





GENERAL NOTES

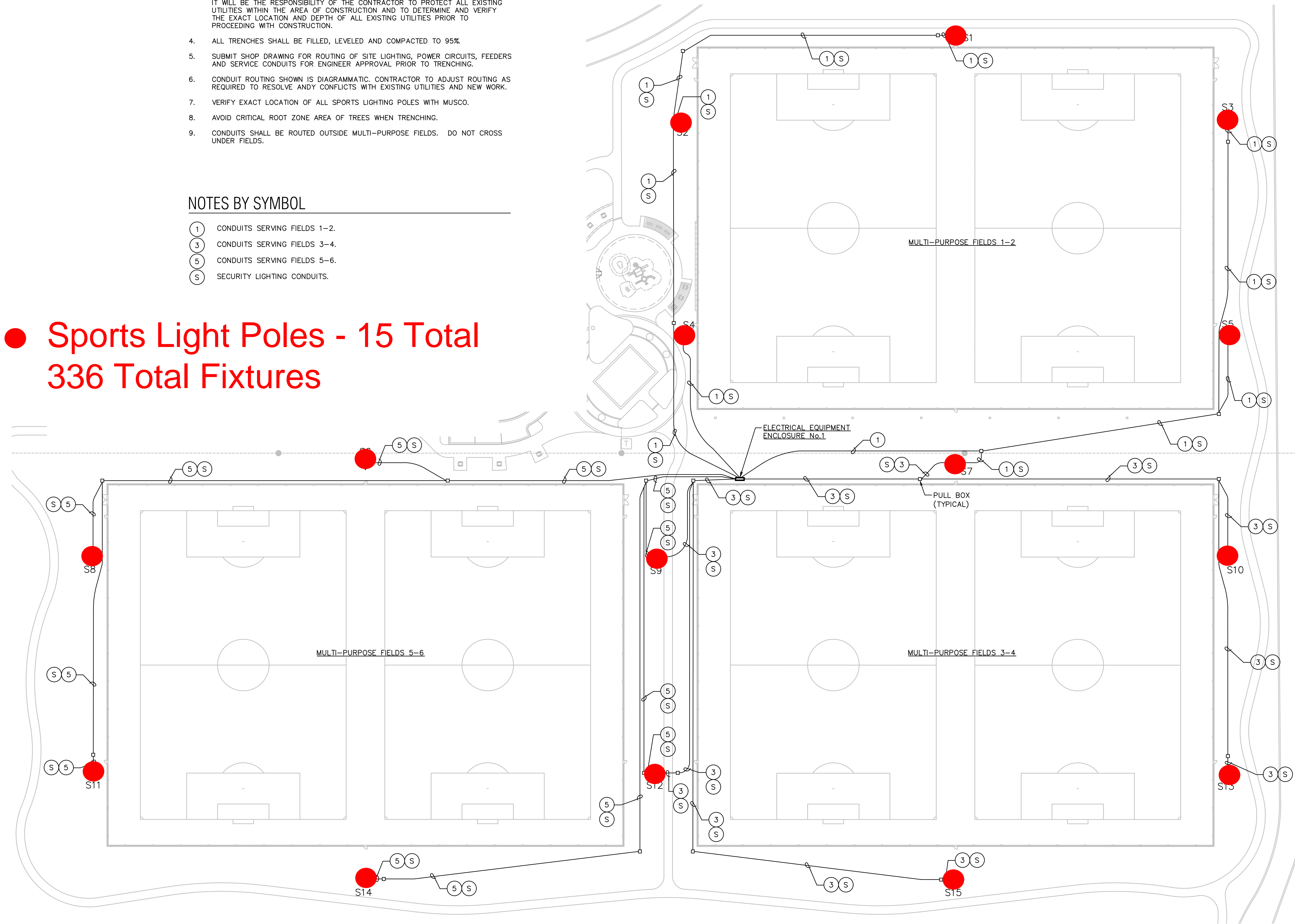
- 1. STAKE LOCATIONS OF ALL POLES, PULL BOXES AND CONDUITS FOR OWNER/ENGINEER APPROVAL BEFORE EXCAVATION OR INSTALLATION.
- 2. ALL CONDUITS SHALL BE MINIMUM OF 30" BELOW GRADE UNLESS OTHERWISE NOTED. DEPTHS SHALL BE INCREASED AS NECESSARY TO COORDINATE WITH OTHER WORK AND AS REQUIRED BY UTILITY COMPANIES TO MAINTAIN SEPARATION AND COVER.
- 3. VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES, IRRIGATION PIPING, IRRIGATION WIRING, TELEPHONE, GAS, NETWORK FIBER, CONDUITS, ETC. CONTACT DIG-TESS OR TEXAS ONE CALL PRIOR TO EXCAVATION. ALL EXISTING UTILITIES ARE NOT SHOWN. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION AND TO DETERMINE AND VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 4. ALL TRENCHES SHALL BE FILLED, LEVELED AND COMPACTED TO 95%.
- 5. SUBMIT SHOP DRAWING FOR ROUTING OF SITE LIGHTING, POWER CIRCUITS, FEEDERS AND SERVICE CONDUITS FOR ENGINEER APPROVAL PRIOR TO TRENCHING.
- 6. CONDUIT ROUTING SHOWN IS DIAGRAMMATIC. CONTRACTOR TO ADJUST ROUTING AS REQUIRED TO RESOLVE ANY CONFLICTS WITH EXISTING UTILITIES AND NEW WORK.
- 7. VERIFY EXACT LOCATION OF ALL SPORTS LIGHTING POLES WITH MUSCO.
- 8. AVOID CRITICAL ROOT ZONE AREA OF TREES WHEN TRENCHING.
- 9. CONDUITS SHALL BE ROUTED OUTSIDE MULTI-PURPOSE FIELDS. DO NOT CROSS UNDER FIELDS.

NOTES BY SYMBOL

- ① CONDUITS SERVING FIELDS 1-2.
- ③ CONDUITS SERVING FIELDS 3-4.
- ⑤ CONDUITS SERVING FIELDS 5-6.
- Ⓢ SECURITY LIGHTING CONDUITS.

SYMBOL LEGEND

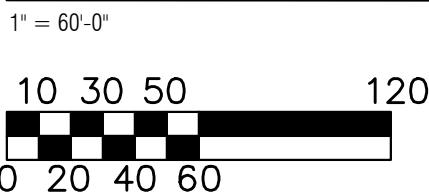
- ⬢ MUSCO SPORTS LIGHTING POLE/FIXTURES
- ⬢ MUSCO SPORTS LIGHTING POLE/FIXTURES WITH SECURITY FIXTURE
- 24"x36" PULL BOX FOR SPORTS LIGHTING CIRCUITS



● Sports Light Poles - 15 Total  
336 Total Fixtures



1 MULTIPURPOSE FIELDS CONDUIT ROUTING



Schrickel, Rollins and Associates, Inc.  
Landscape Architecture • Civil Engineering • Planning  
1161 Corporate Drive West Phone: 817.649.3216  
Suite 200 Metro: 817.640.8212  
Arlington, Texas 76006 Fax: 817.649.7645

Irrigation Designer  
JAMES POLE IRRIGATION CONSULTANTS  
100 West Oak Street, Suite 106  
Denton, Texas 76201  
817.483.2373 FAX 817.483.4233

Electrical Engineer  
YAGGI ENGINEERING, INC.  
5840 W. I-20, Suite 270  
Arlington, Texas 76017  
817.483.2373 FAX 817.483.4233  
Texas Registered Engineer Firm #F-9622

Structural Engineer  
DON ILLINGWORTH AND ASSOC., INC.  
2401 Ave. J, Suite 208  
Arlington, Texas 76006  
817.649.1544 FAX 817.649.1545  
Texas Registered Engineer Firm #F-4308

1849 PARK

PARKS AND RECREATION DEPARTMENT  
CITY OF PFLUGERVILLE, TEXAS



DATE:	SEPTEMBER 26, 2017
REVISED:	
STATUS:	BID SET
DESIGN BY:	PLL
DRAWN BY:	PLL
JOB NO.	5321
PROJECT NAME:	1849 PARK, PFLUGERVILLE, TEXAS

MULTIPURPOSE  
FIELDS -  
CONDUIT ROUTING

BAR IS ONE INCH LONG ON ORIGINAL DRAWING.  
CHECK SCALE AND ADJUST ACCORDINGLY.

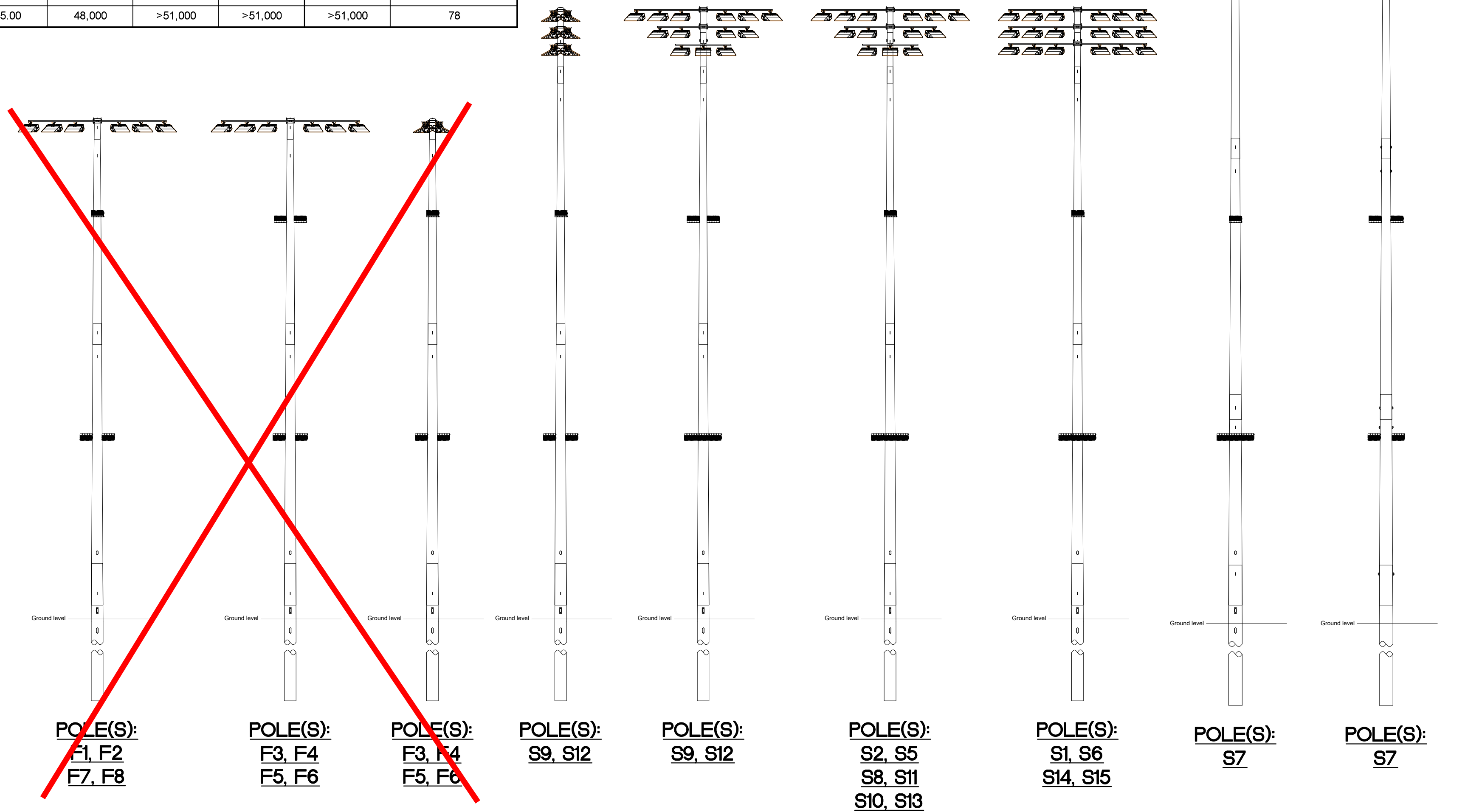


SHEET NO.

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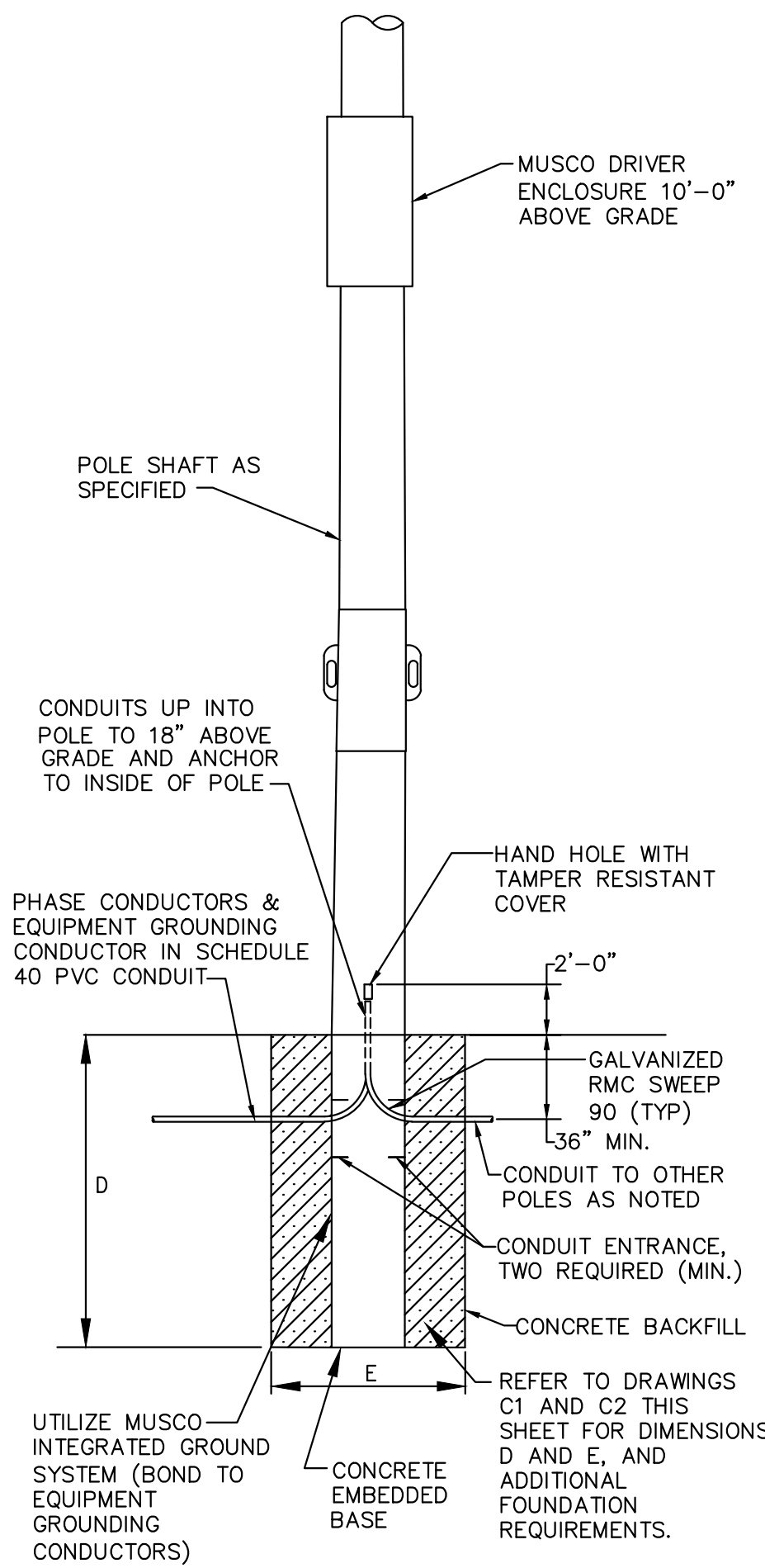


FIXTURE TYPE SUMMARY							
TYPE	SOURCE	WATTAGE	LUMENS	L90	L80	L70	QUANTITY
TLC-LED-1150	LED 4500 - 75 CRI	1150.00	121,000	>51,000	>51,000	>51,000	340
Cree OSQ	LED 4500 - 70 CRI	130.00	17,000	---	---	---	140
TLC-LED-400	LED 4500 - 75 CRI	400.00	38,600	61,000	>72,000	>72,000	30
TLC-BT-675	LED 4500 - 75 CRI	675.00	48,000	>51,000	>51,000	>51,000	78



## GENERAL NOTES

1. PROVIDE LIGHTNING PROTECTION SYSTEM FOR EACH SPORTS LIGHTING POLE AND BUILDING.



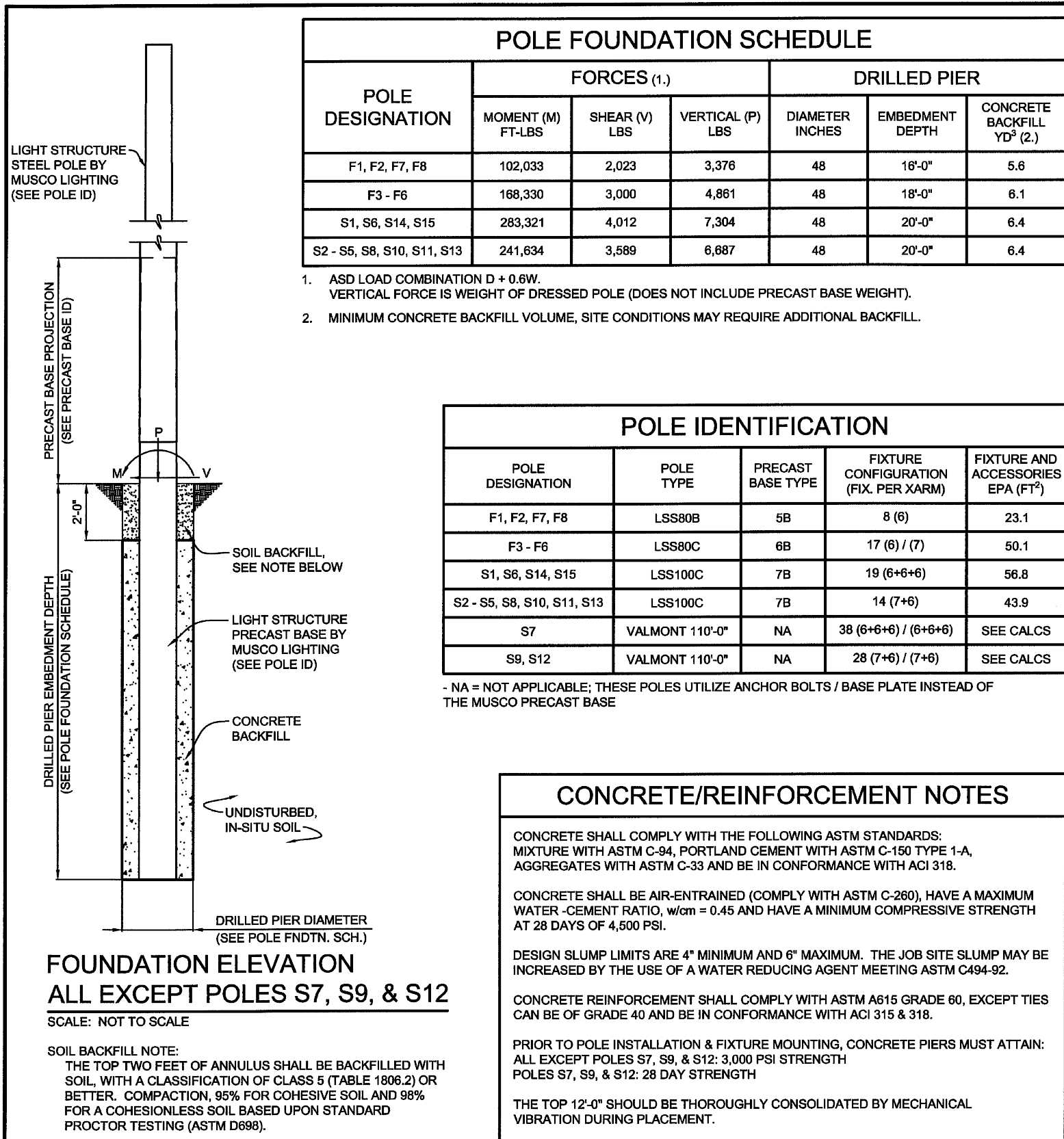
## MUSCO BASE DETAIL

NOT TO SCALE

## SPORTS LIGHTING POLE ELEVATIONS

NOT TO SCALE

NOTE: ALL ITEMS THIS DETAIL FURNISHED AND INSTALLED BY OWNER UNDER SEPARATE BUYBOARD CONTRACT.



### FOUNDATION ELEVATION

ALL EXCEPT POLES S7, S9, & S12

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:  
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D998).

### CONCRETE/REINFORCEMENT NOTES

CONCRETE SHALL COMPLY WITH THE FOLLOWING ASTM STANDARDS:  
MORTURE WITH ASTM C-31, PORTLAND CEMENT WITH ASTM C-150 TYPE 1-A, AGGREGATES WITH ASTM C-33 AND BE IN CONFORMANCE WITH ACI 318.

CONCRETE SHALL BE AIR-ENTRAINED (COMPLY WITH ASTM C-260), HAVE A MAXIMUM WATER-CEMENT RATIO, w/cm = 0.45 AND HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4,500 PSI.

DESIGN SLUMP LIMITS ARE 4" MINIMUM AND 6" MAXIMUM. THE JOB SITE SLUMP MAY BE INCREASED BY THE USE OF A WATER REDUCING AGENT MEETING ASTM C-494-02.

CONCRETE REINFORCEMENT SHALL COMPLY WITH ASTM A615 GRADE 60, EXCEPT TIES CAN BE OF GRADE 40 AND BE IN CONFORMANCE WITH ACI 318 & 318.

PRIOR TO POLE INSTALLATION & FIXTURE MOUNTING, CONCRETE PIERS MUST ATTAIN ALL EXCEPT POLES S7, S9, & S12: 3,000 PSI STRENGTH  
POLES S7, S9, & S12: 28 DAY STRENGTH

THE TOP 12" OF SHOULD BE THOROUGHLY CONSOLIDATED BY MECHANICAL VIBRATION DURING PLACEMENT.

### DESIGN NOTES

DESIGN PARAMETERS:  
WIND:  $V_w = 115$  MPH,  $V_{w,100} = 89$  MPH (EXPOSURE C, RISK CATEGORY II) PER INTERNATIONAL BUILDING CODE, 2012 EDITION (ASCE 7-10). 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: 2,900 PSF  
ALLOWABLE LATERAL SOIL BEARING PRESSURE: 0 PSF/FT (GRADE TO -5'-0")  
133 PSF/FT (5'-0" TO -10'-0"), 250 PSF/FT (BELOW -10'-0")  
IN ACCORDANCE WITH THE 2012 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 16.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE SOILS AND FOUNDATION REPORT, NO. AAH19-09-00, PREPARED BY RABAKISTNER CONSULTANTS, INC., AUSTIN, TX.

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.

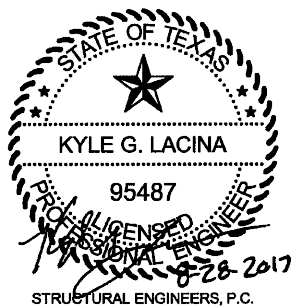
ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS 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 DRILL 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.

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.  
ALL EXCEPT POLES S7, S9, & S12: POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

POLES S7, S9, & S12: POLES, BASE PLATES, ANCHOR BOLTS, AND FORCES PROVIDED BY POLE MANUFACTURER, VALMONT INDUSTRIES, INC. FIXTURES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING. TOP OF FOUNDATION SHOULD BE A MINIMUM OF 6" AND A MAXIMUM OF 12" ABOVE GRADE. ANY FOUNDATION PROJECTION OUTSIDE THIS RANGE MUST BE APPROVED BY OWNER AND MUSCO.



1849 PARK FIELD LIGHTING PFLUGERVILLE, TX

STRUCTURAL ENGINEERS, P.C.

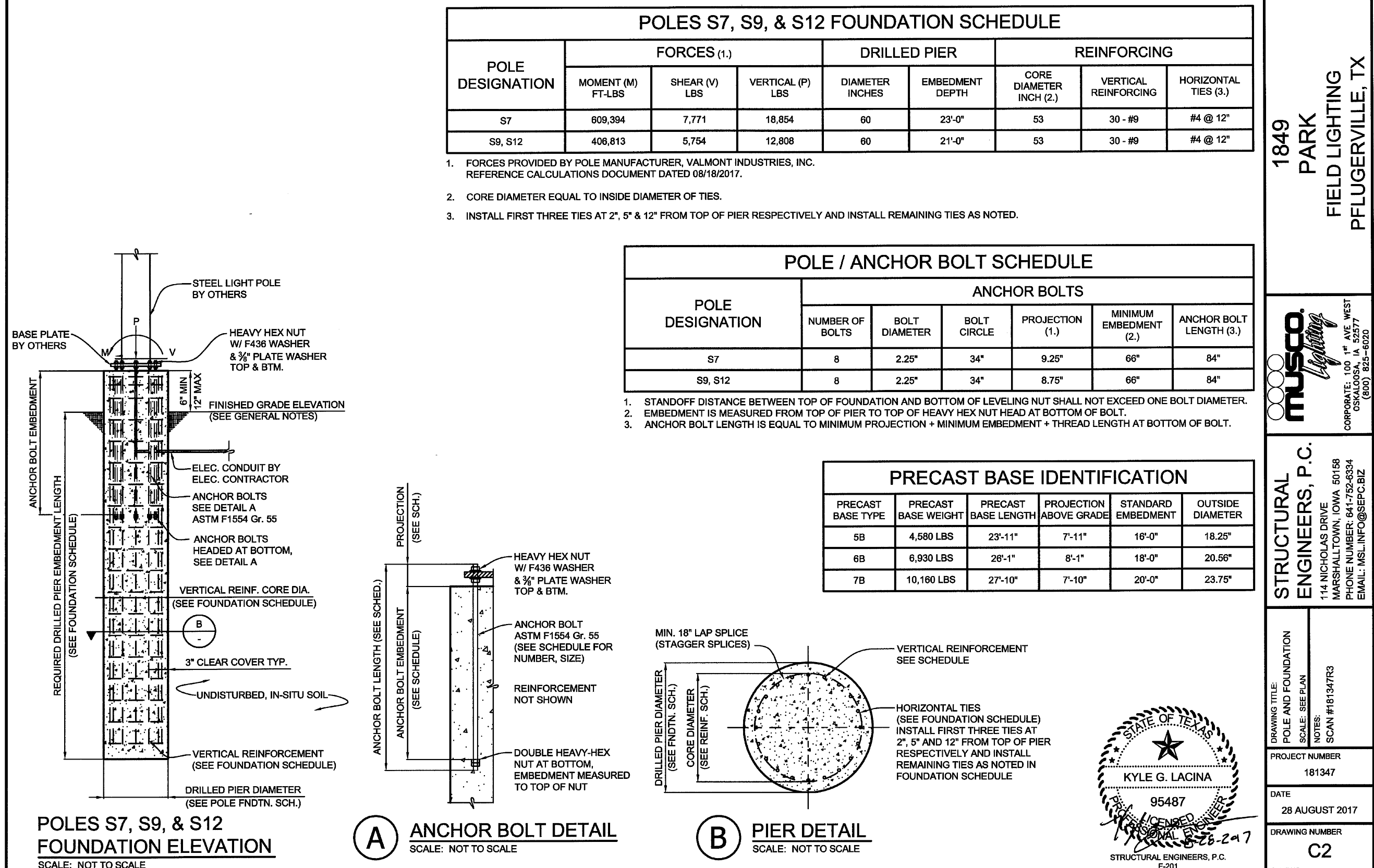
11400 MARSHALLTOWN, IOWA 50158  
MARSHALLTOWN, IOWA 50158  
PHONE: 641-729-0334  
FAX: 641-729-0334  
E-MAIL: INFO@STRUCTURAL-PC.COM

PROJECT NUMBER: 181347

DATE: 28 AUGUST 2017

DRAWING NUMBER: C1

OF TWO



POLES S7, S9, & S12 FOUNDATION SCHEDULE							
POLE DESIGNATION	FORCES (1)			DRILLED PIER		REINFORCING	
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	CORE DIAMETER INCH (2)	VERTICAL REINFORCING
S7	809,394	7,771	18,854	60	22'-0"	S3	30 - #9
S9, S12	406,813	5,754	12,808	60	21'-0"	S3	30 - #9

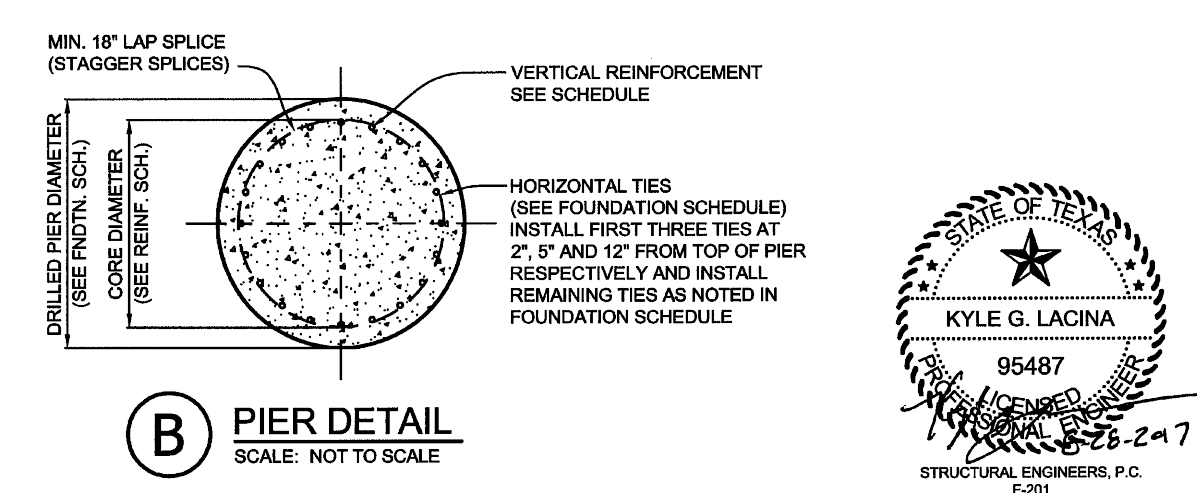
1. FORCES PROVIDED BY POLE MANUFACTURER, VALMONT INDUSTRIES, INC. REFERENCE CALCULATIONS DOCUMENT DATED 08/18/2017.
2. CORE DIAMETER EQUAL TO INSIDE DIAMETER OF TIES.
3. INSTALL FIRST THREE TIES AT 2', 5' & 12" FROM TOP OF PIER RESPECTIVELY AND INSTALL REMAINING TIES AS NOTED.

POLE / ANCHOR BOLT SCHEDULE						
POLE DESIGNATION	ANCHOR BOLTS					
	NUMBER OF BOLTS	BOLT DIAMETER	BOLT CIRCLE	PROJECTION (1)	MINIMUM EMBEDMENT (2)	ANCHOR BOLT LENGTH (3)
S7	8	2.25"	34"	9.25"	66"	84"
S9, S12	8	2.25"	34"	8.75"	66"	84"

1. STANDOFF DISTANCE BETWEEN TOP OF FOUNDATION AND BOTTOM OF LEVELING NUT SHALL NOT EXCEED ONE BOLT DIAMETER.
2. EMBEDMENT IS MEASURED FROM TOP OF PIER TO TOP OF HEAVY HEX NUT HEAD AT BOTTOM OF BOLT.
3. ANCHOR BOLT LENGTH IS EQUAL TO MINIMUM PROJECTION + MINIMUM EMBEDMENT + THREAD LENGTH AT BOTTOM OF BOLT.

### PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
S8	4,580 LBS	23'-11"	7'-11"	16'-0"	18'-25"
S8	6,930 LBS	28'-11"	8'-1"	18'-0"	20'-56"
S7	10,160 LBS	27'-10"	7'-10"	20'-0"	23'-76"



### PIER DETAIL

SCALE: NOT TO SCALE

### ANCHOR BOLT DETAIL

SCALE: NOT TO SCALE

### POLES S7, S9, & S12 FOUNDATION ELEVATION

SCALE: NOT TO SCALE



Schrickel, Rollins and Associates, Inc.  
Landscape Architecture - Civil Engineering - Planning  
1161 Corporate Drive West Phone: 817.649.3216  
Suite 200 Metro: 817.640.8212  
Arlington, Texas 76006 Fax: 817.649.7645

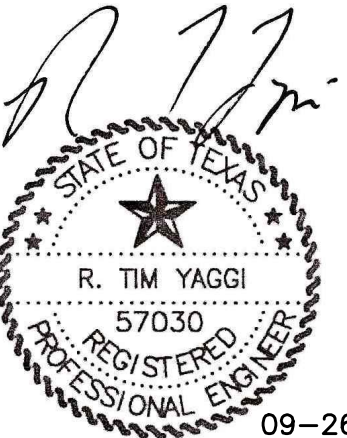
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Texas Registered Engineer Firm #F-4308

## 1849 PARK

PARKS AND RECREATION DEPARTMENT  
CITY OF PFLUGERVILLE, TEXAS



DATE: SEPTEMBER 26, 2017

REVISED:

STATUS: BID SET

DESIGN BY: PLL

DRAWN BY: PLL

JOB NO. 5321

PROJECT NAME:  
1849 PARK, PFLUGERVILLE, TEXAS

## SPORTS LIGHTING DETAILS

BAR IS ONE INCH LONG ON ORIGINAL DRAWING. CHECK SCALE AND ADJUST ACCORDINGLY.

SHEET NO.