

1700 Kraft Drive, Suite 2350  
Blacksburg, Virginia 24060  
www.edenandassociates.com



Phone: 276-632-6231  
Fax: 276-632-3648  
meredith@edenandassociates.com

February 6, 2023

Paul Patterson, Zoning Administrator  
Town of Blacksburg  
400 South Main St.  
Blacksburg, VA 24060

RE: Glade Spring Crossing Creek Valley Overlay Additional Disturbance Request

Dear Mr. Patterson,

This letter serves as a formal request for authorization for disturbance in the Creek Valley Overlay within the boundaries of tax parcel 225-(A)-3 as part of the Glade Spring Crossing rezoning (RZN 22-0004) and subdivision processes. Additional requests pertaining to the Creek Valley Overlay were contained within a letter dated November 29, 2022. It is not the intent of this letter to rescind the requests contained within the previous correspondence, rather to add one additional. A disturbance under zoning ordinance section 3235 “Disturbance” is requested in addition to previously requested disturbances.

- 1) Zoning Ordinance Section 3235– Disturbance requires “No grading or other ground disturbing activities shall be permitted in the Creek Valley Overlay District, unless authorized, in writing, by the Zoning Administrator.” This is the formal request for disturbance within the Creek Valley Overlay for the construction of items allowed per the Creek Valley Overlay Permitted Uses listed in Section 3232.
  - a) While existing potential wetlands are not within 50’ of the channel centerline, staff interpretation of the 100-year floodplain backwater has resulted in a request to include a nearby wetland in the redrawn CVO. These wetlands have not been confirmed by USACE, they were flagged by a preliminary environmental investigation. They are located within the perimeter of a decommissioned/draind farm pond. A stormwater management facility is proposed over the old farm pond, and thus within the CVO. Given the topography of the site, the proposed facility must be placed in this location to receive and treat both onsite and offsite runoff. The facility assists in both reducing the peak flow rate and phosphorus and nitrogen load in the downstream channel.

In reducing the peak flow rate, the pond will help mitigate the existing flooding experienced by downstream property owners. Virginia stormwater quality regulations set target reductions in phosphorus and nitrogen loads as excessive nutrients can result in harmful algal growth in waterways. In 2011, Virginia introduced a new water quality treatment framework to better mitigate the effects of nutrient runoff associated with new land development projects. Most of the offsite contributing drainage area (Kroger, USPS building, University Place apartments) was developed prior to the implementation of the improved water quality regulations. As a result, these developments contain minimal-to-no water quality treatment measures. The proposed wet pond represents the best opportunity to provide appropriate water quality treatment for these developments prior to the runoff entering a waterway.

The proposed wet pond also provides water quantity and quality treatment for the proposed development by conveying runoff from the south side of the development to the facility. This is a recommended Best Management Practice for DEQ. Given the contributing drainage area, the facility can exceed the development's required phosphorus load reduction by 12.5 lb/yr. In order to function properly and be designed in accordance with DEQ standards, a large footprint is required to accommodate the facility. This includes proper settling areas and shaping for nutrient uptake. This footprint necessitates the pond embankment to encroach upon the Creek Valley Overlay. As a result, we are requesting permission to disturb the area under zoning ordinance 3231. This disturbance will permit the construction of the embankment, discharge pipe, stabilization of the eroded receiving channel, and all erosion and sediment control incidental to these activities.

In essence, the developer would be substituting a more prosperous wetland, much larger in size and environmental benefit, than the one currently shown. Additionally, if the underlying wetland is confirmed by the USACE, the developer will be required to mitigate it prior to reconstructing the preferred wetlands in the form of the regional wet pond.

If the disturbance were not to be permitted, the Glade Spring Crossing development would be unable to provide any water quality treatment to offsite areas and would be required to meet the regulations by constructing small BMPs interior to the development and via the purchase of water quality treatment credits. The space required by these BMPs would result in fewer mixed-income units on the south side of the development and increased long term maintenance costs for the HOA. Additionally, development costs associated with the BMPs and credits may make the development financially infeasible. Infiltration practices require specific onsite soil conditions to function, meaning that bioretention measures may be needed. Infiltration BMPs require a geotechnical investigation at each location, which increases design costs as well as iteration to find suitable locations. Bioretention measures require an engineered soil media, which drastically increases the construction and maintenance costs. Ultimately, the proposed wet pond is the most practical stormwater management strategy due to its effectiveness, simplicity, and lower short- and long-term cost.

- b) Unrelated to this ordinance, the applicant understands that no increase in the 100-year floodplain shall result.

Thank you for your consideration of these items.  
Best,



Meredith Jones, P.E. Principal  
Eden & Associates P.C.