

**PUBLIC HEARING: October 3, 2012**

**SEPTEMBER 19, 2012**

**DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES**

**SITE DEVELOPMENT AND INSPECTIONS DIVISION (SDID)**

**STAFF REPORT**

**RESOURCE PROTECTION AREA (RPA) ENCROACHMENT  
REQUEST: # 3276-WRPA-002-1**

**8747 BROOK ROAD**

**DRANESVILLE DISTRICT**

**APPLICANT:** Daphne and Yeshvanth Edwin

**PROJECT LOCATION:** 8747 Brook Road

**TAX MAP REFERENCE:** 020-3-03-0016-A

**APPLICATION ACCEPTED:** July 26, 2012

**WATERSHED:** Difficult Run

**RPA EXCEPTION REQUEST:** To construct portions of a single family dwelling and supporting facilities within the RPA, Chesapeake Bay Preservation Ordinance (CBPO) Section 118-6-9

**PROPOSAL:** Exception to permit portion of a dwelling, lead walk, septic tank, pump chamber, forcemain, and driveway within a 1993 RPA.

**LOT SIZE:** Single Family Detached parcel area 1.07 acres

**CHESAPEAKE BAY  
PRESERVATION ORDINANCE  
(CBPO) PROVISION:** Section 118-6-9 General Resource Protection Area  
Encroachment Request



Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 7 days advance notice. For additional information on ADA, call (703) 324-1334 or TTY 711 (Virginia Relay Center).

**BACKGROUND:** The existing site, located at Tax Map # 020-3-02-0016-A (see vicinity map, Attachment B), was originally created as a part of the Woodside Estates, Section Three, Subdivision in 1952 (deed Book 1019, page number 39). In 1995, a deed of resubdivision was processed on the property. The purpose of the resubdivision was to provide sufficient area for a new septic field on Lot 17A, a neighboring lot, to accommodate its re-development with a new dwelling. The Tax records show that owner purchased the lot in 2011. The site has an existing single-family dwelling, driveway, septic field, parking area, and a shed (see Attachment D). The RPA was adopted in 1993. About 71% of the property is covered with an RPA according to the site specific RPA delineation (see Attachment D). There is an existing asphalt driveway, septic field, parking area, and a small portion of the existing house in the RPA. Resource Protection Area Encroachment Exception #3276-WRPA-002-1 is a General RPA Encroachment Request to construct portions of a new house, lead walk, septic tank, pump chamber, driveway, and forcemain within Resource Protection Area (RPA).

In March 2012, the applicant submitted an exception request administratively under "Loss of Buildable Area" (3276-WRPA-001-1), in accordance with CBPO 118-5 -4, for the proposed dwelling and it's supporting facilities within RPA. The lot was created with the recordation of the Record Plat (Deed Book 9536, Page 1704) in 1995, after the designation of the RPA on the property. Therefore, the encroachment request does not qualify for a waiver of loss of buildable area under Section 118-5-4. Staff disapproved the exception request on April 26, 2012, as it could not qualify under this section due to the re-subdivision in 1995. (see Attachment J). Applicant has applied with this application for a new house, driveway, lead walk, septic tanks, pump chamber, and forcemain within Resource Protection Area (RPA) under CBPO Section 118-6-9.

This staff report reflects an analysis of the application dated July 5, 2012 .

**LOT SIZE/INFORMATION:**

The entire lot area is 1.07 acres.

**AREA OF REQUESTED ENCROACHMENT:**

The existing and proposed impervious areas within the RPA are approximately 3,318 sq. ft and 6,361 sq. ft., respectively. The proposed disturbance within the RPA is 10, 000 sq. ft .

Total existing imperviousness for the 1.07 ac site is 14.6% and proposed impervious area is 17.6%. Applicant is proposing portions of a new dwelling, driveway, lead walk, septic tank, pump chamber, and forcemain within RPA.

**PUBLIC HEARING:**

General RPA Encroachment Requests under CBPO Section 118-6-9 require approval by the ERC through a public hearing held per procedures of Article 6 of the CBPO.

**DESCRIPTION:**

This application proposes to construct a portions of a dwelling, driveway, lead walk, septic tank, pump chamber, and forcemain within 1993 RPA (see Attachment D).

The existing site has a small portion of the existing single-family dwelling, driveway, septic field, parking area, and a shed in the RPA. The existing impervious area within the RPA is approximately 3,318 sf and the proposed impervious area within RPA is 6,361 sf. Please note these calculations include the driveway. The proposed development does not result in an impervious area of 18% or greater on the lot. Therefore, water quality controls are not required as per CBPO 118-3-2 (f)(1). The proposed disturbance within the RPA is 10, 000 sf.

Applicant is proposing 10,000 square feet of reforestation as shown in Attachment D. The area of supplemental reforestation is proposed to mitigate the encroachment into the RPA.

**DOCUMENTS AND  
CORRESPONDENCE:**

The following information is part of this application:

- Vicinity Map (Attachment B)
- RPA Encroachment Exception Application Form, dated July 5, 2012 (Attachment C).
- RPA Exception Plat dated September 18, 2012 (Attachment D).
- Water Quality Impact Assessment and Statement of Justification dated July 2012 (Attachment E).
- Soil map (Attachment F).
- Aerial photograph (Attachment G).
- Site photographs (Attachment H).
- Letter indicating the application is complete (Attachment I).
- April 26, 2012 disapproval letter (3276-WRPA-001-1) (Attachment J)
- Water quality control computation (Attachment K)

**REQUIRED FINDINGS:**

General RPA Encroachment Exceptions may be granted only on the presence of the findings of CBPO 118-6-6 and 118-6-9, as follows:

- a) *The requested exception to the criteria is the minimum necessary to afford relief:*

A majority of the lot (about 71%) is within the RPA. Site is further constrained by floodplain, and the requirement of the on-site septic field (see attachment D). The existing drainfield within the RPA is proposed to be removed with this development. The proposed drain fields (active & reserve) for the sewage disposal are located outside the RPA and have been approved by the Health Department. The Applicant is proposing a septic tank, pump chamber, a portion of the forcemain, a portion of the dwelling, and driveway within the RPA (see Attachment D). However, the new house is placed as far back on the lot as feasible in light of the approved septic field. The applicant has placed a retaining wall 10' off of the reserve septic field ( a minimum of 10' is required) in order to push the house as far back and accommodate the proposed grading and provide positive drainage around the rear of the house. The applicant also has a forcemain along the left side of the house, running from the tanks to the

septic field. The proposed house is setback more than the required setback of 25-foot from the back property line. However, pushing the house further back on the lot will cause the house to be less than 10' from the forcemain (a minimum 10 ft setback from the forcemain is required). Therefore, it is the opinion of the staff that the request is the minimum necessary to afford relief.

- 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:*

The Exception Review Committee has approved a portion of dwelling, retaining wall, back yard within RPA under CBPO 118-6-9 (24785-WRPA-002-1, approved on September 5, 2012). It is the opinion staff that the exception request meets this finding.

- c) *The exception is in harmony with the purpose and intent of this Chapter and is not of substantial detriment to water quality:*

The applicant proposes to establish a re-vegetation area of 10,000 square feet in the RPA (see Attachment D). The proposed buffer area meets the proposed disturbance in the RPA. In addition, the water quality control computation submitted by the applicant, see Attachment K, show that there will be a net 0.01 lb/yr decrease in the phosphorus load with the proposed buffer. Applicant has demonstrated the reduction in phosphorus load by using the vegetated filter strip. The vegetated filter strip is not a County adopted water quality system (BMP). However, the property will not result in an impervious area of 18% or greater on the lot and therefore, quality control is not required (CBPO 118-3-2(f(1))). It is the opinion of staff that the exception request meets this finding with the proposed buffer within the RPA.

- d) *The exception request is not based upon conditions or circumstances that are self-created or self-imposed:*

Approximately 71% of the property is within the RPA. It is the opinion of staff that based on the current site constraints of RPA, floodplain, and requirement of on-site drainage field, there is not enough land outside the RPA to build a reasonable size dwelling. Therefore, the exception for the proposed encroachment in the RPA is not considered to be self-created and self-imposed.

*Reasonable and appropriate conditions are imposed, as warranted, that will prevent the allowed activity from causing a degradation of water quality.*

To mitigate for the proposed encroachment in the RPA, the applicant proposes a 10,000 square feet buffer area on their property with 23 overstory trees, 46 understory trees, and 251 shrubs. This proposed buffer area equal to the total disturbed area (10,000 sf) in the RPA. It is the opinion of staff that the exception request meets this finding.

- e) *Exceptions under CBPO 118-6-9 are subject to the additional finding that the water quality benefits resulting from the proposed facility or improvement exceed the associated water quality detriments.*

The applicant is proposing a buffer area of 10,000 square feet. Applicant has provided numerical evidence that the project will provide a water quality improvement by submitting phosphorus-load reduction calculations using the Chesapeake Bay Method (see Attachment K). Applicant has demonstrated the reduction in phosphorus load by using the vegetated filter strip. The vegetated filter strip is not a County adopted water quality system (BMP). However, the property will not result in an impervious area of 18% or greater on the lot and therefore, quality control is not required (CBPO 118-3-2(f(1))). It is the opinion of staff that the

exception request meets this finding with the proposed buffer within the RPA.

- f) *Where practicable, a vegetated area that will maximize water quality protection, mitigate the effects of the buffer encroachment, and is equal to the area of encroachment into the buffer area shall be established elsewhere on the lot or parcel.*

Applicant has proposed to establish a vegetative buffer area of 10,000 square feet that is equal to the area of the encroachment (see Attachment D) to meet the plating density per CBPO section 118-3-3(f).

Therefore, the applicant has demonstrated that an equal buffer area will be established.

**STAFF RECOMMENDATION:**

Staff recommends approval of # 3276--WRPA-002-1, subject to the proposed development conditions dated September 19, 2012, contained in Attachment A.

It should be noted that it is not the intent of staff to recommend that the ERC, in adopting any conditions, relieve the applicant from compliance with the provisions of any other applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendations of staff; it does not reflect the position of the ERC. For further information, contact the Site Review and Inspection Division (SDID), Land Development Services, Department of Public Works and Environmental Services, 12055 Government Center Parkway, Suite 535, Fairfax, Virginia 22035-5505, 703-324-1720, TTY 703-324-1877.

**PROPOSED DEVELOPMENT CONDITIONS**

**3276-WRPA-002-1**

**September 19, 2012**

If it is the intent of the Exception Review Committee to approve 3276-WRPA-002-1 to allow encroachment in the Resource Protection Area (RPA) located at 8747 Brook Road (Tax Map 020-3-03-0016-A) pursuant to Section 118-6-9 of the Fairfax County Chesapeake Bay Preservation Ordinance (CBPO), staff recommends that the Exception Review Committee condition the approval by requiring conformance with the following development conditions.

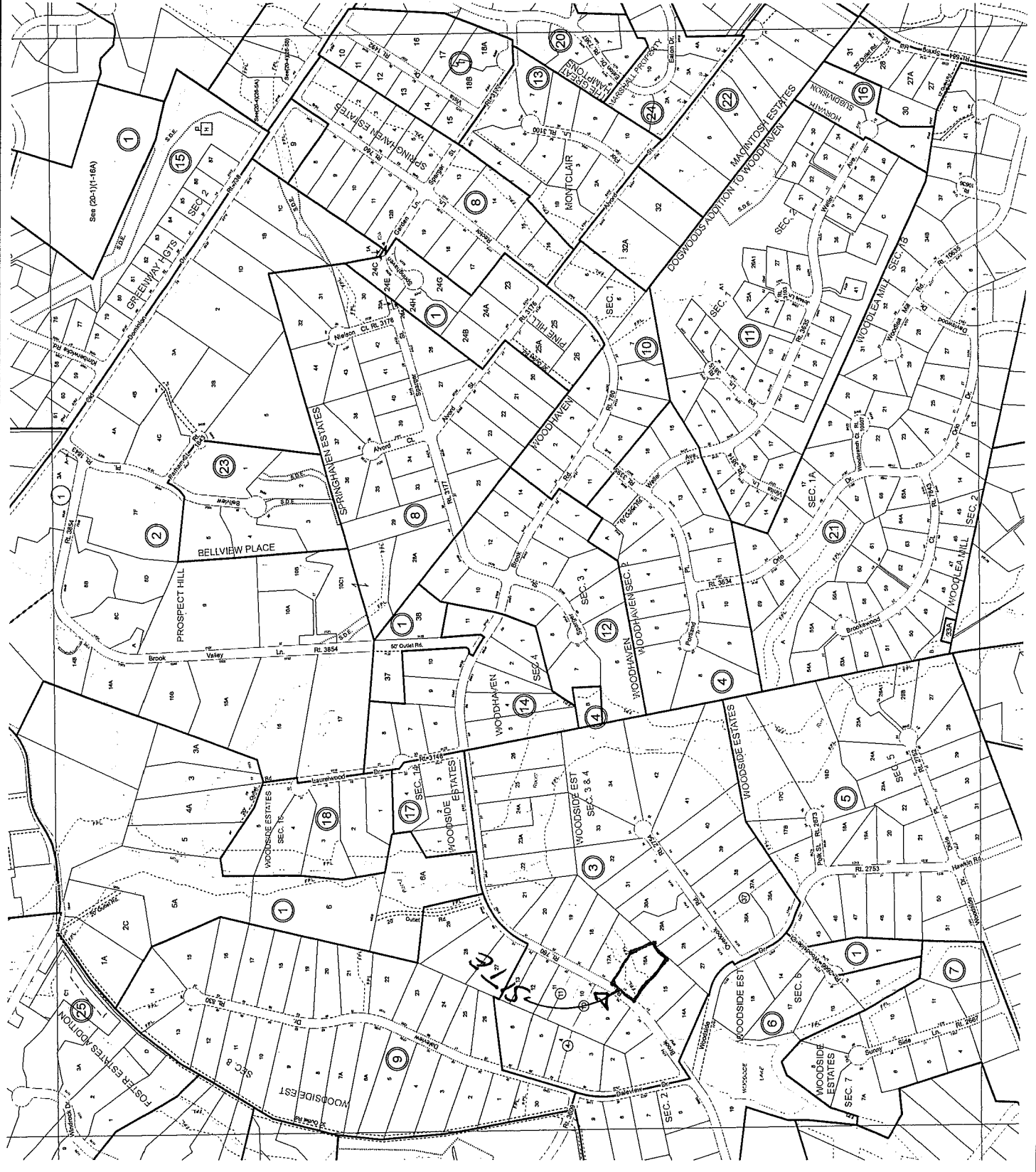
1. This RPA Exception is granted for and runs with the land indicated in this application and is not transferable to other land.
2. This RPA Exception is granted only for the purposes, structures and/or uses indicated on the Plat approved with the application, as qualified by these development conditions.
3. Any plan submitted pursuant to this RPA Exception shall be in substantial conformance with the approved plat entitled **"RPA Exhibit, Lot 16A, Section 3, Woodside Estates" prepared by Land Design Consultant (LDC)**, dated September 18, 2012 and these conditions.
4. In order that the project is in harmony with the purpose and intent of the CBPO, does not have a substantial detriment to water quality, and meets the additional performance criteria for RPAs, vegetated buffer area(s) shall be established in within the RPA on the lot and shall be of a combined area of at least 10,000 square feet. The planting shall be supplemental to the existing vegetation to meet the CBPO 118-3-3(f) density. The size, species, density and locations shall be consistent with the planting requirements of CBPO Section 118-3-3(f), or a vegetation plan that is equally effective in retarding runoff, preventing erosion, and filtering non-point source pollution from runoff, as determined by the Department of Public Works and Environmental Services (DPWES). The vegetation shall be randomly placed to achieve a relatively even spacing throughout the buffer. Notwithstanding any statements on the Plat and in the Water Quality Impact Assessment, the size, species, density and locations of the trees, shrubs and groundcover will be subject to approval of the Director of the DPWES.
5. In order that the disturbed area within the RPA is the minimum necessary to afford relief for the proposed construction, indigenous vegetation shall be preserved to the maximum extent possible, and the limits of clearing and grading must be clearly shown on the grading plan and include adequate access and areas for stockpiles (which shall be located outside the RPA), and will be subject



to approval by the DPWES. The limits of clearing and grading shown on the Plat must be strictly observed and enforced. Any encroachment into, and/or disturbance of, the RPA not shown on the approved Plat will be considered a violation of the CBPO and is subject to the penalties of the CBPO Article 9.

6. In order that the proposed construction activity does not degrade water quality, adequate erosion and sediment control measures, including, but not limited to, super-silt fence, shall be employed during construction within the RPA, and shall remain in place, and be properly maintained, for the duration of the land disturbing activity within the RPA until such time that the disturbed area is completely stabilized as determined by the Environmental and Facilities Inspections Division site inspector.
7. This RPA Exception shall automatically expire, without notice, 24 months after the date of approval, unless the necessary plans and permits have been approved and construction of the improvements as depicted on the Plat have commenced and are diligently pursued.

This approval, contingent on the above noted conditions, does not relieve the applicant from compliance with the provisions of any applicable Federal, State or County ordinances, regulations, or adopted standards. The applicant shall be responsible for obtaining the approval of any required plans and permits through established procedures, and this RPA Exception shall not be valid until this has been accomplished.



## APPLICATION FORM

### For Resource Protection Area (RPA) Encroachment Exceptions

Pursuant to Article 6 of the Chesapeake Bay Preservation Ordinance (Public Hearing Required)



#### Property Information

|  |   |
|--|---|
| Property Owner                                     | Daphne N. Edwin and Yeshvanth D. Edwin  |
| Property Address                                   | 8747 Brook Road, McLean, Virginia 22102 |
| Property Description<br>(Lot #, Subdivision, etc.) | Lot 16A, Section 3, Woodside Estates    |
| Project Name                                       | N/A                                     |
| Tax Map Number                                     | 20-3 ((3)) 16A                          |
| Magisterial District                               | Dranesville                             |

#### Part 2

#### Exception Type

| Check One | CBPO Section | Exception Types: (Refer to CBPO for detailed list of qualifications and limitations)  |
|-----------|--------------|---|
|           | 118-6-7      | <b>Loss of buildable area</b> 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)   | <b>Accessory structure</b> 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)   | <b>Accessory structure</b> 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. |
| X         | 118-6-9      | <b>General RPA encroachment</b> 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

|   |   |   |
|---|---|---|
| Property Area<br>(acres or sq. ft.): 46,770 sf.   | Disturbed Area in RPA<br>(ac. or sq. ft.): 10,000 sq. ft. | Impervious Area within RPA<br>(ac. or sq. ft.): 4,000 sq. ft.   |
| Brief Description of Project and RPA Encroachment |   | Construction of a single family detached dwelling in the R-1 zoning district. Applicant requests permission to construct portions of a house and supporting facilities within a Resource Protection Area. |

☐ 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.

SE and/or RZ application No.: N/A Date submitted: N/A

Exception # \_\_\_\_\_

**Part 4****Submission Checklist**

|   |   |  |  |   |          |   |           |   |           |   |          |
|---|---|--|--|---|----------|---|-----------|---|-----------|---|----------|
| 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 are 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.  |  |   |          |   |           |   |           |   |          |
|   | 118-6-3(d)  | OR:<br>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)(8)(C),<br>101-2-10(a)(4),<br>and<br>112-17-109.4.C | Application Fees (must be paid at the time of submission of the application):<br><table border="1"> <tr> <td>Exception request fee: \$160 per lot (not to exceed \$690) for individual lots; \$690 for subdivisions or site plans.</td> <td>\$160.00</td> </tr> <tr> <td>WQIA fee (if submitted as a combined document): \$340 for single lot, \$1,300 for subdivision or site plan.</td> <td>+\$340.00</td> </tr> <tr> <td>A public hearing is required for all exceptions under Article 6. There is an additional fee of \$345 per exception request.</td> <td>+\$345.00</td> </tr> <tr> <td>Total Fee: (minimum fee is \$500, maximum is \$2,335)</td> <td>\$845.00</td> </tr> </table> |  | Exception request fee: \$160 per lot (not to exceed \$690) for individual lots; \$690 for subdivisions or site plans. | \$160.00 | WQIA fee (if submitted as a combined document): \$340 for single lot, \$1,300 for subdivision or site plan. | +\$340.00 | A public hearing is required for all exceptions under Article 6. There is an additional fee of \$345 per exception request. | +\$345.00 | Total Fee: (minimum fee is \$500, maximum is \$2,335) | \$845.00 |
| Exception request fee: \$160 per lot (not to exceed \$690) for individual lots; \$690 for subdivisions or site plans.       | \$160.00  |  |  |   |          |   |           |   |           |   |          |
| WQIA fee (if submitted as a combined document): \$340 for single lot, \$1,300 for subdivision or site plan.                 | +\$340.00   |  |  |   |          |   |           |   |           |   |          |
| A public hearing is required for all exceptions under Article 6. There is an additional fee of \$345 per exception request. | +\$345.00   |  |  |   |          |   |           |   |           |   |          |
| Total Fee: (minimum fee is \$500, maximum is \$2,335)   | \$845.00  |  |  |   |          |   |           |   |           |   |          |

Exception # \_\_\_\_\_

**Part 5****Statement of Justification**

Address, at a minimum, the items listed below and the additional criteria or conditions for the specific exception. Provide a detailed description of the project and the encroachment into the RPA.

|   |            |   |
|---|------------|---|
| 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)(1) and (2), CBPO Section 118-6-8(b)(1) 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.

Owner: Daphne N. Edwin and Yeshvanth D. Edwin (please print)

Address: 8747 Brook Road, McLean, Virginia 22102

Agent: Lynne J. Strobel, agent (please print)

Company: Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.

Address: 2200 Clarendon Boulevard, Suite 1300, Arlington, Virginia 22201

Telephone: 703-528-4700 Facsimile: 703-525-3197

Signed:  (Owner/Agent) Date: 7/5/12

Submit to: Plan and Document Control, Land Development Services, DPWES, County of Fairfax  
12055 Government Center Parkway, Suite 506, FAIRFAX VA 22035-5503

LOT 234

SECTION FOUR  
WOODSIDE ESTATES  
P.B. 1073 PG. 168

LOT 28

DAVID L. PONTIELL  
ELLYN K. PONTIELL  
D.B. 8762 PG. 1556  
ZONE: R-1 USE: SFD

LST 15  
RF  
RAW MAEWALL

SANITARY LATERAL SLOPE=2.08%

SEPTIC TANK (1,500 GAL.)  
(HANDOVER T.I.)  
FG=282.0  
TOP=278.5  
INV. IN=277.1  
INV. OUT=277.0

PUMP CHAMBER (2,000 GAL.)  
(HANOVER T.J.)  
FG-281.0  
TOP-278.1  
INV. IN-276.7

PureFlo MODULES  
FG-301.90  
INV. IN-301.20

ACTIVE PURAFLO PAD (33'x14')  
10 RATE @ 36-64"  
5 BR W/ 1- KITCHEN  
1- LAUNDRY  
LOADING RATE: 1.66 gal/sq ft/day

RESERVE FIELD (33'x14')  
10 RATE @ 36-64"  
5 BR W/ 1- KITCHEN  
1- LAUNDRY  
LOADING RATE: 1.66 gal/sq ft/day

DENOTES PROPOSED  
 RE-VEGETATION AREA/  
 VEGETATED FILTER STRIP  
 (10,000 SF TOTAL)

BROOK ROAD - ROUTE #760  
(150' R/W)

CURVE DATA

| CURVE | RADIUS  | ARC LENGTH | TANGENT | CHORD LENGTH | CHORD BEARING | DELTA ANGLE |
|-------|---------|------------|---------|--------------|---------------|-------------|
| C1    | 677.15' | 150.13'    | 75.27'  | 150.00'      | S36°24'00"W   | 09°40'35"   |

GRAPHIC SCALE

1" = 20'

| EX. IMPERVIOUS AREA | PROP. IMPERVIOUS AREA | EX. IMPERVIOUS AREA IN R.P.A. | PROP. IMPERVIOUS AREA IN R.P.A. |
|---------------------|-----------------------|-------------------------------|---------------------------------|
| 6,806 SF (14.6%)    | 8,253 SF (17.6%)      | 3,318 SF (7.1%)               | 6,561 SF (13.6%)                |

**UNLOCK YOUR DOOR TO POTENTIAL**

**LDL**

4305 DUSTY REED AVENUE, SUITE 201  
WOODBRIDGE, VIRGINIA 22192  
PH. 703-940-4385 FX. 703-483-4775

RPA EXHIBIT  
#8747 BROOK ROAD

LOT 16A, SECTION 3  
WOODSIDE ESTATES

DRANESVILLE DISTRICT  
FAIRFAX COUNTY, VIRGINIA

[illegible]

I HEREBY CERTIFY THAT  
OTHER THAN THE REVISIONS  
SHOWN HEREON, NO OTHER  
CHANGES HAVE BEEN MADE



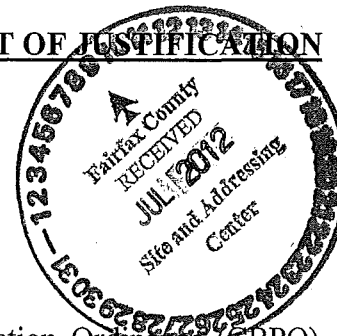
1" = 20'

SHEET 2 OF 3

DATE: JUNE, 2012

|              |       |
|--------------|-------|
| DRAFT:       | CHECK |
| KAMP         | MTT   |
| FILE NUMBER: |       |

Attachment D

WATER QUALITY IMPACT ASSESSMENT AND STATEMENT OF JUSTIFICATION

Re: 8747 Brook Road  
 Fairfax County Tax Map: 20-3 ((3)) 16A (the "Property")  
 Applicants: Daphne N. Edwin and Yesvanth D. Edwin

In accordance with Section 118-6-9 of the Chesapeake Bay Preservation Ordinance (CBPO), please accept this statement as a Water Quality Impact Assessment (WQIA) and Statement of Justification submitted in conjunction with a Resource Protection Area (RPA) Encroachment Exception Request. This application is submitted in response to a previously disapproved request submitted on the Property to qualify under Section 118-5-4(b) (3276-WRPA-001-1 and 3276-WQ-001-1).

The Applicants respectfully request permission to construct portions of a house, lead walk, septic tanks and forcemain within the RPA, as shown on the enclosed exhibit, within a Resource Protection Area (RPA). The Applicants are seeking relief under this section due to the fact that 71% of the Property is encumbered with an RPA, as field verified by ECS, Ltd.

The Property is part of the Woodside Estates, Section Three, Subdivision originally created by a Deed of Subdivision recorded in Deed Book 1019 at page 39 in 1952. Given the year when the subdivision was created, the existing lots pre-date the CBPO. The existing dwelling on the Property was constructed in 1958, also prior to adoption of the CBPO.

In 1995, a Deed of Resubdivision was processed on the Property and the adjacent property, currently identified as Tax Map 20-3 ((3)) 17A (Lot 17A). The purpose of the resubdivision was to provide sufficient area for a new septic field on Lot 17A to accommodate its re-development with a new dwelling. The owner of the Property at the time of resubdivision, who is different from the Applicants, agreed to the resubdivision to accommodate the neighbor's request. Upon recordation of the Deed of Resubdivision, Lot 17A processed an RPA Exemption and Grading Plan in order to permit the proposed development. Land Design Consultants, Inc. (LDC) notes that Lot 17A processed this exemption request administratively under "Loss of Buildable Area." This is the same section of the CBPO utilized by LDC to process 3276-WRPA-001-1 and 3276-WQ-001-1. However, these requests were denied due to the fact the Property was "created" in 1995 by a Deed of Resubdivision. LDC notes that Lot 17A was also "created" in 1995, yet able to process an exemption administratively.

In 2011, the Applicants purchased the Property with the intent of building a new dwelling and underwent the necessary feasibility studies to identify a building envelope in consideration of the RPA. The Applicants authorized the completion of a topographic survey, RPA field verification and approval from the Army Corps of Engineers, Floodplain Disturbance approval request from Fairfax County and approval of a Formal Geotechnical Report from Fairfax County. While these studies were undertaken, the Applicants processed an RPA Exemption and WQIA under "Loss of Buildable Area" based on the fact that the Property was originally created in 1952 and Lot 17A was able to process a similar request administratively. As noted, Fairfax County disapproved the request on the basis that a new "lot" was created in 1995 by resubdivision. Had a Deed of Resubdivision not been recorded, the Property could be the subject of an administrative

3276-WQ-002-1

request. Therefore, the Applicants are submitting this request in response to a technicality created by a Deed of Resubdivision in 1995 in which the Applicants had no involvement.

There is an approved floodplain study (4923-FP-01-4) which establishes the current limits of the 100-year minor floodplain and storm drain easements on the Property. The Applicants have also obtained approval from Fairfax County for the encroachments into the floodplain. Additionally, approval of the proposed septic field footprint has been obtained from the Health Department. Please note that LDC reviewed alternative septic field footprint locations with the Health Department, in order to provide additional area for the house outside the RPA. These attempts were unsuccessful and the Health Department has approved the field location as shown. LDC will be sending the Health Department a revised grading plan and hydraulic design as shown on the attached in order to obtain approval for the hydraulic design and tank locations. This field is designed as an alternative field, which requires less surface area. LDC has also proposed retaining walls along the rear of the Property. The retaining walls, in combination with the septic field design, allowed LDC to locate the house as far back on the Property as possible. The proposed house will be sited to maintain minimum setbacks from the septic field, retaining walls and floodplain. Due to the location of the septic field and floodplain, the Applicant has sited a portion of the house, lead walk, septic tanks and forcemain in the remaining area, which lies in the RPA.

In accordance with Letter to Industry 08-12, a field verification of the RPA was completed by ECS, Ltd. and a copy of the Jurisdictional Determination and RPA Boundary Location Certificate are included on the attached exhibit. At this time, the Applicants are respectfully requesting permission to construct portions of a house, lead walk, septic tanks and forcemain within the RPA. The portions of the existing driveway to remain and proposed driveway in the RPA are excluded per Section 118-2-1 (d). No other improvements within the RPA have been constructed.

In accordance with Section 118-6-5(b), a Water Quality Impact Assessment (WQIA) is required as part of the submission requirements. This WQIA is submitted in accordance with this section. Please accept the following as justification for the WQIA:

- a. The limits of the RPA shown are based upon field verification by ECS, Ltd. in accordance with LTI 08-12.
- b. As part of this request, the Applicants are proposing to construct portions of a dwelling, lead walk, septic tanks and forcemain within the RPA. The total impervious area in the RPA associated with the proposed dwelling, lead walk, septic tanks and forcemain is approximately 4,000 square feet, which is below the 5,000 square feet of impervious surface that may be erected within the RPA and is the minimum necessary to afford relief. The existing driveway to remain and proposed driveway contains approximately 3,000 square feet of impervious area in the RPA; however, this is excluded from the 5,000 square foot cap per Section 118-2-1 (d) and 118-5-4 (a) (5). The proposed improvements are shown on the enclosed exhibit. The sewage disposal field is located outside the RPA; however, the septic tanks and a portion of the forcemain are located within the RPA. LDC understands that this is permissible if there is no other alternative for a location outside the RPA. In consideration of the storm drain, floodplain and RPA



constraints, the Applicants have minimized the placement of these features in the RPA. The septic tanks and forcemain have also been relocated outside the 50' seaward buffer, as shown on the previous disapproved request. The Applicants have minimized the amount of land disturbance within the RPA with this application, while providing for a reasonable dwelling that maintains the proper separation from the approved septic field and floodplain limits. At this time, 10,000 square feet of total land disturbance within the RPA is proposed for the construction of the dwelling, lead walk, septic tanks and forcemain, which is in accordance with Chapter 118-5-4 (a)(4). Per Section 118-5-4 (a)(4), the limits of disturbance to construct the proposed driveway are excluded. In addition, the Applicants have proposed a vegetated buffer area in accordance with Section 118-3-3 (f) to maximize water quality protection.

- c. The encroachments into the RPA will be the minimum necessary to achieve a reasonable buildable area for a new dwelling, lead walk, septic tanks and forcemain, as well as reasonable access from a state maintained road. As stated, a majority of the lot lies within the RPA and is further constrained by floodplain, easements and the need to provide an on-site septic field. These conditions are not self-created and the Applicants wish to use the Property to the extent necessary to construct a principal dwelling, similar to those in the neighborhood.
- d. All necessary wetland permitting shall be completed prior to the commencement of any land disturbing activities, if required.
- e. LDC proposes to disturb 10,000 square feet within the RPA for the construction of the proposed dwelling, lead walk, septic tanks and forcemain. A vegetated area/buffer that will maximize water quality protection and mitigate the effects of the buffer encroachment has been provided in accordance with Section 118-3-3 (f). With the 10,000 square feet or .23 acres of disturbance, the following re-vegetation is required, 23 overstory trees (.23 acres x 100 overstory trees), 46 understory trees (.23 acres x 200 understory trees) and 251 shrubs (.23 acres x 1089 shrubs). LDC has shown a re-vegetation area on the exhibit. The re-vegetation has been shown in multiple areas in consideration of the location of the existing floodplain and storm drain easements and septic field. This re-vegetation area will be supplemented with a northeast wetland seed mix to provide additional ground cover. The specifics of this seed mix are shown in the attached exhibit. A detailed planting exhibit has been provided. Therefore, with the preservation of the existing vegetation and proposed vegetation, LDC does not believe there will be any adverse impacts to adjacent property owners.

Finally, the Applicants will maintain the use of super silt fence on the Property along the lower limits adjacent to the RPA until the Property is stabilized in order to protect waterways and off-site properties. Further, the Applicants will seed and mulch all denuded areas outside the RPA and will mulch all areas located inside the RPA with straw.

Please note that on-site measures for water quality are not required as the existing and proposed impervious area is less than 18% of the total area of the site. Further, due to the RPA, a water quality facility would be ineffective on this site.

- f. The Property is a buildable lot per an approved Record Plat. The proposed dwelling will meet all applicable setback requirements as stated in the Zoning Ordinance and Fairfax County Code.

The Applicants will satisfy all requirements of Section 118-3-2 as it pertains to the Property by minimizing land disturbance and impervious surface. The Applicants will also comply with Chapter 104 of the Fairfax County Code due to land disturbance greater than 2,500 square feet and employ any necessary erosion and sediment control measures. The Applicants will also satisfy all requirements of Section 118-3-3 (f) as it pertains to the Property. Specifically, the Applicants propose 10,000 square feet or 0.23 acres of disturbance, which equates to 23 overstory trees, 46 understory trees and 251 shrubs.

Construction, stabilization, and maintenance of the proposed dwelling will be in compliance with all applicable state and federal requirements. Additionally, super silt fence will be used during construction along the lower limits to minimize and/or mitigate the amount of sediment leaving the Property and flowing to the adjacent stream, which will help to preserve and protect water quality.

Further, please find below a statement of justification, which shows how the encroachment complies with Sections 118-6-6(a)-(f).

1.
  - a. The encroachments into the RPA will be the minimum necessary to achieve a reasonable buildable area for a new dwelling, lead walk, septic tanks and forcemain on property lying primarily within an RPA. As shown on the enclosed exhibit, the Property is approximately 71% encumbered with RPA. These conditions are not self-created and the Applicants wish to use the Property to the extent necessary to construct a principal dwelling. The total impervious area in the RPA associated with the proposed dwelling, septic tanks and forcemain is approximately 4,000 square feet, which is below the 5,000 square feet of impervious surface that may be erected within the RPA and is the minimum necessary to afford relief. The existing driveway to remain and proposed driveway contain approximately 3,000 square feet of impervious area in the RPA; however, this is excluded from the 5,000 square foot cap per Section 118-2-1 (d) and 118-5-4 (a) (5). The proposed improvements are shown on the enclosed exhibit. The new sewage disposal field is located outside the RPA; however, the septic tanks and a portion of the forcemain are located within the RPA. LDC understands that this is permissible if there is no other alternative for this outside the RPA. As stated, the Applicants have removed the septic tanks and forcemain from the 50' seaward buffer with this application. In consideration of the storm drain, floodplain and RPA constraints, the Applicants have minimized the placement of these features in the RPA.

The Applicant have minimized the amount of land disturbance within the RPA with this application, while providing for a reasonable building area. At this time, 10,000 square feet of total land disturbance within the RPA is proposed for the construction of the dwelling, lead walk, septic tanks and forcemain, which is in accordance with Chapter 118-5-4 (a)(4). Per Section 118-5-4 (a)(4), the limits of disturbance to construct the proposed driveway are excluded. In addition, the Applicants have proposed a vegetated buffer area, as further discussed below in subsection "d", to maximize water quality protection. This vegetation is located on the low side of the Property.

- b. The granting of this exception will not confer upon the Applicants any special privileges that are not applicable to others similarly situated. Provided the criteria of this section have been met, others also similarly situated may apply for a similar exception.
- c. The exception is in harmony with the purpose and intent of the CBPO and is not a substantial detriment to water quality. The Property will not exceed 18% impervious area. Therefore, a water quality facility is not required in conjunction with Section 118-3-2(F)(1) of the Code and Public Facilities Manual (PFM). BMPs may be considered to be provided with the provision of re-vegetation and existing vegetation, which will act as a water quality filter for all runoff. As mentioned, approximately 71% of the Property is mapped RPA. The total impervious area in the RPA represents 12% of the total RPA on site.
- d. As stated, a majority of the Property lies within the RPA and is further constrained by floodplain, easements and the need to provide an on-site septic field. These conditions are not self-created and the Applicants wish to use the Property to the extent necessary to construct a principal dwelling in a manner similar to others in the neighborhood. Further, the Applicants are requesting permission to redevelop the Property in a manner similar to Lot 17A, which was "created" at the same time as the Property, yet permitted to process the same request administratively. The RPA on the Property was not self created and was delineated on the Property by Fairfax County. The Applicants are seeking to utilize the Property that is essentially a lot originally created in 1952.
- e. The proposed improvements represent a small portion of the total site area and area in the RPA. This minor increase in impervious area will not degradate water quality nor adversely impact adjacent property owners.
- f. The Property was legally created per an approved recorded plat in Deed Book 9536 at Page 1704 and meets all Zoning Ordinance requirements.

Please note that the existing septic field is entirely in the RPA and partially within the 50' seaward buffer. The Applicants will need to disturb the RPA and 50' seaward buffer in order to abandon and remove this field and re-stabilize this area.

The existing driveway is also located in the RPA and 50' seaward buffer. Portions of this existing driveway are proposed to remain and portions of the proposed

driveway and limits of clearing and grading will encroach into the 50 foot seaward buffer of the RPA. Based upon the location of the existing access from Brook Road, there is no other alternative to the driveway location. The Applicants have maintained use of a majority of the existing driveway in order to minimize disturbance in the RPA and 50' seaward buffer. The disturbance in the 50' seaward buffer for the new driveway will occur in the location of the existing driveway so there will be no additional disturbance in the 50' seaward buffer for the driveway.

Further, LDC understands that the septic tanks and forcemain may be located in the RPA if there is no other alternative for these facilities outside the RPA. In consideration of the storm drain, floodplain and RPA constraints, the Applicants have minimized the placement of these features in the RPA.

No portion of the dwelling will be located within the 50' seaward buffer and the septic tanks have been removed from the 50' seaward buffer. The approximate location of the 50' seaward buffer is shown on the attached exhibit and is based upon the field verified RPA.

The Applicant has previously received permission to disturb the floodplain for the proposed encroachments.

This application satisfies all criteria as set forth by the CBPO and should be accepted and scheduled for a presentation to the Exception Review Committee.

PREPARED BY:

LAND DESIGN CONSULTANTS, INC.

{A0524902.DOCX / 1 Water Quality Impact Assessment and Statement of Justification 003511 000015}

[illegible]

Map file is 30° X 73° based on USGS 1:24,000 scale  
7 1/2 minute Quad Virginia Coordinates. It shows  
watershed of 2943 North Zone in U.S. Foot based on  
NAD 83/93 High Precision GPS Network, edge-mosaic


☐ Soil Lines

☐ Soil Lines

Just as a person can be a member of a group, so a group can be a member of a group. For example, a family can be a member of a community. This is called a "group of groups" or a "metagroup".


**Marumiso Soils**

Managers in the new public sector have to adopt a new approach to the management of their organizations. The complexity and diversity of public services and the need for a more integrated approach to the management of public services are the main challenges facing managers in the new public sector. The new public sector is a complex and dynamic environment. It is a sector that is constantly evolving and changing. The new public sector is a sector that is constantly evolving and changing. The new public sector is a sector that is constantly evolving and changing.



 Previously Mapped  
Marine Clay

### Non-Member Club

### High Shrink-Swell Soils

## Potential Asbestos

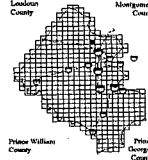
## Containing Soils

 Landfill  Quarry

The information is sent from the age 10 (10) to 15 (15) countries of a  
 as a "log of development" which is a measure of the  
 of a country's economic, social and political development.  
 property, but it is not a measure of the country's economic  
 property, but it is not a measure of the country's economic  
 property, but it is not a measure of the country's economic

...and property of the San Diego Automobiles. While Fred in San Diego is to provide the best transportation, it is not to permit any person of authority in transportation to make any adjustments. Any such measures should be reported to the Federal County Commission and the Executive and Managing Directors of the Department of Education. In addition, the Commission will be required to hold the best and most

\_\_\_\_\_



1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Lichtenthaler and Whistler (1973).

|      |      |      |
|------|------|------|
| 19-2 | 20-1 | 20-2 |
| 19-4 | 20-3 | 20-4 |
| 28-2 | 29-1 | 29-2 |

**SHEET INDEX**

CONTENTS

SOILS MAP

20-3

205

Revised to : 08 - 25 - 2011

Prepared by:

DEPARTMENT OF INFORMATION TECHNOLOGY  
Enterprise Services Division  
CRM and Marketing Solutions

12000 Government Center Parkway, Suite 117  
Fairfax, Virginia 22035-0070

FAX (703) 324-3937

For questions or comments about the content of this page, please contact the Northern Virginia Soil and Water Conservation District.

12055 Governors Center Parkway, Suite 905  
 (703) 326-1100

FAX (703) 324-1421

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Print Date 25 Aug 2011

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Attachment F





# Standing on northern boundary looking south



# Standing on Southern boundary looking north





# Existing structure (Front)



# Parking area on west side of existing structure



# Driveway standing by existing structure facing northern boundary

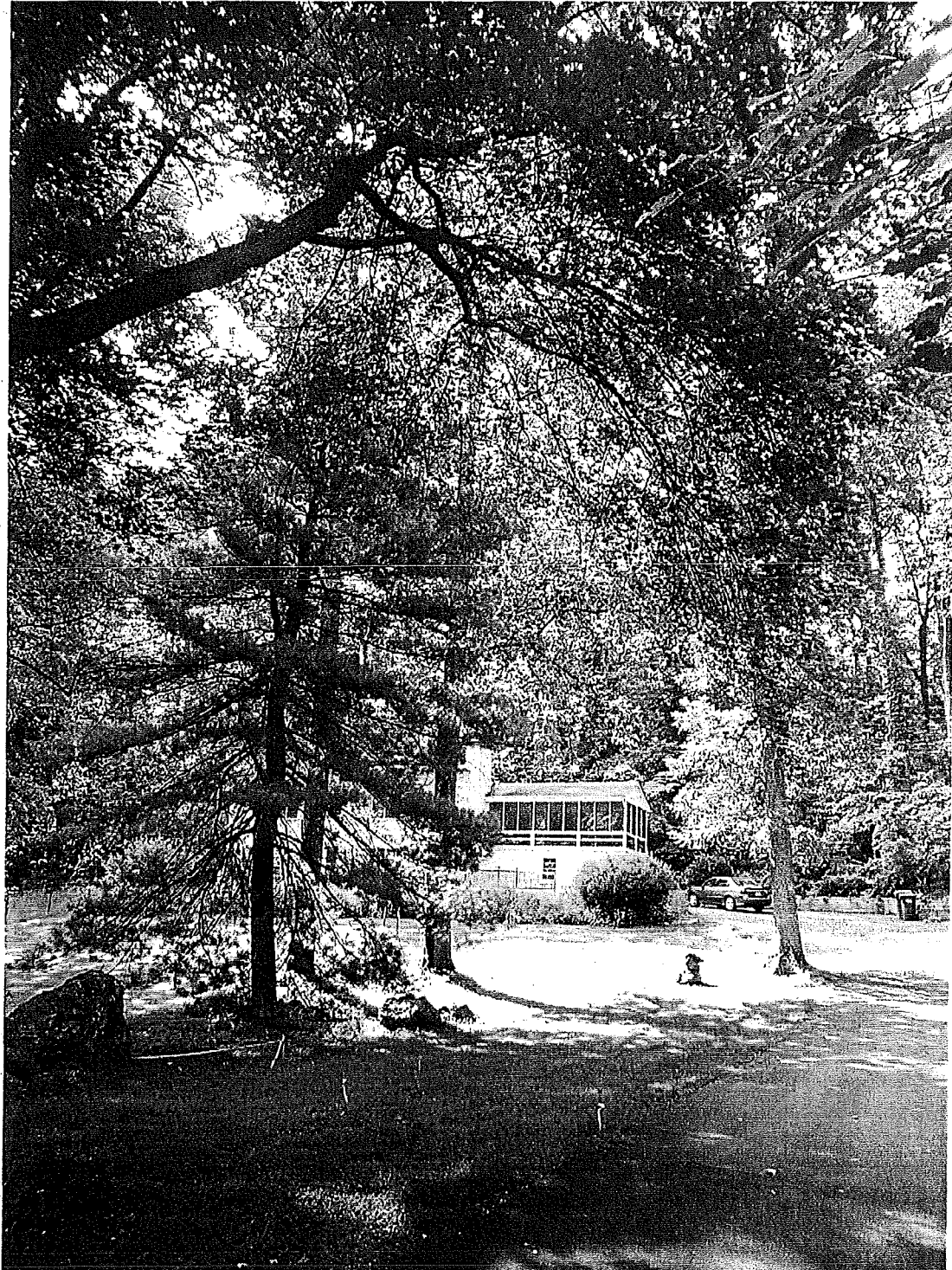


# Existing accessory structure on western boundary





# Existing Vegetation





## County of Fairfax, Virginia

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

JUL 26 2012

Lynne J. Strobel  
Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.  
2200 Clarendon Boulevard, Suite 1300  
Arlington, Virginia 22201

Subject: 8747 Brook Road, Woodside Estates, Section 3, Lot 3, Tax Map #020-3-03-0016-A, Dranesville District

Reference: Resource Protection Area (RPA) Exception Request #3276-WRPA-002-1 and Water Quality Impact Assessment 3276-WQ-002-1

Dear Ms. Strobel:

This is in response to your request for an exception under Section 118-6-9 of the Chesapeake Bay Preservation Ordinance (CBPO) to permit portions of a dwelling and supporting facilities within a Resource Protection Area (RPA).

Your exception request package has met the submission requirements of Section 118-6-5 of the CBPO. This application package will be forwarded to the Exception Review Committee for a public hearing to be held on **Wednesday, October 3, 2012, at 2:00 p.m. in, Room 106, Herrity Building, 12055 Government Center Parkway, Fairfax, Virginia.**

Under CBPO Section 118-6-3(c), it is your responsibility to send written notice to all owners of property abutting and immediately across the street and within 500 feet of the subject property and one (1) homeowners association or civic association within the immediate area as approved by the Department of Public Works and Environmental Services. Such notice shall include notice to owners of properties abutting and immediately across the street and within 500 feet of the subject property, which lie in an adjoining county or city. If such notice does not result in the notification of five different property owners, then additional notices shall be sent to other property owners in the immediate vicinity so that notices are sent to different owners of not less than five properties. Notice shall be sent to the last known address of the owner(s) as shown in the current Real Estate Tax Assessment files. Notice to homeowner associations or civic associations shall be sent to the registered office address kept on file with the State Corporation Commission. The applicant shall send a copy of the notification letter to the Board Member in whose district the subject property is located on the same date the abutting property owners are notified. All written notices shall be sent by certified mail, return receipt requested, and postmarked not less than 15 days prior to the hearing as evidenced by the postmark date on the white receipts for the certified mailings. Written notice shall include the tax map reference

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 711 • FAX 703-324-8359



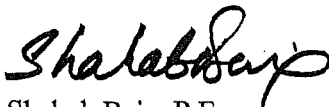
Lynne J. Strobel  
RPA Exception Request #3276-WRPA-002-1  
and Water Quality Impact Assessment #3276-WQ-002-1  
Page 2 of 2

number, the street address of the parcel, the date, time and place of the hearing, and the nature of the matter before the Exception Review Committee. Please refer to the sample notice letter (copy enclosed). When the notices have been mailed, please submit the dated white receipts to this office.

Please be advised that it is extremely important for you to send the necessary notices as required. Failure to send the notices to all required parties and in a timely manner will result in deferral of the public hearing.

If further assistance is desired, please contact Sharad Regmi, Senior Engineer III, Site Development and Inspections Division (SDID) at 703-324-1720 (voice), 703-324-8359 (fax), or e-mail: [Sregmi@fairfaxcounty.gov](mailto:Sregmi@fairfaxcounty.gov).

Sincerely,



Shahab Baig, P.E.  
Chief, North Branch  
SDID

MSB/mw

Enclosure

cc: Catherine A. Chianese, Clerk to the Board of Supervisors  
Anne S. Kanter, Chairman, CBPO Exception Review Committee  
Elisabeth Smith, P.E., Director, SDID, LDS, DPWES  
Shahab Baig, Clerk to the Exception Review Committee, SDID, LDS, DPWES  
Sharad Regmi, Senior Engineer III, SDID, LDS, DPWES  
Waiver File



## County of Fairfax, Virginia

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

APR 26 2012

APR 30 2012

Ms. Kelly M. Atkinson  
4585 Daisy Reid Avenue, Suite 201  
Woodbridge, Virginia 22192

BY: \_\_\_\_\_

Subject: 8747 Brook Road, Tax Map #020-3-03-0016-A, Dranesville District

Reference: Resource Protection Area (RPA) Encroachment Request #3276-WRPA-001-1  
and Water Quality Impact Assessment #3276-WQ-001-1

Dear Ms. Atkinson:

The referenced request for a waiver to encroach into the Resource Protection Area (RPA) for loss of buildable area have been received and reviewed for consistency with Section 118-5-4(b) of the Chesapeake Bay Preservation Ordinance (CBPO). The subject project cannot be approved at this time.

In accordance with CBPO Section 118-5-4(b), the Director may approve encroachments into the RPA buffer area when the application of the buffer area would result in the effective loss of a reasonable buildable area on a lot or parcel recorded between October 1, 1989 and November 18, 2003, in accordance with all applicable provisions of the County Code in effect at the time of recordation. The lot was created with the recordation of the Record Plat (Deed Book 9536, Page 1704) in 1995, after the designation of RPA on the property. Therefore, the encroachment request does not qualify for a waiver of loss of buildable area under CBPO Section 118-5-4.

Exceptions to the criteria and requirements of CBPO to permit encroachments into the RPA that do not qualify for review under any other Section may be granted under CBPO Section 118-6-9, General Resource Protection Area Encroachment Request by the Exception Review Committee after proper notice and conducting a public hearing and upon satisfaction of the required findings. Please complete the appropriate Application Form along with all necessary supporting data and applicable fees and submit to Document and Plan Control, Land Development Services, DPWES.

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 711 • FAX 703-324-8359

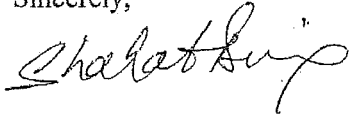




Ms. Kelly M. Atkinson  
WRPA Encroachment Request # 3276-WRPA-001-1  
and Water Quality Impact Assessment #3276-WQ-001-1  
Page 2 of 2

If further assistance is desired, please contact Sharad Regmi, Stormwater Engineer, North Branch,  
Site Development and Inspections Division (SDID), at 703-324-1720.

Sincerely,

A handwritten signature in cursive script, appearing to read "Shahab Baig".

Shahab Baig, P.E.  
Chief, North Branch  
SDID

SB/mw

cc: Don Demetrius, Chief, Watershed Evaluation Branch, Stormwater Planning Division,  
DPWES  
Sharad Regmi, Stormwater Engineer, North Branch, SDID, LDS, DPWES  
WQIA File


### 7) Phosphorus Removal Satisfaction


- **Site coverage** may consist of **on-site** and **off-site credits**. Credit given for off-site areas covered by the proposed BMP facility will vary depending on the particular jurisdiction and the nature of the off-site areas to be covered. Please consult the individual jurisdiction for more information.
- **Site coverage** is measured from the percentage of impervious area covered by a BMP facility and is to be expressed in decimal form, i.e., 100% on-site coverage = 1.0.
- Not for use with BMPs in series.

| BMP Facility         | Removal Eff.<br>(%/100) | x Imp. Site<br>(Onsite) | Coverage<br>(Offsite) | x Lpost<br>(lb/lyr) | = Load Removed<br>(lb/lyr) |
|----------------------|-------------------------|-------------------------|-----------------------|---------------------|----------------------------|
| <u>FILTER STRIPS</u> | <u>0.10</u>             | <u>(0.98)</u>           | <u>x 0.53</u>         | <u>0.47</u>         | <u>0.07</u>                |
| _____                | _____                   | <u>( ) +</u>            | _____                 | _____               | _____                      |
| _____                | _____                   | <u>( ) +</u>            | _____                 | _____               | _____                      |
|                      |                         |                         | <b>Total =</b>        |                     | <b>0.07</b>                |

PRE-DEVELOPED PHOSPHORUS LOAD = 0.41 LBS/STRIP  
POST-DEVELOPED PHOSPHORUS LOAD  
0.41 LBS/STRIP - EST LBS/STRIP (REDUCED) = 0.40 LBS/STRIP  
THEREFORE, NO DEGRADATION OF WATER QUALITY WILL OCCUR AS A RESULT OF THE DEVELOPMENT AS REDUCED PER FARMER COUNTY CODE 10-4-6(2).  
TOTAL OFF-SITE PHOSPHORUS LOAD TO VEGETATED FILTER STRIP = 0.079, 353  
TOTAL OFF-SITE PHOSPHORUS LOAD TO VEGETATED FILTER STRIP = 0.079, 353  
INTERPURPOSE SITE COVERAGE TO VEGETATED FILTER STRIP = 0.079, 265 = 0.081  
TOTAL OFF-SITE INTERPURPOSE AREA TO VEGETATED FILTER STRIP = 4.40, 525  
TOTAL INTERPURPOSE AREA TO VEGETATED FILTER STRIP = 3.508, 518 SEE TPOD MAP, THIS SHEET  
TOTAL PROPOSED INTERPURPOSE AREA ON-SITE = 0.263, 55  
TOTAL PROPOSED INTERPURPOSE COVERAGE TO VEGETATED FILTER STRIP = 4.400, 255 = 0.254  
VEGETATED FILTER STRIP PROVIDES US PHOSPHORUS REMOVAL PER CHAPTER 3.4 OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK. 11

TOPOGRAPHIC MAP  
SCALE: 1" = 100'

 DENOTES IMPERVIOUS AREA  
TO BE TREATED BY  
VEGETATED FILTER STRIP

 DENOTES PROPOSED  
RE-VEGETATION AREA/  
VEGETATED FILTER STRIP

Topographic map of the Woodside Lake area in the Adirondacks. The map shows Woodside Lake, Woodside Est., and Woodside Brook. It includes contour lines, spot elevations, and section numbers (SEC. 6, SEC. 9). A shaded area is labeled 'WOODSIDE LAKE' and 'WOODSIDE EST.'. A road is labeled 'Daleview Dr.' and another 'Woodside Dr.'. A creek is labeled 'Overlook Creek'. A road is labeled 'Balk St.'.

Northern Virginia BMP Handbook 11/6/22

### 5) Phosphorus Loadings

- Refer to the description of the "Chesapeake Bay Method" presented at the beginning of Section IIIb for further explanation of variables used for the phosphorus removal calculations.

(A) Existing Phosphorus Loading:

(A) Existing Phosphorus Loading:

New Development:  
L(pre) = 36 x (0.05 + 0.009(washed \_\_\_\_\_)) x (C) \_\_\_\_\_ x (A) \_\_\_\_\_ x 2.72 / 12

Redevelopment:  
L(pre) = 36 x (0.05 + 0.009(site/pre 14.6)) x (C) 0.26 x (A) 1.07 x 2.72 / 12


L(pre) = 0.41 Lbs/Year

(B) Proposed Phosphorus Loading:

**Redevelopment:**  
 $L(\text{post}) = 36 \times (0.05 + 0.009(|\text{site}/\text{post}|_{17.6})) \times (C)_{0.26} \times (A)_{1.07} \times 2.72 / 12$   
 $L(\text{post}) = 0.47 \text{ lbs/Year}$

LOT 16A, SECTION 3  
WOODSIDE ESTATES

[illegible]

  
 MATTHEW T. MARSHALL  
 Lia. No. 136-B  
 7/17/12  
 LAND SURVEYOR

SCALE:  
 AS SHOWN

SHEET 3  
 OF 3

DATE:  
 JUNE 2012

DRAFT: SUR CHECK: MTM

FILE NUMBER:  
 11091-1-0-260