SHEET INDEX

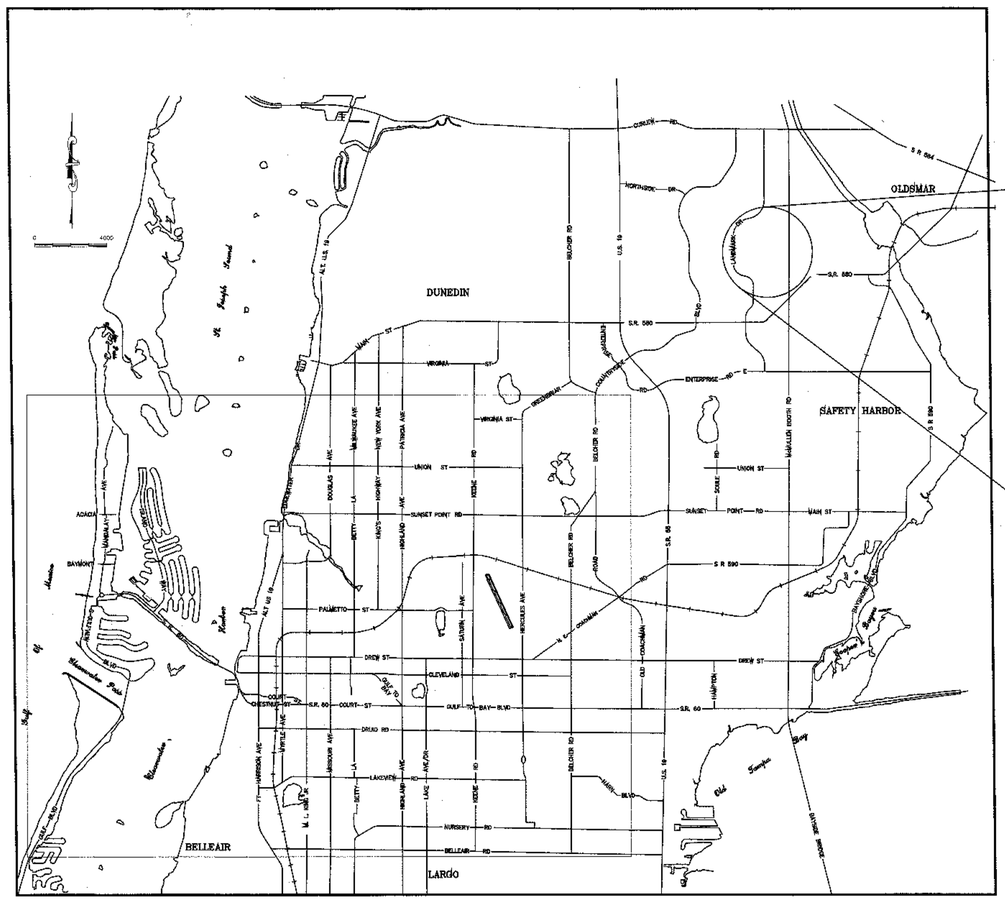
CLEARWATER
BRIGHT AND BEAUTIFUL · BAY TO BEACH

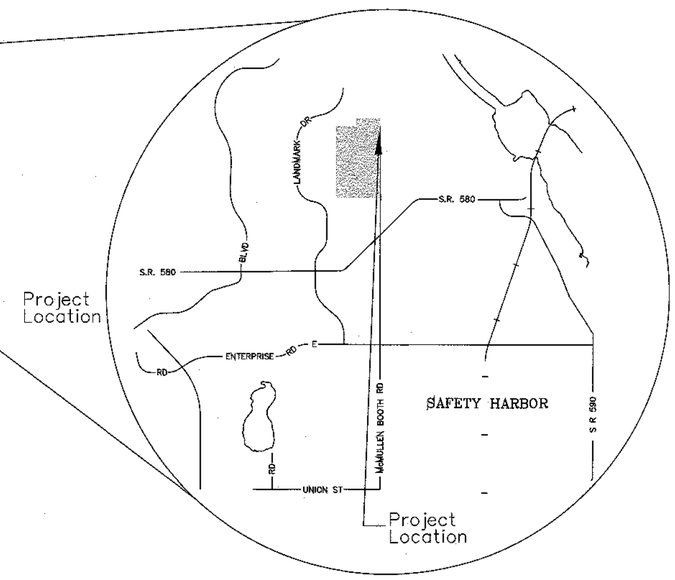
CITY OF CLEARWATER, FLORIDA
ESTABLISHED 1915

Parks & Recreation Department

100 S. Myrtle Avenue, Clearwater, Florida 33756

COUNTRYSIDE SPORTS COMPLEX
3060 MCMULLEN BOOTH RD.
CLEARWATER, FL 33761





CITY OFFICIALS

Frank Hibbard	Mayor Seat 1
Mark Bunker	Councilmember-Seat 2
Kathleen Beckman	Councilmember-Seat 3
David Allbritton	Councilmember-Seat 4
Hoyt Hamilton	Councilmember-Seat 5
William B. Horne II	City Manager

Tara Kivett, P.E. # 86611
City Engineer

RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

Approved For Construction Tara L. Kivett
CITY ENGINEER Tara Kivett, P.E. #86611 Confirm Date

Date 1/27/2021

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	12/04/20
Drawn	SK
Designed	SK
EOR	JAR
Job no.	20182

John A. Reardon, P.E. FL 74457

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3060 MCMULLEN BOOTH RD
BCP2021-010760
ELECTRICAL
COUNTRYSIDE SPORTS COMPLEX
Zoning: Open Space/Recreation Atlas #: 201A

Jan 05, 2021 - 8:07pm Z:\2020\20182 - Countryside Soccer Lighting Ph II\Cad\Vonstep\Cover sheet.dwg

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
G	2 X 2 FLUORESCENT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
A	2 X 4 FLUORESCENT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
NL	SHADING DENOTES FIXTURE WITH EM BATTERY PACK. 'NL' DENOTES FIXTURE UN-SWITCHED FOR NIGHT LIGHT	SEE FIXTURE SCHEDULE
E	2 X 4 FLUORESCENT FIXTURE (LETTER INDICATES TYPE) SHADING DENOTES FIXTURE FED FROM EMERGENCY SUPPLY	SEE FIXTURE SCHEDULE
K	FLUORESCENT STRIP FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
C	FLUORESCENT WALL BRACKET FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
L	RECESSED DOWNLIGHT LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
Z	EXTERIOR DOWNLIGHT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
W	EXTERIOR WALL MOUNTED FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
	INTERIOR PENDANT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
	EXTERIOR SURFACE MOUNT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
	WALL LOW MOUNTED FIXTURE	SEE FIXTURE SCHEDULE
CF	CEILING FAN	SEE FIXTURE SCHEDULE
EX	EXIT-SHADING DENOTES FACEPLATE LOCATION. LETTER INDICATES TYPE. PROVIDE ARROWS AS REQUIRED.	SEE FIXTURE SCHEDULE
X1	DENOTES EMERGENCY WALL PACK. LETTER INDICATES TYPE.	SEE FIXTURE SCHEDULE
	DENOTES TRACK LIGHTING. LETTER INDICATES TYPE.	SEE FIXTURE SCHEDULE
S S3 D	SINGLE POLE SWITCH (20A-120/277) '3' DENOTES 3-WAY, 'D' DENOTES DIMMER	48" AFF OR AS NOTED
S1	'1' DENOTES TOGGLE SWITCH	ABOVE CEILING
OS	OCCUPANCY SENSOR	48" AFF OR AS NOTED
LV	LOW VOLTAGE LIGHTING SWITCH	48" AFF OR AS NOTED
IG	DUPLEX RECEPTACLE, 125V, 20A 'IG' DENOTES ISOLATED GROUND	18" AFF OR AS NOTED
	DUPLEX RECEPTACLE, 125V, 20A	18" AFF OR AS NOTED
	DUPLEX RECEPTACLE, 125V, 20A	48" AFF OR AS NOTED
	QUAD RECEPTACLE, 125V, 20A	18" AFF OR AS NOTED
	SINGLE RECEPTACLE, 208V OR 240V	18" AFF OR AS NOTED
	CEILING MOUNTED COILED REEL EXTENSION RECEPTACLE.	CEILING MOUNTED
	CEILING/WALL MOUNTED BOX WITH 20A DUPLEX RECEPTACLE. AND DATA OUTLET.	SEE DETAIL OR AS NOTED
JB	JUNCTION BOX	SEE DETAIL OR AS NOTED
	POWER/TELEPHONE POLE	SEE DETAIL OR AS NOTED
	OUTLET BOX OR J-BOX FOR POWER AND DATA SUPPLY TO FURNITURE SYSTEMS	18" AFF OR AS NOTED
	FLOOR BOX WITH 20A DUPLEX RECEPTACLE. AND DATA OUTLET.	SEE DETAIL OR AS NOTED
	COMBINATION VOICE/DATA OUTLET	18" AFF OR AS NOTED
	DATA OUTLET	18" AFF OR AS NOTED
	VOICE OUTLET	18" AFF OR AS NOTED
	FAX OUTLET	18" AFF OR AS NOTED
CR	CARD READER	COORDINATE WITH SECURITY INSTALLER
SC	SURVEILLANCE CAMERA	COORDINATE WITH SECURITY INSTALLER
TV	T.V. OUTLET	18" AFF OR AS NOTED
	PANELBOARD 120/208V	SEE PANEL SCHEDULE
	PANELBOARD 277/480V	SEE PANEL SCHEDULE
	RACEWAY CONCEALED IN WALL OR ABOVE CEILING	SEE SPECIFICATIONS
	UNDERGROUND OR UNDER FLOOR CONDUIT	SEE SPECIFICATIONS
	HOMERUN TO PANEL. LETTERS INDICATE PANEL. NUMBERS INDICATE CIRCUIT. NOTE: HASH MARKS INDICATES THE NUMBER OF WIRES EXCLUDING THE REQUIRED EQUIPMENT GROUND.	SEE SPECIFICATIONS
1	MOTOR, NUMERAL INDICATES HORSEPOWER	AS NOTED
$	MOTOR RATED SWITCH WITH OVERLOAD RELAYS AS REQUIRED.	MOUNTED ADJACENT TO EQUIPMENT
	NON-FUSIBLE SAFETY SWITCH-SIZE AS NOTED	SEE SPECIFICATIONS
	FUSIBLE SAFETY SWITCH-SIZE AS NOTED	SEE SPECIFICATIONS
*NOTE -	ALL SYMBOLS SHOWN MAY NOT BE USED.	

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR	HVAC	HEATING,VENTILATING,AIR CONDITIONING
AHU	AIR HANDLING UNIT	JB	JUNCTION BOX
BFG	BELOW FINISHED GRADE	LRA	LOCKED ROTOR AMPERES
C	CONDUIT	MCB	MAIN CIRCUIT BREAKER
CW	COOL WHITE	MLO	MAIN LUGS ONLY
DACP	DOOR ALARM CONTROL PANEL	N	NEUTRAL
DN	FEED DOWNWARD	NL	NIGHT LIGHT
EF	EXHAUST FAN	OB	OUTLET BOX
EG	EQUIPMENT GROUND	PB	PULL BOX, PUSH-BUTTON
ENCL	ENCLOSURE	PS	PAY STATION
EWC	ELECTRIC WATER COOLER	SF	SUPPLY FAN
EWH	ELECTRIC WATER HEATER	SPEC	SPECIFICATIONS
WX	EXPLOSION PROOF	TL	TWISTLOCK
FCU	FAN COIL UNIT	TTB	TELEPHONE TERMINAL BOARD
FHP	FRACTIONAL HORSEPOWER	TVTB	TELEVISION TERMINAL BOARD
FLA	FULL LOAD AMPERES	UNO	UNLESS NOTED OTHERWISE
G	GROUND	UP	FEED UPWARD
GFI	GROUND FAULT INTERRUPTER	VERT	VERTICAL
HID	HIGH INTENSITY DISCHARGE	WM	WATT MISER
HORIZ	HORIZONTAL	WP	WEATHERPROOF
IG	ISOLATED GROUND	WW	WARM WHITE
LW	LIGHT WHITE	XFMR	TRANSFORMER
HP	HORSEPOWER, HEAT PUMP	N.I.C	NOT INCONTRACT

NOTE:
1. ALL MOUNTING HEIGHTS SHOWN ARE TO THE TOP OF THE DEVICE UNLESS NOTED OTHERWISE.
2. NOT ALL SYMBOLS APPEAR ON PLANS.

ELECTRICAL GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2020 (7TH EDITION) – NATIONAL ELECTRIC CODE 2017, NFPA 70. NFPA 101 & NFPA 72 (CURRENT ADOPTED EDITIONS). ANY OTHER APPLICABLE CODE REFERENCES AND ALL LOCAL ORDINANCES.
2. BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK AND THE EXTENT OF DEMOLITION. THE SUBMISSION OF A BID WILL BE EVIDENCED THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.
3. ELECTRICAL CONTRACTOR SHALL BE EXPERIENCED IN PERFORMING AND INSTALLATION OF WORK SIMILAR TO THAT REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL SUBMIT A LIST OF AT LEAST FIVE PROJECTS THAT THEY BEEN CONTRACTED AND COMPLETED CONSTRUCTION WITH SIMILAR PROJECT SCOPE OF WORK.
4. PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL HAVE STUDIED AND COMPARED THE CONTRACT DOCUMENTS WITH EXISTING/PROPOSED CONDITIONS AND NOT LATER THAN TEN (10) DAYS PRIOR TO THE BID OPENING SHALL REPORT TO THE ENGINEER ANY ERROR, INCONSISTENCY, OR OMISSION IN THE CONTRACT DOCUMENTS.
5. ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED. ARCHITECT AND ENGINEER WILL REVIEW ANY SUBSTITUTION FOR COMPATIBILITY.
6. ALL CUTTING, REMOVING AND REPLACING CONCRETE WORK SHALL BE THE RESPONSIBILITY OF THIS TRADE.
7. PROTECT ELECTRICAL EQUIPMENT AND INSTALLATIONS AS NECESSARY. IF DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.
8. THE CONTRACTOR SHALL INCLUDE WITHIN THE BID ALL REQUIRED OFF HOUR, OVERTIME, AND NON-BUSINESS HOUR WORK AS REQUIRED.
9. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH WOULD REQUIRE ELECTRICAL WORK (DISCONNECTION/RECONNECTION ETC.) AND ARE NOT INDICATED ON THE ELECTRICAL PLANS. ALL SUBCONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH OTHER TRADES. LACK OF THIS COORDINATION RESULTING IN ADDED COST TO THE CONTRACT WILL BE BORNE BY THE CONTRACTOR OF THIS PROJECT.
10. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR ELECTRICAL EQUIPMENT SHOWN ON THE PLANS AND SPECIFICATIONS FOR THE ENGINEERS APPROVAL. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO REDO ANY WORK, WHICH WAS NOT APPROVED, OR THE ENGINEER MAY REQUIRE A CREDIT TO THE OWNER. PROVIDE A SET OF AS-BUILT AFTER THE JOB IS COMPLETED. THIS SET SHALL BE CONTINUOUSLY UPDATED DURING CONSTRUCTION.
11. PROVIDE IDENTIFICATION FOR ALL LIGHT FIXTURES AND ALL ELECTRICAL COVER PLATES WITH PERMANENT MARKER ON A SELF-ADHERING TAG INDICATING PANEL AND CIRCUIT NUMBER. TYPICAL FOR ALL LIGHTING AND POWER DEVICES.
12. ALL WORK SHALL BE PERFORMED DURING TIME PERIODS ACCEPTABLE TO THE OWNER. SCHEDULE ALL WORK WITH THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING.
13. THE CONTRACTOR SHALL PERFORM ALL TEMPORARY WORK NECESSARY TO MAINTAIN CONTINUITY OF ELECTRICAL SERVICE (LIKE SAWPOLE SERVICE) WHEN CONNECTION IS MADE. THIS SERVICE SHALL NOT BE INTERRUPTED WITHOUT PRIOR CONSENT OF THE OWNER'S REPRESENTATIVE AND MAY BE INTERRUPTED ONLY AT AND FOR THE SPECIFIED TIME DESIGNATED BY OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE GUIDED BY THE OWNER'S REPRESENTATIVE AT ALL TIMES IN MATTERS AFFECTING THE FACILITIES.
14. THE CONTRACTOR SHALL COORDINATE ALL PHASING OF ELECTRICAL WORK AS REQUIRED AND INDICATED ON THE ELECTRICAL DRAWINGS.
15. THE OWNER PROJECT REPRESENTATIVE SHALL BE NOTIFIED PRIOR TO CUTTING OF ANY STRUCTURAL ITEM (I.E. CONCRETE FLOOR, MASONRY, WALL, ETC.) WITHIN THE EXISTING BUILDING. METHOD OF CUTTING SHALL BE APPROVED BY THE OWNER PROJECT REPRESENTATIVE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE BUILDING WATERTIGHT DURING CONSTRUCTION.
17. ALL WIRING IN CEILING SPACE OR IN AIR HANDLING PLENUMS NOT IN CONDUIT SHALL BE UL LISTED AS SUITABLE FOR PLENUM USE.
18. ALL JUNCTION BOXES AND COVER PLATES SHALL BE PAINTED AND LABELED.
19. ALL RECEPTACLES WITHIN (6) FEET OF PLUMBING FIXTURES SHALL BE PROVIDED WITH 5 MILLIAMP GROUND FAULT INTERRUPTERS. (GFCI RECEPTACLES)
20. EXIT SIGNS AND ALL EMERGENCY LIGHTING SHALL BE WIRED AHEAD OF ANY SWITCHING OR CONTACTORS. DO NOT SWITCH EXIT SIGNS OR EMERGENCY NIGHT LIGHTS. CONTRACTOR SHALL PROVIDE AN UNSWITCHED HOT TO BYPASS ANY SWITCHING AND/OR CONTRACTORS FOR ALL SWITCHED EMERGENCY LIGHTING.
21. EDGE OF LIGHT SWITCH WALL PLATE SHALL BE NOT MORE THAN 4" AWAY FROM METAL/WOOD DOOR FRAME. TYPICAL FOR SINGLE OR MULTIPLE WALL SWITCHES.
22. CONFIRM MOUNTING HEIGHTS AND COORDINATE LOCATION OF ALL OUTLETS, SWITCHES, AND OTHER DEVICES WITH ARCHITECTURAL ELEVATIONS (FURNITURE LAYOUT) PRIOR TO ROUGH-IN.
23. PROVIDE SEAL FOR PENETRATION OF FIRE RATED WALLS BY CONDUIT.
24. BACK TO BACK RECEPTACLES IN ALL ONE HOUR FIRE RATED WALLS SHALL BE LOCATED A MINIMUM OF 24" ON CENTER.
25. BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN NO. 12 AND WHERE BRANCH CIRCUIT CONDUCTOR RUNS FROM SOURCE (PANEL) TO THE LAST DEVICE ON THE CIRCUIT EXCEEDS 75 FT. IN LENGTH, THE CONDUCTORS SHALL BE NO. 10 MINIMUM AND FOR THE ENTIRE LENGTH OF THE CIRCUIT. FOR RUNS OVER 150 FT. IN LENGTH THE CONDUCTOR SHALL BE NO. 8 MINIMUM AND FOR THE ENTIRE LENGTH OF THE CIRCUIT. THE ABOVE APPLIES TO 120 VOLT CIRCUITS ONLY.
26. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE REMOVAL AND DISPOSAL OF ALL ELECTRICAL MATERIAL WHICH IS NOT TO BE USED ON THE PROJECT. CONTRACTOR SHALL REMOVE AND STORE ANY ELECTRICAL MATERIAL IF SO DIRECTED BY OWNER. PATCH AND PAINT WALLS AND CEILINGS AS REQUIRED. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF NEW LIGHTING FIXTURES, RECEPTACLES, PANEL BOARDS, ETC. WITH EXISTING STRUCTURE, PIPING, ETC. AND MAKE ADJUSTMENTS AS REQUIRED.
27. REFER TO ELECTRICAL SPECIFICATIONS SHEET FOR REQUIREMENTS.
28. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL INSURE THAT ALL SYSTEMS OPERATE AS DESIGNED AND REQUIRED AND SHALL REVIEW THEIR OPERATION WITH THE OWNER AND PROVIDE TRAINING OF THE MAINTENANCE PERSONNEL. COMPLETE 5 SETS OF AS-BUILT DRAWINGS SHALL BE COMPILED (BY THE CONTRACTOR) AND ISSUED (1 EACH) TO THE ARCHITECT AND BUILDING MAINTENANCE PERSONNEL UPON COMPLETION OF CONSTRUCTION AND TESTING. PROVIDE 3 FLASH DRIVE OF 'AS'-BUILT TO THE OWNER.
29. ALL FEEDERS SIZING (BRANCH AND SERVICE ENTRANCE CONDUCTORS) BASED IN AMPACITY OF COPPER THHW CONDUCTORS (NEC 2017 TABLE 310.15(B)(16)) UNLESS OTHERWISE NOTED.
30. THE PRIMARY POWER SOURCE FOR SMOKE ALARMS IN DWELLING UNITS SHALL BE REQUIRED TO BE AFCI-PROTECTED FOLLOWING NFPA 72 AND NEC 2017 ART. 210.12.
31. RECEPTACLES LOCATED IN DORMITORIES AND LIVING AREAS OF ALL DWELLING UNITS SHALL BE AFCI PROTECTED.
32. MINIMUM SERVICE INTERRUPTION OF EXISTING FIELD SHALL BE KEPT TO A MINIMUM. EXISTING TRANSFORMER SHALL REMAIN OPERATIONAL UNTIL NEW TRANSFORMER IS IN PLACE AND SWITCHOVER SHALL OCCUR WITHIN 24 HRS BETWEEN SHUT DOWN & START UP OF NEW POLE & SERVICES.

NATIONAL ELECTRIC CODE NOTES:

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF NFPA 70 – 2017 NATIONAL ELECTRIC CODE

ELECTRICAL SUBMITTAL NOTES:

SUBMIT ALL ELECTRICAL SYSTEMS SUBMITTALS AT ONE (1) TIME IN ONE (1) INTEGRAL GROUP. PIECE-BY-PIECE SUBMISSION OF INDIVIDUAL ITEMS WILL NOT BE ACCEPTABLE. ENGINEER MAY CHECK CONTENTS OF EACH SUBMITTAL SET UPON INITIAL DELIVERY; IF NOT COMPLETE AS SET FORTH HEREIN, SUBMITTAL SETS MAY BE RETURNED TO CONTRACTOR WITHOUT REVIEW AND APPROVAL AND WILL NOT BE ACCEPTED UNTIL MADE COMPLETE. SHOP DRAWINGS WILL BE REVIEWED MAXIMUM TWICE AS PART OF THIS CONTRACT. ADDITIONAL SHOP DRAWING REVIEWS SHALL BE INVOICED AT $85.00 PER HOUR, BILLABLE TO THE SUB-CONTRACTOR.

LIGHTING DESIGN SUMMARY

Countryside Field 2 Redesign
November 10, 2020

DESIGN OBJECTIVE: Increase soccer field size from 330' x 200' (66,000 sq. ft) to 360 x 225 (81,000 sq. ft). Light to 30fc Minimum

CONDITIONS:
Existing poles (S5 & S6) were installed and designed in 2011
Poles were designed using FBC 2007, 130mph, AASHTO standards
They each have 7 fixtures each
Poles are to be moved east.
The existing FBC (2017) uses 150mph, ASCE standards
Using current FBC, S5 & S6 will only handle 4 fixtures each.

SCOPE OF WORK
S5 & S6 will be removed. They currently have 7 fixtures each
New bases will be supplied and these existing poles will be re-installed with 4 fixtures per pole

The remaining (3) fixtures per pole are to be moved and re-used on new pole P8.

An additional 6 fixtures will be supplied to be attached to pole P8 for a total of 12 total fixtures on this pole

Pole P4 will be added with 13 fixtures.

Pole P3 (existing) will have 14 fixtures added

EQUIPMENT
1 x 70'mh Steel pole & base (P8)
1 x 80'mh Steel pole & base (P4)
2 new bases for relocation of existing 2 poles (S5 & S6)
33 New fixtures
Re-use 6 existing fixtures (moved to P8)

Musco Sports Lighting * 2220 Cluster Oak Dr. #H * Clermont, FL 34711
Telephone (352) 243-9999 * Fax (352) 243-2791

musco lighting — Budget Estimate

COUNTRYSIDE SOCCER REDESIGN
Field 2
Date: November 17, 2020

Field Description: ***Based on Musco lighting design 189038B***

Light Structure Green™ System delivered to your site in Five Easy Pieces™
- 4 x Pre-cast concrete bases
- 1 x galvanized **70'mh** steel poles (P8)
- 1 x galvanized **80'mh** steel poles (P4)
- UL Listed remote electrical component enclosure & Pole length wire harness
- 33 x Factory-aimed and assembled luminaires

Also Includes:
- Energy savings of more than 50% over a standard lighting system
- 50% less spill and glare light than Musco's prior industry leading technology
- Musco C10 Warranty and maintenance

Materials (Poles & Fixtures)

Musco's Light Structure Cluster Green™ as described above and delivered to the job site $132,200.00

- Sales tax is not included as part of this budget estimate.
- Materials Only

Scope

Pole P8 will be added.
Pole P4 will be added
Existing poles S5 & S6 will be moved
New bases for these poles will be supplied
Three fixtures from each existing poles S5 & S6 will be added to new poles P8
Remaining fixtures for poles S5 & S6 will be re-aimed while on the ground
Fixtures to be attached to existing pole P3 will be added

Pricing furnished is considered confidential. Divulging technical or pricing information to competitive vendors will result in removal from the bid list.

Robert A. DeCoule

NOTE:
1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OTHER ELECTRICAL ITEMS TO PROVIDE A COMPLETE OPERATIONAL SPORT LIGHTING SYSTEM TO THE SATISFACTION OF THE OWNER WITH A 30 FOOT CANDLE MINIMUM AFTER BURN IN OF THE LAMPS.

DRAWING INDEX

NOTE:
1. AS BUILT PHASE I DRAWINGS HAS ALSO BEEN INCLUDED IN THIS PACKAGE

DRAWING INDEX AS BUILT PHASE I

PROJECT COORDINATION NOTES:

1. ALL BURIED ELECTRICAL WIRES SHALL HAVE WATER PROOF CONNECTORS & 2 EXTRA FEET OF CONDUCTORS COILED IN AN ELECTRICAL GROUND BOX. INSIDE ELECTRICAL GROUND BOXES, CONDUIT BOXES ELECTRICAL ELBOWS SHALL BE PROVIDED AT END OF ELECTRICAL CONDUITS. MATERIAL SUBMITTAL SHALL BE PROVIDED TO OWNER/ELECTRICAL CONSULTANT FOR REVIEW.
2. ALL BURIED CONDUITS/SLEEVES AND ELECTRICAL BOXES SHALL HAVE 'AS BUILT' DRAWINGS DEVELOPED IDENTIFYING LOCATION FOR FUTURE LOCATIONS– AS BUILT DRAWINGS SHALL BE REVIEWED IN THE FIELD WITH OWNER/ELECTRICAL CONTRACTOR/ELECTRICAL CONSULTANT TO DETERMINE ACCURACY OF 'AS BUILT' DRAWINGS BEFORE FINAL HANDOVER OF PROJECT TO OWNER
3. 6 FEET HIGH TEMPORARY CONSTRUCTION FENCE SHALL BE PLACED ON STANDS AT 20 FEET WEST OF EXISTING LIGHT POLES THAT ARE TO BE REMOVED. SEE SHEET # 2 (DEMO PLAN) FOR REFERENCE ON THE LOCATION OF THE 6 FEET TEMPORARY FENCE. FENCE PANELS SHALL BE PROVIDED BY THE OWNER FOR CONTRACTOR TO INSTALL AT BEGINNING OF PROJECT AND REMOVE AT THE END OF PROJECT. CONTRACTOR SHALL REMOVE AND RESTACK ON OWNER'S PROVIDED TRAILER.
4. ALL OTHER ELECTRICAL ITEMS NOT PROVIDED BY MUSCO SHALL BE PROVIDED BY THE CONTRACTOR IN PROVIDING A COMPLETE OPERABLE SPORT LIGHTING SYSTEM TO THE SATISFACTION OF THE OWNER.

RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

CALL 811 BEFORE YOU EXCAVATE
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

RECORD DRAWINGS

SURVEYED BY	DRAWN BY
REVIEWED BY	PROJECT ENGINEER — DATE
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 — DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	12/04/20
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	20182

JOSE A. ROSARIO LICENSE No. 74457 STATE OF FLORIDA PROFESSIONAL ENGINEER

COUNTRYSIDE SPORTS COMPLEX
FIELD 2 RENOVATION

DRAWN BY SK/JAR	DES/P.IGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ. 1"=N/A	DATE DRAWN Dec 04, 2020	DWG NAME 2020-XXXX	SHEET NO. 1

JOSE A ROSARIO, P.E. 74457 — DATE

E1

EXISTING S-8

EXISTING S-7

EXISTING S-1

EXISTING S-2

6' CHAIN LINK FENCE

8'CLF

TOB

FIELD 3 (N.I.C)

FIELD 1 (N.I.C)

FPC BOX

EXISTING POLE S4

EXISTING S-9

EXISTING S-3

TYPE 1 CURB

EXISTING POLE P-6

EXISTING POLE P-3

ADD ADDITIONAL FIXTURES PER NOTE OF LIGHTING DESIGN SUMMARY ON SHEET EO

FIELD4 (N.I.C)

FIELD 2

FPC Ped

OWNER SHALL PROVIDE NEW 6 FEET TALL FENCE FOR CONTRACTOR TO INSTALL AT BEGINNING OF PROJECT AND REMOVE AT END OF PROJECT. CONTRACTOR SHALL REMOVE AND RESTACK ON OWNERS PROVIDED TRAILER

RELOCATE EXISTING LIGHT FIXTURES TO NEW POLE LOCATION. EXISTING POLES SHALL BE REMOVED FROM EXISTING LOCATIONS. CARE SHALL BE EXERCISED DURING POLE REMOVAL, AS THEY SHALL BE REINSTALLED. REFER TO PROPOSED ELECTRICAL SITE PLAN SHEET E2 FOR ADDITIONAL DETAILS.

RELOCATE POLES TO LOCATION AS DIRECTED BY OWNER. AS STATED IN THE PROJECT EACH POLE HAS 7 FIXTURES, OUT OF WHICH 4 FIXTURES WILL REMAIN ON EACH RELOCATED POLE AND 3 FIXTURES FROM EACH OF THESE RELOCATED POLE WILL BE MOVED TO NEW POLE P8.

EXISTING S-6

EXISTING S-5

EXISTING POLE S-11

BUILDING (UNDER CONSTRUCTION)

EXISTING POLE S-10

concrete slab/ parking

concrete walk

EXISTING CONCRETE BASE,MOVE S-6 POLE TO THIS LOCATION. SEE SHEET E-0 FOR LIGHTING DESIGN SUMMARY.

EXISTING CONCRETE BASE, PROPOSED LOCATION OF NEW POLE P-8. SEE SHEET E-0 FOR LIGHTING DESIGN SUMMARY.

EXISTING CONCRETE BASE,MOVE S-5 POLE TO THIS LOCATION. SEE SHEET E-0 FOR LIGHTING DESIGN SUMMARY.

S00°04'09"E(F) 930.06'(F)

swale

edge of asphalt

EP

ASPHALT PAVEMENT

McMULLEN BOOTH ROAD

200' RIGHT-OF-WAY

RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

ELECTRICAL EXISTING CONDITION- DEMO PLAN

SCALE: 1" = 40'-0"

CALL 811 SUNSHINE STATE ONE CALL OF FLORIDA www.callsunshine.com (800) 432-4770 WA. 48 HOURS BEFORE YOU EXCAVATE

RECORD DRAWINGS

SURVEYED BY | DRAWN BY

REVIEWED BY

PROJECT ENGINEER | DATE

APPROVED BY

CITY ENGINEER MICHAEL D. GUILLEN, P.E. # 33721 | DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
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Designed	JAR
EOR	JAR
Job no.	20182

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COUNTRYSIDE SPORTS COMPLEX
FIELD 2 RENOVATION

DRAWN BY SK/JAR	DES/PLIGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ. 1"=N/A	DATE DRAWN Dec 04, 2020	DWG NAME 2020-XXXX	SHEET NO. 2

JOSE A ROSARIO, P.E. 74457 | DATE

POLE FEEDER SCHEDULE

FEEDER LOAD PER PANEL SCHEDULE FOR EACH POLE. THE DATA BELOW WAS GENERATED FOLLOWING THE 2017 NATIONAL ELECTRIC CODE - NEC 210.19 (A)(1) INFORMATIONAL NOTE NO. 4

FIELD POLE	EST. DISTANCE (FT)	WIRE SIZE (COPPER)	CONDUIT SIZE (IN)	VOLTAGE DROP (%)
S5	640 FT	(4#2/0 + 1#6 EG)	3"	1.5%
S6	370 FT	(4#1 + 1#6 EG)	3"	1.3%
P3	75 FT	(4#3 + 1#8 EG)	3"	1.5%
P4	430 FT	(4#4/0 + 1#4 EG)	3"	2.2%
P8	490 FT	(4#4/0 + 1#4 EG)	3"	2.2%

ELECTRICAL LINES GUIDE

— C — C — C — C — C —	SPARE EXISTING CONDUIT FOR NEW & RELOCATED POLE LIGHTING
— DB — DB — DB — DB — DB —	DIRECTIONAL BORING

EXISTING S-8 · FUTURE POLE P-1 (N.I.C.) · EXISTING S-7 · 6' CHAIN LINK FENCE · EXISTING S-1 · FUTURE POLE P-2 (N.I.C.) · EXISTING S-2

FUTURE CONDUIT FOR POLE P-1 (N.I.C.)

FUTURE CONDUIT FOR POLE P-2 (N.I.C.)

FIELD 3 (N.I.C)

FIELD 1 (N.I.C)

EXISTING POLE S4

SEE AS BUILT EXISTING ELECTRICAL YARD PLAN, SHEET E3 FOR ADDITIONAL DETAILS.

DIRECTIONAL BORING FOR POLE P-4

EXISTING S-3

NEW POLE P-4

NOTE:
CONTRACTOR SHALL INCLUDE IN BID THE COST FOR DIRECTIONAL BORING.

FPC BOX

EXISTING S-9

EXISTING POLE P-3

EXISTING POLE P-6

EXISTING SPARE 3" CONDUIT TO BE USED FOR NEW FIXTURES OF EXISTING POLE P3, CONTRACTOR TO FIELD VERIFY THE EXISTENCE OF THIS CONDUIT. CONTRACTOR TO RUN APPROPRIATE SIZED FEEDERS THROUGH THIS CONDUIT, SEE POLE FEEDER SCHEDULE ON THIS SHEET FOR REFERENCE. NEW FIXTURES OF EXISTING POLE P-3 SHALL BE FED FROM NEW PANEL 'P'.

CONTRACTOR SHALL VERIFY THESE EXISTING CONDUIT RUNS IN FIELD. SEE AS BUILT DRAWINGS

FIELD4 (N.I.C)

FIELD 2

NOTE:
REMAINING FIXTURES FOR RELOCATED POLES S5 & S6 WILL BE RE-AIMED WHILE ON GROUND

RECEIVED
MAR 11 2021
PLANNING & DEVELOPMENT DEPT.
CITY OF CLEARWATER

"REVISED" PLANS
RECEIVED BY J.A.W
MAR 15 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

EXISTING 3 INCH SPARE CONDUIT WITH PULL STRING FOR RELOCATED POLES S-5 AND S-6 AND NEW POLES P-8 AND P-4 EACH. CONTRACTOR TO RUN APPROPRIATE SIZED FEEDERS THROUGH THE CONDUITS, SEE POLE FEEDER SCHEDULE ON THIS SHEET FOR REFERENCE. RELOCATED POLES S5 & S6 SHALL BE FED FROM EXISTING PANEL 'A' & NEW POLES P4 & P8 SHALL BE FED FROM NEW PANEL 'P'. REFER TO PANEL SCHEDULE ON SHEET E3. SEE SHEET E0 FOR LIGHTING DESIGN SUMMARY.

FPC Ped

EXISTING POLE S-11

BUILDING (UNDER CONSTRUCTION)

EXISTING POLE S-10

RELOCATED S-6

NEW POLE P-8

RELOCATED S-5

EXISTING 2'X3' TRAFFIC RATED ELECTRICAL JUNCTION BOX HERE 12" BELOW GRADE.

EXISTING SPARE CONDUITS TERMINATED INSIDE EXISTING JUNCTION BOXES FOR POLES S5, P8 & S6. REFER TO TYPICAL LIGHTING GROUND JUNCTION BOX ON SHEET E-4 DETAIL FOR MORE DETAILS. TYPICAL ALL GROUND JUNCTION BOXES SHOWN IN THESE DRAWINGS

PROPOSED ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

CALL 811 SUNSHINE STATE ONE CALL OF FLORIDA www.callsunshine.com (800) 432-4770 MIN. 48 HOURS BEFORE YOU EXCAVATE

RECORD DRAWINGS

SURVEYED BY | DRAWN BY

REVIEWED BY
PROJECT ENGINEER | DATE

APPROVED BY
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 | DATE

REVISION	BY	DATE
⚠ RESPONSE TO PERMIT COMMENTS	SK	3/1/21

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	12/04/20
Drawn	SK
Designed	JHG
EOR	JHG
Job no.	20182

JOSEPH H. GRINER III LICENSE NUMBER 39491 STATE OF FLORIDA PROFESSIONAL ENGINEER

COUNTRYSIDE SPORTS COMPLEX
FIELD 2 RENOVATION

DRAWN BY SK	DES./PJIGNED BY	CHECKED BY JHG	CLEARWATER CONTRACT NO.
SCALE VERT. NONE HORIZ. 1"=N/A	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
	DATE DRAWN Dec 04, 2020	DWG NAME 2020-XXXX	SHEET NO. 3

JOSEPH H. GRINER III, FL P.E. 39491 | DATE

EXISTING PANEL 'A' — SURFACE MOUNTED, 120/208 VOLT 3 PHASE, 4 WIRE WITH GROUND — 400 MCB 120/208V, 75C° — VERIFY EX. AIC

WIRE	COND.	LOAD TYPE	CKT. NO.	DESCRIPTION	BREAKER TRIP	POLE	VOLT	A	B	C	BREAKER VOLT	POLE	TRIP	DESCRIPTION	CKT. NO.	LOAD TYPE	COND. SIZE	WIRE SIZE
		L	1												2	L		
		L	3	EX POLE S1	60	3	208				208	3	100	EX POLE S3	4	L		
		L	5												6	L		
		L	7												8			
		L	9	EX POLE S2	60	3	208				208	3	100	EX POLE S4	10			
		L	11												12			
			13								120	1	20	EX 20 AMP CIRCUIT	14	L		
			15	EX 60 AMP CIRCUIT	60	2	208				120	1	20	EX 20 AMP CIRCUIT	16	L		
			17	EX 20 AMP CIRCUIT	20	1	120				120	1	20	EX 20 AMP CIRCUIT	18	L		
		L	19												20	L		
		L	21	RELOCATED POLE S5	40	3	208				120	3	40	RELOCATED POLE S6	22	L		
		L	23												24	L		
			25	EX 20 AMP CIRCUIT	20	1	120				120	1	20	EX 20 AMP CIRCUIT	26			
			27	EX 20 AMP CIRCUIT	20	1	120								28			
			29												30			
			31												32			
			33												34			
			35												36			
			37												38			
			39								208	3		SURGE PROTECTION	40			
			41												42			
				CONNECTED VA				0	0	0								
				CONNECTED PHASE AMPS				0	0	0								
				PHASE BALANCE				33.33%	33.33%	33.33%	100%							

LOAD TYPE		CONNECTED		NEC DEMAND		DEMAND LOAD	
L	LIGHTING	0		1.25		0	VA
R	RECEPTACLES	0		1		0	VA
AC	AIR CONDITIONING	0		0		0	VA
H	HEATING	0		0		0	VA
M	MISC. NON-CONTINUOUS	0		1		0	VA
C	CONTINUOUS	0		1.25		0	VA
K	KITCHEN	0		0.65		0	VA
				TOTAL		0	VA
		120/208V, 3 PHASE					AMPS

Refer to Electrical Load Summary on this sheet

1.00 P.F. CORRECTION

NEW PANEL 'P' — SURFACE MOUNTED, 120/208 VOLT 3 PHASE, 4 WIRE WITH GROUND — 400 MCB 120/208V, 75C° — 35,000 AIC

WIRE	COND.	LOAD TYPE	CKT. NO.	DESCRIPTION	BREAKER TRIP	POLE	VOLT	A	B	C	BREAKER VOLT	POLE	TRIP	DESCRIPTION	CKT. NO.	LOAD TYPE	COND. SIZE	WIRE SIZE
		L	1					8262 10328							2	L		
		L	3	NEW POLE (P8)	100	3	208		8262 10328		208	3	100	EX POLE (P3B)	4	L		
		L	5							8262 10328					6	L		
		L	7					9295			120	1	20	SPARE	8	L		
		L	9	NEW POLE (P4)	100	3	208		9295		120	1	20	SPARE	10	L		
		L	11							9295	120	1	20	SPARE	12	L		
			13	SPARE	20	1	120								14			
			15	SPARE	20	1	120								16			
			17	SPARE	20	1	120								18			
			19												20			
			21												22			
			23												24			
			25												26			
			27												28			
			29												30			
			31												32			
			33												34			
			35												36			
			37												38			
			39								208	3		SURGE PROTECTION	40			
			41												42			
				CONNECTED VA				27885	27885	27885								
				CONNECTED PHASE AMPS				101	101	101								
				PHASE BALANCE				33.33%	33.33%	33.33%	100%							

LOAD TYPE		CONNECTED		NEC DEMAND		DEMAND LOAD	
L	LIGHTING	83655		1.25		104569	VA
R	RECEPTACLES	0		1		0	VA
AC	AIR CONDITIONING	0		0		0	VA
H	HEATING	0		0		0	VA
M	MISC. NON-CONTINUOUS	0		1		0	VA
C	CONTINUOUS	0		1.25		0	VA
K	KITCHEN	0		0.65		0	VA
				TOTAL		104569	VA
		120/208V, 3 PHASE				291	AMPS

1.00 P.F. CORRECTION

LOAD SUMMARY OF EXISTING PANEL 'A':

- NO NEW LOADS ADDED FOR EXISTING PANEL
- INSTEAD, 3 FIXTURES HAS BEEN REDUCED FROM EACH RELOCATED POLES S5 & S6
- HENCE THERE WOULD BE OVERALL DECREASE IN LOAD FOR PANEL 'A'

NOTES FOR PANEL 'A':

1. BOTH THE 60 AMP BREAKERS FOR POLES S5 AND S6 SHALL BE REPLACED BY 3 POLE 40 AMP BREAKERS.
2. THE NEW 40 AMP BREAKERS SHALL MATCH THE MANUFACTURER & AIC RATING OF PANEL 'A'.

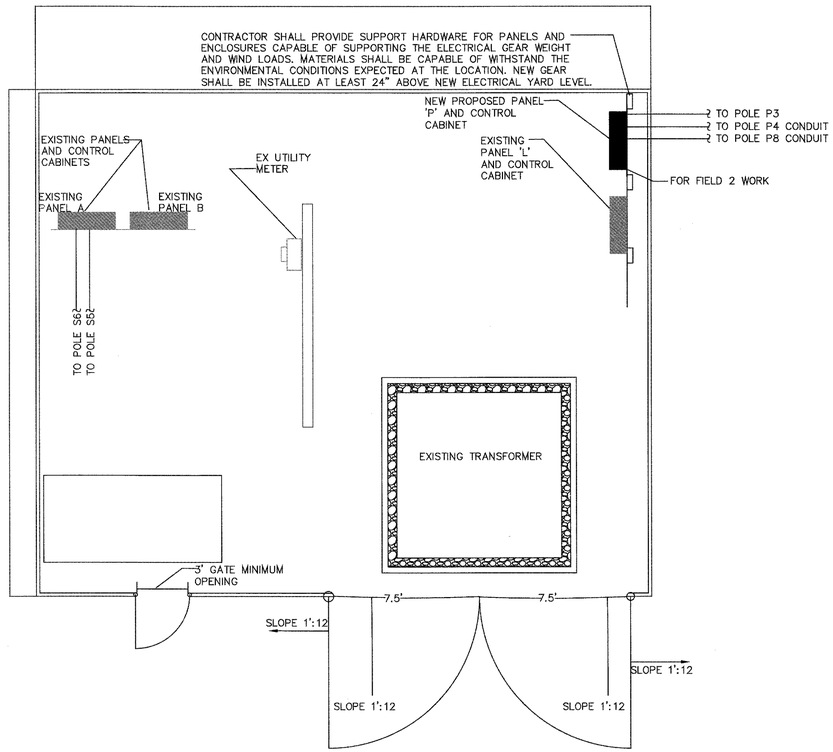
SITE PLAN GENERAL NOTES:

1. THIS CONTRACTOR SHALL REFER TO THE SITE UTILITIES PLAN FOR LOCATING ANY UNDERGROUND UTILITIES PRIOR TO THE COMMENCEMENT OF WORK.
2. BURIED UTILITIES AND/OR STRUCTURES MAY EXISTS ON THIS SITE. EXTREME CAUTION MUST BE USED IN ANY WORK WHICH MAY CONFLICT WITH ANY UNDERGROUND UTILITIES OR STRUCTURES, COORDINATE WITH OWNER.
3. ANY CONFLICTS SHOULD BE RESOLVED IN WRITING WITH THE CIVIL ENGINEER AND GENERAL CONTRACTOR BEFORE PRECEDING WITH ANY UNDERGROUND ACTIVITY.
4. ALL EXCAVATION FOR THE ELECTRICAL WORK ON THIS SHEET SHALL BE DONE EXERCISING CAUTION AND BE WATCHFUL OF UNEXPECTED ITEMS.
5. CONTRACTOR TO SAFELY REMOVE EXISTING, LIGHTING POLES, FIXTURES, WIRING AND CONDUITS TO THE NEAREST POINT OF CONNECTION. CONTRACTOR WILL SAFELY STORE ALL REMOVED ITEMS AND DISPOSE OF THEM.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING WORK WHILE KEEPING THE FUNCTIONALITY OF THE FIELD FACILITIES AT ALL TIMES. POWER SHUTDOWNS SHALL BE COORDINATED WITH THE CITY & ONLY AS SWITCHOVER. PREPARATION WORK SHALL BE PERFORMED IN ADVANCE IN ORDER TO MINIMIZE DOWN TIME DUE TO ELECTRICAL POWER SHUT DOWN.
7. DIMENSION OF ELECTRICAL GEAR SHALL BE FIELD VERIFIED PRIOR ELECTRICAL ROUGH IN. IN CASE ANY ISSUES ARE FOUND, THE EOR/OWNER SHALL BE NOTIFIED IN WRITING AND A SOLUTION SHALL BE APPROVED PRIOR ROUGH IN COMMENCEMENT.
8. EXISTING PLAY FIELD SHALL CONTINUE WITH ITS PROGRAMMED ACTIVITIES. DISRUPTION SHALL BE KEPT TO A MINIMUM. SWITCHOVER TO NEW TRANSFORMER FROM EXISTING SHALL BE COORDINATED WITHIN 24 HOURS OF DOWN TIME & ADVANCE NOTICE IN CONSTRUCTION SCHEDULE & PROGRESS MEETINGS. COORDINATE WITH OWNER PROGRAM STAFF.

REVISED LOAD SUMMARY

DECREASE IN LOAD ON EXISTING PANEL A ..... 12 KVA OR 35 AMP (120/208V, 3 PHASE)
INCREASE IN LOAD ON NEW PANEL 'P' ..... 104.5 KVA OR 291 AMP (120/208V, 3 PHASE)

PER AS BUILT PHASE I DRAWINGS EXISTING 800 AMP FEEDERS WERE RUN FROM THE EXISTING TRANSFORMER TO THE EXISTING WIREWAY FEEDING EXISTING PANEL 'L' AND NEW PANEL 'P'.



ENLARGED REVISED ELECTRICAL YARD PLAN
SCALE: 1/4" = 1'-0"

RECEIVED BY: J.A.W
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

RECORD DRAWINGS
SURVEYED BY | DRAWN BY
REVIEWED BY — PROJECT ENGINEER — DATE
APPROVED BY — CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 — DATE

REVISION | BY | DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
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Certificate of Authorization #3173

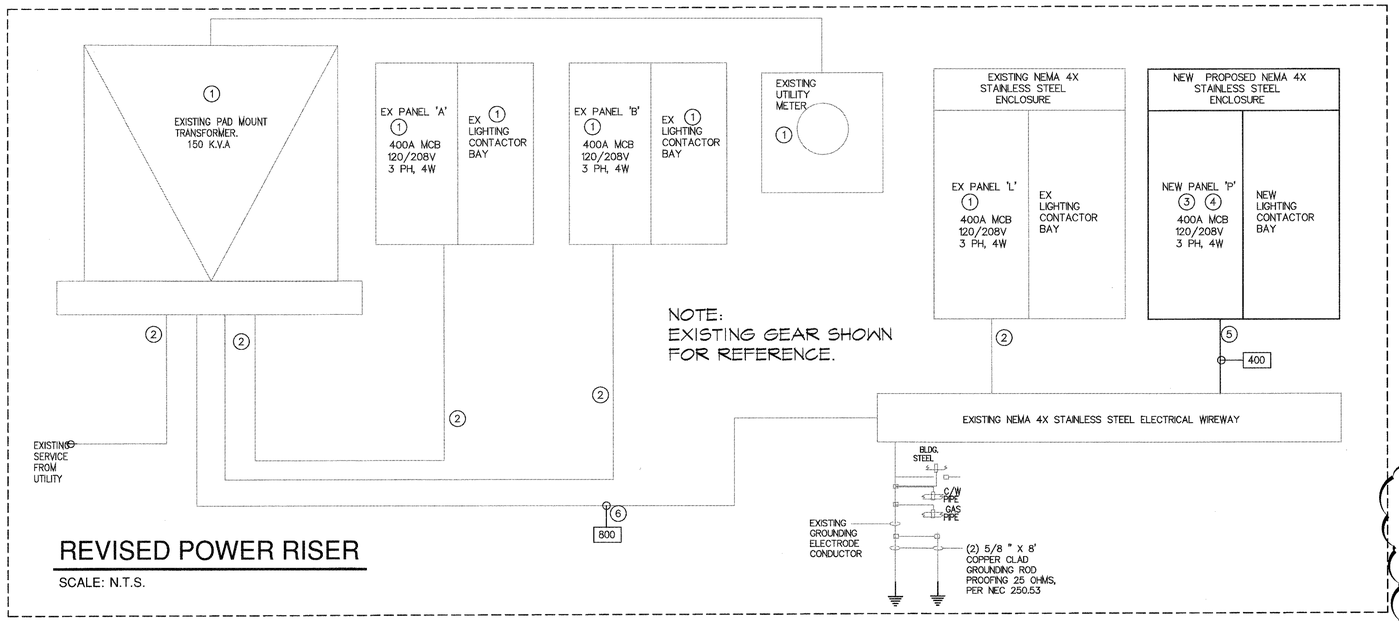
Date	12/04/20
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	20182

JOSE A. ROSARIO — LICENSE No. 74457 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — 12/4/2020

COUNTRYSIDE SPORTS COMPLEX FIELD 2 RENOVATION

DRAWN BY SK/JAR	DES./PLIGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ. 1"=N/A	DATE DRAWN Dec 04, 2020	DWG NAME 2020-XXXX	SHEET NO. 4

JOSE A ROSARIO, P.E. 74457 — DATE



REVISED POWER RISER

SCALE: N.T.S.

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND TO REPORT TO GENERAL CONTRACTOR, OWNER AND ENGINEER ANY DISCREPANCY FROM THAT SHOWN ON DRAWINGS.
2. COORDINATE ALL NEW ELECTRICAL WORK WITH CIVIL DRAWINGS GENERAL CONTRACTOR AND OWNER.
3. PANELS ARE REQUIRED TO HAVE AN PANELBOARD NAMEPLATE PER NEC 408.4(B) SEE TYPICAL PANELBOARD NAMEPLATE DETAILS (THIS SHEET) FOR MORE INFORMATION

RISER DIAGRAM NOTES:

1. EXISTING TRANSFORMER, EXISTING METER, EXISTING LIGHTING CONTACTORS AND EXISTING PANELS TO REMAIN. CONTRACTOR TO VERIFY THE RATINGS OF THESE EXISTING EQUIPMENTS.
2. EXISTING FEEDERS TO REMAIN. VERIFY EXISTING FEEDERS TO VERIFY CURRENT CAPACITY.
3. PROVIDE 1 NEW 400 AMPS M.C.B PANEL 'P' AND NEW LIGHTING CONTACTOR.
4. CONTRACTOR SHALL FURNISH AND INSTALL SURGE SUPPRESSION FOR ALL PANELS FOR PANEL AMPERAGE AND VOLTAGE AVAILABLE AT THE PANEL
5. RUN 400 AMP FEEDERS AS SHOWN ON THE RISER DIAGRAM.
6. CONTRACTOR SHALL ENSURE AT LEAST (3) 3" CONDUITS ARE RUN FROM THE EXISTING PAD MOUNT TRANSFORMER TO THE EXISTING WIREWAY, CONTRACTORS SHALL ALSO ENSURE 800 AMP FEEDERS TO BE USED FROM THE TRANSFORMER TO THE WIREWAY AS SHOWN ON THE FEEDER SCHEDULE.

FAULT CURRENT

UTILITY TRANSFORMER VOLTAGE		120/208V 3 PH
NEW TRANSFORMER BANK SIZE		300KVA
AFC AT TRANSFORMER		23,800 AMPS
BUS	AVAILABLE FAULT CURRENT	MINIMUM AIC & SCCR
PANEL 'P'	21,290 AMPS	35000 AMPS MIN.

* LOAD CONTRIBUTION HAS BEEN ALLOCATED TO TOTAL FAULT CURRENT
AIC – AMPERAGE INTERRUPTING CAPACITY

SERVICE VOLTAGE DROP

BRANCH CIRCUITS LOADED PER NEC AMPACITY WITH RUNS LESS THAT 75 FEET SHOULD PROVIDE ACCEPTABLE VOLTAGE DROPS PER INTERNATIONAL BUILDING CODE (CURRENT ADOPTED EDITION). CONTRACTOR SHALL INCREASE THE SIZE BY 1 NOMINAL SIZE PER EACH 50 FEET OF WIRING.

GENERAL INTERNATIONAL BUILDING CODE NOTES:

ALL ELECTRICAL WORK SHALL COMPLY WITH INTERNATIONAL BUILDING CODE

C405.6.3 VOLTAGE DROP

THE CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS COMBINED SHALL BE SIZED FOR A MAXIMUM OF 5 PERCENT VOLTAGE DROP TOTAL.

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND TO REPORT TO GENERAL CONTRACTOR, OWNER AND ENGINEER ANY DISCREPANCY FROM THAT SHOWN ON DRAWINGS.
2. COORDINATE ALL NEW ELECTRICAL WORK WITH MECHANICAL CONTRACTOR AND OWNER.
3. PANELS ARE REQUIRED TO HAVE AN PANELBOARD NAMEPLATE PER NEC 408.4(B) SEE TYPICAL PANELBOARD NAMEPLATE DETAILS SHEET E300 FOR MORE INFORMATION

FEEDER SCHEDULES:

800S	(SERVICE – 800 AMPS) (3) SETS OF 4 #350 MCM, IN 3" C.	NOT APPLICABLE
800	(FEEDER – 800 AMPS) (3) SETS OF 4 #350 MCM, 1 #1/0 E.G. COPPER COND. IN 3" C.	NOT APPLICABLE
600	(FEEDER – 600 AMPS) (2) SETS OF 4 #350 MCM, 1 #1 E.G. COPPER COND. IN 2–1/2" C.	(FEEDER – 600 AMPS) (2) SETS OF 4 #500, 1 #2/0 E.G. ALUMINUM COND. IN 3" C.
400L	(FEEDER – 400 AMPS – MORE THAN 100 FT LONG) (2) SETS OF 4 #3/0 AND 1 #3 E.G. COPPER COND. IN 2" C.	(FEEDER – 400 AMPS) (2) SETS OF 4 #250MCM AND 1 #1/0 E.G. ALUMINUM COND. IN 3" C.
400	(FEEDER – 400 AMPS) (2) SETS OF 4 #3/0 AND 1 #3 E.G. COPPER COND. IN 2" C.	(FEEDER – 400 AMPS) (2) SETS OF 4 #250MCM AND 1 #1/0 E.G. ALUMINUM COND. IN 3" C.
250	(FEEDER – 250 AMPS) 4 #350, AND 1 #4 EG. COPPER COND. IN 3" C	(FEEDER – 250 AMPS) 4 #500, AND 1 #3/0 EG. ALUMINUM COND. IN 3–1/2" C
200	(FEEDER – 200 AMPS) 4 #4/0 AND 1 #4 E.G. COPPER COND. IN 2–1/2" C	(FEEDER – 200 AMPS) 4 #350 AND 1 #1/0 E.G. ALUMINUM COND. IN 3" C
175	(FEEDER – 175 AMPS) 4 #3/0 AND 1 #6 E.G. COPPER COND. IN 2" C	(FEEDER – 175 AMPS) 4 #250 AND 1 #4 E.G. ALUMINUM COND. IN 2–1/2" C
125	(FEEDER – 125 AMPS) 4 #1/0 AND 1 #6 E.G. COPPER COND. IN 2" C	(FEEDER – 125 AMPS) 4 #3/0 AND 1 #6 E.G. ALUMINUM COND. IN 2–1/2" C
100	(FEEDER – 100 AMPS) 4 #1 AND 1 #6 E.G COPPER COND. IN 2" C	(FEEDER – 100 AMPS) 4 #2/0 AND 1 #6 E.G ALUMINUM COND. IN 2–1/2" C

RISER GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND TO REPORT TO GENERAL CONTRACTOR, OWNER AND ENGINEER ANY DISCREPANCY FROM THAT SHOWN ON DRAWINGS.
2. ELECTRICAL CONTRACTOR SHALL REQUEST THE DRAWINGS OF ALL OTHER DISCIPLINES APPLICABLE TO THIS SCOPE OF WORK AND CAREFULLY REVIEW ALL DRAWINGS BEFORE WORK COMMENCEMENT OR BID SUBMITTAL. IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ANY ADDITIONAL DEVICE REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL WORK OF SCOPE THAT IS NOT COVERED ON THESE DRAWINGS. COORDINATE ALL NEW ELECTRICAL WORK WITH CONTRACTORS OF ALL TRADES AND OWNER.
3. PANELS ARE REQUIRED TO HAVE AN PANELBOARD NAMEPLATE PER NEC 408.4(B) SEE TYPICAL PANELBOARD NAMEPLATE DETAILS, ELECTRICAL DETAILS SHEET FOR MORE INFORMATION
4. FOR SPECIFIC EQUIPMENT LOCATION, REFER TO ARCHITECTURAL DRAWINGS
5. ALL ELECTRICAL RUNS SHALL BE NO LEES THAT AWG #12 COPPER CONDUCTORS, UNLESS OTHERWISE NOTED.
6. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL ELECTRICAL RACEWAYS AND SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 250–122 OF THE NATIONAL ELECTRICAL CODE.
7. ALL PANELS SHALL HAVE AN AIC AND SCCR OF 22,000 AMPS MINIMUM, UNLESS OTHERWISE NOTED.

UTILITY CONTACT INFORMATION

FOR TRANSFORMER COORDINATION INQUIRES,
CONTACT JARED A. BUTTS E A TOP– ENGINEER I
CONTACT: 727.562.3814 (OFF.), 727.4017878
EMAIL: JARED.BUTTS@DUKE–ENERGY.COM

Control System Summary

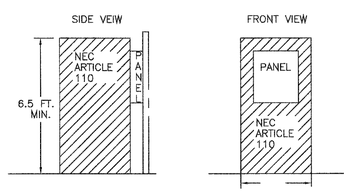
Countryside Athletic Complex Phase 3 / 208896 - 208806B
Soccer 1-2 - Page 4 of 4

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole S1	43.00		
1	1	C2	Pole S2	43.00		
1	1	C3	Pole S3	77.40		
1	1	C4	Pole S4	68.80		
1	1	C5	Pole S5	25.80		
1	1	C6	Pole S6	25.80		
2	1	C7	Pole P3	86.00		
2	1	C8	Pole P4	77.40		
2	1	C9	Pole P8	68.80		

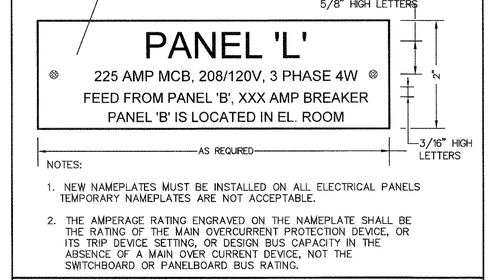
ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION POLE ID	CIRCUIT DESCRIPTION CONTACTOR ID
Zone 1	1	Soccer 1-2	S1	C1
			S2	C2
			S3	C3
			S4	C4
			S5	C5
			S6	C6
			P3	C7
			P4	C8
			P8	C9



PANEL AND SWITCHBOARD CLEARANCE

NOT TO SCALE



NOTES:

1. NEW NAMEPLATES MUST BE INSTALLED ON ALL ELECTRICAL PANELS TEMPORARY NAMEPLATES ARE NOT ACCEPTABLE.
2. THE AMPERAGE RATING ENGRAVED ON THE NAMEPLATE SHALL BE THE RATING OF THE MAIN OVERCURRENT PROTECTION DEVICE, OR ITS TRIP DEVICE SETTING, OR DESIGN BUS CAPACITY IN THE ABSENCE OF A MAIN OVER CURRENT DEVICE, NOT THE SWITCHBOARD OR PANELBOARD BUS RATING.

TYPICAL PANELBOARD NAMEPLATE DETAIL

NOT TO SCALE

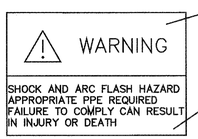
PANEL A.I.C. RATING
42,000A
FULL RATED

(A.I.C. DECAL – EXAMPLE)

CONTRACTOR SHALL PROVIDE DECAL 1–1/2" x 2–1/2" WITH 3/16" LETTERING STATING THE A.I.C. RATING OF EACH PANEL. THIS DECAL SHALL BE LOCATED ON THE INSIDE OF PANEL DOOR. DECAL SHALL BE WHITE BACKGROUND WITH BLACK LETTERING WITH A CLEAR PLASTIC LAMINATE TOP COVER OVER DECAL.

A.I.C. IDENTIFICATION DECAL

NOT TO SCALE

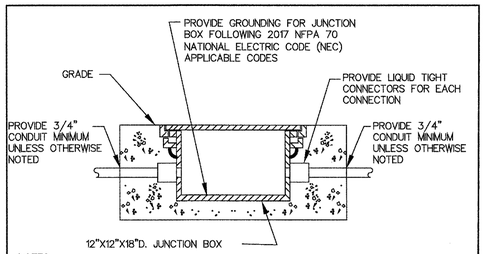


(FLASH PROTECTION DECAL – EXAMPLE)

CONTRACTOR SHALL PROVIDE DECAL 1–1/2" x 2–1/2" WITH 3/16" LETTERING STATING THE ABOVE. DECAL SHALL BE LOCATED ON THE OUTSIDE OF ALL SWITCHBOARDS, PANEL BOARDS AND DISCONNECT SWITCHES. DECAL SHALL BE RED AND YELLOW BACKGROUND WITH BLACK LETTERING WITH A CLEAR PLASTIC LAMINATE TOP COVER OVER DECAL.

FLASH PROTECTION DECAL

NOT TO SCALE

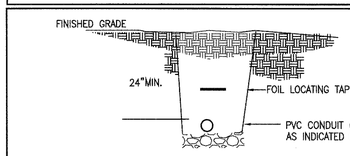


NOTES:

1. REFER TO SITE DRAWINGS FOR ADDITIONAL CONDUIT AND CONDUCTOR DETAILS.
2. JUNCTION BOX SHALL BE TRAFFIC RATED AND MADE OF CONCRETE FIBER, TYPICAL FOR JUNCTION BOX AND LID.
3. ANY ELECTRICAL JUNCTION BOXES LOCATED IN PLAY FIELD SHALL BE LOW GRADE. MINIMUM 12" FROM FINISH GRADE. SURVEY POINTS SHALL BE PROVIDE TO CENTER OF J–BOX FOR FUTURE LOCATION OF ELECTRICAL J–BOX.

TYPICAL LIGHTING GROUND JUNCTION BOX

NOT TO SCALE



"REVISED" PLANS RECEIVED BY J.A.W
MAR 15 2021
PLANNING & DEVELOPMENT CITY OF CLEARWATER

TYPICAL SERVICE TRENCH CONFIGURATION

NOT TO SCALE

RECORD DRAWINGS
SURVEYED BY | DRAWN BY
REVIEWED BY
PROJECT ENGINEER | DATE
APPROVED BY
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 | DATE

REVISION	BY	DATE
1 RESPONSE TO PERMIT COMMENTS	SK	3/1/21

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

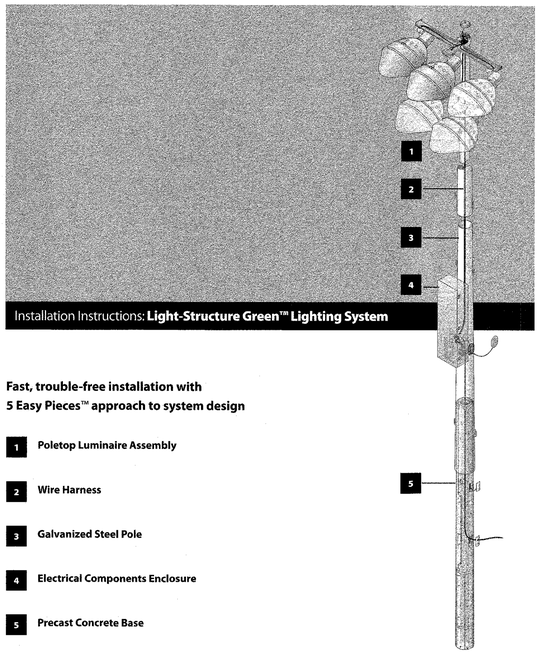
Date	12/04/20	
Drawn	SK	
Designed	JHG	
EOR	JHG	
Job no.	20182	

JOSEPH H. GRINER III, FLORIDA LICENSE NO. 39491, STATE OF FLORIDA, PROFESSIONAL ENGINEER

COUNTRYSIDE SPORTS COMPLEX
FIELD 2 RENOVATION

DRAWN BY SK	DES/PLIGNED BY	CHECKED BY JHG	CLEARWATER CONTRACT NO.
SCALE VERT. NONE HORIZ. 1"=N/A	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
	DATE DRAWN Dec 04, 2020	DWG NAME 2020–XXXX	SHEET NO. 5

JOSEPH H. GRINER III, FL P.E. 39491 | DATE



Installation Instructions: **Light-Structure Green™ Lighting System**

Fast, trouble-free installation with
5 Easy Pieces™ approach to system design

1. **Poletop Luminaire Assembly**
2. **Wire Harness**
3. **Galvanized Steel Pole**
4. **Electrical Components Enclosure**
5. **Precast Concrete Base**

musco Lighting
We Make It Happen.

Before You Begin

Standard Tools/Supplies Checklist

Refer to any supplemental instructions provided for additional tools required.

Contractor/installer supplied tools	Function	Page
Hammer, pry-bar, banding cutters	Unloading equipment	7
Water pump	Removing water from base holes (as needed)	9
Two 1½ ton chain-type come-alongs	Jacking pole sections together	11, 21
Large Phillips-head screwdriver	Tightening captive screws to seal enclosure to pole hub	14
Standard screwdriver	Tightening distribution lugs, 45 A disconnect switch	22, 23
Electrical fish tape, electrician's tape	Feeding wire harness through pole	15
Spray paint, chalk, or flags	Marking points to sight in aiming	17
Chalk or pencil	Making alignment marks	21
10 ft (3m) stepladder or small line truck	Connecting supply wires to electrical enclosure	22, 23
Musco supplied tools	**Function**	**Page**
Wooden base wedges	Setting base	9
Level with shim for base taper	Plumbing base	9
Steel bar	Setting base, seating pole on base	9, 21
5/16 inch hex key	Attaching handhole covers on base and steel pole	8, 15, 23
5/16 inch wrench	Tightening poletop set screw, pole cap fasteners, and electrical components enclosure hanger bolt	12, 14, 15
Dishwashing liquid (original Dawn® brand)	Lubricating pole slip-fit connections	11, 17
Wooden shipping blocks	Elevating pole sections off ground during assembly	11
7/16 inch ratcheting combination wrench	Tightening captive bolts to secure luminaire assembly	16
Pole rotator kit	Guiding pole onto base, pole alignment	17, 19, 20
Steel chain	Setting pole on base	21
5 mm hex key	Landing primary feed wires on 125 A disconnect switch	23
3/16 inch hex key	Attaching grounding conductors inside electrical enclosure	22, 23
1/8 inch hex key	Attaching grounding conductors inside pole at handhole	23
Machinery needed	**Function**	**Page**
Crane or forklift with nylon strapping and 8 ft (2.5 m) sling (sized to weight of base)	Unloading materials, setting bases	7, 9
Auger	Boring holes for bases	8
Load-rated crane, nylon slings, and shackles	Setting poles	18, 19, 20

Documents You Need

- ❑ *Musco Foundation and Pole Assembly Drawing*
- ❑ *Field Aiming Diagram*
- ❑ Alternate foundation design (optional, as needed)
- ❑ *Control System Summary*

If you do not have all of these documents, contact Musco at +1-800-825-6020 or call your local representative.

Before You Begin

Electrical System Requirements

While the majority of the Light-Structure Green lighting system can be assembled by non-professionals, a qualified electrician must handle the electrical supply installation and hook-up in accordance with national, state, and local codes. Your electrician should review this information before installation begins.

The electrician is generally required to provide these items:

- Service entrance
- Main power disconnect and distribution panel(s)
- Supply wiring and equipment grounding conductors

Ensure supply wiring is rated for 90 °C. Review the label inside the electrical components enclosure door and *Control System Summary* for voltage and phase requirements.

Always dispose of lamps and other electronic waste in accordance with all applicable laws and regulations.

Other features that may affect the wiring supply requirements for this project include:

- Lighting contactor cabinets — refer to the supplemental installation instructions and the Musco *Control System Summary*.
- Control-Link® system — refer to the supplemental installation instructions and Musco *Control System Summary*.
- Auxiliary bracket option — customer supplies all wiring for auxiliary components.
- Momentary Power Interruption (MPI) luminaire — refer to the supplemental installation instructions

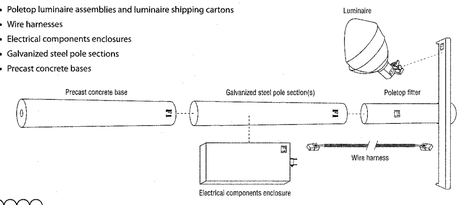
Volunteer Installation
Have a qualified electrician review and complete the following:

- Create electrical system design — prior to installation.
- Provide and install trenching, supply wiring, and conduit.
- Complete all steps from *Connecting to Supply Wiring* section.
- Test complete lighting system.

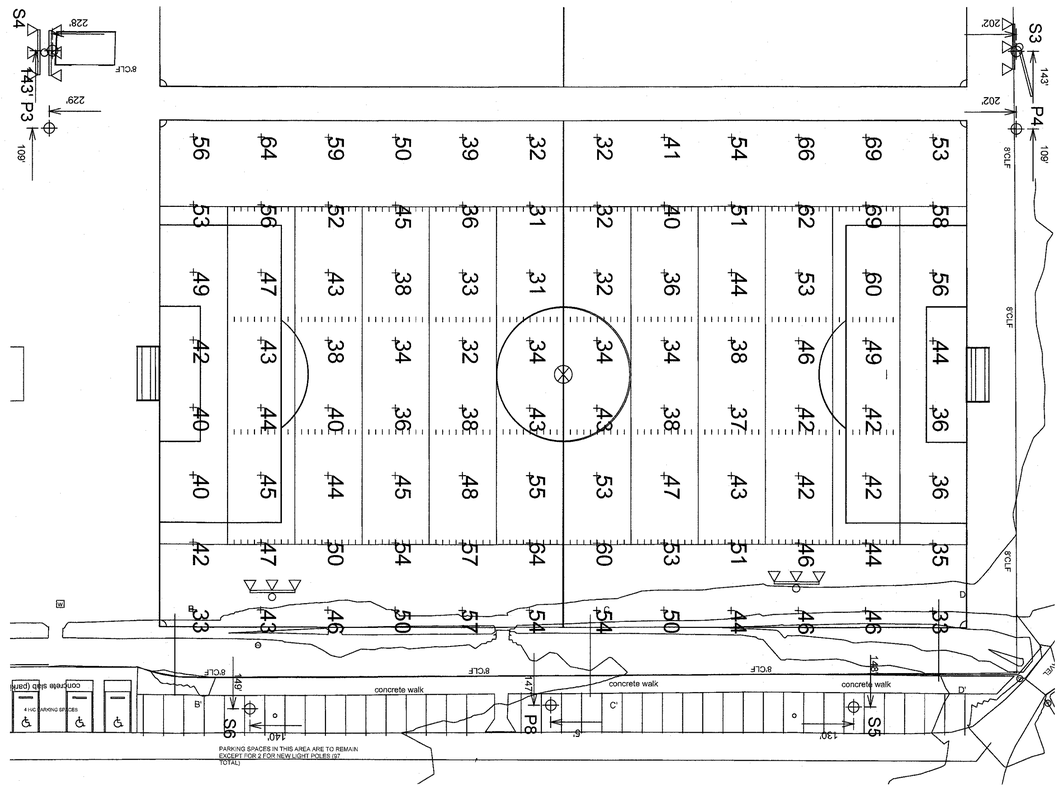
Components Matching and Labeling

Pole locations are identified by a pole ID (A1, A2, B1, B2, etc.) on the *Field Aiming Diagram*. These IDs are also marked on the individual components:

- Poletop luminaire assemblies and luminaire shipping cartons
- Wire harnesses
- Electrical components enclosures
- Galvanized steel pole sections
- Precast concrete bases



INFORMATION ON THIS SHEET PROVIDED BY MUSCO LIGHTING. SHOWN FOR REFERENCE ONLY



PROPOSED PHOTOMETRIC SITE PLAN

SCALE: 1/32" = 1'-0"

MY PROJECT	
Name:	Countryside Athletic Complex Redesign
Location:	Clearwater,FL

GRID SUMMARY	
Name:	Soccer 2
Size:	360.0' x 225.0'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION	
SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	45.5
Maximum:	69
Guaranteed Minimum:	30
Minimum:	31
Avg / Min:	1.49
Guaranteed Max / Min:	2.5
Max / Min:	2.24
UG (adjacent pts):	1.39
CU:	0.35
CV:	0.21
Application Efficacy:	29.6
No. of Points:	96
LUMINAIRE INFORMATION	
Luminaire Type:	Green Generation
Design Usage Hours:	5,000 hours
Design Lumens:	134,000
Avg Lamp-Tilt Factor:	1.000
No. of Luminaires:	85
Avg KW:	132.94 (144.5 max)

Guaranteed Performance: The Guaranteed Average CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

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 ballast and structures located within 3 feet (1m) of design locations.

RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

RECORD DRAWINGS	
SURVEYED BY	DRAWN BY
REVIEWED BY	PROJECT ENGINEER — DATE
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 — DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	12/04/20
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	20182

JOSE A ROSARIO — LICENSE No. 74457 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — 12/04/20

COUNTRYSIDE SPORTS COMPLEX FIELD 2 RENOVATION

DRAWN BY: SK/JAR	DES./PJLIGNED BY	CHECKED BY: JAR	CLEARWATER CONTRACT NO.
SCALE VERT.: NONE	SURVEYED BY: Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ.: 1"=N/A	DATE DRAWN: Dec 04, 2020	DWG NAME: 2020-XXXX	SHEET NO.: 6

JOSE A ROSARIO, P.E. 74457 — DATE

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
C	2 X 2 FLUORESCENT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
A	2 X 4 FLUORESCENT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
NL	SHADING DENOTES FIXTURE WITH EM BATTERY PACK. 'NL' DENOTES FIXTURE UN-SWITCHED FOR NIGHT LIGHT	SEE FIXTURE SCHEDULE
E	2 X 4 FLUORESCENT FIXTURE (LETTER INDICATES TYPE) SHADING DENOTES FIXTURE FED FROM EMERGENCY SUPPLY	SEE FIXTURE SCHEDULE
K	FLUORESCENT STRIP FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
C	FLUORESCENT WALL BRACKET FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
L	RECESSED DOWNLIGHT LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
Z	EXTERIOR DOWNLIGHT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
W	EXTERIOR WALL MOUNTED FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
	INTERIOR PENDANT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
	EXTERIOR SURFACE MOUNT FIXTURE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
	WALL LOW MOUNTED FIXTURE	SEE FIXTURE SCHEDULE
	CEILING FAN	SEE FIXTURE SCHEDULE
EX	EXIT-SHADING DENOTES FACEPLATE LOCATION. LETTER INDICATES TYPE. PROVIDE ARROWS AS REQUIRED.	SEE FIXTURE SCHEDULE
X1	DENOTES EMERGENCY WALL PACK. LETTER INDICATES TYPE.	SEE FIXTURE SCHEDULE
	DENOTES TRACK LIGHTING. LETTER INDICATES TYPE.	SEE FIXTURE SCHEDULE
S S3 D	SINGLE POLE SWITCH (20A-120/277) '3' DENOTES 3-WAY, 'D' DENOTES DIMMER	48" AFF OR AS NOTED
S1	'T' DENOTES TOGGLE SWITCH	ABOVE CEILING
OS	OCCUPANCY SENSOR	48" AFF OR AS NOTED
LVS	LOW VOLTAGE LIGHTING SWITCH	48" AFF OR AS NOTED
GFCI	DUPLEX RECEPTACLE, 125V, 20A 'GC' DENOTES ISOLATED GROUND	18" AFF OR AS NOTED
	DUPLEX RECEPTACLE, 125V, 20A	18" AFF OR AS NOTED
	DUPLEX RECEPTACLE, 125V, 20A	48" AFF OR AS NOTED
	QUAD RECEPTACLE, 125V, 20A	18" AFF OR AS NOTED
	SINGLE RECEPTACLE, 208V OR 240V	18" AFF OR AS NOTED
	CEILING MOUNTED COILED REEL EXTENSION RECEPTACLE.	CEILING MOUNTED
	CEILING/WALL MOUNTED BOX WITH 20A DUPLEX RECEPTACLE. AND DATA OUTLET.	SEE DETAIL OR AS NOTED
JB	JUNCTION BOX	SEE DETAIL OR AS NOTED
	POWER/TELEPHONE POLE	SEE DETAIL OR AS NOTED
	OUTLET BOX OR J-BOX FOR POWER AND DATA SUPPLY TO FURNITURE SYSTEMS	18" AFF OR AS NOTED
	FLOOR BOX WITH 20A DUPLEX RECEPTACLE. AND DATA OUTLET.	SEE DETAIL OR AS NOTED
	COMBINATION VOICE/DATA OUTLET	18" AFF OR AS NOTED
	DATA OUTLET	18" AFF OR AS NOTED
	VOICE OUTLET	18" AFF OR AS NOTED
	FAX OUTLET	18" AFF OR AS NOTED
CR	CARD READER	COORDINATE WITH SECURITY INSTALLER
SC	SURVEILLANCE CAMERA	COORDINATE WITH SECURITY INSTALLER
TV	T.V. OUTLET	18" AFF OR AS NOTED
	PANELBOARD 120/208V	SEE PANEL SCHEDULE
	PANELBOARD 277/480V	SEE PANEL SCHEDULE
	RACEWAY CONCEALED IN WALL OR ABOVE CEILING	SEE SPECIFICATIONS
	UNDERGROUND OR UNDER FLOOR CONDUIT	SEE SPECIFICATIONS
	HOMERUN TO PANEL. LETTERS INDICATE PANEL. NUMBERS INDICATE CIRCUIT. NOTE: HASH MARKS INDICATES THE NUMBER OF WIRES EXCLUDING THE REQUIRED EQUIPMENT GROUND.	SEE SPECIFICATIONS
M	MOTOR, NUMERAL INDICATES HORSEPOWER	AS NOTED
$	MOTOR RATED SWITCH WITH OVERLOAD RELAYS AS REQUIRED.	MOUNTED ADJACENT TO EQUIPMENT
	NON-FUSIBLE SAFETY SWITCH-SIZE AS NOTED	SEE SPECIFICATIONS
	FUSIBLE SAFETY SWITCH-SIZE AS NOTED	SEE SPECIFICATIONS
*NOTE -	ALL SYMBOLS SHOWN MAY NOT BE USED.	

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR	HVAC	HEATING,VENTILATING,AIR CONDITIONING
AHU	AIR HANDLING UNIT	JB	JUNCTION BOX
BFG	BELOW FINISHED GRADE	LRA	LOCKED ROTOR AMPERES
C	CONDUIT	MCB	MAIN CIRCUIT BREAKER
CW	COOL WHITE	MLO	MAIN LUGS ONLY
DACP	DOOR ALARM CONTROL PANEL	N	NEUTRAL
DN	FEED DOWNWARD	NL	NIGHT LIGHT
EF	EXHAUST FAN	OB	OUTLET BOX
EG	EQUIPMENT GROUND	PB	PULL BOX, PUSH-BUTTON
ENCL	ENCLOSURE	PS	PAY STATION
EWC	ELECTRIC WATER COOLER	SF	SUPPLY FAN
EWH	ELECTRIC WATER HEATER	SPEC	SPECIFICATIONS
WX	EXPLOSION PROOF	TL	TWISTLOCK
FCU	FAN COIL UNIT	TTB	TELEPHONE TERMINAL BOARD
FHP	FRACTIONAL HORSEPOWER	TVTB	TELEVISION TERMINAL BOARD
FLA	FULL LOAD AMPERES	UNO	UNLESS NOTED OTHERWISE
G	GROUND	UP	FEED UPWARD
GFI	GROUND FAULT INTERRUPTER	VERT	VERTICAL
HID	HIGH INTENSITY DISCHARGE	WM	WATT MISER
HORIZ	HORIZONTAL	WP	WEATHERPROOF
IG	ISOLATED GROUND	WW	WARM WHITE
LW	LIGHT WHITE	XFMR	TRANSFORMER
HP	HORSEPOWER, HEAT PUMP	N.I.C	NOT INCONTRACT

NOTE:
1. ALL MOUNTING HEIGHTS SHOWN ARE TO THE TOP OF THE DEVICE UNLESS NOTED OTHERWISE.
2. NOT ALL SYMBOLS APPEAR ON PLANS.

ELECTRICAL GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2017 – NATIONAL ELECTRIC CODE 2014, NFPA 70. NFPA 101 & NFPA 72 (CURRENT ADOPTED EDITIONS). ANY OTHER APPLICABLE CODE REFERENCES AND ALL LOCAL ORDINANCES.
2. BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK AND THE EXTENT OF DEMOLITION. THE SUBMISSION OF A BID WILL BE EVIDENCED THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.
3. ELECTRICAL CONTRACTOR SHALL BE EXPERIENCED IN PERFORMING AND INSTALLATION OF WORK SIMILAR TO THAT REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL SUBMIT A LIST OF AT LEAST FIVE PROJECTS THAT THEY BEEN CONTRACTED AND COMPLETED CONSTRUCTION WITH SIMILAR PROJECT SCOPE OF WORK.
4. PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL HAVE STUDIED AND COMPARED THE CONTRACT DOCUMENTS WITH EXISTING/PROPOSED CONDITIONS AND NOT LATER THAN TEN (10) DAYS PRIOR TO THE BID OPENING SHALL REPORT TO THE ENGINEER ANY ERROR, INCONSISTENCY, OR OMISSION IN THE CONTRACT DOCUMENTS.
5. ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED. ARCHITECT AND ENGINEER WILL REVIEW ANY SUBSTITUTION FOR COMPATIBILITY.
6. ALL CUTTING, REMOVING AND REPLACING CONCRETE WORK SHALL BE THE RESPONSIBILITY OF THE TRADE INVOLVED, COORDINATE WITH SITE CONTRACTOR
7. PROTECT ELECTRICAL EQUIPMENT AND INSTALLATIONS AS NECESSARY. IF DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.
8. THE CONTRACTOR SHALL INCLUDE WITHIN THE BID ALL REQUIRED OFF HOUR, OVERTIME, AND NON-BUSINESS HOUR WORK AS REQUIRED.
9. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH WOULD REQUIRE ELECTRICAL WORK (DISCONNECTION/RECONNECTION ETC.) AND ARE NOT INDICATED ON THE ELECTRICAL PLANS. ALL SUBCONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH OTHER TRADES. LACK OF THIS COORDINATION RESULTING IN ADDED COST TO THE CONTRACT WILL BE BORNE BY THE SUBCONTRACTOR.
10. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR ELECTRICAL EQUIPMENT SHOWN ON THE PLANS AND SPECIFICATIONS FOR THE ENGINEERS APPROVAL. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO REDO ANY WORK, WHICH WAS NOT APPROVED, OR THE ENGINEER MAY REQUIRE A CREDIT TO THE OWNER. PROVIDE A SET OF AS-BUILT AFTER THE JOB IS COMPLETED. THIS SET SHALL BE CONTINUOUSLY UPDATED DURING CONSTRUCTION.
11. PROVIDE IDENTIFICATION FOR ALL LIGHT FIXTURES AND ALL ELECTRICAL COVER PLATES WITH PERMANENT MARKER ON A SELF-ADHERING TAG INDICATING PANEL AND CIRCUIT NUMBER. TYPICAL FOR ALL LIGHTING AND POWER DEVICES.
12. ALL WORK SHALL BE PERFORMED DURING TIME PERIODS ACCEPTABLE TO THE OWNER. SCHEDULE ALL WORK WITH THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING.
13. THE CONTRACTOR SHALL PERFORM ALL TEMPORARY WORK NECESSARY TO MAINTAIN CONTINUITY OF ELECTRICAL SERVICE (LIKE SAWPOLE SERVICE) WHEN CONNECTION IS MADE. THIS SERVICE SHALL NOT BE INTERRUPTED WITHOUT PRIOR CONSENT OF THE OWNER'S REPRESENTATIVE AND MAY BE INTERRUPTED ONLY AT AND FOR THE SPECIFIED TIME DESIGNATED BY OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE GUIDED BY THE OWNER'S REPRESENTATIVE AT ALL TIMES IN MATTERS AFFECTING THE FACILITIES.
14. THE CONTRACTOR SHALL COORDINATE ALL PHASING OF ELECTRICAL WORK AS REQUIRED AND INDICATED ON THE ELECTRICAL DRAWINGS.
15. THE OWNER PROJECT REPRESENTATIVE SHALL BE NOTIFIED PRIOR TO CUTTING OF ANY STRUCTURAL ITEM (I.E. CONCRETE FLOOR, MASONRY, WALL ETC.) WITHIN THE EXISTING BUILDING. METHOD OF CUTTING SHALL BE APPROVED BY THE OWNER PROJECT REPRESENTATIVE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE BUILDING WATERTIGHT DURING CONSTRUCTION.
17. ALL WIRING IN CEILING SPACE OR IN AIR HANDLING PLENUMS NOT IN CONDUIT SHALL BE UL LISTED AS SUITABLE FOR PLENUM USE.
18. ALL JUNCTION BOXES AND COVER PLATES SHALL BE PAINTED AND LABELED.
19. ALL RECEPTACLES WITHIN (6) FEET OF PLUMBING FIXTURES SHALL BE PROVIDED WITH 5 MILLIAMP GROUND FAULT INTERRUPTERS. (GFCI RECEPTACLES)
20. EXIT SIGNS AND ALL EMERGENCY LIGHTING SHALL BE WIRED INSIDE OF ANY SWITCHING OR CONTACTORS. DO NOT SWITCH EXIT SIGNS OR EMERGENCY NIGHT LIGHTS. CONTRACTOR SHALL PROVIDE AN UNSWITCHED HOT TO BYPASS ANY SWITCHING AND/OR CONTACTORS FOR ALL SWITCHED EMERGENCY LIGHTING.
21. EDGE OF LIGHT SWITCH WALL PLATE SHALL BE NOT MORE THAN 4" AWAY FROM METAL/WOOD DOOR FRAME. TYPICAL FOR SINGLE OR MULTIPLE WALL SWITCHES.
22. CONFIRM MOUNTING HEIGHTS AND COORDINATE LOCATION OF ALL OUTLETS, SWITCHES, AND OTHER DEVICES WITH ARCHITECTURAL ELEVATIONS (FURNITURE LAYOUT) PRIOR TO ROUGH-IN.
23. PROVIDE SEAL FOR PENETRATION OF FIRE RATED WALLS BY CONDUIT.
24. BACK TO BACK RECEPTACLES IN ALL ONE HOUR FIRE RATED WALLS SHALL BE LOCATED A MINIMUM OF 24" ON CENTER.
25. BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN NO. 12 AND WHERE BRANCH CIRCUIT CONDUCTOR RUNS FROM SOURCE (PANEL) TO THE LAST DEVICE ON THE CIRCUIT EXCEEDS 75 FT. IN LENGTH, THE CONDUCTORS SHALL BE NO. 10 MINIMUM AND FOR THE ENTIRE LENGTH OF THE CIRCUIT. FOR RUNS OVER 150 FT. IN LENGTH THE CONDUCTOR SHALL BE NO. 8 MINIMUM AND FOR THE ENTIRE LENGTH OF THE CIRCUIT. THE ABOVE APPLIES TO 120 VOLT CIRCUITS ONLY.
26. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE REMOVAL AND DISPOSAL OF ALL ELECTRICAL MATERIAL WHICH IS NOT TO BE USED ON THE PROJECT. CONTRACTOR SHALL REMOVE AND STORE ANY ELECTRICAL MATERIAL IF SO DIRECTED BY OWNER. PATCH AND PAINT WALLS AND CEILINGS AS REQUIRED. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF NEW LIGHTING FIXTURES, RECEPTACLES, PANEL BOARDS, ETC. WITH EXISTING STRUCTURE, PIPING, ETC. AND MAKE ADJUSTMENTS AS REQUIRED.
27. REFER TO ELECTRICAL SPECIFICATIONS SHEET FOR REQUIREMENTS.
28. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL INSURE THAT ALL SYSTEMS OPERATE AS DESIGNED AND REQUIRED AND SHALL REVIEW THEIR OPERATION WITH THE OWNER AND PROVIDE TRAINING OF THE MAINTENANCE PERSONNEL. COMPLETE SET OF AS-BUILT DRAWINGS SHALL BE COMPILED (BY THE CONTRACTOR) AND ISSUED (1 EACH) TO THE ARCHITECT AND BUILDING MAINTENANCE PERSONNEL UPON COMPLETION OF CONSTRUCTION AND TESTING..
29. ALL FEEDERS SIZING (BRANCH AND SERVICE ENTRANCE CONDUCTORS) BASED IN AMPACITY OF COPPER THHW CONDUCTORS (NEC 2011 TABLE 310.15(B)(16)) UNLESS OTHERWISE NOTED.
30. THE PRIMARY POWER SOURCE FOR SMOKE ALARMS IN DWELLING UNITS SHALL BE REQUIRED TO BE AFCI-PROTECTED FOLLOWING NFPA 72 AND NEC 2011 ART. 210.12.
31. RECEPTACLES LOCATED IN DORMITORIES AND LIVING AREAS OF ALL DWELLING UNITS SHALL BE AFCI PROTECTED.
32. MINIMUM SERVICE INTERRUPTION OF EXISTING FIELD SHALL BE KEPT TO A MINIMUM. EXISTING TRANSFORMER SHALL REMAIN OPERATIONAL UNTIL NEW TRANSFORMER IS IN PLACE AND SWITCHOVER SHALL OCCUR WITHIN 24 HRS BETWEEN SHUT DOWN & START UP OF NEW POLE & SERVICES.

NATIONAL ELECTRIC CODE NOTES:

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF NFPA 70 – 2014 NATIONAL ELECTRIC CODE

ELECTRICAL SUBMITTAL NOTES:

SUBMIT ALL ELECTRICAL SYSTEMS SUBMITTALS AT ONE (1) TIME IN ONE (1) INTEGRAL GROUP. PIECE-BY-PIECE SUBMISSION OF INDIVIDUAL ITEMS WILL NOT BE ACCEPTABLE. ENGINEER MAY CHECK CONTENTS OF EACH SUBMITTAL SET UPON INITIAL DELIVERY; IF NOT COMPLETE AS SET FORTH HEREIN, SUBMITTAL SETS MAY BE RETURNED TO CONTRACTOR WITHOUT REVIEW AND APPROVAL AND WILL NOT BE ACCEPTED UNTIL MADE COMPLETE. SHOP DRAWINGS WILL BE REVIEWED MAXIMUM TWICE AS PART OF THIS CONTRACT. ADDITIONAL SHOP DRAWING REVIEWS SHALL BE INVOICED AT $85.00 PER HOUR, BILLABLE TO THE SUB-CONTRACTOR.

BILL OF MATERIALS

Countryside Soccer Stadium Field
September 11, 2018

TYPE OF FIELDS: 1) 360' x 225' Soccer field

DESIGN OBJECTIVE: Re-use existing pole and fixtures and add poles & fixtures where needed to achieve a lighting design of 50fc minimum.

SCOPE OF WORK:
Poles S4 & S9 Will remain.
Poles S10 & S11 will be taken down.
The bases will be demoed
The poles will be demoed
The fixtures will be removed and re-used on new S10 & S11 poles

NEW POLES:
Musco will provide
2 x 70'mh steel poles & bases
1 x 90'mh steel pole & base
1 x 80'mh steel pole & base
Foundation Designs

FIXTURES: Musco will be providing:

49 new fixtures to be attached to the new poles.

In addition, the existing fixtures from existing poles S10 & S11 will be re-used for this design

CONTACTORS Musco will be providing:

New contactors for the additional poles.

Musco Sports Lighting * 2220 Cluster Oak Dr. #11 * Clermont, FL 34711
Telephone (352) 243-9999 * Fax (352) 243-2791

musco Lighting — Budget Estimate

COUNTRYSIDE SOCCER REDESIGN
Field #5
Date: August 15, 2018

Field Description: Based on Musco lighting design 180036B

Light Structure Green™ System delivered to your site in Five Easy Pieces™

- 4 x Pre-cast concrete bases
- 2 x galvanized 70'mh steel poles
- 1 x galvanized 90'mh steel poles
- 1x galvanized 80mh steel poles
- UL Listed remote electrical component enclosure & Pole length wire harness
- 49 x Factory-aimed and assembled luminaire

Also Includes:
- Energy savings of more than 50% over a standard lighting system
- 50% less spill and glare light than Musco's prior industry leading technology
- Musco C10 Warranty and maintenance

Scope
Poles P3 & P5 will be added.
Existing poles S10 & S111 will be removed
New poles for S10 & S11 will be supplied
The fixtures from existing poles S10 & S11 will be added to new poles S10 & S11

BID ALTERNATE (BID ALT-1)

Musco Sports Lighting * 2220 Cluster Oak Dr. #H * Clermont, FL 34711
Telephone (352) 243-9999 * Fax (352) 243-2791

musco Lighting — Budget Estimate

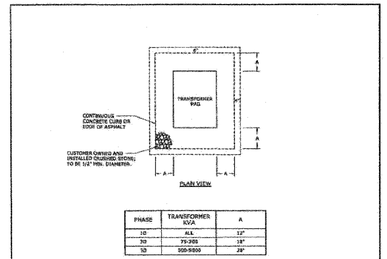
COUNTRYSIDE SOCCER REDESIGN
Soccer 2 - P8 Pole (no new fixtures)
Date: November 19, 2019

Field Description: Based on Musco lighting design 180036B

Light Structure Green™ System delivered to your site in Five Easy Pieces™
- 3 x Pre-cast concrete bases
- 1 x galvanized 70'mh steel poles (P8)
- UL Listed remote electrical component enclosure & Pole length wire harness

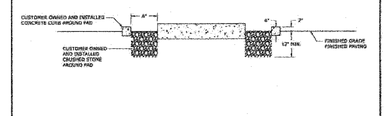
Also Includes:
- Energy savings of more than 50% over a standard lighting system
- 50% less spill and glare light than Musco's prior industry leading technology
- Musco C10 Warranty and maintenance

Scope
Poles P8 will be added
Existing poles S5 & S6 will be moved
New bases are supplied for S5 & S6
The fixtures from existing poles S5 & S6 will be added to new pole P8
Fixtures to be re-aimed to smooth light out



PHASE	TRANSFORMER KVA	A
1Ø	ALL	12"
3Ø	75-300	18"
3Ø	500-1000	28"

CURBING AND ABSORPTION BEDS CAN BE USED TO CONTAIN OIL LEAKS AROUND TRANSFORMERS THAT ARE DEFINED AS A "CRITICAL FACILITY" OR ARE LOCATED IN OR IMMEDIATELY ADJACENT TO PAVED AREAS THAT CONTAIN STORM DRAINS. CONSULT YOUR DUKE ENERGY REPRESENTATIVE FOR PROPER APPLICATION OF THIS STANDARD.



REVISED	BY	CHKD	APPR

DUKE ENERGY.

DEC	DEM	DEP	DEF
			X

ABSORPTION BEDS FOR TRANSFORMER PADS — FIG 20A

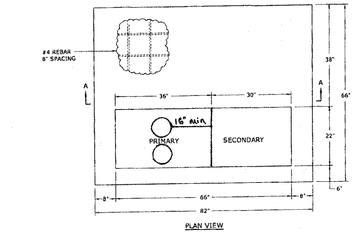
NOTES:
1. CUSTOMER TO PROVIDE AND INSTALL TRANSFORMER PAD PER REFERENCED DOCUMENT IN SECTION III2.
2. THE GROUND SHALL BE LEVELED AND THOROUGHLY COMPACTED BEFORE THE PAD IS INSTALLED.
3. THERE SHALL BE NO ABOVE GROUND OBSTRUCTIONS WITHIN 10 FEET OF THE FRONT OF THE TRANSFORMER OR WITHIN 3' OF THE SIDES AND BACK. IF METERING TROUGH IS LOCATED BEHIND TRANSFORMER, MINIMUM CLEARANCE BETWEEN BACK OF TRANSFORMER AND CLOSEST PART OF TROUGH IS 6 FEET.
4. SOD MAY BE REQUIRED AROUND PAD TO PREVENT EROSION, AS DETERMINED BY A DUKE REPRESENTATIVE.
5. SIDE VENTILATION MAY BE REQUIRED IF THERE IS A WALL CONSTRUCTED AROUND THE TRANSFORMER.
6. IF THE CUSTOMER PLANS TO RUN A NUMBER OF CONDUCTORS BEYOND THE MAXIMUM ALLOWED, A JUNCTION BOX MAY BE REQUIRED FOR TERMINATION OF THE CUSTOMER'S CONDUCTORS. SEE FIGURE 15B.
7. CONTACT A COMPANY ENGINEERING REPRESENTATIVE FOR DETERMINATION OF NEED FOR CRUSHED STONE, CURBING AND TRAFFIC BARRIERS. EXACT ORIENTATION OF THE TRANSFORMER IN THE FIELD MUST BE APPROVED BY A COMPANY ENGINEERING REPRESENTATIVE.
8. IN AREAS WHERE TRANSFORMERS ARE TO BE ELEVATED ABOVE NORMAL GRADE, ENGINEERING DEPARTMENT MUST BE CONTACTED FOR APPROVAL OF DESIGN.
9. EXTEND CONDUITS 1" ABOVE TOP OF CONCRETE PAD.
10. CONDUIT FOR DUKE ENERGY PRIMARY CABLES SHALL BE SPECIFIED BY A DUKE ENERGY REPRESENTATIVE TO BE EITHER 4", 5" OR 6" 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 CONDUIT SHALL BE A SCHEDULE 40 ELBOW WITH A 36" BEND RADIUS.
11. 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.
12. 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
13. CUSTOMER'S SERVICE CONDUITS SHALL NOT CROSS OR INTERFERE WITH THE PRIMARY CONDUITS. (THE SERVICE CONDUIT CAN EXIT THE SECONDARY SIDE EITHER COMING OUT THE FRONT, THE RIGHT SIDE, OR THE BACK.)
14. THE SERVICE CONDUITS SHALL NOT EXTEND OUTSIDE THE DESIGNATED SECONDARY SIDE OF THE WINDOW OF THE PAD.

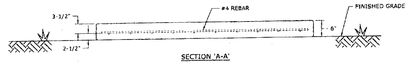
REVISED	BY	CHKD	APPR

DUKE ENERGY.

DEC	DEM	DEP	DEF
			X

CONDUIT AND CONCRETE SPECIFICATIONS — FIG 19B





RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

NOTES:
1. SEE FIGURE 19B FOR NOTES..

DUKE ENERGY.

DEC	DEM	DEP	DEF
			X

FLAT PADS FOR THREE-PHASE PAD-MOUNTED TRANSFORMERS 75KVA - 300KVA — FIG 19A

UTILITY CONTACT INFORMATION

FOR TRANSFORMER COORDINATION INQUIRIES,
CONTACT JARED A. BUTTS E & TCR- ENGINEER I
CONTACT: 727.562.3814 (OFF), 727.401.7878
EMAIL: JARED.BUTTS@DUKE-ENERGY.COM

NOTE:
1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OTHER ELECTRICAL ITEMS TO PROVIDE A COMPLETE OPERATIONAL SPORT LIGHTING SYSTEM TO THE SATISFACTION OF THE OWNER WITH A 50 FOOT CANDLE MINIMUM AFTER BURN IN OF THE LAMPS.

DRAWING INDEX

CALL 811 — SUNSHINE STATE ONE CALL OF FLORIDA — www.callsunshine.com — (800) 432-4770 — MIN. 48 HOURS BEFORE YOU EXCAVATE

RECORD DRAWINGS

SURVEYED BY | DRAWN BY
REVIEWED BY — PROJECT ENGINEER — DATE
APPROVED BY — CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 — DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	09/27/19
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	19139

Brad A Griner, P.E. FL 72457

COUNTRYSIDE SPORTS COMPLEX FIELD 3 AND 4 RENOVATION

ELECTRICAL COVER SHEET

DRAWN BY SK/JAR	DES/PLIGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE HORIZ. 1"=N/A	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
	DATE DRAWN Nov 24, 2019	DWG NAME 2019-XXXX	SHEET NO. 7

JOSE A ROSARIO, P.E. 74457 — DATE

FIELD 3 (N.I.C)
FIELD 1 (N.I.C)
FIELD4
FIELD 2 (N.I.C)
BUILDING (UNDER CONSTRUCTION)
concession stand and restrooms
equipment room
press box
SCOREBOARD
TRAFFIC SIGNAL BOX
concrete slab (parking)
SIGN
6' CHAIN LINK FENCE
8'CLF
8'OLF
TOB
TOE
GW
FPC Ped
PP
I.R.
N00°04'09"E(F) 930.06'(F)
S89°24'39"E(F) 584.03'(F)
N89°24'39"W(F) 580.04'(F)
S00°04'09"E(F) 930.06'(F)
EXISTING ELECTRICAL YARD. SEE EXISTING ENLARGED ELECTRICAL YARD PLAN, SHEET E3 FOR ADDITIONAL DETAILS.
RELOCATE EXISTING LIGHT FIXTURES TO NEW POLE LOCATION. EXISTING POLES SHALL BE REMOVED FROM EXISTING LOCATIONS. CARE SHALL BE EXERCISED DURING POLE REMOVAL, AS THEY SHALL BE RETURNED BACK TO OWNER FOR FUTURE USE. REFER TO ELECTRICAL SITE PLAN SHEET FOR ADDITIONAL DETAILS. ~~RELOCATE POLES TO LOCATION AS~~ DIRECTED BY OWNER.
REMOVE A PORTION OF THE EXISTING CANOPY IN THIS AREA TO ALLOW LOCAL POWER UTILITY ACCESS TO INSTALL THE NEW TRANSFORMER & REST OF EXISTING CANOPY TO REMAIN IN PLACE. RETROFIT CANOPY AS NECESSARY.
FILL IN SWALE WITH 4" DIAMETER CONCRETE RUBBLE FOR PASSAGE OF DUKE ENERGY TRUCK TO SET NEW TRANSFORMER & REMOVAL OF OLD TRANSFORMER TO BE REPLACED.
REMOVE & REPLACE 5' WIDE CONCRETE SIDEWALK TO ALLOW ACCESS FOR TRENCHING OF THE FUTURE POLE CONDUITS. REFER TO ELECTRICAL SITE PLAN, SHEET E1 FOR ADDITIONAL DETAILS. ONCE TRENCHING IS COMPLETED AND INSPECTED, REPLACE REMOVED AREAS WITH NEW CONCRETE (3000PSI/28 DAYS) MATCHING EXISTING WALKWAY THICKNESS, LEVEL AND WIDTH. ELECTRICAL CONTRACTOR TO COORDINATE WITH SITE CONTRACTOR SO ROUTING OF THE ELECTRICAL CONDUITS DO NOT CONFLICT WITH THE WATER STORM DRAINAGE. STORM WATER DRAINAGE PIPING HAS PRECEDENCE.
2" ELECTRICAL CONDUIT TOP 55.22 DRAIN INV. 54.61
2" SLEEVE TOP 55.33
2" SLEEVE TOP 55.78
4" SLEEVE TOP 55.82
2" ELEC. CONDUIT TOP 54.68
2" ELECTRICAL CONDUIT TOP 52.91
4" ELECTRICAL CONDUIT TOP 54.86
8' concrete walk
PARKING SPACES TO BE ELIMINATED (TYP.)
80.0' R/W EASEMENT O.R.5495-1202
GRADE
top of bank
top of slope
RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

PROPOSED ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

RECORD DRAWINGS	
SURVEYED BY	DRAWN BY
REVIEWED BY	
PROJECT ENGINEER	DATE
APPROVED BY	
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	09/27/19
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	19139

Jose A Rosario, P.E. FL #74457

COUNTRYSIDE SPORTS COMPLEX
FIELD 3 AND 4 RENOVATION
ELECTRICAL EXISTING CONDITION – DEMO PLAN

DRAWN BY SK/JAR	DES./PJLIGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ. 1"=N/A	DATE DRAWN Nov 24, 2019	DWG NAME 2019-XXXX	SHEET NO. 8

JOSE A ROSARIO, P.E. 74457 DATE

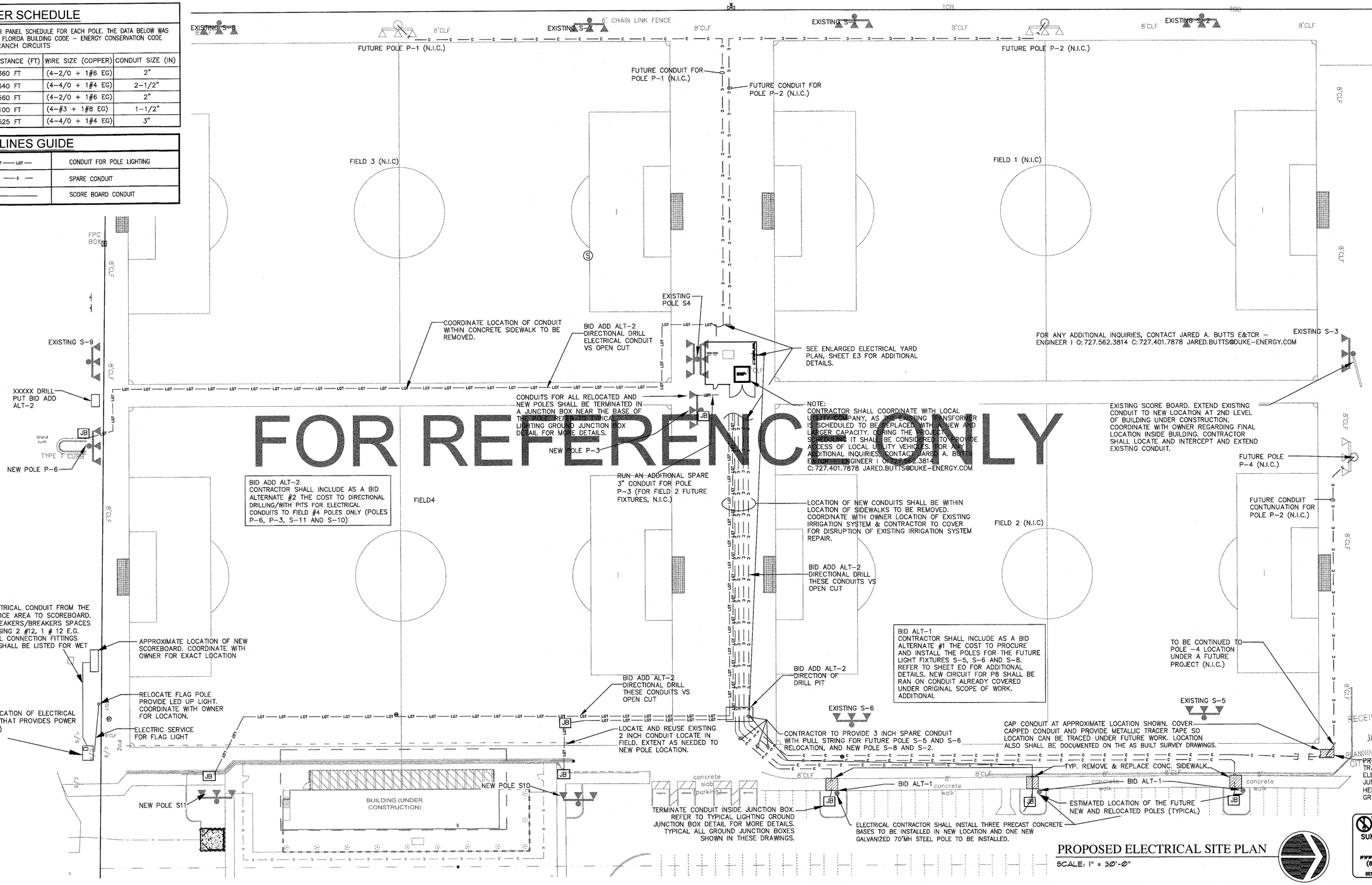
POLE FEEDER SCHEDULE

ASSUMED FEEDER LOAD PER PANEL SCHEDULE FOR EACH POLE. THE DATA BELOW WAS GENERATED FOLLOWING THE FLORIDA BUILDING CODE – ENERGY CONSERVATION CODE CHAPTER 505.7.3.2 – BRANCH CIRCUITS

FIELD POLE	EST. DISTANCE (FT)	WIRE SIZE (COPPER)	CONDUIT SIZE (IN)
S10	360 FT	(4–2/0 + 1#6 EG)	2"
S11	640 FT	(4–4/0 + 1#4 EG)	2–1/2"
P6	560 FT	(4–2/0 + 1#6 EG)	2"
P3	100 FT	(4–#3 + 1#8 EG)	1–1/2"
P8 (BID ADD ALT 1)	525 FT	(4–4/0 + 1#4 EG)	3"

ELECTRICAL LINES GUIDE

—LGT— LGT —LGT— LGT —LGT—	CONDUIT FOR POLE LIGHTING
—c— c —c— c —c— c —	SPARE CONDUIT
———————	SCORE BOARD CONDUIT



PROPOSED ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

RECORD DRAWINGS

SURVEYED BY | DRAWN BY

REVIEWED BY — PROJECT ENGINEER — DATE

APPROVED BY — CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 — DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	09/27/19
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	19139

Jose A Rosario, P.E. FL. 74457

COUNTRYSIDE SPORTS COMPLEX FIELD 3 AND 4 RENOVATION

ELECTRICAL SITE PLAN

DRAWN BY SK/JAR	DES/PLIGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ. 1"=N/A	DATE DRAWN Nov 24, 2019	DWG NAME 2019–XXXX	SHEET NO. 9

JOSE A ROSARIO, P.E. 74457 — DATE

EXISTING PANEL 'B' — SURFACE MOUNTED, 120/208 VOLT 3 PHASE, 4 WIRE WITH GROUND — 400 MCB 120/208V, 75C* — 22,000 AIC

WIRE	COND.	LOAD TYPE	CKT. NO.	DESCRIPTION	BREAKER TRIP	POLE	VOLT	A	B	C	BREAKER VOLT	POLE	TRIP	DESCRIPTION	CKT. NO.	LOAD TYPE	COND. SIZE	WIRE SIZE
		L	1												2	L		
		L	3	EX POLE S7 (7 FIX.)	60	3	208				208	3	100	EX POLE S4 (13 FIX.)	4	L		
		L	5												6	L		
		L	7												8	L		
		L	9	NEW POLE S10 (13 FIX)	100	3	208				208	3	100	EX POLE S9 (13 FIX.)	10	L		
		L	11												12	L		
		L	13	SPARE	20	1	120								14	L		
		L	15	SPARE	20	1	120								16	L		
		L	17	SPARE	20	1	120								18	L		
		L	19												20	L		
		L	21	EX POLE S8 (7 FIX.)	60	3	208								22	L		
		L	23												24	L		
		L	25												26	L		
		L	27	SPACE							208	3		SURGE PROTECTION	28	L		
		L	29												30	L		
				CONNECTED VA				0	0	0								
				CONNECTED PHASE AMPS				0	0	0								
				PHASE BALANCE				33.33%	33.33%	33.33%	100%							

LOAD TYPE		CONNECTED		NEC DEMAND	DEMAND LOAD	
L	LIGHTING	0		1.25	0	VA
R	RECEPTACLES	0		1	0	VA
AC	AIR CONDITIONING	0		0	0	VA
H	HEATING	0		0	0	VA
M	MISC. NON-CONTINUOUS	0		1	0	VA
C	CONTINUOUS	0		1.25	0	VA
K	KITCHEN	0		0.65	0	VA
				TOTAL	0	VA
		120/208, 3 PHASE			327	AMPS

1.00 P.F. CORRECTION

BASED ON INFORMATION BY DUKE ENERGY THE PEAK KW DEMAND FOR THIS METER SERVING THIS PANEL IS 88 KW. HENCE THE TOTAL LOAD CURRENT IS APPROXIMATELY 244 A. HOWEVER, THE LOAD HAS BEEN REVISED TO REFLECT THE NEW LOAD OF POLE S10 AND THE RELOCATION OF POLE S11.

BID ADD ALT-1
FOR EXISTING PANEL B MARK THE BREAKER FOR S5 AND S6 AS SPARES. PROVIDE A NEW 100 AMPS BREAKER FOR NEW POLE S8. SINCE THE EXISTING FIXTURES FOR POLES S5 AND S6 WILL BE REUSED, NO ADDITIONAL LOADSARE EXPECTED TO BE ADDED UNDER THIS BID ADD ALTERNATE.

LOAD T LOAD T
L R

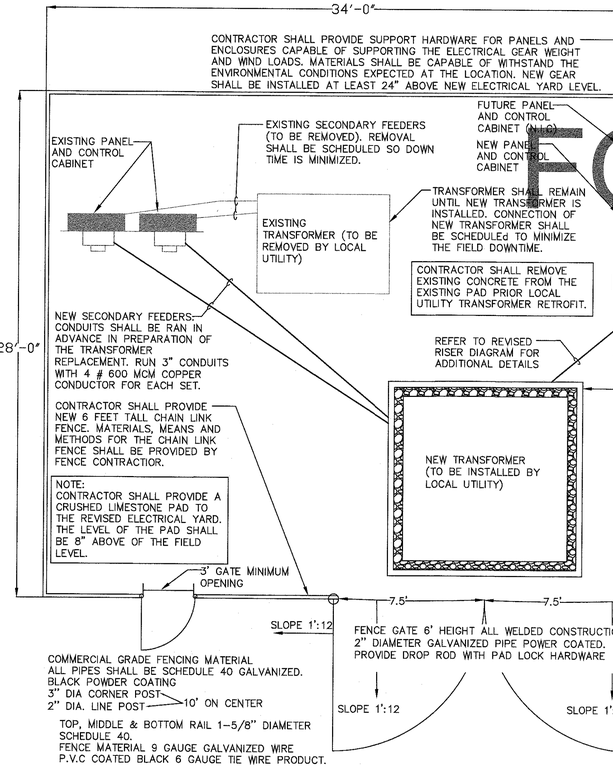
NEW PANEL 'L' — SURFACE MOUNTED, 120/208 VOLT 3 PHASE, 4 WIRE WITH GROUND — 400 MCB 120/208V, 75C* — 22,000 AIC

WIRE	COND.	LOAD TYPE	CKT. NO.	DESCRIPTION	BREAKER TRIP	POLE	VOLT	A	B	C	BREAKER VOLT	POLE	TRIP	DESCRIPTION	CKT. NO.	LOAD TYPE	COND. SIZE	WIRE SIZE
		L	1					4131 10328							2	L		
		L	3	POLE P1 (5 FIX.)	60	3	208		4131 10328		208	3	100	POLE P3 (15 FIX.)	4	L		
		L	5							4131 10328					6	L		
		L	7					11361 10328							8			
		L	9	POLE P6 (16 FIX.)	100	3	208		11361 10328						10			
		L	11							11361 10328					12			
		L	13					10328							14	L		
		L	15	POLE S11 (15 FIX.)	100	3	208		10328						16	L		
		L	17							10328					18	L		
		L	19												20	L		
		L	21												22	L		
		L	23												24	L		
		L	25												26	L		
		L	27												28	L		
		L	29												30	L		
			31												32			
			33												34			
			35												36			
			37												38			
			39								208	3		SURGE PROTECTION	40			
			41												42			
				CONNECTED VA				46476	46476	46476								
				CONNECTED PHASE AMPS				168	168	168								
				PHASE BALANCE				33.33%	33.33%	33.33%	100%							

LOAD TYPE		CONNECTED		NEC DEMAND	DEMAND LOAD	
L	LIGHTING	1E+05		1.25	135555	VA
R	RECEPTACLES	0		1	0	VA
AC	AIR CONDITIONING	0		0	0	VA
H	HEATING	0		0	0	VA
M	MISC. NON-CONTINUOUS	0		1	0	VA
C	CONTINUOUS	0		1.25	0	VA
K	KITCHEN	0		0.65	0	VA
				TOTAL	135555	VA
		120/208V, 3 PHASE			377	AMPS

1.00 P.F. CORRECTION

E3
REVISION #



ENLARGED REVISED ELECTRICAL YARD PLAN
SCALE: 1/4" = 1'-0"

SITE PLAN GENERAL NOTES:

1. THIS CONTRACTOR SHALL REFER TO THE SITE UTILITIES PLAN FOR LOCATING ANY UNDERGROUND UTILITIES PRIOR TO THE COMMENCEMENT OF WORK.
2. BURIED UTILITIES AND/OR STRUCTURES MAY EXISTS ON THIS SITE. EXTREME CAUTION MUST BE USED IN ANY WORK WHICH MAY CONFLICT WITH ANY UNDERGROUND UTILITIES OR STRUCTURES, COORDINATE WITH OWNER.
3. ANY CONFLICTS SHOULD BE RESOLVED IN WRITING WITH THE CIVIL ENGINEER AND GENERAL CONTRACTOR BEFORE PRECEDING WITH ANY UNDERGROUND ACTIVITY.
4. ALL EXCAVATION FOR THE ELECTRICAL WORK ON THIS SHEET SHALL BE DONE EXERCISING CAUTION AND BE WATCHFUL OF UNEXPECTED ITEMS.
5. CONTRACTOR TO SAFELY REMOVE EXISTING, LIGHTING POLES, FIXTURES, WIRING AND CONDUITS TO THE NEAREST POINT OF CONNECTION. CONTRACTOR WILL SAFELY STORE ALL REMOVED ITEMS AND DISPOSE OF THEM.
6. CONTRACTOR SHALL SAFELY REMOVE THE EXISTING DISTRIBUTION SHED, ELECTRICAL GEAR FEEDING EXISTING LIGHTING POLES) IN THE BACK AREA AND ITS SUPPORTING HARDWARE (PIPES AND CONDUITS) AND PROPERLY DISPOSE OF THEM. CONTRACTOR SHALL ENSURE THERE ARE NO CONNECTIONS BETWEEN THE SHEDS AND ANY ACTIVE LOADS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING WORK WHILE KEEPING THE FUNCTIONALITY OF THE FIELD FACILITIES AS MUCH AS POSSIBLE. POWER SHUTDOWNS SHALL BE COORDINATED WITH THE CITY. PREPARATION WORK SHALL BE PERFORMED IN ADVANCE IN ORDER TO MINIMIZE DOWN TIME DUE TO ELECTRICAL POWER SHUT DOWN.
8. DIMENSION OF ELECTRICAL GEAR SHALL BE FIELD VERIFIED PRIOR ELECTRICAL ROUGH IN. IN CASE ANY ISSUES ARE FOUND, THE EOR/OWNER SHALL BE NOTIFIED IN WRITING AND A SOLUTION SHALL BE APPROVED PRIOR ROUGH IN COMMENCEMENT.
9. EXISTING PLAY FIELD SHALL CONTINUE WITH ITS PROGRAMMED ACTIVITIES. DISRUPTION SHALL BE KEPT TO A MINIMUM. SWITCHOVER TO NEW TRANSFORMER FROM EXISTING SHALL BE COORDINATED WITHIN 24 HOURS OF DOWN TIME. COORDINATE WITH OWNER PROGRAM STAFF.

musco lighting

Control System Summary

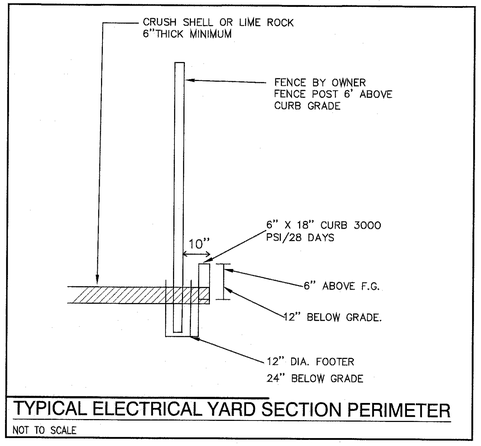
Countryside Athletic Complex Redesign / 188838 - 18903RB
Countryside Soccer 3&4 - Page 4 of 4

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole P1	34.40		
1	1	C2	Pole P3	86.00		
1	1	C3	Pole P6	94.60		
1	1	C4	Pole S4	77.40		
1	1	C5	Pole S7	43.00		
1	1	C6	Pole S8	43.00		
1	1	C7	Pole S9	77.40		
2	1	C8	Pole S10	60.20		
2	1	C9	Pole S11	68.80		

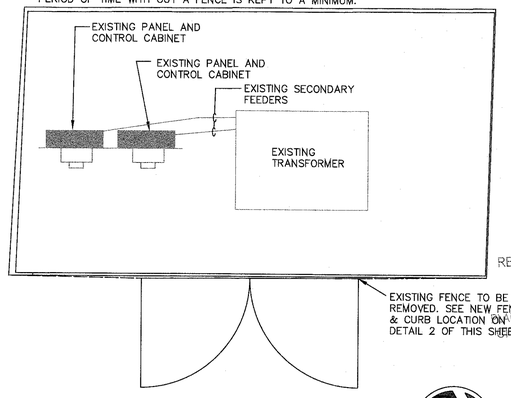
ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION POLE ID	CONTACTOR ID
Zone 2	1	Soccer 3-4	P1	C1
			P3	C2
			P6	C3
			S4	C4
			S7	C5
			S8	C6
			S9	C7
			S10	C8
			S11	C9



TYPICAL ELECTRICAL YARD SECTION PERIMETER
NOT TO SCALE

CONTRACTOR SHALL REMOVE EXISTING FENCE IN ORDER TO PROVIDE SPACE FOR NEW ONE. THE REMOVAL AND THE INSTALLATION OF THE NEW FENCE SHALL BE SCHEDULED SO THE FENCE RETROFIT IS EXECUTED SIMULTANEOUSLY AND THE PERIOD OF TIME WITH OUT A FENCE IS KEPT TO A MINIMUM.



ENLARGED EXISTING ELECTRICAL YARD PLAN
SCALE: 1/4" = 1'-0"

RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

RECORD DRAWINGS
SURVEYED BY ____ DRAWN BY ____
REVIEWED BY ____ PROJECT ENGINEER ____ DATE ____
APPROVED BY ____ CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 ____ DATE ____

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	09/27/19
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	19139

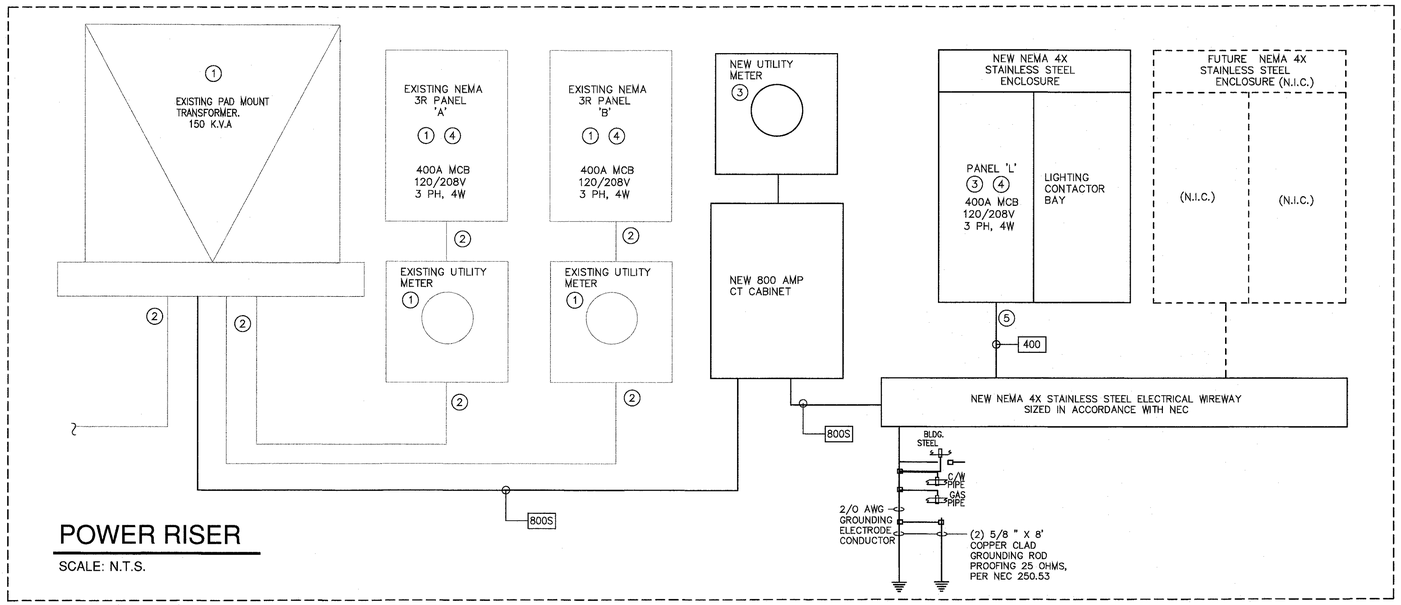
Jose A Rosario, P.E. FL 74457

COUNTRYSIDE SPORTS COMPLEX FIELD 3 AND 4 RENOVATION

ELECTRICAL YARD AND SCHEDULES

DRAWN BY SK/JAR	DES./PLIGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE HORIZ. 1"=N/A	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
	DATE DRAWN Nov 24, 2019	DWG NAME 2019-XXXX	SHEET NO. 10

JOSE A ROSARIO, P.E. 74457 ____ DATE



POWER RISER

SCALE: N.T.S.

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND TO REPORT TO GENERAL CONTRACTOR, OWNER AND ENGINEER ANY DISCREPANCY FROM THAT SHOWN ON DRAWINGS.
2. COORDINATE ALL NEW ELECTRICAL WORK WITH CIVIL DRAWINGS GENERAL CONTRACTOR AND OWNER.
3. PANELS ARE REQUIRED TO HAVE AN PANELBOARD NAMEPLATE PER NEC 408.4(B) SEE TYPICAL PANELBOARD NAMEPLATE DETAILS (THIS SHEET) FOR MORE INFORMATION

RISER DIAGRAM NOTES: ◯

1. EXISTING TRANSFORMER, EXISTING METERS AND EXISTING PANELS TO REMAIN. CONTRACTOR TO VERIFY THE RATINGS OF THESE EXISTING EQUIPMENTS. CONTRACTOR SHALL INCLUDE IN BID AND AND WORK SCOPE TO CONNECT EXISTING DEVICES TO NEW TRANSFORMER ONCE THE TRANSFORMER IN INSTALLED ON SITE.
2. EXISTING FEEDERS TO REMAIN. VERIFY EXISTING FEEDERS TO VERIFY CURRENT CAPACITY.
3. PROVIDE 1 NEW 400 AMPS M.C.B PANEL 'L' AND 1 NEW UTILITY METER.
4. CONTRACTOR SHALL FURNISH AND INSTALL SURGE SUPPRESSION FOR ALL PANELS (EXISTING & NEW) RATED FOR PANEL AMPERAGE AND VOLTAGE AVAILABLE AT THE PANEL
5. FURNISH AND INSTALL NEW (2) SET 4# 3/0, 1# 3 GND– IN EACH OF (2) 2–1/2 " C AND CONNECT AS SHOWN.
6. THERE IS A POSSIBLE CHANCE WE MIGHT HAVE TO CHANGE THE EXISTING TRANSFORMER AND PROVIDE A NEW PAD MOUNTED TRANSFORMER SINCE WE ARE INSTALLING A NEW PANEL. CO–ORDINATION WITH DUKE ENERGY WOULD BE REQUIRED.

SERVICE VOLTAGE DROP

BRANCH CIRCUITS LOADED PER NEC AMPACITY WITH RUNS LESS THAT 75 FEET SHOULD PROVIDE ACCEPTABLE VOLTAGE DROPS PER INTERNATIONAL BUILDING CODE 2012 CONTRACTOR SHALL INCREASE THE SIZE BY 1 NOMINAL SIZE PER EACH 50 FEET OF WIRING.

GENERAL INTERNATIONAL BUILDING CODE NOTES:

ALL ELECTRICAL WORK SHALL COMPLY WITH INTERNATIONAL BUILDING CODE

C405.6.3 VOLTAGE DROP

THE CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS COMBINED SHALL BE SIZED FOR A MAXIMUM OF 5 PERCENT VOLTAGE DROP TOTAL.

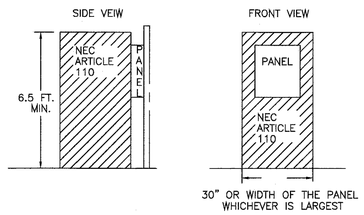
GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND TO REPORT TO GENERAL CONTRACTOR, OWNER AND ENGINEER ANY DISCREPANCY FROM THAT SHOWN ON DRAWINGS.
2. COORDINATE ALL NEW ELECTRICAL WORK WITH MECHANICAL CONTRACTOR AND OWNER.
3. PANELS ARE REQUIRED TO HAVE AN PANELBOARD NAMEPLATE PER NEC 408.4(B) SEE TYPICAL PANELBOARD NAMEPLATE DETAILS SHEET E300 FOR MORE INFORMATION

FAULT CURRENT

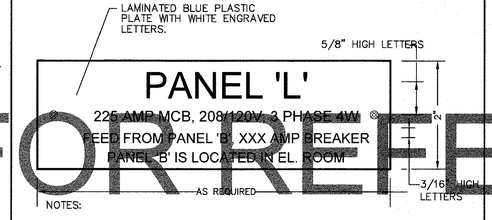
UTILITY TRANSFORMER VOLTAGE		120/208V 3 PH
ASSUMED NEW TRANSFORMER BANK SIZE		300KVA
ASSUMED AFC AT TRANSFORMER		23,800 AMPS
BUS	ESTIMATED AVAILABLE FAULT CURRENT	MINIMUM AIC & SCCR
PANEL 'L'	21,290 AMPS	35000 AMPS MIN.

* LOAD CONTRIBUTION HAS BEEN ALLOCATED TO TOTAL FAULT CURRENT
AIC – AMPERAGE INTERRUPTING CAPACITY



PANEL AND SWITCHBOARD CLEARANCE

NOT TO SCALE



NOTES:

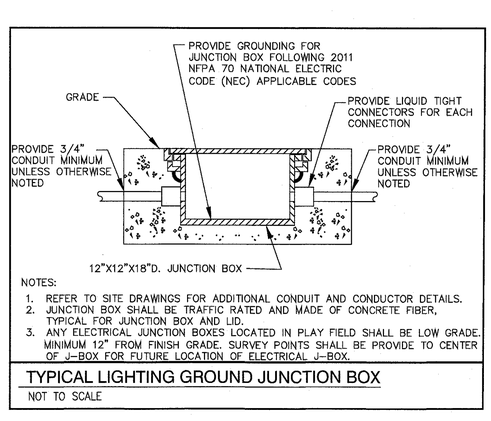
1. NEW NAMEPLATES MUST BE INSTALLED ON ALL ELECTRICAL PANELS TEMPORARY NAMEPLATES ARE NOT ACCEPTABLE.
2. THE AMPERAGE RATING ENGRAVED ON THE NAMEPLATE SHALL BE THE RATING OF THE MAIN OVERCURRENT PROTECTION DEVICE, OR ITS TRIP DEVICE SETTING, OR DESIGN BUS CAPACITY IN THE ABSENCE OF A MAIN OVER CURRENT DEVICE, NOT THE SWITCHBOARD OR PANELBOARD BUS RATING.

TYPICAL PANELBOARD NAMEPLATE DETAIL

NOT TO SCALE

FEEDER SCHEDULES:

800S	(SERVICE – 800 AMPS) (3) SETS OF 4 #350 MCM, IN 3" C.	NOT APPLICABLE
800	(FEEDER – 800 AMPS) (3) SETS OF 4 #350 MCM, 1 #1/0 E.G. COPPER COND. IN 3" C.	NOT APPLICABLE
600	(FEEDER – 600 AMPS) (2) SETS OF 4 #350 MCM, 1 #1 E.G. COPPER COND. IN 2–1/2" C.	(FEEDER – 600 AMPS) (2) SETS OF 4 #500, 1 #2/0 E.G. ALUMINUM COND. IN 3" C.
400S	(FEEDER – 400 AMPS – MORE THAN 100 FT LONG) (2) SETS OF 4 #3/0 AND 1 #3 E.G. COPPER COND. IN 2" C.	(FEEDER – 400 AMPS) (2) SETS OF 4 #250MCM AND 1 #1/0 E.G. ALUMINUM COND. IN 3" C.
400	(FEEDER – 400 AMPS) (2) SETS OF 4 #3/0 AND 1 #3 E.G. COPPER COND. IN 2" C.	(FEEDER – 400 AMPS) (2) SETS OF 4 #250MCM AND 1 #1/0 E.G. ALUMINUM COND. IN 3" C.
250	(FEEDER – 250 AMPS) 4 #350, AND 1 #4 EG. COPPER COND. IN 3" C	(FEEDER – 250 AMPS) 4 #500, AND 1 #3/0 EG. ALUMINUM COND. IN 3–1/2" C
200	(FEEDER – 200 AMPS) 4 #4/0 AND 1 #4 E.G. COPPER COND. IN 2–1/2" C	(FEEDER – 200 AMPS) 4 #350 AND 1 #1/0 E.G. ALUMINUM COND. IN 3" C
175	(FEEDER – 175 AMPS) 4 #3/0 AND 1 #6 E.G. COPPER COND. IN 2" C	(FEEDER – 175 AMPS) 4 #250 AND 1 #4 E.G. ALUMINUM COND. IN 2–1/2" C
125	(FEEDER – 125 AMPS) 4 #1/0 AND 1 #6 E.G. COPPER COND. IN 2" C	(FEEDER – 125 AMPS) 4 #3/0 AND 1 #6 E.G. ALUMINUM COND. IN 2–1/2" C
100	(FEEDER – 100 AMPS) 4 #1 AND 1 #6 E.G COPPER COND. IN 2" C	(FEEDER – 100 AMPS) 4 #2/0 AND 1 #6 E.G ALUMINUM COND. IN 2–1/2" C



NOTES:

1. REFER TO SITE DRAWINGS FOR ADDITIONAL CONDUIT AND CONDUCTOR DETAILS.
2. JUNCTION BOX SHALL BE TRAFFIC RATED AND MADE OF CONCRETE FIBER, TYPICAL FOR JUNCTION BOX AND LID.
3. ANY ELECTRICAL JUNCTION BOXES LOCATED IN PLAY FIELD SHALL BE LOW GRADE. MINIMUM 12" FROM FINISH GRADE. SURVEY POINTS SHALL BE PROVIDE TO CENTER OF J–BOX FOR FUTURE LOCATION OF ELECTRICAL J–BOX.

TYPICAL LIGHTING GROUND JUNCTION BOX

NOT TO SCALE

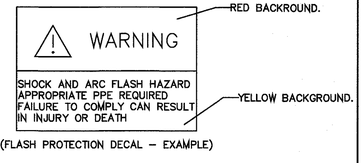
PANEL A.I.C. RATING
42,000A
FULL RATED

(A.I.C. DECAL – EXAMPLE)

CONTRACTOR SHALL PROVIDE DECAL 1–1/2" x 2–1/2" WITH 3/16" LETTERING STATING THE A.I.C. RATING OF EACH PANEL. THIS DECAL SHALL BE LOCATED ON THE INSIDE OF PANEL DOOR. DECAL SHALL BE WHITE BACKGROUND WITH BLACK LETTERING WITH A CLEAR PLASTIC LAMINATE TOP COVER OVER DECAL.

A.I.C. IDENTIFICATION DECAL

NOT TO SCALE



(FLASH PROTECTION DECAL – EXAMPLE)

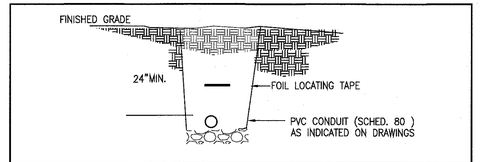
CONTRACTOR SHALL PROVIDE DECAL 1–1/2" x 2–1/2" WITH 3/16" LETTERING STATING THE ABOVE. DECAL SHALL BE LOCATED ON THE OUTSIDE OF ALL SWITCHBOARDS, PANEL BOARDS AND DISCONNECT SWITCHES. DECAL SHALL BE RED AND YELLOW BACKGROUND WITH BLACK LETTERING WITH A CLEAR PLASTIC LAMINATE TOP COVER OVER DECAL.

FLASH PROTECTION DECAL

NOT TO SCALE

RISER GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND TO REPORT TO GENERAL CONTRACTOR, OWNER AND ENGINEER ANY DISCREPANCY FROM THAT SHOWN ON DRAWINGS.
2. ELECTRICAL CONTRACTOR SHALL REQUEST THE DRAWINGS OF ALL OTHER DISCIPLINES APPLICABLE TO THIS SCOPE OF WORK AND CAREFULLY REVIEW ALL DRAWINGS BEFORE WORK COMMENCEMENT OR BID SUBMITTAL. IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ANY ADDITIONAL DEVICE REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL WORK OF SCOPE THAT IS NOT COVERED ON THESE DRAWINGS. COORDINATE ALL NEW ELECTRICAL WORK WITH CONTRACTORS OF ALL TRADES AND OWNER.
3. PANELS ARE REQUIRED TO HAVE AN PANELBOARD NAMEPLATE PER NEC 408.4(B) SEE TYPICAL PANELBOARD NAMEPLATE DETAILS, ELECTRICAL DETAILS SHEET FOR MORE INFORMATION
4. FOR SPECIFIC EQUIPMENT LOCATION, REFER TO ARCHITECTURAL DRAWINGS
5. ALL ELECTRICAL RUNS SHALL BE NO LEES THAT AWG #12 COPPER CONDUCTORS, UNLESS OTHERWISE NOTED.
6. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL ELECTRICAL RACEWAYS AND SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 250–122 OF THE NATIONAL ELECTRICAL CODE.
7. ALL PANELS SHALL HAVE AN AIC AND SCCR OF 22,000 AMPS MINIMUM.



TYPICAL SERVICE TRENCH CONFIGURATION

NOT TO SCALE

RECORD DRAWINGS
SURVEYED BY | DRAWN BY
REVIEWED BY
PROJECT ENGINEER | DATE
APPROVED BY
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 | DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	09/27/19
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	19139

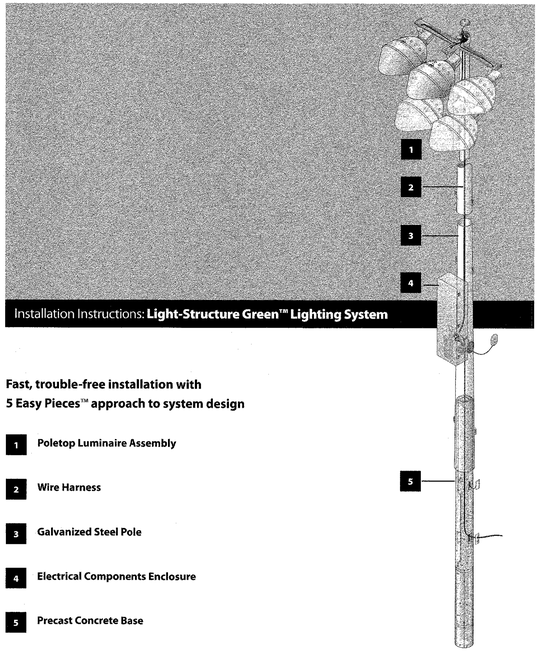
JOSE A ROSARIO, P.E. FLORIDA LICENSE NO. 74457

COUNTRYSIDE SPORTS COMPLEX FIELD 3 AND 4 RENOVATION

REVISED ELECTRICAL RISER DIAGRAM

DRAWN BY SK/JAR	DES/PJ/IGNED BY	CHECKED BY JAR	CLEARWATER CONTRACT NO.
SCALE VERT. NONE	SURVEYED BY Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ. 1"=N/A	DATE DRAWN Nov 24, 2019	DWG NAME 2019–XXXX	SHEET NO. 11

JOSE A ROSARIO, P.E. 74457 | DATE



Installation Instructions: **Light-Structure Green™ Lighting System**

Fast, trouble-free installation with
5 Easy Pieces™ approach to system design

1. **Poletop Luminaire Assembly**
2. **Wire Harness**
3. **Galvanized Steel Pole**
4. **Electrical Components Enclosure**
5. **Precast Concrete Base**

musco Lighting
We Make It Happen.

Installation Instructions: **Light-Structure Green™ Lighting System**

Before You Begin

Standard Tools/Supplies Checklist

Refer to any supplemental instructions provided for additional tools required.

Contractor/installer supplied tools	Function	Page
Hammer, pry-bar, banding cutters	Unloading equipment	7
Water pump	Removing water from base holes (as needed)	9
Two 1½ ton chain-type come-alongs	Jacking pole sections together	11, 23
Large Phillips-head screwdriver	Tightening captive screws to seal enclosure to pole hub	14
Standard screwdriver	Tightening distribution lugs; 45 A disconnect switch	22, 23
Electrical fish tape, electrician's tape	Feeding wire harness through pole	15
Spray paint, chalk, or flags	Marking points to sight in aiming	17
Chalk or pencil	Making alignment marks	21
10 ft (3m) stepladder or small line truck	Connecting supply wires to electrical enclosure	22, 23
Musco supplied tools	**Function**	**Page**
Wooden base wedges	Setting base	9
Level with shim for base taper	Plumbing base	9
Steel bar	Setting base, seating pole on base	9, 21
5/16 inch hex key	Attaching handhole covers on base and steel pole	8, 15, 23
½ inch wrench	Tightening poletop set screw, pole cap fastener, and electrical components enclosure hanger bolt	12, 14, 15
Dishwashing liquid (original Dawn® brand)	Lubricating pole slip-fit connections	11, 17
Wooden shipping blocks	Elevating pole sections off ground during assembly	11
¾ inch ratcheting combination wrench	Tightening captive bolts to secure luminaire assembly	16
Pole rotator kit	Guiding pole onto base, pole alignment	17, 19, 20
Steel chain	Setting pole on base	21
5 mm hex key	Landing primary feed wires on 125 A disconnect switch	23
7/16 inch hex key	Attaching grounding conductors inside electrical enclosure	22, 23
½ inch hex key	Attaching grounding conductors inside pole at handhole	23
Machinery needed	**Function**	**Page**
Crane or forklift with nylon strapping and 8 ft (2.5 m) sling (sized to weight of base)	Unloading materials, setting bases	7, 9
Auger	Boring holes for bases	8
Load-rated crane, nylon slings, and shackles	Setting poles	18, 19, 20

Documents You Need

- ❑ Musco *Foundation and Pole Assembly Drawing*
- ❑ *Field Aiming Diagram*
- ❑ Alternate foundation design (optional, as needed)
- ❑ *Control System Summary*

If you do not have all of these documents, contact Musco at +1-800-825-6020 or call your local representative.

musco Lighting

www.musco.com · lighting@musco.com

Installation Instructions: **Light-Structure Green™ Lighting System**

Before You Begin

Electrical System Requirements

While the majority of the Light-Structure Green lighting system can be assembled by non-professionals, a qualified electrician must handle the electrical supply installation and hook-up in accordance with national, state, and local codes. Your electrician should review this information before installation begins.

The electrician is generally required to provide these items:

- Service entrance
- Main power disconnect and distribution panel(s)
- Supply wiring and equipment grounding conductors

Ensure supply wiring is rated for 90 °C. Review the label inside the electrical components enclosure door and *Control System Summary* for voltage and phase requirements.

Always dispose of lamps and other electronic waste in accordance with all applicable laws and regulations.

Other features that may affect the wiring supply requirements for this project include:

- Lighting contactor cabinets — refer to the supplemental installation instructions and the Musco *Control System Summary*.
- Control-Link® system — refer to the supplemental installation instructions and Musco *Control System Summary*.
- Auxiliary bracket option — customer supplies all wiring for auxiliary components.
- Momentary Power Interruption (MPI) luminaire — refer to the supplemental installation instructions

Volunteer Installation

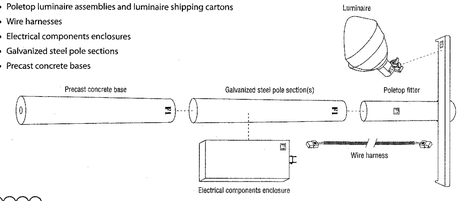
Have a qualified electrician review and complete the following:

- Create electrical system design — prior to installation.
- Provide and install trenching, supply wiring, and conduit.
- Complete all steps from *Connecting to Supply Wiring* section.
- Test complete lighting system.

Components Matching and Labeling

Pole locations are identified by a pole ID (A1, A2, B1, B2, etc.) on the *Field Aiming Diagram*. These IDs are also marked on the individual components:

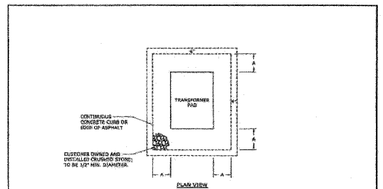
- Poletop luminaire assemblies and luminaire shipping cartons
- Wire harnesses
- Electrical components enclosures
- Galvanized steel pole sections
- Precast concrete bases



musco Lighting

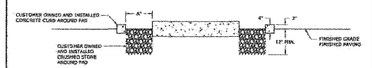
www.musco.com · lighting@musco.com

5



PHASE	TRANSFORMER KVA	A
1Ø	ALL	12"
3Ø	75-300	18"
3Ø	500-3000	24"

CURBING AND ABSORPTION BEDS CAN BE USED TO CONTAIN OIL LEAKS AROUND TRANSFORMERS THAT ARE DEFINED AS A "CRITICAL FACILITY" OR ARE LOCATED IN OR IMMEDIATELY ADJACENT TO PAVED AREAS THAT CONTAIN STORM DRAINS. CONSULT YOUR DUKE ENERGY REPRESENTATIVE FOR PROPER APPLICATION OF THIS STANDARD.



DUKE ENERGY.

DEC	DEM	DEP	DEF
			X

ABSORPTION BEDS FOR TRANSFORMER PADS — FIG 20A

NOTES:

1. CUSTOMER TO PROVIDE AND INSTALL TRANSFORMER PAD PER REFERENCED DRAWING IN SECTION 1.02.
2. THE GROUND SHALL BE LEVELED AND THOROUGHLY COMPACTED BEFORE THE PAD IS INSTALLED.
3. THERE SHALL BE NO ABOVE GROUND OBSTRUCTIONS WITHIN 10 FEET OF THE FRONT OF THE TRANSFORMER OR WITHIN 3' OF THE SIDES AND BACK. IF METERING THOUGH IS LOCATED BEHIND TRANSFORMER, MINIMUM CLEARANCE BETWEEN BACK OF TRANSFORMER AND CLOSEST PART OF TROUGH IS 6 FEET.
4. SOD MAY BE REQUIRED AROUND PAD TO PREVENT EROSION, AS DETERMINED BY A DUKE REPRESENTATIVE.
5. SIDE VENTILATION MAY BE REQUIRED IF THERE IS A WALL CONSTRUCTED AROUND THE TRANSFORMER.
6. IF THE CUSTOMER PLANS TO RUN A NUMBER OF CONDUCTORS BEYOND THE MAXIMUM ALLOWED, A JUNCTION BOX MAY BE REQUIRED FOR TERMINATION OF THE CUSTOMER'S CONDUCTORS. SEE FIGURE 19C.
7. CONTACT A COMPANY ENGINEERING REPRESENTATIVE FOR DETERMINATION OF NEED FOR CRUSHED STONE, CURBING AND TRAFFIC BARRIERS. EXACT ORIENTATION OF THE TRANSFORMER IN THE FIELD MUST BE APPROVED BY A COMPANY ENGINEERING REPRESENTATIVE.
8. IN AREAS WHERE TRANSFORMERS ARE TO BE ELEVATED ABOVE NORMAL GRADE, ENGINEERING DEPARTMENT MUST BE CONTACTED FOR APPROVAL OF DESIGN.
9. EXTEND CONDUITS 1" ABOVE TOP OF CONCRETE PAD.
10. CONDUIT FOR DUKE ENERGY PRIMARY CABLES SHALL BE SPECIFIED BY A DUKE ENERGY REPRESENTATIVE TO BE EITHER 4", 5" OR 6" 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 CONDUIT SHALL BE A SCHEDULE 40 ELBOW WITH A 36" BEND RADIUS.
11. 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.
12. 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.
13. CUSTOMER'S SERVICE CONDUITS SHALL NOT CROSS OR INTERFERE WITH THE PRIMARY CONDUITS. (THE SERVICE CONDUIT CAN EXIT THE SECONDARY SIDE EITHER COMING OUT THE RIGHT, THE RIGHT SIDE, OR THE BACK.)
14. THE SERVICE CONDUITS SHALL NOT EXTEND OUTSIDE THE DESIGNATED SECONDARY SIDE OF THE WINDOW OF THE PAD.

DUKE ENERGY.

DEC	DEM	DEP	DEF
			X

CONDUIT AND CONCRETE SPECIFICATIONS — FIG 19B

UTILITY CONTACT INFORMATION

FOR TRANSFORMER COORDINATION INQUIRIES,
CONTACT JARED A. BUTTS E & TCR– ENGINEER I
CONTACT: 727.562.3814 (OFF), 727.401.7878
EMAIL: JARED.BUTTS@DUKE-ENERGY.COM

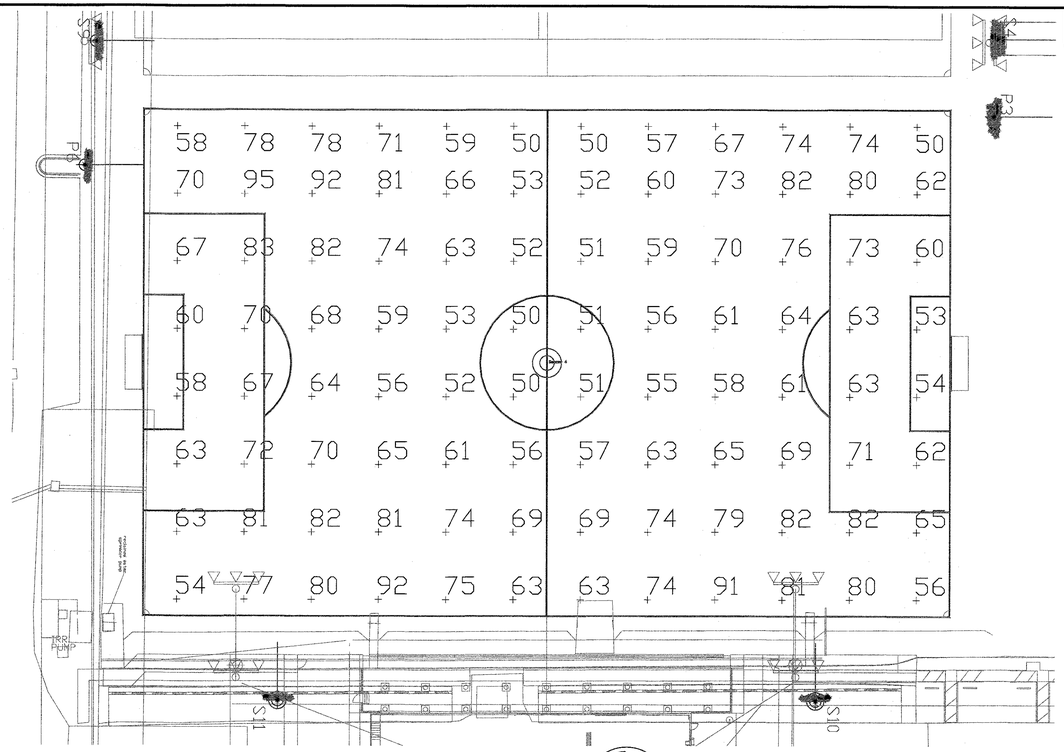
APPROVED SUPPLIER OF PRE-FABRICATED CONCRETE PADS				
PRE-CAST PAD SUPPLIER NUMBER				
	ENCORE PRECAST	OLDCASTLE PRECAST	PBC PRECAST	TRENWA
SMALL FLAT PAD	TRPAD082066	SEE CONTACT BELOW	FP82666	PAD –82X66
LARGE FLAT PAD	TRPAD098104	SEE CONTACT BELOW	FP981046	PAD –104X98

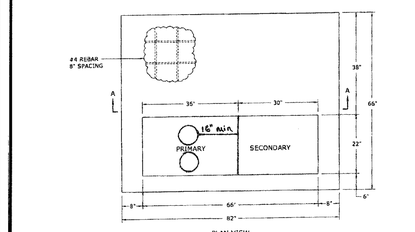
ENCORE PRECAST
CONTACT: JIM MALONEY
PHONE: 513.726.5678 X22
EMAIL/WEBSITE: WWW.ENCOREPRECASTLLC.COM

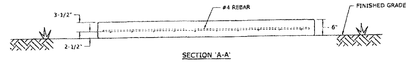
OLDCASTLE PRECAST
CONTACT: ALEX PALOMEQUE
PHONE: 704. 788.4050
EMAIL: Alex.Palomeque@oldcastle .com
WEBSITE: WWW.OLDCASTLEINFRASTRUCTURE .COM

PBC PRECAST
CONTACT: JOHNATHON AVERY
PHONE: 910.260–1820
EMAIL/WEBSITE: WWW.PBCPRECAST.COM

TRENWA
CONTACT:GEORGESCHURR
PHONE: 859.781.0831 X22
EMAIL/WEBSITE: WWW.TRENWA.COM







NOTES:

1. SEE FIGURE 19B FOR NOTES..

DUKE ENERGY.

DEC	DEM	DEP	DEF
			X

FLAT PADS FOR THREE-PHASE PAD-MOUNTED TRANSFORMERS 75KVA - 300KVA — FIG 19A

MY PROJECT

Name:	**Countryside Athletic Complex Redesign**
Location:	Clearwater,FL

GRID SUMMARY

Name:	**Soccer 4**
Size:	360.0' x 225.0'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**66.7**
Maximum:	95
Minimum:	50
Avg / Min:	1.34
Max / Min:	**1.91**
UG (adjacent pts):	1.46
CU:	0.41
CV:	0.17
Application Efficacy:	34.8
No. of Points:	96
LUMINAIRE INFORMATION:	
Luminaire Type:	Green Generation
Design Usage Hours:	5,000 hours
Design Lumens:	134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	106
Avg kW:	165.78 (180.2 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

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 ballast and structures located within 3 feet (1m) of design locations.

RECEIVED BY: J.A.W.
JAN 28 2021
PLANNING & DEVELOPMENT
CITY OF CLEARWATER

RECORD DRAWINGS
SURVEYED BY | DRAWN BY
REVIEWED BY — PROJECT ENGINEER — DATE
APPROVED BY — CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721 — DATE

REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
PARKS & RECREATION DEPT.
100 S. Myrtle Ave.
Clearwater, Fl 33756

GRINER
GRINER ENGINEERING, INC.
1628 First Avenue North
St. Petersburg, Florida 33713
Phone: (727)-822-2335
Fax: (727)-821-3361
Certificate of Authorization #3173

Date	09/27/19
Drawn	SK
Designed	JAR
EOR	JAR
Job no.	19139

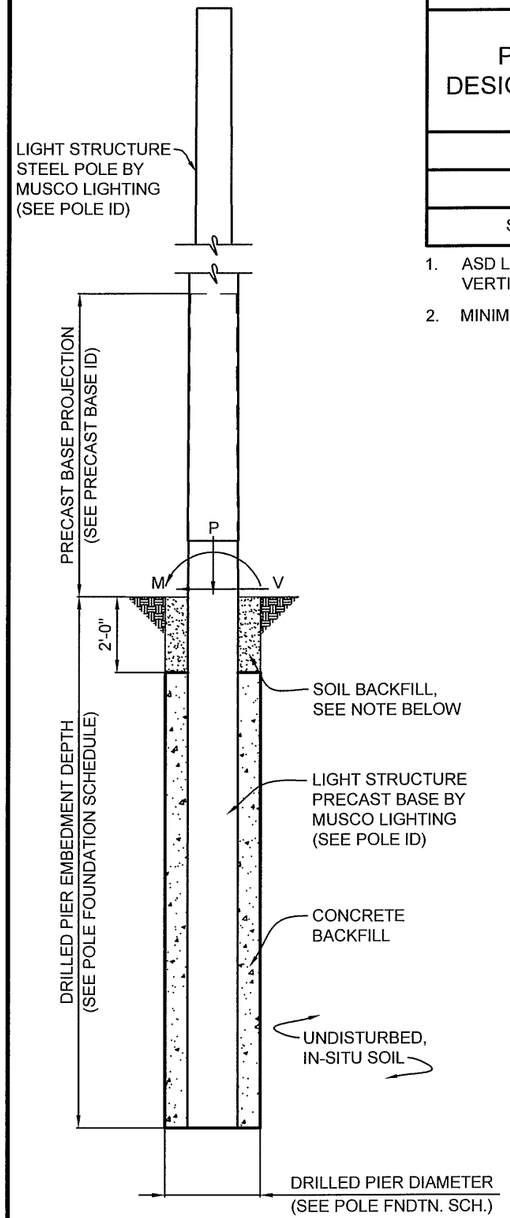
Jose A Rosario, P.E. FL 74457

COUNTRYSIDE SPORTS COMPLEX FIELD 3 AND 4 RENOVATION

PHOTOMETRIC PERFORMANCE DATA

DRAWN BY: SK/JAR	DES/PLIGNED BY	CHECKED BY: JAR	CLEARWATER CONTRACT NO.
SCALE VERT.: NONE	SURVEYED BY: Clearwater	BOOK NO.	CLEARWATER JOB NO.
HORIZ.: 1"=N/A	DATE DRAWN: Nov 24, 2019	DWG NAME: 2019-XXXX	SHEET NO.: 12

JOSE A ROSARIO, P.E. 74457 — DATE



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 4 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

POLE FOUNDATION SCHEDULE

POLE DESIGNATION	FORCES (1.)			DRILLED PIER		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	CONCRETE BACKFILL YD^3 (2.)
P4	237,311	4,646	5,723	36	20'-0"	2.7
P8	174,522	3,733	3,801	30	18'-0"	1.6
S5, S6	88,595	2,184	1,917	30	14'-0"	1.6

1. ASD LOAD COMBINATION D + 0.6W.
   VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT).
2. MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
4B	3,490 LBS	22'-0"	8'-0"	14'-0"	15.75"
6B	6,930 LBS	26'-1"	8'-1"	18'-0"	20.56"
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)
P4	LSS80D	7B	13 (7+6)	28.6
P8	LSS70E	6B	12 (6+6)	28.8
S5, S6	LSS70C	4B	4 (4)	7.6

DESIGN NOTES

DESIGN PARAMETERS:
WIND: V_{ult} = 150 MPH, V_{asd} = 116 MPH (EXPOSURE C, RISK CATEGORY II)
PER FBC, 2020 EDITION (ASCE 7-16), SECTION 1609
DESIGN WIND PARAMETERS ARE AS NOTED, ACTUAL EXPOSURE MUST BE VERIFIED FOR THE SITE BY THE PROPER GOVERNING OFFICIAL.

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 2,000 PSF OR SKIN FRICTION: 367 PSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE:
150 PSF/FT (GRADE TO -2'-0"); 300 PSF/FT (BELOW -2'-0")
IN ACCORDANCE WITH THE 2020 EDITION OF THE FLORIDA BUILDING CODE, CHAPTER 18. SEE TABLE 1806.2, SOIL MATERIAL CLASS 4 & SECTION 1806.3.4.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE.

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.

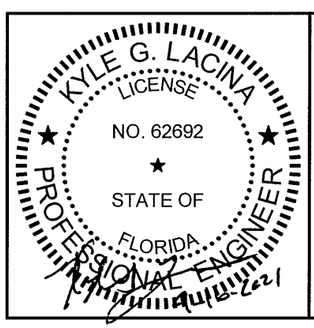
ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS 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. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION OR WHEN THE FREE DROP EXCEEDS 6'-0".

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

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.



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 FLORIDA.

KYLE G. LACINA - NO. PE 62692
LICENSE RENEWAL DATE: FEBRUARY 28, 2022

STRUCTURAL ENGINEERS, P.C. - NO. 26361

DRAWING NO. COVERED BY THIS SEAL: C1

COUNTRYSIDE
ATHLETIC COMPLEX
FIELD LIGHTING - PHASE 3
CLEARWATER, FL

musco Lighting
CORPORATE: 100 1st AVE WEST
OSKALOOSA, IA 52577
(800) 825-6020

STRUCTURAL ENGINEERS, P.C.
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 #208806B

PROJECT NUMBER
208806

DATE
16 APRIL 2021

DRAWING NUMBER
C1
OF ONE