

ARLINGTON COUNTY ENVIRONMENTAL CHECKLIST INSTRUCTIONS

Arlington County Administration Regulation 4.4 calls for assessment of the environmental impacts of County projects. The attached environmental assessment guidelines are designed to help County staff carry out such assessments. It provides a checklist for identifying environmental and energy impacts of proposed projects and developing strategies to avoid or minimize them.

This form, or an environmental assessment, is not required for all projects. Admin Regulation 4.4 excludes such projects as road and sewer maintenance, and exempts others, such as those with no impacts at all on vegetation, noise, or other environmental concerns. To determine whether your project is excluded or exempt, please check sections 3.2 and 3.3 of the Regulation. If your project is exempt or excluded, please complete only page 1 of this form, through question A, and submit it to the Department of Environmental Services.

If your project is not excluded or exempt, you must either complete this form or provide a separate environmental assessment report to comply with Admin Reg. 4.4. If you choose to provide a separate report, please make sure it addresses all of the questions posed in the form. If you prefer to complete the form, please answer the questions briefly. If you have already prepared other documents providing information on specific questions, you are encouraged to attach them rather than rewriting the material on the form.

We encourage you to seek community input into project design prior to completing this form. You may want to solicit the views of civic associations, citizen commissions, and other groups as appropriate. For applicable projects, the Environment and Energy Conservation Commission (E2C2) will hold a public hearing on the project.

Please submit two (2) copies of the completed form with all attachments, printed double-sided, to the Environmental Planning Office in the Department of Environmental Services. The submission will be reviewed by DES staff and by the Environment and Energy Conservation Commission (E2C2). In rare instances, a proposed project may raise significant environmental questions not fully answered by this form. In such cases, DES or E2C2 may request additional information or analysis.

**ARLINGTON COUNTY
ENVIRONMENTAL CHECKLIST**

October 28, 2016

Date: _____

Project Name and Address: New Arlington County Elementary School #2 on the Jefferson Middle School Campus. 125 S Old Glebe Rd, Arlington, VA 22204

Agency Name: Arlington Public Schools

Agency Point of Contact: John C Chadwick

Fax: _____ Phone: 703-228-6609 E-Mail: john.chadwick@apsva.us

Timeline for development process. On a separate page, please provide a checklist of the steps in the design and implementation of this project, indicating which have already been completed and when, and the schedule for completion of the rest. Your list might include planning, community input, compliance with siting guidelines, consultation with citizen commissions (including E2C2) or other boards, budget approvals, Site Plan review, Planning Commission Review, Board approvals, site design, Chesapeake Bay Preservation Ordinance review, granting of required permits, construction start, estimated completion date, and so on.

Architect/Design Engineer/Consultant (if any) VMDO Architects

Point of Contact: Wyck Knox

Fax: _____ Phone: 434 296 5684 E-Mail: knox@vmdo.com

Based on the criteria specified in sections 3.2 and 3.3 of Reg. 4.4, this project is:

- Subject to Reg. 4.4
 Excluded from Reg. 4.4 as specified in section 3.2
 Exempt from EA under Reg. 4.4 as specified in section 3.3

A. BRIEF PROJECT DESCRIPTION (provide a brief description of the proposed project):

The Thomas Jefferson site is located within the boundary of the Arlington Heights Civic Association, and is bounded by Arlington Boulevard to the north, Jefferson Middle School to the east, 2nd Street South to the south, South Old Glebe Road to the west.

The overall site includes four (4) primary parcels as follows: RPC 24011037 – owned by the Arlington County Board; RPC 24011028 - owned by the Arlington County Board ; RPC 24011029 - owned by the Arlington County Board; and RPC 24011058 – owned by the Arlington County School Board; with areas according to County records of 784,323 SF, 12,600 SF, 8475.72 SF, and 375,690.95 SF, respectively. The new elementary school project will be constructed on the western most parcel (RPC 24011037), currently a surface parking lot serving the Middle School. This parcel is 3.852 acres.

The new elementary school site has primary frontage on S. Old Glebe Road to the west. In addition, the site abuts 2nd Street South to the south, the existing Middle School to the east, and several single family homes to the north. The existing parking lot and bus drop-off/pick-up is located directly west of the

existing middle school. The proposed school is sited within the existing parking lot. A new two (2) level below grade parking structure with access from S. Old Glebe Road is proposed within the footprint of the new school building. A new driveway from S. Old Glebe Road at the north end of the site will provide bus access to a shared drop-off/pick-up area for both the new elementary school and existing middle school. Loading for the new school will be served via the new driveway and bus road.

(Complete only to here if your project is excluded or exempt from Reg. 4.4

B. CURRENT CONDITION OF SITE (briefly describe topography, slopes, number and species of trees, extent and location of bushes, low ground cover, and impervious surface)

The topography of the existing site ranges from about elevation 217 at the northeast portion of the existing parking lot to about elevation 200 along 2nd Road N. However, the existing landscape area north of the existing parking lot slopes up to about elevation 221. The existing middle school is located east of the existing parking where the new elementary school is sited. The main entrance to the existing building is along the west side facing the existing parking lot. Tree coverage is located along the northern boundary of the site north of the existing parking lot. A grass sloped lawn area with mature trees is located south of the existing building and parking lot. Species of trees on site include numerous species including Black Cherry, River Birch, Crape Myrtle, Japanese Zelkova, White Pine, American Holly, Eastern Arborvitae, Silver Maple, White Mulberry, Red Oak, Norway Maple, Virginia Pine, Ginko, Sycamore, Fosters Holly, Sawtooth Oak, Japanese Pagadatree, Japanese Cryptomena, Cherry Plum, Deodar Cedar, Lacebark Elm, Red Maple, Flowering Dogwood, Eastern Red Cedar, Eastern Arborvitae, White Oak, American Elm, Southern Magnolia, Norway Spruce, Hackberry, among others, The tree inventory contains a complete list. Impervious or semi-impervious surface covers approximately 3.52 acres or 91.4% of the site.

C. CHARACTER OF SURROUNDING AREA (provide a brief description of the surrounding area, including a description of the current property use, including whether the property is developed or undeveloped, adjacent land uses, topography, vegetation, etc).

To the west, south and north are multi-family and single family homes. To the east is the TJ Recreation Site and single family homes.

D. SUBSURFACE CONDITIONS

(1) Will the project disturb soil or subsurface conditions?

Yes No

If yes, describe the extent of the disturbance (for example, how much soil will be disturbed, to what depth, will the soil be replaced, what is the nature of the soil to be disturbed, will the lot be regraded, will additional backfill be added and what type). What measures will be taken to minimize such disturbances?

The project will disturb soil and subsurface conditions on the the property. The largest disturbance will be in the existing parking lot where the new 2-level below grade garage and new school will be constructed. The existing landscape area to the north will be graded to accommodate the new bus driveway.

(2) Will the project affect groundwater?

Yes No

If yes, describe the effect(s) and the steps taken to minimize the effects:

Note: If yes, please contact DES/Environmental Planning staff if you have questions.

E. STORM WATER MANAGEMENT

(1) Describe the current water/storm water drainage at the site (e.g. location of storm drains, retention areas, streams, etc.):

While determining the conceptual sizing requirements for SWM/BMP both detention and water quality will be provided for the increase in impervious area resulting from the proposed site improvements. Per Arlington County, a minimum of 50% of the treatment credits need to be obtained through the use of runoff reducing (RR) BMPs. These RR BMP devices include, rainwater harvesting, permeable pavement, infiltration trenches and bioretention filters. Additional treatment credits will be achieved through a combination of RR BMPs and manufactured BMP devices (filterra units, storm filters, etc.).

County Stormwater Maps and field run survey of the site identify significant storm drainage that exists around the site. The existing storm drainage flows from north to south, from areas north of the site. Storm drainage pipes, structures and inlets are located along both the east and west sides of the existing middle school building. The site drains in a southwesterly direction towards an existing system located at the intersection of S. Old Glebe Road and 2nd Street South. The proposed project will implement stormwater detention devices that reduce the post development runoff so that it is less than the existing. A reduced run-off rate in the post development condition as compared to the existing will provide an adequate outfall for the project.

The proposed school site will utilize a balanced Stormwater Management approach. Rainwater will be captured from the roof of the school and conveyed to a series of bio-retention basins located around the site. One bio-retention basin will be located at the south end of the site, a bio-swale is located along the eastern side of the site between the new and existing schools, one bio-retention basin is located in the bus loop, and the final bio-retention basin is located at the driveway entrance at S. Old Glebe Road. A series of underground drainage pipes will convey storm run-off from various portions of the site and school roof to the basins and detention facilities. The existing on site drainage system will be replaced. An existing storm sewer which conveys off-site storm water from the north through the site will be replaced with a pipe running between the existing and proposed school. This pipe will be approximately 24" in diameter. Parking spaces behind the theater will be permeable pavers as well as various other hardscape areas within the site. Underground filter basins may be needed to meet or exceed quality requirements for the vehicle contact areas. These structures will be similar to Contech structures.

(3) Describe your erosion and sediment control plan, or attach your E&S document.

Super silt fence will be required around the entire construction zone, all inlets will require inlet protection, proposed SWM basins will initially serve as sediment basins to prevent sediment laden storm water from exiting the site. Temporary drainage inlets and storm sewers may be required to ensure positive drainage during removal and replacement of the existing drainage system. All existing trees to be saved and within close proximity of the construction zone will require full tree protection for the duration of construction.

F. FLOODPLAINS, WETLANDS, CHESAPEAKE BAY ISSUES

(1) Is the project in the 100-year floodplain? (as per Chapter 48. Floodplain Management Ordinance)

 Yes X No

If yes, describe how the project complies with the requirements of the Floodplain Management Ordinance.

(2) Is your site:

___ within Resource Protection Area (RPA) as defined in the Chesapeake Bay Preservation Ordinance?

NO

If yes, you must contact DES and DPW about compliance with the conditions set out in the Chesapeake Bay Preservation Ordinance.

___ within Resource Management Area (RMA) as defined in Chesapeake Bay Preservation Ordinance?

If your site is in RMA, describe the measures taken to comply with the criteria for such development under the Chesapeake Bay ordinance (minimize impervious cover, retain/maintain vegetation to the maximum extent practicable, minimize site disturbance).

___ exempt from compliance with the Chesapeake Bay Preservation Ordinance?

If your site is exempt, please specify the category of exemption:

G. WATER QUALITY (excluding stormwater)

(1) Will the project result in the discharge of pollutants directly into a surface water body, thus requiring a state discharge permit (Virginia Pollutant Discharge Elimination System, VPDES)?

X No (proceed to next question)

___ Yes (provide confirmation of compliance with VPDES requirements)

(2) Will the project discharge to the waste water treatment plant?

___ No (proceed to next question)

X Yes (provide confirmation of compliance with limits for discharge to local treatment plant)

H. AIR QUALITY

(1) Will the project cause increased air emissions? (for example, from vehicles, lawn mowers and other landscape maintenance equipment, generators, boilers, etc.)

___ No (proceed to next question)

X Yes

Describe source and nature of emissions, and measures taken to reduce or minimize them:

With the introduction of the new elementary school, increased vehicular and bus trips will increase air emissions at the current site as compared to current conditions. However, from a County wide perspective, emissions will remain comparable as an increase in trips to other existing elementary schools that would occur in the no-build scenario will not be realized. In addition, alternative transportation modes such as walking, biking, and carpooling are significant components of the transportation management plan which will help to reduce emissions.

In addition, the project is essentially all electric – with the exception of a small use of natural gas in the kitchen. No boilers. A portion of the electricity will be generated on-site, which would off-set the building’s emissions from utility provided electricity.

(2) Will the proposal create objectionable odors?

 N No (proceed to next question) Yes

Describe source and nature of emissions, and measures taken to reduce or minimize such them:

I. FLORA AND FAUNA

(1) Please describe impacts on vegetation (for example, change in species diversity, removal of trees or other vegetation), how the project will minimize and mitigate such impacts, and how you will comply with the County's tree replacement policy. All vegetation planted on the site should be native species; contact the County's urban forester for more information.

Impacts to vegetation and tree removal will occur at the north end of the site. The project currently proposes to preserve a number of the trees in the SE corner of the site. New trees will be planted throughout the site to conform with the County’s tree replacement requirements.

(2) Please describe impacts on fauna and wildlife habitat (e.g. butterflies, birds, small mammals) and how the project will minimize or mitigate such impacts. Consider both design and timing strategies to minimize impacts.

Invasive species will be removed from the site to improve the habitat biodiversity and native plant species will be planted throughout the site to decrease fragmentation and promote healthy habitats for fauna.

J. NOISE

Will the proposal result in increased noise levels?

 X No (proceed to next question) Yes

If yes, please describe your abatement procedures to comply with the County's Noise Control Ordinance, Chapter 15.

The construction contract specifications will limit the contractor’s work hours to comply with the County noise ordinance and minimize noise disruptions during construction.

K. LIGHT and GLARE

If the project involves outdoor lighting, describe how it has been designed to avoid nuisance light that disturbs neighbors, minimize glare, and protect dark skies.

On-site lighting will be implemented to light the driveway areas and pathways. The selected lights will be Dark Sky compliant to reduce light pollution and glare.

L. HAZARDOUS SUBSTANCES/WASTE

Will the project involve the generation, storage or management of hazardous substances or hazardous waste?

No (proceed to next question)

Yes. Please provide a description of the measures taken to prevent the release of such substances/waste. Copies of plans or similar documents required by law may be provided in lieu of a description.

M. TRANSPORTATION/CIRCULATION

(1) Will the project:

- generate additional traffic?
- add to existing parking facilities or create demand for new parking?
- have a substantial impact upon existing transportation systems or traffic flow?
- create or increase a hazard to pedestrian or bicycle traffic?

If the answer to any of the above is yes, please describe the impacts and how they can be avoided or mitigated (for example, incentives for mass transit or pedestrian/bike use, design to avoid traffic flow problems, etc.). Please describe, summarize, or attach any traffic studies.

Under existing traffic conditions, operations are generally acceptable (Level of Service, or LOS, D or above) during the middle and elementary school arrival and dismissal peak hours. However, some movements at the intersections of Arlington Boulevard & Irving Street and 2nd Street & Glebe Road operate at LOS E or F. When volumes are increased to account for background growth expected in 2019, delay increases slightly but generally traffic operations do not significantly worsen.

The construction of a new elementary school on site will add approximately 319 new trips to the middle school arrival peak hour, 485 new trips to the elementary school arrival peak hour, and 425 to the elementary school dismissal peak hour. With these additional trips, movements at the following intersections continue to operate at LOS E or F:

- Arlington Boulevard & Irving Street
- Glebe Road & 2nd Street

Additional movements at the following intersections will begin to operate at LOS E or F:

- South Old Glebe Road & 2nd Street
- 2nd Street & Fillmore

It is recommended that signal timings are optimized at Arlington Boulevard & Irving Street and Glebe Road & 2nd Street for the given volumes; however, changing the signal timings will not improve operations at all movements to LOS D or above.

Two proposed designs can mitigate traffic impacts at the intersection of Old Glebe Road & 2nd Street, and, to a lesser extent, at Glebe Road & 2nd Street. The first design includes the installation of four-way stop and construction of a southbound right-turn storage lane. This design improves all movements to LOS D or above at Old Glebe Road and 2nd Street in the elementary school peak hours, but not during the

middle school arrival peak hour (although the overall intersection LOS improves from F to E). The second proposed design is a mini-roundabout with the existing number of approach lanes at each approach. This design improves all movements at the intersection to LOS D or above and improves the overall intersection LOS to B. It does not affect the intersection or movement LOS at the intersection of Glebe Road and 2nd Street during either elementary school peak hour, but does improve operations during the middle school arrival peak hour. These proposed mitigations do not significantly affect operations at the intersection of Fillmore Street and 2nd Street. Refer to the Multimodal Transportation Assessment (submitted with the Use Permit Application) for more detail on intersection operations, trip generation estimates, and mitigation scenarios.

Future parking demand is expected to be met by the proposed on-site parking garage and by on-street parking on the block faces adjoining the school site. It was assumed that staff and visitors to the school would use up to 85% of available on-street parking on these adjoining blocks along 2nd Street and Old Glebe Road. It is not expected that future parking needs will have a significant effect on on-street parking in the surrounding roadway network.

N. ENERGY CONSUMPTION/CONSERVATION

Describe energy consumption and measures to promote energy efficiency in your project (e.g., measures to reduce heating and cooling energy loads, minimize lighting power density, harvest daylight, use solar technologies, or meet EPA Energy Star or Consortium for Energy Efficiency performance levels):

The building is designed to be energy efficient exceeding the 2009 IEEC and ASHRAE 90.1-2007 energy codes. The walls are metal stud with various exterior finishes. Thermal envelope consists of continuous exterior plane of 3.6" thick polyiso board insulation with 3" min thickness of interior closed-cell spray foam insulation with a total R-value exceeding R=41.6. Roof design consists of metal type roof material and polyiso board with an insulation value better than R-30. Exterior storefront and curtainwall fenestration will be designed to exceed performance of Solarban 70XL glass type with U=0.28 and solar shading co-efficient less than 0.3.

Lighting design will be high efficient lighting utilizing LED with a resulting lighting density < 0.55 watts per SF.

The HVAC system uses highly efficient, ground source heat pump systems using 2-stage (or variable speed) compressors, water source heat pumps with EER > 14. The ground source loop saves additional energy by using the ground for a heat sink/source thus saving energy over conventional heat pumps systems.

Building energy consumption will be designed for less than 25 kbtuh/sf/year and thus earning energy star ratings along with exceeding ASHRAE 90.1 by 40%. To achieve a goal of Net Zero, the building will utilize a 600kW photovoltaic system.

O. GREEN BUILDING

Describe your compliance with the US Green Building Council's LEED standards or submit your LEED checklist and related descriptive materials:



LEED v4 for BD+C: Schools

Project Checklist

Project Name: New Elementary School @ TJMS

125 S Old Glebe Rd, Arlington, VA 22204



Date: 11/30/2016



Phase

Y	?	?	N

					Credit	Integrative Process	1
	2	4	0	2		Location and Transportation	16
				N	Credit	LEED for Neighborhood Development Location	15
D		1			Credit	Sensitive Land Protection	1
D				2	Credit	High Priority Site	2
D		1			Credit	Surrounding Density and Diverse Uses	5
D		1			Credit	Access to Quality Transit	5
D		1			Credit	Bicycle Facilities	1
D		1			Credit	Reduced Parking Footprint	1
D		1			Credit	Green Vehicles	1
	6	1	0	0		Sustainable Sites	10
C	Y				Prereq	Construction Activity Pollution Prevention	Required
D	1				Credit	Site Assessment	1
C	2				Credit	Site Development - Protect or Restore Habitat	2
D	1				Credit	Open Space	1
D					Credit	Rainwater Management	3
D	2				Credit	Heat Island Reduction	2
D	1				Credit	Light Pollution Reduction	1
	5	2	1	0		Water Efficiency	11
D	Y				Prereq	Outdoor Water Use Reduction	Required
D	Y				Prereq	Indoor Water Use Reduction	Required
D	Y				Prereq	Building-Level Water Metering	Required
D	2				Credit	Outdoor Water Use Reduction	2
D	2	2	1		Credit	Indoor Water Use Reduction	6
D				0	Credit	Cooling Tower Water Use	2
D	1				Credit	Water Metering	1
	23	6	1	0		Energy and Atmosphere	33
D	Y				Prereq	Fundamental Commissioning and Verification	Required
D	Y				Prereq	Minimum Energy Performance	Required
D	Y				Prereq	Building-Level Energy Metering	Required
D	Y				Prereq	Fundamental Refrigerant Management	Required
D		5			Credit	Enhanced Commissioning	6
D	16				Credit	Optimize Energy Performance	18

D	1			Credit	Advanced Energy Metering	1	
D	1	1		Credit	Demand Response	2	
D	3			Credit	Renewable Energy Production	3	
D	1			Credit	Enhanced Refrigerant Management	1	
D	2			Credit	Green Power and Carbon Offsets	2	
3 5 0 0 Materials and Resources 13							
D	Y			Prereq	Storage and Collection of Recyclables	Required	
C	Y			Prereq	Construction and Demolition Waste Management Planning	Required	
D				Credit	Building Life-Cycle Impact Reduction	5	
D	1	1		Credit	Building Product Disclosure and Optimization - Environmental Product	2	
D	2			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2	
D	2			Credit	Building Product Disclosure and Optimization - Material Ingredients	2	
C	2			Credit	Construction and Demolition Waste Management	2	
13 2 1 0 Indoor Environmental Quality 16							
D	Y			Prereq	Minimum Indoor Air Quality Performance	Required	
D	Y			Prereq	Environmental Tobacco Smoke Control	Required	
D	1	1		Credit	Enhanced Indoor Air Quality Strategies	2	
C	3			Credit	Low-Emitting Materials	3	
C	1			Credit	Construction Indoor Air Quality Management Plan	1	
C	2			Credit	Indoor Air Quality Assessment	2	
D	1			Credit	Thermal Comfort	1	
D	1	1		Credit	Interior Lighting	2	
D	3			Credit	Daylight	3	
D			1	0	Credit	Quality Views	1
D	1			Credit	Acoustic Performance	1	
4 2 0 0 Innovation 6							
D&C	3	2		Credit	Innovation	5	
D&C	1			Credit	LEED Accredited Professional	1	
2 4 0 0 Regional Priority 4							
	1	1		Credit	Regional Pric Optimize Energy Performance	1	
	1	1		Credit	Regional Pric Renewable Energy Production	1	
	1			Credit	Regional Priority: Specific Credit	1	
	1			Credit	Regional Priority: Specific Credit	1	
71 28 4 2 TOTALS						Possible Points: 110	
Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110							

P. CULTURAL/HISTORIC RESOURCES

Will the proposal

NO result in the alteration or destruction of a prehistoric or historic archaeological site?

NO result in adverse physical or aesthetic effects to a historic building, structure, or object?

NO have the potential to cause physical change that would affect unique cultural or historic values?

If yes, please describe or attach related documents.

Q. GENERAL QUESTIONS

Beyond the specific areas identified above, do you anticipate that the proposal individually or in association with similar projects or other projects within the same area has the potential to cause significant adverse impacts on the environment, either short-term or long-term? No

If the answer is yes, and your response has not already been addressed above, please describe such impacts and how they will be minimized or mitigated.