



Save Crow's Nest P.O. Box 78 Brooke, VA 22430-0075

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Subject: TRC review of preliminary plan #241944

Dear Sirs,

I am writing to you regarding the upcoming Technical Review Committee (TRC) meeting on the preliminary plan for lots 48-1 and 49-27, known as Crow's Nest. The geography, terrain and hydrology of this site present many challenges for development. If not done correctly, development of the property could severely impair surrounding waters, impact on the habitat of endangered species, and present a safety hazard for adjacent residents. Any plan for development of this site must be done so that it minimizes the impact on the environment and ensures that the health and safety of residents are protected.

Save Crow's Nest hired consultant John Williams to review the preliminary plan for 48-1 and 49-27, known as "Crow's Nest." In February, he provided two sets of written comments to the Office of Planning. I am writing to request that the issues raised by Mr. Williams be considered by the TRC. Additionally, after the TRC has made its recommendations regarding the plan I would like to meet with representatives of the Office of Planning to find out how each of these issues was addressed.

Mr. Williams made the following observations and recommendations:

***Key Findings***

**Stormwater Management**

- The proposed development could cause large scale erosion and high-velocity, high-volume

stormwater run-off.

- Proposed bioretention facilities may not provide adequate containment and treatment of stormwater.
- The bioretention facilities may not mitigate the potential for severe erosion and floods from accelerated stormwater flows.
- The stormwater management plan may not comply with County and State requirements.
- Each bioretention facility is technically a discrete, channelized "point source" of stormwater discharge that ought to be regulated by a formal state-issued discharge permit.
- Proper maintenance of the bioretention facilities is critical to the performance of stormwater management. This maintenance will be a challenge. Individual homeowners should not be expected to adequately maintain these backyard ponds. They are not engineers.

### **Plan Design and Groundwater Considerations**

- The plan appears to have been developed using a "cookie cutter" approach, in which lot lines, buildings, bioretention facilities, wells and drainfields were placed without regard for the topography, soil types, or water features.
- Given the water withdrawal rate and the location and clustering of drain fields, groundwater levels in the area may decline; wells may interfere with one another; and groundwater may become polluted.
- Impervious surface area calculations and open space ratios are determined by including outlots and common space, and the assumptions behind these calculations are not transparent.

### **Chesapeake Bay Preservation Area Overlay District**

- The perennial flow assessment submitted as part of the preliminary plan application is incomplete and does not meet requirements for an environmental site assessment.
- The plan does not denote all field determined critical resource protection areas.
- The preliminary plan does not include the landscaping element.
- It appears that at least one road and possibly several building sites will encroach upon CRPAs.
- The proposed development site has multiple unique characteristics that could impact on water quality, including but not limited to highly erodible soils, alluvial soils, highly permeable soils, steep slopes and a complex topography.
- The plan and HOA documents do not identify proposed uses for the community lot. The location of the community lot suggests potential future use as a marina or other recreational uses. Additionally, homeowners may expect dock amenities given proximity to water features.

### **Other Observations**

- Wells and drain fields appear to be out of compliance of several aspects of Code of Virginia and Department of Health regulations.
- Names and addresses of holders of any easements affecting the property is not provided for the holders of ROW easements of roads in the Crow's Nest Harbour, through which the proposed subdivision is accessed.
- Blocks on Evergreen Dr. and Road "F" exceed maximum block length length.
- This plan does not provide the required number of access points to adjacent subdivisions and

roads.

- Nearly every cul-de-sac in the proposed subdivision exceeds the maximum cul-de-sac length and two cul-de-sacs exceed the maximum number of houses on a cul-de-sac.
- There are not any fire hydrants and the nearest fire station appears to be more than a mile from the proposed subdivision.
- The road description notes that category I roads in mountainous terrain will have a radius of only 95 feet. It is unclear that the terrain of the proposed site meets VDOT definitions of mountainous terrain.
- Two lots (49D-A-1, 49D-A-40) at the entrance to the subdivision contain unidentified structures or uses.

### ***Recommendations***

#### **Stormwater Management**

- Additional expert review of the stormwater management plan is needed to determine if low-impact development (LID) technologies are appropriate for the development site, given the soil and slope constraints.
- Applicant should ensure that bioretention facilities adequately contain and treat stormwater flows.
- Applicant should demonstrate that the proposed stormwater plan will adequately prevent flooding and channel erosion caused by accelerated stormwater flows.
- Applicant should demonstrate that the proposed stormwater management plan will prevent stormwater discharge from flowing from one property to another.
- Applicant should demonstrate that downstream conveyance channels are capable of containing stormwater flows.
- NPDES permits should be added to list of required permits.
- HOA covenants and restrictions should specify that the HOA shall contract with a professional service for maintenance of the bioretention facilities, and shall maintain records of each after-storm inspection and maintenance.

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#### **Plan Design and Groundwater Considerations**

- Applicant should redraw the plan, taking into consideration the topography, soil characteristics, and water features of the proposed development site; locating building sites on ridge tops; increasing lot size to accommodate natural features; and appropriately locating drain fields in relationship to land contours.
- Applicant should perform hydrologic testing and modeling to determine the degree to which the proposed development may potentially pollute ground water supplies; adversely effect existing wells; and the extent to which ground water supplies are sufficient for the proposed plan, in combination with existing and anticipated future development.
- Pursuant to State of Virginia Code §62.1-257, the County of Stafford should request that the State Water Control Board initiate a ground water management area study proceeding to determine if the public welfare, safety and health require that the proposed site be a ground water management area.
- Pursuant to State of Virginia Code §62.1-261, if the proposed site is determined to be a ground water management area, applicant should apply for a ground water withdrawal permit from the Virginia State Water Control Board.

- Plan should identify if development will be served by either public septic or drain fields on individual lots, but not both.
- Plan should designate disposition of outlots. Deed restrictions should prohibit development of all outlots.
- Homeowner association covenants and restrictions should prohibit building that would increase impervious surface area, such as sheds and additions to primary structure.
- Plan should identify potential development on common lot and HOA covenants and restrictions should restrict such development to a maximum size, which should be included in calculations of impervious surface area.

### **Chesapeake Bay Preservation Area Overlay District**

- The application be returned to the applicant and no further action taken until such time as applicant submits a complete application that is in compliance with all submission requirements of §28-62.
- Applicant to resubmit application with complete environmental site assessment and landscaping element; drawn to the same scale as the plan of development; locating proposed building in relation to CRPAs; and with all CRPAs field determined.
- The Administrator should require a major water quality impact assessment, based on the size of the development, proposed building in CRPAs, and the multiple unique characteristics of the development site.
- Plan should designate uses for community lot. Specifically, HOA covenants and restrictions should prohibit construction of a marina if this use is not planned.
- HOA covenants and restrictions should prohibit construction of docks if this use is not planned.
- If a marina or dock use is planned, this must be taken into account when conducting the major water quality assessment. Additionally, Army Corps of Engineer permits should be added to list of required permits.

### **Other**

- Applicant should indicate location of wells on all lots and such locations should meet setback requirements.
- Applicant should indicate soil types and slopes on plans to ensure that all requirements of 12VAC5-610-593 are met.
- Applicant should site primary and reserve drain fields in relation to terrain contours and clearly demarcate location of primary drain field separate from reserve drain field.
- Applicant should indicate installation of lateral ground movement interceptors where needed to prevent flow of surface and ground water through the absorption field.
- Applicant should indicate on plan the names and addresses of all property owners who hold ROW easements that will serve the proposed subdivision
- Applicant should redesign plan to shorten blocks on Evergreen Dr. and Road "F" to the required length. For safety reasons, a waiver should not be granted for block length.
- Applicant should redesign plan to provide the required number of access points. For safety reasons, a waiver should not be granted for the number of access points.
- Applicant should redesign plan to shorten cul-de-sacs to required length and limit number of houses served by a singled cul-de-sac to 35. This may in part be accomplished by eliminating

lots on adjacent roads that are not served by the cul-de-sac. (In some instances these lots add approximately 400 feet to the length of the cul-de-sac.)

- Plan should require installation of sprinkler systems in residential and common buildings.
- Applicant should indicate 120 foot radius for Category I roads.
- Applicant should identify structures/uses on lots 49D-A-1 and 49D-A-40.

Additionally, as drawn several lots appear to encroach upon the half-mile buffer surrounding active Bald Eagle nests. These lots should be withdrawn so that adequate protection to these sites is provided.

Thank you in advance for your thoughtful consideration of these important issues. Following the TRC, I will be contacting you to schedule a meeting to review the recommendations made by the TRC. In the meantime, if you have any questions please feel free to contact me..

Respectfully,

Cecelia Kirkman