

# Barrow County Board of Commissioners

30 North Broad Street Winder Georgia 30680 Phone: (770) 867-1977 Fax: (770) 307-3141

Cindy F. Clack  
Purchasing Agent



## MEMORANDUM – ADDENDUM NO. 2

**To:** Interested Vendors

**From:** Cindy Clack

**Date:** 4/21/2015

**Re:** RFB2015-5 – Sports Lighting – Victor Lord Park – Addendum No. 2

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The following questions have been submitted for RFB2015-5:

1. Will stamped electrical drawings will be required for fabrication?

**Response:** Yes; See Scope of Work under Bidding Contractor's Responsibilities #13.

2. When removing old poles, do we disassemble the poles or lay them in area for others to disassemble?

**Response:**

Cut poles 10ft below fixtures. Place fixtures and remaining poles in an area designated by park staff. Area will be in the same vicinity as the work is taking place.

3. Are we to install conduit and power to future scoreboard on field (8)?

**Response:**

Yes; Conduit is to be installed to scoreboard. However, it is field #11 not field #8 as the questioned was asked.

4. Transformer located on Field 7 is 120/208Y. Is this transformer to service both fields, if so are we to use existing service wire from that transformer to field 8?

**Response:**

Yes; Use existing service wire from that transformer to field #8. If existing phase is used.  
**(See attached revised Control Summaries – Voltage and Phase)**

Original bid docs assumed 480 volt 3 phase for all.

**Option 1:**

**Field 7 - 208 volt 3 phase**

**Field 8 - 480 volt 3 phase (if option 1 is taken - there will be no need for question 3)**

**Option 2:**

**Field 7 - 208 volt 3 phase**

**Field 8 - 208 volt 1 phase**

If Option #2 re-use service wire from main distribution (located at field #7) to secondary service to field #7).

5. Is it possible to have power company install 480 3 phase transformer for field 8?

**Response:**

Please include pricing for Option #1 and Option #2 when pricing fields 8-11.

We are waiting an answer from Ga. Power and will not have answer before bids are due.

***Please use the Revised Bid Form (attached) for entering your pricing.***

6. Confirm we are to dig down and cut old wood poles and leave base in the ground?

**Response:**

That is correct.

7. Confirm the transformers on field 7 will be removed by others.

**Response:**

That is correct.



# Control System Summary

## Project Information

### Project Specific Notes:

Project #: 155065  
 Project Name: Barrow County Recreation Complex  
 Date: 04/20/15  
 Project Engineer: Curt Lamberson  
 Sales Representative: Jeremy Jordan  
 Control System Type: Control and Monitoring  
 Communication Type: Digital Cellular  
 Scan: 155065B,155065A\_1  
 Document ID: 155065P1V2-0420163620  
 Distribution Panel Location or ID: Barrow T-Ball  
 Total # of Distribution Panel Locations for Project: 2  
 Design Voltage/Hertz/Phase: 480/60/3  
 Control Voltage: 120

## Equipment Listing

DESCRIPTION	APPROXIMATE SIZE	
1. Control and Monitoring Cabinet	24 X 48	
2. Surge Protection Device	6 X 10	
	QTY	SIZE
Total Contactors	6	30 AMP
Total Off/On/Auto Switches:	1	

### Materials Checklist

#### Contractor/Customer Supplied:

- A single control circuit must be supplied per distribution panel location.
  - If the control voltage is NOT available, a control transformer is required.
- Electrical distribution panel to provide overcurrent protection for circuits
  - Thermal/Magnetic circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- Wiring:
  - Dedicated control power circuit
  - Power circuit to and from lighting contactors
  - Monitoring circuit from surge protection device to Control and Monitoring cabinet 1
  - Harnesses for cabinets at remote locations
  - Means of grounding, including lightning ground protection
- Electrical conduit wireway system
  - Entrance hubs rated NEMA 4: must be die-cast zinc, PVC, or copper-free die-cast aluminum
- Mounting hardware for cabinets
- Control circuit lock-on device to prevent unauthorized power interruption to control power
- Anti-corrosion compound to apply to ends of wire, if necessary

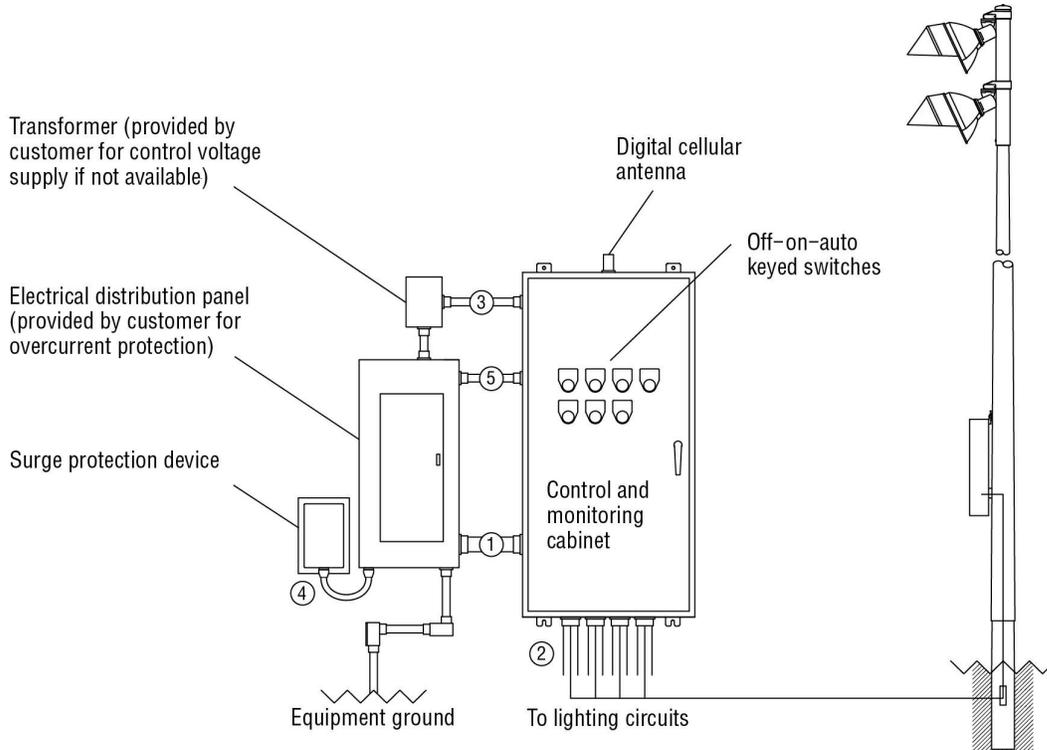
Call Control-Link Central(TM) operations center at 877/347-3319 to schedule activation of the control system upon completion of the installation.  
 Note: Activation may take up to 1 1/2 hours

### IMPORTANT NOTES

1. Please confirm that the design voltage listed above is accurate for this facility. Design voltage/phase is defined as the voltage/phase being connected and utilized at each lighting pole's ballast enclosure disconnect. Inaccurate design voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
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3. One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit. All contactors are UL 100% rated for the published continuous load. All contactors are 3 pole.
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. A single control circuit must be supplied per control system.
6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

*NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements*

## Control•Link® Control and Monitoring System



Wire	Description	# of Wires	Typ. Wire Size (AWG)	Max. Wire Length (FT)	Wire from Musco	Notes
1	Line power to contactors, and equipment grounding conductor	Note A	Note B	27	No	A – E
2	Load power to lighting circuits	Note A	Note B	N/A	No	A – D
3	Control power (dedicated, 20A)	3	12	N/A	No	C, D
4	Surge protection device to distribution panel	--	--	N/A	Yes	F
5	Surge protection device monitoring	3	14	N/A	Yes	C, D, F

R60-32-00\_B

- Notes:
- A. Voltage and phasing per the notes on cover page.
  - B. Calculate per load and voltage drop.
  - C. All conduit diameters should be per code.
  - D. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.
  - E. Contact Musco if maximum wire length from circuit breaker to contactor exceeds value in chart.
  - F. Refer to surge protection device installation instructions for more details on equipment information and the installation requirements.

**IMPORTANT:** Control (3) and monitoring (5) wires must be in separate conduit from line and load power wiring (1, 2).



# Control System Summary

Barrow County Recreation Complex / 155065 - 155065B  
Barrow T-Ball - Page 3 of 8

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Form: T-5030-1

## SWITCHING SCHEDULE

Field/Zone Description	Zones
T-Ball	1

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2058.0
	SEALED: 246.8

BALLAST SPECIFICATIONS .90 Minimum Power Factor	VOLTAGE: 480v THREE PHASE						
	208	220	240	277	347	380	480
BALLAST OPERATING VOLTAGE							
1500 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	8.6	8.3	7.5	6.5	5.1	4.7	3.7
1000 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	6.5	6.4	5.8	4.9	4.0	3.6	2.9

CIRCUIT SUMMARY BY ZONE						
POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A1	T-Ball	4	11.1	30	C1	1
A2	T-Ball	4	11.1	30	C2	1
B1	T-Ball	5	14.8	30	C3	1
B2	T-Ball	6	14.8	30	C4	1
C1	T-Ball	6	14.8	30	C5	1
C2	T-Ball	6	14.8	30	C6	1



# Control System Summary

Barrow County Recreation Complex / 155065 - 155065B  
 Barrow T-Ball - Page 4 of 8

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 Form: T-5030-1

## PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole A1	11.10		
1	1	C2	Pole A2	11.10		
1	1	C3	Pole B1	14.80		
1	1	C4	Pole B2	14.80		
1	1	C5	Pole C1	14.80		
1	1	C6	Pole C2	14.80		

## ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	T-Ball	A1	C1
			A2	C2
			B1	C3
			B2	C4
			C1	C5
			C2	C6



# Control System Summary

## Project Information

### Project Specific Notes:

Project #: 155065  
 Project Name: Barrow County Recreation Complex  
 Date: 04/20/15  
 Project Engineer: Curt Lamberson  
 Sales Representative: Jeremy Jordan  
 Control System Type: Control and Monitoring  
 Communication Type: Digital Cellular  
 Scan: 155065B,155065A\_1  
 Document ID: 155065P1V2-0420163620  
 Distribution Panel Location or ID: Barrow Field 7  
 Total # of Distribution Panel Locations for Project: 2  
 Design Voltage/Hertz/Phase: 208/60/3  
 Control Voltage: 120

## Equipment Listing

DESCRIPTION	APPROXIMATE SIZE	
1. Control and Monitoring Cabinet	24 X 48	
2. Surge Protection Device	6 X 10	
	QTY	SIZE
Total Contactors	4	30 AMP
Total Contactors	2	60 AMP
Total Off/On/Auto Switches:	1	

### Materials Checklist

#### Contractor/Customer Supplied:

- A single control circuit must be supplied per distribution panel location.
  - If the control voltage is NOT available, a control transformer is required.
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  - Thermal/Magnetic circuit breaker sized per full load amps on Circuit Summary by Zone Chart
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  - Harnesses for cabinets at remote locations
  - Means of grounding, including lightning ground protection
- Electrical conduit wireway system
  - Entrance hubs rated NEMA 4: must be die-cast zinc, PVC, or copper-free die-cast aluminum
- Mounting hardware for cabinets
- Control circuit lock-on device to prevent unauthorized power interruption to control power
- Anti-corrosion compound to apply to ends of wire, if necessary

Call Control-Link Central(TM) operations center at 877/347-3319 to schedule activation of the control system upon completion of the installation.  
 Note: Activation may take up to 1 1/2 hours

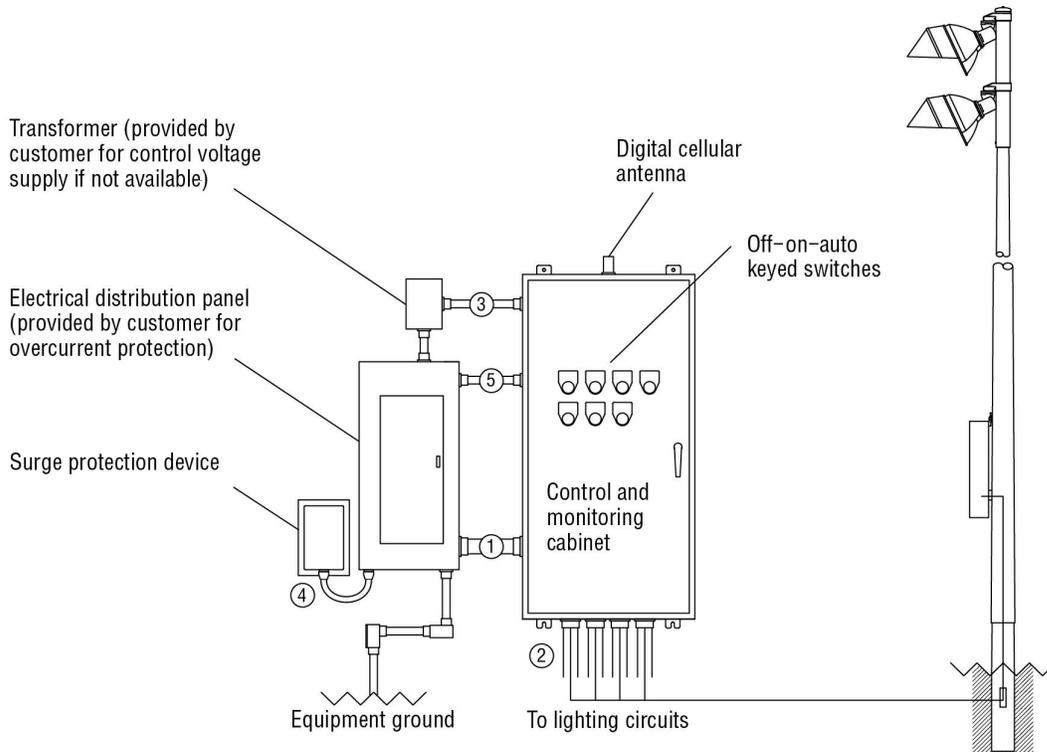
Preliminary Plans!  
 All Details - voltage,  
 # of distribution panels, etc.

### IMPORTANT NOTES

1. Please confirm that the design voltage listed above is accurate for this facility. Design voltage/phase is defined as the voltage/phase being connected and utilized at each lighting pole's ballast enclosure disconnect. Inaccurate design voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
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3. One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit. All contactors are UL 100% rated for the published continuous load. All contactors are 3 pole.
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. A single control circuit must be supplied per control system.
6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

*NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements*

## Control•Link® Control and Monitoring System



Wire	Description	# of Wires	Typ. Wire Size (AWG)	Max. Wire Length (FT)	Wire from Musco	Notes
1	Line power to contactors, and equipment grounding conductor	Note A	Note B	27	No	A – E
2	Load power to lighting circuits	Note A	Note B	N/A	No	A – D
3	Control power (dedicated, 20A)	3	12	N/A	No	C, D
4	Surge protection device to distribution panel	--	--	N/A	Yes	F
5	Surge protection device monitoring	3	14	N/A	Yes	C, D, F

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- Notes:
- A. Voltage and phasing per the notes on cover page.
  - B. Calculate per load and voltage drop.
  - C. All conduit diameters should be per code.
  - D. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.
  - E. Contact Musco if maximum wire length from circuit breaker to contactor exceeds value in chart.
  - F. Refer to surge protection device installation instructions for more details on equipment information and the installation requirements.

**IMPORTANT:** Control (3) and monitoring (5) wires must be in separate conduit from line and load power wiring (1, 2).



# Control System Summary

Barrow County Recreation Complex / 155065 - 155065A\_1  
Barrow Field 7 - Page 7 of 8

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Form: T-5030-1

## SWITCHING SCHEDULE

Field/Zone Description	Zones
Field 7	1

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2058.0
	SEALED: 246.8

BALLAST SPECIFICATIONS .90 Minimum Power Factor	VOLTAGE: 208v THREE PHASE						
	208	220	240	277	347	380	480
BALLAST OPERATING VOLTAGE							
1500 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	8.6	8.3	7.5	6.5	5.1	4.7	3.7
1000 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	6.5	6.4	5.8	4.9	4.0	3.6	2.9

CIRCUIT SUMMARY BY ZONE						
POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A3	Field 7	3	17.2	30	C1	1
A4	Field 7	3	17.2	30	C2	1
B3	Field 7	5	34.4	60	C3	1
B4	Field 7	5	34.4	60	C4	1
C3	Field 7	4	25.8	30	C5	1
C4	Field 7	4	25.8	30	C6	1



# Control System Summary

Barrow County Recreation Complex / 155065 - 155065A\_1  
 Barrow Field 7 - Page 8 of 8

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 Form: T-5030-1

## PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
2	2	C1	Pole A3	17.20		
2	2	C2	Pole A4	17.20		
2	2	C3	Pole B3	34.40		
2	2	C4	Pole B4	34.40		
2	2	C5	Pole C3	25.80		
2	2	C6	Pole C4	25.80		

## ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Field 7	A3	C1
			A4	C2
			B3	C3
			B4	C4
			C3	C5
			C4	C6



# Control System Summary

## Project Information

### Project Specific Notes:

Project #: 155065  
 Project Name: Barrow County Recreation Complex  
 Date: 04/20/15  
 Project Engineer: Curt Lamberson  
 Sales Representative: Jeremy Jordan  
 Control System Type: Control and Monitoring  
 Communication Type: Digital Cellular  
 Scan: 155065B,155065A\_1  
 Document ID: 155065P1V2-0420163853  
 Distribution Panel Location or ID: Barrow T-Ball  
 Total # of Distribution Panel Locations for Project: 2  
 Design Voltage/Hertz/Phase: 208/60/1  
 Control Voltage: 120

## Equipment Listing

DESCRIPTION	APPROXIMATE SIZE	
1. Control and Monitoring Cabinet	24 X 48	
2. Surge Protection Device	6 X 10	
	QTY	SIZE
Total Contactors	6	60 AMP
Total Off/On/Auto Switches:	1	

### Materials Checklist

#### Contractor/Customer Supplied:

- A single control circuit must be supplied per distribution panel location.
  - If the control voltage is NOT available, a control transformer is required.
- Electrical distribution panel to provide overcurrent protection for circuits
  - Thermal/Magnetic circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- Wiring:
  - Dedicated control power circuit
  - Power circuit to and from lighting contactors
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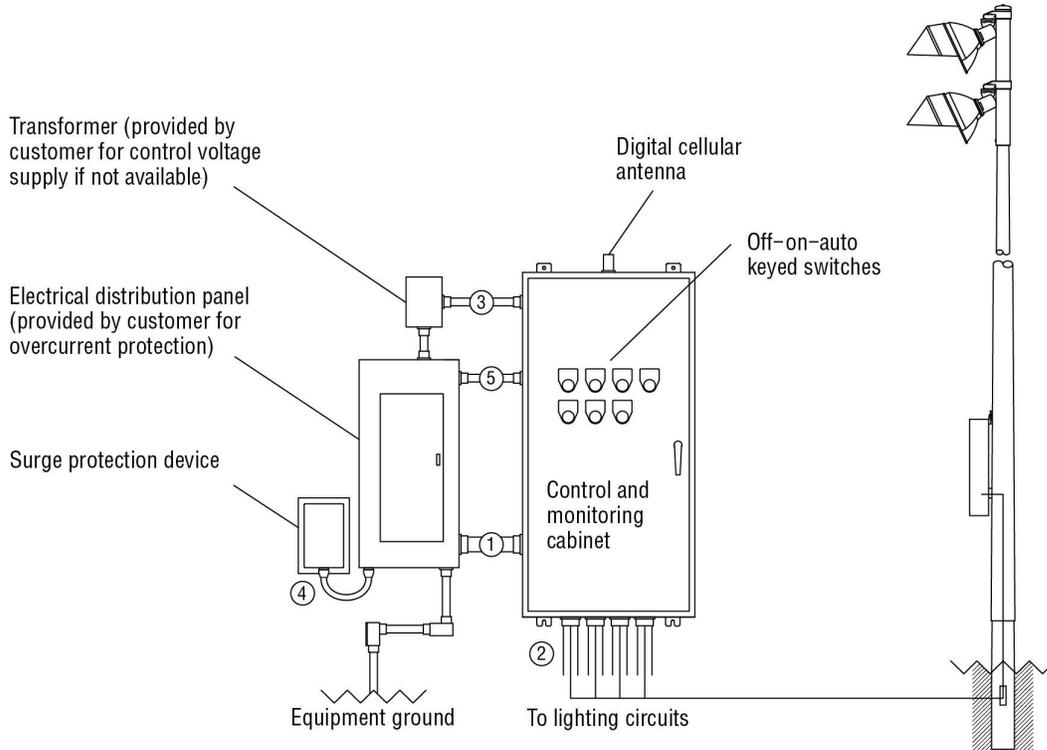
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 Note: Activation may take up to 1 1/2 hours

### IMPORTANT NOTES

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6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

*NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements*

## Control•Link® Control and Monitoring System



Wire	Description	# of Wires	Typ. Wire Size (AWG)	Max. Wire Length (FT)	Wire from Musco	Notes
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4	Surge protection device to distribution panel	--	--	N/A	Yes	F
5	Surge protection device monitoring	3	14	N/A	Yes	C, D, F

R60-32-00\_B

- Notes:
- A. Voltage and phasing per the notes on cover page.
  - B. Calculate per load and voltage drop.
  - C. All conduit diameters should be per code.
  - D. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.
  - E. Contact Musco if maximum wire length from circuit breaker to contactor exceeds value in chart.
  - F. Refer to surge protection device installation instructions for more details on equipment information and the installation requirements.

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# Control System Summary

Barrow County Recreation Complex / 155065 - 155065B  
Barrow T-Ball - Page 3 of 8

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Form: T-5030-1

## SWITCHING SCHEDULE

Field/Zone Description	Zones
T-Ball	1

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2058.0
	SEALED: 246.8

BALLAST SPECIFICATIONS .90 Minimum Power Factor	VOLTAGE: 208v SINGLE PHASE						
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A2	T-Ball	4	34.4	60	C2	1
B1	T-Ball	5	43	60	C3	1
B2	T-Ball	6	51.6	60	C4	1
C1	T-Ball	6	51.6	60	C5	1
C2	T-Ball	6	51.6	60	C6	1



# Control System Summary

Barrow County Recreation Complex / 155065 - 155065B  
 Barrow T-Ball - Page 4 of 8

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 Form: T-5030-1

## PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole A1	34.40		
1	1	C2	Pole A2	34.40		
1	1	C3	Pole B1	43.00		
1	1	C4	Pole B2	51.60		
1	1	C5	Pole C1	51.60		
1	1	C6	Pole C2	51.60		

## ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	T-Ball	A1	C1
			A2	C2
			B1	C3
			B2	C4
			C1	C5
			C2	C6



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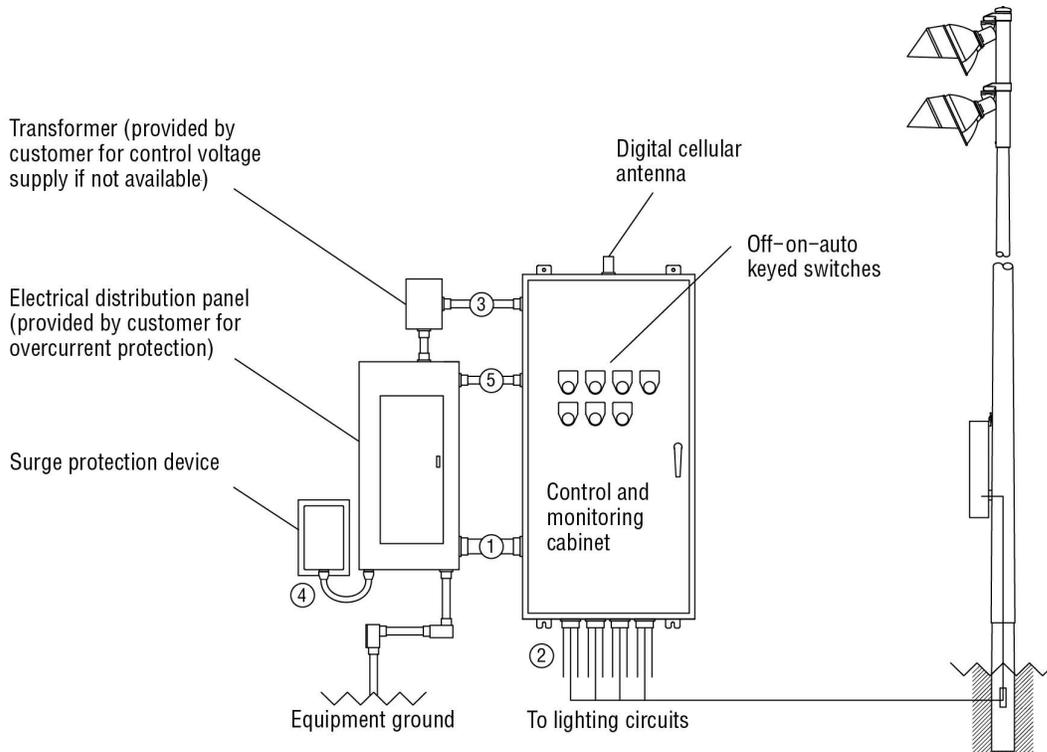
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# Control System Summary

Barrow County Recreation Complex / 155065 - 155065A\_1  
Barrow Field 7 - Page 7 of 8

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Form: T-5030-1

## SWITCHING SCHEDULE

Field/Zone Description	Zones
Field 7	1

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2058.0
	SEALED: 246.8

BALLAST SPECIFICATIONS .90 Minimum Power Factor	VOLTAGE: 208v THREE PHASE						
	208	220	240	277	347	380	480
BALLAST OPERATING VOLTAGE							
1500 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	8.6	8.3	7.5	6.5	5.1	4.7	3.7
1000 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	6.5	6.4	5.8	4.9	4.0	3.6	2.9

CIRCUIT SUMMARY BY ZONE						
POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A3	Field 7	3	17.2	30	C1	1
A4	Field 7	3	17.2	30	C2	1
B3	Field 7	5	34.4	60	C3	1
B4	Field 7	5	34.4	60	C4	1
C3	Field 7	4	25.8	30	C5	1
C4	Field 7	4	25.8	30	C6	1



# Control System Summary

Barrow County Recreation Complex / 155065 - 155065A\_1  
 Barrow Field 7 - Page 8 of 8

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 Form: T-5030-1

## PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
2	2	C1	Pole A3	17.20		
2	2	C2	Pole A4	17.20		
2	2	C3	Pole B3	34.40		
2	2	C4	Pole B4	34.40		
2	2	C5	Pole C3	25.80		
2	2	C6	Pole C4	25.80		

## ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Field 7	A3	C1
			A4	C2
			B3	C3
			B4	C4
			C3	C5
			C4	C6

# **BID FORM (REVISED)**

**FOR THE**

## **RFB2015-5 SPORTS LIGHTING – VICTOR LORD PARK** **(PROJECT #FG065)**

**BIDS ARE DUE AT 12:00 P.M., APRIL 29, 2015 at Barrow County Board of Commissioners**  
**30 North Broad Street, Clerk's Office,**  
**Winder, Georgia 30680**

Having thoroughly reviewed the bid documents and verifying existing conditions at the project site, I/we propose to furnish all labor, tools, equipment and materials for the complete execution of the Specifications included in this Request for Bid. Please list pricing below for each requested option:

Field 7 (To include all new equipment and removal of 8 existing wood poles per specifications attached in the RFB). \$ \_\_\_\_\_

Fields 8-11 (To include all new equipment and removal of 8 existing wood poles per specifications attached in the RFB). With Option #1 \$ \_\_\_\_\_

With Option #2 \$ \_\_\_\_\_

Fields 7-11 (To include all new equipment and removal of 16 existing wood poles per specifications attached in the RFB). With Option #1 \$ \_\_\_\_\_

With Option #2 \$ \_\_\_\_\_

Control Link Retrofit – Fields 1-4 (As outlined on Page 6, Section 2.5 reusing existing electrical system). \$ \_\_\_\_\_

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(City, State, Zip)

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Signature-When signed, this bid is legal and binding to the Barrow County Board of Commissioners and acknowledges that ALL Specifications, Terms and Conditions and/or instructions to Bidders have been read and understood).

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Phone Number)

Include and attached is a Bid Bond in the amount of not less than 5% of the base bid.

Included in the amount above is the sum of \$ \_\_\_\_\_ for providing a Performance and Payment Bond for 100% of the total base bid. Same shall be provided by a surety corporation licensed in the State of Georgia and a certified Power of attorney shall be attached.

### **ADDENDUM ACKNOWLEDGMENT**

Addendum # 1 \_\_\_\_\_

Addendum # 2 \_\_\_\_\_

Addendum #3 \_\_\_\_\_

Addendum #4 \_\_\_\_\_

Addendum #5 \_\_\_\_\_

Addendum #6 \_\_\_\_\_