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STREET LIGHTING GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL COMPLY WITH STATE AND CITY STATUTES AND ORDINANCES.
2. THE CONTRACTOR SHALL COMPLY WITH ALL LICENSING REQUIREMENTS SET FORTH BY THE STATE REGISTRAR OF CONTRACTORS OFFICE TO PERFORM WORK RELATING TO ELECTRICAL INSTALLATIONS.
3. PRIOR TO BID SUBMITTAL, THE CONTRACTOR SHALL EXAMINE ALL CONSTRUCTION DRAWINGS AND VISIT THE CONSTRUCTION SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH THEY WILL OPERATE, AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THE CONTRACT.
4. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT THE SITE AND IMMEDIATELY REPORT DIFFERENCES TO THE CITY'S INSPECTOR AND NOT PROCEED WITH WORK UNTIL THE CITY INSPECTOR RENDERS A DECISION.
5. THE CONTRACTOR SHALL OBTAIN ONE DRY UTILITY PERMIT FOR EACH STREET LIGHTING PROJECT, OR PHASE IF A MULTI-PHASE PROJECT, PRIOR TO CONSTRUCTION.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES FOR COORDINATION OF THE TRENCHING; THE INSTALLATION OF CONDUIT AND PULL BOXES; AND THE INSTALLATION OF ELECTRICAL CONDUCTORS FOR THE STREET LIGHTING SYSTEM.
7. TRENCHES AND EXCAVATION FOR ELECTRICAL CONDUIT AND PULL BOX INSTALLATIONS SHALL BE PER THE ELECTRICAL UTILITY COMPANY REQUIREMENTS. THE USE OF A COMMON ELECTRIC UTILITY COMPANY TRENCH IS PERMITTED, UNLESS OTHERWISE DIRECTED BY THE ELECTRIC UTILITY COMPANY.
8. SURPLUS EXCAVATION SHALL BE DISPOSED OF BY THE CONTRACTOR.
9. ELECTRICAL CONDUITS USED FOR CITY STREET LIGHTS SHALL BE UL RATED AND SUITABLE FOR UNDERGROUND USE PER THE ELECTRICAL UTILITY COMPANY REQUIREMENTS.
10. ALL ELECTRICAL CONDUIT SIZES, LOCATIONS AND INSTALLATIONS SHALL BE PER THE ELECTRICAL UTILITY COMPANY'S PLANS AND INSTALLATION REQUIREMENTS, EXCEPT FOR THE CONDUITS ENTERING LIGHT POLES. THE CONDUIT FROM THE LIGHT POLES TO THE PULL BOXES SHALL BE INSTALLED PER THESE PLANS.
11. ALL ELECTRICAL PULL BOX SIZES, LOCATIONS AND INSTALLATIONS SHALL BE PER THE ELECTRICAL UTILITY COMPANY'S PLANS AND INSTALLATION REQUIREMENTS. THESE PULL BOXES MAY BE REFERRED TO AS JUNCTION BOXES OR J-BOXES ON THE ELECTRICAL UTILITY COMPANY'S PLANS.
12. AN 8' X 5/8" MINIMUM SIZE COPPER CLAD GROUND ROD SHALL BE INSTALLED FOR EACH ELECTRICAL PULL BOX INSTALLATION ADJACENT TO EACH LIGHT POLE. GROUND ROD SIZES AND INSTALLATIONS SHALL BE PER THE ELECTRICAL UTILITY COMPANY'S REQUIREMENTS AND SHALL MEET THESE MINIMUM REQUIREMENTS.
13. STREET LIGHT POLE LOCATIONS SHALL BE PER THESE PLANS AND THE ELECTRICAL UTILITY COMPANY'S PLANS. IF A CONFLICT EXISTS BETWEEN THESE TWO LIGHTING PLANS, THE CONTRACTOR SHALL IMMEDIATELY REPORT DIFFERENCES TO THE CITY'S INSPECTOR AND NOT PROCEED WITH THE CONFLICTING WORK UNTIL THE CITY INSPECTOR PROVIDES DIRECTION ON HOW TO PROCEED.
14. STREET LIGHTING POLES SHALL BE SET NO CLOSER THAN 2.5 FEET FROM BACK OF CURB AND 1 FOOT FROM BACK OF SIDEWALK. ALL STREET LIGHTING POLES SHALL BE LOCATED WITHIN CITY RIGHT-OF-WAY.
15. STREET LIGHTING POLES SHALL BE INSTALLED PLUMB IN TWO DIRECTIONS, NINETY (90) DEGREES APART, AND SHALL BE ADJUSTED TO PROVIDE PROPER ALIGNMENT TO THE ROADWAY BEING LIGHTED.
16. LUMINAIRES SHALL BE INSTALLED LEVEL AND INCLUDE A PHOTOCCELL AND OTHER LIGHTING SYSTEM COMPONENTS NEEDED TO BE FULLY OPERATIONAL. THE LUMINAIRES SHALL BE FREE OF DUST, DIRT OR ANYTHING THAT WOULD IMPAIR THE OUTPUT OF THE LIGHT.
17. LUMINAIRES SHALL BE WIRED OR CONNECTED TO MATCH THE VOLTAGE SUPPLIED BY THE ELECTRIC UTILITY COMPANY.
18. THE CONTRACTOR SHALL PROVIDE A FUSE HOLDER FOR EACH POWER CONDUCTOR INSIDE EACH STREET LIGHT POLE. FUSE HOLDERS SHALL BE BREAKAWAY, IN-LINE, WATERPROOF STYLE WITH 5A FUSE AND ACCESSIBLE FROM THE POLE HAND HOLE. THESE FUSE HOLDERS AND FUSES ARE REQUIRED IN ADDITION TO ANY FUSING THAT THE ELECTRICAL UTILITY MAY REQUIRE IN THE PULL BOXES.
19. THE CONTRACTOR SHALL PROVIDE ALL POWER CONDUCTORS AND WIRING CONNECTIONS WITHIN THE LIGHT POLES. POWER CONDUCTORS FROM THE LUMINAIRE DOWN TO THE FUSE HOLDERS SHALL HAVE A MINIMUM SIZE OF #12 AWG. THE GROUNDING CONDUCTOR FROM THE LUMINAIRE DOWN TO THE GROUND LUG, ACCESSIBLE FROM THE POLE HAND HOLE, SHALL HAVE GREEN COLOR INSULATION AND SHALL BE A MINIMUM SIZE OF #12 AWG. ALL CONDUCTORS INSTALLED WITHIN THE LIGHT POLE SHALL BE COPPER.
20. THE CONTRACTOR SHALL PROVIDE #6 AWG BARE COPPER GROUND WIRE BETWEEN THE POLE GROUND LUG AND THE ELECTRICAL PULL BOX ADJACENT TO THE LIGHT POLE. THE CONTRACTOR SHALL CONNECT THIS GROUND WIRE TO THE GROUND LUG WITHIN THE POLE AND THE CONTRACTOR SHALL FOLLOW THE ELECTRICAL UTILITY REQUIREMENTS FOR THE CONNECTION TO THE GROUND ROD AT THE PULL BOX END.
21. THE CONTRACTOR SHALL PROVIDE THE NECESSARY POWER CONDUCTORS BETWEEN THE LIGHT POLE AND THE ELECTRICAL PULL BOX ADJACENT TO THE LIGHT POLE. THESE COPPER POWER CONDUCTORS SHALL BE A MINIMUM SIZE OF #12 AWG, UNLESS OTHERWISE NOTED LARGER WITHIN THESE PLANS, AND SHALL BE CONNECTED TO THE FUSE HOLDER WITHIN THE LIGHT POLE. THE CONTRACTOR SHALL FOLLOW THE ELECTRICAL UTILITY'S REQUIREMENTS FOR THE POWER CONNECTIONS AT THE PULL BOX END.
22. STREET LIGHTING POLES SHALL BE PROPERLY GROUNDED PRIOR TO SUBMITTING A REQUEST TO HAVE THE ELECTRICAL CIRCUITS ENERGIZED.
23. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE ALL PROPERTY, LANDSCAPING, PAVING AND DRIVEWAYS THAT ARE DISTURBED DURING STREETLIGHT CONSTRUCTION TO THEIR ORIGINAL CONDITION IN CONFORMANCE WITH MAG SPECIFICATION SECTION 107.9.
24. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL INSTALL THE POLE NUMBERS ON EACH STREET LIGHTING POLE, PER THE UTILITY COMPANY REQUIREMENTS AND USING THE POLE NUMBERS IDENTIFIED WITHIN THE ELECTRICAL UTILITY COMPANY'S LIGHTING PLANS.
25. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL ENERGIZE AND OPERATE THE ENTIRE ROADWAY LIGHTING SYSTEM, FROM SUNSET TO SUNRISE FOR TWO (2) CONSECUTIVE DAYS WITHOUT INTERRUPTION OR FAILURE. IF A LUMINAIRE OR COMPONENT WITHIN THE LUMINAIRE SHOULD FAIL, IT SHALL BE IMMEDIATELY REPLACED. THE DEVELOPER SHALL BE RESPONSIBLE FOR FURNISHING ALL PERSONNEL AND EQUIPMENT TO SUCCESSFULLY PERFORM THIS TEST.
26. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE CITY INSPECTOR, AGAINST IMPERFECT WORKMANSHIP, FAILURE, MALFUNCTION OF MATERIALS AND/OR EQUIPMENT DUE TO FAULTY OR IMPERFECT WORKMANSHIP.
27. 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.

SCOTTSDALE UMC MULTI-FAMILY

SCOTTSDALE, ARIZONA

STREET LIGHT PLAN

CIVIL APPROVAL			
Review & Recommended Approval by:			
Paving		Traffic	
G & D		Planning	
W & S		Fire	
Ret. Walls			
Engineering Coordination Mgr. (or designee)		Date	

BENCHMARK

PER SURVEY INNOVATION GROUP, THE BENCHMARK IS A GLO BRASS CAP IN HANDHOLE NORTH BOUND LANE, DOWN 0.6' AT THE INTERSECTION OF UNION HILLS AND SCOTTSDALE ROAD.

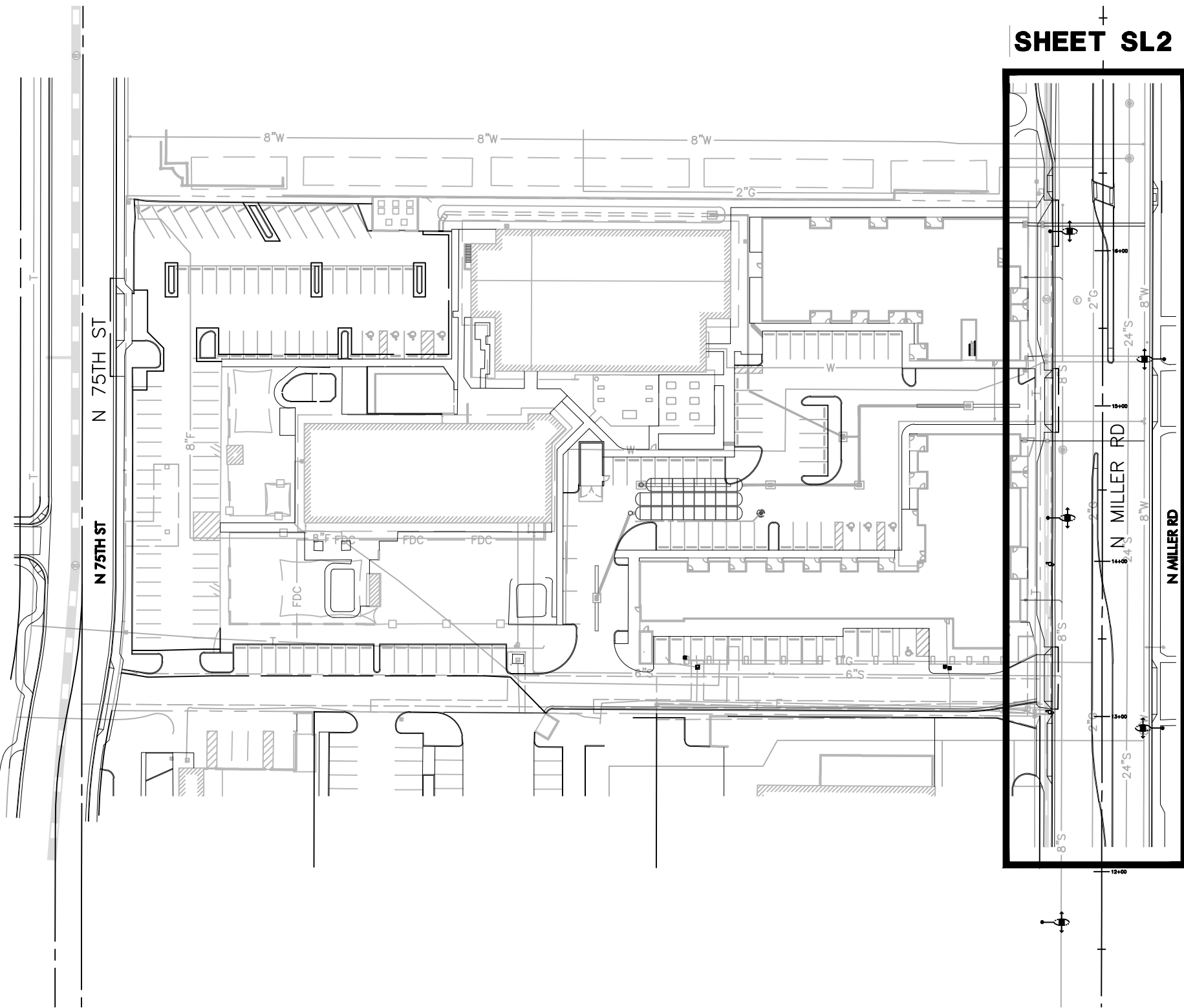
ELEVATION=1588.558 (NAVD-88)

BASIS OF BEARINGS

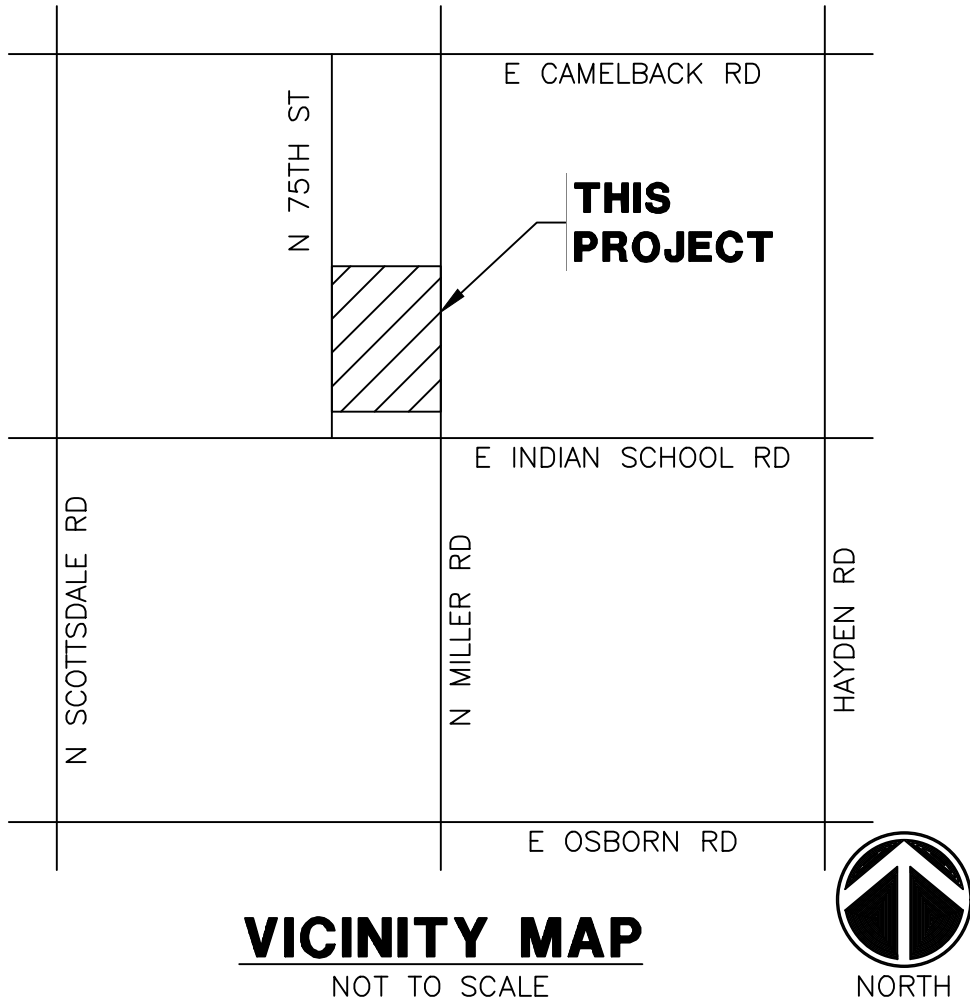
PER SURVEY INNOVATION GROUP, THE BASIS OF BEARING IS THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE MERIDIAN, MARICOPA COUNTY, ARIZONA. SAID LINE BEARS S00°09'29"W.

MAINTENANCE NOTE

STREET LIGHT POLES SHALL BE MAINTAINED BY CITY OF SCOTTSDALE.



LUMINAIRE SCHEDULE					
SYMBOL	NOMINAL LUMENS	MANUFACTURER	CATALOG #	LAMP(S)	CCT
	7,500 LUMENS	GENERAL ELECTRIC	ERL1-0-08-C5-30-A-GRAY	59W LED	3000K
		PHILIPS/SIGNIFY	RFS-72W32LED3K-G2-R2M-UNV-RC07-GY3	73W LED	3000K



DEVELOPER

GORMAN & COMPANY
200 N MAIN ST
OREGON, WI 53575
PHONE: (608) 835-3900
EMAIL: DKLOCKE@GORMANUSA.COM

ELECTRICAL ENGINEER

WRIGHT ENGINEERING CORPORATION
165 EAST CHILTON DRIVE
CHANDLER, AZ 85225
PHONE: (480) 497-5829
FAX: (480) 497-5807
CONTACT: CLIFF TOLMAN
EMAIL: CTOLMAN@WRIGHTENGINEERING.US

TRANSPORTATION

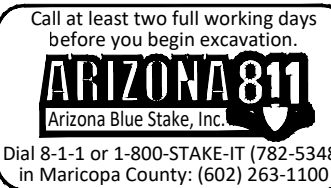
PLAN CHECKLIST

- ☐ Plans sheet size, scale, lettering, and seal/signature meet the "Improvement Plan Requirements" identified in DS&PM Section 1-2.
- ☐ The Plan set includes a cover sheet, per the "Cover Sheet Format & Information" requirements identified in DS&PM Section 1-2, and the Street Lighting Plans are clearly noted within the required Sheet Index.
- ☐ Cover sheet includes the name of the electrical utility service provider (APS/SRP) for the project area.
- ☐ The Plan set includes the "General Notes for Public Works Construction" as required in DS&PM Section 1-2.
- ☐ The Street Lighting General Construction Notes, as defined within DS&PM, have been included at the beginning of the Street Lighting section of the Plans.
- ☐ The Street Lighting Construction Notes for respective electrical utility company area (APS or SRP) are included, as defined within DS&PM, at the beginning of the Street Lighting Plans but following the Street Lighting General Construction Notes.
- ☐ The graphic scale and North arrow is present on each street lighting plan sheet.
- ☐ The street lighting design professional name, address and phone number is on Plan sheets within the Street Lighting section of the Plans.
- ☐ The Blue Stake label/phone number is on each plan sheet
- ☐ All Existing and proposed utilities shown
- ☐ Each type of proposed street lighting fixture and pole is clearly label on each plan sheet.
- ☐ The project site and adjacent parcels are clearly labeled on the Plan sheets
- ☐ The Lot lines, right-of-way lines, and utility easement lines are shown on the Plan sheets
- ☐ The street names within and adjacent to the project site are labeled on the Plan sheets.
- ☐ Existing and proposed driveway locations shown
- ☐ Dimension the following items from roadway centerline (Face of curb, R/W, existing and proposed utilities, edge of pavement, width of sidewalk)
- ☐ Top and bottom of all retention basins shown
- ☐ Retaining walls shown
- ☐ Construction notes indicating pole height, foundation (if required), mounting height, mast arm size, and luminaire (lumens).
- ☐ Provide station and offset from roadway centerline to center of all new and existing light poles.
- ☐ Show the location of the nearest existing streetlight including details of luminaire type, wattage, mounting height and pole type. Indicate station and offset to roadway centerline.
- ☐ All phasing must be shown on the plans.

Design Standards & Policies Manual
City of Scottsdale - 2021

APPENDIX 5-11E

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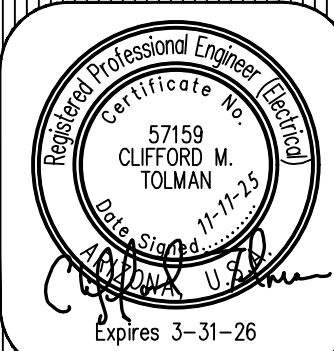
WRIGHT ENGINEERING
PROJECT NO:
25402
DESIGN BY: KJM
DRAWN BY: KJM
CHECKED BY: CMT

WRIGHT engineering corporation
ELECTRICAL ENGINEERING AND DESIGN
165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
PHONE 480.497.5829 • FAX 480.497.5807
www.wrightengineering.us

PROJECT: TITLE:

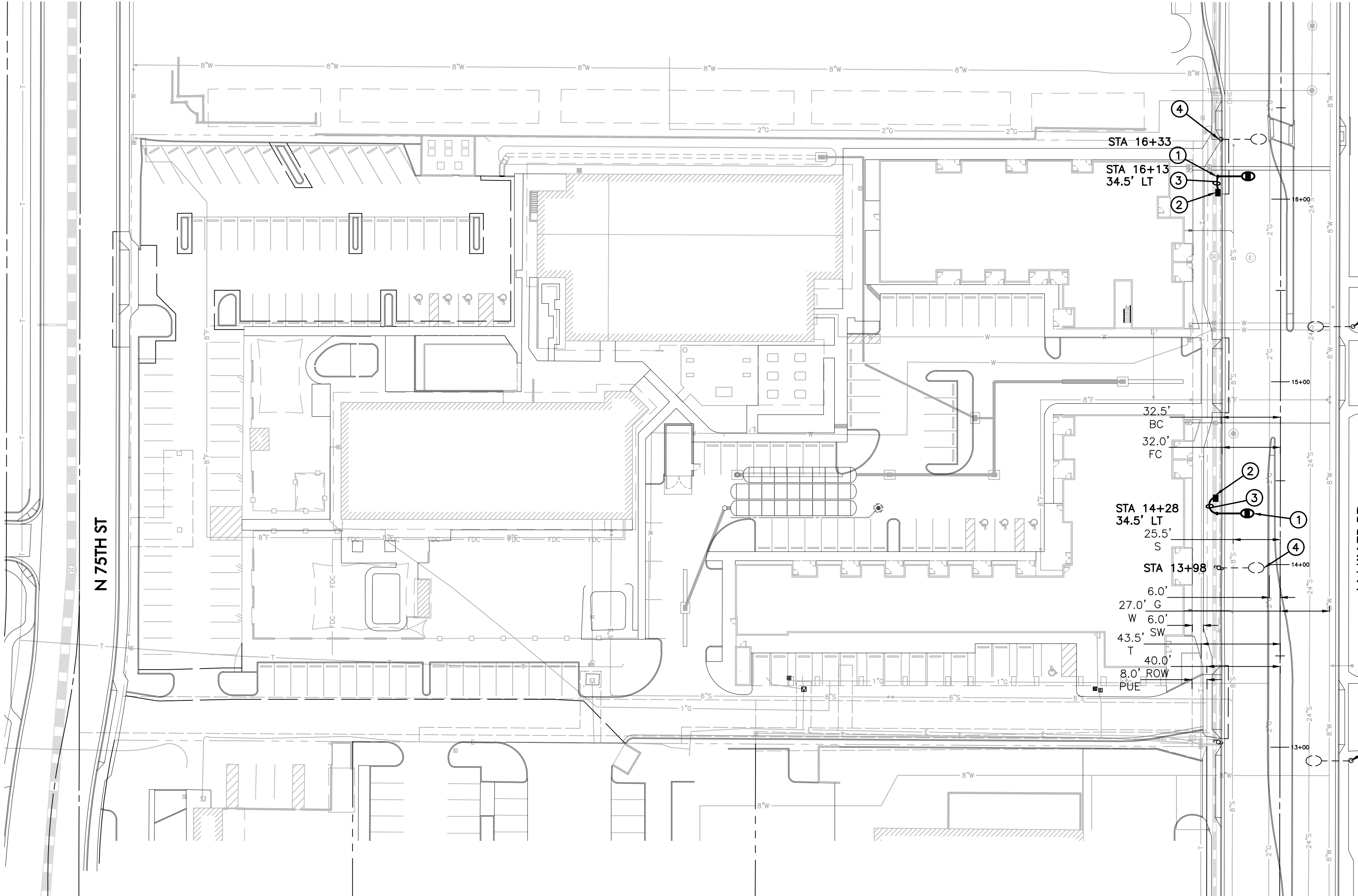
SCOTTSDALE, ARIZONA
SCOTTSDALE UMC MULTI-FAMILY
MILLER RD & INDIAN SCHOOL RD
STREET LIGHT COVER SHEET

NO.	DATE	SUBMITTALS/REVISIONS (DESCRIPTIONS)
1	11-11-23	1ST SUBMITTAL



DRAWING NO:
SL1
OF 4

H:\2025\25402-Scottsdale UMC Multi-Family\25402-SL.dwg



CONSTRUCTION NOTES

- ① 59W LED (7,500 LUMEN) LUMINAIRE (SEE LUMINAIRE SCHEDULE ON SHEET SL1) WITH PHOTOELECTRIC CONTROL, FOUNDATION MOUNTED POLE, 6"x20" MAST ARM PER DETAILS 2171-1 & 2171-2 (SEE SHEET SL3). CENTER POLE PER STATION AND OFFSET SHOWN ON PLANS.
INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. ALL WIRING, FUSING, FOUNDATION AND GROUNDING PER DETAILS AND SPECIFICATIONS ON SHEET SL3.
- ② INSTALL PULL BOX PER POWER COMPANY DETAILS AND SPECIFICATIONS.
- ③ 1" CONDUIT WITH (2) #14 TYPE THHN/THWN AND (1) #14 BARE BOND FROM PULL BOX TO FUSE HOLDER IN STREET LIGHT PER POWER COMPANY DETAILS AND SPECIFICATIONS.
- ④ REMOVE EXISTING STREETLIGHT HEAD AND MAST ARM, AND SALVAGE TO CITY OF SCOTTSDALE. COORDINATE REMOVAL AND WORK WITH POWER COMPANY.
- ⑤ EXISTING STREETLIGHT TO REMAIN.

LEGEND

- | | |
|---|---------------------------------------|
|  | 7,500 LUMEN LED COBRAHEAD STREETLIGHT |
|  | 33'-8" MOUNTING HEIGHT |
|  | EXISTING STREET LIGHT |
|  | NEW CONDUIT RUN |
|  | PULL BOX |
|  | FIRE HYDRANT |

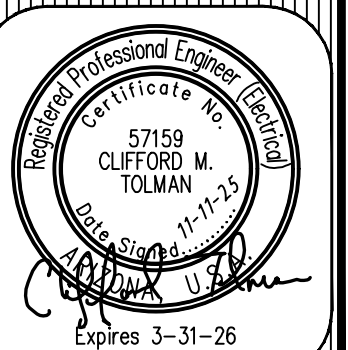
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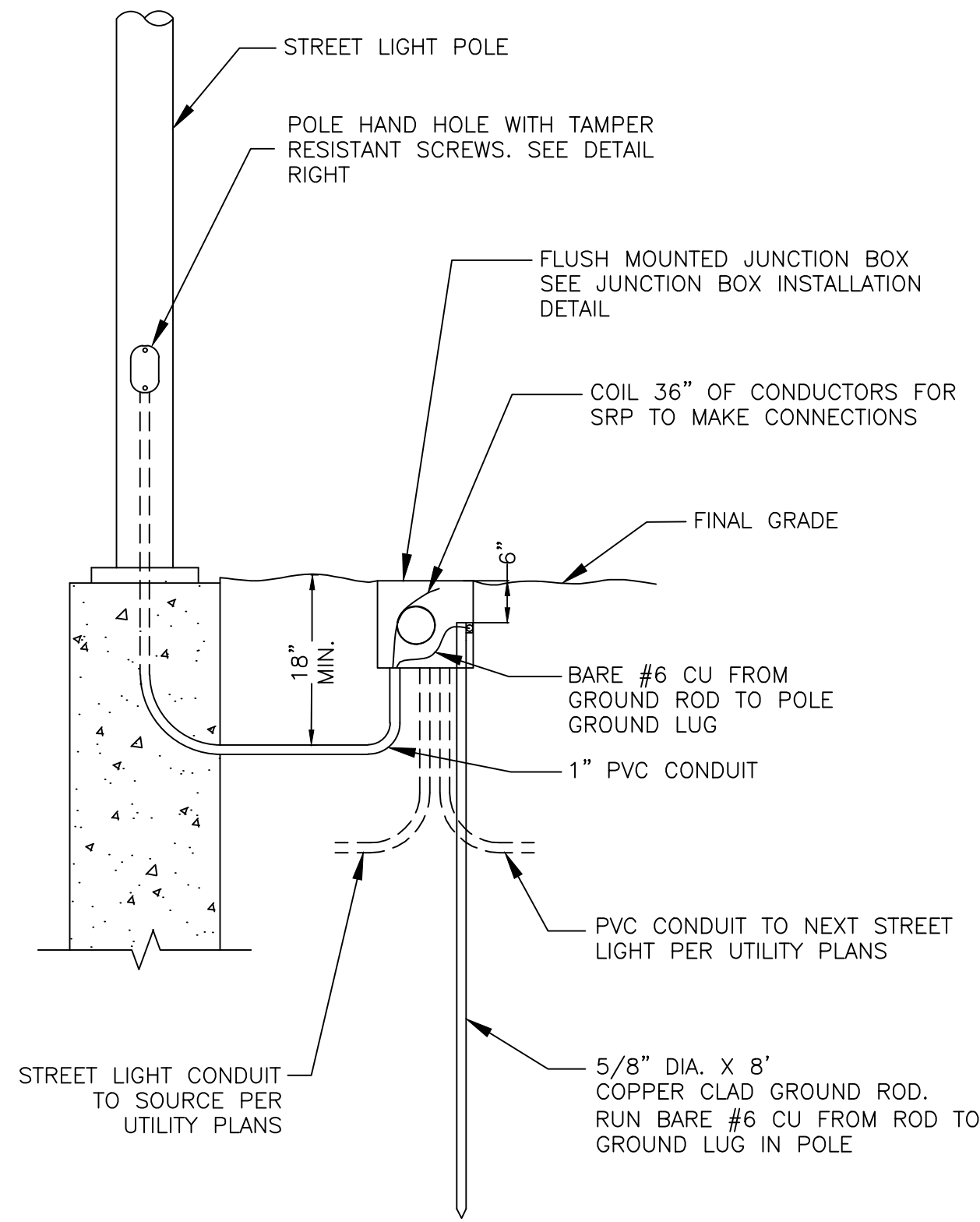
**SCOTTSDALE UMC MULTI-FAMILY
MILLER RD & INDIAN SCHOOL RD
STREET LIGHT PLAN**

[illegible]

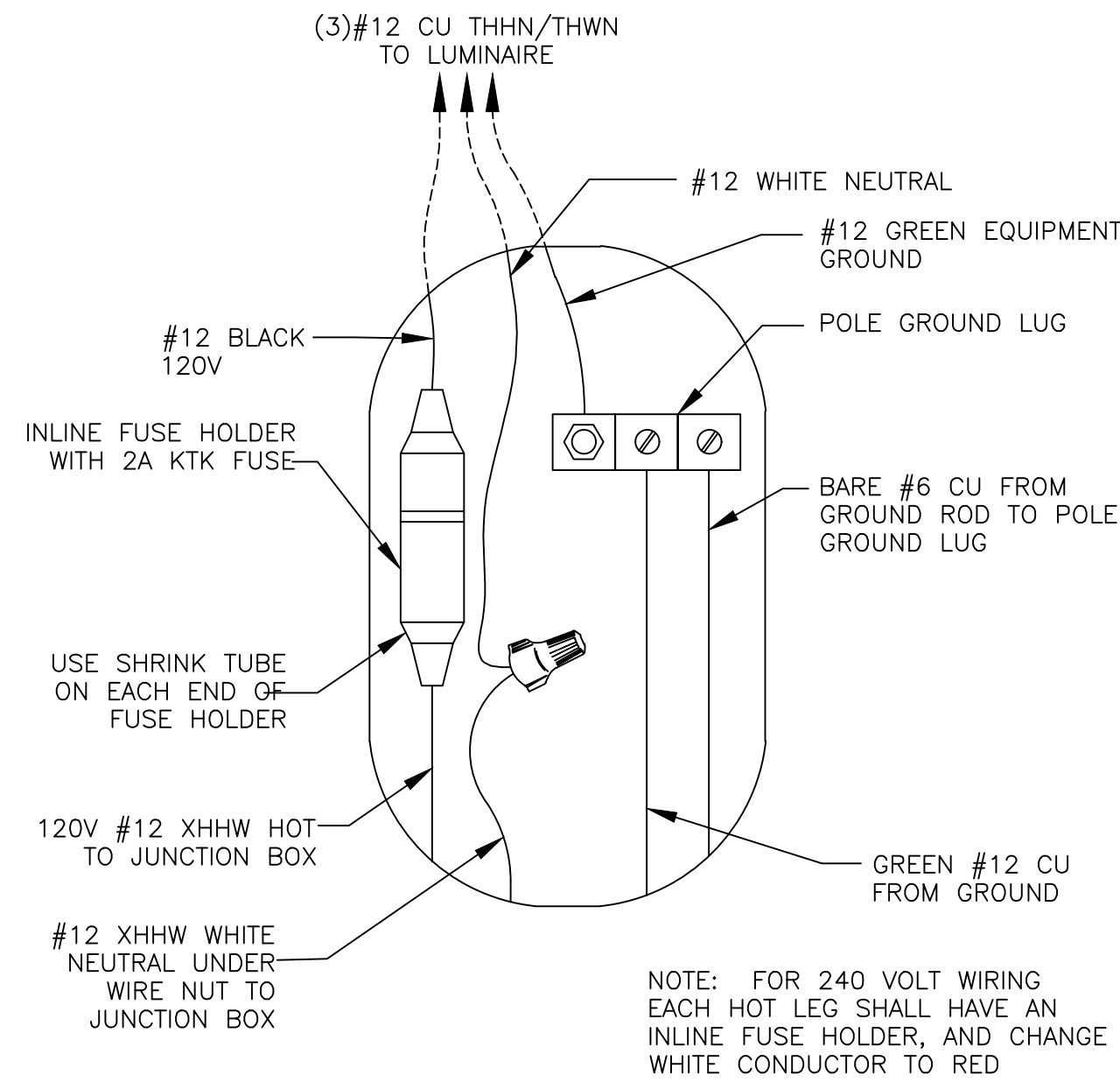
DRAWING NO:
SL2
OF 4



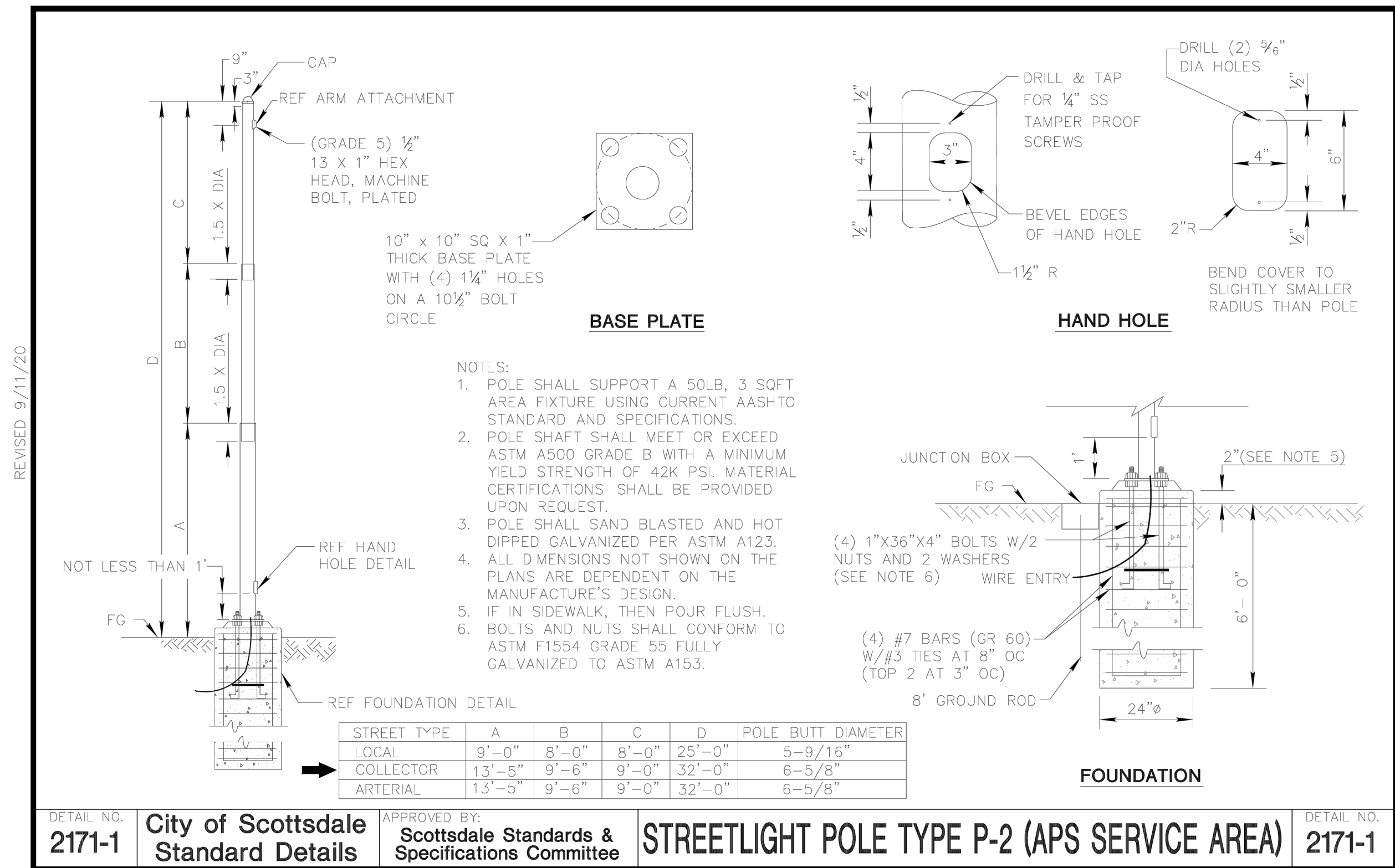
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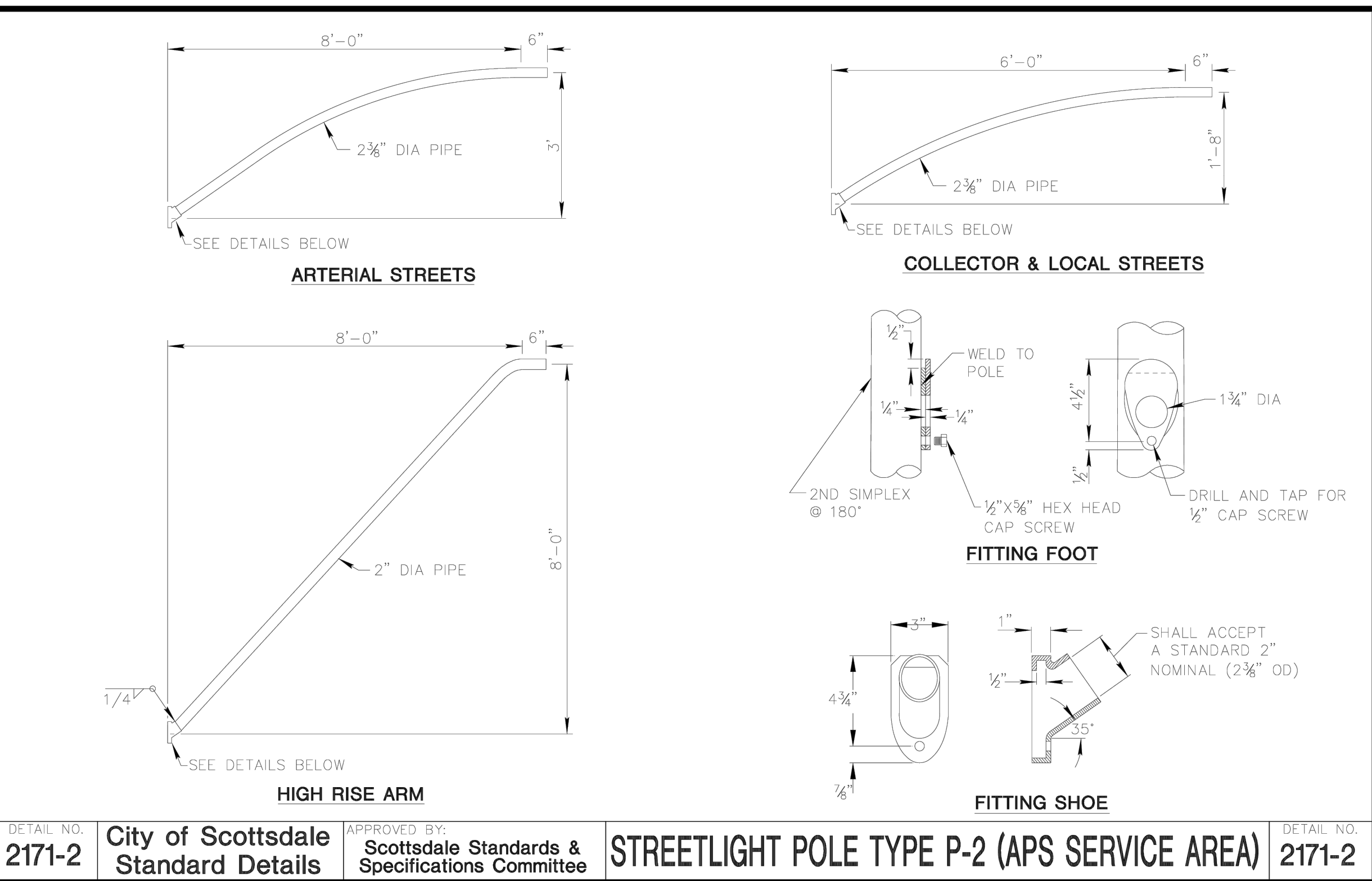
1 GROUNDING & FUSING DETAIL
NO SCALE



2 PULL BOX DETAIL
NO SCALE



DETAIL NO. 2171-1 City of Scottsdale Standard Details APPROVED BY: Scottsdale Standards & Specifications Committee STREETLIGHT POLE TYPE P-2 (APS SERVICE AREA) DETAIL NO. 2171-1



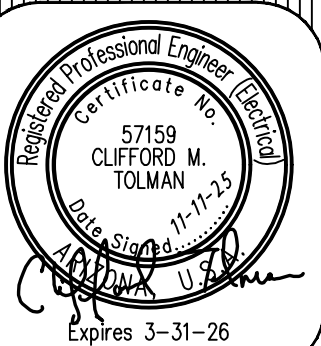
DETAIL NO. 2171-2 City of Scottsdale Standard Details APPROVED BY: Scottsdale Standards & Specifications Committee STREETLIGHT POLE TYPE P-2 (APS SERVICE AREA) DETAIL NO. 2171-2

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PROJECT: TITLE:
SCOTTSDALE, ARIZONA
SCOTTSDALE UMC MULTI-FAMILY
MILLER RD & INDIAN SCHOOL RD
STREET LIGHT DETAILS

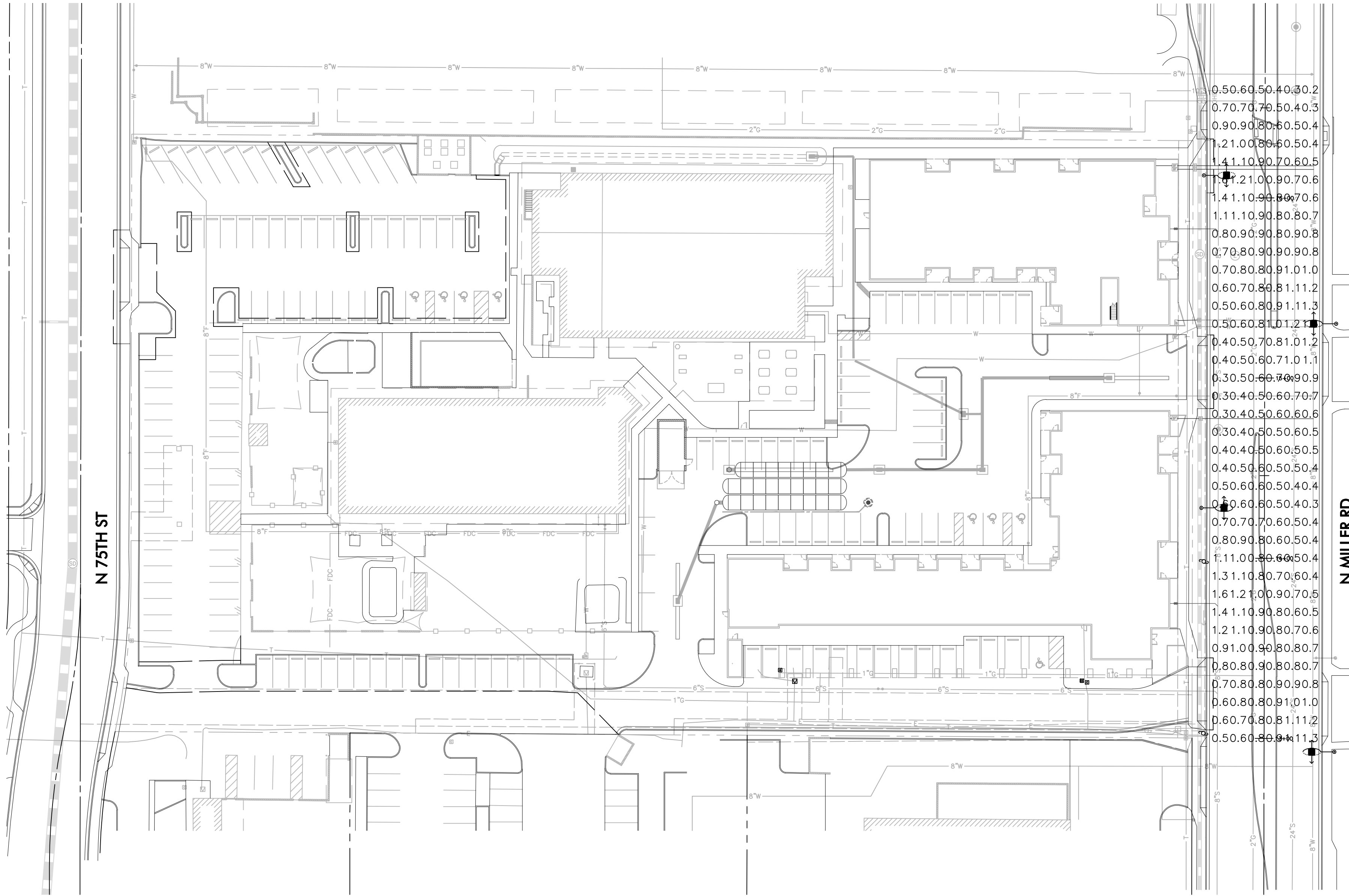
NO.	DATE	SUBMITTALS/REVISIONS (DESCRIPTIONS)
1	11-11-23	1ST SUBMITTAL



DRAWING NO:
SL3
OF 4

Call at least two full working days
before you begin excavation
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-11 (782-5348)
In Maricopa County: (602) 263-1100

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CALCULATIONS

Miller Rd
294 points at z=0, sp 10ft by 10ft
HORIZONTAL FOOTCANDLES
Average 0.7
Maximum 1.6
Minimum 0.2
Avg/Min 3.48
Max/Min 8.00
Coef Var 0.40
UnifGrad 1.67

PHOTOMETRIC LEGEND

7,500 LUMEN LED
Type III Distribution, 4' Mast Arm
candela file 'ERL1_09C530_ies'
1 lamp(s) per luminaire, photometry is absolute
Light Loss Factor = 0.900, watts per luminaire = 68
mounting height = 35.5 ft
number locations = 6, number luminaires = 6
kw all locations = 0.4

ROADWAY DESIGN CRITERIA

STREET	TYPE	AVG FC	AVG/MIN
N MILLER RD	MAJOR COLLECTOR	0.6	4:1

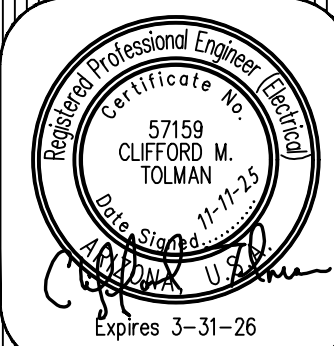
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PROJECT: TITLE:
SCOTTSDALE, ARIZONA
SCOTTSDALE UMC MULTI-FAMILY
MILLER RD & INDIAN SCHOOL RD
PHOTOMETRIC ANALYSIS

NO. DATE SUBMITTALS/REVISIONS (DESCRIPTIONS)

1 11-11-25 1ST SUBMITTAL



DRAWING NO:
SL4
OF 4

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before you begin excavation
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