



# County of Fairfax, Virginia

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**October 23, 2014**

## **DEPARTMENT OF PUBLIC WORKS & ENVIRONMENTAL SERVICES**

### **ENVIRONMENTAL & SITE REVIEW DIVISION**

#### **STAFF REPORT**

#### **RESOURCE PROTECTION AREA ENCROACHMENT EXCEPTION #7589-WRPA-001-1 & WATER QUALITY IMPACT ASSESSMENT #7589-WQ-001-1**

In conjunction with Rezoning Application #RZ 2013-MV-015; Special Exception Amendment #SEA 81-V-017-2; #PCA 1998-MV-032; PCA 1998-MV-033

#### **MOUNT VERNON DISTRICT**

**APPLICANT:** Dewberry Consultants LLC

**PROPERTY OWNER:** Board of Supervisors, County of Fairfax

**PROJECT LOCATION:** 9600 & 10000 Ox Road, Lorton, VA 22079

**TAX MAP REFERENCE:** 106-3-((1))-4B, 9; 106-4-((1))-20B(pt.), 56A; 112-2-((1))-8, 9, 11, 12, 14-01-0009

**APPLICATION FILED:** February 11, 2014

**APPLICATION ACCEPTED:** February 12, 2014

**WATERSHED:** Occoquan

**RPA EXCEPTION REQUEST:** General Resource Protection Area (RPA) Encroachment Request, Chesapeake Bay Preservation Ordinance (CBPO) Section 118-6-9

**PROPOSAL:** Exception to allow encroachment into the 2003 RPA for use of the quarry as a water storage facility with

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**Department of Public Works and Environmental Services**  
**Land Development Services**  
12055 Government Center Parkway, Suite 444  
Fairfax, Virginia 22035-5503  
Phone 703-324-1720 • TTY 711 • FAX 703-324-8359



Resource Protection Area Encroachment Exception #7589-WRPA-001-1 and Water Quality Impact Assessment Request #7589-WQ-001-1

an innovative, phased, two pit approach so that interim water supply storage can be provided in 2035, with a significantly larger water storage facility to be provided around 2085.

**PROPERTY AREALOT SIZE:** +/- 419.96 acres

**ENCROACHMENT AREA REQUESTED:** +/-13.47 acres

**PUBLIC HEARING:** General RPA Encroachment Requests under CBPO Section 118-6-9 associated with a Rezoning Application (RZ) require approval by the Board of Supervisors through a public hearing held conjunction with the public hearing for the RZ per procedures of CBPO Section 118-6-3(d).

**DESCRIPTION:** The applicant proposes to reconfigure quarry operations to facilitate creation of water supply reservoir for Fairfax Water at the existing Vulcan Graham Quarry by eliminating part of 2003 RPA associated with Little Occoquan Run.

**BACKGROUND:** The existing Vulcan/Graham Quarry comprises a single pit located on the north side of the Occoquan River and west of Route 123 (Ox Road) in Fairfax County, Virginia. A smaller inactive pit (Graham I) is currently owned and operated by Fairfax Water and is used to decant residual treatment plant processed water prior to discharge in compliance with a VPDES permit. Once this pond is filled to capacity with filtration solids it will be reclaimed with soil/overburden from the quarry operations. The larger active pit (Graham II) which is owned and operated by Vulcan is located northwest of Graham I. Some of the existing structures in the property are associated with Fairfax Water Authority and rests are quarry related.

Fairfax Water has recently worked with Vulcan to create a storage plan that affords interim water supply storage in the year 2035 to address mid-term needs, as

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well as a long range plan to significantly increase water supply beyond 2035. This will involve the creation of a critically-timed “divider” within the existing pit which will separate a smaller “northern” pit from the “southern” pit. Delivery of the northern pit to Fairfax Water will provide almost 1.8 billion gallons of water supply storage. The remainder of the Quarry, which would provide additional future water supply storage potential of 7 to 15 billion gallons, would be delivered to Fairfax Water sometime around 2085. The realization of this innovative plan involves a reconfiguration of the quarry pit in order to address the mid-term water storage as well as the long-term water storage needs and at the same time ensure continued operations of the quarry to recover the resource and create the future water storage areas.

The proposed site includes the demolition of existing structures associated with Fairfax Water Authority, relocation of existing quarry related structures, temporary diversion of Little Occoquan Run into Elk Horn Run in order to facilitate mining operations to use the quarry as a water storage facility with an innovative, phased, two-pit approach so that interim water supply storage can be provided in 2035, with a significantly larger water storage facility to be provided around 2085.

The development proposes temporary encroachment and elimination of the RPA associated with Little Occoquan Run. The proposed activities within the RPA include: temporary diversion of Little Occoquan Run, creation of northern reservoir, divert Little Occoquan Run into the northern reservoir and abandon the temporary diversion, and then creation of southern reservoir.

A RPA Boundary Delineation and Water Quality Impact Assessment, #7589-WQ-001-1, was also submitted on February 12, 2014.

**DOCUMENTS AND**

In addition to Zoning Application #00014-ZONA-001-1, following information is part of this application:

**CORRESPONDENCE:**

- RPA Encroachment Exception Application signed dated February 11, 2014 (Appendix A)
- Special Permit Amendment Plat # SPA 82-V-091-06 (Appendix B)
- Special Exception Amendment # SEA 81-V-017-02
- Proffered Condition Amendment # PCA 1998-MV-032
- Proffered Condition Amendment # PCA 1998-MV-033
- RPA Boundary Delineation and Water Quality Impact Assessment (WQIA) #7589-WQ-001-1(Appendix C)

**ANALYSIS:**

RPA was not designated on the property when the parcel was created. The RPA was created on this property in 1993 and 2003.

The existing structures in the properties are structures associated with decommissioned old water treatment plant of Fairfax Water Authority and quarry related structures associated with Vulcan's Quarry.

An RPA delineation study and Jurisdictional wetlands delineation was done in February 2014 and indicates that part of stream valley portion of the parcel on the middle and west is located within the RPA.

There are three areas of RPA encroachment. The first is a small temporary disturbance of 0.16 acres associated with tie in of the temporary pipe diversion of water to the Elk Horn Run at its confluence with the Occoquan River. This RPA disturbance is water dependent and can be approved by waiver. The second is the encroachment which requires a special exception request and consists of a proposed conversion of 7.97 acres of the Little Occoquan Run RPA to a reservoir. The conversion will require a portion of Little Occoquan Run to be removed which is being permitted with the USACE and DEQ. Upon approval by these

agencies, the removal of the stream as part of the reservoir development will also require approval of the removal of the RPA associated with it. The third area of encroachment is a 5.34 acres area within the current quarry. This area was disturbed prior to adoption of CPBO; however it is included on the County's 2003 Chesapeake Bay Preservation Area (CPBA) Map 112-2.

Upon anticipated completion of the temporary diversion of Little Occoquan Run in 2019, the project will remove 64.95% of the phosphorus from the site area of 419.96 acres which is more than 50% required by WSOD because of treating the water in the quarry pit as per DEQ's stringent requirements before discharging into the surface water. Upon completion of the quarry operations in approximately 2085, when the quarry is converted to a water supply reservoir thereby acting as a BMP will remove the phosphorus load from Little Occoquan Run watershed by 96%.

There is regulated floodplain and environmental quality Corridor (EQC) within the limits of the property.

**REQUIRED FINDINGS:**

General RPA Encroachment Exceptions may be granted only upon the findings listed in CBPO Section 118-6-6 and the additional finding in CBPO Section 118-6-9. It is the opinion of County staff that the required findings, as discussed below, have been satisfied with this application.

- The exception to the criteria is the minimum necessary to afford relief.

The disturbance of the 13.47 acres within the delineated RPA is the minimum necessary to safely create the Rock Wall that is required for the two-pit design so interim water supply storage can be provided by 2035. The stability of the walls and the benching requirements necessary for the two-pit design dictate this encroachment into RPA to allow land on both sides of RPA to be employed in the creation of the reservoir/pit. It is

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the opinion of staff that this exception request is the minimum necessary to afford relief, CBPO Section 118-6-6(a).

- Granting the exception will not confer upon the applicant any special privileges that are denied by this part other property owners who are subject to its provisions and who are similarly situated.

With its unique location immediately in between the existing Griffith Plant and the Occoquan Reservoir and River, the Quarry truly is unique. It provides an opportunity to develop a long term, cost-effective drinking water supply immediately to an existing water treatment plant, a situation that does not exist anywhere else in the county. The overwhelming public benefits of this proposal alone distinguish it from any other encroachment request. Furthermore, the County amended comprehensive plan to allow development of water reservoir in this area, therefore, this application is consistent with the Board policy. Granting the exception will not confer upon the applicant any special privileges since it is not granting a right to something that has been denied to similar property owners.

- The exception is in harmony with the purpose and intent of the CBPO and is not of substantial detriment to water quality.

Upon completion, the Northern Reservoir will serve as a large Best Management Practices (BMP) facility to reduce sediments and nutrients from stormwater runoff from the Little Occoquan Run watershed. While under construction and being utilized as a reservoir, any water discharged from the reservoir/pit will be regulated by DEQ VPDES permit regulations meeting the requirements of the CBPO. As the purpose of the RPA buffer is to improve water quality primarily through filtration, the loss of a physical buffer area is compensated by the water quality benefit

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occurring during use of the quarry as a reservoir. The environmental benefits that will be provided by the quarry once it becomes reservoir and the avoidance of greater environmental impacts from alternative water supply options far outweigh the RPA value of the affected segment of Little Occoquan Run, resulting in a clear and substantial overall net environmental benefit.

- The exception request is not based upon conditions or circumstances that are self-created or self-imposed.

The property was created prior to the RPA was designated on the property. The phased, two-pit design approach for utilization of the Quarry, so interim water supply storage can be provided by 2035, requires certain unavoidable encroachments into the RPA. This can only be accomplished by leaving the Rock Wall in place to divide the existing quarry into two distinct pits. The current Quarry must be reconfigured to provide the mandatory safety measures necessary to create the Northern Reservoir. This encroachment is necessary to address a compelling public water supply need in the most environmentally sound approach available. The exception request 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.

The proposed Development Conditions, dated October 23, 2014, are included in Attachment A and specify water quality related improvements including, but not limited to, the proposed RPA buffer restoration area in order to intercept and filter the stormwater runoff.

- General RPA Encroachment Exception requests pursuant to CBPO 118-6-9 are subject to the

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additional finding that the water quality benefits resulting from the proposed facility or improvement exceed the associated water quality detriments.

The applicant states that upon anticipated temporary diversion completion, the reservoir will also function as a BMP thereby reduce the Phosphorus load by 64.95% from the overall site area which is more than 50% required by the Occoquan Water Protection Overlay District. The application also proposes to stabilize, re-vegetate the disturbed area and create 6.71 acres of buffer area within the site and 4.74 acres of buffer area in the Mason Neck Park as a part of EQC mitigation.

**STAFF RECOMMENDATION:** Staff recommends approval of RPA Exception (#7589-WRPA-001-1) and Water Quality Impact Assessment (#7589-WQ-001-1), amendment of CPBA map and recommends that the approval be subject to the Development Conditions dated October 23, 2014, listed in Appendix A.

It should be noted that it is not the intent of staff to recommend that the Board, 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 the staff; it does not reflect the position of the Board of Supervisors. For further information, contact the Site Development and Inspections Division, Office of Land Development Services, Department of Public Works and Environmental Services, 12055 Government Center Parkway, Suite 535, Fairfax, Virginia 22035-5505, 703-324-1720.

## PROPOSED DEVELOPMENT CONDITIONS

### 7589-WRPA-001-1 and 7589-WQ-001-1

October 23, 2014

If it is the intent of the Board of Supervisors to approve Resource Protection Area (RPA) Encroachment Exception #7589-WRPA-001-1 and Water Quality Impact Assessment #7589-WQ-001-1 for the property located at Tax Map #106-3-((1))-4B, 9; 106-4-((1))-20B(pt.), 56A; 112-2-((1))-8, 9, 11, 12, 14-01-0009 to allow encroachment in the RPA pursuant to Section 118-6-9 of the Fairfax County Chesapeake Bay Preservation Ordinance (CBPO), staff recommends that the Board condition the approval by requiring conformance with the following conditions:

1. This RPA Encroachment Exception is granted for and runs with the land indicated in this application and is not transferable to other land.
2. This RPA Encroachment Exception is granted only for the purposes, structures 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 *Vulcan/Graham Quarry SPA Plat* prepared by Dewberry Consultants LLC, dated December, 2013, and these conditions.
4. In order that the land disturbed within the RPA can be considered to be the minimum necessary to afford relief for the proposed construction, indigenous vegetation shall be preserved to the maximum extent possible, the limits of clearing and grading must be clearly shown on any development plan, and adequate access and areas for stockpiles must be included. Any development plan will be subject to approval by the Department of Public Works and Environmental Services (DPWES). The limits of clearing and grading must be strictly observed and enforced. Any encroachment into, and/or disturbance of, the RPA not shown on the approved plan will be considered a violation of the CBPO and is subject to the penalties of CBPO Article 9.
5. 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, a minimum vegetated buffer area(s) shall be established as far as possible in the disturbed areas or in the nearby watershed within the RPA and shall be of a total area of at least 11.45 acres. 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 (WQIA), the size, species, density, and locations of the trees, shrubs, and groundcover will be subject to approval of the Director of the DPWES.

6. In order that the proposed construction activity does not degrade water quality, adequate erosion and sediment control measures, including, but not limited to, a 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.

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.