

CITY OF PHOENIX STREET LIGHTING PROJECT NAME

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.			
DR: _____ DES: _____ CK: _____ DATE: _____				

STREET LIGHT LAYOUT:

STREET LIGHTING GENERAL NOTES

THE FOLLOWING INFORMATION IS PROVIDED TO EMPHASIZE CRITICAL WORK AND IS INTENDED TO SUPPLEMENT THE SPECIFICATIONS.

- THE CONTRACTOR SHALL COMPLY WITH STATE AND CITY STATUTES AND ORDINANCES.
- PRIOR TO SUBMITTAL, THE STREET LIGHT DESIGNER SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND VISIT THE CONSTRUCTION SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH HE WILL OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THE CONTRACT.
- THE STREET LIGHT DESIGNER SHOULD VERIFY DIMENSIONS AT THE SITE AND IMMEDIATELY REPORT DIFFERENCES TO THE DEVELOPER'S CONSTRUCTION MANAGER AND NOT PROCEED WITH WORK UNTIL THE CONSTRUCTION MANAGER RENDERS A DECISION.
- THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL LICENSING REQUIREMENTS SET FORTH BY THE STATE REGISTRAR OF CONTRACTORS OFFICE TO PERFORM WORK RELATING TO STREET LIGHT INSTALLATION IN CITY OF PHOENIX RIGHT-OF-WAY.
- ONE DRY UTILITY PERMIT FOR EACH CITY OF PHOENIX STREET LIGHT PROJECT SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- LIGHT POLES SHALL BE INSTALLED PLUMB, BE ADJUSTED TO PROVIDE PROPER ALIGNMENT TO THE ROADWAY BEING LIGHTED AND BE PROPERLY GROUNDED WHEN THE INSTALLATION IS COMPLETED.
- STREET LIGHTS ARE INSPECTED BY THE CITY OF PHOENIX STREETLIGHTING INSPECTOR. THE UTILITY COMPANY WILL PROVIDE THE POLE NUMBER. MOUNT THE BOTTOM NUMBER AT 7'-0" STACKING THE NUMBERS UP VERTICALLY AND FACING STREETSIDE. THIS MUST BE DONE PRIOR TO ACCEPTANCE AND ENERGIZATION.
- LUMINAIRES SHALL BE INSTALLED LEVEL AND INCLUDE A LAMP AND PHOTOCCELL. THE LUMINAIRES SHALL BE FREE OF DUST, DIRT OR ANYTHING THAT WOULD IMPAIR THE OUTPUT OF THE LIGHT.
- LUMINAIRES FURNISHED WITH MULTI-TAP DRIVERS SHALL BE REWIRED OR RECONNECTED TO MATCH THE VOLTAGE SUPPLIED BY THE ELECTRIC UTILITY COMPANY.
- POLE SHALL BE SET PLUMB IN TWO DIRECTIONS, NINETY (90) DEGREES APART.
- SURPLUS EXCAVATION SHALL BE DISPOSED OF BY THE CONTRACTOR.
- WIRING SHALL BE INSTALLED PER SERVING UTILITY COMPANY STANDARDS. CONDUIT SHALL BE INSTALLED AT THE DEPTH SPECIFIED ON THEIR PLANS.
- CONDUIT MUST BE LISTED AND LABELED AND SUITABLE FOR UNDERGROUND USE.
- CONNECTIONS SHALL BE PER SERVING UTILITY COMPANY STANDARDS. EACH POLE SHALL HAVE A 8' X 5/8" COPPER CLAD GROUND ROD DRIVEN BENEATH PULL BOX. A #6 BARE COPPER LEAD FROM THE GROUND ROD IN PULL BOX TO LANDING LUG IN STREET LIGHT POLE HAND HOLE IS REQUIRED.
- EXCAVATION FOR PULL BOXES AND MATERIAL SPECIFICATIONS SHALL BE PER SERVING UTILITY COMPANY STANDARDS.
- TRENCH SHALL BE INSTALLED PER SERVING UTILITY COMPANY STANDARDS. THE USE OF A COMMON ELECTRIC UTILITY COMPANY TRENCH IS PERMITTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANY FOR COORDINATION OF THE TRENCHING AND THE INSTALLATION OF CONDUIT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE ALL PROPERTY, LANDSCAPING, PAVING AND DRIVEWAYS THAT ARE DISTURBED DURING STREET LIGHT CONSTRUCTION TO THEIR ORIGINAL CONDITION IN CONFORMANCE WITH MAG SPECIFICATION SECTION 107.9.
- IF A FIXTURE SHOULD FAIL, IT SHALL BE IMMEDIATELY REPLACED. THE DEVELOPER SHALL BE RESPONSIBLE FOR FURNISHING ALL PERSONNEL AND EQUIPMENT NECESSARY TO SUCCESSFULLY REPAIR THE FIXTURE.
- THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ENGINEERING MANAGER, AGAINST IMPERFECT WORKMANSHIP, FAILURE, MALFUNCTION OF MATERIALS AND/OR EQUIPMENT DUE TO FAULTY OR IMPERFECT WORKMANSHIP.
- THIS GUARANTEE IS TO BE IN WRITING TO THE CITY AT THE TIME OF ISSUING FINAL ACCEPTANCE. MATERIALS AND WORKMANSHIP FOUND TO BE DEFECTIVE WITHIN THE WARRANTY PERIOD SHALL BE REPLACED WITHOUT COST TO THE CITY.

LED STREETLIGHT NOTES

SPECIAL PEDESTRIAN

- INSTALL ONE 29W LED (3,800 LUMEN) FIXTURE WITH PHOTOELECTRIC CONTROL ON A 30'-6" POLE WITH A 2' MAST ARM PER SRP DETAIL AND SPECIFICATIONS. FOUNDATION AND GROUNDING PER SRP STANDARDS AND SPECIFICATIONS. POLE SHALL BE CENTERED 1'-0" BEHIND BACK OF SIDEWALK OR 4'-0" BEHIND BACK OF CURB. INSTALL LUMINAIRE CONDUCTORS (2) #12 AWG (STRANDED) THHN/THWN WITH FUSE HOLDER ON HOT LEG 120/240 CIRCUIT. INSTALL PULL BOX ADJACENT POLE WITH 1" FLEX CONDUIT TO POLE PER SRP SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER SRP DETAILS AND SPECIFICATIONS.

LOCAL

- INSTALL ONE 37W LED (4,700 LUMEN) FIXTURE WITH PHOTOELECTRIC CONTROL ON A 30'-6" POLE WITH A 6' MAST ARM PER SRP DETAIL AND SPECIFICATIONS. FOUNDATION AND GROUNDING PER SRP STANDARDS AND SPECIFICATIONS. POLE SHALL BE CENTERED 1'-0" BEHIND BACK OF SIDEWALK OR 4'-0" BEHIND BACK OF CURB. INSTALL LUMINAIRE CONDUCTORS (2) #12 AWG (STRANDED) THHN/THWN WITH FUSE HOLDER ON HOT LEG 120/240 CIRCUIT. INSTALL PULL BOX ADJACENT POLE WITH 1" FLEX CONDUIT TO POLE PER SRP SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER SRP DETAILS AND SPECIFICATIONS.

COLLECTOR

- INSTALL ONE 68W LED (8,000 LUMEN) FIXTURE WITH PHOTOELECTRIC CONTROL ON A 38'-6" POLE WITH A 6' MAST ARM PER SRP DETAIL AND SPECIFICATIONS. FOUNDATION AND GROUNDING PER SRP STANDARDS AND SPECIFICATIONS. POLE SHALL BE CENTERED 1'-0" BEHIND BACK OF SIDEWALK OR 4'-0" BEHIND BACK OF CURB. INSTALL LUMINAIRE CONDUCTORS (2) #12 AWG (STRANDED) THHN/THWN WITH FUSE HOLDER ON HOT LEG 120/240 CIRCUIT. INSTALL PULL BOX ADJACENT POLE WITH 1" FLEX CONDUIT TO POLE PER SRP SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER SRP DETAILS AND SPECIFICATIONS.

MAJOR

- INSTALL ONE 87W LED (9,700 LUMEN) FIXTURE WITH PHOTOELECTRIC CONTROL ON A 38'-6" POLE WITH A 6' MAST ARM PER SRP DETAIL AND SPECIFICATIONS. FOUNDATION AND GROUNDING PER SRP STANDARDS AND SPECIFICATIONS. POLE SHALL BE CENTERED 1'-0" BEHIND BACK OF SIDEWALK OR 4'-0" BEHIND BACK OF CURB. INSTALL LUMINAIRE CONDUCTORS (2) #12 AWG (STRANDED) THHN/THWN WITH FUSE HOLDER ON HOT LEG 120/240 CIRCUIT. INSTALL PULL BOX ADJACENT POLE WITH 1" FLEX CONDUIT TO POLE PER SRP SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER SRP DETAILS AND SPECIFICATIONS.

SPECIAL MAJOR

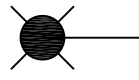

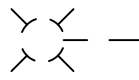
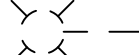
- INSTALL ONE 140W LED (16,900 LUMEN) FIXTURE WITH PHOTOELECTRIC CONTROL ON A 38'-6" POLE WITH A 6' MAST ARM PER SRP DETAIL AND SPECIFICATIONS. FOUNDATION AND GROUNDING PER SRP STANDARDS AND SPECIFICATIONS. POLE SHALL BE CENTERED 1'-0" BEHIND BACK OF SIDEWALK OR 4'-0" BEHIND BACK OF CURB. INSTALL LUMINAIRE CONDUCTORS (2) #12 AWG (STRANDED) THHN/THWN WITH FUSE HOLDER ON HOT LEG 120/240 CIRCUIT. INSTALL PULL BOX ADJACENT POLE WITH 1" FLEX CONDUIT TO POLE PER SRP SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER SRP DETAILS AND SPECIFICATIONS.

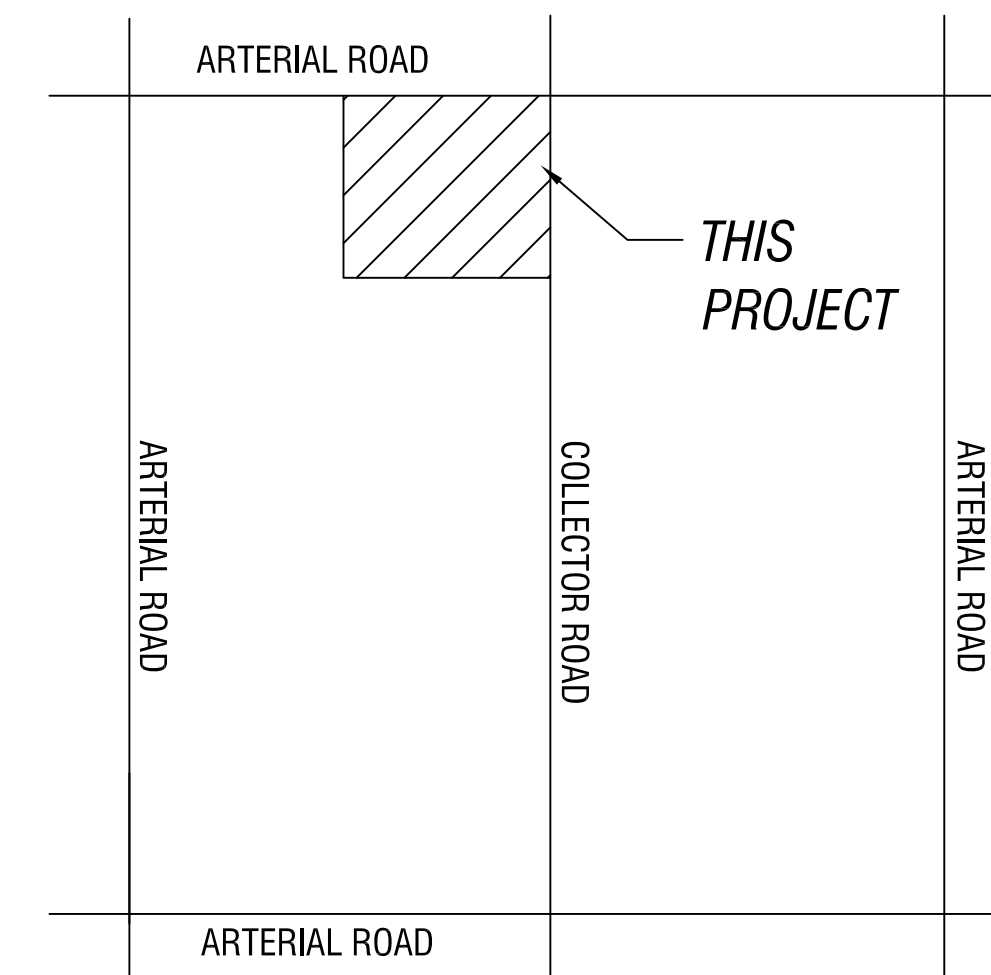
SALT RIVER PROJECT (SRP) NOTES

- CONTRACTOR SHALL CALL SRP FOR A PRE-CONSTRUCTION MEETING PRIOR TO ANY EXCAVATION AT (602) 236-6300.
- CONTRACTOR WILL SUPPLY ALL TRENCHING AND CONDUIT IF REQUESTED BY THE COP PROJECT MANAGER.
- CONTRACTOR WILL STAKE STREET LIGHTS PER CITY OF PHOENIX APPROVED STREET LIGHT CONSTRUCTION DRAWINGS.
- GRADE STAKE WILL BE SET WITHIN TWO (2) FEET OF J-BOX LOCATION.
- CONTRACTOR WILL COORDINATE WITH SRP AND CITY OF PHOENIX FOR DE-ENERGIZING OF STREETLIGHT CONDUCTOR.
- GROUND ROD WILL BE PROVIDED AND INSTALLED BY CONTRACTOR IN SRP J-BOX AT EACH STREETLIGHT LOCATION.
- #6 BARE COPPER GROUND WIRE TO BE ATTACHED FROM GROUNDING LUG ON STREETLIGHT POLE TO GROUND ROD IN J-BOX.
- IF THE CONTRACTOR INSTALLS THE POLE, THE BARE #6 COPPER GROUND WIRE SHALL BE CONNECTED FROM THE GROUND ROD IN THE SRP J-BOX TO THE GROUND CONNECTION IN THE POLE HAND-HOLE.
- ALL TRENCHING AND CONDUIT TO BE INSPECTED BY SRP. DO NOT BACKFILL UNTIL INSPECTED.
- SRP CONSTRUCTION PRINT MUST BE USED AS A TRENCHING REFERENCE. TRENCHING VARIATIONS MUST HAVE WRITTEN SRP DESIGNER APPROVAL. FOLLOW DETAILS FOR CONSTRUCTION. VARIATIONS IN TRENCH ROUTE MAY RESULT IN A REDESIGN FEE PAYABLE BY CONTRACTOR.
- TRENCHES SHOULD BE STRAIGHT, LEVEL AND FREE OF DEBRIS. ALL TRENCH DEPTHS MEASURED FROM FINAL GRADE TOP OF CONDUIT (PER SRP DESIGN) WITHIN ALL EASEMENTS AND RIGHT OF WAY. MAINTAIN MINIMUM 6" CLEARANCE FROM WATER LINES, 19" FROM ALL GAS LINES AND 12" CLEARANCE FORM OTHER UTILITIES.
- USE DB120 PVC FOR ALL STRAIGHT CONDUIT, 36" RADIUS SCHEDULE 40 PVC SWEEPS FOR ALL ELBOWS. NO REDUCERS ARE ALLOWED IN CONDUIT SYSTEM, NO COUPLINGS OR BELL ENDS ARE ALLOWED AT EQUIPMENT LOCATIONS. ALL CONDUITS WITHIN ROAD RIGHT OF WAY OR P.U.E. MUST BE RED.
- RETAINING WALLS ARE REQUIRED ADJACENT TO EQUIPMENT WHERE THE GRADE SLOPE IS GREATER THAN 30" IN 12'.
- ALL CONDUIT STUB OUTS ARE TO BE CAPPED AND MARKED WITH ELECTRONIC MARKER AND 7" RED FLAG MARKING RIBBON.
- HARD CAPS ARE TO BE USED FOR ALL STUB OUTS BELOW GRADE.
- A MANDREL INSPECTION IS REQUIRED WITH SRP INSPECTOR WITHIN 3 DAYS OF FINAL INSPECTION. CONTRACTOR MUST PROVIDE 2 REPRESENTATIVES, MINIMUM 125-CFM TRAILER MOUNTED COMPRESSOR AND ALL NECESSARY ATTACHMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INTEGRITY OF ALL CONDUITS UNTIL SRP HAS INSTALLED CONDUCTORS.
- BACKFILL REQUIREMENTS FOR A TRENCH IN OR UNDER FUTURE PAVEMENT TO BE 1 PART SLURRY MIX IN ROAD RIGHT OF WAY AND IN DIRT TO BE 1/2 SLURRY MIX AND 1/2 SLURRY MIX MAXIMUM UNDER ALL SRP EQUIPMENT.
- SEE DUCT BANK SPECIFICATIONS FOR ALL DUCT BANK ENCASEMENT REQUIREMENTS.

20. SRP TO PROVIDE AND INSTALL ALL POLE NUMBERS ON THE POLES AT THE TIME OF ENERGIZATION OF THE POWER TO THE STREETLIGHT PER SRP OUTDOOR LIGHTING STANDARDS 16-13-1.

LEGEND

-  NEW LED COBRAHEAD LUMINAIRE
-  STAND ALONE STREET LIGHT POLE
-  EXISTING STREET LIGHT MOUNTED ON POWER POLE
-  EXISTING STREET LIGHT POLE



VICINITY MAP

N.T.S.

PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX.

STREET LIGHT COVER SHEET

 CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

PROJECT #:	FILE NO:
DR: _____	SHEET NO.
DES: _____	TOTAL SHEETS
DATE: _____	SL-1
SCALE: NTS	TOTAL

ITEM NUMBER	TYPE OF STREET	QUANTITY	MOUNTING HEIGHT	POLE LENGTH	MAST ARM	APPROVED POLE & ARM MANUFACTURERS	LUMEN	TYPE	WATTAGE	VOLTAGE	LUMINAIRE STYLE	APPROVED LUMINAIRE MANUFACTURERS
1	LOCAL	0	25'-11"	30'-6"	6'	CEM-TEC MS-1936 VALMONT CB09158 SOUTHWEST FABRICATION, LLC 306RDB	3,800	LED	37 W	120/208/240/277 AS POWER CO. REQUIRES	COBRAHEAD	GENERAL ELECTRIC ERL1005A327AGRAY
2	COLLECTOR	0	32'-11"	38'-6"	6'	CEM-TEC MS-1944 VALMONT CB09159 SOUTHWEST FABRICATION, LLC 386RDB	8,000	LED	68 W	120/208/240/277 AS POWER CO. REQUIRES	COBRAHEAD	GENERAL ELECTRIC ERL1008C327AGRAY
3	ARTERIAL	0	34'-3"	38'-6"	6'	CEM-TEC MS-1944 VALMONT CB09159 SOUTHWEST FABRICATION, LLC 386RDB	9,700	LED	87 W	120/208/240/277 AS POWER CO. REQUIRES	COBRAHEAD	GENERAL ELECTRIC ERL1010C327AGRAY

ALL CATALOG NUMBERS SHALL BE CONFIRMED WITH POWER COMPANY PRIOR TO ORDERING

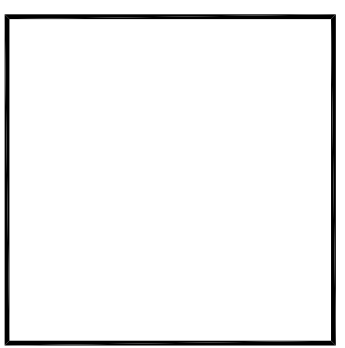
SHEET INDEX

- COVER SHEET SL-1
- STREETLIGHT PLAN SL-2
- DETAIL SHEET SL-3



PROJECT #:

FILE #:

	F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
	9	ARIZ.			
DR:	DES:	CK:	DATE:		

INSERT PLAN OF PROJECT AREA

STREET LIGHT PLAN SHEET

SCALE: 1"=40'

PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX.

STREET LIGHT PLAN SHEET



CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

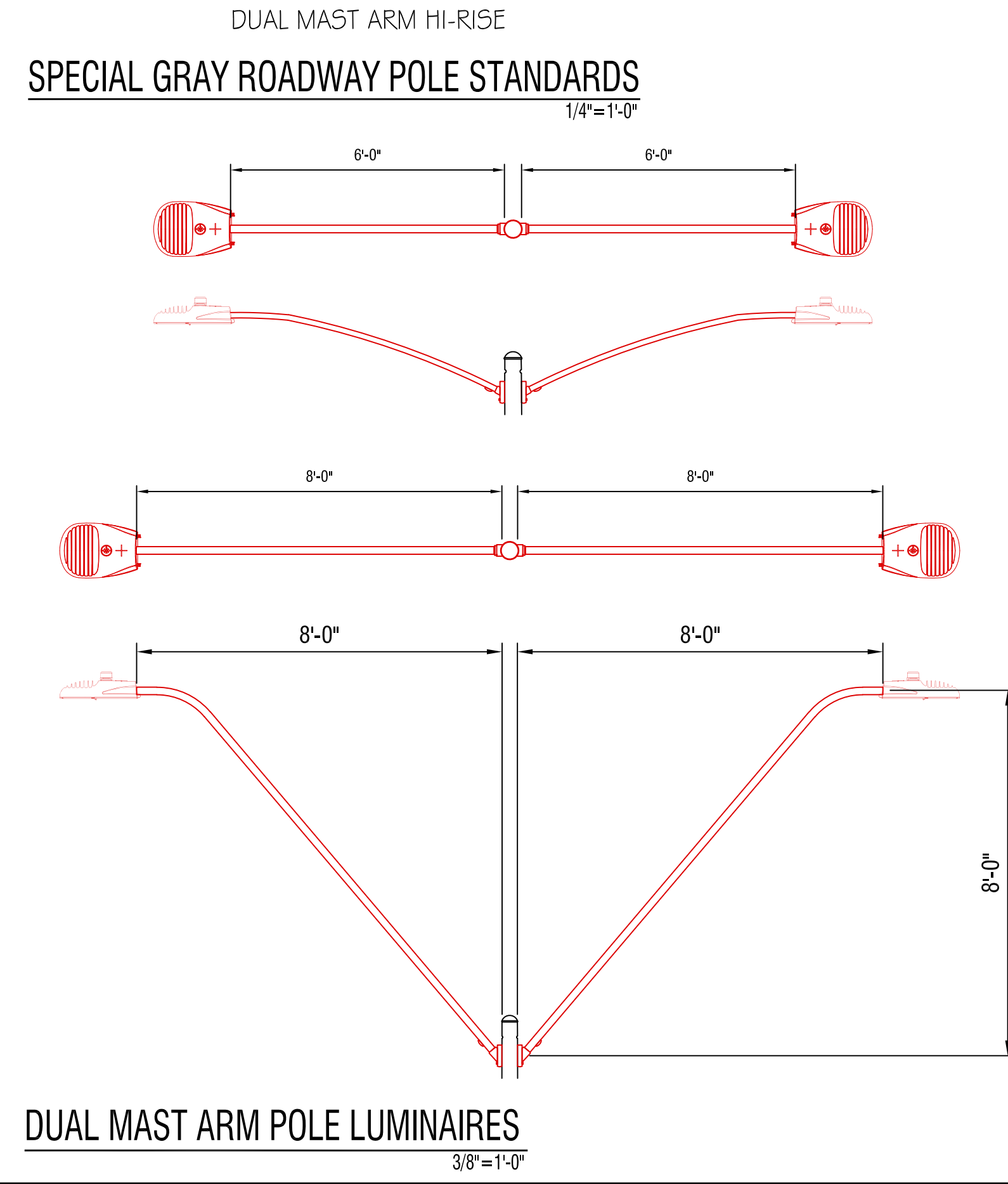
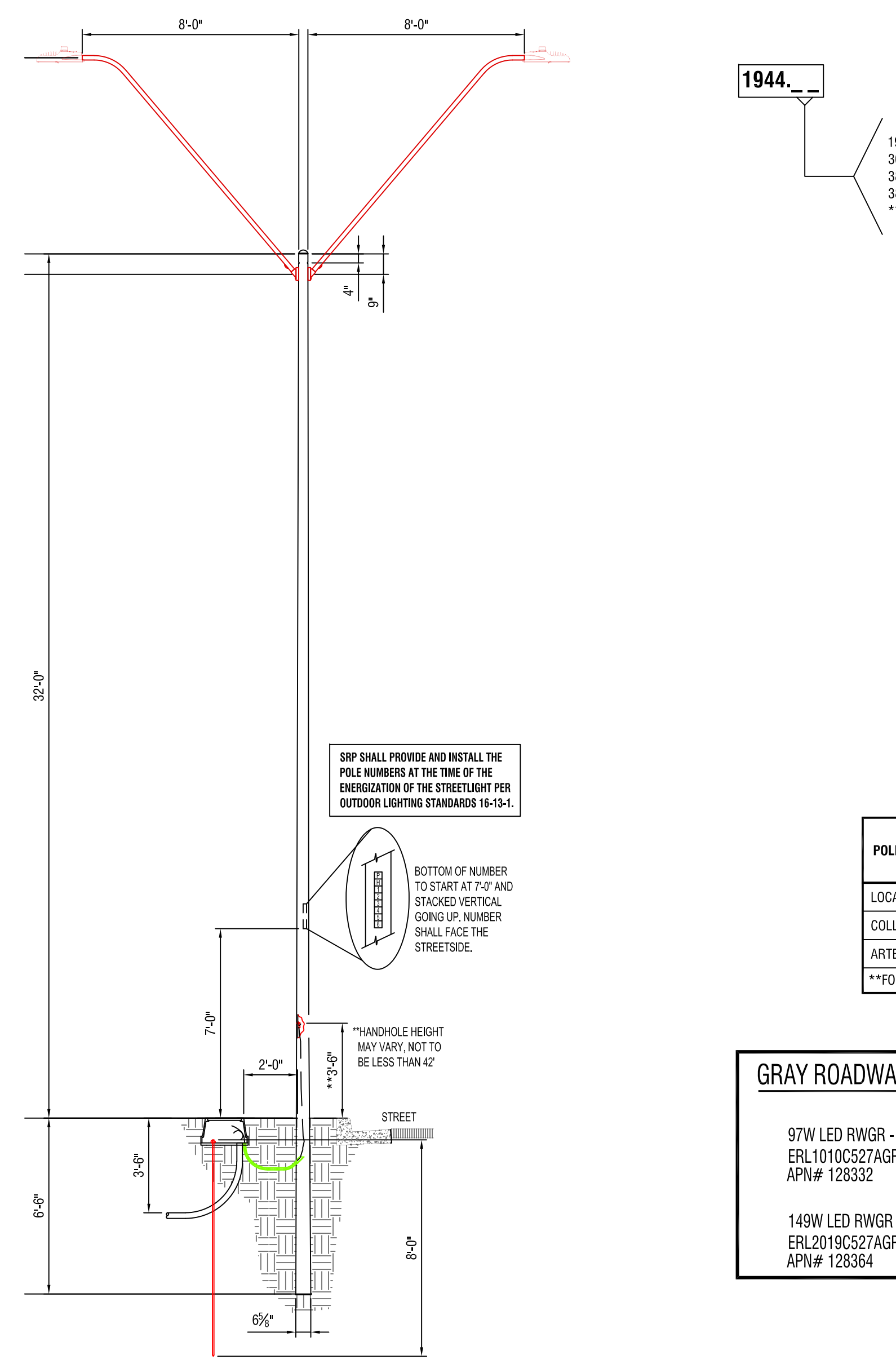


K/A#:		CCPR OR CSFR#:		SHEET NO.	TOTAL SHEETS
DR:	DES:	CK:	DATE:	SL-2	TOTAL
DATE:	DATE:	DATE:	OS. #:		

SCALE: 1" = 40'

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARZ.			

DR: _____ DES: _____ CK: _____ DATE: _____



- CONSTRUCTION NOTES:**
- ADJUST PHOTO EYE TO FACE NORTH
 - A GROUND ROD IS PROVIDED WITH THE JUNCTION BOX. WHERE A GROUND ROD CANNOT BE DRIVEN ALTERNATE GROUND SHALL BE USED. SEE 2449 THRU 2460 FOR APPROVED ALTERNATES.
 - THE 40'-6" SELF-SUPPORTING STEEL POLE AND ONE OF THE 38'-0", HAVE TWO, MANUFACTURED INSTALLED SIMPLEX FITTINGS 180 APART FOR DOUBLE ARMS. SEE CHART.
 - APN 33701054 IS A POLE BAND ADAPTOR WITH A SIMPLEX FITTING. ADAPTOR IS REQUIRED FOR THE SECOND ARM IN DOUBLE ARM APPLICATIONS ON EXISTING PLES IN THE FIELD WITHOUT TWO SIMPLEX FITTINGS. SEE 8198 FOR AVAILABLE SIZES.
 - POLES THAT HAVE MORE THAN ONE LUMINAIRE REQUIRE A SEPARATE CIRCUIT WITH FUSING FROM THE J-BOX TO EACH LUMINAIRE.
- ENGINEERING NOTES:**
- THE LIGHT CODE PROVIDES TWO SAME WATTAGE LUMINAIRES WHEN DOUBLE ARM ARE SPECIFIED.
 - SEE SPEC 8130 - 8131 FOR IN-LINE FUSE FOR UNDERGROUND FEEDS.
 - SEE 8100 THRU 8107 FOR OVERHEAD ATTACHMENTS.

LIGHT CODE	COLOR	APN	TYPE	WATTS	VOLTS	INITIAL LUMENS	PHOTOMETRIC CURVE
CL60		00128329		29	120/208/240/277	2,700	454669
CL61		00128330		37	120/208/240/277	4,700	454659
CL62	GRAY	00128331	LED	71	120/208/240/277	8,000	454677
CL63		00128332		87	120/208/240/277	9,700	454688
CL64		00128364		140	120/208/240/277	16,900	454942

POLE TYPE	POLE CODE	POLE LENGTH	BURY DEPTH	POLE ABOVE GROUND	POLE BUTT DIAMETER			LUMINAIRE HEIGHT ABOVE GROUND ON ARM		
					STEP	TAPER	WEIGHT	20" X 8"	3" X 8"	8" X 8"
LOCAL	1944.30	30' - 6"	5' - 6"	25' - 0"	5-9/16"	7-5/16"	460	25' - 11"	27' - 3"	-
COLLECTOR	1944.38	38' - 6"	6' - 6"	32' - 0"	6-5/8"	9-3/4"	640	32' - 11"	34' - 3"	39' - 3"
ARTERIAL	1944.38X	38' - 6"	6' - 6"	32' - 0"	6-5/8"	9-3/4"	640	32' - 11"	34' - 3"	39' - 3"

**FOR NON-STANDARD POLES, CONTACT THE STREET TRANSPORTATION STREETLIGHTING SECTION FOR INFORMATION.

GRAY ROADWAY LUMINAIRE DESCRIPTIONS

97W LED RWGR - MAJOR
ERL1010C527AGRAY
APN# 128332

149W LED RWGR - SPECIAL MAJOR
ERL2019C527AGRAY
APN# 128364

- ELECTRICAL REQUIREMENTS FOR NEW POLE INSTALLATION**
- JUNCTION BOXES SHALL MEET UTILITY COMPANY STANDARDS.
 - CONDUIT, CONDUCTORS, AND FUSE HOLDERS SHALL BE LISTED AND LABELED FOR USE IN A WET LOCATION WHEN USED IN A JUNCTION BOX. NEC300.5(B), 310.8(C)
 - IN-LINE FUSE HOLDER USED IN HAND HOLE OR SERVICE DROP SHALL BE CONSIDERED AS DISCONNECTING MEANS. FUSE HOLDERS TO BE RATED AT 22,000 AIC MINIMUM. NEC 240.40
 - ELECTRICAL CONNECTIONS-CONDUCTORS OF DISSIMILAR METALS SHALL NOT BE INTERMIXED IN A TERMINAL OR SPLICING CONNECTOR WHERE PHYSICAL CONTACT OCCURS BETWEEN DISSIMILAR CONDUCTORS. (COPPER, ALUMINUM) UNLESS THE DEVICE IS IDENTIFIED FOR THE PURPOSE AND CONDITIONS OF USE. NEC 110.14
 - ELECTRICAL CONNECTIONS OR SPLICES IN AN UNDERGROUND INSTALLATION SHALL BE APPROVED FOR WET LOCATIONS. (NEC 300.5)
 - NON-CURRENT CARRYING CONDUCTIVE MATERIALS ENCLOSING ELECTRICAL CONDUCTORS OR EQUIPMENT, OR FORMING PART OF SUCH EQUIPMENT, SHALL BE CONNECTED TO EARTH IN A MANNER THAT WILL LIMIT THE VOLTAGE IMPOSED BY LIGHTNING OR UNINTENTIONAL VOLTAGE DUE TO SHORT CIRCUITS AND LIMIT THE VOLTAGE TO GROUND ON THESE MATERIALS. NEC 250.4(B) (GROUND RODS)
 - AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED FROM THE GROUND LUG IN THE HAND-HOLE TO THE LUMINAIRE WITH THE CURRENT CARRYING CONDUCTORS. NEC 410.30(B)(3).
 - CONNECTION TO THE GROUND ROD AND THE GROUNDING ELECTRODE SHALL BE LISTED AND LABELED FOR USE. NEC 250.8
 - CONNECT #6 BARE COPPER WIRE FROM THE GROUND ROD ADJACENT TO THE POLE OR IN JUNCTION BOX TO THE GROUND LUG IN THE POLE.

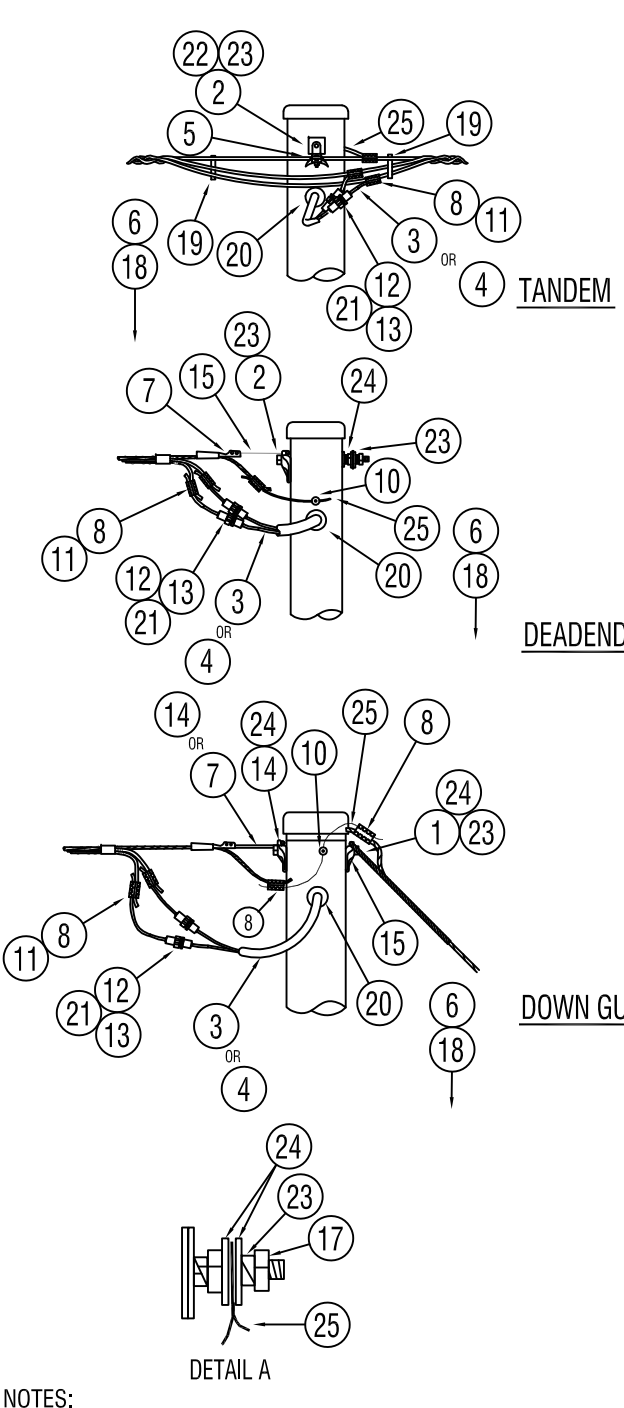
GE Evolve II Gray Cobra LED Fixtures

WATT	LUMEN	DESCRIPTION	APN	MODEL#
29W	3,800	SCALABLE ROADWAY GE LED GRAY Pedestrian Luminaire 29WATT, 2700K, 3,800 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, GRAY, MULTIVOLT 120/208/240/277 DRIVER, IES NARROW ASYMMETRIC MEDIUM, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL, RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	128329	ERL10044527AGRAY
37W	4,700	SCALABLE ROADWAY GE LED GRAY Local Street Luminaire 37WATT, 2700K, 4,700 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, GRAY, MULTIVOLT 120/208/240/277 DRIVER, IES NARROW ASYMMETRIC MEDIUM, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL, RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	128330	ERL10054527AGRAY
68W	8,000	SCALABLE ROADWAY GE LED GRAY Collector Street Luminaire 68WATT, 2700K, 8,000 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, GRAY, MULTIVOLT 120/208/240/277 DRIVER, IES NARROW ASYMMETRIC MEDIUM, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL, RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	128331	ERL1009C527AGRAY
87W	9,700	SCALABLE ROADWAY GE LED GRAY Major Roadway Luminaire 87WATT, 2700K, 9,700 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, GRAY, MULTIVOLT 120/208/240/277 DRIVER, IES NARROW ASYMMETRIC MEDIUM, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL, RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	128332	ERL1010C527AGRAY
140W	16,900	SCALABLE ROADWAY GE LED GRAY Special Major Roadway Luminaire 140WATT, 2700K, 16,900 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, GRAY, MULTIVOLT 120/208/240/277 DRIVER, IES NARROW ASYMMETRIC MEDIUM, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	128364	ERL2019C527AGRAY

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 - SEE SPEC 8130 - 8131 FOR IN-LINE FUSE FOR UNDERGROUND FEEDS.
 - SEE 8100 THRU 8107 FOR OVERHEAD ATTACHMENTS.

20 YEAR PHOTOCCELL REQUIREMENTS

APN# 00073241 CONTROL PHOTO MULTI BR-20 CONTROL, PHOTO-ELECTRIC, BROWN, 20YEAR FAIL OFF, 120/208/240/277 MULTI-VOLT, SILICON, SOLID STATE, 2.40 TO 3.60 FC ON 1.2 TO 2.4 FC OFF, 60 HERTZ, 320 JOLLE MOV, INVERSE ON/OFF RATIO 6:1 +/- 1, FAIL OFF, THREE PIN NEMA TWISTLOCK, 20 YEAR LIFE, 8463-SIDE SELC, MODEL #6483F2TMBR



TWO WIRE 120V, 277V TANGENT

THREE WIRE 208V, 240V TANGENT

TANDEM

TWO WIRE 120V, 277V DEADEND

THREE WIRE 208V, 240V DEADEND

TWO WIRE 120V, 277V DEADEND WITH GUY HOOK

THREE WIRE 208V, 240V DEADEND WITH GUY HOOK

DOWN GUY

MATERIAL LIST

ITEM	QTY	UNIT	DESCRIPTION	APN
1	-	-	BOLT GALV MACH 5/8" X 10"	33001549
2	1	1	BOLT GALV MACH 5/8" X 8"	33001547
3	10	-	CABLE 2" C #14CU IF	31102132
4	-	10	CABLE 3" C #14CU IF	31102135
5	1	-	CLAMP ANGLE 1/2 TO .60	33002502
6	1	1	CLAMP GROUND ROD 5/8"	33002580
7	-	1	CLAMP WEDGE RELX 4-5AL	33002772
8	2	2	CONN AL PG - SEE 2250	
9	-	-	CONN CU #6 - SEE 2255	
10	1	1	CONN POST 1/2" SS #6-10	00095704
11	1	2	COVER DIE INSULATING	33003192
12	1	2	FUSE CARTRIDGE 15A	7202410
13	1	2	FUSEHOLDER IN-LINE 600V	00097502
14	-	-	GRIP DR PRF - SEE 22135	
15	-	1	HOOK GUY - MED DUTY 5/8"	33003581
16	1	1	NUT INSERT RIVNUT	00055552
17	-	-	NUT SS GALV 5/8"	33004176
18	1	1	ROD COPPER/ALD GRD 5/8" X 8"	33004895
19	2	-	SPACER MULTIPLEX CABLE	33006510
20	1	1	STOPPER BUSH AND DUST	33006955
21	1	1	TUBING SHRINKABLE 1/4"	71682000
22	2	2	WASHER GALV CU 3/32X1/4"	33007125
23	1	1	WASHER GALV DBL COIL 5/8"	33007154
24	-	-	WASHER GALV RD 5/8"	33007165
25	2	2	WIRE BARE #6 SOLID CU	33007590

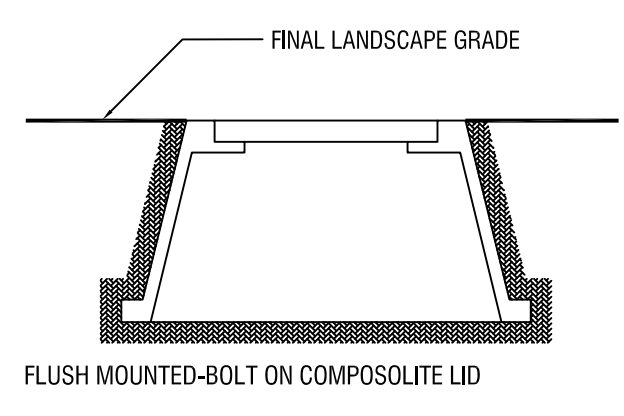
- NOTES:**
- STEEL POLES AND ALL MAST ARMS MUST BE GROUNDED.
 - OVERHEAD ATTACHMENTS MUST BE GROUNDED TO THE STREET LIGHT POLE. A 1/2" HOLE HAS BEEN ADDED BELOW TOP OF STREET LIGHT POLE TO INSTALL A GROUNDING INSERT APN 00055552. TOOL TO INSTALL RIVNUT IS APN 00053279. SEE STANDARD 2408. WHERE RIVNUTS ARE NOT AVAILABLE GROUND PER DETAIL A.
 - ALL OVERHEAD FED STREET LIGHT POLES SHALL HAVE A GROUND ROD INSTALLED AND A #6 GROUND WIRE BONDED TO THE GROUNDING LUG AT THE BACK OF THE HAND HOLE.
 - THESE CODES PROVIDE THE #14 CU FOR THE MAST ARMS. HARDWARE FOR ATTACHING TANGENT OR DEADEND SECONDARY, AND THE CONNECTORS.

STREET LIGHT POLE CABLE ATTACHMENTS AND GROUNDING DETAIL

DESCRIPTION
15" X 21" X 12" JUNCTION BOX WITH 3/8" CAPTIVE PENTA HEAD BOLTS

WORD "ELECTRIC" ON COVER

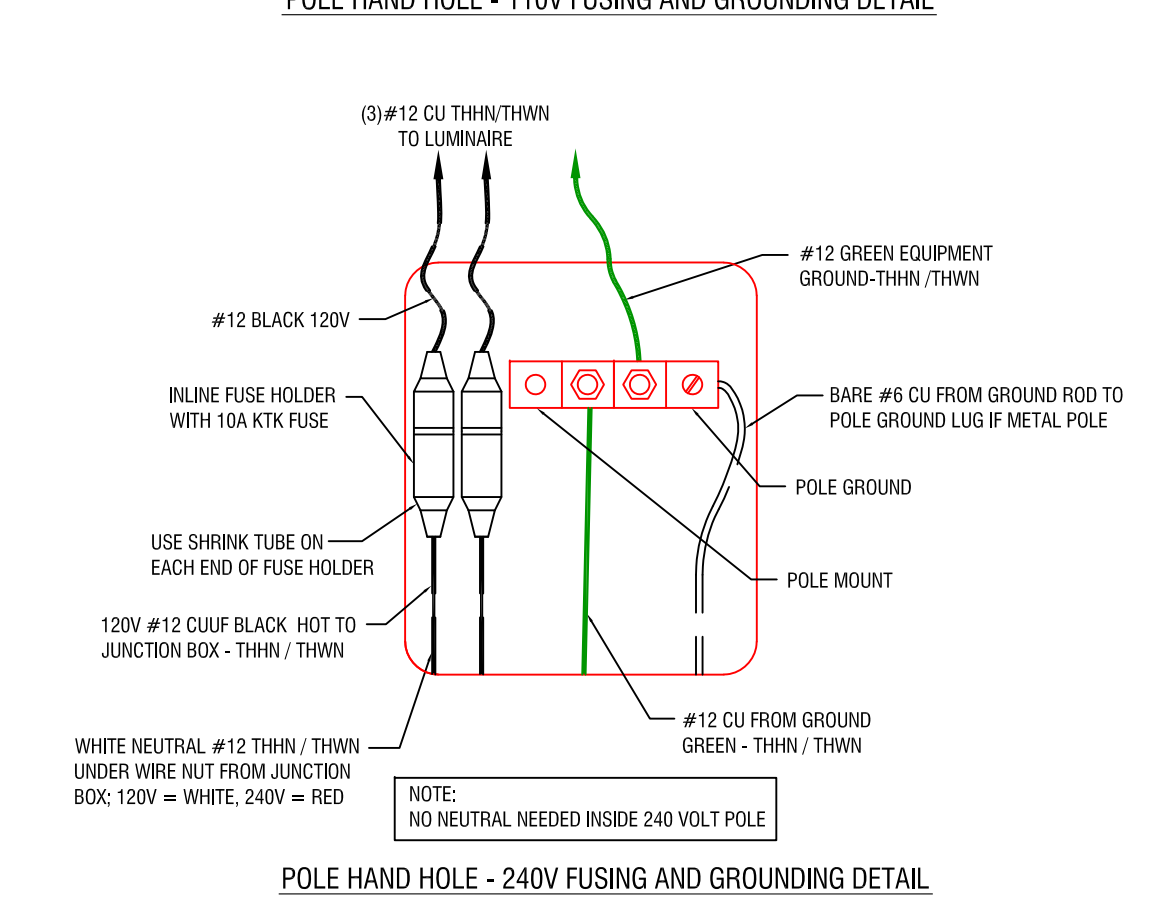
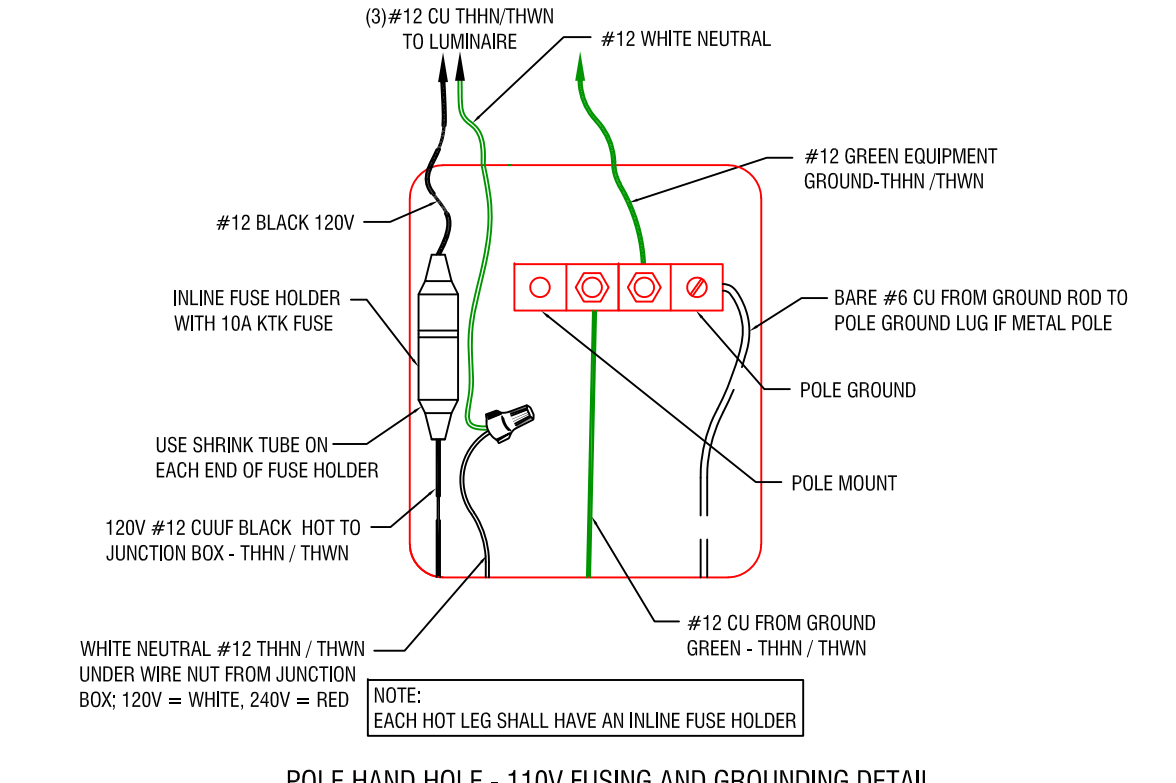
BOX TO BE POLYMER CONCRETE MATERIAL WITH POLYMER CONCRETE BOLT DOWN (NON-CONDUCTIVE COVER).



SRP APPROVED SUPPLIERS

SUPPLIER	PART NUMBER
STRONGWELL	PC11188513 BOX PC1118C504-17/UH0390AA COVER WITH ELECTRIC
ARMORCAST PRODUCTS	6001429A
CDR SYSTEMS	PA40-1015-12
CARSON & ASSOCIATES	HLW1118-12 BOX HLW1118-PO LID

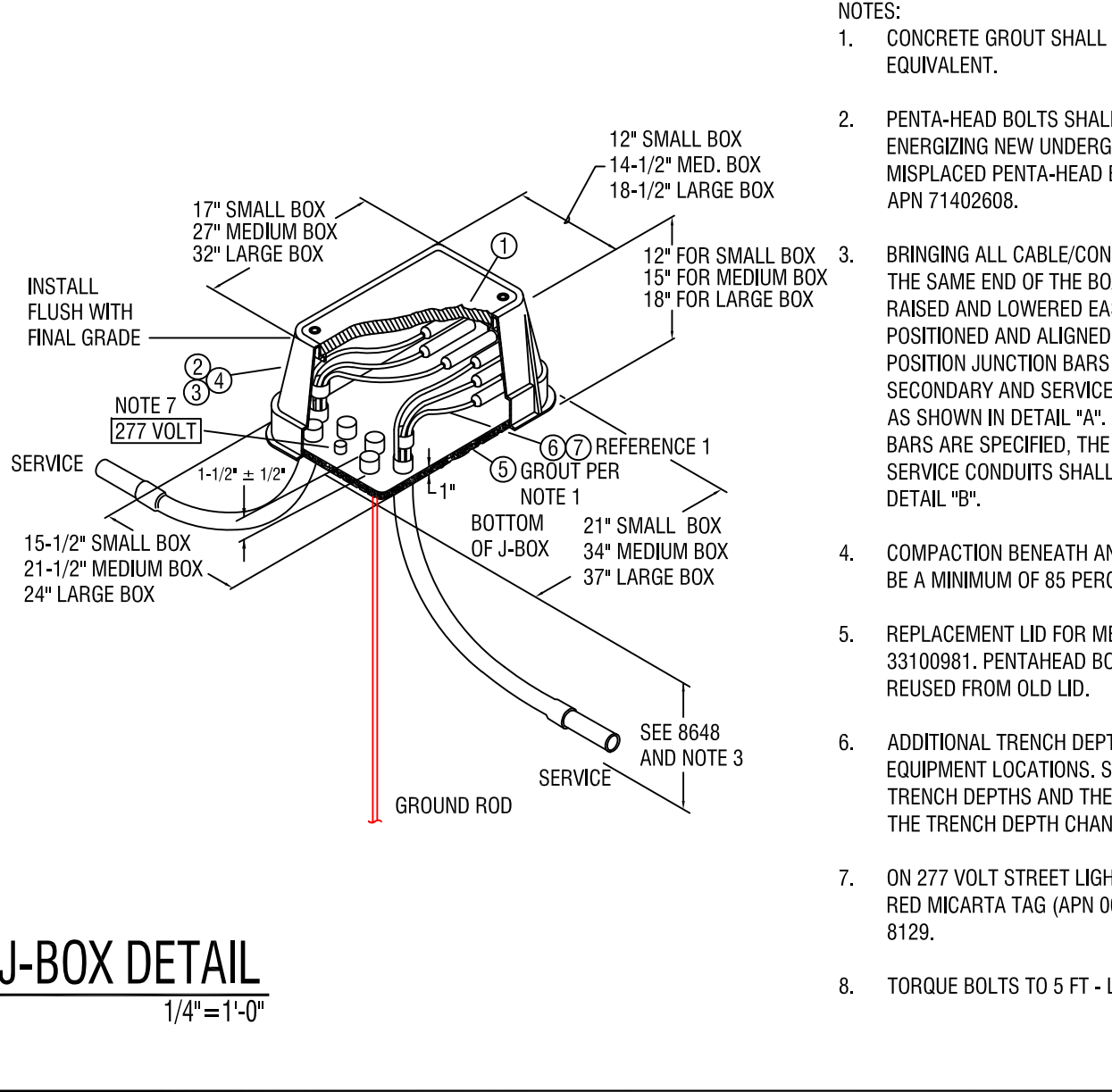
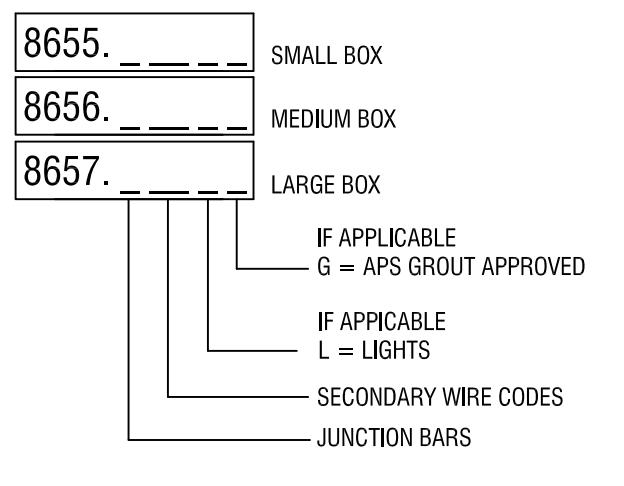
J-BOX SECTION
3/8" = 1'-0"



POLE FUSING DETAIL
3/16" = 1'-0"

JUNCTION BOX CODES

CODE	DESCRIPTION
A	THREE-POSITION MOLDS
B	FIVE-POSITION MOLDS
C	EIGHT-POSITION MOLDS
D	TWO-POSITION GEL PACKS
N	NO CONNECTORS



J-BOX DETAIL
1/4" = 1'-0"

PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX.

STREET LIGHT DETAIL SHEET

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

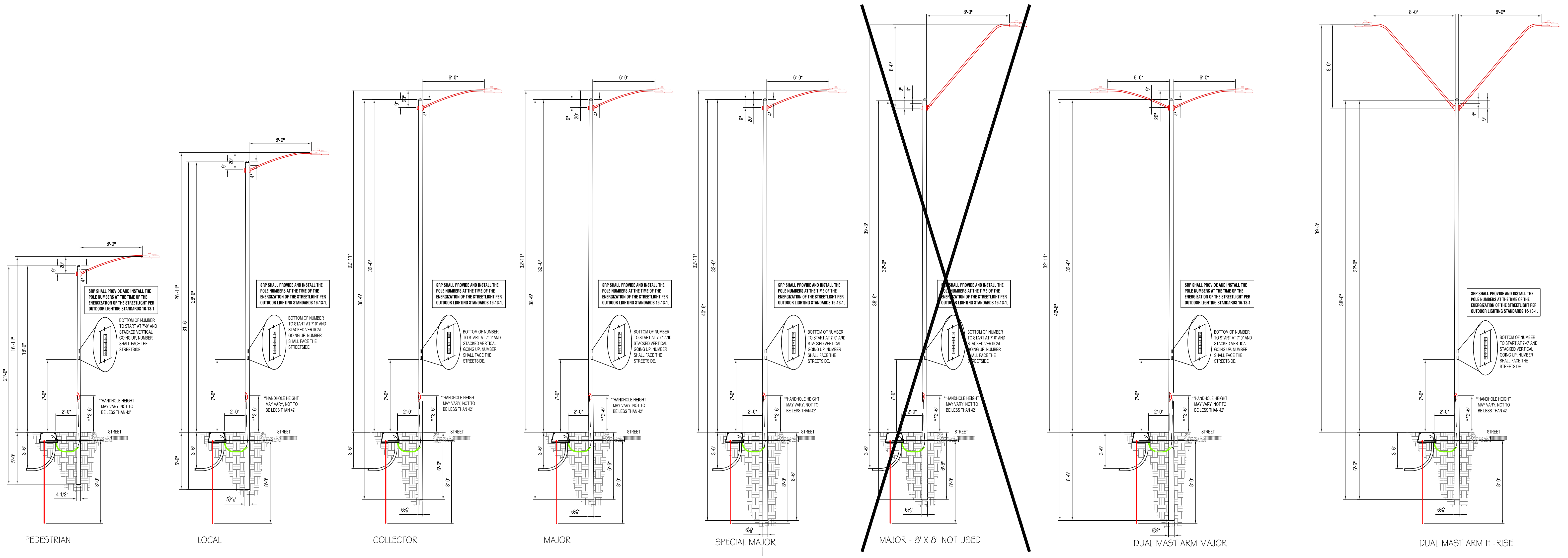
KVA#: _____ CCPR OR CSPPR#:

DR:	DES:	CK:	SHEET	TOTAL
DATE:	DATE:	DATE:	NO.	SHEETS

SCALE: NO SCALE OS. #: _____ SL-3 TOTAL



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.			
DR:		DES:	CK:	DATE:



THIS SHEET FOR INFORMATIONAL PURPOSES ONLY.

PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX.

STREET LIGHT STANDARDS
CITY OF PHOENIX, ARIZONA
 STREET TRANSPORTATION DEPARTMENT



KVA#:		CCPR OR CSPP#:		SHEET	TOTAL
DR:	DES:	CK:		NO.	SHEETS
DATE:	DATE:	DATE:			
SCALE: NO SCALE			OS. #:	SL-STDS	TOTAL