

**VARIANCE FEES**

MGO \$50.00  
 COMM \$490.00  
 Priority - Double above

**PETITION FOR VARIANCE APPLICATION**

City of Madison  
 Building Inspection  
 Division  
 215 Martin Luther King Jr. Blvd.  
 Madison, WI 53703  
 (608) 266-4568

Amount Paid 3/22/13 FMR

Name of Owner <b>CITY OF MADISON PARKS DIVISION</b>	Project Descriptor <b>REPLACE ATHLETIC FIELD LIGHTS FOR BRESEE STEVENS FIELD</b>	Agent, architect, or engineering firm <b>MUSCO LIGHTING</b>
Company (if applies) <b>ATTS: TOM MAGLIO</b>	Tenant name (if any)	No. & Street
No. & Street <b>210 MLK JR. BLVD #1104</b>	Building Address <b>717 E. HIFFLIN ST.</b>	City, State, Zip Code
City, State, Zip Code <b>MADISON, WI, 53701</b>	Phone <b>(608) 460-5879</b>	Name of Contact Person <b>GREG SMUDT</b>
Phone <b>(608) 266-6518</b>	e-mail <b>greg.smudt@musco.com</b>	
e-mail <b>tmaglio@cityofmadison.com</b>		

1. The rule being petitioned reads as follows: (Cite the specific rule number and language. Also, indicate the nonconforming conditions for your project.)  
SEE ATTACHED - MGO ORDINANCE 10.085 (ATTACHMENT "A")  
TRESPASS LIGHT RESULT OF O.S. FC @ P.L.

2. The rule being petitioned cannot be entirely satisfied because:  
THERE IS NO ATHLETIC FIELD LIGHTING SYSTEM, GIVEN THESE CIRCUMSTANCES, IN THE MARKET TODAY THAT COULD MEET THE TRESPASS LIGHT REQUIREMENT + MEET LIGHTING REQUIREMENTS OF UINA + NCAA

3. The following alternatives and supporting information are proposed as a means of providing an equivalent degree of health, safety, and welfare as addressed by the rule:
- 1) EXISTING + PROPOSED LIGHT LEVEL READINGS SHOWING IMPROVEMENT IN MEETING THE ORDINANCE
  - 2) EXISTING + PROPOSED COMPUTER GENERATED LIGHT LEVELS ON HOUSES ALONG HIFFLIN ST.
  - 3) COMPUTER GENERATED PERSPECTIVE SKETCHES
  - 4) FACILITY CLOSER @ 10:00 PM + IS NOT OPEN FROM NOVEMBER-APRIL WHEN SNOW +/OR LACK OF LEAVES WOULD ADD TO TRESPASS LIGHT

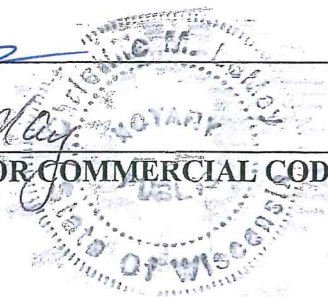
Note: Please attach any pictures, plans, or required position statements.

**VERIFICATION BY OWNER - PETITION IS VALID ONLY IF NOTARIZED AND ACCOMPANIED BY A REVIEW FEE AND ANY REQUIRED POSITION STATEMENTS.**

Note: Petitioner must be the owner of the building. Tenants, agents, contractors, attorneys, etc. may not sign the petition unless a Power of Attorney is submitted with the Petition for Variance Application.

Eric M. Knapp, being duly sworn, I state as petitioner that I have read the foregoing petition, that I believe it to be true, and I have significant ownership rights in the subject building or project.

Signature of owner 	Subscribed and sworn to before me this date: <u>3-27-13</u>
Notary public 	My commission expires: <u>6-7-15</u>



**NOTE: ONLY VARIANCES FOR COMMERCIAL CODES ARE REQUIRED TO BE NOTARIZED.**



## ATTACHMENT A

## 10.085 OUTDOOR LIGHTING.

- (1) Purpose and Intent. This ordinance regulates all outdoor lighting installed on residential site and commercial site property, both publicly and privately owned within the City of Madison with the exception of outdoor lighting on public streets, public bikeways and public walkways which are regulated elsewhere in the ordinances. The purpose of this ordinance is to create standards for outdoor lighting that do not interfere with the reasonable use of commercial site and residential site property, that prevent light trespass and conserve energy yet maintain night time safety. Installation of outdoor lighting is not mandatory but if installed, it shall be in conformance with the provisions of the ordinance, the building code and all other codes and regulations as applicable and under appropriate permit and inspection.

- (2) Definitions.

Commercial Site shall mean a tract consisting of one or more contiguous lots or parts of lots which are to be used for interdependent ingress and egress of vehicles and containing one or more off-street loading or parking facilities or any commercial site having five (5) or more parking stalls.

Covered Parking Facilities shall mean a parking facility with an overhead covering and shall include all floors except the roof level of a multilevel parking structure or ramp.

Driveway shall mean every way or area used for vehicular travel back of the street right-of-way line.

Footcandle shall mean the illumination of a surface one foot distant from a source of light equivalent to one candle.

Building Inspection Division shall mean the Building Inspection Division of the City Department of Planning and Community and Economic Development. (Am. by ORD-08-00109, 10-7-08)

Installation shall mean the attachment or assembly, whether or not connected to a power source, of any outdoor light fixture affixed to the ground, a building, a pole or any other supporting structure or device.

Light Trespass shall mean stray light or spill light flowing across the property boundary. (Am. by Ord. 13,717, 10-26-04)

Lighting Sources shall mean any lamp or manufactured device emitting energy that is capable of exciting the retina and producing a visual sensation. The energy emitted shall fall within the electromagnetic spectrum to a length of between 380 and 770 nanometers. Such devices shall include, but are not limited to, incandescent, fluorescent, carbon arc, quartz-iodine/tungsten halogen, low pressure sodium, high pressure sodium, metal halide and mercury vapor lamps.

Non-Shielded or Non-Cutoff Lighting Fixtures shall mean all types of outdoor lighting fixtures other than shielded or cutoff lighting fixtures and includes any lighting fixture that employs an adjustable bracket, refractorizing glassware or lenses, a non-shielded lamp or light source and distributes light at any angle more than four degrees (4°) above horizontal. (Am. by Ord. 13,717, 10-26-04)

Open Parking Facilities shall mean a parking facility without an overhead covering and shall include the roof level of a multilevel parking structure or ramp.

Outdoor Canopy shall mean a free-standing roof structure without side walls which may or may not be attached to the roof of an adjacent building and which shall include but shall not be limited to canopies over gas station pumps or canopies at convenience stores.

Outdoor Lighting Fixtures shall mean lighting sources which are electrically powered illuminating devices, lighted or reflective surfaces, lamps and similar devices, permanently installed or portable, used for illumination or for advertisement. Such devices shall include, but are not limited to, searchlights, spotlights, floodlights, streetlights, sign lights, security lights, wall lights, porch lights, area lights, parking area lights, sports lights and sign panels.

Outdoor Merchandizing Area shall mean car sales lots, equipment sales lots, retail gasoline stations, garden centers, and other similar areas where products are permanently displayed or dispensed outdoors.



Person shall mean any individual, tenant, lessee, owner, operator, or any public, private, nonprofit, or commercial entity including but not limited to, firm, business, partnership, joint venture, association, corporation, municipality, agency or governmental agency.

Residential Site shall mean a single parcel in a residential zone containing a residential structure of one or more dwelling units with a parking facility for one (1) or more cars. (Am. by Ord. 13,717, 10-26-04)

Shielded or Cutoff Lighting Fixtures shall mean outdoor lighting fixtures that utilize flat, clear lenses with no refractorizing elements and which operate in a horizontal position with nonadjustable mounting hardware or brackets. Such fixtures distribute light by means of an internal reflector only. The light source is totally concealed by the fixture housing when the position of observation is at an angle less than fifteen degrees (15°) above horizontal. No light is permitted at an angle more than four degrees (4°) above horizontal. (Am. by Ord. 13,717, 10-26-04)

Uniformity Ratio shall mean the ratio between the average illumination and the minimum illumination as determined by measurements taken on a four-foot grid throughout the area to be lighted.

(3) General Requirements.

- (a) All outdoor lighting fixtures installed and thereafter maintained upon private or public residential, commercial, industrial and other nonresidential property shall comply with the following:
1. The maximum allowable light trespass shall be 0.5 horizontal footcandles four (4) feet above the ground. The point of measurement of this offending light shall be at any point at the outer wall of an adjacent building occupied for residential or public use, or at any point greater than 10 feet from the adjacent lot line. This measurement shall not include any ambient, natural light.
  2. All fixtures greater than 1,000 initial lumens (equivalent to 70 watts incandescent) shall be full cutoff, or shall be shielded or installed so that there is not a direct line of sight between the light source or its reflection and a point five (5) feet or higher above the ground at the property boundary. The light source shall not be of such intensity so as to cause discomfort or annoyance.
  3. Any outdoor lighting fixture installed on a parking lot, parking structure or outdoor merchandizing area shall use either high pressure sodium, metal halide, or fluorescent lamps. The lighting system shall be extinguished or reduced to fifty percent (50%) no later than thirty (30) minutes after the close of business for the day or after the end of normal office hours for the majority of employees. (Am. by ORD-07-00032, 3-22-07)
  4. All lamp types utilized for search lighting and/or spot lighting for advertising purposes shall not be operated past 11:00 P.M.
- (b) All outdoor lighting fixtures installed prior to March 30, 1993 shall be exempt from this ordinance except as follows:
1. If any modifications, construction or changes to an existing outdoor lighting fixture system is proposed to fifty percent (50%) or more of the total number of fixtures, then all fixtures shall comply with the provisions of this ordinance.
  2. All outdoor lighting fixtures installed on residential parking facilities irrespective of installation date shall conform to subsection (4)(c) herein.
- (c) All outdoor lighting fixtures shall be maintained according to approved plans.
- (d) Trees and shrubbery shall not be located where they significantly reduce or block the lighting of parking facilities or roadways.
- (e) Outdoor lighting fixtures may be used to illuminate buildings and structures; recreational areas, sports fields and courts; parking lots; parking structures, garages, or ramps; landscape areas; outdoor merchandizing areas; building overheads and open canopies. Outdoor lighting fixtures may be installed to provide building and parking lot security.

(Am. by Ord. 13,717, 10-26-04)

BUILDING CODE VARIANCE REQUEST  
BREESE STEVENS FIELD LIGHTS

**PROJECT DESCRIPTION:**

The Parks Division has funding in the 2013 capital budget for the replacement of the athletic field lighting at Breese Stevens Field.

Breese Stevens Field is an urban athletic (soccer and other recreational uses) facility only 5-6 blocks from the Capitol. It was built in 2 phases, the first phase in 1925, the second phase in 1934. It has commercial development on 3 sides of the facility (E. Washington Ave.; N. Brearly St.; Paterson St.), and residential homes across Mifflin St. The facility has seating on the Mifflin St and Paterson St sides only and is totally enclosed by stone walls that vary in height from 7 ft along E. Washington to 23 ft along Mifflin St. (see attached photographs).

The existing lighting system at Breese Stevens Field consists of eight poles with Hubbel SLH 1500 watt metal halide Sportsliter fixtures. The original lighting system consisted of 8 metal truss/ladder poles. History tells us that the original light towers were installed in 1934 - the same time the wall around the field was built. In 1988, the electrical service was upgraded and 3 of the original 8 light towers were removed and replaced with Valmont, galvanized steel poles. In 1993, another truss pole was replaced in a similar method to the 3 done in 1988. In 2001, the tower at the corner of E. Washington Ave. and N. Brearly St. was replaced as part of a joint project with AT&T where the Parks Division allowed AT&T to install a new galvanized pole similar to the newer existing poles to be used as a joint light/cell tower. There are 3 remaining ladder/truss poles that will be replaced as part of this project.

The project scope of work includes the following:

- Remove the existing sports lighting system and three 80-foot tall truss-tower lighting structures.
- Provide new sports lighting assemblies on five existing 80-foot tall galvanized steel poles and provide three new 80-foot tall galvanized steel poles with sports lighting assemblies mounted on the existing truss-tower bases. Provide new adapter base plates on the three existing truss-tower bases to accommodate the new galvanized steel poles.
- Reconfigure the existing lighting system distribution panel feeder and provide new circuit breakers for new conduit and wiring from the existing distribution panel to the new lighting system equipment.
- Directional-drill new conduits below the existing soccer field playing surface and provide handholes for new lighting system branch circuits to fixtures on the south side of the field.
- Test and adjust the lighting system to meet the requirements of the equipment manufacturer and the contract documents.

**PROPOSED LIGHTING IMPROVEMENTS – THE NEED FOR A VARIANCE:**

From the extensive research our consultant has done, there isn't an athletic field lighting system available in the market today that can meet the requirements of the City's lighting ordinance - 0.5 foot candles 4' above grade or 10' off the property line - given the constraints of the Breese

Stevens Field. We solicited lighting designs from three different athletic field lighting companies: Qualite; Musco and Carolina High-Mast. The design information we received from Musco and Qualite came closest to meeting our lighting ordinance and were very similar. The information provided in the variance packet uses Musco Sports Lighting's Light Structure Green lighting system (home office in Muscatine, Iowa).

## **VARIANCE PACKET – ATTACHMENT EXPLANATIONS:**

### Sheet 1:

- Breese Stevens Field hosts high school and college soccer games and therefore must be lit to the required average 50 foot candle level to meet WIAA and NCAA requirements for safety.

### Sheet 2:

- Existing Light Readings – at the property line showing 60 readings over the ordinance requirement of <0.5 foot candles (Note the average light readings for each street also identified on this sheet). Mifflin St. readings are much lower than E. Washington Ave. due to the 23' height of the wall along Mifflin St. The existing light level readings shown on Sheet 2 were taken in January, 2013. These readings are probably the highest they would ever be considering no leaves on the trees and reflection off of the snow. This facility is only open during the spring/summer and fall when there are leaves on the trees which should block a good portion of the trespass light.

### Sheet 3:

- Computer-generated plan view of the existing lighting system showing the light spread (based on the type and number of existing fixtures/lamps). Note the trespass light is at its worst on the second floors of the homes on Mifflin St. The high wall along Mifflin St. blocks out some of the trespass light along the property line which is why the average existing light levels on Mifflin St are much lower than on E. Washington.

### Sheet 4:

- Computer-generated birds-eye view of the existing lighting system showing the light spread (based on the type and number of existing fixtures/lamps). Note the trespass light is at its worst on the second floors of the homes on Mifflin St.

### Sheet 5:

- Computer-generated elevation of the existing lighting system effect on the homes along Mifflin St. (based on the type and number of existing fixtures/lamps). Again, note the trespass light levels on the second floors of the homes on Mifflin St.

### Sheet 6:

- Proposed Light Readings – with Musco's Light Structure Green lighting system. There are only 31 readings that are over the ordinance requirement (light levels reduced by almost half at the property line). Both Paterson and Brearly Street readings have dropped significantly, as has E. Washington Ave. Mifflin St. readings have dropped as well.

Sheet 7:

- Computer-generated plan view of the proposed lighting system showing the light spread (based on the type and number of proposed fixtures/lamps). Note the trespass light is significantly less on the second floors of the homes on Mifflin St.

Sheet 8:

- Computer-generated birds-eye view of the proposed lighting system showing the light spread (based on the type and number of proposed fixtures/lamps). Note the trespass light is significantly less on the second floors of the homes on Mifflin St.

Sheet 9:

- Computer-generated elevation of the proposed lighting systems effect on the homes along Mifflin St. (based on the type and number of proposed fixtures/lamps). Note the very low trespass light levels (all  $< 0.5$  foot candles), on the facades of the homes on Mifflin St.

**OPERATIONAL FACTORS:**

- Park facilities close at 10:00 PM, including Breese Stevens Field. Occasionally there is a soccer game that goes into overtime, or the lights need to be on after a game for exiting safety which may require lights on until a bit after 10:00 (in all of 2012 the latest the lights were on was 10:24 p.m.). We do not allow games to start after 8:00 PM.



# BREEZE STEVEN'S FIELD



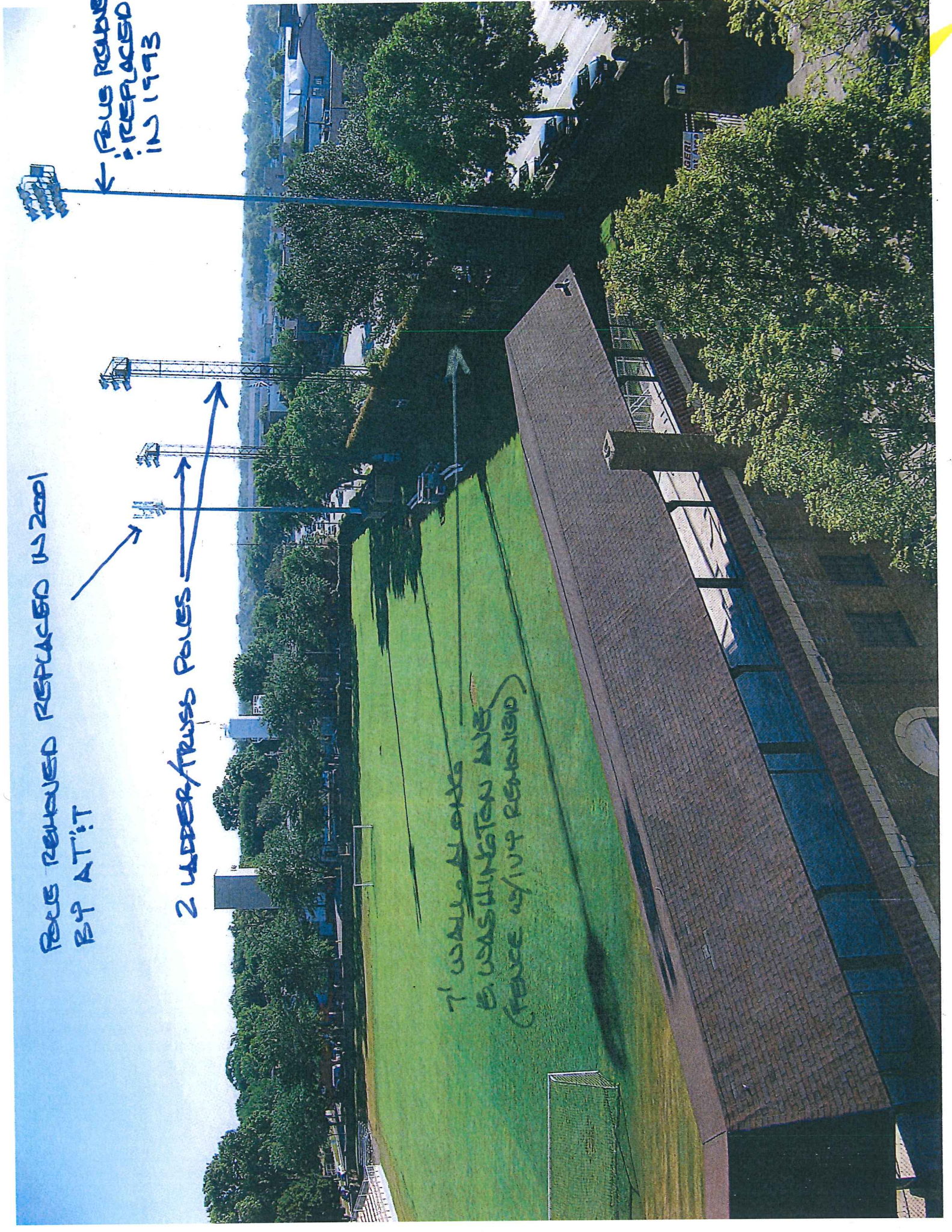


POLES REMAINED REPLACED IN 2001  
BY AT&T

2 UNDER-TRUSS POLES

← POLES REMAINED  
REPLACED  
IN 1993

7' WALL BLADE  
E. WASHINGTON BLVD  
(FENCE w/ 1/4 REMOVED)





3 Poles removed/replaced  
in 1988

3RD LADDER TRUSS POLE

23' 3" BALL ALONG  
WIFFEN ST.

