

**1 | SMITH BUILDING BOILER ROOM**  
NOT TO SCALE

**PLAN SYMBOLS**

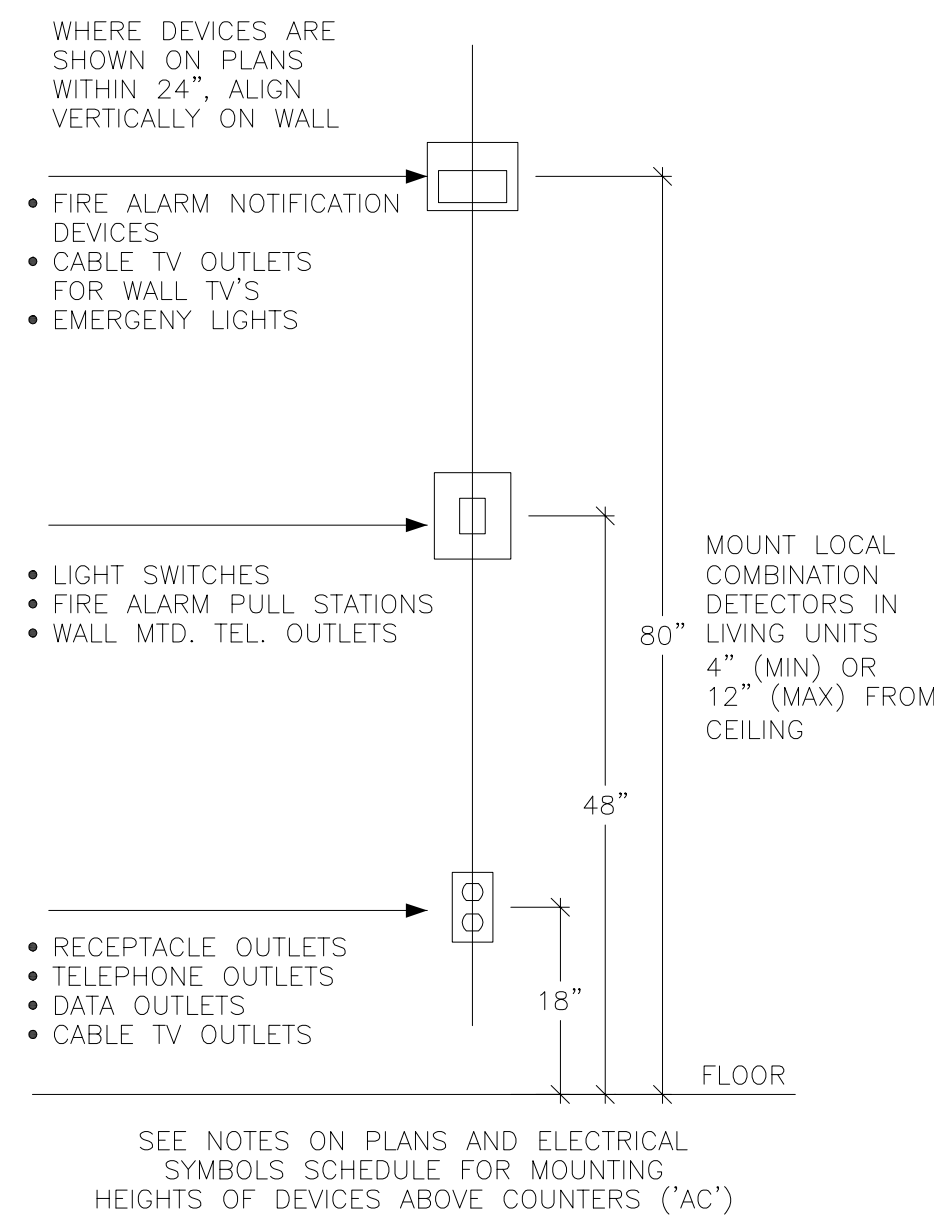
SYMBOL	DESCRIPTION
	125V, 20A, DUPLEX GROUNDED RECEPTACLE GFI = Ground Fault Type WP = Weatherproof AC = Mount 6" Above Sink or Counter
	125V, 20A, QUAD GROUNDED RECEPTACLE
	250V, SINGLE GROUNDED RECEPTACLE Ampere Rating
	TELEPHONE OUTLET
	DATA NETWORK OUTLET Wireless Outlet 12" Below Ceiling
	CABLE TELEVISION OUTLET
	WALL MTD MOTION DETECTOR
	CEILING MTD MOTION DETECTOR
	MANUAL MOTOR SWITCH
	FIRE ALARM SMOKE DETECTOR Indicates Localized Detector
	CARBON MONOXIDE SMOKE DETECTOR Indicates Localized Detector
	FIRE ALARM AUDIO VISUAL Indicates Visual Only Candela Rating
	FIRE ALARM PULL STATION
	FIRE ALARM HEAT DETECTOR
	JUNCTION BOX
	DOOR INTERCOM STATION
	SURVEILLANCE CAMERA
	#2 CEILING MTD, FLUORESCENT LIGHT FIXTURE Load Center Circuit Number
	#2 WALL MOUNTED LIGHT FIXTURE Fixture Designation
	#2 RECESSED/CEILING MOUNTED LIGHT FIXTURE
	LIGHT/DEVICE SWITCH 3 = Three-Way Type
	ELECTRIC LOAD CENTER/PANELBOARD

**2 | ELECTRICAL SYMBOLS**  
NONE

**SINGLE LINE DIAGRAM SYMBOLS**

SYMBOL	DESCRIPTION
	Ampere Frame Rating (3 poles Except as Noted Otherwise)
	CIRCUIT BREAKER
	Ampere Trip Rating
	ELECTRICAL CONNECTION
	GROUND CONNECTION
	EQUIPMENT ENCLOSURE
	TRANSFORMER
	UNFUSED SWITCH No. of Poles Ampere Rating
	UTILITY CO. SERVICE METER

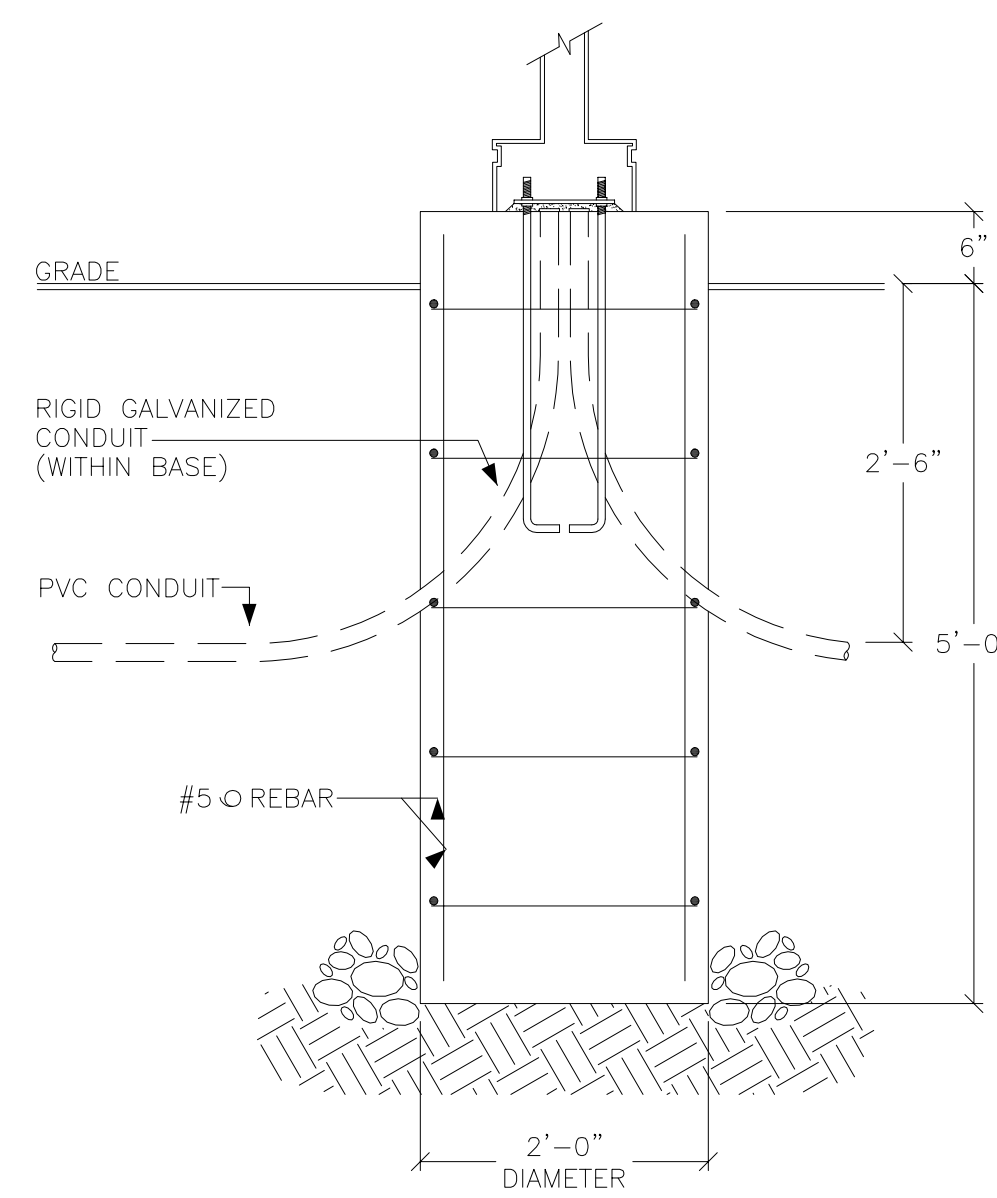
**3 | DEVICE ALIGNMENT DETAIL**  
NOT TO SCALE



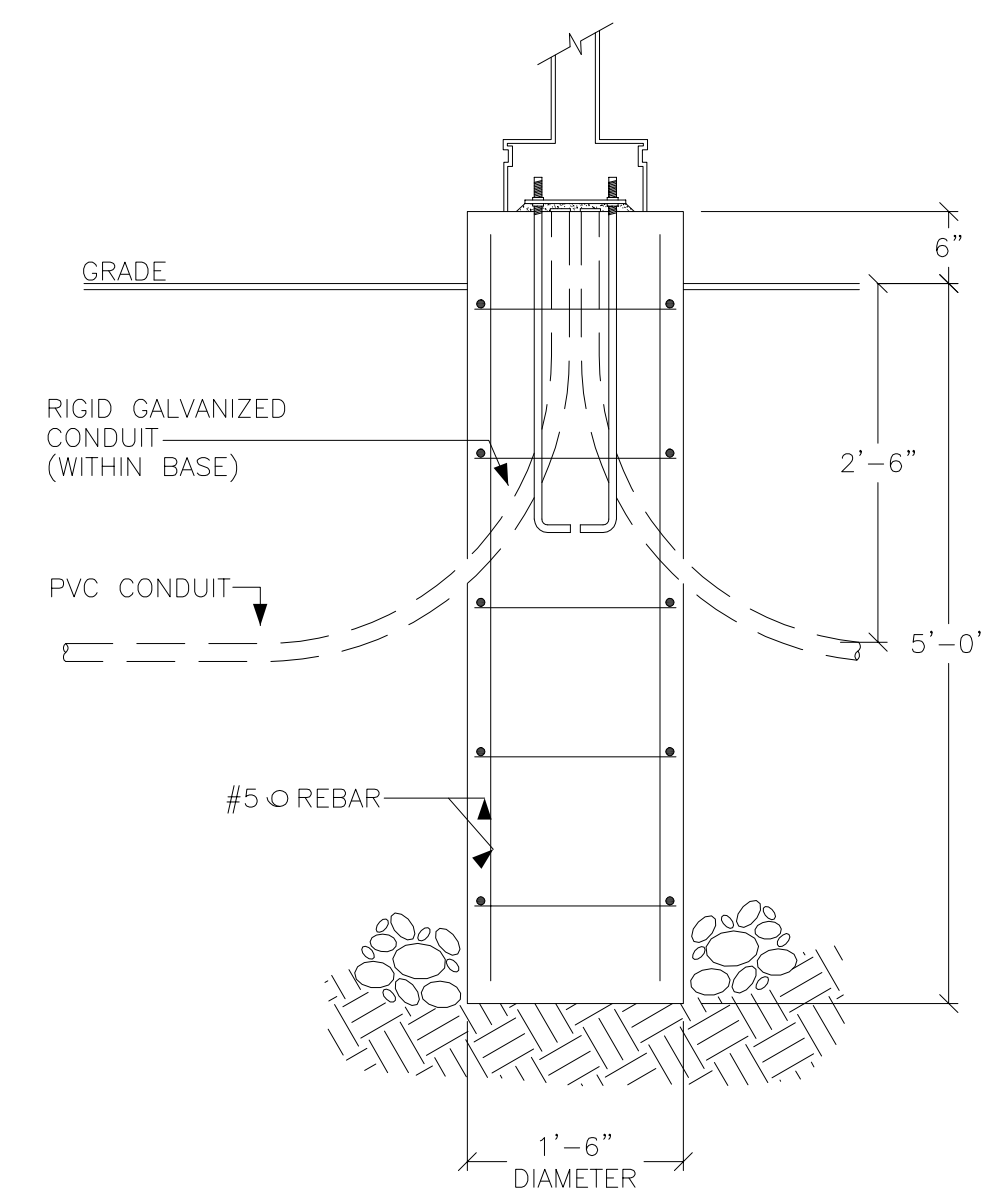
- ALL 120V RECEPTACLES IN KITCHENS SHALL BE GFCI RATED EXCEPT FOR THE REFRIGERATOR.
- MINIMUM CIRCUIT BREAKER SIZE SHALL BE 20 AMP. MINIMUM WIRE SIZE SHALL BE #12 AWG.
- ALL 120 VOLT RECEPTACLE CIRCUITS IN LIVING UNITS SHALL BE ARC-FAULT TYPE CIRCUIT BREAKERS IN LOAD CENTERS, EXCEPT FOR BATHROOM RECEPTACLE CIRCUIT WHICH SHALL BE COMBINATION ARC-FAULT, GROUND FAULT.
- ALL RECEPTACLES IN LIVING UNITS SHALL BE TAMPER-RESISTANT.
- COMBINATION HORN-STROBE/SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE.
- SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS IN LIVING UNITS SHALL BE CIRCUITED TO THE LOCAL LIGHTING CIRCUIT.
- STROBE CANDELA RATINGS FOR HOUSE FIRE ALARM NOTIFICATION APPLIANCES SHALL BE 15cd.
- INSTALL LOAD CENTERS WITHIN LIVING UNITS WITH THE TOP CIRCUIT BREAKER HANDLE AT 48IN AFF.
- COORDINATE THE EXACT LOCATION OF RECEPTACLES IN KITCHENS SO THAT NO POINT ON THE COUNTER IS GREATER THAN 24IN TO A RECEPTACLE. PROVIDE AN ABOVE COUNTER RECEPTACLE AT ALL KITCHEN COUNTERS THAT ARE GREATER THAN 12IN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECEPTACLES ON EACH WALL SPACE THAT IS 24IN OR GREATER IN BEDROOMS, LIVING ROOMS, DINING ROOM/KITCHEN AREAS. COORDINATE THE EXACT LOCATION OF RECEPTACLES SO THAT AT NO POINT ALONG A WALL IS GREATER THAN 6FT TO A RECEPTACLE. IN ENTRY/FOYER AREAS A RECEPTACLE SHALL BE PROVIDED ON EACH WALL SPACE 36IN OR GREATER. PROVIDE A RECEPTACLE IN HALLWAYS/CORRIDORS GREATER THAN 10FT LONG.
- UNDER BASE BID PROVIDE TYPE C1 LIGHT IN UNIT LIVING ROOMS AND BEDROOMS AS SHOWN. UNDER ALTERNATE BID PROVIDE A COMBINATION CEILING FAN/LIGHT IN UNIT LIVING ROOMS AND BEDROOMS. SEE SPECIFICATIONS FOR DETAILS. VERIFY EXACT PLACEMENT WITH ARCHITECT PRIOR TO ROUGH-IN.
- MECHANICAL CONTRACTOR TO SUPPLY BATHROOM EXHAUST FANS WITH TIMER DELAY/HUMIDITY SENSOR SWITCH. COORDINATE INSTALLATION REQUIREMENTS WITH MECHANICAL CONTRACTOR. IN LIVING UNITS CIRCUIT FAN TO UNIT LIGHTING CIRCUIT. IN ELEVATOR MACHINE ROOM 103, ELEVATOR MACHINE ROOM 1013, AND TOILET 1028 CIRCUIT FAN TO PANEL HP1 #3.
- DO NOT INSTALL FLUSH MOUNTED BOXES BACK-TO-BACK IN WALLS; PROVIDE A MINIMUM 24 INCH SEPARATION. WHERE 24 INCH SEPARATION IS NOT PHYSICALLY POSSIBLE, APPROVAL FOR CLOSER SPACING SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO ROUGH-IN. IN SUCH CASES, PROVIDE UL LISTED FIRESTOP PADS FOR BOXES.
- PROVIDE AIR-VAPOR BARRIER BOXES FOR ALL OUTLETS IN CEILING AT THE TOP FLOOR. BOXES SHALL BE MANUFACTURED BY LESSCO, OR APPROVED EQUAL. CABLE PENETRATIONS AT AIR-SEAL BOXES SHALL BE SEALED.
- ENSURE THAT OUTLET BOXES IN COMMON WALLS OF DWELLING UNITS ARE SEALED AGAINST AIR FILTRATION THROUGH THE USE OF CAULKING DRYWALL TO THE BOX AND PROVIDING COVER PLATE GASKETS.
- ELECTRICAL CONTRACTOR TO PROVIDE (2) PAR20 LED LAMPS TO BE INSTALLED WITHIN KITCHEN HOOD.
- MOUNT DISHWASHER RECEPTACLES WITHIN CABINET UNDERNEATH SINK SO THAT THEY ARE READILY ACCESSIBLE.
- CONNECT NO MORE THAN 6 RECEPTACLES TO A SINGLE RECEPTACLE CIRCUIT.
- AIR HANDLING UNITS LOCATED WITHIN LIVING UNITS SHALL HAVE FACTORY PROVIDED DISCONNECT SWITCHES. ALL UNITS SHALL BE 240-VOLT, 1-PHASE. ELECTRICAL CONTRACTOR SHALL PROVIDE A DEDICATED 15A/2P CIRCUIT BREAKER WITHIN THE UNIT LOAD CENTER. UNITS SHALL OPERATE FROM AN ELECTRONIC WALL MOUNTED CONTROLLER THAT IS TO BE LOCATED, INSTALLED AND WIRING BY THE ATC CONTRACTOR. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POWER WIRING FROM THE LOAD CENTER TO THE AIR HANDLER. COORDINATE THE EXACT LOCATION AND MOUNTING HEIGHT WITH THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- PROVIDE HARD-WIRED DOOR CHIME BUTTON AND DOOR CHIME WITH STROBE AT LIVING UNITS 108, 212, 213, & 509.
- UNLESS SPECIFICALLY NOTED OTHERWISE, ALL DISCONNECT SWITCH SIZES SHALL BE 30A/2P.
- FOR EACH BOILER AND ASSOCIATED CIRCULATION PUMP PROVIDE A JUNCTION BOX NEW TO THE BOILER'S LOCATION WITH CIRCUIT WIRING BACK TO A 30A/1P CIRCUIT BREAKER LOCATED IN PANEL EP1 WITH 2 #10, 1#12GND, IN A 3/4" CD. BOILER INSTALLER SHALL PROVIDE ALL OTHER NECESSARY ELECTRICAL WORK ASSOCIATED WITH THE BOILERS INCLUDING WIRING FROM THE JUNCTION BOX, INTERCONNECTING WIRING BETWEEN PUMP AND BOILER, CONTROLS, AND EMERGENCY CUT-OFF SWITCHES.
- VERIFY THE LOCATIONS OF ALL MECHANICAL EQUIPMENT PRIOR TO INSTALLATION. COORDINATE ALL MECHANICAL WORK WITH MECHANICAL CONTRACTOR. DISCONNECT SWITCHES SHALL NOT BE MOUNTED DIRECTLY TO THE MECHANICAL EQUIPMENT. MOUNT DISCONNECT SWITCHES SO THAT THEY ARE NOT VISIBLE.
- ATC CONTRACTOR SHALL PROVIDE ALL WIRING NECESSARY FOR THE ATC SYSTEM EXCEPT CONNECTIONS TO THE PANELBOARD. ATC CONTRACTOR SHALL BRING CIRCUIT WIRING BACK TO THE PANELBOARD LOCATIONS WHERE ELECTRICAL WILL CONNECT TO PANEL EP1. ELECTRICAL CONTRACTOR SHALL RESERVE (10) CIRCUITS IN PANEL EP1 FOR ATC EQUIPMENT AND CONNECT THE ATC EQUIPMENT CIRCUITS TO PANEL EP1.
- CIRCUIT CARBON DIOXIDE DETECTORS LOCATED IN PUBLIC AREAS TO PANEL EP1 #5.
- ROVIDE THE FOLLOWING CIRCUITS WITHIN UNIT LOAD CENTERS:
 

50A/1P RANGE	20A/1P LIGHTS/DETECTORS
20A/1P RANGE HOOD	20A/1P BATHROOM RECEPT
20A/1P REFRIGERATOR	20A/1P BEDROOM RECEPTS
20A/1P KITCHEN RECEPTS	20A/1P DINING/HALL RECEPTS
20A/1P KITCHEN RECEPTS	20A/1P LIVING ROOM RECEPTS
20A/1P DISHWASHER	15A/2P AIR HANDLING UNIT

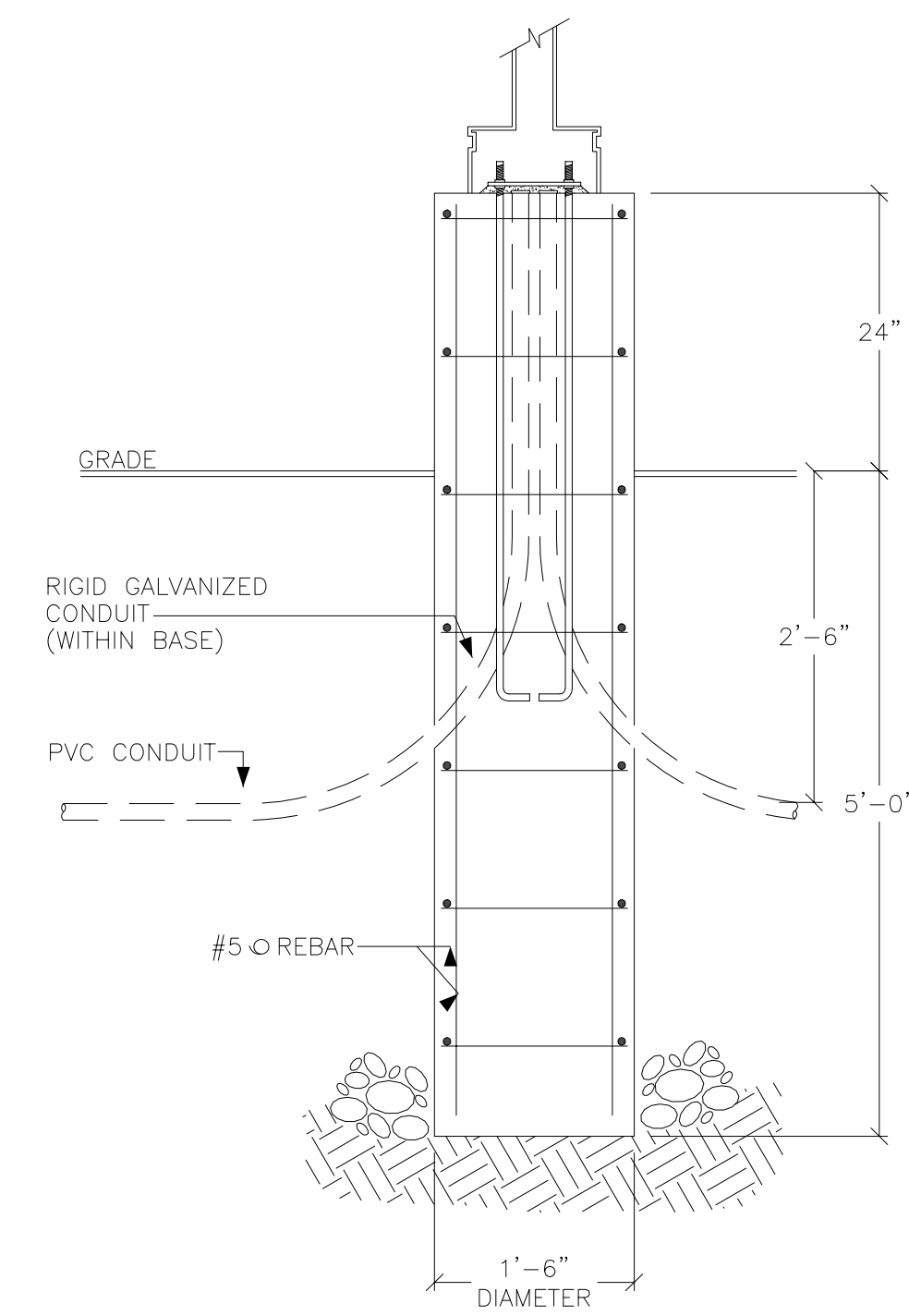
**4 | PROJECT NOTES**  
NOT TO SCALE



LIGHTING POLE TYPES S1, S2, S3, S4



LIGHTING POLE TYPE S5



LIGHTING POLE TYPE S2A

**5 | LIGHTING POLE DETAILS**  
NOT TO SCALE

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Revisions:  
02/15/16 MSHA 90% REVIEW  
06/23/16 ISSUED FOR FIRE MARSHAL REVIEW  
10/07/16 FINAL BID SET  
01/09/17 LIGHTING REVISIONS  
03/01/17 ISSUED FOR CONSTRUCTION

Date: FEB 15, 2016  
Scale: NONE  
**ELECTRICAL DETAILS**

**E4.02**

