



**APPLICATION ACCEPTED:** June 20, 2008  
**PLANNING COMMISSION:** January 26, 2011  
**BOARD OF SUPERVISORS:** Not yet Scheduled

# County of Fairfax, Virginia

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**January 12, 2011**

## **STAFF REPORT ADDENDUM II**

**SPECIAL EXCEPTION APPLICATION SE 2008-PR-021**

### **PROVIDENCE DISTRICT**

**APPLICANT:** James W. Jackson

**ZONING:** R-1

**PARCEL(S):** 48-1 ((1)) 50

**ACREAGE:** 1.29 acres

**FAR:** 0.11

**PLAN MAP:** Residential; 3-4 du/ac

**SE CATEGORY:** Category 3: Child Care center and Nursery School

**PROPOSAL:** To permit a child care center and nursery school with a maximum enrollment of 150 students.

**REQUESTED WAIVERS AND MODIFICATIONS:**

Waiver of the service drive requirement along Chain Bridge Road;

Waiver of construction of the on-road bike lane along Chain Bridge Road;

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**Kelli-Mae Goddard-Sobers**

**Department of Planning and Zoning**  
Zoning Evaluation Division  
12055 Government Center Parkway, Suite 801  
Fairfax, Virginia 22035-5509  
Phone 703-324-1290 FAX 703-324-3924  
[www.fairfaxcounty.gov/dpz/](http://www.fairfaxcounty.gov/dpz/)



Modification of the transitional screening requirements along Sutton Road and Chain Bridge Road frontages of the site, in favor of that shown on the Special Exception (SE) Plat;

Waiver of the barrier requirement along the Sutton Road frontage and modification of the barrier requirement along Chain Bridge Road;

Waiver of the 10-foot wide landscaped peripheral yard between the off-site parking and the front lot line along Chain Bridge Road in favor of that shown on the SE Plat;

Waiver of the 4-foot wide peripheral landscaped strip between the off-site parking and the adjacent use to the southeast in favor of that shown on the SE Plat; and

A deviation from the tree preservation target requirement of Chapter 122 of the County Code and the Public Facilities Manual by the Director of DPWES, UFM.

## **STAFF RECOMMENDATIONS:**

Staff recommends that SE 2008-PR-021 be denied; however, if it is the intent of the Board of Supervisors to approve SE 2008-PR-021, staff recommends that the approval be subject to the draft development conditions contained in Attachment 1 of the staff report.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this special exception does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application.

For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

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Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 7 days advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

# Special Exception

SE 2008-PR-021

Applicant: JAMES W. JACKSON  
Accepted: 06/20/2008  
Proposed: CHILD CARE CENTER AND NURSERY SCHOOL  
Area: 1.29 AC OF LAND; DISTRICT - PROVIDENCE  
Zoning Dist Sect: 03-010403-0104  
Art 9 Group and Use: 3-10 3-10  
Located: 2701 CHAIN BRIDGE ROAD  
Zoning: R- 1  
Plan Area: 2,  
Overlay Dist:  
Map Ref Num: 048-1- /01/ /0050

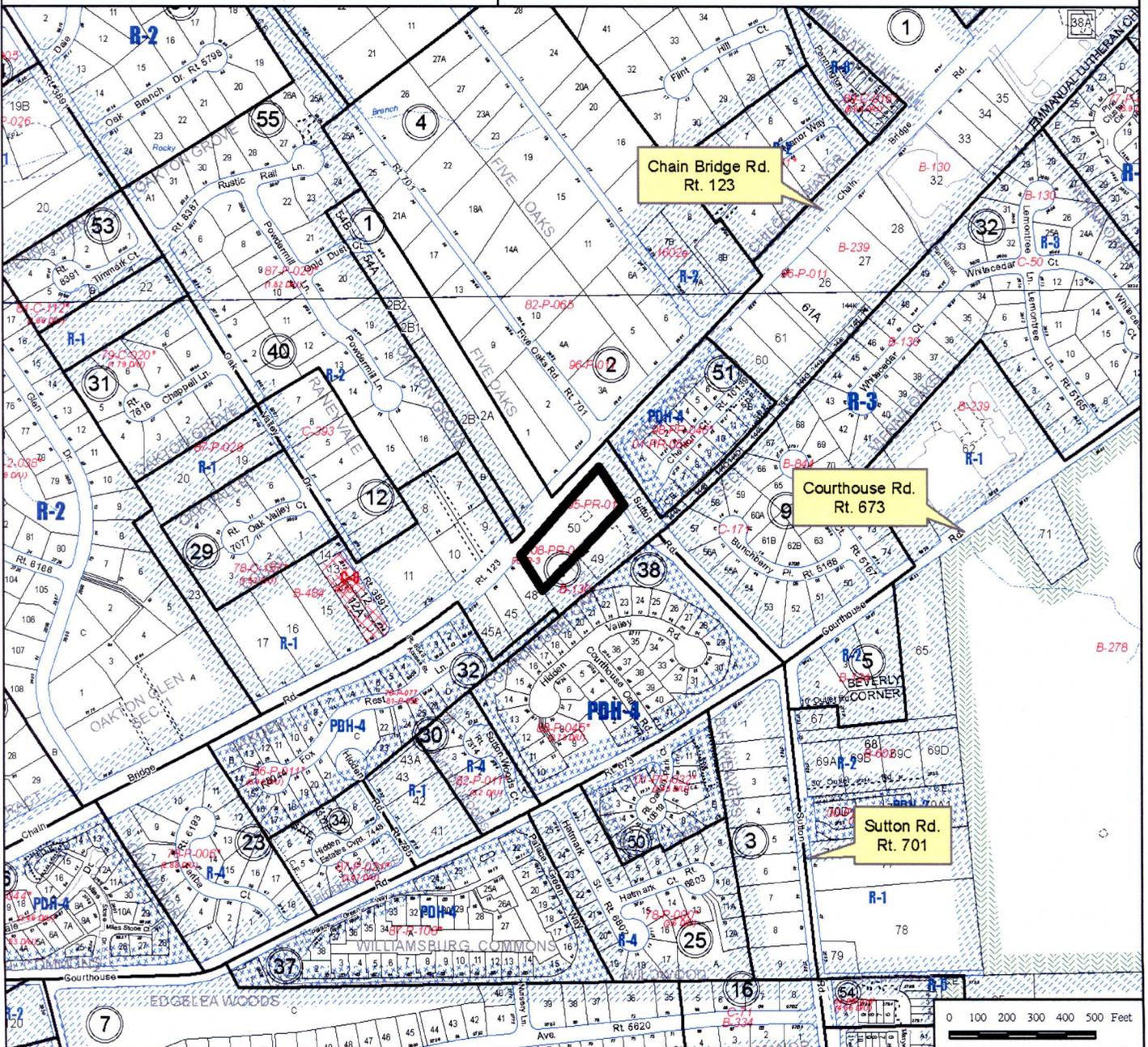


# Special Exception

SE 2008-PR-021



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Zoning: R-1  
Plan Area: 2,  
Overlay Dist:  
Map Ref Num: 048-1-/01/ /0050



## BACKGROUND

Since the publication of the first staff report addendum, the applicant, James W. Jackson, has revised Special Exception application, SE 2008-PR-021, to request permission for the development of a child care center and nursery school with a maximum daily enrollment of 150 students. The children will range in age from six weeks to 12 years, with children ages six years to twelve years coming to the facility before and after school. Previously, the applicant also requested concurrent approval to rezone the 1.29 acre subject site from the R-1 District to the R-3 District, as the previously proposed child care center/nursery school site design did not meet the R-1 District setback requirements. The applicant is now proposing a site design which meets the R-1 District setback requirements. As a result, rezoning application, RZ 2008-PR-010, is no longer required and has been withdrawn.

On August 25, 2009, the Staff Report Addendum for RZ 2008-PR-010/ SE 2008-PR-021 was published. In this report, staff echoed the same concerns as those noted in the original staff report published on May 13, 2009. In both reports, staff noted that the design and intensity of the proposed child care center/nursery school offered little opportunity for appropriate site design, landscaping and screening of the site.

Staff Report	Proposed No. of Students	Gross Floor Area (GFA)	Bldg. Footprint Area	Floor Area Ratio (FAR)	No. of Parking Spaces	Size of Play Area
Original	170	9,600 SF	10,000 SF	0.17	29	7,200 SF
Addendum I	170	11,795 SF	6,576 SF	0.21	29	6,200 SF
Addendum II	150	6,228 SF	7,350 SF	0.11	25	2,980 SF

Staff advised the applicant that a number of design issues might be resolved if the proposed maximum student enrollment number was reduced, as a reduction in enrollment would:

- reduce the required number of parking spaces,
- reduce the required square footage of play area; and
- reduce the required gross floor area within the building.

Based on Zoning Ordinance requirements, a reduced enrollment would allow a smaller building and less parking would be required. Therefore, the site design could be improved to provide more landscaping site with the play area farther removed from Chain Bridge Road.

## DISCUSSION

### Revised Special Exception Plat (Attachment 3)

**Title of SE Plat:** Lord Fairfax Academy  
**Prepared By:** Vika Inc.  
**Original Date:** July 9, 2010 as revised through January 3, 2010

### Description of SE Plat:

<b>SE Plat: Lord Fairfax Academy</b>	
<b>Sheet #</b>	<b>Description of Sheet</b>
1 of 11	Cover Sheet
2 of 11	Notes and Tabulations
3 of 11	Special Exception Plat
3A of 11	Site Section and Site Details
4 of 11	Existing Vegetation Map
5 of 11	Concept Landscape Plan
6 of 11	Angle of Bulk Plane Diagrams
7 of 11	SWM Plan and Drainage Divides to SWM Systems
8 of 11	SWM/BMP Calculations
9 of 11	Roadway Cross Sections and Miscellaneous Details
10 of 11	Outfall Analysis
11 of 11	Illustrative Architectural Drawings

On December 6, 2010, the applicant submitted a revised Special Exception (SE) Plat, included as Attachment 2 to this addendum. This revised plat, depicts the following changes:

Site Layout: The proposed two-story, 35-foot high brick and exterior siding building for the nursery school/child care center has been moved eleven feet back from Chain Bridge Road and is now located approximately 41 feet from the property line fronting Chain Bridge Road and 201 feet from Sutton Road. A six-foot wide sidewalk is depicted between the parking lot and the fenced-in play area. This sidewalk is connected to a walkway which would provide access to the main entrance located in the northwest corner of the building. The applicant is now proposing one interior space devoted to play and two separate outdoor play areas;

one play area is to be located in the central portion of the site between the proposed building and parking lot (which is placed near the Sutton Road frontage), and the other to be located behind the proposed building next to the southeastern property line, which is shared between the subject site and the adjacent Verizon site. The overall square-footage of outdoor play area has been reduced from 6,200 square feet to 2,980 square feet.

Transportation Improvements: The right-of-way dedication remains at 73.5 feet from the centerline of Chain Bridge Road along its entire frontage, and 66.5 feet from the centerline of Sutton Road along the entire frontage of the site. The applicant is now proposing to construct a right turn lane from Chain Bridge Road to Sutton Road and to relocate the existing signal poles at the intersection of the two streets.

Access: Access to the site continues to be provided from Sutton Road via two access points. A one-way entrance is shown approximately 42.5 feet from the intersection of Sutton Road and Chain Bridge Road and a one-way exit is shown approximately 100 feet from the intersection of the two roadways. A schematic layout is also depicted on Sheet 3 for the ultimate Route 123 (Chain Bridge Road) configuration. It shows one access point serving as both an entrance and exit to Sutton Road. The proposed access point would be located approximately 60 feet from the intersection of Sutton Road and Chain Bridge Road.

Parking: The number of parking spaces provided in the surface parking lot has been reduced from 29 to 25 parking spaces; twenty-four parking spaces are required for a child care center/nursery school with a maximum enrollment of 150 children.

Pedestrian Amenities: The applicant proposes a five-foot wide sidewalk along Chain Bridge Road and Sutton Road. On-site, a 6-foot wide sidewalk is depicted between the parking lot and the fenced-in play area. This sidewalk would provide access from the parking lot to a walkway that leads to the main entrance of the building.

Landscaping: The applicant has increased the width of the transitional screening in front of the proposed building and play area along the Chain Bridge Road frontage from approximately 15 feet to 25 feet in accordance with the Zoning Ordinance screening requirement. However, the transitional screening along Chain Bridge Road in front of the parking lot has been reduced from approximately 10 feet to four feet. The applicant is proposing to supplement this four-foot wide landscaping strip by planting four trees along the site's Chain Bridge Road frontage in front of the parking lot in the area that is being dedicated to the Virginia Department of Transportation (VDOT) for right-of-way, subject to approval of a license agreement with VDOT.

Landscaping is also being proposed along the Sutton Road frontage, the southwestern property line, and along portions of the southeastern property line. The applicant is providing the required width of 25 feet of transitional screening along the southwestern property line, but less than 25 feet of transitional screening along the Sutton Road frontage. Three deciduous trees proposed along the southeastern property line would be used to screen the trash enclosure proposed on-site and five deciduous trees are proposed behind the building. The applicant has also changed the type of barrier to be provided along the Chain Bridge Road frontage, the southwestern property line, and the southeastern property line from a 7-foot high masonry wall (Chain Bridge Road frontage), a 6-foot high board on board fence, and a 4-foot high wood fence (southwestern and southeastern property boundaries) to a continuous 6-foot high articulated wood fence with brick piers (Chain Bridge Road frontage), a 6-foot high solid wood fence and a 4-foot high solid wood fence (southwestern and southeastern property boundaries).

Stormwater Management:

The applicant now proposes one gravel stormwater management trench, two grass swale areas, and a catchbasin stormfilter. The gravel trench is shown in the parking lot along with the catchbasin stormfilter, one grass swale is depicted behind the proposed building, and the second in front of the building behind the proposed barrier and transitional screening along the site's Chain Bridge Road frontage.

## **ANALYSIS**

Intensity of Use

Staff acknowledges that the applicant has reduced the number of proposed children from 170 to 150, with commitment to no more than 120 on-site at any one time, and as a result has reduced the size of the proposed building, play area, and the number of parking spaces and increased the amount of buffering to be provided at the front of the site along Chain Bridge Road. However, staff remains concerned that the overall issue relating to the intensity of the use remains. Even though the proposed floor area ratio (FAR) is now 0.11 and the gross floor area (GFA) of the proposed building has been reduced from 11,795 SF to 6,228 SF (building design has changed from two-stories to one-story with cellar space) the actual building footprint has increased from approximately 6,576 SF to 7,350 SF, a difference of 774 SF. The building has been designed to accommodate 150 students and classrooms are to be located in the lower level of the building.

### Size and Location of Outdoor Play Area

Previously, staff advised the applicant that if the proposed number of students was reduced, then the required square footage of play area would also be reduced. The proposed play area has been reduced from 6,200 SF to 2,980 SF. Staff acknowledges the applicant's effort to reduce the size of the play area; however, the play area may now be too small for a reasonable number of older children, (for instance, children ages 9 through 12) to use the play area at any one time. Typically, older children require more space to play than younger children.

One of the newly proposed locations for a play area is also problematic. The play area now shown between the proposed building and the parking area which results in a greater distance that parents have to walk to take their children in and out of the building. As a result, vehicles will remain parked on-site for a longer period of time, as parents would have to walk past the play area to get to and from the building.

Previously, staff advised the applicant to move the entire play area from the southern rear portion of the site (which is adjacent to single-family detached dwellings) to the rear of the proposed building to face the adjacent public utility use. Staff also suggested that the applicant consider a change to the building's design from a rectangular shape to an "L" shape design, so that the building would buffer the noise generated from vehicular traffic on Chain Bridge Road. It was determined by the applicant's design team that the site is not wide enough to accommodate an "L" shape building with the required amount of play area for the proposed number of children.

### Parking Area

The surface parking lot has been reduced from approximately 13,671 SF to 11,125 SF and now provides 25 parking spaces. The reduction in parking (4 parking spaces) was accomplished by removing one parking space from each row of parking spaces. Even though the size of the parking lot has been reduced, the applicant is now requesting additional modifications and waivers as there is not enough space to accommodate the parking lot and the land dedicated to VDOT for the Chain Bridge Road right-of way (ROW). These waivers and modification include:

- a waiver of the 10-foot wide landscaped peripheral yard between the parking lot and Chain Bridge Road;
- a waiver of the 4-foot wide peripheral landscape strip between the parking lot and the adjacent public utility use at the rear of the site; and
- a modification of the required 25-foot wide transitional screening along Chain Bridge Road.

### Transitional Screening and Barriers and Noise Mitigation

As the applicant is unable to provide the required 25-foot wide transitional screening along Chain Bridge Road in front of the parking lot, the applicant is proposing to provide a 4-foot wide landscape strip in front of the parking lot with a 6-foot tall articulated wood fence along the entire front of the site. Even though the applicant has the option to choose from Barriers D, E, or F where the maximum height for a fence is 6 feet, according to the Zoning Ordinance (ZO), a fence may not exceed four feet in height in a front yard. However, as the applicant is also proposing to use the 6-foot tall fence as a noise barrier, it is allowable. According to the Zoning Ordinance, Section 10-104, Paragraph 3F, in conjunction with the approval of a special exception, an increase in fence height may be permitted for a noise barrier which reduces the adverse impacts of highway noise on properties located adjacent to major thoroughfares.

Previously, the applicant proposed to install a 7-foot high masonry wall around the play area to reduce the noise generated by the vehicular traffic on Chain Bridge Road, as the property falls within the 65-70 dBA  $L_{dn}$  noise impact area. The applicant is now proposing that the 6-foot tall wooden fence, the increase in the width of the transitional screening along the Chain Bridge Road frontage, and the increase in the front yard setback would address the noise issue.

On November 16, 2010, the applicant submitted a noise study to staff which states the fence height must be no less than six (6) feet to reduce the noise decibel levels from 67.2 dB to less than 65 dB for the playground on the side of the building. The noise study also states that the top of the fence should be flat, not scalloped; if there is basket weaving at the top of the fence it can only be a surface applied decoration. The recommendations for the acoustical design, structural features, and the type of building materials for the fence are documented in the noise study, which is attached to this addendum report and listed as Attachment 3. It was also noted that indoor noise levels are not expected to exceed the County's goal of 45 dB. However, if it is desirable for the applicant to provide for a margin of error of approximately 3 dB lower than the County goal, then windows having a rating of at least STC 28 should be used for the second floor of the proposed building.

In addition to the 6-foot tall wood fence, the applicant is proposing to supplement the four-foot wide landscaped strip by planting four trees in the area to be dedicated to VDOT for right-of-way. Staff does not find this satisfactory as the proposed plantings have to be approved by VDOT. If they are not approved, then the parking lot would only be screened by the proposed 6-foot tall fence which would not be hidden from view from Chain Bridge Road, as only small plants are proposed to be planted in the four-foot wide landscaping strip.

### Stormwater Management

The applicant has revised the proposed stormwater facilities to include one gravel stormwater management (SWM) trench, two grass swale areas, and a

catchbasin stormfilter. Department of Public Works and Environmental Services (DPWES) staff has reviewed the revisions the applicant has made to the proposed SEM facilities and finds that previous SWM issues raised have been addressed.

### Transportation Issues

Staff acknowledges the applicant's attempt to resolve the previously cited existing transportation issue regarding the need for a right-turn lane on Chain Bridge Road by proffering to construct the right turn lane and to move the existing utility poles to enable the construction of the turn lane. However, staff still remains concerned that the proposed use is too intense for this location at the intersection of Chain Bridge Road and Sutton Road.

According to Fairfax County Department of Transportation (FCDOT) staff, it can be concluded that the majority of trips to the site would be from Chain Bridge Road, which would add interference to the southbound trips on Sutton Road, which is one lane southbound. The applicant has proposed to construct a right turn lane on Sutton Road along the western side of the service drive to accommodate vehicles waiting to turn into the service drive.

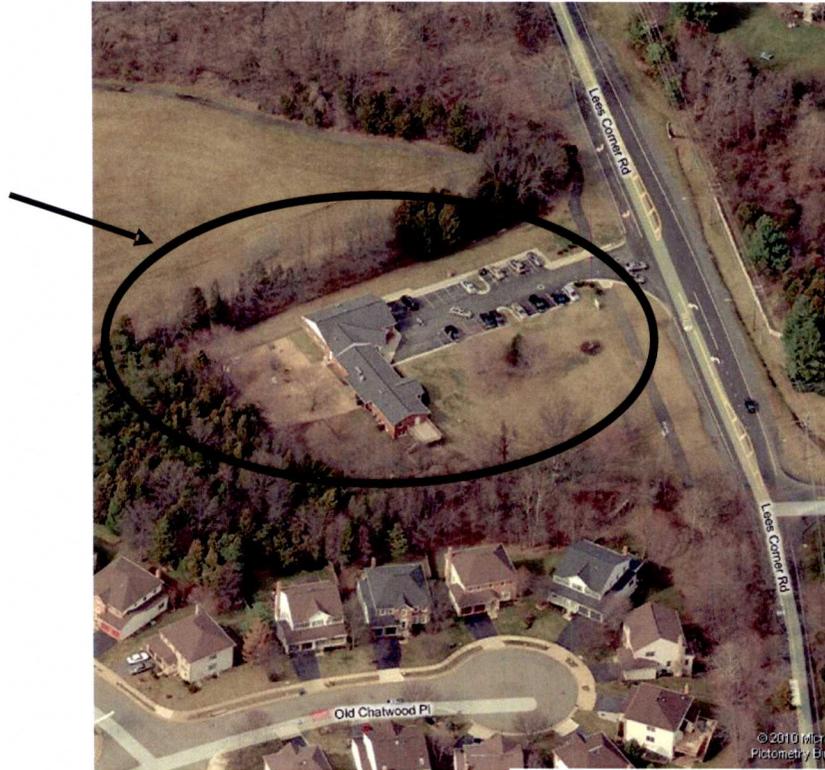
FCDOT staff also noted that as the outdoor play area is now proposed between the proposed building and parking lot, it would take a longer time for children to be dropped off and picked up. As a result, the queuing of vehicles may back into the existing service drive and onto Sutton Road.

Another issue raised by staff was intersection improvements are warranted due to the existing traffic conditions at the intersection of Chain Bridge Road and Sutton Road. If/when intersection improvements are made, Sutton Road would be widened, and the existing service drive on Sutton Road would be removed. The applicant is proposing at that time to have only one entrance, which would be located closer to the intersection than the proposed access point to the existing service drive and all of the queuing would have to occur on-site. This entrance would also be too close (approximately 60 feet) to the intersection of Sutton Road and Chain Bridge Road and would not meet VDOT's Access Management Regulations.

Additionally, there is the site access issue of the close proximity of the proposed entrance to the intersection of Chain Bridge Road and Sutton Road. DOT staff has stated that when Sutton Road is ultimately widened that the proposed entrance would be too close (approximately 60 feet) to the intersection of Sutton Road and Chain Bridge Road. As a result, there are safety concerns regarding vehicles making sharp turns into the site and increasing the potential for traffic accidents. It was also raised that the entrance would not meet VDOT's Access Management Regulations. Staff had previously advised the applicant to look into interparcel access between the subject site and the adjacent public utility site.

CASE No.	NAME	ZONING	PROPERTY SIZE	MAXIMUM DAILY ENROLLMENT	NO. OF PARKING SPACES PROVIDED	NO. OF PARKING SPACES REQUIRED	TYPE OF ROADWAY
<b>CURRENT PROPOSAL</b>	LORD FAIRFAX ACADEMY	R-1	1.29 AC	150	25	24	Collector
PCA 88-S-088	HORIZON CHILD DEVELOPMENT	PDH-8	1.19 AC	150	26-27	24	Local
CPA 86-C-121-12	WINWOOD CHILDREN CENTER	PRC	1.61 AC	200	42	32	Local
SE 2009-LE-024	KINDER CARE LEARNING CENTER	R-1	0.93 AC	105	12*	17	Local
SE 2007-SU-006	MONTESSORI SCHOOL OF FAIRFAX	R-1	1.65 AC	150	24	24	Collector
SE 90-P-057	WINWOOD CHILDREN CENTER	R-2	0.87 AC	150	25	24	Primary
RZ/FDP 84-S-096	CHILD TIME	PDH-4	1 AC	140	20	23	Collector
RZ 88-C-116	CHILD TIME	PDH-3	0.89 AC	140	26	23	Collector
SE 94-Y-006	KINDER CARE	R-1	1.19 AC	135	32	22	Arterial
SPA 95-H-007	YOUR CHILD'S PLACE	R-1	0.35 AC	68	14	13	Primary

The above depicts the different types of roadways for the various child care centers the applicant believes are comparable with the subject proposed child care center/nursery school. The chart shows that only three of the centers are located on collector streets. One of these, SE 2007-SU-006, is located in an R-1 District with 150 children. However, this site is not located at an intersection with a primary roadway such as Chain Bridge Road. The following aerial photo depicts that site.



The other two child care centers, RZ/FDP 84-S-096 and RZ 88-C-116 that are located on collector streets, are not located at intersections nor are they located near primary roadways. Throughout the review process, DOT staff has raised concerns about the potential traffic and stacking issues that would be generated by the proposed child care center/nursery school use at the intersection of Chain Bridge Road and Sutton Road, and the impacts it would have at this particular location. In DOT's memo dated December 21, 2010, DOT staff states that according to ITE Trip Generation, 8<sup>th</sup> Edition, the peak hour site generated trips with 150 students would be 123 in the morning and 128 in the afternoon, which far exceeds the number of trips that would be generated by the planned residential use of 4-5 trips in the morning and 5-6 trips in the afternoon.

Staff acknowledges that the applicant has proposed development conditions to stagger the arrival and departure of children during peak traffic hours to reduce the number of vehicles on-site at one time, to provide carpooling measures, and to provide a school bus to pick up and drop off children from remote locations. However, even with the implementation of these development conditions, the core issue is still not being addressed; that due to the proposed number of students, the overall consumption of land with the building footprint, the play area and the parking lot is too great for this small, narrow site and the traffic impact generated by the proposed use is cause for great concern at this particular roadway intersection.

## ZONING ORDINANCE PROVISIONS

The proposed development meets all bulk regulations except for the transitional screening and barrier requirements along three of the property lines.

## LOCATIONAL GUIDELINES FOR CHILD CARE FACILITIES

LOCATIONAL GUIDELINES FOR CHILD CARE FACILITIES	
CRITERIA	STATUS
Child care facilities should have sufficient open space to provide adequate access to sunlight and suitable play areas, taking into consideration the size of the facility.	✓
Child care facilities should be located and designed to ensure the safety of children.	✓
Child care facilities should be located and designed to protect children from excessive exposure to noise, air pollutants, and other environmental factors potentially injurious to health or welfare.	✓
Child care facilities should be located and designed to ensure safe and convenient access. This includes appropriate parking areas and safe and effective on-site circulation of automobiles and pedestrians.	X
Child care facilities in Suburban Neighborhoods should be located and designed to avoid creating undesirable traffic, noise, and other impacts upon the surrounding community. Therefore, siting child care facilities in the periphery of residential developments or in the vicinity of planned community recreation facilities should be considered.	X
6. Child care facilities should be encouraged in employment centers to provide locations convenient to work places. However, these locations should make provisions for a safe and healthful environment in accord with the guidelines listed above.	✓

The Locational Guidelines give six criteria to consider when siting a child care facility. The proposed development meets four of the six criteria. As staff previously staff noted, the access fails to meet the requirements associated with the *Locational Guidelines for Child Care Facilities* (as contained in the policy Plan) for safe and convenient access. Additionally, undesirable traffic would be created by the proposed development. Staff acknowledges the applicant's efforts to address the existing traffic congestion at the Chain Bridge Road and Sutton Road intersection by proposing to construct a right turn lane on Chain Bridge Road. Staff also acknowledges the applicant's proposal to construct an unsolicited right turn lane on Sutton Road for vehicles entering the service drive to access the proposed development. However, staff's concerns regarding the additional impact the proposed development will have on the Chain Bridge Road and Sutton Road intersection have not been alleviated.

## CONCLUSIONS AND RECOMMENDATIONS

### Staff Conclusions

The applicant has made several revisions to the site's design to address staff's previously identified concerns noted in the addendum report regarding:

- the need to reduce the number of proposed children,
- the need for the proposed building to be set further back from the Chain Bridge Road frontage to provide more space for buffering,
- the provision of full screening along the entire length of Chain Bridge Road,
- the need to relocate the play area,
- the need for a reduction in the size of the surface parking lot; and
- the need for the construction of a right-turn lane on Chain Bridge Road.

However, the proposed changes still have not fully addressed the design and intensity issues previously identified in the staff report and addendum.

Staff acknowledges that the applicant has reduced the GFA of the building, the number of parking spaces, and the play area. However, the parking lot and the child care center/nursery school building still consume the majority of the site. If the applicant further reduced the number of proposed children such that less GFA for the child care center/nursery school facility and parking would be required, transitional screening and on-site circulation may meet code requirements. More land would be available to provide the full amount of transitional screening required along the Chain Bridge Road frontage, and to provide the required 4-foot wide peripheral landscape strip between the parking lot and the adjacent public utility use at the rear of the site. Staff has included a development condition proposing a method which may be used to determine how many children may be accommodated on-site, based on the ratio of GFA per child used in the applicant's current design proposal.

### Staff Recommendations

Staff recommends that SE 2008-PR-021 be denied; however, if it is the intent of the Board of Supervisors to approve SE 2008-PR-021, staff recommends that the approval be subject to the draft development conditions contained in Attachment 1 of the staff report.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

**ATTACHMENTS**

1. Proposed Development Conditions
2. Affidavit
3. Noise Study dated November 15, 2010
4. Reduction of the Special Exception Plat revised December 3, 2010
5. Statement of Justification
6. Stormwater Analysis
7. Transportation Analysis
8. Urban Forestry Analysis
9. Park Authority Analysis
10. Locational Guidelines for Child Care Facilities

**PROPOSED DEVELOPMENT CONDITIONS**

**SE 2008-PR-021**

**January 12, 2011**

If it is the intent of the Board of Supervisors to approve SE 2008-PR-021, located at 2701 Chain Bridge Road [Tax Map 48-1-((1))-50], to permit a child care center and nursery school pursuant to Section 3-304 of the Fairfax County Zoning Ordinance, then Staff recommends that the Board condition the approval by requiring conformance with the following development conditions.

1. This Special Exception is granted for and runs with the land indicated in this application and is not transferable to other land.
2. This Special Exception is granted only for the purpose(s), structure(s) and/or use(s) indicated on the Special Exception Plat with the application, as qualified by these development conditions.
3. A copy of the Non-Residential Use Permit SHALL BE POSTED in a conspicuous space on the property of the use and be made available to all departments of Fairfax County during the hours of operation of the permitted use.
4. This Special Exception is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPWES). Any plan submitted pursuant to this special exception shall be in substantial conformance with the approved Special Exception Plat entitled Lord Fairfax Academy, prepared by Vika, Inc and dated July 9, 2010 as revised through December 3, 2010 and these development conditions. Minor modifications to the approved Special Exception may be permitted pursuant to Par. 4 of Section 9-004 of the Zoning Ordinance.
5. The hours of operation shall be limited to 6:30 a.m. to 7:00 p.m., Monday through Friday. Activities commencing after 7:00 p.m. shall be limited to five per year with no more than one after hours activity during any one month. All after hours activities shall be concluded no later than 9:00 p.m. All parking for such activities shall be on-site. If parking cannot be accommodated on-site, shuttle service, by car or bus, from an off-site location shall be utilized to ensure that no vehicles are parked on Sutton Road or the access road.
6. Notwithstanding what is shown on the SE Plat, all required transitional screening shall be provided on-site after the required dedication of right of way has been provided. The maximum number of children shall be determined based on the new building designed after implementation of the above. The new building shall provide the required amount of gross floor area of 35 SF per child.
7. In order to monitor compliance with the foregoing restrictions, the permittee of this Special Exception shall be required to file, with the Zoning Administrator at

the beginning of each calendar year, a notarized affidavit identifying: (1) the total number of children enrolled, full or part time; (2) the age of each child; and (3) the anticipated arrival and departure times. The arrival and departure of children shall be staggered during peak traffic hours to minimize the number of vehicles on-site at any one time. The arrival of children in the morning between 8:00 a.m. and 9:30 a.m. shall be staggered as follows:

Between 8:00 a.m. and 8:30 a.m., no more than 50 children shall arrive; between 8:30 a.m. and 9:30 a.m., no more than 50 children shall arrive.

The departure of children in the afternoon between 3:00 p.m. and 7:00 p.m. shall be staggered as follows:

Between the hours of 3:00 p.m. and 4:00 p.m., no more than 30 children shall be dismissed; between the hours of 4:00 p.m. and 5:00 p.m., no more than 40 children shall be dismissed, and between the hours of 5:00 p.m. and 7:00 p.m. no more than 50 children shall be dismissed.

8. No more than 25 children shall be outside in the playground at any one time. The use of the playground shall be limited to the hours between 10:00 a.m. and 4:30 p.m.
9. Carpooling shall be encouraged as a mechanism to minimize daily vehicular trips to the site. To facilitate carpool arrangements, zip code rosters shall be provided to all families and employees.
10. At time of registration, all parents shall receive written information regarding transportation procedures including, but not limited to, staggered arrival and departure times, restrictions on parking and vehicle maneuvers, and efficient delivery and pick up of children.
11. A minimum of one bus or van with a seating capacity of 14 children shall be used to pick up and drop off children from remote locations.
12. Energy Star appliances shall be installed within the building to maximize energy efficiency.
13. The maximum number of staff on site at any one time shall be 23.
14. Parking spaces shall be provided on-site as shown on the SE Plat.
15. Prior to the issuance of the Non-RUP, the appropriate water line extension, as determined by Fairfax County Water Authority, shall be installed to support this development.
16. Prior to any land disturbing activities on the property, a Phase I archeological study of the Application Property shall be conducted and the result of such

studies shall be submitted to the Heritage Resources Branch of the Fairfax County Park Authority ('Heritage Resources'). If deemed necessary by Heritage Resources, a Phase II and/or Phase III archeological study shall be conducted on only those areas of the Application Property identified for further study by Heritage Resources. The studies shall be conducted by a qualified archeological professional approved by Heritage Resources, and shall be reviewed and approved by Heritage Resources. The studies shall be completed prior to site plan approval.

17. All signage for the child care center shall comply with provisions of Article 12 of the Zoning Ordinance.
18. Tree Preservation: A Tree Preservation Plan and Narrative shall be submitted by the applicant as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on and off-site trees, living or dead with trunks 8 inches in diameter and greater (measured at 4 ½ -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet to either side of the limits of clearing and grading. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the SE, and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0506 and 12-0508. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.

19. Tree Preservation Walk-Through. The services of a certified arborist or Registered Consulting Arborist shall be retained, the limits of clearing and grading shall be marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the Applicant's certified arborist or landscape architect shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner

causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.

20. Limits of Clearing and Grading. The limits of clearing and grading shall be strictly observed as shown on the SE, subject to allowances specified in these development conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SE, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.

21. Tree Preservation Fencing: All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" development condition below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES.

24. Root Pruning. Root pruning shall be performed as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
- Root pruning shall take place prior to any clearing and grading, or demolition of structures.

- Root pruning shall be conducted with the supervision of a certified arborist.
  - An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete.
25. Site Monitoring. During any clearing or tree/vegetation/structure removal on the Applicant Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by the UFMD. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation development conditions, and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by the UFMD, DPWES.
26. Use of outdoor lighting and/or audio equipment shall be restricted as follows:
- A. There shall be no installation or use of loudspeakers, bells, or any other audio equipment installed permanently or temporarily outdoors, including portable equipment.
  - B. Any outdoor lighting shall be shielded so as the element shall not be visible to adjacent properties.
  - C. Installation of any new free-standing lights shall be limited to shoebox-style with a height not to exceed eight (8) feet. There shall be no outdoor lighting installed, or temporary lighting structures, in any area designated as playgrounds or outdoor recreation areas.
27. The dumpster shall be located as shown on the Special Exception Plat and be fully screened from view through the use of a solid enclosure.
28. Building Materials: The building shall be in substantial conformance with the elevations depicted on Sheet 11 of the Special Exception Plat, consisting of a combination of brick and siding exterior materials. The exterior design of the building may be varied as long as the building remains generally similar in style and presentation to the elevations depicted in the SE Plat and compatible with residential structures in the neighborhood as determined by the Zoning Administrator.
29. Right of Way Dedication on Chain Bridge Road and Construction Commitments: Right of way for public street purposes (together with all ancillary easements), up to 73.5 feet from the centerline of Chain Bridge Road along the entire site frontage shall be dedicated and conveyed in fee simple to the Board of Supervisors as shown on the Special Exception Plat, and a 5' wide concrete sidewalk shall be constructed as shown thereon. Such right of way shall be dedicated at the time of site plan approval, or upon demand by the County of Fairfax and/or VDOT, whichever shall first occur, and when the project is funded. In addition, a right turn from Route 123 northbound into Sutton Road

shall be constructed, subject to VDOT approval, as shown on the Special Exception Plat. Right of way dedication for the right turn lane shall be made by the applicant at time of construction.

30. Right of Way Dedication on Sutton Road: Right of way for public street purposes (together with all ancillary easements), 66.5 feet from the centerline of Sutton Road shall be dedicated and conveyed in fee simple to the Board of Supervisors, as shown on the Special Exception Plat, and public improvements shall be constructed as shown thereon. Such right of way shall be dedicated at the time of site plan approval, or upon demand by the County of Fairfax and/or VDOT, whichever shall first occur. Prior to issuance of a Non-RUP, a right turn lane shall be constructed on Sutton Road into the service drive entrance for the property as shown on the Special Exception Plat.
31. Ingress/Egress: All vehicular traffic shall enter and exit the site by way of the right turn lane into the service drive parallel to Sutton Road. Appropriate signs shall be placed at the entrance to guide the flow of traffic into and out of the property as shown on the Special Exception Plat.
32. Park Authority Contribution: At the time of site plan approval, a contribution of \$2,500.00 shall be made to the Fairfax County Park Authority for development of recreational facilities at one or more of the FCPA sites located within the service area of the subject property. A Phase I archaeological report shall be prepared and submitted to the Fairfax County Park Authority prior to any grading activity on the site, and if warranted by the Phase I archaeological report, a Phase II archaeological study of the property shall be conducted as required by the Fairfax County Park Authority.
33. Contribution to Oakton Public Library: Prior to issuance of the first non-RUP, a contribution shall be made to the Fairfax Regional Library for use in acquiring children's books for the Oakton Public Library in the total amount of \$2,500.00.
34. The following noise attenuation measures shall be provided by the Applicant:
  - a) In order to reduce the maximum interior noise to a level of approximately 45 dBA Ldn, the facades impacted by noise from Chain Bridge Road, which shall be annotated and shown as such on the site plan, shall have the following acoustical attributes:
    - i) Exterior walls shall have a laboratory sound transmission class (STC) rating of at least 45;
    - ii) Doors and glazing shall have a laboratory STC rating of at least 37 unless doors, windows and glazing constitute more than 20 percent of any façade exposed to noise levels of DNL 65 dBA or above. If doors, windows and other glazed areas constitute more than 20 percent of an exposed façade, then the glazing of such features shall have an STC rating of at least 45; and

- iii) Measures to seal and caulk between surfaces shall follow methods approved by the American Society for testing and Materials to minimize sound transmission.
  - b) In order to reduce the maximum exterior noise to a level of approximately 65 dBA Ldn or less for outdoor play areas, a noise wall shall be provided parallel to Chain Bridge Road. The noise wall shall be faced with materials similar in type and compatible with the exterior building materials.
35. Contribution to Providence District Tree Fund: Applicant shall contribute the total sum of \$1,500.00 to the Providence District Tree Fund to assist in planting trees in the district as determined by the office of the District Supervisor and the Urban Forestry Branch of DPWES.
36. Hours of Construction: Outdoor construction activity shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday and 8:00 a.m. and 5:00 p.m. on Saturdays. No outdoor construction activities shall be permitted on Sundays or on federal holidays. The site superintendent shall notify all employees and subcontractors of these hours of operation and shall ensure that the hours of operation are respected by all employees and subcontractors. Construction hours shall be posted on-site in both English and Spanish. This applies to the original construction only and not to future additions and renovations by homeowners.
37. Extension of Waterline Service: Waterline service into the Application property shall be designed, shown on the site plan and constructed according to standards of Fairfax Water Authority.

The above proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board.

This approval, contingent on the above-noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining the required Non-Residential Use Permit through established procedures, and this Special Exception shall not be valid until this has been accomplished.

The approval of this special exception does not interfere with, abrogate or annul any easements, covenants, or other agreements between parties, as they may apply to the property subject to this application.

Pursuant to Section 9-015 of the Zoning Ordinance, this Special Exception shall automatically expire, without notice, thirty (30) months after the date of approval unless, at a minimum, the use has been established or construction has commenced and been diligently prosecuted. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the Special Exception. The request must specify the amount of additional time requested, the basis for the amount of time requested, and an explanation of why additional time is required.

## SPECIAL EXCEPTION AFFIDAVIT

DATE: December 22, 2009  
 (enter date affidavit is notarized)

I, Sara V. Mariska, attorney/agent, do hereby state that I am an  
 (enter name of applicant or authorized agent)

(check one)       applicant  
                           applicant's authorized agent listed in Par. 1(a) below      100521 d

in Application No.(s): SE 2008-PR-021  
 (enter County-assigned application number(s), e.g. SE 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS, and LESSEES** of the land described in the application,\* and, if any of the foregoing is a **TRUSTEE,\*\*** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS**, and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

**(NOTE:** All relationships to the application listed above in **BOLD** print are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
James W. Jackson	11325 Lee Highway, #110 Fairfax, VA 22030	Applicant/Title Owner
VIKA, Incorporated Agents: John F. Amatetti Robert R. Cochran Jeffrey A. Kreps	8180 Greensboro Drive, Suite 200 McLean, Virginia 22102	Engineers/Agent
Barnes & Johnson, Inc. Former Agent: Kerry L. Skinner, L.S.	8503 Euclid Avenue, #1 Manassas Park, VA 20111	Former Engineer/Surveyor/Agent

(check if applicable)       There are more relationships to be listed and Par. 1(a) is continued on a "Special Exception Attachment to Par. 1(a)" form.

\* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.

\*\* List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

**Special Exception Attachment to Par. 1(a)**

DATE: December 22, 2009  
 (enter date affidavit is notarized)

100521d

for Application No. (s): SE 2008-PR-021  
 (enter County-assigned application number (s))

**(NOTE):** All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel (s) for each owner(s) in the Relationship column.)

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
M.J. Wells & Associates, Inc.  Agents: Robin L. Antonucci Priyatham Konda William F. Johnson	1420 Spring Hill Road, Suite 600 McLean, Virginia 22102	Transportation Consultant/ Agent
Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.  Agents: Martin D. Walsh Lynne J. Strobel Timothy S. Sampson M. Catharine Puskar Sara V. Mariska G. Evan Pritchard Elizabeth D. Baker Inda E. Stagg Kara M. W. Bowyer Megan C. Shilling Elizabeth A. McKeeby	2200 Clarendon Boulevard 13th Floor Arlington, Virginia 22201	Attorneys/Planners/Agent
Stephen K. Fox, P.C.  Former Agent: Stephen K. Fox	10511 Judicial Drive, #112 Fairfax, VA 22030	Former Attorney/Agent

(check if applicable)

There are more relationships to be listed and Par. 1(a) is continued further on a "Special Exception Attachment to Par. 1(a)" form.

SPECIAL EXCEPTION AFFIDAVIT

DATE: December 22, 2009
(enter date affidavit is notarized)

100521d

for Application No. (s): SE 2008-PR-021
(enter County-assigned application number(s))

1(b). The following constitutes a listing\*\*\* of the SHAREHOLDERS of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders:

(NOTE: Include SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES, and REAL ESTATE INVESTMENT TRUSTS herein.)

CORPORATION INFORMATION

NAME & ADDRESS OF CORPORATION: (enter complete name and number, street, city, state, and zip code)
VIKA, Incorporated
8180 Greensboro Drive, Suite 200
McLean, Virginia 22102

DESCRIPTION OF CORPORATION: (check one statement)

- [x] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF SHAREHOLDERS: (enter first name, middle initial and last name)

Charles A. Irish, Jr., John F. Amatetti, Harry
L. Jenkins, Robert R. Cochran, Mark G.
Morelock, Jeffrey B. Amateau, Kyle U.
Oliver

(check if applicable) [x] There is more corporation information and Par. 1(b) is continued on a "Special Exception Affidavit Attachment 1(b)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed. Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Special Exception Attachment to Par. 1(b)**

DATE: December 22, 2009  
(enter date affidavit is notarized)

100521d

for Application No. (s): SE 2008-PR-021  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

M.J. Wells & Associates, Inc.  
1420 Spring Hill Road, Suite 600  
McLean, Virginia 22102

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

M.J. Wells & Associates, Inc. Employee  
Stock Ownership Trust. All employees are  
eligible plan participants; however, no one  
employee owns more than 10% of any class  
of stock.

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.  
2200 Clarendon Boulevard, 13th Floor  
Arlington, Virginia 22201

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

David J. Bomgardner, E. Andrew Burcher,	Michael D. Lubeley, J. Randall Minchew,
Thomas J. Colucci, Peter M. Dolan, Jr.,	M. Catharine Puskar, John E. Rinaldi,
Jay du Von, Jerry K. Emrich, William A.	Lynne J. Strobel, Garth M. Wainman, Nan
Fogarty, John H. Foote, H. Mark Goetzman,	E. Walsh, Martin D. Walsh
Bryan H Guidash,	

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

**Special Exception Attachment to Par. 1(b)**

DATE: December 22, 2009  
(enter date affidavit is notarized)

100521d

for Application No. (s): SE 2008-PR-021  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Stephen K. Fox, P.C.  
10511 Judicial Drive, #112  
Fairfax, VA 22030

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

Stephen K. Fox

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Barnes & Johnson, Inc.  
8503 Euclid Avenue, #1  
Manassas Park, VA 20111

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

James A. Johnson, Jr.  
Joseph W. Webb

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

SPECIAL EXCEPTION AFFIDAVIT

DATE: December 22, 2009
(enter date affidavit is notarized)

100521d

for Application No. (s): SE 2008-PR-021
(enter County-assigned application number(s))

1(c). The following constitutes a listing\*\*\* of all of the PARTNERS, both GENERAL and LIMITED, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

PARTNERSHIP NAME & ADDRESS: (enter complete name, and number, street, city, state, and zip code)
None

(check if applicable) [ ] The above-listed partnership has no limited partners.

NAMES AND TITLE OF THE PARTNERS (enter first name, middle initial, last name, and title, e.g. General Partner, Limited Partner, or General and Limited Partner)

(check if applicable) [ ] There is more partnership information and Par. 1(c) is continued on a "Special Exception Affidavit Attachment to Par. 1(c)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed. Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

SPECIAL EXCEPTION AFFIDAVIT

DATE: December 22, 2009  
(enter date affidavit is notarized)

100521d

for Application No. (s): SE 2008-PR-021  
(enter County-assigned application number(s))

1(d). One of the following boxes **must** be checked:

In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land:

Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

**EXCEPT AS FOLLOWS:** (NOTE: If answer is none, enter "NONE" on the line below.)

None

(check if applicable)  There are more interests to be listed and Par. 2 is continued on a "Special Exception Attachment to Par. 2" form.

**SPECIAL EXCEPTION AFFIDAVIT**

DATE: December 22, 2009  
(enter date affidavit is notarized)

100521d

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than \$100, singularly or in the aggregate, with any of those listed in Par. 1 above.

**EXCEPT AS FOLLOWS:** (NOTE: If answer is none, enter "NONE" on line below.)

None

**NOTE:** Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable) [ ] There are more disclosures to be listed and Par. 3 is continued on a "Special Exception Attachment to Par. 3" form.

4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.

WITNESS the following signature:

*Sara V. Mariska*

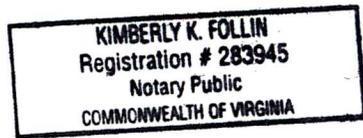
(check one) [ ] Applicant [x] Applicant's Authorized Agent

Sara V. Mariska, attorney/agent  
(type or print first name, middle initial, last name, and & title of signee)

Subscribed and sworn to before me this 22 day of December 2009, in the State/Comm. of Virginia, County/City of Arlington.

*Kimberly K. Follin*  
Notary Public

My commission expires: 11/30/2009





9109 CORONADO TERRACE, FAIRFAX, VA 22031  
T (703) 534.2790 F (703) 286.7955

November 15, 2010

Mr. Jimmy Jackson  
Horizon Child Development Inc.  
11244 Waples Mill Road, Suite H2  
Fairfax, VA 22030

Re: Lord Fairfax Academy  
Acoustical Analysis

Mr. Jackson:

This report summarizes the highway noise analysis for the Lord Fairfax Academy project in Fairfax County, Virginia.

## 1. Executive summary

A site survey was performed and sound levels were measured in the location shown in Figure 2 for nearly six days. Traffic volumes were counted briefly at the beginning of the survey. The Traffic Noise Model (TNM) was used to model existing conditions. The output sound levels compared well to the measured sound levels. A traffic forecast was developed based on data provided by Fairfax County staff. The Traffic Noise Model was used to predict future noise levels in outdoor recreation areas and at the facade of the proposed building.

The design goals are to ensure that the projected Day-Night Average Sound Level (DNL) not exceed 65 dB in outdoor recreation areas or 45 dB inside the building.

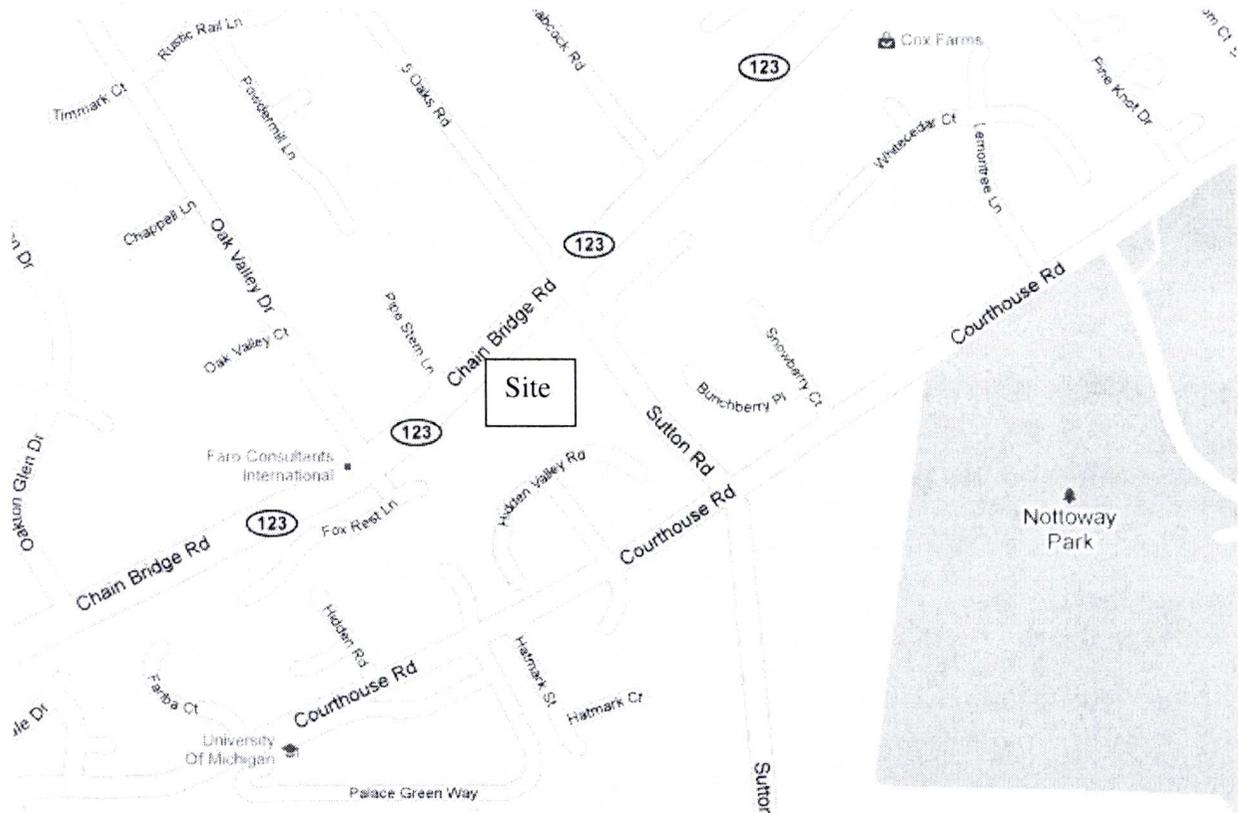
The projected DNL will be as high as 67.2 dB in the side play area without a noise barrier. With slight changes to the noise barrier shown on the Special Exception Plan the DNL in the side play area would not exceed 63.1 dB. Specifically, we recommend: (1) eliminating the scalloping at the top of the wall such that the minimum height is 6 feet, (2) eliminating the basket weave option unless that is a surface-applied decoration, and (3) using the cross-sectional design shown in Figure 5.

The projected DNL will be as high as 68.5 dB at the facade of the building. Indoor noise levels are not expected to exceed the county goal of a DNL of 45 dB. If it were desired to provide a margin for error of approximately 3 dB lower than the county goal, it would be appropriate to use windows having a rating of at least STC 28 for the second floor.

## 2. Introduction

Hush Acoustics LLC was contracted by Horizon Child Development Inc. to perform sound level measurements on the site, to model future noise levels, to design noise barriers, and to design modifications to the building to limit indoor noise levels, as necessary. This analysis was based on the Special Exception Plat dated November 5, 2010, and the revised grading plan prepared on November 5,

2010, by VIKA. These drawings show the proposed building location, play areas, and existing and proposed ground elevations. The site is located along the southeast side of Route 123 immediately to the south of Sutton Road. A vicinity map is included as Figure 1.



**Figure 1. Vicinity Map**

The Fairfax County Policy Plan states “New development should not expose people in their homes, or other noise sensitive environments to noise in excess of 45 dBA Ldn, or to noise in excess of 65 dBA Ldn in the outdoor recreation areas of homes.” The 45 dB limit is normally evaluated in noise-sensitive rooms of the proposed building, and the 65 dB limit is normally evaluated in designated outdoor recreation areas. On this site, the outdoor recreation areas only include the side play area.

### 3. Site survey

The purposes of the site survey are as follows:

1. to measure noise levels on the site. Noise level data are useful for the following reasons:
  - a. to determine how the hourly average sound levels compare to the Day-Night Average Sound Levels (DNL). The DNL is the noise metric used by Fairfax County staff. However, the Traffic Noise Model (TNM) used the hourly average sound level. For locations mostly impacted by traffic noise, the relationship between the DNL and

loudest hour average sound level is relatively constant. The measured sound levels are useful for determining this relationship.

- b. to determine the existing DNL at the locations of proposed day care center.
2. to observe traffic conditions such as prevailing speeds, classifications (i.e., percentages of automobiles, trucks, buses, and motorcycles), and directional distributions. Many of these parameters are not well documented in traffic studies. The prevailing speed often differs from the posted speed limit.
3. to observe road conditions such as locations and timing of traffic flow control devices (e.g., traffic signals, stop signs, and toll booths), and the pavement type.

### 3.1 Sound level measurement procedure

A Larson Davis model 831 sound level meter was installed in the locations indicated in Figure 2 from 2:45 p.m. on Thursday October 7, 2010, through 10:00 a.m. on Wednesday October 13, 2010. The sound level meter was programmed to report average, maximum, and minimum A-weighted sound levels during each one-minute interval. For an explanation of A-weighted sound levels see the appendix. The meter was chained to a tree and the microphone was attached to a pole 16 feet above the ground.

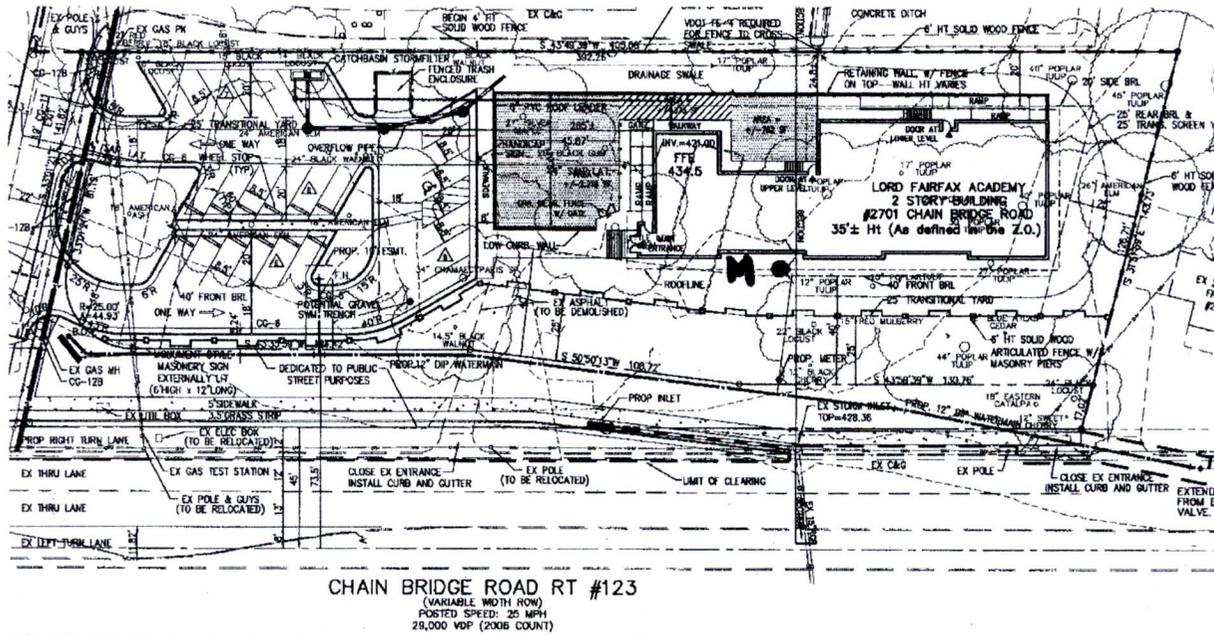


Figure 2. Sound Level Meter Location

### 3.2 Site observations

The site currently is undeveloped and mostly forested at a slightly lower elevation than the pavement of Route 123. The main noise source on the site is traffic on Route 123. There are traffic signals on Route 123 at the intersections with Sutton Road and Oak Valley Drive. Route 123 currently has two through lanes each direction, and the pavement is asphaltic concrete.

### 3.3 Measured sound levels

Average sound levels during five-minute intervals were calculated based on the measured one-minute average sound levels. Figure 3 presents the resulting five-minute average sound levels. Hourly average sound levels were calculated based on the five-minute average sound levels. Figure 4 presents the hourly average sound levels. The Day-Night Average Sound Levels (DNL) were calculated for each full calendar day. For an explanation of DNL see the appendix. Table 1 presents the DNL and loudest-hour average sound level, and the difference between the two, for each calendar day.

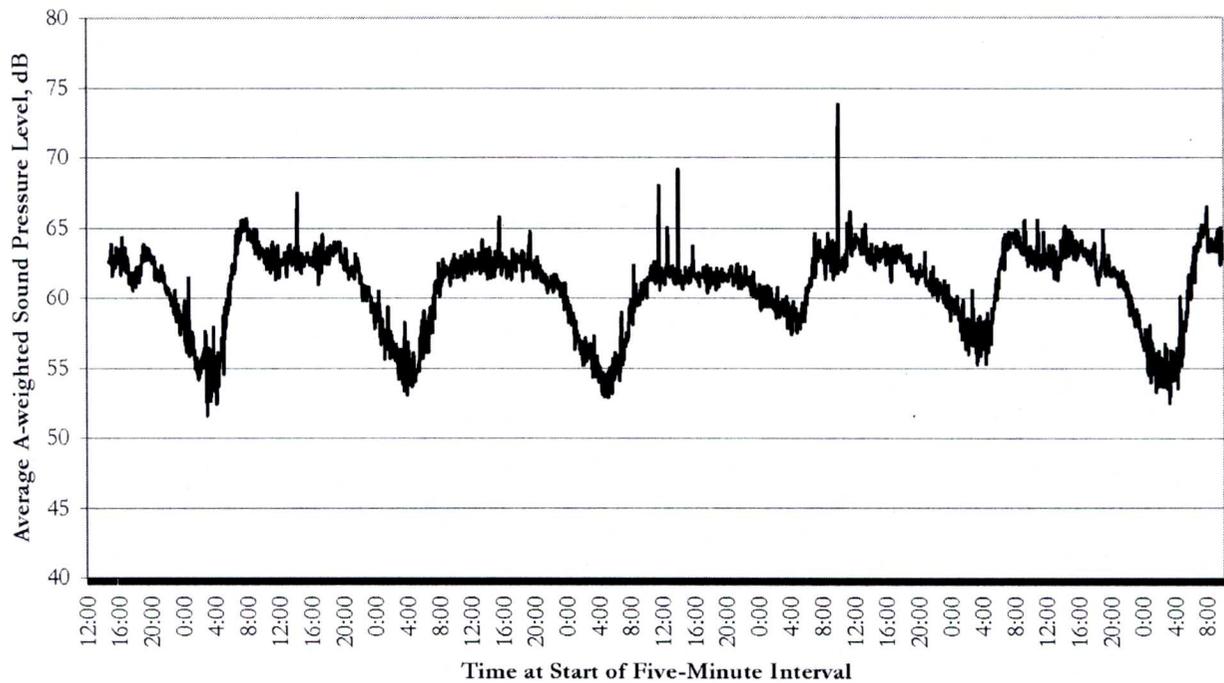
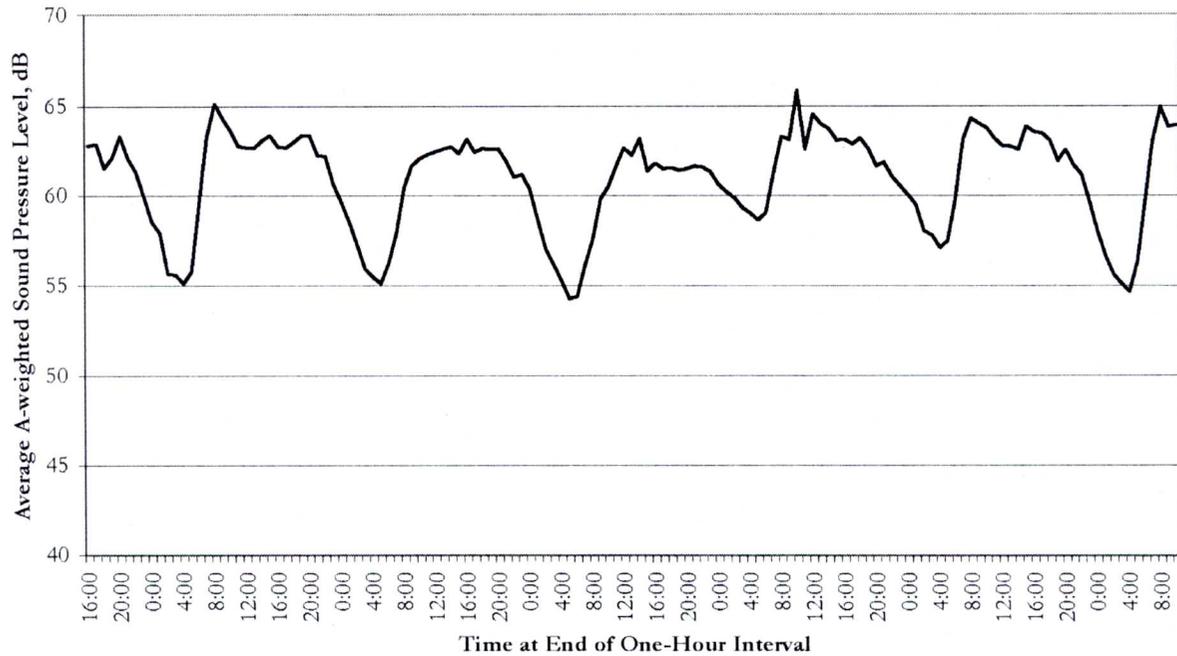


Figure 3. Five-Minute Average Sound Levels

### 3.4 Traffic counts

Traffic volumes were counted during a fifteen-minute interval for each direction of traffic on Route 123 at the start of the survey. From these volumes the hourly average traffic volumes were extrapolated. Table 2 presents the extrapolated hourly traffic volumes. Automobiles include pickup trucks, passenger cars hauling trailers, and vans. Medium trucks are six-wheeled cargo vehicles with two axles. Heavy

trucks are cargo vehicles with three or more axles. Speeds were determined using a hand-held radar gun. The median speeds for dozens of vehicles are listed in Table 2.



**Figure 4. Hourly Average Sound Levels**

**Table 1. Measured DNL and Loudest-Hour Average Sound Levels, dB**

Day, Date	DNL	Loudest-Hour Average Sound Level	DNL Minus Loudest-Hour Average
Thursday, October 07, 2010		63.3	
Friday, October 08, 2010	66.3	65.1	1.2
Saturday, October 09, 2010	65.4	63.2	2.2
Sunday, October 10, 2010	65.0	63.2	1.8
Monday, October 11, 2010	66.9	65.9	1.0
Tuesday, October 12, 2010	66.5	64.3	2.2
Wednesday, October 13, 2010		64.9	

**Table 2. Extrapolated Hourly Traffic Volumes and Prevailing Speeds**

Day, Date and Time	Lanes	Speed	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
Thurs. October 7, 2010 2:55 to 3:10 pm	Southbound	-	1,000	32	12	20	0
	Northbound	39	624	12	0	4	4

## 4. Outdoor noise modeling

### 4.1 TNM overview

In the United States, highway noise levels are typically analyzed using the Federal Highway Administration's (FHWA) Traffic Noise Model (TNM). The current version is 2.5. The output from TNM is the hourly average sound level at the receivers. The program allows input of the following information:

- Coordinates of selected points along the road centerlines
- Pavement width and type
- Road locations which are elevated (structure roadways)
- Hourly volumes and speeds of autos, medium trucks, heavy trucks, buses, and motorcycles for each road segment
- Locations of traffic flow control devices such as stop signs, traffic signals, and toll booths at the start of roads
- Coordinates and heights of evaluation points (receivers)
- Coordinates of ground elevations in selected locations (terrain lines)
- The default ground type, and coordinates and ground material in selected locations (ground zones)
- Coordinates and height of areas covered with thick evergreen forest (tree zones)
- Coordinates of existing and proposed objects that shield the site such as noise walls and buildings (barriers)
- Coordinates, height and spacing between buildings of rows of buildings which partially shield the site (building rows)

### 4.2 TNM validation

The traffic volumes and speeds presented in Table 2 were input into TNM. This TNM run is called the validation run. Each direction of travel of Route 123 was modeled as an individual road in TNM. The locations and elevations of selected points along Route 123, and the width of Route 123, were taken from the site plan. Since the observed existing pavement is asphaltic concrete, the pavement was modeled as Dense-Graded Asphaltic Concrete (DGAC). This is the louder, and more common, of the two types of asphaltic concrete available in TNM. The default ground type was lawn.

The output sound level was 63.6 dB, while the measured sound level during the traffic counts was 62.9 dB. This indicates that TNM was slightly conservative, producing a sound level 0.7 dB higher than was measured. This level of agreement between the modeled and measured sound levels is excellent.

### 4.3 Future traffic conditions

Fairfax County staff provided a forecast Annual Average Daily Traffic (AADT) volume for the year 2030 of 34,000 for Route 123 at the site. In addition, they stated that automobiles account for 98% of traffic and 1-trailer trucks account for 1%. This percentage (1%) was used in our analysis for heavy

trucks; however, since the percentages of medium trucks, buses, and motorcycles from our brief counts were higher we used the percentages from our counts to be conservative. Namely, we assumed 2.6% medium trucks, 1.4% buses, and 0.2% motorcycles. Per our counts, the speeds were assumed to be 39 mph each direction.

Additional information was obtained from the VDOT website. Namely, that the peak-hour factor at the site is 0.08, and that the directional distribution is 64.43%. To be conservative, we assumed that the prevailing traffic direction in the future in the morning will be northbound, since this lane is closer to the site. The resulting forecast traffic volumes are presented in Table 3. It can be seen from Tables 2 and 3 that the forecast total traffic volumes are higher than those observed during the site visit.

**Table 3. Year 2030 Loudest-Hour Traffic Volumes**

Lanes	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Prevailing Speed (mph)
Southbound	917	25	10	14	2	39
Northbound	1,661	45	18	25	4	39

#### 4.4 Future highway noise modeling

TNM was run using the traffic volumes and speeds presented in Table 3. The pavement type, road location, and road width as for the validation case were used for the future case. Receivers were located in the side play yard and at the façade of the proposed building. Locations and proposed ground elevations of receivers were taken from the preliminary grading plan. The receiver heights were 5 feet above the proposed ground elevations for the side play area, and 2 feet below and 6 feet above the second floor elevation for the facade of the building, representing the tops of the first and second floor windows. Shielding provided by the proposed building was considered in the analysis by modeling it as a noise barrier. A ground zone was added to account for sound reflections off the pavement of the parking lot.

#### 4.5 Future outdoor highway noise levels

It can be seen from Table 2 that the DNL was between 1.0 and 2.2 dB above the loudest-hour average sound level. The future loudest-hour average sound levels were output from TNM. To be conservative, we assumed that in the year 2030 the DNL would be approximately 2.2 greater than the loudest-hour average sound level. This assumption is equivalent to assuming that the percentage of traffic traveling on Route 123 at night (between 10 p.m. and 7 a.m.) in the future would match the highest percentage that occurred during the noise monitoring period. The resulting year 2030 DNL will be 61.9 to 67.2 dB without a noise barrier in the side play area, and 68.5 dB on the second floor at the façade of the building facing Route 123. Since the DNL in the side play area is greater than 65 dB, there is a need for a noise barrier to meet the county criteria.

## 5. Outdoor highway noise mitigation

As noted above, a noise barrier is required to meet the county criteria. The Special Exception Plat shows a solid wood noise wall with a nominal height of 6 feet, with a scalloped top, with basket weave lattice option, 1x6 boards with 1" overlap, extending over most of the frontage of Route 123. This location for the noise wall is fine, but we recommend modifying the design slightly. If the height were at least 6 feet for the entire length, the DNL in the side play area would be 59.1 to 63.1 dB, which meets the county goal. We recommend: (1) eliminating the scalloping at the top of the wall such that the minimum height is 6 feet, (2) eliminating the basket weave option unless that is a surface-applied decoration, and (3) using the design shown in Figure 5.

The 2030 DNL will be 59.9 to 65.2 dB at the façade facing Route 123 on the first floor if this noise barrier is constructed, and 67.5 to 68.0 dB if it is not constructed.

Note that we are not structural or geotechnical engineers and are expressing no opinion about the structural or geotechnical strength of any walls that we propose.

## 6. Indoor highway noise levels

### 6.1 Proposed Architectural Design

Per the drawings and our conversations with you and the architect, we understand the following:

- Wall cladding will likely be siding (even though it conceivably could be brick, we conservatively assumed siding would be used).
- Walls may be wood or metal stud, and could be nominally 4" or 6" wide; we conservatively assumed 2x4 wood studs would be used.
- Windows will be approximately 5' tall on the second floor, and no higher than 4' tall on the first floor; we conservatively used 4' tall for the first floor.
- Typical activity rooms will have carpet, while the community room 111 might not; we conservatively assumed the community room 111 would not have carpeting.
- Ceilings will be 8' tall.
- There will be four noise-sensitive rooms on the second floor and three on the first floor which face Route 123. Each of these rooms will have 1 to 3 windows which are each 5' wide.

### 6.2 Noise Level Reduction Design Goal

As noted above, the indoor noise goal is a DNL of 45 dB, and the DNL at the building will be as high as 68.5. To meet the primary indoor goal, the building envelope must reduce noise levels by as much as 23.5 dB.

### 6.3 Indoor Noise Modeling

The Noise Reduction (NR) is the difference between noise levels outdoors and indoors in a single one-third octave frequency band and is calculated based on the following equation:

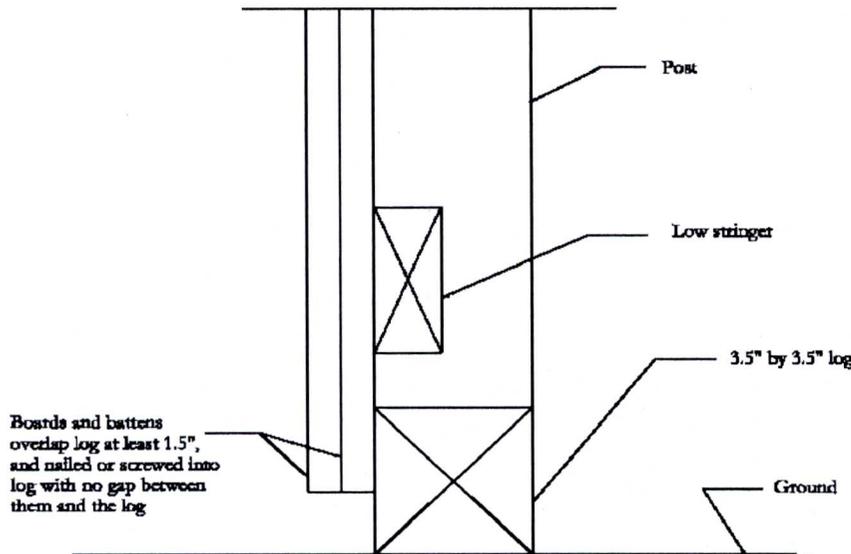
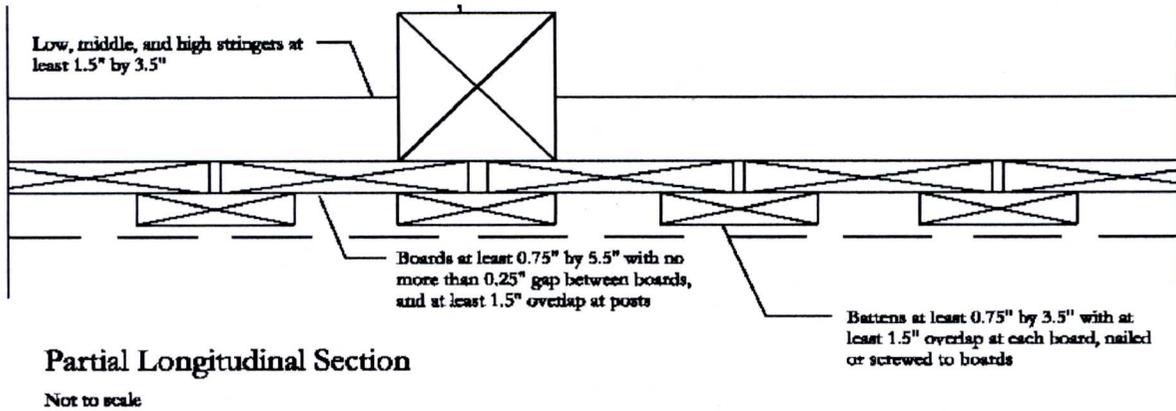


Figure 5. One Acceptable Design for a Wood Noise Wall

$$NR_i = 10 \text{ Log } \left( \frac{\sum A_i}{\sum (A_i / 10^{TL_i/10})} \right) - 10 \text{ Log } \left( \frac{1}{4} + \frac{\sum S_i}{\sum (S_i a_i)} \right)$$

where:

$NR_i$  is noise reduction in a single one-third octave band,

$A_i$  is the area of each exterior envelope material (e.g., walls, windows, doors, and roof),

$TL_i$  is the transmission loss of each exterior envelope material,

$S_i$  is the surface area of each room finish material (e.g., walls, floors, beds, etc.), and

$a_i$  is the sound absorption coefficient of each room finish material

The areas of exterior walls and the floor areas of the rooms taken from the architectural drawings.

Sound levels are often expressed for selected ranges of pitches (frequencies). The most common way to divide up frequencies is using one-third octave bands. Transmission loss is a laboratory measure of the sound insulation performance in a single one-third octave band of a product or assembly. Transmission losses of windows were obtained from published test reports provided by various manufacturers; the results were grouped based on ranges of reported STC ratings. In lieu of acoustical tests for the specific products for this project, we assumed that the windows will have a Sound Transmission Class (STC) rating of at least 24; this is the low end of what is commercially available. The STC rating is a common rating used to describe the sound insulation performance of windows and doors, as well as other products and assemblies. Acoustical data for the walls were obtained from data in the acoustical literature. None of the noise-sensitive rooms will have exterior doors.

The sound absorption coefficient is a value that expresses how much incident sound is absorbed by a room finish material; a value of 0.0 represents no absorption (i.e., complete reflection) while a value of 1.0 represents complete absorption. The areas and sound absorption coefficients of room finish materials were assumed based on typical finishes for the given type of room.

The Noise Level Reduction (NLR) is the A-weighted difference between noise levels outdoors and indoors and is calculated based on the following equation:

$$NLR = \sum (10^{(L_o + C)/10}) - \sum (10^{(L_i - NR + C)/10})$$

where:

$L_o$  is the noise level outdoors in a single one-third octave band, and

$C$  is the A-weighting correction in a single one-third octave band

See the appendices for a discussion of A-weighting. For the purposes of this calculation it is not necessary to know the absolute noise level outdoors. Rather, it is only necessary to know how the noise levels vary as a function of frequency; this variation is known as the sound spectrum. The sound spectrum for typical highway noise was obtained from acoustical data in the literature.

#### 6.4 Noise Level Reduction Results

Table 4 presents the calculated NLR and DNL for each room impacted by highway noise. It can be seen from Table 4 that the DNL will not be above the 45 dB goal in any room. No changes are required.

If it were desired to provide a margin for error of approximately 3 dB below the county goal, it would be appropriate to aim for a DNL of 42 dB or lower. This could be accomplished using windows having a rating of at least STC 28 for the second floor, with no changes to the windows on the first floor.

**Table 4. Calculated NLR and DNL, dB**

Room No.	Room Name	Flooring	Window Area	Net Wall Area	NLR (dB)	DNL outside with noise wall (dB)	DNL inside (dB)
203	16-24 mo.	Carpet	50 sf	150 sf	25.3	68.5	43.2
207, 208	Infants	Carpet	25 sf	131 sf	25.8	68.5	42.7
209	Infants	Carpet	50 sf	94 sf	24.2	68.5	44.3
103, 107	4, 5+ years	Carpet	60 sf	280 sf	26.0	Up to 65.2	39.2
111	Community	Non-carpet	40 sf	202 sf	25.9	Up to 62.8	36.9

**6.5 Recommendations**

No changes are required in any room to meet the county goal of a DNL of 45 dB. If it were desired to provide a margin for error of approximately 3 dB beyond the county goal, it would be appropriate to use windows having a rating of at least STC 28 for the second floor.

The following appendices provide additional information about acoustical terminology and criteria, and the precision of this analysis.

If you have any questions, please contact me at 703/534-2790 or via e-mail at [Gary@HushAcoustics.com](mailto:Gary@HushAcoustics.com).

Sincerely,



Gary Ehrlich, P.E.  
Principal

## Appendix A – Noise Metrics

There are many different ways to express sound levels, but all ways must have some means of incorporating the three most important aspects of the sound: loudness (level), pitch (frequency), and duration (time pattern). The chosen way to express the sound level is known as the noise metric.

*Level.* The sound level is almost always expressed in decibels, abbreviated dB. The decibel is a unitless quantity; it is technically based a ratio between the sound pressure and a standard reference pressure. Sound level meters can show the sound level varying with a moving needle or changing electronic display. How quickly this display changes, and therefore how quickly the meter responds to changes in sound level, is called the time weighting network or simply the meter “response.” The four most commonly used responses are peak, impulsive, fast, and slow; peak response is the fastest response while slow is the slowest. The peak response is only normally used to evaluate the potential for hearing damage and damage to structures, and is never used to express the annoyance of noise. The impulsive response is only typically used to evaluate loud periodic noises such as pile driving and gun fire. The fast and slow responses are the most commonly used. Fast response is used when the sound level changes relatively rapidly over time as would be the case at a night club or a construction site. Slow response is used when the sound level is relatively steady as would be the case for environmental noise such as near highways, railroads, and airports.

Following are how high A-weighted sound levels are for some familiar sounds (taken from U.S. Environmental Protection Agency documents):

Noises:

Chain saw operator	103-115 dBA
Heavy truck at 50 feet	85-95 dBA
Motorcycle driver	80-115 dBA
Power lawn mower operator	80-95 dBA
Subway rider	80-90 dBA
Train passenger	72-90 dBA
City bus at 50 feet	70-85 dBA
Waste food disposer	67-93 dBA
Automobile at 50 feet	64-88 dBA
Vacuum cleaner	60-85 dBA
Washing machine	47-73 dBA
Refrigerator	45-68 dBA

Average conversational speech at 1 meter:

Inside suburban house	55 dBA
Outdoors in suburban area	55 dBA
Inside urban house	57 dBA
Outdoors in urban area	65 dBA
On a train	66 dBA
On an aircraft	68 dBA

*Frequency.* The frequency of sound is always expressed in Hertz, abbreviated Hz. The audible frequency range (20 Hz to approximately 15,000 or 20,000 Hz) is typically divided into bands covering one octave,

or one-third of an octave. Each doubling of frequency is defined as one octave. A sound level can then be stated either as a single-value covering the entire audible frequency range, or for a given octave or one-third octave band. When sound levels are stated for the entire audible frequency range, the sound could be filtered to roughly simulate the hearing sensitivity of the average person. There are two commonly-used filter types: A- and C-weighting. An A-weighted sound level is by far the most-commonly used, and was designed to approximately represent the hearing sensitivity of a person exposed to sounds of moderate loudness. A C-weighted sound level is occasionally used to assess noise from blasting and other loud short-duration sounds and was developed to approximately represent the hearing sensitivity of a person exposed to loud sounds. For environmental noise studies, or for most other purposes as well, it is assumed that the sound level is A-weighted if there is no specific designation otherwise.

*Time Pattern.* The variation of a sound level over time is perhaps the most complex of the three parameters, and there are a myriad of ways to express this variation. The various ways can be divided into single-event sound levels and long-term sound levels. Examples of “single events” are a train passby, an aircraft overflight, or a gun firing. Single-event sound levels can be based on the maximum sound level reached during the event (abbreviated  $L_{max}$ ), the total sound energy produced during the event (known as the sound exposure level, or SEL), or the number of times the sound level exceeds a threshold value (known as the number of events above, or NA). Long-term sound levels must be based on sound levels over a given time interval. Common time intervals are one hour and 24 hours. During this time interval the stated quantity could be the average sound level (known as the equivalent-continuous sound level, or  $L_{eq}$ ), the amount of time the sound level exceeds a threshold value (known as time above, or TA), or the sound level exceeded any set percentage of the time (known as the statistical sound level; e.g., the sound level exceeded ten percent of the time is written  $L_{10}$ , while the sound level exceeded 90 percent of the time is written the  $L_{90}$ ). One-hour average sound levels, or occasionally one-hour statistical sound levels, are used by the Federal Highway Administration and state departments of transportation to express highway noise levels. The sound level exceeded 90 percent of the time,  $L_{90}$ , is often considered the background sound level, since it is not significantly affected by loud periodic noise events. 24-hour average sound levels, and occasionally 24-hour statistical sound levels, are typically used to express all forms of transportation noise including highway, aircraft, and railroad noise. The 24-hour average noise level can include some adjustments to account for peoples’ increased sensitivity to noise in the evening and at night. The two most common ways to account for this sensitivity is with the Day-Night Average Sound Level (DNL) and the Community Noise Equivalent Level (CNEL). The DNL is just a 24-hour average sound level for a calendar day with 10 dB added to all noise which occurs between 12 a.m. and 7 a.m. and between 10 p.m. and midnight. The CNEL is the same as DNL but with 5 dB added to all noise which occurs between 7 p.m. and 10 p.m.

## **Appendix B – Noise Criteria**

Noise is unwanted since it causes: (1) hearing damage, (2) annoyance, (3) speech interference, and (4) sleep disturbance. There are various types of noise criteria that revolve around different unwanted causes. The Occupational Safety and Health Act (OSHA) established maximum allowable sound levels in the workplace in an effort to prevent hearing damage. The OSHA limits often become significant in industrial and military settings, as well as for construction workers. In most work and home environments the sound levels are well below the OSHA limits. Most noise criteria relate to the other

three unwanted effects of noise. There are noise criteria at the federal, state, and local levels, and there are also non-regulatory criteria developed by many private and governmental organizations.

*Federal Noise Criteria.* There are many government agencies that have established noise criteria. The U.S. Environmental Protection Agency (EPA) developed many of the criteria used by other federal agencies. The U.S. Department of Housing and Urban Development (HUD) established an outdoor noise standard that residential use assisted or supported by HUD is “acceptable” where the DNL does not exceed 65 dB, “normally unacceptable” where the DNL is over 65 dB but does not exceed 75 dB, and “unacceptable” where the DNL exceeds 75 dB. The HUD indoor noise goal is that the DNL not exceed 45 dB inside proposed residences. These limits are typically only evaluated by HUD when the project receives funding from the Federal Housing Administration (FHA). The Federal Aviation Administration (FAA) has established a threshold of a DNL of 65 dB, above which residential development is not compatible; the FAA indoor threshold is a DNL of 45 dB. These limits are typically only evaluated when environmental noise studies (such as environmental assessments or environmental impact statements) are performed in support of a major project, or when existing residences, schools, or churches are sound insulated in FAA-sponsored programs. The Department of the Navy uses similar criteria which are typically only evaluated when environmental noise studies (such as Air Installation Compatible Use Zone, or AICUZ, studies) are completed in support of a major realignment of assets. The Federal Highway Administration (FHWA) established noise abatement criteria (NAC) for various land uses; the NAC for residential use is an hourly average sound level of 67 dB outdoors and 52 dB indoors. When the sound level approaches or exceeds the NAC a noise impact occurs; the state departments of transportation may define the word “approach” although it is typically considered to be when the sound level reaches within one dB of the NAC.

*State Noise Criteria.* Many states have established different noise criteria for four purposes: (1) to control noise produced by citizens, (2) to evaluate the compatibility of a proposed land use with respect to environmental noise, (3) to determine if construction of a state-funded noise barrier is warranted along a highway, and (4) to verify that new construction provides adequate acoustical separation between dwelling units of multi-family housing. The first purpose is incorporated into a noise ordinance and is enforceable against the person generating the noise. The Code of Maryland includes such as noise ordinance, while in the state of Virginia the noise ordinances are developed at the local level. Noise ordinances typically limit the maximum A-weighted noise level, and many also limit the maximum noise level in each octave band. The second purpose is incorporated into the environmental noise policy and is enforceable by the state and local (if adopted at the local level) planning and zoning departments. The Code of Maryland also includes such an environmental noise policy, while in most other states such as Virginia it is solely up to the municipalities to develop such a policy. The state of California has a building code requirement that where the outdoor DNL or CNEL exceeds 60 dB, an acoustical analysis shall be performed demonstrating that the indoor DNL or CNEL not exceed 45 dB. Environmental noise policies are almost always expressed in terms of the DNL, with the exception of the state of California which also uses CNEL. The third purpose is incorporated in the noise barrier policy and is used by the state department of transportation. Maryland and Virginia, as well as other states, have such a noise barrier policy. The noise barrier policies are almost always expressed in terms of the hourly average sound level referencing the noise abatement criteria used by the FHWA, although some are expressed in terms of the sound level exceeded during 10 percent of the hour (the  $L_{10}$ ). The fourth

purpose is incorporated into the state and local building code in the form of a minimum acceptable Sound Transmission Class (STC) or Impact Insulation Class (IIC) rating.

*Local Noise Criteria.* Many municipalities have established both a noise ordinance and an environmental noise policy. The environmental noise policy is sometimes summarized in a policy plan, comprehensive plan, or similar document, while in other jurisdictions it is not documented at all, outside of in-house planning department memos. The environmental noise policy is sometimes enforceable by ordinance in the case of an overlay zone. Overlay zones are often adopted around airports or military air bases, as is the case for High Point, North Carolina. In some municipalities the state department of transportation noise barrier policy is used to assist determining if a developer applying for a re-zoning must build a highway noise barrier.

*Private Noise Criteria.* In many cases, there are no applicable regulatory criteria. For example, there rarely is any regulatory limit on noise levels due to plumbing systems, noise levels in classrooms, or noise levels transmitted from one office to another. In these cases it is useful to consider non-binding criteria developed by private and governmental organizations. The American Society of Heating Refrigerating and Air-conditioning Engineers (ASHRAE) provides recommendations regarding noise from mechanical systems. The ASHRAE recommendations are typically expressed in terms of the Room Criterion (RC) rating, and used to be expressed in terms of the Noise Criterion (NC) rating. The American National Standards Institute (ANSI) developed a standard regarding noise levels in schools, and this standard has been adopted into law in some jurisdictions. The World Health Organization (WHO) has developed many noise standards for various purposes. In some cases it is useful to assess what percentage of syllables, words, or sentences would be intelligible in a given noise environment; two noise metrics used for this purpose are called speech transmission index (STI) and articulation index (AI). Various textbooks provide guidance on appropriate STI and AI values. There has also been some research into the percentage of people that would be “highly annoyed” or awakened by given noise levels. This research could be cited in the development on a noise criterion.

### **Appendix C – Precision of Predictions**

It is not generally feasible to calculate the precision of a noise level or noise level reduction predictions. Unlike fields such as structural engineering, it is not typical practice to incorporate a specific margin of error in acoustical studies. Where possible, somewhat conservative assumptions were used in the outdoor noise level analysis. However, STC ratings quoted by manufacturers of products such as windows and doors are inherently anti-conservative, since the manufacturer has the option to test products many times and only publish the best rating the product ever achieved. Also, there are a variety of field installation issues which could make the STC ratings of walls be lower than anticipated. These two factors (slightly conservative assumptions used to predict outdoor noise levels, and possibly anti-conservative data used to predict indoor noise levels) may roughly balance each other out. The end result is that our predictions should roughly match future measured sound levels on average, with a statistical variation above and below.

If a general margin of error were desired, it would be advisable to exceed the recommended acoustical performance (often expressed by the STC rating) of walls, windows, and doors by a couple of points. For highway noise analyses, a margin of error could be also incorporated by extending any

recommended highway noise barriers farther (i.e., shielding a greater angle of view) and a couple of feet higher. If you would like to incorporate a specific margin of error, please let us know and we could revise our analysis.

Note that the noise levels presented in this report are based on the assumption that the rooms are furnished; noise levels in unfurnished rooms will be higher.

If a specific proffered commitment is made during the rezoning process for a project regarding the noise level inside residences or in outdoor activity areas, we would recommend incorporating a specific margin of error of approximately 2 dB. While such a margin of error is not routinely included, and would likely increase construction (building and/or noise wall) costs, it could limit liability should noise levels vary slightly from the predictions.

Hush Acoustics LLC does not provide any warranty or guarantee as to the precision of the noise level or noise level reduction predictions or measurements.

Note that we are not structural or geotechnical engineers and are expressing no opinion about the structural or geotechnical strength of any walls that we propose.

# ■ LORD FAIRFAX ACADEMY ■

PROVIDENCE DISTRICT  
FAIRFAX COUNTY, VIRGINIA

## SPECIAL EXCEPTION PLAT

PLAN NUMBER: SE 2008-PR-021

MAY 6, 2008

(REVISED JULY 9, 2010)

(REVISED JULY 23, 2010)

(REVISED SEPTEMBER 22, 2010)

(REVISED NOVEMBER 5, 2010)

(REVISED DECEMBER 3, 2010)

(REVISED JANUARY 3, 2011)

### APPLICANT/OWNER

JACKSON CONSTRUCTION SERVICES  
11325 LEE HIGHWAY, #110  
FAIRFAX, VIRGINIA 22030  
CONTACT: JAMES JACKSON  
(703) 352-2772

### ATTORNEY

WALSH, COLUCCI, LUBELEY, EMRICH, & WALSH  
2200 CLARENDON BLVD., 13TH FLOOR  
ARLINGTON VIRGINIA, 22201  
CONTACT: LYNNE J. STROBEL, ESQ.  
(703) 528-4700

### ENGINEER/LANDSCAPE ARCHITECT

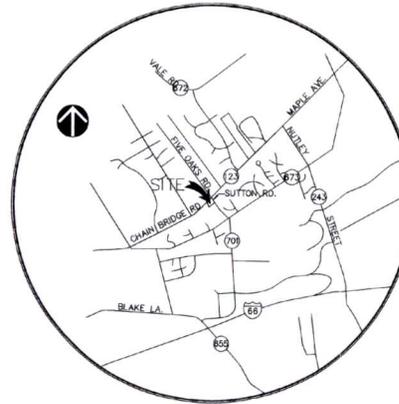
VIKA INC.  
8180 GREENSBORO DRIVE, SUITE 200  
MCLEAN, VIRGINIA 22102  
CONTACT: JOHN AMATETTI, P.E. & JEFF KREPS, L.A.  
(703) 442-7800

### ARCHITECT

MILLER ARCHITECTS  
11436 WASHINGTON PLAZA WEST  
RESTON, VA 20190  
CONTACT: MICHAEL MILLER  
(703) 716-4300

### TRANSPORTATION CONSULTANT

WELLS & ASSOCIATES, LLC.  
11441 ROBERTSON DRIVE, SUITE 201  
MANASSAS, VA 20109  
CONTACT: WILLIAM JOHNSON  
(703) 365-9262



### VICINITY MAP

SCALE: 1"=200'

TM NO. 48-1

### SHEET INDEX

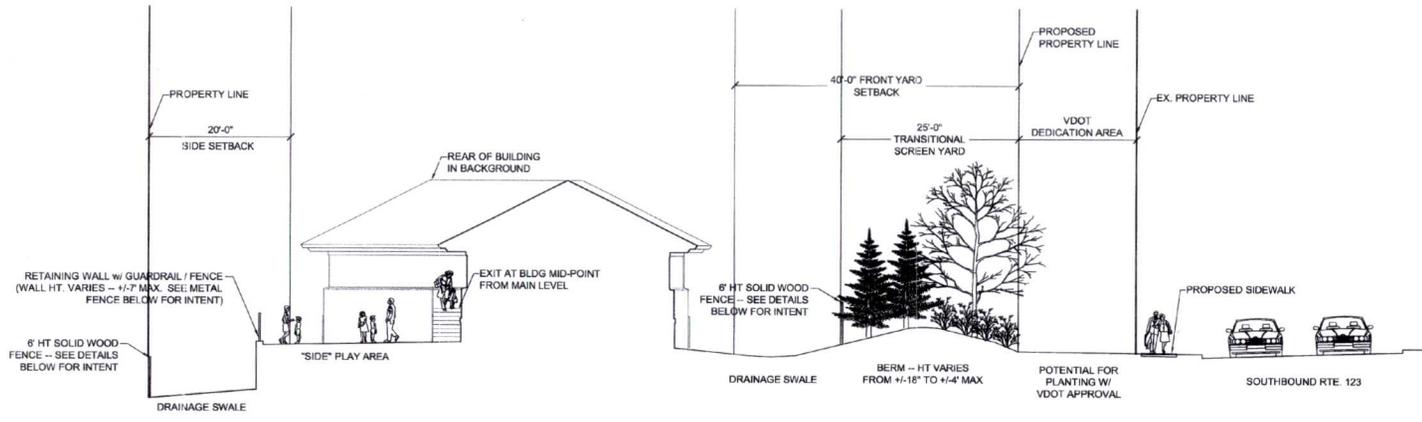
1. COVER SHEET
2. NOTES AND TABULATIONS
3. SPECIAL EXCEPTION PLAT
- 3A. SITE SECTION AND SITE DETAILS
4. EXISTING VEGETATION MAP
5. CONCEPT LANDSCAPE PLAN
6. ANGLE OF BULK PLANE DIAGRAMS
7. SWM PLAN & DRAINAGE DIVIDES TO SWM SYSTEMS
8. SWM/BMP CALCULATIONS
9. ROADWAY CROSS SECTIONS & MISCELLANEOUS DETAILS
10. OUTFALL ANALYSIS
11. ILLUSTRATIVE ARCHITECTURAL DRAWINGS



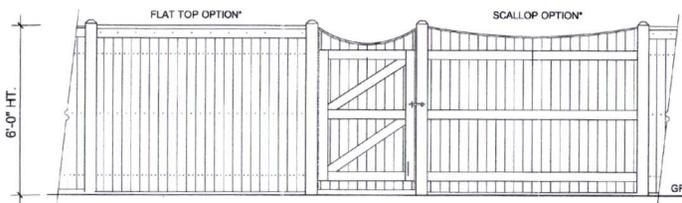
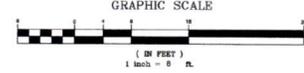
JOB NUMBER V  
SHEET 1





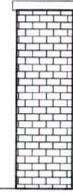


SITE SECTION – VIEW TOWARD REAR PROPERTY LINE

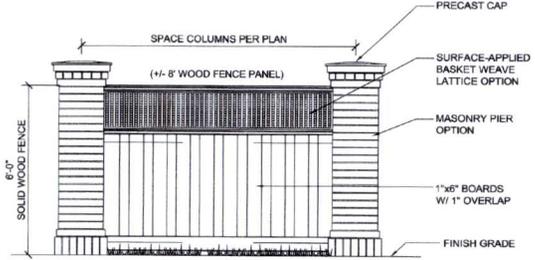


\*NOTE: FLAT TOP OPTION IS REQUIRED ALONG ROUTE 123 TO MEET THE REQUIREMENTS FOR NOISE MITIGATION; SCALLOP OPTION MAY BE USED ALONG SIDE AND REAR PROPERTY LINES ONLY.

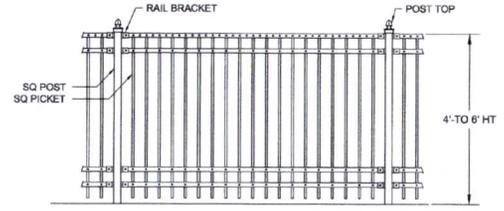
BRICK COLUMN OPTION - SEE PLAN FOR SPACING



SOLID WOOD FENCE AND MASONRY PIER OPTIONS



\*NOTE: FINAL FENCE/PIER/POST DESIGN WILL MEET REQUIREMENTS FOR NOISE ATTENUATION ALONG ROUTE 123 AND WILL CONFORM TO ALL APPLICABLE SECTIONS OF THE FAIRFAX COUNTY PFM AND ZONING ORDINANCE.



ORNAMENTAL METAL FENCE OPTION

NO.	DESCRIPTION	REVISED BY	APPROVED	DATE

REVISION APPROVED BY:  
DIVISION OF DESIGN REVIEW



VKA REVISIONS

JANUARY 3, 2011
DECEMBER 3, 2010
NOVEMBER 5, 2010
SEPTEMBER 22, 2010
JULY 23, 2010
DATE: JULY 9, 2010
DES: JK DWN: JK
SCALE: AS SHOWN
PROJECT/FILE NO. V7229A
SHEET NO. 3-A

11/11/10 10:58 AM C:\Users\jk\Documents\2011\20110709\_V7229A.dwg 10:58 AM 11/11/10 10:58 AM



**PERIPHERAL PARKING LOT LANDSCAPING CALCULATION**  
(PER SECTION 13-203-1)

LINEAR FEET OF PARKING LOT ABUTTING LAND NOT IN THE RIGHT OF WAY OF A STREET (IN THIS CASE, ADJACENT TO THE VERIZON PROPERTY) = + / - 133'

TREES REQUIRED = 3 (1 TREE PER EACH 50')

**LEGEND**

= PROPOSED TREE TO BE COUNTED TOWARD PERIPHERAL PARKING LOT LANDSCAPING FULFILLMENT (SEE SHEET 4 FOR CALCULATIONS)

= PROPOSED TREE TO BE COUNTED TOWARD INTERIOR PARKING LOT LANDSCAPING FULFILLMENT (SEE SHEET 4 FOR CALCULATIONS)

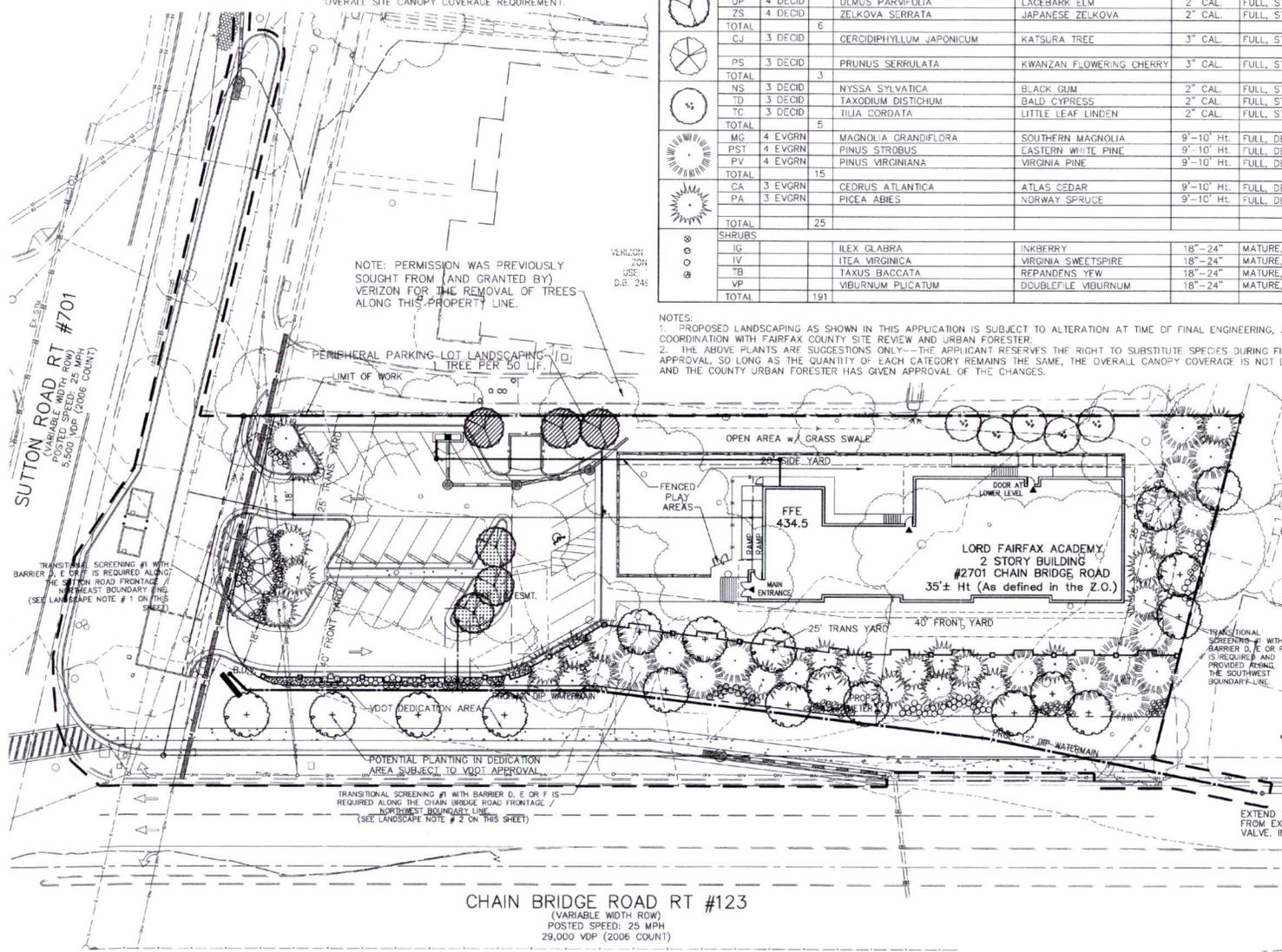
NOTE: ALL PROPOSED TREES ARE TO BE USED TO MEET THE OVERALL SITE CANOPY COVERAGE REQUIREMENT.

**PRELIMINARY PLANT LIST**

LEGEND	KEY	CATE-GORY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	STD COVER PER TREE AREA (SF)	TOTAL COVER (SF)
<b>TREES</b>									
	AR	4 DECID		ACER RUBRUM	RED MAPLE	3" CAL	FULL, STRONG CENTRAL LEADER	250	
	QR	4 DECID		QUERCUS RUBRA	RED OAK	3" CAL	FULL, STRONG CENTRAL LEADER	250	
	TA	4 DECID		TILIA AMERICANA	AMERICAN LINDEN	3" CAL	FULL, STRONG CENTRAL LEADER	250	
	TOTAL		14					250	3,500
	QP	4 DECID		QUERCUS PALUSTRIS	PIN OAK	2" CAL	FULL, STRONG CENTRAL LEADER	200	
	UP	4 DECID		ULMUS PARVIFOLIA	LACEBARK ELM	2" CAL	FULL, STRONG CENTRAL LEADER	200	
	ZS	4 DECID		ZELKOVA SERRATA	JAPANESE ZELKOVA	2" CAL	FULL, STRONG CENTRAL LEADER	200	
	TOTAL		6					200	1,200
	CJ	3 DECID		CERCIDIPHYLLUM JAPONICUM	KATSURA TREE	3" CAL	FULL, STRONG CENTRAL LEADER	175	
	PS	3 DECID		PRUNUS SERRULATA	KWANZAN FLOWERING CHERRY	3" CAL	FULL, STRONG CENTRAL LEADER	175	
	TOTAL		3					175	525
	NS	3 DECID		NYSSA SYLVATICA	BLACK GUM	2" CAL	FULL, STRONG CENTRAL LEADER	150	
	TD	3 DECID		TAXODIUM DISTICHUM	BALD CYPRESS	2" CAL	FULL, STRONG CENTRAL LEADER	150	
	TC	3 DECID		TILIA CORDATA	LITTLE LEAF LINDEN	2" CAL	FULL, STRONG CENTRAL LEADER	150	
	TOTAL		5					150	750
	MG	4 EVGRN		MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	9'-10" Ht.	FULL, DENSE, MATURE	250	
	PST	4 EVGRN		PINUS STROBUS	EASTERN WHITE PINE	9'-10" Ht.	FULL, DENSE, MATURE	250	
	PV	4 EVGRN		PINUS VIRGINIANA	VIRGINIA PINE	9'-10" Ht.	FULL, DENSE, MATURE	250	
	TOTAL		15					250	3,750
	CA	3 EVGRN		CEDRUS ATLANTICA	ATLAS CEDAR	9'-10" Ht.	FULL, DENSE, MATURE	175	
	PA	3 EVGRN		PICEA ABIES	NORWAY SPRUCE	9'-10" Ht.	FULL, DENSE, MATURE	175	
	TOTAL		25					175	4,375
<b>SHRUBS</b>									
	IG			ILEX GLABRA	INKBERRY	18"-24"	MATURE, WELL ROOTED		
	IV			ITEA VIRGINICA	VIRGINIA SWEETSPIRE	18"-24"	MATURE, WELL ROOTED		
	TB			TAXUS BACCATA	REPAIDENS YEW	18"-24"	MATURE, WELL ROOTED		
	VP			VIBURNUM Plicatum	DOUBLEFILE VIBURNUM	18"-24"	MATURE, WELL ROOTED		
	TOTAL		191						
								TOTAL:	14,100 SF

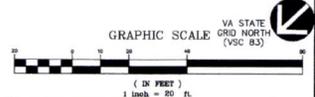
**NOTES:**

- PROPOSED LANDSCAPING AS SHOWN IN THIS APPLICATION IS SUBJECT TO ALTERATION AT TIME OF FINAL ENGINEERING, AND IN COORDINATION WITH FAIRFAX COUNTY SITE REVIEW AND URBAN FORESTER.
- THE ABOVE PLANTS ARE SUGGESTIONS ONLY—THE APPLICANT RESERVES THE RIGHT TO SUBSTITUTE SPECIES DURING FINAL SITE PLAN APPROVAL, SO LONG AS THE QUANTITY OF EACH CATEGORY REMAINS THE SAME, THE OVERALL CANOPY COVERAGE IS NOT DIMINISHED, AND THE COUNTY URBAN FORESTER HAS GIVEN APPROVAL OF THE CHANGES.



**TRANS. YARD WAIVER & MODIFICATION JUSTIFICATIONS**

- TRANSITIONAL SCREENING #1 WITH BARRIER D, E OR F IS REQUIRED ALONG THE SUTTON ROAD FRONTAGE / NORTHEAST BOUNDARY LINE. PER ARTICLE 13, SECTION 13-305-2, THE APPLICANT RESPECTFULLY REQUESTS A WAIVER OF THE BARRIER PORTION OF THIS REQUIREMENT FROM THE BOARD OF SUPERVISORS. THE APPLICANT PROPOSES NO BARRIER BECAUSE THE CONFIGURATION OF THE SITE ELEMENTS ALONG THIS FRONTAGE LEAVES ONLY SMALL AREAS WHERE A BARRIER COULD BE ENCLOSED—THEREBY PROMOTING AN INCOMPLETE BARRIER, AT BEST. FURTHER, THE LANDSCAPING IN THIS AREA HAS BEEN CAREFULLY THOUGHT OUT TO MINIMIZE ADVERSE VISUAL IMPACTS BY PROVIDING A DENSE EVERGREEN SCREEN SUPPLEMENTED BY FLOWERING ORNAMENTAL TREES AND EVERGREEN SHRUBS. THIS PLANTING DESIGN WOULD RENDER ANY INSTALLED BARRIER MOSTLY INVISIBLE TO ADJACENT PROPERTIES.
- TRANSITIONAL SCREENING #1 WITH BARRIER D, E OR F IS REQUIRED ALONG THE CHAIN BRIDGE ROAD FRONTAGE / NORTHEAST BOUNDARY LINE. THE APPLICANT RESPECTFULLY REQUESTS A MODIFICATION OF THE TRANSITIONAL SCREEN YARD PORTION OF THIS REQUIREMENT FROM THE BOARD OF SUPERVISORS. PER ARTICLE 13, SECTION 13-305-2, DUE TO THE SIGNIFICANT VDOT RIGHT-OF-WAY DEDICATION THAT THE APPLICANT HAS AGREED TO PROVIDE, THERE IS NOT SUFFICIENT ROOM AVAILABLE TO PROVIDE A CONTINUOUS 25' TRANS YARD; THE PROVISION OF BOTH THE 25' YARD AND THE VDOT DEDICATION WOULD RESULT IN AN AREA TOO NARROW TO ACCOMMODATE LORD FAIRFAX ACADEMY. HOWEVER, THE APPLICANT PROPOSES (SUBJECT TO APPROVAL BY UFM) TO MEET THE PLANTING REQUIREMENTS OF THE ENTIRE LENGTH OF FRONTAGE ON ROUTE 123 WITHIN THE AREA WHERE THE REQUIRED 25' TRANSITIONAL YARD IS PROVIDED.
- THE RESULTS OF THE NOISE STUDY INDICATE THAT A SOLID 6' FENCE/BARRIER IS REQUIRED ALONG THE ROUTE 123 FRONTAGE IN ORDER TO MITIGATE THE NOISE FROM THE ROADWAY. TO MEET THIS REQUIREMENT, THE APPLICANT IS PROPOSING TO CONSTRUCT A 6' HIGH SOLID WOOD FENCE (WITH MASONRY PIERS) ALONG THE ENTIRE ROUTE 123 FRONTAGE. THIS PROPOSAL PLACES A 6' FENCE IN THE FRONT YARD; HOWEVER, PER ARTICLE 10, SECTION 10-104-3-F, THE APPLICANT RESPECTFULLY REQUESTS A MODIFICATION OF SECTION 10-104-3-B (WHICH LIMITS THE HEIGHT OF A FENCE IN A FRONT YARD TO 4' HEIGHT) IN ORDER TO PROVIDE A FENCE/BARRIER OF SUFFICIENT HEIGHT (6') TO MITIGATE THE ROADWAY NOISE.



**VFA**  
ENGINEERS & PLANNERS & ARCHITECTS & SURVEYORS & DESIGNERS  
1000 COMMONWEALTH BLVD., SUITE 200  
FALLS CHURCH, VA 22031-2797  
TEL: 703-447-7000 FAX: 703-447-2797  
WWW.VFAVA.COM

**LORD FAIRFAX ACADEMY**  
PROVIDENCE DISTRICT  
FAIRFAX COUNTY, VIRGINIA

**CONCEPT**  
LANDSCAPE PLAN



VKA REVISIONS

NO.	DESCRIPTION	DATE
1	REVISION APPROVED BY: DIVISION OF DESIGN REVIEW	

REVISION APPROVED BY:  
DIVISION OF DESIGN REVIEW

DECEMBER 3, 2010  
NOVEMBER 5, 2010  
SEPTEMBER 22, 2010  
JULY 23, 2010  
DATE: JULY 9, 2010  
DES. DWG. JK  
SCALE: AS SHOWN  
PROJECT/TITLE NO. V7229A  
SHEET NO. 5



VKA REVISIONS

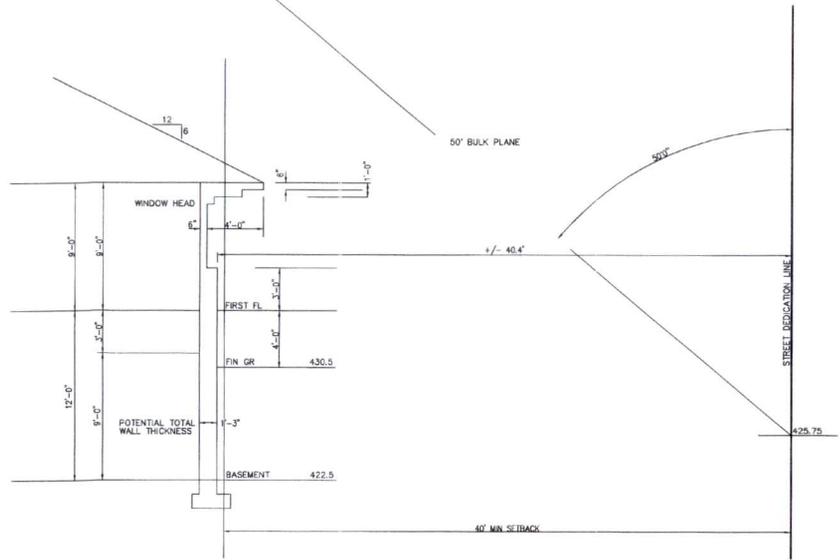
DATE	BY	DESCRIPTION
JANUARY 3, 2011		
DECEMBER 5, 2010		
NOVEMBER 5, 2010		
SEPTEMBER 22, 2010		
JULY 23, 2010		
JULY 9, 2010		

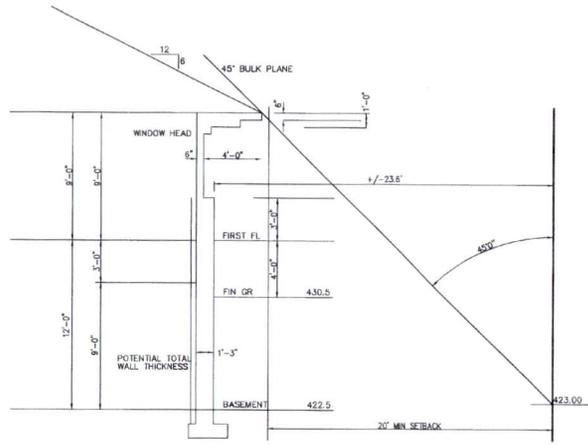
DATE	CHK	DWN	RUC

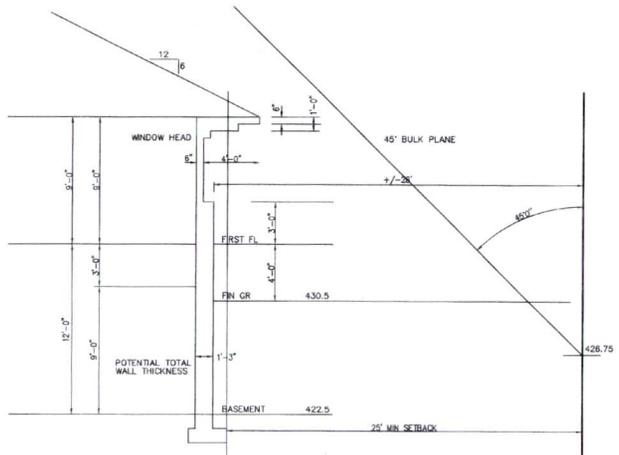
SCALE	PROJECT/FILE NO.	SHEET NO.
N/A	V7299A	6



**FRONT YARD--CHAIN BRIDGE ROAD FRONTAGE**  
 SCALE: 1/4" = 1'-0"

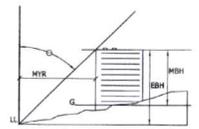


**SIDE YARD (ADJ. TO VERIZON BLDG)**  
 SCALE: 1/4" = 1'-0"

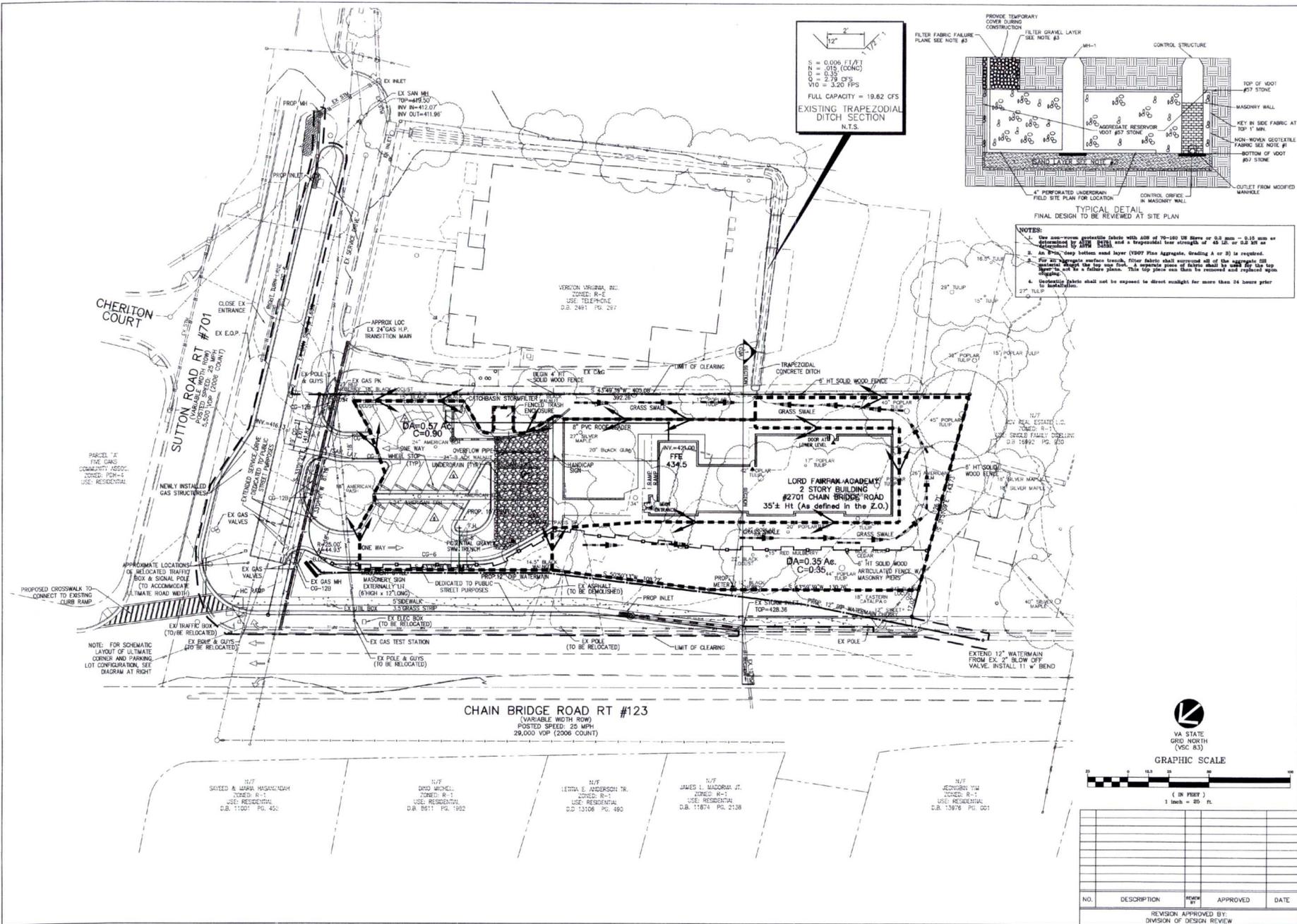


**REAR YARD (WEST PROPERTY LINE)**  
 SCALE: 1/4" = 1'-0"

**ANGLE OF BULK PLANE**



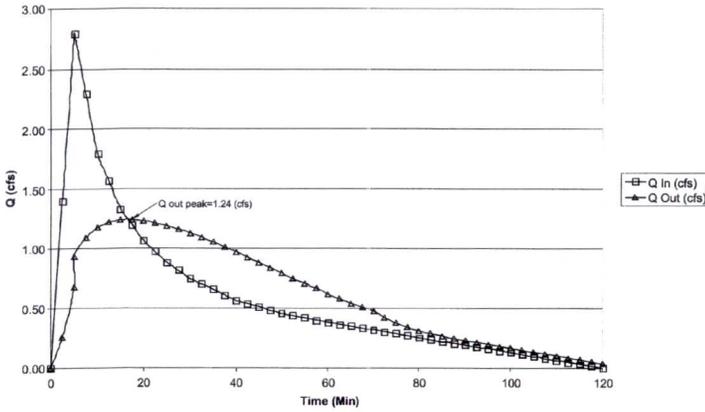
BULK PLANE EXAMPLE ILLUSTRATION (NTS)  
 Q : ANGLE OF BULK PLANE  
 LL : LOT LINE  
 EBH : EFFECTIVE BUILDING HEIGHT  
 MYR : MINIMUM YARD REQUIREMENT  
 MSH : MAXIMUM BUILDING HEIGHT  
 G : GRADE (FINISHED)  
 MYR = EBH tan Q  
 EBH = MYR / tan Q



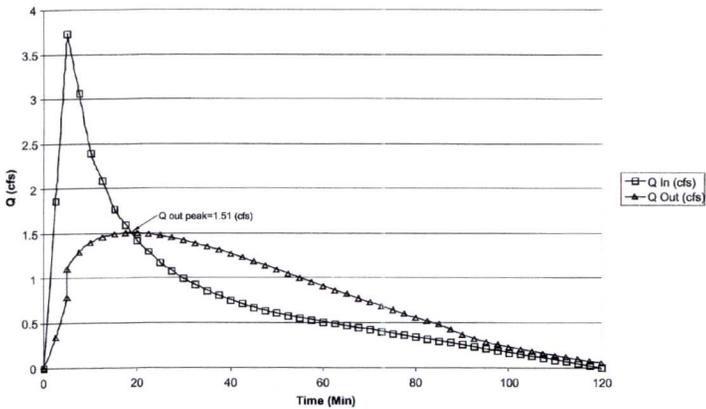
DATE: JULY 9, 2010  
 DES. JK DRN. RMC  
 SCALE: 1"=25'  
 PROJECT FILE NO. V7228A  
 SHEET NO. 7

NO.	DESCRIPTION	DATE	APPROVED	DATE
REVISION APPROVED BY: DIVISION OF DESIGN REVIEW				

Gravel Trench  
2yr Storm In/Out Hydrograph



Gravel Trench  
10yr Storm In/Out Hydrograph



**BMP/SWM NARRATIVE**

STORMWATER MANAGEMENT REQUIREMENTS SHALL BE SATISFIED THROUGH THE USE OF UNDERGROUND GRAVEL NON-INfiltration PERCOLATION TRENCH. THE SYSTEM SHALL HAVE UNDER-DRAINS AND A CONTROL STRUCTURE TO CONVEY THE FLOW AT OR BELOW PRE-DEVELOPMENT 2 AND 10 YEAR RELEASE RATES (SEE ATTACHED CALCULATIONS). THE ENTIRE STORMWATER MANAGEMENT SYSTEM SHALL BE OWNER MAINTAINED UNDER A MAINTENANCE AGREEMENT EXECUTED AT THE SITE PLAN STAGE. THE STORMWATER MANAGEMENT SYSTEM SHALL OUTFALL INTO A CONCRETE LINED TRAPEZOIDAL DITCH THAT HAS THE CAPACITY TO CARRY THE FLOWS FROM THE POST-DEVELOPED SITE. OUTFALL FROM THIS SITE MEETS THE REQUIREMENTS CONTAINED IN THE PFM SECTION 6-0201.2 WHERE THE DISCHARGE IS INTO AN EXISTING DRAINAGE FACILITY THAT HAS SUFFICIENT CAPACITY.

BEST MANAGEMENT PRACTICE (BMP) REQUIREMENTS FOR THIS SITE SHALL BE MET THROUGH THE USE OF A CATCH-BASIN STORMFILTER AND A GRASS SWALE APPROXIMATELY 400 LINEAR FEET IN TOTAL. THESE BMP'S ARE DESIGNED TO TREAT THE FIRST 0.5" OF RUNOFF FROM THE SITE THUS PROVIDING 50% PHOSPHORUS REMOVAL FOR THE STORMFILTER AND 15% FOR THE GRASS SWALE. AS CAN BE SEEN ON THE COMPUTATIONS ON THIS SHEET, A PHOSPHORUS REMOVAL OF 40.3% SHALL BE ACHIEVED. THIS IS GREATER THAN THE 40% REQUIRED, THEREFORE BMP REQUIREMENTS HAVE BEEN MET.

**Allowable Outflow Computations**

Project Name: Lord Fairfax  
Design Date: NOV, 2010  
Design Engineer: Joseph D. Amati

**Step 1 - Pre-Developed Flows**  
Area Detained (Ac): 1.04  
Tc (Min): 5.00  
2-Yr C-Factor: 0.39  
10-Yr C-Factor: 0.39  
2-Yr Intensity (in/hr): 5.45  
10-Yr Intensity (in/hr): 7.27

Q<sub>in</sub> = C x I x A = 0.39 x 5.45 x 1.04 = 2.21  
Q<sub>10</sub> = 0.39 x 7.27 x 1.04 = 2.95

**Step 2 - Post-Developed Inflows to SWM**  
Area Detained (Ac): 0.57  
Tc (Min): 5.00  
C-Factor: 0.80  
2-Yr Intensity (in/hr): 5.45  
10-Yr Intensity (in/hr): 7.27

Q<sub>in</sub> = C x I x A = 0.80 x 5.45 x 0.57 = 2.49  
Q<sub>10</sub> = 0.80 x 7.27 x 0.57 = 3.29

**Step 3 - Post-Developed On-site Underdrain Flows**  
Area Undertained (Ac): 0.47  
Tc (Min): 5.00  
C-Factor: 0.37  
2-Yr Intensity (in/hr): 5.45  
10-Yr Intensity (in/hr): 7.27

Q<sub>in</sub> = C x I x A = 0.37 x 5.45 x 0.47 = 0.96  
Q<sub>10</sub> = 0.37 x 7.27 x 0.47 = 1.28

**Step 4 - Off-Site Flows to SWM**  
Area Detained (Ac): N/A - See Flow Rate Determined Elsewhere Below  
Tc (Min): N/A - See Flow Rate Determined Elsewhere Below  
C-Factor: N/A - See Flow Rate Determined Elsewhere Below  
2-Yr Intensity (in/hr): N/A - See Flow Rate Determined Elsewhere Below  
10-Yr Intensity (in/hr): N/A - See Flow Rate Determined Elsewhere Below

Q<sub>in</sub> = C x I x A = N/A  
Q<sub>10</sub> = N/A

**Step 5 - Allowable Release Rates**  
Q<sub>in</sub> allow = Q<sub>in</sub> pre - Q<sub>in</sub> off-site = 2.21 - 0.96 = 1.25  
Q<sub>10</sub> allow = 2.95 - 1.28 = 1.67

**Step 6 - Compare Actual Release Rates to Allowable Release Rates**  
If Q<sub>in</sub> actual < Q<sub>in</sub> allow, Design is O.K.  
Q<sub>in</sub> actual = 1.24 < Q<sub>in</sub> allow = 1.25 Therefore Design O.K.  
Q<sub>10</sub> actual = 1.51 < Q<sub>10</sub> allow = 1.67 Therefore Design O.K.

**MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS**

The following information is required to be shown on final applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

- Special Permits (8-011 21 & 21)
- Cluster Subdivision (9-611 1G & 1N)
- Commercial Revitalization Districts (9-622 2A (12)&(14))
- Development Plans PRC District (16-302 2 & 4L)
- PRC Plan (16-303 18 & 10)
- FDP - P Districts (except FRC) (16-302 1F & 1G)
- Accessory Structures (18-202 10F & 10J)

- Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').
- A graphic depicting the stormwater management facility(ies) and limits of clearing and grading to accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond walkways, access roads, site utilities, energy dissipation devices, and stream stabilization measures as shown on Sheet 2.
- Provide:  
Facility Name/Type & No.: \_\_\_\_\_  
On-Site area served (acres): \_\_\_\_\_  
Off-Site area served (acres): \_\_\_\_\_  
Drainage area (acres): \_\_\_\_\_  
Footprint area (sf): \_\_\_\_\_  
Storage Volume (cf): \_\_\_\_\_  
If pond, dam height (ft): \_\_\_\_\_  
GRAVEL: \_\_\_\_\_  
(e.g., dry pool A, trench, underground vault, etc.)
- Create drainage channels, outfalls and pipe systems as shown on Sheet 3.
- Pond inlet and outlet pipe systems are shown on Sheet N/A.
- Maintenance access (road) to stormwater management facility(ies) are shown on Sheet N/A. Type of maintenance access road surface noted on the plat is N/A (asphalt, cobble, gravel, etc.).
- Landscaping and tree preservation shown in and near the stormwater management facility as shown on Sheet 4.
- A "stormwater management narrative" which contains a description of how detention and best management practices requirements will be met is provided on Sheet 8.
- A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 10.
- A description of how the best management practices, including bypass changes to controlling drainage areas (i.e. drainage diversions), of the Public Facilities Manual will be satisfied is provided on Sheet 10.
- Existing topography with maximum contours intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 2&3.
- A submission waiver is requested for N/A.
- Stormwater management is not required because N/A.

Revised 2-21-2006

**BMP FACILITY DESIGN CALCULATIONS**

Plan Name: Lord Fairfax Academy  
Date: 11/30/2010  
Plan Number: SE 2006-FR-021  
Engineer: JDA

**I. WATER QUALITY NARRATIVE**

The site consists of 1.04 (AC), for Best Management Practices (BMP) purposes 0.89 (AC) of the onsite area will be controlled, 0.15 (AC) on-site will go uncontrolled. We will meet all the BMP requirements through the implementation of a StormFilter with an efficiency rating of 50% and a Grass Swale with an efficiency rating of 15%. The post-development phosphorus load requires to be reduced by 40%, this design provides a 40.3% phosphorus reduction, thus meeting BMP requirements.

**II. WATERSHED INFORMATION**

Part 1: List all of the Subarea and "C" factors used in the BMP Computations

Subarea Designation	"C"	Acres
(1) StormFilter	0.50	0.57
(2) Grass Swale	0.35	0.32
(2A) ON SITE UNCONTROLLED	0.35	0.15
<b>Total</b>		<b>1.04</b>

**III. PHOSPHORUS REMOVAL - "COCCOQUAN METHOD"**

Part 2: Compute the Weighted Average "C" Factor for the Site

(A) Area of the Site: (a) 1.04 acres

Subarea Designation	"C"	Acres	Product
(1) StormFilter	0.50	0.57	0.51
(2) Grass Swale	0.35	0.32	0.11
(2A) ON SITE UNCONTROLLED	0.35	0.15	0.05
<b>Total</b>		<b>1.04</b>	<b>0.68</b>

(C) Weighted average "C" factor: (b)/(a) = (C) 0.65

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation	Removal Efficiency (%)	Area Ratio	"C" Ratio	Product
(1) StormFilter	50	0.50	1.38	37.50
(2) Grass Swale	15	0.31	0.56	2.48
(2A) ON SITE UNCONTROLLED	0	0.00	0.00	0.00
<b>Total</b>				<b>40.34</b>

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement: (a) 40

Water Supply Overlay District (Occoquan Watershed) = 50% (Fairfax County and Prince William County)

Cheapeake Bay Preservation Area (Bioswamp) = 40% (Fairfax County)

Cheapeake Bay Preservation Area (Phosphorus) = 50% (Prince William County)

Cheapeake Bay Preservation Area (Phosphorus) = 1 - 0.9 x (T' pre/T' post) x 100 = %

(B) If Line 3(a) > Line 4(a), the Phosphorus removal requirement is satisfied.  
Line 3(a) 40.34 >> 40

**PHOSPHORUS REMOVAL REQUIREMENT IS SATISFIED**

**IV. SITE COVERAGE**

Part 5: Determine Compliance with Site Coverage Requirement

Sum all the uncontrolled onsite area and compute a weighted average "C" factor. Do not include outfalling open space.

Subarea Designation	"C"	Acres	Product
(1) StormFilter	0.50	0.57	0.51
(2) Grass Swale	0.35	0.32	0.11
(2A) ON SITE UNCONTROLLED	0.35	0.15	0.05
<b>Total</b>		<b>1.04</b>	<b>0.68</b>

(A) Total equivalent uncontrolled area: (a) Total = 0.05  
(B) Total uncontrolled area: (b) = 0.15  
(C) Weighted average "C" factor: (b)/(a) = (C) 0.35  
(D) If line 5(b) < 20% of Line 2(a), then the site coverage requirement is satisfied.  
Line 5(a) is the equivalent off-site area for which coverage may be required.  
10% x Line 5(a) = 0.15 / Line 2(a) = 1.04 = 14.2%

**SITE COVERAGE REQUIREMENT IS SATISFIED**



VIKA ARCHITECTURE  
1000 W. WASHINGTON ST.  
SUITE 200  
FALLS CHURCH, VA 22033  
TEL: 703.441.1111  
WWW.VIKAA.COM

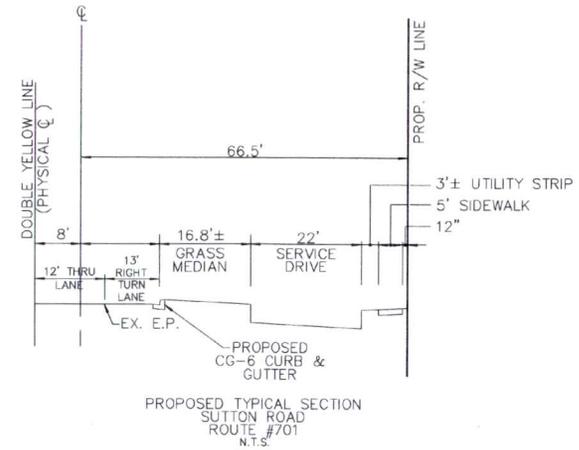
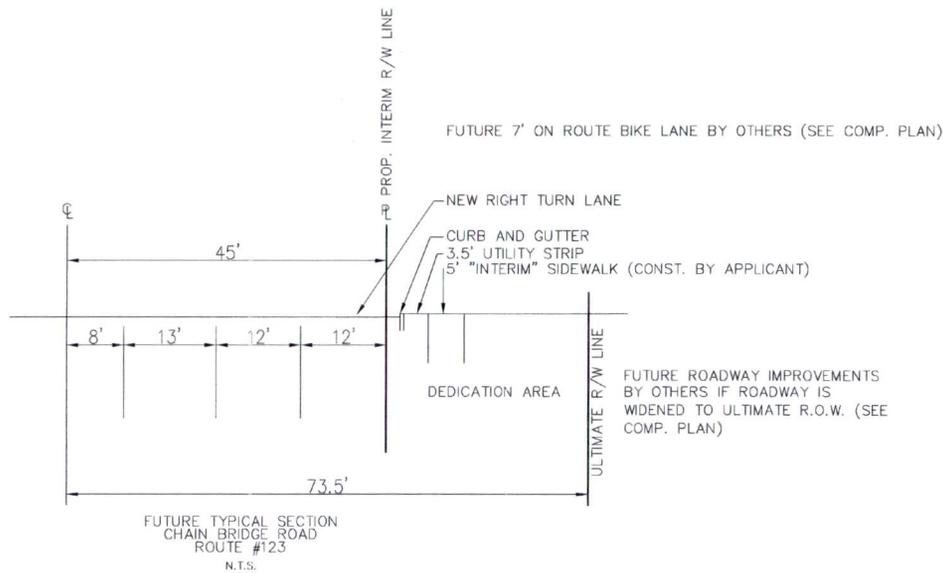
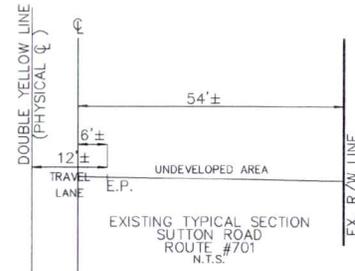
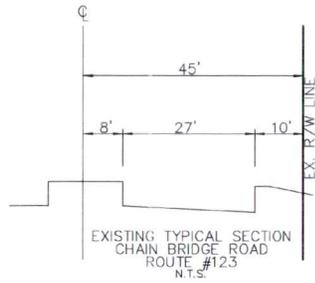
LORD FAIRFAX ACADEMY  
PROVIDENCE DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SWM / BMP  
CALCULATIONS



VIKA REVISIONS

JANUARY 3, 2011  
DECEMBER 5, 2010  
NOVEMBER 5, 2010  
SEPTEMBER 22, 2010  
DATE: JULY 9, 2010  
DES. JDA DWN. RMC  
SCALE: N/A  
PROJECT/FILE NO. V7299A  
SHEET NO. 8



**NOTE:**  
ALL PROPOSED WORK IN THE PUBLIC RIGHT OF WAY  
IS SUBJECT TO VDOT APPROVAL.



ENGINEERING PLANNING LANDSCAPE ARCHITECTURE SURVEYING GPS SERVICES  
VIA, INCORPORATED  
8180 GREENHURST DRIVE, SUITE 200 • WELLSVILLE, VIRGINIA 24185  
WELLSVILLE, VA • CENATONAH, MD

**LORD FAIRFAX ACADEMY**  
PROVIDENCE DISTRICT  
FAIRFAX COUNTY, VIRGINIA

**ROADWAY CROSS  
SECTIONS**



VIKA REVISIONS

DATE:	JANUARY 3, 2011
DES. JK	DECEMBER 3, 2010
DWN. RMC	NOVEMBER 5, 2010
SCALE:	SEPTEMBER 22, 2010
PROJECT/FILE NO.	JULY 23, 2010
SHEET NO.	DATE: JULY 9, 2010
	N/A
	V7299A
	9

TIME OF CONCENTRATION FOR CROSS SECTION DOWNSTREAM  
(SLOPE, SHELVE OVERLAND FLOW FOR SURFACES AND RIBBON OVERLAND FLOW TIMES FOR CHANNELS)

300' OF SHEET FLOW = 3 MINUTES  
 350' OF CHANNEL FLOW = 3 MINUTES  
 320' OF PIPED FLOW @ 7.5 FPS = 1 MINUTE  
 TC = 7 MINUTES TO CHANNEL @ PICTURE #1  
 I2 = 5.11 IN/HR I10 = 6.73 IN/HR

200' OF CHANNEL TO SWM/BMP POND = 2 MINUTES  
 1,000' OF PIPED FLOW @ 8 FPS = 2 MINUTES  
 TC = 11 MINUTES TO CHANNEL @ PICTURE #4  
 I2 = 4.46 IN/HR I10 = 5.76 IN/HR

550' OF CHANNEL TO PICTURE #5 = 4 MINUTES  
 TC = 15 MINUTES  
 I2 = 3.9 IN/HR I10 = 5.10 IN/HR

350' OF CHANNEL TO PICTURE #6 = 2 MINUTES  
 TC = 17 MINUTES  
 I2 = 3.71 IN/HR I10 = 4.88 IN/HR

700' OF CHANNEL TO PICTURE #7 = 6 MINUTES  
 TC = 23 MINUTES  
 I2 = 3.18 IN/HR I10 = 4.24 IN/HR

ROUGHNESS COEFFICIENT MODIFIER (EASCH TABLES 5.16 TO 5.21)

n1 CHANNELS IN COARSE GRAVEL n = 0.028  
 n2 SMOOTH n = 0.000  
 n3 LARGE & SMALL SECTION ALTERNATING GRADUALLY n = 0.005  
 n4 NEGLIGIBLE OBSTRUCTIONS n = 0.000  
 n5 OVERBANK CONDITIONS - BUSHY GROWTHS, MODERATELY DENSE WITH NO SIGNIFICANT  
 VEGETATION ALONG BOTTOM n = 0.015  
 n6 SINUOSITY: RATIO OF MEANDER LENGTH/STRAIGHT LENGTH = 1.07 n = 0.000

COEFFICIENT FOR CHANNEL (n1 + n2 + n3 + n4 + n5 + n6) = 0.048  
 TABLE 5-22 VESCH  
 PERMISSIBLE VELOCITIES IN NATURAL CHANNELS WITH COARSE GRAVEL BOTTOMS IS 6 F.P.S.

**OUTFALL ANALYSIS**

THE DEVELOPMENT OF THE LORD FAIRFAX ACADEMY DAY CARE FACILITY INCORPORATES A STORM WATER MANAGEMENT FACILITY THAT REDUCES THE PEAK 2.10 YEAR STORM DISCHARGES TO BELOW PREDEVELOPED LEVELS. SEE SHEET 7 FOR PRELIMINARY STORM WATER MANAGEMENT AND BEST MANAGEMENT CALCULATIONS. THE SITE CONSISTS OF 128 ACRES AND THE ANALYSIS THAT FOLLOWS WILL TREAT AT A POINT WHERE THE TOTAL CONTRIBUTING DRAINAGE AREA IS 130 ACRES, OR 160 TIMES THE SITE AREA.

THE POINT OF DISCHARGE OF THE SWM/BMP SYSTEM IS THE EXISTING CONCRETE TRAPEZOIDAL DITCH ON THE NORTH SIDE OF THE ADJACENT VERZON FACILITY. THIS DITCH HAS BEEN FOUND ADEQUATE TO CARRY THE FLOW AND CALCULATIONS ARE LOCATED ON SHEET 6. THE TRAPEZOIDAL DITCH CONVEYS STORM WATER TO THE SOUTH SIDE OF THE VERZON FACILITY WHERE IT IS PICKED UP BY A STORM SEWER SYSTEM.

THE STORM SEWER SYSTEM OUTFALLS INTO GRASS LINED "V" DITCH BEHIND THE SIDEWALK ON THE WEST SIDE OF SUTTON ROAD. SEE PHOTOGRAPH #1 WITH CROSS SECTIONS AND CALCULATIONS ATTACHED. THIS DITCH IS WELL MAINTAINED WITH NO FISHHOLE OBSTRUCTION PRESENT, AND SUPPORTS THE ATTACHED CALCULATIONS THAT SHOW THE TWO YEAR VELOCITY TO BE LESS THAN THE PERMISSIBLE VELOCITY FOR GRASS LINED CHANNEL.

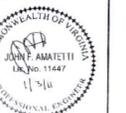
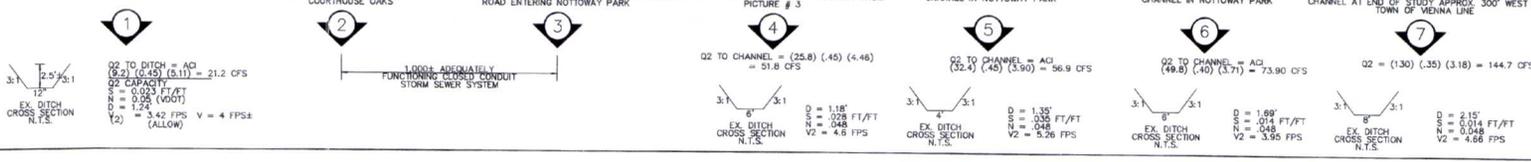
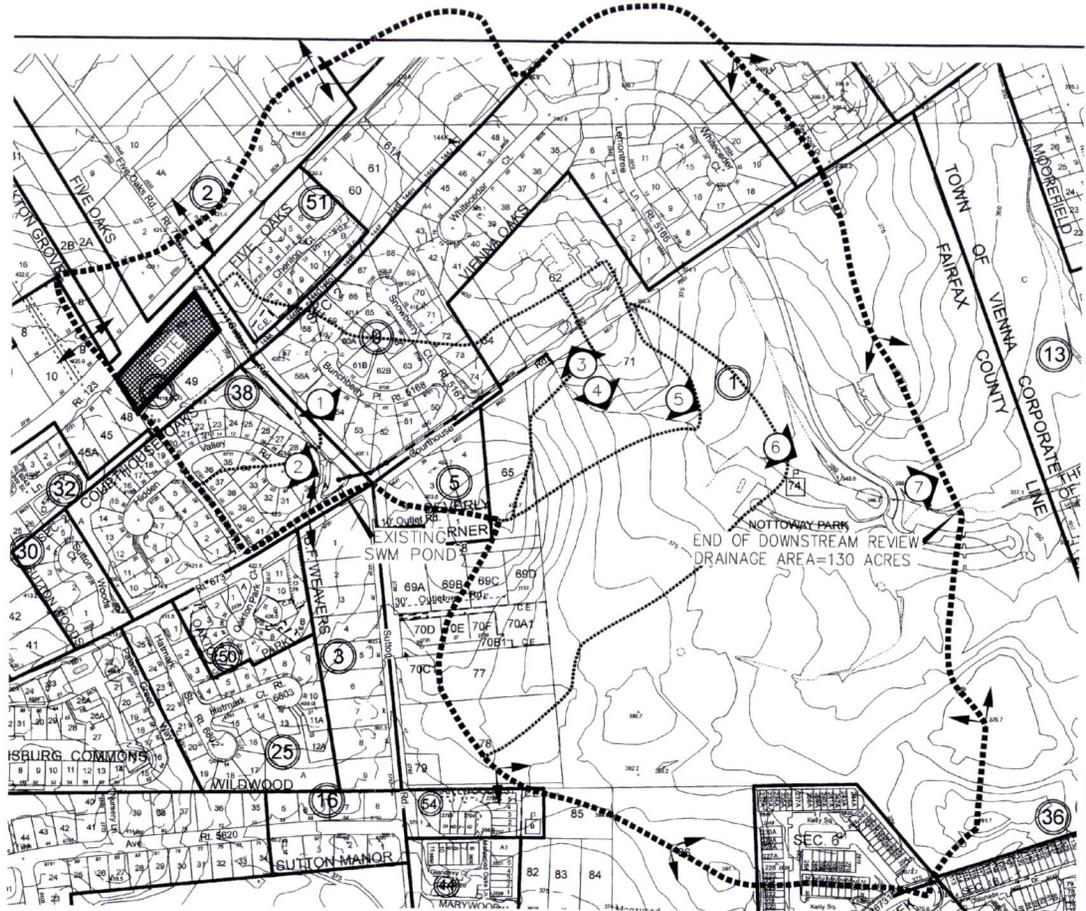
FROM THIS DITCH THE STORM WATER IS CONVEYED TO THE EXISTING STORM WATER MANAGEMENT POND IN COURTHOUSE OAKS. PHOTOGRAPH #2 SHOWS THIS FACILITY TO BE WELL MAINTAINED WITH NO FISHHOLE OBSTRUCTION AT THE LOW FLOW ORIFICE NOR AT THE YARD INLET THAT SERVES AS THE PRINCIPAL SPILLWAY STRUCTURE FOR THE SYSTEM.

ONCE STORM WATER IS PICKED UP WITHIN THE POND IT IS CONVEYED DOWNSTREAM IN AN ADEQUATELY FUNCTIONING STORM SEWER SYSTEM ON THE NORTH SIDE OF COURTHOUSE ROAD IN A NORTHEASTERLY DIRECTION FOR APPROXIMATELY SEVENTEEN AND HALF ORDIANES. AS IN PICTURE #4, NO INDICES OF BLOCKAGE WAS NOTED AND THE 1 YEAR VELOCITY WERE 4.6 FEET PER SECOND.

BEFORE SECTION AND PHOTOGRAPH AT PICTURE #4. LANE ACRES 160' BELOW PICTURE #4 AND EXISTING FORMERLY PART OF THE PARKING LOT THAT SERVES THE PARK. THE BORDERS CONSIST OF COARSE GRAVEL. THE AREAS ARE WELL STABILIZED AND THE OBSTRUCTIONS CONTAIN SMALL BUSHES AND TREES. THERE ARE NO FISHHOLE SIGN OF OBSTRUCTION AND THE 2 YEAR VELOCITY ARE WELL BELOW PERMITTED AXES.

THE FINAL CHECK REVIEW IS APPROXIMATELY 240' WEST OF THE TOWN OF VIENNA CARTRIDGE LINE. THE CROSS SECTION, PICTURE #5, DRAWS AN AREA OF 80 ACRES WHICH REPRESENTS AN AREA 80 TIMES THE SIZE OF THE SUBMITTED. THE BOTTOM OF THE CHANNEL IS 4' BELOW AND THE TOP OF THE CHANNEL IS 4' ABOVE THE WELL STABILIZED AND THE OBSTRUCTIONS CONTAIN SMALL BUSHES AND TREES. THERE ARE NO FISHHOLE SIGN OF OBSTRUCTION AND THE 2 YEAR VELOCITY ARE WELL BELOW PERMITTED AXES.

BASED ON THE FACT THAT THE PARKS CHANGES FROM THESE ARE BEING DEVELOPED AREAS, THAT THE TOP OF LETTERS AND CHANNELS ARE WELL STABILIZED, THAT THERE IS NO SIGN OF OBSTRUCTION, AND THAT BOTH TWO YEAR VELOCITIES ARE NOT PRESENT IN A CONDITION THAT BE BEYOND ADEQUATE.



VIFA REVISIONS

DATE	DES.	JDA	DWN	RMC
JANUARY 3, 2011	DECEMBER 5, 2010	NOVEMBER 4, 2010	SEPTEMBER 22, 2010	JULY 23, 2010
SCALE:	N/A			
PROJECT/FILE NO.	V7299A			
SHEET NO.	10			



VIEW TOWARD MAIN ENTRY FROM PARKING LOT



VIEW TOWARD PROJECT SITE FROM NORTHBOUND RTE 123

NOTE: IMAGES ARE FOR ILLUSTRATIVE PURPOSES, ONLY



VIVA REVISIONS

NO.	DATE	DESCRIPTION

DATE:	JANUARY 3, 2011
DES:	DWN.
SCALE:	N/A
PROJECT/FILE NO.:	V7299A
SHEET NO.:	11



Lynne J. Strobel  
 (703) 528-4700 Ext. 5418  
[lstrobel@arl.thelandlawyers.com](mailto:lstrobel@arl.thelandlawyers.com)

**WALSH COLUCCI  
 LUBELEY EMRICH  
 & WALSH PC**

August 20, 2010

RECEIVED  
 Department of Planning & Zoning  
 AUG 23 2010  
 Zoning Evaluation Division

**Via Scheduled Express**

Regina C. Coyle, Director  
 Fairfax County Department of Planning & Zoning  
 Zoning Evaluation Division  
 12055 Government Center Parkway, Suite 801  
 Fairfax, Virginia 22035

Re: SE 2008-PR-021  
 Applicant: James W. Jackson  
 Fairfax County Tax Map Reference: 48-1 ((1)) 50 (the "Subject Property")

Dear Ms. Coyle:

Please accept this letter as a revised statement of justification for the referenced special exception application. The Applicant previously proposed a rezoning to be processed concurrently with the special exception application. A rezoning of the Subject Property is no longer requested, and the Applicant is proceeding solely with a special exception application to permit the establishment of a nursery school and child care center.

The Applicant is the owner of the Subject Property that is located on the south side of Chain Bridge Road (Route 123) at its intersection with Sutton Road. The Subject Property is zoned to the R-1 District and contains approximately 1.286 acres. Although previously developed with residential structures, the Subject Property is currently vacant. There are no proffers applicable to the Subject Property, which has been used over the years for the sale of seasonal items such as Christmas trees. Surrounding uses include a Verizon building and single family residential developments primarily zoned to the PDH-4 and R-2 Districts.

The Subject Property is located in the Nutley Community Planning Sector (V5) of the Area II Comprehensive Plan (the "Plan"). There are no site specific recommendations for the Subject Property and the general recommendations suggest that this area is largely developed with stable residential neighborhoods. Additional development is recommended to be of a compatible use, type and intensity to existing development. As nursery schools and child care centers are permitted with the approval of a special exception in the R-1 District, the Applicant's proposal is in harmony with the recommendations of the Plan.

The Applicant is the owner and operator of two other successful nursery schools and child care centers in Fairfax County. The Subject Property provides an ideal location to establish a neighborhood serving community use. Uses such as nursery schools and child care centers should be located in proximity to the people that they serve. The proximity of the Subject Property to Chain Bridge Road will meet this objective without generating traffic that will cut

through established residential neighborhoods. The facility will serve local residents as they travel to employment centers located in Tysons Corner, Vienna, and Fairfax. As a result, the nursery school and child care center will capture existing traffic and not create a new destination for commuters.

The Applicant proposes to construct a single building on the Subject Property containing approximately 6,721 gross square feet. The proposed gross floor area results in an FAR of .12, which is well below the permitted FAR of .15 for non-residential uses in the R-1 District. The building is designed to minimize building height. The proposed building height is approximately 29 feet, which is below the permitted building height of 35 feet in the R-1 District. The building will include classroom areas, administrative offices, and other features typically found in a nursery school and child care center. Up to 150 children may be accommodated in the proposed building.

In addition to a building design that minimizes height and square footage, the Applicant has been thoughtful in the layout of the proposed improvements. The play area has been located in front of the building in proximity to the adjacent non-residential use. This location minimizes any noise associated with the play area from impacting adjacent residential communities. A significant setback has been provided to Chain Bridge Road that includes berming, landscaping and a wooden fence. The Applicant has incorporated all of these features into the design to minimize the appearance of the building from the roadway. These features will have the added benefit of providing noise mitigation to the surrounding communities. Access will be provided from the existing service drive on Sutton Road, and a one way vehicular circulation pattern will ensure that traffic flows freely through the Subject Property. While it is anticipated that parents will typically park and walk their children into the building, the arrival and departure of children will be staggered. The staggered arrival and departure times will minimize the number of vehicles on the Subject Property at any one time. Access to the Subject Property will be facilitated with the construction of a right turn lane from Chain Bridge Road to Sutton Road. Even though a turn lane is required as a result of existing traffic generation, the Applicant will dedicate the necessary property frontage and construct the improvement, including the relocation of signal poles. Lastly, stormwater management will be provided in the form of infiltration trenches, which is a preferred method to address runoff. The infiltration trenches will be located outside of the play area and will provide effective detention.

In accordance with the requirements of Section 9-011 of the Fairfax County Zoning Ordinance (the "Ordinance"), please accept the following information:

- The type of operation will be a child care center and nursery school.
- The hours of operation will be from 6:30 a.m. to 6:30 p.m., Monday through Friday. The nursery school and child care center will include activities that are typical of this type of facility. Activities that will take place after hours will be limited. The Applicant anticipates a holiday party and a graduation ceremony as after hours activities during the course of the year.

- The maximum daily enrollment for all uses on the Subject Property is 150 children, however, given the different education programs offered, only a maximum of 120 children will be present on the Subject Property at any one time. The children will range in age from six (6) weeks to twelve (12) years.
- The proposed number of employees is twelve (12) teachers and three (3) administrative staff. A maximum of eleven (11) employees will be on-site at any one time.
- The total number of vehicle trips to the Subject Property will be approximately 350 per day. The number of vehicle trips per day will be mitigated in a number of ways. The Applicant utilizes a bus for the transporting of children to and from the facility. In addition, it is anticipated that approximately one-half of the families will have more than one child enrolled in the facility, thereby increasing the number of children per vehicle. Lastly, parents and employees actively participate in an organized carpool program. The estimated peak traffic impact in the morning will be between 7:30 a.m. and 8:30 a.m. and in the evening between 4:30 p.m. and 5:30 p.m. During the peak hours of operation, approximately 40 vehicles will enter and exit the Subject Property.
- The child care center and nursery school will primarily serve Fairfax County residents within a radius of approximately ten (10) miles. This radius includes Fairfax, Vienna, Oakton and Merrifield.
- A single new building is proposed to be constructed on the Subject Property that will contain approximately 6,721 gross square feet with a height of approximately 29 feet. The building will be constructed with residential design elements and materials so that it will be compatible with the surrounding residential community. Exterior materials will include cementitious siding, residential style windows, and a shingled roof.
- The Applicant is not aware of any hazardous or toxic substances located on the Subject Property.
- The proposed development complies with all adopted standards, ordinances and regulations except as may be noted on the special exception plat.

The Applicant's proposal is an opportunity to establish a community serving use at a scale and intensity that is compatible with the surrounding area and the existing R-1 zoning. As a majority of households in Fairfax County are dependent on the income of two (2) working parents, the need for quality nursery school and child care facilities is critical. The Applicant is an established child care provider who believes that the proposed location represents an ideal opportunity to address this need in Fairfax County without adversely impacting transportation. The proposed use will capture traffic that is already on the road network and will not create cut-through traffic in the neighborhood.

August 20, 2010

Page 4

I would appreciate the scheduling of the amended special exception application for a public hearing before the Fairfax County Planning Commission at your earliest convenience. Should you have any questions regarding this request, or require additional information, please do not hesitate to give me a call.

As always, I appreciate your cooperation and assistance.

Very truly yours,

WALSH, COLUCCI, LUBELEY, EMRICH & WALSH, P.C.

  
Lynne J. Strobel

LJS/kae

cc: James Jackson  
John Amatetti  
Jeff Kreps  
Will Johnson  
Mike Miller  
Martin D. Walsh

{A0200463.DOC / 1 Revised Statement of Justification 006856 000002}



Lynne J. Strobel  
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**WALSH COLUCCI  
LUBELEY EMRICH  
& WALSH PC**

December 22, 2010

**Via E-Mail and U.S. Mail**

Kelli-Mae Goddard-Sobers  
Fairfax County Department of Planning and Zoning  
Zoning Evaluation Division  
12055 Government Center Parkway, Suite 801  
Fairfax, Virginia 22035

Re: SE 2008-PR-021  
Applicant: James W. Jackson  
Fairfax County Tax Map Reference: 48-1 ((1)) 50

Dear Ms. Goddard-Sobers:

Please accept this letter to supplement the revised statement of justification submitted to you on August 20, 2010. In response to your specific questions, I am providing additional information regarding the anticipated ages of the children that will attend the proposed nursery school and child care center, and the programs that will be offered. The information is approximate as the exact number of children for each program will not be known until the center is operating.

The Applicant will offer enrollment in the child care center to children ranging in age from six (6) weeks to twelve (12) years. Younger children will have an opportunity to enroll in the nursery school that will offer instruction in the Montessori teaching method. Based on the Applicant's current nursery school and child care center, the anticipated number of children by age will be as follows:

- Infants – approximately twenty (20);
- Sixteen (16) months to two (2) years – approximately twenty (20);
- Two (2) to three (3) years - approximately twenty-two (22);
- Three (3) year olds – approximately twenty-one (21);
- Four (4) to five (5) years – approximately twenty-one (21); and
- Children over the age of five (5) – approximately (35) thirty-five.

In accordance with the Montessori teaching method, instruction is offered to children as young as sixteen (16) months. Classrooms may include children of different ages. Older

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COURTHOUSE PLAZA • 2200 CLARENDON BLVD., THIRTEENTH FLOOR • ARLINGTON, VA 22201-3359

LOUDOUN OFFICE 703 737 3633 • PRINCE WILLIAM OFFICE 703 680 4664

ATTORNEYS AT LAW

December 22, 2010

Page 2

children will have more structured education than younger children. Based on the curriculum for each classroom, instruction may range from two (2) to three (3) hours per day. Educational instruction is typically offered for 1 to 1 1/2 hours in the morning and for 1 to 1 1/2 hours in the afternoon. The exact time of instruction varies by age group. Other activities that take place during the day as part of the child care component of the center include playtime, arts and crafts, outside playtime, snacks and naps. The children over the age of five (5) who are enrolled in the child care center will be on-site in the morning from 6:30 a.m. to 7:45 a.m. or in the afternoon from 3:00 p.m. to 6:30 p.m. As agreed, no more than 120 children will be on-site at one time.

All other information as presented in my letter of August 20, 2010 remains the same. Should you have additional questions, or require additional information, please do not hesitate to give me a call. As always, I appreciate your cooperation and assistance.

Very truly yours,

WALSH, COLUCCI, LUBELEY, EMRICH & WALSH, P.C.



Lynne J. Strobel

LJS/kae

Jimmy Jackson

John Amatetti

Jeff Kreps

Mike Miller

Will Johnson

Gary Ehrlich

Martin D. Walsh

{A0210148.DOC / 1 Goddard-Sobers ltr 12-22-10 006856 000002}



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** November 15, 2010

**TO:** Kelli Goddard-Sobers, Staff Coordinator  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Beth Forbes, Stormwater Engineer *By*  
Environmental and Site Review Division  
Department of Public Works and Environmental Services

**SUBJECT:** Special Exception Application #SE 2008-PR-021, Lord Fairfax Academy,  
Special Exception Plat dated November 5, 2010, LDS Project #7965-ZONA-  
002-8, Tax Map #48-1-01-0050, Providence District

We have reviewed the subject application and offer the following stormwater management comments.

#### Chesapeake Bay Preservation Ordinance

There is no Resource Protection Area (RPA) on this site.

Water quality controls are required for this development (PFM 6-0401.2A). A StormFilter and a grassed swale are depicted on the plat. At the site plan stage, the StormFilter will be considered an innovative BMP (LTI 01-11).

#### Floodplain

There is no regulated floodplain on the property.

#### Downstream Drainage Complaints

There are no downstream drainage complaints on file.

#### Stormwater Detention

Detention is required, if not waived (PFM 6-0301.3). A gravel trench under the parking area is depicted on the plat.

The applicant should be aware that the EPA has issued a Draft Benthic TMDL Development Report for the Accotink Creek Watershed. Should the recommendations in this report be adopted, detention requirements more stringent than those currently in the PFM may be applied to this project.

Department of Public Works and Environmental Services  
Land Development Services, Environmental and Site Review Division  
12055 Government Center Parkway, Suite 535  
Fairfax, Virginia 22035-5503  
Phone 703-324-1720 • TTY 711 • FAX 703-324-8359



Kelli Goddard-Sobers, Staff Coordinator  
Special Exception Application #SE 2008-PR-021, Lord Fairfax Academy  
November 15, 2010  
Page 2 of 2

Site Outfall

An adequate outfall narrative has been provided.

If further assistance is desired, please contact me at 703-324-1720.

BF/

cc: Craig Carinci, Director, Stormwater Planning Division, DPWES  
Jeremiah Stonefield, Chief, Stormwater & Geotechnical Section, ESRD, DPWES  
Elfatih Salim, Stormwater Engineer, ESRD, DPWES  
Zoning Application File



# County of Fairfax, Virginia

## MEMORANDUM

DATE: December 21, 2010

**TO:** Regina Coyle, Director  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Angela Kadar Rodeheaver, Chief *AKR by CAA*  
Site Analysis Section  
Department of Transportation

**FILE:** 3-5 (SE 2008-PR-021)

**SUBJECT:** Transportation Impact, Addendum

**REFERENCE:** SE 2008-PR-021, James W. Jackson,  
Lord Fairfax Academy  
Traffic Zone: 1618  
Land Identification: 48-1 ((1)) 50

Transmitted herewith are additional comments from the Department of Transportation with respect to the referenced application. These comments are based on plats made available to this office dated May 6, 2008, and revised through December 3, 2010, and information from Wells & Associates including: a right-turn lane analysis dated March 20, 2009; a Traffic Assessment dated November 5, 2010, which includes a Route 123 and Sutton Road intersection traffic count dated March 17, 2009; a Route 123 and Sutton Road queue Study dated November 30, 2009, and one dated November 23, 2010.

The applicant has made revisions to the site plan to move the building farther back on the site with the playground in front of the building. Right-of-way is dedicated on Route 123 for the future third through lane and right turn lane. A right-turn lane is shown on the site plan on Route 123 and the applicant does propose to construct this improvement. The applicant is also providing curb and gutter on Sutton Road across both the site and the Verizon frontages to the proposed access from Sutton Road. There will be a right turn lane from Sutton Road to this access to the service drive.

The basic problem with this site is the intensity of the use and the location at the intersection of Route 123, a major arterial, and Sutton Road, a collector road which is used extensively to access a high school, the Metro station and as a bypass for Route 123 when that road becomes too congested. According to the analysis for the right turn lane from Route 123 to Sutton Road which was based on existing peak hour turning movement counts, a full width right-turn lane and

taper is warranted under existing conditions *before* development of the proposed school. That shows there are a substantial number of right turns from Route 123 without the addition of turns for the site. There are also a number of left turns onto Sutton Road which, combined with the right turns, means that during peak periods there may be limited gaps for left turns from northbound Sutton Road into the service drive access to the site. Consequently, it is assumed that a majority of the trips to the school will come from Route 123. All these trips must also enter and leave the site, adding interference to the through southbound trips on Sutton Road which is one lane southbound.

With the parking now located farther from the building, it will take more time for the children to be dropped off or picked up and the queuing vehicles may back onto the street. This will be most likely to occur if/when the intersection is improved and the service drive and strip of land separating it from Sutton Road disappear. (Intersection improvements such as this are not usually noted in the Comprehensive Plan and are made when funds are available.) Although the service drive gives some room for stacking vehicles now, at such time as the intersection is improved, without the service drive, the site will have only one entrance directly from Sutton Road and all queuing must occur on site. The one entrance will be extremely close to the intersection of Sutton Road and Route 123 resulting in additional conflict points at an already busy intersection. This one entrance would not meet current Access Management Regulations and would need an exception to these standards approved by VDOT.

The proposed use is intense for a site with significant constraints. The peak hour site generated trips with 150 students according to ITE Trip Generation, 8<sup>th</sup> Edition rates would be 123 in the a.m. and 128 in the p.m. Although ITE Trip rates are only an estimate and sometimes result in higher numbers than actually occur, this far exceeds the number of trips that would be generated by the planned residential use of 4-5 trips in the a.m. peak hour and 5-6 trips in the p.m. peak hour.

The applicant has committed to provide various transportation improvements to the Route 123/ Sutton Road intersection. However, as noted above, the proposed use remains very intense with considerable trip generation.

AKA/LAH/lah

## Goddard-Sobers, Kelli-Mae

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**From:** Nelson, Todd  
**Sent:** Monday, December 06, 2010 2:22 PM  
**To:** Goddard-Sobers, Kelli-Mae  
**Subject:** Lord Fairfax

kelli,  
here is an updated comment/recommendation per your request.

**Comment:** The proposed limits of clearing and grading at the eastern and southern portions of the site will provide minimal preservation for the existing off-site or co-owned trees along the eastern and southern property lines.

**Recommendation:** A contiguous 15-foot wide undisturbed buffer should be provided along the entire length of the eastern and southern property boundaries to protect off-site and co-owned trees from construction damage or permission from the off-site property owners to remove these trees should be provided on the SE. In addition, obtain a commitment from the Applicant similar to the following: "In order to protect the co-owned and off-site trees from construction damage, should any co-owned or off-site trees, adjacent to the limits of clearing and grading, become dead, dying, or hazardous as a result of construction activities, these trees will be removed by the with permission from the property owner and the lost tree canopy will be replaced by the Developer."

*Todd Nelson, Urban Forester  
Fairfax County Urban Forest Management Division  
Forest Conservation Branch, DPWES  
703.324.1770  
703.803.7769 fax*

 Please consider the environment before printing this email.



# County of Fairfax, Virginia

## MEMORANDUM

August 10, 2010

**TO:** Kelli-Mae Goddard-Sobers, Staff Coordinator  
Zoning Evaluation Division, DPZ

**FROM:** Todd Nelson, Urban Forester II   
Forest Conservation Branch, DPWES

**SUBJECT:** Lord Fairfax Academy; SE 2008-PR-021

**RE:** Request for assistance dated July 13, 2010

This review is based on the Special Exception Plat (SE) 2008-PR-021 stamped "Received, Department of Planning and Zoning, July 9, 2010." Site visits were conducted as part of a review of the previously submitted Generalized Development Plan RZ 2008-PR-010.

Site Description: This site is a vacant parcel containing a gravel driveway, a parking lot, and a concrete box. Vegetation on this site appears to be a pioneer upland forest consisting primarily of tulip tree, black locust, black walnut, black cherry, silver maple, Norway maple, Paulownia, green ash, elm, and white pine and appears to be in poor to fair condition.

- 1. Comment:** An existing vegetation map has been provided however, it is unclear and does not appear to be accurate. The areas of the cover types are not delineated and the percentage of the development site covered by each cover type does not appear to be included.

**Recommendation:** Provide an EVM that depicts the location of any of the cover types identified in PFM Table 12.2 and one that meets the requirements of Zoning Ordinance Chapter 112, Article 20 and PFM 12-0505. The EVM submitted with the SE must accurately delineate all areas of the cover types, identify the percentage of the development site covered by each cover type, shall provide a statement regarding the successional stage of the vegetation for each cover type, shall include a list of the primary tree species for each cover type, shall include a statement of the general health and condition of the vegetation for each cover type, and shall include all other required elements of the Zoning Ordinance and Public Facilities Manual.

- 2. Comment:** It does not appear the tree preservation target requirement for this site is being met and indicated in line A6 under The 10-Year Tree Canopy Calculation Worksheet and it does not appear a deviation request has been submitted with this application.

Department of Public Works and Environmental Services  
Land Development Services, Urban Forest Management Division  
12055 Government Center Parkway, Suite 518  
Fairfax, Virginia 22035-5503  
Phone 703-324-1770, TTY: 703-324-1877, Fax: 703-803-7769  
www.fairfaxcounty.gov/dpwes



**Recommendation:** A deviation from the tree preservation target should be provided on the SE that states one or more of the justifications listed in PFM 12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target can not be met. A sheet number should be provided identifying the location of the deviation request.

In addition, proffer language containing a directive from the Board of Supervisors to the Urban Forest Management Division, DPWES, or Director of DPWES to permit a deviation from the tree preservation target percentage should be provided.

- 3. Comment:** The proposed limits of clearing and grading at the eastern and southern portions of the site will provide minimal preservation for the existing off-site or co-owned trees along the eastern and southern property lines.

**Recommendation:** A contiguous 15-foot wide undisturbed buffer should be provided along the entire length of the eastern and southern property boundaries to protect off-site and co-owned trees from construction damage or permission from the off-site property owners to remove these trees should be provided on the SE.

- 4. Comment:** Transitional screening calculations have been provided however, they are unclear and do not identify the required plantings for each transitional screening yard.

**Recommendation:** Separate transitional screening yard calculations in accordance with ZO 13-303(3)(A) should be provided on the SE for the northern, southern, and western property boundaries.

- 5. Comment:** It appears the Applicant is requesting a modification to the transitional screening and barrier requirements for the portions of the site adjacent to the single family detached dwellings, as stated in the various notes on sheet 2. However, a modification request with a justification does not appear to be included in this application.

**Recommendation:** A modification request with a detailed justification in accordance with Section 13-305 of the Zoning Ordinance should be provided for each of the transitional screening and barrier requirements requesting to be modified should be provided as part of the SE.

- 6. Comment:** Golden raintree and Austrian spruce are proposed to be planted as specified in the Preliminary Plant List on sheet 5. Golden raintrees have prolific seeds and Austrian pine trees are susceptible to diplodia canker. These trees are undesirable and not suited for this environment.

**Recommendation:** The golden raintree and Austrian pine trees should be removed from the Preliminary Plant List.

- 7. Comment:** The 3" caliper size specification provided for the proposed evergreen trees as specified in the Preliminary Plant List on sheet 5 is incorrect.

**Recommendation:** Evergreen trees should be specified by height.

8. **Comment:** It is unclear if all proposed and existing public utility easements have been clearly shown and identified on the SE.

**Recommendation:** Easements for all proposed and existing public utilities should be clearly shown and identified on the SE.

9. **Comment:** Opportunities to receive additional tree canopy credits in exchange for the planting of trees in a manner that will provide specific environmental and ecological benefits, or for the use of species that are native to Fairfax County, or for the use of species that are resistant to diseases, pests, decay and the negative impacts imposed by harsh environmental conditions, are available.

**Recommendation:** Opportunities to receive additional tree canopy credit should be considered. See PFM sections 12-0509.4B thru 12-0509.4B(6) for opportunities for additional 10-year tree canopy credits.

10. **Comment:** Given the nature of the tree cover adjacent to this site, and depending upon the ultimate development configuration provided, several development conditions will be instrumental in assuring adequate tree preservation and protection throughout the development process.

**Recommendation:** Recommend the following development condition language to ensure effective tree preservation:

Tree Preservation: “The applicant shall submit a Tree Preservation Plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on and off-site trees, living or dead with trunks 8 inches in diameter and greater (measured at 4 ½ -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet to either side of the limits of clearing and grading. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the SE and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0506 and 12-0508. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.”

Tree Preservation Walk-Through. “The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the Applicant’s certified arborist or landscape architect shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.”

Limits of Clearing and Grading. “The Applicant shall conform strictly to the limits of clearing and grading as shown on the SE, subject to allowances specified in these development conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SE, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.”

Tree Preservation Fencing: “All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the “Root Pruning” development condition below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES.”

Root Pruning. “The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly

identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
- Root pruning shall take place prior to any clearing and grading, or demolition of structures.
- Root pruning shall be conducted with the supervision of a certified arborist.
- An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete.”

Site Monitoring. “During any clearing or tree/vegetation/structure removal on the Applicant Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by the UFMD. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation development conditions, and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by the UFMD, DPWES.”

Please contact me at 703-324-1770 if you have any questions.

TLN/  
UFMID #: 138281

cc: RA File  
DPZ File



# FAIRFAX COUNTY PARK AUTHORITY



## M E M O R A N D U M

**TO:** Regina M. Coyle, Director  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Sandy Stallman, Manager  
Park Planning Branch 

**DATE:** July 23, 2010

**SUBJECT:** RZ 2008-PR-010/SE 2008-PR-021; Lord Fairfax Academy – **Revised**  
Tax Map Number: 48-1((1)) 50

### BACKGROUND

The Park Authority staff has reviewed the proposed Development Plan dated July 9, 2010, for the above referenced application. The application proposes construction of a 6,721 square foot building to house a childcare and nursery school accommodating up to 150 students.

### COMPREHENSIVE PLAN CITATIONS

1. Heritage Resources (The Policy Plan, Heritage Resources, Objective 1, p. 3)

**“Objective 1: Identify heritage resources representing all time periods and in all areas of the County.”**

“Policy a: Identify heritage resources well in advance of potential damage or destruction.”

2. Heritage Resources (Comprehensive Policy Plan, Heritage Resources Objective 3, page 4)

**“Objective 3: Protect significant historical resources from degradation or damage and destruction by public or private action.”**

### ANALYSIS & RECOMMENDATIONS

#### Cultural Resources Impacts

Based on an archival review, the Park Authority Cultural Resource Management and Protection (CRMP) staff has determined this site contained structures that date back to at least 1937 and has a moderate potential for significant historic archaeological sites.

Staff recommends that the property be subjected to a tight interval Phase I archaeological survey, using a scope of work provided by the CRMP. Any structures remaining on the site should also be subjected to an architectural assessment. If any potentially significant archaeological

resources are found by the Phase I survey, then a Phase II assessment should be done. If any sites are determined to be significant then either they should be avoided or Phase III data recoveries should be performed in accordance with a scope provided by CRMP. Any Phase III scopes will provide for public interpretation of the results. Draft and final archaeological reports produced as a result of Phase I, II, and III studies should be submitted for approval to the CRMP prior to submittal to DPW&ES.

The applicant should also be made aware that there are specific archaeological requirements under Section 106 of the National Historic Preservation Act, which are associated with Federal licensed or funded development. If Section 106 applies then any archaeological work under this recommendation should also be coordinated in advance with the Virginia State Historic Preservation Officer (SHPO).

The Park Authority requests that the applicant provide one copy of the Archaeology Report to the Park Authority's Resource Management Division (Attention: Liz Crowell) within 30 days of completion of the study or survey. Should significant archaeological resources be discovered, the Park Authority requests that further archaeological studies be conducted and copies of the reports provided to the Cultural Resource Management and Protection section (CRMP). At the completion of any cultural resource studies, field notes, photographs and artifacts should be submitted to CRMP within 30 days.

FCPA Reviewer: Andy Galusha  
DPZ Coordinator: Kelli-Mae Goddard-Sobers

Copy: Cindy Walsh, Director, Resource Management Division  
Liz Crowell, Manager, Cultural Resource Management & Protection Section  
Chron Binder  
File Copy

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**APPENDIX 3****LOCATIONAL GUIDELINES FOR CHILD CARE FACILITIES**

In Fairfax County, as in other areas of the country, there is an increasing need for high-quality child care facilities. Such facilities should be encouraged throughout the County to the extent that they can be provided consistently with the following criteria:

1. Child care facilities should have sufficient open space to provide adequate access to sunlight and suitable play areas, taking into consideration the size of the facility.
2. Child care facilities should be located and designed to ensure the safety of children.
3. Child care facilities should be located and designed to protect children from excessive exposure to noise, air pollutants, and other environmental factors potentially injurious to health or welfare.
4. Child care facilities should be located and designed to ensure safe and convenient access. This includes appropriate parking areas and safe and effective on-site circulation of automobiles and pedestrians.
5. Child care facilities in Suburban Neighborhoods should be located and designed to avoid creating undesirable traffic, noise, and other impacts upon the surrounding community. Therefore, siting child care facilities in the periphery of residential developments or in the vicinity of planned community recreation facilities should be considered.
6. Child care facilities should be encouraged in employment centers to provide locations convenient to work places. However, these locations should make provisions for a safe and healthful environment in accord with the guidelines listed above.