

City of Kenmore – St. Edward State Park Ballfields

Flood Light Design

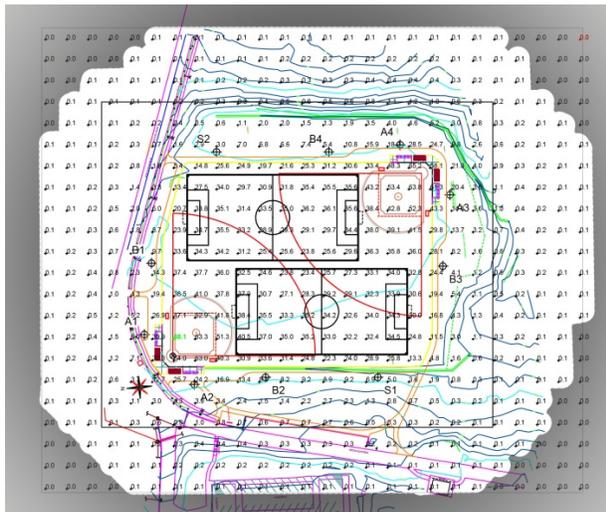
State of the Art LED Flood Lighting

The proposed ballfield lighting utilizes the latest technology and is designed to avoid the effects of light pollution. The proposed floodlights for St. Edward ballfields have a beam that directs light to where it is required. The floodlights utilize extensive shielding to reduce the impact of glare and spill light. This dramatically reduces negative impacts associated with light spillage and glare exposure. New lighting technology for sports fields has many benefits including high energy savings, little maintenance, and increased game quality.

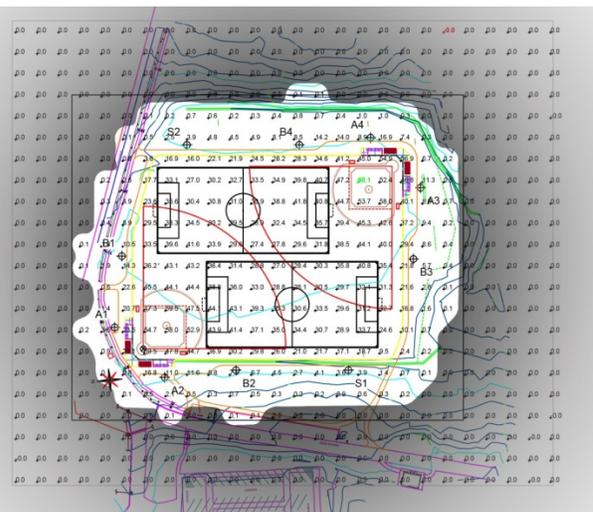
Lighting Levels

The lighting levels for the field will be designed at Class III level listed in RP-8 (Recommended Practice for Sports Lighting) by the Illuminating Engineering Society of North America. The field will be lighted to an average maintained lighting level of 50 footcandles in the infields and 30 footcandles for the outfield and soccer areas.

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Older technology

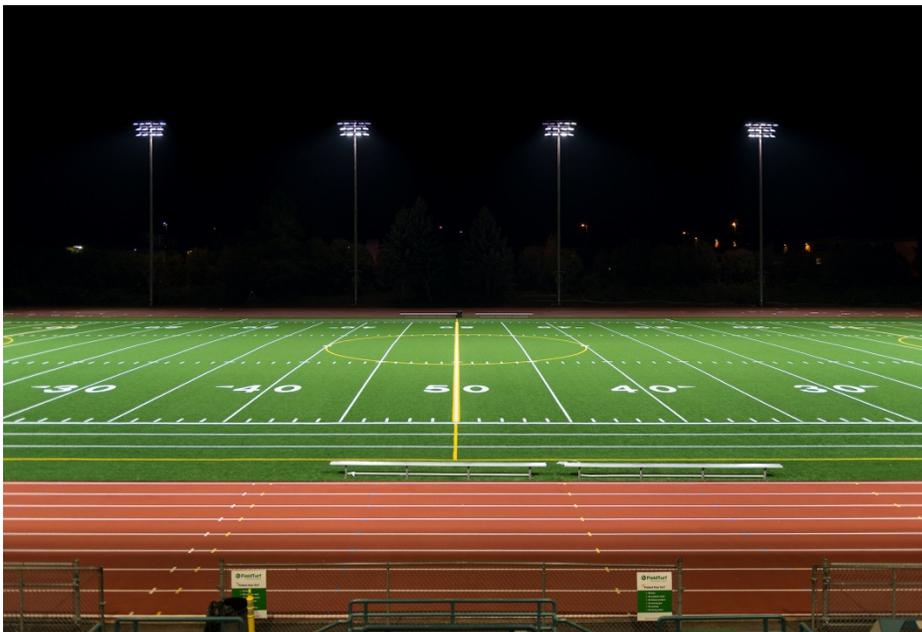


New technology

The following two photographs compare a field with the old metal halide lighting system with the new lighting system proposed for St. Edward ballfields.



Field with old metal halide lighting system



Field with new LED lighting system

Lighting for Safety

The proposed lighting for the fields will consist of LED floodlights mounted on galvanized steel poles surrounding the field. The poles will be installed as close to the field as possible so as to not compromise the safety of the players and to allow for pedestrian access.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	A1-A4	60'	-	60'	1500W MZ	3	3	0
4	B1-B4	70'	-	70'	1500W MZ	5	5	0
2	S1-S2	70'	-	70'	1500W MZ	4	4	0
10	TOTALS					40	40	0



MY PROJECT

Name: **Kenmore Field**
Location: Kenmore, WA

GRID SUMMARY

Name: **Spill @ 100'**
Spacing: 30.0'
Height: 3.0' above grade

CONSTANT ILLUMINATION

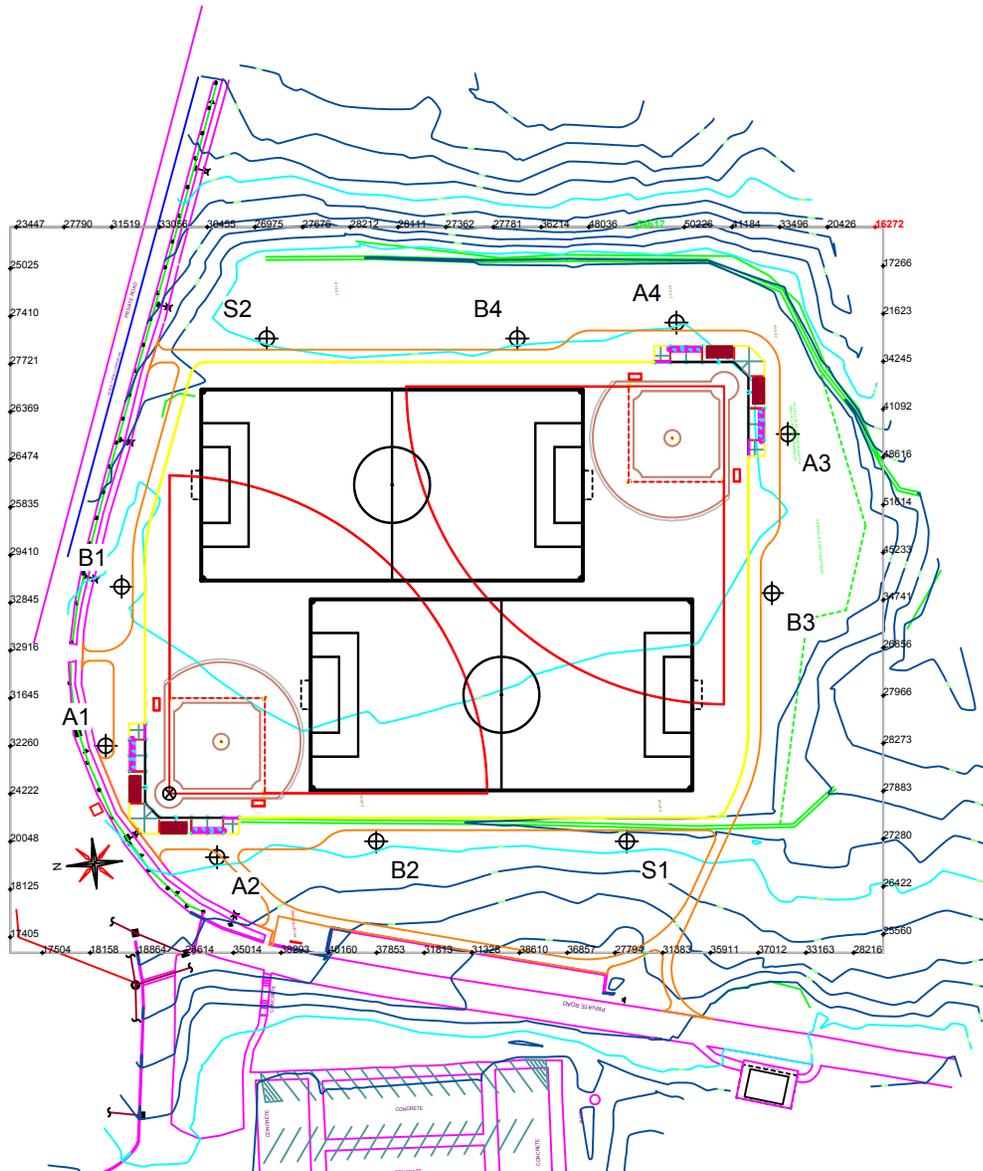
SUMMARY	CANDELA (PER FIXTURE)
Entire Grid	
Scan Average:	30772.9043
Maximum:	54617.48
Minimum:	16272.01
No. of Points:	67
LUMINAIRE INFORMATION	
Luminaire Type:	Green Generation
Design Usage Hours:	5,000 hours
Design Lumens:	134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	40
Avg KW:	62.56 (68.0 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

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

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.



SCALE IN FEET 1 : 120



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

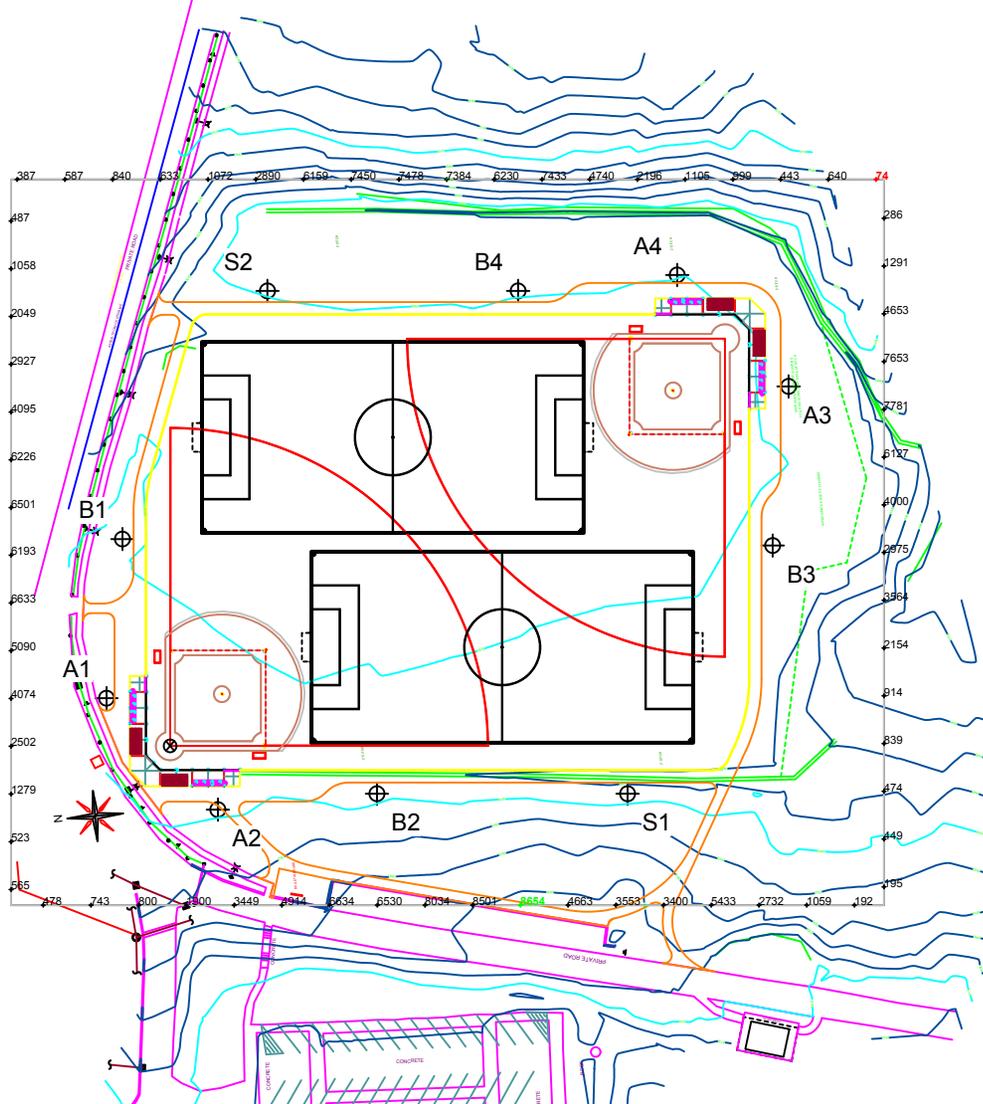
ENGINEERED DESIGN

By: **Shawn Moyer**
File # / Date: 178843-HID 30-Mar-16

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EQUIPMENT LIST FOR AREAS SHOWN

QTY	Pole			Luminaires				
	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	A1-A4	60'	-	20'	96 LED	2	2	0
				60'	216 LED	5	5	0
4	B1-B4	70'	-	20'	96 LED	2	2	0
				70'	216 LED	9	9	0
2	S1-S2	70'	-	20'	96 LED	2	2	0
				70'	216 LED	6	6	0
10	TOTALS					88	88	0



Kenmore Field

Kenmore, WA

GRID SUMMARY

Name: **Spill @ 100'**
 Spacing: 30.0'
 Height: 3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED CANDELA (PER FIXTURE)

Scan Average: **3342.7844**
 Maximum: 8653.88
 Minimum: 74.09
 No. of Points: 67

LUMINAIRE INFORMATION

Color / CRI: 5700K - 75 CRI
 Luminaire Output: 63,600 / 38,600 lumens
 Total LLF: 1.000
No. of Luminaires: 88
 Total Load: 48.8 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
216 LED	33,000	>42,000	>42,000
96 LED	61,000	>72,000	>72,000

Reported per TM-21-11. See cutsheets for details.

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 +/- 5% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen.

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SCALE IN FEET 1 : 120



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