Conservation Commission Requests for Information #2

Re: Arlington High School Expansion SCI File #17211.00

RE: Conservation Requests July 9, 2020 Item #2 AURA Analysis (West)

Section 25 – Adjacent Upland Resource Area

C. Alternatives to Work in Adjacent Upland Resource Area. A growing body of research evidence suggests that even "no disturbance" areas reaching beyond 25 feet from wetlands, streams, rivers, and other water bodies may be insufficient to protect many important characteristics and values. Problems of nutrient runoff, water pollution, siltation, erosion, vegetation change, and habitat destruction are greatly exacerbated by activities within 100 feet of wetlands. Thus, work and activity in the Adjacent Upland Resource Area shall be avoided and discouraged and reasonable alternatives pursued.

Only when the Applicant proves through a written alternative analysis that reasonable alternatives are not available or practicable, the Commission may, in its discretion, allow temporary, limited, or permanent disturbance as appropriate and consistent with this Section depending on the characteristics of the Adjacent Upland Resource Area, including but not limited to the following:

(1) slope

- *The proposed design provides a stabilized slope planted with grasses and a portion with have a turf field.*

(2) soil characteristics

- *The soils horizon is "B" type soils with a natural grass field that cannot handle sports and functions for more than one season due to the nature of the natural turf.*

(3) drainage patterns

- *Drainage patterns under proposed conditions are maintained but the stormwater from the turf field will be routed through a stone base and drain system before being conveyed to the new stormwater system as opposed to only an underdrain in the current conditions.*

(4) extent and type of existing native vegetation

- *The existing surfaces within the AURA are natural grasses, a shed, and some invasives.*

(5) extent and type of invasive vegetation

- *The top of the existing culvert that daylights along the western property line is a mix of low-lying vegetation. A review by the landscape architect and the commission will evaluate any invasives that are to be removed as part of the project.*

(6) amount of impervious surface

- *The existing AURA for the western part of the site has 85 sf of impervious area, from a small shed structure. In the proposed condition, the impervious coverage is removed.*

(7) wildlife and wildlife habitat

- *The AURA under existing and proposed conditions will change little due to the minimal changes to the form and function of the area, however the proposed additional plantings will improve habitat.*

(8) intensity and extent of use

- *The use within the AURA will not change as it will remain for athletics. The turf program will provide more usable months than the natural grass fields for a slight increase in intensity but not in any way that would change its effect on the AURA.*

(9) intensity and extent of adjacent and nearby uses

- *The use of adjacent areas to the AURA will not change as it will remain for athletics. The turf program will provide more usable months than the natural grass fields for a slight increase in intensity but not in any way that would change its effect on the adjacent uses.*

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(10) capacity to provide resiliency to climate change

- The turf field will adequately hold and convey stormwater and can handle storm events that would make the natural turf field unusable.

Alternative analysis:

Alternative 1: Renovation Only
An alternative to the selected option is to renovate the existing School, along with additions to the existing school. These alternatives also leave the existing shed and invasives.
Alternative 2: Grass Fields
The Arlington High School Building Committee has held public meetings for over three years and many discussions centered on the benefits of installing an artificial turf field (similar to the one currently at the high school stadium) for all other sports. As designed the new artificial turf fields will serve baseball, softball, soccer, lacrosse, and football. This is due to the ability to layout out overlapping sports within the same footprint. Many discussions regarding costs/benefits analysis occurred when the Committee needed to reduce project costs. It was agreed by the 18-person committee that artificial turf fields versus natural grass turf fields are essential for the high school program. The artificial turf, with its superior drainage, will allow for six (6) more weeks of outdoor activity for Arlington students. This benefit was paramount to the educators, parents, and residents of the School Building Committee.

These additional six weeks of outdoor activity also assumes that the grassed fields remain in playable condition for the entire fall and spring season. In actuality, the grassed fields typically become muddied and bare – causing erosion and siltation – most season due to challenging weather and over-use for that surface versus student activity needs. The selection of turf fields will remove that siltation source to the resource areas.

Alternative 3: No Build
The proposed School would not be built in this scenario. This does not meet the program requirements for the school / district and the AURA would be kept in its current condition which does not provide water quality within the stormwater system, doesn't provide trees to shade the wetlands and currently has a parking lot in need of repair.

D. No activities or work, other than passive passage and resource area enhancement, are permitted within the first 25 feet of the Adjacent Upland Resource Area (measured horizontally from a resource area specified in Section 2, A(1) through (4). Except as part of Resource Area Enhancement or an Ecological Restoration Project, no vegetation may be disturbed, and leaf litter and natural debris shall remain in place. This No-Disturbance area shall at a minimum contain the same amount of area of undisturbed and natural vegetation from its pre-project state. A previously disturbed or previously developed 25-foot area shall be restored to a naturally vegetated state to the greatest extent practicable.

Under proposed conditions the impervious area within 25' of the wetland resource area has been reduced.

E. No new structure(s) shall be placed in the first 50 feet of the Adjacent Upland Resource Area (measured horizontally from a resource area specified in Section 2, A(1) through (4)), unless approved by the Commission in evaluation of existing total impervious surface (see Section F. below) within the 50-foot area compared to the proposed impervious surface, and other considerations for the improvement of the resource area and climate change resiliency.

Under proposed conditions the impervious area within 50' of the wetland resource area has remained the same. The new stormwater BMP's and landscaping will aid in the climate resiliency.

F. Impervious surface.
(1) The total area of impervious surface within the Adjacent Upland Resource Area shall not increase over existing total area unless mitigation is provided and there is no impact on Resource Area values.

The existing impervious within the 25' and 50' buffer is slightly reduced.

(2) Impervious surfaces shall not intrude farther into the Adjacent Upland Resource Area than pre-project conditions unless the Commission in its sole discretion determines that the total area of impervious surface is significantly decreased or other mitigation is provided that serves to protect the resource area values. Impervious surface shall be kept as close as possible to the outer (upland) boundary of the Adjacent Upland Resource Area.

The proposed impervious area is slightly reduced.

G. The following activities may not be conducted in any portion of the Adjacent Upland Resource Area: changing of oil, refueling, or damage to other vegetation not scheduled for removal.

None of the uses listed above are to be performed under the proposed design and all re-fueling of construction vehicles will take place outside the AURA in designated areas.