

Turlock Unified School District

Addendum to John H. Pitman Environmental Impact Report for the Football/Soccer Field and Track Lighting Project

February 13, 2023

Introduction

The Turlock Unified School District (District) is proposing to add field lighting to its existing football/soccer field and track located in the north central portion of the John H. Pitman High School campus. The campus encompasses approximately 50 acres located on the north side of W. Christoffersen Parkway between Mountain View Road and N. Kilroy Road in the City of Turlock, California. The District is proposing the lighting project as a result of legislation that required the school day to start later for middle and high schools as of the 2022-23 school year (Senate Bill 328). This has resulted in a need for field lighting to allow for later activities.

The proposed lighting project must be reviewed for compliance with the California Environmental Quality Act (CEQA). An Environmental Impact Report (EIR) for the development and operation of the John H. Pitman High school campus was prepared and certified by the District Board of Trustees on December 6, 1994.¹ An addendum to the EIR was adopted on December 8, 1998 to address the downsizing of the project as compared to was addressed in the original EIR. Both the original EIR and the 1998 addendum project descriptions provided for the campus to have lighted athletic fields and such lighting was considered and addressed in the EIR.

State CEQA Guidelines Section 15164 allows for the preparation of an Addendum to an adopted EIR to address minor changes to a project that do not meet the criteria for the preparation of a subsequent EIR or Negative Declaration as specified in Section 15162. This addendum will demonstrate that the proposed lighting project is a minor change and that these criteria are not applicable.

Project Description

The Pitman High School football/soccer field and track are located in the north central portion of the high school campus approximately 500 feet east of Mountain View Road and 400 feet west of N. Kilroy Road. Other athletic field areas are located west, north and east of the project site, including the baseball fields, softball fields, tennis courts, and basketball courts. To the south of the project site are academic buildings and the pool complex.

The project would include the installation of four 100-foot-tall poles with LED lighting equipment, which would be installed at four different points around the perimeter of the existing field (two on the east side of the field, and two on the west side of the field). Each pole would be equipped with 13 total pieces of lighting equipment (two mounted at 27 feet, two mounted at 70 feet, and nine mounted at 100 feet). The project would also include necessary underground wiring and electrical connections.

¹ The name of the EIR at the time of certification was New Turlock High School Site Acquisition and Development Project (John H. Pitman High School). For the purpose of succinctness and ease of use, the EIR is referred to in this Addendum as the John H. Pitman High School EIR or Pitman High School EIR.

Analysis

Under Section 15164(a) of the State CEQA Guidelines, an addendum to a previously certified EIR shall be prepared by a lead or responsible agency if some changes or additions are necessary but none of the conditions described in Section 15162 requiring the preparation of a subsequent EIR or negative declaration are applicable. Each of the conditions listed under Section 15162 is listed below with an analysis of whether the condition is applicable to the project.

1. *Substantial changes are proposed in the project that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.*

The project will provide lighting to an existing football/soccer field and track on the Pitman High School campus and will not otherwise alter the design or development of the campus. The Pitman High School EIR indicated that the campus would have lighted athletic facilities and included the following mitigation measures related to illumination and glare:

Lighting of athletic facilities shall be designed to generate the least amount of illumination necessary to adequately light such facilities. Lighting shall be oriented to minimize any impacts upon existing and planned residential areas.

The City of Turlock should encourage or require future residential developments to take into account the impact of light and glare generated by lighted athletic facilities. This impact can be reduced by such measures as orienting homes so that windows are directed away from the athletic facilities and using landscaping to protect exposed windows.

Lighting technology has advanced greatly in the time since the EIR was prepared. The lighting project will utilize state-of-the-art LED lighting designed to provide extremely focused and directional illumination of the football/soccer field and track while avoiding significant light trespass or glare in relation to adjacent properties, as well as minimizing any uplighting that can contribute to sky glow. The analysis will demonstrate that the lighting project will not generate higher levels of illumination than would normally be expected at adjacent residential locations and that the lighting will be designed to avoid light trespass and glare into nearby light sensitive areas.

The photometric information that was prepared for the project (Appendix A) predicts the level of illumination on the field and in adjacent areas and shows that there will be no light trespass and negligible glare from the proposed field lighting in relation to nearby residential properties on N. Kilroy Road and Mountain View Road.

For determining the amount of light and glare that would be considered potentially significant, this analysis utilizes the thresholds associated with Lighting Zone 3 ("LZ3") as identified in the California Energy Code and the Illuminating Engineering Society of North America (IESNA) Lighting Handbook. Urban areas (as defined by the U.S. Census) are generally classified as Lighting Zone 3 (LZ3). The project is located within the City of Turlock, which is defined as an urban area, and the site-specific characteristics are consistent with that of a typical urban setting. The light trespass illuminance limits on adjacent properties in LZ3 is 8 lux (equivalent to approximately 0.74 footcandles ("fc")). The potential for glare can be evaluated by predicting the intensity of a light source in candela (cd) at various locations in relation to the light source. The criteria used with respect to being predictive for glare in LZ3 is 10,000 cd.

Per the photometric information in Appendix A, the horizontal footcandles to be provided on the football/soccer field will range from 36 to 45 fc on the grass-turfed field area, and from 2 to 38 fc on the running track surrounding the field. In contrast, the projected footcandle values on the west side of N. Kilroy Avenue and the east side of Mountain View Road adjacent to the single family residences are zero. Or in other words, no light trespass would occur at the residential locations adjacent to N. Kilroy Road and Mountain View Road. The candela values at the edge of the adjacent residential areas are projected to range from 0 to 2 cd adjacent to N. Kilroy Road and from 0 to 1 cd adjacent to Mountain View Road, substantially below the 10,000 candela criteria.

Based on the above, and consistent with the mitigation measure, lighting of athletic facilities will be designed to generate the least amount of illumination necessary to adequately light such facilities and oriented to minimize any impacts upon existing and planned residential areas.

The type of activities on the project site will not change based on the provision of lighting, but they will extend later into the evening. The District will operate the lights as needed to accommodate activities occurring on the project site and will cease lighting operations as soon as possible. The field lighting will not remain on later than 10:00 p.m. and in most instances, the activities will cease substantially before 10:00 p.m. Potential impacts related to noise, traffic and air quality will not increase since the type and intensity of activities on the fields will remain essentially the same. The fact that activities would occur later in the evening would not be an issue with respect to noise standards unless the activities were to extend past 10:00 p.m.

Regarding the second mitigation measure, the City of Turlock, in its approval of residential development adjacent to the high school campus after the high school was built, allowed the homes to be facing the streets and the campus athletic fields, which would not be conducive to reducing the potential impact of light and glare from lighted athletic facilities. However, this mitigation measure was not under the control of the District and the lighting data in Appendix A shows that there would be no light trespass and almost no glare in relation to nearby residences.

Based on the above analysis, the impacts of the lighting project are not substantial and will not require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

2. *Substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.*

When Pitman High School was originally proposed and approved, the area around the site was largely agricultural in nature with some rural residences. Pitman High School opened its doors in August of 2002, with the construction of nearby homes following from 2003-2006. The EIR recognized that urban residential growth would occur around the site after the project was developed and thus endeavored to address potential compatibility issues in relation to future nearby residential uses. The mitigation measures relating to lighting were included in the EIR with this in mind. The analysis under No. 1, above, demonstrates that the proposed lighting project will not create any new significant environmental effects or a substantial increase in previously identified environmental effects.

3. *New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:*

- a. *The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
- b. *Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
- c. *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
- d. *Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

The proposed project will involve the installation and operation of outdoor lighting at an existing football/soccer field and track, and will not otherwise alter the design or development of the Pitman High School campus. There is no new information of substantial importance known to the District related to the project that will result in additional significant effects, any previously examined effects that will be substantially more severe; or infeasible mitigation measures or alternatives that are now feasible or considerably different from those analyzed in the previous EIR.

Conclusion

Based on the foregoing analysis, only minor changes or additions to the previous EIR are necessary to address the proposed lighting project and none of the conditions described in State CEQA Guidelines Section 15162 calling for a subsequent EIR or Negative Declaration are applicable. Therefore, no additional CEQA analysis is required beyond this Addendum.

Appendix A

Photometric Data

John H. Pitman High School Football Stadium

Turlock, CA

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
F1-F4	100'	100'	9	TLC-LED-1500	12.87 kW	A
		27'	2	TLC-BT-575	1.15 kW	A
		70'	2	TLC-RGBW	1.28 kW	B
4			52		61.20 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football	56.08 kW	44
B	Egress	5.12 kW	8

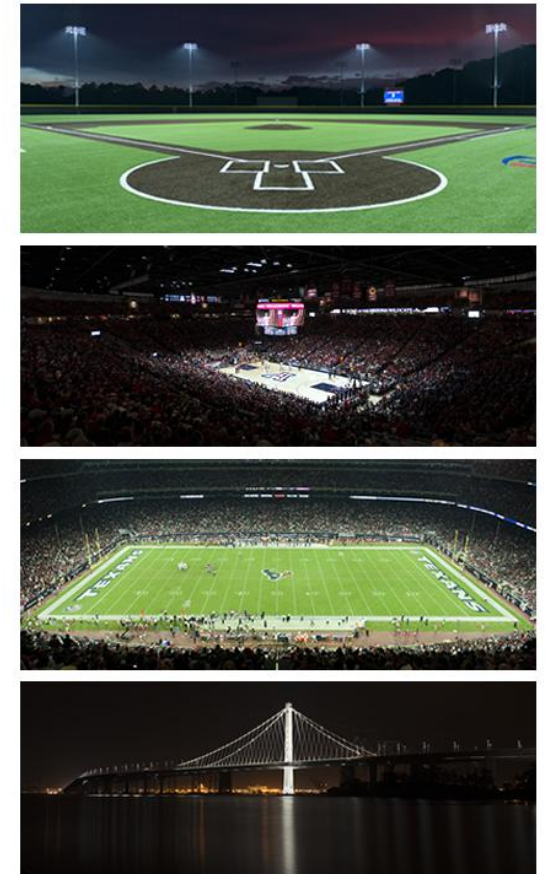
Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	36
TLC-RGBW	LED 5700K - 75 CRI	640W	28,500	>120,000	>120,000	>120,000	8
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	8

Single Luminaire Amperage Draw Chart								
Driver (.90 min power factor)	Max Line Amperage Per Luminaire							
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)	
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7	
TLC-RGBW	4.5	4.3	3.8	3.3	2.7	1.9	1.9	
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5	

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Away Bleachers - RGBW	Horizontal Illuminance	6.10	2	13	7.08	3.05	B	8
Football	Horizontal Illuminance	42.1	36	45	1.26	1.17	A	44
Home Bleachers - RGBW	Horizontal Illuminance	4.35	0	9	69.62		B	8
Kilroy Rd Spill	Horizontal	0	0	0	0.00		A	44
Kilroy Rd Spill	Max Candela (by Fixture)	0.54	0	3.35	0.00		A	44
Kilroy Rd Spill	Max Vertical Illuminance Metric	0	0	0	0.00		A	44
Mountain View Rd Spill	Horizontal	0	0	0	0.00		A	44
Mountain View Rd Spill	Max Candela (by Fixture)	0.21	0	1.48	0.00		A	44
Mountain View Rd Spill	Max Vertical Illuminance Metric	0	0	0	0.00		A	44
Spill	Horizontal	0	0	0	0.00		C	0
Spill	Max Candela (by Fixture)	0	0	0	0.00		C	0
Track	Horizontal Illuminance	20.4	2	38	18.29	10.19	A	44

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EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	-	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8

John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY	
Name:	Football
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

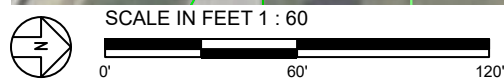
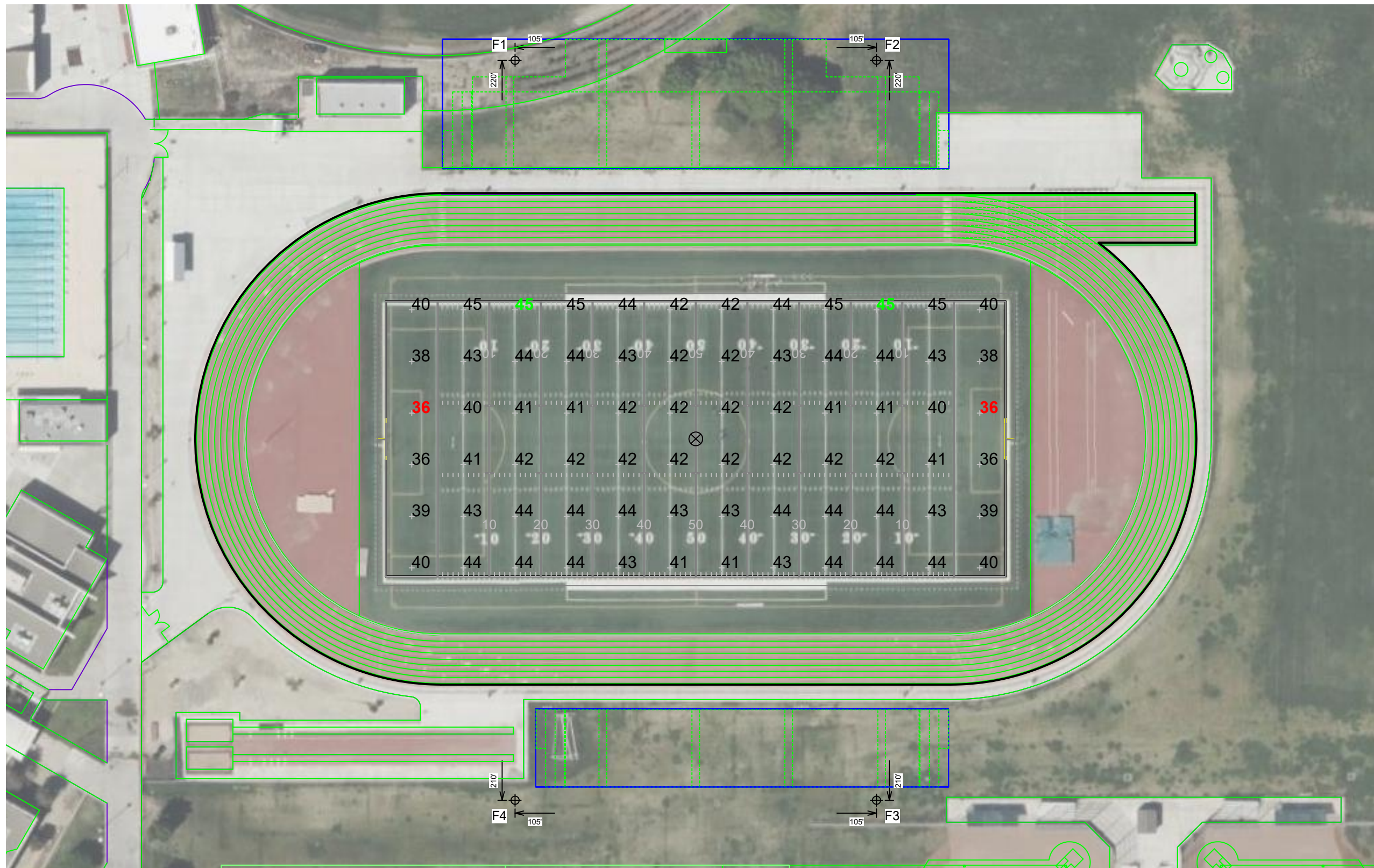
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	40
Scan Average:	42.06
Maximum:	45
Minimum:	36
Avg / Min:	1.17
Guaranteed Max / Min:	2
Max / Min:	1.26
UG (adjacent pts):	1.13
CU:	0.44
No. of Points:	72
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

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



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



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EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8

GRID SUMMARY	
Name:	Track
Size:	Irregular
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

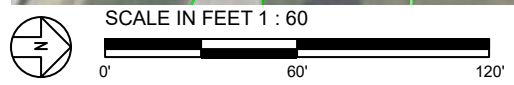
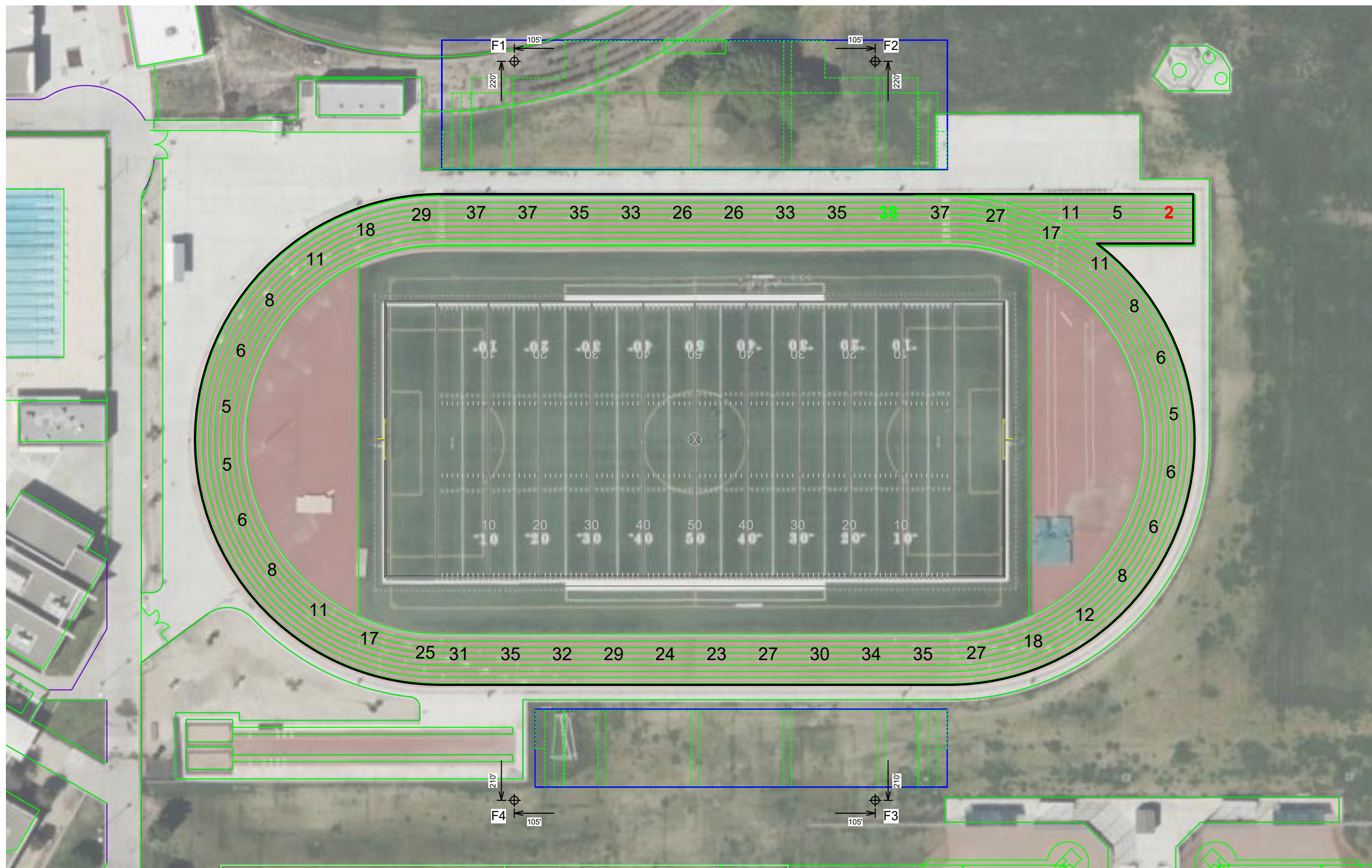
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	20.37
Maximum:	38
Minimum:	2
Avg / Min:	9.88
Max / Min:	18.29
UG (adjacent pts):	0.00
CU:	0.14
No. of Points:	47
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

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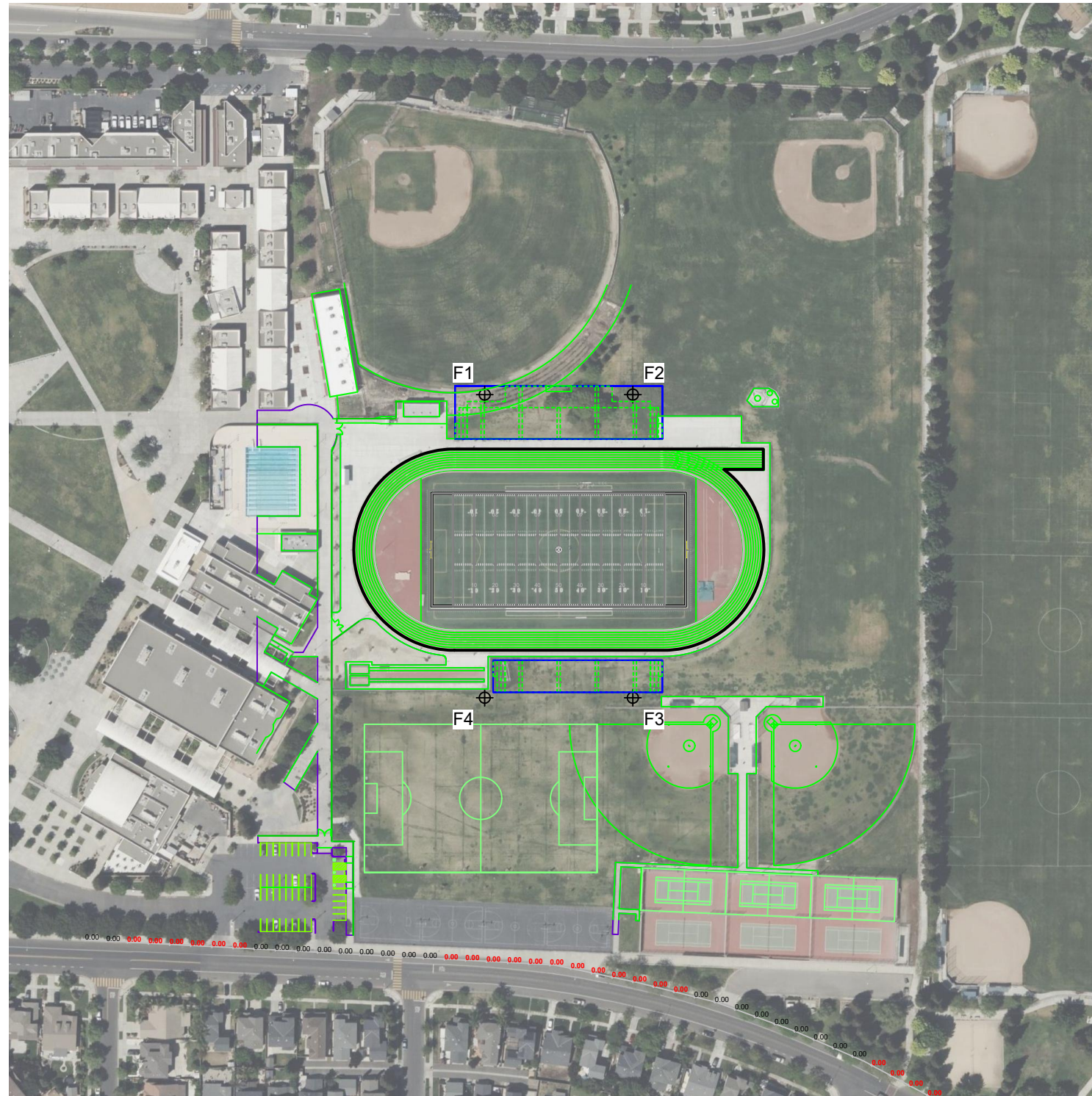
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8



John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY	
Name:	Kilroy Rd Spill
Spacing:	30.0'
Height:	3.0' above grade

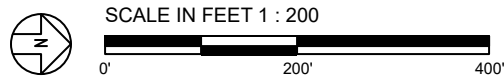
ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	42
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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



ENGINEERED DESIGN By: Bryce Miles · File #147338E · 01-Feb-23

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

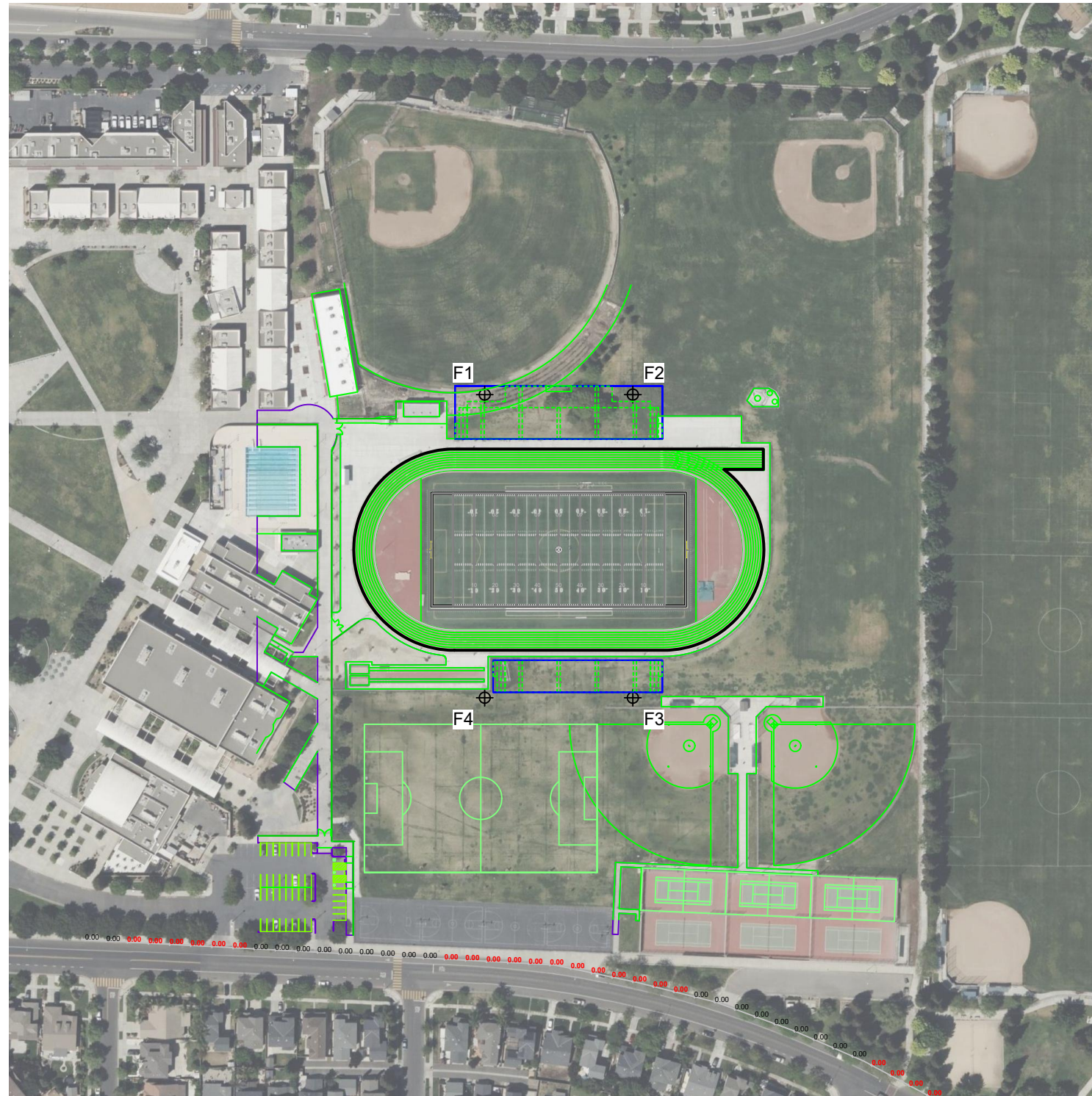


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8



John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY	
Name:	Kilroy Rd Spill
Spacing:	30.0'
Height:	3.0' above grade

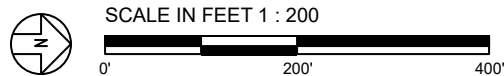
ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Entire Grid	0.0000
Scan Average:	0.00
Maximum:	0.00
Minimum:	0.00
No. of Points:	42
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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



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



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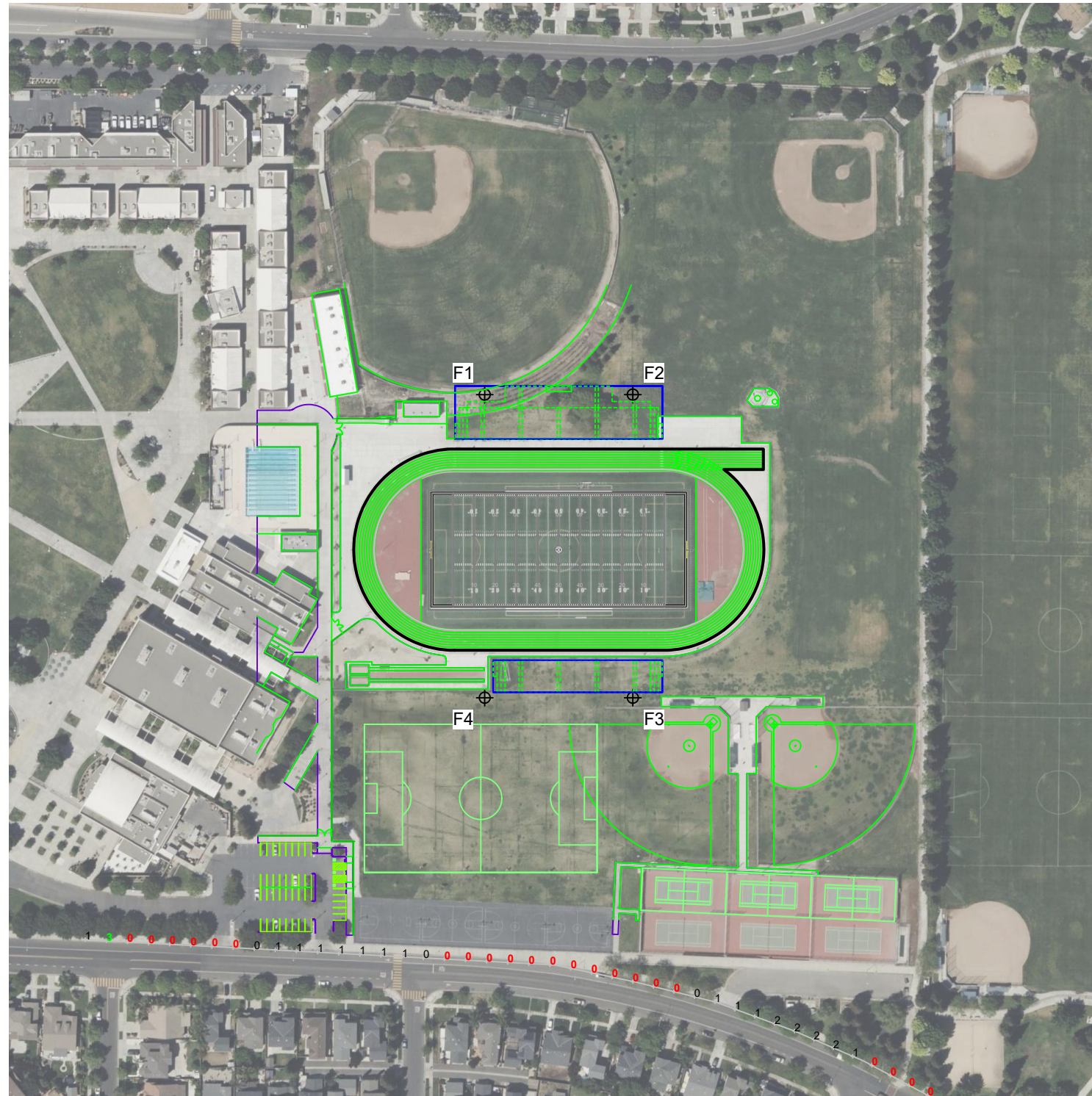
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8

John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY	
Name:	Kilroy Rd Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 0.5369
Maximum:	3.35
Minimum:	0.00
No. of Points:	42
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

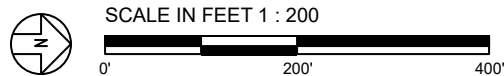


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Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8

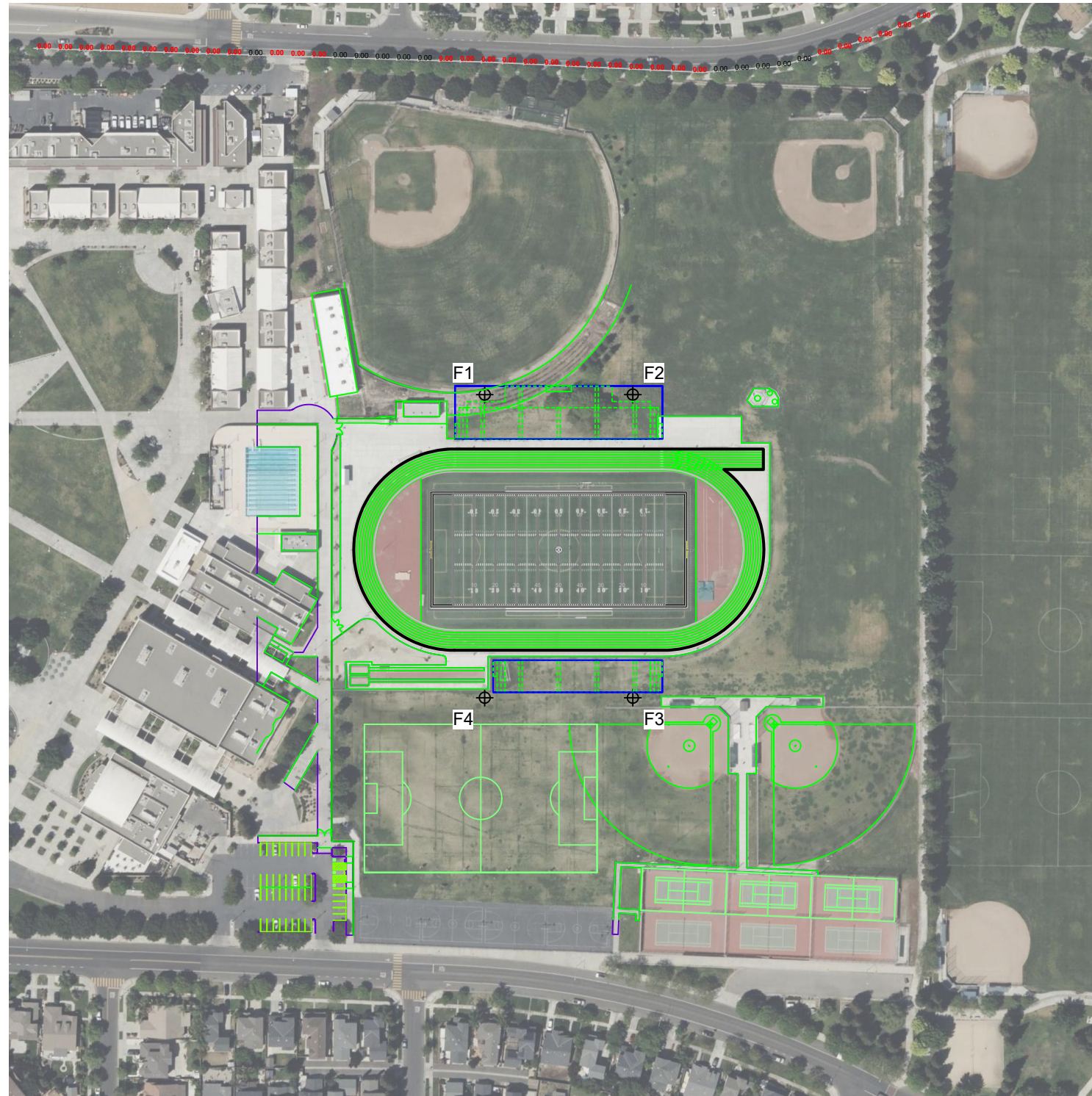
John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY

Name: Mountain View Rd Spill
Spacing: 30.0'
Height: 3.0' above grade

ILLUMINATION SUMMARY

HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	43
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

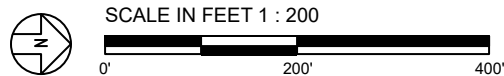


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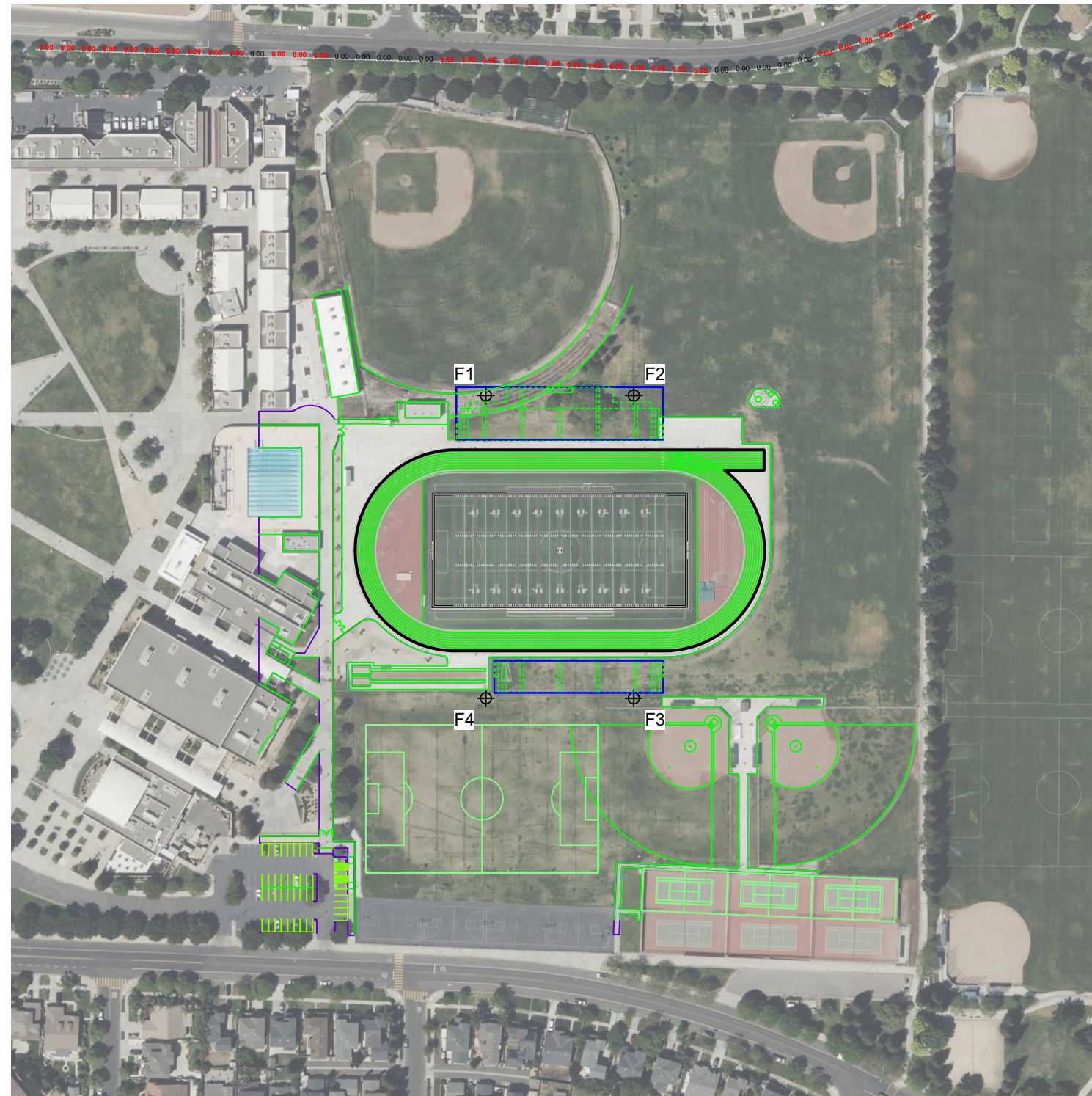
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8

John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY	
Name:	Mountain View Rd Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	43
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

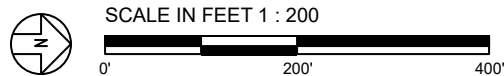


Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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



ENGINEERED DESIGN By: Bryce Miles · File #147338E · 01-Feb-23

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



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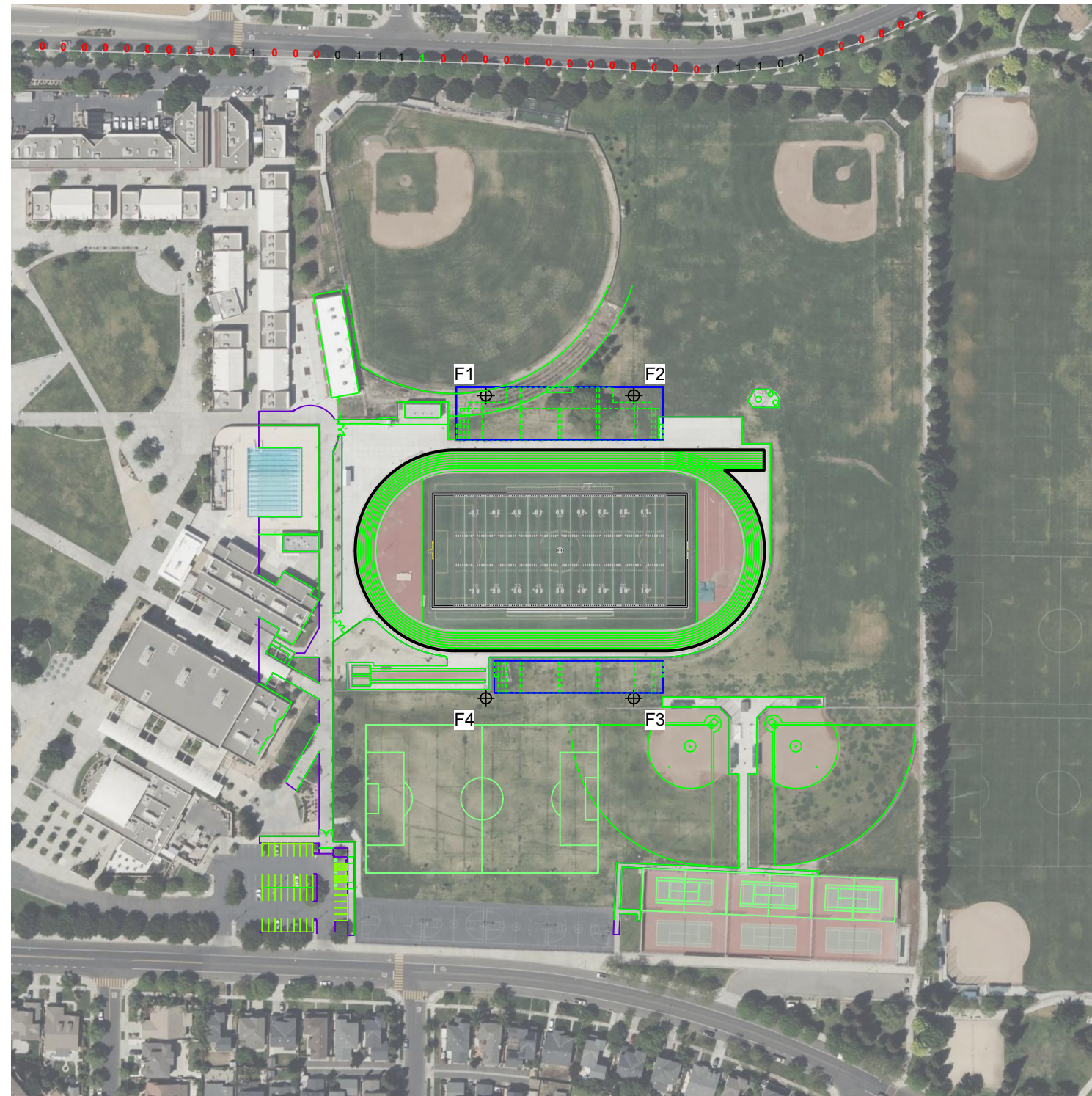
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	100'	0'	27'	TLC-BT-575	2	2	0
				70'	TLC-RGBW	2	0	2
				100'	TLC-LED-1500	9	9	0
4	TOTALS					52	44	8

John H. Pitman High School Football Stadium
Turlock, CA

GRID SUMMARY	
Name:	Mountain View Rd Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 0.2147
Maximum:	1.48
Minimum:	0.00
No. of Points:	43
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	56.08 kW

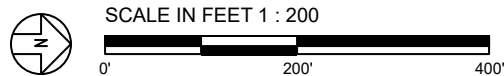


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ILLUMINATION SUMMARY