

Exhibit A: Church Street Park Lighting Upgrade – Installation Services Scope of Work

Lighting Upgrade Equipment is being purchased directly by the Town from Musco.

- A list of equipment is included in the ENGINEERED DESIGN By: Joe Nicholson • File #213160F • 18-Dec-24 [Attachment A](#)

Lighting System

Pole/Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
E1-E2	100'	100'	20	TLC-LED-1500	28.20 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
P1-P4	100'	100'	20	TLC-LED-1500	28.20 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
P5	100'	100'	8	TLC-LED-1500	11.28 kW	A
		100'	12	TLC-LED-1200	14.04 kW	A
P6	100'	23'	2	TLC-BT-575	1.15 kW	A
		100'	7	TLC-LED-1500	9.87 kW	A
W1-W2	100'	100'	13	TLC-LED-1200	15.21 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
		100'	20	TLC-LED-1500	28.20 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
10			220		287.50 kW	

The Lighting Upgrade Equipment generally consists of the following:

Light-Structure System™ with Total Light Control – TLC for LED™ technology

System Description

- 88 Factory aimed and assembled luminaires, including BallTracker® luminaires
- 4 Galvanized steel poles
- 4 Pre-cast concrete bases with integrated lightning grounding
- Pole length factory assembled wire harnesses
- Factory wired and tested remote electrical component enclosures
- 4 Auxiliary mounting brackets with 2 position crossarm pole brackets
- Disconnects
- UL listed assemblies
- Corrosion protection

Light-Structure System™ retrofit with Total Light Control – TLC for LED™ technology

System Description

- 120 Factory aimed and assembled luminaires
- 6 poletop fitters with crossarm assemblies
- Pole length factory assembled wire harnesses
- Factory wired and tested remote electrical component enclosures
- Mounting hardware for poletop luminaire assemblies and electrical components enclosures
- Disconnects

Exhibit A: Church Street Park Lighting Upgrade – Installation Services Scope of Work

- UL listed assemblies
- Corrosion protection

Show-Light® Entertainment System with Control-Link® Control and Monitoring

- Control and monitoring cabinet
- Communication cabinet
- 1 touchscreen(s) for onsite control of lighting effects

This list does not include all the various support and fastener components that will be needed and included with the equipment as part of the installation.

The following Electrical Equipment is being purchased directly by the Town

- 600 Amp 277/480V 3 phase panel

These Installation Services are being bid separately by the Town. The following drawings and specifications identify some (but not all of) the work required to be performed by the installer.

- Musco ENGINEERED DESIGN By: Joe Nicholson • File #213160F • 18-Dec-24 [Attachment A](#)
- Musco Pole and Foundation Plan, Drawing Number C1, Project Number 213160, for new poles E1, E2, W1, and W2 dated February 23, 2026 and the six existing poles dated January 19, 2018 [Attachment B](#)
- Musco Pole Configuration Drawing Number 213160P1, dated 12/18/2025 [Attachment C](#)
- Musco Datasheet: Luminaire and Driver – TLC-BT-575 [Attachment D](#)
- Musco Datasheet: TLC-LED-1200 Luminaire and Driver [Attachment E](#)
- Musco Datasheet: TLC-LED-1500 Luminaire and Drive [Attachment F](#)
- Musco System Requirements: Control System Summary [Attachment G](#)
- Musco Datasheet: Control-Link® System with Show-Light® Entertainment [Attachment H](#)
- Electrical design drawings E101, E102, E201 [Attachment I](#)
- Duke Energy Three-Phase Pad-Mounted Transformer Concrete Foundation Specifications, dated February 2020 [Attachment J](#)

Musco will confirm and mark the new pole locations in the field for the installer. The Town has retained a Geotechnical Consultant to advance test borings at or near the four (4) new pole locations and to issue a report. The results will be discussed at the pre-bid meeting and a report will be issued as part of the addendum following the pre-bid meeting.

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Installer is responsible for unloading and inspecting the equipment immediately upon delivery from Musco to identify, document, and report any defects or deficiencies, so any damage can be remedied.

Installer must be trained and qualified to install Musco equipment.

- Musco does not have a formal training and qualifications program, therefore:
- Installer must demonstrate in its proposal that it has successfully completed three (3) to five (5) similar size Musco lighting projects within the last 5 years
- Installer must possess a current NC contractor's license

Bidders must confirm existing permits and approvals are applicable for them to install the equipment. Selected Installer must "obtain" all required electrical and structural inspection permits.

- The Town submitted the light pole foundation and electrical plans for permit review. Permit Number: BLDCE-009702-2026 ([Attachment U](#))
- Installer will "pull" permit and provide it's contractor license and other required information

The Town has obtained the following permits, which are included in this RFP

- Federal Aviation Administration Aeronautical Study No. 2025-ASO-26208-OE DETERMINATION OF NO HAZARD TO AIR NAVIGATION for Light Pole E1, Issued Date: 01/14/2026 [Attachment K](#)
- Federal Aviation Administration Aeronautical Study No. 2025-ASO-26209-OE DETERMINATION OF NO HAZARD TO AIR NAVIGATION for Light Pole E2, Issued Date: 01/14/2026 [Attachment L](#)
- Federal Aviation Administration Aeronautical Study No. 2025-ASO-26210-OE DETERMINATION OF NO HAZARD TO AIR NAVIGATION for Light Pole W1, Issued Date: 01/14/2026 [Attachment M](#)
- Federal Aviation Administration Aeronautical Study No. 2025-ASO-26211-OE DETERMINATION OF NO HAZARD TO AIR NAVIGATION for Light Pole W2, Issued Date: 01/14/2026 [Attachment N](#)
- Federal Aviation Administration Aeronautical Study No. 2026-ASO-905-OE DETERMINATION OF NO HAZARD TO AIR NAVIGATION for Temp Crane Locations 1 through 5, Issued Date: 01/29/2026 [Attachment O](#)
- Federal Aviation Administration Aeronautical Study No. 2026-ASO-908-OE DETERMINATION OF NO HAZARD TO AIR NAVIGATION for Temp Crane Locations 6 through 10, Issued Date: 01/29/2026 [Attachment P](#)

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- Raleigh-Durham Airport Authority Permit No. RDU 26-01 for Light Fixtures Permanent Structure, Issue Date 1/28/2026 [Attachment Q](#)
- Raleigh-Durham Airport Authority Permit No. RDU 26-01 for Temporary Crane, Issue Date 3/4/2026 [Attachment R](#)
- Research Triangle Park: Church Street Park Sports Lighting plan approval, dated 1/21/2026 [Attachment S](#)
- Wake County Commercial Site Plan Approval PLG-005786-2025, dated 03/16/2026 [Attachment T](#)

Installer shall remove and dispose the 30' pole top fitter crossarms and fixtures, including existing wire harness and electrical component enclosures (ECE) that house the existing luminaire drivers.

Installer shall complete the electrical service upgrade as depicted on drawings E101, E102, and E201

This includes installation of

- a new 500 kVA Duke transformer large pad in accordance with Duke Energy THREE-PHASE PAD-MOUNTED TRANSFORMER CONCRETE FOUNDATION SPECIFICATIONS, dated February 2020.
- Primary cable conduit for Duke conductors

Duke is scheduled to install the new 500 kVA transformer on May 14. Installer shall complete the installation of the transformer pad, related conduits, and pass inspections prior to May 14. This will be confirmed at the time of the Notice to Proceed.

Installer must formally commission the equipment through Control-Link® , with Musco and the Town representatives physically present. Installer must provide complete and comprehensive training to Town representatives on the operation of the new lighting system.

- Musco will test and final aim the equipment as part of the installer's commissioning

Installer shall provide a minimum 1-year installation warranty and cover costs for any damage to the Musco equipment caused during its installation.

- Musco provides a 25-year parts and labor equipment warranty

Installer must complete the installation, commissioning, and training by May 29, assuming an NTP issuance of May 1. Liquidated damages are \$1,000 per day, contractual completion date of May 29. The installer shall provide a comprehensive

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schedule and logistics plan within 2 weeks of contract award, which demonstrates the installation can be completed within the required time frame.

Installer must protect the park field, grounds, and concrete sidewalks from damage. The Town will secure crane matting to minimize the damage potential to sidewalks and the cricket field. Any damage caused by negligence shall be repaired or restored at the Installer's expense. A copy of the crane matting scope of services and a proposed location plan is included as [Attachment V](#).

- The installer is to use the crane matting for access to/from the light poles and for the cranes to install the poles and replace the fixtures. If the mats are used and there is damage, it would not be the installer's responsibility to repair.
- Installer shall confirm required layout and quantity of mats and identify matting areas to the rental vendor.
- Installer shall confirm the schedule and provide rental vendor a minimum of five (5) business days - preferably ten (10) business days from the date it issues a written authorization to the rental vendor to proceed for mobilization of personnel and equipment to the project site.
- Installer shall ensure there are no obstructions so rental vendor can access to areas where mats are to be installed or removed.

Installer shall provide porta johns, disposal services, and all other required facilities, services, and equipment for it to perform its installation services. Installer shall erect barricades and construction fencing, complete with appropriate signage, to keep unauthorized persons outside of its designated work areas.

Installer shall remove and dispose the spoils from the new light pole piers. Alternatively, the Town may have an offsite location the installer can place the spoils.

Lighting System

Pole/Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
E1-E2	100'	100'	20	TLC-LED-1500	28.20 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
P1-P4	100'	100'	20	TLC-LED-1500	28.20 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
P5	100'	100'	8	TLC-LED-1500	11.28 kW	A
		100'	12	TLC-LED-1200	14.04 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
P6	100'	100'	7	TLC-LED-1500	9.87 kW	A
		100'	13	TLC-LED-1200	15.21 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
W1-W2	100'	100'	20	TLC-LED-1500	28.20 kW	A
		23'	2	TLC-BT-575	1.15 kW	A
10			220		287.50 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Cricket	287.50 kW	220

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	20
TLC-LED-1200	LED 5700K - 75 CRI	1170W	150,000	>120,000	>120,000	>120,000	25
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	175

Single Luminaire Amperage Draw Chart								
Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)							
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)	
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)	
TLC-LED-1500	8.4	7.9	7.3	6.3	5.0	4.6	3.6	
TLC-LED-1200	6.9	6.5	6.0	5.2	4.2	3.8	3.0	
TLC-BT-575	3.3	3.2	2.9	2.5	2.0	1.8	1.5	

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination Ave					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Glare (Candela) - Residential	Max Candela (by Fixture)	345.64	2.4	793.9	324.86	141.44	A	220
Infield	Horizontal	2409.45	2162.8	2602.2	1.20	1.11	A	220
Outfield	Horizontal	2053.87	1343.1	2637.8	1.96	1.53	A	220
Pitch	Horizontal	2403.17	2347.2	2432.5	1.04	1.02	A	220

From Hometown to Professional



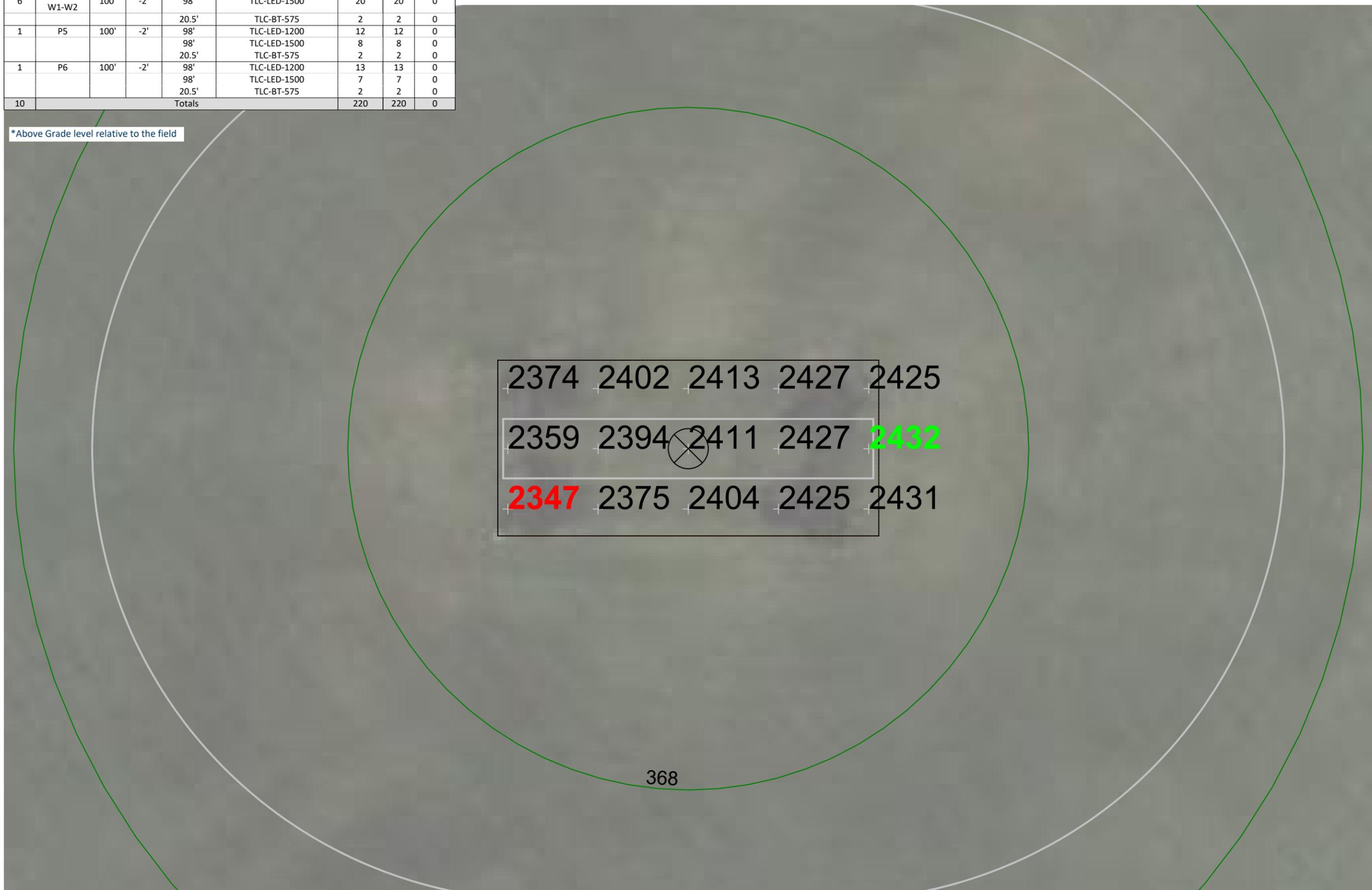
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Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	E1-E2	100'	4'	104'	TLC-LED-1500	20	20	0
				26.5'	TLC-BT-575	2	2	0
6	P1-P4 W1-W2	100'	-2'	98'	TLC-LED-1500	20	20	0
				20.5'	TLC-BT-575	2	2	0
1	P5	100'	-2'	98'	TLC-LED-1200	12	12	0
				98'	TLC-LED-1500	8	8	0
				20.5'	TLC-BT-575	2	2	0
1	P6	100'	-2'	98'	TLC-LED-1200	13	13	0
				98'	TLC-LED-1500	7	7	0
				20.5'	TLC-BT-575	2	2	0
10	Totals					220	220	0

*Above Grade level relative to the field



Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Pitch
Size	456' x 456'
Spacing	18.0' x 12.0'
Height	3.0' above grade

Illumination Summary	
	MAINTAINED HORIZONTAL LUX
Entire Grid	
Guaranteed Average	2300
Scan Average	2403.17
Maximum	2432.5
Minimum	2347.2
Avg/Min	1.02
Guaranteed Max/Min	1.5
Max/Min	1.04
UG (adjacent pts)	1.01
CU	0.02
No. of Points	15
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	220
Total Load	287.50 kW

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

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



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

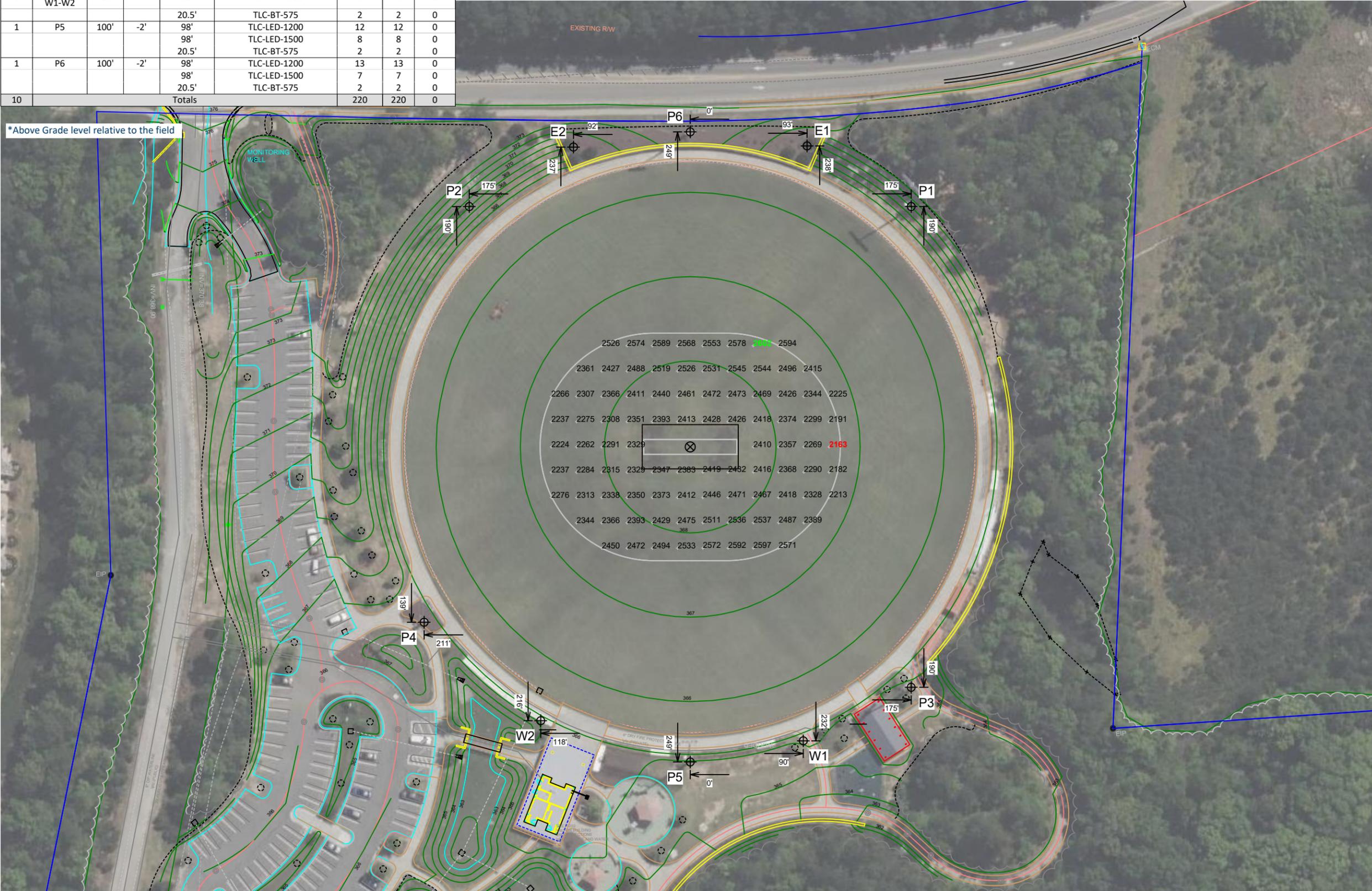


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Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	E1-E2	100'	4'	104'	TLC-LED-1500	20	20	0
				26.5'	TLC-BT-575	2	2	0
6	P1-P4 W1-W2	100'	-2'	98'	TLC-LED-1500	20	20	0
				20.5'	TLC-BT-575	2	2	0
1	P5	100'	-2'	98'	TLC-LED-1200	12	12	0
				98'	TLC-LED-1500	8	8	0
				20.5'	TLC-BT-575	2	2	0
1	P6	100'	-2'	98'	TLC-LED-1200	13	13	0
				98'	TLC-LED-1500	7	7	0
				20.5'	TLC-BT-575	2	2	0
10	Totals					220	220	0

*Above Grade level relative to the field



Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Infield
Size	456' x 456'
Spacing	20.0' x 20.0'
Height	3.0' above grade

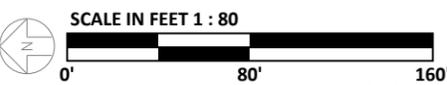
Illumination Summary	
	MAINTAINED HORIZONTAL LUX
Guaranteed Average	2300
Scan Average	2409.45
Maximum	2602.2
Minimum	2162.8
Avg/Min	1.11
Guaranteed Max/Min	1.75
Max/Min	1.20
UG (adjacent pts)	1.05
CU	0.22
No. of Points	92
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	220
Total Load	287.50 kW

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

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



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



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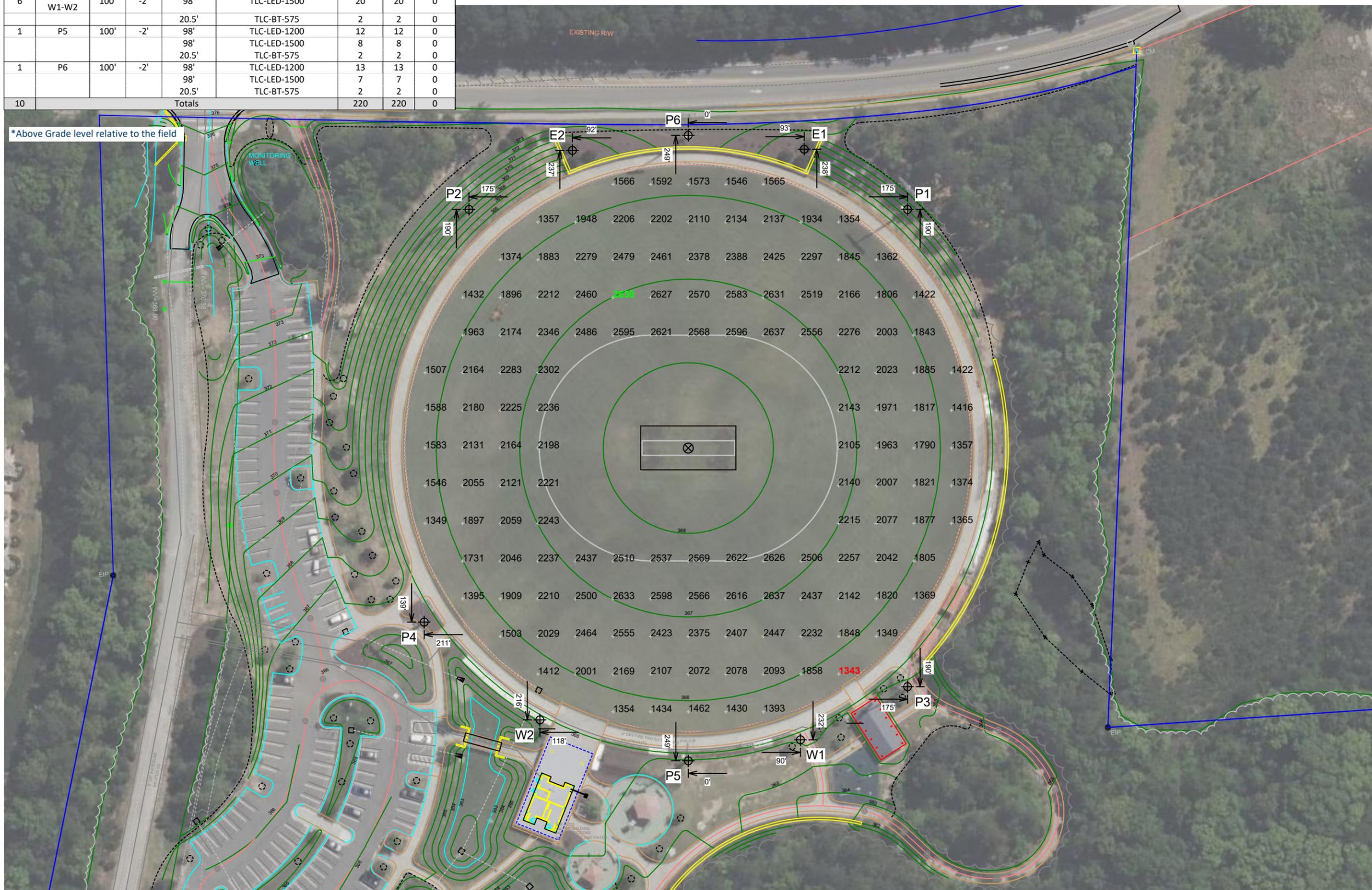
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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	E1-E2	100'	4'	104'	TLC-LED-1500	20	20	0
				26.5'	TLC-BT-575	2	2	0
6	P1-P4 W1-W2	100'	-2'	98'	TLC-LED-1500	20	20	0
				20.5'	TLC-BT-575	2	2	0
1	P5	100'	-2'	98'	TLC-LED-1200	12	12	0
				98'	TLC-LED-1500	8	8	0
				20.5'	TLC-BT-575	2	2	0
1	P6	100'	-2'	98'	TLC-LED-1200	13	13	0
				98'	TLC-LED-1500	7	7	0
				20.5'	TLC-BT-575	2	2	0
10	Totals					220	220	0

*Above Grade level relative to the field



Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Outfield
Size	456' x 456'
Spacing	30.0' x 30.0'
Height	3.0' above grade

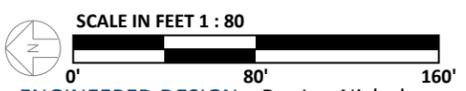
Illumination Summary	
	MAINTAINED HORIZONTAL LUX
Guaranteed Average	Entire Grid 1800
Scan Average	2053.87
Maximum	2637.8
Minimum	1343.1
Avg/Min	1.53
Guaranteed Max/Min	2.5
Max/Min	1.96
UG (adjacent pts)	1.60
CU	0.65
No. of Points	142
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	220
Total Load	287.50 kW

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

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



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



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Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Glare (Candela) - Residential
Spacing	30.0' x 30.0'
Height	5.0' above grade

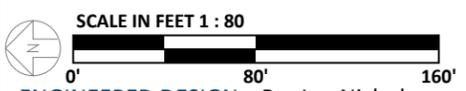
Illumination Summary		INITIAL MAX CANDELA (PER FIXTURE)
Entire Grid		
Scan Average	345.64	
Maximum	793.9	
Minimum	2.4	
No. of Points	16	
LUMINAIRE INFORMATION		
Applied Circuits	A	
No. of Luminaires	220	
Total Load	287.50 kW	

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

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



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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	E1-E2	100'	4'	104'	TLC-LED-1500	20	20	0
				26.5'	TLC-BT-575	2	2	0
6	P1-P4 W1-W2	100'	-2'	98'	TLC-LED-1500	20	20	0
				20.5'	TLC-BT-575	2	2	0
1	P5	100'	-2'	98'	TLC-LED-1200	12	12	0
				98'	TLC-LED-1500	8	8	0
				20.5'	TLC-BT-575	2	2	0
1	P6	100'	-2'	98'	TLC-LED-1200	13	13	0
				98'	TLC-LED-1500	7	7	0
				20.5'	TLC-BT-575	2	2	0
10				Totals		220	220	0

*Above Grade level relative to the field



Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Prop Line
Spacing	50.0' x 10.0'
Height	3.0' above grade

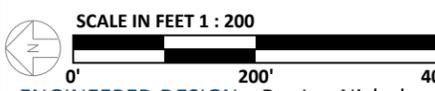
Illumination Summary	
	INITIAL HORIZONTAL LUX
	Entire Grid
Scan Average	16.34
Maximum	331.2
Minimum	0.0
Avg/Min	-
Max/Min	-
UG (adjacent pts)	0.00
CU	0.00
No. of Points	95
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	220
Total Load	287.50 kW

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

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



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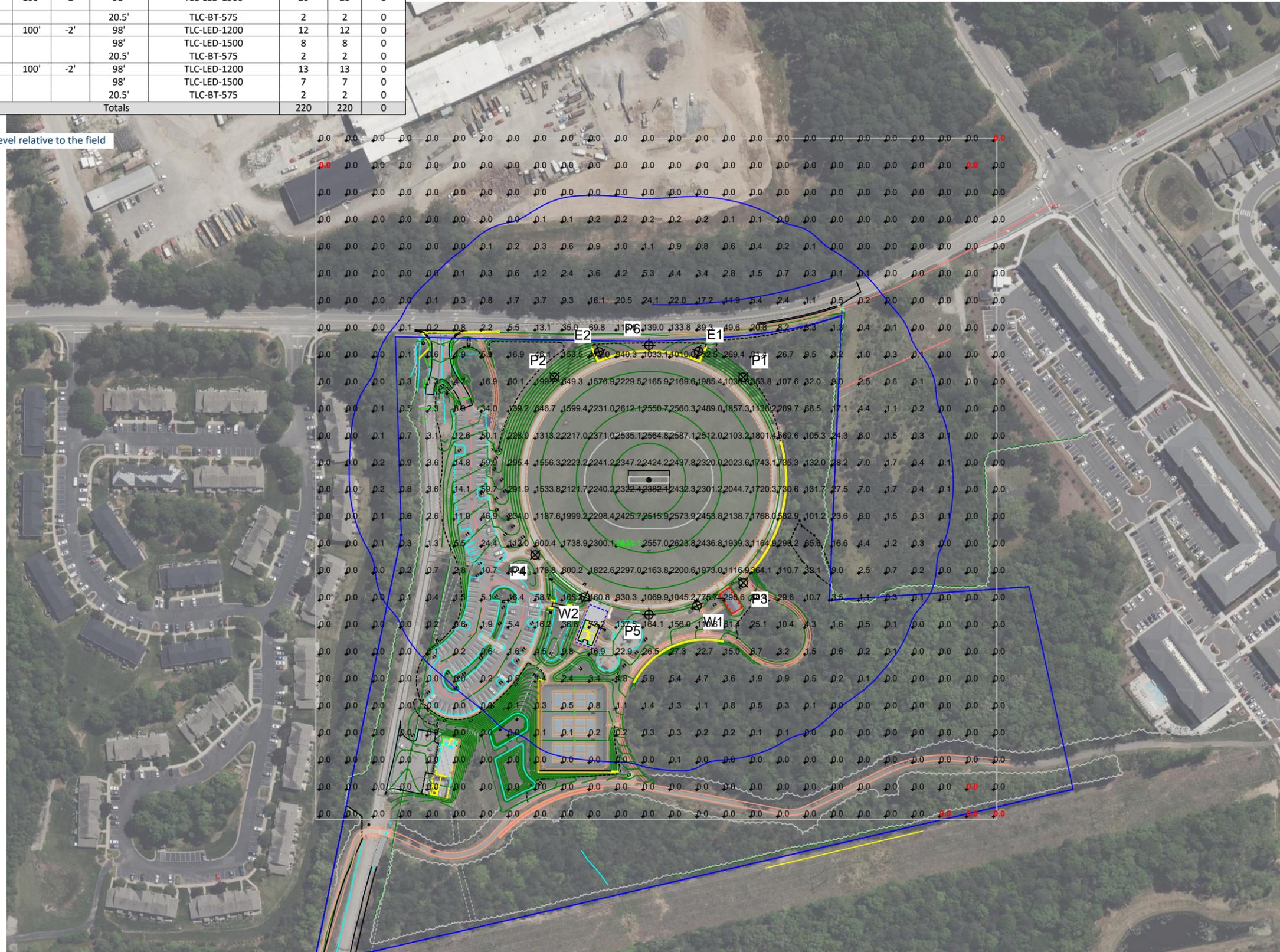
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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	E1-E2	100'	4'	104'	TLC-LED-1500	20	20	0
				26.5'	TLC-BT-575	2	2	0
6	P1-P4 W1-W2	100'	-2'	98'	TLC-LED-1500	20	20	0
				20.5'	TLC-BT-575	2	2	0
1	P5	100'	-2'	98'	TLC-LED-1200	12	12	0
				98'	TLC-LED-1500	8	8	0
				20.5'	TLC-BT-575	2	2	0
1	P6	100'	-2'	98'	TLC-LED-1200	13	13	0
				98'	TLC-LED-1500	7	7	0
				20.5'	TLC-BT-575	2	2	0
10	Totals					220	220	0

*Above Grade level relative to the field



Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Zero Grid
Spacing	50.0' x 50.0'
Height	3.0' above grade

Illumination Summary	
	INITIAL HORIZONTAL LUX
	Entire Grid
Scan Average	231.48
Maximum	2634.1
Minimum	0.0
Avg/Min	-
Max/Min	-
UG (adjacent pts)	24.04
CU	0.96
No. of Points	676
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	220
Total Load	287.50 kW

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

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



ENGINEERED DESIGN By: Joe Nicholson • File #213160F • 18-Dec-24

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



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ILLUMINATION SUMMARY

Church Street Park Cricket AKA RTP

Morrisville, NC

Equipment Layout

INCLUDES:
 - Cricket

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

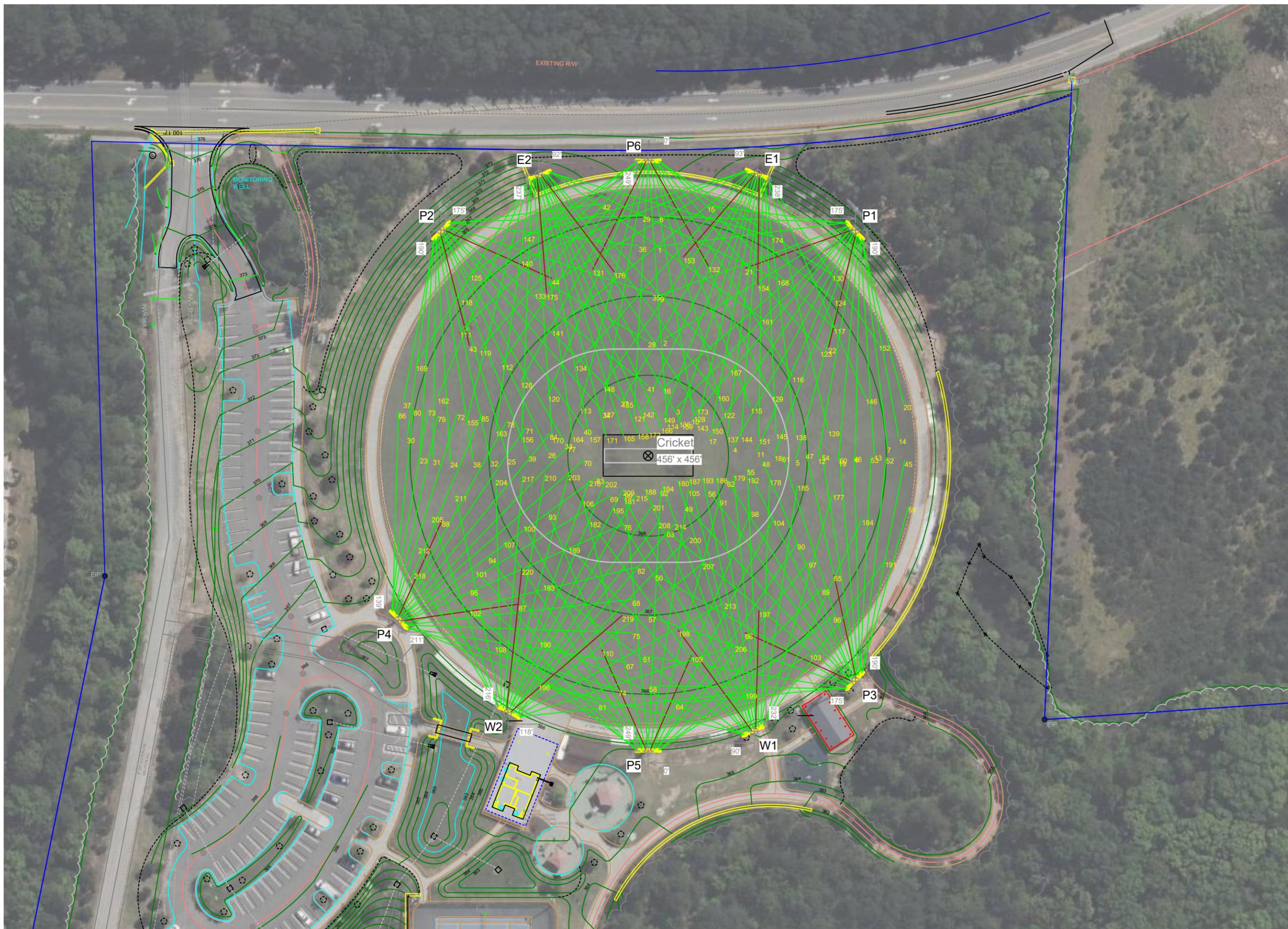
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Equipment List For Areas Shown

QTY	LOCATION	Pole		Luminaires		
		SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE
2	E1-E2	100'	4'	104' 26.5'	TLC-LED-1500 TLC-BT-575	20 2
6	P1-P4 W1-W2	100'	-2'	98' 20.5'	TLC-LED-1500 TLC-BT-575	20 2
1	P5	100'	-2'	98' 20.5'	TLC-LED-1200 TLC-LED-1500 TLC-BT-575	12 8 2
1	P6	100'	-2'	98' 20.5'	TLC-LED-1200 TLC-LED-1500 TLC-BT-575	13 7 2
10	Totals					220

Single Luminaire Amperage Draw Chart

Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)					
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	480 (60)
TLC-LED-1500	-	-	-	-	-	-
TLC-LED-1200	-	-	-	-	-	-
TLC-BT-575	-	-	-	-	-	-



SCALE IN FEET 1 : 80
 0' 80' 160'
 ENGINEERED DESIGN By: Joe Nicholson • File #213160F • 18-Dec-24

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



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EQUIPMENT LAYOUT

POLE FOUNDATION SCHEDULE						
POLE DESIGNATION	FORCES (1.)			DRILLED PIER		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH (3.)	CONCRETE BACKFILL YD ³ (2.)
E1, E2, W1, W2	295,112	4,170	7,335	36	20'-0"	2.7

- ASD LOAD COMBINATION D + 0.6W. VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT).
- MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.
- POTENTIAL FOR ENCOUNTERING ROCK BEFORE REACHING EMBEDMENT DEPTH. ROCK AUGERING EQUIPMENT MAY BE REQUIRED.

DESIGN NOTES

DESIGN PARAMETERS:
WIND: $V_{ult} = 115$ MPH, $V_{asd} = 89$ MPH (EXPOSURE C, RISK CATEGORY II) PER NORTH CAROLINA BUILDING CODE, 2018 EDITION (IBC 2015 / ASCE 7-10).

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 3,000 PSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE: NEGLECT TO -2'-0";
150 PSF/FT (EXPECTED NEW FILL); 200 PSF/FT (NATIVE SOIL); 400 PSF/FT (PWR)
IN ACCORDANCE WITH THE 2018 EDITION OF THE NORTH CAROLINA BUILDING CODE, CHAPTER 18.

REFERENCE SOILS AND FOUNDATION REPORT, JOB NO. 12-186-1, PREPARED BY TAI AND ASSOCIATES, PLLC; RALEIGH, NC.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

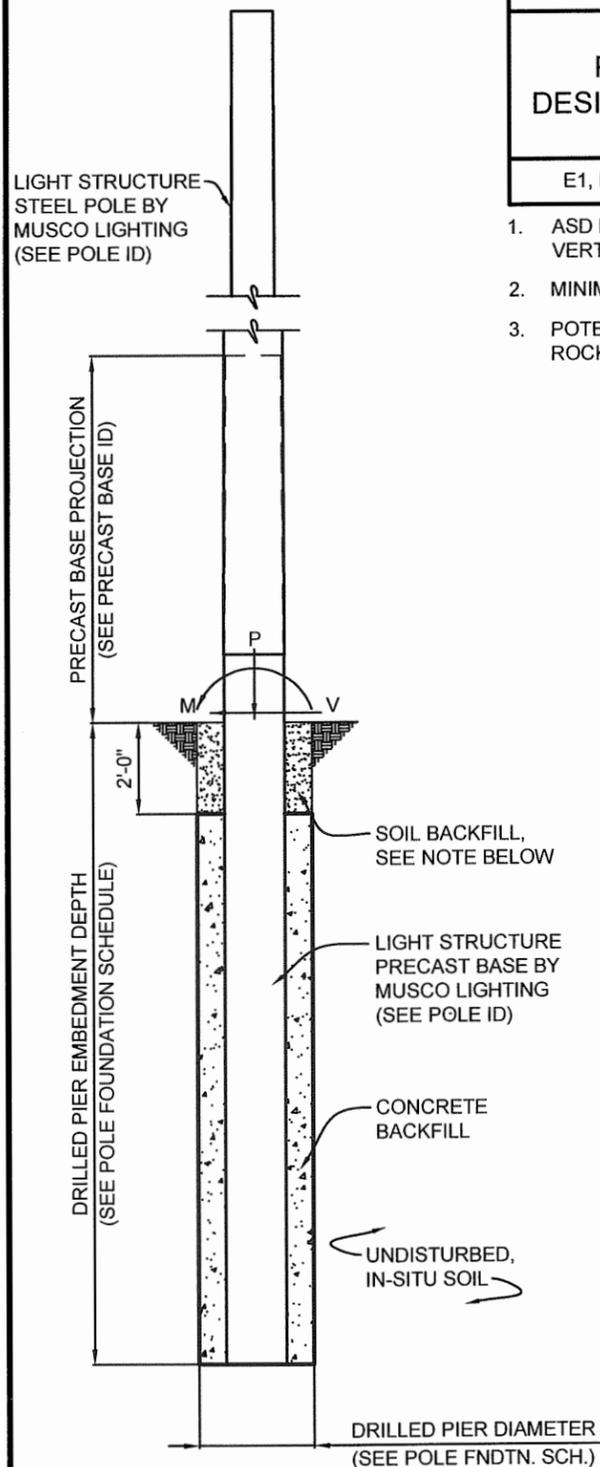
ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. CONTRACTOR SHOULD BE PREPARED FOR THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION AS CONDITIONS MAY REQUIRE. CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. TEMPORARY CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. PERMANENT CASINGS MUST BE SMOOTH-SIDED STEEL PIPE, AND MUST BE INSERTED INTO PLACE FIRST PRIOR TO CLEANING OUT THE INSIDE SO THAT CONTINUOUS CONTACT WITH THE SURROUNDING UNDISTURBED SOILS IS MAINTAINED.

CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION. THE MOUTH OF THE TREMIE MUST REMAIN BURIED IN FRESH CONCRETE SO THAT THE CONCRETE DISPLACES WATER OR SLURRY WITHOUT MIXING.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. POLE ERECTION MAY TAKE PLACE AFTER STRENGTH GAIN HAS REACHED 1,000 PSI MINIMUM, OR 24 HOURS HAVE ELAPSED FROM PLACEMENT. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL, OR PERMANENT CASINGS WHERE UTILIZED.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.



POLE FOUNDATION ELEV.

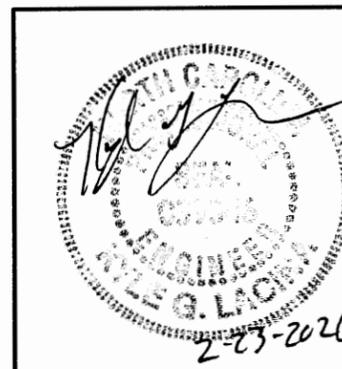
SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER.

PRECAST BASE IDENTIFICATION					
PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
7B	10,160 LBS	27'-10"	7'-10"	20'-0"	23.75"

POLE IDENTIFICATION				
POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT ²)
E1, E2, W1, W2	LSS100C	7B	22 (7+7+6)	63.9

- EACH POLE HAS (2) MUSCO LED FIXTURES AT 22'-6" AGL INCLUDED ABOVE.



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH CAROLINA.

KYLE G. LACINA - NO. 039346
LICENSE RENEWAL DATE: DECEMBER 31, 2026

IOWA SE, PC - NO. C-2836

DRAWING NO. COVERED BY THIS SEAL: C1

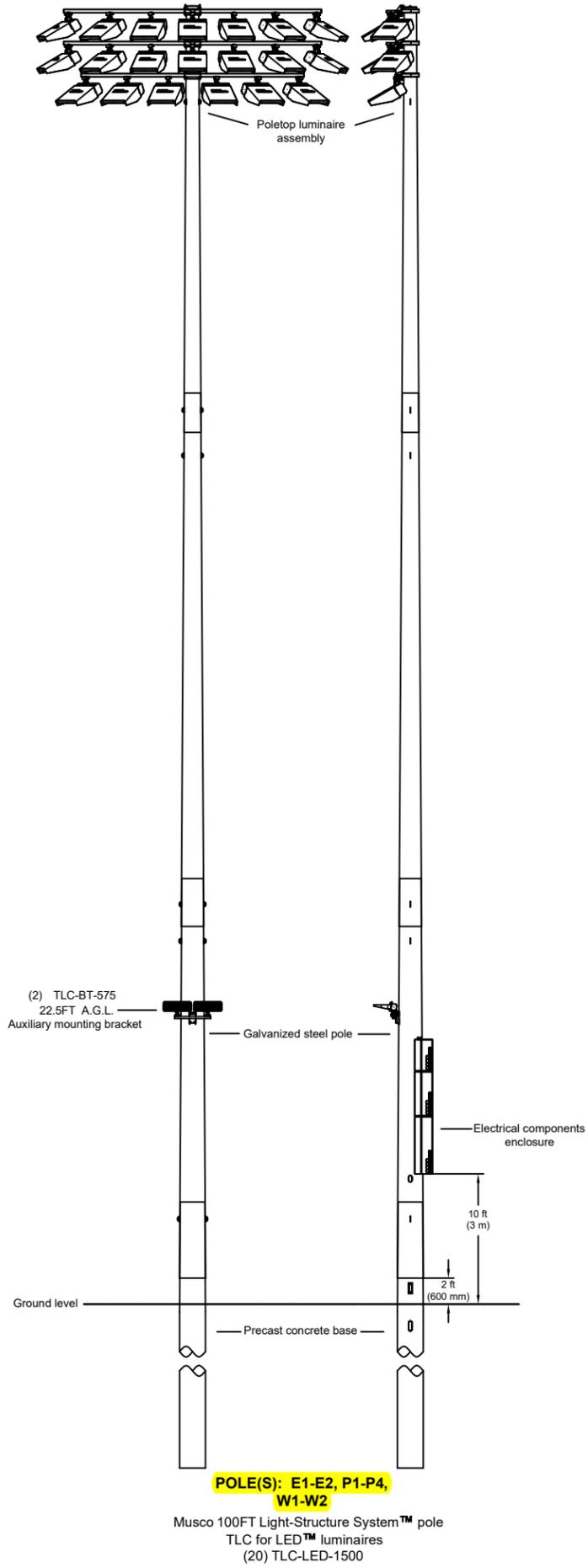
**CHURCH STREET PARK
CRICKET
FIELD LIGHTING
MORRISVILLE, NC**



IOWA SE, PC
114 NICHOLAS DRIVE
MARSHALLTOWN, IOWA 50158
PHONE NUMBER: 641-752-6334
EMAIL: MSL.INFO@SEPC.BIZ

DRAWING TITLE: POLE AND FOUNDATION	SCALE: SEE PLAN	NOTES: SCAN #213160F
PROJECT NUMBER	213160	
DATE	23 FEBRUARY 2026	
DRAWING NUMBER	C1	
OF ONE		

Attachment C



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PROJECT NUMBER: 2131160	DRAWN BY: J. Nicholson	SCALE: NTS	DATE: 12/18/2025	DRAWING NUMBER: 213160P1
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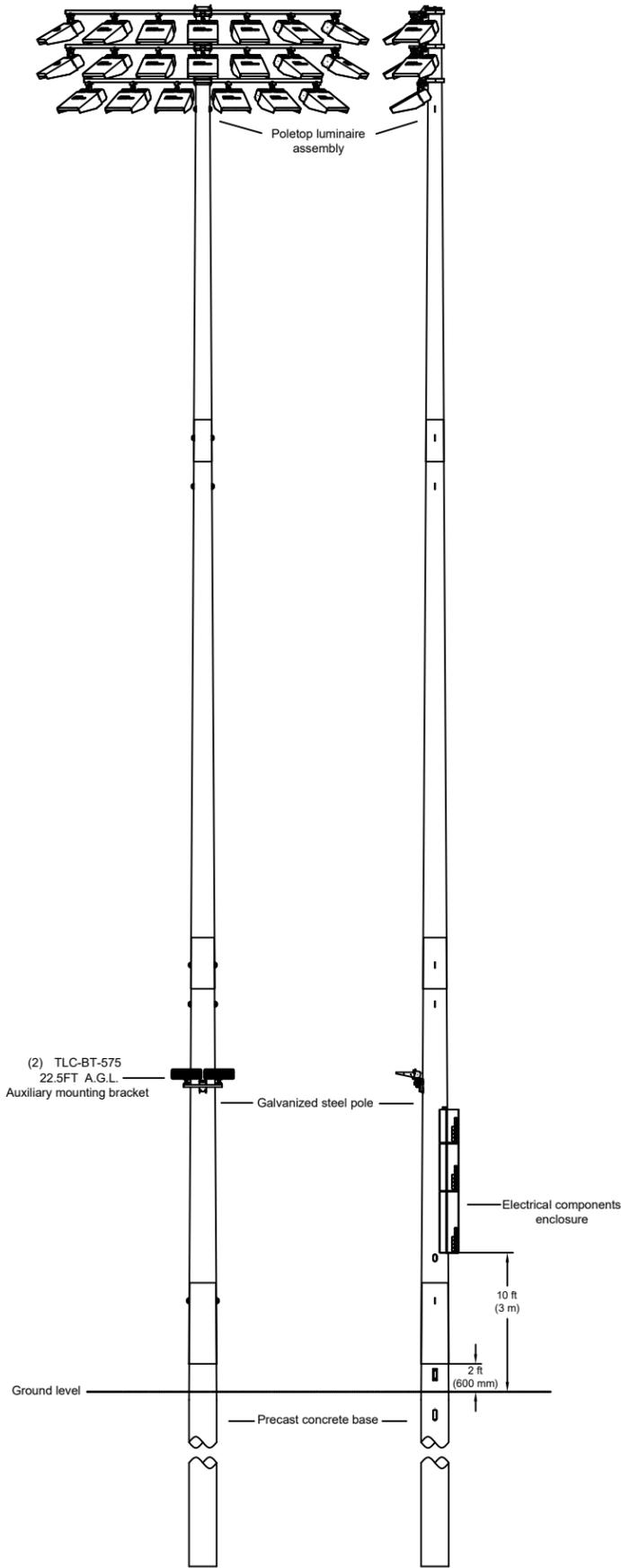
DATE:	BY:	R.L.	REVISIONS:


MUSCO
Lighting

CORPORATE OFFICE:
 P.O. Box 808
 211 2nd Avenue West
 Oskaloosa, Iowa 52577
 +1-800-825-6020
 +1-641-673-0411

Church Street Park Cricket AKA RTP
 MorrisvilleNC
 Pole Configuration Drawing B

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POLE(S): P5

Musco 100FT Light-Structure System™ pole
 TLC for LED™ luminaires
 (8) TLC-LED-1500
 (12) TLC-LED-1200

PROJECT NUMBER: 213160	DATE: 12/18/2025	SCALE: NTS	DRAWN BY: J.Nicholson
DRAWING NUMBER: 213160P1			
2 OF 3 SHEETS			

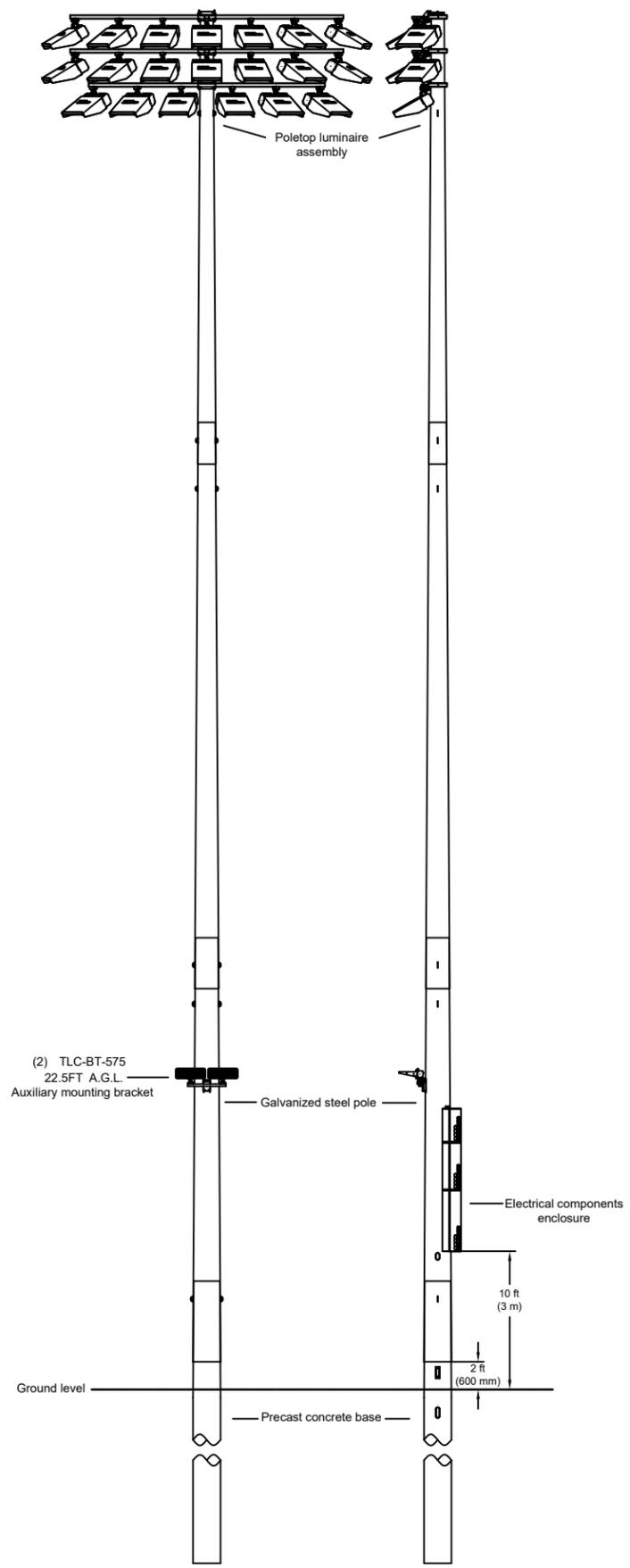
DATE:	BY:	R.L.	REVISIONS:


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 Lighting

CORPORATE OFFICE:
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 211 2nd Avenue West
 Oskaloosa, Iowa 52577
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Church Street Park Cricket AKA RTP
 MorrisvilleNC
 Pole Configuration Drawing B

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POLE(S): P6

Musco 100FT Light-Structure System™ pole
 TLC for LED™ luminaires
 (7) TLC-LED-1500
 (13) TLC-LED-1200

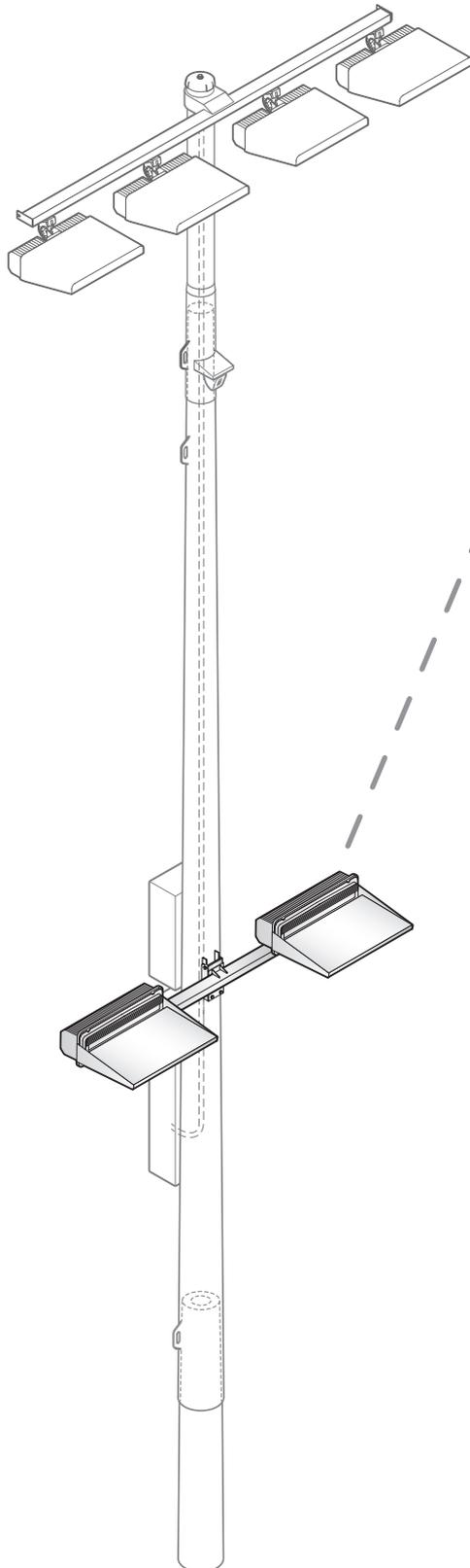
PROJECT NUMBER:
2131160
 DRAWN BY:
J. Nicholson
 SCALE:
NTS
 DATE:
12/18/2025
 DRAWING NUMBER:
213160P1
 3 OF 3 SHEETS

DATE:	BY:	R.L.	REVISIONS:


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 Lighting
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 +1-641-673-0411

Church Street Park Cricket AKA RTP
 MorrisvilleNC
 Pole Configuration Drawing **B**

Luminaire and Driver – TLC-BT-575



Luminaire Data

Weight (luminaire)	34 lb (15 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection (luminaire)	IP65
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating (luminaire)	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11

L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens ¹	52,000
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	7-step MacAdam Ellipse

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

Luminaire and Driver – TLC-BT-575

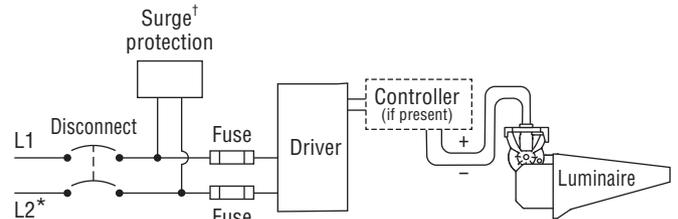
Driver Data

Electrical Data

Rated wattage¹

Per driver	575 W
Per luminaire	575 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μs
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 is neutral then not switched or fused.
 † Not present if indoor installation.

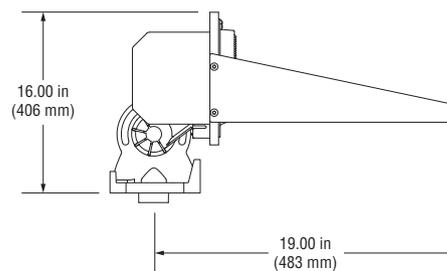
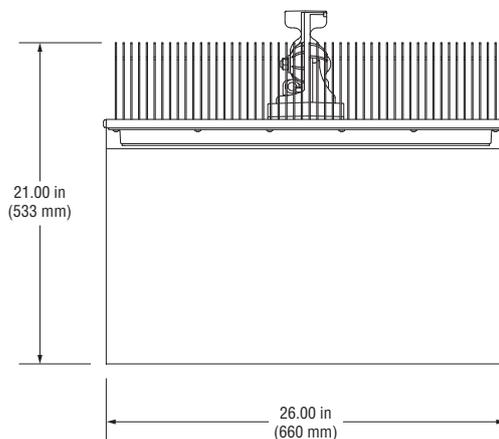
	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire²	3.48 A	3.35 A	3.16 A	3.03 A	2.90 A	2.51 A	2.01 A	1.83 A	1.74 A	1.68 A	1.45 A

Footnotes:

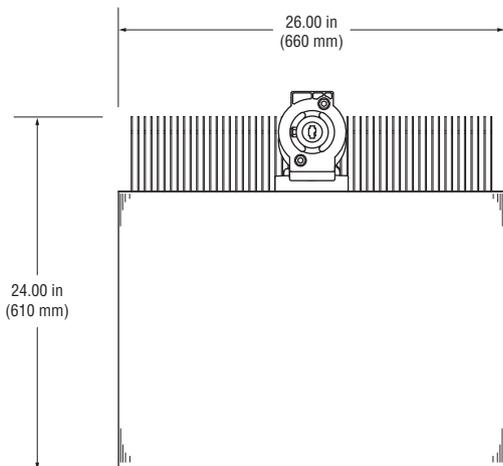
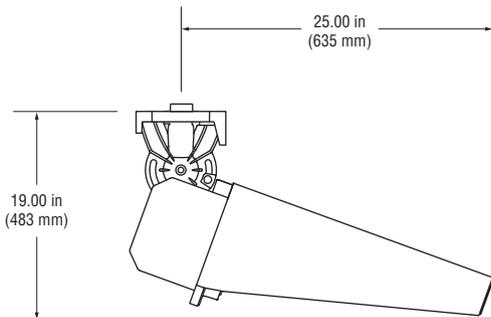
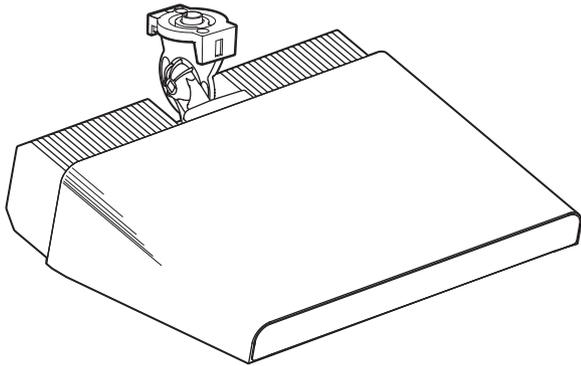
- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



Datasheet: TLC-LED-1200 Luminaire and Driver



Luminaire Data

Weight (luminaire)	45 lb (20 kg)
UL listing number	E338094
UL listed for USA / Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection, luminaire	IP65
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating, luminaire	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11

L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens ¹	136,000
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	7-step MacAdam Ellipse

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

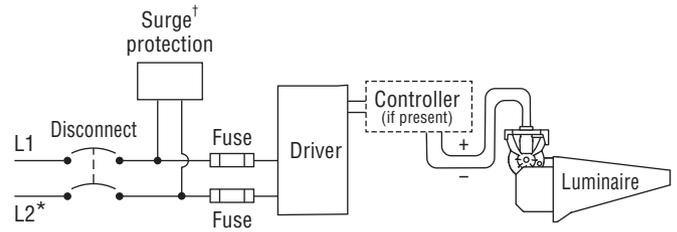
Datasheet: TLC-LED-1200 Luminaire and Driver

Driver Data

Electrical Data

Rated wattage ¹	
Per driver	1170 W
Per luminaire	1170 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μ s
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	14 – 100%
Range, light output	19 – 100%
Flicker	<2%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 (com) is neutral then not switched or fused.
 † Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire²	7.26 A	6.98 A	6.60 A	6.31 A	6.05 A	5.24 A	4.18 A	3.82 A	3.63 A	3.50 A	3.03 A

Footnotes:

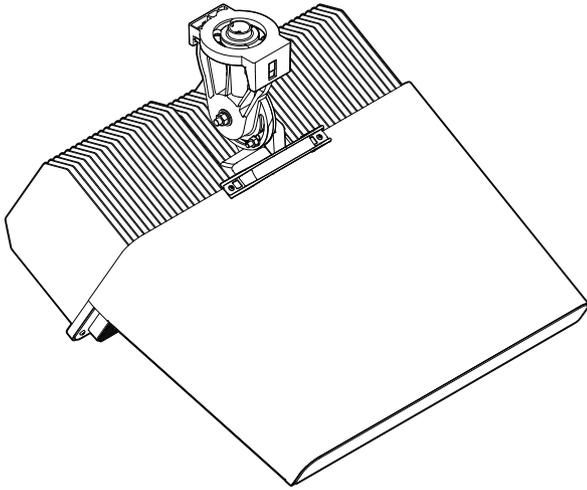
- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



Datasheet: TLC-LED-1500 Luminaire and Driver

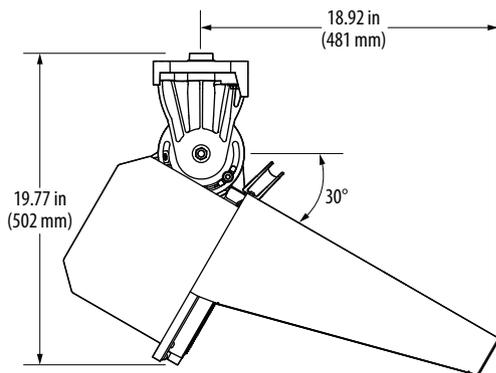
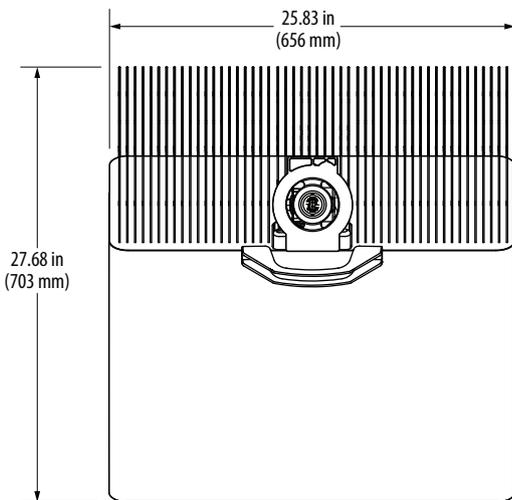


Luminaire Data

Weight (luminaire)	67 lb (30 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection (luminaire)	IP66
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating (luminaire)	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens ¹	181,000
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	5-step MacAdam Ellipse



Footnotes:

- 1) Value represents most common optical variation. Incorporates appropriate dirt depreciation factor for life of luminaire.

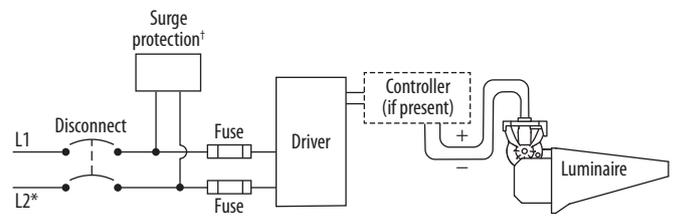
Datasheet: TLC-LED-1500 Luminaire and Driver

Driver Data

Electrical Data

Rated wattage ¹	
Per driver	1410 W
Per luminaire	1410 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μs
Fuse rating	15 A
UL, IEC ambient temperature rating (electrical components enclosure)	50°C (122°F)
Ingress protection (electrical components enclosure)	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	10 – 100%
Range, light output	15 – 100%
Flicker	<2%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 is neutral then not switched or fused.
 † Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire²	8.71 A	8.37 A	7.92 A	7.57 A	7.26 A	6.29 A	5.02 A	4.59 A	4.36 A	4.20 A	3.63 A

Footnotes:

- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



System Requirements: Control System Summary

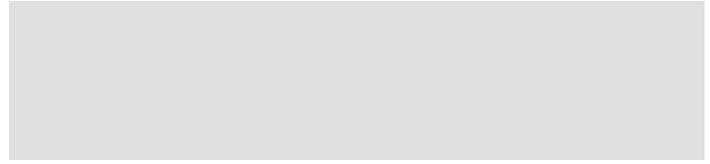
Project Name: Church Street Park Cricket | Project #: 213160
 Control System ID: 1 of 1
 Distribution Panel Location/ID: Service 1 - Cricket

Project Information

Control System

Control System ID: 1 of 1
 Control System Type: Control-Link[®] Control and Monitoring System with Show-Light[®] Entertainment
 Communication Type: PowerLine-ST

Project Notes:



Power Requirements

Control cabinet(s):

Control voltage (phase to neutral) 120/60
 VA loading - Inrush 3023.0
 VA loading - Sealed 342.0

Lighting Circuits:

Voltage/Hertz/Phase 480/60/3

Communication cabinet(s):

Cabinet voltage (phase to neutral) 120/60

Touchscreen(s):

Touchscreen power (receptacle) 120/60

Equipment Listing

Description	Qty	Size (in)
Control and monitoring cabinet - primary	1	24 X 72
Communication cabinet	1	-
Touchscreen	1	-
Contactors, 60 amperes	10	-
Off/On/Auto switches	1	-

Important Notes:

- 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.
- 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.
- One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
- If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
- 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.
- 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.
- 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.
- Test wire per ANSI/NETA ATS-2021. Wires with insulation resistance less than 100 MOhms, in water-filled conduit, must be

System Requirements: Control System Summary

Project Name: Church Street Park Cricket | Project #: 213160

Control System ID: 1 of 1

Distribution Panel Location/ID: Service 1 - Cricket

Important Notes:

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

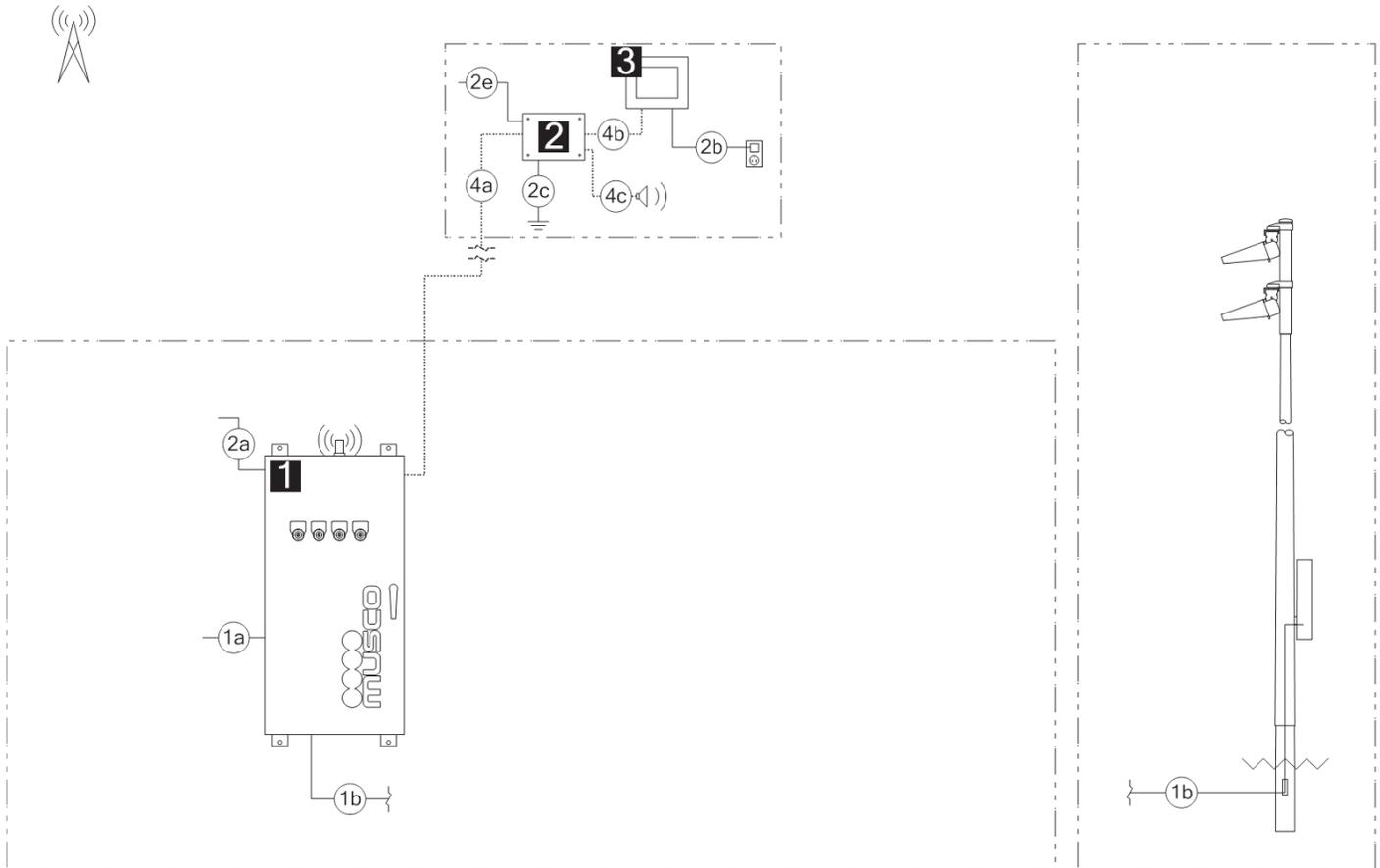
System Requirements: Control System Summary

Project Name: Church Street Park Cricket | Project #: 213160

Control System ID: 1 of 1

Distribution Panel Location/ID: Service 1 - Cricket

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.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.
2b	Power cord for touchscreen. Requires standard receptacle.
2c	Earth ground connection at communication cabinet location. Requires installation of ground electrode if existing earth ground not present.
2e	Control power with equipment ground.
4a	Communication cable - Communication cabinet to primary control cabinet. Requires Cat5e cable (Belden 7937A or equal), maximum of 1500 feet.

Equipment

ID	Description
1	Control and monitoring cabinet - primary
2	Communication cabinet
3	Touchscreen

System Requirements: Control System Summary

Project Name: Church Street Park Cricket | Project #: 213160

Control System ID: 1 of 1

Distribution Panel Location/ID: Service 1 - Cricket

Equipment Layout and Connection Details

Connection Details - Cont'd

ID	Description
4b	Communication cable - Communication cabinet to touchscreen. 10-foot ethernet cable provided by Musco. Ethernet cable provided by contractor if longer length is needed. Maximum cable length is 300 feet.
4c	Audio cable - Communication cabinet to audio system, provided by contractor. Requires audio cable with 3.5 mm audio plug, maximum of 50 feet.

Equipment - Cont'd

ID	Description
----	-------------

System Requirements: Control System Summary

Project Name: Church Street Park Cricket | Project #: 213160

Control System ID: 1 of 1

Distribution Panel Location/ID: Service 1 - Cricket

Circuit Summary

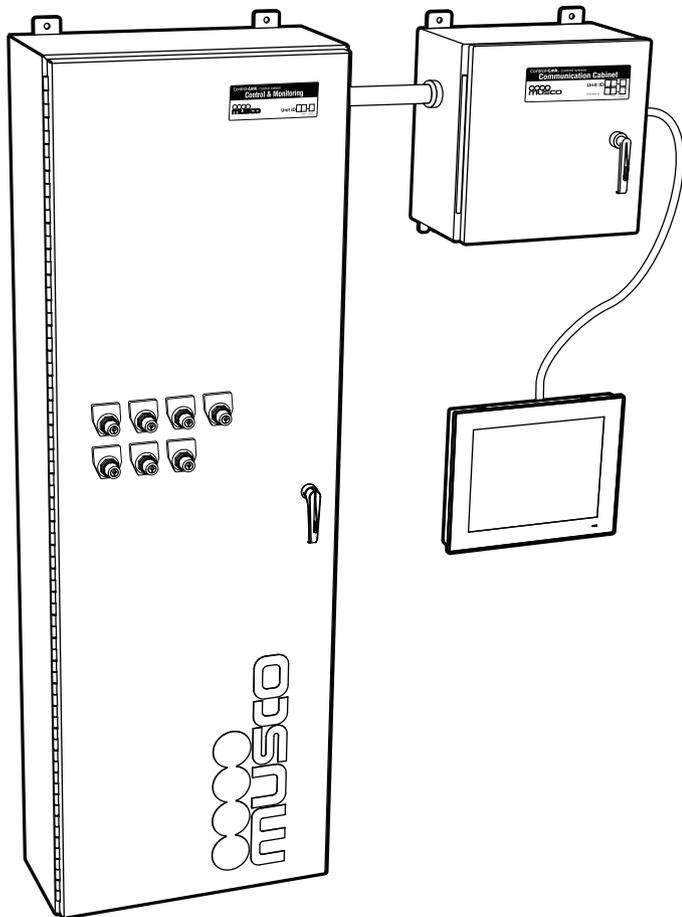
Zone Schedule		Switch
Field/Zone Description	Zone	Location
Cricket	1	Cabinet 1

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	Cricket	E1	22	45.27	60	1	C1
	Cricket	E2	22	45.27	60	1	C2
	Cricket	P1	22	45.27	60	1	C3
	Cricket	P2	22	45.27	60	1	C4
	Cricket	P3	22	45.27	60	1	C5
	Cricket	P4	22	45.27	60	1	C6
	Cricket	P5	22	41.45	60	1	C7
	Cricket	P6	22	40.36	60	1	C8
	Cricket	W1	22	45.27	60	1	C9
	Cricket	W2	22	45.27	60	1	C10

Datasheet: Control-Link® System with Show-Light® Entertainment



Overview

Control-Link® control and monitoring system with Show-Light® entertainment includes remote on/off control, dimming, pre-programmed and custom lighting effects, system monitoring, and management of your lighting system. Optional features include color changing luminaires.

Features

Control Features

- Controls: Lighting system and auxiliary equipment
- Control options: Control-Link website, smartphone app, on-site touchscreen, phone call, or email up to 10 years in advance
- Multi-level user security settings
- Door-mounted or remote-mounted Off/On/Auto switches allow manual override of automated control
- 32 controllable lighting zones
- Four customizable dimming levels (factory defaults: 100%, 50%, 20%, and blackout)

Show-Light Entertainment Features

- Four pre-programmed lighting effects with an additional two customizable. Additional effects can be purchased upon request
- Up to four minutes of customizable, music-synced shows are included and can be divided as directed. No shows will be installed unless music is provided in advance. Additional music-synced shows are available for purchase
- Control theatrical effects and dimming with provided touchscreen

Optional Features

- Color: Pole accent or color wash luminaires, programming, and control screens; requires TLC-RGB luminaires
- Tunable White: Change the color temperature of Musco tunable white luminaires; requires TLC-TW luminaires

Monitoring

- Detects luminaire outages and other issues that affect light quality
- Luminaire outage notification within the next business day

Management and Support

- Control-Link Central™ service center provides support 24 hours a day, 7 days a week for scheduling, monitoring, and reporting
- Customized usage reports through website

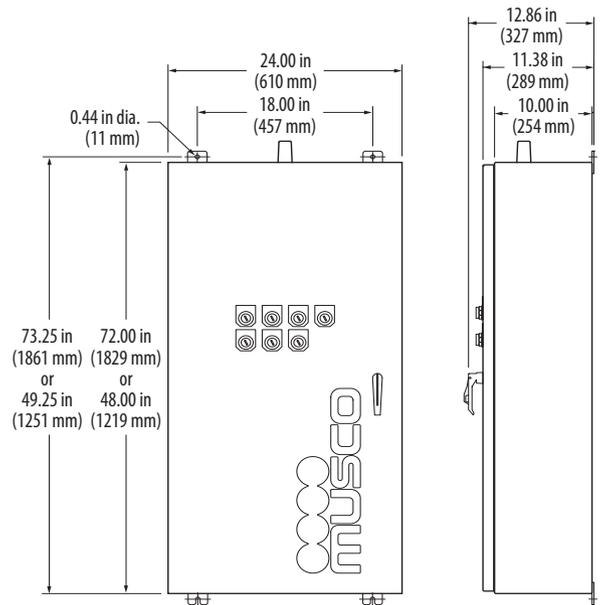
Technical Specifications - Ratings

Control and Monitoring System

- UL508A Listed E204954
 - Input voltage 120 Vac 60 Hz,
 - Operating temperature -4°F to 140°F (-20°C to 60°C)
 - Weight for 72 inch (1829 mm) cabinet 180 lb (82 kg)
 - Weight for 48 inch (1219 mm) cabinet 140 lb (64 kg)
 - Short Circuit Current Rating (SCCR)
 - with 30 A contactors* 18 kA
 - with 60 or 100 A contactors* 25 kA
- *Minimum circuit breaker interrupt rating must be greater than or equal to SCCR rating listed above.

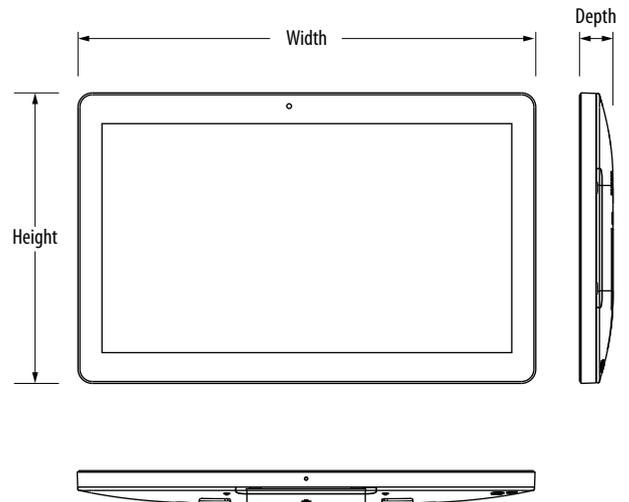
Construction

- UL, NEMA type 4X (IP 65) cabinet
- Powder-coated aluminum 5052 H32 cabinet and panel
- Lockable, 3-point latch



Touchscreen System Interface

- Approvals UL, cUL, IC, CB, CCC, SRRC, EAC, VCCI, MIC
- FCC Part 15 Class A Compliant
- Memory (RAM) 2GB DDR3 RAM, 16GB EMMC flash
- Operating temperature 32°F to 95°F (0°C to 35°C)
- Storage temperature -4°F to 140°F (-20°C to 60°C)
- Backlight life 50,000 h
- Input voltage 120-240 Vac 50-60 Hz
(Vdc power supply provided)
- Mounting options Wall mount, desk stand,
or arm desk mount
- Environment Indoor use only



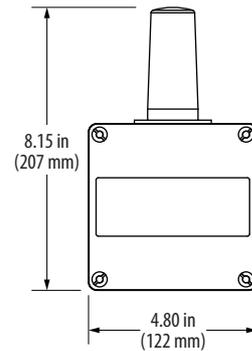
Available Touchscreens

Diagonal Size	Height	Width	Depth	Weight
15.6 in (396.2 mm)	9.7 in (246.4 mm)	15.13 in (384.2 mm)	1.72 (43.8 mm)	4.9 lb (2.2 kg)
21.5 in (545.1 mm)	12.57 in (319.5 mm)	20.7 in (525.9 mm)	2.07 in (52.6 mm)	8.2 lb (3.7 kg)

Technical Specifications - Construction

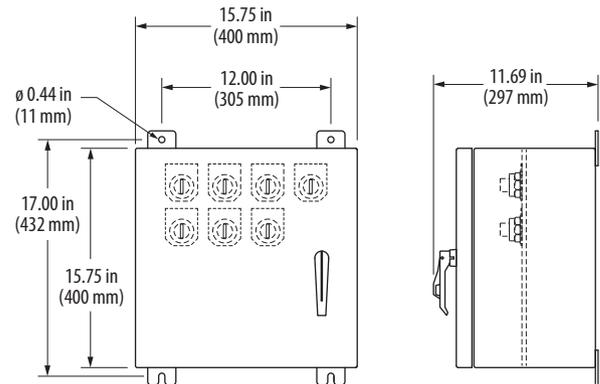
Remote Wireless Antenna Cabinet (if wireless communication)

- Cast aluminum with texture gray paint finish
- Omnidirectional antenna
- Operating temperature: -40°F to 185°F (-40°C to 85°C)
- Frequency: 915 MHz



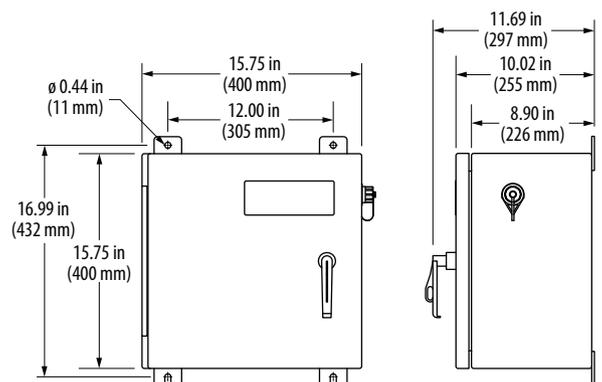
Off/On/Auto Manual Switches Cabinet (optional equipment)

- UL, NEMA type 4X (IP 65) cabinet
- Powder-coated aluminum 5052 H32 cabinet and panel
- Lockable door
- Hinged interior panel for switch mounting



Touchscreen Communication Cabinet

- UL, NEMA type 4X (IP 65) cabinet
- Powder-coated aluminum 5052 H32 cabinet
- Requires 120 V or 240 V 50-60 Hz phase-to-neutral control voltage
- Wired network connection
- Show controller
- Audio controller



Internal Details

Input Power

- One control circuit operates entire cabinet
- 120 Vac 60 Hz phase to neutral compatible
- Requires dedicated 20 A circuit
- Control power terminal blocks provided
- Surge protection
- Fusing

Control Modules

Receives and stores schedules from Control-Link Central™ service center, operates your equipment, and verifies schedules are carried out.

- Executes scheduled on/off or dimming events.
- Stores schedules for up to 7 days.
- Reboots automatically and executes current schedule when power is restored, in case of power interruption.
- Monitors Musco lighting system and reports issues to keep facilities operating and to help plan routine maintenance. Alerts Control-Link Central™ service center to schedule appropriate action or maintenance.
- Integrates sACN communication to Musco's lighting network.
- Controls Musco's lighting network traffic.

Communication Modules

Communication with Control-Link Central service center is done via an integrated, high speed, cellular connection with no additional monthly charges during the warranty period.

Communication with luminaire controllers is done via powerline communication, or wireless communication.

Wireless communication requires a dedicated antenna to be mounted 3 ft (0.9 m) above the cellular antenna, and 7 ft (2.1 m) total distance away, and line of sight to remote antennas at light pole locations.

Provides local network connection for touchscreen and external devices.

Contactors Modules

Switches equipment based on control module schedules.

- UL-listed and compliant with IEC 60947-4-1 for continuous operation at 100% of rated current.
- Field wiring terminated at load side of contactors for lighting circuits.
- Contactors rated for 30, 60, or 100 A.

Ground Bar

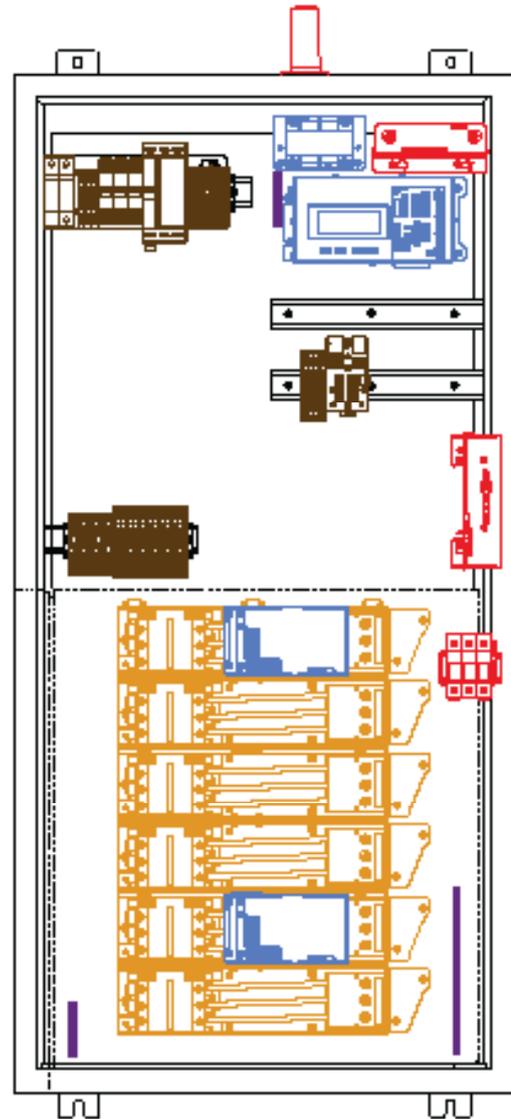
Provides integral ground bar for lighting equipment grounding.

Audio Controller

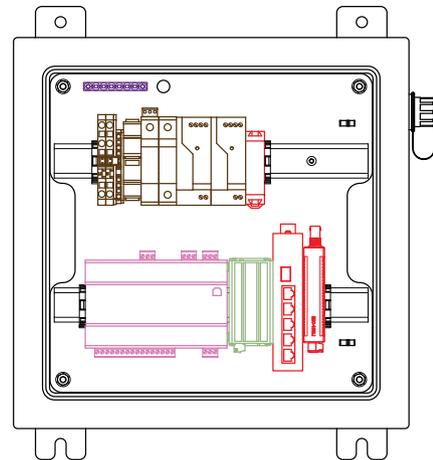
- Stores music for custom light shows.
- Synchronizes playback with light show.
- Connects to facility audio system with 1/8 in (3.5 mm) audio output jack.

Show Controller

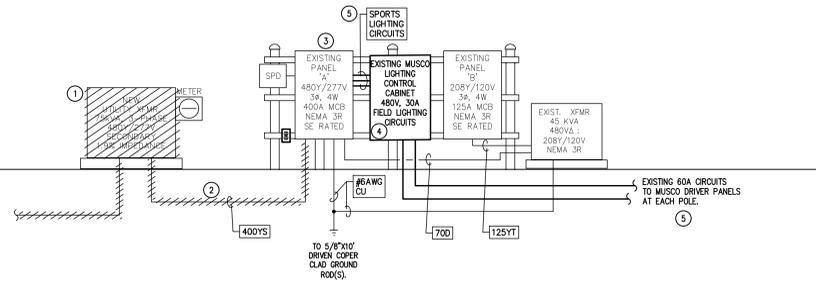
- Stores and executes Musco light show sequences.
- Allows for control of non-Musco lights and equipment.
- Supports up to 2048 channels per controller with modular expansion possibilities.



Control and Monitoring Cabinet



Communication Cabinet

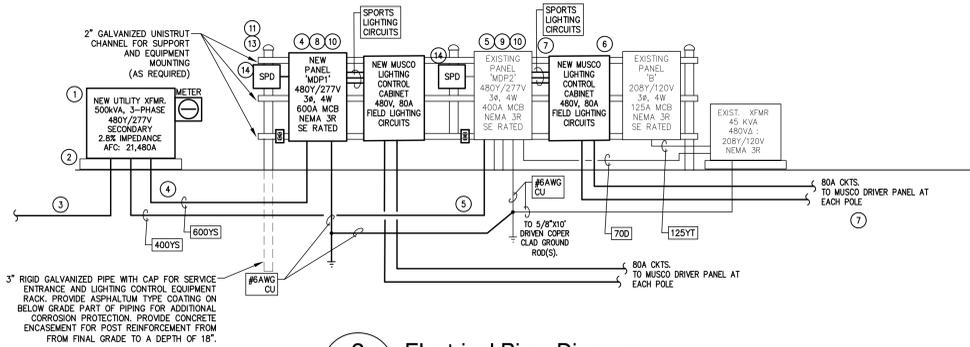


3 Electrical Riser Diagram
E101
SCALE: none Existing Service

NOTES:

- EXISTING PAD MOUNT UTILITY TRANSFORMER TO BE REMOVED BY DUKE ENERGY.
- CONTRACTOR TO REMOVE SECONDARY COMPLETE. A NEW UTILITY TRANSFORMER WILL BE INSTALLED IN A NEW LOCATION. TO MINIMIZE SERVICE INTERRUPTIONS, THE EXISTING SERVICE SHALL BE MAINTAINED UNTIL THE NEW SERVICE IS ENERGIZED.
- THE EXISTING 400A SERVICE PANEL WILL REMAIN AND BE REFEED FROM THE NEW TRANSFORMER. CUT OVER TO BE SCHEDULED ONCE NEW SERVICE IS ENERGIZED.
- EXISTING MUSCO LIGHTING CONTROL PANEL TO BE REPLACED / UPGRADED AS REQUIRED BY SPORTS LIGHTING CONTRACTOR.
- EXISTING LIGHTING POLE CIRCUITS TO BE REPLACED AS REQUIRED FOR LARGER LOADS. SEE PANEL SCHEDULES AND ELECTRICAL SITE PLANS FOR DETAILS.

CONDUIT AND CABLE SCHEDULE	
SYMBOL	MINIMUM SIZE CONDUCTORS AND CONDUIT
400YS	(2 SETS) 3-3/0AWG, 1-3/0AWG N, 2" C.
600YS	(2 SETS) 3-350KCMIL, 1-350KCMIL N, 3" C.



3 Electrical Riser Diagram
E101
SCALE: none Existing Service

NOTES:

- NEW PAD MOUNT TRANSFORMER PROVIDED AND INSTALLED BY UTILITY.
- PROVIDE NEW LARGE FORMAT TRANSFORMER PAD PER DUKE ENERGY GUIDELINES. TRANSFORMER PAD WILL REQUIRE INSPECTION BY UTILITY.
- PROVIDE 4" CONDUIT OUT OF TRANSFORMER PER DUKE ENERGY GUIDELINES FOR PRIMARY CIRCUIT.
- INSTALL SECONDARY CONDUIT FROM TRANSFORMER TO NEW SERVICE PANEL 'MDP1'.
- INSTALL SECONDARY CONDUIT FROM TRANSFORMER TO REFEED EXISTING SERVICE PANEL 'MDP2' (OLD PANEL 'A').
- EXISTING MUSCO LIGHTING CONTROL PANEL TO BE REPLACED / UPGRADED AS REQUIRED BY SPORTS LIGHTING CONTRACTOR.
- EXISTING LIGHTING POLE CIRCUITS TO BE REPLACED AS REQUIRED FOR LARGER LOADS. SEE PANEL SCHEDULES AND ELECTRICAL SITE PLANS FOR DETAILS.
- PROVIDE PLACARD ON SERVICE PANEL TO INDICATE 'MAIN SERVICE DISCONNECT 1 OF 2'.
- PROVIDE PLACARD ON SERVICE PANEL TO INDICATE 'MAIN SERVICE DISCONNECT 1 OF 2'.
- PROVIDE PLACARDS ON BOTH SERVICE ENTRANCE PANELS TO INDICATE AVAILABLE FAULT CURRENT AND DATE CALCULATED. COORDINATE WITH DUKE ENERGY AND ENGINEER FOR REQUIRED VALUES.
- EXPAND EQUIPMENT MOUNTING RACK AS REQUIRED FOR NEW PANELS.
- EXPAND CONCRETE PAD AND FENCE AS REQUIRED FOR NEW GEAR.
- BOND EQUIPMENT RACK TO GROUNDING ELECTRODE SYSTEM.
- SPD, TYPE 1, 200KA, 480Y/277V, 3-PHASE, 4-WIRE, NEMA 4X OUTDOOR RATED ENCLOSURE, DIAGNOSTIC DISPLAY WITH LED INDICATORS. SQUARE D SURELOGIC EMB42 OR APPROVED EQUAL.

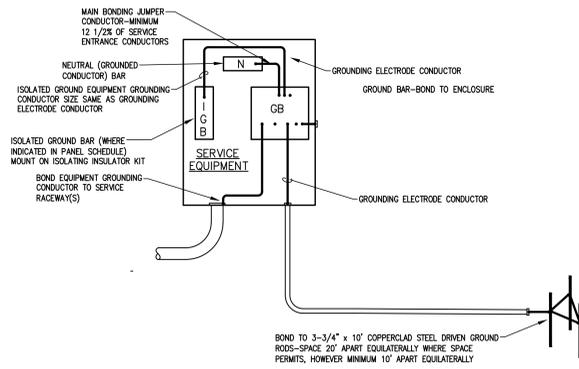
EXISTING PANEL 'B'																																		
NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD	CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES																
2, 3	1	360	SP REGR AT SCOREBOARD	1.5"	#4	#4	#4	20	960	20	#4	#4	#4		SCOREBOARD	600	2	2, 3																
	3	500	CONTROLS	EX	EX	EX	EX	20	1640	20	EX	EX	EX		SP RECEPTACLE	1440	4																	
	5	4800	RECEPTACLE	EX	EX	EX	EX	50	5300	20	#10	#10	#10	1"	LIGHT SWITCH CONTROLLER	500	6																	
	7	4900	SPACE	EX	EX	EX	EX	2P	4500	20					SPACE	14																		
	9	360	FEDERAL #1 POWER	EX	EX	EX	EX	20	360						SPACE	10																		
	11	360	FEDERAL #1 POWER	EX	EX	EX	EX	20	360						SPACE	12																		
	13	360	FEDERAL #1 POWER	EX	EX	EX	EX	20	360						SPACE	14																		
	15		SPACE						0						SPACE	16																		
	19		SPACE						0						SPACE	20																		
	21		SPACE						0						SPACE	22																		
	23		SPACE						0						SPACE	24																		
	25		SPACE						0						SPACE	26																		
	27		SPACE						0						SPACE	28																		
	29		SPACE						0						SPACE	30																		
	N/A		FEED THROUGH DEVICE																															
														4 WIRE																				
														208Y / 120																				
														225 BUSB AMPS																				
														225 FEEDER AMPS																				
														225 MCB AMPS																				
														3																				
														PHASE A																				
														PHASE B																				
														PHASE C																				
														TOTAL CONNECTED																				
														TOTAL DEMAND *																				

NEW PANEL 'MDP1'																														
NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD	CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES												
	1	14875	POLE LIGHT E1	1.5"	#6	#4	#3	80	29750	80	#2	#4	1.5"		POLE LIGHT #1	14875	2													
	3	14875	POLE LIGHT E2						29750						POLE LIGHT #2	14875	4													
	5	14875	POLE LIGHT E3						29750						POLE LIGHT #3	14875	6													
	7	14875	POLE LIGHT E4	1.5"	#6	#4	#3	80	29750	80	#3	#6	1.5"		POLE LIGHT #4	14875	8													
	9	14875	POLE LIGHT E5						29750						POLE LIGHT #5	14875	10													
	11	14875	POLE LIGHT E6						29750						POLE LIGHT #6	14875	12													
	13	14875	POLE LIGHT E7	1.5"	#6	#4	#2	80	29750	80	#1	#4	1.5"		POLE LIGHT #7	14875	14													
	15	14875	POLE LIGHT E8						29750						POLE LIGHT #8	14875	16													
	17	14875	POLE LIGHT E9						29750						POLE LIGHT #9	14875	18													
	19		SPACE						0						SPACE	20														
	21		SPACE						0						SPACE	22														
	23		SPACE						0						SPACE	24														
	25		SPACE						0						SPACE	26														
	27		SPACE						0						SPACE	28														
	29		SPACE						0						SPACE	30														
	31		SPACE						0						SPACE	32														
	33		SPACE						0						SPACE	34														
	35		SPACE						0						SPACE	36														
	37		SPACE						0						SPACE	38														
	39		SPACE						0						SPACE	40														
	41		SPACE						0						SPACE	42														
	N/A		FEED THROUGH DEVICE																											
														4 WIRE																
														480Y / 277																
														600 BUSB AMPS																
														600 FEEDER AMPS																
														600 MCB AMPS																
														3																
														PHASE A																
														PHASE B																
														PHASE C																
														TOTAL CONNECTED																
														TOTAL DEMAND *																

EXISTING PANEL 'A'																														
NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD	CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES												
	1	7479	POLE LIGHT #1						14950	16200					POLE LIGHT #1	7479	2													
	3	8310	POLE LIGHT #2						16200	14950					POLE LIGHT #2	8310	4													
	5	7479	POLE LIGHT #3						14950	16200					POLE LIGHT #3	7479	6													
	7	7479	POLE LIGHT #4						16200	14950					POLE LIGHT #4	7479	8													
	9	8310	POLE LIGHT #5						14950	16200					POLE LIGHT #5	8310	10													
	11	7479	POLE LIGHT #6						16200	14950					POLE LIGHT #6	7479	12													
	13	4986	POLE LIGHT #7						9972	9972					POLE LIGHT #7	4986	14													
	15	4986	POLE LIGHT #8						9972	9972					POLE LIGHT #8	4986	16													
	17	4986	SPACE						0						SPACE	18														
	19	6120	STEP-DOWN TRANSFORMER (80KVA)						6120	2300					SPACE	20														
	21	2300	SPACE						0						SPACE	22														
	23	5960	SPACE						0						SPACE	24														
	25	5960	SPACE						0						SPACE	26														
	27	5960	SPACE						0						SPACE	28														
	29	5960	SPACE						0						SPACE	30														
	N/A		FEED THROUGH DEVICE																											
														4 WIRE																
														480Y / 277																
														400 BUSB AMPS																
														400 FEEDER AMPS																
														400 MCB AMPS																
														3																
														PHASE A																
														PHASE B																
														PHASE C																
														TOTAL CONNECTED																
														TOTAL DEMAND *																

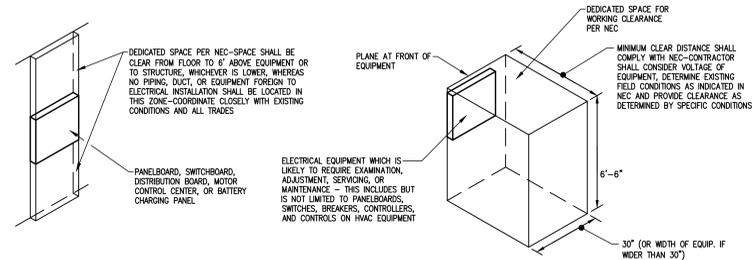
ELECTRICAL SPECIFICATIONS

- GENERAL:
 - PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS FOR THE CONSTRUCTION OF NEW ELECTRICAL SYSTEMS AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.
 - THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO INCLUDE EVERY DETAIL OF CONSTRUCTION, MATERIALS, AND EQUIPMENT. TAKE ACTUAL FIELD MEASUREMENTS AT THE JOB SITE IN LIEU OF SCALING THE DRAWINGS.
 - REVIEW THE CONTRACT DOCUMENTS OF ALL TRADES AND COORDINATE ALL WORK WITH THE OTHER TRADES AS NECESSARY TO AVOID CONFLICTS AND INTERFERENCES.
 - ALL WORK AND MATERIALS SHALL COMPLY WITH APPLICABLE STATE, LOCAL, AND NATIONAL CODES (



- NOTES:**
- GROUNDING CONDUCTORS AND MAIN BONDING JUMPER SHALL BE BARE COPPER UNLESS OTHERWISE NOTED AND SHALL BE SIZED AS INDICATED IN ELECTRICAL RISER AND THIS DETAIL.
 - GROUNDING ELECTRODE CONDUCTOR CONDUIT SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE NOTED OR REQUIRED OTHERWISE BY NSIS OR LOCAL AUTHORITY. WHERE CONDUIT IS METAL, BOND CONDUCTOR TO CONDUIT AT EACH END BY MEANS OF A GROUNDING BUSHING.
 - PROVIDE GROUND ROD LENGTH (MINIMUM 10') TO ACHIEVE GROUND ROD RESISTANCE OF LESS THAN 10 OHMS AT SERVICE EQUIPMENT.

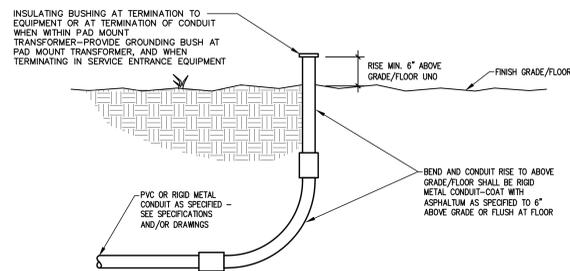
1 Service Grounding & Bonding Detail
E102 SCALE: NONE



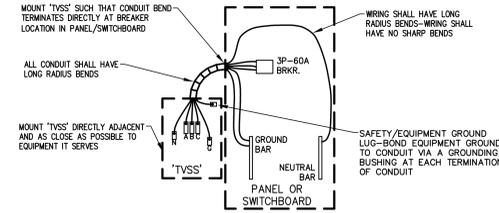
DEDICATED SPACE REQUIREMENTS

WORKING CLEARANCE REQUIREMENTS

2 Electrical Equipment Dedicated Space & Working Clearance
E102 SCALE: NONE

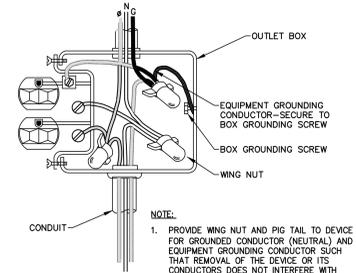


3 Underground Conduit Rise To Above Grade/ Floor
E102 SCALE: NONE

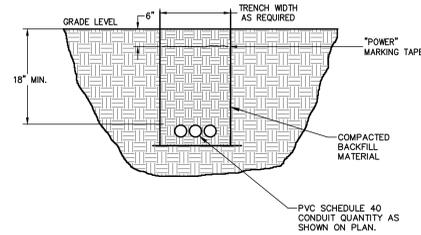


- NOTE:**
- WIRING SIZE SHALL BE LARGEST SIZE TERMINABLE UPON 'TVSS' LUG AND BREAKER. COORDINATE WITH PARTICULAR 'TVSS' MANUFACTURER. MINIMUM WIRE SIZE SHALL BE #2.
 - ROUTE CIRCUITRY AS SHORT AND DIRECT AS POSSIBLE. WIRE LENGTH SHALL NOT EXCEED 18\".

4 'TVSS' Installation Detail
E102 SCALE: NONE



5 Receptacle Wiring Detail
NONE



6 Electrical Trench Detail
E102 SCALE: Not To Scale LOW VOLTAGE-TYPICAL

- NOTES:**
- PROVIDE A NEW TRENCH FOR POWER CONDUITS AS SHOWN IN PLAN. PROVIDE NEC REQUIRED COVER, MINIMUM OF 18\".
 - BACKFILL AND COMPACT THE TRENCH WITH THE REMOVED MATERIAL.
 - PROVIDE MARKING TAPE ONE FOOT ABOVE CONDUIT TO WARN OF THE ELECTRIC UTILITIES BELOW.



No.	Revisions

The use of these plans and specifications shall be restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Re-use, reproduction, or publication by any method, in whole or in part, is prohibited. Title to the plans and specifications remains with the engineer without prejudice. It is to be returned upon request to the engineer. Used in accordance with those plans and specifications shall constitute prima facie evidence of the acceptance of these restrictions.

drawn JDH checked JDH

**Electrical
Details**

sheet

E102

project no. 26-021

date 03/17/26



**THREE-PHASE PAD-MOUNTED TRANSFORMER
CONCRETE FOUNDATION SPECIFICATIONS**

FEBRUARY 2020

INTRODUCTION, REQUIREMENTS AND RESPONSIBILITIES..... 1
 CONDUIT AND CONCRETE SPECIFICATIONS..... 2
 SMALL PIT PAD SPECIFICATIONS..... 3
 LARGE PIT PAD SPECIFICATIONS..... 4
 SMALL FLAT PAD SPECIFICATIONS..... 5
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
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THREE-PHASE PAD-MOUNTED TRANSFORMER
 CONCRETE FOUNDATION SPECIFICATIONS

DEC	DEM	DEP	DEF
X	X	X	
TOC			

INTRODUCTION

THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PREPARED TO ASSIST BOTH DUKE ENERGY PERSONNEL AND DUKE ENERGY CUSTOMERS IN THE APPLICATION, INSTALLATION, AND CONSTRUCTION OF FOUNDATIONS (CONCRETE PADS) FOR ALL THREE-PHASE PAD-MOUNTED TRANSFORMERS. THIS INFORMATION IS INTENDED TO PROVIDE CLEAR DISTINCTIONS BETWEEN THE RESPONSIBILITIES OF DUKE ENERGY AND OF THE CUSTOMER. HOWEVER, IN ALL CASES, IT IS CRITICAL TO MAINTAIN AN OPEN DIALOG BETWEEN DUKE ENERGY AND THE CUSTOMER REGARDING CONDUCTOR QUANTITIES, CONDUIT SIZES AND LOCATIONS, CONNECTIONS, AND ELECTRICAL LOAD REQUIREMENTS. THIS WILL ENSURE THAT THE PROPER DIMENSIONS ARE USED FOR THE CONCRETE TRANSFORMER FOUNDATION.

PAD TYPE REQUIREMENTS

THE "PIT PAD" SHALL BE USED FOR ALL THREE-PHASE PAD-MOUNTED TRANSFORMER INSTALLATIONS IN THE DUKE ENERGY CAROLINAS WEST (DEC), DUKE ENERGY MIDWEST (DEM) AND THE NON-COASTAL DUKE ENERGY CAROLINAS EAST (DEP) TERRITORIES. IN THE DUKE ENERGY FLORIDA (DEF) AND COASTAL DEP TERRITORIES, A "FLAT PAD" SHALL BE USED.

PAD SIZE REQUIREMENTS

THERE ARE TWO DIFFERENT SIZE PADS FOR THREE-PHASE PAD-MOUNTED TRANSFORMERS. THE PAD SIZE SHALL BE DETERMINED BASED ON THE PARAMETERS SPECIFIED IN THE TABLE BELOW.

TRANSFORMER SIZE	TRANSFORMER PRIMARY VOLTAGE CLASS	PAD SIZE	PIT PAD DWG.	FLAT PAD DWG.
300KVA AND BELOW	25 KV AND BELOW	SMALL	PAGE 3	PAGE 5
500KVA - 5000KVA	25 KV AND BELOW	LARGE	PAGE 4	PAGE 6
ALL	35KV	LARGE	PAGE 4	PAGE 6

SECONDARY BUS ENCLOSURE REQUIREMENTS

A SEPARATE SECONDARY BUS ENCLOSURE IS REQUIRED WHENEVER THE CUSTOMER IS INSTALLING MORE THAN THE MAXIMUM ALLOWABLE NUMBER OF SECONDARY CONDUCTORS PER PHASE. SEE THE "SERVICE REQUIREMENTS HANDBOOK" FOR THOSE NUMBERS.

CUSTOMER RESPONSIBILITIES

THE CUSTOMER IS RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONCRETE THREE-PHASE PAD-MOUNTED TRANSFORMER PAD ACCORDING TO THE SPECIFICATIONS OUTLINED IN THIS DOCUMENT. THE CUSTOMER MAY CHOOSE TO CONSTRUCT (FORM AND POUR) THE PAD ON-SITE OR PURCHASE AND INSTALL A PRE-CAST PAD FROM AN APPROVED SUPPLIER. THE CUSTOMER MUST PROVIDE AND INSTALL THE PRIMARY AND SECONDARY CONDUITS INTO THE WINDOW OPENING OF THE PAD ACCORDING TO THE SPECIFICATIONS OUTLINED IN THIS DOCUMENT.

THE CUSTOMER IS RESPONSIBLE FOR CONTACTING A DUKE ENERGY REPRESENTATIVE TO INSPECT AND APPROVE THE PAD TO BE USED. IF USING A PRE-CAST PAD, CONTACT THE DUKE ENERGY REPRESENTATIVE AFTER INSTALLATION SO THAT THE CORRECT PAD CAN BE CONFIRMED AND VERIFIED THAT IT IS IN THE CORRECT LOCATION AND LEVEL. IF CONSTRUCTING THE PAD ON-SITE, THE DUKE ENERGY REPRESENTATIVE MUST BE CONTACTED TO INSPECT THE FORM OF THE PAD, INCLUDING REBAR, PRIOR TO POURING THE CONCRETE.

THE CUSTOMER IS ALSO RESPONSIBLE FOR INFORMING THE DUKE ENERGY REPRESENTATIVE THE NUMBER, SIZE, AND TYPE OF SECONDARY CONDUCTORS THAT WILL BE INSTALLED. (EXAMPLE: 500-MCM COPPER, 600-VOLT INSULATED, 90-DEGREE C-RATED, FOUR (4) CONDUCTORS PER PHASE).

DUKE ENERGY RESPONSIBILITIES

PROVIDE AND INSTALL THE GROUND ROD(S) PRIOR TO THE INSTALLATION OF THE PAD-MOUNTED TRANSFORMER. PROVIDE AND INSTALL THE PAD-MOUNTED TRANSFORMER. PROVIDE AND INSTALL THE CONNECTORS TO TERMINATE THE PRIMARY AND SECONDARY CONDUCTORS TO THE TRANSFORMER TERMINALS. METERING.



3				
2				
1	6/24/19	MORGAN	VALENTIN	ADCOCK
0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

INTRODUCTION, REQUIREMENTS AND
RESPONSIBILITIES

DEC	DEM	DEP	DEF
X	X	X	
PAGE 1			

CONDUIT SPECIFICATIONS

CONDUIT FOR DUKE ENERGY PRIMARY CABLES SHALL BE SPECIFIED BY A DUKE ENERGY REPRESENTATIVE TO BE EITHER 4, 5 OR 6-INCH DIAMETER AND INSTALLED BY THE CUSTOMER PRIOR TO POURING/INSTALLING THE CONCRETE PAD. THERE SHALL BE TWO PRIMARY CONDUITS INSTALLED [ONE FOR EACH SET (OF THREE) PRIMARY CABLES]. THE CONDUITS INSTALLED IN THE PRIMARY CONDUIT WINDOW SHALL BE A SCHEDULE 40 ELBOW WITH A MINIMUM 15-INCH BEND RADIUS. A DUKE ENERGY REPRESENTATIVE MAY SPECIFY A HIGHER BEND RADIUS, DEPENDING ON THE SIZE OF THE PRIMARY CABLE.

INSTALL CONDUIT END BELLS WHERE CABLES EXIT CONDUITS IN THE PRIMARY AND SECONDARY COMPARTMENTS OF THE TRANSFORMER TO MINIMIZE DAMAGE TO THE CABLES DURING INSTALLATION.

CUSTOMER SHALL INSTALL THE CONDUIT FOR THE PRIMARY CONDUCTORS AS CLOSE TO THE CENTER OF THE DESIGNATED PRIMARY SIDE OF THE WINDOW OF THE PAD AS PRACTICAL.

CUSTOMER'S SERVICE CONDUITS SHALL NOT CROSS OR INTERFERE WITH THE PRIMARY CONDUITS. THE SERVICE CONDUITS CAN EXIT THE SECONDARY SIDE OF THE PAD FROM THE FRONT, REAR OR RIGHT SIDE.

THE SERVICE CONDUITS SHALL NOT EXTEND OUTSIDE THE DESIGNATED SECONDARY SIDE OF THE WINDOW OF THE PAD.

CONCRETE SPECIFICATIONS (IF CUSTOMER CONSTRUCTS PAD)

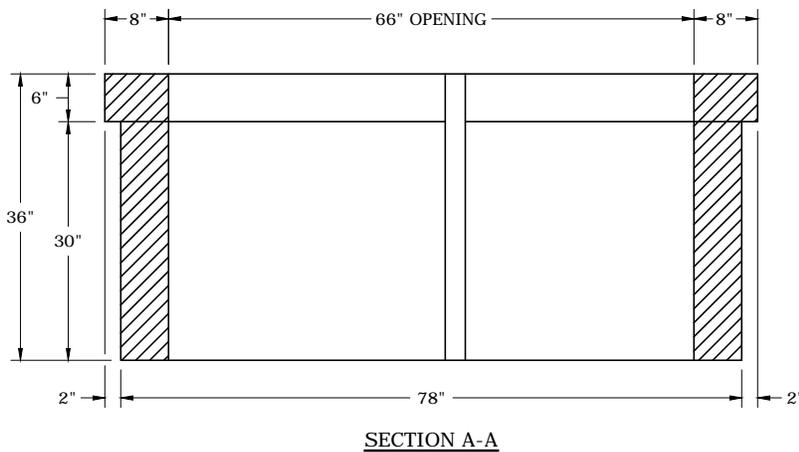
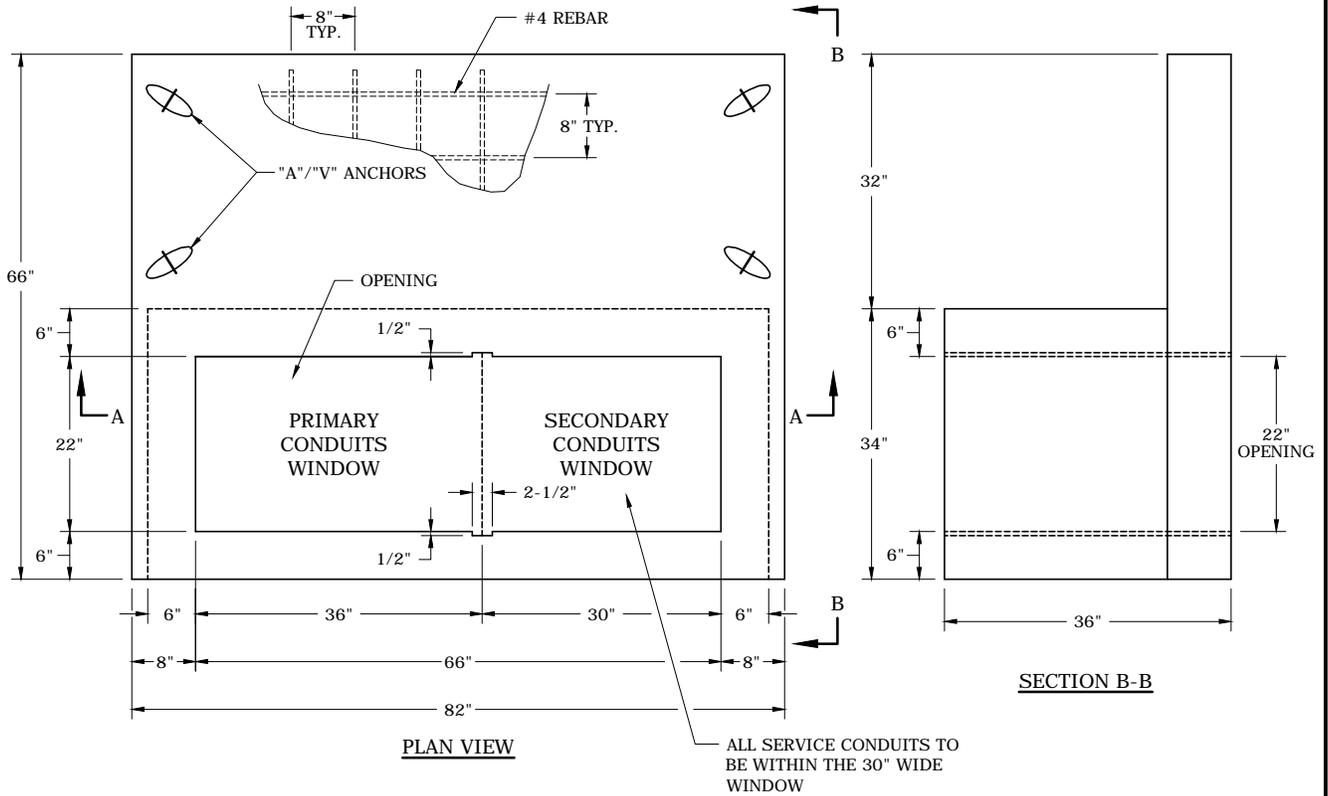
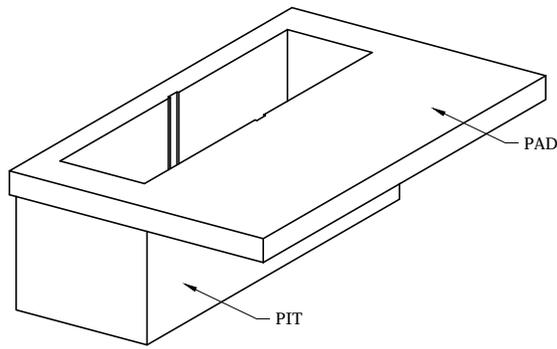
1. CONCRETE MIX USED FOR TRANSFORMER PADS SHALL MEET THE FOLLOWING REQUIREMENTS:
 - MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI
 - MAXIMUM WATER/CEMENT RATIO OF 0.50
 - MAXIMUM SLUMP OF 4 INCHES
 - AIR-ENTRAINMENT CONTENT BETWEEN 4 AND 8 PERCENT
2. CONCRETE SHALL BE AFFORDED ADEQUATE CURE FOR A MINIMUM OF:
 - FIVE (5) DAYS IF THE AMBIENT TEMPERATURE IS OVER 70 DEGREES F OR
 - SEVEN (7) DAYS IF THE AMBIENT AVERAGE TEMPERATURE IS BELOW 70 DEGREES F.
3. ADEQUATE CURE CAN BE PERFORMED BY ANY OF THE FOLLOWING METHODS:
 - WATERPROOF MEMBRANES
 - SPRINKLING OR SOAKING
 - CURING COMPOUNDS
4. PAD SHALL BE SUPPORTED ON A SUB-BASE OF SAND, GRAVEL OR CRUSHED STONE. THE GRANULAR SUB-BASE IS TO BE A MINIMUM OF FOUR (4) INCHES THICK AND SHALL BE COMPACTED WITH A VIBRATORY COMPACTOR.
5. DAMPEN THE SUB-BASE PRIOR TO CONCRETE PLACEMENT. AT THE TIME OF PLACEMENT, THE SUB-BASE SHALL NOT CONTAIN STANDING WATER.
6. THE TOP OF THE CONCRETE PAD MUST BE STEEL TROWELED AND COMPLETELY SMOOTH AND LEVEL TO PREVENT "GAPS" BETWEEN THE TRANSFORMER AND THE SURFACE OF THE CONCRETE PAD.



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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

CONDUIT AND CONCRETE SPECIFICATIONS

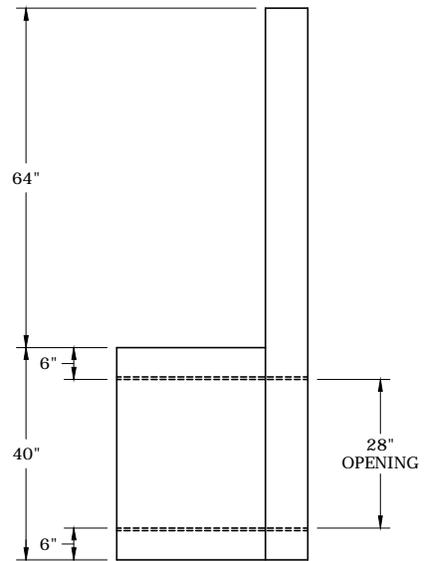
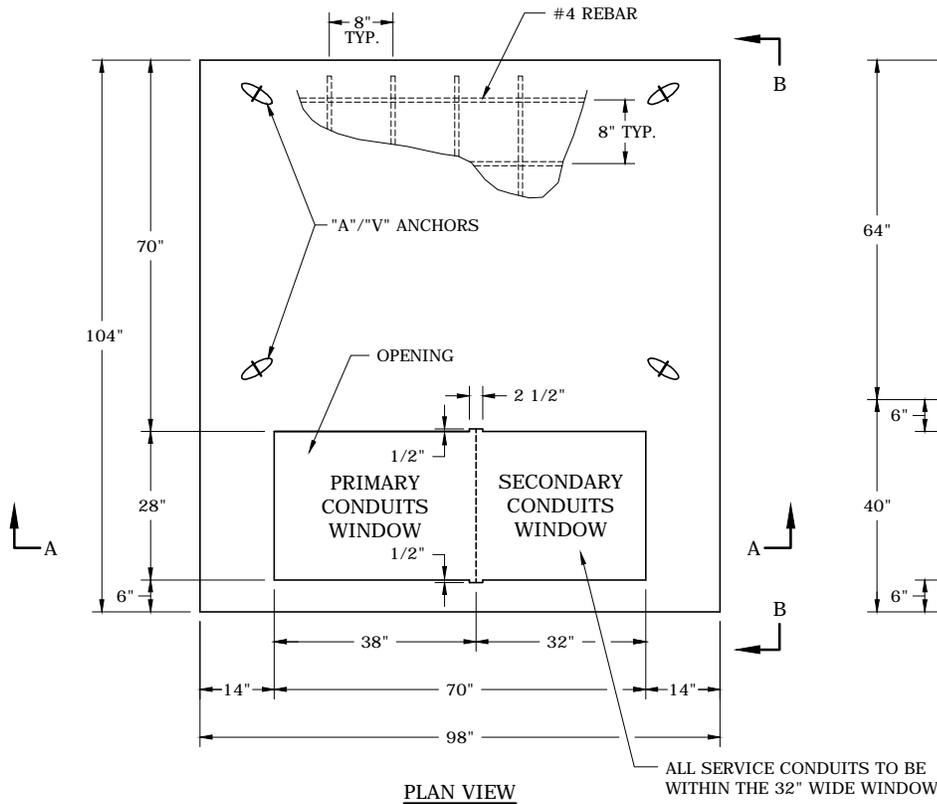
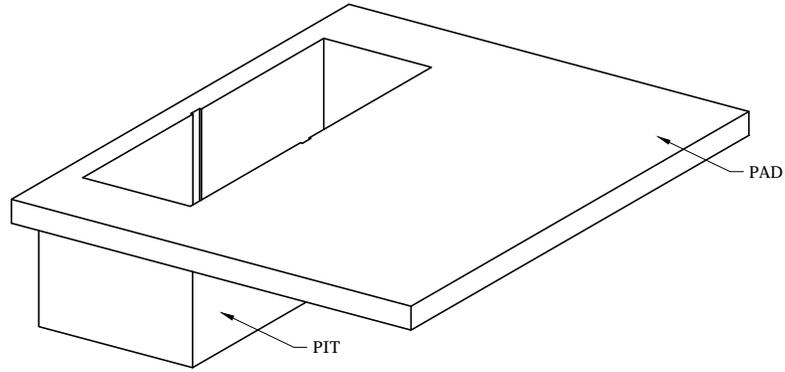
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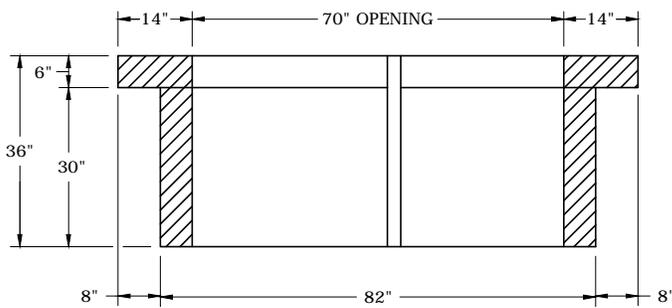
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PAGE 3			

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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

SMALL PIT PAD SPECIFICATIONS



SECTION B-B



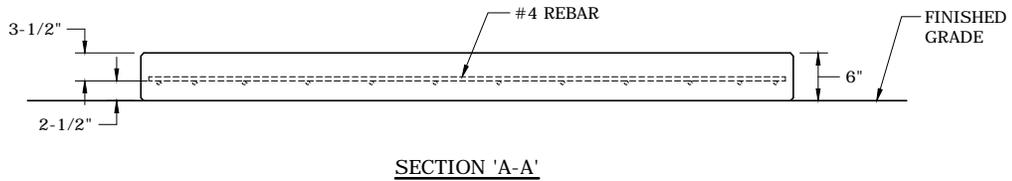
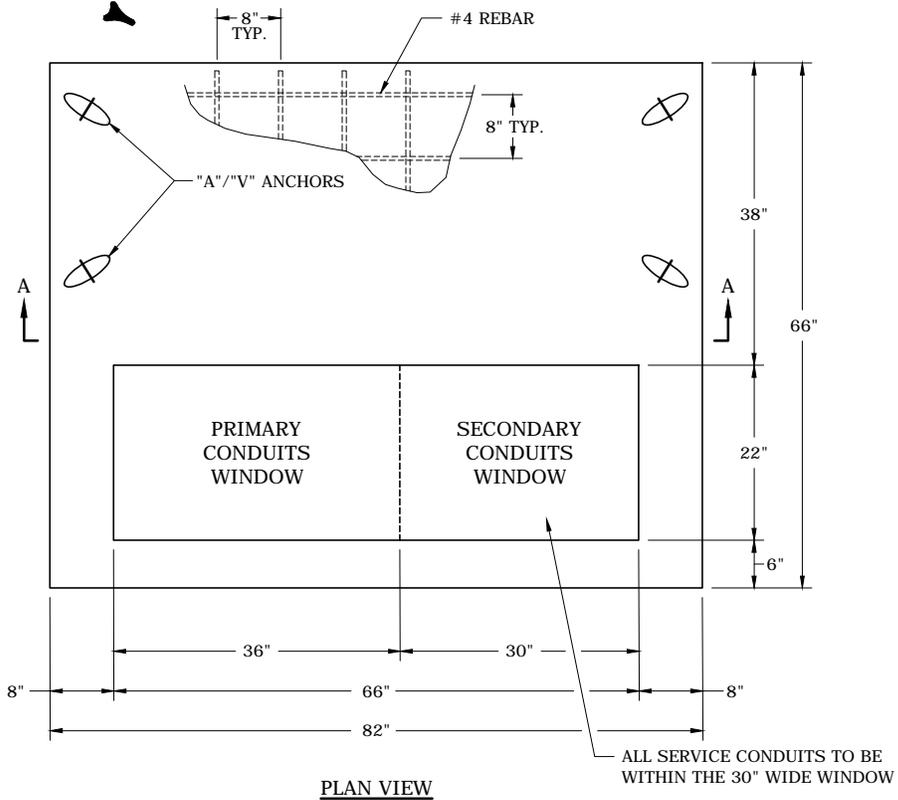
SECTION A-A



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LARGE PIT PAD SPECIFICATIONS

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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	



NOTES:

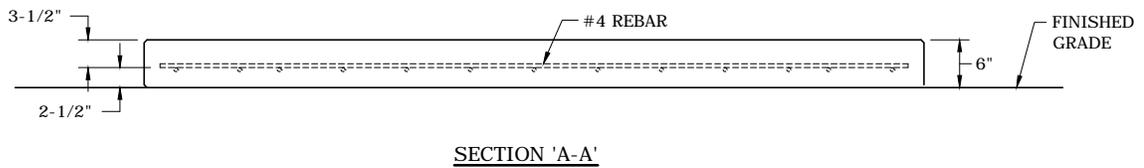
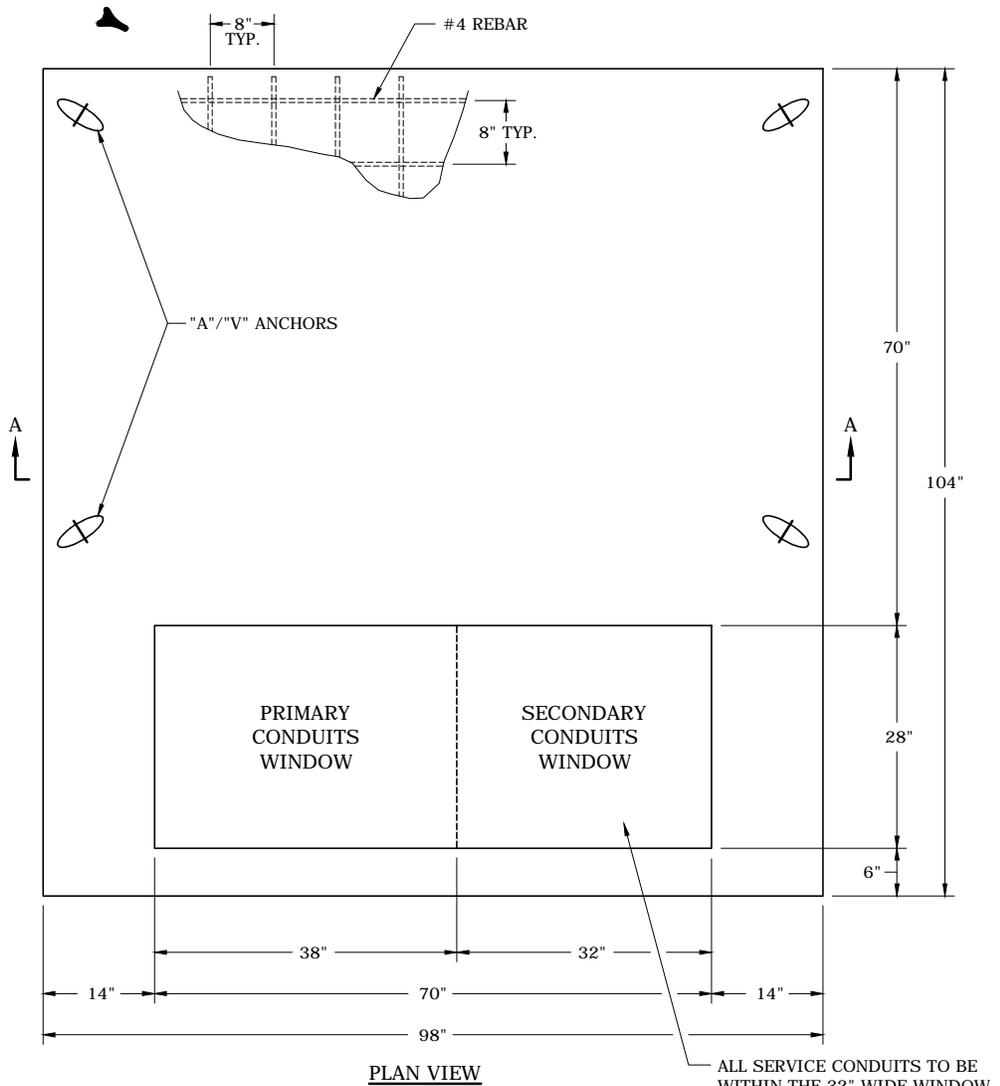
1. PRECAST PAD SUPPLIERS ARE REQUIRED TO PROVIDE THE PADS WITH RECESSED "A/V" ANCHORS, TO BE USED FOR LIFTING THE PADS.



3				
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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

SMALL FLAT PAD SPECIFICATIONS

DEC	DEM	DEP	DEF
		X	
PAGE 5			



NOTES:

1. PRECAST PAD SUPPLIERS ARE REQUIRED TO PROVIDE THE PADS WITH RECESSED "A/V" ANCHORS, TO BE USED FOR LIFTING THE PADS.



3				
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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

LARGE FLAT PAD SPECIFICATIONS

DEC	DEM	DEP	DEF
		X	

ENCORE PRECAST

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 WEBSITE: ENCOREPRECASTLLC.COM

OLDCASTLE PRECAST

CONTACT: ALEX PALOMEQUE
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 EMAIL: ALEX.PALOMEQUE@OLDCASTLE.COM
 WEBSITE: OLDCASTLEINFRASTRUCTURE.COM

PBC PRECAST

CONTACT: JOHNNATHAN AVERY
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TRENWA

CONTACT: ELLIOTT SCHURR
 PHONE: 859.781.0831 EXT. 17
 EMAIL: DUKEORDERS@TRENWA.COM
 WEBSITE: TRENWA.COM/REQUEST-QUOTE/

UTILITY PRECAST

CONTACT: LARINDA BUESCH
 PHONE: 704.721.0106
 EMAIL: LARINDA@UTILITYPRECASTINC.COM
 WEBSITE: UTILITYPRECASTINC.COM

PRE-CAST CONCRETE PADS					
PAD TYPE	SUPPLIER PART NUMBER				
	ENCORE PRECAST	OLDCASTLE PRECAST	PBC PRECAST	TRENWA	UTILITY PRECAST
SMALL FLAT PAD	TRPAD082066	SEE CONTACT ABOVE	FP82666	PAD-82x66	FTP8120
LARGE FLAT PAD	TRPAD098104	SEE CONTACT ABOVE	FP981046	PAD-104x98	FTP8130
SMALL PIT	TRPIT082066	SEE CONTACT ABOVE	PIT783430	PIT-78x34	FTP8121
LARGE PIT	TRPIT098104	SEE CONTACT ABOVE	PIT824030	PIT-82x40	FTP8131
SMALL DIVIDER	TRDV036023	SEE CONTACT ABOVE	DESMDIV	PITDIV-36x23	FTP8122
LARGE DIVIDER	TRDV036030	SEE CONTACT ABOVE	DELGDIV	PITDIV-36x29	FTP8132



3				
2	8/21/19	MORGAN	VALENTIN	ADCOCK
1	6/24/19	MORGAN	VALENTIN	ADCOCK
0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

APPROVED SUPPLIERS OF
 PRE-CAST CONCRETE PADS

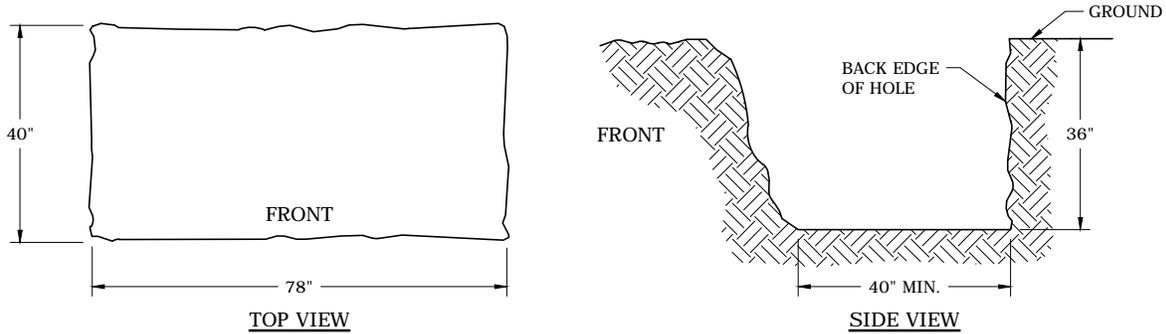
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INSTALLING A SMALL TWO-PIECE PRE-CAST PIT PAD

STEP 1:

DIG A RECTANGULAR SHAPED HOLE APPROXIMATELY 40 INCHES BY 78 INCHES AND 36 INCHES DEEP FOR THE PIT. (SEE BELOW)

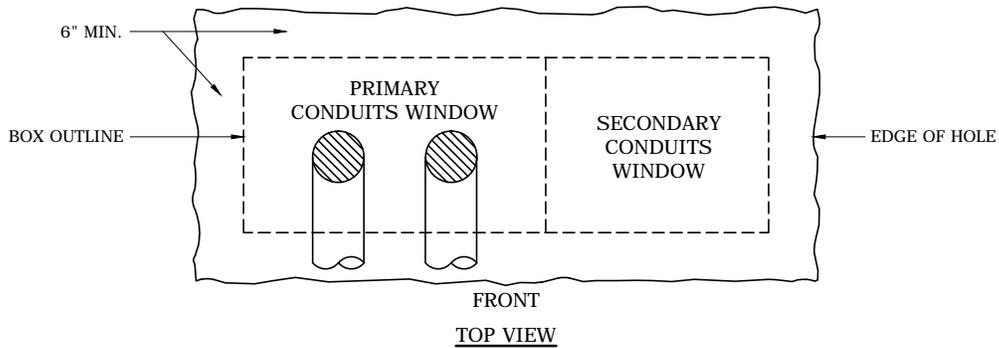
NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.



STEP 2:

INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW OPENING OF THE PAD. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE PIT FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PIT.



STEP 3:

FILL APPROXIMATELY 6 INCHES OF LEVELED, COMPACTED SOIL IN THE HOLE TO SUPPORT THE CONDUIT ELBOWS. INSTALL THE PIT IN PLACE SO THAT THE CONDUITS ARE LOCATED IN THE CORRECT POSITION WITHIN THE PAD WINDOW. ENSURE THAT THE TOP OF THE PIT IS INSTALLED LEVEL AND FLUSH WITH THE SURROUNDING EARTH SO THAT WHEN THE PAD IS INSTALLED, THE BOTTOM IS IN CONTACT WITH THE ENTIRE SURFACE AREA OF THE TOP OF THE PIT.



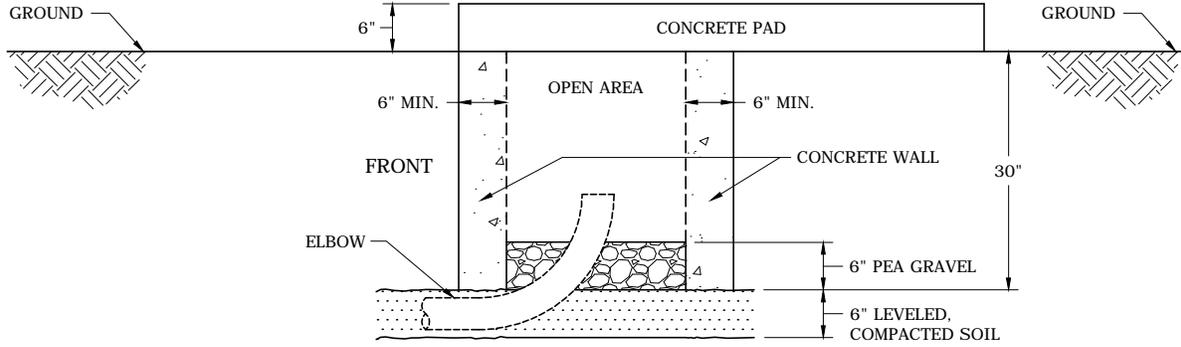
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

INSTALLING A SMALL TWO-PIECE
PRE-CAST PIT PAD

DEC	DEM	DEP	DEF
X	X	X	

STEP 4:

FILL IN THE AREA IN FRONT OF AND AROUND THE PIT WITH DIRT. CAREFULLY COMPACT THE GROUND AROUND THIS AREA TO PREPARE FOR THE FLAT PORTION OF THE PIT PAD. FILL THE BOTTOM OF THE PIT WITH 6 INCHES OF PEA GRAVEL (SEE BELOW). ENSURE THE TOP OF THE PIT IS FREE OF GRAVEL AND OTHER DEBRIS.



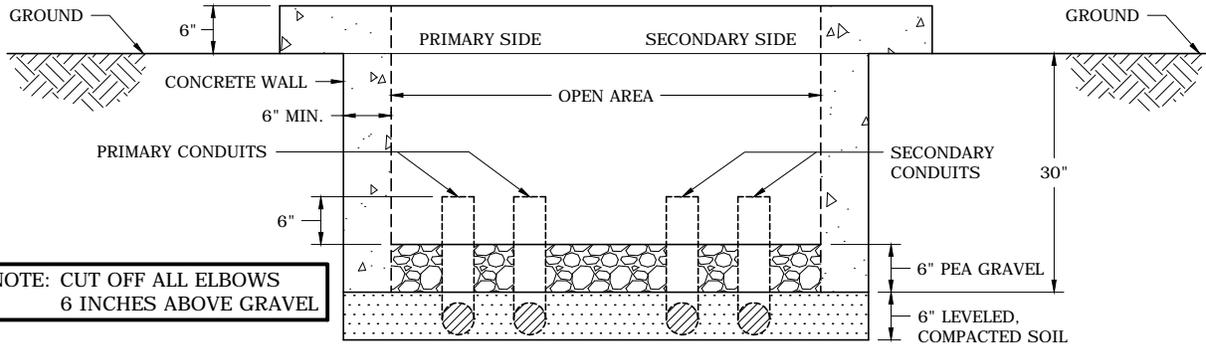
SIDE VIEW

STEP 5:

APPLY A LAYER OF CONSEAL ON THE TOP OF THE PIT BEFORE PLACING THE PAD ONTO THE PIT TO SEAL AND ADHERE THE PAD TO THE PIT.

STEP 6:

INSTALL THE FLAT PORTION OF THE PAD ON THE GROUND AND PIT, LINING UP THE WINDOW OF THE PAD WITH THE PIT. SECURE THE PAD TO THE PIT SO THAT THEY REMAIN IN LINE.



NOTE: CUT OFF ALL ELBOWS 6 INCHES ABOVE GRAVEL

FRONT VIEW



3				
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

INSTALLING A SMALL TWO-PIECE
PRE-CAST PIT PAD

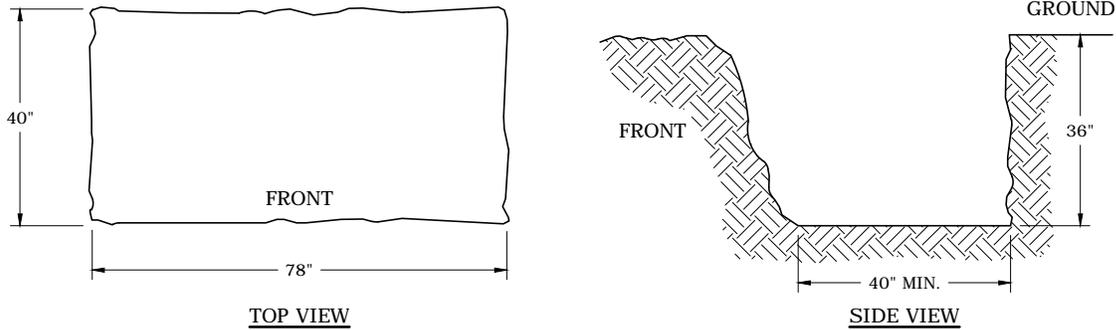
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BUILDING A SMALL PIT PAD

STEP 1:

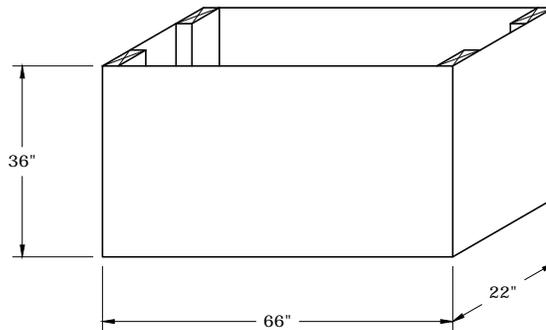
DIG A RECTANGULAR SHAPED HOLE APPROXIMATELY 40 INCHES BY 78 INCHES AND 36 INCHES DEEP FOR THE PIT. (SEE BELOW)

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.



STEP 2:

BUILD A RECTANGULAR SHAPED BOX, OPEN AT THE TOP AND BOTTOM, FROM 2-INCH BY 4-INCH BOARDS AND PLYWOOD. THE PLYWOOD SIDES OF THE BOX SHOULD BE 36 INCHES TALL.



WINDOW OPENING FOR THE SMALL 82-INCH BY 66-INCH "PIT" PAD

STEP 3:

SET THE BOX IN THE HOLE AND POSITION IT SO THAT A MINIMUM OF 6 INCHES OF SPACE EXISTS BETWEEN THE SIDES AND BACK OF THE BOX AND THE EDGE OF THE HOLE. (THE SPACE BETWEEN THE BOX AND FRONT EDGE OF HOLE WILL BE APPROXIMATELY 12 INCHES.) TRACE A LINE AROUND THE BOTTOM OUTSIDE EDGE OF THE BOX IN DIRT AND THEN REMOVE THE BOX. INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE OUTLINE OF THE BOX. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

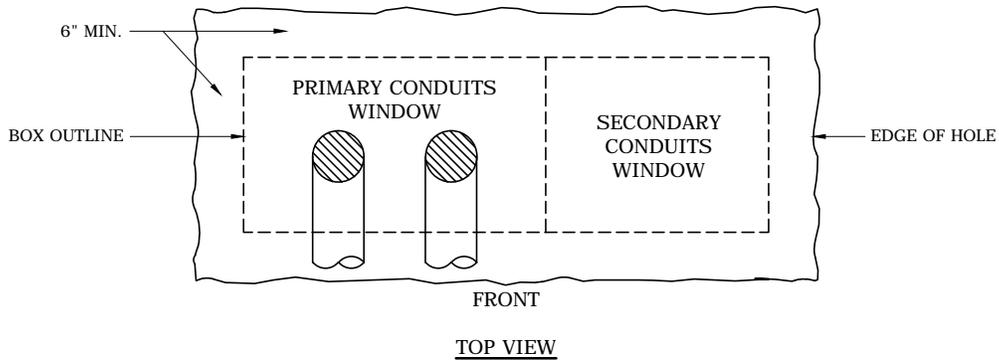
NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE PIT FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PIT.



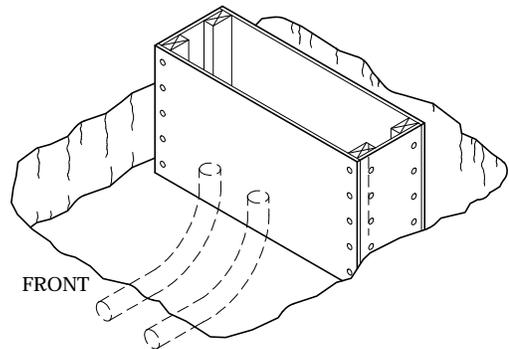
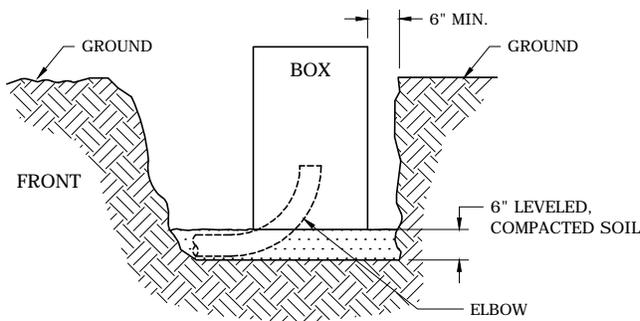
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A SMALL PIT PAD

DEC	DEM	DEP	DEF
X	X	X	



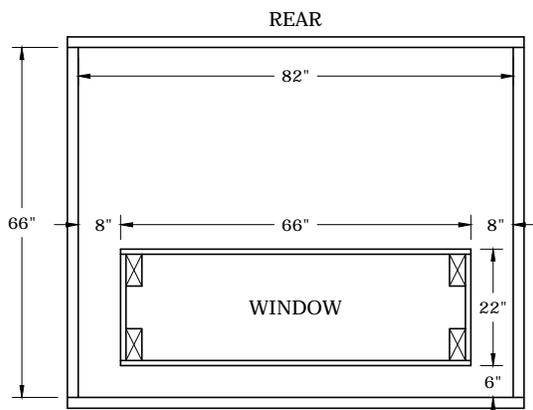
STEP 4:
 FILL APPROXIMATELY 6 INCHES OF LEVELED, COMPACTED SOIL IN THE HOLE TO SUPPORT THE CONDUIT ELBOWS. PLACE THE BOX BACK IN THE HOLE OVER CONDUITS, POSITIONING BOX AGAIN SO A MINIMUM OF 6 INCHES OF SPACE EXISTS BETWEEN THE BACK AND SIDES OF THE HOLE AND BOX. THE BOX SHOULD STICK OUT FROM THE TOP OF THE HOLE APPROXIMATELY 6 INCHES (OR THE WIDTH OF A STANDARD 2-INCH BY 6-INCH BOARD). MAKE SURE THE CONDUITS ENTER CORRECTLY IN THE PRIMARY AND SECONDARY SIDE OF THE PIT.



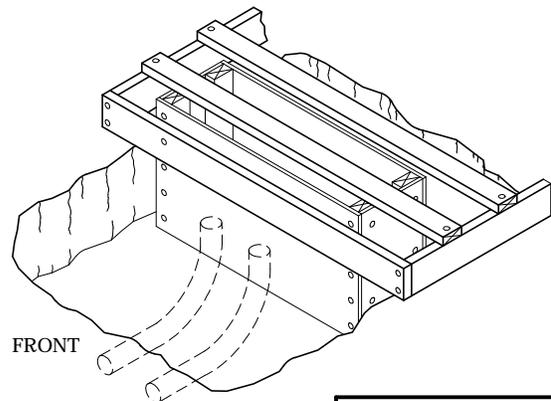
SIDE VIEW

STEP 5:
 FORM THE TOP PART OF THE PAD USING 2-INCH BY 6-INCH BOARDS USING THE DIMENSIONS AS INDICATED BELOW.

NOTE: IT MAY BE EASIER TO "LEVEL" THE BOX WITH THE SIDES IF YOU LAY TWO 2-INCH BY 4-INCH BOARDS ON THE TOP OF THE SIDE BOARDS SO THAT THEY CROSS OVER TOP OF BOX AS SHOWN BELOW. TACK THESE BOARDS ONTO THE TOP OF THE BOX TO ENSURE SIDES ARE THE SAME HEIGHT AS THE BOX.



SMALL 82-INCH BY 66-INCH PAD



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REVISED	BY	CHK'D	APPR.	

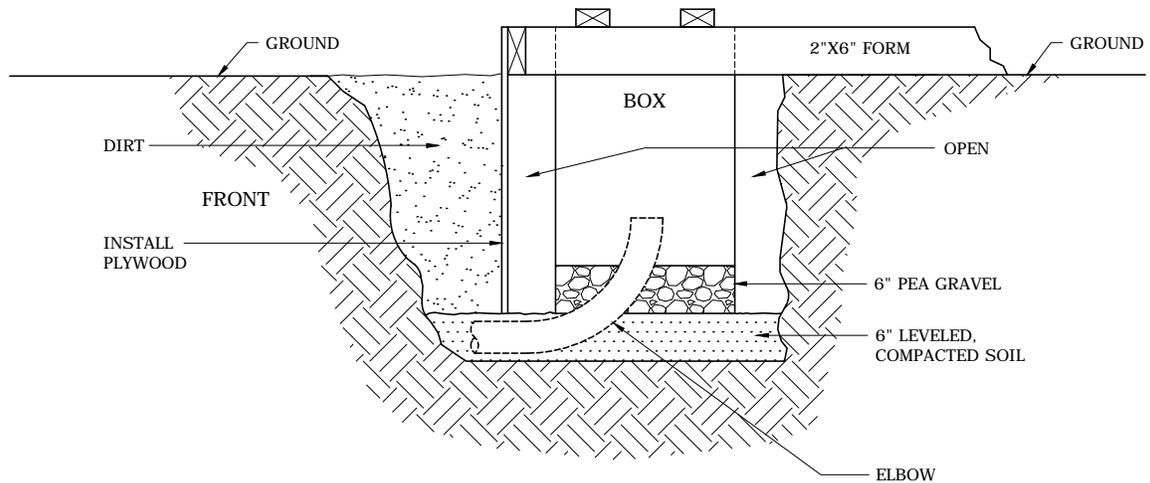
BUILDING A SMALL PIT PAD



DEC	DEM	DEP	DEF
X	X	X	

STEP 6:

INSTALL A PIECE OF PLYWOOD INSIDE THE HOLE LONG ENOUGH TO REACH FROM ONE SIDE OF THE HOLE TO THE OTHER AND WIDE ENOUGH TO REACH FROM THE TOP OF THE FRONT 2-INCH BY 6-INCH FORM TO THE BOTTOM OF THE HOLE. (THESE DIMENSIONS SHOULD BE APPROXIMATELY 78 INCHES X 40 INCHES.) TACK THE PLYWOOD TO THE FRONT OF THE 2-INCH BY 6-INCH BOARD AND LET THE BOTTOM OF THE BOARD REST ON THE GROUND. PLYWOOD MUST BE THICK ENOUGH SO IT WON'T GIVE AT BOTTOM OF HOLE WHEN THE CONCRETE IS POURED. SEE BELOW.



SIDE VIEW

STEP 7:

FILL IN THE AREA BETWEEN THE PLYWOOD AND THE FRONT OF THE HOLE WITH DIRT. BE CAREFUL THAT PLYWOOD DOESN'T "PUSH IN" AT BOTTOM. FILL THE BOTTOM OF THE BOX WITH 6 INCHES OF PEA GRAVEL. SEE ABOVE.

STEP 8:

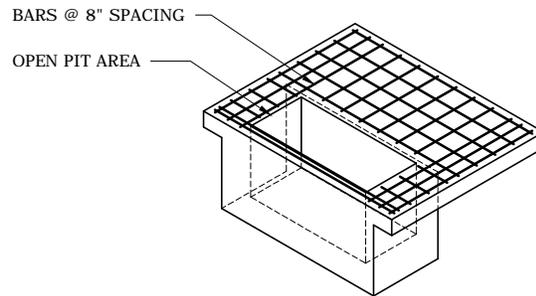
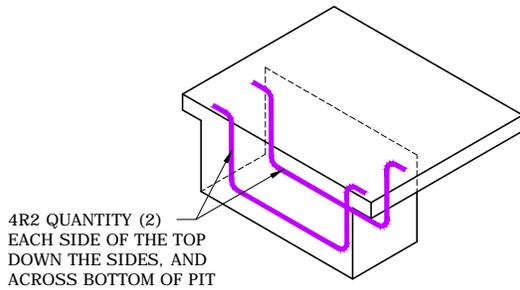
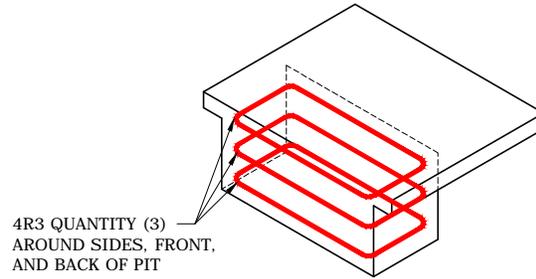
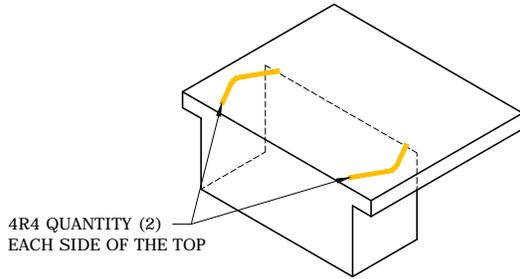
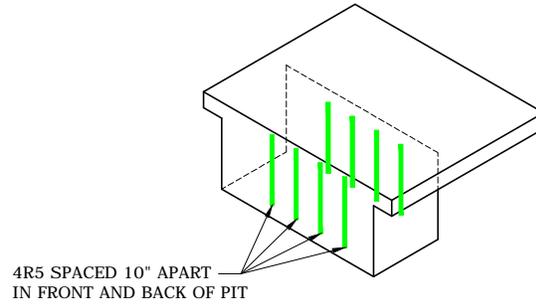
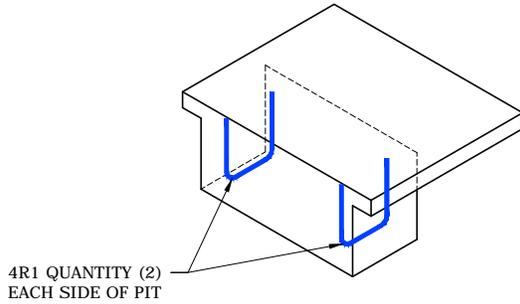
INSTALL AND TIE TOGETHER THE REINFORCING BARS AROUND THE BOX IN THE "PIT AREA" AND "PAD AREA" TO REINFORCE ENTIRE PIT PAD. (SEE PAGES 13 AND 14 FOR MORE COMPLETE DETAILS.) CONTACT YOUR DUKE ENERGY REPRESENTATIVE TO INSPECT THE PAD BEFORE POURING CONCRETE.



3				
2				
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A SMALL PIT PAD

DEC	DEM	DEP	DEF
X	X	X	



ALL BARS #4 GRADE 60 DEFORMED

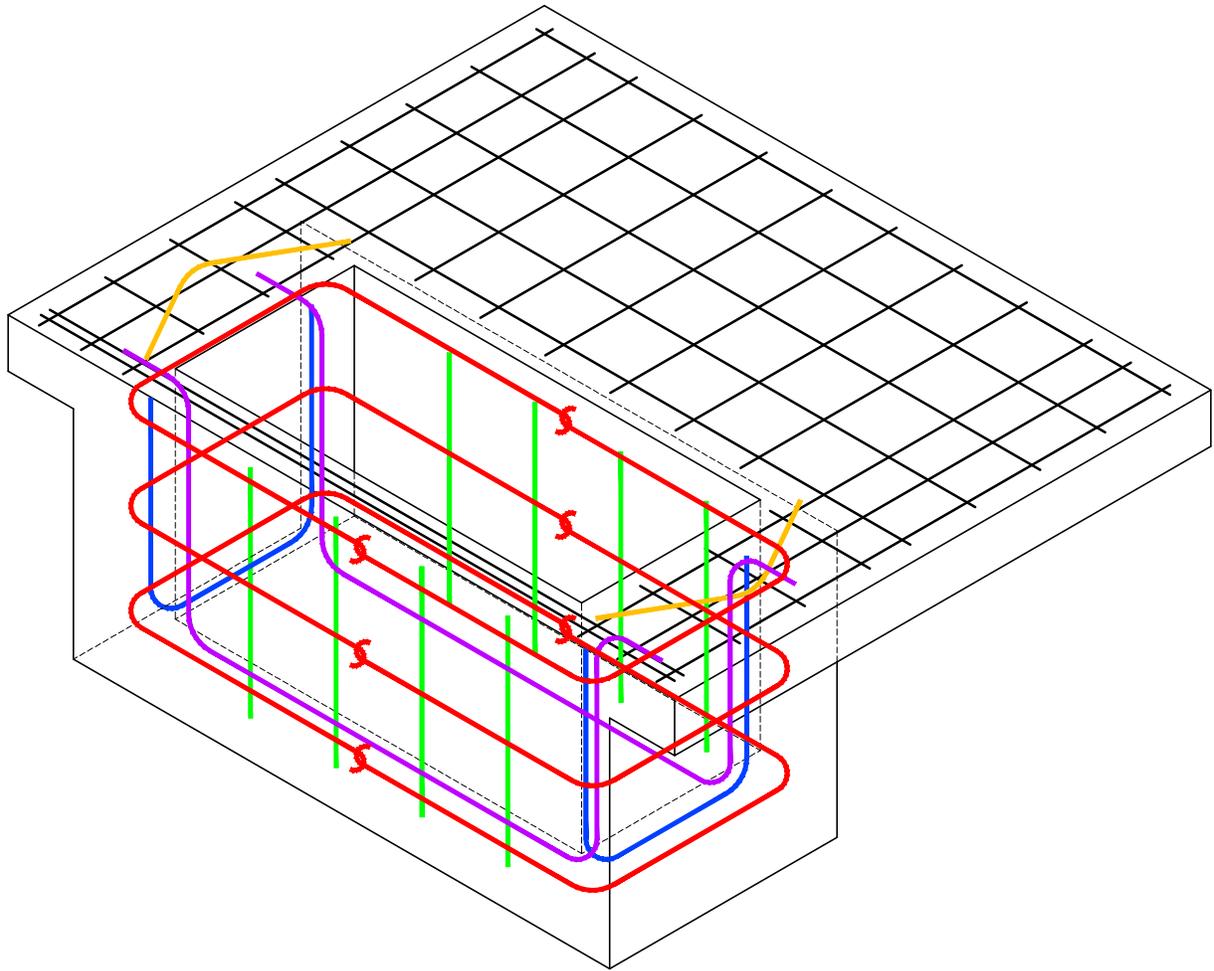
SHAPE DETAIL	SYMBOL	MARK	QTY	DESCRIPTION
		4R1	2	CENTER BARS IN "PIT BOX" SIDE WALLS. PROVIDE 3" CLEARANCE FROM WALL BOTTOM AND 2" CLEARANCE FROM TOP SURFACE OF PAD.
		4R2	2	CENTER BARS IN "PIT BOX" END WALLS. PROVIDE 3" CLEARANCE FROM WALL BOTTOM AND 2" CLEARANCE FROM TOP SURFACE OF PAD. TERMINATE BAR ENDS 2" FROM PAD EDGES.
		4R3	4	CENTER BARS IN "PIT BOX" END AND SIDE WALLS. PLACE BOTTOM BAR 3" FROM PIT BOTTOM. PLACE TOP BAR 2" FROM TOP SURFACE. MAXIMUM BAR SPACING IS 12".
		4R4	2	PLACE BARS IN APPROXIMATE LOCATIONS SHOWN TO PROVIDE CORNER CRACK CONTROL. PROVIDE 2" CLEARANCE FROM TOP SURFACE AND ANY CONCRETE EDGE.
		4R5	8	CENTER IN END WALLS OF "PIT BOX". TERMINATE BARS 3" FROM BOTTOM SURFACE AND 2" FROM TOP SURFACE. MAXIMUM BAR SPACING IS 12".
-	-	WWF	-	PROVIDE 2" CLEARANCE FROM TOP SURFACE. TERMINATE 2" FROM PAD EDGES.



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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A SMALL PIT PAD
REINFORCEMENT SPECIFICATIONS

DEC	DEM	DEP	DEF
X	X	X	



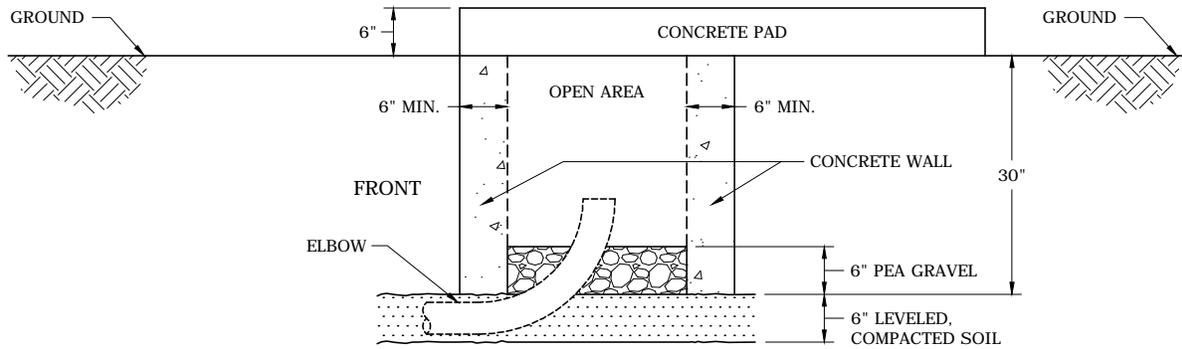
ALL BARS #4 GRADE 60 DEFORMED		
SHAPE DETAIL	SYMBOL	MARK
		4R1
		4R2
		4R3
		4R4
		4R5



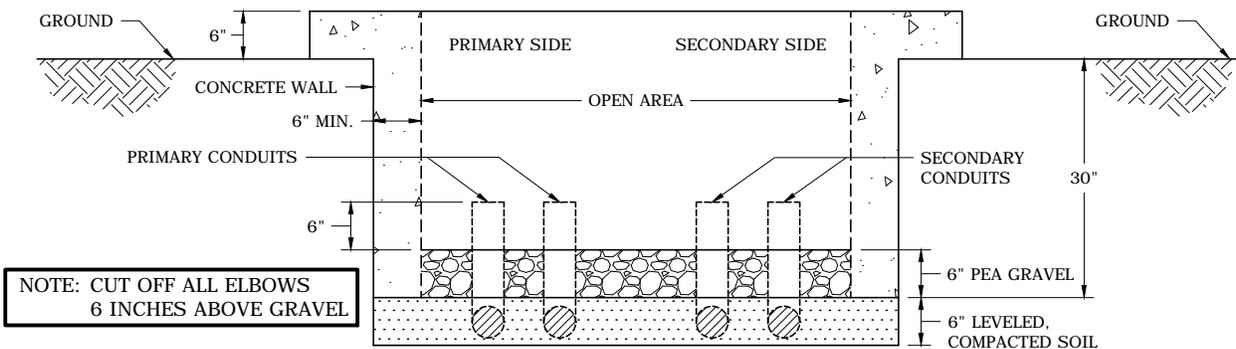
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A SMALL PIT PAD
 CONCRETE PIT PAD - COMPLETE CONSTRUCTION

DEC	DEM	DEP	DEF
X	X	X	



SIDE VIEW



FRONT VIEW

STEP 9:
POUR CONCRETE AROUND THE BOX AND WITHIN THE 2-INCH BY 6-INCH FORMS. SEE PAGE 2 FOR CONCRETE MIX SPECIFICATIONS.

STEP 10:
ALLOW CONCRETE TO SET UP, THEN REMOVE 2-INCH BY 6-INCH FORMS AND BOX.



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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A SMALL PIT PAD

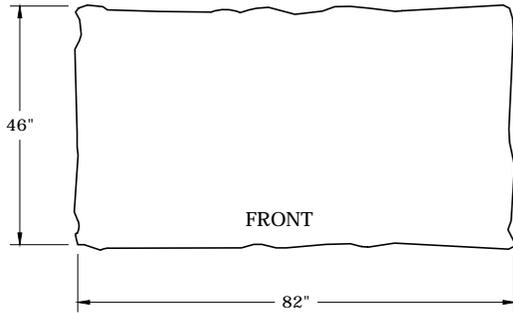
DEC	DEM	DEP	DEF
X	X	X	

INSTALLING A LARGE TWO-PIECE PRE-CAST PIT PAD

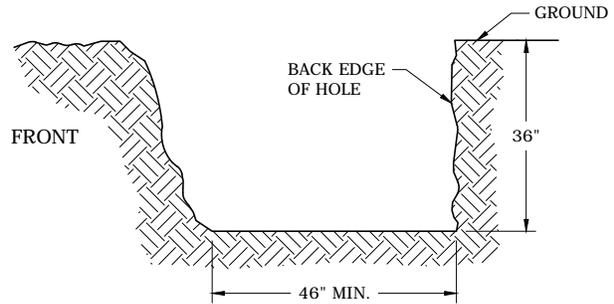
STEP 1:

DIG A RECTANGULAR SHAPED HOLE APPROXIMATELY 46 INCHES BY 82 INCHES AND 36 INCHES DEEP FOR THE PIT. (SEE BELOW)

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.



TOP VIEW

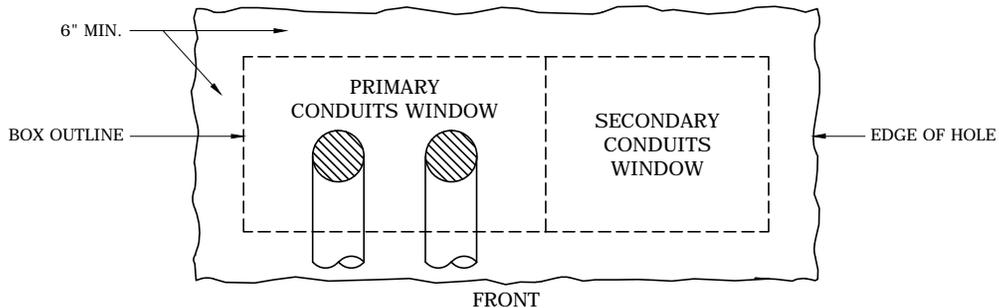


SIDE VIEW

STEP 2:

INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW OPENING OF THE PAD. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE PIT FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PIT.



TOP VIEW

STEP 3:

FILL APPROXIMATELY 6 INCHES OF LEVELED, COMPACTED SOIL IN THE HOLE TO SUPPORT THE CONDUIT ELBOWS. INSTALL THE PIT IN PLACE SO THAT THE CONDUITS ARE LOCATED IN THE CORRECT POSITION WITHIN THE PAD WINDOW. ENSURE THAT THE TOP OF THE PIT IS INSTALLED LEVEL AND FLUSH WITH THE SURROUNDING EARTH SO THAT WHEN THE PAD IS INSTALLED, THE BOTTOM IS IN CONTACT WITH THE ENTIRE SURFACE AREA OF THE TOP OF THE PIT.



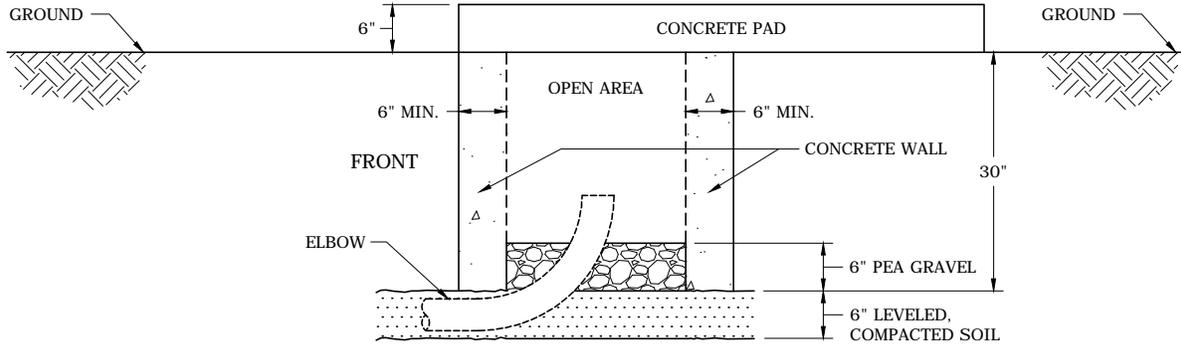
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

INSTALLING A LARGE TWO-PIECE
PRE-CAST PIT PAD

DEC	DEM	DEP	DEF
X	X	X	

STEP 4:

FILL IN THE AREA IN FRONT OF AND AROUND THE PIT WITH LEVELED, COMPACTED SOIL. CAREFULLY COMPACT THE GROUND AROUND THIS AREA TO PREPARE FOR THE FLAT PORTION OF THE PIT PAD. FILL THE BOTTOM OF THE PIT WITH 6 INCHES OF PEA GRAVEL (SEE BELOW). ENSURE THE TOP OF THE PIT IS FREE OF GRAVEL AND OTHER DEBRIS.



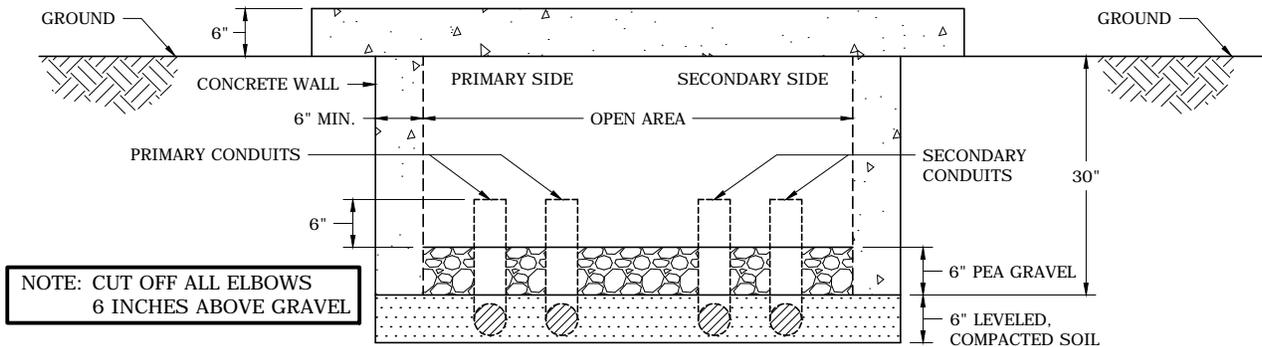
SIDE VIEW

STEP 5:

APPLY A LAYER OF CONSEAL ON THE TOP OF THE PIT BEFORE PLACING THE PAD ONTO THE PIT TO SEAL AND ADHERE THE PAD TO THE PIT.

STEP 6:

INSTALL THE FLAT PORTION OF THE PAD ON THE GROUND AND PIT, LINING UP THE WINDOW OF THE PAD WITH THE PIT. SECURE THE PAD TO THE PIT SO THAT THEY REMAIN IN LINE.



FRONT VIEW



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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

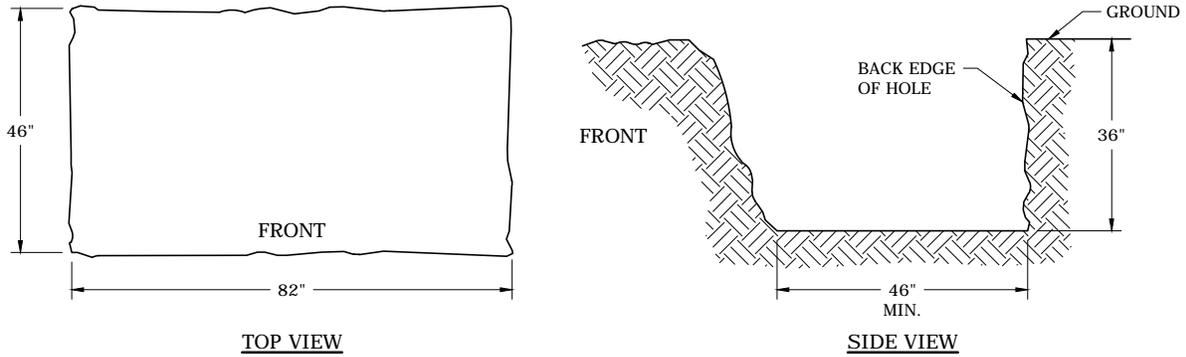
INSTALLING A LARGE TWO-PIECE
PRE-CAST PIT PAD

DEC	DEM	DEP	DEF
X	X	X	

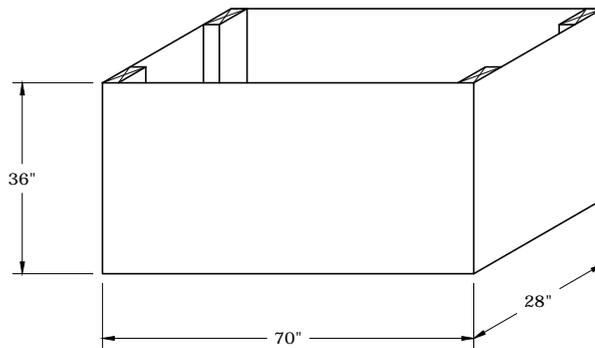
BUILDING A LARGE PIT PAD

STEP 1:
DIG A RECTANGULAR SHAPED HOLE APPROXIMATELY 46 INCHES BY 82 INCHES AND 36 INCHES DEEP FOR THE PIT.
(SEE BELOW)

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.



STEP 2:
BUILD A RECTANGULAR SHAPED BOX, OPEN AT THE TOP AND BOTTOM, FROM 2-INCH BY 4-INCH BOARDS AND PLYWOOD. THE PLYWOOD SIDES OF THE BOX SHOULD BE 36 INCHES TALL.



WINDOW OPENING FOR THE LARGE 104-INCH BY 98-INCH "PIT" PAD

STEP 3:
SET THE BOX IN THE HOLE AND POSITION IT SO THAT A MINIMUM OF 6 INCHES OF SPACE EXISTS BETWEEN THE SIDES AND BACK OF BOX AND THE EDGE OF THE HOLE. (THE SPACE BETWEEN BOX AND FRONT EDGE OF HOLE WILL BE APPROXIMATELY 12 INCHES.) TRACE A LINE AROUND THE BOTTOM OUTSIDE EDGE OF THE BOX IN DIRT AND THEN REMOVE THE BOX. INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE OUTLINE OF THE BOX. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

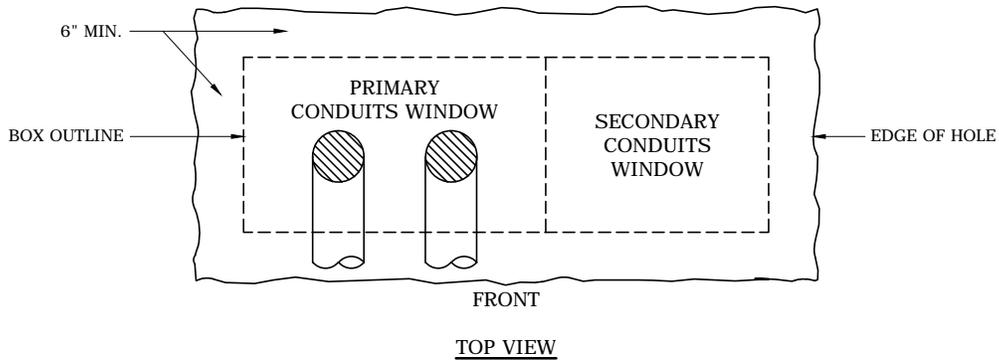
NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE PIT FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PIT.



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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

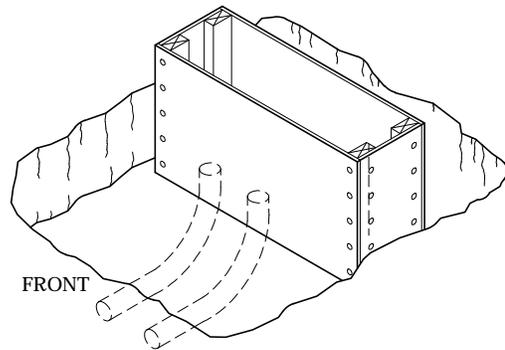
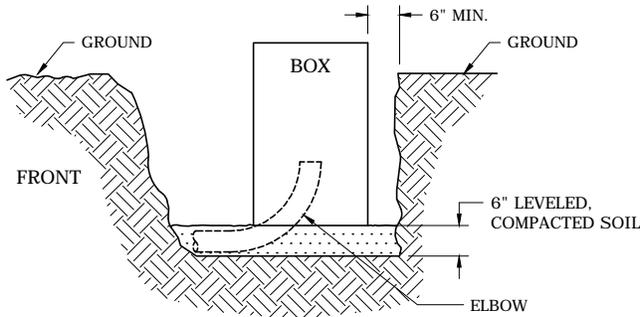
BUILDING A LARGE PIT PAD

DEC	DEM	DEP	DEF
X	X	X	
PAGE 18			



STEP 4:

FILL APPROXIMATELY 6 INCHES OF LEVELED, COMPACTED SOIL IN THE HOLE TO SUPPORT THE CONDUIT ELBOWS. PLACE THE BOX BACK IN THE HOLE OVER CONDUITS, POSITIONING BOX AGAIN SO A MINIMUM OF 6 INCHES OF SPACE EXISTS BETWEEN THE BACK AND SIDES OF THE HOLE AND BOX. THE BOX SHOULD STICK OUT FROM THE TOP OF THE HOLE APPROXIMATELY 6 INCHES (OR THE WIDTH OF A STANDARD 2-INCH BY 6-INCH BOARD). MAKE SURE THE CONDUITS ENTER CORRECTLY IN THE PRIMARY AND SECONDARY SIDE OF THE PIT.

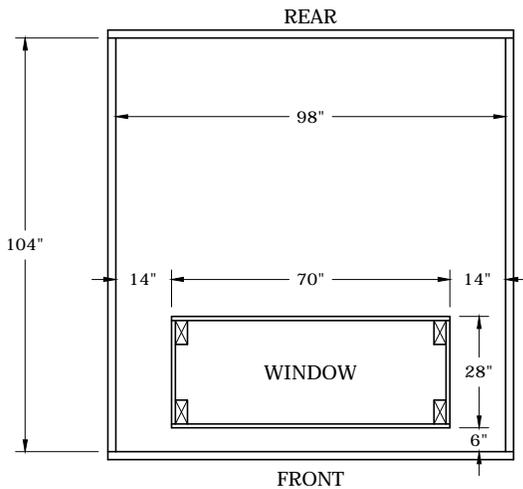


SIDE VIEW

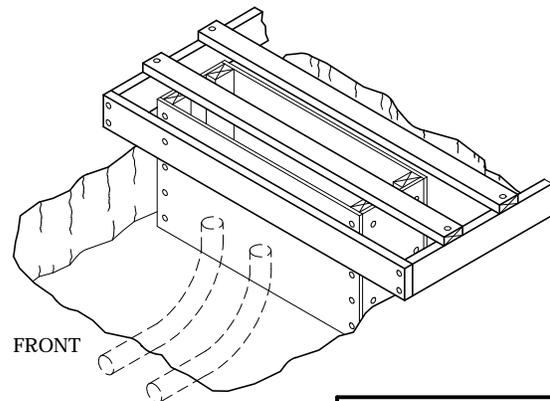
STEP 5:

FORM THE TOP PART OF THE PAD USING 2-INCH BY 6-INCH BOARDS USING THE DIMENSIONS AS INDICATED BELOW.

NOTE: IT MAY BE EASIER TO "LEVEL" THE BOX WITH THE SIDES IF YOU LAY TWO 2-INCH BY 4-INCH BOARDS ON THE TOP OF THE SIDE BOARDS SO THAT THEY CROSS OVER TOP OF BOX AS SHOWN BELOW. TACK THESE BOARDS ONTO THE TOP OF THE BOX TO ENSURE SIDES ARE THE SAME HEIGHT AS THE BOX.



LARGE 104-INCH BY 98-INCH PAD



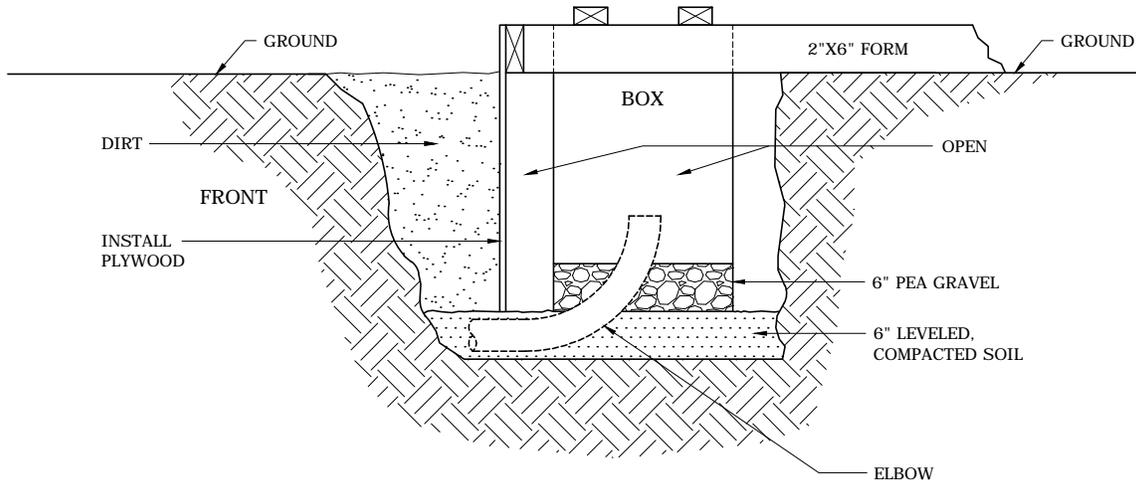
3				
2				
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE PIT PAD

DEC	DEM	DEP	DEF
X	X	X	

STEP 6:

INSTALL A PIECE OF PLYWOOD INSIDE THE HOLE LONG ENOUGH TO REACH FROM ONE SIDE OF THE HOLE TO THE OTHER AND WIDE ENOUGH TO REACH FROM THE TOP OF THE FRONT 2-INCH BY 6-INCH FORM TO THE BOTTOM OF THE HOLE. (THESE DIMENSIONS SHOULD BE APPROXIMATELY 82 INCHES BY 40 INCHES.) TACK THE PLYWOOD TO THE FRONT OF THE 2-INCH BY 6-INCH BOARD AND LET THE BOTTOM OF THE BOARD REST ON THE GROUND. PLYWOOD MUST BE THICK ENOUGH SO IT WON'T GIVE AT BOTTOM OF HOLE WHEN THE CONCRETE IS POURED. SEE BELOW.



SIDE VIEW

STEP 7:

FILL IN THE AREA BETWEEN THE PLYWOOD AND THE FRONT OF THE HOLE WITH DIRT. BE CAREFUL THAT PLYWOOD DOESN'T "PUSH IN" AT BOTTOM. FILL THE BOTTOM OF THE BOX WITH 6 INCHES OF PEA GRAVEL. SEE ABOVE.

STEP 8:

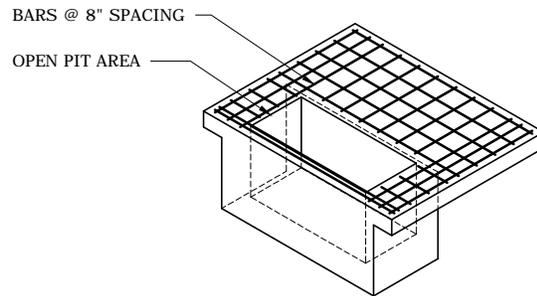
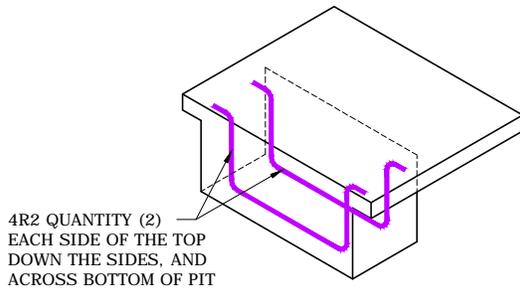
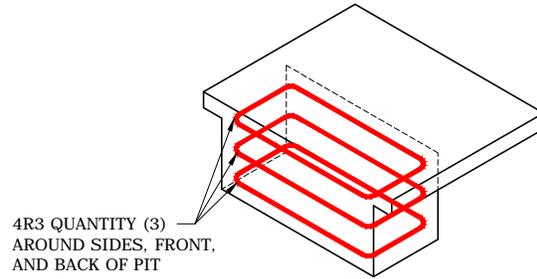
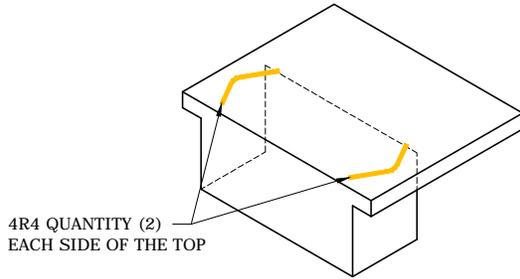
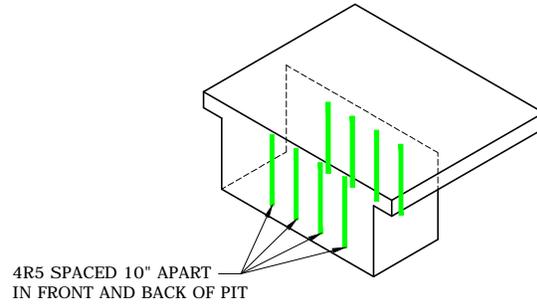
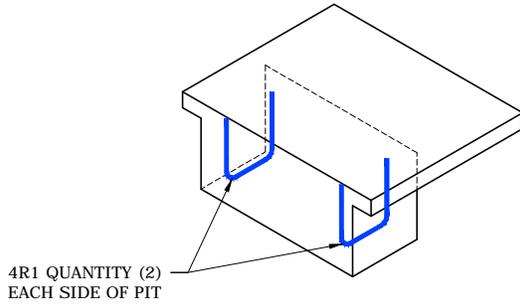
INSTALL AND TIE TOGETHER THE REINFORCING BARS AROUND THE BOX IN THE "PIT AREA" AND "PAD AREA" TO REINFORCE ENTIRE PIT PAD. (SEE PAGES 21 AND 22 FOR MORE COMPLETE DETAILS.) CONTACT YOUR DUKE ENERGY REPRESENTATIVE TO INSPECT THE PAD BEFORE POURING CONCRETE.



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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE PIT PAD

DEC	DEM	DEP	DEF
X	X	X	



ALL BARS #4 GRADE 60 DEFORMED

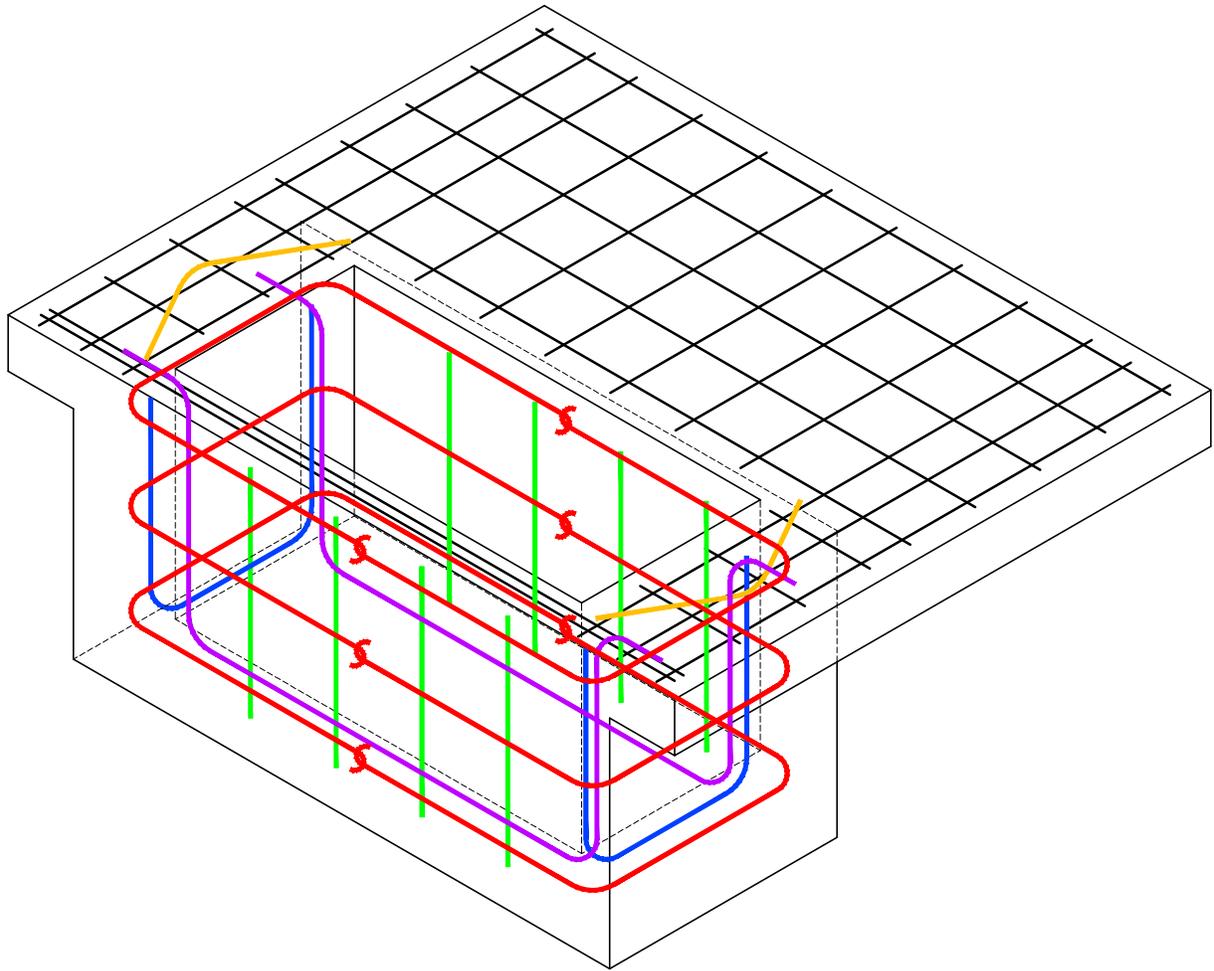
SHAPE DETAIL	SYMBOL	MARK	QTY	DESCRIPTION
		4R1	2	CENTER BARS IN "PIT BOX" SIDE WALLS. PROVIDE 3" CLEARANCE FROM WALL BOTTOM AND 2" CLEARANCE FROM TOP SURFACE OF PAD.
		4R2	2	CENTER BARS IN "PIT BOX" END WALLS. PROVIDE 3" CLEARANCE FROM WALL BOTTOM AND 2" CLEARANCE FROM TOP SURFACE OF PAD. TERMINATE BAR ENDS 2" FROM PAD EDGES.
		4R3	4	CENTER BARS IN "PIT BOX" END AND SIDE WALLS. PLACE BOTTOM BAR 3" FROM PIT BOTTOM. PLACE TOP BAR 2" FROM TOP SURFACE. MAXIMUM BAR SPACING IS 12".
		4R4	2	PLACE BARS IN APPROXIMATE LOCATIONS SHOWN TO PROVIDE CORNER CRACK CONTROL. PROVIDE 2" CLEARANCE FROM TOP SURFACE AND ANY CONCRETE EDGE.
		4R5	8	CENTER IN END WALLS OF "PIT BOX". TERMINATE BARS 3" FROM BOTTOM SURFACE AND 2" FROM TOP SURFACE. MAXIMUM BAR SPACING IS 12".
-	-	WWF	-	PROVIDE 2" CLEARANCE FROM TOP SURFACE. TERMINATE 2" FROM PAD EDGES.



3				
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE PIT PAD
REINFORCEMENT SPECIFICATIONS

DEC	DEM	DEP	DEF
X	X	X	
PAGE 21			



ALL BARS #4 GRADE 60 DEFORMED		
SHAPE DETAIL	SYMBOL	MARK
		4R1
		4R2
		4R3
		4R4
		4R5



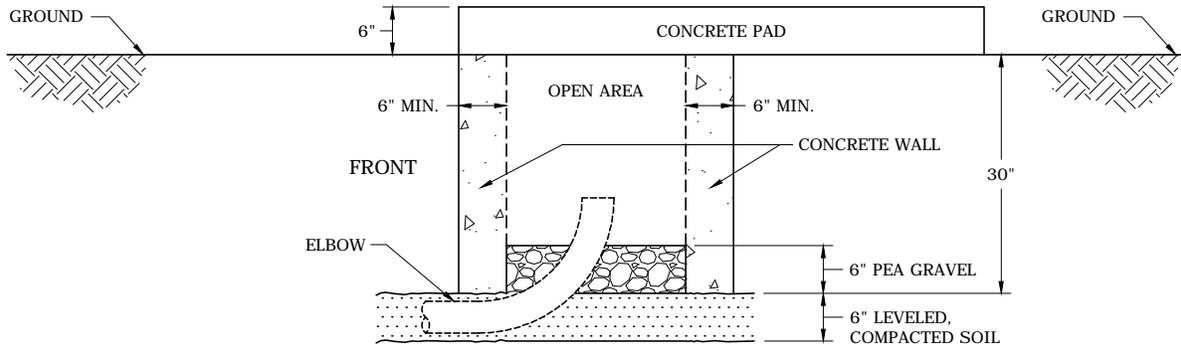
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE PIT PAD
 CONCRETE PIT PAD - COMPLETE CONSTRUCTION

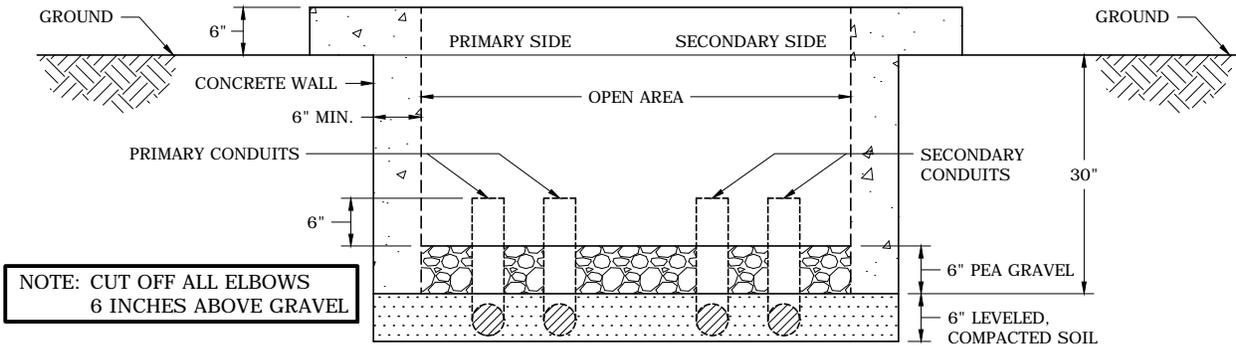
DEC	DEM	DEP	DEF
X	X	X	

STEP 9:
POUR CONCRETE AROUND THE BOX AND WITHIN THE 2-INCH BY 6-INCH FORMS. SEE PAGE 2 FOR CONCRETE MIX SPECIFICATIONS.

STEP 10:
ALLOW CONCRETE TO SET UP, THEN REMOVE 2-INCH BY 6-INCH FORMS AND BOX.



SIDE VIEW



**NOTE: CUT OFF ALL ELBOWS
6 INCHES ABOVE GRAVEL**

FRONT VIEW



3				
2				
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0	3/31/19	MORGAN	VALENTIN	ADCOCK
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE PIT PAD

DEC	DEM	DEP	DEF
X	X	X	

INSTALLING A SMALL PRE-CAST FLAT PAD

STEP 1:

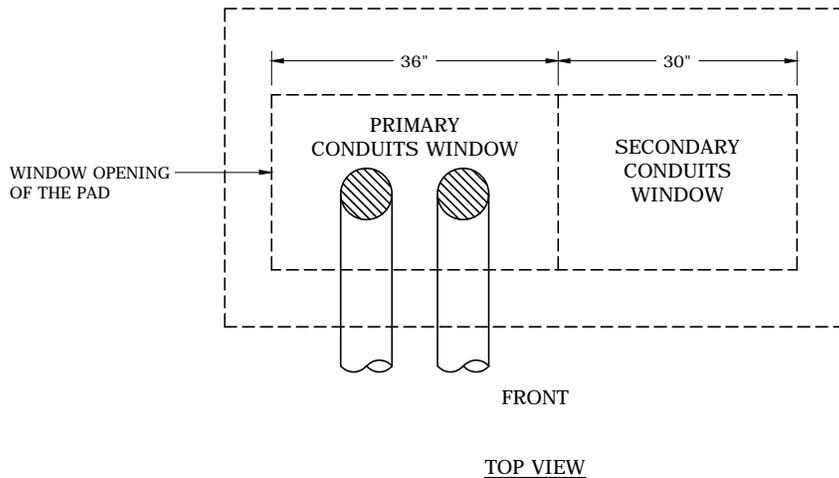
DIG A HOLE LARGE ENOUGH FOR THE TWO PRIMARY CONDUIT ELBOWS TO BE POSITIONED IN THE CENTER OF THE PRIMARY SIDE OF THE PAD WINDOW OPENING. THE HOLE SHOULD BE APPROXIMATELY 36 INCHES DEEP IN ORDER FOR THE CONDUIT END TO BE FLUSH WITH THE TOP OF THE PAD WHEN COMPLETED. THE HOLE SHOULD ALSO BE LARGE ENOUGH TO ACCOMMODATE THE CONDUITS FOR THE SECONDARY CONDUCTORS IN THE SECONDARY SIDE OF THE WINDOW.

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PRIMARY CONDUITS SHOULD BE POINTED TOWARD THE FRONT OF THE PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.

STEP 2:

INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE WINDOW FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PAD.



STEP 3:

FILL THE HOLE BACK WITH LEVELED, COMPACTED SOIL. COMPACT AND LEVEL TO FINAL GRADE SUCH THAT THE CONDUITS EXTEND 6 INCHES OUT OF THE GROUND. MAKE SURE CONDUITS ENTER CORRECTLY IN THE PRIMARY AND SECONDARY SIDE OF THE PAD WINDOW OPENING. SOIL UNDERNEATH PADS SHALL BE FREE OF ROOTS AND OTHER ORGANIC MATERIAL.

STEP 4:

INSTALL THE PAD IN PLACE SO THAT THE CONDUITS ARE LOCATED IN THE CORRECT POSITION WITHIN THE PAD WINDOW. ENSURE THE PAD IS LEVEL.



3				
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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

INSTALLING A SMALL PRE-CAST FLAT PAD

DEC	DEM	DEP	DEF
		X	

BUILDING A SMALL FLAT PAD

STEP 1:

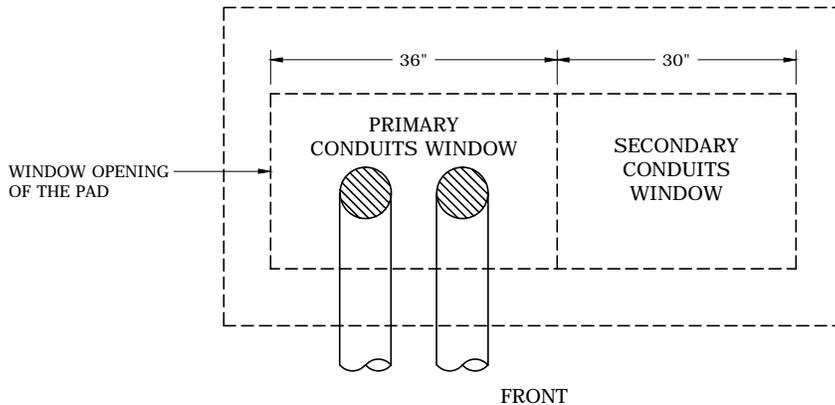
DIG A HOLE LARGE ENOUGH FOR THE TWO PRIMARY CONDUIT ELBOWS TO BE POSITIONED IN THE CENTER OF THE PRIMARY SIDE OF THE PAD WINDOW OPENING. THE HOLE SHOULD BE APPROXIMATELY 36 INCHES DEEP IN ORDER FOR THE CONDUIT END TO BE FLUSH WITH THE TOP OF THE PAD WHEN COMPLETED. THE HOLE SHOULD ALSO BE LARGE ENOUGH TO ACCOMMODATE THE CONDUITS FOR THE SECONDARY CONDUCTORS IN THE SECONDARY SIDE OF THE WINDOW.

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PRIMARY CONDUITS SHOULD BE POINTED TOWARD THE FRONT OF THE PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.

STEP 2:

INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE WINDOW FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PAD.



TOP VIEW

STEP 3:

FILL AND TAMP THE HOLE BACK WITH LEVELED, COMPACTED SOIL TO FINAL GRADE SUCH THAT THE CONDUITS EXTEND 6 INCHES OUT OF THE GROUND (OR THE WIDTH OF A STANDARD 2-INCH BY 6-INCH BOARD). MAKE SURE CONDUITS ENTER CORRECTLY IN THE PRIMARY AND SECONDARY SIDE OF THE PAD WINDOW OPENING.



3				
2				
1				
0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

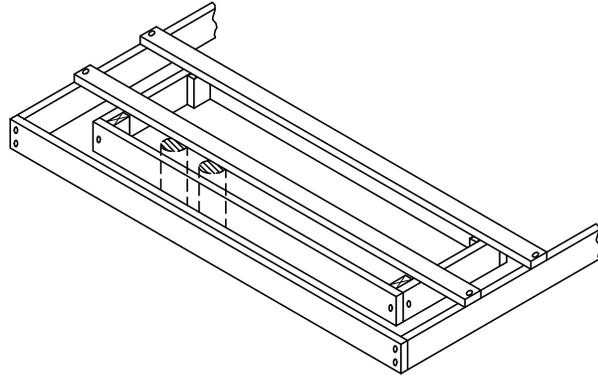
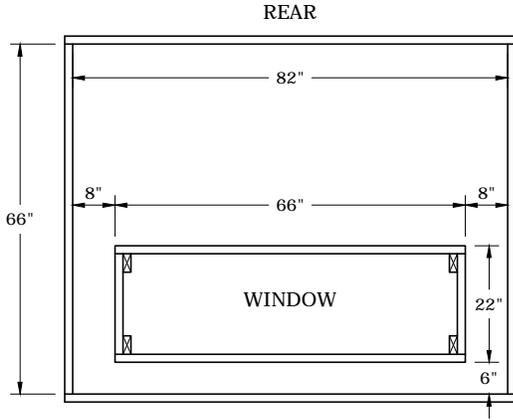
BUILDING A SMALL FLAT PAD

DEC	DEM	SEP	DEF
		X	
PAGE 25			

STEP 4:

FORM THE TOP PART OF THE PAD USING 2-INCH BY 6-INCH BOARDS USING THE DIMENSIONS AS INDICATED BELOW.

NOTE: IT MAY BE EASIER TO "LEVEL" THE WINDOW WITH THE SIDES IF YOU LAY TWO 2-INCH BY 4-INCH BOARDS ON THE TOP OF THE SIDE BOARDS SO THAT THEY CROSS OVER TOP OF THE WINDOW AS SHOWN BELOW. TACK THESE BOARDS ONTO THE TOP OF THE WINDOW TO ENSURE SIDES ARE THE SAME HEIGHT AS THE BOX.



FRONT
SMALL 82-INCH BY 66-INCH PAD

STEP 5:

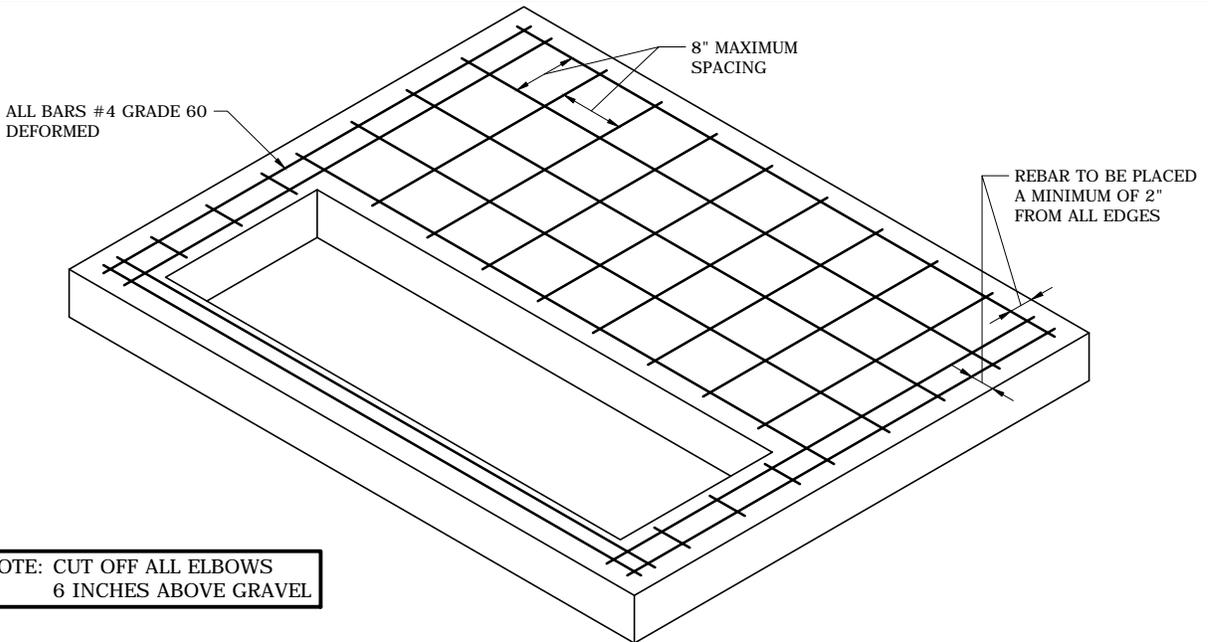
INSTALL AND TIE TOGETHER THE REINFORCING BARS AROUND THE WINDOW AND PAD AREA TO REINFORCE THE ENTIRE PAD. (SEE BELOW FOR MORE COMPLETE DETAILS.) CONTACT YOUR DUKE ENERGY REPRESENTATIVE TO INSPECT THE PAD BEFORE POURING CONCRETE.

STEP 6:

POUR CONCRETE AROUND THE WINDOW AND WITHIN THE 2-INCH BY 6-INCH FORMS. SEE FIGURE 12 FOR CONCRETE MIX SPECIFICATIONS.

STEP 7:

ALLOW CONCRETE TO SET UP, THEN REMOVE 2-INCH BY 6-INCH FORMS AND BOX.



SMALL CONCRETE FLAT PAD
COMPLETE CONSTRUCTION



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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

BUILDING A SMALL FLAT PAD

DEC	DEM	DEP	DEF
		X	
PAGE 26			

INSTALLING A LARGE PRE-CAST FLAT PAD

STEP 1:

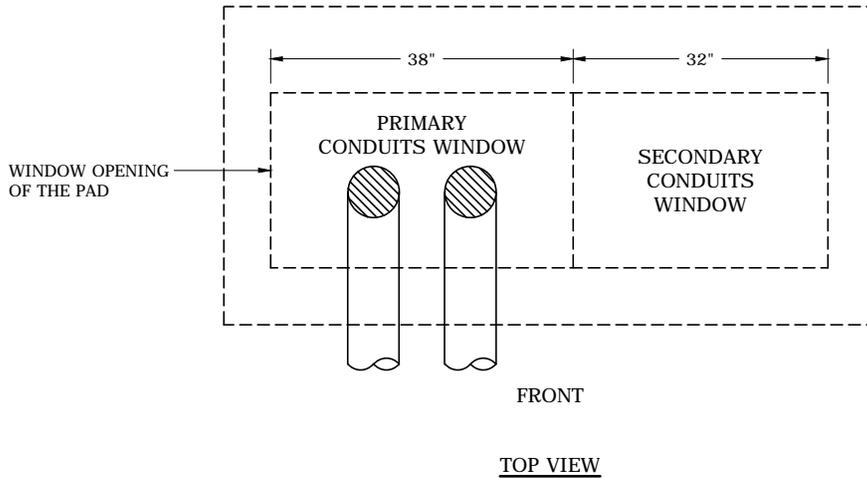
DIG A HOLE LARGE ENOUGH FOR THE TWO PRIMARY CONDUIT ELBOWS TO BE POSITIONED IN THE CENTER OF THE PRIMARY SIDE OF THE PAD WINDOW OPENING. THE HOLE SHOULD BE APPROXIMATELY 36 INCHES DEEP IN ORDER FOR THE CONDUIT END TO BE FLUSH WITH THE TOP OF THE PAD WHEN COMPLETED. THE HOLE SHOULD ALSO BE LARGE ENOUGH TO ACCOMMODATE THE CONDUITS FOR THE SECONDARY CONDUCTORS IN THE SECONDARY SIDE OF THE WINDOW

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PRIMARY CONDUITS SHOULD BE POINTED TOWARD THE FRONT OF THE PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.

STEP 2:

INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE WINDOW FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PAD.



STEP 3:

FILL THE HOLE BACK WITH LEVELED, COMPACTED SOIL. COMPACT AND LEVEL TO FINAL GRADE SUCH THAT THE CONDUITS EXTEND 6 INCHES OUT OF THE GROUND. MAKE SURE CONDUITS ENTER CORRECTLY IN THE PRIMARY AND SECONDARY SIDE OF THE PAD WINDOW OPENING. SOIL UNDERNEATH PADS SHALL BE FREE OF ROOTS AND OTHER ORGANIC MATERIAL.

STEP 4:

INSTALL THE PAD IN PLACE SO THAT THE CONDUITS ARE LOCATED IN THE CORRECT POSITION WITHIN THE PAD WINDOW. ENSURE THE PAD IS LEVEL.



3				
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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

INSTALLING A LARGE PRE-CAST FLAT PAD

DEC	DEM	DEP	DEF
		X	

BUILDING A LARGE FLAT PAD

STEP 1:

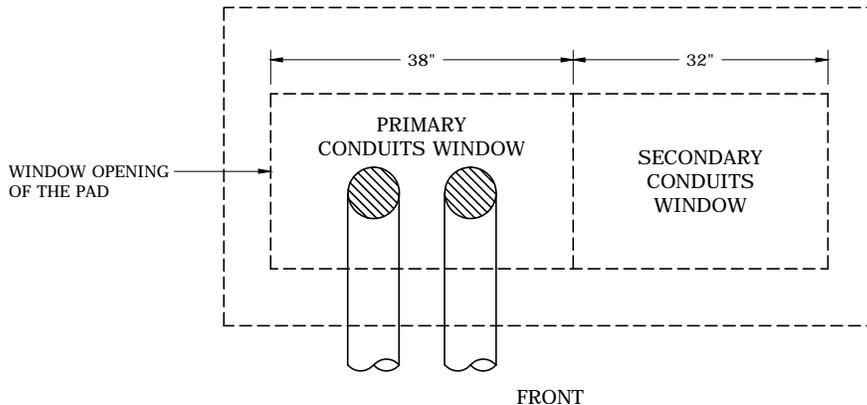
DIG A HOLE LARGE ENOUGH FOR THE TWO PRIMARY CONDUIT ELBOWS TO BE POSITIONED IN THE CENTER OF THE PRIMARY SIDE OF THE PAD WINDOW OPENING. THE HOLE SHOULD BE APPROXIMATELY 36 INCHES DEEP IN ORDER FOR THE CONDUIT END TO BE FLUSH WITH THE TOP OF THE PAD WHEN COMPLETED. THE HOLE SHOULD ALSO BE LARGE ENOUGH TO ACCOMMODATE THE CONDUITS FOR THE SECONDARY CONDUCTORS IN THE SECONDARY SIDE OF THE WINDOW.

NOTE: THE HOLE INDICATES THE FRONT OF THE TRANSFORMER PAD. THE PRIMARY CONDUITS SHOULD BE POINTED TOWARD THE FRONT OF THE PAD. THE PAD SHOULD BE LOCATED SO THAT A MINIMUM OF 10 FEET OF CLEARANCE CAN BE MAINTAINED IN FRONT OF THE TRANSFORMER AND A MINIMUM OF 3 FEET OF CLEARANCE ON ALL OTHER SIDES.

STEP 2:

INSTALL TWO (2) CONDUIT ELBOWS IN THE BOTTOM OF THE HOLE FOR THE PRIMARY CONDUCTORS AS SPECIFIED BY DUKE ENERGY ENTERING FROM THE FRONT OF HOLE AND PLACED SO THEY WILL COME UP IN THE CENTER OF THE PRIMARY SIDE OF THE WINDOW. TAPE BOTH ENDS OF CONDUITS COMPLETELY CLOSED.

NOTE: THE CUSTOMER'S SECONDARY CONDUITS SHOULD BE INSTALLED AT THIS TIME. IF THE CUSTOMER IS PROVIDING THE SERVICE CONDUCTORS TO THE TRANSFORMER, THEY MAY ELECT TO ENTER THE SECONDARY SIDE OF THE WINDOW FROM THE FRONT, REAR OR RIGHT SIDE. IF DUKE ENERGY IS PROVIDING THE SERVICE CONDUCTORS, ALL CONDUITS MUST ENTER FROM THE FRONT OF THE PAD.



FRONT
TOP VIEW

STEP 3:

FILL AND TAMP THE HOLE BACK WITH LEVELED, COMPACTED SOIL TO FINAL GRADE SUCH THAT THE CONDUITS EXTEND 6 INCHES OUT OF THE GROUND (OR THE WIDTH OF A STANDARD 2-INCH BY 6-INCH BOARD). MAKE SURE CONDUITS ENTER CORRECTLY IN THE PRIMARY AND SECONDARY SIDE OF THE PAD WINDOW OPENING.



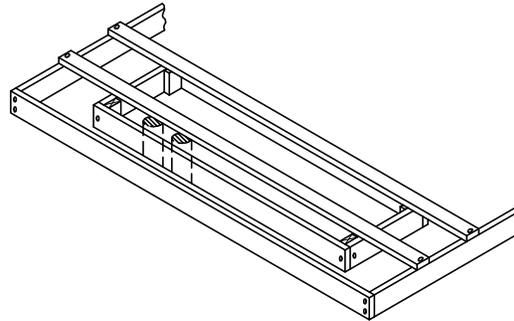
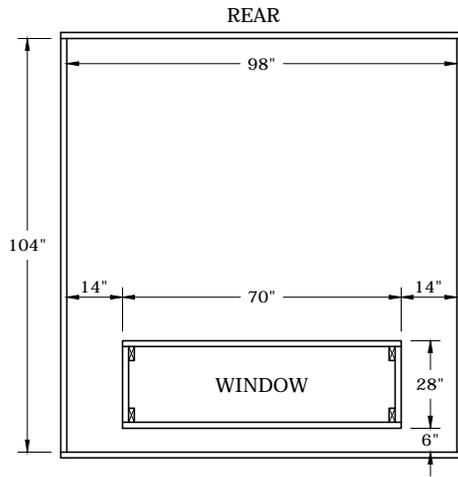
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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE FLAT PAD

DEC	DEM	DEP	DEF
		X	

STEP 4:
FORM THE TOP PART OF THE PAD USING 2-INCH BY 6-INCH BOARDS USING THE DIMENSIONS AS INDICATED BELOW.

NOTE: IT MAY BE EASIER TO "LEVEL" THE WINDOW WITH THE SIDES IF YOU LAY TWO 2-INCH BY 4-INCH BOARDS ON THE TOP OF THE SIDE BOARDS SO THAT THEY CROSS OVER TOP OF THE WINDOW AS SHOWN BELOW. TACK THESE BOARDS ONTO THE TOP OF THE WINDOW TO ENSURE SIDES ARE THE SAME HEIGHT AS THE BOX.

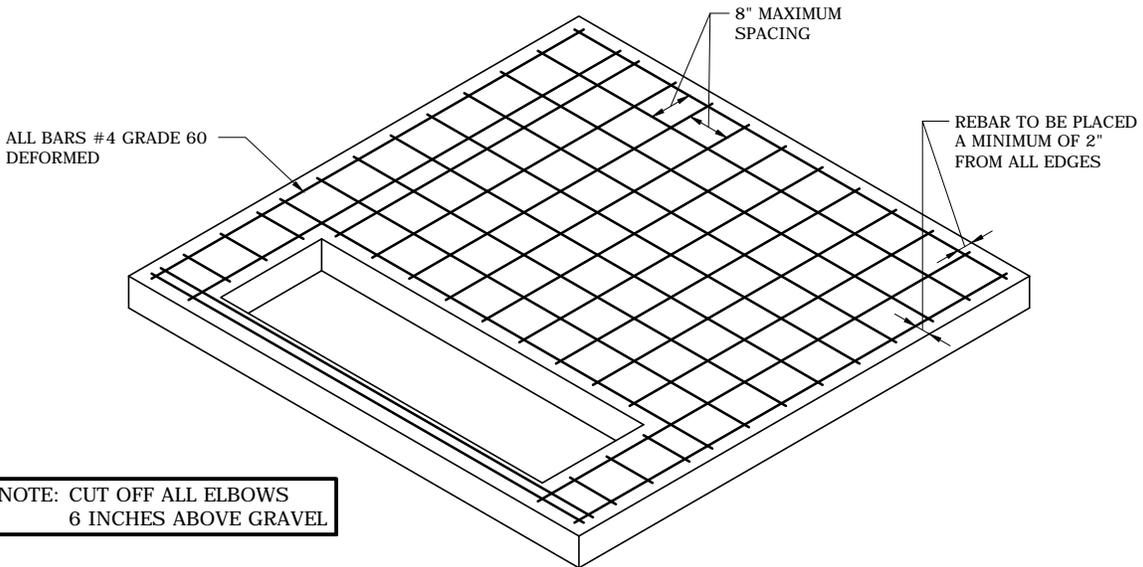


FRONT
LARGE 104-INCH BY 98-INCH PAD

STEP 5:
INSTALL AND TIE TOGETHER THE REINFORCING BARS AROUND THE WINDOW AND PAD AREA TO REINFORCE THE ENTIRE PAD. (SEE BELOW FOR MORE COMPLETE DETAILS.) CONTACT YOUR DUKE ENERGY REPRESENTATIVE TO INSPECT THE PAD BEFORE POURING CONCRETE

STEP 6:
POUR CONCRETE AROUND THE WINDOW AND WITHIN THE 2-INCH BY 6-INCH FORMS. SEE FIGURE 12 FOR CONCRETE MIX SPECIFICATIONS.

STEP 7:
ALLOW CONCRETE TO SET UP, THEN REMOVE 2-INCH BY 6-INCH FORMS AND BOX.



NOTE: CUT OFF ALL ELBOWS
6 INCHES ABOVE GRAVEL

LARGE CONCRETE FLAT PAD
COMPLETE CONSTRUCTION



3				
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0	2/25/20	MORGAN	VALENTIN	GRAHAM
REVISED	BY	CHK'D	APPR.	

BUILDING A LARGE FLAT PAD

DEC	DEM	DEP	DEF
		X	
PAGE 29			



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 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

ATTACHMENT K

Aeronautical Study No.
 2025-ASO-26208-OE

Issued Date: 01/14/2026

TOWN OF MORRISVILLE
 STEVEN SPRUILL
 100 Town Hall Drive
 Morrisville, NC 27560

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Light Pole Sports Field Lighting - Pole E1
 County, State: Wake, North Carolina

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
E1	35-50-42.00N	78-50-34.00W	372 Ft	110 Ft	482 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 07/14/2027 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-4037, or nathan.d.shelly@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-ASO-26208-OE.

Signature Control No: 688317167-689995720

(DNE)

Nathan Shelly
Specialist

Attachment(s)
Case Description
Map(s)

Case Description for ASN 2025-ASO-26208-OE

This project will upgrade existing sports lighting for the Church Street Park Cricket Field, located at 5817 Cricket Pitch Way, Morrisville, NC 27856. The six existing light poles received Determinations of No Hazard to Air Navigation under the following Aeronautical Study numbers:

2017-ASO-13794-OE

2017-ASO-13795-OE

2017-ASO-13796-OE

2017-ASO-13797-OE

2017-ASO-13798-OE

2017-ASO-13799-OE

The project may be completed in two phases but will most likely be completed as a single project. If phased, Phase 1 would upgrade the fixtures, wiring, and controls, and add additional fixtures on the existing Sports Light Poles. Phase 2 would add 4 additional 100' light poles and the associated fixtures, controls and wiring like the existing light poles. In the application we have listed them as 110' to provide some buffer.

The existing sports lighting consists of six 100' tall concrete poles. These existing poles are denoted as P1-P6 on the provided plans. If Church Street is considered the 12:00 position, P1 is located at approximately 1:30, P2 at 10:30, P3 at 4:30, P4 at 7:30, P5 at 6:00, and P6 at 12:00. Each pole is topped by a lighting array that includes cross bars and individual light fixtures. Poles P1 and P3 are each topped with fourteen 1410-watt fixtures and two 575-watt ball-tracker fixtures at 15' mounting heights. Poles P2 and P4 are each topped with nine 1410-watt fixtures, five 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. Poles P5 and P6 are each topped with thirteen 1410-watt fixtures, one 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. In total, there are seventy-two 1410-watt fixtures, twelve 1170-watt fixtures, and twelve 575-watt ball-tracker fixtures at 15 to 20' mounting heights.

This lighting system upgrade project has been designed with the possibility of being installed in two phases.

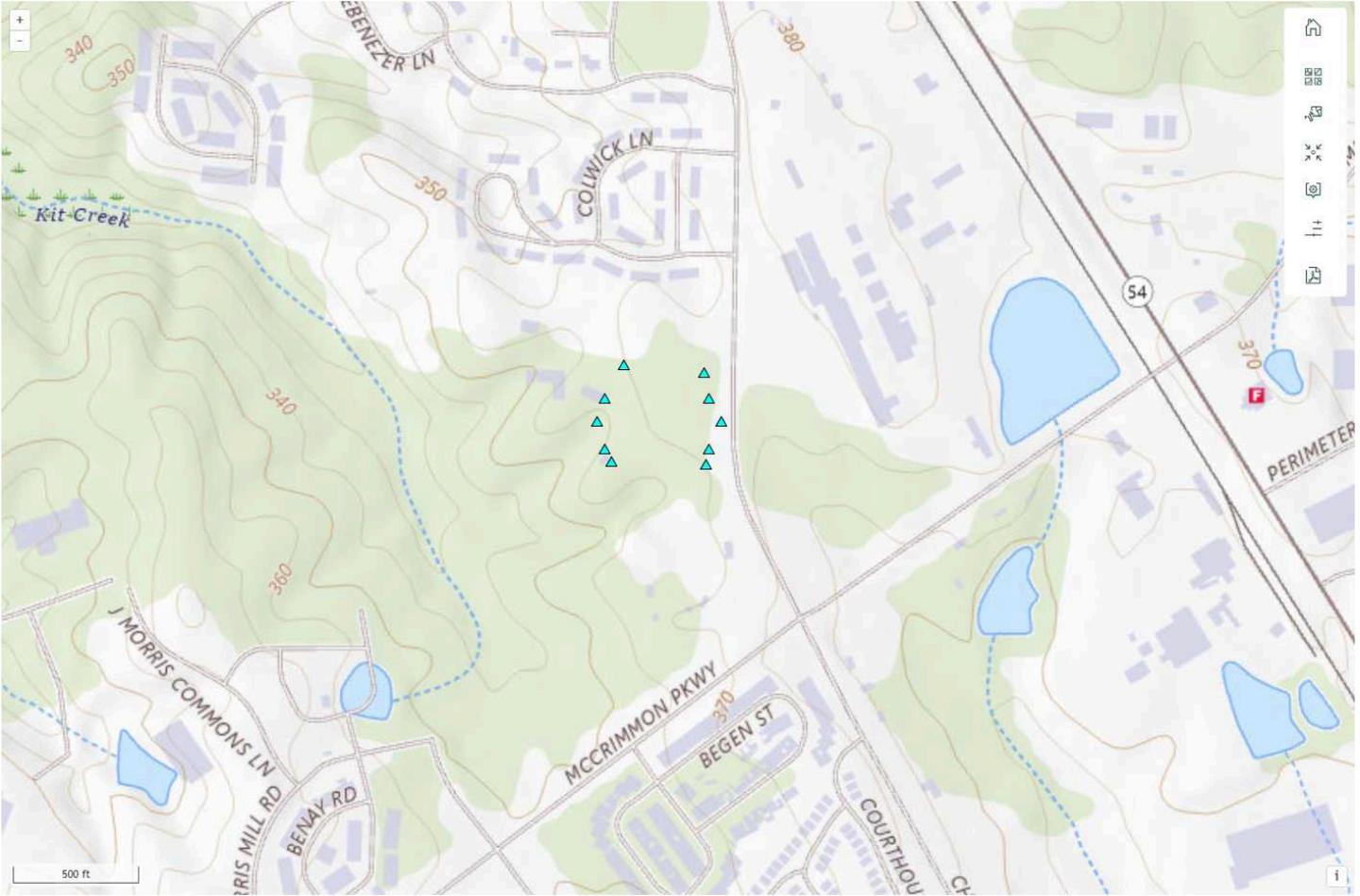
The Town intends to pursue this as a single phase; however, funding and sports scheduling may require a two-phase approach. If a two-phased approach is used, Phase 1 will upgrade the pole tops on the six existing light poles. At the completion of Phase 1, there would be a total of ninety-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twelve 575-watt balltracker lights. Poles P1-P4 would each have twenty 1410-watt fixtures and two 575-watt ball-tracker fixtures. Pole P5 would have twelve 1170-watt fixtures, eight 1410-watt fixtures, and two 575-watt ball-tracker fixtures. Pole P6 would have thirteen 1170-watt fixtures, seven 1410-watt fixtures, and two 575-watt ball-tracker fixtures. There will be no change in height for the existing poles.

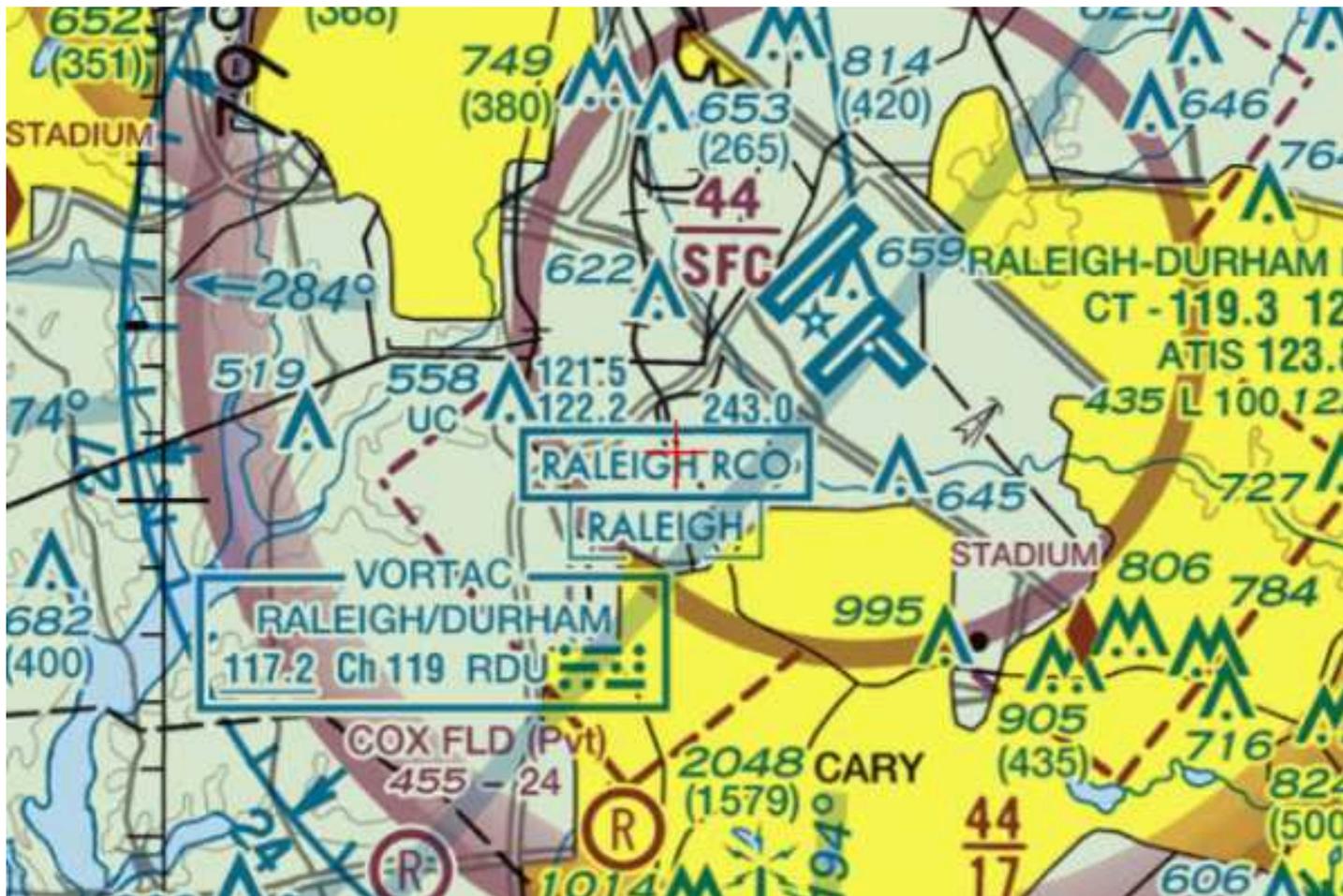
Phase 2 would take the project to the full lighting buildout.

After completion of Phase 2, the proposed plans will add four additional 100' poles similar to the existing poles. If Church Street is considered the 12:00 position, E1 will be located at approximately 0:45, E2 at 11:15, W1 at 5:15, and W2 at 6:45. Poles E1, E2, W1, and W2 will each include twenty 1410-watt fixtures and two 575-watt balltracker fixtures. The entire system will have a total of one hundred seventy-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twenty 575-watt balltracker fixtures.

The proposed lighting system upgrade will not pose any issues with air traffic flying over the field. The original lighting system was certified as such by Raleigh-Durham International Airport (RDU) and the Federal Aviation Administration (FAA). All new poles and fixtures will match the existing lighting heights.

All designs will be certified by structural engineers. These will also be reviewed and inspected by the Town of Morrisville Building Inspections department in compliance with all applicable building regulations including electrical design, wind loads, and ice loads.







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 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

ATTACHMENT L

Aeronautical Study No.
 2025-ASO-26209-OE

Issued Date: 01/14/2026

TOWN OF MORRISVILLE
 STEVEN SPRUILL
 100 Town Hall Drive
 Morrisville, NC 27560

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Light Pole Sports Field Lighting - Pole E2
 County, State: Wake, North Carolina

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
E2	35-50-44.00N	78-50-34.00W	372 Ft	110 Ft	482 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 07/14/2027 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-4037, or nathan.d.shelly@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-ASO-26209-OE.

Signature Control No: 688317314-689995718

(DNE)

Nathan Shelly
Specialist

Attachment(s)
Case Description
Map(s)

Case Description for ASN 2025-ASO-26209-OE

This project will upgrade existing sports lighting for the Church Street Park Cricket Field, located at 5817 Cricket Pitch Way, Morrisville, NC 27856. The six existing light poles received Determinations of No Hazard to Air Navigation under the following Aeronautical Study numbers:

2017-ASO-13794-OE

2017-ASO-13795-OE

2017-ASO-13796-OE

2017-ASO-13797-OE

2017-ASO-13798-OE

2017-ASO-13799-OE

The project may be completed in two phases but will most likely be completed as a single project. If phased, Phase 1 would upgrade the fixtures, wiring, and controls, and add additional fixtures on the existing Sports Light Poles. Phase 2 would add 4 additional 100' light poles and the associated fixtures, controls and wiring like the existing light poles. In the application we have listed them as 110' to provide some buffer.

The existing sports lighting consists of six 100' tall concrete poles. These existing poles are denoted as P1-P6 on the provided plans. If Church Street is considered the 12:00 position, P1 is located at approximately 1:30, P2 at 10:30, P3 at 4:30, P4 at 7:30, P5 at 6:00, and P6 at 12:00. Each pole is topped by a lighting array that includes cross bars and individual light fixtures. Poles P1 and P3 are each topped with fourteen 1410-watt fixtures and two 575-watt ball-tracker fixtures at 15' mounting heights. Poles P2 and P4 are each topped with nine 1410-watt fixtures, five 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. Poles P5 and P6 are each topped with thirteen 1410-watt fixtures, one 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. In total, there are seventy-two 1410-watt fixtures, twelve 1170-watt fixtures, and twelve 575-watt ball-tracker fixtures at 15 to 20' mounting heights.

This lighting system upgrade project has been designed with the possibility of being installed in two phases.

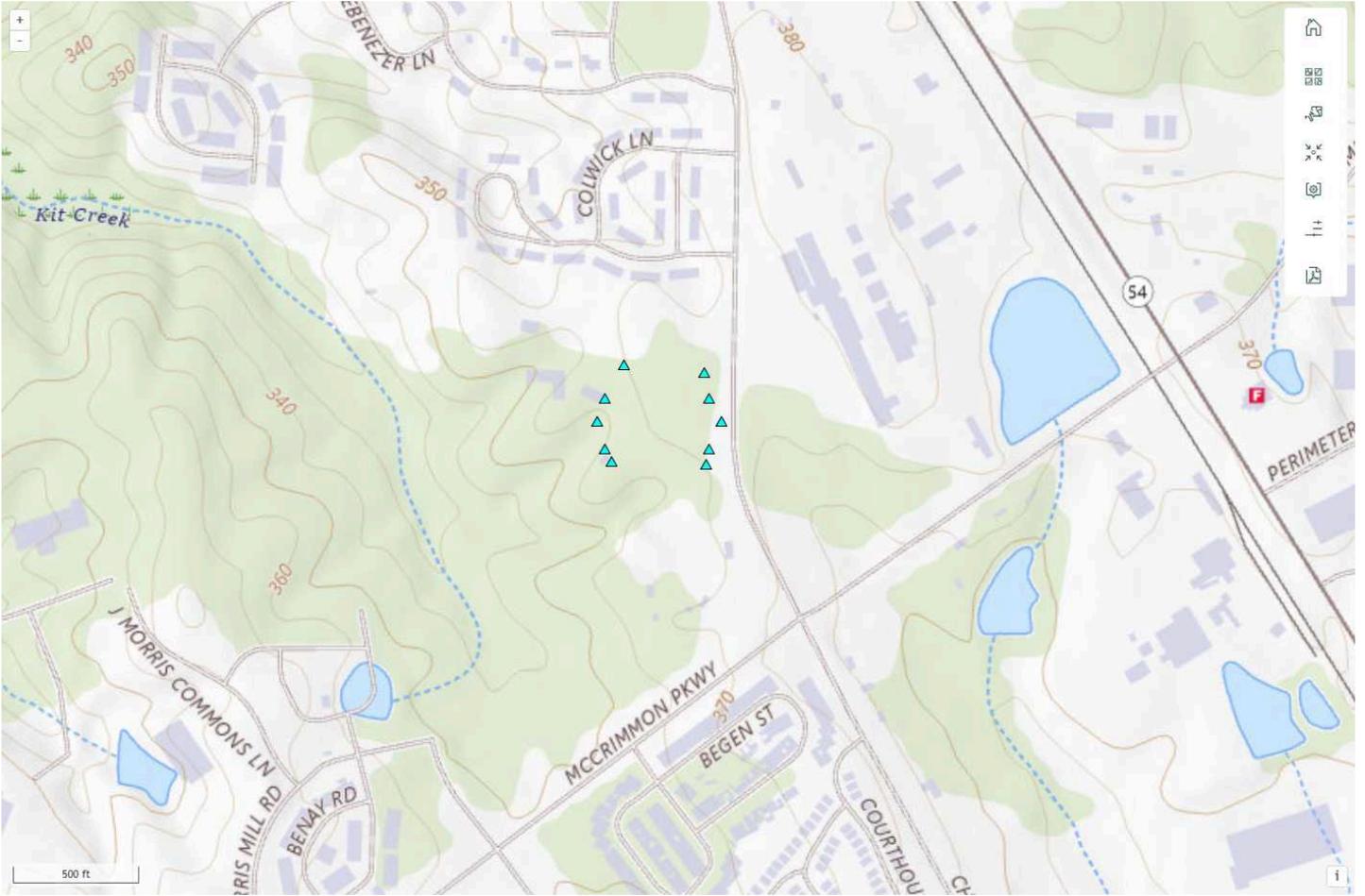
The Town intends to pursue this as a single phase; however, funding and sports scheduling may require a two-phase approach. If a two-phased approach is used, Phase 1 will upgrade the pole tops on the six existing light poles. At the completion of Phase 1, there would be a total of ninety-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twelve 575-watt balltracker lights. Poles P1-P4 would each have twenty 1410-watt fixtures and two 575-watt ball-tracker fixtures. Pole P5 would have twelve 1170-watt fixtures, eight 1410-watt fixtures, and two 575-watt ball-tracker fixtures. Pole P6 would have thirteen 1170-watt fixtures, seven 1410-watt fixtures, and two 575-watt ball-tracker fixtures. There will be no change in height for the existing poles.

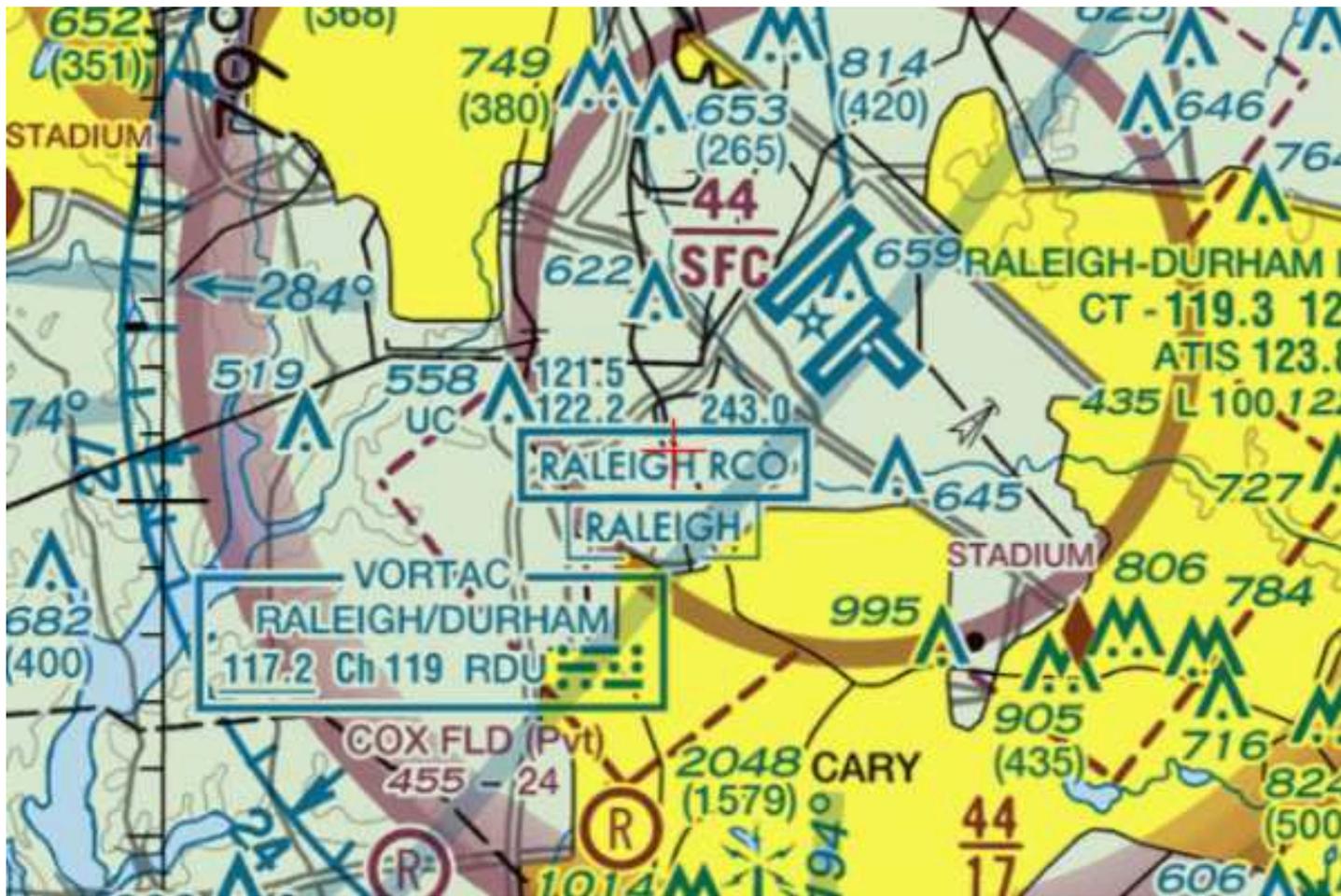
Phase 2 would take the project to the full lighting buildout.

After completion of Phase 2, the proposed plans will add four additional 100' poles similar to the existing poles. If Church Street is considered the 12:00 position, E1 will be located at approximately 0:45, E2 at 11:15, W1 at 5:15, and W2 at 6:45. Poles E1, E2, W1, and W2 will each include twenty 1410-watt fixtures and two 575-watt balltracker fixtures. The entire system will have a total of one hundred seventy-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twenty 575-watt balltracker fixtures.

The proposed lighting system upgrade will not pose any issues with air traffic flying over the field. The original lighting system was certified as such by Raleigh-Durham International Airport (RDU) and the Federal Aviation Administration (FAA). All new poles and fixtures will match the existing lighting heights.

All designs will be certified by structural engineers. These will also be reviewed and inspected by the Town of Morrisville Building Inspections department in compliance with all applicable building regulations including electrical design, wind loads, and ice loads.







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 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

ATTACHMENT M

Aeronautical Study No.
 2025-ASO-26210-OE

Issued Date: 01/14/2026

TOWN OF MORRISVILLE
 STEVEN SPRUILL
 100 Town Hall Drive
 Morrisville, NC 27560

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Light Pole Sports Field Lighting - Pole W1
 County, State: Wake, North Carolina

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
W1	35-50-42.00N	78-50-39.00W	372 Ft	110 Ft	482 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 07/14/2027 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-4037, or nathan.d.shelly@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-ASO-26210-OE.

Signature Control No: 688317429-689995721

(DNE)

Nathan Shelly
Specialist

Attachment(s)
Case Description
Map(s)

Case Description for ASN 2025-ASO-26210-OE

This project will upgrade existing sports lighting for the Church Street Park Cricket Field, located at 5817 Cricket Pitch Way, Morrisville, NC 27856. The six existing light poles received Determinations of No Hazard to Air Navigation under the following Aeronautical Study numbers:

2017-ASO-13794-OE

2017-ASO-13795-OE

2017-ASO-13796-OE

2017-ASO-13797-OE

2017-ASO-13798-OE

2017-ASO-13799-OE

The project may be completed in two phases but will most likely be completed as a single project. If phased, Phase 1 would upgrade the fixtures, wiring, and controls, and add additional fixtures on the existing Sports Light Poles. Phase 2 would add 4 additional 100' light poles and the associated fixtures, controls and wiring like the existing light poles. In the application we have listed them as 110' to provide some buffer.

The existing sports lighting consists of six 100' tall concrete poles. These existing poles are denoted as P1-P6 on the provided plans. If Church Street is considered the 12:00 position, P1 is located at approximately 1:30, P2 at 10:30, P3 at 4:30, P4 at 7:30, P5 at 6:00, and P6 at 12:00. Each pole is topped by a lighting array that includes cross bars and individual light fixtures. Poles P1 and P3 are each topped with fourteen 1410-watt fixtures and two 575-watt ball-tracker fixtures at 15' mounting heights. Poles P2 and P4 are each topped with nine 1410-watt fixtures, five 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. Poles P5 and P6 are each topped with thirteen 1410-watt fixtures, one 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. In total, there are seventy-two 1410-watt fixtures, twelve 1170-watt fixtures, and twelve 575-watt ball-tracker fixtures at 15 to 20' mounting heights.

This lighting system upgrade project has been designed with the possibility of being installed in two phases.

The Town intends to pursue this as a single phase; however, funding and sports scheduling may require a two-phase approach. If a two-phased approach is used, Phase 1 will upgrade the pole tops on the six existing light poles. At the completion of Phase 1, there would be a total of ninety-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twelve 575-watt balltracker lights. Poles P1-P4 would each have twenty 1410-watt fixtures and two 575-watt ball-tracker fixtures. Pole P5 would have twelve 1170-watt fixtures, eight 1410-watt fixtures, and two 575-watt ball-tracker fixtures. Pole P6 would have thirteen 1170-watt fixtures, seven 1410-watt fixtures, and two 575-watt ball-tracker fixtures. There will be no change in height for the existing poles.

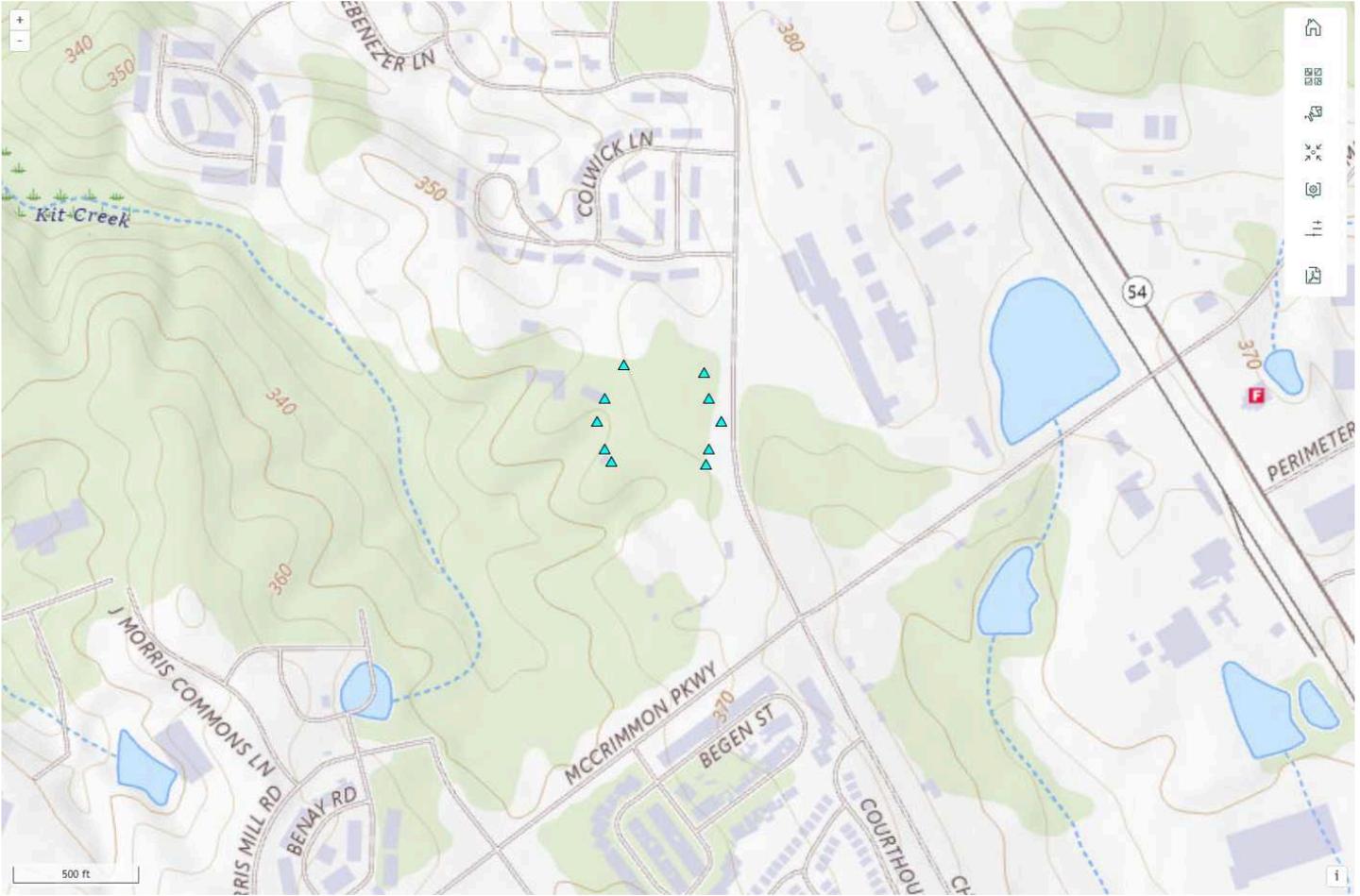
Phase 2 would take the project to the full lighting buildout.

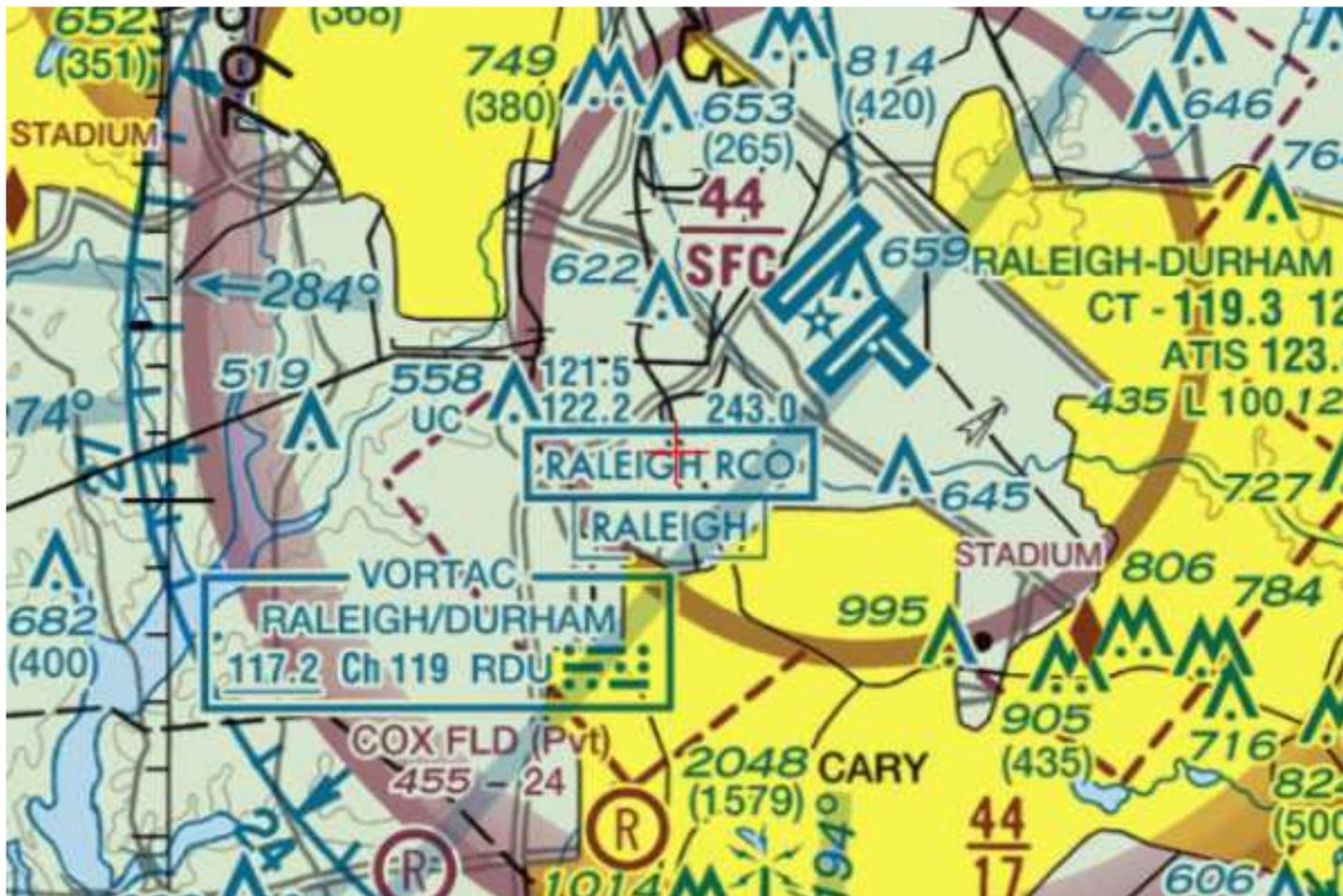
After completion of Phase 2, the proposed plans will add four additional 100' poles similar to the existing poles. If Church Street is considered the 12:00 position, E1 will be located at approximately 0:45, E2 at 11:15, W1 at 5:15, and W2 at 6:45. Poles E1, E2, W1, and W2 will each include twenty 1410-watt fixtures and two 575-watt balltracker fixtures. The entire system will have a total of one hundred seventy-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twenty 575-watt balltracker fixtures.

The proposed lighting system upgrade will not pose any issues with air traffic flying over the field. The original lighting system was certified as such by Raleigh-Durham International Airport (RDU) and the Federal Aviation Administration (FAA). All new poles and fixtures will match the existing lighting heights.

All designs will be certified by structural engineers. These will also be reviewed and inspected by the Town of Morrisville Building Inspections department in compliance with all applicable building regulations including electrical design, wind loads, and ice loads.

Verified Map for ASN 2025-ASO-26210-OE







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

ATTACHMENT N

Aeronautical Study No.
 2025-ASO-26211-OE

Issued Date: 01/14/2026

TOWN OF MORRISVILLE
 STEVEN SPRUILL
 100 Town Hall Drive
 Morrisville, NC 27560

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Light Pole Sports Field Lighting - Pole W2
 County, State: Wake, North Carolina

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
W2	35-50-44.00N	78-50-39.00W	372 Ft	110 Ft	482 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 07/14/2027 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-4037, or nathan.d.shelly@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-ASO-26211-OE.

Signature Control No: 688317466-689995719

(DNE)

Nathan Shelly
Specialist

Attachment(s)
Case Description
Map(s)

Case Description for ASN 2025-ASO-26211-OE

This project will upgrade existing sports lighting for the Church Street Park Cricket Field, located at 5817 Cricket Pitch Way, Morrisville, NC 27856. The six existing light poles received Determinations of No Hazard to Air Navigation under the following Aeronautical Study numbers:

2017-ASO-13794-OE

2017-ASO-13795-OE

2017-ASO-13796-OE

2017-ASO-13797-OE

2017-ASO-13798-OE

2017-ASO-13799-OE

The project may be completed in two phases but will most likely be completed as a single project. If phased, Phase 1 would upgrade the fixtures, wiring, and controls, and add additional fixtures on the existing Sports Light Poles. Phase 2 would add 4 additional 100' light poles and the associated fixtures, controls and wiring like the existing light poles. In the application we have listed them as 110' to provide some buffer.

The existing sports lighting consists of six 100' tall concrete poles. These existing poles are denoted as P1-P6 on the provided plans. If Church Street is considered the 12:00 position, P1 is located at approximately 1:30, P2 at 10:30, P3 at 4:30, P4 at 7:30, P5 at 6:00, and P6 at 12:00. Each pole is topped by a lighting array that includes cross bars and individual light fixtures. Poles P1 and P3 are each topped with fourteen 1410-watt fixtures and two 575-watt ball-tracker fixtures at 15' mounting heights. Poles P2 and P4 are each topped with nine 1410-watt fixtures, five 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. Poles P5 and P6 are each topped with thirteen 1410-watt fixtures, one 1170-watt fixtures, and two 575-watt ball-tracker fixtures at 15 to 20' mounting heights. In total, there are seventy-two 1410-watt fixtures, twelve 1170-watt fixtures, and twelve 575-watt ball-tracker fixtures at 15 to 20' mounting heights.

This lighting system upgrade project has been designed with the possibility of being installed in two phases.

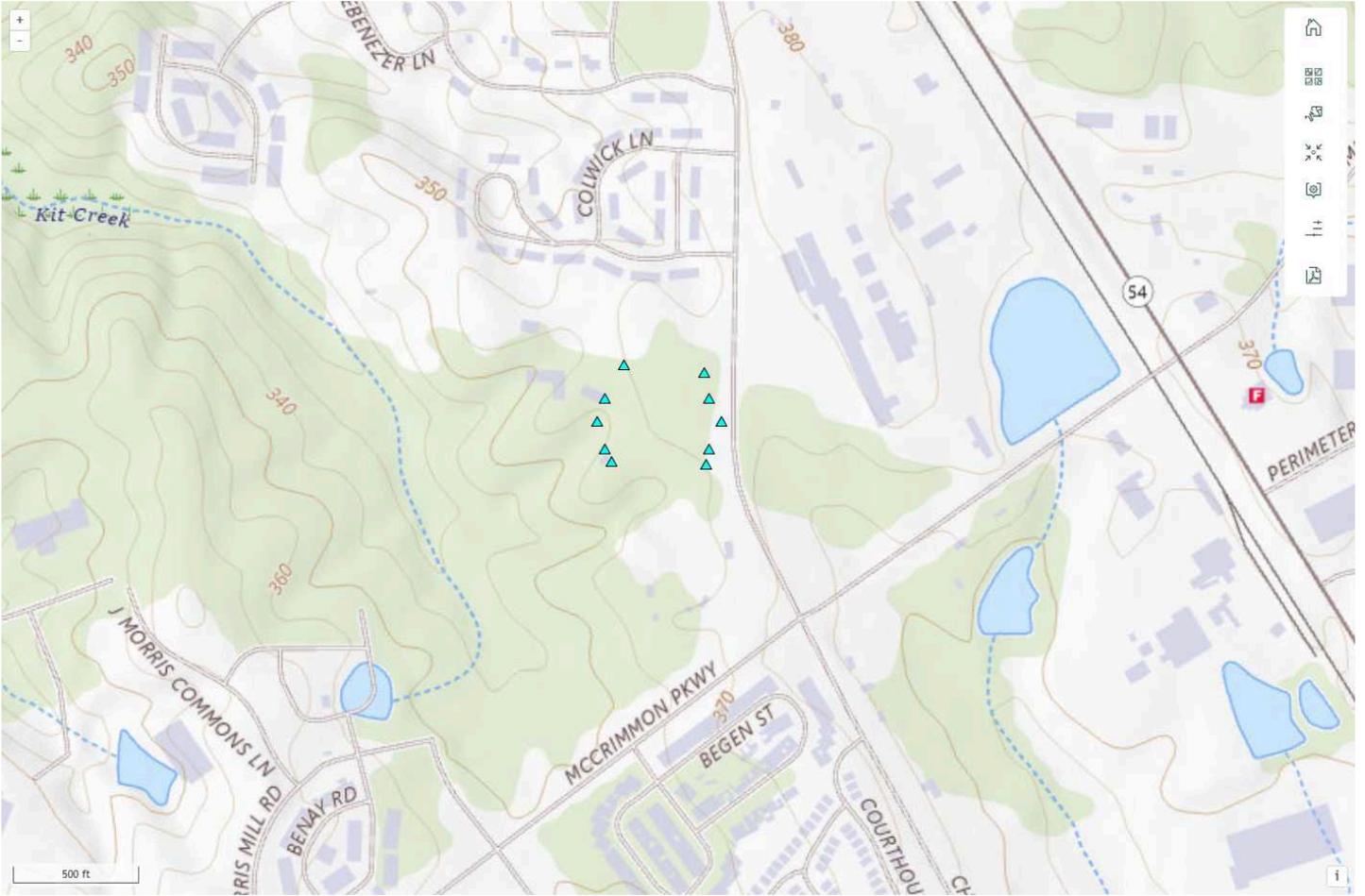
The Town intends to pursue this as a single phase; however, funding and sports scheduling may require a two-phase approach. If a two-phased approach is used, Phase 1 will upgrade the pole tops on the six existing light poles. At the completion of Phase 1, there would be a total of ninety-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twelve 575-watt balltracker lights. Poles P1-P4 would each have twenty 1410-watt fixtures and two 575-watt ball-tracker fixtures. Pole P5 would have twelve 1170-watt fixtures, eight 1410-watt fixtures, and two 575-watt ball-tracker fixtures. Pole P6 would have thirteen 1170-watt fixtures, seven 1410-watt fixtures, and two 575-watt ball-tracker fixtures. There will be no change in height for the existing poles.

Phase 2 would take the project to the full lighting buildout.

After completion of Phase 2, the proposed plans will add four additional 100' poles similar to the existing poles. If Church Street is considered the 12:00 position, E1 will be located at approximately 0:45, E2 at 11:15, W1 at 5:15, and W2 at 6:45. Poles E1, E2, W1, and W2 will each include twenty 1410-watt fixtures and two 575-watt balltracker fixtures. The entire system will have a total of one hundred seventy-five 1410-watt fixtures, twenty-five 1170-watt fixtures, and twenty 575-watt balltracker fixtures.

The proposed lighting system upgrade will not pose any issues with air traffic flying over the field. The original lighting system was certified as such by Raleigh-Durham International Airport (RDU) and the Federal Aviation Administration (FAA). All new poles and fixtures will match the existing lighting heights.

All designs will be certified by structural engineers. These will also be reviewed and inspected by the Town of Morrisville Building Inspections department in compliance with all applicable building regulations including electrical design, wind loads, and ice loads.





Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

ATTACHMENT O

Aeronautical Study No.
 2026-ASO-905-OE

Issued Date: 01/29/2026

TOWN OF MORRISVILLE
 STEVEN SPRUILL
 100 Town Hall Drive
 Morrisville, NC 27560

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Mobile Construction Equipment Temp Crane Location 1
 County, State: Wake, North Carolina

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
Temp Crane Location 1	35-50-44.83N	78-50-34.36W	374 Ft	140 Ft	514 Ft
Temp Crane Location 2	35-50-44.17N	78-50-33.86W	373 Ft	140 Ft	513 Ft
Temp Crane Location 3	35-50-43.34N	78-50-33.61W	372 Ft	140 Ft	512 Ft
Temp Crane Location 4	35-50-42.46N	78-50-33.80W	372 Ft	140 Ft	512 Ft
Temp Crane Location 5	35-50-41.77N	78-50-34.28W	371 Ft	140 Ft	511 Ft

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

****SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION****

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice to Airmen (NOTAM).

If you have any questions, please contact our office at 1-817-222-4037, or nathan.d.shelly@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2026-ASO-905-OE

Signature Control No: 689916537-691975070

(TMP)

Nathan Shelly

Specialist

Additional Condition(s) or Information for ASN 2026-ASO-905-OE

Proposal: To construct and/or operate a(n) Mobile Construction Equipment to a height of 140 feet above ground level, 514 feet above mean sea level.

Location: The structure will be located 3.31 nautical miles southwest of RDU Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

It is required that the manager of RALEIGH-DURHAM INTL, (919) 840-7701 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site.

It is required that the manager of RALEIGH-DURHAM INTL ATCT, (919) 380-3110 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site. Additionally, please provide contact information for the onsite operator in the event that Air Traffic Control requires the temporary structure to be lowered immediately.

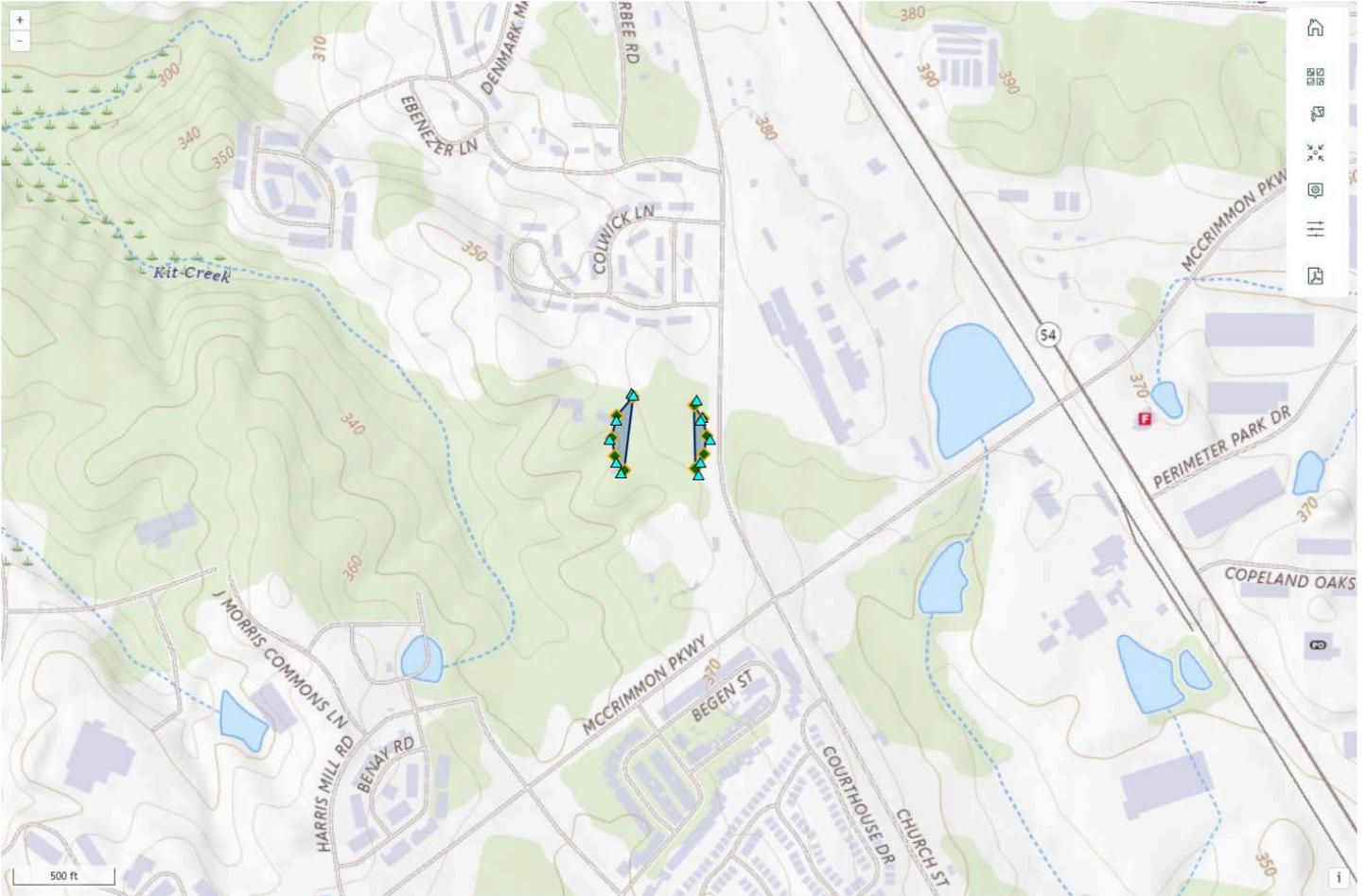
This determination expires on 07/29/2027 unless extended, revised, or terminated by the issuing office.

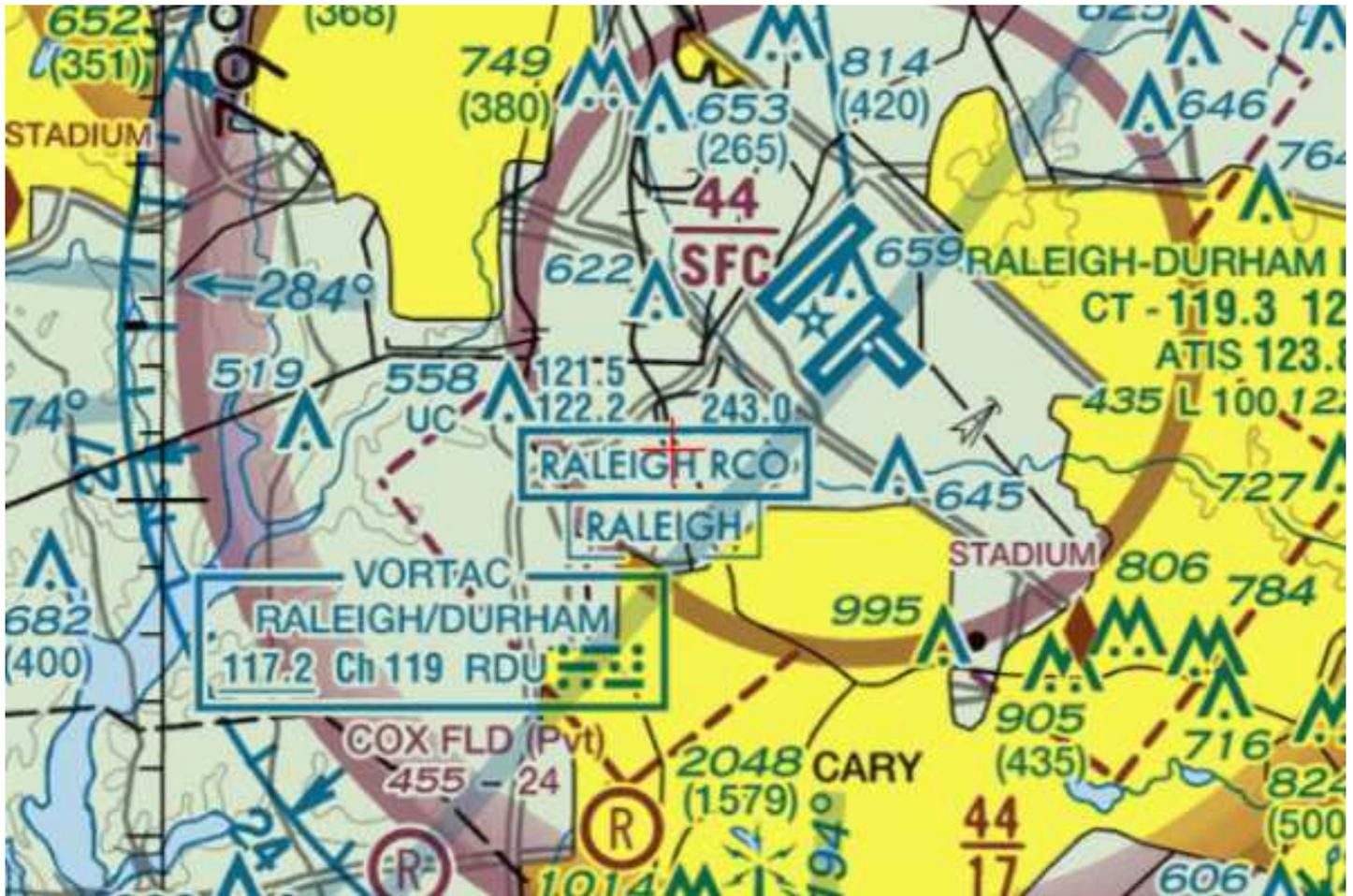
It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed within 5 days after the temporary structure is dismantled.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Recommend lowering the crane when not in use, between sunset and sunrise, and during low visibility conditions (ceiling <1000 feet, visibility <3 miles)

Verified Map for ASN 2026-ASO-905-OE







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

ATTACHMENT P

Aeronautical Study No.
 2026-ASO-908-OE

Issued Date: 01/29/2026

TOWN OF MORRISVILLE
 STEVEN SPRUILL
 100 Town Hall Drive
 Morrisville, NC 27560

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Mobile Construction Equipment Temp Crane Location 2
 County, State: Wake, North Carolina

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
Temp Crane Location 6	35-50-41.68N	78-50-38.52W	365 Ft	140 Ft	505 Ft
Temp Crane Location 7	35-50-42.36N	78-50-39.07W	360 Ft	140 Ft	500 Ft
Temp Crane Location 8	35-50-43.27N	78-50-39.26W	357 Ft	140 Ft	497 Ft
Temp Crane Location 9	35-50-44.33N	78-50-38.94W	365 Ft	140 Ft	505 Ft
Temp Crane Location 10	35-50-45.23N	78-50-37.99W	371 Ft	140 Ft	511 Ft

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

****SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION****

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice to Airmen (NOTAM).

If you have any questions, please contact our office at 1-817-222-4037, or nathan.d.shelly@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2026-ASO-908-OE

Signature Control No: 689918531-691975069

(TMP)

Nathan Shelly

Specialist

Additional Condition(s) or Information for ASN 2026-ASO-908-OE

Proposal: To construct and/or operate a(n) Mobile Construction Equipment to a height of 140 feet above ground level, 511 feet above mean sea level.

Location: The structure will be located 3.34 nautical miles southwest of RDU Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

It is required that the manager of RALEIGH-DURHAM INTL, (919) 840-7701 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site.

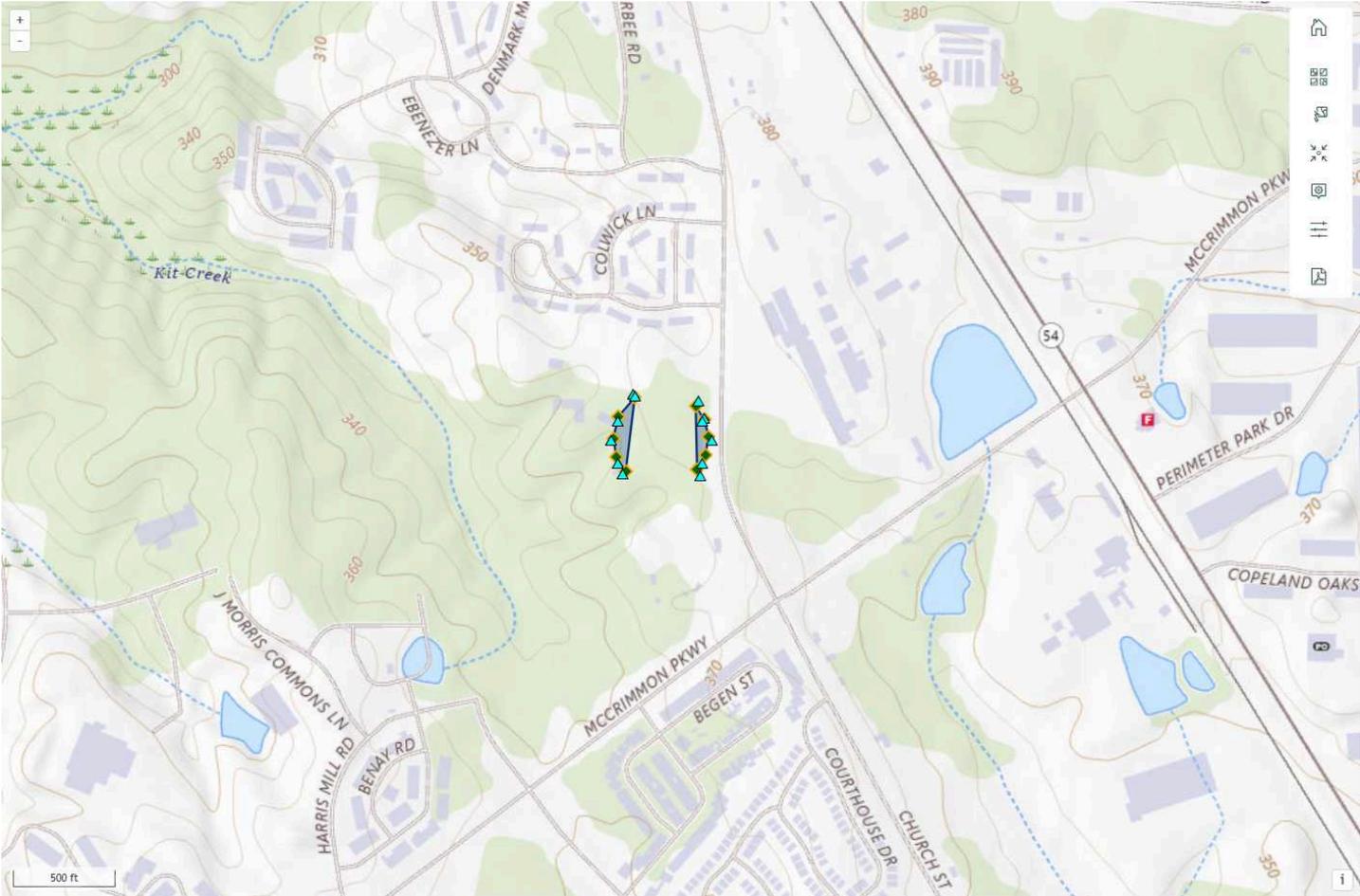
It is required that the manager of RALEIGH-DURHAM INTL ATCT, (919) 380-3110 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site. Additionally, please provide contact information for the onsite operator in the event that Air Traffic Control requires the temporary structure to be lowered immediately.

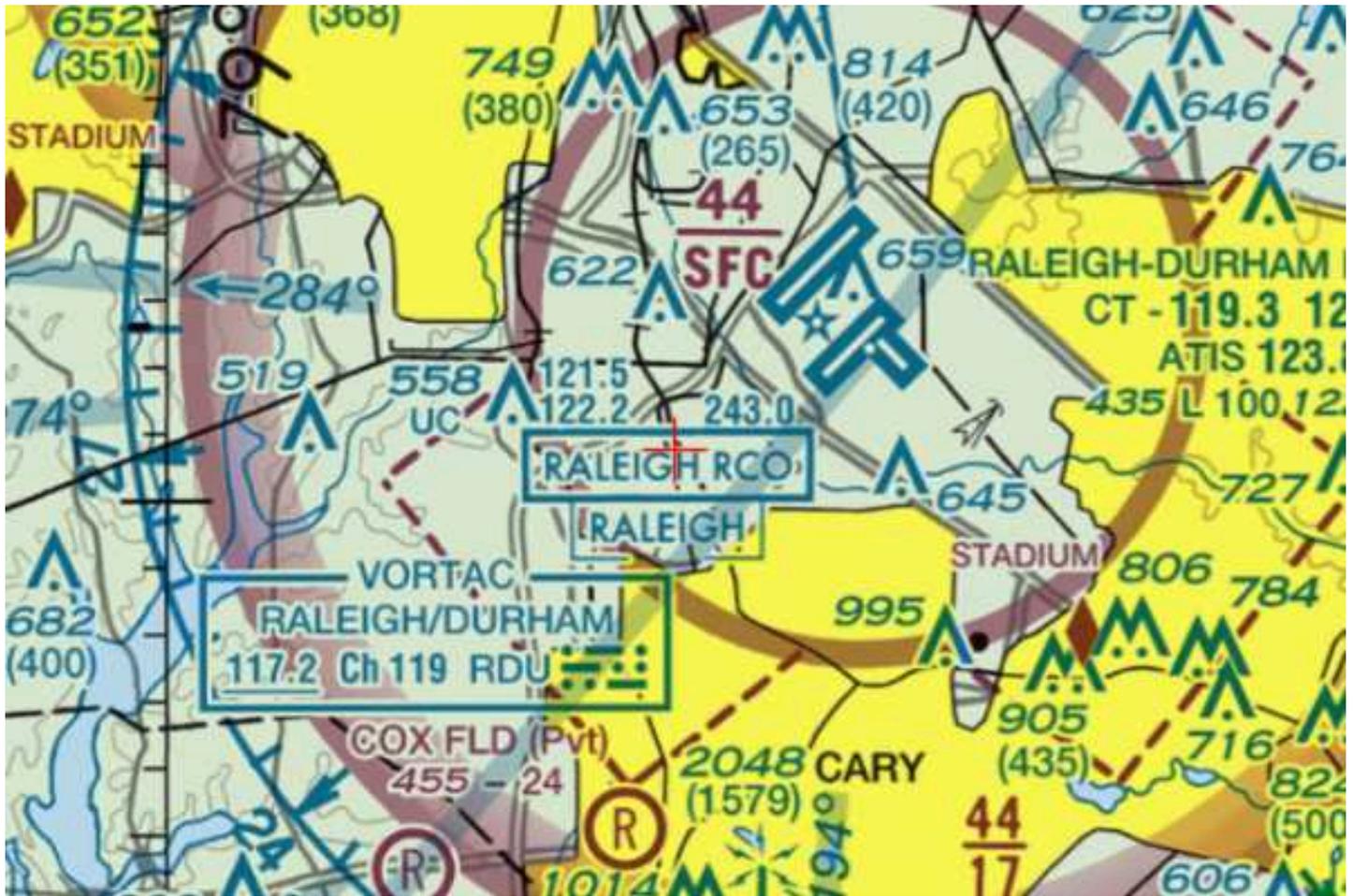
This determination expires on 07/29/2027 unless extended, revised, or terminated by the issuing office.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed within 5 days after the temporary structure is dismantled.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Recommend lowering the crane when not in use, between sunset and sunrise, and during low visibility conditions (ceiling <1000 feet, visibility <3 miles)





ATTACHMENT Q

Raleigh-Durham Airport Authority



Michael J. Landguth, A.A.E.
President & CEO

1000 Trade Drive • P.O. Box 80001 • RDU Airport, NC 27623
tel: (919) 840-7700 • fax: (919) 840-0175 • www.rdu.com

PERMIT

Issued To: Town of Morrisville
Attn: Steven Spruill
100 Town Hall Drive
Morrisville, NC 27560

Issued By: Raleigh-Durham Airport Authority
1000 Trade Drive
P. O. Box 80001
RDU Airport, NC 27623

Permit No. RDU 26-01

Permit Use: Light Fixtures (Permanent Structure)

Location of Permitted Use:

Latitude:	Longitude:
35-50-42.00N	78-50-34.00W
35-50-44.00N	78-50-34.00W
35-50-42.00N	78-50-39.00W
35-50-44.00N	78-50-39.00W

Height of Permitted Use: 372 feet Site Elevation (SE)
110 feet Above Ground Level (AGL)
482 feet Above Mean Sea Level (AMSL)

Conditions of Permit Issuance: The Permitted Use shall not create interference with navigational signals or radio communications between Raleigh-Durham International Airport ("Airport") and aircraft, make it difficult for pilots to distinguish between Airports lights and others, result in glare in the eyes of pilots using the Airport, impair the visibility of the Airport, create bird strike hazards, or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use the Airport. If marking and lighting are done voluntarily, it is recommended that the Town of Morrisville (the "Sponsor") mark and light the fixtures in accordance with FAA Advisory Circular 70/7460-1 M Change 1. This Permit is not transferable.

Other information: The Permitted Use was the subject of the FAA Aeronautical Study Number (ASN): 2025-ASO-26208-OE; 2025-ASO-26209-OE; 2025-ASO-26210-OE; 2025-ASO-26211-OE. The FAA

Raleigh-Durham Airport Authority Board Members

CITY OF DURHAM
Tammie Hall-Roberts, Chair
Nana Asante-Smith

CITY OF RALEIGH
Nina Szlosberg-Landis, Vice Chair
Shelley Winters, Treasurer

DURHAM COUNTY
Yesenia Polanco-Galdamez, Secretary
Indranil Ghosh

WAKE COUNTY
Ellis Hankins
David Kushner



Michael J. Landguth, A.A.E.
President & CEO

1000 Trade Drive • P.O. Box 80001 • RDU Airport, NC 27623
tel: (919) 840-7700 • fax: (919) 840-0175 • www.rdu.com

determined that the permanent structures (at requested heights of 110 feet Above Ground Level (AGL)) would not exceed obstruction standards and would not be a hazard to air navigation.

The Airport has reviewed the application including the referenced (ASN): 2025-ASO-26208-OE; 2025-ASO-26209-OE; 2025-ASO-26210-OE; 2025-ASO-26211-OE and determined that the maximum lighting height of 110 feet AGL is below the Airport's Part 77 Outer Approach Surface.

Issued by my hand at Raleigh-Durham International Airport this 28th day of January 2026.

Michael J. Landguth

Michael J. Landguth, A.A.E.
President & CEO

Raleigh-Durham Airport Authority Board Members

CITY OF DURHAM
Tammie Hall-Roberts, Chair
Nana Asante-Smith

CITY OF RALEIGH
Nina Szlosberg-Landis, Vice Chair
Shelley Winters, Treasurer

DURHAM COUNTY
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ATTACHMENT R

Raleigh-Durham Airport Authority



Michael J. Landguth, A.A.E.
President & CEO

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PERMIT

Issued To:	Town of Morrisville Attn: Steven Spruill 100 Town Hall Drive Morrisville, NC 27560	Issued By:	Raleigh-Durham Airport Authority 1000 Trade Drive P. O. Box 80001 RDU Airport, NC 27623
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Permit No.: RDU 26-09

Permit Expiration Date: 7/29/2027

Permit Use: Temporary Crane

Location of Permitted Use:

Latitude:	Longitude:
35-50-44.83N	78-50-34.36W
35-50-44.17N	78-50-33.86W
35-50-43.34N	78-50-33.61W
35-50-42.46N	78-50-33.80W
35-50-41.77N	78-50-34.28W
35-50-41.68N	78-50-38.52W
35-50-42.36N	78-50-39.07W
35-50-43.27N	78-50-39.26W
35-50-44.33N	78-50-38.94W
35-50-45.23N	78-50-37.99W

Height of Permitted Use: 357-374 feet Site Elevation (SE)
140 feet Above Ground Level (AGL)
497-514 feet Above Mean Sea Level (AMSL)

Conditions of Permit Issuance: The Permitted Use shall not create interference with navigational signals or radio communications between Raleigh-Durham International Airport ("Airport") and aircraft, make it difficult for pilots to distinguish between Airports lights and others, result in glare in the eyes of pilots

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using the Airport, impair the visibility of the Airport, create bird strike hazards, or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use the Airport. If marking and lighting are done voluntarily, it is recommended that the Town of Morrisville (the "Sponsor") mark and light the crane in accordance with FAA Advisory Circular 70/7460-1 M Change 1. This Permit is not transferable.

Other information: The Permitted Use was the subject of the FAA Aeronautical Study Number (ASN): 2026-ASO-905-OE and 2026-ASO-908-OE. The FAA determined that the temporary crane (at a requested height of 140 feet Above Ground Level (AGL)) would not exceed Part 77 surfaces and would not be a hazard to air navigation.

The Airport has reviewed the application and determined that the maximum temporary crane height of 140 feet AGL is below the Airport's Part 77 Outer Approach Surface by 197-224 feet.

Issued by my hand at Raleigh-Durham International Airport this 4th day of March 2026.

Michael J. Landguth

Michael J. Landguth, A.A.E.
President & CEO

Raleigh-Durham Airport Authority Board Members

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ATTACHMENT S



January 21, 2026

Steven Spruill
Interim Public Works Director
Town of Morrisville
100 Town Hall Drive
Morrisville, NC 27560

RE: Church Street Park Sports Lighting

Dear Steven,

At their January 20, 2026 meeting, the Research Triangle Park Board of Design voted unanimously to approve the Town of Morrisville's upgrades to the sports lighting at Church Street Park. The proposal was found to be in keeping with the Research Triangle Park's overall design and aesthetic.

As a reminder, any substantive design changes to the presented plans must be reviewed and approved by the Board of Design.

Sincerely,

A handwritten signature in black ink, appearing to read "Travis Crayton".

Travis Crayton, AICP
Vice President, Planning & Public Policy
Research Triangle Foundation of North Carolina



Planning, Development & Inspections

Planning
336 Fayetteville Street • Raleigh, NC 27601
P.O. Box 550 • Raleigh, NC 27602
wake.gov

Commercial Site Plan Approval

APPROVAL DATE : 03/16/2026

Applicant : Steven Spruill
Property Address : 5817 CRICKET PITCH WAY
Pin Number : 0746620689
Zoning : RA
Acres : 24.80
Existing Use : PARK
Proposed : PARK
Description : upgrading of cricket field lighting system, upgrade adn replace wixisting lighting arrays on 6 existing poles and install 4 new poles with additional lighting arrays. Building permits will be through town of Morrisville via interlocal agreement
Conditions/Restrictions :

Disclaimer:

Please logon to the CSS Portal to apply for a Commercial Building Permit fo any and all structures shown on the site plan. This permit does not authorize any construction on this site.

Processed By : Keith Lankford

THE APPLICANT AGREES TO COMPLY WITH ALL REGULATIONS AND OTHER LAWS APPLICABLE TO THE USE OF THE STRUCTURE AND/OR FACILITIES REFERRED TO HEREIN.

SIGNATURE

DATE

ATTACHMENT U

Permit Number: BLDCE-009702-2026

[Permit Details](#) | [Tab Elements](#) | [Main Menu](#)

Type:	Building Permit - Existing Commercial (ALTERATION)	Status:	Submitted - Online	Project Name:	
Applied Date:	03/10/2026	Issue Date:			
District:	Town of Morrisville	Assigned To:		Expire Date:	
Square Feet:	0.00	Valuation:	\$2,000,000.00	Finalized Date:	
Description:	Cricket Field Lighting Upgrade, 4 new poles, new and replace all luminaires, upgrade electrical service.				

Crane Matting Rental

Rental Vendor to furnish, deliver, install, relocate, and pickup / remove at the end of the rental period - 430 (each) Mega Deck® HD + composite mats with MDX connection system. Rental period is estimated to be 4 weeks (one month).

Quote to include pricing for Day, Week, and 4-Week periods, delivery and pickup.

Approximate layout of mats as shown in the attached plan.

Matting system shall be [Mega Deck® HD + with MDX connection system](#) (or equal), consisting of the following:

- Composite mats for moving heavy equipment through the jobsite. Each unit is 7.5 feet long, 14 feet wide and 4 inches thick, capable of handling loads up to 600 psi. Include the heavy-duty cam locking system and nesting flange overlaps to ensure a strong, stable access path and work surface.
- Each unit shall provide
- Maximum load capacity 4,500 tons at 600 PSI depending on surface conditions
- 1,095 lbs. each
- Unit dimensions 7.5 ft. by 14 ft. by 4 in.
- Useable (due to flange) 6. Ft. L x 13 ft. W x in. H
- Made from high-density polyethylene that incorporates UV resistance, antistatic properties and high-impact resistance

Matting is anticipated to be required from May 1, 2026 to May 29, 2026

Delivery and setup location is: 5817 Cricket Pitch Way Morrisville, NC 27560

Installation contractors will be advised of the following:

1. Installer to confirm required layout and quantity of mats and identify matting areas to the rental vendor.
2. Installer to confirm the schedule and provide rental vendor a minimum of ten (10) business days—preferably fifteen (15) business days from the date it issues a written authorization to the rental vendor to proceed for mobilization of personnel and equipment to the project site.
3. Installer to ensure there are no obstructions so rental vendor can access to areas where mats are to be installed or removed.

Addendum 01 Advertisement for Bids

Project: Church Street Park Cricket Field Lighting Upgrade – Crane Matting Rental

Project Number: PRJ_2025-30

Project Location: 5817 Cricket Pitch Way

Morrisville, NC 27560

Owner: Town of Morrisville, North Carolina

100 Town Hall Drive

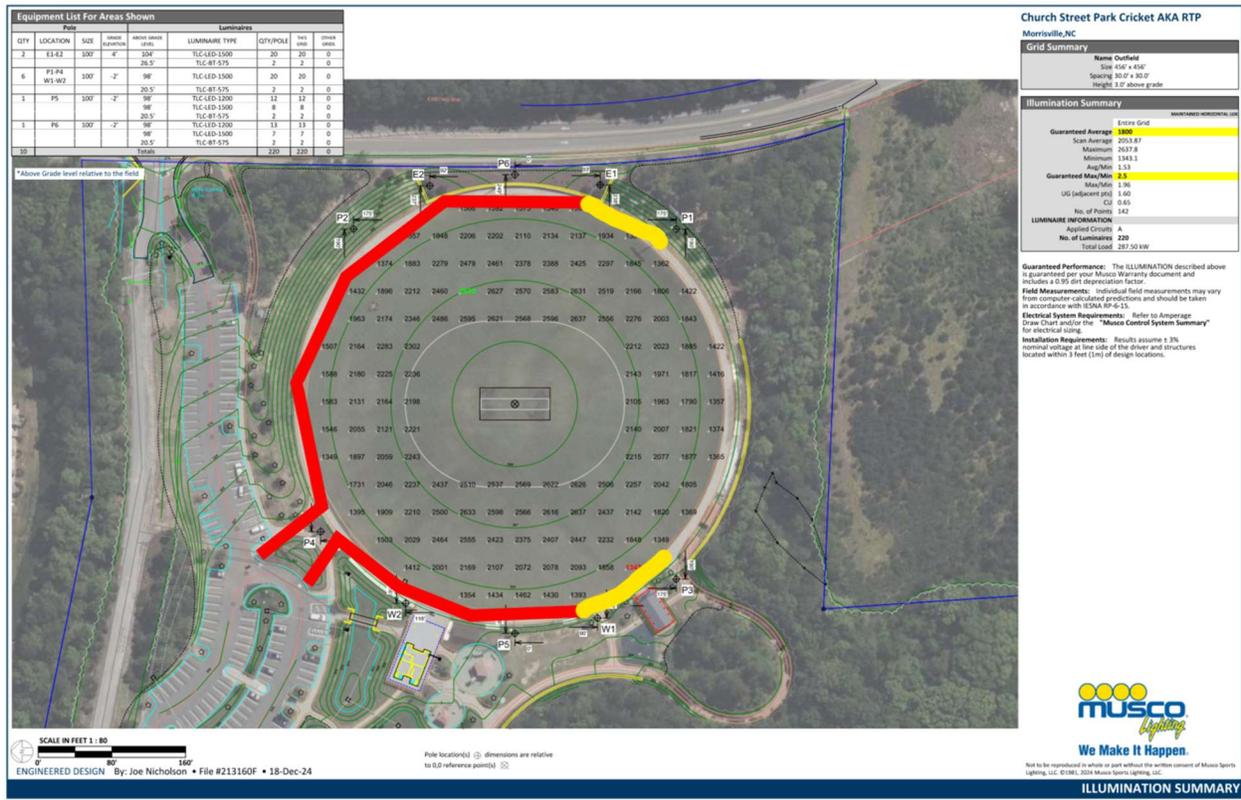
Morrisville, NC 27560

Project Manager: Eric J. Pearson, PE

Phone: 919.463.6214

Email: Bids@morrisvillenc.gov

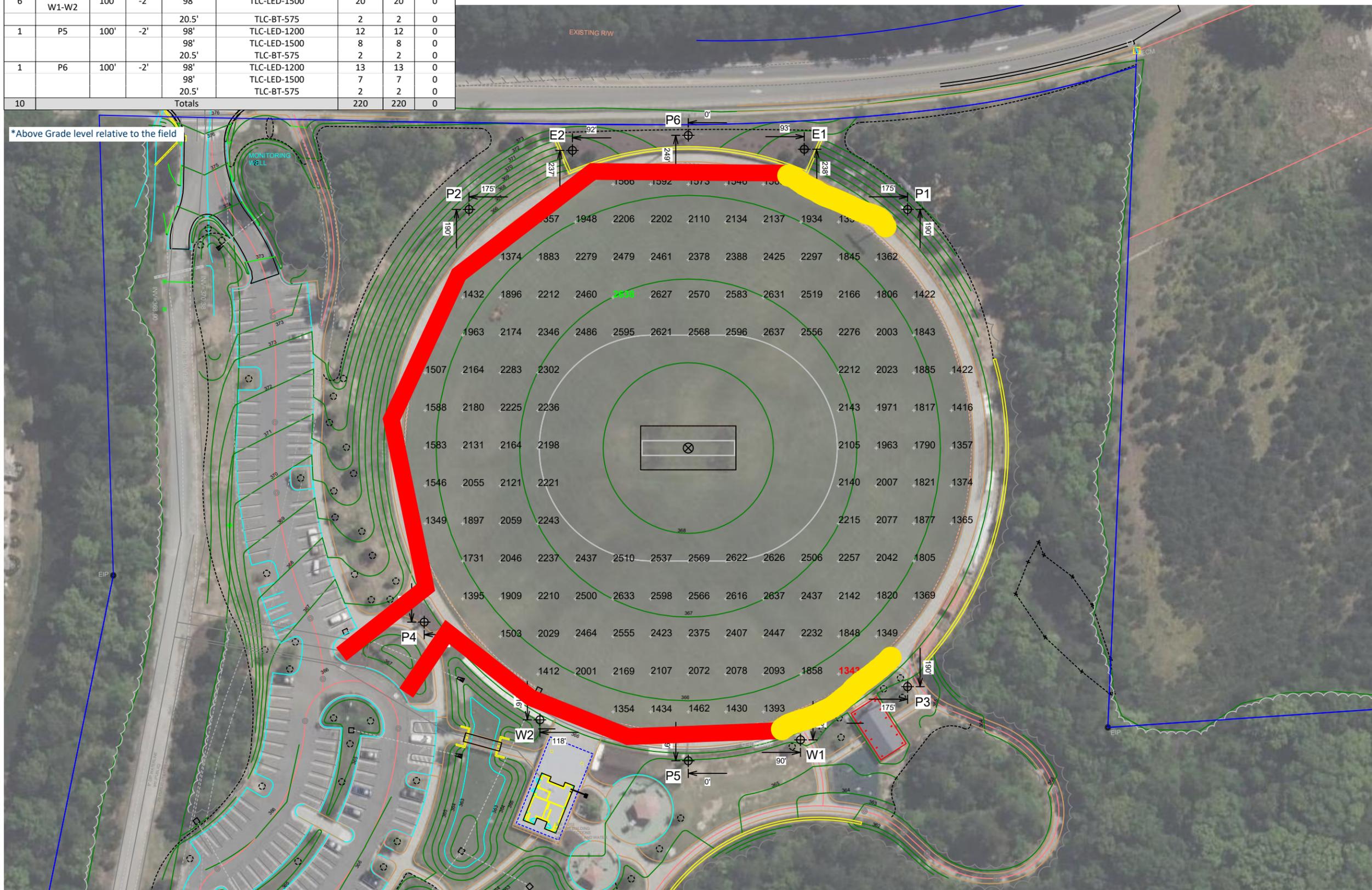
Addendum 01 issued to revise Attachment 2 – Site Plan to include extending the layout of the matting to include the yellow sections to reach poles P1 and P3. There is no change in the estimated quantity of mats.



Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	E1-E2	100'	4'	104'	TLC-LED-1500	20	20	0
				26.5'	TLC-BT-575	2	2	0
6	P1-P4 W1-W2	100'	-2'	98'	TLC-LED-1500	20	20	0
				20.5'	TLC-BT-575	2	2	0
1	P5	100'	-2'	98'	TLC-LED-1200	12	12	0
				98'	TLC-LED-1500	8	8	0
				20.5'	TLC-BT-575	2	2	0
1	P6	100'	-2'	98'	TLC-LED-1200	13	13	0
				98'	TLC-LED-1500	7	7	0
				20.5'	TLC-BT-575	2	2	0
10	Totals					220	220	0

*Above Grade level relative to the field



Church Street Park Cricket AKA RTP

Morrisville, NC

Grid Summary	
Name	Outfield
Size	456' x 456'
Spacing	30.0' x 30.0'
Height	3.0' above grade

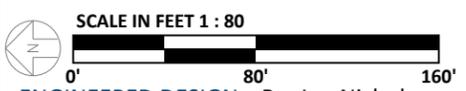
Illumination Summary	
	MAINTAINED HORIZONTAL LUX
Guaranteed Average	Entire Grid 1800
Scan Average	2053.87
Maximum	2637.8
Minimum	1343.1
Avg/Min	1.53
Guaranteed Max/Min	2.5
Max/Min	1.96
UG (adjacent pts)	1.60
CU	0.65
No. of Points	142
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	220
Total Load	287.50 kW

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

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

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



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



We Make It Happen.