



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

87 Deacon Road
Fredericksburg, VA 22405

GREGORY A. WHIRLEY
COMMISSIONER

May 4, 2011

Northumberland County
Attn: Mr. W.H. Shirley
Zoning Administrator
P. O. Box 129
Heathsville, VA. 22473

Re: Bluff Point Planned Mixed-Use Development Rezoning Review
Chapter 527 TIA, 2nd Review (Official Review)
Northumberland County, Rt. 200, 608 & 669

Dear Mr. Shirley:

This office has reviewed the referenced Chapter 527 Traffic Impact Study with a signal warrant analysis as received on March 28, 2011, and we offer the following statements:

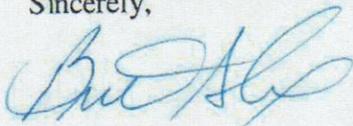
1. Response #1g: After internal discussion with Central Region Operations entities, we can agree to not require separate northbound and southbound left turn lanes at the Route 200/Route 608 intersection, given the relatively light left turns (50 from the north in the PM peak, no left turns from the south) even though site traffic accounts for all but two of the 50 southbound lefts. The intersection under a two phase operation should function acceptably, given that it operates in an isolated mode (i.e., not within the confines of a coordinated system). However, the northbound Rt. 200 right turn movement requires a separate right turn lane. The combination of right turns with total northbound approach traffic easily justifies the turn lane via the AASHTO Green Book and Road Design Manual, Section 3 in Appendix F, a volume-driven requirement.
2. The TIA indicates projected 2019 total traffic volumes of 264 through vehicles and 402 right turns from one lane. Although our capacity analysis indicates an overall intersection LOS of "C" without the right turn lane, the LOS improves to "B" with the turn lane. A worst case scenario with no right turn lane (i.e., allowing for no right turn on red because of through vehicles at the head of the queue) indicates a 46.2 percent reduction in overall intersection delay with a right turn lane. Assuming that 120 right turns can actually perform the maneuver on red in the absence of queued through traffic,

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- the analysis indicated a reduction of 37.4 percent. Regardless, traffic volumes drive the need for a separate turn lane, not capacity analysis results.
3. In order for the right turn lane to accommodate turning traffic without interference from through queues, the turn lane needs to measure at least 200 feet of full width storage with appropriate taper, assuming a cycle length less than the 120 seconds used by Vetra in their analyses.
 4. Response #5: While we understand the Level of Service (LOS) indicates acceptable levels for the proposed links, this is not a Service concern, but a Safety concern. The proposed development will greatly increase the VPD on the existing roadways. According to VDOT Road Design Manual Appendix A, Collector roads with greater than 2000 VPD should be 24 feet wide, with 8 foot shoulders, yet the existing roadway is 20 feet of pavement width with no shoulders. We recommend improvements to the existing roadway system to improve safety for the traveling public.
 5. The recommended off-site transportation improvements associated with the proposed development are as follows:
 - a. Traffic Signal installation in accordance with VDOT Standards and Specifications at the intersection of Rt. 200 and Rt. 608 with all cost borne by the developer.
 - b. Design and installation of a Rt. 200 northbound right turn lane at the intersection with Rt. 608 per VDOT Standards and Specifications with all cost borne by the developer.
 - c. Design and installation of a Rt. 608 eastbound left turn lane at the intersection with Rt. 608/669 per VDOT Standards and Specifications with all cost borne by the developer.
 - d. All improvements shall be installed at the phase of development that meets the warrant for each improvement as determined by the Virginia Department of Transportation.

This correspondence concludes the Departments review of this Traffic Impact Study and Signal Warrant Analysis. Should you have any questions, contact Mr. Chad Brooks at 804.761.2148 or via email at Ronald.Brooks@VDOT.Virginia.gov. You can also contact me at 804.695.7619 or via email at Brett.Cox@VDOT.Virginia.gov.

Sincerely,



Brett A. Cox, P.E.
Area Land Use Engineer (South)
Fredericksburg District

Cc: VDOT, Mr. Sean Trapani
VDOT, Mr. Stephen Haynes
VDOT, Mr. Dave Dreis
Bluff Point Holdings, LLC
VETTRA Company, Mr. Vernon E. Torney