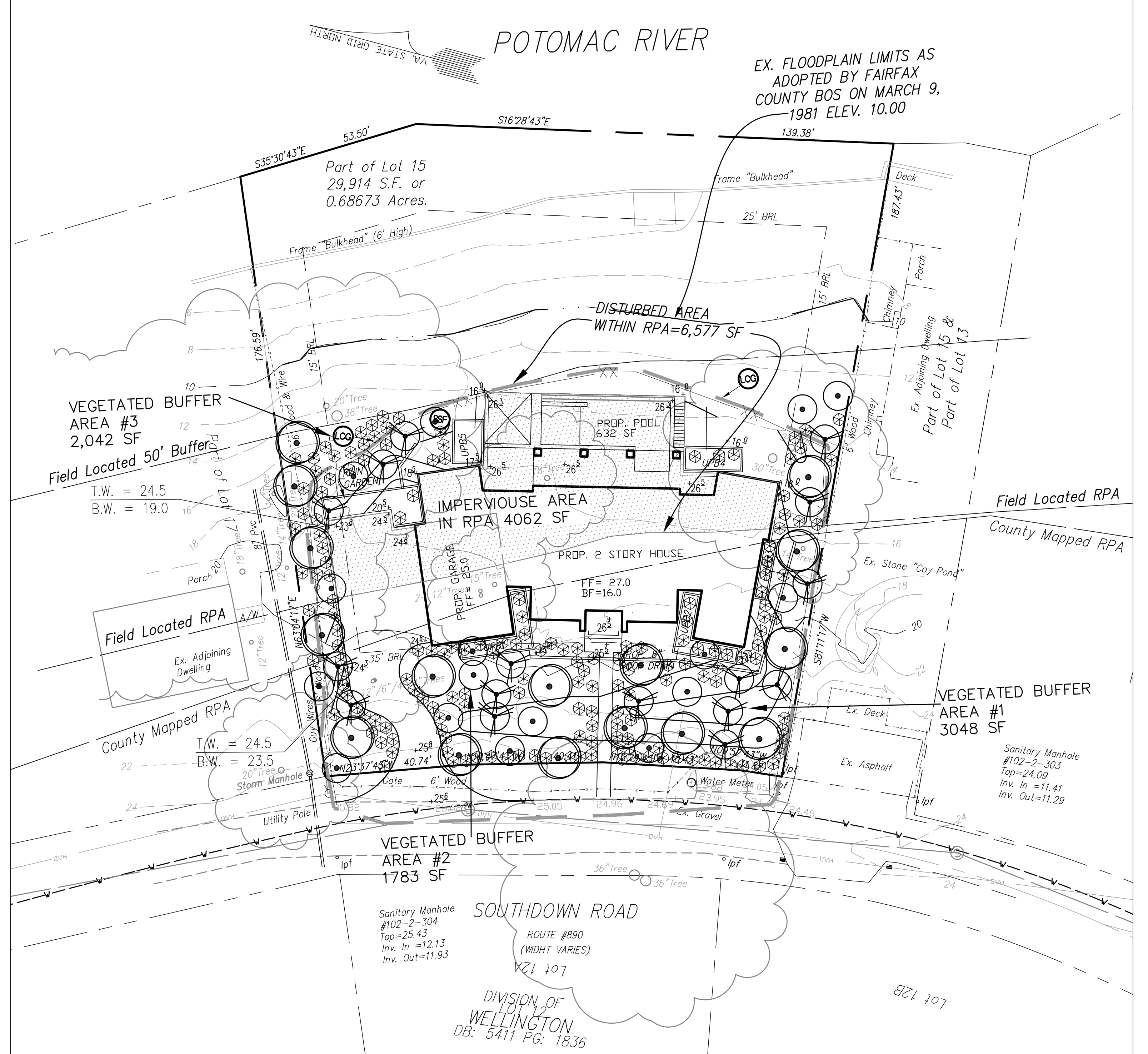
118-3-3 Additional Performance Criteria

- (a) A Water Quality Impact Assessment have been submitted (see plan # WQIA-2023-00020)
- (b) This project is not water dependable.
- (c) This project is outside IDA
- (d) A buffer are greater than disturbed area is being proposed with additional vegetation.
- (e) This is not an agricultural land.
- (f) Please see WQIA plan for additional buffer area is proposed to be established.

LOT 15 WAS CREATED AS PART OF WELLINGTON SUBDIVISION AS PLATTED AND RECORDED ON JULY 6, 1912 IN LIBER N-7, PAGE 128.



EX. CONDITION PLAN



PROP. PLANTING PLAN

GENERAL NOTES:

- CURRENT OWNER: 7819 SOUTHDOWN RD LLC, DEED BOOK: 27530, PAGE: 595, PROPERTY ADDRESS, 7819 SOUTHDOWN ROAD, ALEXANDRIA, VIRGINIA 22308,
- THE PROPERTY ON THIS PLAN IS IDENTIFIED ON TAX MAP #102-2-((18)) AS PARCEL 0015A AND IS ZONED R-2(Residential 2 DU/AC). THE ASSESSED AREA IS 30,579 SQUARE FEET OR 0.72 ACRES.
- THE PROPERTY IS CURRENTLY ZONED R-2, WITH THE FOLLOWING REGULATIONS FOR SET BACKS:
FRONT YARD= 35'
SIDE YARD= 15'
REAR YARD= 25'
- TOPO AND BOUNDARY INFORMATION IS BASED ON AN ACTUAL FIELD RUN SURVEY BY THIS FIRM.
- CONTOUR INTERVAL = 2'. VERTICAL DATUM IS NGVD 1929.
- THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND THEREFORE DOES NOT NECESSARILY INDICATE ALL ENCUMBRANCES ON THE PROPERTY. TO THE BEST KNOWLEDGE OF THE SURVEYOR AND DEVELOPER, THERE ARE NO EXISTING GRAVES ON-SITE.
- THE STREET SHOWN HEREON IS A PUBLIC RIGHT-OF-WAY.
- NO MORE LAND SHALL BE DISTURBED THAN IS NECESSARY TO PROVIDE FOR THE SINGLE-FAMILY DWELLING.
- INDIGENOUS VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE.

TREE REQUIREMENT

DISTURBED AREA WITHIN RPA = 6,577 SF
VEGETATED BUFFER AREA PROVIDED: = 6,873 SF
LANDSCAPE AREA = 6,873 SF OR 0.1578 AC.
OVERSTORY REQUIRED: 100 x 0.1578 = 16 TREES
UNDERSTORY REQUIRED: 200 x 0.1578 = 32 TREES
SHRUBS REQUIRED: 1089 x 0.1578 = 172 SHRUBS

TREE PLANTING SCHEDULE

QTY.	SYMBOL	CATEGORY	SIZE *	TYPE
16	⊙	CANOPY TREE	2" CAL	B & B
32	⊙	UNDER STORY	1" CAL	CONT
172	⊗	SHRUBS	18" HIGH	CONT

SEE PLANT LIST ON SHEET 2

Total Site Area	29914 SF	0.6867 AC	I ₍₂₎ IN/HR	5.75 I ₍₁₀₎ IN/HR	6.77
	Pre- Development		Post- Development		
Impervious Cover	Area SF	Area AC	Area SF	Area AC	
Building	1043	0.0239	4133	0.0949	
Driveway	223	0.0051	1443	0.0331	
Porch	0	0.0000	0	0.0000	
Patio	0	0.0000	0	0.0000	
Pool & Pool Dec	0	0.0000	1662	0.0382	
Side Walk	1039	0.0239	203	0.0047	
Sheds & Misc	320	0.0073	0	0.0000	
TOTAL	2625	0.0603	7441	0.1708	
Percent Imperviousness	8.78%		24.87%		
Composite Rational "C" Factor	0.40		0.49		
Q (2)	Q=CIA	1.57 cfs	1.92 cfs	0.35 cfs	
Q (10)	Q=CIA	1.85 cfs	2.26 cfs	0.41 cfs	

WQIA NARRATIVE:

- FAIRFAX COUNTY MAPPED RPA AND FIELD LOCATED RPA ARE SHOWN ON THE PLAN.
- RPA ENCROACHMENT IS ANTICIPATED TO BE 6577 SQUARE FEET OF DISTURBED AREA WITHIN RPA.
- THIS WQIA IS INTENDED TO ADDRESS THE VEGETATION REQUIRED BY DISTURBANCE WITHIN RPA AND WATER QUALITY BASED ON ADDITIONAL IMPERVIOUS AREA IN RPA.
- NO DISTURBANCE TO WETLANDS IS ANTICIPATED TO OCCUR WITHIN RPA.
- THE RE-VEGETATION REQUIRED AS PART OF THIS WQIA IS WILL SERVE AS BMP.
- THE PURPOSE OF THIS WQIA IS TO PROVIDE ENHANCEMENT DUE TO ADDITIONAL IMPERVIOUS AREA AND DISTURBANCE OF RPA.
- THE PLAN PROPOSED FIVE PLANTER BOXES THAT ARE DESIGNED TO DETAIN 2.56 INCHES OF RAINFALL PLUS A STRUCTURAL RAIN GARDEN AND RE-VEGETATION OF AREA OF 6,877 SQUARE FEET WHICH IS GREATER THAN THE PROPOSED DISTURBED AREA WITHIN RPA. PLEASE REFER TO SHEET 2 FOR STORMWATER MANAGEMENT AND BMP NARRATIVES.

NO.	DATE	DESCRIPTION	BY

WATER QUALITY IMPACT ASSESSMENT PLAN
PART OF LOT 15
WELLINGTON, SEC. 1
DB: N-7 PG: 127
TM: 102-2-((18))-0015A
#7819 SOUTHDOWN ROAD ALEXANDRIA, VIRGINIA 22308
MOUNT VERNON DISTRICT #1 - FAIRFAX COUNTY, VIRGINIA



PROFESSIONAL DESIGN GROUP, INC.
4124 WALNEY ROAD, SUITE M
CHANTILLY, VIRGINIA 20151
PHONE (703) 631-2344
FAX (703) 378-2102
ENGINEERS, SURVEYORS, CONSULTANT

DESIGN BY: PJT
DRAWN BY: PJT
CHECKED BY: HM
DATE: JAN 2023
SCALE: 1"=20'
JOB NO.: 00518
DRAWING NO.: 518-WQIA-1

TYPICAL PLANT MATERIAL LIST

NATIVE UNDERSTORY TREES

AMELANCHIER CANADENSIS
 CARPINUS CAROLINA
 CERCIS CADENENSIS
 CHIONANTHUS VIRGINICUS
 CORNUS FLORIDA
 MAGNOLIA VIRGINIANA
 OXYDENDRON ARBOREUM
 SALIX NIGRA

SERVICEBERRY
 IRONWOOD/AMERICAN HORNBEAM
 REDBUD
 FRINGETREE
 FLOWERING DOGWOOD
 WEETBAY MAGNOLIA
 SOURWOOD
 BLACK WILLOW

NATIVE SHRUBS

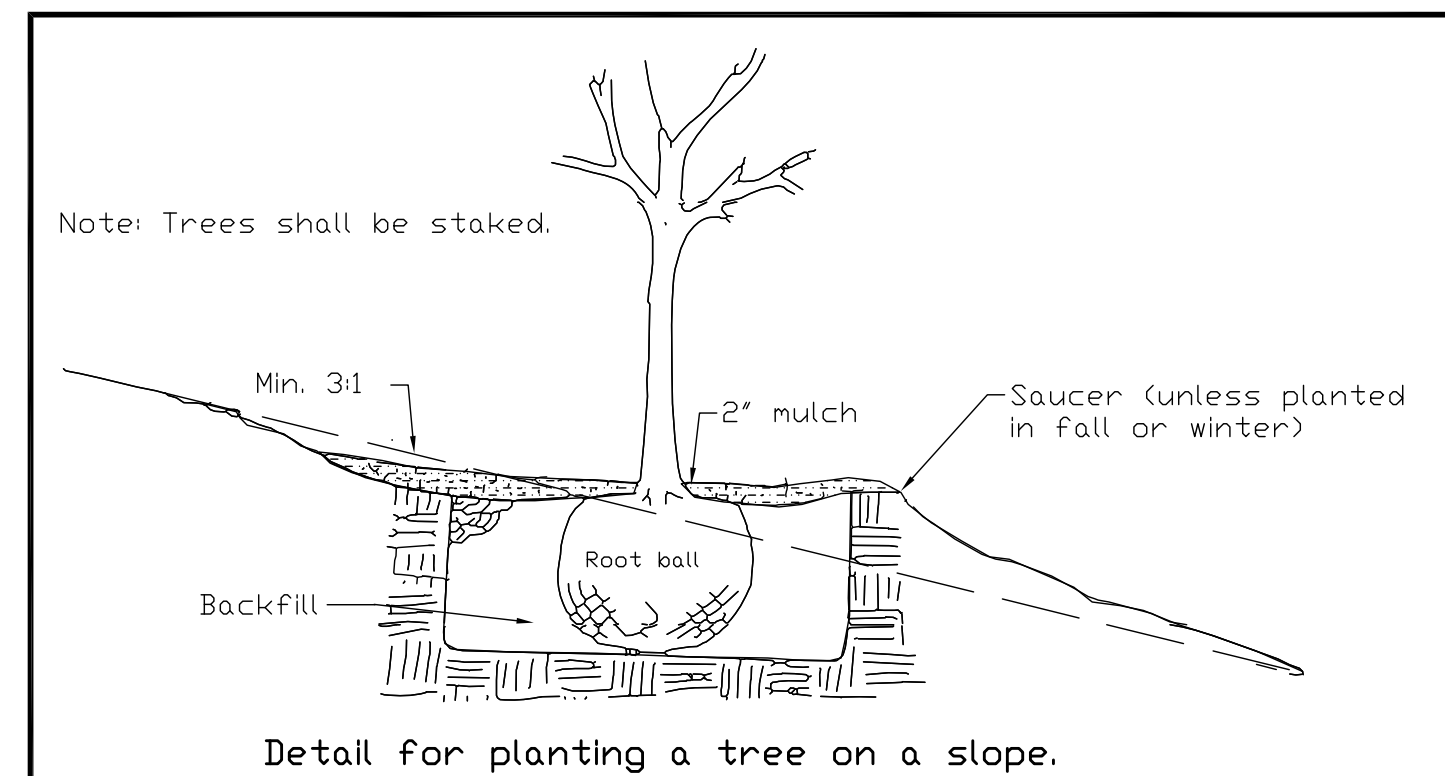
ARONIA FRUCTICOSA
 CEPHALATHUS OCCIDENTALIS
 CORNUS RACEMOSA
 CORNUS STOLOIFERA
 HAMAMELIS VIRGINIANA
 ILEX DECIDUOS
 ILEX GLABRA
 ILEX VERICILLATA
 RHODODENDRON VISCOSUM
 SALIX DISCOLOR
 VACCINIUM CORYBOSUM

RED CHOKECHERRY
 BUTTONBUSH
 GRAYSTEM DOGWOOD
 REDTIG DOGWOOD
 WITCH HAZEL
 POSSUMHAW
 INKBERRY
 WINTERBERRY
 SWAMP AZALEA
 PUSSY WILLOW
 HIGHBUSH BLUEBERRY

NATIVE OVERSTORY TREES

ACER RUBRUM
 ACER SACCHARUM
 BETULA NIGRA
 CELTIS OCCIDENTALIS
 DIOSPYROS VIRGINIANA
 FAGUS AMERICANA
 FRAXINUS AMERICANA
 FRAXINUS PENNSYLVANICA
 JUUGLANS NIGRA
 LIRIODENDRON TULIPIFERA
 LIQUIDAMBER STRACIFLUA
 NYSSA SYVATICA
 PLATANUS OCCIDENTALIS
 QUERCUS ALBA
 QUERCUS BICOLOR
 QUERCUS COCCINIA
 QUERCUS IMBRICARIA
 QUERCUS MICHAUZIL
 QUERCUS PALUSTRIS
 QUERCUS PHELLOS
 QUERCUS PRINUS
 QUERCUS RUBRA
 TILIA AMERICANA
 TSUGA CANADENSIS

RED MAPLE
 SUGAR MAPLE
 RIVER BIRCH
 HOCKBERRY
 PERSIMMON
 AMERICAN BEECH
 WHITE ASH
 GREEN ASH
 WALNUT
 TULIP POPLAR
 SWEETGUM
 BLACK GUM
 SYCAMORE
 WHITE OAK
 SWAMP WHITE OAK
 PIN OAK
 WILLOW OAK
 CHESTNUT OAK
 RED OAK
 AMERICAN BASSWOOD
 CANDIAN HEMLOCK



Detail for planting a tree on a slope.

Ref. Sec. 12-0800
 9-11-93
 Rev. 8-18-94

TREE PLANTING ON SLOPES

PLATE NO	STD NO
12-12	

NOTES:

- ALL LANDSCAPE PLANT MATERIALS SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD OF NURSERY STOCK (ANSI Z60.1). PLANT MATERIAL SHALL BE OF STANDARD QUALITY OR BETTER, TRUE TO NAME AND TYPE OF THEIR SPECIES OR VARIETY.
- LANDSCAPE PLANT MATERIALS SHALL BE PLANTED IN ACCORDANCE WITH EITHER THE STANDARDIZED LANDSCAPE SPECIFICATIONS ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE ENGINEERS, OR THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.
- NO LANDSCAPING MATERIAL MAY BE PLANTED WITHIN 4 FEET OF ANY FIRE HYDRANT OR SIAMESE CONNECTION.
- NO TREES MAY BE PLANTED WITHIN ANY EASEMENT.
- SHRUBS WHICH ARE UPRIGHT IN NATURE SHALL BE A MINIMUM OF TWENTY FOUR (24") INCHES IN HEIGHT AT THE TIME OF PLANTING, AND SHRUBS WHICH ARE SPREADING IN NATURE SHALL BE A MINIMUM OF EIGHTEEN (18") INCHES IN DIAMETER AT THE TIME OF PLANTING.
- CONTRACTOR TO COORDINATE WITH URBAN FORESTRY BRANCH OF FAIRFAX COUNTY BEFORE PLANTING ANY TREES. TEL. #703-324-1770

LEGEND

- EXISTING INTERMEDIATE CONTOUR
- EXISTING CONTOUR INDEX
- EXISTING EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- EXISTING WATERLINE W/TEE
- EXISTING OVERHEAD LINE
- EXISTING SANITARY SEWER
- EXISTING TREE W/DRIPLINE
- EXISTING SPOT ELEVATIONS
- IPF (IRON PIPE FOUND)
- PPF (PINCHED PIPE FOUND)
- PROPERTY LINE
- EXISTING FENCE LINE

STORMWATER MANAGEMENT NARRATIVE:

STORMWATER DETENTION IS BEING PROVIDED THROUGH FIVE PLANTER BOXES AND THE RAIN GARDEN. THEY ARE SIZED FOR 2.56 INCHES OR RAINFALL THAT PROVIDES FOR DETENTION VOLUME FOR THE RESIDENTIAL DETACHED INFILL PROJECTS. THE DETENTION VOLUME IS PROVIDED FOR 5822 SQUARE FEET OF IMPERVIOUS AREA. THIS WILL PROVIDE FOR THE INCREASE IN IMPERVIOUS AREA PLUS 1,006 SQUARE FEET OF ADDITIONAL IMPERVIOUS AREA. THE RUNOFF VOLUME WILL BE REDUCED TO LESS THAN PRE-EXISTING CONDITIONS.

BMP/ NUTRIENT REMOVAL NARRATIVE:

THIS PLAN PROPOSES FIVE OVERSIZED PLANTER BOXES THAT WILL ACT AS BIOTENTION FACILITY AND ONE ADDITIONAL STRUCTURAL RAIN GARDEN AT THE END OF THE DRIVEWAY THAT WILL CAPTURE AND TREAT 1,786 SQUARE FEET OF IMPERVIOUS AREA. DUE TO THE SIZE OF PLANTER BOXES, WE HAVE USED THE BIOTENTION LEVEL TWO CATEGORY THAT REMOVES 50 PERCENT OF NUTRIENTS. IN ADDITION WE ARE PROPOSING A RE-VEGITATION AREA OF 6,873 SQUARE FEET THAT WILL ENHANCES THE WATER QUALITY BY ANOTHER 25%. THE RE-VEGITATION AREA ARE DESIGNATED IN A WAY TO RECEIVE AND TREAT MOST OF THE RUNOFF FROM THE IMPERVIOUS SURFACES. IN OUT PROFESSIONAL OPINION, THE PROPOSED MANUFACTURED BMP PLUS THE RE-VEGITATION AREA, WILL ENHANCES THE WATER QUALITY TO BETTER THAN PRE-DEVELOPE CONDITIONS.

RPA Boundary Location Certification

(The following certification statement is to be placed on the plan, signed, and sealed by the licensed professional submitting the plan.)

KENTLAND FARMLOT 19

RPA Boundary Location Certification

The lot depicted on this infill lot grading plan includes an RPA. The locations of all RPA features have been verified in the field.

Checklist of RPA features which are present:

- YES NO
- (1) A tidal wetland;
 - (2) A tidal shore;
 - (3) A water body with perennial flow;
 - (4) A nontidal wetland connected by surface flow and contiguous to a tidal wetland or water body with perennial flow;
 - (5) A buffer area as follows:
 - (I) Any land within a major flood plain;
 - (II) Any land within 100 feet of a feature listed in (1) through (4).

Supporting Documents:

- Jurisdictional determination or verification letter from the U.S. Army Corps of Engineers for all Waters of the U.S.

I hereby certify that:

Each of the individual features listed above, which together comprise the RPA, have been reviewed and the locations of the features and final RPA boundary shown on the plan are in conformance with the requirements of the Chesapeake Bay Preservation Ordinance.

Hamid Matin
 Signature Date 04/13/2023

Hamid Matin, P.E.
 Name Virginia license number 017821

NO.	DATE	DESCRIPTION	BY

WATER QUALITY IMPACT ASSESSMENT PLAN
 PART OF LOT 15
WELLINGTON, SEC. 1
 DB: N-7 PG: 127
 TM: 102-2-(18)-0015A
 #7819 SOUTHDOWN ROAD ALEXANDRIA, VIRGINIA 22308
 MOUNT VERNON DISTRICT #1 - FAIRFAX COUNTY, VIRGINIA



PROFESSIONAL DESIGN GROUP, INC.
 4124 WALNEY ROAD, SUITE M
 CHANTILLY, VIRGINIA 20151
 ENGINEERS, SURVEYORS, CONSULTANT
 PHONE (703) 631-2344
 FAX (703) 378-2102

DESIGN BY: *FWI*
 DRAWN BY: *PJT*
 CHECKED BY: *HM*
 DATE: 08/03/2017
 SCALE: 1"=30'
 JOB NO.: 00518
 DRAWING NO.: 518-WQIA-1

Project Name: Wellington Estates Lot 15A
 Date: 4/12/2023
 Linear Development Project? No

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) → 0.42

Check: Linear project? No
 Land cover areas entered correctly? ✓
 Total disturbed area entered? ✓

BMP Design Specifications List: 2013 Draft Stds & Specs

Maximum reduction required:	10%
The site's net increase in impervious cover (acres):	0.21
Post-Development TP Load Reduction for Site (lb/yr):	0.24

Pre-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) - undisturbed					0.00
Managed Turf (acres) - disturbed, graded for yards or other turf to be				0.63	0.63
Impervious Cover (acres)				0.06	0.06

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) - undisturbed, graded for yards or other turf to be					0.00
Managed Turf (acres) - disturbed, graded for yards or other turf to be				0.52	0.52
Impervious Cover (acres)				0.17	0.17

Area Check: OK OK OK OK OK

Constants

Annual Rainfall (inches)	43
Target Initial Loss (inches)	0.02
Total Phosphorus (TP) (lb/acre)	0.26
Total Nitrogen (TN) (lb/acre)	1.86
Target TP Load (lb/acre/yr)	0.43
P (unitless correction factor)	0.90

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY - PRE-REDEVELOPMENT

Land Cover Summary Pre	Listed	Adjusted
Pre-Development		
Forest/Open Space (acres)	0.00	0.00
Weighted Runoff	0.00	0.00
% Forest	0%	0%
Managed Turf (acres)	0.63	0.52
Weighted Runoff	0.23	0.23
% Managed Turf	91%	90%
Impervious Cover (acres)	0.06	0.06
R (Impervious)	0.95	0.95
% Impervious	2%	2%
Total Site Area (acres)	0.69	0.58
Site Rv	0.31	0.32

LAND COVER SUMMARY - POST DEVELOPMENT

Land Cover Summary Post	Post-Development	Post-Development New Impervious
Pre-Development		
Forest/Open Space (acres)	0.00	0.00
Weighted Runoff	0.00	0.00
% Forest	0%	0%
Managed Turf (acres)	0.52	0.52
Weighted Runoff	0.23	0.23
% Managed Turf	79%	90%
Impervious Cover (acres)	0.17	0.06
R (Impervious)	0.95	0.95
% Impervious	29%	10%
Total Site Area (acres)	0.69	0.69
Final Post-Dev Site Rv	0.32	0.32

Treatment Volume and Nutrient Load

Pre-Development Treatment Volume (acre-ft)	0.0379	0.0316
Pre-Development Treatment Volume (cubic feet)	778	679
Pre-Development TP Load (lb/yr)	0.49	0.43
Pre-Development TP Load per acre (lb/acre/yr)	0.71	0.74
Baseline TP Load (lb/yr) (at 41% impervious cover)		0.24

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0243	0.0156	0.0087
Final Post-Development Treatment Volume (cubic feet)	679	679	379
Final Post-Development TP Load (lb/yr)	0.43	0.43	0.24
Final Post-Development TP Load per acre (lb/acre/yr)	0.91	0.74	0.91
Max. Reduction Required (at 10% Pre-Development Load)		10%	
TP Load Reduction Required for Redefined Area (lb/yr)	0.04		
TP Load Reduction Required for New Impervious Area (lb/yr)		0.19	

*Adjusted Land Cover Summary
 Pre-Development land cover minus previous land cover (Forest/Open Space or Managed Turf) increase/grade for new impervious cover.

Adjusted site coverage is consistent with Post-Development coverage (minus decrease of new impervious cover).

Column 1 shows load reduction requirement for new impervious cover (based on new development load limit, 0.43 lb/acre/yr).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.24
------------------------------------	------

Nitrogen Loads (Informational Purposes Only)

Pre-Development TN Load (lb/yr)	3.50
Final Post-Development TN Load (Post-Development & New Impervious) (lb/yr)	4.76

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.13	0.13	0.95
Impervious Cover (acres)						
Total					0.13	

Total Phosphorus Available for Removal in D.A. A (lb/yr): 0.28
 Post-Development Treatment Volume in D.A. A (ft³): 448

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed by Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
1. Vegetated Roof (RR)													
1.a. Vegetated Roof #1 (Spec #5)	45			0	0	0	0	0	0.00	0.00	0.00	0.00	
1.b. Vegetated Roof #2 (Spec #5)	60			0	0	0	0	0	0.00	0.00	0.00	0.00	
2. Roofing Disconnection (RR)													
2.a. Simple Disconnection to A/B Soils (Spec #1)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.b. Simple Disconnection to C/D Soils (Spec #1)	25			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.c. To Soil Amended Filter Paths per specifications (existing C/D soils) (Spec #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.d. To Dry Well or French Drain #1, Micro-Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.e. To Dry Well or French Drain #2, Micro-Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.f. To Rain Garden #1, Micro-Bioretenion #1 (Spec #9)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.g. To Rain Garden #2, Micro-Bioretenion #2 (Spec #9)	80		0.13	0	359	90	448	50	0.00	0.28	0.25	0.03	4.b. Grass Channel C/D Soils
2.h. To Rainwater Harvesting (Spec #6)	0			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.i. To Stormwater Planting, Urban Bioretention (Spec #9, Appendix A)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	None

3. Permeable Pavement (RR)

3.a. Permeable Pavement #1 (Spec #7)	45			0	0	0	0	25	0.00	0.00	0.00	0.00	
3.b. Permeable Pavement #2 (Spec #7)	75			0	0	0	0	25	0.00	0.00	0.00	0.00	

4. Grass Channel (RR)

4.a. Grass Channel A/B Soils (Spec #3)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	
4.b. Grass Channel C/D Soils (Spec #3)	10			90	9	81	90	15	0.03	0.00	0.01	0.02	
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	

5. Dry Swale (RR)

5.a. Dry Swale #1 (Spec #10)	40			0	0	0	0	20	0.00	0.00	0.00	0.00	
5.b. Dry Swale #2 (Spec #10)	60			0	0	0	0	40	0.00	0.00	0.00	0.00	

6. Bioretention (RR)

6.a. Bioretention #1 or Micro Bioretention #1 or Urban Bioretention (Spec #9)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	
6.b. Bioretention #2 or Micro Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	

7. Infiltration (RR)

7.a. Infiltration #1 (Spec #1)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
7.b. Infiltration #2 (Spec #1)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	

8. Extended Detention Pond (RR)

8.a. ED #1 (Spec #15)	0			0	0	0	0	15	0.00	0.00	0.00	0.00	
8.b. ED #2 (Spec #15)	15			0	0	0	0	15	0.00	0.00	0.00	0.00	

9. Sheetflow to Filter/Open Space (RR)

9.a. Sheetflow to Conservation Area, A/B Soils (Spec #2)	75			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.b. Sheetflow to Conservation Area, C/D Soils (Spec #2)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.c. Sheetflow to Vegetated Filter Strip, A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.13	AREA CHECK: OK
TOTAL MANAGED TURF AREA TREATED (ac)	0.00	AREA CHECK: OK
TOTAL RUNOFF REDUCTION IN D.A. A (ft³)	368	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	0.28	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.25	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.02	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0
 BMP Design Specifications List: 2013 Draft Stds & Specs

Update Summary Sheet
 Print Preview Print

Site Summary

Project Title: Wellington Estates Lot 15A
 Date: 4/5/2023

Total Rainfall (in):	43
Total Disturbed Acreage:	0.42

Site Land Cover Summary

Pre-Development Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.63	0.63	91
Impervious Cover (acres)	0.00	0.00	0.00	0.06	0.06	9
Total					0.69	100

Post-Development Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.52	0.52	75
Impervious Cover (acres)	0.00	0.00	0.00	0.17	0.17	25
Total					0.69	100

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-Development & New Impervious)	Post-Development	Post-Development (New Impervious)	Adjusted Pre-Development
Site Rv	0.42	0.32	0.95	0.32
Treatment Volume (ft³)	1,058	679	379	679
TP Load (lb/yr)	0.66	0.43	0.24	0.43

Total TP Load Reduction Required (lb/yr)

Final Post-Development Load (Post-Development & New Impervious)	4.76
Pre-Development	3.50

Site Compliance Summary

Maximum % Reduction Required Below Pre-Development Load	10%
---	-----

Total TP Load Reduction Achieved (lb/yr)

Total Runoff Volume Reduction (ft³)	368
Total TP Load Reduction Achieved (lb/yr)	0.26
Total TN Load Reduction Achieved (lb/yr)	1.90
Remaining Post Development TP Load (lb/yr)	0.41
Remaining TP Load Reduction Required	0.00

** TARGET TP REDUCTION EXCEEDED BY 0.02 LB/YEAR **

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Impervious Cover (acres)	0.13	0.00	0.00	0.00	0.00	0.13
Total Area (acres)	0.13	0.00	0.00	0.00	0.00	0.13

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	0.26	0.00	0.00	0.00	0.00	0.26
TN Load Reduced (lb/yr)	1.90	0.00	0.00	0.00	0.00	1.90

NO.	DATE	DESCRIPTION	BY

VRRM
 PART OF LOT 15
 WELLINGTON, SEC. 1
 DB: N-7 PG: 127
 TM: 102-2-(18)-0015A
 #7819 SOUTHDOWN ROAD ALEXANDRIA, VIRGINIA 22308
 MOUNT VERNON DISTRICT #1 - FARIFFAX COUNTY, VIRGINIA



PROFESSIONAL DESIGN GROUP, INC.
 4124 WALNEY ROAD, SUITE M
 CHANTILLY, VIRGINIA 20151
 ENGINEERS, SURVEYORS, CONSULTANT
 PHONE (703) 631-2344
 FAX: (703) 378-2102

DESIGN BY: PJT
 DRAWN BY: PJT
 CHECKED BY: HM
 DATE: JAN 2023
 SCALE: -
 JOB NO.: 00518
 DRAWING NO.: 518-WQA-1

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7819 Southdown Road, Alexandria, Va. 22308

Site Photos:



Existing property access and parking on Southdown Road on adjacent property South Side



View along the frontage of property looking toward North.

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7819 Southdown Road, Alexandria, Va. 22308



Existing House



Existing Front Yard

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Side and rear yard looking toward Northeast.



South side yard showing the adjacent house on the south.

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View of Bulkhead wall looking North



View of Bulkhead wall looking south. Pier on adjacent property

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7819 Southdown Road, Alexandria, Va. 22308

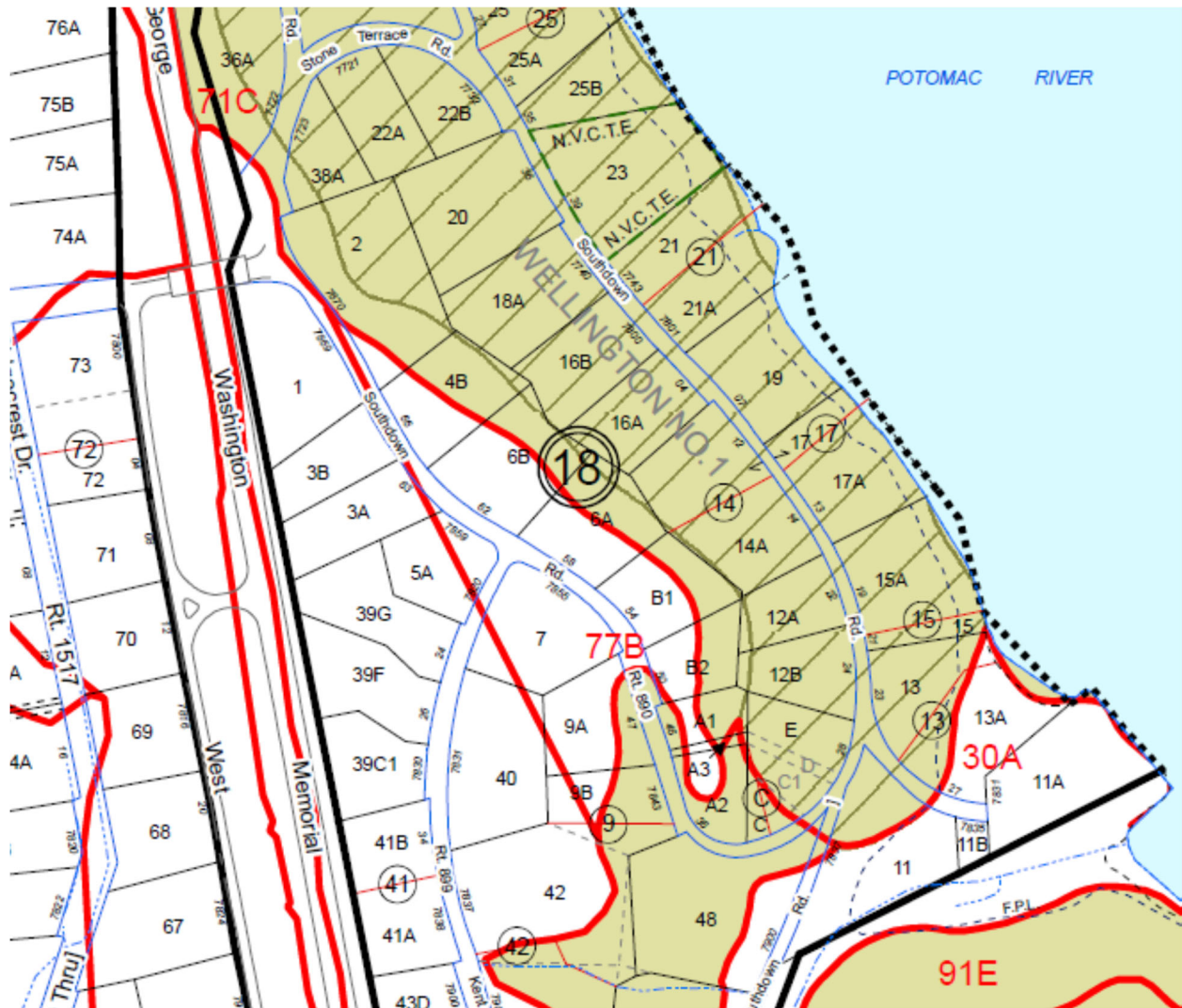


Rear of existing house



Existing deck and steps to remain.

SOILS

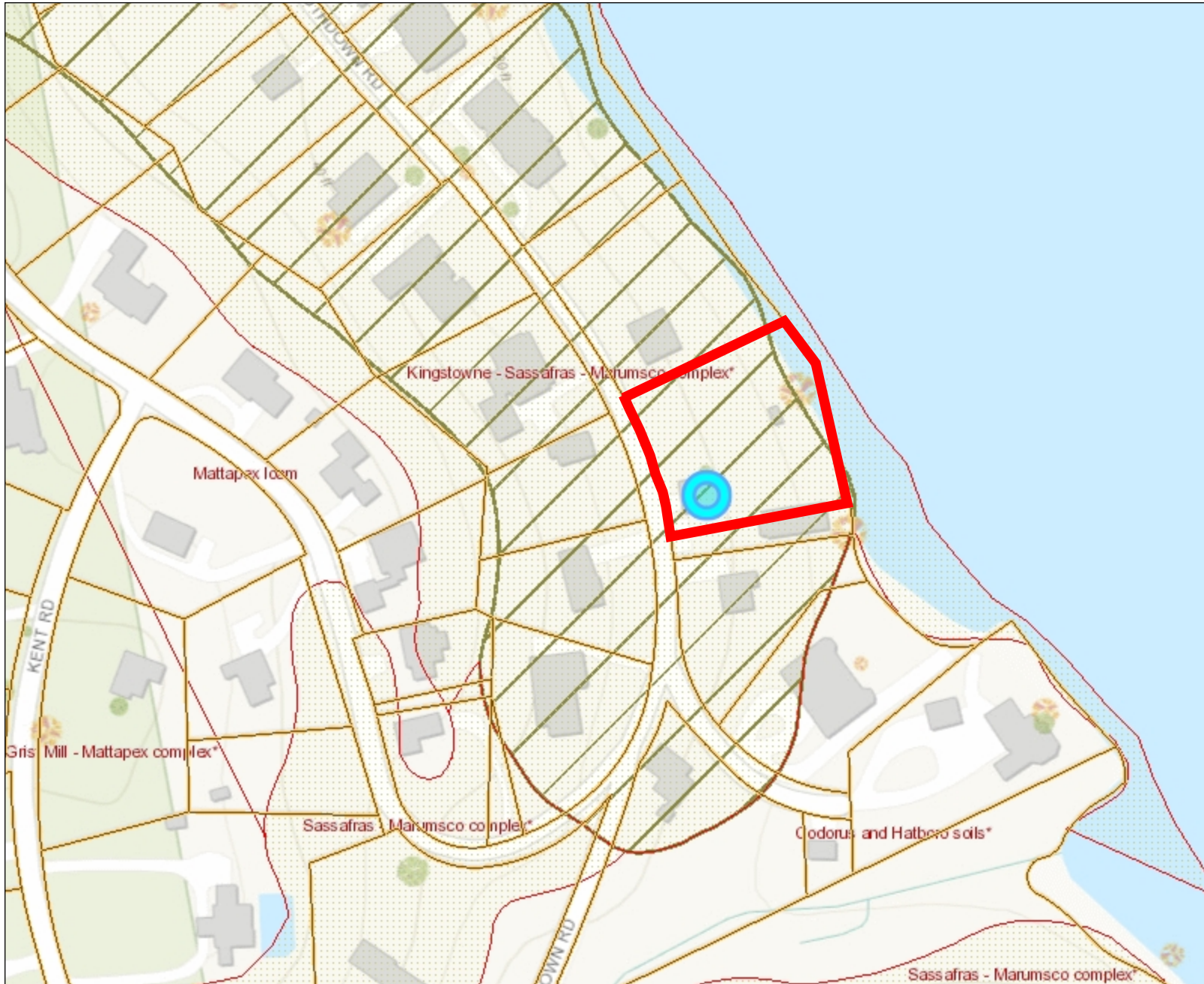


According to Fairfax County GIS Maps the soils on this property is mapped as soil number 71C

The soil name is Kingstowne - Sassafras - Marumsco complex - This complex is a mixture of the development-disturbed Kingstowne soil and the natural Sassafras and Marumsco soils. The complex occurs along the slopes between high and low elevation areas of the Coastal Plain that have been developed, but retain a good portion of undisturbed soil. Kingstowne soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Sassafras and Marumsco soils will be found on un-graded, sloping back and front yards and common areas. Sassafras-Marumsco complex contains Marine Clay and is highly problematic. For a description of the soils that make up this map unit, please see (66) Kingstowne and (91) Sassafras-Marumsco Complex.



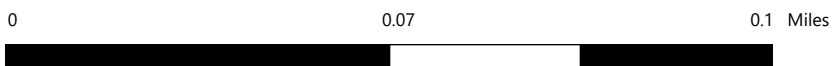
Map Title



- Legend**
- Parcels
 - Soils (Official 2018)
 - Potential Asbestos Containing
 - Marumsco Soils
 - Previously Mapped Marine Clay
 - Non-Marine Clay Shrink-Swell

Notes:

Map produced: 8/3/2023



This map is intended for reference purposes only. Fairfax County does not provide any guarantee of the accuracy or completeness regarding the map information.