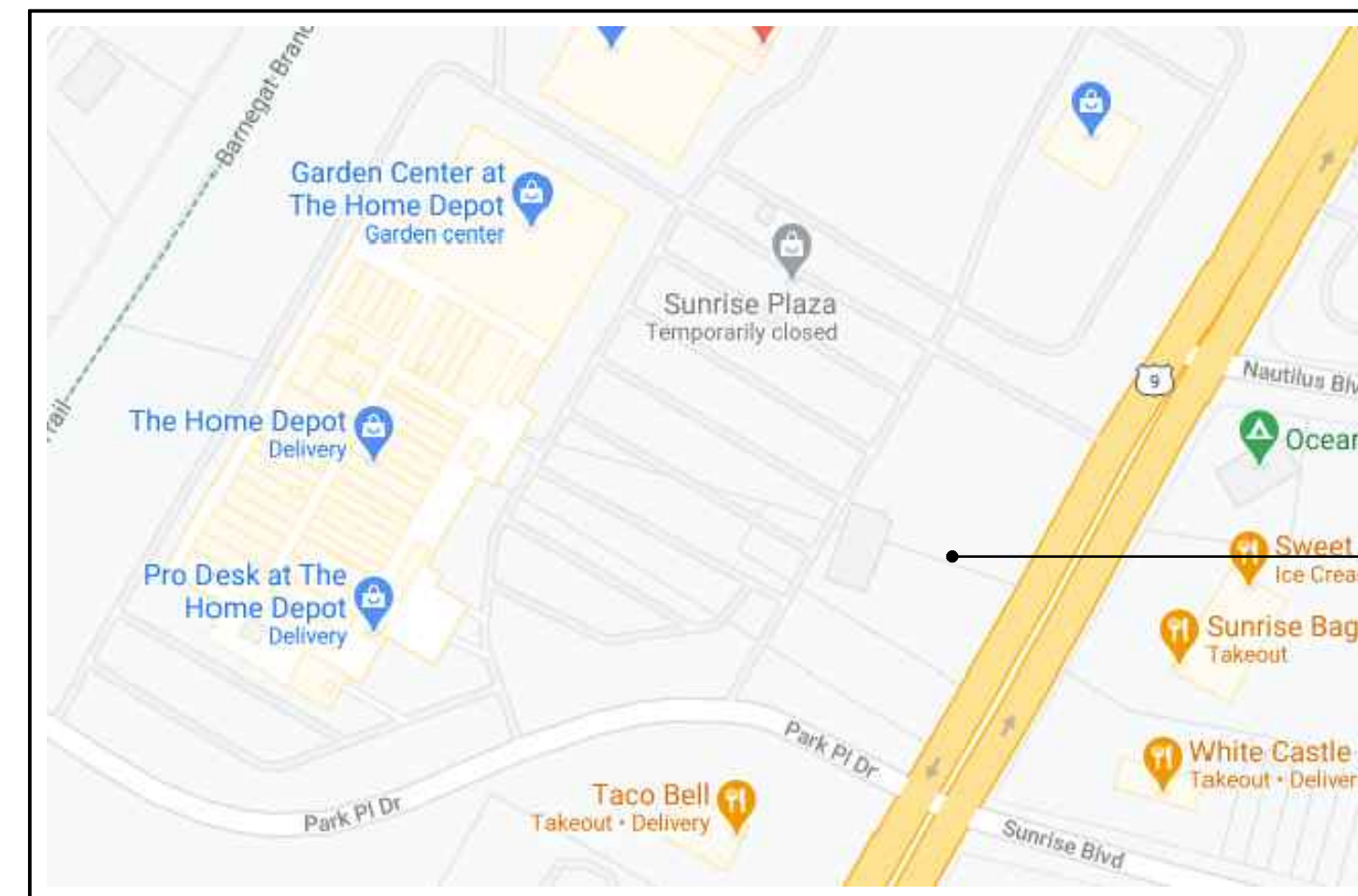


NEW ELECTRICAL SERVICES FOR SUNRISE SHOPPING CENTER FOR NEW BURGER KING AND NEW SITE LIGHTING OCEAN TOWNSHIP, NJ



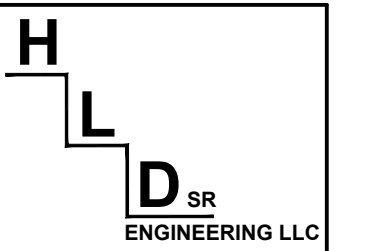
SITE LOCATION:
BLOCK 314.01, LOT 29.07,
PLATES 22 & 30
LACEY TOWNSHIP
OCEAN COUNTY, NJ

APPLICABLE CODES AND STANDARDS

- NATIONAL ELECTRICAL CODE 2017
- JERSEY CENTRAL POWER AND LIGHT CUSTOMER REQUIREMENTS
- LOCAL TOWN ORDINANCES

DRAWINGS

- T-1 COVER SHEET WITH CODES AND MAP
- E-0 ELECTRICAL LEGENDS, ABBREVIATIONS, AND NOTES
- E-1 ELECTRICAL SPECIFICATIONS AND NOTES
- E-2 ELECTRICAL SITE PLAN AND NOTES
- E-3 ELECTRICAL DETAILS, DIAGRAMS, AND SCHEDULES



CERTIFICATE OF AUTHORIZATION
NO. 24GA28271800
PATRICIA O. DAVIS, P.E.
NJ PROFESSIONAL ENGINEER LICENSE NO. 064867
NAME: Patricia O. Davis DATE: 3/19/2021

HLD SR ENGINEERING LLC
MEP ENGINEERING DESIGN
68 TYNEMOUTH COURT
ROBBINSVILLE, NJ 08861
WWW.HLDSRENGINEERING.COM

JOB NO.: 2105
NO. REVISIONS
DRAWN BY: POD
DATE: 3/2021
SCALE: AS NOTED

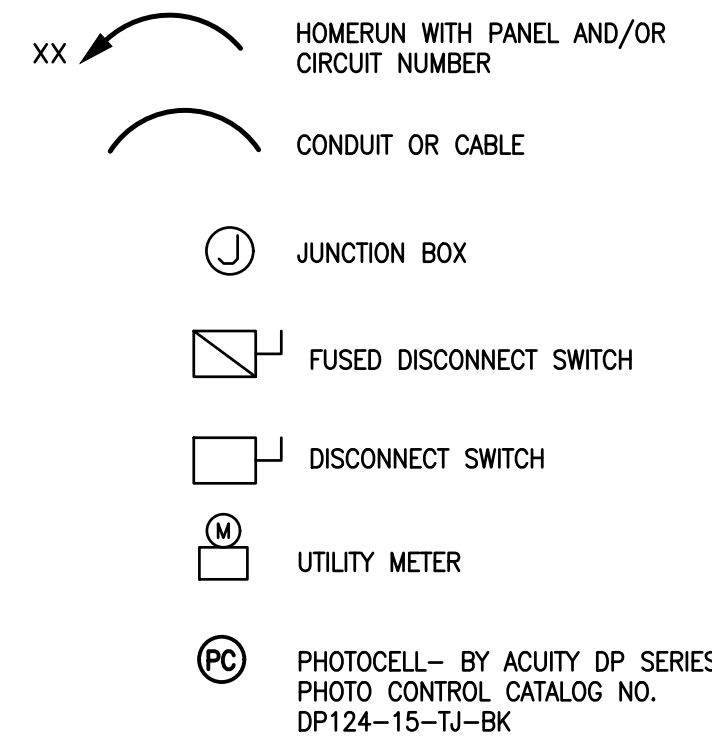
CLIENT:
2020 EQUITIES, LLC
818 HADDONFIELD ROAD
BOX 7
CHERRY HILL, NJ 08002

PROJECT:
**SUNRISE PLAZA
SHOPPING CENTER**
BLOCK 314.01, LOT 29.07
PLATES #22 & #30
OCEAN COUNTY, NJ

**COVER SHEET
CODES AND MAP**

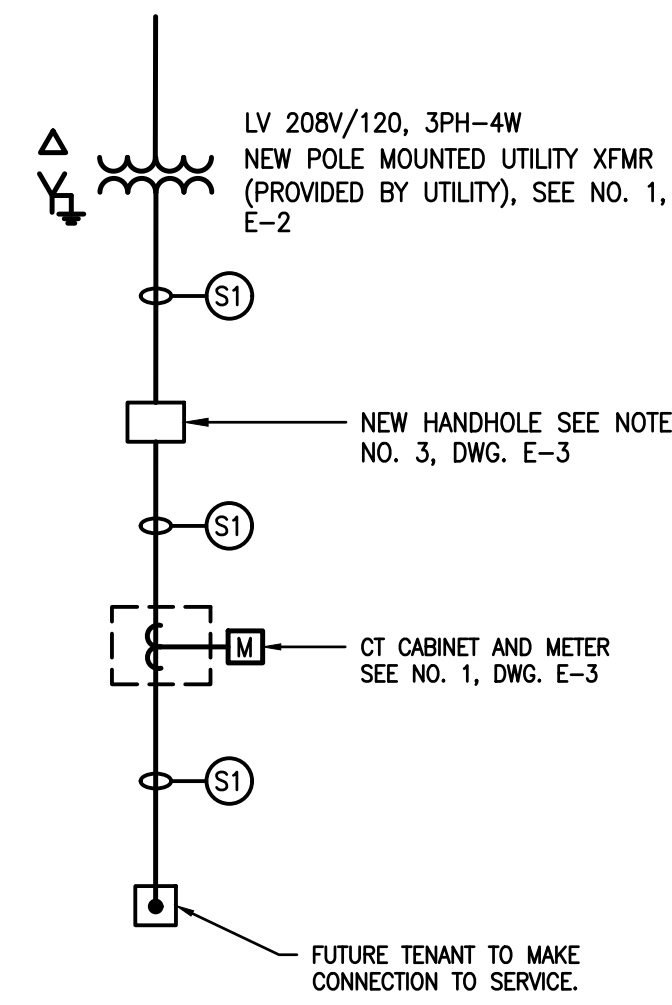
T-0
1 OF 5

SYMBOL LIST



ABBREVIATIONS:

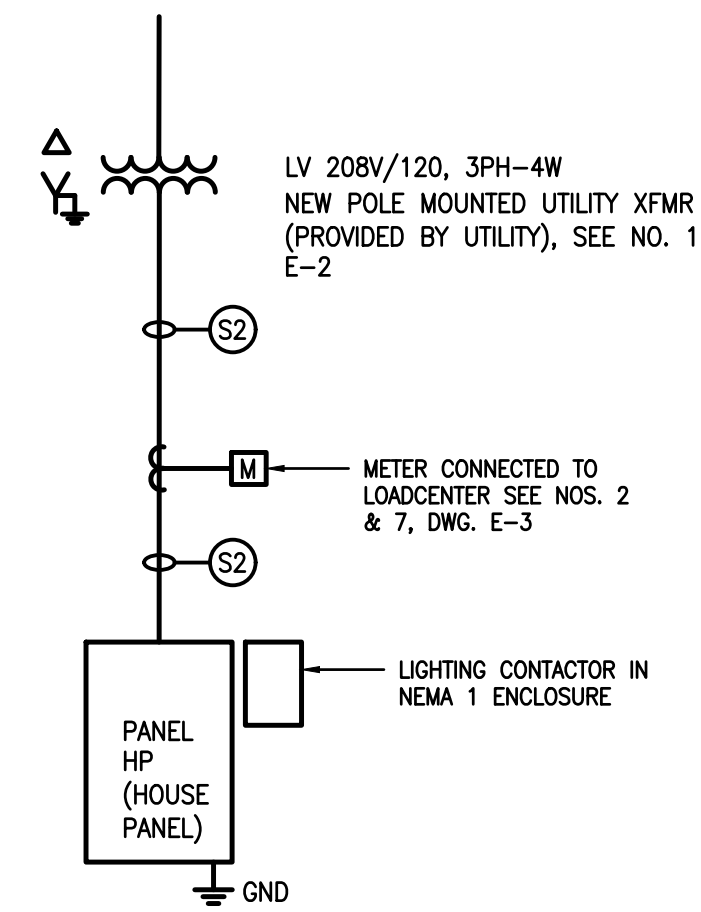
- A AMPERAGE
- A.F.F. ABOVE FINISHED FLOOR
- A.F.G. ABOVE FINISHED GRADE
- AF AMP FRAME
- AT AMP TRIP
- C.B. CIRCUIT BREAKER
- EMT ELECTRICAL METALLIC TUBING
- (E) EXISTING TO REMAIN
- G GROUND
- GND SERVICE GROUNDING
- GFI GROUND FAULT CIRCUIT INTERRUPTER
- GRC GALVANIZED RIGID CONDUIT
- LTG LIGHTING
- (N) NEW
- N.T.S. NOT TO SCALE
- PH PHASE
- PNL PANELBOARD
- (R) TO BE REMOVED (DEMOLISHED)
- SW SWITCH
- V VOLTAGE
- W/ WITH
- WP WEATHERPROOF



NOTES:

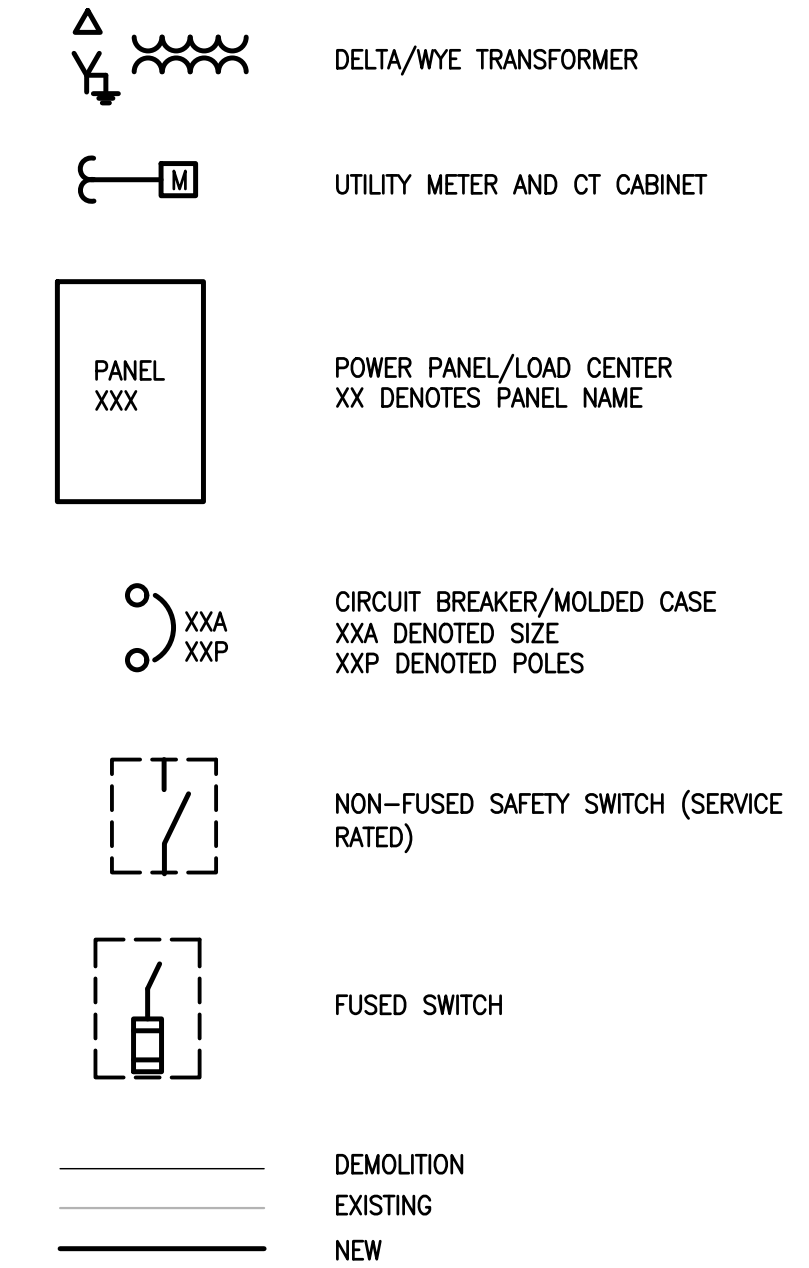
GROUNDING SHALL BE AT TENANT'S MAIN PANEL.
COORDINATE TERMINATION WITH BURGER CONTRACTOR

1 SERVICE SINGLE LINE DIAGRAM-BURGER KING
SCALE: NOT TO SCALE



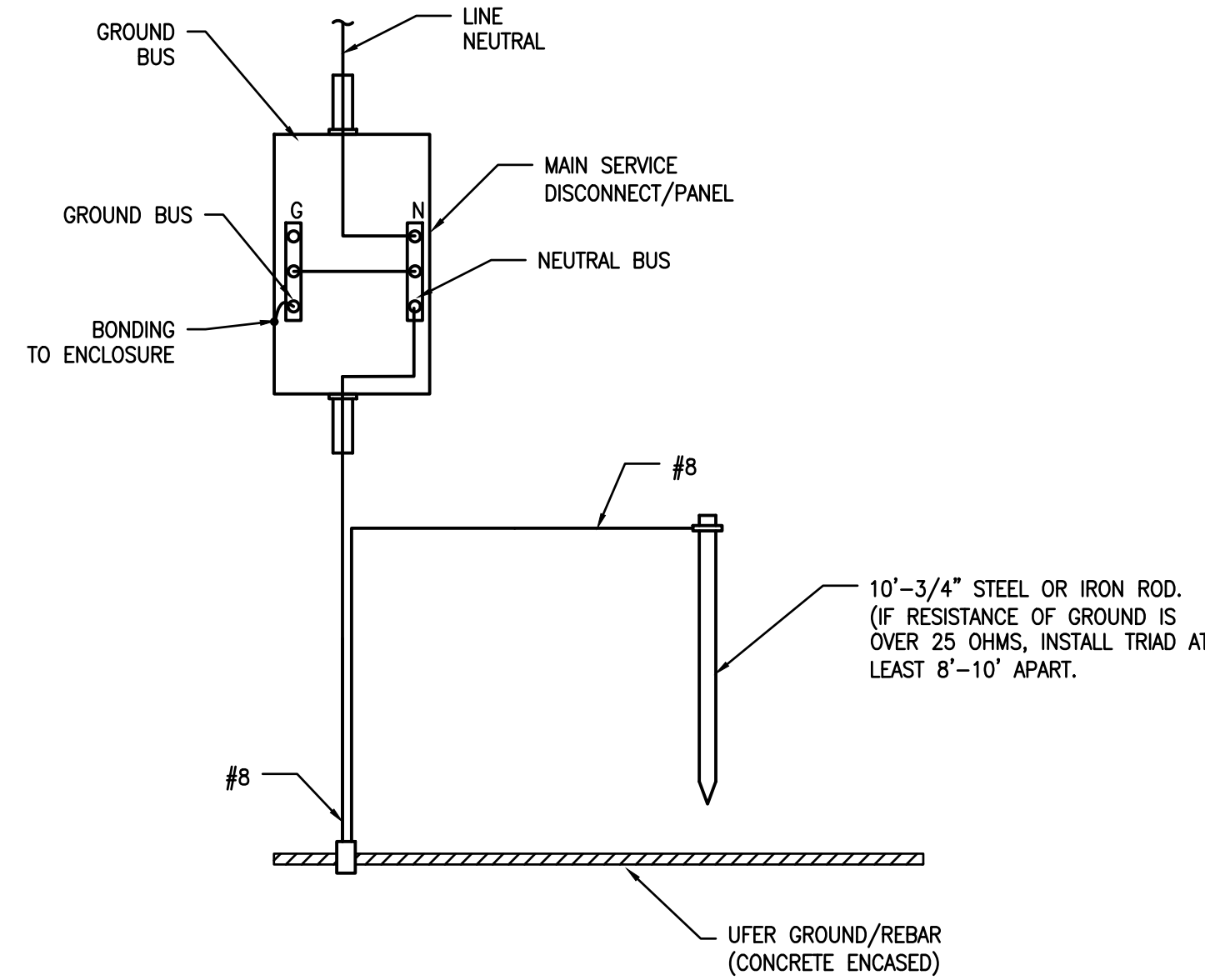
2 SERVICE SINGLE LINE DIAGRAM-SITE LIGHTING
SCALE: NOT TO SCALE

LEGEND

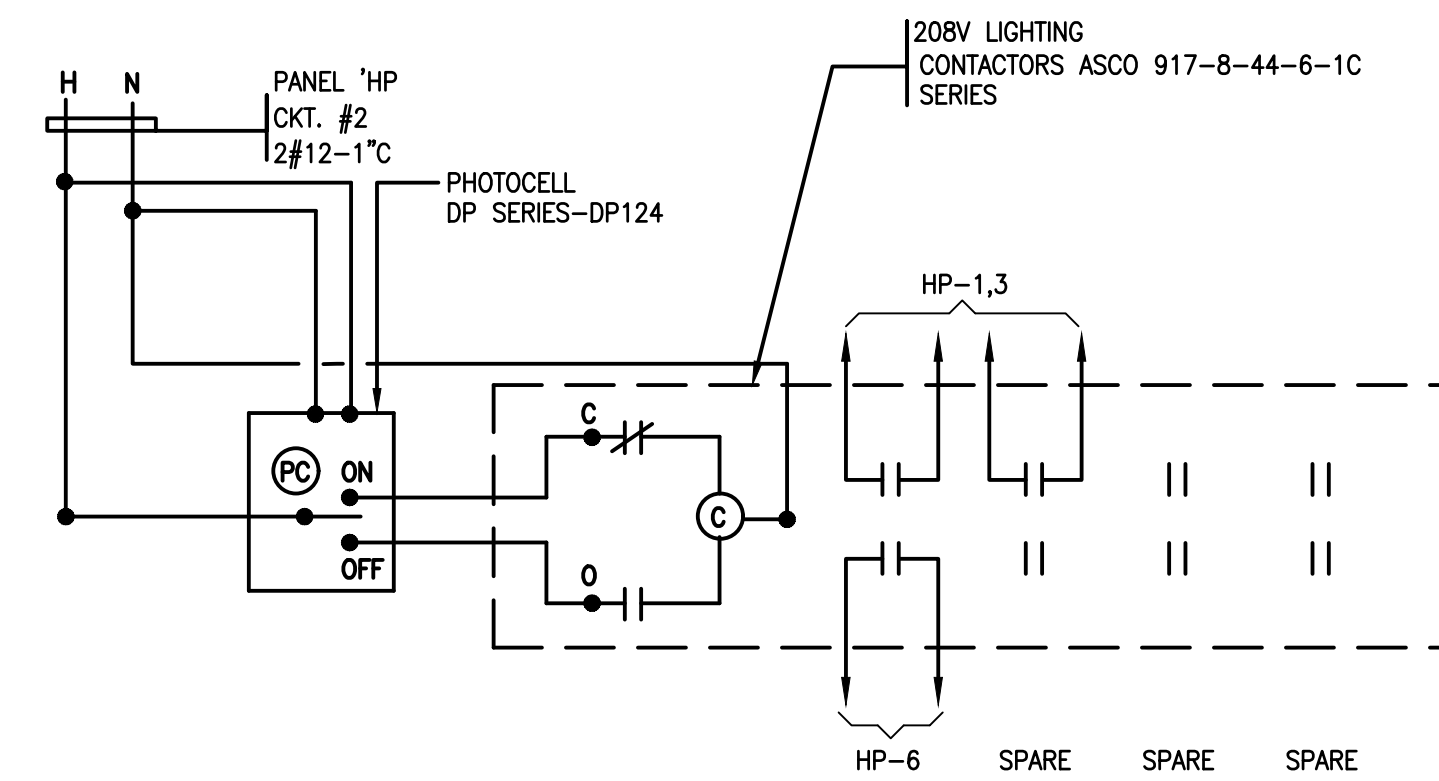


FEEDER SCHEDULE

- (S1) (2) SETS OF 4#500KCMIL, IN (2) 3" C, AND (1) SPARE 3"
- (S2) 4#2, IN 1-1/4" C, AND (1) SPARE 1-1/4" C



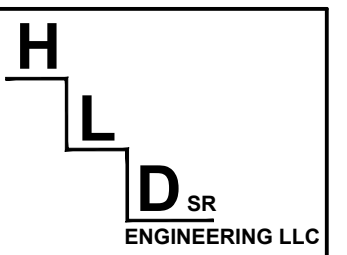
3 SERVICE GROUNDING DETAIL-SITE LIGHTING
SCALE: NOT TO SCALE



NOTES:

- 1. LOCATION OF TIME CLOCK SHALL BE DETERMINED IN THE FIELD.

4 CONTACTOR AND PHOTOCELL WIRING DIAGRAM
SCALE: NOT TO SCALE



CERTIFICATE OF AUTHORIZATION
NO. 24G2A28271800
PATRICIA O. DAVIS, P.E.
NJ PROFESSIONAL ENGINEER LICENSE NO. 6E4887
NAME: Patricia O. Davis DATE: 3/19/2021

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JOB NO.: 2105

NO.	REVISIONS

DRAWN BY: POD
DATE: 3/2021
SCALE: AS NOTED

CLIENT:
2020 EQUITIES, LLC
818 HADDONFIELD ROAD
BOX 7
CHERRY HILL, NJ 08002

PROJECT:
SUNRISE PLAZA
SHOPPING CENTER
BLOCK 314.01, LOT 29.07
PLATES #22 & #30
OCEAN COUNTY, NJ

ELECTRICAL
LEGENDS, ABBREVIATIONS,
AND DIAGRAMS

GENERAL NOTES

GENERAL REQUIREMENTS:

1. THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
2. ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NFPA 70 AND NECA-1) ADOPTED IN THIS STATE AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK.
3. THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.
4. ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ARCHITECT, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.
5. ALL NEW ELECTRICAL MATERIAL AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS' LABORATORIES, INC. (UL) AND BEAR THE UL LABEL.
6. PROVIDE ALL SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC., FOR THIS WORK.
7. PROVIDE TECHNICAL MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.
8. THE DRAWINGS ARE DIAGRAMMATIC AND ALL SPECIALTIES AND APPURTENANCES ARE NOT SHOWN, BUT SHALL BE PROVIDED AS REQUIRED.
9. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
10. THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.
11. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE.
12. ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES.
13. EXACT ROUTING OF CONDUITS SHALL BE DETERMINED IN THE FIELD.
14. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS AND SYSTEMS THAT EFFECT HIS BIDDING AND WORK, AND SHALL PROVIDE VALUE FOR SAME IN HIS BID.
15. UPON COMPLETION OF THE ELECTRICAL WORK, CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
16. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
17. ALL WORK SHALL BE PERFORMED BY THOSE SKILLED IN THEIR PARTICULAR TRADE IN A NEAT AND WORKMANLIKE MANNER.
18. ELECTRICAL WORK SHALL BE DONE AT SUCH A TIME, AND IN SUCH MANNER, AS WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF THE SITE'S AND/OR BUILDING'S ACTIVITIES. PROVISIONS SHALL BE MADE TO PERMIT THE USE OF ALL EXISTING ELECTRICAL SYSTEMS AT ALL TIMES. PROVIDE TEMPORARY FACILITIES TO SECURE THESE CONDITIONS AND REMOVE SUCH TEMPORARY FACILITIES WHEN NO LONGER REQUIRED.
19. SHUTDOWN WORK SHALL BE SCHEDULED AT SUCH TIME AND IN SUCH MANNER AS DIRECTED BY THE OWNER AND ENGINEER. PROVIDE A MINIMUM ONE WEEK NOTICE.
20. WHERE ALLOWABLE SHUTDOWN PERIODS CANNOT BE OF DURATION TO ACCOMMODATE ALL OF THE REQUIRED WORK, THE CONTRACTOR SHALL PERFORM THE WORK IN A SERIES OF PREPLANNED STAGES DURING ALLOWABLE SHUTDOWN PERIODS. PROVIDE TEMPORARY FACILITIES TO ALLOW RE-ENERGIZING OF SERVICES BETWEEN WORKING STAGES.

ELECTRICAL

SCOPE OF WORK

- 1.1 THE SCOPE OF WORK IS TO PROVIDE A NEW UNDERGROUND ELECTRICAL SERVICE, GROUNDING, AND THE ASSOCIATED EQUIPMENT.

PROJECT COORDINATION:

- 2.1 VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.

PROTECTION OF WORK:

- 3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

PERMITS:

- 4.1 OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

RACEWAYS:

- 5.1 ALL EXPOSED CONDUIT IN WET AND DAMP AREAS SHALL BE STEEL RMC (RIGID METAL CONDUIT). EXPOSED AND DRY AREAS SHALL BE EMT (ELECTRICAL METALLIC TUBING). UNDERGROUND POWER CONDUIT SHALL BE CONCRETE ENCASED RMC (RIGID NONMETALLIC CONDUIT). CONCRETE SHALL BE REINFORCED WITH #4 REBAR IN CORNERS AND ON 1' SPACING TOP AND BOTTOM.
- 5.2 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED, AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.
- 5.3 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.
- 5.4 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS REQUIRED TO AVOID INTERFERENCES.
- 5.5 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1-1/4", AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.
- 5.6 UNDERGROUND AND UNDER SLAB CONDUITS SHALL BE MINIMUM 1".
- 5.7 INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION, AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATIONS.
- 5.8 CONDUITS WITHOUT DESIGNATED SIZE SHALL BE 3/4".
 - A. RACEWAYS:
 1. EMT: ANSI C80.3, ZINC-COATED STEEL, WITH SETSCREW OR COMPRESSION FITTINGS.
 2. ENT: NEMA TC 13, COMPLYING WITH UL 1653.
 3. FMC: ZINC-COATED STEEL.
 4. IMC: ANSI C80.6, ZINC-COATED STEEL, WITH THREADED FITTINGS.
 5. LFMC: ZINC-COATED, FLEXIBLE STEEL WITH SUNLIGHT-RESISTANT AND MINERAL-OIL-RESISTANT PLASTIC JACKET.
 6. RNC: NEMA TC 2, TYPE EPC-40-PVC, WITH NEMA TC3 FITTINGS.
 7. RMC: GALVANIZED RIGID STEEL. MANUFACTURED IN ACCORDANCE WITH ANSI C80.1HOT-DIP GALVANIZED INSIDE AND OUT TO PROVIDE GALVANIC CORROSION PROTECTION. ALSO, TOP COATED WITH A COMPATIBLE ORGANIC LAYER TO PROTECT AGAINST WHITE RUST.
 8. RACEWAY FITTINGS: SPECIFICALLY DESIGNED FOR RACEWAY TYPE USED IN PROJECT.
 - B. WIREWAYS: SHEET METAL SIZED AND SHAPED, WITH SCREW COVERS.

ELECTRICAL EQUIPMENT REQUIREMENTS

- 6.1 ELECTRICAL PANELS, ELECTRICAL SERVICE MAIN SWITCHES/CIRCUIT BREAKERS, AND CONTROL CABINETS SHALL BE MOUNTED A MAXIMUM OF 67" TO MID POINT OF HANDLE.
- 6.2 ANY EQUIPMENT FED WITH SERVICE ENTRANCE CONDUCTORS SHALL BE RATED FOR A SERVICE ENTRANCE.
- 6.3 THE AIC RATING OF THE EQUIPMENT COINCIDE WITH THE EQUIPMENT UPSTREAM, U.O.N.
- 6.4 A. COLOR-CODING FOR PHASE AND VOLTAGE LEVEL IDENTIFICATION, 600 V AND LESS: UNGROUNDED SERVICE, FEEDER, AND BRANCH-CIRCUIT CONDUCTORS.
 1. COLORS FOR 208/120-V CIRCUITS:
 - a. PHASE A: BLACK.
 - b. PHASE B: RED.
 - c. PHASE C: BLUE.
 - B. FIELD-APPLIED, COLOR-CODING CONDUCTOR TAPE: APPLY IN HALF-LAPPED TURNS FOR A MINIMUM DISTANCE OF 6 INCHES (150 MM) FROM TERMINAL POINTS.

WIRING:

- 7.1 POWER AND LIGHTING - TYPE THHN-2 IN CONDUIT OR TYPE MC CABLE IN DRY INTERIOR SPACES. CONDUCTORS SHALL BE RATED 600V.
- 7.2 WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITING REQUIREMENTS SHALL BE AS FOLLOWS:
 - A. LIGHTING FIXTURES - (2)#12 & #12 GND.
 - B. RECEPTACLES - (2)#12 & #12 GND.
 - C. 20A, 277 or 120V CIRCUITS - (2)#12 & #12 GND
 - D. HOMERUNS TO PANEL BOARDS SHALL CONTAIN NO MORE THAN THREE CIRCUITS.
- 7.3 WIRE SIZES SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP FOR 20 AMP CIRCUITS AS FOLLOWS:
 - A. 120V/1Ø CIRCUITS LONGER THAN 80' SHALL UTILIZE MIN. #10 AWG.
 - B. 208V/1Ø CIRCUITS LONGER THAN 700' SHALL UTILIZE MIN. #8 AWG.
- 7.4 ALL CONDUCTORS IN CONDUIT SHALL BE STRANDED EXCEPT 120V RECEPTACLE WIRING.

GROUNDING:

- 8.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.
- 8.2 PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS AND WIREWAYS, SIZED PER NFPA 70.
 - 8.2 CONDUCTORS: SOLID FOR NO. 8 AWG AND SMALLER, AND STRANDED FOR NO. 6 AWG AND LARGER UNLESS OTHERWISE INDICATED.
 1. INSULATED CONDUCTORS: COPPER WIRE OR CABLE INSULATED FOR 600 V UNLESS OTHERWISE REQUIRED BY APPLICABLE CODE OR AUTHORITIES HAVING JURISDICTION.
 2. BARE, SOLID-COPPER CONDUCTORS: COMPLY WITH ASTM B 3.
 3. BARE, STRANDED-COPPER CONDUCTORS: COMPLY WITH ASTM B 8.
 - 8.3 GROUNDING MATERIALS
 - A. CONDUCTORS: SOLID FOR NO. 8 AWG AND SMALLER, AND STRANDED FOR NO. 6 AWG AND LARGER UNLESS OTHERWISE INDICATED.
 1. INSULATED CONDUCTORS: COPPER WIRE OR CABLE INSULATED FOR 600 V UNLESS OTHERWISE REQUIRED BY APPLICABLE CODE OR AUTHORITIES HAVING JURISDICTION.
 2. BARE, SOLID-COPPER CONDUCTORS: COMPLY WITH ASTM B 3.
 3. BARE, STRANDED-COPPER CONDUCTORS: COMPLY WITH ASTM B 8.
 - B. GROUND RODS: COPPER-CLAD STEEL, SECTIONAL TYPE; 3/4 BY 96 INCHES (16 BY 2400 MM) IN DIAMETER.
 - C. BOLTED CONNECTORS FOR CONDUCTORS AND PIPES: COPPER OR COPPER ALLOY, BOLTED PRESSURE-TYPE, WITH AT LEAST TWO BOLTS WITH CLAMP-TYPE PIPE CONNECTORS SIZED FOR PIPE.
 - D. WELDED CONNECTORS: EXOTHERMIC-WELDING KITS OF TYPES RECOMMENDED BY KIT MANUFACTURER FOR MATERIALS BEING JOINED AND INSTALLATION CONDITIONS.
 - 8.4 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS
 - A. COMPLY WITH IEEE C2 GROUNDING REQUIREMENTS.
 - B. GROUNDING MANHOLES AND HANDHOLES: INSTALL A DRIVEN GROUND ROD THROUGH MANHOLE OR HANDHOLE FLOOR, CLOSE TO WALL, AND SET ROD DEPTH SO 4 INCHES (100 MM) WILL EXTEND ABOVE FINISHED FLOOR. IF NECESSARY, INSTALL GROUND ROD BEFORE MANHOLE IS PLACED AND PROVIDE NO. 1/Ø AWG BARE, TINNED-COPPER CONDUCTOR FROM GROUND ROD INTO MANHOLE THROUGH A WATERPROOF SLEEVE IN MANHOLE WALL. PROTECT GROUND RODS PASSING THROUGH CONCRETE FLOOR WITH A DOUBLE WRAPPING OF PRESSURE-SENSITIVE INSULATING TAPE OR HEAT-SHRINK INSULATING SLEEVE FROM 2 INCHES (50 MM) ABOVE TO 6 INCHES (150 MM) BELOW CONCRETE. SEAL FLOOR OPENING WITH WATERPROOF, NON-SHRINK GROUT.

ENCLOSED SWITCHES AND CIRCUIT BREAKERS

- 9.1 FUSIBLE SWITCHES
 - A. TYPE GD, GENERAL DUTY, SINGLE THROW, 240-V OR 600-V AC, 800 A AND SMALLER: UL 98 AND NEMA KS 1, HORSEPOWER RATED, WITH CARTRIDGE FUSE INTERIORS TO ACCOMMODATE SPECIFIED FUSES, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.
 - B. TYPE HD, HEAVY DUTY, SINGLE THROW, 240 OR 600-V AC, 1200 A AND SMALLER: UL 98 AND NEMA KS 1, HORSEPOWER RATED, WITH CLIPS OR BOLT PADS TO ACCOMMODATE SPECIFIED FUSES, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT THREE PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.
 - C. ACCESSORIES:
 1. EQUIPMENT GROUND KIT: INTERNALLY MOUNTED AND LABELED FOR COPPER AND ALUMINUM GROUND CONDUCTORS.
 2. NEUTRAL KIT: INTERNALLY MOUNTED; INSULATED, CAPABLE OF BEING GROUNDED AND BONDED; LABELED FOR COPPER AND ALUMINUM NEUTRAL CONDUCTORS.
 3. CLASS R FUSE KIT: PROVIDES REJECTION OF OTHER FUSE TYPES WHEN CLASS R FUSES ARE SPECIFIED.
 4. AUXILIARY CONTACT KIT: TWO NO/NC (FORM "C") AUXILIARY CONTACT(S), ARRANGED TO ACTIVATE BEFORE SWITCH BLADES OPEN.
 5. LUGS: MECHANICAL TYPE, SUITABLE FOR NUMBER, SIZE, AND CONDUCTOR MATERIAL.
 6. SERVICE-RATED SWITCHES: LABELED FOR USE AS SERVICE EQUIPMENT.

FIRE STOPPING

- 10.1 APPLY FIRESTOPPING TO ELECTRICAL PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES TO RESTORE ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLY.

- A. INSTALL FORMING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED.

1. AFTER INSTALLING FILL MATERIALS AND ALLOWING THEM TO FULLY CURE, REMOVE COMBUSTIBLE FORMING MATERIALS AND OTHER ACCESSORIES NOT INDICATED AS PERMANENT COMPONENTS OF FIRESTOPPING.

- B. INSTALL FILL MATERIALS FOR FIRESTOPPING BY PROVEN TECHNIQUES TO PRODUCE THE FOLLOWING RESULTS:

1. FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS AS REQUIRED TO ACHIEVE FIRE-RESISTANCE RATINGS INDICATED.

2. APPLY MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY OPENINGS AND PENETRATING ITEMS.

3. FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING THE WORK, FINISH TO PRODUCE SMOOTH, UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.

PANELBOARDS:

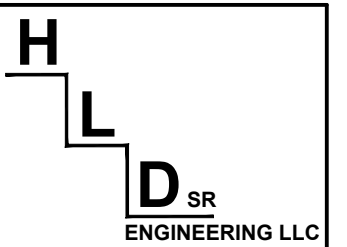
- 11.1 PROVIDE A NEW TYPED CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THE ELECTRICAL WORK.
- 11.2 SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED ON 7/8" STRUT MOUNTED VERTICALLY.
- 11.3 CIRCUIT NUMBERS SHOWN SHALL BE ADHERED TO IN GENERAL, EXCEPT WHEN FIELD CONDITIONS, SHOP DRAWINGS OF CONNECTED EQUIPMENT, OR APPROVED FIELD CHANGES REQUIRE CHANGE IN CIRCUITING.
- 11.4 ALL CIRCUIT NUMBERS SHALL BE INDICATED ON RESPECTIVE PLANS AND PANEL CIRCUIT SCHEDULES PREPARED FOR RECORD DRAWINGS.
- 11.5 ABANDONED PANELBOARDS SHALL BE USED AS JUNCTION BOXES TO EXTEND EXISTING TO REMAIN CIRCUITS TO NEW PANELBOARDS. PROVIDE SURFACE EXTENSIONS AND BLANK COVERS.
- 11.6 LIGHTING AND POWER BRANCH-CIRCUIT PANELBOARDS

1. EATON ELECTRICAL INC.; CUTLER-HAMMER BUSINESS UNIT.
2. GENERAL ELECTRIC COMPANY; GE CONSUMER & INDUSTRIAL - ELECTRICAL DISTRIBUTION.
3. SIEMENS ENERGY & AUTOMATION, INC.
4. SQUARE D; A BRAND OF SCHNEIDER ELECTRIC.
- B. PANELBOARDS: NEMA PB 1, LIGHTING AND APPLIANCE BRANCH-CIRCUIT TYPE.
- C. MAINS: CIRCUIT BREAKER .
- D. BRANCH OVERCURRENT PROTECTIVE DEVICES: BOLT-ON CIRCUIT BREAKERS, REPLACEABLE WITHOUT DISTURBING ADJACENT UNITS.
- E. DOORS: CONCEALED HINGES; SECURED WITH FLUSH LATCH WITH TUMBLER LOCK; KEYPED ALIKE.

BOXES AND ENCLOSURES:

- 12.1 ELECTRICAL BOXES AND ENCLOSURES SHALL BE CAST METAL, EXCEPT AS NOTED.
- 12.2 MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS INDICATED ON THE DRAWINGS. WHERE MOUNTING HEIGHTS ARE NOT GIVEN ON THE DRAWINGS, UTILIZE THE FOLLOWING MOUNTING HEIGHTS (ALL DIMENSIONS TO CENTERLINE OF BOX):
 - A. RECEPTACLES (WALL MOUNTED)/DATA (TELECOM) - 24" A.F.F.
 - B. RECEPTACLES (EXTERIOR) - 24" ABOVE FINISHED GRADE
 - C. LIGHTING SWITCHES AND CONTROLS - 48" A.F.F.
 - D. PANELBOARDS AND CABINETS - 78" TO TOP OF ENCLOSURE
- 12.3 WHERE MULTIPLE SWITCHES AND RECEPTACLES ARE INDICATED AT THE SAME LOCATION, THEY SHALL BE MOUNTED BEHIND A COMMON FACEPLATE.
- 12.4 PROVIDE WHILE IN USE METALLIC COVERS FOR ALL OUTDOOR AND ALL GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES.
- 12.5 NEMA RATINGS: PROVIDE NEMA 4X BOXES AND ENCLOSURES IN WET AND CORROSIVE AREAS. PROVIDE NEMA 3R FOR OUTDOOR AND WET AREAS. PROVIDE NEMA 7 FOR ALL CLASS 1, DIV. 1 & DIV. 2, EXCEPT PULL BOXES FOR DIV. 2
- 12.6 FIBERGLASS HANDHOLES AND BOXES: MOLDED OF FIBERGLASS-REINFORCED POLYESTER RESIN, WITH FRAME AND COVERS OF FIBERGLASS.

- STANDARD: COMPLY WITH SCTE 77.
1. CONFIGURATION: DESIGNED FOR FLUSH BURIAL WITH CLOSED BOTTOM UNLESS OTHERWISE INDICATED.
 2. COVER: WEATHERPROOF, SECURED BY TAMPER-RESISTANT LOCKING DEVICES AND HAVING STRUCTURAL LOAD RATING CONSISTENT WITH ENCLOSURE AND HANDHOLE LOCATION.
 3. COVER FINISH: NONSKID FINISH SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.50. COVER LEGEND: MOLDED LETTERING, "ELECTRIC."
 4. CONDUIT ENTRANCE PROVISIONS: CONDUIT-TERMINATING FITTINGS SHALL MATE WITH ENTERING DUCTS FOR SECURE, FIXED INSTALLATION IN ENCLOSURE WALL.
 5. HANDHOLES 12 INCHES WIDE BY 24 INCHES LONG (300 MM WIDE BY 600 MM LONG) AND LARGER: HAVE INSERTS FOR CABLE RACKS AND PULLING-IN IRONS INSTALLED BEFORE CONCRETE IS POURED.



CERTIFICATE OF AUTHORIZATION
NO. 24G2A28271800
PATRICIA O. DAVIS, P.E.
NJ PROFESSIONAL ENGINEER LICENSE NO. 064887
NAME: Patricia O. Davis DATE: 01/02/2021

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MEP ENGINEERING DESIGN
68 TYNEMOUTH COURT
ROBBINSVILLE, NJ 08869
WWW.HLDSRENGINEERING.COM

JOB NO.: 2105

NO. REVISIONS

DRAWN BY: POD

DATE: 3/20/21

SCALE: AS NOTED

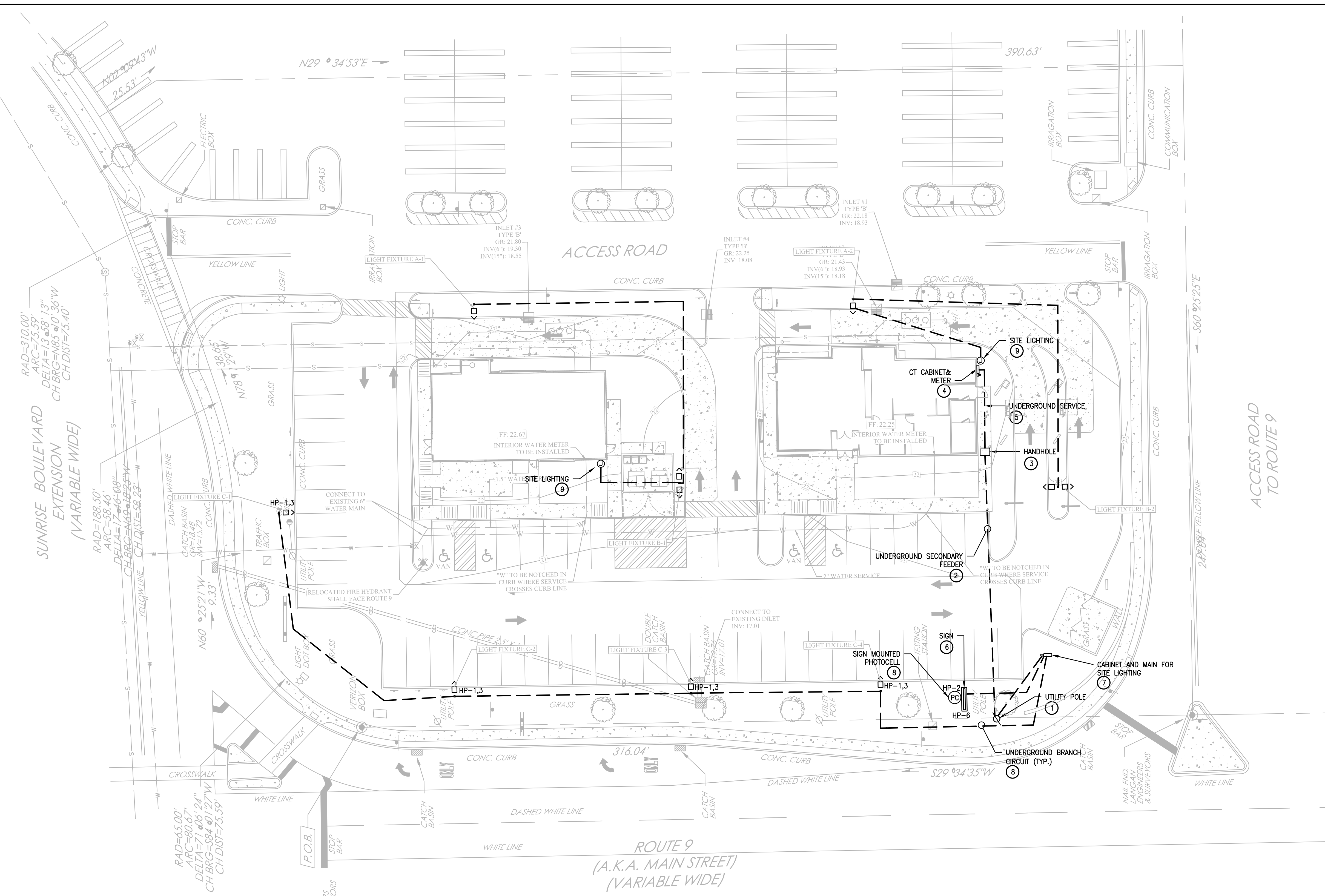
CLIENT:
2020 EQUITIES, LLC
818 HADDONFIELD ROAD
BOX 7
CHERRY HILL, NJ 08002

PROJECT:
SUNRISE PLAZA
SHOPPING CENTER
BLOCK 314.01, LOT 29.07
PLATES #22 & #30
OCEAN COUNTY, NJ

ELECTRICAL
SPECIFICATIONS AND NOTES

E-1

3 OF 5



1 ELECTRICAL SITE PLAN
SCALE: 1"=20'

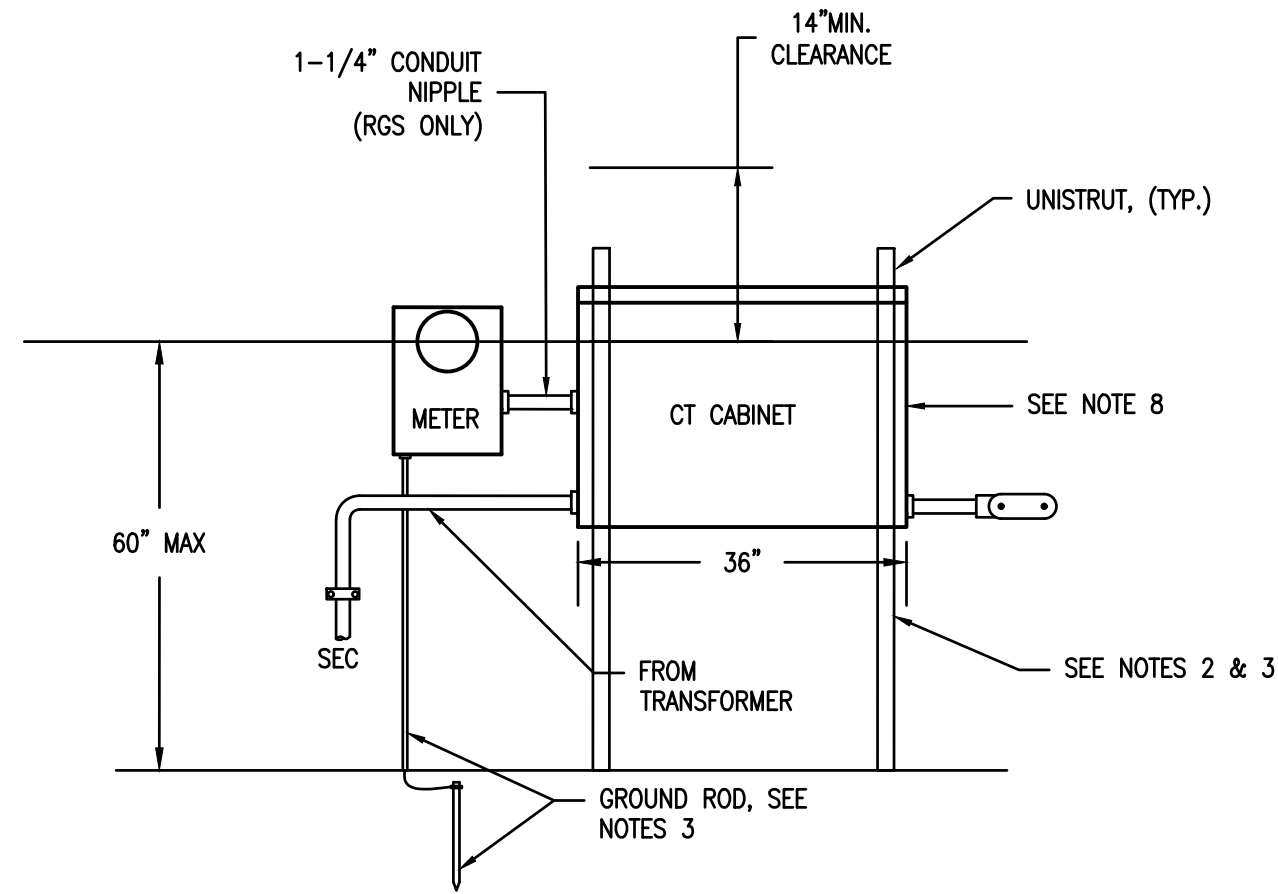
GENERAL NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE, 2017.
- THE INTENT OF THIS DESIGN IS TO PROVIDE A 600A UNDERGROUND SERVICE FOR THE NEW BURGER KING AND 100A SERVICE FOR THE SIGHT LIGHTING.
- THE ELECTRICAL SERVICES SHALL BE NEW.
- PROVIDE 600A SERVICE FROM A POLE MOUNTED TRANSFORMER FOR THE BURGER KING.
- PROVIDE A 100A SERVICE FROM A POLE MOUNTED TRANSFORMER FOR THE SITE LIGHTING.
- PROVIDE THE HANDHOLES FOR THE SECONDARY SERVICE PER JCP&L STANDARDS.
- SEE DRAWING E-0, NO. 1 AND NO. 2 FOR SINGLE LINE DIAGRAMS OF THE ELECTRICAL SERVICES, WHICH SHOWS WIRING AND CONNECTIONS.
- THE SIZE OF SERVICE ENTRANCE CONDUCTORS TAKES INTO CONSIDERATION, VOLTAGE DROP. IF THE LENGTH IS LONGER THAN 180', UPGRADE TO THE NEXT SIZE WIRE AND CONDUIT.
- ALL WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES TO AVOID INTERFERENCES AND CONFLICTS. REFER TO THE DRAWING OF THE RESPECTIVE SYSTEMS PRIOR TO SUBMISSION OF BIDS FOR ADDITIONAL WORK WHICH MAY BE REQUIRED AS PART OF THE WORK. NO ALLOWANCES WILL BE MADE FOR THE LACK OF COORDINATION BETWEEN DISCIPLINES OR SYSTEMS AND EQUIPMENT.
- REFER TO CIVIL PLANS 1-12 FOR INFO ON LIGHT FIXTURES AND WATTAGES. FIXTURES AND MOUNTING BY OTHERS.

KEYED NOTES:

- PROVIDE AN UNDERGROUND SERVICE CONNECTION TO POLE MOUNTED TRANSFORMERS, AND RUN TO HANDHOLE. PROVIDE HANDHOLE PER JCP&L REQUIREMENTS FOR PULLING CONDUCTORS. SEE NO. 4, 5 & 6, DWG. E-3.
- PROVIDE CONDUITS FOR POLE AND UNDERGROUND SERVICE PER NO. 3, 5, & 6 ON DRAWING E-3.
- PROVIDE HANDHOLE FOR SECONDARY PER NO. 4, ON DWG. E-3, OR SIMILAR, WITH THE APPROVAL OF JCP&L.
- PROVIDE CABINET, UTILITY METER, AND FUSED DISCONNECT SWITCH (MAIN) PER NO. 1, DWG. E-3.
- PROVIDE DIRECT BURIED CONDUIT PER NO. 3, DWG. E-3.
- PROVIDE DEDICATED CIRCUIT FOR THE SIGN AND RUN CONDUITS UNDERGROUND. SEE PANEL SCHEDULE.
- SERVICE FOR SITE LIGHTING SHALL BE LOCATED IN GRASSY AREA, AND JCP&L SHALL HAVE ACCESS TO IT. PROVIDE PER NO. 2 AND NO. 7 ON DRAWING E-3.
- MOUNT PHOTOCELL ON TOP OF PROPERTY SIGN, FACING NORTH. CONFIRM WIRING AND MOUNTING PER THE MANUFACTURER'S INSTRUCTIONS.
- PROVIDE CONDUIT AND WIRING FOR FUTURE CIRCUIT. PROVIDE 2#10, 1#10G IN 1" CONDUIT BETWEEN LIGHT POLES, AND TERMINATE INTO A JUNCTION BOX AT THIS LOCATION. STUB-UP CONDUIT 12" ABOVE GROUND INTO JUNCTION BOX AND MARK BOX AS "SITE LIGHTING".

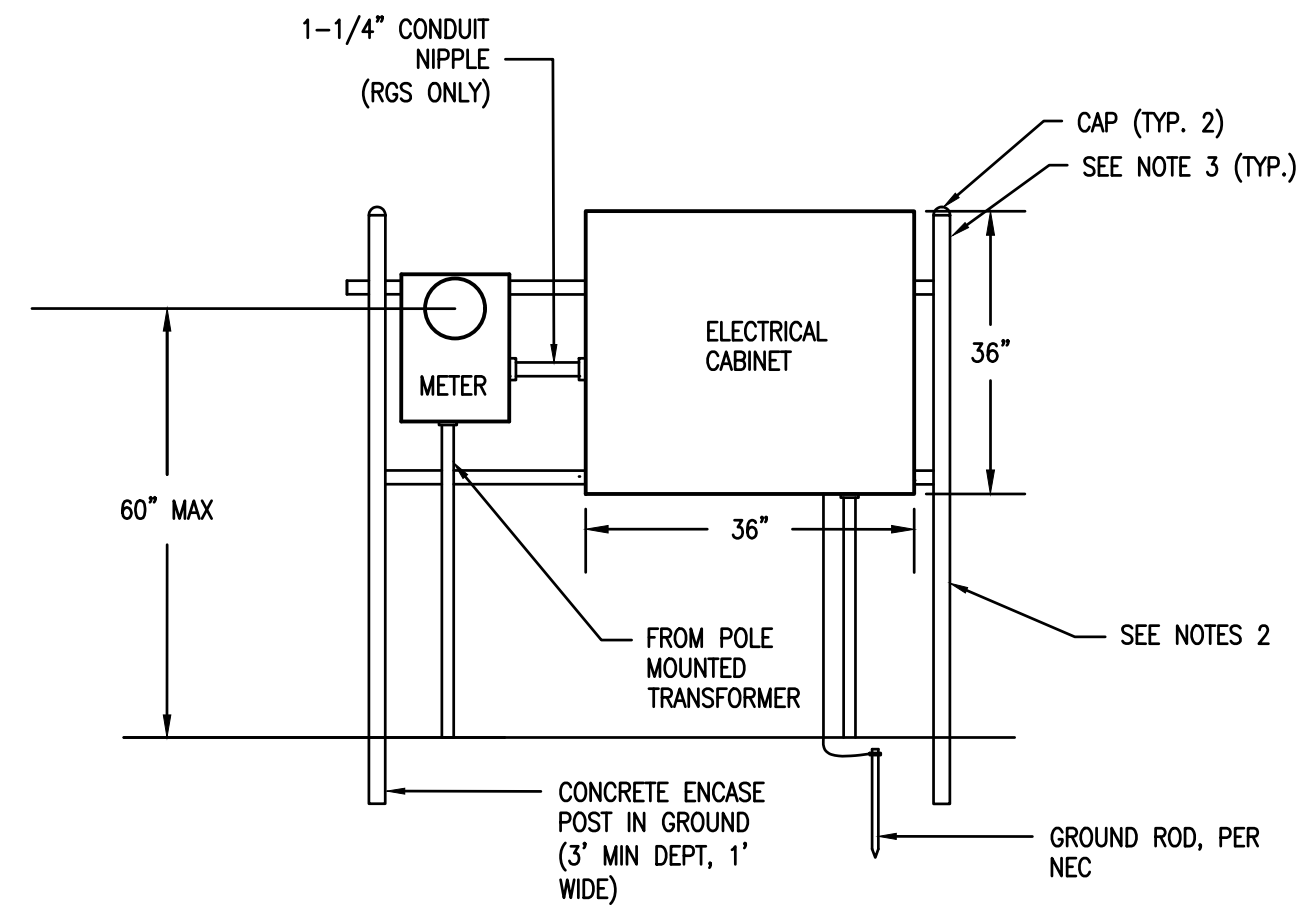
	CERTIFICATE OF AUTHORIZATION NO. 24G2A28271800	PATRICIA O. DAVIS, P.E. NJ PROFESSIONAL ENGINEER LICENSE NO. 064887	NAME: Patricia O. Davis, P.E. DATE: 01/02/2021
	HLSR ENGINEERING LLC MEP ENGINEERING DESIGN	68 TYNEMOUTH COURT ROBBINSVILLE, NJ 08869 WWW.HLSRENGINEERING.COM	JOB NO.: 2105 NO. REVISIONS
CLIENT: SUNRISE PLAZA SHOPPING CENTER BLOCK 314.01, LOT 29.07 PLATES #22 & #30 OCEAN COUNTY, NJ	PROJECT: SUNRISE PLAZA SHOPPING CENTER BLOCK 314.01, LOT 29.07 PLATES #22 & #30 OCEAN COUNTY, NJ	DRAWN BY: POD DATE: 3/20/21 SCALE: AS NOTED	ELECTRICAL SITE PLAN, AND NOTES E-2 4 OF 5



NOTES:

- FOR CUSTOMER/COMPANY RESPONSIBILITIES, SEE JCPL CUSTOMER GUIDE FOR ELECTRIC SERVICE.
- CUSTOMER SHALL PROVIDE BONDING, GROUNDING, AND WORKING SPACE BE NEC.
- CUSTOMER TO FURNISH AND INSTALL 3/4" X 10" GROUND ROD WITH A 6" COPPER GROUND WIRE CONNECTED TO THE METER SOCKET GROUND LUG. PROTECT THE WIRE WITH NON-METALLIC CONDUIT.
- CUSTOMER MAY BE REQUIRED TO PROVIDE A TELEPHONE LINK TO THE METER SOCKET LOCATION. CONTACT THE REGIONAL METER SERVICES SECTION.
- WHERE METER IS EXPOSED TO VEHICLE TRAFFIC, CUSTOMER SHALL INSTALL PROTECTIVE BUMPER POSTS 36" FROM METER. POST SHALL BE 6" RGS PIPE FILLED WITH CONCRETE, CAPPED, AND PAINTED BRIGHT YELLOW.
- CURRENT TRANSFORMER (CT) CABINET TO BE INSTALLED ON EXTERIOR BUILDING WALL. (FOR INDOOR CT CABINET INSTALLATIONS, CONTACT THE REGIONAL METERING SERVICES SECTION.
- NOT CONDUIT SHALL ENTER THE TOP OF CT CABINET.
- SEE EXHIBIT 19 OF JCPL CUSTOMER GUIDE FOR ELECTRIC SERVICE. FOR CT CABINET MOUNTING, INSTALLATION, AND INFORMATION.

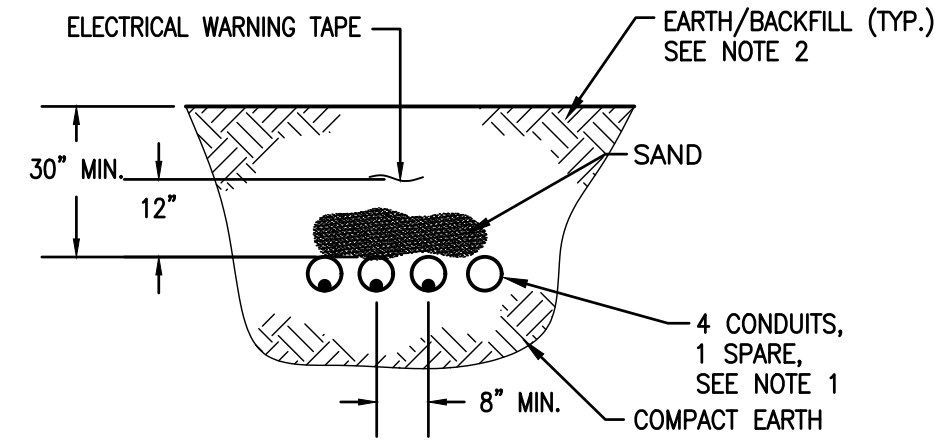
1 UTILITY METERING ELEVATION-BURGER KING
SCALE: NOT TO SCALE



NOTES:

- FOR CUSTOMER /COMPANY RESPONSIBILITIES, SEE EXHIBIT 1.
- SUPPORT POST (CUSTOMER-OWNED): USE TWO 3-INCH MIN. GALVANIZED RIGID METAL CONDUIT (RMC) -- STEEL (MIN. 0.205" THICK) CAPPED AND CONCRETE ENCASED IN GROUND.
- MOUNTING HARDWARE: USE THREE 12 GAUGE 1-5/8" X 1-5/8" CONTINUOUS SLOT HOT DIPPED GALVANIZED CHANNEL (E.G., UNISTRUT) COMPLETE WITH 1-1/4" X 5/16" DIA. 13 THD. SPRING NUT (2 PER CHANNEL), 5/16" HEX NUT, AND LOCK WASHER SECURELY MOUNTED TO SUPPORT POSTS.
- SUPPLY-SIDE CONDUIT SHALL BE RIGID GALVANIZED OR IMC STEEL, OR SCHEDULE 80 PVC (ELECTRICAL GRADE).
- THE CUSTOMER SHALL PROVIDE GROUND MOVEMENT PROTECTION PER NEC 300.5 (4) TO PREVENT DAMAGE DUE TO SETTLING.
- THIS EXHIBIT CAN ALSO BE USED FOR STAND-ALONE, SELF-CONTAINED METERING.

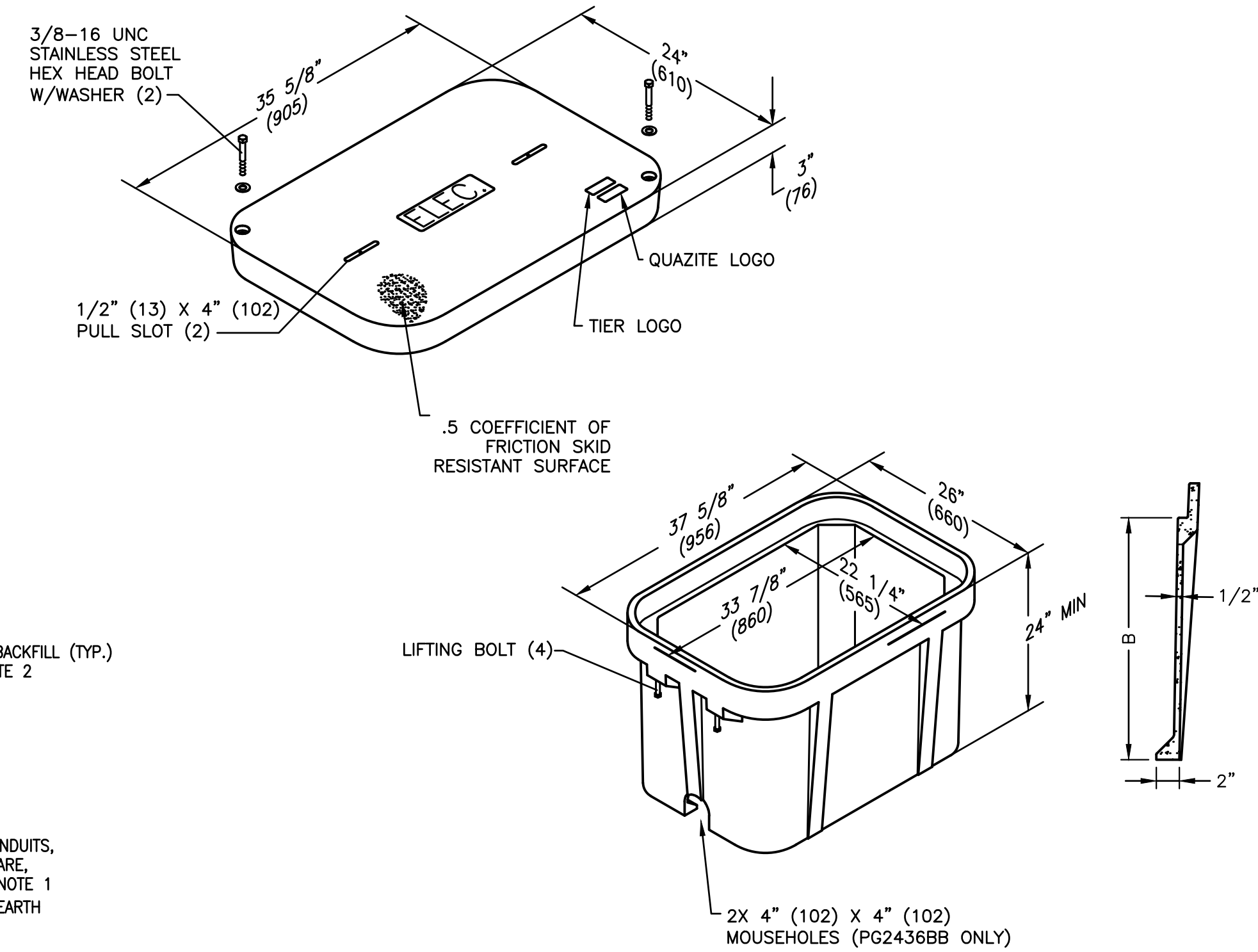
2 UTILITY METERING ELEVATION-SITE LIGHTING
SCALE: NOT TO SCALE



NOTES:

- PROVIDE SCHEDULE 80 PVC, SIZE PER PLANS.
- PROVIDE SAND ABOVE CONDUITS BEFORE BACKFILL.
- THIS DETAIL SHALL BE USED FOR FEEDERS AND BRANCH CIRCUIT WIRING. THE NUMBER AND SIZE OF CONDUITS SHALL PER THE ELECTRICAL SITE PLAN AND SERVICE SINGLE LINE DIAGRAMS. INSTALL AT LEAST (2) 1" CONDUITS FOR TELECOM WIRING WITH SERVICE CONDUITS.

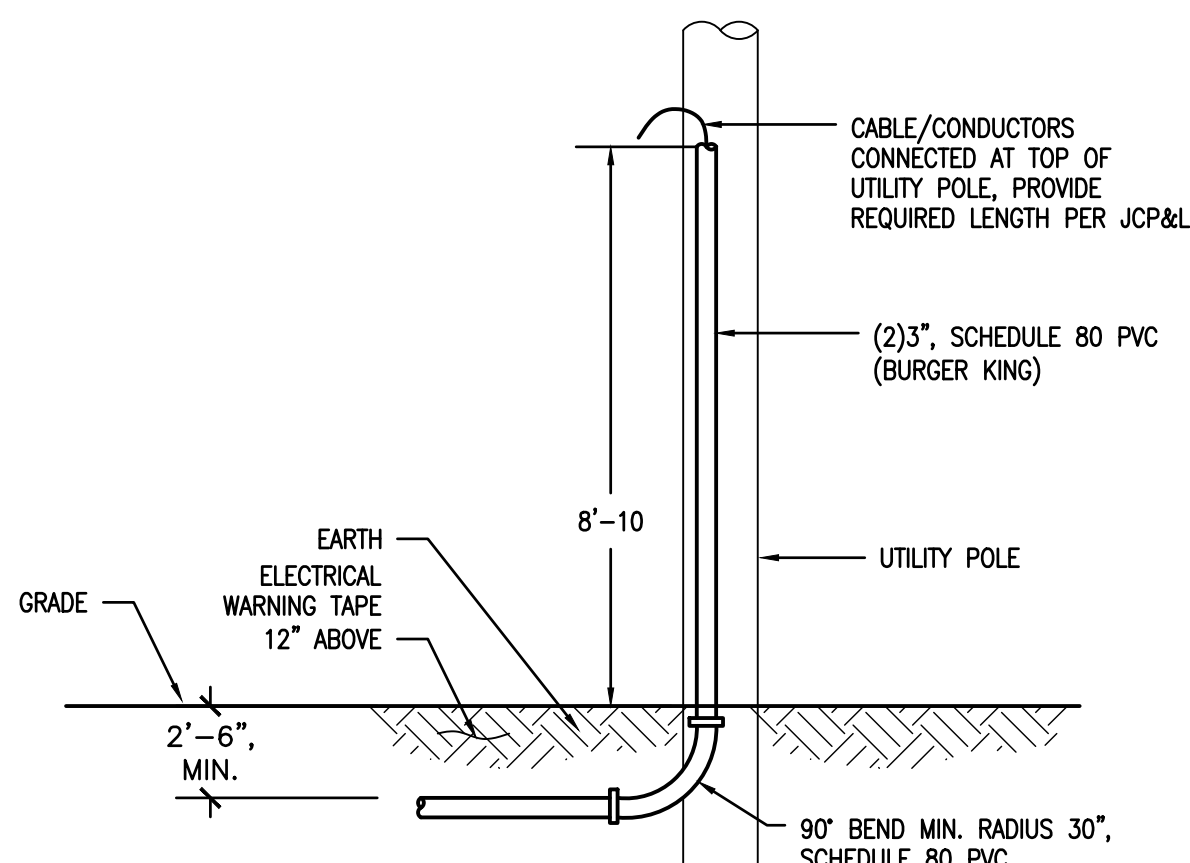
3 DIRECT BURIAL CONDUIT
SCALE: NOT TO SCALE



NOTES:

- USE BACKFILL ABOVE HANDHOLE.
- ABOVE DETAIL WAS BASED ON QUAZITE, PROVIDE "PD" SERIES HANDHOLE FOR BOTH 24" X 36" (PD-2436-DG-24) AND (PD-4848-DG-24) 48" X 48" HANDHOLES OR EQUAL.

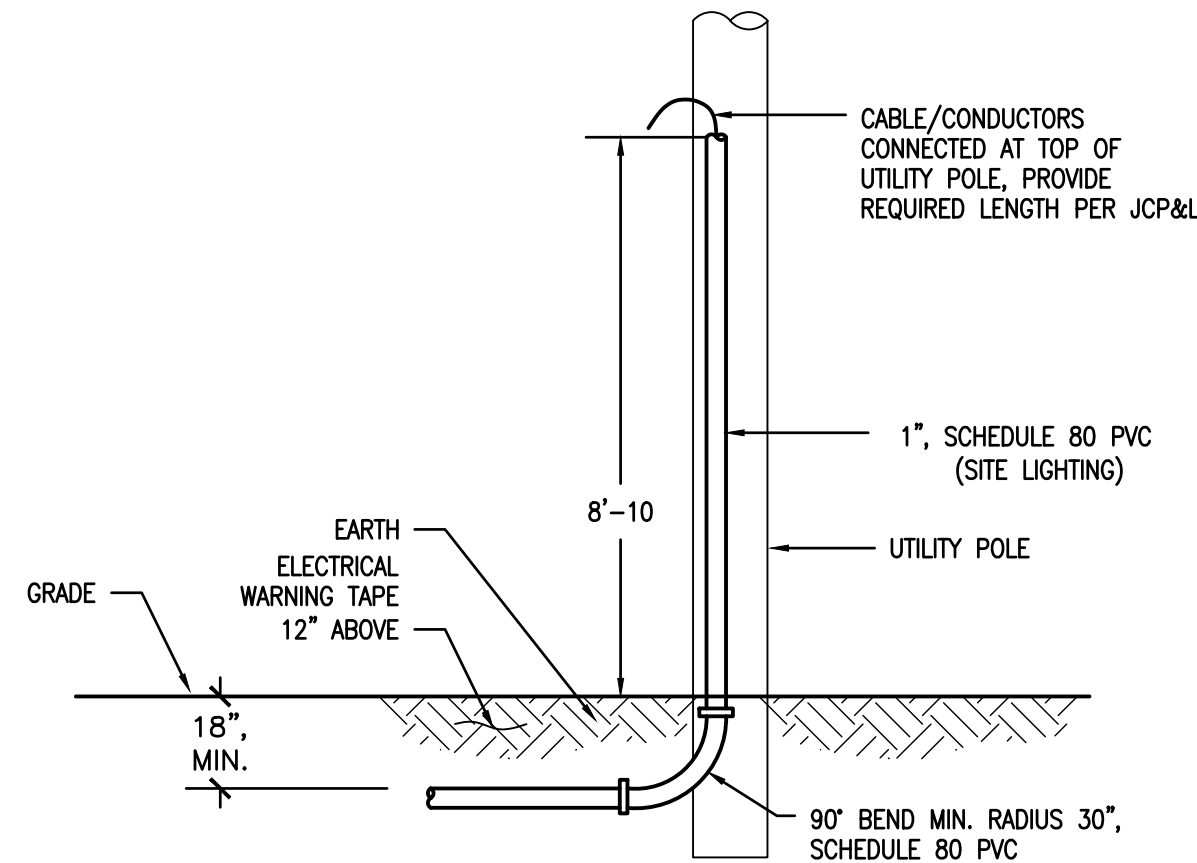
4 HANDHOLE BY QUAZITE
SCALE: NOT TO SCALE



NOTES:

- CONDUITS SHALL BE SET OFF 5-1/2" FROM POLE TO WITH STANDOFF BRACKETS.
- PROVIDE CONDUIT AND CABLE AS SHOWN. CABLE TO BE CONNECTED AT TOP OF UTILITY POLE. COORDINATE CONNECTION AND ADDITIONAL REQUIREMENTS WITH JCP&L.

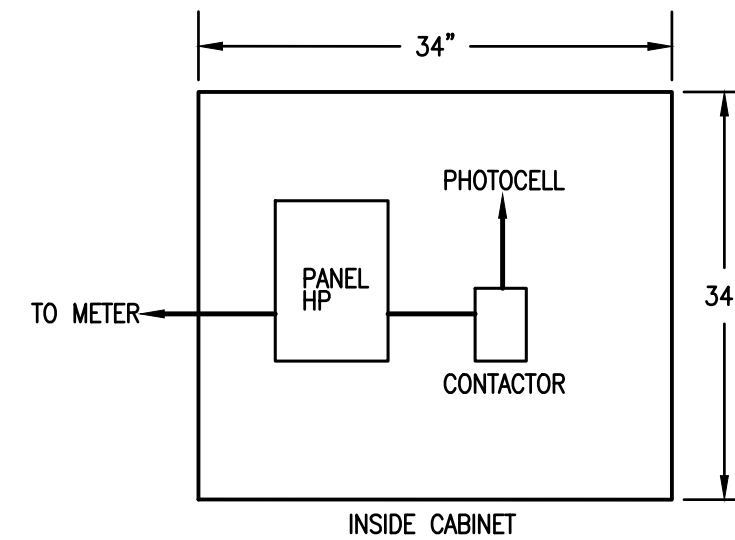
5 UTILITY POLE -BURGER KING UNDERGROUND SERVICES
SCALE: NOT TO SCALE



NOTES:

- CONDUITS SHALL BE SET OFF 5-1/2" FROM POLE TO WITH STANDOFF BRACKETS.
- PROVIDE CONDUIT AND CABLE AS SHOWN. CABLE TO BE CONNECTED AT TOP OF UTILITY POLE. COORDINATE CONNECTION AND ADDITIONAL REQUIREMENTS WITH JCP&L.

6 UTILITY POLE - SITE LIGHTING UNDERGROUND SERVICES
SCALE: NOT TO SCALE



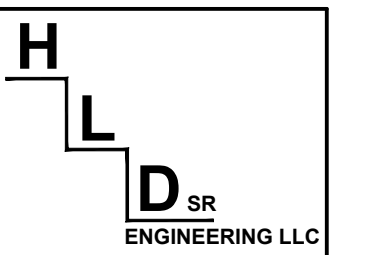
NOTES:

- PROVIDE 36"x36" STAINLESS STEEL CABINET FOR ELECTRICAL EQUIPMENT. CABINET BY WEIGMANN, CAT NO. SSN43636123PT.
- MOUNTED PANEL HP AND CONTACTOR INSIDE HINGED DOOR CABINET.
- CONTACTOR SHALL BE CONNECTED TO PHOTOCELL PER DRAWING NO. 4, DWG. E-0
- PANEL SHALL BE LOAD CENTER TYPE PANEL WITH MAIN BREAKER. SEE PANEL SCHEDULE ON THIS DRAWING.

7 ELECTRICAL CABINET ENCLOSURE DETAIL
SCALE: NOT TO SCALE

PANEL		HP*		LOCATION		ELEC. CABINET		
208 /120V	3 W	4 WIRE	DOUBLE SIZE NEUTRAL	<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> SHUNT TRIP	NEMA 1 RATING		
10K	MIN. A.I.C. SYM.		TVSS SURGE SUPP.	<input type="checkbox"/> FLUSH	<input type="checkbox"/> FEED THRU LUGS	100 AMP MAIN CB		
			ISOLATED GROUND	<input type="checkbox"/> BOLT ON BREAKER	<input type="checkbox"/> MAIN LUGS ONLY	100 AMP BUS		
CKT #	LOAD	TRIP	VA / PHASE			TRIP	LOAD	CKT #
1	SITE LIGHTING POLES	20	A	B	C	20	PHOTOCELL	2
3	3#10, 1#10G IN 1" C		310			20	CONTACTOR	4
5	SPARE	20	500			20	SIGN	6
7	SPARE	20		500		20	SPARE	8
9	SPARE	20				20	SPARE	10
11	SPARE	20				20	SPARE	12
SUBTOTALS			510	810	500	CLA = 5.1		
TOTAL VA			1820			CLA IS CONNECTED LOAD		

*LOADCENTER WITH MAIN CIRCUIT BREAKER



CERTIFICATE OF AUTHORIZATION
NO. 24G2A28271800
PATRICIA O. DAVIS, P.E.
NJ PROFESSIONAL ENGINEER LICENSE NO. 6E4887
NAME: Patricia O. Davis DATE: 3/19/2021

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