

Staff Comments on the Water Quality Impact Assessment Summary

Item #; Comment

1. The requirement for a plat that meets the requirements of the zoning ordinance section 9-011 was waived provided:
 - i. A post-construction survey is conducted which demonstrates that the project complies with the requirements of the exception if approved.
or
 - ii. If the exception is not approved, the applicant will be required to restore the site to the conditions shown on the approved 2004 grading plan (INF)
4.
 - i. Since the 2004 exception and grading plan vegetation has been removed from the lot, including buffer areas required by the 2004 exception.
 - ii. The WQIA should base the impact to the RPA vegetation on the approved 2004 exception and the proposed conditions.
 - iii. The WQIA should consistently state the landuse.
 - vi. The dimensions of the proposed patio should be shown on the plat.
5. The WQIA should state the square feet of patio/impervious area requested since the 2004 exception.
6.
 - i. The WQIA should acknowledge the buffers required by the 2004 exception.
 - ii. The WQIA should show a reasonable area around the improvements (the house and the patio) for maintenance.
7.
 - i. The WQIA should state, "there will be no removal of required plantings in any conserved area on the property".
 - ii. The invasive species control narrative should state the frequency of re-treatment required to control the invasives; invasive species management beyond that stated in an approved exception requires separate approval.
8.
 - i. The wetland on the adjoining property should be evaluated, and the RPA delineated on any as-built plan.
13.
 - ii. The applicant is proposing to remove the fire pit and the portion of the patio in the RPA.
14.
 - i. The existing forest lacks a well developed understory.
17.
 - i. The soil map shows the soil for the property but lacks the information on adjoining properties.
18.
 - i. No information on the condition of the stream is provided.
20.
 - i. The time required to complete the work should be stated.
36.
 - iii. The applicant should reference the water quality calculations, the VRRM spreadsheet and explain in a narrative how the proposed exception provides a water quality benefit.
 - iv. The 2004 grading plan shows the proposed impervious acres as 7,459 sq ft (0.171 ac), and the proposed impervious area in the RPA as 4,719 sq ft (0.108 ac). The Applicants VRRM spreadsheet shows the existing impervious acres as 0.18 acres. The VRRM calculations should base the existing conditions on the approved exception and 2004 grading plan.
 - v. The narrative and calculations should address the loss of buffer area, the increase in paved area, and explain how proposed best management practices will provide a water quality benefit.
 - vi. Engineering designs for the planter boxes should be provided.

ATTACHMENT C6: Staff's Detailed Review Comments of 129-WQIA-001-3

	Yes / Page	No	N/A	Requirement	LDS/SDID Comments
Plat / Plan					
1	Plat			Plat / Plan Meets the requirements of ZO § 9-011, paragraph 2	<p>For submissions under CBPO 118-6, plat is required to be certified by a professional engineer, land surveyor, architect or landscape architect licensed by the State of Virginia.</p> <ul style="list-style-type: none"> i. The requirement was waived for the purpose of presenting the exception request for Public hearing, provided a post-construction survey is conducted which demonstrates that the project complies with the requirements of the exception if approved. ii. If the exception is not approved, the applicant will be required to restore the site to the conditions shown on the approved 2004 grading plan (INF)
2	Plat			Proposed RPA encroachment area including all areas of clearing, grading, filling, excavating, and otherwise removed or damaged vegetation shown.	<p>See the plat.</p> <ul style="list-style-type: none"> i. Acceptable as noted in 1 and 2 above.
3	Plat			Existing and proposed improvements including impervious surfaces, structures, utilities and sewage disposal systems shown.	<p>See the plat.</p> <ul style="list-style-type: none"> ii. Acceptable as noted in 1 and 2 above.
4		PDF page 3, paragraph a) and b)		Existing vegetation including trees and shrub locations, and groundcover areas to be impacted shown.	<p>See the plat.</p> <ul style="list-style-type: none"> i. See page 2 (PDF page 3) paragraph a) and b). The exhibits in PDF pages 70 and 71 call out the vegetation removed in the rear yard that should have remained as undisturbed (3,444 sq ft) and the vegetation removed for the construction of the patio and the grill (2,684 sq ft). Aside from these acknowledgements, WQIA is not clear on the amount of vegetation that has been removed from the RPA since the RPA exception in 2004. See Attachment C_3A, page 4 of 4 for the approved grading plan. It appears there may have been some re-arrangement of plantings in the required buffer from the 2004 exception and grading plan. ii. The WQ should base the impact to the RPA vegetation on the exception approved in 2004; 124-WRPA-001-1 and compare it with the proposed conditions. iii. Based on the VRRM computations, PDF page 28, the existing conditions had 0.62 acres of forest/open space, 0.15 acres of managed turf and 0.18 acres of

					<p>impervious cover. The WQIA should clarify in the narrative on page 2, paragraph a) the square feet of land cover approved with the 2004 exception.</p> <ul style="list-style-type: none"> iv. Based on the VRRM computations, PDF page 28, the proposed land use is 0.59 acres of forest, 0.12 acres of managed turf and 0.24 acres of impervious cover. The WQIA should clarify in the narrative, on page 2(PDF page 3) paragraph a) the square feet proposed for each land cover type. v. Staff's analysis of the areas impacted is presented in the exhibit 2B vi. The applicant should dimension the plat. Specifically, the square feet for the patio and walkways to remain, the requested impervious areas.
5		PDF page 5, paragraph c)		Description of 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 provided.	<p>The applicant states that the land disturbance associated with the violation is limited to the work zone behind the existing house and driveway and the area surrounding the fire pit. See the plat, existing conditions, the shaded area. The plat is also provided on page 71 of the WQIA PDF.</p> <ul style="list-style-type: none"> i. The WQIA should base the requested encroachment on the approved 2004 exception. The statement that the proposed conditions remove approximately 331 square feet of the patio does not clarify the exception requested. The WQIA should state the square feet of patio/impervious area requested since the 2004 exception.
6		Plat/Narrative		Provided a description of any vegetation to be removed and how the proposed vegetation removal is the minimum necessary to accommodate the proposed encroachment (e.g., number, size and type of trees or area of woods).	<p>See PDF page 4. Paragraph 2, description of vegetation to be removed to remedy the violation.</p> <ul style="list-style-type: none"> iii. The WQIA should acknowledge the buffers required with the 2004 exception, and the removal of the required buffer plantings. iv. The applicant should acknowledge and show on the plat/plan the area around the house/patio needed to maintain the house and patio improvements. This area should be pervious but need not be vegetated in accordance with 118-3-3(f).
7		Page 3 (PDF page 4) paragraph b); PDF page 72.		Address how indigenous vegetation is preserved to the maximum extent practicable. Included an invasive species management plan (e.g., type of vegetation removed, preserved and replaced, and methods proposed) if invasive species management is an objective of this application.	<p>See WQIA PDF page 4, paragraph b.</p> <ul style="list-style-type: none"> i. The applicant states, paragraph b), "to remedy the violation no additional removal of indigenous vegetation within the project limits will occur". The WQIA should state that there will be no removal of required plantings in any conserved area on the property. ii. The applicant references the invasive species management plan, Appendix IX, sheet 5 (PDF page 72). Removal of noxious weeds authorized by an exception are permitted. Any future removal of plantings including noxious weeds must obtain approval through the regular process. The area of invasive species should be identified on the plat/plan. The invasive species control narrative should state the frequency of re-treatment required to control the invasives; invasive species management beyond that stated in an approved exception requires separate approval.

8		X		Disruptions to existing surface hydrology, including wetland and stream circulation patterns shown / identified	<ul style="list-style-type: none"> i. The applicant states, PDF page 5, paragraph f, that there are no wetlands on the site. SWPD identified an area on the adjoining property to the north where there may be wetlands. See the exhibit and photo SWPD. Any connected wetlands would further impact the RPA. The applicant should demonstrate on the as-built plan that there is no connection through taking data points <u>on and adjacent to</u> the parcel in question. Any change in the RPA delineation would invalidate the exception on which the RPA delineation was based.
9		X		Disruptions, reductions or increases in the supply of water to wetlands, streams or other surface waters shown / identified	<ul style="list-style-type: none"> i. The applicant states that there are no wetlands. See line 8 above. ii. The applicant states that there are no significant changes to ground water recharge. See the WQIA PDF page 6 (PDF page 7) paragraph 2.
10			X	Location of dredge material and location of dumping for such material shown / identified	Not applicable.
11		X		Percent of the site to be disturbed and cleared for the project	See sheet 4, PDF page 71. Summary of impervious area. See the comment on line 3 above.
12		Sheet 4		General location and type of all significant onsite plant material; specific location and type of all trees, shrubs or groundcovers to be removed is shown on the plan.	See the plat, also WQIA PDF sheet 4, PDF page 71. See the comments on line 5 above.
Narrative 118-4-3(b)					
13		Page 5		Nature of the proposed encroachment	<ul style="list-style-type: none"> i. The violation includes general lot clearing, tree removal and creation of impervious surface in the form of a patio, masonry grill and to remove a fire pit. ii. The applicant is proposing to remove the fire pit and remove the portion of the patio in the RPA seaward 50 feet. See WQIA page 6 (PDF page 7) paragraph e).
14		Page 3 (PDF page 4)		Condition & type of vegetation	<p>See the WQIA page 3 (PDF page 4), paragraph b).</p> <ul style="list-style-type: none"> i. The applicant states in the WQIA PDF, page 4, that the existing forest lacks a well- developed understory. ii. The proposed conditions plan, WQIA PDF page 71, shows the proposed planting plan to restore the disturbed RPA buffer. Seed mix is proposed to restore the understory in this area to be re-planted. iii. As the entire forest lacks a well-developed understory, recommend that riparian seed mix be used to establish the understory on the entire property, See line 4, for the square feet of buffer in the rear yard removed, which is in addition to the buffer removed for the patio.

15		Page 5		Details of the requested encroachment	<p>The WQIA treats the violation as the base condition and lacks clarity regarding the requested exception. All improvements since the 2004 exception are a violation. If an exception is not granted to permit them, in part or whole to remain, they must be removed to resolve the violation.</p> <p>i. The plat should dimension the size of the patio and any features beyond those approved on the approved grading plan, which are to remain and for which an exception is granted. To resolve the violation, the request proposes to remove the fire pit and parts of the patio in the seaward 50 feet of the RPA, to re-establish parts of the RPA buffer cleared without authorization and to provide t planter boxes to off-set the degradation in water quality from the improvements since the 2004 exception.</p>
16		Page 5		Any previously approved encroachments into the RPA	<p>i. There is a previous RPA exception and grading plan from 2004; 129-WRPA-001-1 and 129-INF-004. Page 3 of the WQIA PDF, the applicant acknowledges the previous exception. Page 3 (PDF page 4) paragraph b)</p> <p>ii. The WQIA does not acknowledge that the patio was constructed over a required planted buffer.</p>
17		Page 5		Existing topography, soils, hydrology and geology of the site and adjacent lands	<p>i. The soil map, PDF page 15, shows the soil for the site but lacks information on adjacent properties.</p> <p>ii. The wetlands inventory map, PDF page 14, lacks information on adjoining properties.</p>
18		Page 5		Location, type, characteristics and condition of RPA features	<p>i. See page 5 (PDF page 6), paragraph f), and the RPA Narrative, on the plat on page 71 of the PDF. There is a perennial stream on the northern boundary of the property. No information on the condition of the stream is provided. The narrative states that there are no wetlands on the property and no contiguous wetlands which would impact the RPA. Stormwater Planning identified a potential wetland on the adjoining property that may extend the RPA beyond the mapped limits, See Attachments 8A, 8B and 8C.</p>
19		X		Impact of the proposed development to the existing topography, soils, hydrology and geology of the site and adjacent lands	<p>i. The water quality impact assessment does not address this item. The violation was issued before the new requirements for water quality impact assessments came into effect. Staff recommend that any approval require adequate BMPs and vegetated buffers to ensure that any increase in runoff is mitigated.</p>
20		X		Nature and extent of any fill material Duration and proposed phasing of the project	<p>i. The water quality impact assessment does not address this item. The violation was issued before the new requirements for water quality impact assessments came into effect.</p> <p>ii. Removal of patio would not require fill to be added to the site.</p> <p>iii. Approval/denial recommendations should state the time to complete the work.</p>
21		X		All requisite wetland permits from other agencies	<p>i. The water quality impact assessment does not address this item. The violation was issued before the new requirements for water quality impact assessments came into effect. The Approval/denial should require a final Jurisdictional Determination from the Corps of Engineers.</p>
22		X		Type of all vegetation to be removed	<p>i. The water quality impact assessment does not address this item. The violation was issued before the new requirements for water quality impact assessments</p>

					came into effect. Any approval should condition the invasive species narrative, sheet 5 of the WQIA exhibits.
23		X		Nature and extent of any fill material	See line 20
24		X		Duration and proposed phasing of the project	See line 20
25		X		All requisite wetland permits from other agencies	See line 21
26		Page 5		Type of all vegetation to be removed	See line 22
27		Page 5		Existing topography, soils, hydrology and geology of the site and adjacent lands	See line 17
28		Page 5		Location, type, characteristics and condition of RPA features	See line 18
29		Page 5		Nature and extent of any fill material	See line 20
Narrative 118-4-3(c)					
30		Page 5		Provide justification for proposed encroachment	See the detailed justification is provided in a separate 28 page document.
31		Page 6		118-6-6 (a) How the requested exception is the minimum necessary to afford relief	<p>Reference the section 118-6-6 See page 3 of 28.</p> <p><i>DEQ Guidance: 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.</i></p> <p><i>Extremely large structure on a given lot or parcel, especially when compared to the size of the structures in the adjacent lots would not be the minimum necessary to afford relief.</i></p> <p>The first request in 2004 for an administrative exception was denied as it encroached into the seaward 50 feet of the RPA. The property owner in 2004 revised the request such that it did not encroach into the seaward 50 feet, and this revised encroachment request was approved by staff as the minimum necessary to afford relief.</p> <p>The applicant states on page 3 (PDF page 4) of the Statement of Justification, "The plans remove large sections of the existing patio area in order to continue the use of the patio and to satisfy the applicant's needs. Removal of the entirety of the patio is an alternative to the proposed plans; however, the applicants desire to have some use of their backyard through the use of the portion of patio to remain.</p> <p>Staff analyzed the impervious area on surrounding properties. The results are presented in Attachment 2A and 2C</p>

				<p>Table 2C shows that the size of the house in comparison to the size of the lot is within the limits of properties within 500 feet, and that the % of impervious areas that are in the RPA is within the limits of properties within 500 feet.</p> <p><i>DEQ Guidance: Consider the extent that the applicant wishes to use the property.</i></p> <p>It is the opinion of Staff that the request is the minimum necessary to afford relief.</p>
32		Page 8	118-6-6 (b) That granting the exception will not confer any special privileges denied in similar situations	<p>Staff comment: The applicant is seeking to redress the existing notice of violation on their property.</p> <p><i>DEQ Guidance: 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.</i></p> <p>If the applicant had submitted a request loss for buildable area in 2004 which included the house and patio and encroaching into the seaward 50 feet, the request would have been subject to approval by the ERC and subject to the findings under 118-6-7 and 118-6-6.</p> <p>Staff refer the ERC to the RPA policy statements, attachment 7C.</p> <p>.</p> <p>In June 2010 a violation was issued on 5825 River Drive, for 2 patios and associated walls to remain in the RPA. The owner submitted an exception request under 118-6-9 to allow the patios, adding an additional 480 square feet to the property to remain.</p> <p>The ERC approved request #CBE 026800, for the encroachments into the RPA to remain and required that additional RPA buffers be planted.</p> <p>This request was made prior to the new Stormwater Regulations and Chapter 124 of the County Code, the new BMP clearing house BMPs.</p> <p>The imperviousness on the lot exceeded 18%. As the site conditions precluded the addition of BMPs this requirement was waived.</p> <p>The applicant was required to plant an additional 1,500 square feet of vegetated buffer.</p> <p>The decision to approve/deny the current request should be based on the decision that would have been made should the request for the house, patio and grill have</p>

				<p>been made in its entirety in 2004 and be consistent with other similar approvals/denials.</p> <p>Given the % impervious on the lot and the impervious in the RPA in comparison to that for lots within 500 feet, it is the opinion of Staff that granting the exception would not confer a special privilege.</p>
33		Page 8	118-6-6 (c) The exception request is in harmony with the purpose and intent of the CBPO and is not a substantial detriment to water quality	<p><i>DEQ Guidance: The appropriate vehicle for determining whether water quality will be adequately protected should a given request be approved, is the Water Quality Impact Assessment (WQIA)</i></p> <p>The applicant is proposing two planter boxes and planting/re-planting of vegetated buffer areas. The VRRM spreadsheet water quality computations demonstrate that compared to the site conditions approved in 2004, there will be a slight water quality benefit. The site in 2004 created 0.54 lbs/yr and after planting/replanting and the provision of the two planter boxes the site is calculated to generate 0.51 lbs/yr. See the water quality impact assessment PDF page 28/of 72</p> <p>Also see the VRRM spreadsheet site tab; the pre-developed un-adjusted load is 0.54 lbs/yr and the post-developed load 0.51 lbs/yr. The post-developed phosphorous load assumes the proposed land cover shown on the BMP exhibit (prepared by Tri-Tek), two planter boxes and the planter boxes get additional credit because they discharge to conserved open space (the RPA is conserved openspace).</p> <p>Chapter 118 has provisions to grant exceptions under 118-6-9 if there is a water quality benefit. The VRRM calculations are showing a water quality benefit. Therefore, the requested may be considered in harmony with the purpose and intent of the CBPO.</p>
34		Page 8	118-6-6 (d) That the exception is not based on circumstances that are self-created and self-imposed.	<p>The applicant's statement of justification:</p> <p>This exception request is to redress conditions or circumstances that are self-created or self-imposed. The applicant is proposing to <u>remove some of the impervious cover</u> and revegetate previously disturbed land within the RPA in response to a NOV.</p> <p><u>The applicant will not be adding additional impervious surfaces.</u> The WQIA plan previously submitted represents the revegetation plan for past RPA encroachment.</p> <p>It is understood by TNT and the applicant that a requirement of an exception request is that circumstances are not self-created or self-imposed; however, this WQIA and exception are being submitted in response to a NOV and the mitigation efforts are required.</p> <p>Staff analysis:</p>

				<p>The basis for the exception is the approval in 2004. <u>The applicant is proposing additional impervious area beyond that approved in 2004.</u> Staff does not concur with the statement “The applicant will not be adding additional impervious surfaces “.</p> <p>Staff finds the applicant’s statement for the required finding 118-6-6(d) confusing; <u>this statement should be clarified in both the statements of justification and in the WQIA.</u></p> <p>The property owner’s actions should not be a consideration in the granting of an exception.</p> <p>When considering a violation for an already-constructed encroachment, the removal and remediation of the violation may generate costs and/or be a detriment to water quality, which may be a consideration.</p> <p>An exception may be granted provided it meets all the exception criteria. If the exception request resulting from a violation does not meet all the criteria, it may be a self-imposed condition.</p>
35		Page 8	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.	<p>The applicant is proposing to remove a small piece of the patio, which is the primary subject of the violation, install two planter boxes, and use sheet flow to conserved open space to demonstrate a small water quality benefit.</p> <p>The water quality calculations should be based on the impervious area and the land cover from the 2004 exception.</p>
36		Page 8	118-6-6 (f); 118-6-9	<p>The applicant is required to demonstrate a water quality benefit. The applicant states that:</p> <ul style="list-style-type: none"> i. Two planter boxes will be installed to treat 0.12 lbs of phosphorous. ii. The 5,081 square feet of disturbed area associated with the violation within the RPA will be revegetated at a density of 12 overstory trees per acre, 24 understory trees per acre and 128 shrubs. The plantings will be installed in an area of approximately 5,157 square feet. iii. The applicant should reference the water quality calculations, the VRRM spreadsheet and explain in a narrative how the proposed exception provides a water quality benefit. iv. The 2004 grading plan shows the proposed impervious acres as 7,459 sq ft (0.171 ac), and the proposed impervious area in the RPA as 4,719 sq ft

					<p>(0.108 ac). The Applicants VRRM spreadsheet shows the existing impervious acres as 0.18 acres. <u>The VRRM calculations should base the existing conditions on the approved exception and 2004 grading plan.</u></p> <p>v. The narrative and calculations should address the loss of buffer area, the increase in paved area, and explain how proposed best management practices will provide a water quality benefit.</p> <p>vi. Engineering designs for the planter boxes should be provided.</p> <p>vii. The applicant should provide a maintenance agreement for the planter boxes.</p> <p>viii. The VRRM spreadsheet as presented (with the discrepancy in the pre-develop impervious) indicates that there is a small water quality benefit. The applicant should address the discrepancy pre-developed in impervious area.</p> <p>ix. The proposed planting plan is shown on the plat. The proposed plantings meet the density requirements of 118-3-3(f) but not the 2:1 requirement in 118-9-1(d).</p>
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Narrative 118-4-3(d)

37				If applicable, describe impacts to wetlands	See line 8 above
38				Location and condition of existing wetlands	See line 8 above
39				Impacts to existing wetlands	See line 8 above
				Description of required Wetland Permit	See line 8 above
40				Description of disturbance or destruction of wetlands in RPAs; also to be shown on the plan	See line 8 above

Plan / Narrative 118-4-3(e)

41		Sheet 4		Calculation of percent increase in impervious surface on-site and types of surfacing materials used; shown on the plan	Need to show in the table on sheet 4. PDF page 71; percent not provided but impervious provided.
42		VRRM xls and the approved INF (Attachment A 2B)		Calculation of pre-development and post-development pollutant loads in runoff using VRRM spreadsheet, or other method approved by the Director; shown in the plan	See the VRRM, the combination of the replanting and the planter boxes show a small water quality benefit over the 2004 exception condition. The applicant should address pre-developed impervious area as shown on the approved grading plan and show that there is a water quality benefit.

43	See the plat			Replanting schedule and locations of replanting proportional to removed vegetation; shown in the plan	See line 38.
44	See the plat			Erosion and sediment control measures used during construction; shown in the plan	Silt fence shown. The area is flat, and the disturbance is limited to the removal of the patio and to replanting.
45		Page 5		Narrative explains the selection of the proposed BMP(s) and how it will be effective at preventing an increase in nonpoint source pollution.	The narrative does not explain how the proposed BMPs will <u>be effective</u> in preventing an increase in nonpoint source pollution. The applicant stated in their comment response that this would be provided with the exception package. See PDF page 46 of the WQIA; item 15.ii The statement of justification/WQIA should directly address this requirement. There is a discrepancy in the impervious area from the approved grading plan (Attachment C_3A) and the VRRM calculations (Attachment B2, page 28 of 72) pre-developed conditions. A narrative should be provided which references the VRRM spreadsheet/calculations and explains how the proposed is a water quality benefit.
46		Page 5, paragraph D		Narrative explains the proposed mitigation measures for the potential hydrogeological impacts. Potential mitigation measures may include, but are not limited to: 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. Minimization of proposed excavation and fill.	The applicant proposes to provide silt fence/tree protection before removing the parts of the patio by hand. All work should be done by hand; no mechanical equipment.
47		Sheet 4		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.	See line 36
Plan / Narrative 118-4-3(f);					
48		Page 5		Existing indigenous vegetation is preserved to the maximum extent possible	See line 36
49		Page 5		Impervious cover is minimized to the maximum extent possible	See line 35
Plan / Narrative 118-4-3(g);					
50		PAGE 6		Provide any other information deemed by the Director to be necessary	See line 36

Plan / Narrative 118-3-2

51	Page 2; paragraph a)			(a) No more land shall be disturbed than is necessary to provide for the proposed use, development or redevelopment.	<p>The exception granted in 2004 for the construction of the house was deemed the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities.</p> <p>Previous owners violated the conditions of the 2004 exception.</p> <p>The current owners further violated the conditions of the 2004 exception, and were issued a violation for the property # 201803030, dated March 6th, 2020.</p> <p>The proposed request is to allow a patio and gas grill to remain in the landward part of the RPA outside the seaward 50 feet.</p> <p>The land disturbance with this request, to remedy the violation, is limited to a 5 foot work zone around the patio which is the subject of the violation.</p> <p>The applicant states that removal of the entire patio is an alternative to the proposed plans, however the applicants desire to have some use of their backyard through the use of the portion of the patio remaining.</p> <ul style="list-style-type: none"> • The applicant should use data to support the proposed impervious area on the lot and the size of the patio. • See line 36
52				(b) Indigenous vegetation shall be preserved to the maximum extent practicable consistent with the use, development or redevelopment proposed.	<p>See the 2004 exception for a baseline.</p> <p>The existing vegetation around the house is currently maintained lawn with landscaped shrubs. There is hardwood and softwood upland forest along the northern and eastern property boundaries. Much of the existing forest lacks a well-developed understory.</p> <p>Prior to the current owners purchasing the property, additional vegetation beyond that approved with the 2004 exception was removed.</p> <p>The current owners (applicants) removed the buffer that was planted as a condition of the 2004 exception.</p> <p>The current owner constructed a patio and grass grill which extends over the required buffer area. There was additional clearing to the north and west side of the property to create a construction area for the patio.</p> <p>This Water Quality Impact Assessment (WQIA) does not propose additional clearing; it proposes a reduction on the patio to remove impervious area from the seaward 50 feet and restoration plantings. See Sheet 4, Proposed Conditions & RPA Restoration Plan.</p> <p>Se line 36.</p>
53				(c) Impervious cover shall be minimized consistent with the use, development or redevelopment proposed.	<p>The addition of the patio and gas grill created approximately an additional 1,081 square feet (see the plat) of impervious area above that approved with the 2004 exception (this needs to be verified in comparison to the impervious area on the approved INF plan). This WQIA proposes to remove 331 square feet of this impervious area added since the approved 2004 exception, which includes the part of the patio which is located in the seaward fifty feet of the RPA, and to remove the fire pit.</p>

54			(d) Any land-disturbing activity that exceeds an area of 2,500 square feet shall comply with the requirements of Chapter 104 of the County Code.	To address the Chapter 104 violation for exceeding 2,500 square feet of land disturbance, the owner is required to submit a grading plan. A Silt fence is to be utilized along the limits of disturbance. Removal of the impervious areas should be done with handheld equipment only. See the WQIA page 4 (PDF page 5), paragraph. D
55			(e) For any development or redevelopment, stormwater runoff shall be controlled by the use of best management practices (BMPs) in accordance with the requirements of Chapter 124 of the County Code.	<p>The VRRM computation indicate that the pre-developed condition of the site is:</p> <p>Forest Open space = 0.62 ac; 27,007 sq ft Managed Turf = 0.15 ac; 6,534 sq ft Impervious Cover = 0.18 ac; 7,825 sq ft (7,459 in the approved grading plan)</p> <p>The WQIA narrative should explain the basis of this land use data and why the approved grading plan has 7,459 sq ft of impervious area.</p> <p style="padding-left: 40px;">They obtained the pre-existing land use by tracing the approved grading plan into CAD. It generated the 0.18 (precisely 0.179 ac or 7,825 sf).</p> <p style="padding-left: 40px;">The errors are most likely due to scaling from the scan from County records and bringing the image back into CAD and then generating areas via tracing. The discrepancy is 366 sq ft.</p> <p>The proposed conditions:</p> <p>Forest Open space = 0.59 ac; 25,700 sq ft reduction of 1,307 sq ft since 2004 exception Managed Turf = 0.12 ac; 5,227 sq ft reduction 1,307 sq ft since 2004 exception Impervious Cover = 0.24 ac; 10,454 sq ft increase 2,614 square feet since 2004 exception</p> <p>Two planter boxes are proposed to treat flows from parts of the existing roof and driveway. See Sheet 1, and the VRRM Spreadsheet.</p> <p>Planter box 1 with sheet flow to conserved open space; 26 ft by 35 feet; treats 0.05 acres; removes 0.08 lbs. phosphorous.</p> <p>Planter box 2; with sheet flow to conserved open space; 9 ft by 4 feet; treats 0.02 acres; removes 0.03 lbs. phosphorus.</p> <p>The site pre (2004) phosphorous load = 0.54 lbs/year (includes the phosphorous Load from the forested area). See VRRM Spreadsheet Site tab; C56</p>

					<p>The adjusted site proposed phosphorus load = 0.51 lbs/year. See VRRM Spreadsheet Site tab; I56</p> <ul style="list-style-type: none"> • The applicant must justify the pre-developed land cover conditions and explain why these differ to the land cover on the approved 2004 grading plan. If the pre-developed land cover is supported, then a water quality benefit is demonstrated with the planter boxes discharging to conserved open space. • If the pre-development land use is not supported, the VRRM calculations and the size of the treated area and BMPs/planter boxes would need to be adjusted so that a water quality benefit is achieved. <p>The applicant is proposing a gravel diaphragm adjacent to the patio and discharging the runoff from the patio as sheet flow to conserved open space.</p>
56	Page 71 of PDF			(f) The Director shall require certification on all plans of development that all wetlands permits required by law will be obtained prior to commencement of land-disturbing activities in any area subject to the plan of development review.	<p>The applicant states that no wetlands are to be disturbed; the INF plan will have a certification regardless of the presence of wetlands.</p> <p>See line 18.</p>
57				(g) Restrictions for on-site sewage disposal systems required are addressed in the plan and the narrative	N/A
58				(h) The restrictions for agricultural land are addressed on the plan and in the narrative	N/A
59				(j) The buildable areas allowed on each lot must be delineated on all preliminary plans, site plans, minor site plans, subdivision plans, infill lot grading plans, conservation plans, rough grading plans and public improvement plans. The buildable area must be based on: 1) the performance criteria specified in Article 3 of this Code, 2) the minimum required yards of the zoning district in which the lot is located, and 3) any other relevant easements or limitations on lot coverage.	<p>The applicant will be required to delineate the buildable area on all future plan submissions. ZO § 17-105.2.H and ZO § 17-106.33</p>
Plan / Narrative 118-3-3					
60			Page 3, b)	(d) The plan and narrative address the buffer area requirements: To minimize the adverse effects of human activities on the other components of the RPA, state waters and aquatic life, a buffer area that is effective in retarding runoff, preventing erosion and filtering nonpoint source pollution from runoff shall be retained, if present, and established where it does not exist. Notwithstanding permitted uses, encroachments and vegetation clearing, authorized by this Chapter, the buffer area is not reduced in width.	<p>Much of the existing forest lacks a well-defined understory.</p> <p>See the WQIA page 3 (PDF page 4) paragraph b, "much of the forest lacks a well-developed understory".</p> <p>The applicant is proposing seed mix to establish the understory in the newly planted areas of the site. Consideration should be given to using seed mix throughout the site to re-establish understory".</p>

61				(e) On agricultural lands, the buffer area must be managed to prevent concentrated flows of surface water from breaching the buffer area and appropriate measures, as recommended by the Northern Virginia Soil and Water Conservation District, may be taken to prevent noxious weeds from invading the buffer area.	N/A
62			Sheet 4	(f) Buffer area establishment: Where buffer areas are to be established, they shall consist of a mixture of overstory trees, understory trees, shrubs and groundcovers. The density of overstory trees shall be a minimum of 100 trees per acre. The density of understory trees shall be a minimum of 200 trees per acre. The density of shrubs shall be a minimum of 1,089 plants per acre. If seedlings are used instead of container plants, the density of trees shall be doubled. Large caliper trees shall not be planted on slopes steeper than 2:1. Plant materials shall be randomly placed to achieve a relatively even spacing throughout the buffer. The Director may approve the use of a seed mixture as a supplement to or in lieu of individual plants for shrubs and groundcovers. Plants shall be native to the degree practical and adaptable to site conditions. Wetland plantings (including herbaceous plantings) and/or wetland seed mix shall be used where site conditions warrant. Plant materials and planting techniques shall be as specified in the Public Facilities Manual.	The disturbance in the RPA associated with the violation is 6,398 square feet. The applicant proposes to re-plant 5,157 square feet to the density in 118-3-3(f) See the WQIA page 6 (PDF page 7) paragraph e.