



**A Publication of the County of Fairfax, Virginia  
Department of Planning & Zoning**

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## **STAFF REPORT 2009-2010 SOUTH COUNTY AREA PLANS REVIEW**

**SUPERVISOR DISTRICT:** MOUNT VERNON

**APR ITEM:** 09-III-4P

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**NOMINATOR(S):** Michael Grogan on behalf of the South County Federation

**ACREAGE:** 79.5 acres

**TAX MAP I.D.:** 106-3 ((1)) 4B; 106-4 ((1)) 1B, 20B part, 23, 24, and 25

**GENERAL LOCATION:** Generally located south of Peniwill Drive, west of Route 123, and north of the Occoquan River.

**PLANNING AREA:** III  
**District:** Pohick  
**Sector:** P5 Dominion Community Planning Sector  
**Special Areas:** N/A

**ADOPTED PLAN MAP:** Residential uses at a density up to .1-.2 dwelling units per acre

**ADOPTED PLAN TEXT:** The area is planned for residential use at .1-.2 du/ac, with an option for parcels 4B, 1B and 20B (pt.) to expand the quarry. Industrial uses are not planned in this area. The quarry is recommended to be buffered from residential uses, with environmental impacts mitigated and safe road access to quarry provided. Complete plan text is shown in the Adopted Comprehensive Plan Text section.

**PROPOSED PLAN AMENDMENT:** Existing quarry operations are incompatible with surrounding residential community and should be discontinued at earliest possible time. The surrounding residential community should be protected from encroachment of non-residential uses. Environmental impacts of quarry operations should be mitigated.

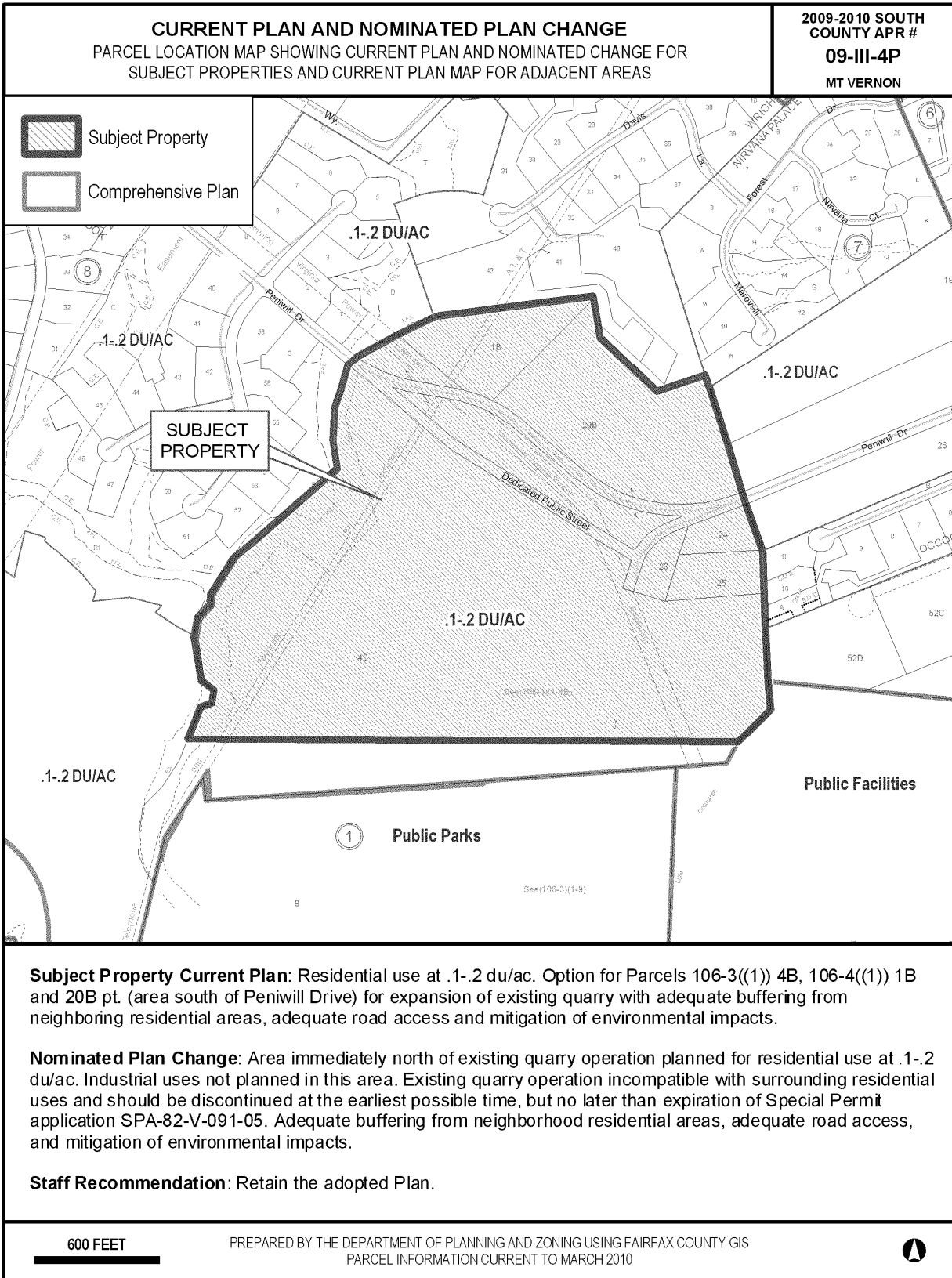
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**SUMMARY OF STAFF RECOMMENDATION:**

- Approve Nomination As Submitted
  - Approve Staff Alternative
  - Retain Adopted Plan
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Staff recommends that current plan be retained. The proposed nomination asserts that the quarry operation is incompatible with surrounding residential uses and the vision for this area as a southern "gateway" into Fairfax County. However, the residential uses and quarry operations have been supported by the Comprehensive Plan for many years. In addition, the Vulcan Quarry

spans the LP1 Laurel Hill (Lower Potomac Planning District) and P5 Dominion (Pohick Planning District) Community Planning Sectors. The LP1 Laurel Hill sector is not eligible for review because the Comprehensive Plan guidance for this sector was recently amended. By addressing guidance only in the P5 Dominion sector, the nomination fails to encompass the entire quarry. Therefore, the proposal to discontinue the quarry operations is beyond the scope of the nomination.



## CONTEXT

### General Location:

The nomination concerns the P5 Dominion Community Planning Sector within the Pohick Planning District. The subject area is generally located south of Peniwill Drive, west of Route 123, and north of the Occoquan River.

### Existing and Planned Land Use and Zoning:

**Subject property:** The subject area is developed with the northern portion of the Vulcan Quarry, two single-family homes (owned by Vulcan Quarry), and vacant land and is planned for residential use at a density of .1-.2 du/ac. The subject property is zoned R-1.

#### **Adjacent Area:**

**North:** The area to the north is developed with single-family homes and is planned for residential use at a density of .1-.2 du/ac. The area is zoned R-1.

**West:** The area to the west is developed with single-family homes planned for residential use at a density of .1-.2 du/ac and zoned R-1.

**South:** The area to the south contains lands owned by Vulcan Quarry planned for public facilities and zoned R-C.

**East:** The area to the east is developed with single-family homes and lands owned by the Fairfax County Water Authority and planned for public facilities. The area is zoned R-1 and PDC.

## PLANNING HISTORY

The quarry, which has been in operation since 1979, predates the surrounding residential community by several years. Through the special permit which requires renewal on a 5-year cycle, the quarry's activities are monitored. The quarry's latest permit expires in 2012. There have been no nominations for the subject property within the last 10 years.

## ADOPTED COMPREHENSIVE PLAN TEXT

Fairfax County Comprehensive Plan, Pohick Planning District, Area III, amended through 3-9-2010, P5 Dominion Community Planning Sector, Land Use, pages 62-64:

7. The area immediately north of the existing quarry operation is planned for residential use at .1-.2 dwelling unit per acre. As an option, Parcels 106-3((1))4B, 106-4((1))1B and 20B pt. (not including property adjacent to the north side of Peniwill Drive) may be appropriate for an expansion of the existing quarry to the south, located in Community Planning Sector LP1 in Area IV. Industrial uses other than the expansion of the quarry are not planned in this area nor should they be permitted. As this area is adjacent to lands planned for very low density residential use, the quarry expansion area should be limited in size and well buffered from adjacent parcels. In addition, the environmental impacts of the expansion

should be mitigated and safe and adequate road access provided. The expansion of the quarry in this location is only appropriate if the following conditions are met:

- The current operating conditions remain in effect;
- The expansion of the quarry pit and operations should be limited in size and location to insure that the impact of this use on surrounding uses is mitigated. This will provide for a supply of stone resources sufficient to meet demand for many years while assuring the quarry expansion will be finite in this location and will protect the residential character of the areas to the north, east and west from further expansion of non-residential uses;
- The proposed pit expansion area should be limited to approximately 30 acres in the southern portion of Parcel 106-3((1))4B and should be contiguous with the existing pit located in Area IV; storage and equipment areas, settlement ponds, and access ways should be located on approximately 30 to 40 acres; and a buffer area should consist of approximately 45 to 55 acres. This vegetative buffer should be provided around the periphery of the site and should include Environmental Quality Corridors (EQCs) and the maximum amount feasible of mature hardwood forests. In addition to including EQC and forest areas, this vegetative buffer should be 100 to 200 feet in width to protect all existing or planned residential development from noise and visual impacts of the quarrying operations. Supplemental plantings should be provided in the buffer where no mature trees exist;
- The direct and the indirect environmental impacts of any proposed quarry expansion should be appropriately mitigated. The scope of the quarry expansion should be designed to balance efficient stone removal with preservation of significant environmental resources such as EQCs and adjacent upland hardwood tree cover. In addition to the buffer area described above, other critical EQC areas and significant areas of upland hardwood forest cover adjacent to the EQCs should be preserved to the maximum extent feasible. The applicant should comply with all requirements of the Chesapeake Bay Preservation Act;
- The quarry expansion should be carefully planned to provide siltation basins that will contain sediment on-site and prevent off-site discharges that could adversely impact water quality. The pit drainage system should be carefully designed to maintain pre-quarry drainage patterns to the extent feasible. Tree cover on the site should be maintained as long as possible. Erosion and sediment controls should be in place prior to any clearing of expansion areas;
- The quarry operator should provide necessary improvements at the site entrance to Route 123 (Ox Road) and along Route 123 (Ox Road) near the intersection as may be required by Virginia Department of Transportation (VDOT);
- The proposed expansion of the quarry should only use the existing access road through the Water Authority property. A second access for emergency vehicles only should be provided to Route 123 (Ox Road). No use of any additional access points is recommended along Route 123 for daily quarry operations; and

- Alternative public street access to Route 123 (Ox Road) should be provided to the residential land west of Elk Horn Run and should be well-buffered from all quarrying operations.

## NOMINATED PLAN AMENDMENT

The nomination proposes to add the following text shown as underlined, to the Pohick Planning District, Area IV, amended through 3-9-2010, P5 Dominion Community Planning Sector, pages 62-64:

**MODIFY:** Fairfax County Comprehensive Plan, 2007 Edition, AREA III, Pohick Planning District, amended through 1-26-2009, Overview, Pages 62-64:

The area immediately north of the existing quarry operation is planned for residential use at .1-.2 dwelling unit per acre. As an option, Parcels 106-3((1))4B, 106-4((1))1B and 20B pt. (not including property adjacent to the north side of Peniwill Drive) may be appropriate for an expansion of the existing quarry to the south, located in Community Planning Sector LP1 in Area IV. Industrial uses ~~other than the expansion of the quarry~~ are not planned in this area nor should they be permitted.

The existing quarry operations are incompatible with the surrounding residential character of the community and should be discontinued at the earliest possible time, but no later than the expiration of its Special Permit Application (SPA-82-V-091-05). As this area is adjacent to lands planned for very low density residential use, accordingly, until its closure, the quarry ~~expansion area~~ should be limited in size and well buffered from adjacent parcels. In addition, the environmental impacts of the ~~expansion quarry~~ should be mitigated and safe and adequate road access provided. The ~~expansion of the quarry~~ in this location is ~~only inappropriate and if the following conditions should be are met until its closure:~~

- The current operating conditions remain in effect;
- The ~~expansion of the quarry pit and operations~~ should be limited in size and location to insure that the impact of this use on surrounding uses is mitigated. This will ~~provide for a supply of stone resources sufficient to meet demand for many years while assuring~~ the quarry ~~expansion~~ will be finite in this location and will protect the residential character of the areas to the north, east and west from ~~further encroachment expansion~~ of non-residential uses;
- The proposed pit ~~expansion~~ area should be limited to approximately 30 acres in the southern portion of Parcel 106-3((1)) 4B and should be contiguous with the existing pit located in Area IV; storage and equipment

areas, settlement ponds and access ways should be located on approximately 30 to 40 acres; and a buffer area should consist of approximately 45 to 55 acres. This vegetative buffer should be provided around the periphery of the site and should include Environmental Quality Corridors (EQCs) and the maximum amount feasible of mature hardwood forests. In addition to including EQC and forest areas, this vegetative buffer should be 100 to 200 feet in width to protect all existing or planned residential development from noise and visual impacts of the quarrying operations. Supplemental plantings should be provided in the buffer where no mature trees exist;

- The direct and the indirect environmental impacts of ~~any proposed quarry expansion operations~~ should be appropriately mitigated. ~~The scope of the quarry expansion should be designed to balance efficient stone removal with~~ preservation of significant environmental resources such as EQCs and adjacent upland hardwood tree cover should be prioritized. In addition to the buffer area described above, other critical EQC areas and significant areas of upland hardwood forest cover adjacent to the EQCs should be preserved to the maximum extent feasible. The applicant should comply with all requirements of the Chesapeake Bay Preservation Act in its restoration of this area upon cessation of operations;
- The quarry ~~expansion~~ should be carefully planned and monitored to provide siltation basins that will contain sediment on-site and prevent off-site discharges that could adversely impact water quality. The pit drainage system should be carefully designed to maintain pre-quarry drainage patterns to the extent feasible. Tree cover on the site should be maintained as long as possible. ~~Erosion and sediment controls should be in place prior to any clearing of expansion areas~~ there should be no additional clearing of land;
- The quarry operator should provide necessary improvements at the site entrance to Route 123 (Ox Road) and along Route 123 (Ox Road) near the intersection as may be required by Virginia Department of Transportation (VDOT);
- The ~~proposed expansion of the~~ quarry should only use the existing access road through the Water Authority property. A second access for emergency vehicles only should be provided to Route 123 (Ox Road). No use of any additional access points is recommended along Route 123 for daily quarry operations; and
- Alternative public street access to Route 123 (Ox Road) should be provided to the residential land west of Elk Horn Run and should be well-buffered from all quarrying operations.

## ANALYSIS

### Land Use

The recommendation to discontinue the quarry operation is based on the assertion that such a use is inconsistent with the area's emerging identity as a gateway to Fairfax County and should be redeveloped for low density single-family detached housing. With respect to serving as a gateway, the quarry is not visible from the I-95 corridor. In terms of transition to residential uses, it is buffered from a single-family neighborhood by a 200 foot wide buffer area that contains a 100 foot wide vegetated screening area, and a berm up to 15 feet in height. The Special Permit granted to the quarry by the Board of Zoning Appeals includes a condition that notes the location of this berm on the north side of Peniwill Drive, and that the berm shall be maintained, which prevents further northward expansion of the quarry operations. Given the depth and extent of the quarry, it is unlikely that redevelopment for residential uses could occur.

The quarry helps to support the local economy by supplying building materials for public and private construction projects. The location of the quarry minimizes transportation costs and reduces cross county truck traffic because these construction materials would otherwise have to be imported into the County. The quarry has been identified by the Fairfax Water Authority as a desirable future "water banking" site to augment the County's potable water supply in times of high demand and drought emergency. The Policy Plan encourages maintaining a balance of land uses, including industrial concerns as well as minimizing undesirable visual, auditory and other impacts created by disparate uses.

Issues related to blasting at the quarry and its effects on nearby residential areas have been raised. Blasting and other complaints about the quarry's operations are zoning enforcement related, and not land use policy (Comprehensive Plan) related.

### Water Supply Planning

Fairfax Water is a signatory to the Water Supply Coordination Agreement of 1982 with other regional water supply agencies including the Washington Suburban Sanitary Commission, and the Washington Aqueduct. These utilities are required by this agreement to engage in 20-year water supply demand forecasts and water supply reliability assessments every 5 years. These efforts have determined that current water supply facilities are adequate for the next 40 years; however, additional water storage capacity in the region will be needed after that time. The Commonwealth of Virginia also requires that all local jurisdictions prepare a water supply plan with a horizon of between 30-50 years. Fairfax Water has identified a need for additional water supply capacity within the County in the next 30 years, primarily due to the impact of planned BRAC related development. Fairfax Water has identified the Vulcan Quarry as a potential future water storage facility to deal with a projected shortfall in the region by 2040, and if mining operations cease at that time, the quarry could provide a storage capacity of up to 14 billion gallons and up to 70 million gallons per day.

**RECOMMENDATION**

Staff recommends that the current Plan be retained. Long standing land use plan guidance supports the quarry's location adjacent to a residential area. The Vulcan Quarry spans both the LP1 Laurel Hill sector in the Lower Potomac Planning District and the P5 Dominion sector within the Pohick Planning District. The LP1 Laurel Hill sector is not eligible for review within this cycle of the Area Plans Review because it was recently reviewed as part of a special study. The text in the LP1 Laurel Hill sector referring to the quarry recommends its continued operation. By addressing only a portion of the quarry, a direct conflict with this guidance would result from this nomination. Finally, the 73-acre area which occupies the nomination area is physically part of the greater quarry operation and should not be severed, which leads to questions about how the recommendation to close the quarry could be implemented through this proposed change to the Comprehensive Plan.

**APR 09-III-4P Vulcan Quarry  
Parcels 106-3 ((1)) 4B; 106-4 ((1)) 1B, 20B part, 23, 24, 25**

