

## Section IV. Follow-on Recommendations

Though not specifically charged to do so, the WFWG developed the following recommendations for further consideration outside of the immediate decision whether or not to light one or more of the rectangular fields at Williamsburg Middle School. These recommendations include key considerations to objectively evaluate multiple candidate sites for sports field lighting, specific process requests related to lighting the WMS fields, as well as several potentially county-wide issues that surfaced as part of this process.

### Key Considerations for Evaluating Potential Field Lighting

The WFWG understands that evaluating field lighting is only one aspect of a larger planning process involving decisions such as if and where to build new sport fields (rectangular, diamond, and multi-use), whether to convert existing fields to synthetic grass, and whether to light such fields. The WFWG supports the county moving towards a comprehensive planning process for field construction, improvement, and lighting.

The International Commission on Illumination (CIE) “Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations” (CIE 150), provides guidance on several factors that should be considered when siting outdoor lighting. The CIE is an entity responsible for promoting international cooperation and exchange of information among member countries (including the United States) relating to the science of lighting. The CIE cautions that the siting of outdoor lighting must consider “the potential effects of the lighting on occupants of surrounding properties” including “changes to the amenity of an area due to the intrusion of spill light into otherwise dark areas ... and to the direct view of bright luminaries.”

Suggested considerations include:

#### 1. Lighting should be part of the original master planning for the field

It can be very difficult to retrofit lights to existing fields in a manner that does not significantly affect neighbors’ quality of life. Many of Arlington’s sports fields (Greenbrier, Washington & Lee, Wakefield) have been lighted since the 1950s and sports field lighting was planned from the outset. Lighting authorities have cautioned that, because field lights can be highly intrusive — particularly on the settled expectations of abutting neighbors — lighting should be planned with field construction to ensure that the fields are of adequate size, orientation and overall design to accommodate lights without undue adverse effects on neighbors. The Illuminating Engineering Society of North America, in its Recommended Practice for Sports and Recreational Area Lighting (IESNA RP-6-15), cautions that “lighting systems should be designed in conjunction with the facility.” Similarly, in its “White Paper on Athletic Field Lighting”, Fairfax County recently warned that, “while field orientation during the initial master planning stage may make it possible to minimize glare problems, this is unusual when retrofitting lights to existing fields.”

In addition, evaluation of lighting fields should consider the context of larger planning processes to evaluate future sports field demand compared to current capacity and the marginal gains of playing time from added lighting at various candidate fields. Understanding the extent of the benefits of additional field capacity to the broader community will allow for a more useful comparison with the negative impacts on the neighborhoods close to the lighted field.

## 2. State of development of the area

The CIE recommendations make a distinction between "...whether the area is sparsely settled or fully built-up." The zoning district of the proposed site and the surrounding neighborhood as well as the density and intensity of uses, including residential, commercial, public, and other uses help provide the context for the introduction of field lights.

## 3. Topography of the surrounding area

According to the CIE, "residential developments which are at a lower level than that of the lighting installation should be particularly considered, where a direct view of the luminaries is possible." Thus, if nearby residences are below the level of the lights, the site may be considered a less preferred location for lights.

## 4. Physical features of the site which may mitigate light spill

Features such as adjacent tall buildings, trees and spectator stands, which may be effective in restricting light spill beyond the boundaries of the development, may identify a location as a better candidate for lighting than one without such obstructions.

## 5. Presence of existing lighting in the immediate area

According to the CIE, "the effect of the proposed lighting will be lessened where the surrounding area is reasonably well-lit, e.g., arterial road lighting or lighting from adjacent commercial developments."

## 6. Proximity of homes

Not surprisingly, the proximity of residences to outdoor lighting installations also significantly affects how well or badly lighting can be tolerated by neighbors. Distance from homes is an especially sensitive factor because light intensity and noise intensity both dissipate inversely proportional to the square of the distance from the source. Thus, if a home is twice as far from the source as another, it receives one-fourth the intensity of light and noise; if it is three times as far, it receives one-ninth the intensity of light and noise; if four times as far, it receives one-sixteenth the intensity of light and noise.

## 7. Environment impacts

Arlington's Urban Forestry Master Plan, for example, recommends that County development efforts enhance and improve the County's threatened tree canopy. Thus, the impact of sports field and lighting installation, maintenance, and operation to trees should be evaluated. Also, Arlington's Public Spaces Master Plan urges that development of new or renovated sport fields and field lighting not disturb existing connections between residents and natural spaces or the habitats in wildlife corridors.

### Williamsburg Lighting Process Recommendations

The WFWG recommends the following requests be considered as the County proceeds with review of the WMS Use Permit Amendment to allow lighting one or both fields:

- 1. County staff should prepare a revised Environmental Assessment (EA) prior to the Use Permit Amendment hearing by the County Board with sufficient time to allow for review by E2C2.** Though it may be within the letter of administrative regulations to delay EA review until the County Board decides to light the fields, numerous concerns related to potential environmental impacts were raised by the WFWG but not fully evaluated. E2C2 is charged with advising the County Board specifically on these issues, and the Board would certainly benefit from such advice when deciding whether or not to light the fields. In addition, access to reasonably detailed materials concerning plans for construction, operation and maintenance of the proposed lights could inform the Environmental Assessment and permit a more thorough review by the E2C2.
- 2. The County Manager should make his recommendation and the accompanying staff report on the Use Permit Amendment available to the community well in advance of the County Board hearing.** Though the County has established guidelines and improved transparency and accountability by endeavoring to release staff reports in advance, occasionally, the County Manager's recommendation and supporting narrative are not known by the affected community until just before a County Board hearing with little time for the community to prepare. The WFWG suggests that the over two months that will elapse between the submission of this report and the County Board hearing of the Use Permit Amendment should be adequate time for staff to thoroughly review the information and provide its recommendation well in advance of the County Board hearing.
- 3. The County Board should communicate clearly to the community the remaining process leading up to the Board's decision on whether or not to light the fields.** The community respectfully requests advanced knowledge of the major milestones in the process leading up to the Use Permit Amendment hearing. These include, but are not limited to, the preparation of the EA, reviews by relevant commissions, release of staff reports, etc.