

DOCUMENT 00 90 03 – ADDENDUM No. 03

1.1 PROJECT INFORMATION

- A. Project Name: CAPITAL PROJECT PHASE 4.
- B. Owner: OWEGO APALACHIN CENTRAL SCHOOL DISTRICT.
- C. Architect: HIGHLAND ASSOCIATES.
- D. Construction Manager: TAMCO LLC
- E. Architect Project Number: 2024-240P.
- F. Date of Addendum: MAY 1, 2026.

1.2 NOTICE TO BIDDERS

- A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. Acknowledgement: Bidders must acknowledge receipt of any and all Addenda in the space provided on the Bid Form. Failure to do so may result in rejection of the Bid. All requirements of the bidding documents remain unchanged except as cited herein.
- C. Bids will be received by the Owner by no later than **1:00 PM local time on TUESDAY, May 5, 2026, at:**

Owego Apalachin Central School District
Attention: Robert Farrell, Assistant Superintendent
District Office
5 Sheldon Guile Boulevard
Owego, NY 13827

1.3 CLARIFICATIONS AND RFIs

- A. Issued herewith are the following Pre-Bid RFIs:
 - 1. Stark PB RFI 01
 - 2. Matco PB RFI 02
 - 3. SSD PB RFI 05

END OF DOCUMENT 00 90 03

Pre-Bid RFIs shall be submitted to:
Aaron Leach aleach@tamcollec.net and
Cheryl Zondlo czondlo@ha-pa.com

Subject line of email to include: OACSD CP Phase 4 PB RFI

APRIL 10, 2026
BID DOCUMENTS

HIGHLAND ASSOCIATES / TAMCO MANAGEMENT

Contractor Pre-Bid RFI Form

(Please Type or Print Neatly)

Date: 4/30/26

Company: Stark Equipment LLC **Name:** Mike McGinnis

Phone #: 607-727-3168 **E-mail:** mcginnism@starktech.com

Contract(s) bidding on: No. 3 - Mechanical

Drawing Referenced: OFA M-601, M-505

Spec Section Referenced: 236443 AC Scroll Water Chillers

Other References: _____

REQUEST: The schedule on M-601 calls out a 166T, 57-45F deltaT, 342 GPM
chiller. The chiller selection on M-505 calls out a 180T, 60-40F deltaT, 230 GPM
chiller. Please confirm the required chiller capacity and performance.

ANSWER: Provide the attached chiller package for CH-1.

Answered By: Manish Patel, Highland **Date:** 4/30/26

Pump Curve Report

Project Name: **Owego**

Unit Tag: **CH-2**

Qty.: **1**

Model: **QTC3205THJ46XF**

PIN								
QTC3205THJ	46XFBSDTXA	SXBLXCXX40	BEXXXHXXXX	XUXGTXXXXX	AVGXXXXXXK6			
...5...10	...5...20	...5...30	...5...40	...5...50	...5...60	...5...70	...5...80	...5...90

Hydrokit			
Pump		Electrical	
Quantity	2	Hydrokit Input Power [kW]	20.2
Pump Package Option	VSD Dual Pump, Full Feature	Pump MOC [A]	50.625
Pump Option	Pump Kit K required	Pump Efficiency [%]	70.4%
Pump Motor Size [hp]	20	Performance	
Pump Motor Speed [RPM]	3600	Flow Rate [USGPM]	300.4
Impeller Diameter [in]	7.8	NPSHR [ft H2O]	9.83
Fluid Connection Diameter [in]	3.0	Hydrokit Rated Head [ft H2O]	128
		Required External Static Pressure [ft H2O]	105
		Machine Internal Pressure Drop [ft H2O]	22.6



EQUIPMENT SUBMITTAL FOR APPROVAL

PROJECT: Owego

LOCATION:



Air-Cooled Chiller

EQUIPMENT	QTC3 Chiller
UNIT TAGS	CH-2
QUANTITY	1

SOLD TO:

CONSULTING ENGINEER:

PREPARED BY:

DATE:
Friday, 01 May 2026

REVISION:
0

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(QTC3 - Air-Cooled Chiller)

BOM Data

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BOM Data

Product Type: QTC3 - Air-Cooled Chiller

Unit Tags: CH-2



BID DATE: 05/01/2026
PROJECT: Owego
TO: Interested Bidders

LAST ADDEDNUM: None
NOTE(S)

BILL OF MATERIAL

<u>ITEM</u>	<u>QTY</u>	<u>TAGS</u>	<u>DESCRIPTION</u>
I	1	(1)CH-2	DIRECT EXPANSION - AIR COOLED SCROLL CHILLER

EQUIPMENT DESCRIPTIONS EQUIPMENT PROPOSAL

Items Included

- Provide Model QTC3205THJ46XFB Qty: 1
- Refrigerant Type: R454B
- Brine Application
- Power: 460/3/60 Application
- Control Transformer
- Power Connection: SP NF Disconnect Switch
- Starter Type: Across the line starter
- TEAO Fan Motors
- Low Sound Fans with VSD
- Standard Insulation
- Post-Coated Microchannel Coils (Environment Guard Basic)
- Both Chicago Code and Service Isolation Valves
- Both Low/High Ambient Kit
- Compressor Parts and Labor Warranty: 78 Month (2-6 Year) from date of Shipment or from date of Start Up, whichever comes first.
- Entire Unit Parts Only Warranty: 18 Month (1 Year) (Std) (Months are from date of shipment/Years are from date of start up, whichever expires first)
- Entire Unit Labor Only Warranty: 18 Month (1 Year) (Std) (Months are from date of shipment/Years are from date of start up, whichever expires first)
- Chiller Startup
- Pump Kit K required
- SC-Equip Board
- Electronic Expansion Valves

Items Included but Installed by Others

Items NOT Included

- Hauling or Rigging Equipment Into Place.
- Vibration Isolators
- External Disconnect Switches or Circuit Breakers

Performance Ratings

Product Type: QTC3 - Air-Cooled Chiller

Unit Tags: CH-2

Project Name: **Owego**

Unit Tag: **CH-2**

Qty.: **1**

Model: **QTC3205THJ46XF**

Full Load - Design

PIN

QTC3205THJ	46XFBSDTXA	SXBLXCXX40	BEXXXHXXX	XUXGTXXXX	AVGXXXXXK6			
...5...10	...5...20	...5...30	...5...40	...5...50	...5...60	...5...70	...5...80	...5...90

Unit

Model No.	QTC3205THJ46XFB
Number of Compressors	6
Compressor Type	Scroll - Hermetic
Number of Compressor Circuits	2
Refrigerant	R454B

Performance Data

Cooling Capacity [tons.R]	178.5
Total Power Input [kW]	219.5
EER [Btu/W.h]	9.758
NPLV.IP [Btu/W.h]	17.66
A-Weighted Sound Power [dB(A)]	98.0

Electrical Data

Nominal Voltage / Voltage Limits	460/3/60 / 414-506
Compressor RLA (each circuit) [A]	51.4 / 51.4 / 51.4 / 51.4 / 51.4 / 51.4
High LRA Current (each circuit) [A]	316.0 / 316.0 / 316.0 / 316.0 / 316.0 / 316.0
Fan QTY (each circuit)	6 / 6
Fan FLA (each fan) [A]	3.4 / 3.4
Min. Circuit Ampacity [A]	389.0
Recommended Fuse / CB Rating [A]	400.0
Max. Inverse Time CB Rating [A]	400.0
Max. Dual Element Fuse Size [A]	400.0
Unit Short Circuit Withstand [kA]	5 kA/460
Wires Per Phase	2 + 3
Wire Range (Lug Size)	250 - 500 kcmil + #2/0 AWG - 400 kcmil
Compressor kW	199.3
Total kW w/ Hydrokit Power	239.7

Hydrokit

Pump Package Option	VSD Dual Pump, Full Feature
Pump Option	Pump Kit K required
Hydrokit Rated Head [ft H2O]	128
Required External Pressure Drop [ft H2O]	105
Machine Internal Pressure Drop [ft H2O]	22.6
Evaporator Pressure Drop [ft H2O]	11.0
Pump and Piping Pressure Drop [ft H2O]	9.22
Strainer Pressure Drop [ft H2O]	2.39
Fluid Connection Diameter [in]	3



Performance Impacting Options

Starter Type	Across the line starter
Power Factor Correction Capacitor	No Power Capacitor required
Remote Evaporator	Standard Cooler required
Sound Kit	No Acoustic Blanket required
Fan	Low Sound Fans with VSD

Weight & Dimensional Data

Shipping Weight [lbs]	10617
Operating Weight [lbs]	10743
Refrigerant Charge [lbs]	160
Length [in]	274.8
Width [in]	88.3
Height [in]	94.2

Project Name: Owego

Rating Engine Version: REV.v9_33d.idd

Unit Name: CH-2

Version: SN26.04

CHL.2026-04.002

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Performance Specification

Project Name: **Owego**

Unit Tag: **CH-2**

Qty.: **1**

Model: **QTC3205THJ46XF**

Heat Exchanger Performance

Evaporator		Condenser (Air Cooled)	
Heat Exchanger Type	Plate Heat Exchanger	Ambient Air Temperature* [°F]	95.0
Entering Fluid Temperature* [°F]	55.00	Altitude* [ft]	0.00
Leaving Fluid Temperature* [°F]	40.00	Condensing Temperature [°F]	119.09 / 119.09
Flow Rate [USGPM]	300.4	Number of Fans	6 / 6
Fouling Factor* [h ft ² F/Btu]	0.000100	Total Air Flow [cfm]	180000
Fluid Type* / Concentration* [%]	Propylene Glycol / 35.0	Total Fan Power [kW]	20.16
Fluid Volume [USGAL]	12.7		
Evaporating Temperature [°F]	32.93		
Evaporator Pressure Drop [ft H ₂ O]	11.0		
Strainer Pressure Drop [ft H ₂ O]	2.39		
Extension Kit Pressure Drop [ft H ₂ O]	0.674		
Total Pressure Drop [ft H ₂ O]	22.6		
Fluid Connection Diameter [in]	5		
Minimum Flow Rate [USGPM]	230.0		
Maximum Flow Rate [USGPM]	625.0		

* Designates user specified input

Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org. Unit contains freeze protection fluids in the evaporator with a leaving chilled fluid temperature above 32 DEG F [0 DEG C] and is certified when rated per the Standard with water.



Part Load Performance (Based on Standard AHRI Unloading)

Percent Load	Ambient [°F]	Capacity [tons.R]	Power Input [kW]	Unit Efficiency [Btu/W.h]
100.0	95.0	178.5	219.5	9.758
76.3	80.1	136.2	115.5	14.14
57.7	80.1	103.0	83.36	14.83
62.5	65.1	111.5	71.91	18.61
42.5	65.1	75.80	44.82	20.29
44.8	55.0	79.94	41.13	23.32
21.4	55.0	38.23	19.93	23.02



Performance Report

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Performance Specification

Project Name: **Owego**Unit Tag: **CH-2**Qty.: **1**Model: **QTC3205THJ46XF**

Sound Power Levels (In Accordance with AHRI 370)

Percent Load	Ambient [°F]	Octave Band Center Frequency [Hz]								LWA
		63	125	250	500	1000	2000	4000	8000	
100.0	95.0	101.0	100.0	96.0	96.0	92.0	90.0	86.0	82.0	98.0
76.3	80.1	97.0	96.0	92.0	92.0	88.0	86.0	82.0	78.0	94.0
57.7	80.1	94.0	93.0	89.0	90.0	86.0	85.0	80.0	76.0	92.0
62.5	65.1	94.0	93.0	89.0	90.0	86.0	85.0	80.0	76.0	92.0
42.5	65.1	89.0	88.0	84.0	84.0	82.0	81.0	77.0	71.0	88.0
44.8	55.0	89.0	88.0	84.0	84.0	82.0	81.0	77.0	71.0	88.0
21.4	55.0	86.0	85.0	81.0	81.0	79.0	78.0	74.0	68.0	85.0

Note: Unit is equipped with Low Sound Fans with VSD.

Measurement of sound pressure used to obtain the sound power data presented is based on AHRI-370.

Air-cooled chillers are rated in terms of sound power not sound pressure. Johnson Controls provides estimates of sound pressure, but this is not the rating metric.

For an air-cooled chiller, sound pressure calculated from sound power varies depending on how the chiller is assumed to behave, i.e. the radiation model. In other words, determining sound pressure from sound power requires making assumptions that result in different answers at a given distance from the chiller. The environment also influences sound pressure in the field installation. Sound pressure estimation radiation models pertaining to air-cooled chillers include the 'traditional' hemispherical model, parallelepiped model and equivalent hemispherical model.

Regarding sound power, Johnson Controls references tolerance limits based on ASHRAE guidelines. These are +/- 6dB in the 63Hz octave band, +/- 4dB in all other octave bands and +/- 3dB for the overall dBA.

Tolerance limits are based on uncertainties associated with:

1. Measurement Test Procedure
2. Repeatability
3. Production / Manufacturing Variability

Standard deviation associated with air-cooled chiller sound data is a measure of spread i.e. it indicates the range of probability of sound levels. Note that for operating conditions other than AHRI's Standard Rating Condition, higher levels of uncertainty can be expected.

Lead times for factory performance testing depend on test laboratory availability. Please confirm with Johnson Controls Customer Service.

Performance at AHRI Conditions

Evaporator		Condenser	
EFT [°F]	54.00	Ambient Temp. [°F]	95.0
LFT [°F]	44.00	Altitude [ft]	0.00
Flow Rate [USGPM]	460.3	Performance	
Pressure Drop [ft H2O]	18.4	EER [Btu/W.h]	10.38
Fluid Type	Water	IPLV.IP [Btu/W.h]	18.46
Fouling Factor [h ft2 F/Btu]	0.000100	Net Cooling Capacity [tons.R]	192.8
Fluid Volume [USGAL]	12.7		

Note: Unit rated at design condition capacity.



Performance Report

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Performance Specification

Project Name: **Owego**

Unit Tag: **CH-2**

Qty.: **1**

Model: **QTC3205THJ46XF**

Part Load Performance (Based on AHRI 550/590 - 2023 (IP))

Percent Load	Ambient [°F]	Capacity [tons.R]	Power Input [kW]	Unit Efficiency [Btu/W.h]
100.0	95.0	192.8	222.9	10.38
75.8	80.0	146.1	117.0	14.98
56.8	80.0	109.4	84.24	15.59
61.7	65.0	118.9	72.95	19.56
41.2	65.0	79.40	45.25	21.06
43.5	55.0	83.83	41.74	24.10
21.0	55.0	40.43	20.25	23.95

Notes:

Country of Origin: Mexico

Min flow rate is for chillers using water. For glycol chillers please contact the application engineering team.

Compliant with ASHRAE 90.1 - 2010,2013,2016,2019,2022.

Compliant with the requirements of the LEED Energy and Atmosphere Enhanced Refrigerant Management Credit (EAc4).

The product image shown is for illustrative purposes only and is not representative of selected options.

Unit Drawings

Product Type: QTC3 - Air-Cooled Chiller

Unit Tags: CH-2

16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

NOTES:
1. PLACEMENT ON A LEVEL SURFACE FREE OF OBSTRUCTIONS (INCLUDING SNOW, FOR WINTER OPERATION) OR AIR RE-CIRCULATION ENSURES RATED PERFORMANCE, RELIABLE OPERATION AND EASE OF MAINTENANCE; SITE RESTRICTIONS MAY COMPROMISE MINIMUM CLEARANCES INDICATED BELOW, RESULTING IN UNPREDICTABLE AIR FLOW PATTERNS AND POSSIBLE DIMINISHED PERFORMANCE. UNIT CONTROLS WILL OPTIMIZE OPERATION WITHOUT NUISANCE HIGH PRESSURE SAFETY CUTOFF. HOWEVER, THE SYSTEM DESIGNER MUST CONSIDER POTENTIAL PERFORMANCE DEGRADATION.

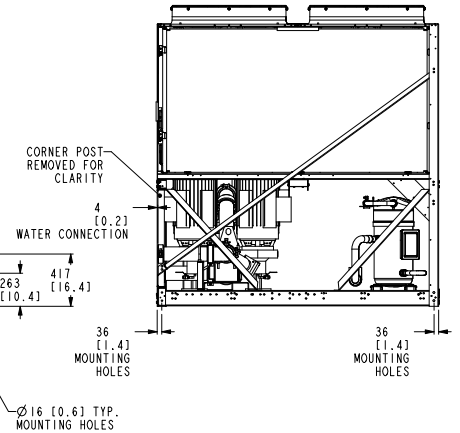
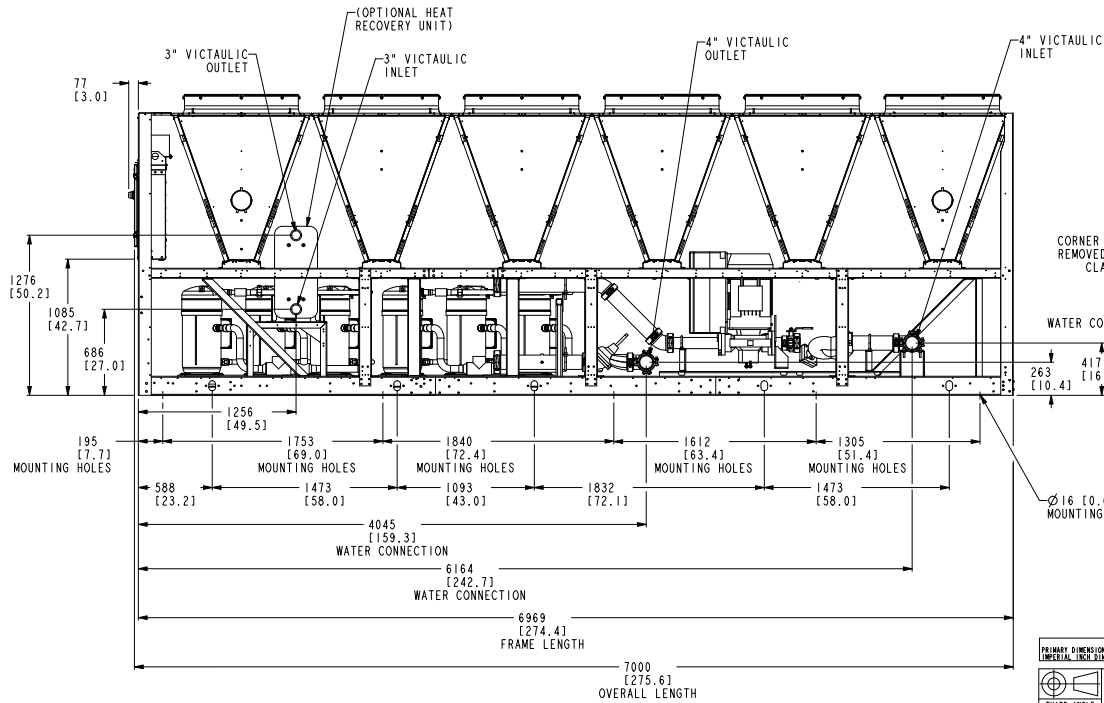
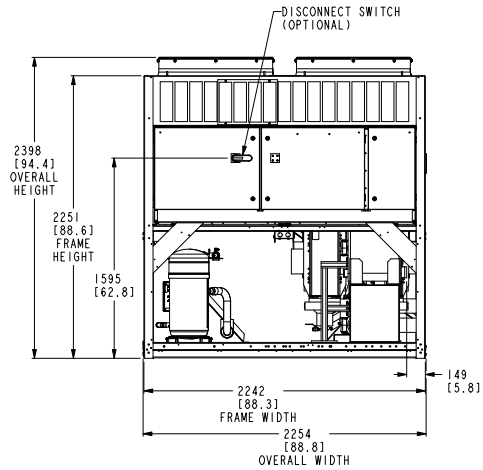
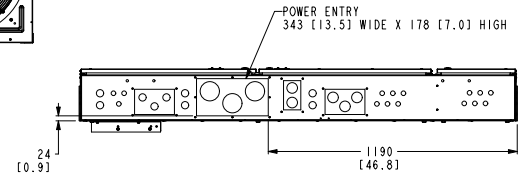
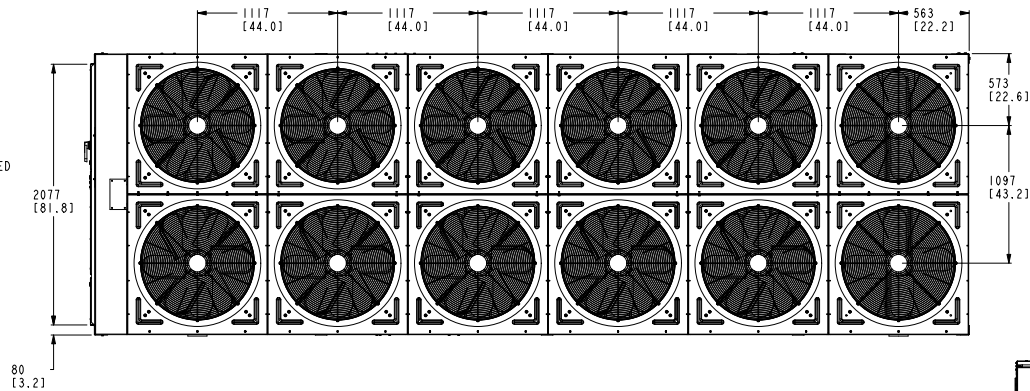
1.1. RECOMMENDED MINIMUM CLEARANCES:
1.1.1. SIDE TO WALL - 1828.8mm[6']
1.1.2. REAR TO WALL - 1828.8mm[6']
1.1.3. CONTROL PANEL TO WALL - 1219.2mm[4']
1.1.4. TOP - NO OBSTRUCTIONS ALLOWED.
1.1.5. DISTANCE BETWEEN ADJACENT UNITS - 3048mm[10']
1.1.6. NO MORE THAN ONE ADJACENT WALL MAY BE HIGHER THAN UNIT.

2. WEIGHT AND CENTER OF GRAVITY - REFER TO AVM REPORT.

3. INSTALLING CONTRACTOR MUST INCLUDE VENT AND DRAIN ACCOMMODATIONS IN CHILLED WATER PIPING NEAR THE EVAPORATOR.

4. NUMBER OF COMPRESSORS MAY VARY FROM DRAWING.
4.1. REFER TO PRODUCT LITERATURE.

THIS DRAWING IS FOR THE FOLLOWING
MODELS
QTC3205T
QTC3225T



NOTE:
PRIMARY DIMENSIONS ARE ISO STANDARD MILLIMETER.
IMPERIAL DIMENSIONS ARE SHOWN IN BRACKETS.



QUANTECH

REV.	DATE	EC. NO.	DR.	CHK.	ENG.
NEW		ECN19-0877			

CONTINUED

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DO NOT SCALE
DRAWN: D.B. NEWSBARGER 27-JAN-2020
CHKD: X. WANG 27-JAN-2020
ENG

PRODUCT DRAWING
QTC3
WITH PUMP & HEAT RECOVERY
12 FAN
MATERIAL
ENG. STD.
PART NO.
COT SIZE
DRAWING NUMBER
035-28261-014
REVISION
01
SHEET 1 OF 1
Eng. Ckg

16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



Wiring Diagrams

Product Type: QTC3 - Air-Cooled Chiller

Unit Tags: CH-2

AVM Report

Project Name: **Owego**

Unit Tag: **CH-2**

Qty.: **1**

Model: **QTC3205THJ46XF**

PIN								
QTC3205THJ	46XFBSDTXA	SXBLXCXX40	BEXXXXHXXX	XUXGTXXXXX	AVGXXXXXXK6			
....5...10	5...20	5...30	5...40	5...50	5...60	5...70	5...80	5...90

L1

L2

Ln-1

Ln



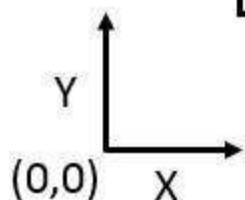
Control Panel End

R1

R2

Rn-1

Rn



AVM Data						
LOCATION	X Distance [in]	Y Distance [in]	JCI PART NUMBER	SAP NUMBER	COLOUR	Operating Weights [lb]
R1	7.7	1.4	N/A	N/A		772
R2	76.7	1.4	N/A	N/A		1618
R3	149.1	1.4	N/A	N/A		1524
R4	212.5	1.4	N/A	N/A		393
R5	263.9	1.4	N/A	N/A		721
L1	7.7	86.9	N/A	N/A		986
L2	76.7	86.9	N/A	N/A		2199
L3	149.1	86.9	N/A	N/A		1415
L4	212.5	86.9	N/A	N/A		393
L5	263.9	86.9	N/A	N/A		721

Weight Data			
Total Weight [lb]		Centre of Gravity [in]	
Shipping Weight [lb]	10617.0	Xg [in]	120.3
Operating Weights [lb]	10742	Yg [in]	46.8

Unit Specifications Text

Product Type: QTC3 - Air-Cooled Chiller

Unit Tags: CH-2

Air Cooled Scroll Liquid Chiller - Quantech QTC3 R454B 60Hz

I. GENERAL

a. GENERAL REQUIREMENTS

- i. The requirements of this Section shall conform to the general provisions of the Contract, including General and Supplementary Conditions, Conditions of the Contract, and Contract Drawings.

b. SCOPE

- i. Provide Microprocessor controlled, multiple scroll compressor, air-cooled, liquid chillers of the scheduled capacities as shown and indicated on the Drawings, including but not limited to:
 - 1. Chiller package
 - 2. Charge of refrigerant and oil
 - 3. Electrical power and control connections
 - 4. Chilled liquid connections
 - 5. Manufacturer start-up

c. QUALITY ASSURANCE

- i. Products shall be Designed, Tested, Rated and Certified in accordance with, and Installed in compliance with applicable sections of the following Standards and Codes:
 - 1. AHRI 550/590 – Water Chilling Packages Using the Vapor Compression Cycle
 - 2. AHRI 370 – Sound Rating of Large Outdoor Refrigerating and Air-Conditioning Equipment
 - 3. ANSI/ASHRAE 15 – Safety Code for Mechanical Refrigeration
 - 4. ANSI/ASHRAE 34 – Number Designation and Safety Classification of Refrigerants
 - 5. ASHRAE 90.1 – Energy Standard for Buildings Except Low-Rise Residential Buildings
 - 6. ANSI/NFPA 70 – National Electrical Code (N.E.C.)
 - 7. ASME Boiler and Pressure Vessel Code, Section VIII, Division 1
 - 8. OSHA – Occupational Safety and Health Act
 - 9. Manufactured in facility registered to ISO 9001
 - 10. Conform to Intertek Testing Services for construction of chillers and provide ETL/cETL Listed Mark
 - ii. Factory Run Test: Chiller shall be pressure-tested, evacuated and fully charged with refrigerant and oil, and shall be factory operational run tested with water flowing through the vessel.
 - iii. Chiller manufacturer shall have a factory trained and supported service organization.
 - iv. Warranty: Manufacturer shall Warrant all equipment and material of its manufacture against defects in workmanship and material for a period of eighteen (18) months from date of shipment or twelve (12) months from date of start-up, whichever occurs first.
- ### d. DELIVERY AND HANDLING
- i. Unit shall be delivered to job site fully assembled with all interconnecting refrigerant piping and internal wiring ready for field installation and charged with refrigerant and oil by the Manufacturer.
 - ii. Provide protective covering over vulnerable components for unit protection during shipment. Fit nozzles and open ends with plastic or fabric enclosures.
 - iii. Unit shall be stored and handled per Manufacturer's instructions.

II. PRODUCTS

a. CHILLER MATERIALS AND COMPONENTS

- i. General: Install and commission, as shown on the schedules and plans, factory assembled, charged, and tested air cooled scroll compressor chiller(s) as specified herein. Chiller shall be designed, selected, and constructed using a refrigerant with Flammability rating of "1", as defined by ANSI/ASHRAE STANDARD 34 Number Designation and Safety Classification of Refrigerants. Chiller shall include not less than two refrigerant circuits above 50 tons (200kW), scroll compressors, direct-expansion type evaporator, air-cooled condenser, refrigerant, lubrication system, interconnecting wiring, safety and operating controls including capacity controller, control center, motor starting components and special features as specified herein or required for safe, automatic operation.
- ii. Cabinet: External structural members shall be constructed of heavy gauge, galvanized steel coated with baked on powder paint which, when subject to ASTM B117, 1000 hour, 5% salt spray test, yields minimum ASTM 1654 rating of "6".
- iii. Operating Characteristics: Provide low and high ambient temperature control options as required to ensure unit is capable of operation from 30°F to 115°F (-1°C to 46°C) ambient temperature. [Optional: -10°F to 125°F (-23°C to 52°C) ambient.]
- iv. Service Isolation valves: Discharge (ball type) isolation valves factory installed per refrigerant circuit. Includes a system high-pressure relief valve in compliance with ASHRAE15.
- v. Pressure Transducers and Readout Capability
 - 1. Discharge Pressure Transducers: Permits unit to sense and display discharge pressure.
 - 2. Suction Pressure Transducers: Permits unit to sense and display suction pressure.
 - 3. High Ambient Control: Allows units to operate when the ambient temperature is above 115°F (46°C). Includes discharge pressure transducers

b. COMPRESSORS

- i. Compressors: Shall be hermetic, scroll-type, including:
 - 1. Compliant design for axial and radial sealing.
 - 2. Refrigerant flow through the compressor with 100% suction cooled motor.
 - 3. Large suction side free volume and oil sump to provide liquid handling capability.
 - 4. Compressor crankcase heaters to provide extra liquid migration protection.
 - 5. Annular discharge check valve and reverse vent assembly to provide low-pressure drop, silent shutdown and reverse rotation protection.
 - 6. Initial oil charge.
 - 7. Oil level sight glass.
 - 8. Vibration isolator mounts for compressors.
 - 9. Brazed-type connections for fully hermetic refrigerant circuits.
 - 10. Compressor Motor overloads capable of monitoring compressor motor current. Provides extra protection against compressor reverse rotation, phase-loss and phase-imbalance.

c. REFRIGERANT CIRCUIT COMPONENTS

- i. Each refrigerant circuit shall include: a discharge service ball type isolation valve, high side pressure relief, liquid line shutoff valve with charging port, low side pressure relief device, filter-drier, solenoid valve, sight glass with moisture indicator, thermostatic expansion valves, and flexible, closed-cell foam insulated suction line and suction pressure transducer.

d. HEAT EXCHANGERS

- i. Evaporator:
 - 1. Evaporator shall be brazed-plate stainless steel construction capable of refrigerant working pressure of 650 psig (3103 kPa) and liquid side pressure of 150 psig (1034 kPa) [Option for 300 psig (2068 kPa) available].
 - 2. Brazed plate heat exchangers shall be UL listed.
 - 3. Exterior surfaces shall be covered with 3/4" (19mm), flexible, closed cell insulation, thermal conductivity of 0.26k ([BTU/HR-Ft² - °F]/in.) maximum.

4. Water nozzles shall be provided with grooves for field provided ANSI/AWWA C-606 mechanical couplings.
 5. Evaporator shall include vent and drain fittings and thermostatically controlled heaters to protect to -20°F (-29°C) ambient in off-cycle.
 6. A serviceable wye-strainer and mechanical couplings shall be provided for field installation on evaporator inlet prior to startup.
- ii. Air-cooled Condenser:
1. Coils: Condenser coils shall be constructed of a single material to avoid galvanic corrosion due to dissimilar metals. Coils and headers are brazed as one piece. Integral sub cooling is included. Coils shall be designed for a design working pressure of 650 PSIG (45 bar). Condenser coil shall be washable with potable water under 100 psi (7 bar) pressure.
 2. Low Sound Fans: Shall be dynamically and statically balanced, direct drive, corrosion resistant glass fiber reinforced composite blades molded into a low noise, full-airfoil cross section, providing vertical air discharge and low sound. Each fan shall be provided in an individual compartment to prevent crossflow during fan cycling. Guards of heavy gauge, PVC (poly- vinylchloride) coated or galvanized steel shall be factory installed.
 3. Fan Motors: High efficiency, direct drive, 6 pole, 3 phase, insulation class "F" , current protected, Totally Enclosed Air-Over (TEAO) , rigid mounted, with double sealed, permanently lubricated, ball bearings.
 4. Low Sound Fans with Variable Speed Drives. All fans shall be powered by VSDs. Fans shall provide vertical air discharge from extended orifices. Fans shall be composed of corrosion resistant aluminum hub and glass-fiber-reinforced polypropylene composite blades molded into a low-noise airfoil section. Fan impeller shall be dynamically balanced for vibration-free operation. Fan guards of heavy gauge, PVC (polyvinyl chloride) coated or galvanized steel.
- e. CONTROLS
- i. General: Automatic start, stop, operating, and protection sequences across the range of scheduled conditions and transients.
 - ii. Power/Control Enclosure: Rain and dust tight NEMA 3R powder painted steel cabinet with hinged, latched, and gasket sealed door.
 - iii. Microprocessor Control Center:
 1. Automatic control of compressor start/stop, anti-coincidence and anti-recycle timers, automatic pumpdown at system shutdown, condenser fans, evaporator pump, evaporator heater, unit alarm contacts, and chiller operation from -10°F to 125°F (-23°C to 52°C) ambient. Automatic reset to normal chiller operation after power failure.
 2. Software stored in non-volatile memory, with programmed setpoints retained in lithium battery backed real-time-clock (RTC) memory for minimum 5 years.
 3. Forty character liquid crystal display, descriptions in English (or Spanish, French, Italian, or German), numeric data in English (or Metric) units. Sealed keypad with sections for Setpoints, Display/Print, Entry, Unit Options & clock, and On/Off Switch.
 4. Programmable Setpoints (within Manufacturer limits): display language; chilled liquid temperature setpoint and range, remote reset temperature range, daily schedule/holiday for start/stop, manual override for servicing, low and high ambient cutouts, low liquid temperature cutout, low suction pressure cutout, high discharge pressure cutout, anti-recycle timer (compressor start cycle time), and anti-coincident timer (delay compressor starts).
 5. Display Data: Return and leaving liquid temperatures, low leaving liquid temperature cutout setting, low ambient temperature cutout setting, outdoor air temperature, English or metric data, suction pressure cutout setting, each system suction pressure, liquid temperature reset via a 4-20milliamp or 0-10 VDC input, anti-recycle timer status for each compressor, anti-coincident system start timer condition, compressor run status, no cooling load condition, day, date and time, daily start/stop times, holiday status, automatic or manual system lead/lag control, lead system definition, compressor starts/operating hours (each), status of hot gas valves, evaporator heater and fan operation, run permissive status, number of compressors running, liquid solenoid valve status, load & unload timer status, water pump status.
 6. System Safeties: Shall cause individual compressor systems to perform auto shut down; manual reset required after the third trip in 90 minutes. System Safeties include: high discharge pressure, low suction pressure, high pressure switch, and motor protector. Compressor motor protector shall protect against damage due to high input current or thermal overload of windings.
 7. Unit Safeties: Shall be automatic reset and cause compressors to shut down if low ambient, low leaving chilled liquid temperature, under voltage, and flow switch operation.
 8. Alarm Contacts: Low ambient, low leaving chilled liquid temperature, low voltage, low battery, and (per compressor circuit): high discharge pressure, and low suction pressure.
 9. BAS Communications: BACnet MS/TP, Modbus and N2 communication capabilities are standard.
 - iv. Manufacturer shall provide any controls not listed above, necessary for automatic chiller operation. Mechanical Contractor shall provide field control wiring necessary to interface sensors to the chiller control system.

f. POWER CONNECTION AND DISTRIBUTION

i. Power Panels:

1. NEMA 3R/12 rain/dust tight, powder painted steel cabinets with hinged, latched, and gasket sealed outer doors. Provide main power connection(s), control power connections, compressor and fan motor start contactors, current overloads, and factory wiring.
2. Power supply shall enter unit at a single location, be 3 phase of scheduled voltage, and connect to individual terminal blocks per compressor. Separate disconnecting means and/or external branch circuit protection (by Contractor) required per applicable local or national codes.

ii. Compressor, control and fan motor power wiring shall be located in an enclosed panel or routed through liquid tight conduit.

g. ACCESSORIES AND OPTIONS

i. Some accessories and options supersede standard product features. Your Quantech representative will be pleased to provide assistance.

ii. Microprocessor controlled, Factory installed Across-the-Line type compressor motor starters as standard.

iii. Low Ambient Control: Permits unit operation to -10°F ambient. Standard unit controls to 30°F ambient.

1. High Ambient Control: Permits unit operation above 115°F ambient.

iv. Power Supply Connections:

1. Single Point or Multiple Point Disconnect: Single or Dual point Non-Fused Disconnect(s) and lockable external handle (in compliance with Article 440-14 of N.E.C.) can be supplied to isolate the unit power voltage for servicing. Separate external fusing must be supplied, by others, in the incoming power wiring, which must comply with the National Electric Code and/or local codes.

v. Control Power Transformer: Converts unit power voltage to 120-1-60 (500 VA capacity). Factory-mounting includes primary and secondary wiring between the transformer and the control panel.

vi. Low Temperature Process Glycol: Leaving chilled liquid setpoint range 10°F to 50°F (-12°C to 10°C)

vii. Chicago Code Relief Valves to meet Chicago Code requirements.

viii. Hydronic Kit

1. Hydronic kit shall be factory installed within the framework of the chiller, lowering additional installation costs and decreasing floor space occupied by mechanical equipment.
2. The hydronic kit shall include features such as:
 - a. Factory-installed Y strainer with a drain port.
 - b. Factory-installed butterfly shut off valve for servicing pumps.
 - c. Factory-installed Armstrong 4392 pump with two drain ports on the lower side of the casing.
 - d. ¼" NPT fitting for field provided venting device.
 - e. ¼" NPT fitting for factory-installed thermal dispersion flow switch.
 - f. Flow Trex Combination Valve, including shut off valve, check valve and balancing capability.
3. The unit with the hydronic kit shall have single point power, reducing installation time and cost.
4. The hydronic kit shall have remote on/off control through the chiller micropanel.
5. Hydronic kit piping and components shall be heated and insulated for freeze protection.
6. Hydronic kit shall use variable speed drive (VSD), which:
 - a. Reduces commissioning time needed to balance the system.
 - b. Saves energy when used in variable primary flow arrangements.

III. EXECUTION

a. INSTALLATION

- i. General: Rig and Install in full accordance with Manufacturer' s requirements, Project drawings, and Contract documents.
- ii. Location: Locate chiller as indicated on drawings, including cleaning and service maintenance clearance per Manufacturer instructions. Adjust and level chiller on support structure.
- iii. Components: Installing Contractor shall provide and install all auxiliary devices and accessories for fully operational chiller.
- iv. Electrical: Coordinate electrical requirements and connections for all power feeds with Electrical Contractor (Division 16).
- v. Controls: Coordinate all control requirements and connections with Controls Contractor.
- vi. Finish: Installing Contractor shall paint damaged and abraded factory finish with touch-up paint matching factory finish.

Warranties

Product Type: QTC3 - Air-Cooled Chiller

Unit Tags: CH-2



STANDARD LIMITED WARRANTY ENGINEERED SYSTEMS EQUIPMENT

SERVICE POLICY

Su persed es: 50.05-NM2 (812)

Form 50.05-NM2 (1212)

POLICY STATEMENT

Johnson Controls (JCI) warrants all equipment and associated factory supplied materials or start-up services performed by Johnson Controls in connection therewith, against defects in workmanship and material for a period of eighteen (18) months from date of shipment, or twelve (12) months from date of start up, whichever occurs first. Subject to the exclusions listed below, Johnson Controls, at its option, will repair or replace, FOB point of shipment, such products or components as it finds defective.

Except for reciprocating replacement compressors, which Johnson Controls warrants for a period of twelve (12) months from date of shipment, Johnson Controls warrants Johnson Controls reconditioned or replacement materials, or installation or start-up services performed by Johnson Controls in connection therewith, against defects in workmanship and material for a period of (90) days from date of shipment.

The above represents the minimum warranty policy Johnson Controls will extend to customers. Additional product specific coverage is provided as outlined in related warranty policies. No warranty repairs or replacements will be made until payment for all equipment, materials, or components has been received by Johnson Controls.

EXCLUSIONS:

Unless specifically agreed to in the contract documents, this warranty does not include the following costs and expenses:

1. Labor to remove or reinstall any equipment, materials or components.
2. Shipping, handling or transportation charges, including cranes, safety walks or other safety requirements specific to jobsites.
3. Cost of refrigerant.
4. Freight damage.
5. Field applied coatings added to any surface or heat exchanger
6. Rental Chillers.

ALL WARRANTIES ARE VOID IF:

1. Equipment is used with refrigerants, oil, additives, or antifreeze agents other than those authorized by supplying factory.
2. Equipment is used with any material or any equipment such as evaporators, tubing, other low side equipment or refrigerant controls not approved by supplying factory
3. Equipment has been damaged by freezing because it was not properly protected during cold weather or damaged by fire or any other conditions not ordinarily encountered.
4. Equipment is not installed, operated, maintained and serviced in accordance with instructions issued by Johnson Controls.
5. Equipment is damaged due to dirt, air, moisture, or other foreign matter entering the refrigerant system.
6. Equipment is not properly stored, protected, or inspected by the customer during the period from date of shipment to date of initial start-up.
7. Field coating of coil has occurred.
8. Equipment is damaged due to acts of god, abuse, including shipping damage, neglect, sabotage, or acts of terrorists.
9. Equipment has modifications carried out that have an effect on the original design of the product without such work being authorized by the factory. Any on site design changes or unit modification/replacement shall be authorized in advance by the factory.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESS OR IMPLIED IN LAW OR IN FACT, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE WARRANTIES CONTAINED HEREIN SET FORTH BUYER'S SOLE AND EXCLUSIVE REMEDY IN THE EVENT OF A DEFECT IN WORKMANSHIP OR MATERIALS. IN NO EVENT SHALL JOHNSON CONTROLS' LIABILITY FOR DIRECT OR COMPENSATORY DAMAGES EXCEED THE PAYMENTS RECEIVED BY JOHNSON CONTROLS FROM BUYER FOR THE MATERIAL OR EQUIPMENT INVOLVED, NOR SHALL JOHNSON CONTROLS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. THESE LIMITATIONS ON LIABILITY AND DAMAGES SHALL APPLY UNDER ALL THEORIES OF LIABILITY OR CAUSES OF ACTION, INCLUDING BUT NOT LIMITED TO, CONTRACT, WARRANTY, TORT, (INCLUDING NEGLIGENCE) OR STRICT LIABILITY. THE ABOVE LIMITATIONS SHALL INURE TO THE BENEFIT OF JOHNSON CONTROLS SUPPLIERS AND SUBCONTRACTORS.



**78 MONTH (2-6 YEAR) PARTS AND LABOR WARRANTY
FOR THE COMPRESSOR
QUANTECH
ENGINEERED SYSTEMS**

PRODUCT TYPE:	Air Cooled Scroll Chillers	COMPRESSOR SERIAL NUMBER(S):
CONTRACT NO.:		
UNIT MODEL NUMBER:	QTC3205THJ	
UNIT SERIAL NUMBER:		
UNIT TAG ID:	CH-2	
UNIT LOCATION:		

PROJECT NAME: Owego
INSTALLATION ADDRESS: _____ Shipping Date _____

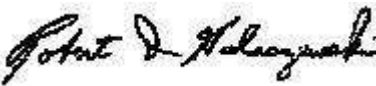
The term of this agreement is 78 MONTH (2-6 YEAR), commencing _____ and expires _____.

LIMITED WARRANTY

WHEN PROPERLY ENDORSED, THIS PROTECTION PLAN BETWEEN QUANTECH AND CUSTOMER, WARRANTS, TO THE CUSTOMER NAMED HEREIN, FOR THE . IT DOES NOT COVER REFRIGERANT COST, FREIGHT CHARGES, OR ANY OTHER COSTS.

THIS WARRANTY EXCLUDES IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND WE DO NOT ASSUME, OR AUTHORIZE ANY OTHER PERSON TO ASSUME OTHER WARRANTIES FOR US. THIS WARRANTY IS OFFERED AS AN EXTENSION TO THE STANDARD LIMITED WARRANTY (FORM 50.05-NM2) AND IS SUBJECT TO THE SAME LIMITATIONS AND EXCLUSIONS, EXCEPT WHERE NOTED.

THIS PROTECTION PLAN DOES NOT COVER FAILURE OR DAMAGE RESULTING FROM FIRE, FLOOD, ABUSE, OR ACT OF GOD. ALSO EXCLUDED ARE DAMAGES OR FAILURES CAUSED BY INSTALLATION, OPERATION, OR MAINTENANCE CONTRARY TO QUANTECH RECOMMENDATIONS, OR THOSE OF THE MANUFACTURER IF OTHER THAN QUANTECH. IN NO EVENT SHALL QUANTECH BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGE, LOSS, OR INJURY. WARRANTY FOR EXCHANGE OR PARTS PROCUREMENT SERVICE SHALL BE AVAILABLE THROUGH THE SERVICER LISTED HEREIN DURING NORMAL WORKING HOURS.

DISTRICT SERVICE OFFICE:		
OFFRED BY:		
	Quantech Selling Representative Print/Sign	Date
APPROVED BY:		
	Quantech Area Service Manager Print/Sign	Date
ACCEPTED BY:		
(Manufacturer' s Use Only)	Customer Signature	Date
AUTHORIZED BY:		
	Manager, Warranty Administration	2026-05-01
Product CodeRef:		Date



Equipment Release Approval Form

SUBMITTAL NOTES

Product Type:QTC3 - Air-Cooled Chiller

Unit Tags:CH-2

The following table must be completed prior to releasing the equipment for fabrication. Please initial the column indicating the information contained in this submittal has been verified, or indicate to refer to a marked-up page.

SUBMITTAL VERIFICATION	
	Purchaser Initials
Electrical voltage and electrical connections are compatible with jobsite requirements.	
Piping / Ductwork connections shown in this submittal are correct .	
Unit tag designations are correct.	
Equipment dimensions (length, width, and height) and weights have been verified to comply with jobsite conditions and rigging requirements. Please indicate approval by your initials on all included drawings.	
Verify "Unit Hand" of any Air Handling Equipment per the definition provided on the " Equipment Release / Configuration Process " form.	



SUBMITTAL VERIFICATION	
	Purchaser Initials
Indicate equipment configuration choices on the Equipment Release /Configuration Process form (if included on this Submittal package), and sign the form.	

Important Notes:

- 1) Actual fabrication release cannot commence until this form is signed by the customer and returned to JCI along with a release notification want date and ship to address.
- 2) Equipment "lead-time" does not start until confirmed release documentation is received, and the order is actually released to the factory.
- 3) Modifications to equipment configurations after fabrication release may impact cost and lead-time
- 4) Attached configurations are as shown in the approved equipment submittals or as defined in superseding customer correspondence.
- 5) AHU "Side" / "Hand" orientation is relative to a person standing inside an AHU with air hitting the back of the head.
- 6) Note that once this document is confirmed, the equipment configurations defined by this document take precedence over all other documents.
- 7) "Want date" and/or "ship to address" changes made after this document is confirmed may impact cost and lead-time.
- 8) Air handler drawings also include shipping split explosions with corresponding weights and dimensions. If additional splits are required, there will be additional costs and the unit length will increase.



Please fill out the following table and refer to the receiving/rigging instructions in this submittal to help ensure a smooth delivery and installation of the equipment.

DELIVERY INFORMATION	
	Please fill out information below
Contact name for coordinating delivery of equipment with transportation company	
Contact phone number	
Advance notice required from transportation company prior to delivering equipment (typically 48 hours)	
Ship to address:	
Other special shipping instructions or requirements	



CUSTOMER APPROVAL:

Customer
Name:

Signature (*)

Date:

Pre-Bid RFIs shall be submitted to:
Aaron Leach aleach@tamcolle.net and
Cheryl Zondlo czondlo@ha-pa.com

Subject line of email to include: OACSD CP Phase 4 PB RFI

APRIL 10, 2026
BID DOCUMENTS

HIGHLAND ASSOCIATES / TAMCO MANAGEMENT

Contractor Pre-Bid RFI Form

(Please Type or Print Neatly)

Date: April 29, 2026

Company: Matco Electric Corporation Name: John Antoni

Phone #: 607-729-4921 E-mail: jantoni@matcoelectric.com

Contract(s) bidding on: 4. Electrical Construction

Drawing Referenced: ES-100

Spec Section Referenced: 012300 Alternates

Other References: _____

REQUEST: Alternate 3 states: All work associated with the field lighting at the OFA Field as designated, demolition, construction, Site, electrical and associated work.

Could you please clarify the electrical scope of work for Alternate 3? Does alternate 3 include pipe and wire to musco lighting, receptacles flag pole, score board, panel boards, equipment pad etc. etc?

ANSWER: _____

Alternate #3: Musco sports lighting including pole bases and branch wiring shall be in the scope of work for Alternate #3.

Base Bid: Conduit for the sports lighting and all other site electrical work such as site and parking lot lighting, panel boards, flag pole, etc shall be base bid.

Answered By: Cheryl Zondlo Date: 05-01-2026

Pre-Bid RFIs shall be submitted to:
Aaron Leach aleach@tamcolle.net and
Cheryl Zondlo czondlo@ha-pa.com

Subject line of email to include: OACSD CP Phase 4 PB RFI

APRIL 10, 2026
BID DOCUMENTS

HIGHLAND ASSOCIATES / TAMCO MANAGEMENT

Contractor Pre-Bid RFI Form

(Please Type or Print Neatly)

Date: 4/29/26

Company: Smith Site Development Name: Chris Clark

Phone #: 607-692-4204 E-mail: chrisclark@smithsitedev.com

Contract(s) bidding on: _____

Drawing Referenced: _____

Spec Section Referenced: 01-12-00 Multiple Contract Summary / 01-23-00 Alternates

Other References: _____

REQUEST: _____

Multiple Contract Summary 01-12-00 states that the Sports Lighting is in the Electrical Contract.

Specification section 01-23-00 Alternates shows this as being Alternate 03 OFA Field Lighting.

I do not however see a specification for the Sports Lighting. I also do not see any notes listed in the Multiple Contract Summary of work or on the Electrical Drawings that state who is

responsible for the concrete pole bases for the site lighting or the sports lighting in Alternate 03?

ANSWER: Could you please clarify this as the sports lighting typically has 17-20' deep foundations,

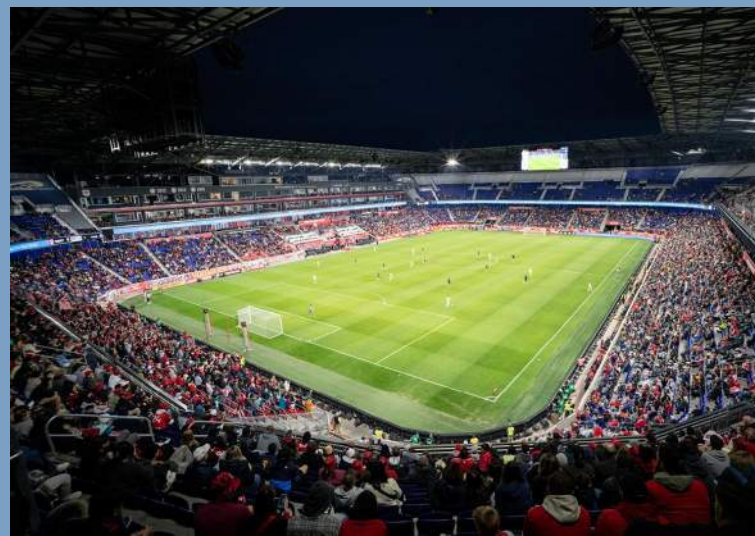
and I can't seem to find who is responsible for them. A detail with diameter and depth would

definitely help if the Sitework contractor is responsible for supplying sports field lighting

foundations.

Answered By: _____

Date: _____



Sports Illustrated Stadium, Harrison, New Jersey, USA



UBS Arena, Elmont, New York, USA



Iowa Women of Achievement Bridge, Des Moines, Iowa, USA



Tottenham Hotspur FC Training Ground, Tottenham, London, UK

Owego Apalachin CSD Multipurpose Overlay

Owego, NY



Sales Representative: Nathan Lindsay · Designed By: C.Michels · Design No.: 196333A · January 14, 2026

Owego Apalachin CSD Multipurpose Overlay
Owego,NY

LIGHTING SYSTEM

Structure/Fixture Summary						
Structure ID	Structure Height	Fixt. Attachment Ht.	Fixture Qty	Fixture Type	Load	Circuit
S1-S4	80'	80'	1	TLC-LED-550	0.54 kW	B
		80'	8	TLC-LED-1500	11.28 kW	A
4			36		47.28 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Multipurpose	45.12 kW	32
B	Pedestrian	2.16 kW	4

Fixture Type Summary								
Type	Circuit	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	A	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	32
TLC-LED-550	B	LED 5700K - 75 CRI	540W	67,000	>120,000	>120,000	>120,000	4

Single Fixture Amperage Draw Chart								
Driver Specifications (.90 min power factor)			Line Amperage Per Fixture (max draw)					
Single Phase Voltage			208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	480 (60)
TLC-LED-1500			8.4	7.9	7.3	6.3	5.0	3.6
TLC-LED-550			3.2	3.0	2.8	2.4	1.9	1.4

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination Ave					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Field Hockey	Horizontal Illuminance	52.53	45	58	1.31	1.18	A	32
Home Bleachers	Horizontal	5.01	4	7	1.76	1.34	B	4
Lacrosse	Horizontal Illuminance	52.16	43	58	1.35	1.21	A	32
Project Spill @ 3ft.	Horizontal Illuminance	0.0440	0.00	0.14	32.859	10.050	A	32
Project Spill @ 5ft.	Max Candela Metric	2217.0491	476.95	4785.96	10.035	4.648	A	32
Project Spill @ 5ft.	Max Vertical Illuminance Metric	0.0940	0.01	0.25	25.075	9.448	A	32
Soccer	Horizontal Illuminance	51.78	43	58	1.35	1.20	A	32
Visitor Bleachers	Horizontal	5.84	4	8	2.03	1.52	B	4

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions.

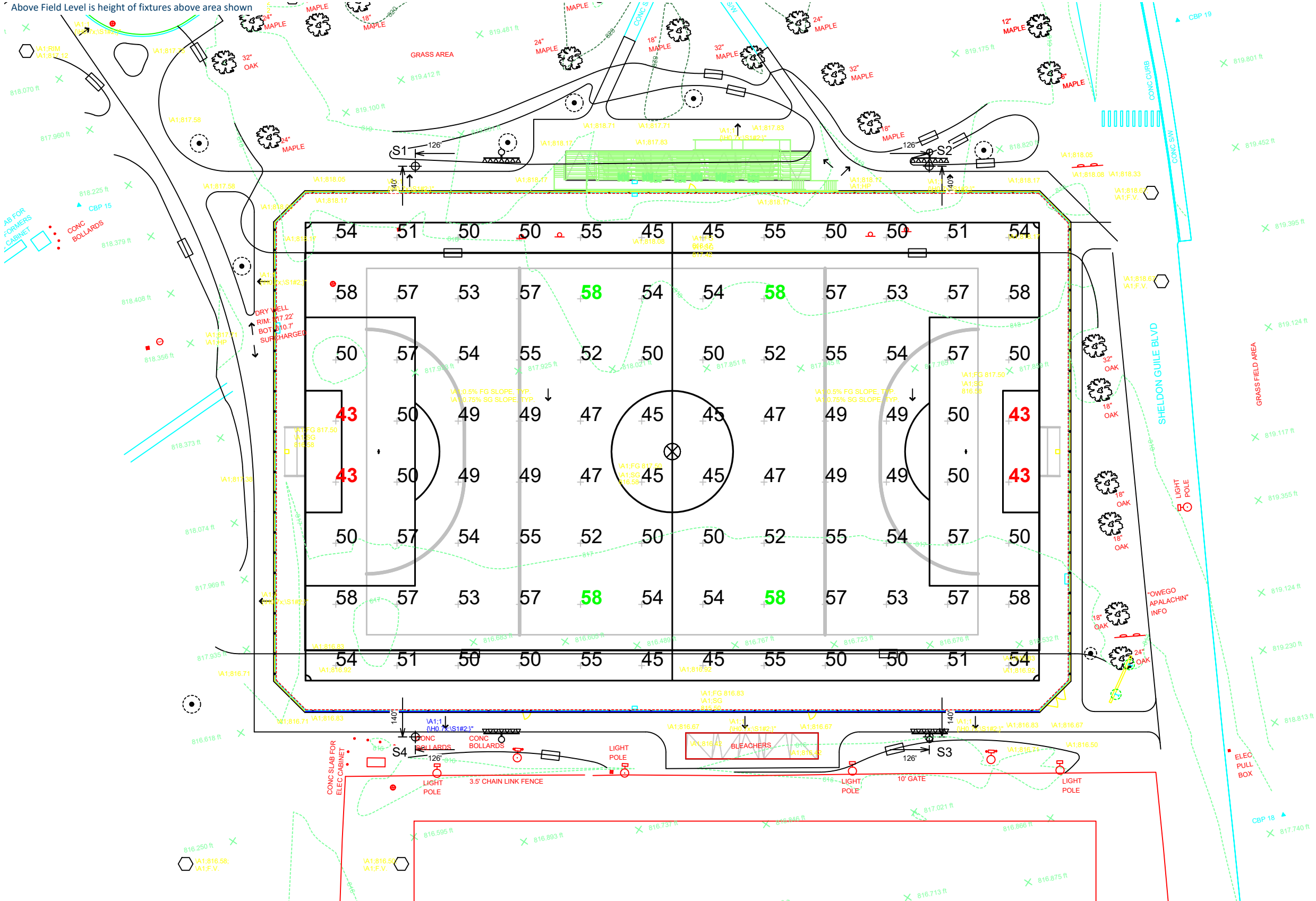
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

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								
Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	8	0
				80'	TLC-LED-550	1	0	1
4	Totals					36	32	4

Above Field Level is height of fixtures above area shown



SCALE IN FEET 1 : 50
ENGINEERED DESIGN By: C.Michels • File #196333A • 14-Jan-26

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

Owego Apalachin CSD Multipurpose Overlay

Owego, NY

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:	50
Scan Average:	51.78
Maximum:	58
Minimum:	43
Avg/Min:	1.20
Guaranteed Max/Min:	2
Max/Min:	1.35
UG (adjacent pts):	1.21
CU:	0.77
No. of Points:	96
FIXTURE INFORMATION	
Applied Circuits:	A
No. of Fixtures:	32
Total Load:	45.12 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.

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

Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	8	0
				80'	TLC-LED-550	1	0	1
4				Totals		36	32	4

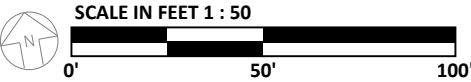
This site plan illustrates a 10.7-acre property with a central building complex and an adjacent parking lot. The building complex is divided into several sections, with elevations ranging from 45 to 58 feet. The parking lot is located to the left of the building, with a 10.7-acre area designated for parking. The plan also shows various trees, including 12" Maple, 18" Maple, 24" Maple, 32" Maple, 32" Oak, and 18" Oak. Infrastructure details include a 3.5' chain link fence, light poles, and a 10' gate. The plan is surrounded by a grass area and a road labeled "SHELDON GULE BLVD".

Key Features and Details:

- Building Complex:** A central building with multiple sections, including a large central hall and several smaller rooms. Elevations are marked throughout the building, ranging from 45 to 58 feet.
- Parking Lot:** A large parking area to the left of the building, with a 10.7-acre area designated for parking. It includes a 10' gate and a 3.5' chain link fence.
- Infrastructure:** Includes a 3.5' chain link fence, light poles, and a 10' gate. A "CONC SLAB FOR ELEC. CABINET" is located near the gate.
- Vegetation:** Various trees are shown, including 12" Maple, 18" Maple, 24" Maple, 32" Maple, 32" Oak, and 18" Oak.
- Surrounding Area:** The property is surrounded by a grass area and a road labeled "SHELDON GULE BLVD". A "GRASS FIELD AREA" is also indicated.

Elevation Data:

- Building sections: 45, 47, 49, 50, 52, 53, 54, 55, 57, 58.
- Parking lot: 45, 47, 49, 50, 52, 53, 54, 55, 57, 58.
- Surrounding area: 816.813 ft, 816.825 ft, 816.832 ft, 816.835 ft, 816.837 ft, 816.839 ft, 816.841 ft, 816.843 ft, 816.845 ft, 816.847 ft, 816.849 ft, 816.851 ft, 816.853 ft, 816.855 ft, 816.857 ft, 816.859 ft, 816.861 ft, 816.863 ft, 816.865 ft, 816.867 ft, 816.869 ft, 816.871 ft, 816.873 ft, 816.875 ft, 816.877 ft, 816.879 ft, 816.881 ft, 816.883 ft, 816.885 ft, 816.887 ft, 816.889 ft, 816.891 ft, 816.893 ft, 816.895 ft, 816.897 ft, 816.899 ft, 816.901 ft, 816.903 ft, 816.905 ft, 816.907 ft, 816.909 ft, 816.911 ft, 816.913 ft, 816.915 ft, 816.917 ft, 816.919 ft, 816.921 ft, 816.923 ft, 816.925 ft, 816.927 ft, 816.929 ft, 816.931 ft, 816.933 ft, 816.935 ft, 816.937 ft, 816.939 ft, 816.941 ft, 816.943 ft, 816.945 ft, 816.947 ft, 816.949 ft, 816.951 ft, 816.953 ft, 816.955 ft, 816.957 ft, 816.959 ft, 816.961 ft, 816.963 ft, 816.965 ft, 816.967 ft, 816.969 ft, 816.971 ft, 816.973 ft, 816.975 ft, 816.977 ft, 816.979 ft, 816.981 ft, 816.983 ft, 816.985 ft, 816.987 ft, 816.989 ft, 816.991 ft, 816.993 ft, 816.995 ft, 816.997 ft, 816.999 ft, 817.001 ft, 817.003 ft, 817.005 ft, 817.007 ft, 817.009 ft, 817.011 ft, 817.013 ft, 817.015 ft, 817.017 ft, 817.019 ft, 817.021 ft, 817.023 ft, 817.025 ft, 817.027 ft, 817.029 ft, 817.031 ft, 817.033 ft, 817.035 ft, 817.037 ft, 817.039 ft, 817.041 ft, 817.043 ft, 817.045 ft, 817.047 ft, 817.049 ft, 817.051 ft, 817.053 ft, 817.055 ft, 817.057 ft, 817.059 ft, 817.061 ft, 817.063 ft, 817.065 ft, 817.067 ft, 817.069 ft, 817.071 ft, 817.073 ft, 817.075 ft, 817.077 ft, 817.079 ft, 817.081 ft, 817.083 ft, 817.085 ft, 817.087 ft, 817.089 ft, 817.091 ft, 817.093 ft, 817.095 ft, 817.097 ft, 817.099 ft, 817.101 ft, 817.103 ft, 817.105 ft, 817.107 ft, 817.109 ft, 817.111 ft, 817.113 ft, 817.115 ft, 817.117 ft, 817.119 ft, 817.121 ft, 817.123 ft, 817.125 ft, 817.127 ft, 817.129 ft, 817.131 ft, 817.133 ft, 817.135 ft, 817.137 ft, 817.139 ft, 817.141 ft, 817.143 ft, 817.145 ft, 817.147 ft, 817.149 ft, 817.151 ft, 817.153 ft, 817.155 ft, 817.157 ft, 817.159 ft, 817.161 ft, 817.163 ft, 817.165 ft, 817.167 ft, 817.169 ft, 817.171 ft, 817.173 ft, 817.175 ft, 817.177 ft, 817.179 ft, 817.181 ft, 817.183 ft, 817.185 ft, 817.187 ft, 817.189 ft, 817.191 ft, 817.193 ft, 817.195 ft, 817.197 ft, 817.199 ft, 817.201 ft, 817.203 ft, 817.205 ft, 817.207 ft, 817.209 ft, 817.211 ft, 817.213 ft, 817.215 ft, 817.217 ft, 817.219 ft, 817.221 ft, 817.223 ft, 817.225 ft, 817.227 ft, 817.229 ft, 817.231 ft, 817.233 ft, 817.235 ft, 817.237 ft, 817.239 ft, 817.241 ft, 817.243 ft, 817.245 ft, 817.247 ft, 817.249 ft, 817.251 ft, 817.253 ft, 817.255 ft, 817.257 ft, 817.259 ft, 817.261 ft, 817.263 ft, 817.265 ft, 817.267 ft, 817.269 ft, 817.271 ft, 817.273 ft, 817.275 ft, 817.277 ft, 817.279 ft, 817.281 ft, 817.283 ft, 817.285 ft, 817.287 ft, 817.289 ft, 817.291 ft, 817.293 ft, 817.295 ft, 817.297 ft, 817.299 ft, 817.301 ft, 817.303 ft, 817.305 ft, 817.307 ft, 817.309 ft, 817.311 ft, 817.313 ft, 817.315 ft, 817.317 ft, 817.319 ft, 817.321 ft, 817.323 ft, 817.325 ft, 817.327 ft, 817.329 ft, 817.331 ft, 817.333 ft, 817.335 ft, 817.337 ft, 817.339 ft, 817.341 ft, 817.343 ft, 817.345 ft, 817.347 ft, 817.349 ft, 817.351 ft, 817.353 ft, 817.355 ft, 817.357 ft, 817.359 ft, 817.361 ft, 817.363 ft, 817.365 ft, 817.367 ft, 817.369 ft, 817.371 ft, 817.373 ft, 817.375 ft, 817.377 ft, 817.379 ft, 817.381 ft, 817.383 ft, 817.385 ft, 817.387 ft, 817.389 ft, 817.391 ft, 817.393 ft, 817.395 ft, 817.397 ft, 817.399 ft, 817.401 ft, 817.403 ft, 817.405 ft, 817.407 ft, 817.409 ft, 817.411 ft, 817.413 ft, 817.415 ft, 817.417 ft, 817.419 ft, 817.421 ft, 817.423 ft, 817.425 ft, 817.427 ft, 817.429 ft, 817.431 ft, 817.433 ft, 817.435 ft, 817.437 ft, 817.439 ft, 817.441 ft, 817.443 ft, 817.445 ft, 817.447 ft, 817.449 ft, 817.451 ft, 817.453 ft, 817.455 ft, 817.457 ft, 817.459 ft, 817.461 ft, 817.463 ft, 817.465 ft, 817.467 ft, 817.469 ft, 817.471 ft, 817.473 ft, 817.475 ft, 817.477 ft, 817.479 ft, 817.481 ft, 817.483 ft, 817.485 ft, 817.487 ft, 817.489 ft, 817.491 ft, 817.493 ft, 817.495 ft, 817.497 ft, 817.499 ft, 817.501 ft, 817.503 ft, 817.505 ft, 817.507 ft, 817.509 ft, 817.511 ft, 817.513 ft, 817.515 ft, 817.517 ft, 817.519 ft, 817.521 ft, 817.523 ft, 817.525 ft,



Pole location(s) $\oplus$ dimensions are relative to 0,0 reference point(s) $\otimes$

Grid Summary	
Name:	Field Hockey
Size:	300' x 180'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	50
Scan Average:	52.53
Maximum:	58
Minimum:	45
Avg/Min:	1.18
Guaranteed Max/Min:	2
Max/Min:	1.31
UG (adjacent pts):	1.13
CU:	0.49
No. of Points:	60
FIXTURE INFORMATION	
Applied Circuits:	A
No. of Fixtures:	32
Total Load:	45.12 kW

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

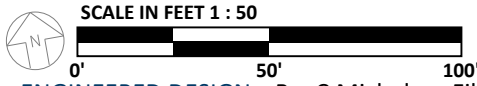
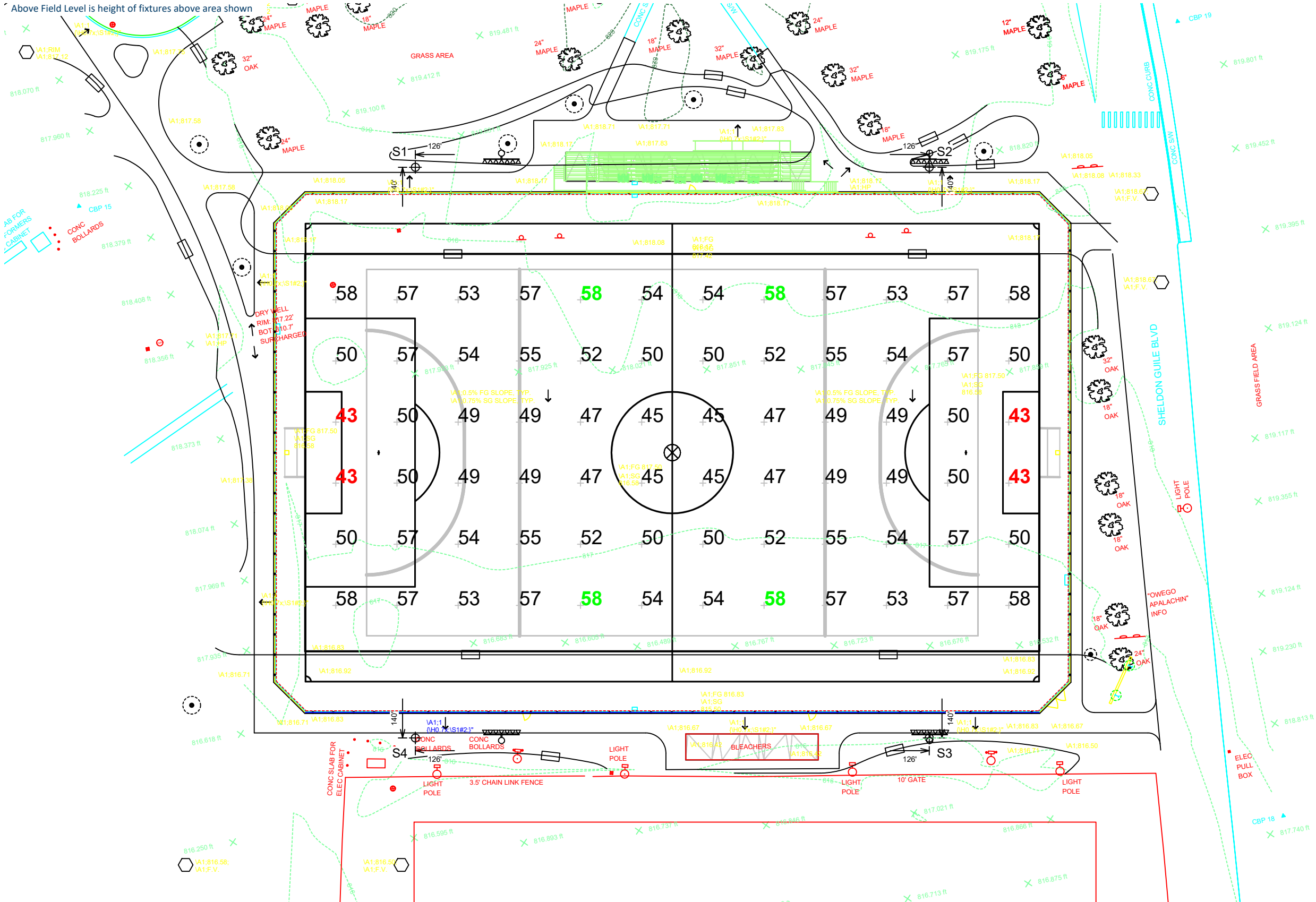


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ILLUMINATION SUMMARY

Equipment List For Areas Shown								
Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	8	0
				80'	TLC-LED-550	1	0	1
4	Totals					36	32	4

Above Field Level is height of fixtures above area shown



ENGINEERED DESIGN By: C.Michels • File #196333A • 14-Jan-26

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

Owego Apalachin CSD Multipurpose Overlay

Owego, NY

Grid Summary	
Name:	Lacrosse
Size:	360' x 195'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

Illumination Summary	
	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average:	50
Scan Average:	52.16
Maximum:	58
Minimum:	43
Avg/Min:	1.21
Guaranteed Max/Min:	2
Max/Min:	1.35
UG (adjacent pts):	1.17
CU:	0.58
No. of Points:	72
FIXTURE INFORMATION	
Applied Circuits:	A
No. of Fixtures:	32
Total Load:	45.12 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.

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.

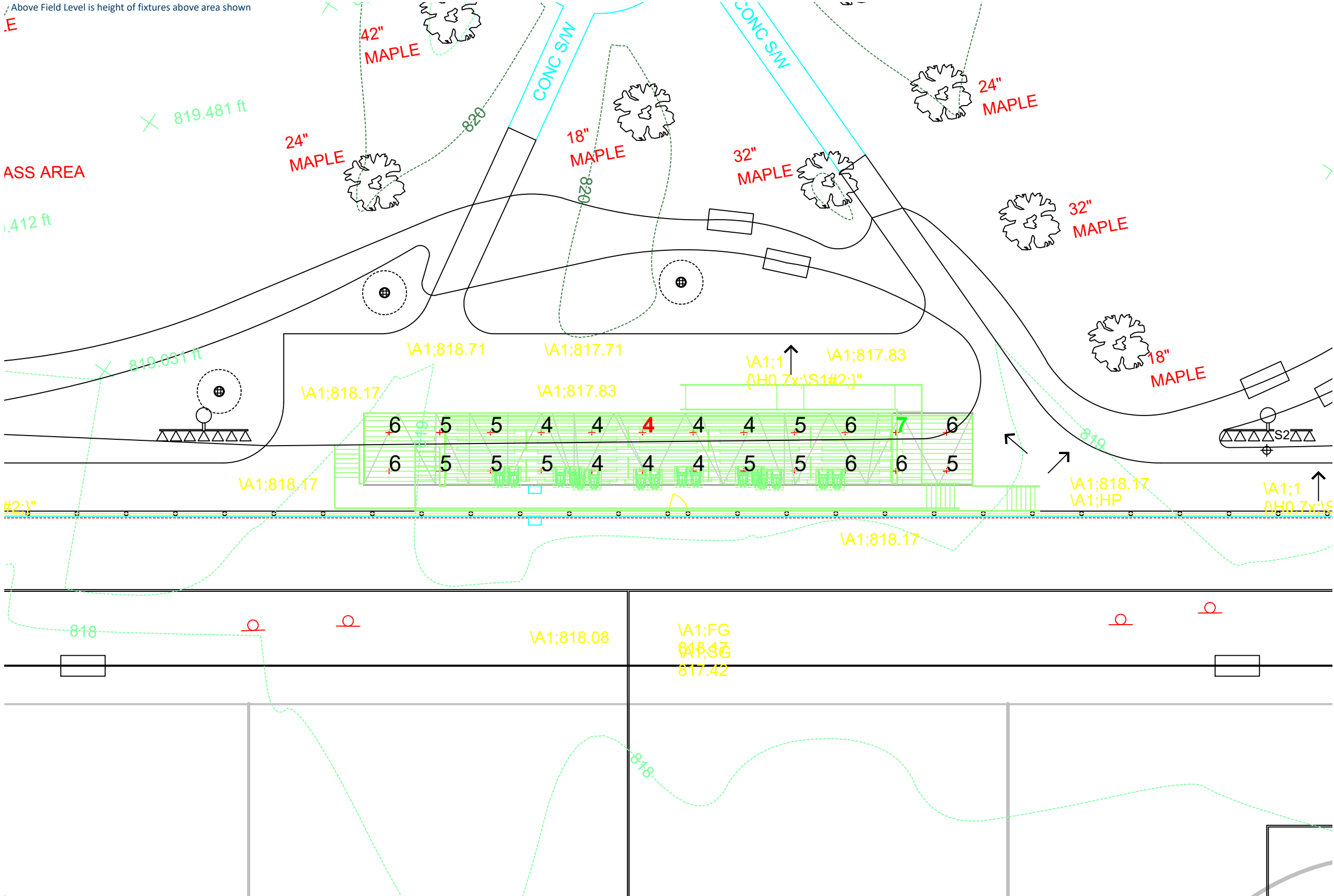


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ILLUMINATION SUMMARY

Equipment List For Areas Shown								
Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	0	8
				80'	TLC-LED-550	1	1	0
4	Totals					36	4	32

Above Field Level is height of fixtures above area shown



SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: C.Michels • File #196333A • 14-Jan-26

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

Owego Apalachin CSD Multipurpose Overlay

Owego,NY

Grid Summary	
Name:	Home Bleachers
Spacing:	10.0' x 10.0'

Illumination Summary	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	5.01
Maximum:	7
Minimum:	4
Avg/Min:	1.34
Max/Min:	1.76
UG (adjacent pts):	1.24
CU:	0.04
No. of Points:	24
FIXTURE INFORMATION	
Applied Circuits:	B
No. of Fixtures:	4
Total Load:	2.16 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.

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

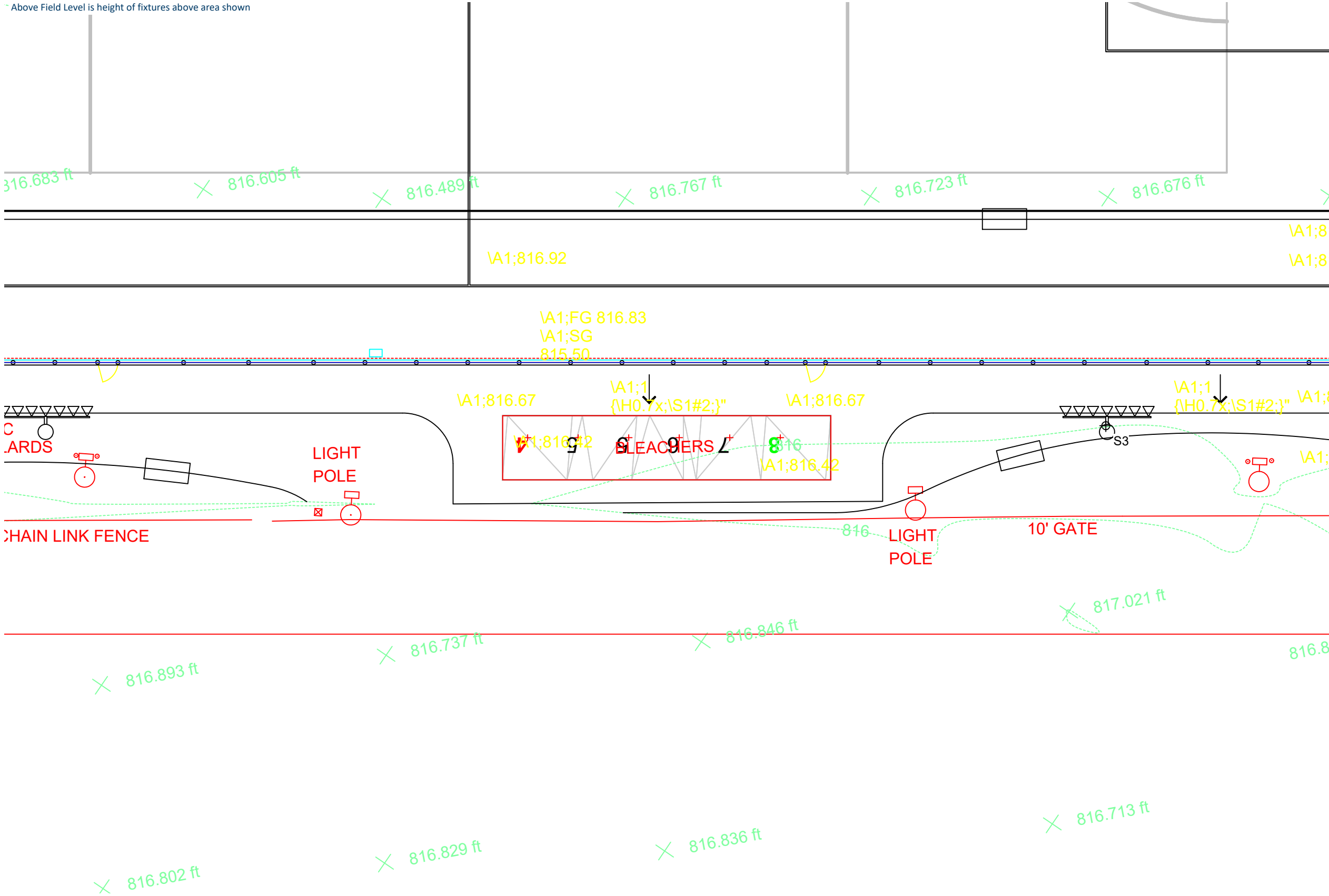
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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Equipment List For Areas Shown								
Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	0	8
				80'	TLC-LED-550	1	1	0
4	Totals					36	4	32

Above Field Level is height of fixtures above area shown



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

Owego Apalachin CSD Multipurpose Overlay

Owego,NY

Grid Summary	
Name:	Visitor Bleachers
Spacing:	10.0' x 10.0'

Illumination Summary	
	MAINTAINED HORIZONTAL FOOTCANDLES
Entire Grid	
Scan Average:	5.84
Maximum:	8
Minimum:	4
Avg/Min:	1.52
Max/Min:	2.03
UG (adjacent pts):	1.19
CU:	0.01
No. of Points:	6
FIXTURE INFORMATION	
Applied Circuits:	B
No. of Fixtures:	4
Total Load:	2.16 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.

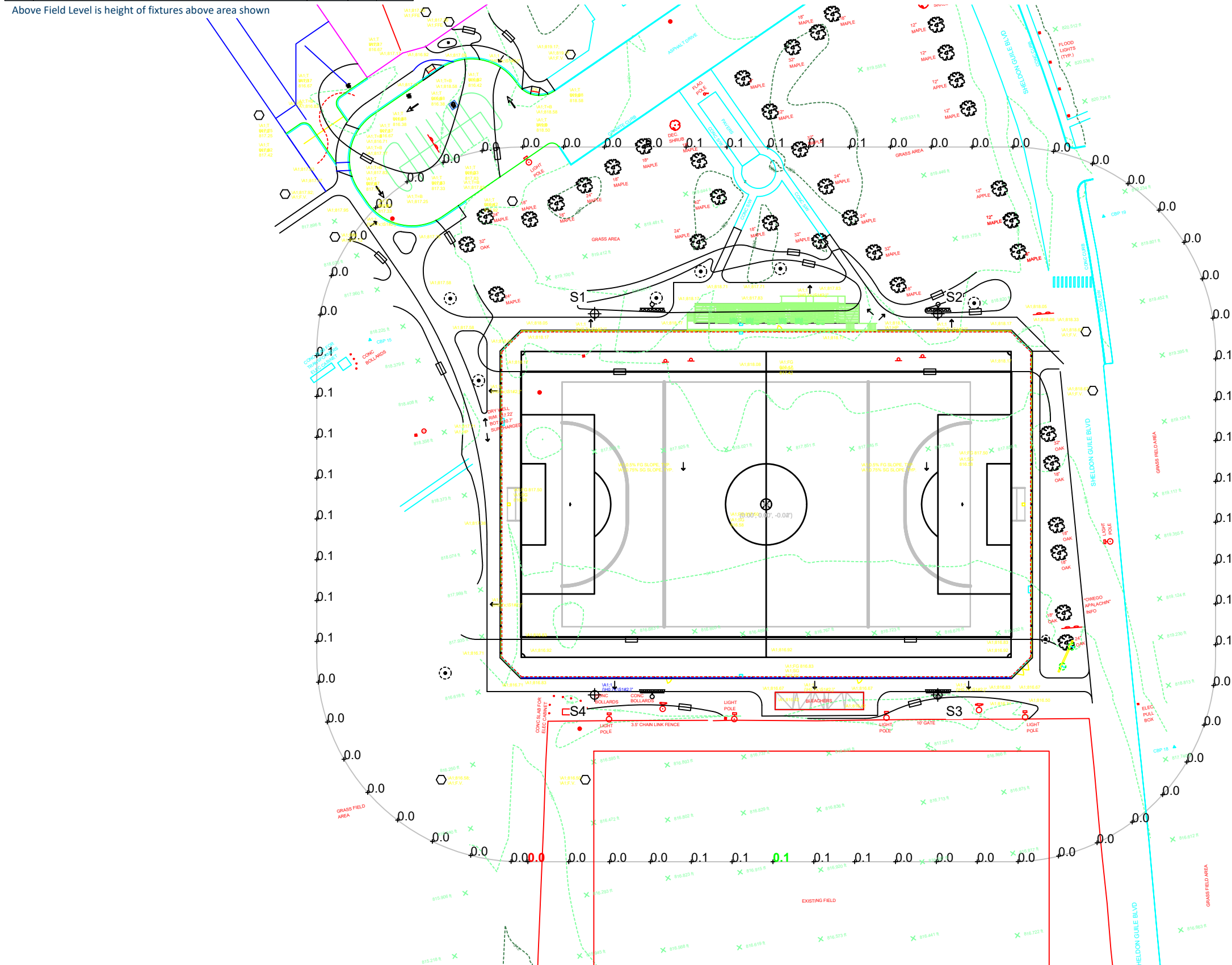
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

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								
Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	8	0
				80'	TLC-LED-550	1	0	1
4	Totals					36	32	4

Above Field Level is height of fixtures above area shown



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

SCALE IN FEET 1 : 80
0' 80' 160'
ENGINEERED DESIGN By: C.Michels • File #196333A • 14-Jan-26

Owego Apalachin CSD Multipurpose Overlay

Owego,NY

Grid Summary

Name: Project Spill @ 3ft.
Spacing: 30.0'
Height: 3.0' above grade

Illumination Summary

INITIAL HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	0.0440
Maximum:	0.14
Minimum:	0.00
CU:	0.00
No. of Points:	71
FIXTURE INFORMATION	
Applied Circuits:	A
No. of Fixtures:	32
Total Load:	45.12 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.

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

Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	8	0
				80'	TLC-LED-550	1	0	1
4				Totals		36	32	4

This is a detailed site plan for a sports field, likely a soccer field, with various annotations and elevation data. The plan includes the following elements:

- Field Layout:** A central rectangular field with a circular center circle and two rectangular goal areas. The field is surrounded by a 3' chain link fence.
- Elevation Data:** Numerous spot elevations are marked throughout the plan, including:
 - Top edge: 1896, 1950, 1206, 628, 1501, 2628, 4765, 3533, 3665, 3091, 3076, 3384, 3817, 4386, 2897, 1620, 743, 1083, 1899, 1950, 1004, 504, 861, 1373, 2282, 2977, 3068, 3819, 3571, 2950, 2600, 1629, 1009, 476, 1109, 1977, 1871, 1014, 810, 1694, 3064, 4135, 3950, 3232, 3072, 3090, 3836, 3395, 4786, 2458, 1427, 556, 1292, 1972, 1850, 764, 576, 949, 1511, 2466, 2965, 3283, 3463, 3246, 2980, 2398, 1456, 914, 544, 841.
 - Right edge: 1896, 1950, 1206, 628, 1501, 2628, 4765, 3533, 3665, 3091, 3076, 3384, 3817, 4386, 2897, 1620, 743, 1083, 1899, 1950, 1004, 504, 861, 1373, 2282, 2977, 3068, 3819, 3571, 2950, 2600, 1629, 1009, 476, 1109, 1977, 1871, 1014, 810, 1694, 3064, 4135, 3950, 3232, 3072, 3090, 3836, 3395, 4786, 2458, 1427, 556, 1292, 1972, 1850, 764, 576, 949, 1511, 2466, 2965, 3283, 3463, 3246, 2980, 2398, 1456, 914, 544, 841.
 - Bottom edge: 1896, 1950, 1206, 628, 1501, 2628, 4765, 3533, 3665, 3091, 3076, 3384, 3817, 4386, 2897, 1620, 743, 1083, 1899, 1950, 1004, 504, 861, 1373, 2282, 2977, 3068, 3819, 3571, 2950, 2600, 1629, 1009, 476, 1109, 1977, 1871, 1014, 810, 1694, 3064, 4135, 3950, 3232, 3072, 3090, 3836, 3395, 4786, 2458, 1427, 556, 1292, 1972, 1850, 764, 576, 949, 1511, 2466, 2965, 3283, 3463, 3246, 2980, 2398, 1456, 914, 544, 841.
 - Left edge: 1896, 1950, 1206, 628, 1501, 2628, 4765, 3533, 3665, 3091, 3076, 3384, 3817, 4386, 2897, 1620, 743, 1083, 1899, 1950, 1004, 504, 861, 1373, 2282, 2977, 3068, 3819, 3571, 2950, 2600, 1629, 1009, 476, 1109, 1977, 1871, 1014, 810, 1694, 3064, 4135, 3950, 3232, 3072, 3090, 3836, 3395, 4786, 2458, 1427, 556, 1292, 1972, 1850, 764, 576, 949, 1511, 2466, 2965, 3283, 3463, 3246, 2980, 2398, 1456, 914, 544, 841.
- Annotations:**
 - Grass Field Area:** Labeled in red text in several locations.
 - Maple:** Numerous trees are marked with 'X' and labeled 'MAPLE'.
 - Light Pole:** Several locations are marked with 'LIGHT POLE'.
 - Gate:** A '10' GATE' is marked near the bottom right.
 - Other Labels:** 'S1', 'S2', 'S3', 'S4' (possibly seating or storage areas), 'CONC. BOLLARDS', '3.5' CHAIN LINK FENCE', 'EXISTING FIELD', 'SHEDDON GULE BLVD', 'CONC. BOLLARDS FOR ELEC. CABINET', 'CHWEGED SPRAYDOWN INFO', 'ELEC. PULL BOX', 'CBP 18', 'CBP 19', 'CBP 20', 'CBP 21', 'CBP 22', 'CBP 23', 'CBP 24', 'CBP 25', 'CBP 26', 'CBP 27', 'CBP 28', 'CBP 29', 'CBP 30', 'CBP 31', 'CBP 32', 'CBP 33', 'CBP 34', 'CBP 35', 'CBP 36', 'CBP 37', 'CBP 38', 'CBP 39', 'CBP 40', 'CBP 41', 'CBP 42', 'CBP 43', 'CBP 44', 'CBP 45', 'CBP 46', 'CBP 47', 'CBP 48', 'CBP 49', 'CBP 50', 'CBP 51', 'CBP 52', 'CBP 53', 'CBP 54', 'CBP 55', 'CBP 56', 'CBP 57', 'CBP 58', 'CBP 59', 'CBP 60', 'CBP 61', 'CBP 62', 'CBP 63', 'CBP 64', 'CBP 65', 'CBP 66', 'CBP 67', 'CBP 68', 'CBP 69', 'CBP 70', 'CBP 71', 'CBP 72', 'CBP 73', 'CBP 74', 'CBP 75', 'CBP 76', 'CBP 77', 'CBP 78', 'CBP 79', 'CBP 80', 'CBP 81', 'CBP 82', 'CBP 83', 'CBP 84', 'CBP 85', 'CBP 86', 'CBP 87', 'CBP 88', 'CBP 89', 'CBP 90', 'CBP 91', 'CBP 92', 'CBP 93', 'CBP 94', 'CBP 95', 'CBP 96', 'CBP 97', 'CBP 98', 'CBP 99', 'CBP 100'.

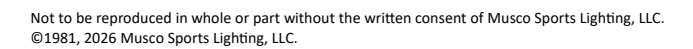


Pole location(s) $\oplus$ dimensions are relative to 0,0 reference point(s) $\otimes$

Grid Summary	
Name:	Project Spill @ 5ft.
Spacing:	30.0'
Height:	5.0' above grade

INITIAL CANDELA (PER FIXTURE)	
	Entire Grid
Scan Average:	2217.0491
Maximum:	4785.96
Minimum:	476.95
CU:	0.00
No. of Points:	71
FIXTURE INFORMATION	
Applied Circuits:	A
No. of Fixtures:	32
Total Load:	45.12 kW

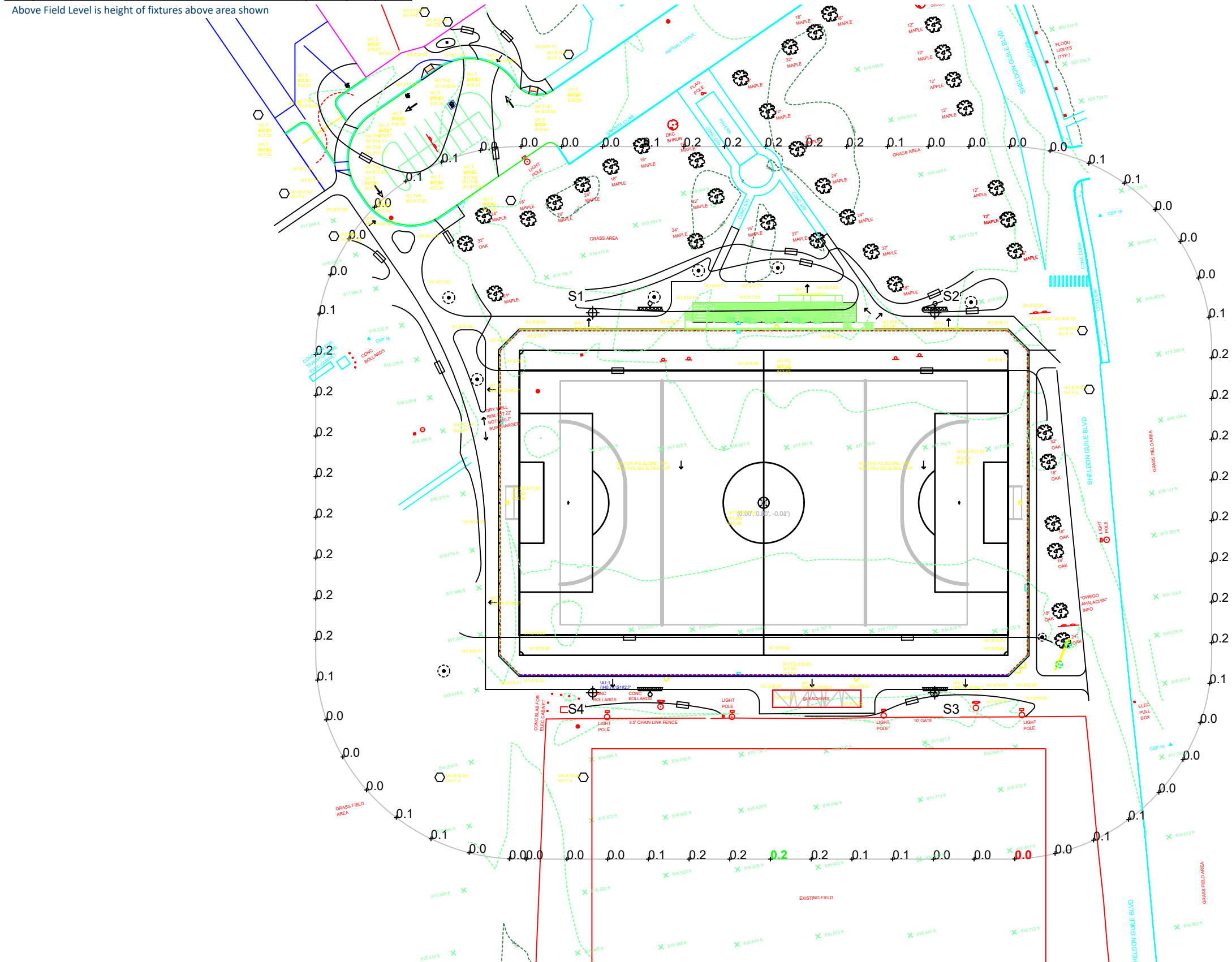
Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



ILLUMINATION SUMMARY

Equipment List For Areas Shown								
Structure				Fixtures				
QTY	STRUCTURE ID	SIZE	GRADE ELEVATION	ABOVE FIELD LEVEL	FIXTURE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	S1-S4	80'	-	80'	TLC-LED-1500	8	8	0
				80'	TLC-LED-550	1	0	1
4	Totals					36	32	4

Above Field Level is height of fixtures above area shown



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

SCALE IN FEET 1 : 80
0' 80' 160'
ENGINEERED DESIGN By: C.Michels • File #196333A • 14-Jan-26

Owego Apalachin CSD Multipurpose Overlay

Owego,NY

Grid Summary	
Name:	Project Spill @ 5ft.
Spacing:	30.0'
Height:	5.0' above grade

Illumination Summary	
	INITIAL MAX VERTICAL FOOTCANDLES
Scan Average:	Entire Grid 0.0940
Maximum:	0.25
Minimum:	0.01
CU:	0.00
No. of Points:	71
FIXTURE INFORMATION	
Applied Circuits:	A
No. of Fixtures:	32
Total Load:	45.12 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.

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

Owego Apalachin CSD Multipurpose Overlay

Owego, NY

Equipment Layout

INCLUDES:
· Field Hockey
· Lacrosse
· 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.

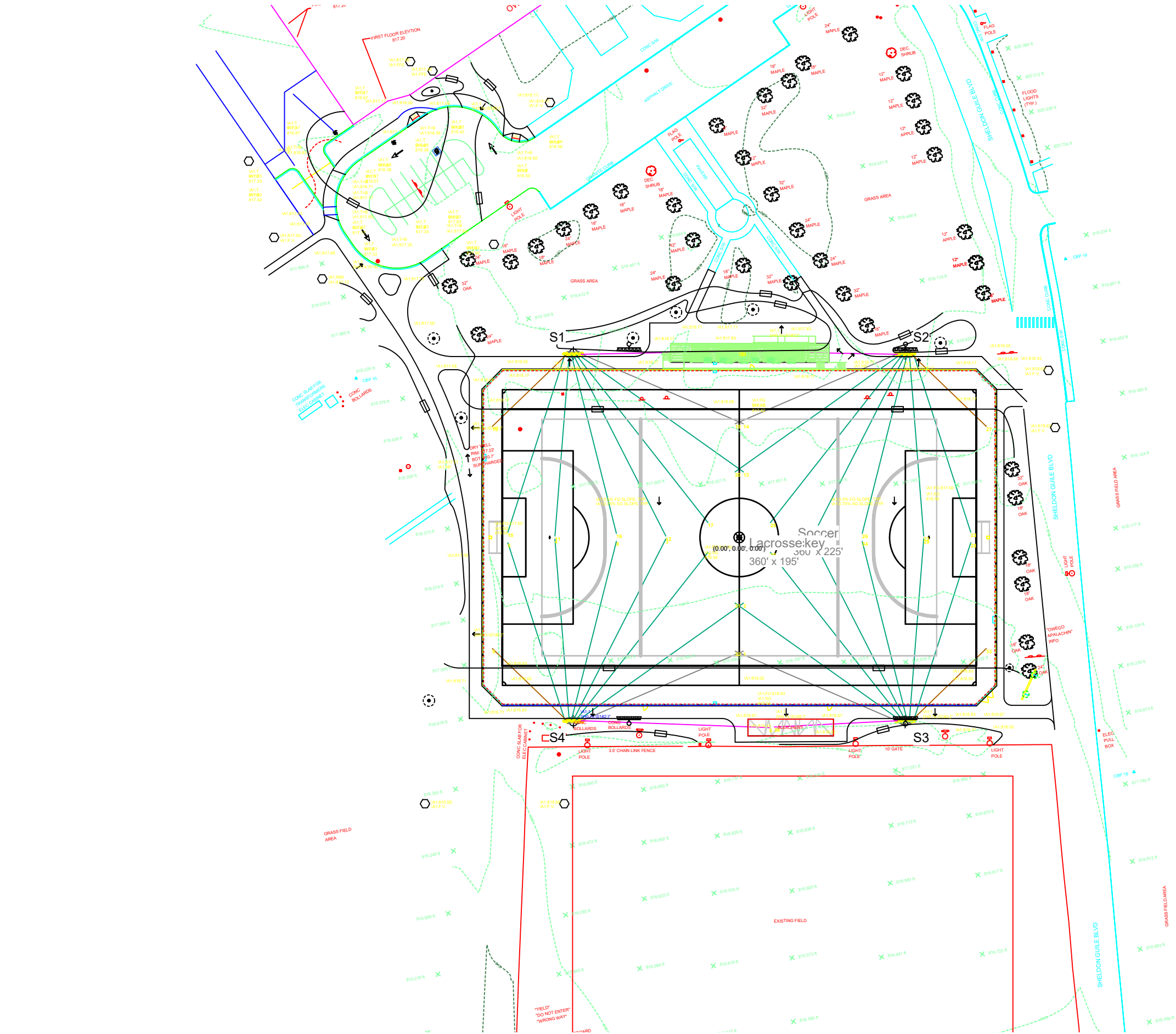
Equipment List For Areas Shown

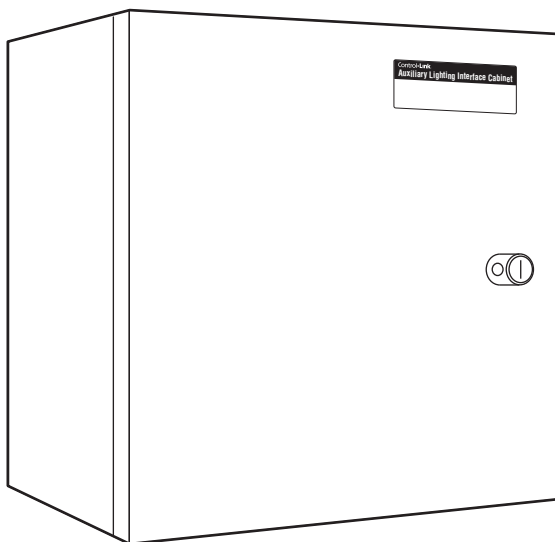
Structure				Fixtures		
QTY	STRUCTURE ID	SIZE	GLOBAL ELEVATION	ABOVE GLOBAL LEVEL	FIXTURE TYPE	QTY/POLE
4	S1-S4	80'	-	80' 80'	TLC-LED-1500 TLC-LED-550	8 1
4	Totals					36

Above Global Level is height of fixtures above design (0,0,0)

Single Fixture Amperage Draw Chart

Driver Specifications (.90 min power factor)	Line Amperage Per Fixture (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage							
TLC-LED-1500	8.4	7.9	7.3	6.3	5.0	4.6	3.6
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4





Overview

The Musco auxiliary lighting interface cabinet is designed to connect emergency power circuits to the lighting system. It energizes emergency lighting in the occurrence of a power outage while the event lighting is in use. Once normal power is restored, egress lighting will remain on for twenty minutes.

Features

- Provides interface for emergency egress power supply to Musco equipment.
- Energizes emergency egress lighting only if event lighting was on at time of power interruption.
- Allows emergency egress luminaires to be used as part of the event lighting and to be scheduled on and off via the Control-Link® control system.
- Controls up to 4 emergency egress lighting contactors simultaneously.
- One second response time allows nine seconds for other necessary emergency egress operations (generator activation, transfer switch, etc) to meet NFPA 101.
- In the event of power interruption, dimming override feature resets selected luminaires to 100% output. Allows full output control of designated emergency luminaires during normal operation.

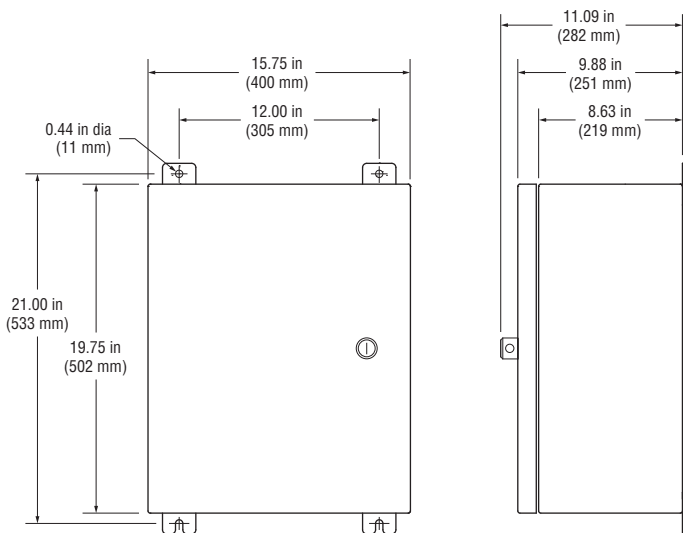
Technical Specifications

Construction

Material Aluminum
 Size.....16 in x 20 in x 10 in
 (406 mm x 508 mm x 254 mm)
 Ingress rating NEMA 4, IP65
 Weight 40 lb (18 kg)

Ratings

UL UL 924, UL 508A
 NFPA NFPA 70, NFPA 101
 Control voltage 120 V 60 Hz, 240 V 50 Hz
 Operating temperature -20°C to 55°C (-4°F to 131°F)



Datasheet: **Auxiliary Lighting Interface Cabinet**

Inputs/Outputs required:

To/From control and monitoring cabinet:

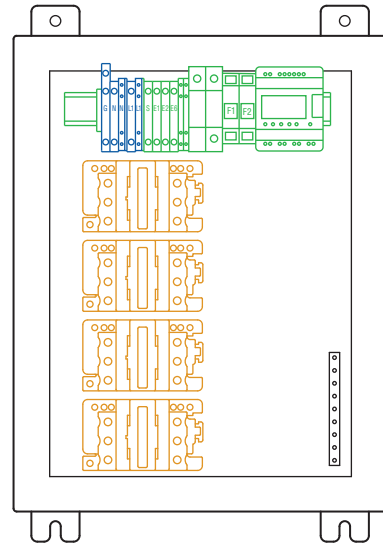
- 120 V 60 Hz (240 V 50 Hz) phase to neutral power to emergency egress relays
- Control and monitoring control power status wire
- Lighting zone status wire
- Egress lighting status zone control wire

From emergency power distribution:

- 120 V 60 Hz (240 V 50 Hz) phase to neutral control power
- Emergency egress lighting supply power

To lighting system electrical components enclosure:

- Emergency egress supply wires



System Requirements: Control System Summary

Project Name: Owego Apalachin CSD Multipurpose Overlay | Project #: 196333

Control System ID: 1 of 1

Distribution Panel Location/ID: Multipurpose

Project Information

Control System

Control System ID:

1 of 1

Control System Type: Control-Link • Control and Monitoring System

Communication Type: PowerLine-ST

Project Notes:

ALIC is fed with a separate 480/3 emergency supply.

Power Requirements

Control cabinet(s):

Control voltage (phase to neutral) 120/60
VA loading - Inrush 1553.0
VA loading - Sealed 180.0

Lighting Circuits:

Voltage/Hertz/Phase 480/60/3

Auxiliary lighting interface cabinet:

Control voltage (phase to neutral) 120/60
VA loading - Inrush 980.0
VA loading - Sealed 111.0

Equipment Listing

Description	Qty	Size (in)
Auxiliary lighting interface cabinet	1	16 X 20
Control and monitoring cabinet - primary	1	24 X 48
Contactors, 30 amperes	4	-
Off/On/Auto switches	2	-

Important Notes:

1. Please confirm that the lighting circuit voltage listed above is accurate for this facility. This is the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
6. Avoid use of in-ground junction/pull boxes when possible. If used, the following best practices must be followed:
 - Underground handholes (pull boxes) must be supported to prevent settling. Boxes buried directly in soil, without support, are not allowed.
 - Use polymer concrete lids marked with ELECTRIC for underground handholes. Steel lids are not allowed.
 - Avoid underground connections when possible. If used, all wire connectors must be UL listed for Wet Locations to prevent leakage current.
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Test wire per ANSI/NETA ATS-2021. Wires with insulation resistance less than 100 MOhms, in water-filled conduit, must be replaced.

System Requirements: Control System Summary

Project Name: Owego Apalachin CSD Multipurpose Overlay | Project #: 196333

Control System ID: 1 of 1

Distribution Panel Location/ID: Multipurpose

Important Notes:

9. Refer to Installation Instructions for more details on equipment information and the installation requirements.

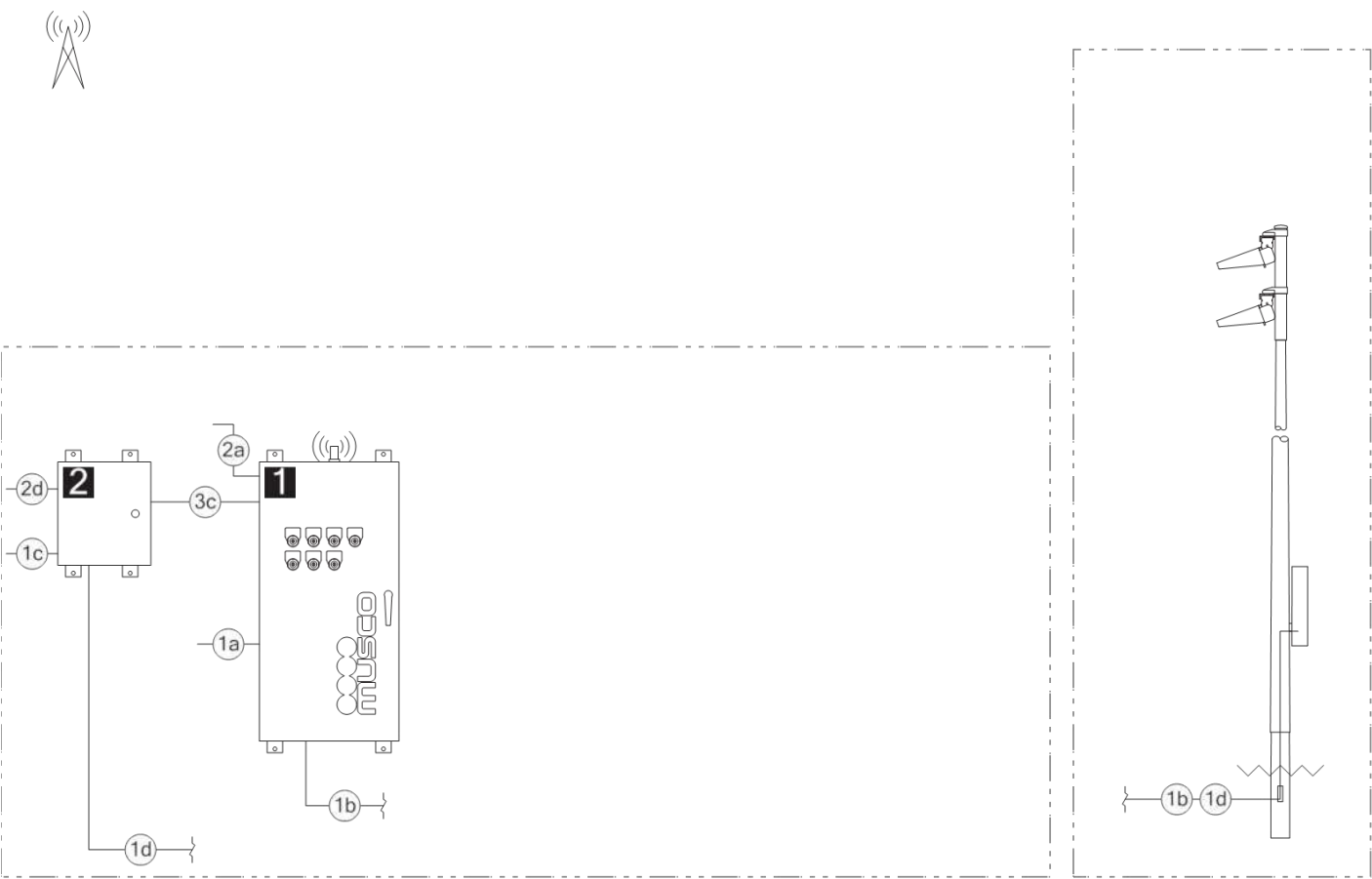
System Requirements: Control System Summary

Project Name: Owego Apalachin CSD Multipurpose Overlay | Project #: 196333

Control System ID: 1 of 1

Distribution Panel Location/ID: Multipurpose

Equipment Layout and Connection Details



Connection Details	
ID	Description
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1c	Emergency circuit - Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1d	Emergency circuit - Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.

Equipment	
ID	Description
1	Control and monitoring cabinet - primary
2	Auxiliary lighting interface cabinet

System Requirements: Control System Summary

Project Name: Owego Apalachin CSD Multipurpose Overlay | Project #: 196333

Control System ID: 1 of 1

Distribution Panel Location/ID: Multipurpose

Equipment Layout and Connection Details

Connection Details - Cont'd

ID	Description
2d	Emergency circuit - Control power with equipment ground. Requires dedicated 20 A emergency circuit. Provide transformer if control voltage not present.
3c	Control harness - Emergency cabinet to primary control cabinet. Use 14 AWG copper conductor for up to 50 feet between cabinets or 12 AWG up to 300 feet. Requires 4 conductors.

Equipment - Cont'd

ID	Description
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System Requirements: Control System Summary

Project Name: Owego Apalachin CSD Multipurpose Overlay | Project #: 196333

Control System ID: 1 of 1

Distribution Panel Location/ID: Multipurpose

Circuit Summary

Zone Schedule		Switch Location
Field/Zone Description	Zone	
Multipurpose	1	Cabinet 1
Pedestrian Egress	2	Cabinet 1

Control Module ID: 1

Lighting Circuit Voltage: 480/60/3

Circuit Summary by Switch							
Switch	Zone Description	Pole ID	Qty of Fixtures	Full load amperes	Contactor Size (Amps)	Cabinet #	Contactor ID
1	Multipurpose	S1	8	18.86	30	1	C1
	Multipurpose	S2	8	18.86	30	1	C2
	Multipurpose	S3	8	18.86	30	1	C3
	Multipurpose	S4	8	18.86	30	1	C4
2	Pedestrian Egress	S1, S2	2	2.41	--	1	--
	Pedestrian Egress	S3, S4	2	2.41	--	1	--

PRELIMINARY FOUNDATION AND POLE ASSEMBLY DRAWING

TABLE 1: POLE ASSEMBLY			
POLE ID	POLE HEIGHT ft (m)	# OF LUMINAIRES	ASSEMBLED POLE WEIGHT ³ lb (kg)
S1	80 (24.4)	9	3530 (1601)
S2	80 (24.4)	9	3530 (1601)
S3	80 (24.4)	9	3530 (1601)
S4	80 (24.4)	9	3530 (1601)

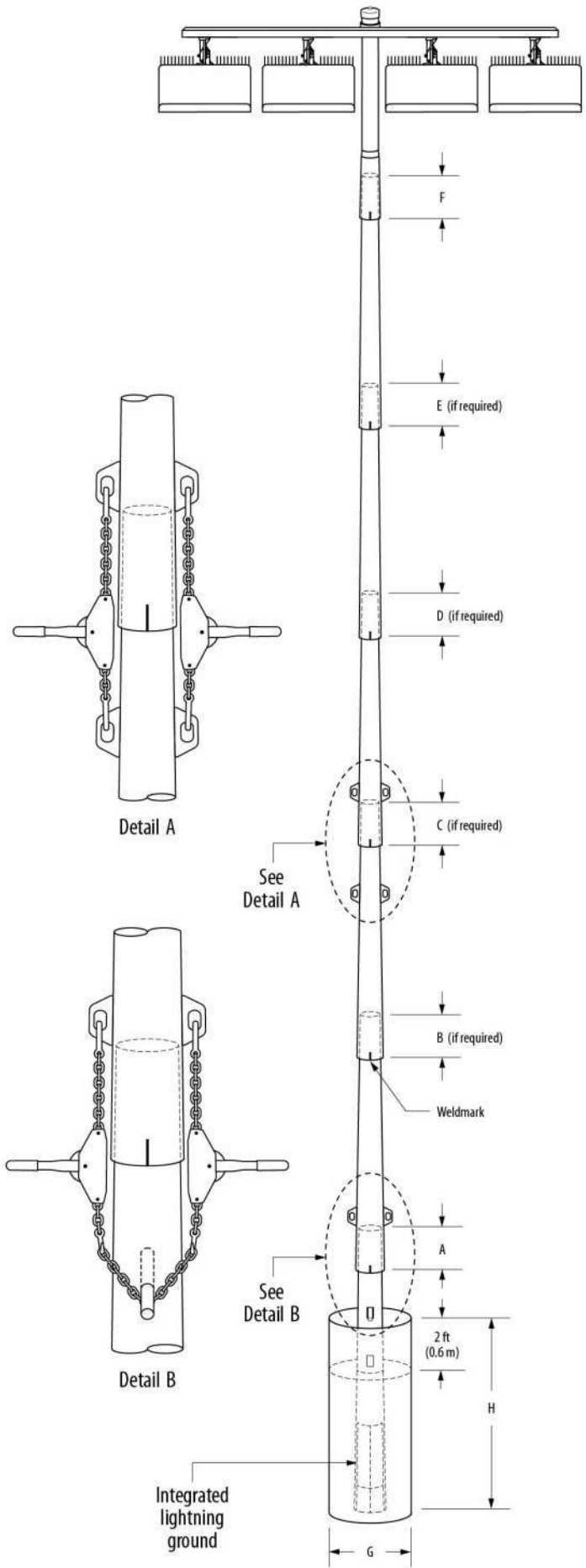
Pole Assembly Notes:

- Steel pole should overlap concrete base and be seated tight with 1 1/2 ton come-alongs (contractor provided).
- Align weldmarks on steel sections before assembling.
- Assembled pole weight includes steel sections, crossarms, luminaires, and electrical components enclosures. If pole has stamped structural design then use pole weight (listed as vertical force) on stamped structural design document.
- Section overlap must be pulled together until tight. Overlap measurement should be +/- 6 in (150 mm).
- This document is not intended for use as an assembly instruction. See *Installation Instructions: Light-Structure System™ Lighting System* for complete assembly procedure.

TABLE 2: FOUNDATION DETAILS							
POLE ID	CONCRETE BASE WEIGHT lb(kg)	BURIAL INFORMATION ^{3,4} G in (mm) H ft (m) CONCRETE BACKFILL ^{1,2} yd ³ (m ³)	CUT BASE	LIGHTNING GROUND ⁵ TYPE	SUPPLEMENTAL INSTRUCTION		
S1	5300 (2404)	30 (762) 16 (4.9) 1.6 (1.2)	NO	INTEGRATED ⁶	N/A		
S2	5300 (2404)	30 (762) 16 (4.9) 1.6 (1.2)	NO	INTEGRATED ⁶	N/A		
S3	5300 (2404)	30 (762) 16 (4.9) 1.6 (1.2)	NO	INTEGRATED ⁶	N/A		
S4	5300 (2404)	30 (762) 16 (4.9) 1.6 (1.2)	NO	INTEGRATED ⁶	N/A		

Foundation Notes:

- Concrete backfill is calculated to 2 ft (0.6m) below grade (no overage included). Top 2 ft (0.6m) to be class 5 soil compacted to 95% density of surrounding undisturbed soil unless otherwise specified in stamped structural design.
- Concrete backfill required 3000 lb/in² (20 MPa) minimum.
- Foundation design per 2021 IBC, 115 mph, exposure category C, variation STD (Risk Category II).
- Assumes IBC class 5 soils.
- Standard bases include integrated lightning protection. If bases are cut, supplemental lightning protection is required. Contact Musco for materials and instruction.
- Lightning protection is a manufacturer installed concrete encased electrode and connector. Ground connection is made when concrete base is installed and footing is poured. No additional steps required.



R60-62-00-en04-01_B

Owego Apalachin CSD Multipurpose Overlay - Owego, NY, USA

Date: 04/07/2026

Scale: Not to Scale

Representative: Nathan Lindsay

Page: 1 of 1

Project: 196333

PRELIMINARY

