



Staff Comments

Water Quality Impact Assessment Application



Tax Map Number: 021-4-06-0013A

Property Address: 917 Whann Avenue

RPA boundary: The applicant submitted an RPA certification. A grading plan should be submitted prior to issuance of land disturbance permit.

Limits of clearing and grading (LOD): The limits of clearing and grading are shown on **Attachment B2, Page 42**. The LOD includes access to the site from the existing driveway.

Total Disturbed Area: See **Attachment B2, Page 17**. The total disturbed area is 2,377 square feet. Although a grading plan is not required for land disturbance less than 2,500 square feet, it is required for RPA delineation and installation of planter boxes.

Justification: See the comments on page 12 below.

Plat: See **Attachment B2, Pages 40 and 42**.

RPA Buffer Area Planting Plan: See **Attachment B2, Pages 19 and 44**. Plantings should consider the existing mature trees and to the extent possible in accordance with Chapter 118 and the PFM. Aerial images indicate that the proposed planting area is significantly more vegetated than turf grass at the time the RPA was designated. It is the opinion of Staff that the planting area shown in Appendix B2, Page 44 should not be entirely assumed as compensatory planting for loss of RPA buffer.

Signature: The applicant has signed the form and provided the certification for the wetland statement.

Applicants Supplemental Information (WQIA form Table 4)

<p><u>Requirement:</u> Display the boundaries of the RPA; §118-4-3(a)</p>	<p>Staff Comments</p>
<p><u>Show on a plat or site drawing:</u></p>	
<p>Display a site-specific RPA delineation (submitted separately if required by the Director) or;</p>	<p>See Attachment B2, Page 40 The applicant has provided an RPA certification. In accordance with technical bulletin 22-01, the applicant has submitted an RPA certification.</p>
<p>Display the RPA boundary from a previously approved, separate RPA delineation plan, providing the referenced plan number (____-RPA-____-__) or;</p>	<p>NA</p>
<p>If the project involves concurrent submission of an INF plan, the RPA Boundary delineation may be included on the plan, in accordance with Technical Bulletin 22-01 and incorporated in this WQIA.</p>	<p>The applicant submitted an RPA certification Staff accepts RPA certification on INF plans. An INF plan which includes the design of the planter boxes, should be submitted, and approved prior to requesting a site permit.</p>
<p><u>Requirement:</u> Display and describe the location and nature of the proposed encroachment into and/or impacts to the RPA, including any clearing, grading, impervious surfaces, structures, utilities, and sewage disposal systems; §118-4-3(b)</p>	<p>Staff Comments</p>
<p><u>Show on a plat or site drawing:</u></p>	
<p>Disruptions to existing surface hydrology, including wetland and stream circulation patterns</p>	<p>See Attachment B2, Page 42 The applicant states that there will be no disruptions to existing surface hydrology, including wetland and stream circulation patterns. It is the opinion of Staff that there will be some, even if small, effects</p>

	<p>to the surface hydrology. The applicant should acknowledge the effects and consider the cumulative effects should other similarly situated properties also request the same exception.</p>
<p>Disruptions, reductions, or increases in the supply of water to wetlands, streams, or other surface waters</p>	<p>See Attachment B2, Page 42 The applicant states that there will be no disruptions, reductions, or increases in the supply of water to wetlands, streams, or other surface waters.</p> <p>It is the opinion of Staff that there will be some, even if small, effects. The applicant should acknowledge the effects and consider the cumulative effects should other similarly situated properties also request the same exception.</p>
<p>Location of dredge material and location of dumping for such material</p>	<p>See Attachment B2, Page 42 The applicant states that material will be disposed off-site. The applicant should describe off-site disposal locations and ensure adequate erosion and sediment control measures.</p>
<p>Percent of the site to be disturbed and cleared for the project</p>	<p>See Attachment B2, Page 42 The applicant states that 6% of the site will be disturbed and cleared for the project. Page 4, the applicant provided the disturbed area for the project as 2,377 square feet. See Attachment B2, Page 17. The lot is 0.965 acres approximately 42, 035 square feet.</p>
<p>General location and type of all significant onsite plant material. Specific location and type of all trees, shrubs, or groundcover to be removed</p>	<p>See Attachment B2, Page 40. The applicant references Exhibits 4, 5 and 6, for the plant material to be removed.</p> <p>The Applicant should clearly show (call out on the plan) and describe in a narrative the specific location and type of trees, shrubs and ground covers to be removed. See the pictures in Attachment C1, Pages 1 and 39.</p>
<p><u>Describe in a narrative:</u></p>	

<p>Existing topography, soils, hydrology, and geology of the site and adjacent lands;</p>	<p>See Attachment B2, Page 32</p> <p>The applicant states that the site slopes downward from Whann Ave east toward the UT Dead Run, with a flattened terrace directly behind the residence. East of the UT (<i>Unmapped Tributary</i>) Dead Run, the topography is flatter (see Exhibit 4). Slopes on site range from 0-25%. Soils include Codorus-Hatboro complex, Glenelg silt loam, Wheaton-Glenelg complex, and Wheaton-Sumerduck complex (see Exhibit 10; <i>Appendix B, Page 56</i>). The UT Dead Run is the sole hydrological feature on site and connects to Dead Run near the northern terminus of Whann Ave.</p> <p>The applicant should state the soil number and describe the soil characteristics per the Northern Virginia Soil and Water Conservation District, Soils Map Guide.</p> <p>The applicant should address the problem class, erosion potential, soil drainage, and the depth to bedrock/ground water.</p>
<p>Location, type, characteristics, and condition of RPA features</p>	<p>See Attachment B2, Page 32.</p> <p>The applicant states that, the sole RPA feature on site is a riprap-lined, perennial stream channel—an - approximately 10-ft wide unnamed tributary to Dead Run that flows north and divides the parcel between forest/sanitary easement to the east and residence/maintained landscape to the west. There are no wetlands (contiguous or other) present on the property, nor does the stream drainage area qualify as a major floodplain (stream D.A. at the downstream property line is approximately 100 acres).</p> <p>The applicant provided a Jurisdictional Letter from the Corps of Engineers which supports the wetland delineation.</p>
<p>Impact of the proposed development to the existing topography, soils, hydrology, and geology of the site and adjacent lands</p>	<p>See Attachment B2, Page 32.</p> <p>The applicant states that the proposed development will require grading, including excavation, to construct the pool. This will occur within an existing, flat turfgrass terrace, so it will have no impact on the surrounding topography. Soils, hydrology,</p>

	<p>and geology will also remain unaffected. The proposed construction will have no impact on adjacent lands.</p> <p>The applicant should address the additional loading from the pool on the existing retaining wall. If the existing wall requires reinforcement, the applicant should address the land disturbance needed.</p>
<p>Nature and extent of any fill material</p>	<p>See Attachment B2, Page 32</p> <p>The applicant states that there is no proposed fill associated with this project. Excess materials excavated for installation of the pool will be hauled to a suitable off-site disposal area (to be determined). The applicant should address the need for a temporary stockpile.</p>
<p>Duration and proposed phasing of the project</p>	<p>See Attachment B2, Page 32</p> <p>The applicant states that the proposed project is anticipated to take between six and nine months to complete. No project phasing is proposed.</p> <p>See Attachment B2, Page 34.</p> <p>The applicant states that, construction is limited to a turfgrass terrace adjacent to the existing residence, which is contained by a retaining wall. The slope to the UT (unnamed tributary) Dead Run below will not be directly affected. Strict adherence to erosion and sediment controls (i.e. super silt fence, indicated in Exhibit 5) will ensure that the activity does not cause a degradation of water quality. Additionally, a vegetated riparian buffer area and BMPs (a planter box) will be established on the site, which will help to infiltrate stormwater and further prevent degradation of water quality after the project is complete.</p> <p>Staff is concerned that the current grading of the site sheds flow to a low point on the south side of the property which discharges directly into the stream adjacent to the footbridge. Super silt fence will not trap the fine sediment and often fails completely unless flows are</p>

	<p>distributed evenly along the length of the fence. The south side of the site already has an eroded channel which is discharging sediment directly into the stream.</p> <p>It is the opinion of Staff that additional erosion and sediment control measures are needed to reduce the impact to the stream. Staff are concerned about the site being denuded for six to nine months of construction and discharging sediment directly to the stream.</p>
<p>All requisite wetland permits from other agencies</p>	<p>See Attachment B2. Page 33. The applicant states that, waters of the U.S. (including wetlands) will not be disturbed as a result of this project, thus no Clean Water Act Section 401/404 permits are required.</p>
<p>Type of all vegetation to be removed</p>	<p>See Attachment B2. Page 33. The applicant states that, vegetation to be removed consists of only turfgrass within the LOD, where the pool and associated structures are to be constructed. No trees, shrubs, or native riparian vegetation is to be removed.</p>
<p><u>Requirement:</u> Provide justification for the proposed encroachment into and/or impacts to the RPA; §118-4-3(c)</p>	<p style="text-align: center;">Staff Comments</p>
<p><u>Describe in a narrative:</u></p>	
<p>Justification for proposed encroachment</p>	<p>See Attachment B2. Page 33. Also, Attachment B4. The applicant states that, the proposed project is to conduct clearing and grading necessary to create a new in-ground swimming pool and spa, associated utilities, pool deck, retaining walls, and a planter bed. Because the Field-Verified RPA encompasses all property to the rear of the existing residence, it is not possible to construct any accessory structures without RPA encroachment. As a result, the Applicant desires to utilize the specific exception for accessory structures (118-6-8(b) written specifically into the CBPO for this reason) to obtain approval.</p>

	<p>CBPO section 118-6-8(b) requires that the accessory structure or use shall not result in the creation of 1,000 square feet or more of additional impervious area within a RPA, or the creation of additional impervious area within an RPA that exceeds two percent of the lot area up to a maximum limit of 2,500 square feet, whichever is greater.</p> <p>The lot is 0.965 acres, approximately 42,035 square feet. 2 percent of the lot area is 840 square feet. The limit of 1000 square feet of additional impervious area presides. The applicant is proposing 998 square feet increase in the impervious area.</p>
<p><u>For an exception request, further describe how the application meets the following criteria of §118-3-2.i:</u></p>	
<p>How the requested exception is the minimum necessary to afford relief</p>	<p>See Attachment B2, page 33</p> <p>The applicant states that, the Field-Verified RPA encompasses all land rear of the existing residence (approximately 75% of the lot in total), with a small portion of the rear of the house within the RPA. Therefore, any accessory structure on the property requires RPA encroachment. The unencumbered portion of the lot (i.e., front yard) is not suitable for the creation of a swimming pool, as it is occupied by the driveway and privacy landscaping.</p> <p>The limits of clearing and grading have been located tightly to the proposed activities (i.e. no excess land is to be disturbed other than what is necessary for construction and installation of E&S controls. The plan as designed represents an increase of 998 square feet of impervious surface, which remains below the threshold for impervious surface increase in the CBPO for this type of activity.</p> <p>Staff, concur that the proposed limits of clearing and grading would be necessary and reasonable for the proposed pool, if the existing retaining wall is in good condition and is demonstrated to be able to support the additional load from the proposed pool.</p>

However, there are concerns regarding this existing retaining wall. A structural engineer shall address the following:

1. It appears that the existing retaining wall layout differs from the one approved on the grading plan dated 12/24/1994.
2. County records do not show a building permit for the wall. There is also no inspection report for the wall during construction.
3. The structural integrity of the existing wall shall be evaluated. In addition, the stability of the wall (both local and global) shall be analyzed to verify/confirm that the proposed swimming pool will not adversely impact the existing wall.

It shall be noted that depending on responses to the items above, the final LOD may change from the one shown on **Attachment B2** in Page 42.

It shall also be noted that structural engineer shall evaluate the pool excavation to ensure that it will not adversely impact the existing house.

A limited geotechnical report, including calculations for the retaining wall should be included with a future grading plan for the proposed pool and planter boxes.

See Attachment C4, Page 2

The DCR Guidance states that the terms “minimum necessary to afford relief” is inherently a subjective standard that must be considered on a case-by-case basis, taking into account the specifics of a particular request. When considering the minimum necessary to afford relief, things such as the size of the structure, the types of proposed structures, and the placement of the structures in relation to the size, layout and location of the lot or parcel are important considerations.

Some examples of requests that would not be the minimum necessary to afford relief could include an application for an extremely large structure on a given lot or parcel, especially when

	<p>compared to the size of the structures in the adjacent lots. Another example would be a request for a house that would be located outside of the RPA, but with a large, attached deck with a pool that would be located within the RPA. In this instance, the sole reason for the exception request relates, not to a use of the property, but to the extent that the applicant wishes to use the property. See Attachment C3. The proposed impervious area for this lot is: 5841 square feet existing + 998 square feet increase in impervious = 6839 square feet. The proposed impervious area is not excessive compared to the lots within 500 feet. Of the 40 lots within 500 feet, eight lots have a pool, one of the lots has a pool in the RPA, and another lot has a pool potentially partly in the RPA. See Attachment C8 14.</p>
<p>That granting the exception will not confer any special privileges denied in similar situations</p>	<p>This finding is intended to make sure that an exception request would not give the applicant something that has been denied to others in similar situations, and gets to the equity, fairness, and arbitrary and capricious aspects of any exception request and decision. For instance, a property owner requests an exception to build a pool in the RPA and neighbors have applied for and been denied a similar request. In this instance, if the exception is approved, a special privilege has been permitted for one neighbor but not the others.</p> <p>Previous cases (attachment C6):</p> <p>Attachment C61 Wooded Glen Lt 4 Sec 1; 5255-WRPA-003-1; Seaward 50 feet; Denied; CBPO 118-6-8(a) WHEREAS, pursuant to Section 118-6-8(a) the Committee has made a finding that the requested exception, as conditioned, cannot be determined to be the minimum necessary to afford relief because the application does not adequately address reasonably expected stormwater requirements which may significantly impinge on the conditions needed to be addressed under subsection Section 118-6-8(e).</p>

	<p>Attachment C62 Peacock Station Lot C1A; 1131-WRPA-006-1; pool not in seaward 50 feet, grading in seaward 50 feet – violation; approved; CBPO 118-6-9</p> <p>Attachment C63 Briarlynn Estates Sec 3 Lot 12A; 7171-WRPA-003; Not in the seaward 50 feet; Approved; CBPO 118-6-8(a)</p> <p>Attachment C64 Collier Residence;1996-WRPA-015; Not in the seaward 50 feet; Approved; CBPO 118-6-9</p> <p>In that the subject case proposes a swimming pool in the seaward 50 feet, it could be considered similarly situated to the denied exception, Wooded Glen Lt 4 Sec 1; 5255-WRPA-003-1. The applicant should address this similarly situated case and explain how the subject case differs. Specifically, the applicant should address the water quality requirements. See the following WQIA requirement below.</p>
<p>The exception request is in harmony with the purpose and intent of the CBPO and is not a substantial detriment to water quality</p>	<p>The purpose of this regulation is to protect water quality. The applicant has proposed a planter box to off-set the proposed increase in impervious surface. See Attachment B2, Page 34. The applicant included a copy of the VRRM spreadsheet. See Attachment B2, Page 75. The VRRM proposes to convert 0.05 acres of turf to forest open space and increase the impervious area from 0.21 acres to 0.23 acres. The applicant is proposing a planter box to treat 0.05 acres of impervious cover. The applicant’s VRRM spreadsheet states the pre-developed phosphorous load as 0.62 lbs. and the post developed phosphorous load as 0.58 lbs. See Attachment B2, Pages 36 and 75. The proposed planter is located adjacent to the proposed pool.</p>

	<p>See Attachment B2, Page 63. The proposed re-forestation is primarily located on the opposite side of the stream to the proposed pool. See Attachment B2, Page 44.</p> <p>A review of the aerial images, see Attachment C2, indicates that the proposed replanting area may have been vegetated when the RPA was designated. See the 2007 aerial image, Attachment C2, Page 2.</p> <p>The applicant should revise the calculations to address the vegetation on the lot when the RPA was designated.</p>
<p>That the exception is not based on circumstances that are self-created and self-imposed</p>	<p>This finding focuses more on the actions of the property owner. Size of the lot, size of the house.</p> <p>The lot was recorded in 1947, and the present house built in 1998, before the RPA was designated on the lot in 2003.</p> <p>The impervious area on the lot is not uncharacteristic for the area. Nor is the proposed impervious area. The subject lot differs from other lots in that the stream runs almost through the middle of the lot. See Attachment C3.</p>
<p><u>Requirement:</u> Describe the extent and nature of any proposed disturbance or disruption of wetlands; §118-4-3(d)</p>	<p>Staff Comments</p>
<p><u>Describe in a narrative:</u></p>	<p>See Attachment B2, page 32. The applicant states that there are no wetlands on the property.</p>
<p>Location and condition of existing wetlands</p>	<p>NA</p>
<p>Impacts to existing wetlands</p>	<p>NA</p>
<p>Description of required Wetland Permits</p>	<p>NA</p>
<p><u>Show on a plat or site drawing:</u></p>	
<p>Disturbance or destruction of wetlands in RPAs</p>	<p>NA</p>

<p>Requirement: Display and discuss the type and location of proposed best management practices (BMPs) to mitigate the proposed RPA encroachment and/or adverse impacts; §118-4-3(e)</p>	<p>Staff Comments</p>
<p><u>Show on a plat or site drawing:</u></p>	
<p>Calculation of percent increase in impervious surface on-site and types of surfacing materials used</p>	<p>The proposed increase in impervious area is 998 square feet. See Attachment B2, Page 33, Paragraph c(1). The applicant should clarify the impervious areas. Attachment B3 states the retaining walls as 44 square feet and the pool/pool deck as 974 square feet with a total proposed impervious of 1,018 square feet. The increase in impervious is also stated as 998 square feet in the table immediately below. There is a maximum of 100 square feet increase in impervious area under CBPO 118-6-8. The proposed grading plan should demonstrate that the maximum 100 square feet increase in impervious area is not exceeded.</p>
<p>Calculation of pre-development and post-development pollutant loads in runoff using VRRM spreadsheet, or other method approved by the Director</p>	<p>The applicant provided the VRRM spreadsheet. See Attachment B2, Pages 75 and 76.</p>
<p>Replanting schedule and locations of replanting proportional to removed vegetation</p>	<p>In addition to planting, a planter box is proposed. See the notes below. See Attachment B2, Page 44.</p>
<p>Erosion and sediment control measures used during construction</p>	<p>See Appendix B2, Exhibit 5, and Page 7, Paragraph (e), super silt fence is proposed. The proposed super silt fence is not shown on Exhibit 5. It is likely that the flow will concentrate in the low area to the south of the site. Super silt fence is not designed to manage concentrated flow. Alternative erosion and sediment control measures should be proposed.</p>
<p><u>Describe in a narrative:</u></p>	
<p>Selection of the proposed BMP and how it will be effective at preventing an increase in nonpoint source pollution</p>	<p>The VRRM Spreadsheet, Appendix B, Pages 75 and 76, shows reforestation and a planter box are proposed.</p>

	<p>The aerial images indicate that the area was more heavily vegetated when the RPA was designated. The proposed mitigation planting area across the stream should not be entirely counted as part of the mitigation planting. Planter boxes are accepted practices used to reduce pollution.</p>
<p>Descriptions of the proposed mitigation measures for the potential hydrogeological impacts. Potential mitigation measures may include, but are not limited to:</p> <ul style="list-style-type: none"> i. Proposed erosion and sediment control concepts. Concepts may include minimizing the extent of the cleared area, perimeter controls, reduction of runoff velocity and volume/rates, measures to stabilize disturbed areas, and schedule and personnel for site inspection. ii. Minimization of proposed excavation and fill 	<p>See Attachment B2, Page 36 and 37. Mitigation plantings and a planter box are proposed to off-set the increase in impervious area. Aerial imagery indicates that the proposed planting area was more vegetated when the RPA was designated. See Attachment C2, Page 2. The vegetation should be restored to the condition when the RPA was designated before determining any area available to be planted and receive credit for mitigation planting. Planter boxes should be proposed to mitigate the remaining increase in impervious area.</p> <p>The proposed erosion and sediment controls are limited to super silt fence. The grading of the site may cause flow to concentrate to the south and discharge directly to the stream. Additional erosion and sediment measures should be proposed to manage the concentrated flows.</p>
<p>Description of replanting plan in accordance with §118-3-3(f) and PFM, including a statement that all selected plants are indigenous species appropriate for the riparian buffer to the extent practicable</p>	<p>See Attachment B2, Page 37. Plantings in accordance with Chapter 118 and the PFM are proposed. The aerial images indicate significant tree cover. At the time of restoration/planting, planting requirements should be determined by LDS and UFMD to the maximum extent possible based on densities required by Chapter 118 and the PFM.</p>
<p>Requirement: Demonstrate the extent to which the proposed activity will comply with all applicable performance criteria of §118-4-3(f)</p>	<p>Staff Comments</p>
<p><u>Describe in a narrative:</u></p>	
<p>How significant vegetation has been preserved to the maximum extent practicable</p>	<p>See Attachment B2, Page 38. The disturbance is limited to areas of turf grass.</p>

<p>If this application is for an exception, also describe compliance with the performance criteria of §118-3</p>	<p>See Attachment B2, Pages 27 and 28. Page 28, Buffer area establishment. The aerial images Attachment C3, page 2, indicate the area across the stream where mitigation planting is proposed were more heavily vegetated when the RPA was established. This re-planting area should not entirely be included in the mitigation plantings for the increase in impervious area for the pool.</p>
<p><u>Requirement:</u> Any other information deemed by the Director to be necessary to evaluate potential water quality impacts of the proposed activity §118-4-3(g)</p>	<p>Staff Comments</p>
<p><u>For new homes, describe in a narrative a wastewater element which:</u></p>	
<p>Includes locations of anticipated drainfield</p>	<p>NA</p>
<p>Provides justification for sewer line locations in CBPAs, where applicable, and describes construction techniques and standards</p>	<p>NA</p>
<p>Describes any proposed on-site collection and treatment systems, their treatment levels, and impacts on receiving watercourses</p>	<p>NA</p>
<p>Describes the potential impacts of the proposed wastewater systems, including the proposed mitigation measures for these impacts</p>	<p>NA</p>