



Text Amendment #2018-0007

Lighting for Congregate Recreational Facilities

Issue: (A) Initiation of a text amendment and (B) Public Hearing and Consideration of a Text Amendment to the Zoning Ordinance to: add new section 2-129.1 defining congregate recreational facilities; amend section 6-105 to delete the definition of congregate recreational facilities in the POS/Public open space and community recreation zone; add a new subsection 6-105(K) to replace special uses in the POS/Public open space and community recreation zone not included in the proposed congregate recreational facilities definition; and add a new subsection 6-403(F) to add lighting for congregate recreational facilities as a special use in height districts.	Planning Commission Hearing:	October 2, 2018
	City Council Hearing:	October 13, 2018
Staff: Rob Kerns, Division Chief, robert.kerns@alexandriava.gov Nathan Imm, Principal Planner, nathan.imm@alexandriava.gov Chrishaun Smith, Urban Planner III, shaun.smith@alexandriava.gov Bill Cook, Urban Planner II, william.cook@alexandriava.gov		

Staff recommendation: Initiation and APPROVAL of the Text Amendment subject to compliance with all applicable codes and ordinances.

PLANNING COMMISSION ACTION, OCTOBER 2, 2018: On a motion by Vice Chairman Macek, seconded by Commissioner McMahon, the Planning Commission voted to initiate Text Amendment #2018-0007. The motion carried on a vote of 7-0. On a motion by Vice Chairman Macek, seconded by Commissioner McMahon, the Planning Commission voted to approve Text Amendment #2018-0007. The motion carried on a vote of 7-0.

Reason: The Planning Commission agreed with the staff recommendations.

Commissioner Lyle voiced support of the proposed text amendment. She cited the lack of neighborhood complaints associated with the lighted recreational facilities at both Boothe Park and Ben Brenman Park. Commissioner Lyle expressed an understanding of the hesitation of

lighting recreational fields in residential areas, but that she supports the text amendment because she has seen the lack of impact of newer lights and higher light poles on those areas.

Vice Chairman Macek voiced support of the proposed text amendment as the proposed text amendment allows flexibility for implementing new lighting technology that will mitigate impacts of lights in parks and in recreational spaces. Vice Chairman Macek expressed disappointment with recent rhetoric surrounding the proposed text amendment and stated that these communications were incorrect as it is unlikely that an increase in light pole height will be requested for parks throughout the City. The Vice Chairment further stated that any changes to park lighting in the City will require a public hearing process, which includes vetting by both the Planning Commission and City Council.

Chairman Lyman voiced support of the proposed text amendment and expressed disappointment that the text amendment has been associated with the T.C. Williams Parker-Gray Stadium modernization project. Chairman Lyman stated that the proposed text amendment is intended to protect neighbors by using new technology that will allow less light to spill into residential properties and that there is no plan to propose an excess of lighting throughout the City.

Commissioner McMahon voiced support of the proposed text amendment. She stated that the proposed text amendment improves communications around a particular proposal for recreational lights as proposals will now be required to demonstrate mitigated impact of lighting in terms of spillage and glare. Commissioner McMahon further stated that the text amendment will allow the City to apply the best technology to the situation at hand and expressed that the text amendment is being conflated with the T.C. Williams Parker-Gray Stadium modernization project.

Commissioner Wasowski voiced support for the proposed text amendment as it will create policy for future decision making.

Commissioner Koenig voiced support of the proposed text amendment and stated that the public input process was conducted properly; adding that a Planning Commission hearing is a venue for public input. Commissioner Koenig further stated that the proposed text amendment provides an avenue to apply new technology.

Commissioner Brown voiced support of the proposed text amendment. He verified with Staff that the text amendment does not expand the location of where lights can occur, but instead regulates how to optimize the reduction of glare by adjusting the pole height that makes sense for a particular location.

Speakers:

Jack Sullivan, 4300 Ivanhoe Place, spoke in opposition of the request. He expressed concerns with the community notice process and impacts of lighting dog parks throughout the City. He requested that the text amendment be reviewed again by City Staff.

William Goff, 1313 Bishop Lane, spoke in opposition of the request. He cited errors with the consultant's lighting study for the T.C. Williams Parker-Gray Stadium modernization project and expressed concerns about the negative health effects of blue glare from night lighting. Mr. Goff requested that the City and ACPS hold additional community meetings to discuss the proposed text amendments.

Mimi Goff, 1313 Bishop Lane, spoke in opposition of the request. She expressed concerns about lighting parks city wide and about the community engagement process for both the text amendment and T.C. Williams Parker-Gray Stadium modernization project. Mrs. Goff requested that the proposed text amendment not include T.C. Williams High School and that Alexandria City Public Schools (ACPS) conduct additional research regarding lighting Parker-Gray Stadium, look at other locations for ACPS expansion projects, and address parking and noise issues.

Kathryn Harkness, 1307 Bishop Lane, spoke in opposition of the request. She stated that the proposed text amendment is not consistent with the standards for a text amendment as outlined in the Zoning Ordinance and expressed concerns about the damaging health effects of blue and LED lighting. Ms. Harkness also voiced concerns that the landscaping would not effectively screen the negative impacts of the T.C Williams modernization project improvements. Ms. Harkness stated that the condition regarding lighting of T.C. Williams from the existing DSUP should not be voided.

Andrea Mackey, 1033 Woods Place, spoke in opposition of the request and expressed concerns with the City's past treatment of her neighborhood and stated that lighted facilities should be situated away from residential areas. She also that the DSUP condition restricting lighting at Parker-Gray Stadium should remain and requested that the text amendment be denied by the Planning Commission.

Nancy Jennings, 2115 Marlboro Drive, is the President of the Seminary Hill Association and spoke in opposition of the request. She cited that the Seminary Hill Associated passed a resolution requesting the text amendment be removed from the docket on September 23rd. Ms. Jennings expressed concerns regarding the unintended consequences of increased light pole heights and listed multiple recreational field facility location throughout the City. Ms. Jennings would like Parker-Gray stadium to be exempt from the text amendment and requested further scrutiny of the text amendment by City officials.

Judy Noritake, 605 Prince Street, spoke in support of the request and stated that she was a previous chair of the Parks and Recreation Committee. She added that lighting recreational fields throughout the entire City would be financial infeasible. Ms. Noritake stated that the text amendment was initiated by changes in technology and will create conditions that decrease lighting impacts for properties adjacent to lighted facilities.

Ann Shack, 501 Tobacco Quay, spoke in opposition of the request. She stated that City promises should be kept and expressed hesitations about the activity associated with the installation of light poles. Ms. Shack also expressed concern about the possibility of light poles causing physical damaging to resident's homes.

I. Issue

The purpose of this proposed zoning text amendment is to allow the use of taller light poles when the additional height will reduce light spillage impacts on neighboring properties. This proposed text amendment does not expand the number or type of recreation facilities for which lighting may be approved, nor does it make it easier for lighting to be approved on these facilities.

To accomplish this goal, the proposed text amendment:

Clarifies the definition of “congregate recreational facilities.” These are facilities such as athletic fields, dog parks, swimming pools and other recreation areas which require an expanse of unobstructed area. The text amendment would move the existing references to “congregate recreational facilities” from Section 6-105(B) into a new definition (section 2-129.1) and amend Section 6-105 to distinguish more clearly between “active” and “congregate” recreation uses.

Adds a new subsection 6-403(F) to add allow poles for lighting congregate recreational facilities up to 80 feet with a special use permit. The recommend change is intended to allow increased height for lighting structures for congregate recreational facilities that reduce the impacts of glare and light spillage, and to provide clarity for regulating such structures.

Poles for lighting are not specifically addressed in the zoning ordinance. The height of poles is regulated in accordance with the limits for building height in the applicable zoning district where the poles are located. The proposed amendment sets appropriate standards regarding height, placement, and visual impact of lighting for congregate recreational facilities, and clarifies requirements for a Special Use Permit.

The limitation on height as it applies to poles for lighting poses a challenge for lighting recreational facilities such as athletic fields, game courts, and other large open recreational areas where lighting is desired. Such facilities are limited in the placement of light poles in order to preserve open play space and require additional space for placement of the poles on the perimeter of such areas in order to maintain safety by keeping the lighted area clear of obstructions. In such recreational settings, the light pattern provided by the lights must consistently span the usable area of the field and provide uniform lighting. This requirement contrasts with lighting for parking lots, car dealerships, pedestrian paths, and other lighted uses where it is possible to place the light poles linearly or otherwise make accommodations for them within the spaces being illuminated.

Using shorter poles to light a large area requires the lighting to be aimed at an oblique angle. This causes glare for users of the facility, and glare and light spillage onto surrounding properties. Additional impacts caused by utilizing shorter poles includes higher energy use because more light is needed to project farther distances and the light is not being optimized to illuminate the intended surface, which in turn also increases the amount of reflected light.

In essence, the shorter that a light pole is in comparison to the distance from the light pole to its target (i.e. the width to the center of the field), the closer to horizontal the light must be cast. Without something to block it, such as a building or trees, the light may be perceived beyond

the “target” as glare or light spill. In contrast to shorter poles, taller poles allow the lighting to be directed at a more acute downward angle, or the light being cast is closer to vertical. In doing so, a higher proportion of the light being cast by light fixtures on a taller pole is “blocked” by the ground surface. Adding in technological advances in light fixture design such as shielding and reflective optics, the more-vertical angle of the taller lights may be leveraged to greater effect in reducing the impacts of glare and light spill.

The popularity of youth and group sports activities and outdoor recreation is placing an increased demand on field space in the City. Facilities where these activities take place are by nature usually located in the midst of residential areas where they can be conveniently used by the public. However, outdoor lighting if improperly designed can have a negative quality of life impact on the surrounding residents. Thus the design of lighting for such facilities must address the unique challenge of providing the high-quality, convenient recreational amenities that the general public demands and associates with a high quality of life, without diminishing the quality of life of the public located near the facilities.

Changes in technology pertaining to lighting for athletic fields and recreational uses allows better light control if greater heights are used. The zoning ordinance currently does not have a mechanism to allow greater height in order to accommodate better technology that helps mitigate the impact of lighting in terms of light spillage and glare. The zoning ordinance requires modification to keep pace with lighting design to create a standard approach for regulating lighting for congregate recreational facilities, and to reduce the impacts of lighting associated with this use.

II. Background

A. Current regulations

Light poles are currently regulated by the height regulations of the underlying zoning district for buildings or structures. The maximum permitted heights for districts where city recreational facilities are commonly found are shown in the following table.

Table 1
Existing Height Regulations

Zone	Maximum Height
Zone R-20, R-12, R-8, R-5 or R-2-5 and used for single-family dwellings	35 ft. *
Zone RA, multifamily	45 ft.
Zone RB, townhouse	45 ft.
Zone RM, RS, RT townhouses	35 ft.
Zone RC, apartments	150 ft.
Zone RCX, apartments	50 ft.
Zone POS, parks, recreation, open space	15 ft. **
Zone WPR, parks, recreation, open space	30 ft.

* 40 ft. for schools/churches. 60 ft. for schools w/SUP

** 30 ft. for bldg. or structure w/SUP

Most existing sites utilizing outdoor lighting for congregate recreational facilities are in the POS/Public open space and community recreation zone, single-family (“R”) zones, or in mixed use coordinated development districts (CDD). These facilities include places such as Witter Field, Hensley Park, Simpson Field and lighted fields and courts at Minnie Howard School which are located in the POS zone. Other facilities are located in residential zones such as T.C. Williams High School tennis courts (R-20), and William Ramsey School and Recreation Center (RA). CDD zones with various congregate recreational facilities include Ben Brenman Park (CDD9), Potomac Yard (CDD10), Carlyle (CDD1) and others. The types of existing lighted facilities include soccer fields, baseball fields, tennis courts, basketball courts, and dog parks. Numerous facilities may also be found on private property such as apartment or condominium complexes.

The proposed text amendment would not impact existing facilities, nor would it allow new congregate recreational facilities unless it was already a use permitted in the underlying zoning district. The amendment allows additional height with a special use permit, but there is no guarantee that such height would be granted. Other existing regulations pertaining to lighting still apply.

Some existing lighted congregate recreational facilities in the City, or portions thereof, such as Simpson Field are nonconforming in regards to their lighting and predate the requirements for an SUP or DSUP. In other instances the height of the existing lighting is not precisely known. The proposed text amendment provides clarity for future upgrades or replacement of lighting should lighting analyses indicate that additional height for light poles is desirable.

B. Outreach

The issues surrounding lighting for athletic fields were considered and discussed during the series of T.C. Williams Stadium Modernization Community Meetings. Staff attended the meetings, which were facilitated by Alexandria City Public Schools and held seven times throughout 2017

and 2018 in preparation for the DSUP application associated with the project. The proposed text amendment was still in the research and draft phases during the series of community meetings. While the proposed language was not presented at those events, ACPS communicated to attendees during the process that a text amendment was under consideration from the City. Staff considered feedback from the community discussions in formulating the proposed text amendment.

The Department of Parks, Recreation, and Cultural Activities has provided input to the proposed text amendment through the interdepartmental review process and RPCA staff also attended T.C. Williams Stadium Modernization Community Meetings.

The proposal is scheduled to be presented before the Parks and Recreation Commission on September 20, 2018, and the Federation of Civic Associations on September 26, 2018. Since these meetings will be after the publication of this report, feedback received will be included in a separate memo if needed.

III. Discussion of Proposed Text Changes

A. Article II – Definitions and Standards

Staff proposes an amendment to definitions and standards with the addition of section 2-129.1 defining congregate recreational facilities. With the proposed definition amendment, staff intends to provide more clarity in applying and interpreting the ordinance for both staff and the public.

A precedent for terminology pertaining to congregate recreational facilities is currently found in the POS/Public Open Space and Community Recreation Zone (section 6-105(B)) as a use permitted in the zone with a Special Use Permit. The existing definition includes numerous uses under the subsection heading “active and/or congregate recreational facilities.” The definition otherwise is not currently used elsewhere in the zoning ordinance.

The amended definition includes existing uses currently found in section 6-105(B) which staff considers congregate recreational uses while removing certain uses more appropriately considered active uses. The amended definition includes new language clarifying the nature of congregate recreational facilities in addition to stating those uses such as they are currently named in the existing definition.

B. Section 6-105 – Special Uses

Staff proposes amendments to the POS/Public open space and community recreation zone section 6-105(B) to remove the specific uses and facilities listed under the definition of congregate recreational facilities and allowed in the POS zone pursuant to a special use permit. Section 6-105(B) retains congregate recreational facilities as an allowable use in the POS zone, but references the proposed definition of congregate recreational facilities in section 2-129.1 to

describe what those uses and facilities are. These uses are not specific or exclusive to the POS zone and may be permitted in numerous zones.

An additional amendment creates section 6-105(K) to list two types of special uses that were part of the former definition of congregate recreational facilities in the POS zone special uses section prior to proposed amendment. These include indoor and outdoor roller skating and ice skating rinks and miniature golf courses. The addition of section 6-105(K) was created to maintain these as special uses within the POS zone so there would be no removal of existing allowable uses from the zone.

Staff notes that uses in section 6-105(K) (skating rinks, miniature golf courses) are already part of existing section 2-111 entitled “amusement enterprise.” However, the uses are listed and retained separately since adding the definition amusement enterprise to the allowable special uses in POS would create a new series of uses in the POS zone which were not previously allowed. This is because the definition amusement enterprise includes several other uses in addition to skating rinks and miniature golf courses.

C. Section 6-403 – General Regulations and Exceptions

Staff proposes amending section 6-403 to add lighting for congregate recreational facilities and dog parks to the general regulations and exceptions section of section 6-400 pertaining to height districts. Section 6-403 is a set of miscellaneous regulations pertaining to height, such as additional height or number of penthouses, and other mechanical equipment subordinate to the main building.

Section 6-403(F) would add regulations for lighting for congregate recreational facilities and dog parks to allow such lighting to be constructed to a height which otherwise exceeds that permitted by the zone, with a special use permit, and subject to additional limitations. Staff determined that Section 6-403 of the ordinance was the most appropriate section for these provisions since Article VI regulates special and overlay zones which may apply citywide, and which do not remove or add to uses otherwise permitted or prohibited by underlying residential, commercial, or mixed-use zones.

In addition to congregate recreational facilities Staff included dog parks in the subsection title to distinguish them from congregate recreational facilities but add them among the new lighting regulations. Dog parks are defined in the *City of Alexandria Plan for Dog Parks and Dog Exercise Areas* as adopted in 2000 with updates in 2011. The guidelines for new dog areas are a minimum one-half acre (21,789 square feet), with specific setbacks from residential property lines, streambeds or water sources. Dog parks are fenced, whereas dog exercise areas are not. There are six (6) City-managed dog parks in the city at present. At present two (2) existing dog parks have lighting. Dog parks are not specifically referenced in the zoning ordinance, but Staff considered the inclusion appropriate since dog parks have similar geometric requirements and are located in the same park areas and zones as congregate athletic facilities.

The amended section permits a maximum height of 80 feet for light poles for congregate recreational facilities and dog parks, with a special use permit. This maximum height has been

found to be an industry standard for the type of facilities and areas that exist or that could be anticipated in the City. The 80-foot height limit includes all luminaires and any associated equipment or hardware that might be installed on the poles. The proposed maximum height would also not create any non-conformities since there are no known poles in the City used for lighting congregate recreational facilities that exceed 80 feet.

The setback requirements for poles for congregate recreational facilities are a minimum of 25 feet from any right-of-way or residential property line. These standards align with existing increased setback requirements at zone transitions between commercial or industrial buildings and residential zones (section 7-900). Staff notes that additional regulations or factors will likely inform the placement of light poles to locations that exceed the required setback. There are additional setback and screening provisions for congregate athletic facilities near residential properties, and dog parks have additional setback regulations.

Lighting for congregate recreational facilities must comply with existing City ordinances. Code of Ordinances Section 13-1-3 regulates light spillage onto residential properties from adjacent residential or commercial properties. The maximum light spillage is 0.25 horizontal footcandles into the rear or side yard of the property used for residential purposes when measured seven (7) feet beyond the property line.

IV. Recommendation

The proposed text amendments reordain the terminology for congregate recreational facilities and provide additional clarification of the nature of the use. The proposed text amendment provides a standard process to permit additional height for light poles associated with congregate recreational facilities in the interest of reducing light spillage and glare if additional height serves that purpose through the Special Use Permit process, which includes Planning Commission and City Council review of such cases and required public hearings. The proposed text amendment for congregate recreational facilities does not conflict with or remove existing regulations pertaining to the compliance with existing lighting regulations.

Staff **recommends** initiation and approval of the text amendment.

Staff: Rob Kerns, Development Division Chief, robert.kerns@alexandriava.gov
Nathan Imm, Principal Planner, nathan.imm@alexandriava.gov
Chrishaun Smith, Urban Planner III, shaun.smith@alexandriava.gov
Bill Cook, Urban Planner II, william.cook@alexandriava.gov

V. Proposed Text Changes

Note: **New text is bold and underlined**

~~Deleted text is shown with a strikethrough~~

Article II. - Definitions

Section 2-100 – Definitions.

2-129.1 Congregate recreational facilities

A use devoted to recreational activities typically or often pursued as a group or team, such as athletic fields, children's play apparatus areas, archery ranges, court game facilities, indoor and outdoor swimming pools, amphitheaters, band shells, and outdoor theaters, not including drive-in theaters.

Article VI. – Special and Overlay Zones

Section 6-100 – POS/Public open space and community recreation zone.

Section 6-105 – Special uses.

The following uses may be allowed in the POS zone pursuant to a special use permit:

- (A) Public park and community recreation buildings, including enclosed and semi-enclosed shelters and pavilions, providing functions and facilities such as gymnasiums, meeting rooms, game rooms, arts and crafts centers, and dining and dancing facilities;
- (B) ~~Active and/or e~~Congregate recreational facilities ~~such as:~~
 - (1) ~~Athletic fields, children's play apparatus areas, archery ranges and court game facilities;~~
 - (2) ~~Indoor and outdoor swimming pools;~~
 - (3) ~~Indoor and outdoor roller skating and ice skating rinks;~~
 - (4) ~~Amphitheaters, band shells and outdoor theaters, not including drive-in theaters;~~
 - (5) ~~Miniature golf courses and similar amusement and recreational facilities;~~
- (C) Commercial facilities customarily incidental and subordinate to the operation of public recreational uses, such as refreshment stands and small shops providing sporting goods and related services.

- (D) Cultural facilities such as botanical gardens, arboretums, nature centers, conservatories, historic sites, archeological sites, monuments and memorials;
- (E) Plant, tree and flower nurseries;
- (F) Public utility rights-of-way, man-made lakes, ponds and water courses, and similar public works compatible with the purposes of the POS zone;
- (G) Facilities for the lighting of any area in the POS zone for nighttime use;
- (H) Outdoor food and crafts market;
- (I) Temporary public school classroom trailers in conjunction with adjacent public schools. This subsection shall expire on June 30, 2006. Any trailers permitted under the authority of this subsection shall be removed by that date.
- (J) Public recycling center, provided that the director finds that the use does not interfere with an established active or passive recreation area; that no trees will be removed to accommodate the use, unless such removal is approved by the director of parks, recreation and cultural activities, and that uses adjacent to the recycling site are compatible with recycling activities.

(K) Indoor and outdoor roller skating and ice skating rinks, miniature golf courses.

Section 6-400 – Height districts.

Section 6-403 – General regulations and exceptions.

- (A) *Relationship of height to setback.* In all height districts, the allowable height of a building at any point shall not exceed twice the distance from the face of the building at that point to the centerline of the street facing such building.
- (B) *Mechanical appurtenances.* Chimney, towers, tanks, machinery, equipment, penthouses or other necessary mechanical appurtenances to a main building may be erected as a part of the main building to their required heights, regardless of any other height provisions or restrictions of this ordinance, provided that the following requirements are met.
 - (1) All necessary rooftop mechanical appurtenances and penthouses shall be concealed by or constructed of exterior architectural materials or features of the same type of quality used on the exterior walls of the main building in question.
 - (2) The following limitations apply to rooftop mechanical penthouses:
 - (a) Only one penthouse is permitted unless the number is increased by a special use permit;
 - (b) The penthouse shall not exceed 15 feet unless the height is increased by a special use permit;
 - (c) The penthouse must be limited in size to the minimum space required to house necessary mechanical equipment; and

- (d) No equipment may be placed above the roof of the penthouse to increase its height if such equipment could be located on the roof of the building itself.
- (3) For buildings located within the Old and Historic Alexandria District or the Parker Gray District, or for buildings outside such districts designated pursuant to section 10-300, the board of architectural review having jurisdiction of the matter may, after public hearing, waive or modify the screening requirement of subsection (B)(1) of this section, if the board finds such requirement to be architecturally inappropriate. The board of architectural review for the Parker Gray District may delegate the waiver authority under this subsection (3), making it an administrative determination pursuant to the requirements of section 10-203 of this ordinance.
- (C) *Church steeples.* No church building shall exceed the height for each zone, as limited by the Height District Maps, except that a church steeple may be erected to a height of 90 feet, or to a height in excess of 90 feet but not in excess of 150 feet with a special use permit. For purposes of this section 6-403(C), steeple shall mean a decorative or symbolic architectural component including a tower, spire, belfry or similar component extending above the ridge line of the building roof, or the highest point of the roof of the building.
- (D) *Reception or transmission structures.* All radio and television reception or transmission structures may be erected only in compliance with section 7-1205 and section 7-1206.
- (E) *Noncomplying buildings and structures.* Any building or structure lawfully in existence on June 24, 1992 which does not comply with the provisions of this section 6-400, shall be categorized as a noncomplying structure subject to section 12-100; provided, however, that any building or structure in existence on June 24, 1992 and immediately prior to such date categorized as an illegal building or structure because of height, shall continue to be so categorized.

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(F) Lighting for congregate recreational facilities and dog parks.

(1) Subject to the limitations in subsection (2) below, poles for lighting the following uses may be constructed to a height which otherwise exceeds that permitted by the zone with a special use permit:

- (a) Congregate recreational facilities and**
- (b) Dog parks.**

(2) The following limitations apply:

- (a) Poles include luminaire assemblies;**
- (b) Poles may be up to 80 feet in height;**
- (c) The applicant shall demonstrate that the increased pole height will mitigate the impact of lighting in terms of spillage and glare;**
- (d) Poles shall be setback a minimum of 25 feet from any right-of-way or residential property line; and**
- (e) Poles may be located in any zone.**

City of Alexandria, Virginia

MEMORANDUM

DATE: OCTOBER 1, 2018

TO: VICE-CHAIRMAN MACEK AND MEMBERS OF PLANNING COMMISSION

FROM: KARL MORITZ, DIRECTOR OF PLANNING AND ZONING

SUBJECT: OCTOBER 2, 2018 PLANNING COMMISSION HEARING,
DOCKET ITEM #6: TEXT AMENDMENT #2018-0007

This memorandum is provided in response to requests received from Mr. Macek for additional context and clarifications regarding athletic fields with lighting on public lands owned and/or managed by Alexandria City Public Schools (ACPS) or the Department of Recreation, Parks, and Cultural Activities (RPCA).

Contextual Review of Lighted Athletic Fields

An inventory of the requested sites and additional information is found in *Table 1* that follows. In addition to 21 lighted athletic fields, there are 20 tennis courts, 7 basketball courts, and 3 dog parks that are lighted. The addresses are hyperlinked and will open a Google map for the location.

- Except as noted below, all facilities are operated by RPCA.
- Facilities located on ACPS property but managed by RPCA include those at Minnie Howard, Ramsey, Hammond, and Patrick Henry schools.
- All RPCA programs are scheduled to end by 10 p.m. consistent with Title 6-1-1.
- Special Event Activities may request lights past 10 p.m. and would be subject to the special events permit process adopted by City Council.
- Fields with built-in public address systems include Boothe, Simpson (2), and Frank Mann.
 - Permits are not required for these built-in public address systems.
 - RPCA obtains a seasonal noise permit for City-sponsored concert series consistent with Title 9-6-2 requiring permits for concerts.
 - Special event activities may request noise permits concurrent with the special events permit process.
- Lighted courts are controlled by timers which turn off all lights by 10 p.m.

All City-wide parks and neighborhood parks have plans. If the plan does not state lighting then it is not intended for the future. Lighting such an area would need to come through the Park Commission first and then eventually make its way into the CIP. Other than replacement lights at Hensley, there are no new lighting projects in the CIP.

RPCA Use of Parker-Gray Stadium

- RPCA does not manage or program Parker-Gray Stadium or the T.C. Williams tennis courts.
- Proposed stadium improvements were initiated by ACPS and RPCA is not a partner in the modernization project.
- RPCA submits a Facility Use Request form to ACPS to receive a permit for use. ACPS receives, approves and schedules all activities, rentals or non-school events, including RPCA activities, pursuant to ACPS Policy KG and associated regulations pertaining to community use of school facilities. The policy states eligible groups and use priority.

Current scheduled uses by RPCA of Parker-Gray Stadium are shown in *Table 2* that follows.

Table 2

RPCA Events at Parker-Gray Stadium

Event	Season	Date	Time Used
Citywide Track Meet (Annual)		3rd Saturday in May	9:00 AM-1:00 PM
Titan Track Club Practice	June 1 - August 15	Tuesdays & Thursdays	6:00 PM-8:00 PM
Adult Soccer League	April 1 - June 30	Sundays	8:00 AM-1:00 PM

Existing and Potential Uses of Parker-Gray Stadium

Table 3 summarizes current and potential future uses at Parker-Gray Stadium as provided by ACPS. ACPS has stated that the addition of lights will allow additional use opportunities and flexibility of scheduling for T.C. Williams athletics in order to reduce the use of other sites in the city. However, it is not anticipated at this time that all sports practices or sports games will be able to be relocated to T.C. Williams. Due to growing enrollment and anticipated scheduling needs, some use of Minnie Howard, George Washington, Francis C. Hammond, and/or Witter Park will continue but to a lesser extent than currently used. ACPS states that in addition to providing flexibility in athletic scheduling and allowing more students to play on the field located on the grounds of their school, lights will enable T.C. Williams students (and opponents traveling to Alexandria) to remain in classes longer without having to leave class early on game days.

Staff notes that there may not be events held every day during the proposed days and times in *Table 3*. The hours of use in *Table 3* are consistent with the proposed time of use conditions for Parker-Gray Stadium found in *Table 4* on page 20 of the DSUP#2017-0016 Staff Report, reprinted below. The conditions allow for the proposed lighting to be on for a limited time after the conclusion of the event so that the fields can be safely vacated. The conditions also limit use of the public address systems during games or events. The public address system may not be used for practices or daily uses associated with ACPS academic or athletic programs.

Table 4
Time of Use Conditions Summary

			Parker-Gray Stadium			
Day	Hours for Facility Rentals ¹	Tennis Courts	ACPS Academic & Athletic Programs		ACPS Athletic Events and Community Use	
		Lights Off ²	Lights Off ³	Sound Off	Lights Off ⁴	Sound Off ⁵
Monday	8AM-10:30 PM	10:00 PM	8:30 PM	--	8:30 PM	8:00 PM
Tuesday	8AM-10:30 PM	10:00 PM	8:30 PM	--	8:30 PM	8:00 PM
Wednesday	8AM-10:30 PM	10:00 PM	8:30 PM	--	8:30 PM	8:00 PM
Thursday	8AM-10:30 PM	10:00 PM	8:30 PM	--	8:30 PM	8:00 PM
Friday	8AM-10:30 PM	10:00 PM	8:30 PM	--	10:15 PM	10:00 PM
Saturday	8AM-10:30 PM	10:00 PM	8:30 PM	--	10:15 PM	10:00 PM
Sunday	8AM-10:30 PM	10:00 PM	8:30 PM	--	8:30 PM	8:00 PM

¹Per ACPS Policy KG "Community Use of School Facilities" for all school facilities

²By timer, per DSUP2013-0014 Condition #1G

³Proposed Condition #126

⁴Proposed Condition #127

Public High Schools and Built Surroundings

Staff performed a visual survey of 30 public high schools in neighboring jurisdictions in order to understand the surrounding context around those schools, which all include on-site athletic fields including football fields with bleachers and lighting.

The list is found in *Table 5* and clicking the hyperlinked school name will open a Google map for each site. There is variation, and the analysis is subjective and visual, but approximately 2/3 of the schools have nearby residential development. The conditions could include residential properties that directly abut athletic fields, or the school grounds, or many portions thereof. While each school site is unique, of the public high schools surveyed, it is a more common condition for the schools and athletic fields to be surrounded by residential uses than to be in isolated locations.

City Staff looks forward to discussing these items with the Planning Commission at the October 2nd hearing.

Table 1
RPCA & ACPS Athletic Fields & Courts with Lights

Park/School Name ¹	Org ²	Address ³	Zone ⁴	Acreage ⁵	Lighted Recreational Facilities ⁶	Setback (ft) ⁷	Setback Point ⁸
Fields							
Minnie Howard	RPCA	3701 West Braddock Rd	POS	5.38	Synthetic Soccer Field, Tennis Courts (2), Baseball Field	27.41	Synthetic Soccer Field (edge of field)
TCW Football Field (Existing)	ACPS	3300 King St	R-20		Football Field	55.00	Track/Field (inside of track)
TCW Football Field (Proposed)	ACPS	3300 King St	R-20		Football Field	55.00	Track/Field (inside of track)
Eugene Simpson Stadium	RPCA	426 E. Monroe Ave	POS	9.94	60' Baseball Field, 90'Baseball Field, Basketball, Dog Park ⁹	69.36	60' Baseball Field (edge of field)
Limerick Field	RPCA	340 Hooffs Run Dr	CDD11	2.37	Synthetic Soccer Field	72.59	Synthetic Soccer Field (edge of field)
Four Mile Run	RPCA	4131 Mount Vernon Ave	POS	46.75	Regulation Soccer Field, Adult Softball Field, 90' Baseball Field	79.93	Regulation Soccer Field (Light pole base)
Armistead Boothe	RPCA	520 Cameron Station Blvd	CDD9	10.81	Adult Softball Field, Basketball Courts, Tennis Courts (2)	104.14	Adult Softball Field (edge of field)
Nannie J. Lee Center	RPCA	1108 Jefferson St	POS	14.60	Youth Softball Field, Basketball Courts, Tennis Courts (2)	100.54	Youth Softball Field (edge of field)
Ben Brenman	RPCA	4800 Brenman Park Dr	CDD9	59.30	Synthetic Soccer Field, 60' Baseball Field, Dog Park ⁹	165.67	60' Baseball Field (edge of field)
Fort Ward Park & Historic Site	RPCA	4421 West Braddock Rd	POS	5.00	Synthetic Soccer Field	172.17	Synthetic Soccer Field (edge of field)
Luckett Field	RPCA	3540 Wheeler Ave	POS	3.31	Adult Softball Field	214.14	Adult Softball Field (edge of field)
Joseph Hensley Park	RPCA	1800 Limerick St	POS	21.66	Adult Softball Fields #1, #2, #3, Regulation Soccer Field	293.36	Central Adult Softball Field (edge of field)
Witter Field	RPCA	2700 Witter Dr	POS	13.70	Adult Softball Field, Synthetic Soccer Fields #1 & #2	314.18	Adult Softball Field (edge of field)

(Continued)

Table 1 (Continued)

RPCA & ACPS Athletic Fields & Courts with Lights

Park/School Name ¹	Org ²	Address ³	Zone ⁴	Acreage ⁵	Lighted Recreational Facilities ⁶	Setback (ft) ⁷	Setback Point ⁸
Courts & Rinks							
Carlyle	RPCA	450 Andrews Lane	CDD1	2.96	Tennis Courts (2), Dog Park ⁹	0.00	Tennis Courts (edge of court)
Hunter Miller Park	RPCA	224 North Fayette St	CRMU/M	0.32	Basketball Court	3.90	Basketball Court (edge of court)
Ramsey Elementary	RPCA	5700 Sanger Ave	RA	10.94	Tennis Courts (2), Basketball	84.46	Tennis Courts (edge of court)
Hammond	RPCA	4646 Seminary Rd	R-20, R-8	18.97	Hockey/Skating Rink	86.50	Hockey/Skating Rink (edge of rink)
Patrick Henry Elementary	RPCA	4643 Taney Ave	R12	11.56	Tennis Courts, Basketball Courts, Playground	98.37	Tennis Courts (edge of court)
Potomac Yard	RPCA	2501 Potomac Ave	CDD10	23.40	Tennis Courts	118.85	Tennis Courts (edge of court)
TCW Tennis Courts	ACPS	3300 King St	R-20	19.88	Tennis Courts	132.38	Tennis Court (light pole base)
Ewald Park	RPCA	4452 Duke St	POS	3.88	Basketball Courts	147.52	Basketball Courts (edge of court)
Montgomery Park	RPCA	901 North Royal St	POS	2.01	Tennis Courts	172.70	Tennis Courts (edge of court)
Chinquapin	RPCA	3210 King St	POS	52.89	Tennis Courts	210.01	Tennis Courts (edge of court)

¹ The name of the park, or the school if the subject lighted recreational facility is located at a school.

² The organization that operates the lighted recreational facility, which is either Recreation, Parks & Cultural Activities (RPCA) or Alexandria City Public Schools (ACPS).

³ The address of the park or school. The addresses are linked to open up the property in Google Maps.

⁴ The zoning of the park or school.

⁵ The acreage of the park or school. The column does not list the acreage of individual recreational facilities. Acreages numbers were pulled from the RPCA website as well as the City's online GIS mapping software.

⁶ The recreational facility at the park or school that has lights.

⁷ The setback from the the "Setback Point" to the closest residential property line. Setback measurements taken using the measuring tools available on the City's interactive ParkLink GIS mapping software. The mapping software has a measuring accuracy of +/- 3 feet according to City GIS Staff. Residential property can be any type (single-family, multi-family, etc.).

⁸ The lighted facility from which the setback was measured. Setbacks for closest lighted facilities may be measured from the edge of a recreational field, or a light pole or structure associated with the lighted facility, whichever is closer.

⁹ Only lighted dog parks are included in this spreadsheet.

Table 3**Parker-Gray Stadium Uses by ACPS**

Use	Season	Current Use		Potential Future Use	
		Field	Date/Time	Field	Date/Time
Physical Education	All	T.C. Williams	M-F 8:30 AM- 3:30 PM	T.C. Williams	M-F 8:30 AM- 3:30 PM
JV & Varsity Football	Fall	T.C. Williams	M-F 3:30 PM- 7:00 PM Sat 8:00 AM- 5:00 PM	T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
Track&Field/ Cross Country	All	T.C. Williams	M-F 3:30 PM- 6:30 PM Sat 8:00 AM- 12:00 PM	T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
Freshman Football	Fall	Francis C. Hammond	M-F 3:30 PM- 6:30 PM	Francis C. Hammond/ T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
Varsity Boys Lacrosse	Spring	Francis C. Hammond	M-F 3:30 PM- 6:30 PM (Later if Games)	Francis C. Hammond/ T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
Field Hockey	Fall	Minnie Howard	M-F 3:30 PM- 6:30 PM	Minnie Howard/ T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
JV & Varsity Girls Lacrosse	Spring	Minnie Howard	M-F 3:30 PM- 6:30 PM (Later if Games)	Minnie Howard/ T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
JV Boys Lacrosse	Spring	George Washington	M-F 3:30 PM- 6:30 PM	George Washington/ T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM
Baseball	Spring	Simpson Field	N/A	Simpson Field	N/A
Softball	Spring	Witter	N/A	Witter	N/A
Soccer	Spring	Witter Park	M-F 3:30 PM- 6:30 PM (Later if Games)	Witter Park/ T.C. Williams	M-Th 8:30 AM- 8:00 PM F 3:30 PM- 10:00 PM Sat 8:00 AM- 10:00 PM

NOTE: It is anticipated at this time that the addition of lights will open up a lot more opportunities and flexibility of scheduling for T.C. athletics to reduce some of the use of other sites; however, it is not anticipated at this time that all sports practices or sports games will be able to be relocated to T.C. Williams. Due to growing enrollment and anticipated scheduling needs, some use of Minnie Howard, George Washington, Francis C. Hammond, and/or Witter Park will still be necessary; however, not to the extent currently used. In addition to providing flexibility in athletic scheduling and allowing more students to play on their home field, lights also provide an educational benefit, by enabling T.C. students (and our opponents traveling to Alexandria) to remain in their classes longer and not having to leave class early for games.

Table 5

Peer Public High Schools in the Region

School	System	VHSL District	Lights	Proximity of Residential Uses to Athletic Facility
Centreville	FCPS	Concorde	Y	Distant.
Chantilly	FCPS	Concorde	Y	Subdivisions abutting.
Oakton	FCPS	Concorde	Y	Subdivisions abutting very close.
Westfield	FCPS	Concorde	Y	Distant.
Madison (Vienna)	FCPS	Concorde	Y	Subdivisions abutting very close.
Annandale	FCPS	Gunston	Y	Distant.
Hayfield	FCPS	Gunston	Y	Distant.
Mount Vernon	FCPS	Gunston	Y	Subdivisions across ROW.
West Potomac	FCPS	Gunston	Y	Subdivisions abutting and across ROW.
T.C. Williams	ACPS	Gunston	N	--
Herndon	FCPS	Liberty	Y	Subdivisions abutting.
Langley	FCPS	Liberty	Y	Subdivisions abutting.
McLean	FCPS	Liberty	Y	Subdivisions across ROW.
South Lakes	FCPS	Liberty	Y	Distant.
Washington-Lee	APS	Liberty	Y	Urban context. Front yards face fields across ROW.
Yorktown	APS	Liberty	Y	Urban context. Front yards face fields across ROW.
Edison	FCPS	National	Y	Distant.
Falls Church	FCPS	National	Y	Subdivisions abutting.
Jefferson	FCPS	National	Y	Subdivisions abutting.
Lee- Springfield	FCPS	National	Y	Subdivisions nearby.
Marshall - George C.	FCPS	National	Y	Distant.
Justice	FCPS	National	Y	Parts of subdivisions abutting field.
Wakefield	APS	National	Y	Closest public H.S. to TC. Parts of subdivisions abutting field.
Fairfax	FCPS	Patriot	Y	Subdivision abutting but distant.
Lake Braddock	FCPS	Patriot	Y	Subdivisions abutting.
Robinson	FCPS	Patriot	Y	Distant.
South County	FCPS	Patriot	Y	Distant.
West Springfield	FCPS	Patriot	Y	Subdivisions across ROW.
WT Woodson	FCPS	Patriot	Y	Distant.
George Mason H.S.	FCCPS	Bull Run	Y	Distant.

#

Resolution of the Board of Directors of Seminary Hill Association, Inc.

Re: Text Amendment #2018-0007 Lighting for Congregate Recreational Facilities

Whereas, the Alexandria Planning Commission is to consider on October 2 a text amendment to the Zoning Code entitled “Lighting for Congregate Recreational Facilities” that potentially could have adverse effects on virtually every neighborhood in the City of Alexandria; and

Whereas, this text amendment would permit 80-foot lighting structures on every playing field, public or private, over the entire City; and

Whereas, a sweeping change of this magnitude to the Zoning Ordinances normally requires considerable community outreach by the City and ample input by homeowners and others potentially affected before any formal action by the Planning Commission and City Council; and

Whereas, on this text amendment there appears to be a lack of transparency and a rush to judgment,

Now therefore: the Board of Directors of Seminary Hill Association, Inc., respectfully requests that the item be withdrawn from the Planning Commission docket of October 2, 2018 and be subject first to public scrutiny and a vetting process by City officials.

Adopted by the Board of Directors on September 23, 2018

#

Text Amendment #2018-0007 Lighting for Congregate Recreational Facilities

September 28, 2018

Dear Mr. Kearns,

My wife and I live adjacent to Fort Ward Park in Alexandria, VA. and we learned of this proposed text amendment that will be heard at your meeting on October 2, 2018. Please add these comments to the public record.

This proposed change in the way we handle decisions in Alexandria's parklands concerns us for the following reasons.

First, as an adjacent property owner to Fort Ward Park we think it would have been appropriate for the City of Alexandria to notify us of an action that may impact our home and property.

Second, the Special Use Permit (SUP) process for new actions in Alexandria parks has proven to be successful and unsuccessful. The Fort Ward Park Soccer Field went through the existing process and it gave residents an opportunity to participate in the city's decision-making process.

Years ago an SUP was also done for the parking lot, building and warming hut behind the Fort Ward Park Museum. More complicated than the soccer field this SUP forms an understanding between city leaders and residents about the uses of this part of the park. Unfortunately after this review and approval process city leaders took numerous development actions within the park adjacent to Marlboro Estates and the Oakland Baptist Church Cemetery. These actions included creation of a nursery, maintenance yard, vehicle storage area, solid waste transfer station and storage area. The actions were taken without any public notice, input or Special Use Permit. The actions disregarded African American family graves in the maintenance yard and the proximity of these uses to residential homes and the church cemetery. As a result of circumventing the Special Use Permit process these illegal actions there was a public outcry against the activities and the city's unilateral activities.

Unfortunately this clash between community and city leaders resulted in a loss of trust, time and money. Fortunately city leaders, against the wishes of city department heads and advisory commission members agreed to cooperatively develop a management plan for the park. Third, given that a management plan has been agreed to, and sets forth guidance for future development within Fort Ward Park, it makes sense to exempt Fort Ward Park from your proposal.

In the decade that I have been involved with city leaders working to improve the management use and development of Fort Ward I have regularly seen a reluctance on the part of city managers and staff to inform and work with the community they serve. Communicating early with residents, especially neighbors, can rebuild trust as well as save the city time and money.

Thank you.

Sincerely,

J. Glenn Eugster and Deborah Weatherly

4022 Ellicott Street

Alexandria, VA. 22304

Opposition to proposed text amendment to allow athletic lights by administrative process

don.brady06 <don.brady06@comcast.net>

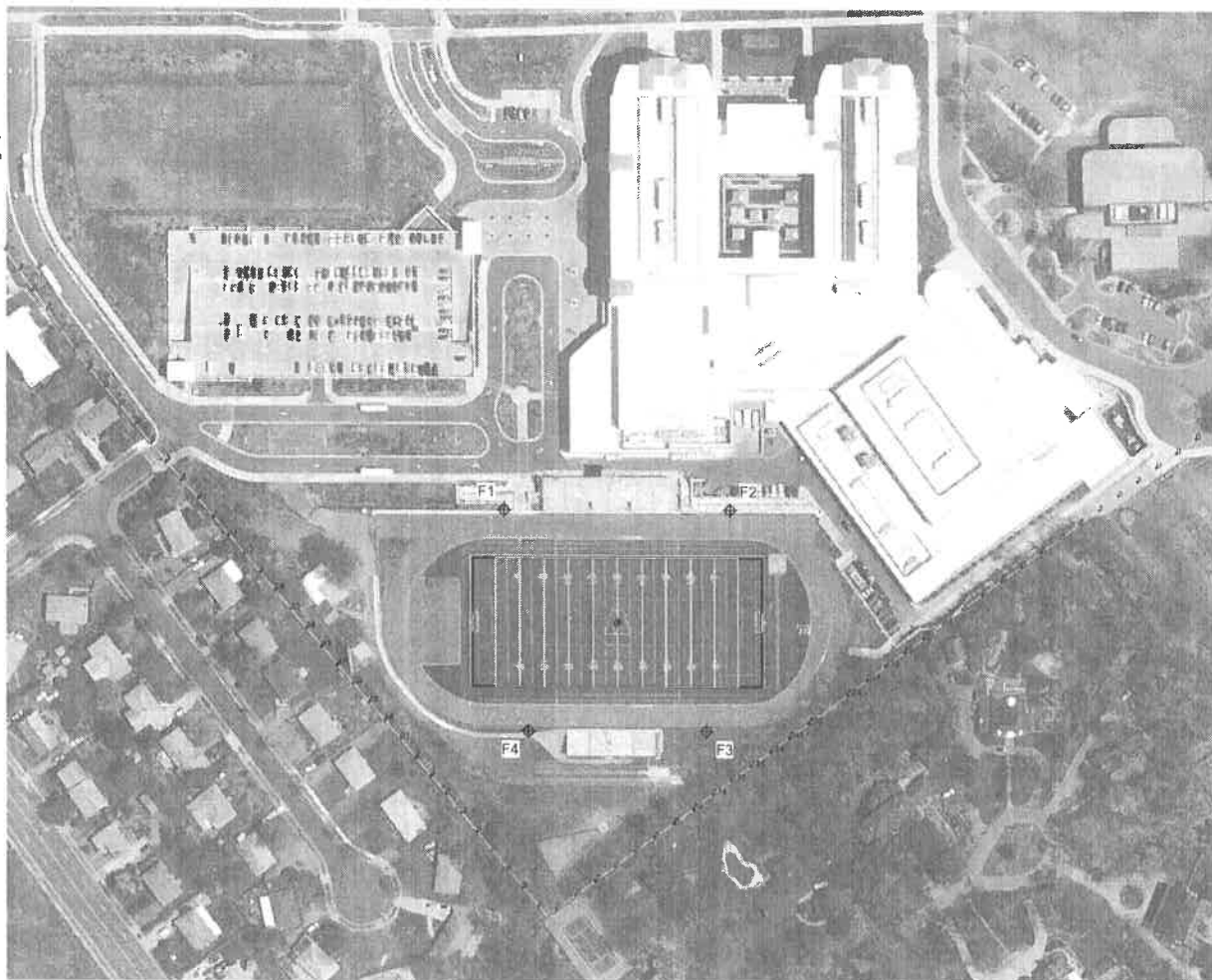
Thu 9/20/2018 2:17 PM

To: PlanComm <PlanComm@alexandriava.gov>;

Please record my opposition to the proposed amendment. Changes like this have a significant impact on citizen's quality of life and property values. Taller lights should be allowed only after citizens have the opportunity to express their views to elected officials who should make decisions each time after considering citizen input. These decisions should not be delegated to non-elected city staff.

Sent from my Sprint Samsung Galaxy S® 6.

EQUIPMENT LIST FOR AREAS SHOWN									
Pole			Luminaires						
QTY	LOCATION	SIZE	GRAND ELEVATION	MOUNTING HEIGHT	TYPE	QTY	POLE	GRID	OTHER
2	F1-F2	80'		25'	TLC-LED-1150	11	1	1	0
2	F3-F4	70'		25'	TLC-LED-1150	11	1	1	0
4				20'	TLC-LED-1150	11	11	0	0
						44	48	0	0



TC Williams High School Football Alexandria, VA

GRID SUMMARY	
Name:	Spill @ PL
Spacing:	30.0'
Height:	3.0' above grade
ILLUMINATION SUMMARY	
MAIN LUMINAIRE: A (11 x 11' x 11')	
Entire Grid	
Scan Average:	52.847
Maximum:	644.181
Minimum:	0.000
No. of Points:	81
LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	121,000 lumens
No. of Luminaires:	48
Total Load:	55.2 kW
Luminaire Type	
L90 hrs	L80 hrs
L70 hrs	L70 hrs
TLC-LED-1150	>51,000
>51,000	>51,000
>51,000	>51,000

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY



ENGINEERED DESIGN By: Jared Brown • File #169318R6 • 16-Feb-17

Pole location(s) + dimensions are relative to 0,0 reference point(s)

ILLUMINATION SUMMARY

Assumptions:

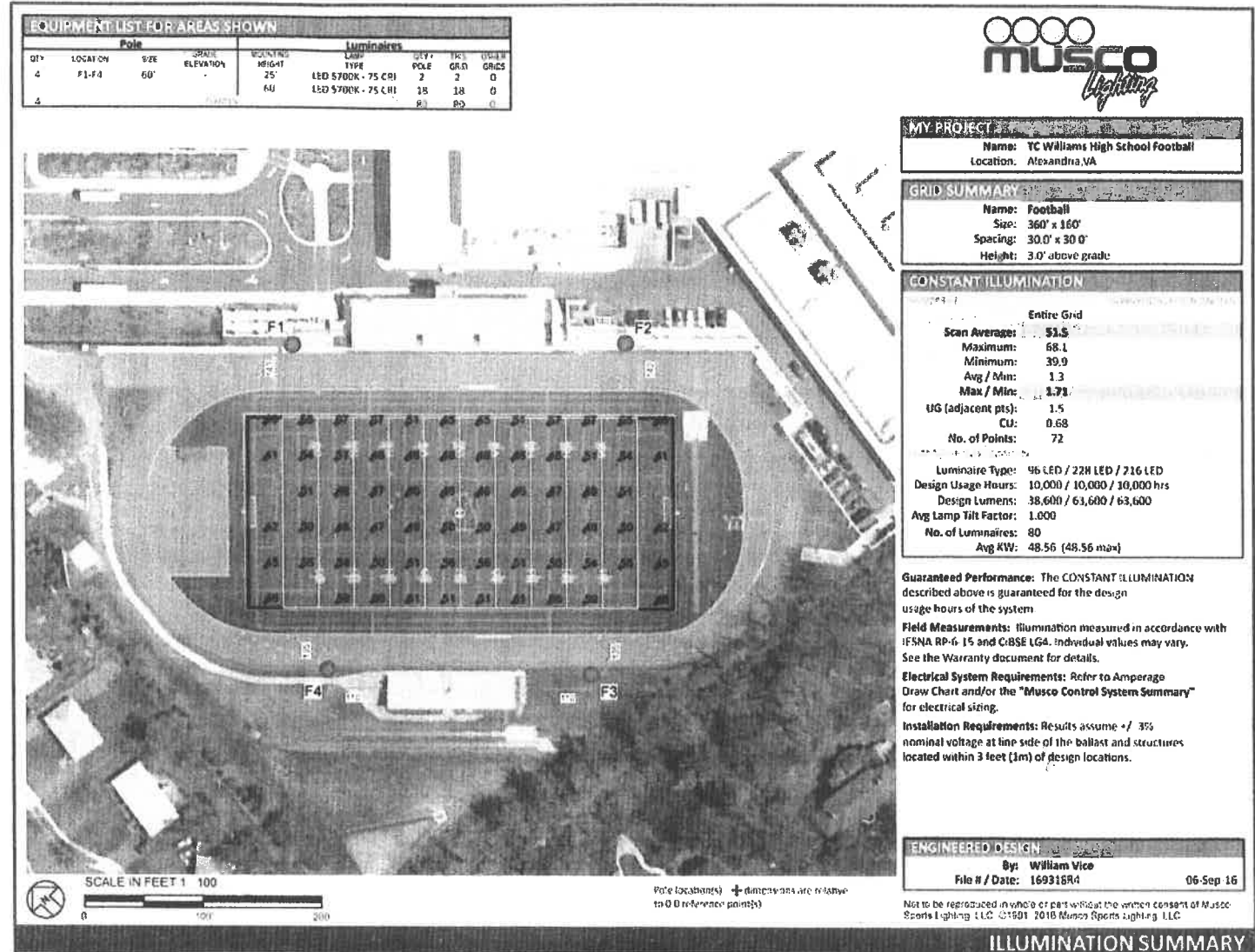
- 60ft maximum pole height
- 0fc along the property line

Pros:

1. We meet 50fc with less than a 2.0:1.0 uniformity
2. We meet 0fc along the property line.
3. We can make four poles work instead of six as was shown on the initial design Musco did back in 2014

Cons:

1. The light levels are higher right in front of the poles; resulting in noticeable hot spots on the field.
2. The glare coming off of these fixtures will be roughly 6200cd on the property line. While that is not a huge amount it is a lot when using LED. Our typical designs when using LEDs are under 1000cd. As a point of reference the glare from low beam headlights when looking straight into the beam is around 12000cd.
3. The 60' mounting height requires having the poles right next to the field, which could cause playability issues for the players. Sports lighting fixtures in general are very intense, so the shorter the poles and the closer they are to the field of play definitely will make it harder to track a ball in flight, especially if the ball is moving right to left.



Lights - 60 feet - Intense glare - Players cannot see the ball - or they could run into poles

[MENU](#)[Home](#) » [Lighting](#) » LED: Why 3000K or Less

LED: Why 3000K or Less

3000 Kelvin Shielded LED Lights Have Quickly Become the Standard for Outdoor Lighting

Why Stay Below 3000K?



Save Energy &
Lower Cost



Protect Health &
Human Safety



Conserve
Nocturnal Wildlife



Protect Natural
Nightscapes

Save Energy & Lower Costs

3000K LED lighting is both economically viable and energy efficient.

Protect Health & Human Safety

High Kelvin lighting (greater than 3000K) create a harsh glare, making it difficult to see clearly at night. It can also suppress melatonin production, leading to disrupted sleep and other health risks. 3000K and less LED lights are the safest LED currently available.

Conserve Nocturnal Wildlife

Excessive outdoor lighting disturbs nocturnal wildlife and their habitat, negatively affecting birds, insects, turtles, fish and other species.

Shielded 3000K or less LED lighting helps to reduce skyglow and improve nightscapes.

The Accelerated Transition to LED Environmentally Responsible Lighting has Brought a New Standard to Outdoor Fixtures

[See the list of municipalities and organizations that are taking steps to provide responsible 3000K LED lighting.](#)

The rapid advancement of LED technology is unparalleled in the lighting industry, which has caused cities and utilities to reevaluate the specifications used for their street and area lighting applications. Early generation LEDs were typically 5000K or higher, which at the time was the upper end of the technology's capacity for products that remained both economically viable and energy efficient.

A central deficiency of the early generation LEDs was the excessive amount of blue light they emitted, leading to complaints that they were too "cold," glaring, and created an uncomfortable environment. Nonetheless, the only option available at the time that provided adequate lumens per watt and that were still energy efficient were 5000K+ LEDs.

Within just a few short years, the industry has dramatically improved the efficiency of LEDs, ushering in a new generation of 3000K "warmer color" products that emit less blue light. The lower kelvin lights are cost and energy efficient, safer, better for human health and wildlife conservation, and contribute less to skyglow.

Today, 3000K LEDs are the standard choice for outdoor lighting and are in use by dozens of municipalities – representing millions of consumers – both in the United States and around the world. IDA anticipates that as LED technology advances it is only a matter of time before 2700K or lower becomes the new norm.

The following municipalities and organizations understand the importance of responsible lighting and have taken action to provide their constituents safe, cost effective, environmentally friendly street lighting:

USA

AUSTRALIA

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AMA Report Affirms Human Health Impacts from LEDs

on JUNE 21, 2016

A groundbreaking report recently released by the American Medical Association (AMA) Council on Science and Public Health affirms known and suspected impacts to human health and the environment caused by light emitting diodes (LEDs) that emit



This photo shows the divide between East and West Berlin that is still visible at night from space. On the left are the gas lamps of the West and on the right, the orange high-pressure sodium lamps of the East, with a stark contrast between them. The image is a powerful reminder that lighting choices made by city planners are long lasting.

excessive amounts of blue light.

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[Community Lighting](#),” unanimously approved by representatives of the Association’s entire membership, supports concerns raised by the International Dark-Sky Association for more than five years. The report presents significant implications for the ongoing, worldwide transition to LEDs as the outdoor lighting technology of choice.

“The AMA’s study not only provides additional rigorous scientific evidence to buttress IDA’s longstanding efforts to raise awareness of the potential hazards of blue-rich light, but also speaks to the bold leadership that the medical community has consistently demonstrated on this critical human health and environmental issue,” IDA Executive Director J. Scott Feierabend noted.

IDA’s 2010 white paper, “[Visibility, Environmental, and Astronomical Issues Associated with Blue-Rich White Outdoor Lighting](#),” detailed the threats associated with exposure to blue-rich white light sources.

While the AMA report supports the use of LED lighting in order to reduce energy consumption and the use of fossil fuels, it recognizes that some LED lights are harmful. The report details findings from an increasing body of scientific evidence that

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diabetes and cardiovascular disease.

Not only is blue-rich white LED street lighting five times more disruptive to our sleep cycle than conventional street lighting, according to the report, but recent large surveys have documented that brighter residential nighttime lighting is associated with reduced sleep, impaired daytime functioning and a greater incidence of obesity.

As a result of a potential risk to public health from excess blue light exposure, the AMA report encourages attention to optimal design and engineering features when converting from existing lighting technologies to LED. These include requiring properly shielded outdoor lighting, considering adaptive controls that can dim or extinguish light at night, and limiting the correlated color temperature (CCT) of outdoor lighting to 3000 Kelvin (K) or lower. Color temperature is a measure of the spectral content of light, and higher CCT values indicate a greater amount of blue light that a fixture emits.

In 2014, IDA revised its Fixture Seal of Approval (FSA) guidelines to limit blue light emission by outdoor lighting by lowering the acceptable color temperature for approved lighting products to 3000K or below. The IDA FSA program provides third-

trespass.

The AMA findings also underscore the fact that detrimental effects of blue-rich LED lighting are not limited to humans. “Other species are just as vulnerable to disruption of their circadian rhythms as are humans, and often more so,” explained Travis Longcore, Ph.D., Assistant Professor of Architecture, Spatial Sciences, and Biological Sciences at the University of Southern California. “Those impacts and others can be reduced by limiting blue-light emissions. Policy makers, government officials, and the American public now have the science and the imprimatur of the AMA to insist that LED installations be designed to reduce impacts on wildlife and human health.”

In 2009 the AMA unanimously adopted a resolution endorsing the use of fully shielded street lighting to minimize nighttime glare, and in 2012 it released a comprehensive report expanding its position on glare and addressing the impact of light at night on human health. The 2016 report represents the first time the organization has focused specifically on LED technology.

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policy on lighting and human health, and adoption of these guidelines builds on that tradition,” explained Dr. Mario Motta, report coauthor and former IDA board member, and past president of the Massachusetts Medical Society. “Our hope is that municipalities will use the report’s guidelines when considering the adoption of LED street lighting, making their communities safer for both humans and wildlife.”

The AMA announcement comes on the heels of the recent publication of the “[World Atlas of Artificial Night Sky Brightness](#),” a groundbreaking study cautioning that street lighting and outdoor lighting retrofits using 4000K lamps could result in a 2.5-fold increase in lighting pollution. The finding is significant both for lighting retrofits in industrialized economies, as well as first-time lighting installations in economies beginning the transition to industrialization.

“This is a timely and important policy statement by the AMA,” said Richard Stevens, Ph.D., a cancer epidemiologist at the University of Connecticut School of Medicine and coauthor of the report. “As with most new technology, everyone is enamored at first because it’s so great and does so much for us, but the downsides eventually

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used and abused, there are also many problems.”

You Can Make a Difference

The publication of the AMA report and the “World Atlas” provide a great opportunity to contact your public officials about combating light pollution. [Learn how.](#)

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Park Named World's
Twentieth International
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Little Penguins Waddling
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THE CONVERSATION

Academic rigor, journalistic flair

American Medical Association warns of health and safety problems from 'white' LED streetlights

June 17, 2016 3:48pm EDT



New LED-based streetlights are whiter than traditional ones and contain more blue light, which can disrupt people's circadian rhythms. meltedplastic/flickr, CC BY-NC-ND

Author



Richard G. "Bugs" Stevens

Professor, School of Medicine, University of Connecticut

The American Medical Association (AMA) has just adopted an **official policy statement** about street lighting: cool it and dim it.

The statement, adopted unanimously at the AMA's annual meeting in Chicago on June 14, comes in response to the rise of new LED street lighting sweeping the country. An AMA committee issued guidelines on how communities can choose LED streetlights to "minimize potential harmful human health and environmental effects."

Municipalities are replacing existing streetlights with efficient and long-lasting LEDs to save money on energy and maintenance. Although the streetlights are delivering these benefits, the AMA's stance reflects how important proper design of new technologies is and the close connection between light and human health.

The AMA's statement recommends that outdoor lighting at night, particularly street lighting, should have a color temperature of no greater than 3000 Kelvin (K). Color temperature (CT) is a measure of the spectral content of light from a source; how much blue, green, yellow and red there is in it. A higher CT rating generally means greater blue content, and the whiter the light appears.

A white LED at CT 4000K or 5000K contains a high level of short-wavelength blue light; this has been the choice for a number of cities that have recently retrofitted their street lighting such as Seattle and New York.

But in the wake of these installations have been complaints about the harshness of these lights. An extreme example is the city of Davis, California, where the residents demanded a complete replacement of these high color temperature LED street lights.

Can communities have more efficient lighting without causing health and safety problems?

Two problems with LED street lighting

An incandescent bulb has a color temperature of 2400K, which means it contains far less blue and far more yellow and red wavelengths. Before electric light, we burned wood and candles at night; this artificial light has a CT of about 1800K, quite yellow/red and almost no blue. What we have now is very different.

The new “white” LED street lighting which is rapidly being retrofitted in cities throughout the country has two problems, according to the AMA. The first is discomfort and glare. Because LED light is so concentrated and has high blue content, it can cause severe glare, resulting in pupillary constriction in the eyes. Blue light scatters more in the human eye than the longer wavelengths of yellow and red, and sufficient levels can damage the retina. This can cause problems seeing clearly for safe driving or walking at night.

You can sense this easily if you look directly into one of the control lights on your new washing machine or other appliance: it is very difficult to do because it hurts. Street lighting can have this same effect, especially if its blue content is high and there is not appropriate shielding.

The other issue addressed by the AMA statement is the impact on human circadian rhythmicity.

Color temperature reliably predicts spectral content of light – that is, how much of each wavelength is present. It's designed specifically for light that comes off the tungsten filament of an incandescent bulb.

However, the CT rating does not reliably measure color from fluorescent and LED lights.

Another system for measuring light color for these sources is called correlated color temperature (CCT). It adjusts the spectral content of the light source to the color sensitivity of human vision. Using this rating, two different 3000K light sources could have fairly large differences in blue light content.

Therefore, the AMA's recommendation for CCT below 3000K is not quite enough to be sure that blue light is minimized. The actual spectral irradiance of the LED – the relative amounts of each of the



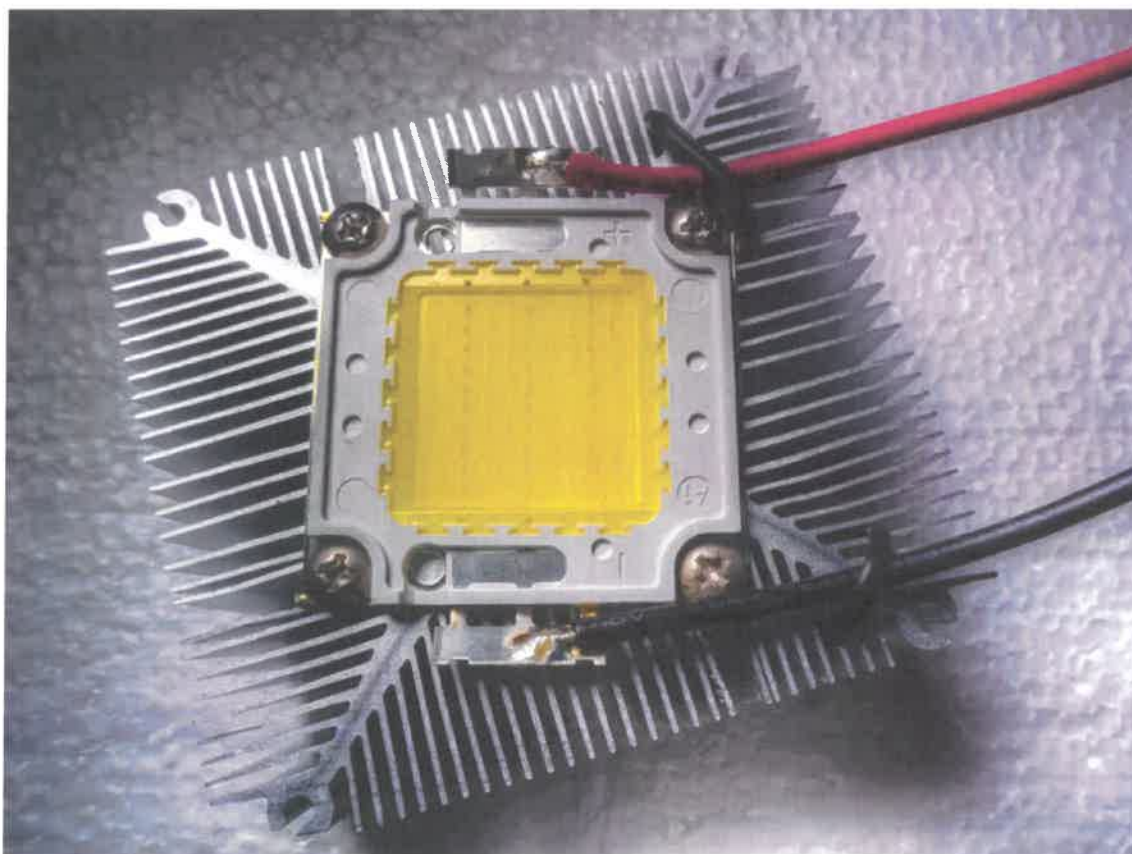
Light is composed of light of different colors (red, blue a green) and some LED streetlights have a relatively high portion of blue light, which can disrupt people's circadian rhythms. flakepardigm/flickr, CC BY-SA

colors produced – should be considered, as well.

The reason lighting matters

The AMA policy statement is particularly timely because the new World Atlas of Artificial Night Sky Brightness just appeared last week, and street lighting is an important component of light pollution. According to the AMA statement, one of the considerations of lighting the night is its impact on human health.

In previous articles for The Conversation, I have described how lighting affects our normal circadian physiology, how this could lead to some serious health consequences and most recently how lighting the night affects sleep.



LEDs (the yellow device) produce a highly concentrated light, which makes glare a problem for LED streetlights since it can hamper vision at night. razor512/flickr, CC BY

In the case of white LED light, it is estimated to be five times more effective at suppressing melatonin at night than the high pressure sodium lamps (given the same light output) which have been the mainstay of street lighting for decades. Melatonin suppression is a marker of circadian disruption, which includes disrupted sleep.

Bright electric lighting can also adversely affect wildlife by, for example, disturbing migratory patterns of birds and some aquatic animals which nest on shore.

Street lighting and human health

The AMA has made three recommendations in its new policy statement:

First, the AMA supports a “proper conversion to community based Light Emitting Diode (LED) lighting, which reduces energy consumption and decreases the use of fossil fuels.”

Second, the AMA “encourage[s] minimizing and controlling blue-rich environmental lighting by using the lowest emission of blue light possible to reduce glare.”

Third, the AMA “encourage[s] the use of 3000K or lower lighting for outdoor installations such as roadways. All LED lighting should be properly shielded to minimize glare and detrimental human and environmental effects, and consideration should be given to utilize the ability of LED lighting to be dimmed for off-peak time periods.”

There is almost never a completely satisfactory solution to a complex problem. We must have lighting at night, not only in our homes and businesses, but also outdoors on our streets. The need for energy efficiency is serious, but so too is minimizing human risk from bad lighting, both due to glare and to circadian disruption. LED technology can optimize both when properly designed.

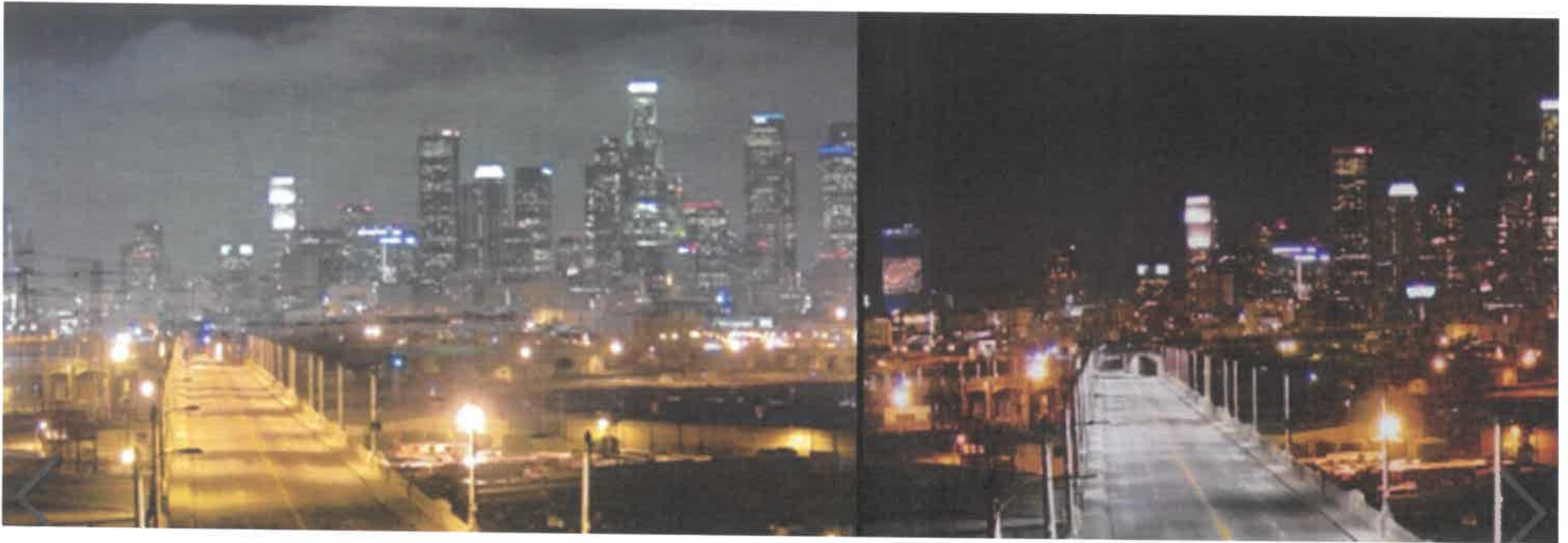
 **Environmental health** **LEDs** **Lighting**

Doctors issue warning about LED streetlights

THE CONVERSATION

By Richard G. "Bugs" Stevens, The Conversation

🕒 Updated 2:00 PM ET, Tue June 21, 2016



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Photos: Los Angeles LED streetlights

The Sixth Street bridge over the Los Angeles River looks a bit different with old, left, and new streetl

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Story highlights

The American Medical Association urges communities to minimize health and environmental risks

White LEDs are thought to be five times more effective at suppressing melatonin than sodium lamps

benefits, the AMA's stance reflects how important proper design of new technologies is and the close connection between light and human health.

The American Medical Association (AMA) has just adopted an [official policy statement](#) about street lighting: cool it and dim it.

The statement, adopted unanimously at the AMA's annual meeting in Chicago on June 14, comes in response to the rise of new LED street lighting sweeping the country. An AMA committee issued guidelines on how communities can choose LED streetlights to "minimize potential harmful human health and environmental effects."

Municipalities are replacing existing streetlights with efficient and long-lasting LEDs to save money on energy and maintenance. Although the streetlights are delivering these

The AMA's statement recommends that outdoor lighting at night, particularly street lighting, should have a color temperature of no greater than 3000 Kelvin (K). **Color temperature** (CT) is a measure of the spectral content of light from a source; how much blue, green, yellow and red there is in it. A higher CT rating generally means greater blue content, and the whiter the light appears.



Related Article: Apparently This Matters: L.A.'s fancy new streetlights

A white LED at CT 4000K or 5000K contains a high level of short-wavelength blue light; this has been the choice for a number of cities that have recently retrofitted their street lighting such as Seattle and New York.

Explainer: What is seasonal affective disorder?

But in the wake of these installations have been complaints about the harshness of these lights. An extreme example is the city of Davis, California, where the residents demanded a **complete replacement** of these high color temperature LED street lights.

Can communities have more efficient lighting without causing health and safety problems?

Two problems with LED street lighting

An incandescent bulb has a color temperature of 2400K, which means it contains far less blue and far more yellow and red wavelengths. Before electric light, we burned wood and candles at night; this artificial light has a CT of about 1800K, quite yellow/red and almost no blue. What we have now is very different.

The new "white" LED street lighting which is rapidly being retrofitted in cities throughout the country has two problems, according to the AMA. The first is discomfort and glare. Because LED light is so concentrated and has high blue content, it can cause severe glare, resulting in pupillary constriction in the eyes. Blue light scatters

more in the human eye than the longer wavelengths of yellow and red, and sufficient levels can **damage the retina**. This can cause problems seeing clearly for safe driving or walking at night.

You can sense this easily if you look directly into one of the control lights on your new washing machine or other appliance: it is very difficult to do because it hurts. Street lighting can have this same effect, especially if its blue content is high and there is not appropriate shielding.

The other issue addressed by the AMA statement is the impact on human circadian rhythmicity.



Related Article: Full moon may disrupt sleep, study says

Color temperature reliably predicts spectral content of light - that is, how much of each wavelength is present. It's designed specifically for light that comes off the tungsten filament of an incandescent bulb.

New atlas shows extent of light pollution; what does it mean for our health?

However, the CT rating does not reliably measure color from fluorescent and LED lights.

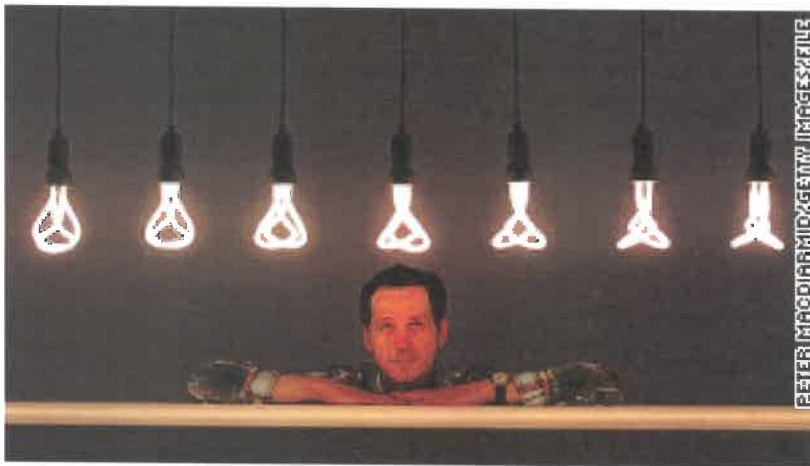
Another system for measuring light color for these sources is called correlated color temperature (CCT). It adjusts the spectral content of the light source to the color sensitivity of human vision. Using this rating, two different 3000K light sources could have fairly large differences in blue light content.

Therefore, the AMA's recommendation for CCT below 3000K is not quite enough to be sure that blue light is minimized. The actual spectral irradiance of the LED -- the relative amounts of each of the colors produced -- should be considered, as well.

The reason lighting matters

The AMA policy statement is particularly timely because the new World Atlas of Artificial Night Sky Brightness just appeared last week, and street lighting is an important component of light pollution. According to the AMA statement, one of the considerations of lighting the night is its impact on human health.

In previous articles for The Conversation, I have described how lighting affects our [normal circadian physiology](#), how this could lead to some [serious health consequences](#) and most recently how [lighting the night affects sleep](#).



In the case of white LED light, it is estimated to be [five times more effective at suppressing melatonin](#) at night than the high pressure sodium lamps (given the same light output) which have been the mainstay of street lighting for decades. Melatonin suppression is a marker of circadian disruption, which includes disrupted sleep.

A dark night is good for your health

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Related Article: Warning labels on your light bulbs

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Richard G. "Bugs" Stevens is a professor in the School of Medicine at the University of Connecticut.

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U.S. CITIES REVISITING OUTDATED LED LIGHTING AFTER AMA WARNING

The Washington Post reports that people across the U.S. are reporting sleepless nights caused by the blue light emitted from outdated LED lighting.

Similar to the light cast by televisions and computer screens, the American Medical Association issued a warning this past June that high-intensity streetlights – found across the United States – emit unseen blue light that is widely known to disturb sleeping patterns. The AMA also reports that the risky

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blue light may cause a plethora of other serious health conditions and even impairs nighttime driving vision due to outdated LED lighting.

HOW DID THIS HAPPEN?

The U.S. government as an economical way to light city streets and highways quickly adopted first generation LED technology. LEDs are up to 50 percent more energy-efficient than yellow-orange high-pressure sodium lights typically used to light streets. LEDs can also last for 15 to 20 years, much longer than the old sodium lights.

LED light is measured by colour temperature, commonly expressed in “kelvin” or “K”. First generation LEDs had colour temperatures of a minimum 4000K, known to produce an invasive bright white light with a high level on unseen blue light.

When speaking about the AMA findings regarding colour temperature, VISO’s LED expert **Brooks Munroe** said:

“This is why colour temperature is so important. Higher colour temperature equates to colder and less attractive light output. Being closer to the blue spectrum of light is what is causing these issues.”

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WHAT WERE THE FINDINGS OF THE AMERICAN MEDICAL ASSOCIATIONS REPORT?

The AMA's report finds these bright, harsh LEDs decrease our melatonin levels, which in turn reduces sleep time, sleep quality and impair our daytime functioning. It is reported that exposure to high-intensity light at night might also increase the risk of cancer, diabetes, obesity and cardiovascular disease. Not only are these lights bad for humans, but also effect wildlife such as nocturnal animals, birds and insects.

WHAT CAN I DO TO ENSURE I AM USING THE RIGHT LED LIGHTING?

When shopping for LED lighting for your home, workplace or commercial project, be sure to do your research. Ask a lot of questions. Shop for LED fixtures or bulbs with colour temperature ratings below 3,000K. Ask your lighting sales representative what colour the specific fixture/bulb casts. If it's cold and blue, skip it. Look for fixtures/bulbs that emit warm amber hues. Steer clear of 1st generation, outdated LED lighting.

VISO'S LED COMMITMENT

VISO is committed to the long-term health of our customers. VISO has replaced the line Xicato LEDs in our decorative light fixtures. Xicato LE

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even, inviting amber colour temperature with kelvin ratings 3,000K or lower.

For more information on our LED technology or to speak to one of our lighting experts, contact our dedicated sales team at **416.461.8476**, by email at sales@visoinc.com or on our website [here](#).

Streetlight Photo by haru___q.

September 27, 2016 | Media, North America, Uncategorized

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What are Human Health Risks?

- AMA experts warn of health risks above 3000K, including disability & discomfort glare, melatonin suppression and are "associated with reduced sleep time, nighttime awakenings, impaired daytime functioning."
- Dr. George Brainard & Dr. Mario Motta, AMA's two leading experts on health risks associated with blue LED lights, agree with Clanton that LED sports lights above 3000K are not appropriate for neighborhood athletic fields. [Motta, "You want 3000K (LED) or below, other wise you have very harsh glarey lighting, hard on the eyes"]