

Shaw Field Lighting

November 2024

**Z.C. Case No. 16-18H
Campus Plan Amendment and Further Processing Application**



GEORGETOWN UNIVERSITY
ZONING COMMISSION
District of Columbia
CASE NO.16-18H
EXHIBIT NO.3G

Shaw Field Background

Home to Men's and Women's Soccer

- No other uses permitted

Grass field in use since 1996

Capacity: 1,625 (Cooper Field is 3,500)

Home games (average per year)

- Men's, 10.5 games (including postseason)
- Women's, 11 games (including postseason)
- Soccer season is August – early November

Average attendance

- Men's, 1,000-1,200
- Women's, 500-600

GU Soccer history

- Men's, Big East Champions ('21, '19, '18, '17, '15). 2019 National Champions
- Women's, Big East Champions ('23, '22, '21, '20, '18, '17, '16)

Lights would allow flexibility in scheduling, but not increase intensity of use



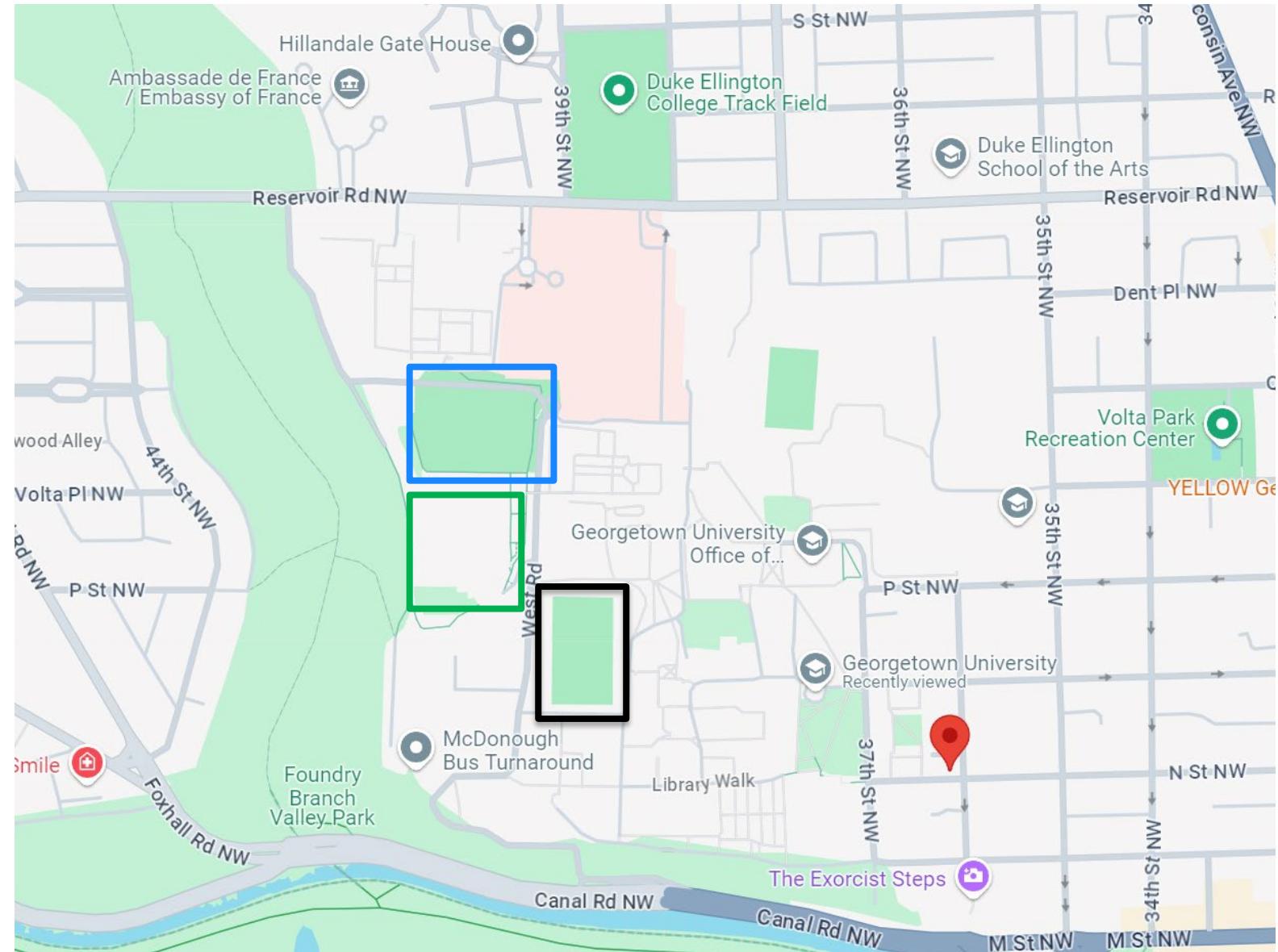
Shaw Field looking Northeast

Shaw Field, Kehoe Field and Cooper Field Locations

Shaw Field highlighted in blue

Kehoe Field highlighted
in green

Cooper Field highlighted
in black



Other Fields on Campus: Kehoe Field

Shaw Field highlighted
in yellow

Kehoe Field highlighted
in blue



Southwest aerial view of Shaw and Kehoe fields

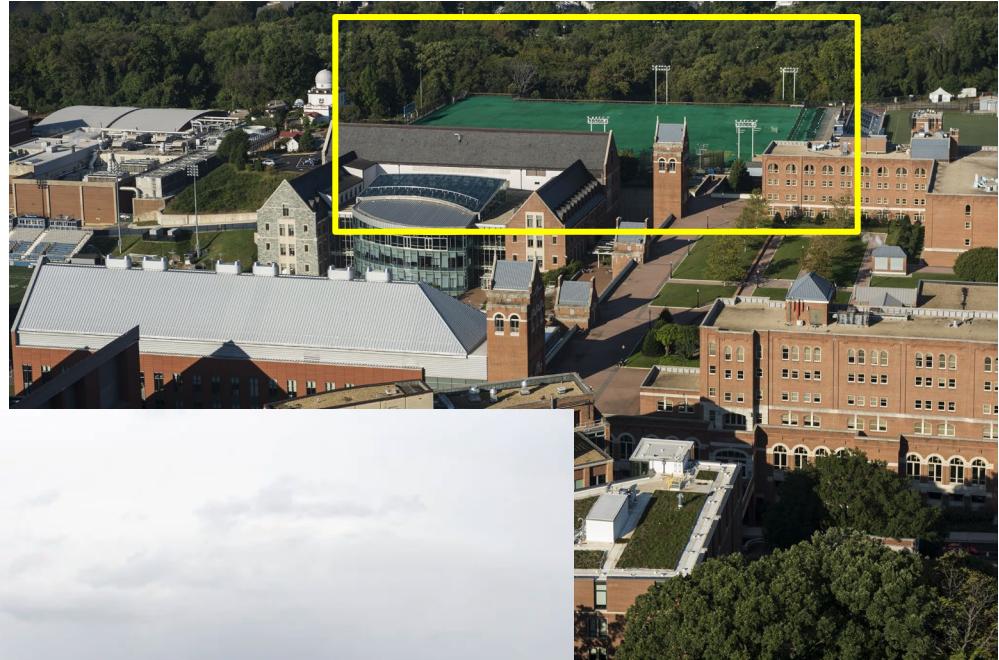
Other Fields on Campus: Kehoe Field

Kehoe Field

- Located directly South of Shaw Field
- Turfed field above Yates Field House
- Recreation space for students
- 42' (at platform) poles
 - Lights face East and West
- Lights are on:
 - Monday – Thursday from 6 pm – 10 pm
 - Friday – Sunday from 6 pm – 12 am



Southeast turf level view of Kehoe field



West aerial view
of Kehoe field –
highlighted in
yellow

Other Fields on Campus: Cooper Field

Cooper Field

- Located in heart of campus
- 80' poles
 - Lights face East and West
- Field used for:
 - Football
 - Men's Lacrosse
 - Women's Lacrosse
 - Field Hockey
 - Intramurals
- Seating Capacity: 3,500
- Game start times
 - Cannot start Monday – Friday between 4 pm – 7 pm



Northwest aerial view of Cooper Field

Shaw Field Photos



Field view - South



Field view - East

Shaw Field Photos



Field view - Southwest



Field view - Northwest

Shaw Field Proposed Lighting Design

Musco Sports Lighting

- Specializes in design and manufacture of sports and transportation/infrastructure lighting solutions
- Total Light Control™ Technology
 - We create controlled light, not floodlights. Our LED sports lighting direct light with pinpoint precision, because it's about lighting your field, not the neighborhood around it.

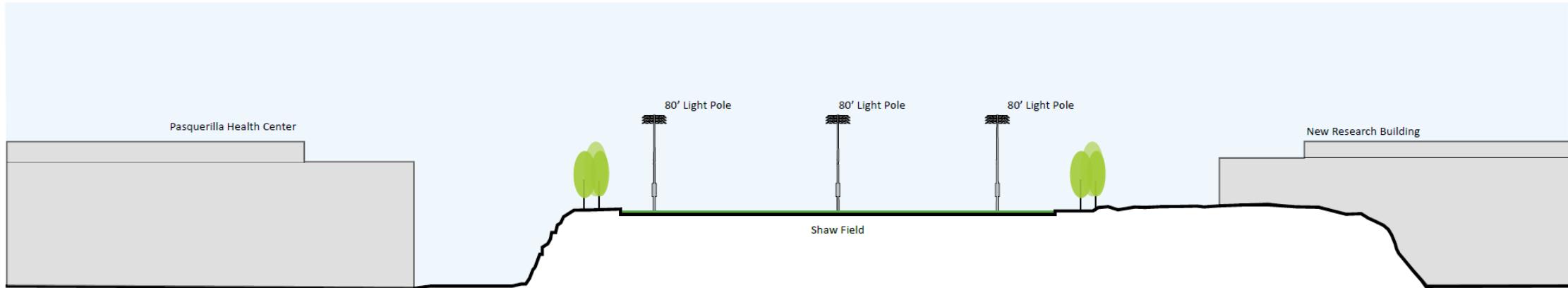
Design

- 6 (six) 80' poles (reduced from initial 100' proposal)
 - 3 poles facing North, 3 poles facing South
 - 116 total light fixtures
 - 900w
 - 5700k color
- Goals
 - Produce average 100 fc light at playing field
 - Allow an average 85fc scan for broadcast
 - Minimize light spill beyond the field
 - Host home soccer games and some practices at night

Shaw Field Section



Shaw Field Section



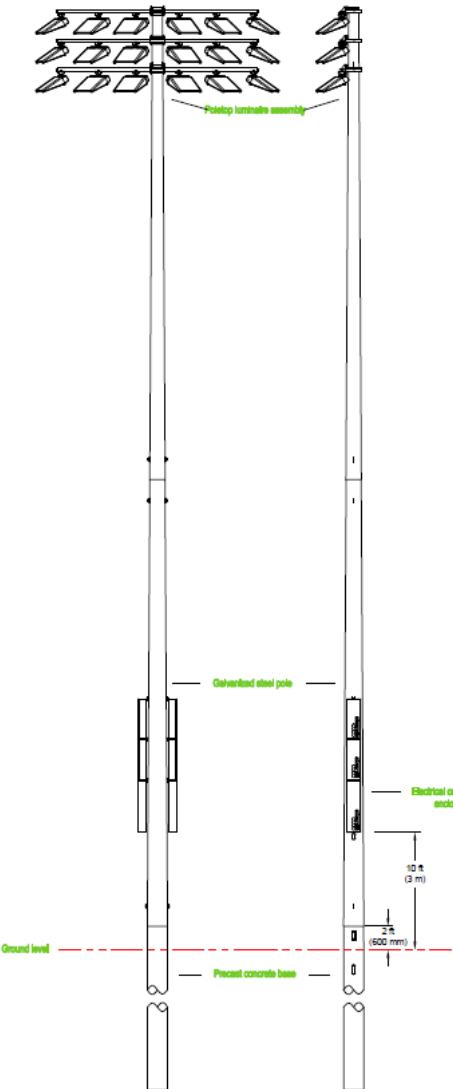
A

East-West Site Section Diagram

Note: This section is intended to be a diagrammatic representation of Shaw Field, illustrating its topography and surrounding context.

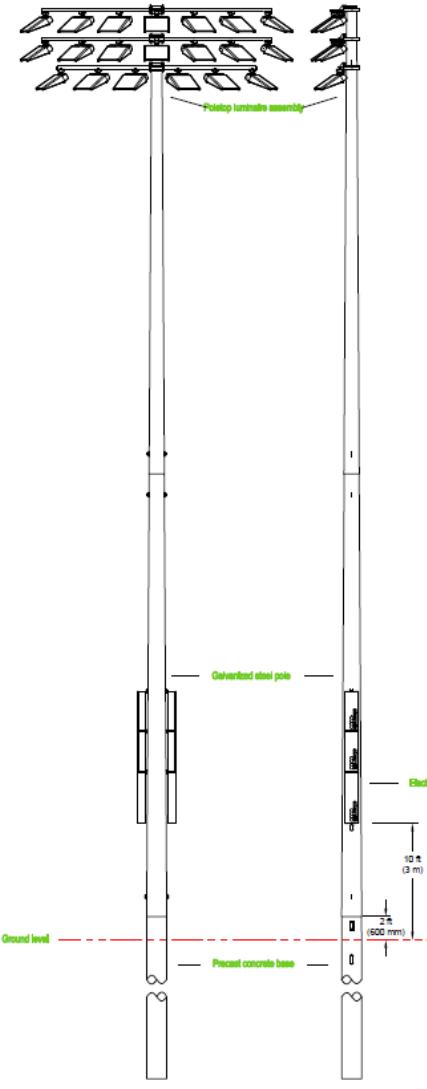


Shaw Field Elevations



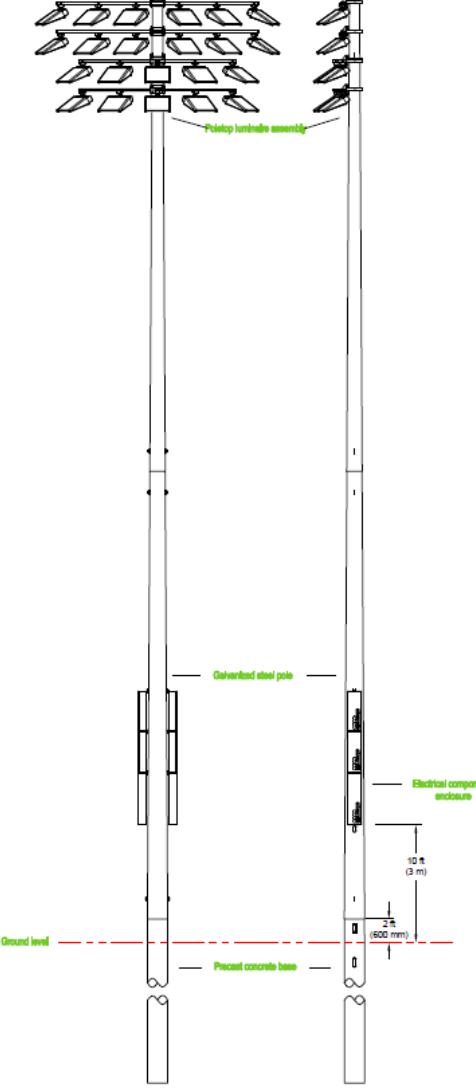
Poles S1-S3

POLE(S): S1-S3
Musco 80FT Light-Structure System™ pole
TLC for LED™ luminaires



Poles S4, S6

POLE(S): S4, S6
Musco 80FT Light-Structure System™ pole
TLC for LED™ luminaires



Pole S5

POLE(S): S5
Musco 80FT Light-Structure System™ pole
TLC for LED™ luminaires

Shaw Field Renderings

Daytime view
Northeast



Shaw Field Renderings

Aerial overhead rendering of Shaw Field with lights on.

Bleachers (at bottom of picture) are on the South side of the field facing North.



Shaw Field Renderings

Aerial rendering
of Shaw Field
with lights on
looking
Southwest.

Bleachers (at left
in blue) are on
the South side of
the field facing
North.



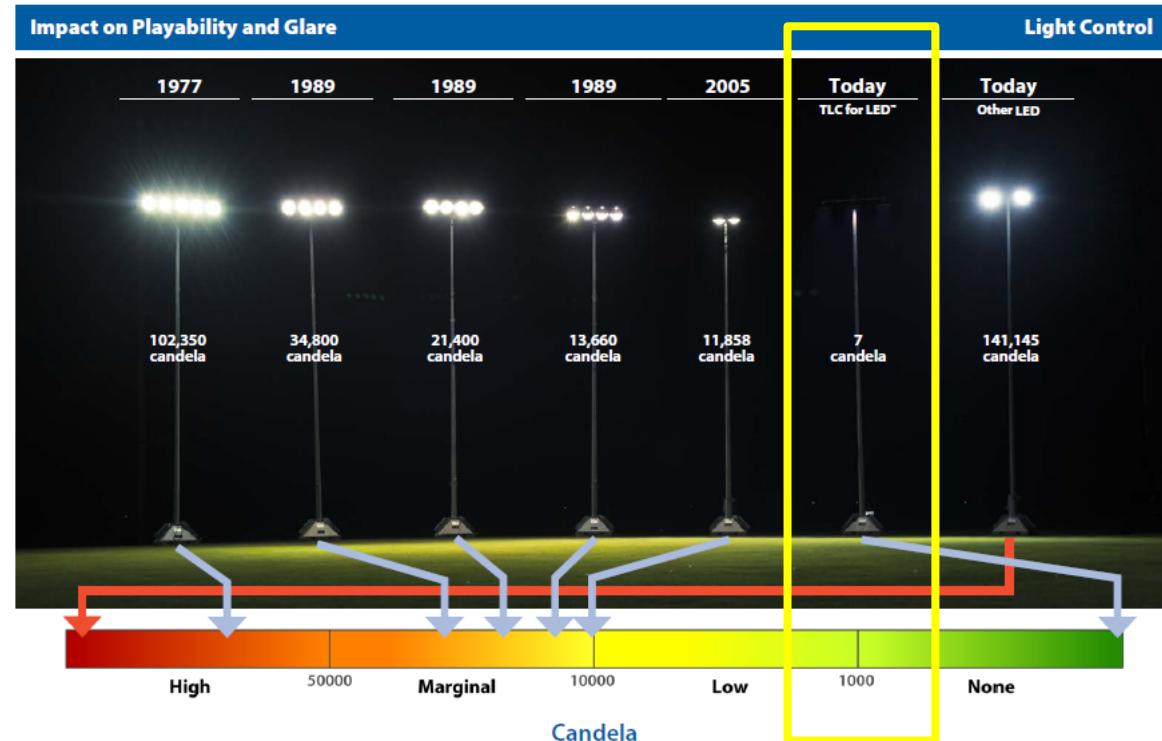
Shaw Field Proposed Lighting Design



Design

- Maintained average 100 horizontal fc
- Provides an average broadcast scan average of 87 fc

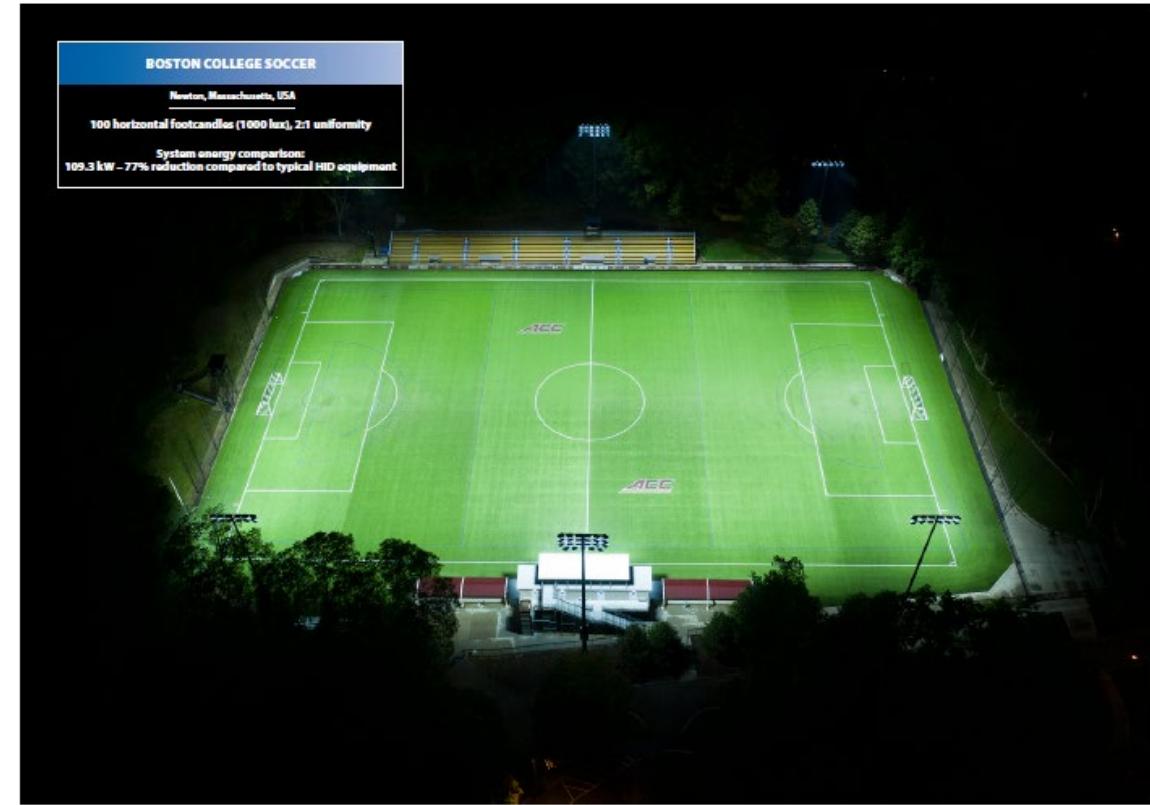
Musco Lighting Evolution and Examples



©2015, 2017 Musco Sports Lighting, LLC - M-2289-en04-1



Solutions for Lighting



©2019 Musco Sports Lighting, LLC - M-3536-en04-1



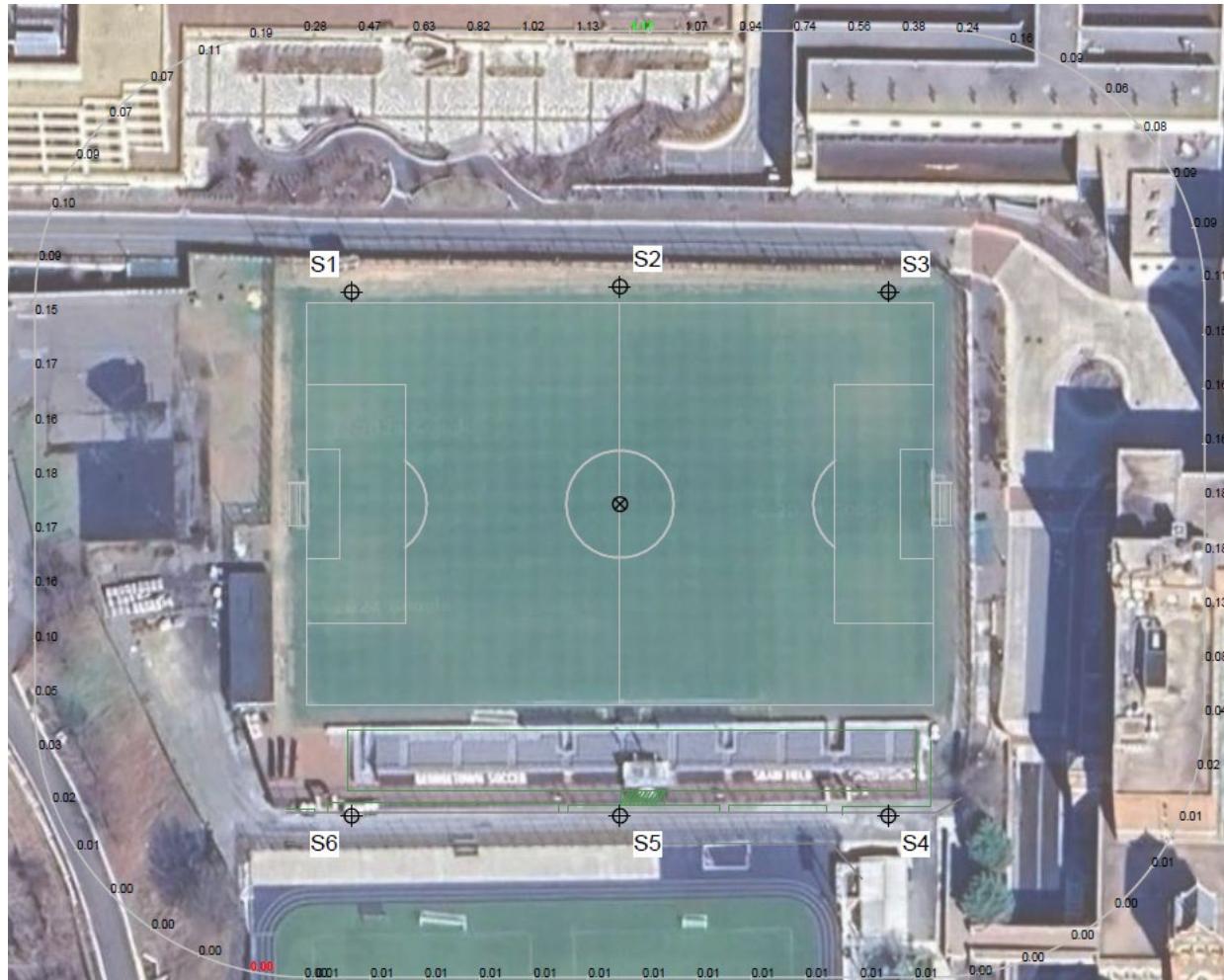
Solutions for Lighting - TLC for LED[®]

Shaw Field light technology highlighted in yellow above

Example of installed light technology at Boston College NCAA soccer field.

GEORGETOWN UNIVERSITY

Shaw Field Lighting: Spillage Control and Mitigation



Light spill at 150' from field

- 1.17fc North
- .17fc West
- .01fc South
- .18fc East

Illuminating Engineering Society (IES) standards indicate a typical sidewalk is illuminated by 1.0-2.0 fc, but can be up to 5.0 fc for safety

Shaw Field Lights: Neighborhood Impacts

Henry Adams Lighting Design Study

- The study modeled the field lighting from nine perspectives and evaluated each perspective with and without the proposed field lighting. The study concluded:
 - Overall, the use of tall poles, visors, and downward directed lighting will control spill to within 150' of the field
 - On-campus buildings will minimize remaining glare and lighting visibility from perspectives north and east of the field
 - The downward orientation of the lighting toward the field will minimize remaining glare and light visibility from the south
 - The north-south orientation of the lighting will minimize glare and light visibility from the west, and heavily wooded areas will minimize remaining glare and visibility when there is foliage

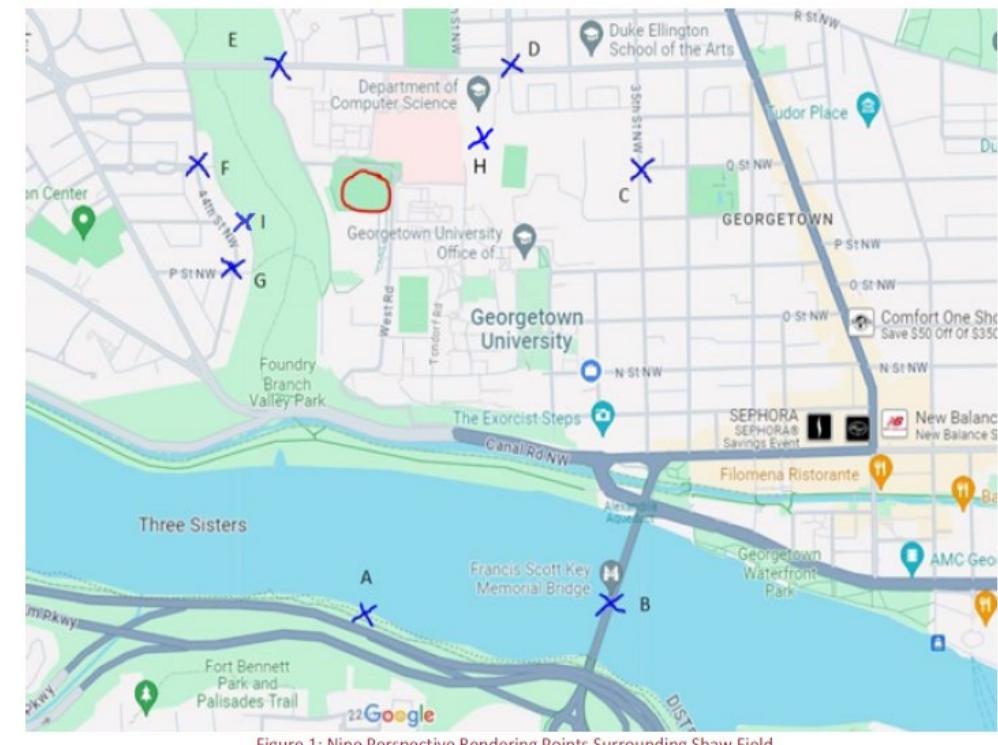


Figure 1: Nine Perspective Rendering Points Surrounding Shaw Field

Shaw Field Sound: Neighborhood Impacts

Shaw Field currently utilizes amplified sound during games

Sound Study conducted by Phoenix Noise and Vibrations to compare sound levels during current (afternoon) events and proposed (evening) events

- Measured at 7 locations
 - Burleith, Foxhall, Hillandale, near Glover Archibald Park and Shaw Field
- Sound measured between 3:30 pm – 9:30 pm
 - Ambient Noise
 - Aircraft
 - Amplified Music
 - Amplified Speech
 - Traffic
- Preliminary results indicate no significant sound impacts at measurement sites



Shaw Field Sound: Neighborhood Impacts

Table 3: Maximum noise measurement results for various noise sources.

Location	[dBA]		Day [dBA]			Night [dBA]			[dBA]
	Ambient	Aircraft	Amplified Music	Amplified Speech	Aircraft	Amplified Music	Amplified Speech	Traffic	
A	50	80	60	65	73	57	61	N/A	
B	48	77	*	52	74	*	54	51	
C	44	76	*	46	71	*	*	57	
D	44	72	*	*	68	*	*	69	
E	46	75	*	*	67	*	*	58	
F	44	75	*	*	73	*	*	64	
G	52	76	75	87	71	76	85	N/A	

The maximum values of the amplified music and speech are presented in the table above. The table also includes noise levels of traffic roadway and aircraft events at each location, where applicable.

A Phoenix representative remained on site for the duration of the measurements in the residential areas to determine audibility of the amplified sports field programs.

At all locations to the north of Shaw field (D through F) neither the amplified music nor speech could be heard.

At location B and C, the amplified music was not audible, and the amplified speech was barely audible but could not be understood except for short announcements such as "Goal."



Shaw Field: Other Considerations

Medstar Georgetown University Hospital

- Supportive of the proposal

FAA

- Issued a Determination of No Hazard for Shaw Field

Transportation

- Parking would continue to be provided at the Southwest Quad garage
- Adding lights will not materially increase peak trips to/from campus

No Expansion of Intensity of Use

- No additional sports would be played or hosted on Shaw Field (only mens' and womens' NCAA soccer)

