



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** August 31, 2009

**TO:** Chris B. Caperton  
Laurel Hill Project Coordinator  
Department of Planning and Zoning

**FROM:** Angela K. Rodeheaver  
Chief, Site Analysis Section  
Department of Transportation

**SUBJECT:** Transportation Impact

**FILE:** Laurel Hill Adaptive Reuse

**REFERENCE:** Alexander Company Reformatory and Penitentiary Reuse Proposal  
Land Identification: 107-1 ((1)) 9

The following comments provide an overview of anticipated transportation impacts with the Alexander Company adaptive reuse proposal. The analysis is based on review of the "April-May 2009 Proposed Master Plan" presented by the Alexander Company.

The adaptive reuse proposal encompasses both the Penitentiary and Reformatory sites at Laurel Hill. The sites are located along the west side of Silverbrook Road, between Lorton Road and Laurel Crest Drive. Access to the site is presently limited to the old prison road connection to Lorton Road.

Proposed Development.

The Master Plan proposes adaptive reuse of existing structures and the construction of new buildings to complement existing buildings. This mixed use proposal identifies the following approximate uses.

50,000gsf of office, or service retail such as a dentist's office  
61,400gsf of smaller retail uses spread between the historic dining hall (11,000gsf), the old power plant building (8,000gsf), new construction (22,400gsf) and two new pad sites (20,000).  
171 multi-family residences within existing structures  
181 new townhouse construction  
20,000gsf house of worship, or similar community use, with 20,000gsf of usable cellar space

These uses are expected to generate approximately 6,945 vehicle trips per day with 410 and 665 trips occurring during the a.m. and p.m. peak hours of adjacent street traffic. These totals consider interaction between the uses on-site, and fewer trips expected with the segmented retail uses versus a central location immediately fronting on a collector or arterial roadway.

#### Site Access.

Access is presently limited to an old prison road which connects the site to Lorton Road west of Windemere Hill Drive. The proposal identifies several access modifications.

*Existing roadway connection from the south.* The roadway link now serving the site from Lorton Road would be retained, subject to minor alignment modifications, but would be terminated at the existing guard tower at the southwest corner of the Reformatory. This roadway is identified on the County's Adopted Comprehensive Plan as a local collector link between Lorton Road and Laurel Crest Drive. Any redevelopment of the reformatory-penitentiary site must address the completion of this roadway link as called for in the Plan.

Furthermore, termination of the roadway as delineated on the adaptive reuse diagram, with the Guard Tower in the center of the roadway, would not meet current design standards for either the County or VDOT. The radius of the loop around the tower appears to be inadequate and the proposed east-west connection intersects this roadway at an acute angle, which also does not meet either county or state design standards. Note that it may be possible to place the tower in the center of a round-about, which has different minimum design standards.

*New east-west roadway.* This roadway would be added along the southern side of the Reformatory buildings. It would provide the primary access to most of the proposed townhouse units, and many of the multi-family units developed in the Reformatory buildings. The proposed roadway design, with angle parking and direct town house access, acute intersection angles and tight curve radii as now shown, will prevent this roadway from being accepted into the VDOT system for maintenance and operations. However, it would function well as a privately maintained roadway.

*New connection to Silverbrook Road.* A new intersection and median break are proposed for the east-west roadway connection with Silverbrook Road. A median break at this location appears to meet minimum VDOT standards. A signal warrant analysis would be needed to determine if signalization of the intersection would be needed, or if it will function well with STOP sign control.

*New Connection to White Spruce Way.* This connection would be constructed by removing a portion of the Penitentiary wall and would primarily serve the proposed new retail buildings as well as office and retail space proposed in the Penitentiary buildings behind the wall. This would be a private roadway intersecting the cul-de-sac on White Spruce Way. No specific concerns are

identified with this proposed point of access. However it would be appropriate to determine if the additional site generated traffic, when combined with existing traffic, triggers the need for a traffic signal at White Spruce Way and Silverbrook Road.

#### On-Site Roadway Network

The on-site roadway network is primarily a grid network with right angle intersections at most locations and parking distributed throughout the site. One concern is that adequate space will be available between buildings, and around the perimeter of the site, to place roadways as shown. The drawing only delineates the roadway itself, and does not include sidewalks or landscape areas adjacent to the road. Emergency vehicle and maintenance truck access must also be considered in any design. Provision of drawings to scale would be appropriate as the development plan moves forward.

It is recognized that options for placement of parking near existing structures is very limited, but the options must be carefully considered as a development plan matures. For example, it appears that parking near the former prison chapel will not be adequate as that parking will be utilized by residents in the Reformatory buildings. Any new layout iteration should consider and delineate townhouse driveways, dumpster locations and access, and overall pedestrian access adjacent to parking lots and roadways. No vehicle access or parking area has been delineated for the Laurel Hill House.

#### Summary

From a transportation perspective, the overall layout delineated by the Alexander Company appears to have the potential to create a successful redevelopment of the site. Additional information including scale drawings will need to be submitted for review with any rezoning application to ensure that the layout as proposed can be developed to current engineering standards and code requirements. A Chapter 527 review will also be required as the proposal moves forward in the review process. The concerns and comments identified in this memo will need to be further addressed as the review process continues.

AKR/CAA