Clovis Unified School District

Addendum to Buchanan Education Center EIR for the Field Lighting Projects at Buchanan High School and Alta Sierra Intermediate School

September 26, 2022

Introduction

The Clovis Unified School District (District) is proposing to add field lighting to two existing athletic fields at the Buchanan Educational Center, which encompasses 155 acres bounded by Nees, Minnewawa, Peach and Teague Avenues in the City of Clovis, California. The proposed athletic field lighting projects consist of: (1) the Buchanan High School soccer field, located south of the Buchanan High School swim complex and west of the Buchanan baseball stadium, and (2) the Alta Sierra Intermediate School football/track field, located on the east side of Peach Avenue, south of the east-west campus access drive. The District is proposing the lighting projects 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 at the fields.

The proposed lighting projects must be reviewed for compliance with the California Environmental Quality Act (CEQA). An Environmental Impact Report (EIR) for the approval and development of the Buchanan Educational Center was prepared and certified by the District Governing Board in 1986.[1] The EIR provided for the campuses to have lighted athletic fields; however, lighting at the proposed locations was not specifically addressed.

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 projects are minor changes and that these criteria are not applicable.

Project Description

Buchanan High School (BHS) Soccer Field Lighting

The existing BHS soccer field proposed to be lighted is located south of the BHS swim complex and west of the BHS baseball stadium along the south side of the east-west access road that extends through the middle of the educational center. The field is turfed and fenced with a chain link fence that includes green screening slats.

The project would include the installation of four 80-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 north side of the field, and two on the south side of the field). Each pole would be equipped with eight total pieces of lighting equipment mounted at 80 feet in height. The project would also include necessary underground wiring and electrical connections.

[1] The name of the EIR at the time of certification was Clovis Unified School District High School, Intermediate School and Elementary School Sites Acquisition and Development Project. The EIR was completed prior to the naming of the educational center. For the purpose of succinctness and ease of use, it is referred to in this Addendum as the Buchanan Educational Center EIR.

Alta Sierra Intermediate School Football/Track Field Lighting

The Alta Sierra Intermediate School football/track field is located on the east side of Peach Avenue, south of the east-west campus access drive and north of the Clovis Unified Medical Therapy Unit.

The project would include the installation of four 80-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 ten total pieces of lighting equipment (two mounted at 15.5 feet, one mounted at 60 feet, and seven mounted at 80 feet). The project would also include necessary underground wiring and electrical connections.

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 soccer field on the BHS campus and an existing football/track field at Alta Sierra Intermediate School and will not otherwise alter the design or development of the educational center site. The Buchanan Educational Center (BEC) EIR indicated that the schools on the site would have lighted athletic facilities and playfields and included the following mitigation measures related to illumination and glare:

> Facilities that may generate higher levels of illumination than would normally be expected in a residential area, shall, in so far as possible, be located away from adjoining light sensitive areas. These facilities include sports stadiums, tennis courts and parking lots.
>
> Light fixtures shall be located and designed to avoid spillover and direct glare into any nearby light sensitive areas.

Lighting technology has advanced greatly in the time since the EIR was prepared. The lighting projects will utilize state-of-the-art LED lighting designed to provide extremely focused and directional illumination of the fields 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 spillover and direct glare into nearby light sensitive areas.

The photometric information that was prepared for the projects (Appendix A to this Addendum) predicts the level of illumination on the field and in adjacent areas and shows that there will be no significant light trespass or glare from the proposed Alta Sierra field lighting in relation to nearby residential properties. (Note: The Buchanan soccer field is at an interior campus location that would not affect offsite land uses, thus no offsite information as to footcandle or candela values is necessary or included in Appendix A.)

For determining the amounts 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. Per the California Energy Code, 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 Clovis, 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 at the athletic field will range from 32 to 45 fc on the grass-turfed field area, 1 to 29 fc on the running track surrounding the field, and 5.3 to 13.0 fc on the bleacher areas. In contrast, the footcandles at the edge of the adjacent residential areas on the west side of Peach Avenue are projected to range from 0.00 fc to 0.04 fc, substantially below the 0.74 footcandle criteria. The candela values at the edge of the adjacent residential areas on the west side of Peach Avenue are projected to range from 38 cd to 1,599 cd, substantially below the 10,000 candela criteria.

Further, It is noted that there are many existing large trees along both sides of Peach Avenue that would substantially block the view of the lighting from the nearby residential yards.

The type of activities on the fields will remain the same as they have been in the past, but they will extend later into the evening. The District will operate the lights as needed to accommodate activities occurring on the fields and will cease lighting operations as soon as possible. In no case will any field lighting 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 they were to extend past 10:00 p.m.

Based on the above analysis, the project changes proposed are not substantial and will not require changes or additions 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 the Buchanan Center was proposed, the area around the site was largely agricultural in nature with some rural residences. Alta Sierra Intermediate School opened its doors in 1991, followed by Buchanan High School in 1993 and Garfield Elementary School in 1996. The construction of urban residential uses followed, with the earliest in the mid to late 1990s. The homes west of the Alta Sierra football/track field were constructed in approximately 1998 and the field was established prior to residential development occurring nearby. 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 such as noise, traffic, and lighting impacts in relation to future nearby residential uses. The mitigation measures in relation to lighting were included in the EIR with this in mind. The analysis under No. 1, above, demonstrates that the proposed lighting projects are consistent with the

mitigation measures, and 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 of a limited amount of additional outdoor lighting at an existing educational center site, which will not otherwise alter the design or development of the educational center site. 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 field lighting improvements 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 Information for Alta Sierra Football/Track Field and Buchanan Soccer Field Lighting Projects

Clovis Unified School District Multi Fields

Clovis,CA

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
F1-F4	80'	80'	7	TLC-LED-1500	10.01 kW	D
		16'	2	TLC-BT-575	1.15 kW	D
		60'	1	TLC-LED-400	0.40 kW	E
4			***40***		***46.24 kW***	

Circuit Summary

Circuit	Description	Load	Fixture Qty
D	Alta Sierra Football	44.64 kW	36
E	Alta Sierra Egress	1.6 kW	4

Fixture Type Summary

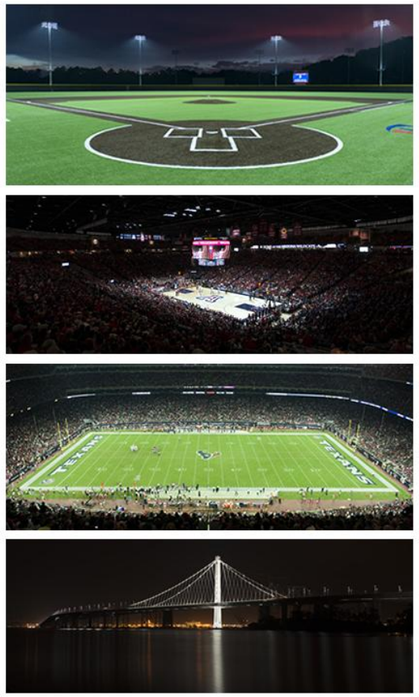
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	28
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	8
TLC-LED-400	LED 5700K - 75 CRI	400W	46,500	>120,000	>120,000	>120,000	4

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Alta Sierra East Bleachers	Horizontal Illuminance	8.01	5	13	2.47	1.60	E	4
Alta Sierra Football	Horizontal Illuminance	40.7	32	45	1.42	1.27	D	36
Alta Sierra Property Spill	Horizontal	0.01	0	0.04	0.00		D,E	40
Alta Sierra Property Spill	Max Candela (by Fixture)	547	38.4	1599	41.61	14.23	D,E	40
Alta Sierra Property Spill	Max Vertical Illuminance Metric	0.02	0	0.08	0.00		D,E	40
Alta Sierra Track	Horizontal Illuminance	11.8	1	29	26.77	11.79	D	36
Alta Sierra West Bleachers	Horizontal Illuminance	8.90	6	13	2.13	1.48	E	4

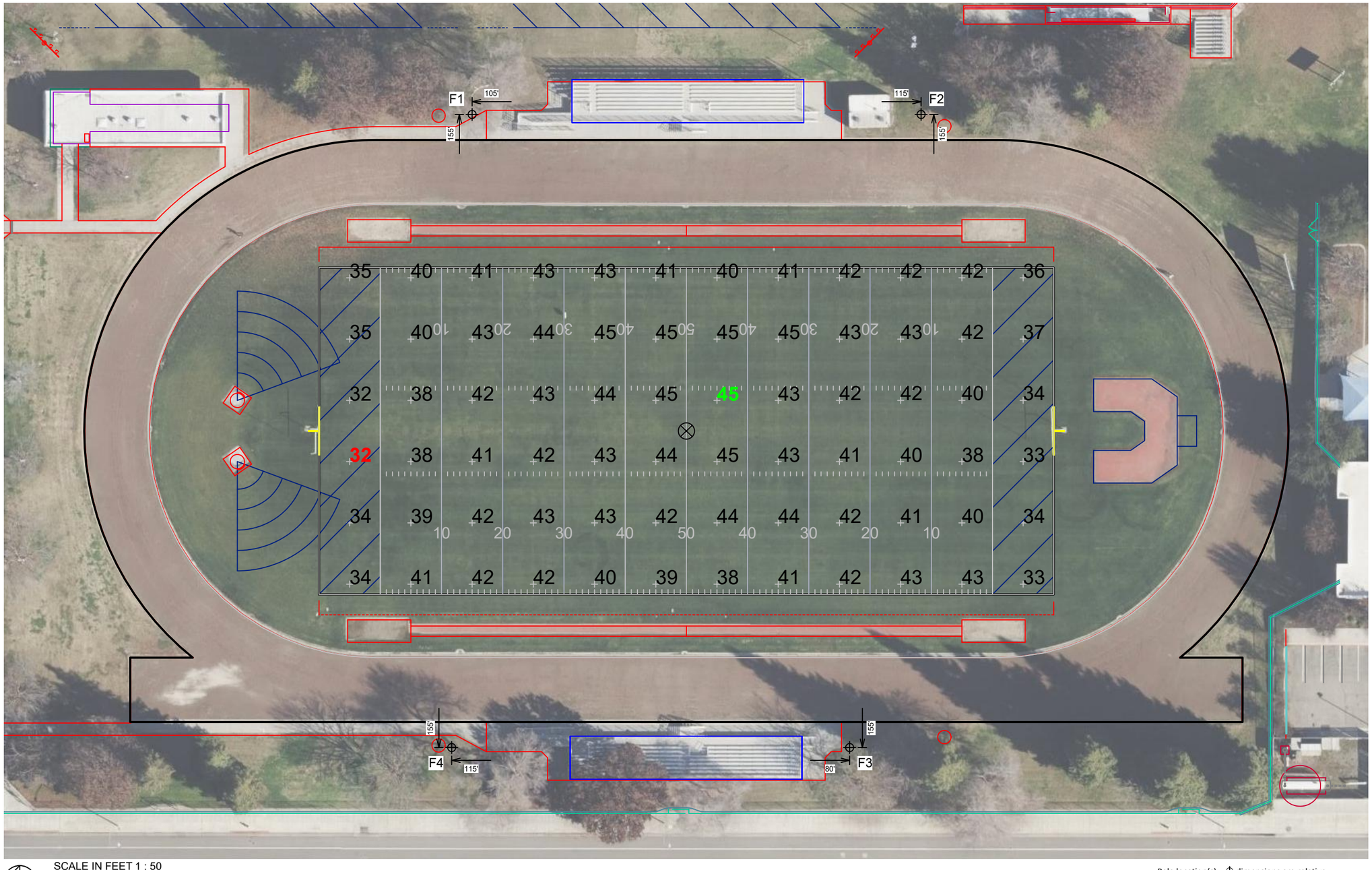
From Hometown to Professional



We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-400	1	0	1
				80'	TLC-LED-1500	7	7	0
4	TOTALS					40	36	4



SCALE IN FEET 1 : 50

0' 50' 100'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra 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:	40.73
Maximum:	45
Minimum:	32
Avg / Min:	1.29
Guaranteed Max / Min:	**2**
Max / Min:	1.42
UG (adjacent pts):	1.28
CU:	0.56
No. of Points:	72

LUMINAIRE INFORMATION

Applied Circuits:	D
No. of Luminaires:	**36**
Total Load:	44.64 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.

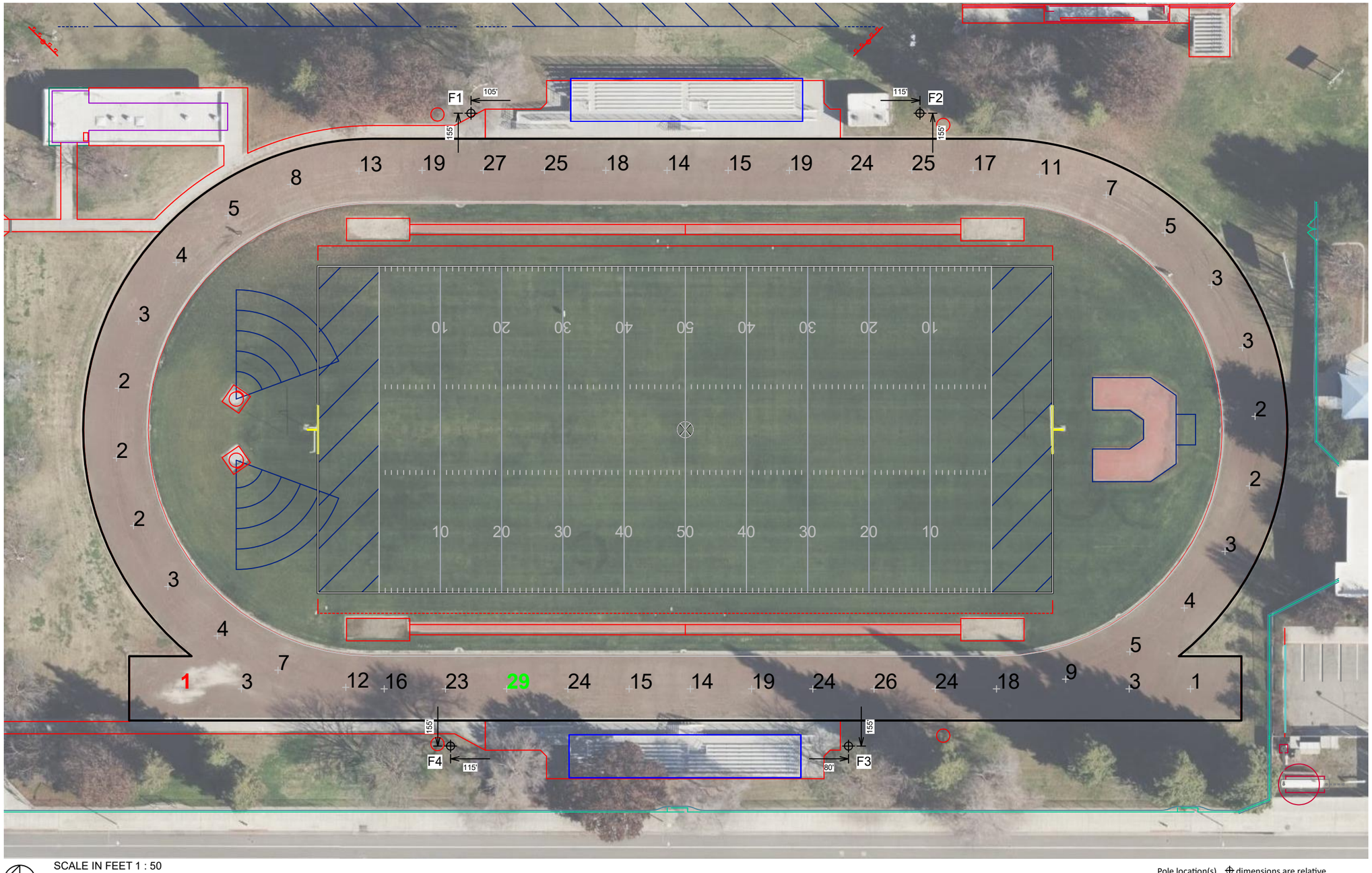
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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

musco Lighting
We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-400	1	0	1
				80'	TLC-LED-1500	7	7	0
4	TOTALS					40	36	4



SCALE IN FEET 1 : 50

0' 50' 100'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra Track**
Size:	Irregular
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**11.79**
Maximum:	29
Minimum:	1
Avg / Min:	10.76
Max / Min:	**26.77**
UG (adjacent pts):	0.00
CU:	0.11
No. of Points:	48

LUMINAIRE INFORMATION

Applied Circuits:	D
No. of Luminaires:	**36**
Total Load:	44.64 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.

We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	0	2
				60'	TLC-LED-400	1	1	0
				80'	TLC-LED-1500	7	0	7
4	TOTALS					40	4	36

SCALE IN FEET 1 : 30

0' 30' 60'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra West Bleachers**
Size:	Irregular
Spacing:	10.0' x 10.0'
Height:	11.1' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**8.90**
Maximum:	13
Minimum:	6
Avg / Min:	1.51
Max / Min:	**2.13**
UG (adjacent pts):	0.00
CU:	0.11
No. of Points:	22

LUMINAIRE INFORMATION

Applied Circuits:	E
No. of Luminaires:	**4**
Total Load:	1.6 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.

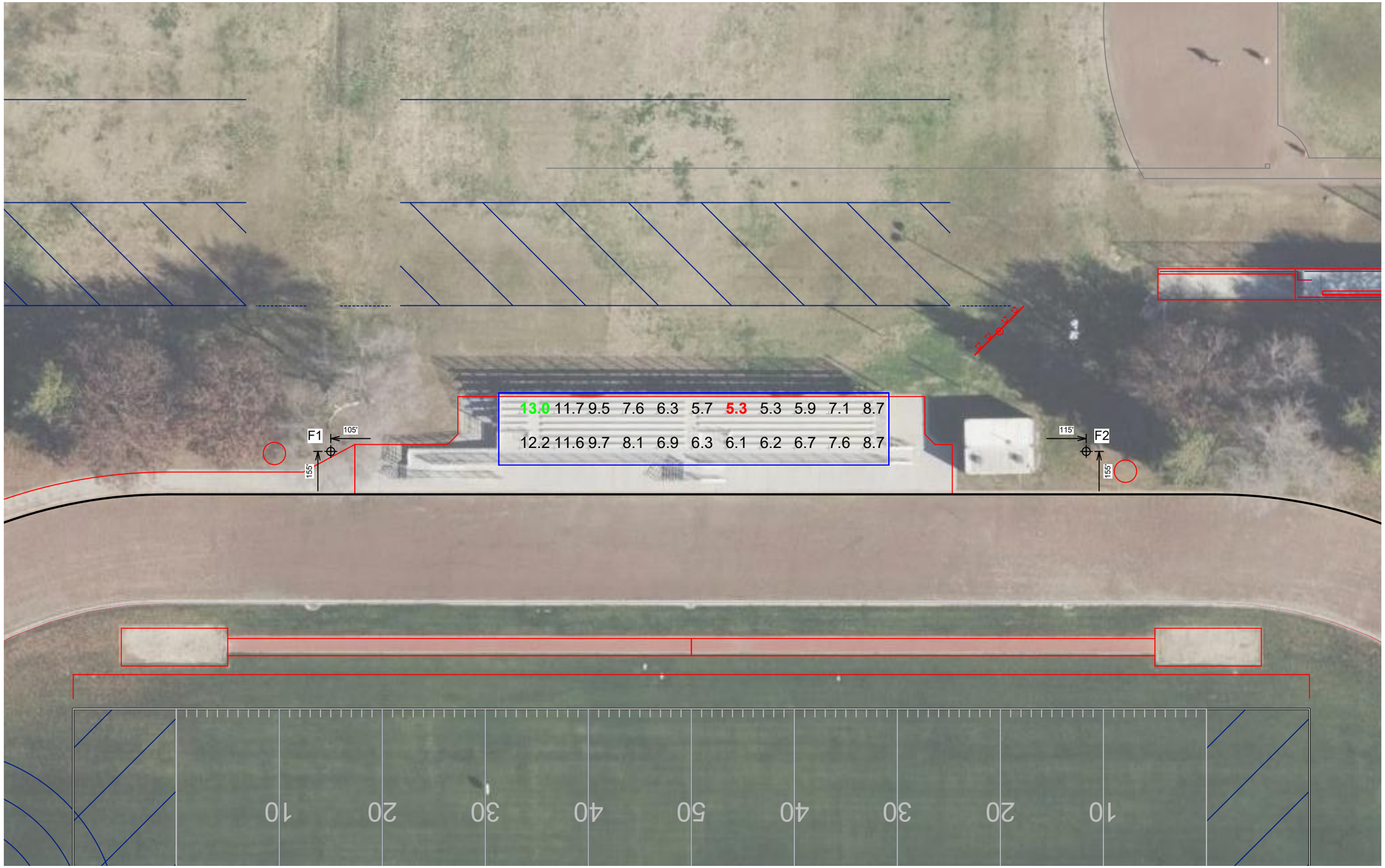
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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

We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	0	2
				60'	TLC-LED-400	1	1	0
				80'	TLC-LED-1500	7	0	7
4	TOTALS					40	4	36



SCALE IN FEET 1 : 30

0' 30' 60'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra East Bleachers**
Size:	Irregular
Spacing:	10.0' x 10.0'
Height:	8.4' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**8.01**
Maximum:	13
Minimum:	5
Avg / Min:	1.52
Max / Min:	**2.47**
UG (adjacent pts):	0.00
CU:	0.10
No. of Points:	22

LUMINAIRE INFORMATION

Applied Circuits:	E
No. of Luminaires:	**4**
Total Load:	1.6 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.

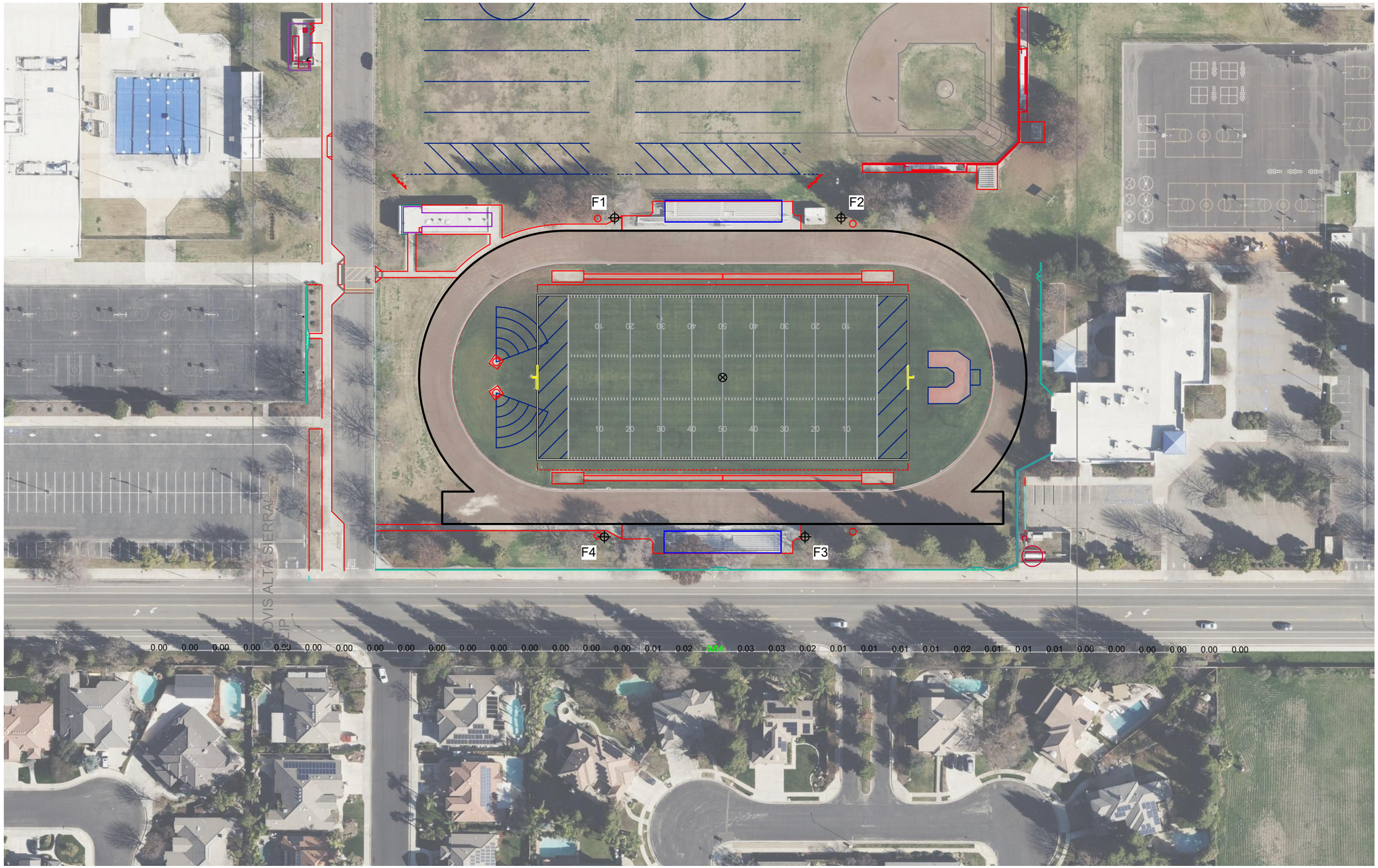
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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

We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-400	1	1	0
				80'	TLC-LED-1500	7	7	0
4	TOTALS					40	40	0



SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra Property Spill**
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	0.0067
Maximum:	0.04
Minimum:	0.00
No. of Points:	36

LUMINAIRE INFORMATION

Applied Circuits:	D, E
No. of Luminaires:	**40**
Total Load:	46.24 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.

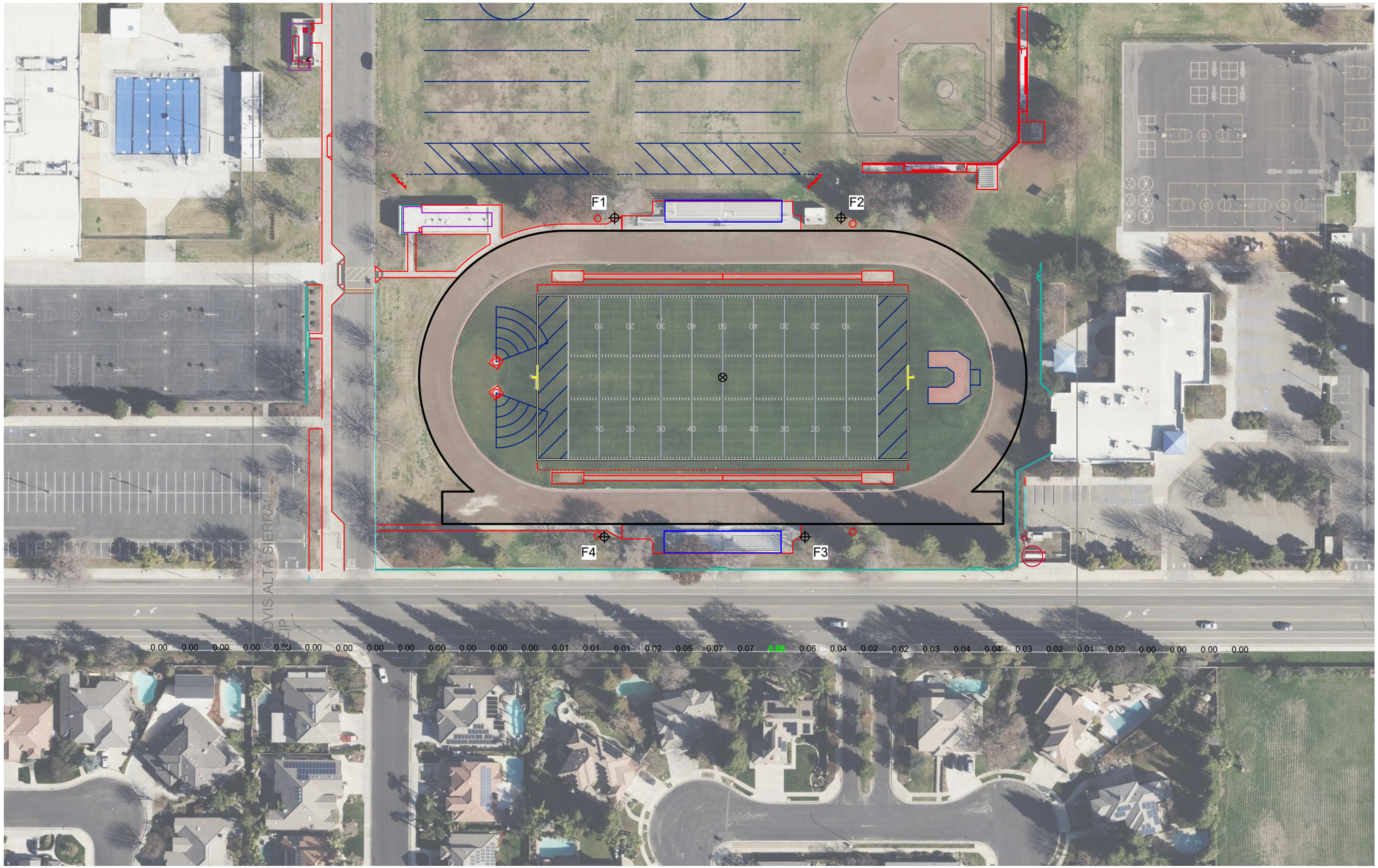
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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

We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-400	1	1	0
				80'	TLC-LED-1500	7	7	0
4	TOTALS					40	40	0



SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra Property Spill**
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAX VERTICAL FOOTCANDLES

	Entire Grid
Scan Average:	0.0181
Maximum:	0.08
Minimum:	0.00
No. of Points:	36

LUMINAIRE INFORMATION

Applied Circuits:	D, E
No. of Luminaires:	**40**
Total Load:	46.24 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.

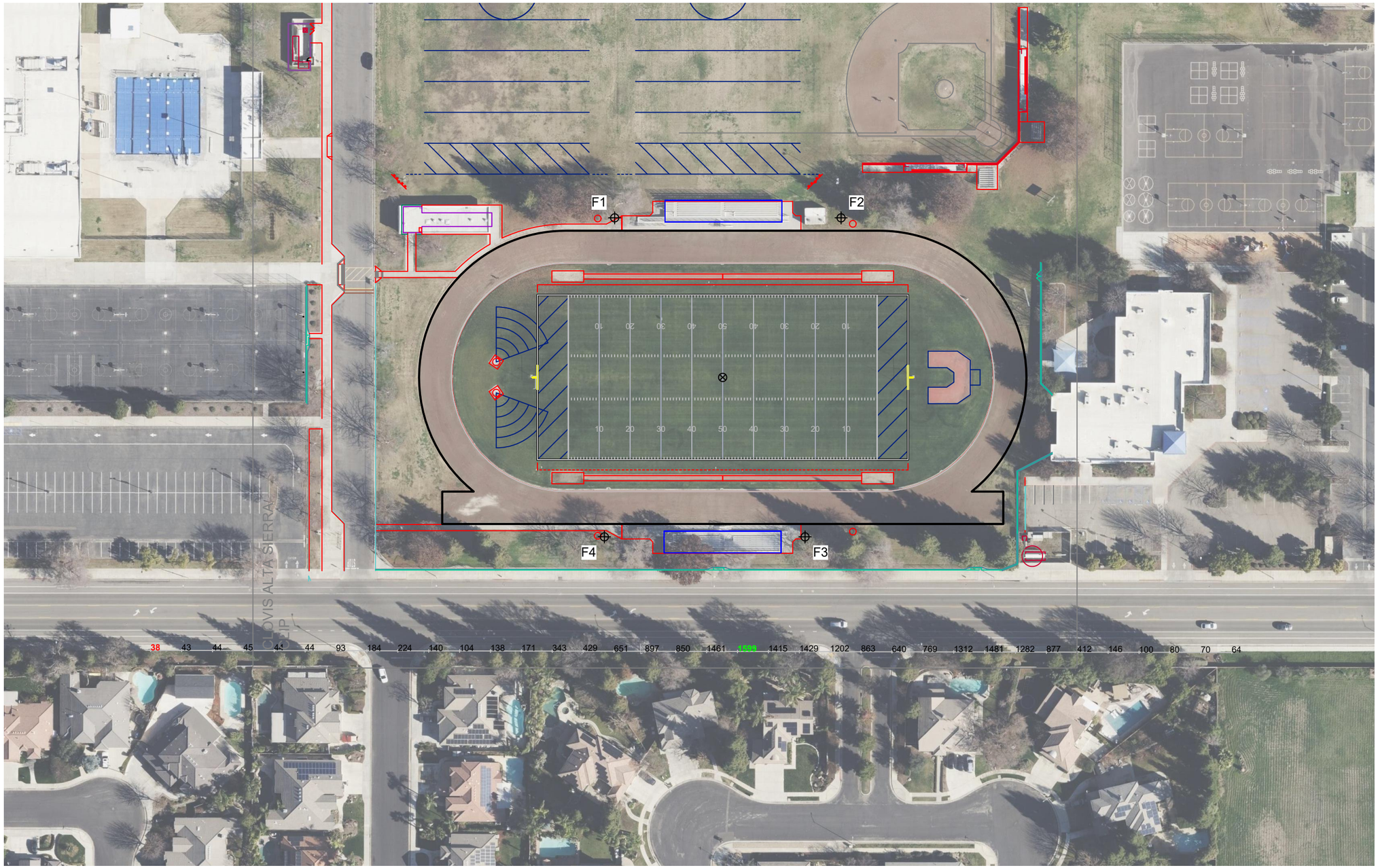
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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

We Make It Happen.

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	80'	-	15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-400	1	1	0
				80'	TLC-LED-1500	7	7	0
4	TOTALS					40	40	0



SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Alta Sierra Property Spill**
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

CANDELA (PER FIXTURE)

	Entire Grid
Scan Average:	546.8061
Maximum:	1598.72
Minimum:	38.42
No. of Points:	36

LUMINAIRE INFORMATION

Applied Circuits:	D, E
No. of Luminaires:	**40**
Total Load:	46.24 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.

We Make It Happen.

SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisAltaSierraFootball_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

EQUIPMENT LAYOUT

INCLUDES:
· Alta Sierra Football
· Alta Sierra Track

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.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
4	F1-F4	80'	-	15.5'	TLC-BT-575	2
				60'	TLC-LED-400	1
				80'	TLC-LED-1500	7
4	TOTALS					40

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	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-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-400	2.3	2.2	2.0	1.7	1.4	1.3	1.0

We Make It Happen.

Clovis Unified School District Multi Fields

Clovis,CA

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1-S2	80'	80'	7	TLC-LED-1500	10.01 kW	C
		80'	1	TLC-LED-900	0.89 kW	C
S3-S4	80'	80'	8	TLC-LED-1500	11.44 kW	C
4			***32***		***44.68 kW***	

Circuit Summary

Circuit	Description	Load	Fixture Qty
C	Buchanan Soccer	44.68 kW	32

Fixture Type Summary

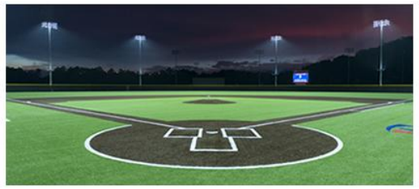
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	2
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	30

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Buchanan Soccer	Horizontal Illuminance	40.6	30	47	1.55	1.35	C	32

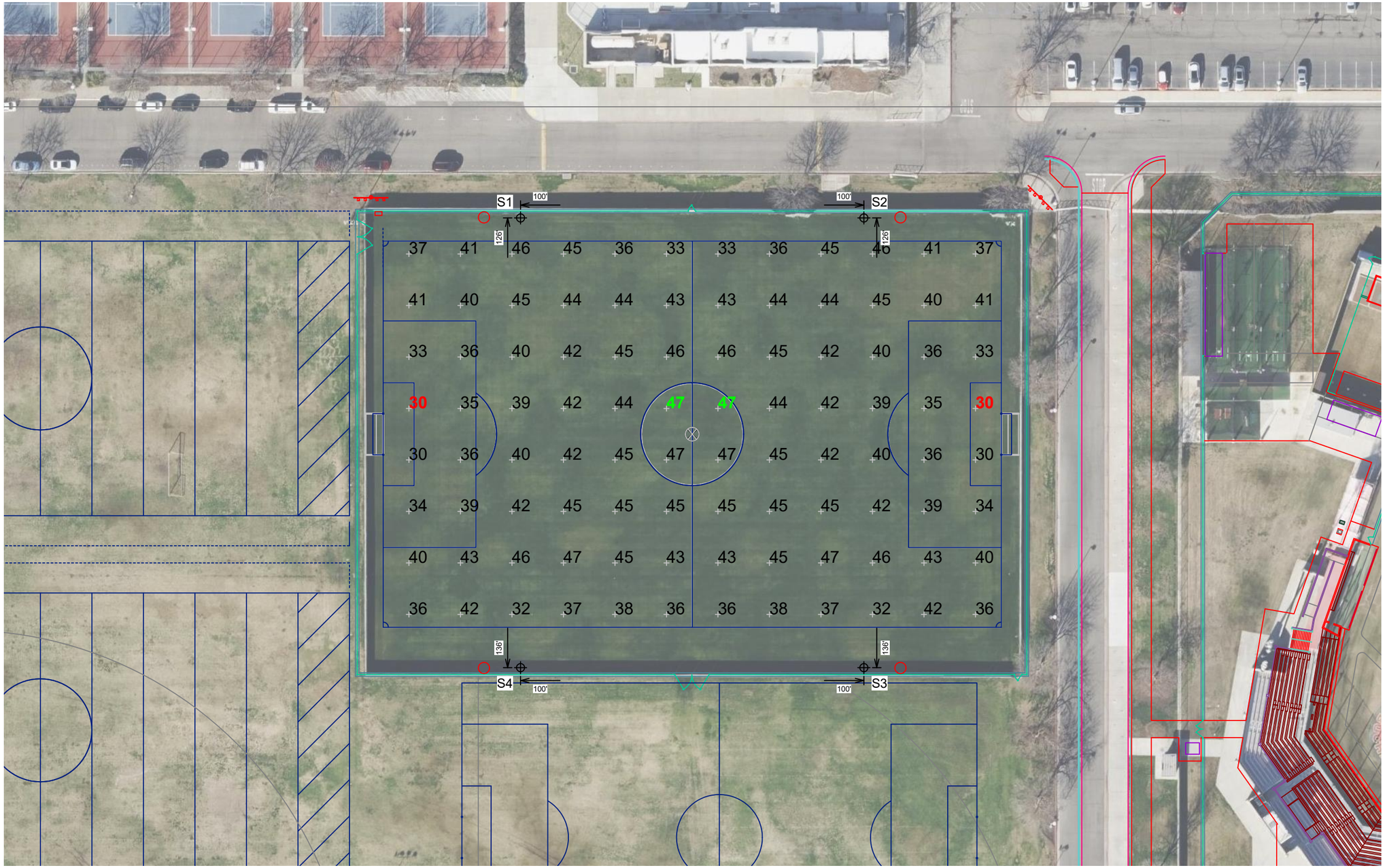
From Hometown to Professional



We Make It Happen.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S1-S2	80'	-	80'	TLC-LED-1500	7	7	0
				80'	TLC-LED-900	1	1	0
2	S3-S4	80'	-	80'	TLC-LED-1500	8	8	0
4	TOTALS					32	32	0



SCALE IN FEET 1 : 60

0' 60' 120'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisBuchananSoccer_A · 28-Mar-22

Clovis Unified School District Multi Fields
Clovis,CA

GRID SUMMARY

Name:	**Buchanan Soccer**
Size:	360' x 225'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**40.61**
Guaranteed Maximum:	**40**
Maximum:	47
Minimum:	30
Avg / Min:	1.34
Guaranteed Max / Min:	**2**
Max / Min:	1.55
UG (adjacent pts):	1.45
No. of Points:	96

LUMINAIRE INFORMATION

Applied Circuits:	C
No. of Luminaires:	**32**
Total Load:	44.68 kW

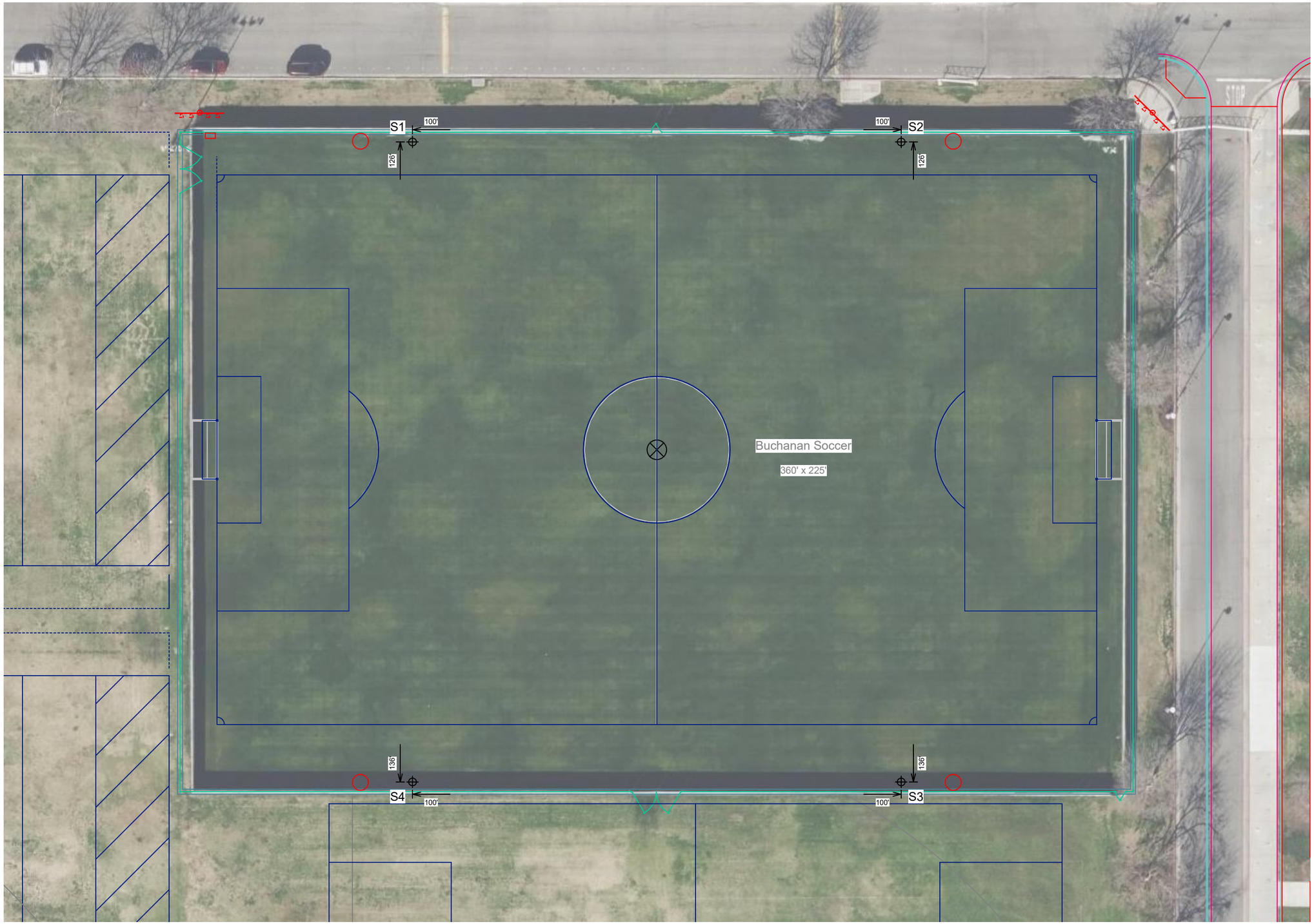
Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

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.

We Make It Happen.



Clovis Unified School District Multi Fields
Clovis,CA

EQUIPMENT LAYOUT

INCLUDES:
· Buchanan Soccer

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.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	S1-S2	80'	-	80' 80'	TLC-LED-1500 TLC-LED-900	7 1
2	S3-S4	80'	-	80'	TLC-LED-1500	8
4	TOTALS					32

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7

SCALE IN FEET 1 : 40
0' 40' 80'

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

ENGINEERED DESIGN By: Bryce Miles · File #216736_ClovisBuchananSoccer_A · 28-Mar-22

We Make It Happen.