

Appendices

Appendix A Lighting Plans

Appendices

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Pacifica High School Athletic Fields

Garden Grove,CA

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1	80'	80'	4	TLC-LED-1500	5.72 kW	A
		80'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A2	80'	80'	6	TLC-LED-1500	8.58 kW	D
		80'	4	TLC-LED-1500	5.72 kW	A
		80'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3-A4	60'	60'	2	TLC-LED-1200	2.34 kW	B
		60'	1	TLC-LED-900	0.89 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
B1	90'	90'	7	TLC-LED-1500	10.01 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B2	90'	90'	7	TLC-LED-1500	10.01 kW	A
		90'	6	TLC-LED-1500	8.58 kW	D
		16'	1	TLC-BT-575	0.58 kW	A
B4	70'	70'	3	TLC-LED-1500	4.29 kW	B
		70'	2	TLC-LED-900	1.78 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
C1-C2	70'	70'	5	TLC-LED-1500	7.15 kW	A
		70'	1	TLC-LED-900	0.89 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
F1, F3-F4	80'	80'	11	TLC-LED-1500	15.73 kW	C
		16'	2	TLC-BT-575	1.15 kW	C
F2	80'	80'	11	TLC-LED-1500	15.73 kW	C
		16'	2	TLC-BT-575	1.15 kW	C
		80'	5	TLC-LED-1500	7.15 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
S3-S4	90'	90'	6	TLC-LED-1500	8.58 kW	D
T1-T2	50'	50'	1	TLC-LED-600	0.58 kW	E
		50'	2	TLC-LED-900	1.78 kW	E
T3	50'	50'	1	TLC-LED-600	0.58 kW	F
		50'	1	TLC-LED-600	0.58 kW	E
		50'	2	TLC-LED-900	1.78 kW	E
T4	50'	50'	2	TLC-LED-900	1.78 kW	F
		50'	1	TLC-LED-600	0.58 kW	E
		50'	1	TLC-LED-600	0.58 kW	F
		50'	2	TLC-LED-900	1.78 kW	F
		50'	2	TLC-LED-900	1.78 kW	E
T5-T6	50'	50'	1	TLC-LED-600	0.58 kW	F
		50'	2	TLC-LED-900	1.78 kW	F
21			164		196.62 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Baseball	53.92 kW	44
B	Softball	21.98 kW	20
C	Football	67.52 kW	52
D	Soccer	34.32 kW	24
E	North Tennis	9.44 kW	12
F	South Tennis	9.44 kW	12

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Pacifica High School Athletic Fields

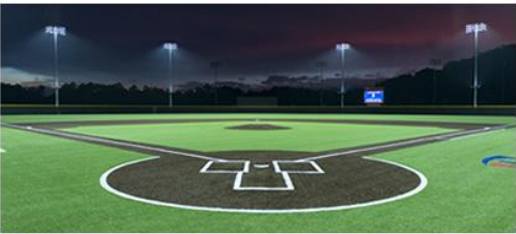
Garden Grove,CA

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	108
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	24
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	4
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	20
TLC-LED-600	LED 5700K - 75 CRI	580W	65,600	>120,000	>120,000	>120,000	8

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Baseball (Infield)	Horizontal Illuminance	51.4	36.6	60.5	1.65	1.40	A	44
Baseball (Outfield)	Horizontal Illuminance	31.1	19.8	43.3	2.18	1.57	A	44
Football	Horizontal Illuminance	50.8	44	58.2	1.32	1.15	C	52
LF BB Bull Pen	Horizontal	34.9	26.4	42.5	1.61	1.32	A	44
North Tennis	Horizontal Illuminance	56.7	49.1	61.2	1.25	1.15	E	12
Property Line Spill	Horizontal	0.02	0	0.19	0.00		A,B,C,D,E, F	164
Property Line Spill	Max Candela (by Fixture)	1385	1.10	6697	6088.42	1258.97	A,B,C,D,E, F	164
Property Line Spill	Max Vertical Illuminance Metric	0.05	0	0.40	0.00		A,B,C,D,E, F	164
RF BB Bull Pen	Horizontal	32.1	25.8	37.6	1.46	1.24	A	44
SB LF Bull Pen	Horizontal	31.5	25.7	37	1.44	1.23	B	20
SB RF Bull Pen	Horizontal	32.4	27.6	35.7	1.29	1.17	B	20
Soccer	Horizontal Illuminance	30.9	20.9	39.6	1.89	1.48	D	24
Softball (Infield)	Horizontal Illuminance	51.6	36.2	67.7	1.87	1.43	B	20
Softball (Outfield)	Horizontal Illuminance	30.9	18	41.3	2.29	1.72	B	20
South Tennis	Horizontal Illuminance	56.6	47	62.1	1.32	1.20	F	12
Track	Horizontal Illuminance	28.7	12.7	46.1	3.64	2.26	C	52

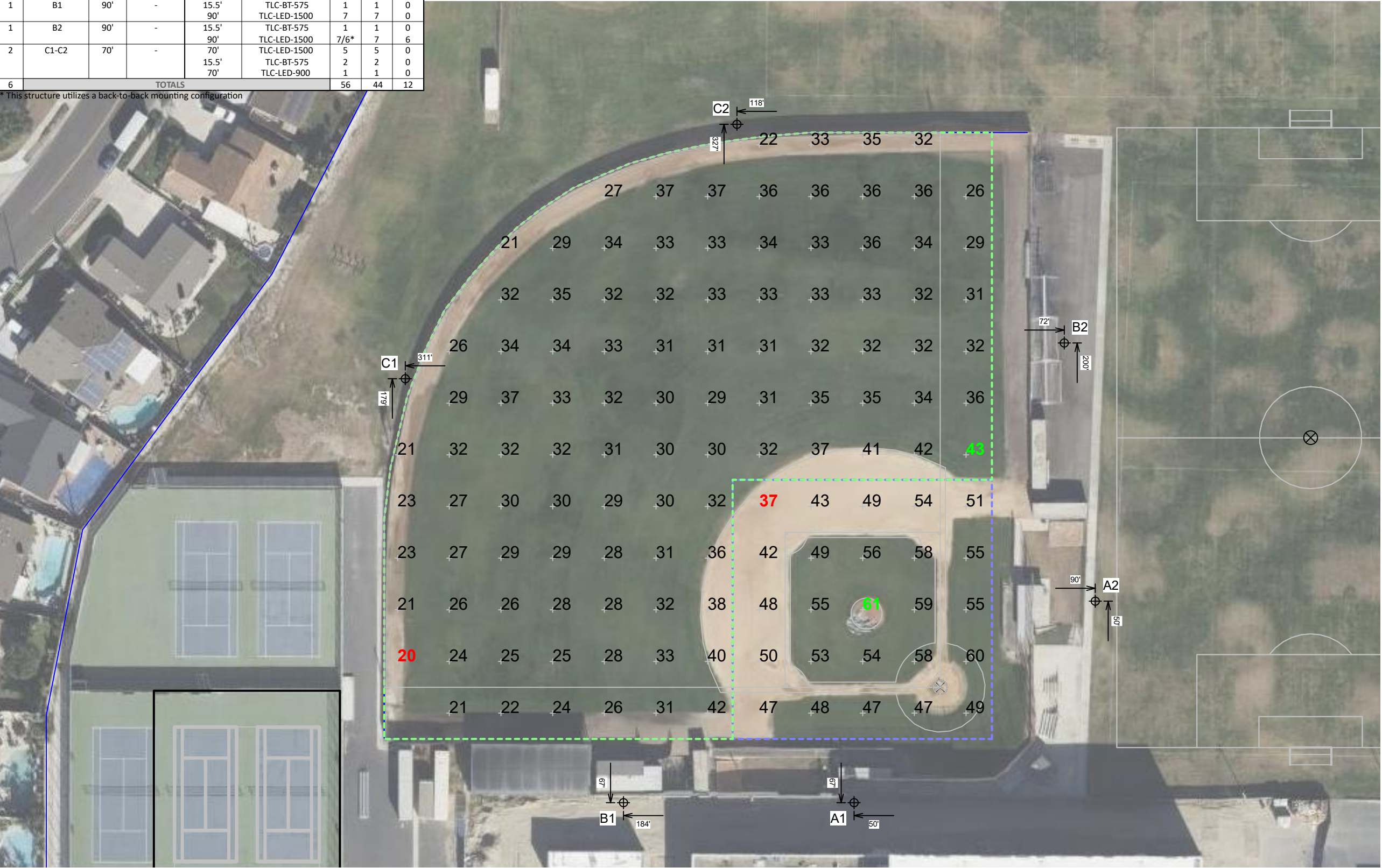
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EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	80'	-	80'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	4	4	0
1	A2	80'	-	80'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	4/6*	4	6
1	B1	90'	-	15.5'	TLC-BT-575	1	1	0
				90'	TLC-LED-1500	7	7	0
1	B2	90'	-	15.5'	TLC-BT-575	1	1	0
				90'	TLC-LED-1500	7/6*	7	6
2	C1-C2	70'	-	70'	TLC-LED-1500	5	5	0
				15.5'	TLC-BT-575	2	2	0
				70'	TLC-LED-900	1	1	0
6	TOTALS					56	44	12

* This structure utilizes a back-to-back mounting configuration



Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	Baseball
Size:	Irregular 323' / 363' / 322'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	51.4	31.1
Maximum:	60.5	43.3
Minimum:	36.6	19.8
Avg / Min:	1.40	1.57
Guaranteed Max / Min:	2	2.5
Max / Min:	1.65	2.18
UG (adjacent pts):	1.22	1.61
CU:	0.68	
No. of Points:	25	100
LUMINAIRE INFORMATION		
Applied Circuits:	A	
No. of Luminaires:	44	
Total Load:	53.92 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.

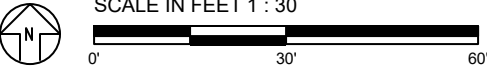


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	80'	-	80'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	4	4	0
1	A2	80'	-	80'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	4/6*	4	6
1	B1	90'	-	15.5'	TLC-BT-575	1	1	0
1	B2	90'	-	90'	TLC-LED-1500	7	7	0
				15.5'	TLC-BT-575	1	1	0
2	C1-C2	70'	-	90'	TLC-LED-1500	7/6*	7	6
				70'	TLC-LED-1500	5	5	0
				15.5'	TLC-BT-575	2	2	0
6				70'	TLC-LED-900	1	1	0
				TOTALS				

* This structure utilizes a back-to-back mounting configuration



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

Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	LF BB Bull Pen
Size:	Irregular 323' / 363' / 322'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	34.9
Maximum:	42.5
Minimum:	26.4
Avg / Min:	1.32
Max / Min:	1.61
UG (adjacent pts):	1.24
CU:	0.01
No. of Points:	14
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	53.92 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.



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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
1	A1	80'	-	80'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	4	4	0
1	A2	80'	-	80'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	4/6*	4	6
1	B1	90'	-	15.5'	TLC-BT-575	1	1	0
1	B2	90'	-	90'	TLC-LED-1500	7	7	0
				15.5'	TLC-BT-575	1	1	0
2	C1-C2	70'	-	90'	TLC-LED-1500	7/6*	7	6
				70'	TLC-LED-1500	5	5	0
				15.5'	TLC-BT-575	2	2	0
6				70'	TLC-LED-900	1	1	0
				TOTALS				56

* This structure utilizes a back-to-back mounting configuration



Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	RF BB Bull Pen
Size:	Irregular 323' / 363' / 322'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	32.1
Maximum:	37.6
Minimum:	25.8
Avg / Min:	1.25
Max / Min:	1.46
UG (adjacent pts):	1.32
CU:	0.01
No. of Points:	12
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	44
Total Load:	53.92 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.



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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
1	A2	80'	-	80'	TLC-LED-900	1	0	1
				15.5'	TLC-BT-575	1	0	1
				80'	TLC-LED-1500	4/6*	6	4
1	B2	90'	-	15.5'	TLC-BT-575	1	0	1
				90'	TLC-LED-1500	7/6*	6	7
2	S3-S4	90'	-	90'	TLC-LED-1500	6	6	0
4	TOTALS					38	24	14

* This structure utilizes a back-to-back mounting configuration



Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	Soccer
Size:	360' x 225'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	30
Scan Average:	30.9
Maximum:	39.6
Minimum:	20.9
Avg / Min:	1.48
Guaranteed Max / Min:	2.5
Max / Min:	1.89
UG (adjacent pts):	1.63
CU:	0.72
No. of Points:	96
LUMINAIRE INFORMATION	
Applied Circuits:	D
No. of Luminaires:	24
Total Load:	34.32 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.



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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
2	T1-T2	50'	-	50'	TLC-LED-600	1	1	0
				50'	TLC-LED-900	2	2	0
2	T3-T4	50'	-	50'	TLC-LED-600	2	1	1
				50'	TLC-LED-900	4	2	2
4	TOTALS					18	12	6

Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	North Tennis
Size:	4 Court - 12' Spacing
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

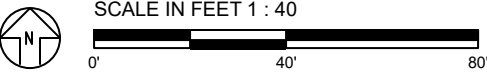
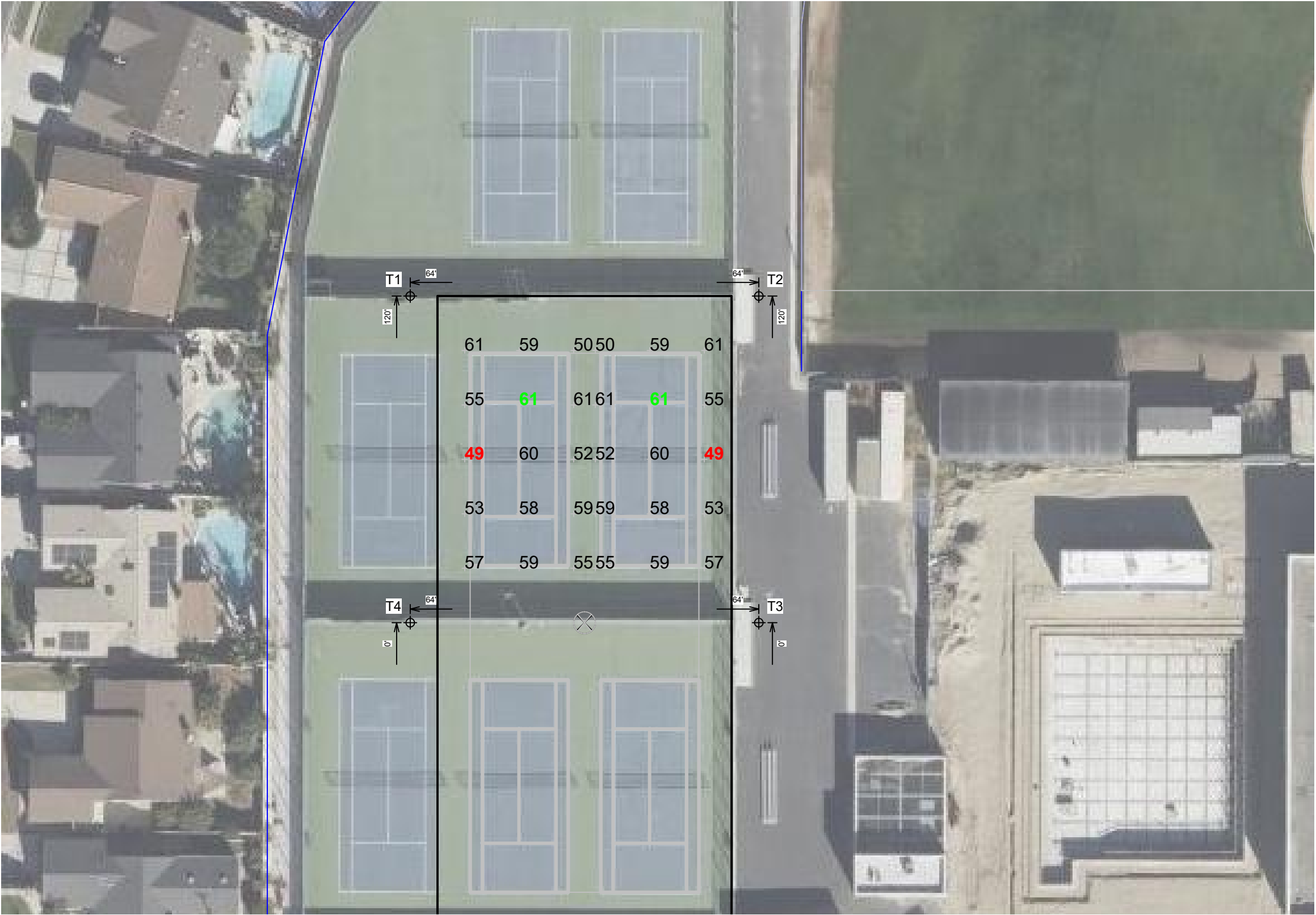
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	50
Scan Average:	56.7
Maximum:	61.2
Minimum:	49.1
Avg / Min:	1.15
Guaranteed Max / Min:	2
Max / Min:	1.25
UG (adjacent pts):	0.00
CU:	0.72
No. of Points:	30
LUMINAIRE INFORMATION	
Applied Circuits:	E
No. of Luminaires:	12
Total Load:	9.44 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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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	T3-T4	50'	-	50'	TLC-LED-600	2	1	1
				50'	TLC-LED-900	4	2	2
2	T5-T6	50'	-	50'	TLC-LED-600	1	1	0
				50'	TLC-LED-900	2	2	0
4	TOTALS					18	12	6

Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	South Tennis
Size:	4 Court - 12' Spacing
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

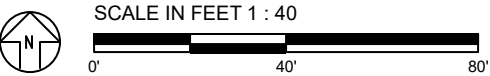
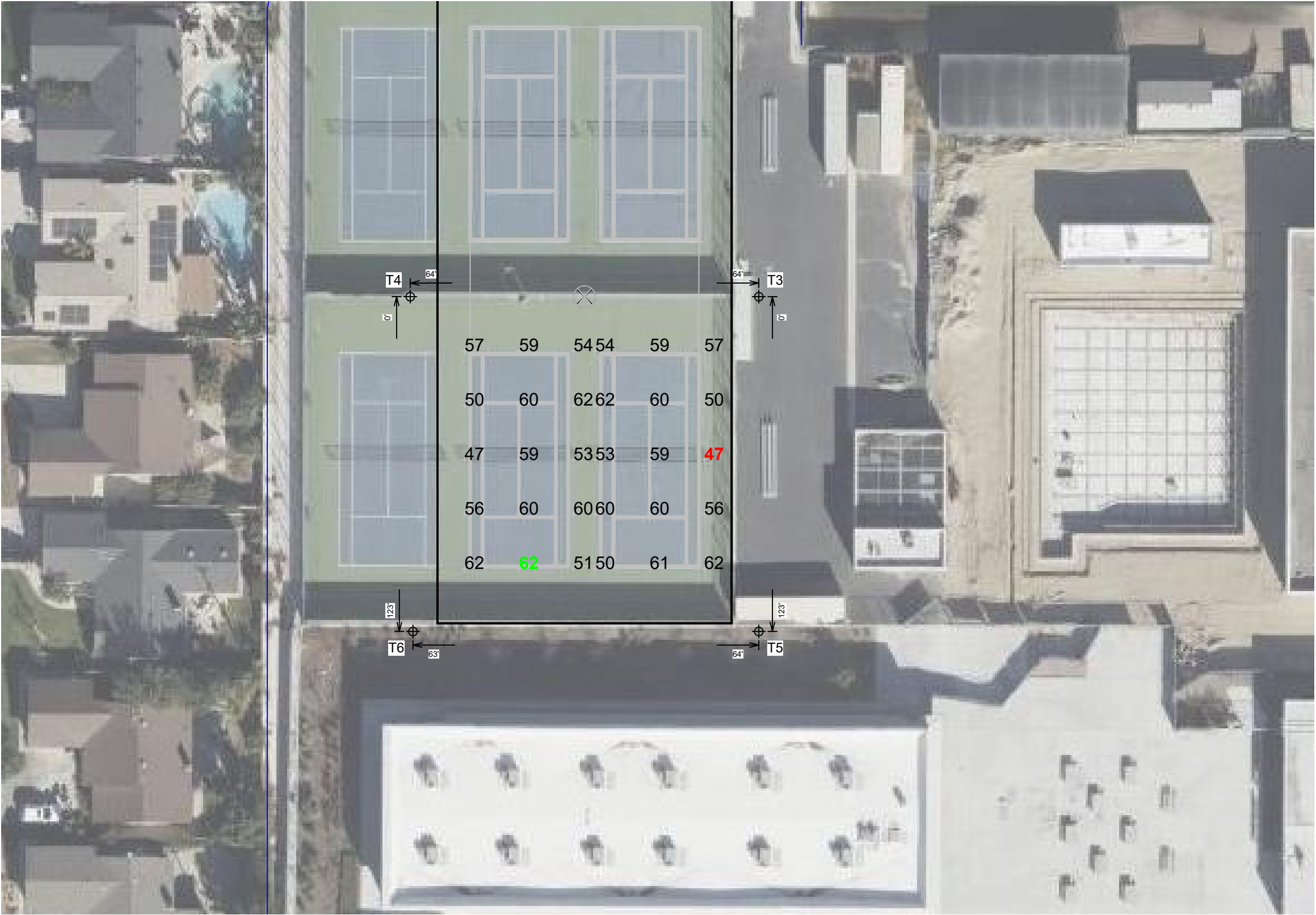
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	50
Scan Average:	56.6
Maximum:	62.1
Minimum:	47.0
Avg / Min:	1.20
Guaranteed Max / Min:	2
Max / Min:	1.32
UG (adjacent pts):	0.00
CU:	0.72
No. of Points:	30
LUMINAIRE INFORMATION	
Applied Circuits:	F
No. of Luminaires:	12
Total Load:	9.44 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.

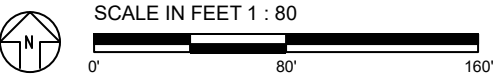


Pole location(s) ⦿ dimensions are relative to 0,0 reference point(s) ⊗



EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1, F3-F4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	11	11	0
1	F2	80'	-	15.5'	TLC-BT-575	2/1*	2	1
				80'	TLC-LED-1500	11/5*	11	5
4	TOTALS					58	52	6

* This structure utilizes a back-to-back mounting configuration



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:	50
Scan Average:	50.8
Maximum:	58.2
Minimum:	44.0
Avg / Min:	1.15
Guaranteed Max / Min:	2
Max / Min:	1.32
UG (adjacent pts):	1.15
CU:	0.45
No. of Points:	72
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	52
Total Load:	67.52 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.

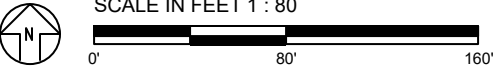
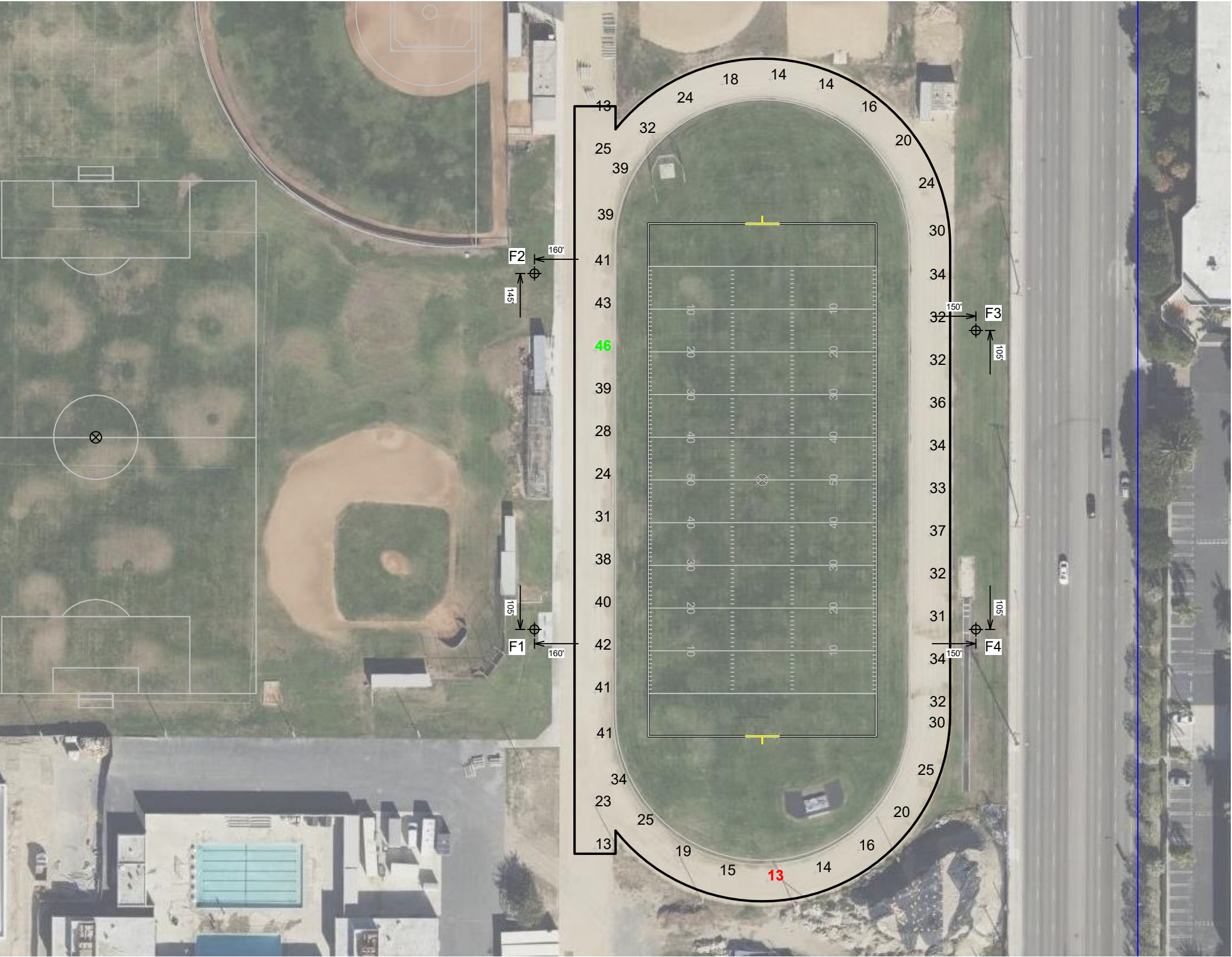
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

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



EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1, F3-F4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	11	11	0
1	F2	80'	-	15.5'	TLC-BT-575	2/1*	2	1
				80'	TLC-LED-1500	11/5*	11	5
4	TOTALS					58	52	6

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Vashon Alexander · File #216615A · 24-Mar-22

Pacifica High School Athletic Fields
Garden Grove,CA

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

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	25
Scan Average:	28.7
Maximum:	46.1
Minimum:	12.7
Avg / Min:	2.27
Guaranteed Max / Min:	4
Max / Min:	3.64
UG (adjacent pts):	0.00
CU:	0.17
No. of Points:	48
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	52
Total Load:	67.52 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.



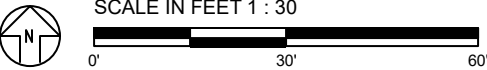
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	60'	-	60'	TLC-LED-1200	2	2	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	1	1	0
1	B4	70'	-	70'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
1	F2	80'	-	15.5'	TLC-BT-575	2/1*	1	2
				80'	TLC-LED-1500	11/5*	5	11
4	TOTALS					33	20	13

* This structure utilizes a back-to-back mounting configuration



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

Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	SB LF Bull Pen
Size:	197'/205'/197' - basepath 60'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	31.5
Maximum:	37.0
Minimum:	25.7
Avg / Min:	1.23
Max / Min:	1.44
UG (adjacent pts):	1.28
CU:	0.01
No. of Points:	10
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	20
Total Load:	21.98 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.



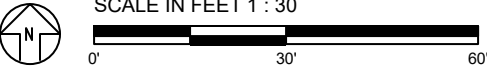
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	60'	-	60'	TLC-LED-1200	2	2	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	1	1	0
1	B4	70'	-	70'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
1	F2	80'	-	15.5'	TLC-BT-575	2/1*	1	2
				80'	TLC-LED-1500	11/5*	5	11
4	TOTALS					33	20	13

* This structure utilizes a back-to-back mounting configuration



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

Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	SB RF Bull Pen
Size:	197'/205'/197' - basepath 60'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	32.4
Maximum:	35.7
Minimum:	27.6
Avg / Min:	1.17
Max / Min:	1.29
UG (adjacent pts):	1.12
CU:	0.01
No. of Points:	5
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	20
Total Load:	21.98 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.



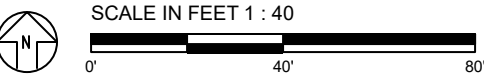
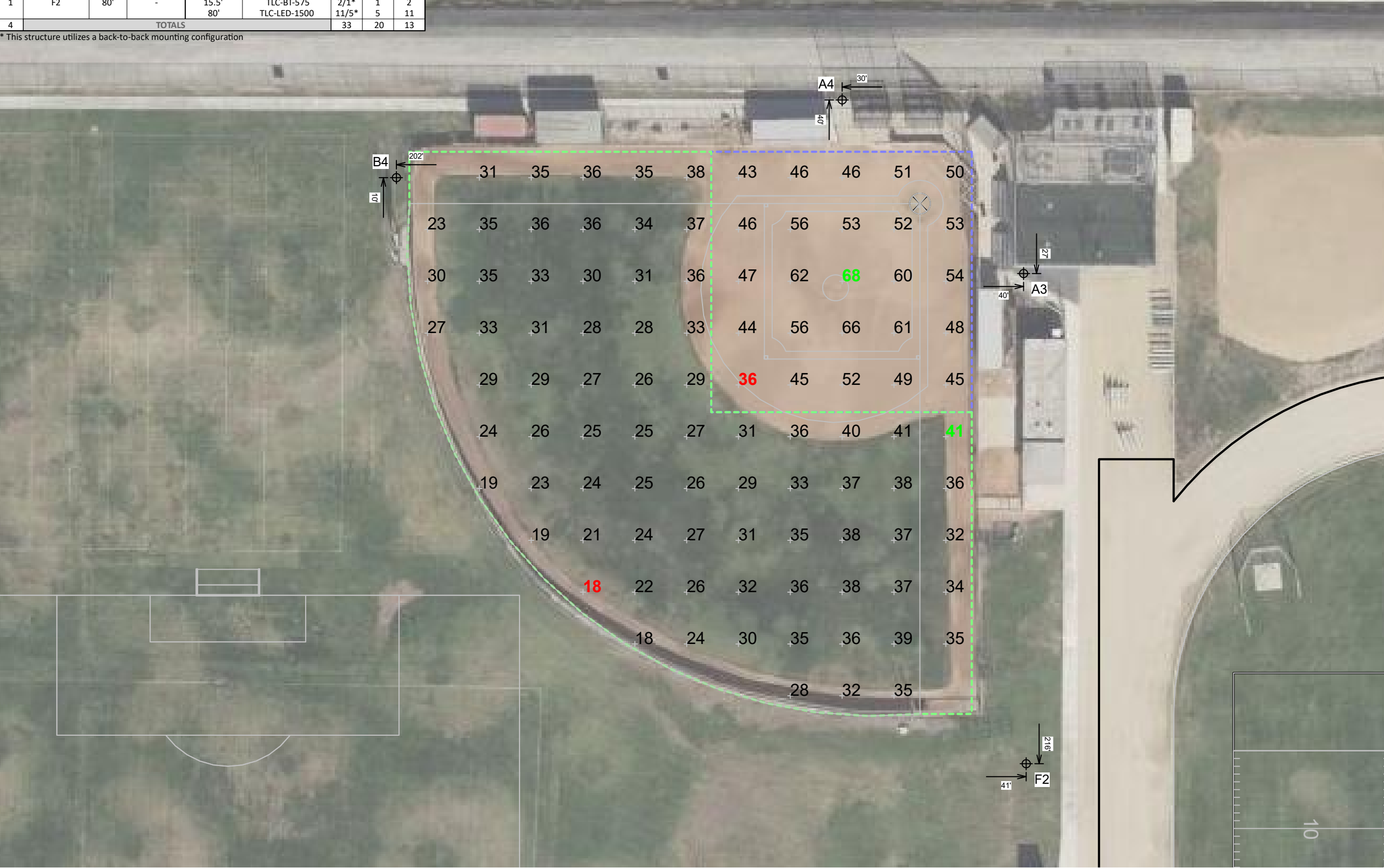
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	60'	-	60'	TLC-LED-1200	2	2	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	1	1	0
1	B4	70'	-	70'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
1	F2	80'	-	15.5'	TLC-BT-575	2/1*	1	2
				80'	TLC-LED-1500	11/5*	5	11
4	TOTALS					33	20	13

* This structure utilizes a back-to-back mounting configuration



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

Pacifica High School Athletic Fields
Garden Grove,CA

GRID SUMMARY	
Name:	Softball
Size:	197'/205'/197' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	51.6	30.9
Maximum:	67.7	41.3
Minimum:	36.2	18.0
Avg / Min:	1.42	1.71
Guaranteed Max / Min:	2	2.5
Max / Min:	1.87	2.29
UG (adjacent pts):	1.32	1.57
CU:	0.62	
No. of Points:	25	75
LUMINAIRE INFORMATION		
Applied Circuits:	B	
No. of Luminaires:	20	
Total Load:	21.98 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.



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ILLUMINATION SUMMARY

GRID SUMMARY	
Name:	Property Line Spill
Spacing:	30.0'
Height:	3.0' above grade

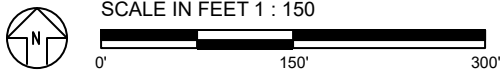
ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.018
Maximum:	0.192
Minimum:	0.000
No. of Points:	185
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F
No. of Luminaires:	164
Total Load:	196.62 kW

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.



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



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GRID SUMMARY	
Name:	Property Line Spill
Spacing:	30.0'
Height:	3.0' above grade

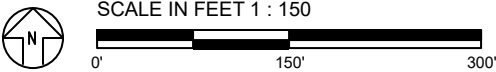
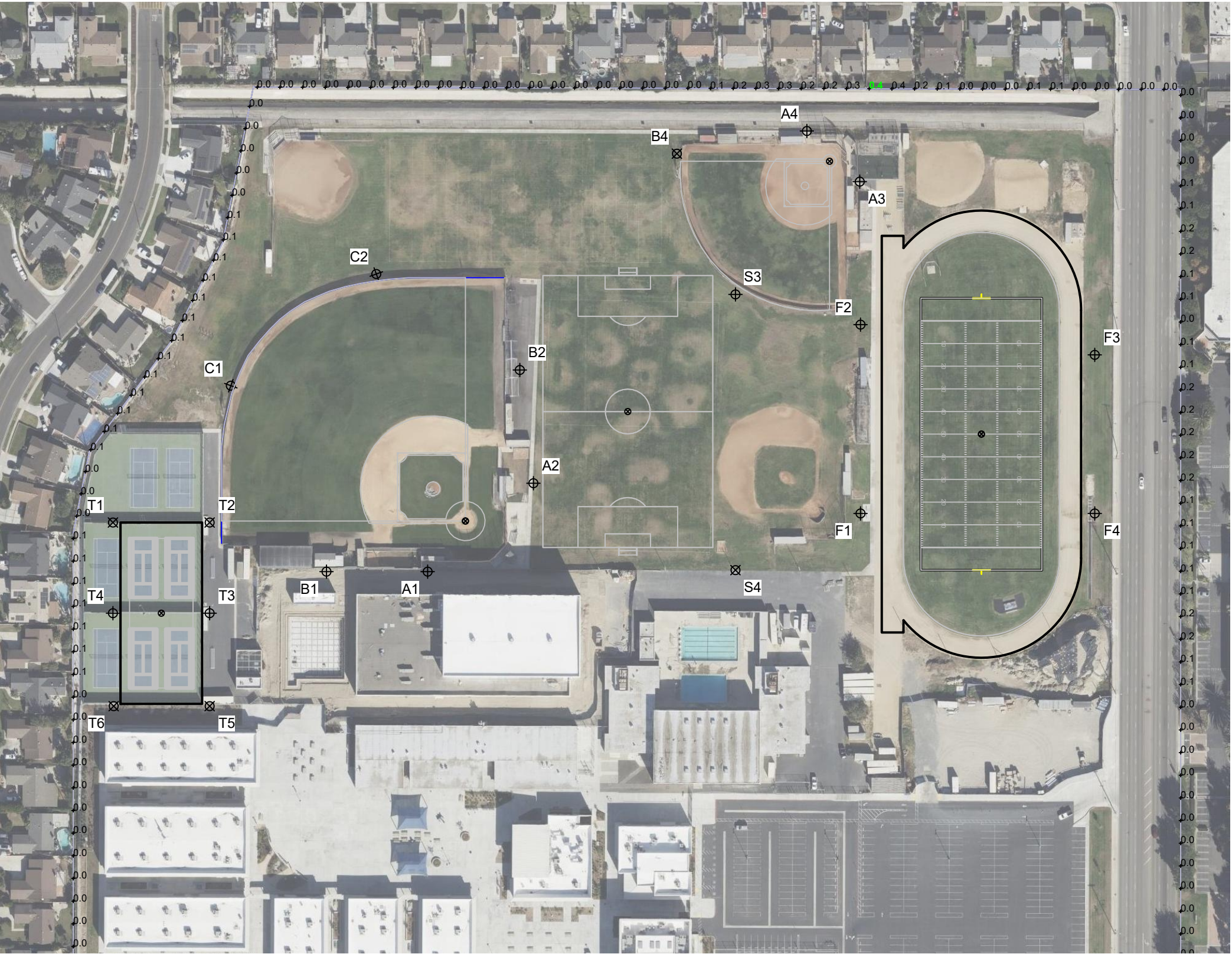
ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.046
Maximum:	0.404
Minimum:	0.000
No. of Points:	185
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F
No. of Luminaires:	164
Total Load:	196.62 kW

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.



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



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ILLUMINATION SUMMARY

GRID SUMMARY	
Name:	Property Line Spill
Spacing:	30.0'
Height:	3.0' above grade

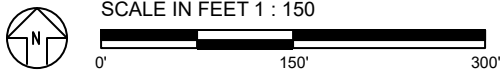
ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 1384.871
Maximum:	6697.389
Minimum:	1.100
No. of Points:	185
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F
No. of Luminaires:	164
Total Load:	196.62 kW

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.



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



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ILLUMINATION SUMMARY

EQUIPMENT LAYOUT

INCLUDES:

- Baseball
- Football
- Soccer
- Softball
- Tennis
- 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

QTY	LOCATION	Pole	SIZE	GRADE ELEVATION	Luminaires		QTY / POLE
					MOUNTING HEIGHT	LUMINAIRE TYPE	
1	A1	80'	-	-	80'	TLC-LED-900	1
					15.5'	TLC-BT-575	1
					80'	TLC-LED-1500	4
1	A2	80'	-	-	80'	TLC-LED-900	1
					15.5'	TLC-BT-575	1
					80'	TLC-LED-1500	4/6*
2	A3-A4	60'	-	-	60'	TLC-LED-1200	2
					15.5'	TLC-BT-575	1
					60'	TLC-LED-900	1
1	B1	90'	-	-	15.5'	TLC-BT-575	1
					90'	TLC-LED-1500	7
1	B2	90'	-	-	15.5'	TLC-BT-575	1
					90'	TLC-LED-1500	7/6*
1	B4	70'	-	-	70'	TLC-LED-1500	3
					15.5'	TLC-BT-575	1
					70'	TLC-LED-900	2
2	C1-C2	70'	-	-	70'	TLC-LED-1500	5
					15.5'	TLC-BT-575	2
					70'	TLC-LED-900	1
3	F1, F3-F4	80'	-	-	15.5'	TLC-BT-575	2
					80'	TLC-LED-1500	11
1	F2	80'	-	-	15.5'	TLC-BT-575	2/1*
					80'	TLC-LED-1500	11/5*
2	S3-S4	90'	-	-	90'	TLC-LED-1500	6
4	T1-T2	50'	-	-	50'	TLC-LED-900	2
	T5-T6				50'	TLC-LED-600	1
2	T3-T4	50'	-	-	50'	TLC-LED-600	2
					50'	TLC-LED-900	4
21	TOTALS						164

* This structure utilizes a back-to-back mounting configuration

SINGLE LUMINAIRE AMPERAGE DRAW CHART

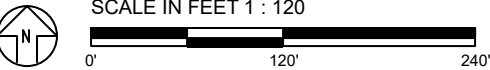
Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-LED-1200	7.0	6.6	6.1	5.2	4.2	4.0	3.0
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-600	3.4	3.2	3.0	2.6	2.0	1.9	1.5



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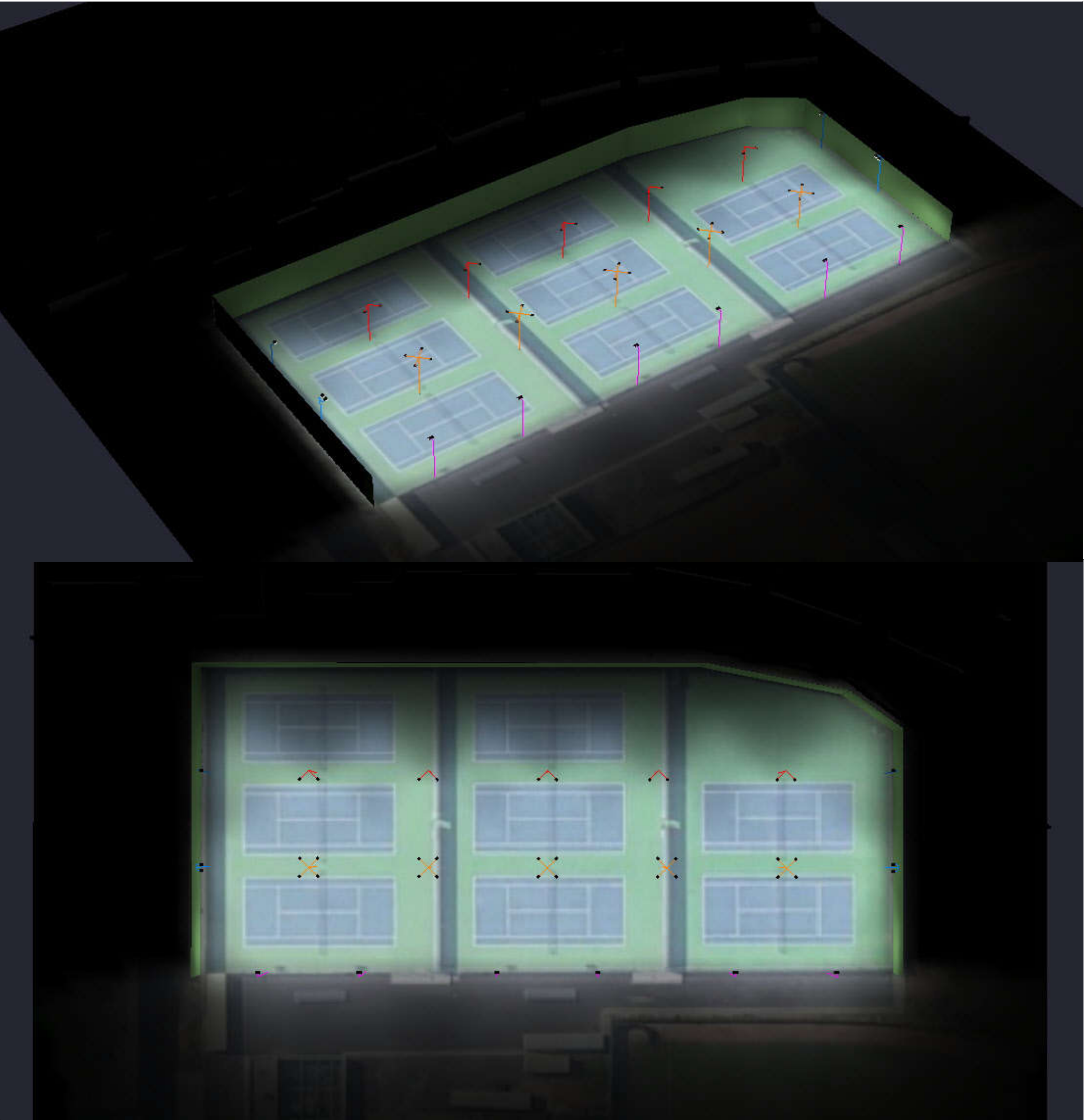
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EQUIPMENT LAYOUT

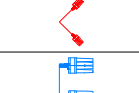
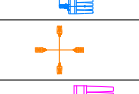
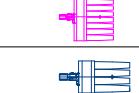
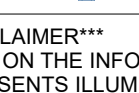
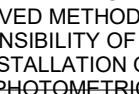


Pole location(s) ⚡ dimensions are relative to 0,0 reference point(s) ⊗

Modified Tennis Court Lighting Plan



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Calc Points @ 3' AFF	Illuminance	Fc	40.09	91.4	0.0	N.A.	N.A.
Spill	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Court 4	Illuminance	Fc	54.99	88.5	30.0	1.83	2.95
Court 8	Illuminance	Fc	60.56	77.8	43.4	1.40	1.79
PPA Court 4	Illuminance	Fc	55.26	88.5	30.0	1.84	2.95
PPA Court 8	Illuminance	Fc	59.37	77.8	32.0	1.86	2.43

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Lum. Lumens	BUG Rating
	5	A-D9	2 @ 90°	0.950	VISIONAIRE BLX-II_4_T4T_128LC_10_5K-VOLT-KM D90° @ 24' MTG. HT. 4' TNS ARM (N)	102170	B4-U0-G3
	2	A2-HS	TWIN	0.950	VISIONAIRE BLX-II_4_T4T_128LC_10_5K_HS-VOLT-KM TWIN @ 24' MTG. HT. RCA-2 ARM 10° TILT (N)	79102	B3-U1-G3
	5	A4	4 @ 90 DEGREES	0.950	VISIONAIRE BLX-II_4_T4T_128LC_10_5K-VOLT-KM Q90° @ 24' MTG. HT. 4' TNS ARM (N)	204340	B4-U0-G3
	6	C	SINGLE	0.950	VISIONAIRE BLX-II_8_T4T_256LC_10_5K-VOLT-KM SINGLE @ 24' MTG. HT. 10° TILT (N)	105925	B5-U0-G5
	2	A-HS	SINGLE	0.950	VISIONAIRE BLX-II_4_T4T_128LC_10_5K_HS-VOLT-KM SINGLE @ 24' MTG. HT. RCA-2 ARM 10° TILT (N)	39551	B3-U1-G3

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BASED ON THE INFORMATION PROVIDED, ALL DIMENSIONS AND LUMINAIRE LOCATIONS SHOWN REPRESENT RECOMMENDED POSITIONS. THE PROJECT ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING OR FUTURE FIELD CONDITIONS. THE LIGHTING DATA REPRESENTS ILLUMINATION LEVELS TAKEN FROM A LABORATORY SETTING UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA). APPROVED METHODS. ACTUAL PERFORMANCE MAY VARY DUE TO VARIATIONS IN ELECTRICAL VOLTAGE, INSTALLATION, TOLERANCE LEVELS, BUILDINGS, OTHER LIGHTING, AND OTHER VARIABLES THAT WERE NOT CONSIDERED WHEN THIS PHOTOMETRIC REPORT WAS CREATED. IT IS THE RESPONSIBILITY OF THE OWNER OR PROJECT ENGINEER TO ENSURE COMPLIANCE OF ALL STANDARDS IN EFFECT. THIS PHOTOMETRIC LAYOUT IS THE PROPERTY OF VISIONAIRE LIGHTING AND IT CANNOT BE USED FOR INSTALLATION OF PRODUCTS OTHER THAN SPECIFIED.
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DRAWING NUMBER : **LS010722PL-GGUSD-05**
LAYOUT DESIGNER : **LS**
DESIGNER EMAIL : **Lsalgado@visionairelighting.com**
PROJECT DATE : **01/07/22**
REVISION DATE : **04/28/22**
REP : **PERFORMANCE LIGHTING**
NOTE/S: **20' Windscreen**

www.visionairelighting.com
Phone: (310) 512-6480 Fax: (310) 512-6486
19645 Rancho Way-Rancho Dominguez, CA. 90220
POINT-BY-POINT CALCULATION
Illuminance at Grade (Footcandles), unless otherwise specified.

