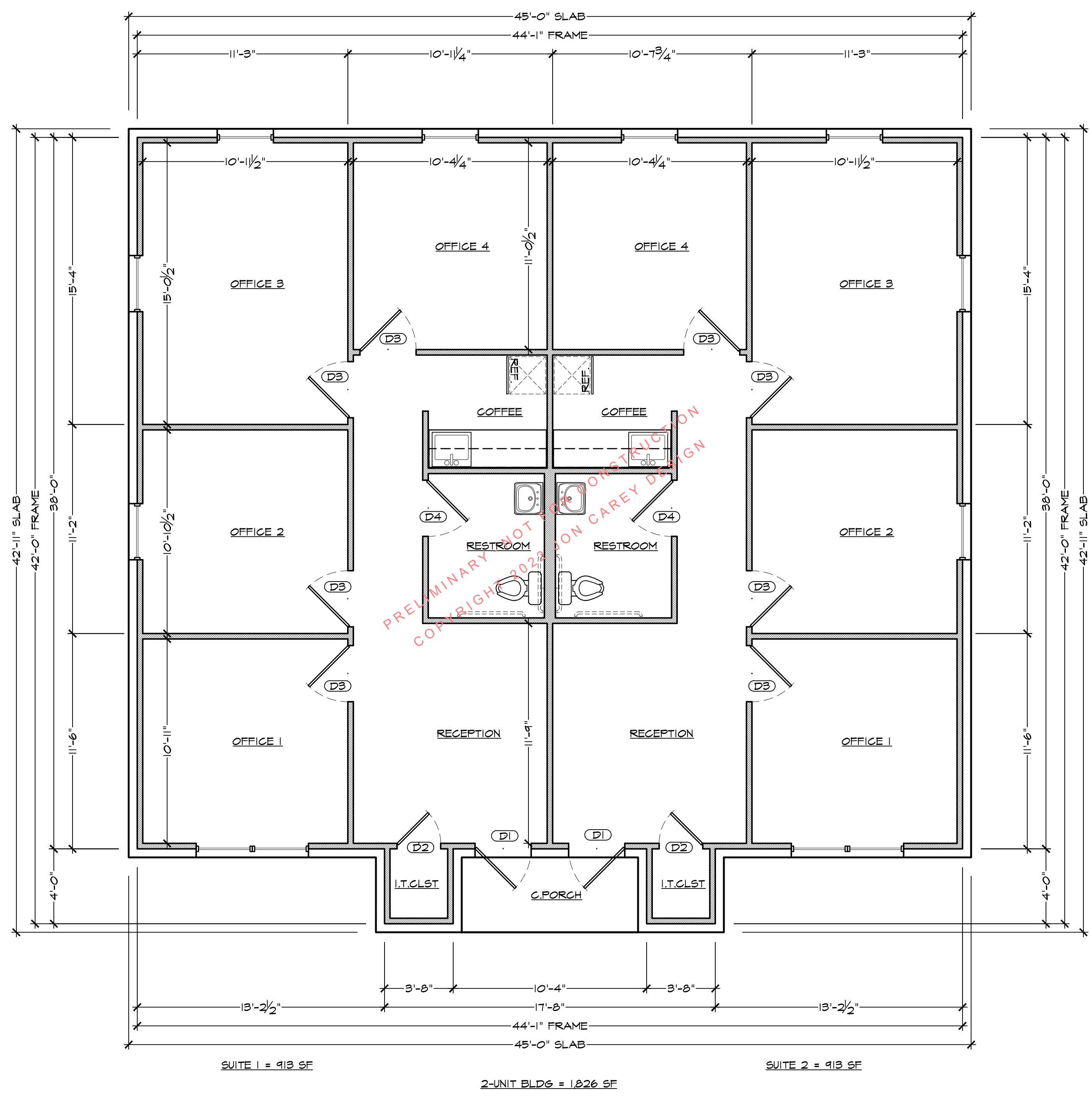


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JCD PROJECT NO  
 ----



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**1 FLOOR PLAN**  
 A1.2 1/4" = 1'-0"

**MAYFIELD OFFICE PARK - TYP. 2-UNIT BLDG.**  
 3835 COUNTY ROAD 175  
 LEANDER, TEXAS 78641  
 THP DEVELOPMENT, LLC

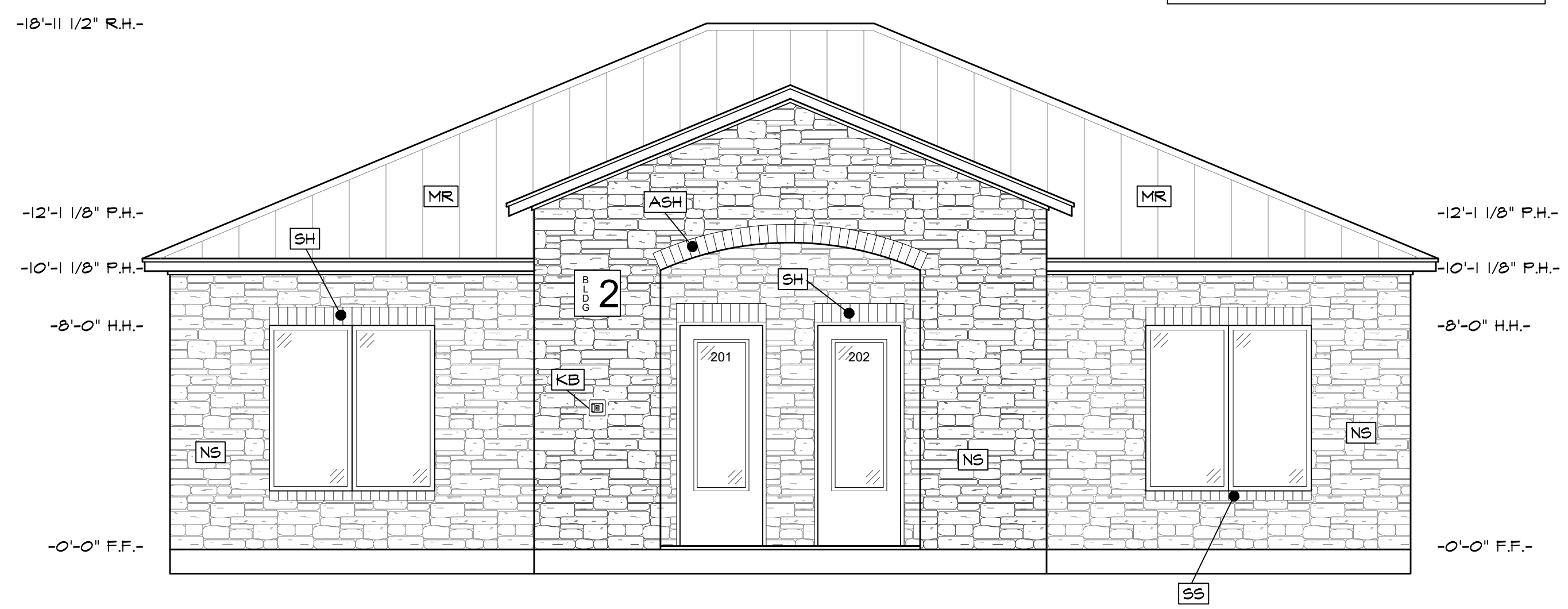
REVISION HISTORY

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|---|--------|----------|
| 1 | 6/3/22 | BANK SET |
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DATE ISSUED  
**6/3/2022**

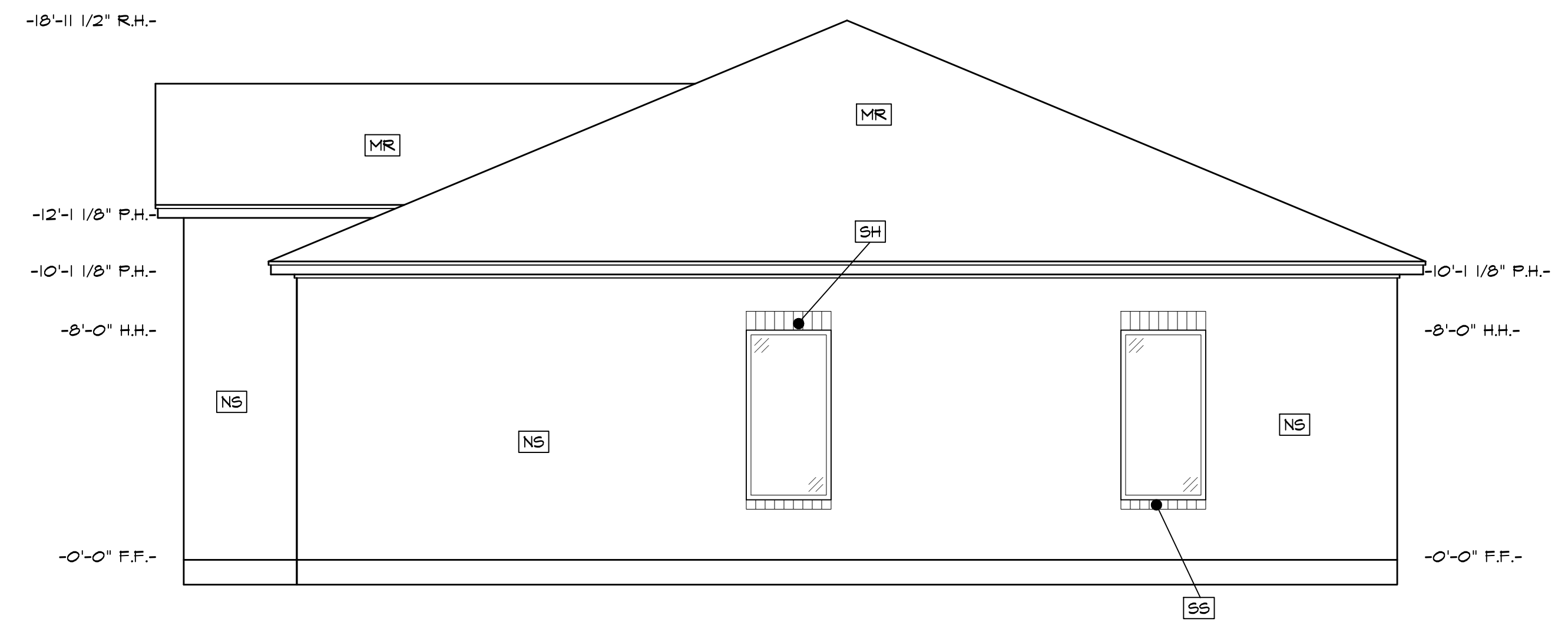
FLOOR PLAN  
 -  
 -  
**A1.2**

**MATERIAL LEGEND**  
 NS : NATURAL STONE  
 SS : PROJECTED STONE SILL  
 SH : PROJECTED STONE HEADER  
 ASH : ARCHED PROJECTED STONE HEADER  
 MR : STANDING SEAM METAL ROOF  
 KB : KNOX BOX



**1 FRONT ELEVATION**  
 A2.1 1/4" = 1'-0"

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**2 RIGHT ELEVATION**  
 A2.1 1/4" = 1'-0"

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MAYFIELD OFFICE PARK - TYP. 2-UNIT BLDG.  
 3835 COUNTY ROAD 175  
 LEANDER, TEXAS 78641  
 THP DEVELOPMENT, LLC

REVISION HISTORY

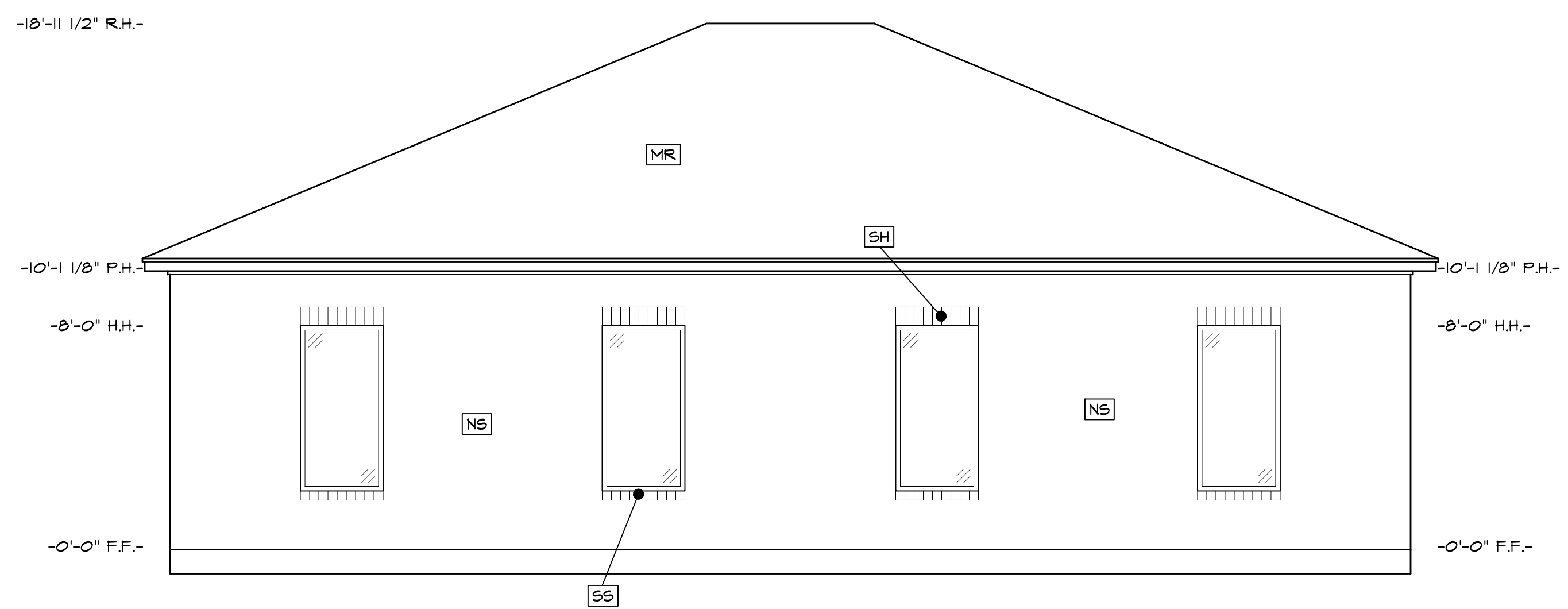
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DATE ISSUED  
**6/3/2022**

EXTERIOR ELEVATIONS  
 -

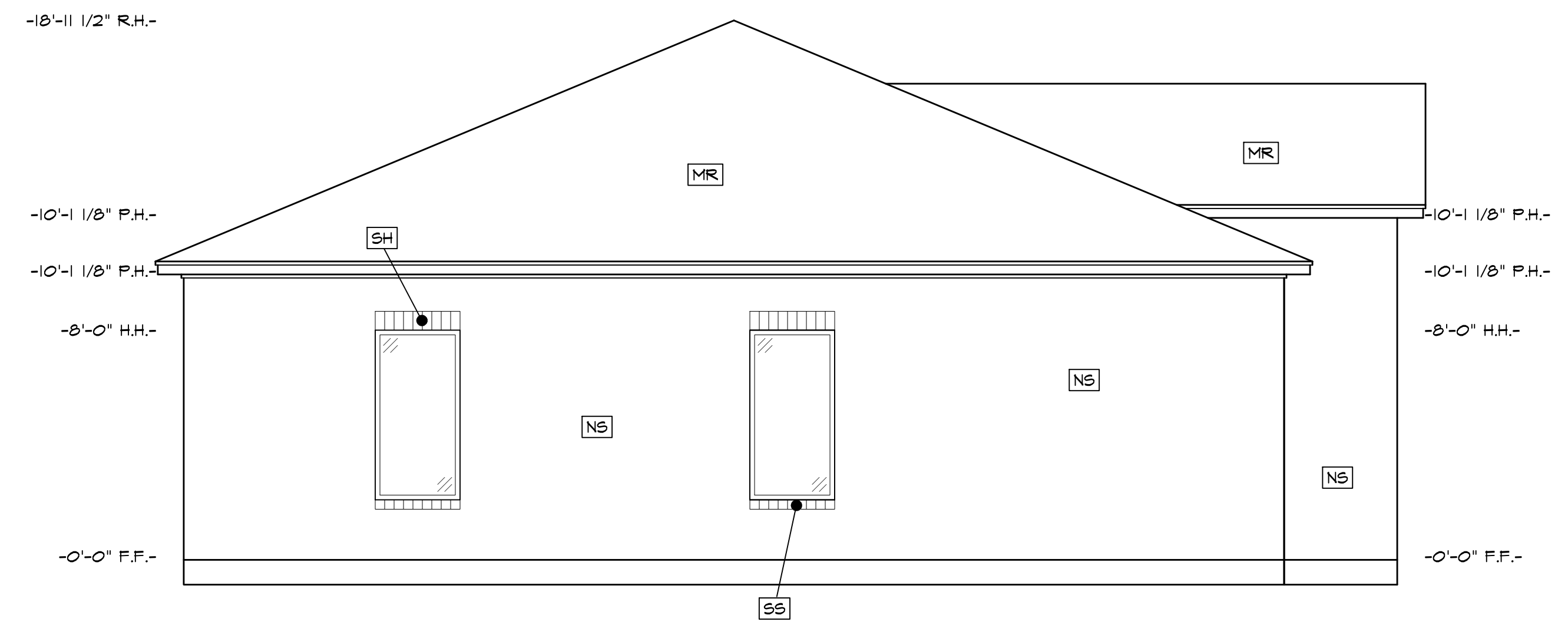
**A2.1**

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**1 REAR ELEVATION**  
 A2.2 1/4" = 1'-0"

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**2 LEFT ELEVATION**  
 A2.2 1/4" = 1'-0"

JCD PROJECT NO  
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REVISION HISTORY

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DATE ISSUED  
**6/3/2022**

EXTERIOR ELEVATIONS  
 -  
 -

**A2.2**



# MECHANICAL LEGEND

(NOTE: ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

| SYMBOL LEGEND |  | SYMBOL LEGEND  |                                   |
|---------------|--|--|-----------------------------------|
|               |  | DUCTWORK   |                                   |
|               |  | DUCTWORK SIZE, 1st NO. VISIBLE DIMENSION                             | CIRCUIT SETTER, BALANCING VALVE   |
|               |  | BRANCH DUCT TAKEOFF  | PLUG VALVE                        |
|               |  | DUCT TEE   | VALVE IN VERTICAL                 |
|               |  | TRANSITION   | FIRE CONTROL                      |
|               |  | FLEXIBLE DUCT  | FIRE SPRINKLER LINE               |
|               |  | FLEXIBLE CONNECTION  | FIRE SUPPLY MAIN                  |
|               |  | VOLUME DAMPER  | FIRE DEPARTMENT CONNECTION LINE   |
|               |  | FIRE DAMPER OR SMOKE DAMPER  | FLANGE CONNECTION                 |
|               |  | SUPPLY DUCT, OUTSIDE AIR DUCT SECTION RECTANGULAR, FLAT, OVAL, ROUND | DROP AT 45° ANGLE                 |
|               |  | RETURN/EXHAUST/OUTSIDE AIR DUCT SECTION                              | ELBOW TURNING DOWN                |
|               |  | SIDEWALL GRILLE OR REGISTER (SUPPLY)                                 | ELBOW TURNING UP                  |
|               |  | SIDEWALL GRILLE OR REGISTER (RETURN OR EXHAUST)                      | CAPPED PIPE                       |
|               |  | CEILING GRILLE OR REGISTER (SUPPLY)                                  | FLEXIBLE CONNECTION               |
|               |  | CEILING GRILLE OR REGISTER (EXHAUST & RETURN)                        | CONCENTRIC PIPE REDUCER/INCREASER |
|               |  | SMOKE DETECTOR (DIVISION 26)   | ECCENTRIC PIPE REDUCER/INCREASER  |
|               |  | THERMOSTAT   | DIRECTION OF SLOPE (DOWN WARD)    |
|               |  | CHANGE IN ELEVATION (R), (F)   |                                   |
|               |  | VALVES   |                                   |
|               |  | TWO-WAY CONTROL VALVE  |                                   |
|               |  | THREE-WAY CONTROL VALVE  |                                   |
|               |  | UNION  |                                   |
|               |  | BUTTERFLY VALVE  |                                   |
|               |  | TEMPERATURE/ PRESSURE RELIEF VALVE                                   |                                   |

| ABBREVIATIONS |                               |
|---------------|-------------------------------|
| B. VA.        | BALL VALVE                    |
| BAL. VA.      | CKT. SETTER BALANCING VALVE   |
| D             | CONDENSATE DRAIN LINE         |
| EOD           | EMERGENCY OVERFLOW DRAIN      |
| EXT FCO       | EXTERIOR FLOOR CLEANOUT       |
| FS            | FIRE SPRINKLER                |
| F             | FIRE LINE (BUILDING MAIN)     |
| FD (OR) SD    | FIRE / SMOKE DAMPER           |
| GT. V         | GATE VALVE                    |
| GL. V         | GLOBE VALVE                   |
| MVD           | MOTORIZED VOLUME DAMPER       |
| OA, RA, EXH   | O.A.,R.A. EXH. AIR DUCT       |
| RED.          | REDUCER                       |
| TI            | TEMP. INDICATOR (THERMOMETER) |
| T.&P.         | TEMP. & PRESS. RELIEF VALVE   |
| VD            | VOLUME DAMPER                 |

## GENERAL NOTES

- THESE GENERAL NOTES APPLY TO ALL SHEETS
- IN ANY CASE WHERE A PIPE OR DUCT SHOWN ON A PLAN SHEET DIFFERS FROM THAT SHOWN IN A SCHEMATIC OR DETAIL, USE THE LARGER OF THE TWO SIZES SHOWN.
- PIPING SHOWN ON EACH PLAN IS RUN ABOVE THE CEILING ON THE FLOOR WHERE IT IS SHOWN UNLESS OTHERWISE NOTED.
- MOUNT THERMOSTATS 48 INCHES ABOVE FINISHED FLOOR AND CENTERED ABOVE THE LIGHT SWITCHES WHERE BOTH OCCUR IN THE SAME LOCATION, UNLESS OTHERWISE NOTED.
- ALL DUCT DIMENSIONS SHOWN ARE CLEAR AIRSTREAM DIMENSIONS.
- DO NOT RUN AIR HANDLERS OR EXHAUST FANS UNTIL ALL INTERIOR CLEANING AND PAINTING IS COMPLETE. THE CLEANING OF FOULED COILS OR FAN ASSEMBLIES DUE TO PAINT OR CONSTRUCTION DEBRIS WILL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR.
- ALL REFRIGERANT CIRCUIT SERVICE PORTS LOCATED ON THE EXTERIOR OF THE BUILDING SHALL BE PROVIDED WITH LOCKING ACCESS PORT CAPS.
- NORMAL DESIGN CONDITIONS:

|         | OUTSIDE            | INSIDE           |
|---------|--------------------|------------------|
| SUMMER: | 98 °F db, 78 °F wb | 75 °F db, 50% RH |
| WINTER: | 20 °F db           | 72 °F db         |

## DIFFUSER & GRILLE SCHEDULE

| MARK | CFM RANGE | SUPPLY | RETURN | EXHAUST | TYPE                      | DIFFUSER CONNECTION SIZE | PATTERN | REMARKS  |
|------|-----------|--------|--------|---------|---------------------------|--------------------------|---------|--|
| A    | 0-50      | ●      |        |         | LOUVER FACE CLG. DIFFUSER | 6"                       | 4-WAY   | TITUS 250-AA, 6" X 6" NOMINAL DUCT SIZE              |
| B    | 51-150    | ●      |        |         |                           | 6"                       |         | TITUS 250-AA, 10" X 6" NOMINAL DUCT SIZE             |
| C    | 151-250   | ●      |        |         |                           | 8"                       |         | TITUS 250-AA, 12" X 8" NOMINAL DUCT SIZE             |
| D    | 251-350   | ●      |        |         |                           | 10"                      |         | TITUS 250-AA, 14" X 10" NOMINAL DUCT SIZE            |
| E    | 0-1200    |        | ●      |         | ALUMINUM EGG CRATE        | 18" X 18"                | -       | TITUS 50F WITH 1" FILTER AND ACCESS DOOR, 20/20 FACE |
| E1   | 0-500     |        | ●      |         | ALUMINUM EGG CRATE        | 10" X 10"                | -       | TITUS 50F WITH 1" FILTER AND ACCESS DOOR, 12/12 FACE |

## FAN SCHEDULE

| MARK                | SERVICE | TYPE          | CFM | EXT. SP IN. H <sub>2</sub> O | WATTS/VOLTS/PH/Hz | FAN RPM | INTERLOCK WITH | DRIVE TYPE | REMARKS              |
|---------------------|---------|---------------|-----|------------------------------|-------------------|---------|----------------|------------|----------------------|
| EF-1-1, 1-2, EF-1-3 | TOILET  | CEILING MOUNT | 83  | 0.25"                        | 26 / 120/1/60     | 1100    | LIGHT SWITCH   | DIRECT     | AIR KING AK110PN (1) |

(1) PROVIDE WITH BACKDRAFT DAMPER, DISCONNECT SWITCH, MANUAL STARTERS, AND INTEGRAL CEILING GRILL. PROVIDE WEATHERPROOF ROOF DISCHARGE CAP FOR DUCT TERMINATION ON ROOF.

## CONDENSING UNIT / INDOOR AIR HANDLING UNIT/COOLING COIL SCHEDULE

| CONDENSING UNIT |                |              |             |     |     |          |            |                    |                    |         | INDOOR AIR HANDLING UNIT W/ COOLING COIL |                  |                 |                           |                              |                 |     |     |              |                               |             |        |        |              |               |        |                     |
|-----------------|----------------|--------------|-------------|-----|-----|----------|------------|--------------------|--------------------|---------|--|------------------|-----------------|---------------------------|------------------------------|-----------------|-----|-----|--------------|-------------------------------|-------------|--------|--------|--------------|---------------|--------|---------------------|
| MARK            | MIN. CAP. BTUH | REFRIG-ERANT | VOLTS/PH/Hz | MCA | MCB | MIN SEER | COMPRESSOR |                    |                    | REMARKS | MARK                                     | TOTAL AIR CFM    | OUTSIDE AIR CFM | EXT. SP. H <sub>2</sub> O | MOTOR HP. VOLT PHASE & HERTZ | ELECTRICAL      |     |     | COOLING COIL |                               |             |        |        | HEATING COIL |               |        | REMARKS             |
|                 |                |              |             |     |     |          | NO.        | MAX. SUCT. TEMP °F | MAX. COND. TEMP °F |         |  |                  |                 |                           |                              | AMBIENT TEMP °F | MCA | MCB | COIL CFM     | MIN. SENS/TOTAL CAPACITY BTUH | REFRIGERANT | EDB °F | EWB °F | KW           | CAPACITY BTUH | EDB °F |                     |
| CU-1-1, CU-1-2  | 29,400         | R-410A       | 230/1/60    | 18  | 25  | 17.0     | 1          | 45                 | 125                | 105     | LENNOX ML17XC1-030                       | FCU-1-1, FCU-1-2 | 1000            | 120                       | 0.5                          | 1/2 /240/1/60   | 47  | 50  | 1000         | 21,500/24,900                 | R-410       | 80     | 67     | 8.0          | 27,300        | 65     | LENNOX CBA27UHE-030 |

\* PROVIDE UNIT WITH SINGLE-POINT ELECTRICAL CONNECTION, LOW AMBIENT CONTROL.  
 \*\* PROVIDE ALL UNITS WITH FAN AND CONDENSER COIL HAIL GUARDS.

\* PROVIDE UNIT WITH SINGLE-POINT ELECTRICAL CONNECTION, ELECTRIC HEAT, 24/7 PROGRAMMABLE THERMOSTAT.



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dmc@mail@starofTEXASengineering.com  
TDBE F-15783

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2-UNIT BUILDING  
3835 COUNTY ROAD 175  
LEANDER, TX 78641

PROFESSIONAL'S SEAL

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DAVID K. McDONALD, P.E.  
91899 ON 02/22/2023.

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| REVISION HISTORY | DATE       |
|------------------|------------|
| DESCRIPTION      | 02-22-2023 |
| REVIEW           |            |

SHEET DESCRIPTION

Mechanical Schedules

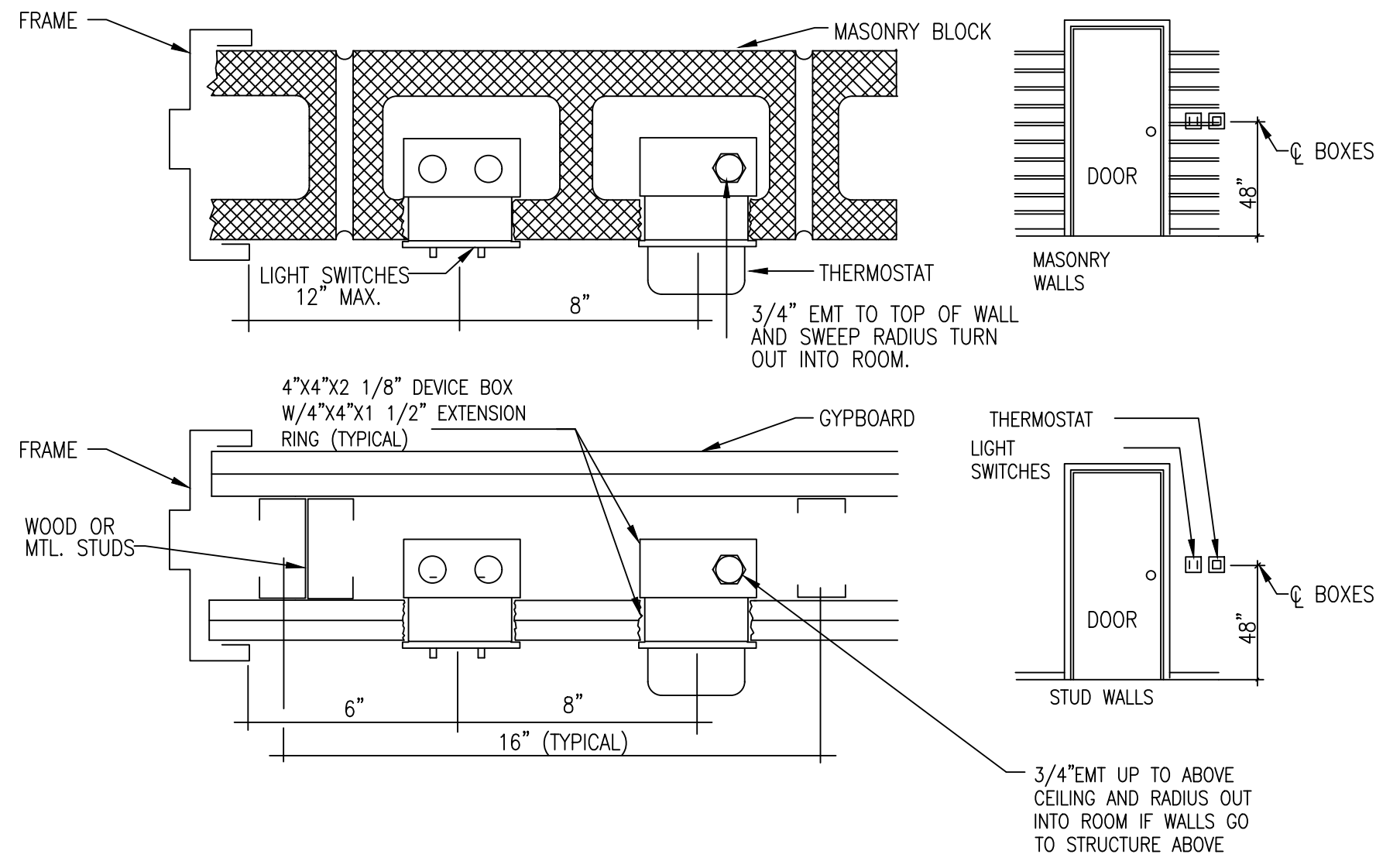
SHEET NUMBER

M1-0

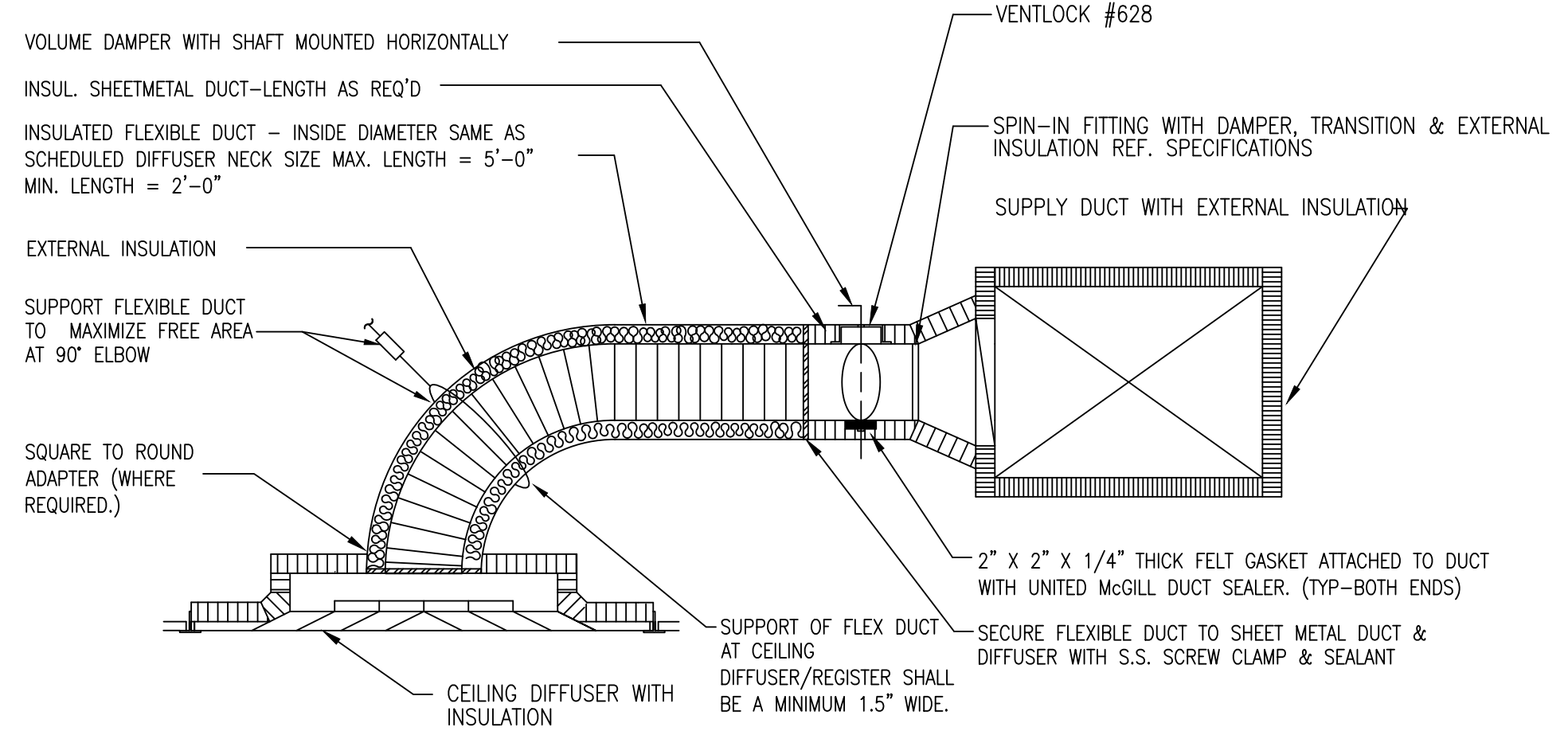




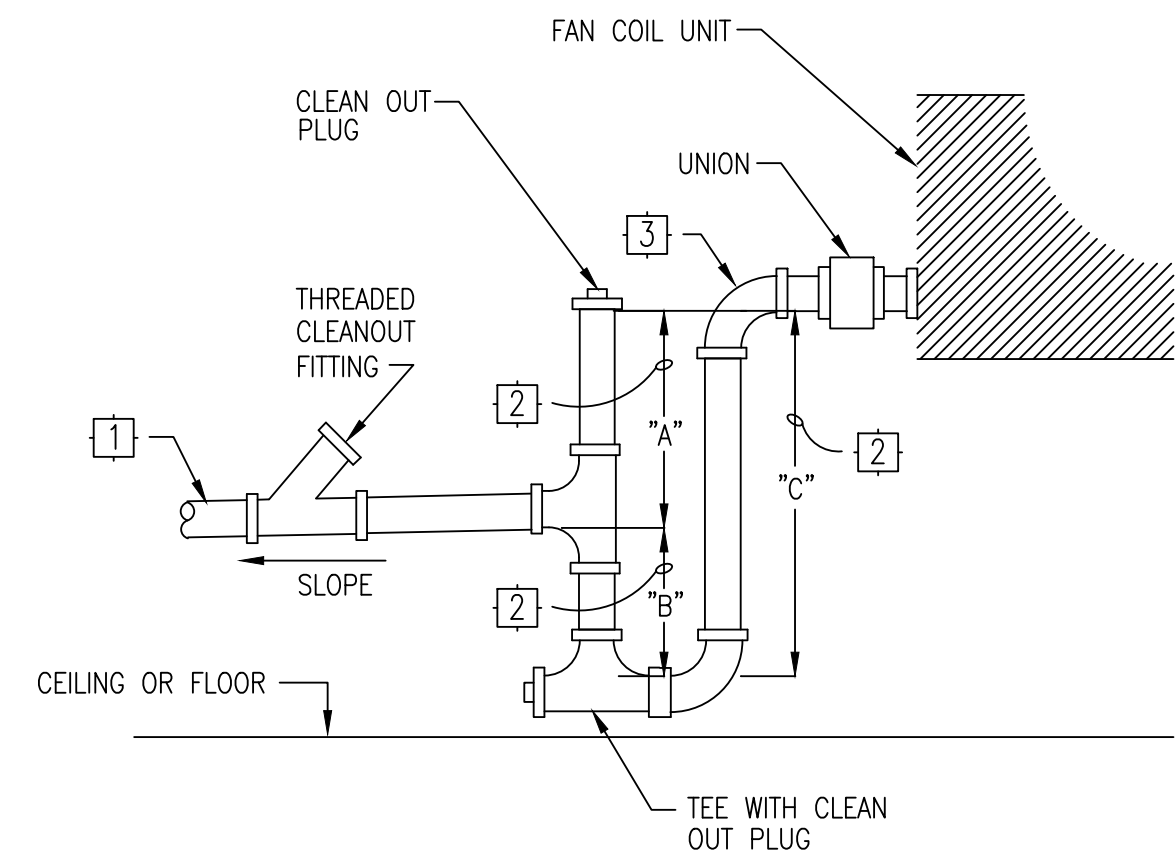
**NOTE:**  
THERMOSTATS LOCATED ADJACENT TO DOORS ON PLANS TO BE INSTALLED PER THIS DETAIL. LOCATE OTHER THERMOSTATS AS SHOWN ON PLANS, 48" A.F.F. UNLESS OTHERWISE NOTED.



**1** ROOM THERMOSTAT/ LIGHT SWITCH DETAIL  
SCALE: NOT TO SCALE



**2** DIFFUSER CONNECTION DETAIL  
SCALE: NOT TO SCALE

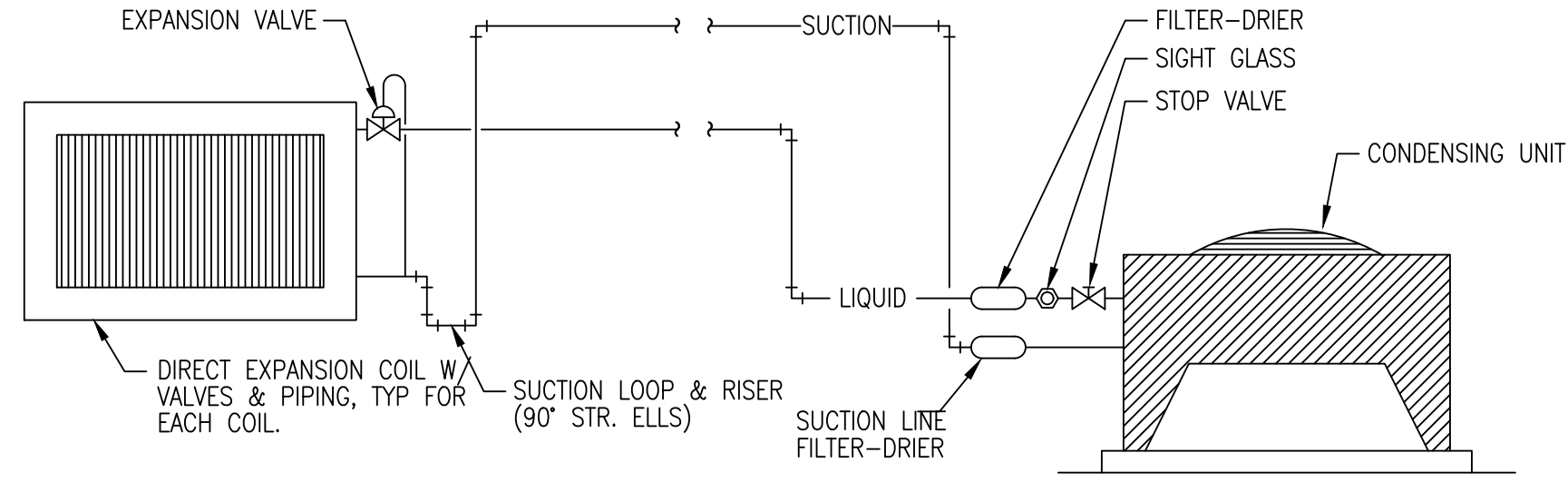


**KEYED NOTES:**

- 1 ROUTE CONDENSATE DRAIN TO NEAREST FLOOR DRAIN
- 2 "A" = FAN PLENUM NEGATIVE STATIC PRESSURE, IN. W.G.  
"B" = A/2 + 1-1/2" (MIN.)  
"C" = A + B
- 3 CONDENSATE DRAIN SHALL BE SIZED BY AIR HANDLING UNIT MANUFACTURER.

**3** CONDENSATE DRAIN PIPING DETAIL  
SCALE: NOT TO SCALE

**NOTE:**  
PROVIDE SOLENOID VALVES AND ASSOCIATED CONTROLS IF REQUIRED BY EQUIPMENT MANUFACTURER. SIZE ALL REFRIGERANT PIPING PER MANUFACTURERS RECOMMENDATIONS.



**4** REFRIGERANT PIPING SCHEMATIC  
SCALE: NOT TO SCALE

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| REVISION HISTORY | DATE       |
|------------------|------------|
| 0 REVIEW         | 02-22-2023 |

SHEET DESCRIPTION  
**Mechanical Details**

SHEET NUMBER  
**M3-1**

MECHANICAL GENERAL PROVISIONS

IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO PROVIDE AN INSTALLATION COMPLETE IN EVERY RESPECT. IN THE EVENT THAT ADDITIONAL DETAILS OF SPECIAL CONSTRUCTION MAY BE REQUIRED FOR WORK INDICATED OR SPECIFIED IN THIS SECTION OR WORK SPECIFIED IN OTHER SECTIONS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SAME AS WELL AS TO PROVIDE MATERIAL AND EQUIPMENT USUALLY FURNISHED WITH SUCH SYSTEMS OR REQUIRED TO COMPLETE THE INSTALLATION, WHETHER MENTIONED OR NOT.

CODE REQUIREMENTS AND PERMITS  
PERFORM WORK IN ACCORDANCE WITH APPLICABLE STATUTES, ORDINANCES, CODES, AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS.

AIR FILTERS  
IMMEDIATELY PRIOR TO FINAL ACCEPTANCE OF PROJECT, REPLACE DISPOSABLE TYPE AIR FILTERS. IF AIR HANDLING UNITS ARE OPERATING DURING CONSTRUCTION, INSTALL HIGH EFFICIENCY FILTERS IN UNITS AND REPLACE AT END OF CONSTRUCTION.

GUARANTEE  
GUARANTEE WORK FOR 1 YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE PROJECT AND DURING THAT PERIOD MAKE GOOD ANY FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP.

SUBMITTAL DATA  
ENGINEER'S APPROVAL OF SUBMITTED MATERIAL CONSTITUTES AN ACKNOWLEDGMENT ONLY AND IN NO WAY RELIEVES THE CONTRACTOR OF FULL RESPONSIBILITY FOR PROVIDING ALL SYSTEMS COMPLETE IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT JOB SITE, FOR INFORMATION WHICH PERTAINS TO FABRICATION PROCESSES OR CONSTRUCTION TECHNIQUES AND FOR COORDINATION OF WORK WITH ALL OTHER TRADES. ANY MATERIALS OR EQUIPMENT PROVIDED BY THIS CONTRACTOR WITHOUT APPROVED SHOP DRAWINGS CONSTITUTES THE CONTRACTOR'S AGREEMENT TO COMPLY WITH THE ENGINEER'S INTENT WHETHER SPECIFIED, SHOWN OR IMPLIED.

CONTROLS  
PROVIDE AND INSTALL A 7 DAY/24 HOUR PROGRAMMABLE THERMOSTAT

FIRESTOPPING  
ALL PIPING, TUBING, DUCTWORK, CONDUIT, ETC. PASSING THROUGH FIRE RATED FLOORS AND/OR WALLS SHALL HAVE THE VOID AREA<sup>w</sup> BETWEEN THE MATERIAL PASSING THROUGH FLOOR AND/OR WALL SEALED WITH AN APPROVED FIRE-STOP MATERIAL TO MAINTAIN THE FIRE RATING OF THE FLOOR AND/OR WALL. DEPENDING ON THE PARTICULAR INSTALLATION, THE CONTRACTOR SHALL USE F5000 SERIES FIRE STOP CAULK OR F5500/600 SERIES FIRE-STOP COMPONENTS AS MANUFACTURED BY INTERNATIONAL PROTECTIVE COATINGS OR APPROVED EQUIVALENT. ALL FIRE STOP SYSTEMS SHALL BE INSTALLED AS REQUIRED BY THE MANUFACTURER AND U.L. REQUIREMENTS FOR EACH APPLICATION.

EXISTING FACILITIES  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOSS OR DAMAGE TO THE EXISTING FACILITIES AS USED BY HIS WORKMEN, AND SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING SUCH LOSS OR DAMAGE. THE CONTRACTOR SHALL SEND PROPER NOTICES AND RECEIVE WRITTEN PERMISSION FROM THE OWNER TO ENTER EXISTING AREAS. BEFORE BEGINNING WORK IN EXISTING AREAS, MAKE THE NECESSARY ARRANGEMENTS AND PERFORM OTHER SERVICES REQUIRED FOR THE CARE, PROTECTION, AND IN SERVICE MAINTENANCE OF ALL ELECTRICAL, COMMUNICATION, PLUMBING, HEATING, AIR CONDITIONING, AND VENTILATING SERVICES FOR EXISTING FACILITIES. THE CONTRACTOR SHALL ERECT TEMPORARY BARRICADES WITH NECESSARY SAFETY DEVICES, AS REQUIRED TO PROTECT PERSONNEL FROM INJURY, REMOVING ALL SUCH TEMPORARY PROTECTION UPON COMPLETION OF THE WORK.

THE CONTRACTOR SHALL PROVIDE TEMPORARY OR NEW SERVICES TO ALL EXISTING FACILITIES AS REQUIRED TO MAINTAIN THEIR PROPER OPERATION WHEN NORMAL SERVICES ARE DISRUPTED AS A RESULT OF THE WORK BEING ACCOMPLISHED UNDER THIS PROJECT. WHERE EXISTING CONSTRUCTION IS REMOVED TO PROVIDE WORKING AND EXTENSION ACCESS TO EXISTING UTILITIES, THE CONTRACTOR SHALL REMOVE DOORS, PIPING, CONDUIT, OUTLET BOXES, WIRING, LIGHT FIXTURES, AIR CONDITIONING DUCTWORK, AND EQUIPMENT, ETC., TO PROVIDE THIS ACCESS AND SHALL REINSTALL SAME UPON COMPLETION OF WORK IN THE AREAS AFFECTED. WHERE PARTITIONS, WALLS, FLOORS, OR CEILINGS OF EXISTING CONSTRUCTION ARE INDICATED TO BE REMOVED AND EQUIPMENT LOCATED IN THESE AREAS IS REQUIRED TO REMAIN IN OPERATION, THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL EQUIPMENT REQUIRED FOR THE OPERATION OF THE REMAINING ELECTRICAL SYSTEMS. THIS IS TO INCLUDE BUT IS NOT LIMITED TO ELECTRICAL SWITCHES, RELAYS, FIXTURES, CONDUIT, ETC.

OUTAGES  
OUTAGES OF SERVICES AS REQUIRED BY THE PROJECT WILL BE PERMITTED BUT ONLY AT TIME APPROVED BY THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING TWO WEEKS IN ADVANCE OF THE REQUESTED OUTAGE IN ORDER TO SCHEDULE REQUIRED OUTAGES. NO OUTAGES SHALL BE TAKEN UNLESS WRITTEN APPROVAL HAS FIRST BEEN RECEIVED FROM THE OWNER. THE TIME ALLOWED FOR OUTAGES WILL NOT BE DURING NORMAL WORKING HOURS UNLESS OTHERWISE APPROVED BY THE OWNER. ALL COSTS OF OUTAGES, INCLUDING OVERTIME CHARGES, SHALL BE INCLUDED IN THE CONTRACT AMOUNT.

ACCESS DOORS  
SCOPE  
THIS SECTION PROVIDES FOR FURNISHING AND INSTALLING ACCESS DOORS IN ALL WALL OR CEILING LOCATIONS AS REQUIRED OR SHOWN FOR ACCESS TO VALVES, CONTROLS, WATER HAMMER ARRESTORS, TRAP PRIMERS, AND OTHER EQUIPMENT REQUIRING MAINTENANCE, ADJUSTMENT OR OPERATION. PROVIDE ACCESS DOORS TO PROVIDE ACCESS TO ALL MECHANICAL ITEMS REQUIRING SERVICE OR MAINTENANCE, WHETHER SHOWN ON DRAWINGS OR NOT.

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LOW TEMPERATURE PIPING INSULATION

SCOPE  
THIS SECTION PROVIDES FOR INSTALLING AND FURNISHING LOW TEMPERATURE PIPING INSULATION AS NOTED BELOW.

CONDENSATE DRAINS LINES  
1/2" - ARMAFLEX AP

REFRIGERANT SUCTION LINE  
1 - ARMAFLEX AP

CHILLED WATER PIPING, 6" AND SMALLER  
1-1/2" - KOOLPHEN-K

FLANGE, VALVE AND FITTING INSULATION

A. PROVIDE MOLDED OR MITERED COVERS FOR FLANGES, VALVES AND FITTINGS.

INSULATION SHIELD

A. FIELD FABRICATED. USE SECTIONS OF HIGH DENSITY FIBERGLASS OR FOAMGLASS INSULATION THAT WILL SUPPORT THE BEARING AREA AT HANGERS AND SUPPORTS. FURTHER SUPPORT INSULATION AT HANGERS AND SUPPORTS WITH A SHIELD OF GALVANIZED METAL EXTENDING NOT LESS THAN 4 INCHES ON EITHER SIDE OF THE SUPPORT BEARING AREA, COVERING AT LEAST HALF OF THE PIPE CIRCUMFERENCE, AND CONFORMING TO THE SCHEDULE BELOW. ADHERE METAL SHIELD TO INSULATION SO THAT METAL WILL NOT SLIDE WITH RESPECT TO INSULATION.

| PIPE DIAMETER  | INSULATED SECTION LENGTH IN INCHES | MINIMUM U.S. STANDARD GAGE OF METAL SHIELD |
|----------------|------------------------------------|--|
| 3" AND SMALLER | 12                                 | 18   |
| 4" TO 6"       | 12                                 | 16   |
| 8" TO 18"      | 18                                 | 14   |

SEALANT, ADHESIVE AND FINISH

A. SEALANT. BENJAMIN FOSTER 30-45 TO BE USED AT VALVE COVERS.

B. ADHESIVE. FURNISH BENJAMIN FOSTER 85-20 TO SEAL LONGITUDINAL LAPS OF THE VAPOR BARRIER JACKET AND TO ADHERE BUTT JOINT COVERS. SELF-SEALING LAPS AND BUTT STRIPS ARE NOT ALLOWED.

C. FINISH. USE BENJAMIN FOSTER 30-65, 30-80 OR 30-90 WITH GLASS FIBER REINFORCEMENT.

D. FINISH ARMAFLEX AP INSULATION WITH MINIMUM 2-COATS OF ARMSTRONG FINISH PER MANUFACTURER'S RECOMMENDATIONS FOR OUTDOOR INSULATION ONLY. DO NOT USE ARMSTRONG FINISH FOR INDOOR APPLICATIONS. ARMAFLEX AP INSULATION SHALL BE APPLIED WITH A LOW-VOC ADHESIVE, ARMAFLEX 520 BLV.

EXECUTION

PIPE

A. APPLY INSULATION TO CLEAN, DRY PIPES. BUTT INSULATION JOINTS FIRMLY TOGETHER. SEAL LONGITUDINAL LAPS AND BUTT STRIPS WITH SEALANT.

EXTERNAL DUCT INSULATION

THIS SECTION PROVIDES FOR THE FURNISHING AND INSTALLATION OF EXTERNAL INSULATION ON LOW-VELOCITY SUPPLY AIR DUCTS. EXTERNAL INSULATION OF CONCEALED AND EXPOSED DUCTS IS INCLUDED IN THIS SECTION. INTERNAL ACOUSTIC DUCT LININGS ARE SPECIFIED UNDER DUCTWORK AND NOT INCLUDED IN THIS SECTION.

RELATED WORK  
DIVISION 15 - MECHANICAL. INSULATION - GENERAL.

PRODUCTS

DUCT, ROUND, FLAT OVAL, OR RECTANGULAR. PROVIDE FLEXIBLE GLASS FIBER INSULATION WITH FACTORY-APPLIED, REINFORCED FOIL-KRAFT FACING. A MINIMUM THERMAL RESISTANCE OF 6.0 (SOFT. X DEGREES F X HRS. PER BTU) AT 750F IS REQUIRED, AFTER INSTALLATION (NOT IN BAG). PROVIDE MINIMUM 1-POUND DENSITY INSULATION, WHICH COMPLIES WITH SPECIFICATION H-B-100B.

COATING AND ADHESIVE  
COATING. PROVIDE BENJAMIN FOSTER 30-35 VAPOR BARRIER COATING. ADHESIVE. PROVIDE BENJAMIN FOSTER 85-20 VAPOR BARRIER ADHESIVE.

EXECUTION  
DUCT, ROUND, OR RECTANGULAR  
INSULATION SHALL BE WRAPPED TIGHTLY ON THE DUCTWORK WITH ALL CIRCUMFERENTIAL JOINTS BUTTED AND LONGITUDINAL JOINTS OVERLAPPED A MINIMUM OF 2 INCHES. IN ADDITION, SECURE INSULATION TO THE BOTTOM OF RECTANGULAR DUCTWORK OVER 24 INCHES WIDE BY THE USE OF MECHANICAL FASTENERS AT NO MORE THAN 18 INCHES ON CENTER.

INSTALLATION OF GREASE DUCT AND 1- AND 2-HOUR AIR DUCT WRAP

A. INSTALLATION TO BE PER UL LISTING AND MANUFACTURER'S RECOMMENDATIONS. WHEN DUCT WIDTH OR HEIGHT IS 18" OR WIDER, USE PINS AND CLIPS ON BOTTOM OF DUCT EVENLY SPACED 8-TO-12" APART FROM EACH OTHER ON ALL VERTICAL DUCT SECTIONS, SIDES AND BOTTOMS. AT OVERLAPS, INSTALL PINS AND CLIPS PER MANUFACTURER. ACCESS DOORS TO BE INSTALLED WITH TWO METAL ACCESS DOOR PLATES, THREADED STUDS WELDED AROUND PERIMETER AND SEALED CLK FIRESTOP SEALANT, THREE LAYERS OF PYROSCAT FP-DUCT WRAP AND 2-MIL ALUMINUM FOIL TAPE. ALL PER MANUFACTURER'S RECOMMENDATIONS. FLOOR AND WALL PENETRATIONS TO BE PER MANUFACTURER'S RECOMMENDATIONS. REPAIR DAMAGED DUCT WRAP, ROD PENETRATIONS, ETC., PER MANUFACTURER'S RECOMMENDATIONS.

PIPING FOR EQUIPMENT DRAINS

SCOPE  
THIS SECTION PROVIDES FOR FURNISHING AND INSTALLING PIPING AND PIPING APPURTENANCES TO DRAIN AIR HANDLERS AND OTHER EQUIPMENT REQUIRING DRAINS.

PIPE AND FITTINGS  
PROVIDE SEAMLESS, HARD-DRAWN, TYPE L, COPPER WATER TUBE CONFORMING TO ASTM B 88, AND WROUGHT COPPER FITTINGS.

REFRIGERANT PIPING AND APPURTENANCES

GENERAL

WORK INCLUDED

A. THIS SECTION SPECIFIES THE FURNISHING AND INSTALLATION OF COPPER TUBING, VALVES, STRAINERS AND SIGHT GLASS FOR REFRIGERANT PIPING.

RELATED WORK

A. DIVISION 15 - MECHANICAL.

- (1) PIPE AND PIPE FITTINGS.
- (2) VALVES, STRAINERS, AND VENTS.
- (3) LOW TEMPERATURE PIPING INSULATION.

PRODUCTS

PIPE AND FITTINGS

A. FURNISH REFRIGERANT PIPING OF TYPE L-ACR, HARD-DRAWN COPPER TUBING WITH SWEAT-TYPE, WROUGHT COPPER FITTINGS. CAST FITTINGS ARE NOT PERMITTED.

SERVICE VALVES

A. PROVIDE ANGLE OR GLOBE SERVICE VALVES, WITH SWEAT CONNECTIONS. USE PACKED-TYPE VALVES WITH GASKETED SEAL CAP AND BACK SEAT FEATURE. VALVES MUST BE WRENCH OPERATED. FURNISH VALVES ESPECIALLY DESIGNED FOR REFRIGERANT SERVICE, IN CONFORMANCE WITH THE ARI CODE.  
B. PLACE SERVICE VALVES AT THE INLET AND OUTLET OF EACH COMPRESSOR, ON BOTH SIDES OF EACH STRAINER AND SOLENOID VALVE, AND AS OTHERWISE SHOWN AND SPECIFIED.

SIGHT GLASSES

A. PROVIDE SUITABLE DOUBLE-WINDOW SIGHT GLASS IN THE LIQUID LINE LEAVING THE CONDENSER.

SOLENOID VALVES

A. FURNISH PILOT-OPERATED, FLOATING PISTON SOLENOID VALVES SUITABLE FOR OPERATION WITH REFRIGERANT.  
B. USE VALVES WITH A BRONZE BODY AND SWEAT-TYPE CONNECTIONS.  
C. PROVIDE STAINLESS STEEL STEM AND PLUNGER ASSEMBLY, AND A STAINLESS STEEL PISTON.  
D. FURNISH SOLENOID COILS WHICH ARE SEALED AND MOISTURE PROOF.  
E. USE ELECTRICAL CHARACTERISTICS OF 115-VOLT, 60 HERTZ.

EXECUTION

PRESSURE TEST

AFTER ALL REFRIGERANT EQUIPMENT AND PIPING ARE INSTALLED, CHARGE THE SYSTEM WITH THE PROPER REFRIGERANT AND DRY NITROGEN TO 300 PSIG.

A. TEST ALL JOINTS WITH A HALIDE TORCH OR AN ELECTRONIC LEAK DETECTOR.  
B. REPAIR ALL LEAKS AND RETEST EACH SYSTEM UNTIL PROVED ABSOLUTELY TIGHT.

EVACUATION AND DRYING

AFTER REFRIGERANT SYSTEM HAS BEEN PRESSURE TESTED, CONNECT A SUITABLE VACUUM PUMP, AND EVACUATE PIPING SYSTEM, INCLUDING ALL LINES AND EQUIPMENT. VERIFY ALL EQUIPMENT, GAUGES, HOSES, HOSE GASKETS, ETC., ARE AIR TIGHT AND LEAK FREE. USING A CALIBRATED MICRON GAUGE (BACHARACH, J.B., RONNAIRE) TRIPLE EVACUATE REFRIGERANT SYSTEM AS FOLLOWS:

- A. EVACUATE REFRIGERANT TO 1500 MICRONS, BREAK VACUUM USING DRY NITROGEN. DO NOT ALLOW ANY AIR TO ENTER SYSTEM.
- B. EVACUATE REFRIGERANT SYSTEM FOR THE 2ND TIME TO 1500 MICRONS, BREAK VACUUM USING DRY NITROGEN. DO NOT ALLOW ANY AIR TO ENTER SYSTEM.
- C. EVACUATE REFRIGERANT SYSTEM FOR THE 3RD TIME TO 500 MICRONS. MAINTAIN VACUUM FOR A MINIMUM OF FOUR HOURS AT 500 MICRONS.
- D. DOCUMENT ALL STAGES OF EVACUATION AND SUBMIT A BRIEF WRITTEN REPORT TO THE ENGINEER.
- E. CHARGE REFRIGERANT SYSTEM WITH THE PROPER REFRIGERANT. DO NOT ALLOW ANY AIR OR NITROGEN TO ENTER THE SYSTEM.

DUCTWORK (SHEETMETAL)

DUCT WORK TO BE FABRICATED AND INSTALLED PER LATEST EDITION OF SMACNA. GUARANTEE ALL DUCTWORK FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THE GUARANTEE WILL COVER WORKMANSHIP, NOISE, CHATTER, WHISTLING, OR VIBRATION. DUCTWORK MUST BE FREE FROM PULSATION UNDER ALL CONDITIONS OF OPERATION.

CONTRACTOR COORDINATION  
ERECT ALL DUCTS IN THE GENERAL LOCATIONS SHOWN, BUT CONFORM TO ALL STRUCTURAL AND FINISH CONDITIONS OF THE BUILDING. BEFORE FABRICATING ANY DUCTWORK, CHECK THE PHYSICAL CONDITIONS AT THE JOB SITE AND MAKE ALL NECESSARY CHANGES IN CROSS SECTIONS, OFFSETS, AND SIMILAR ITEMS, WHETHER THEY ARE SPECIFICALLY INDICATED OR NOT.

STANDARD AND CODES  
EXCEPT AS OTHERWISE INDICATED, SHEET METAL DUCTWORK MATERIAL AND INSTALLATION SHALL COMPLY WITH THE FIFTH EDITION OF SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.

SEALING OF SEAMS AND JOINTS (NOT FOR EXPOSED DUCTWORK)  
THE ENTIRE DUCT SYSTEM SHALL BE SEALED. THE SEAMS AND JOINTS SHALL BE SEALED BY USE OF HARDCAST DT TAPE WITH FTA-20 (INDOOR) ADHESIVE. DUCT SHALL BE THOROUGHLY CLEANED PRIOR TO APPLICATION.

INSTALLATION  
CONSTRUCTION STANDARDS. USE CONSTRUCTION METHODS WHICH FOLLOW THE REQUIREMENTS OUTLINED IN PARAGRAPH 1.5, AS WELL AS SMACNA BALANCING AND ADJUSTING PUBLICATIONS, UNLESS OTHERWISE INDICATED IN THESE SPECIFICATIONS OR ACCOMPANYING DRAWINGS.

REINFORCEMENT.

REINFORCE DUCTS HAVING ONE SIDE EQUAL TO 25 INCHES OR MORE IN ACCORDANCE WITH RECOMMENDED CONSTRUCTION PRACTICE OF SMACNA. CROSS BREAKING OR BEADING, CROSS BREAK OR BEAD SHEET METAL FOR RIGIDITY, EXCEPT DUCTS WHICH ARE 12 INCHES OR LESS IN THE LONGEST DIMENSION.  
WALL PENETRATIONS. WHERE DUCTS PASS THROUGH WALLS IN EXPOSED AREAS, INSTALL SUITABLE ESCUTCHEONS MADE OF SHEET METAL ANGLES AS CLOSERS. AT ALL LOCATIONS WHERE DUCTWORK PASSES THROUGH FLOORS, PROVIDE WATERTIGHT SLEEVES PROJECTING 3 INCHES ABOVE FINISHED FLOOR AND FLUSH WITH BOTTOM OF FLOOR SLAB. FABRICATE SLEEVES OF 1/8-INCH THICK STEEL, GALVANIZED AFTER FABRICATION. ANCHOR INTO ADJACENT FLOOR SLAB AS REQUIRED. SLEEVES ARE REQUIRED INSIDE AS WELL AS OUTSIDE CHASES. SUPPORT DUCTS WHERE PASSING THROUGH FLOORS WITH STEEL STRUCTURAL ANGLES OF ADEQUATE BEARING SURFACE, GALVANIZED AFTER FABRICATION AND RESTING ON TOP OF THE SLEEVE. ELBOWS.

RECTANGULAR.

WHERE SQUARE ELBOWS ARE SHOWN, OR ARE REQUIRED FOR GOOD AIR FLOW, PROVIDE AND INSTALL BARBER-COLMAN OR EQUAL DOUBLE-WALL AIR FOIL TURNING VANES. USE RADIUS ELBOWS WITH A CENTER LINE RADIUS OF NOT LESS THAN 1-1/2 TIMES THE DUCT WIDTH. RADIUS ELBOWS MAY BE PROVIDED IN LIEU OF VANED ELBOWS WHERE SPACE AND AIR FLOW REQUIREMENTS PERMIT. ROUND DUCT. PROVIDE ELBOWS WITH A CENTERLINE RADIUS OF 1-1/2 TIMES THE DUCT DIAMETER OR DUCT WIDTH. FOR ROUND DUCTS, FURNISH SMOOTH ELBOWS OR 5-PIECE, 90° ELBOWS AND 3-PIECE, 45° ELBOWS.  
LOW PRESSURE INSULATED FLEXIBLE DUCT. DO NOT EXCEED 6 FEET IN LENGTH WITH ANY FLEXIBLE DUCT. SUPPORT DUCT INDEPENDENTLY OF LIGHTS, CEILING AND PIPING.

FLEXIBLE CONNECTIONS

WHERE DUCTS CONNECT TO FANS, MAKE FLEXIBLE AIRTIGHT CONNECTIONS USING "VENTGLAS" FABRIC. THE FABRIC MUST BE FIRE-RESISTANT, WATERPROOF AND MILDEW RESISTANT WITH A WEIGHT OF APPROXIMATELY 30 OUNCES PER SQUARE YARD. PROVIDE A MINIMUM OF 1/2-INCH SLACK IN THE CONNECTIONS, AND A MINIMUM OF 2-1/2-INCHES DISTANCE BETWEEN THE EDGES OF THE DUCTS. ALSO PROVIDE A MINIMUM OF 1-INCH SLACK FOR EACH INCH OF STATIC PRESSURE ON THE FAN SYSTEM. SECURELY FASTEN FABRIC TO APPARATUS AND TO ADJACENT DUCTWORK BY MEANS OF GALVANIZED FLATS OR DRAW BANDS.  
ACCESS DOORS  
INSTALL DUCTWORK ACCESS DOORS IN STRUCTURAL ANGLE FRAMES AND PROVIDE WITH SASH LOCKS AND HINGES ARRANGED FOR CONVENIENT ACCESS. CONSTRUCT DOORS WHICH OCCUR IN INSULATED DUCTS WITH AN INSULATION FILLER.

DUCTWORK FOR REMOVAL OF GREASE-LADEN VAPORS  
A. DUCTWORK REMOVING GREASE-LADEN VAPORS SUCH AS THOSE FROM COOKING EQUIPMENT SHOULD BE:

- 1. LISTED GREASE DUCTS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, OR 16-GAGE BLACK STEEL, WITH LIQUID-TIGHT CONTINUOUS EXTERNAL WELD ON ALL SEAMS AND JOINTS, COMPLYING WITH NFPA 96 AND UMC.

DUCT LEAKAGE

ALLOWABLE LEAKAGE. MAXIMUM ALLOWABLE LEAKAGE IS 5% OF TOTAL FLOW.

FIBROUS-GLASS DUCTS AND FITTINGS

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

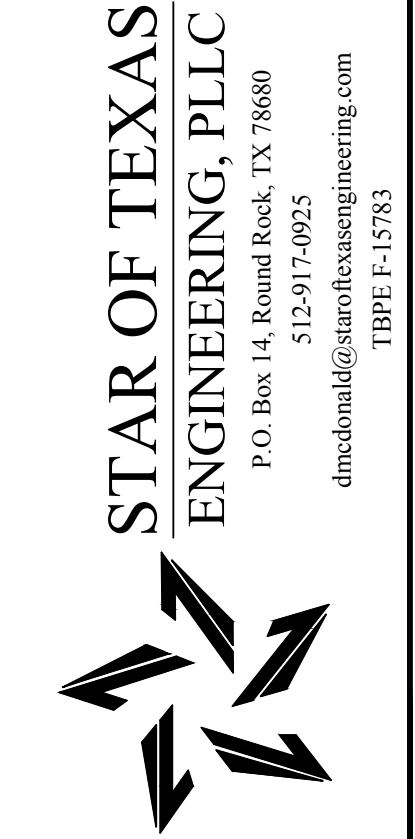
- 1. CERTAINTED CORPORATION; INSULATION GROUP.
- 2. JOHNS MANVILLE.
- 3. KNAUF INSULATION.
- 4. OWENS CORNING.
- 5. FIBROUS-GLASS DUCT MATERIALS: RESIN-BONDED FIBERGLASS, FACED ON THE OUTSIDE SURFACE WITH FIRE-RESISTIVE FSK VAPOR RETARDER AND WITH A SMOOTH FIBERGLASS MAT FINISH ON THE AIR-SIDE SURFACE.
- 6. PERMEABILITY: 0.02 PERMS (1.15 NG/PA X S X SQ. M) MAXIMUM WHEN TESTED ACCORDING TO ASTM E 96/E 96M, PROCEDURE A.
- 7. ANTIMICROBIAL AGENT: COMPOUND SHALL BE TESTED FOR EFFICACY BY AN NRL, AND REGISTERED BY THE EPA FOR USE IN HVAC SYSTEMS.
- 8. NOISE-REDUCTION COEFFICIENT: 0.65 MINIMUM WHEN TESTED ACCORDING TO ASTM C 423, MOUNTING A.
- 9. REQUIRED MARKINGS: EI RATING, UL LABEL, AND OTHER MARKINGS REQUIRED BY UL 181 ON EACH FULL SHEET OF DUCT BOARD.
- 10. CLOSURE MATERIALS:  
PRESSURE-SENSITIVE TAPE: COMPLY WITH UL 181A, IMPRINTED BY THE MANUFACTURER WITH THE CODING "181A-P," THE MANUFACTURER'S NAME, AND A DATE CODE.  
a. TAPE: ALUMINUM FOIL-SCRIM TAPE IMPRINTED WITH LISTING INFORMATION.  
b. MINIMUM TAPE WIDTH: 2-1/2 INCHES (64 MM); 3 INCHES (76 MM) FOR DUCT BOARD THICKER THAN 1 INCH (25 MM).  
c. STAPLES: 1/2-INCH (13-MM) OUTWARD CLINCHING, 2 INCHES (51 MM) O.C. IN TABS, ONE TAB PER JOINT.  
d. WATER RESISTANT.  
e. MOLD AND MILDEW RESISTANT.

C. FABRICATION:

- a. SELECT JOINTS, SEAMS, TRANSITIONS, ELBOWS, AND BRANCH CONNECTIONS AND FABRICATE ACCORDING TO SMACNA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS," CHAPTER 2, "SPECIFICATIONS AND CLOSURE," AND CHAPTER 4, "FITTINGS AND CONNECTIONS."
- b. FABRICATE 90-DEGREE MITERED ELBOWS TO INCLUDE TURNING VANES.
- c. REINFORCEMENTS: COMPLY WITH REQUIREMENTS IN SMACNA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS," CHAPTER 5, "REINFORCEMENT" FOR CHANNEL- AND TIE-ROD REINFORCEMENT MATERIALS, SPACING, AND FABRICATION.
- d. PREFORMED ROUND DUCT: COMPLY WITH NAMA AH116, "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS," SECTION VII, "PREFORMED ROUND DUCT."

AIR BALANCE

SCOPE  
CONTRACTOR SHALL PROVIDE AN AIR BALANCE OF ALL DUCTED SYSTEMS. ADJUST SHEAVES, BELTS, DRIVES, DAMPERS, ETC., TO OBTAIN AIR QUANTITIES SHOWN. VERIFY PROPER OPERATION OF ALL SYSTEMS. VERIFY ALL VOLUME DAMPERS ARE INSTALLED. PERFORM TAB OPERATIONS AS REQUIRED BY THE NEBB TEST AND BALANCE PROCEDURES MANUAL AND RECORD TESTS RESULTS FOR THE OWNER'S REVIEW.



MAYFIELD OFFICE PARK  
2-UNIT BUILDING  
3835 COUNTY ROAD 175  
LEANDER, TX 78641

PROFESSIONAL'S SEAL  
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DAVID K. McDONALD, P.E.  
91899 ON 02/22/2023.  
IT IS NOT INTENDED FOR CONSTRUCTION, BIDDING, REGULATORY APPROVAL, OR PERMITTING PURPOSES.

| REVISION/REVIEW | DATE   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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SHEET DESCRIPTION  
Mechanical Specifications

SHEET NUMBER  
M4-1



THE COMPLETE INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF THE CITY OF GEORGETOWN EXTERIOR LIGHTING ORDINANCE.

ONLY INCANDESCENT, FLUORESCENT, LIGHT-EMITTING DIODE (LED), COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE LIGHT SOURCES MAY BE USED. THE SAME TYPE MUST BE USED FOR THE SAME OR SIMILAR TYPES OF LIGHTING ON ANY ONE SITE THROUGHOUT ANY MASTER-PLANNED DEVELOPMENT.

LIGHTING FIXTURES MUST BE DESIGNED AND MOUNTED IN SUCH A MANNER THAT THE CONE OF LIGHT DOES NOT CROSS ANY ADJACENT PROPERTY LINES OF NEIGHBORING SITES.

LIGHTING SHALL NOT BE ORIENTED SO AS TO DIRECT GLARE OR EXCESSIVE ILLUMINATION ONTO STREETS IN A MANNER THAT MAY DISTRACT OR INTERFERE WITH THE VISION OF DRIVERS ON SUCH STREETS.

ALL SITE LIGHTING MUST BE DESIGNED AND INSTALLED SO THAT THE LEVEL OF ILLUMINATION AS MEASURED IN FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE DOES NOT EXCEED TWO FOOT CANDLES.

REFER TO SHEET E5.1 FOR THE LIGHTING FIXTURE SCHEDULE FOR THE SITE LIGHTING FIXTURES.

ALL LIGHTING FIXTURES SHALL BE DESIGNED SO THAT THE LIGHT SOURCE IS COMPLETELY CONCEALED, FULLY SHIELDED WITHIN OPAQUE HOUSING AND NOT VISIBLE FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2-FOOT CANDLES AT A HEIGHT OF THREE (3) FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, LIGHT-EMITTING DIODE (LED), COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED.

ROOF LIGHTING MAY NOT INCLUDE NAKED BULBS OR TUBING OR RUN ALONG THE HIGHEST PEAK OF THE ROOFLINE. ROOF LIGHTING THAT QUALIFIES AS SIGNAGE PER THE UDC IS PROHIBITED.

THE ELECTRIC UTILITY (PERDENALES ELECTRIC DELIVERY) WILL PROVIDE THE DESIGN OF THE PRIMARY SIDE INFRASTRUCTURE NECESSARY FOR THIS PROJECT, DUE TO THE COMPLEXITY OF THIS PROJECT AND QUANTITY OF UTILITY TRANSFORMERS, THE PRIMARY SIDE CONDUITS AND OTHER INFRASTRUCTURE THAT MAY BE NECESSARY ARE NOT SHOWN ON THIS PLAN. THE ELECTRICAL SITE PLAN WILL BE REVISED AS THE PRIMARY SIDE DESIGN DEVELOPS AND IS AVAILABLE.

THE UNDERGROUND ELECTRICAL INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND AHJ, ESPECIALLY NEC SECTION 300.5 (INCLUDING NEC 300.5 (D)(3)).

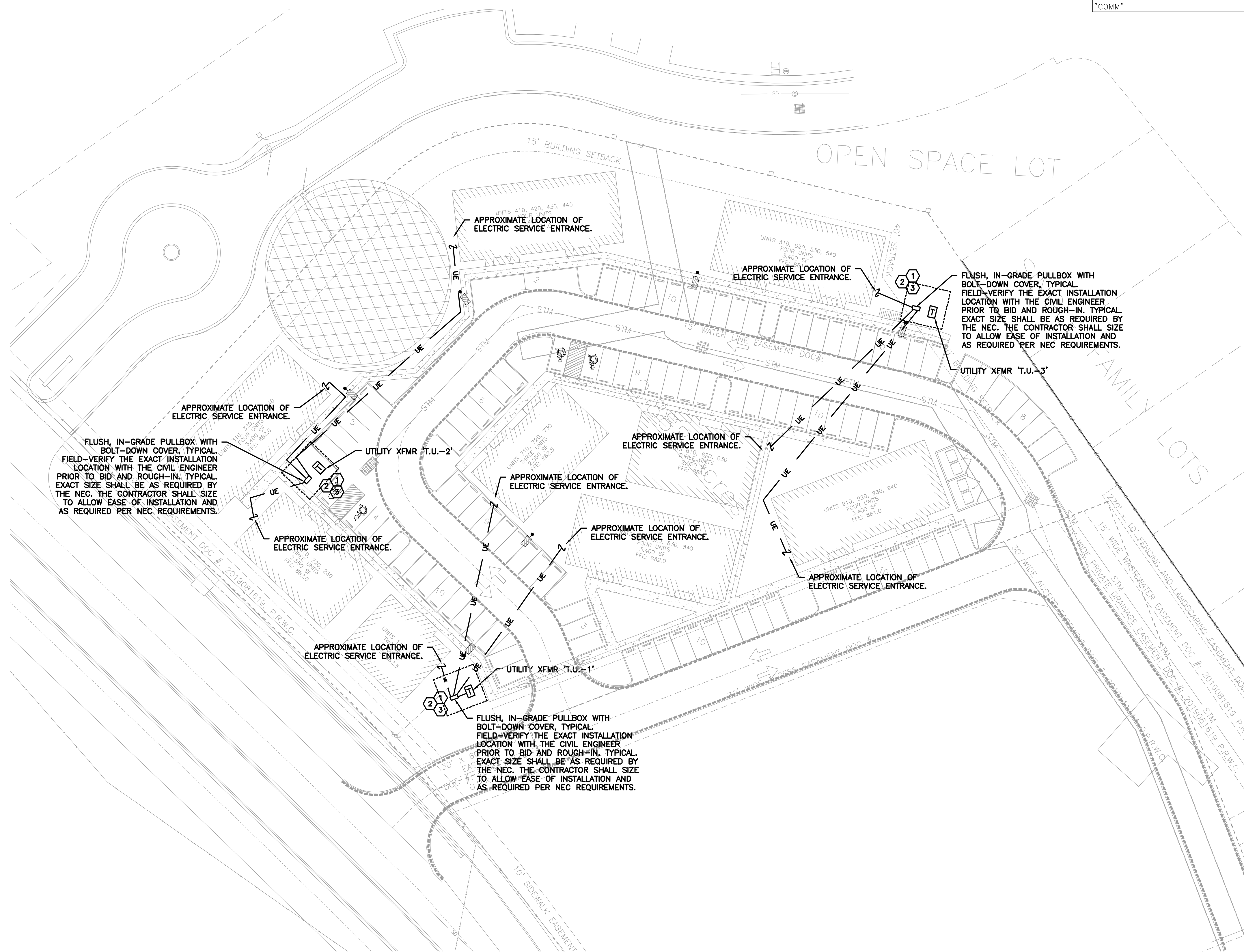
PROVIDE (1)-4" SCHEDULE 40 PVC CONDUIT FROM THE COMMUNICATIONS SERVICE ENTRANCE ON THE BUILDING TO THE COMMUNICATIONS SERVICE PEDESTAL, IN-GRADE PULLBOX, OR LOCATION SPECIFIED BY THE INDIVIDUAL SERVICE PROVIDER(S). TYPICALLY, THE COMMUNICATIONS SERVICE ENTRANCE ENCLOSURE AT THE BUILDING SHALL BE LOCATED ADJACENT TO THE ELECTRICAL SERVICE ENTRANCE, BUT THE CONTRACTOR SHALL FIELD-COORDINATE THE TERMINATION LOCATIONS OF THE CONDUIT(S) WITH THE INDIVIDUAL SERVICE PROVIDER(S) PRIOR TO BID AND ROUGH-IN. PROVIDE PULL ROPE IN EACH CONDUIT. THE MINIMUM DEPTH OF BURIAL FOR ALL COMMUNICATIONS CONDUITS SHALL BE 24" BELOW FINISHED GRADE TO THE TOP OF THE CONDUIT(S). THE CONTRACTOR SHALL FIELD-VERIFY THE EXACT PATHWAY, QUANTITIES OF CONDUITS, INNERDUCTS, PULLBOXES, ETC. REQUIRED WITH THE COMMUNICATIONS SERVICE PROVIDER(S) PRIOR TO BID AND ROUGH-IN. THE PATHWAY SHALL ALSO BE FIELD-COORDINATED WITH THE PROJECT CIVIL ENGINEER AND ALL OTHER UTILITIES PRIOR TO ROUGH-IN. THE COMMUNICATIONS CONDUITS MAY SHARE A TRENCH WITH OTHER UTILITIES IF ALLOWED BY EACH UTILITY WITHIN THE TRENCH, AND IF SO INSTALLED, SHALL BE INSTALLED TO MEET EACH UTILITY'S REQUIREMENTS FOR INSTALLATION. MAINTAIN SEPARATION OF UTILITIES AS REQUIRED BY EACH UTILITY/SERVICE PROVIDER. LABEL THE CONDUITS AT THE STUB-UP LOCATION AT THE BUILDING AS "COMM".

### GENERAL NOTES:

- ALL JUNCTION BOXES USED FOR TERMINATING OR SPLICING WIRE THAT ARE IN-GRADE, EXTERIOR TO THE BUILDING SHALL BE FILLED WITH A RE-ENTERABLE ELECTRICAL INSULATING RESIN POTTING COMPOUND SIMILAR OR APPROVED EQUAL TO 3M SCOTCHCAST # 2123. RESIN SHALL NOT BE INSTALLED UNTIL AFTER ALL WIRE TERMINATIONS HAVE BEEN MADE INSULATED AND TESTED. DO NOT ENERGIZE ANY CIRCUIT UNTIL RESIN HAS COMPLETELY SET. COMPOUND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- DO NOT ROUTE UNDERGROUND ELECTRICAL CONDUITS BENEATH OR THROUGH DETENTION POND(S) NOR UNDERNEATH BUILDING FOOTPRINTS, EXCEPT WHERE NOTED. FIELD-COORDINATE THE EXACT ROUTING WITH CIVIL ENGINEERING PLANS AND ALL SITE WORK PRIOR TO ROUGH IN.
- DRAWING IS DIAGRAMMATIC ONLY. EXACT ROUTING OF CIRCUITING TO BE BY CONTRACTOR. FIELD-COORDINATE THE EXACT ROUTING OF ALL CONDUITS & CIRCUITS WITH THE WORK OF OTHER TRADES ON SITE AND THE ELECTRICAL UTILITY.
- REFER TO THE CIVIL ENGINEERING DRAWINGS AND THE ARCHITECTURAL DRAWINGS FOR MORE DETAILED INFORMATION.
- THE COMPLETE EXTERIOR LIGHTING INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS OF THE AHJ. NOTHING IN THESE DOCUMENTS SHALL BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM THESE REQUIREMENTS.
- COORDINATE WITH THE COMPLETE SET OF CONTRACT DOCUMENTS AND ALL OTHER TRADES FOR THE EXACT LOCATION OF EQUIPMENT AND COMPLETE SCOPE OF WORK.
- ADDITIONAL WORK WILL BE REQUIRED TO PROVIDE NECESSARY INFRASTRUCTURE FOR OTHER BUILDING SYSTEMS NOT SHOWN ON THIS PLAN. REFER TO ALL DRAWINGS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-COORDINATING ALL CIRCUIT REQUIREMENTS AND SHALL PROVIDE ALL INFRASTRUCTURE REQUIRED (CIRCUIT BREAKERS, SWITCHES, FUSES, TERMINATIONS, CONDUIT SYSTEM, BACKBOX(ES), ETC.) FOR A COMPLETE AND OPERABLE SYSTEM. CONNECT ADDITIONAL CIRCUITS NOT SHOWN ON THIS PLAN TO THE NEAREST SUITABLE PANELBOARD WITH SUFFICIENT AMPACITY. DENOTE ADDITIONAL CIRCUITS ON AS-BUILT FLOOR PLANS AND PANEL SCHEDULES.
- WHEN UTILITY SERVICES CROSS ONE ANOTHER, MAINTAIN THE MINIMUM CLEARANCES AS REQUIRED BY ALL UTILITY PROVIDERS, INCLUDING, BUT NOT LIMITED TO: ELECTRICITY, WATER, GAS, SEWER, ETC. FIELD-VERIFY ALL REQUIRED CLEARANCES AND OBTAIN APPROVAL OF PROPOSED ROUTINGS PRIOR TO ROUGH-IN. OBTAIN INSPECTION/OBSERVATION AND WRITTEN APPROVAL OF ALL CONDUIT DUCT BANKS FROM THE AHJ PRIOR TO BACKFILLING.
- REFER TO E2.1 FOR ALL BUILDING-MOUNTED LIGHTING FIXTURES.
- "PROVIDE" SHALL BE UNDERSTOOD TO MEAN "FURNISH AND INSTALL".

### KEYED NOTES: (INDICATED BY "#")

- BOLLARDS PROTECTING ELECTRICAL UTILITY TRANSFORMER SHALL BE AS REQUIRED BY ELECTRICAL UTILITY; FIELD-COORDINATE PRIOR TO BID.
- THE EXACT ROUTING OF THE ELECTRICAL SERVICE ENTRANCE SHALL BE FIELD-COORDINATED PRIOR TO ROUGH-IN.
- APPROXIMATE LOCATION OF ELECTRICAL UTILITY PAD-MOUNTED TRANSFORMER "T.U.-1". FIELD-COORDINATE WITH THE ELECTRICAL UTILITY FOR THE EXACT LOCATION AND ALL REQUIREMENTS PRIOR TO ROUGH-IN. FURNISH AND INSTALL CONCRETE PAD AS WELL AS ADDITIONAL PROVISIONS REQUIRED, INCLUDING, BUT NOT LIMITED TO GROUNDING ROD(S) AND CONDUCTORS, LUGS, PROTECTIVE BOLLARDS, ETC.



**01** OVERALL ELECTRICAL SITE PLAN  
SCALE: 1" = 30'-0"



**MAYFIELD OFFICE PARK - BUILDING ONE**  
3835 COUNTY ROAD 175  
LEANDER, TX 78641

PROFESSIONAL SEAL  
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF  
NICHOLAS E. RABROKER, P.E.  
104767 ON 10/28/2022  
IT IS NOT INTENDED FOR CONSTRUCTION, BIDDING, REGULATORY APPROVAL OR PERMITTING PURPOSES.

| REVISION HISTORY    | DATE       |
|---------------------|------------|
| 0 ISSUED FOR REVIEW | 10-28-2022 |

SHEET DESCRIPTION  
**OVERALL ELEC. SITE PLAN**

SHEET NUMBER  
**E1.1**





| LIGHTING FIXTURE SCHEDULE |   |           |         |               |   |   |
|---------------------------|---|-----------|---------|---------------|---|---|
| MARK                      | MANUFACTURER AND CATALOG NUMBER                 | MOUNTING  | VOLTAGE | INPUT WATTAGE | GENERIC DESCRIPTION   | NOTE  |
| A                         | EATON HALO SMD6R-12-840-WH                      | RECESSED  | 120V    | 15.3          | 6" DOWNLIGHT  |   |
| AZE                       | ATLANTIC LIGHTING LED6-DLM15-35-U-LEM-6LED10-CL | RECESSED  | 120V    | 13.2          | 6" DOWNLIGHT WITH EMERGENCY BATTERY AND U.L. LISTED FOR WET LOCATIONS                                     |   |
| SL                        | EATON METALUX 45NLED-LDS-305L-LN-UNV-LB35       | SURFACE   | 120V    | 22.1          | 4" LED STRIPLIGHT MOUNTED IN ATTIC SPACE  |   |
| E1                        | EATON SURELITE LEM-SD                           | SURFACE   | 120V    | 5             | EMERGENCY LIGHTING UNIT WITH HIGH-OUTPUT LITHIUM IRON PHOSPHATE BATTERY FOR REMOTE CAPACITY, U.L. LISTED. | ORIENT LAMPS TO ILLUMINATE PATH OF EGRESS.                                      |
| V1                        | OXYGEN 3-571-(FINISH)                           | SURFACE   | 120V    | 15            | ARCHITECTURAL LED VANITY LIGHT  | ORIENT LAMP TO ILLUMINATE PATH OF EGRESS.                                       |
| X1                        | LITHONIA LHQM LED R HD SD OR APPROVED EQUAL     | UNIVERSAL | 120V    | 5             | THERMOPLASTIC EXIT SIGN, SELF-DIAGNOSTICS, CAPABLE OF POWERING REMOTE                                     | ORIENT LAMPS TO ILLUMINATE PATH OF EGRESS. CHEVRON DIRECTIONAL ARROWS PER DWGS. |
|                           | RESERVED  |           |         |               |   |   |

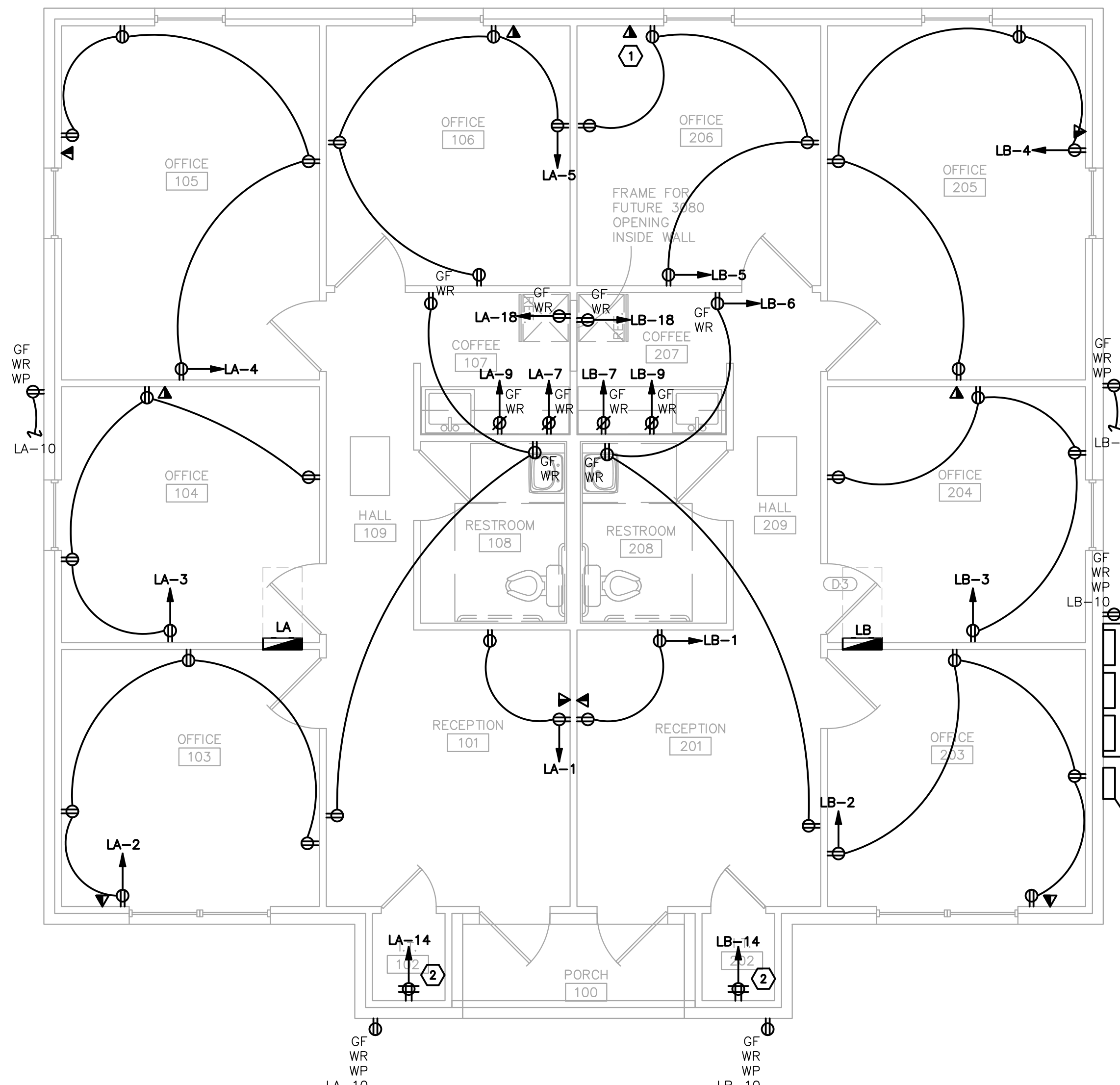
RE: GENERAL ELECTRICAL NOTES ON SHEET E0.1.  
 RE: LIGHTING FIXTURE SCHEDULE ON THIS SHEET.  
 REFER TO THE ARCHITECTURAL PLANS FOR THE EXTENTS OF CONSTRUCTION.  
 NON-SWITCHED (NIGHT LIGHTS 'NL') AND EMERGENCY FIXTURES (EXIT SIGNS AND BUG EYES) SHALL NOT BE CONNECTED TO LIGHTING CONTROL MEANS. CONNECT THE EMERGENCY LIGHTING FIXTURES AND TO CIRCUIT AHEAD OF ANY CONTROL DEVICE. BATTERY PACKS WITHIN LIGHTING FIXTURES SHALL ALSO BE CONNECTED TO THE SAME CIRCUIT SUPPLYING THE LIGHTING FIXTURE, AHEAD OF ANY LOCAL CONTROL DEVICE. TYPICAL.  
 NOTE: ALL POWER RECEPTACLES SPECIFIED TO BE INSTALLED IN EXTERIOR AND/OR WET LOCATIONS SHALL BE WEATHER-RESISTANT (WR), GFCI-TYPE DUPLEX POWER RECEPTACLES WITH A WEATHERPROOF WHILE-IN-USE COVER. BACKBOX SHALL BE RECESSED, TYP. U.N.O.

TENANT EXTERIOR LIGHTING CONTROL:  
 -PROVIDE SINGLE CHANNEL ASTRONOMIC TIME CLOCK IN LOCKABLE ENCLOSURE FOR EACH SUITE. TIME CLOCK SHALL BE PROVIDED WITH COMPATIBLE EXTERIOR-RATED PHOTOCELL. BASIS OF DESIGN SHALL BE NSI TORX 'DGLC100A-NC WITH EPC-A PHOTOCELL. ROUTE PORTION OF CIRCUIT SERVING EXTERIOR CANOPY DOWNLIGHTS THRU TIMECLOCK.  
 TIME CLOCK SETTINGS:  
 EXTERIOR CANOPY DOWNLIGHT(S) SHALL BE ON CHANNEL 1.  
 -PROVIDE PHOTOCELL ON, TIME CLOCK OFF CONTROL  
 -CHANNEL 1 'OFF' TIMES SHALL BE MIDNIGHT TO 6 A.M.  
 ON/OFF TIMES MAY BE MODIFIED BY THE AHJ. FIELD-VERIFY EXACT TIMES PRIOR TO SUBSTANTIAL COMPLETION.

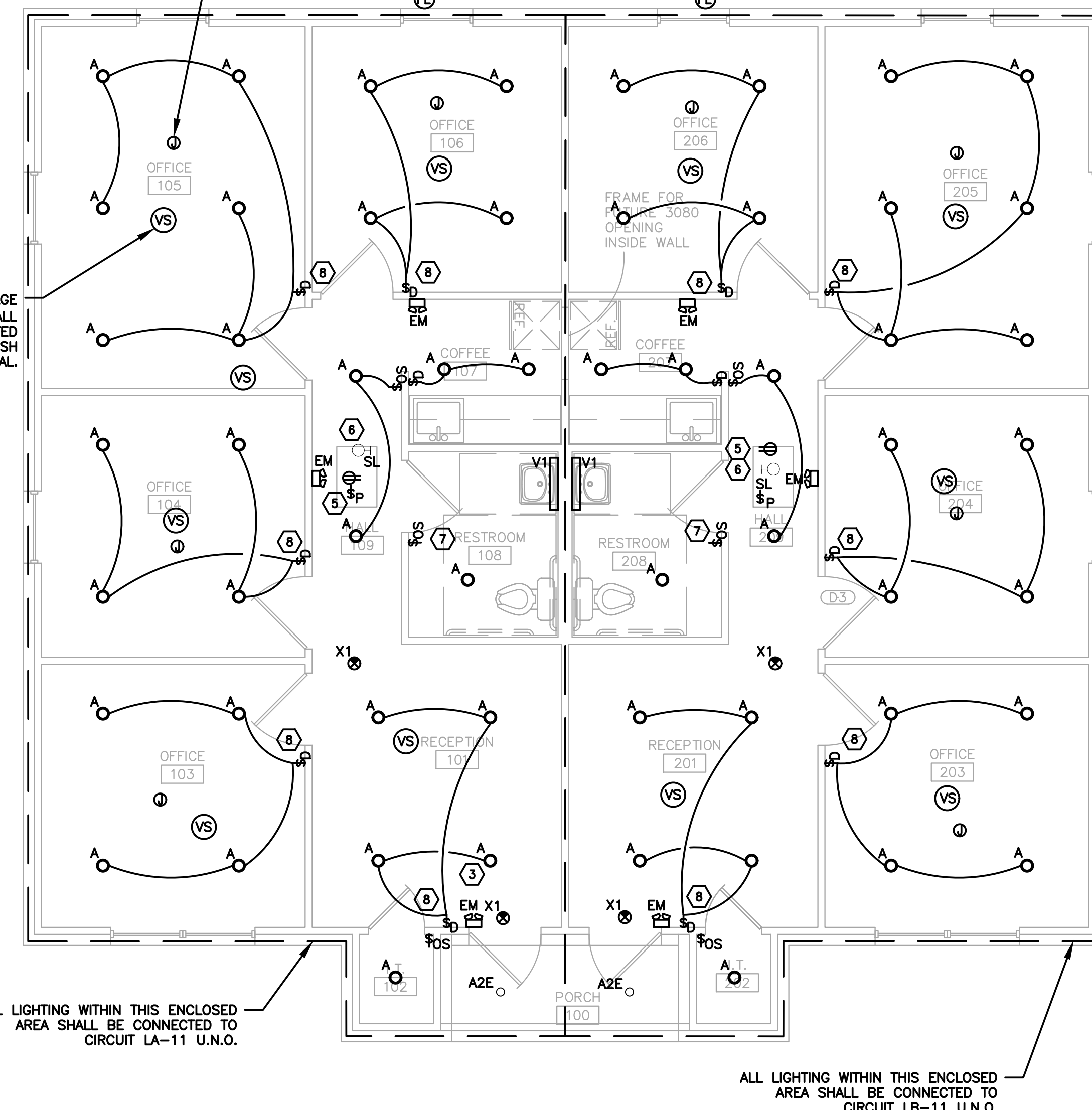
- KEYED NOTES:** (INDICATED BY "#")
- REFER TO DETAIL #04/E4.1. TYPICAL.
  - THE CONTRACTOR SHALL FURNISH AND INSTALL METALLIC CONDUITS FROM THE COMMUNICATIONS SERVICE ENTRANCE TO THE LOCATION SPECIFIED BY THE ARCHITECT AND OWNER. FURNISH AND INSTALL MULE TAPE IN EACH AND LABEL EACH AS "COMMUNICATIONS CONDUIT" WITH A PERMANENT PEN AT EACH END. IF CONDUIT IS NOT USED, FURNISH AND INSTALL A VAPOR-AND WATER-TIGHT CONDUIT CAP WITH PULL ROPE TIE-OFF PROVISIONS. RE: DETAIL #01/E4.2.
  - REFER TO DETAIL #01/E4.1. TYPICAL.
  - PHOTOCELL FOR CONTROL OF EXTERIOR LIGHTING FIXTURES. FIELD-COORDINATE THE EXACT SETTING OF THE PHOTOCELL ADJUSTMENT SLIDER WITH THE OWNER PRIOR TO SUBSTANTIAL COMPLETION. ORIENT TO FACE THE NORTHERN SKY.
  - PROVIDE PILOT LIGHT "LOCATOR" TYPE SWITCH IN ATTIC SPACE IMMEDIATELY AT ATTIC ACCESS. LIGHT INTEGRAL TO SWITCH SHALL BE 'ON' WHEN LOAD (LIGHTS) ARE 'OFF'.
  - PROVIDE (1) TYPE 'SL' LED STRIP LIGHT PER ATTIC. INSTALL IN ATTIC FOR BEST LIGHTING AROUND FAN COIL UNITS.
  - CONNECT EXHAUST FAN IN THIS ROOM TO SAME CIRCUIT SERVING LTG FIXTURES. IF DUAL-RELAY SWITCH IS SPECIFIED, CONNECT LTG FIXTURES TO RELAY #1. FAN TO RELAY #2. OTHERWISE, CONNECT BOTH FAN AND LTG TO SAME SWITCH AND RELAY.
  - PROVIDE A 2-BUTTON PUSHBUTTON LOW-VOLTAGE DECORATOR TYPE SWITCH WITH RAISE/LOWER DIMMING FUNCTIONALITY. THE BASIS OF DESIGN SHALL BE THE ACUITY BRANDS NLIGHT NP001A 2P DX WH WITH WALL PLATE WX XP0DA 1 GNG WH OR INSTALL SWITCH NEAREST TO ENTRY DOOR. TYP. U.N.O. FURNISH AND INSTALL (2)-#10, #10G, IN 3/4" C. FOR ALL 120VAC POWER CIRCUITS IN THIS ROOM. TYPICAL UNLESS NOTED OTHERWISE.

EXCEPT WHERE LINE-VOLTAGE WALLBOX TYPE INTEGRATED SENSOR SWITCHES ARE SPECIFIED, THE INTERIOR LIGHTING CONTROL SYSTEM SHALL BE A LOW-VOLTAGE SYSTEM CONSISTING OF CEILING- AND WALL-MOUNTED SENSORS, 'WALLPOD' WALL SWITCHES, AND LINE-VOLTAGE POWER PACKS. CONNECT THE WALLPODS TO THE POWER PACKS AND SENSORS AS DIRECTED BY THE MANUFACTURER. WHERE DIMMING IS SPECIFIED, PROVIDE A MAXIMUM OF TWO (2) SWITCHLEGS PLUS RAISE/LOWER FUNCTIONALITY FOR EACH, ON A SINGLE WALLPOD STATION. WHERE ON/OFF FUNCTIONALITY IS SPECIFIED, PROVIDE A MAXIMUM OF FOUR (4) SWITCHLEGS PER WALLPOD. REFER TO DETAIL(S) #05 & #06 ON SHEET E4.2. THE EXACT WALL- AND CEILING-MOUNTED SENSOR LOCATIONS, QUANTITIES, SPECIFIC TYPES (COVERAGE PATTERNS) SHALL BE AS RECOMMENDED BY THE SELECTED SENSOR MANUFACTURER. FIELD-COORDINATE PRIOR TO BID. THE BASIS OF DESIGN SHALL BE ACUITY BRANDS "NLIGHT" SYSTEM OR EQUAL. TYP.

**ELECTRICAL COMMISSIONING**  
 THE CONTRACTOR SHALL ENGAGE A THIRD-PARTY COMMISSIONING AGENT OR COMMISSIONING PROVIDER MEETING THE REQUIREMENTS SPECIFIED IN ASHRAE 90.1 SECTION 4.2.5.2. THE COMMISSIONING AGENT/PROVIDER SHALL PROVIDE A COMMISSIONING PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL PROVIDE THE DOCUMENTS REQUIRED BY ASHRAE 90.1 SECTION 4.2.5.2. THE COMMISSIONING AGENT/PROVIDER SHALL COMPLETE THE ACTIVITIES SPECIFIED IN ASHRAE 90.1 SECTION 4.2.5.3. THE COMMISSIONING AGENT/PROVIDER SHALL PROVIDE ALL VERIFICATION, TESTING, AND COMMISSIONING REQUIREMENTS SPECIFIED IN ASHRAE 90.1 SECTION 9.9 FOR THE LIGHTING SYSTEMS.



**01 ELECTRICAL POWER PLAN**  
 SCALE: 1/4" = 1'-0"



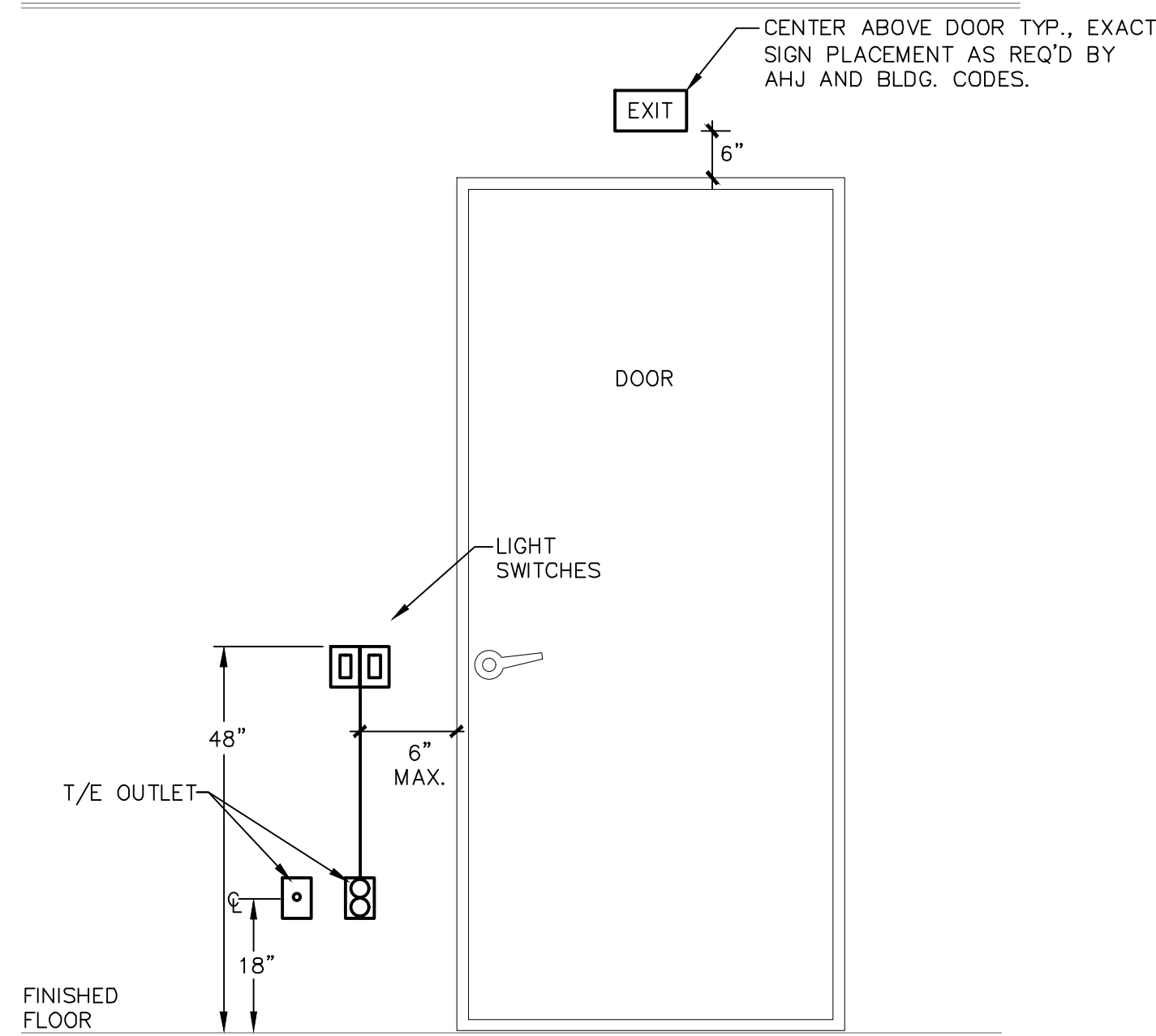
**02 ELECTRICAL LIGHTING PLAN**  
 SCALE: 1/4" = 1'-0"

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| ISSUED FOR REVIEW |            |
|                   |            |
|                   |            |

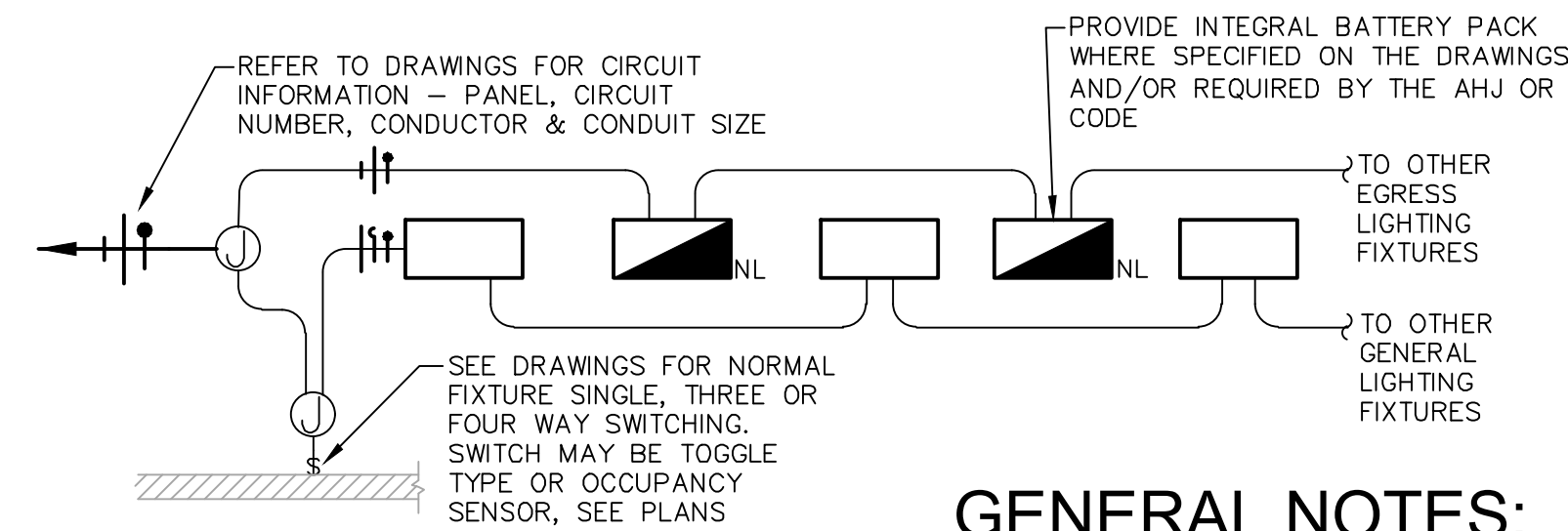
SHEET DESCRIPTION  
 ELECTRICAL  
 POWER &  
 LIGHTING PLANS

SHEET NUMBER  
 E2.1



**GENERAL NOTES:**

- COORDINATE FINAL LOCATION OF ALL DEVICES WITH THE ARCHITECT AND THE ENGINEER PRIOR TO INSTALLATION. WHERE DEVICES ARE SHOWN IN APPROXIMATELY THE SAME LOCATION ON THE DRAWINGS, IT SHALL BE ALIGNED AS INDICATED.

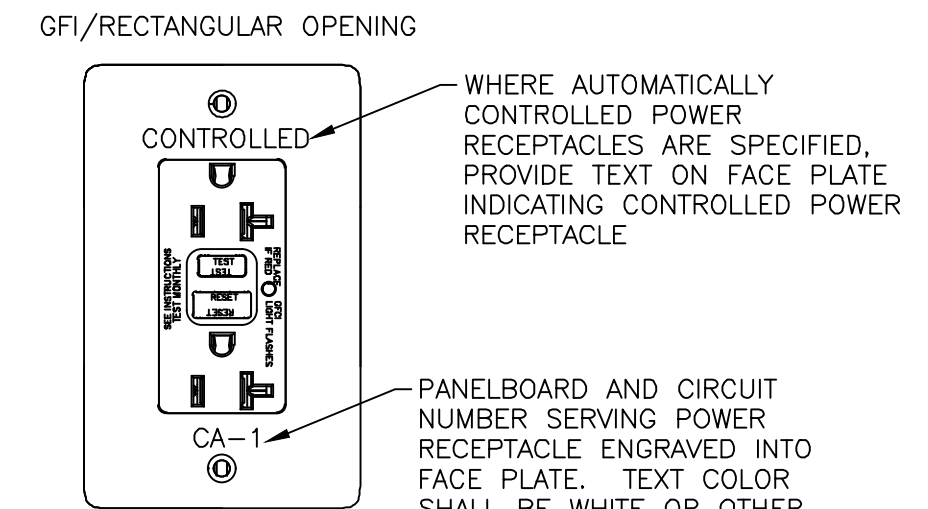
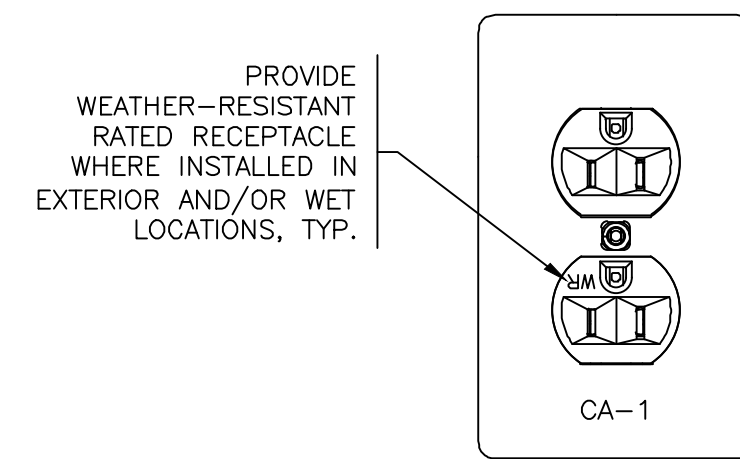


**GENERAL NOTES:**

- CONNECTIONS ARE SHOWN SCHEMATICALLY. DAISY-CHAINING OF FIXTURES IS NOT ALLOWED.
- REFER TO LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPES, TYPICAL.

**GENERAL NOTES:**

- ALL DEVICES SHALL BE U.L. LISTED.
- MINIMUM POWER RECEPTACLE RATING ALLOWED SHALL BE 125VAC, 20-AMPERE, NEMA '5-20R'.
- ALL POWER RECEPTACLES CONNECTED TO BRANCH CIRCUITS DERIVED FROM AN EMERGENCY POWER PANELBOARD SHALL BE CLEARLY, DISTINCTLY, AND PERMANENTLY IDENTIFIED. DUPLEX RECEPTACLE



**01 TYPICAL DEVICE COORDINATION DETAIL**

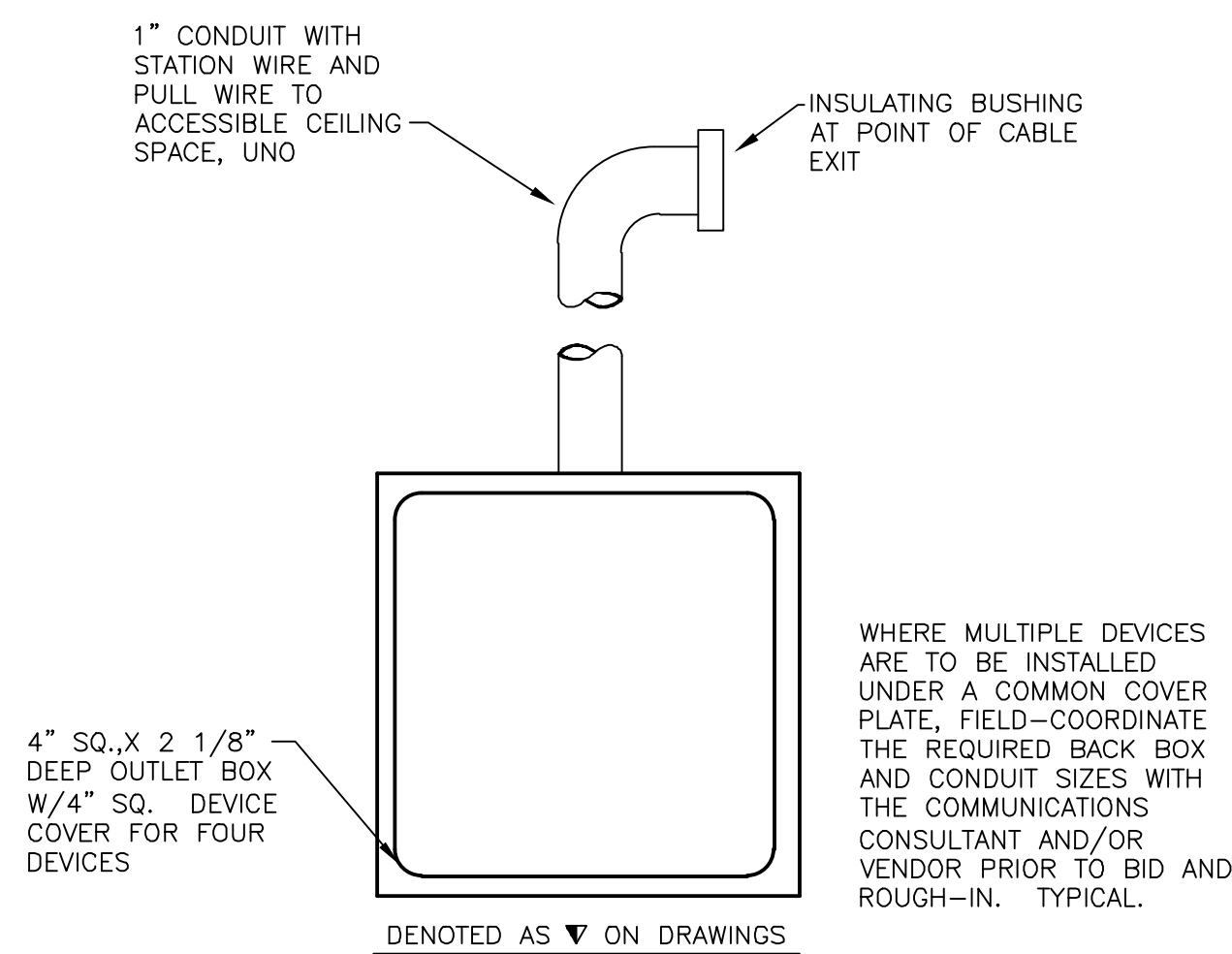
SCALE: N.T.S.

**02 TYP. WIRING FOR EGRESS LIGHTING FIXTURES**

SCALE: N.T.S.

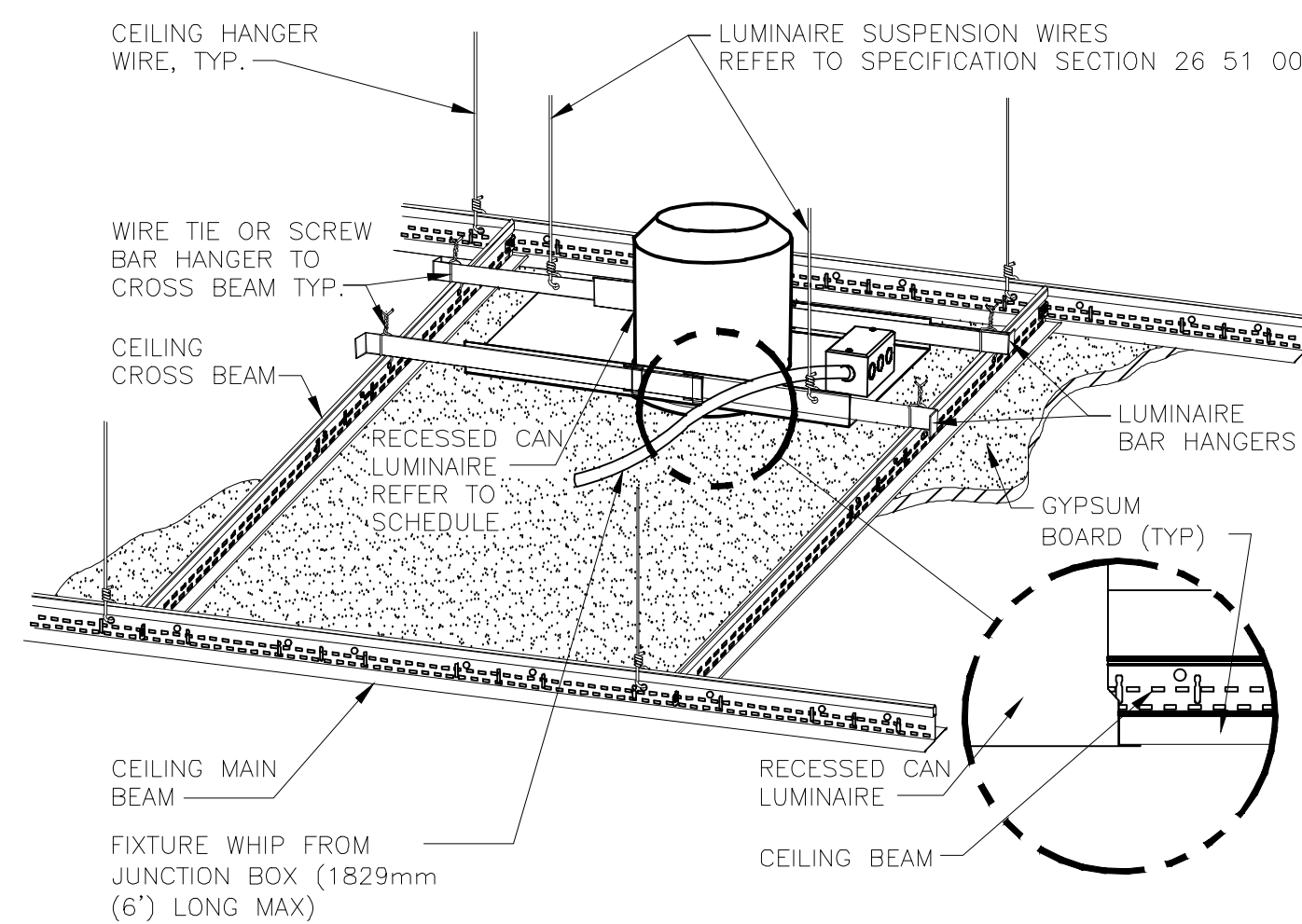
**03 TYPICAL POWER RECEPTACLE LABELING REQUIREMENTS**

NOT TO SCALE



**04 TYPICAL VOICE/DATA COMBINATION DEVICE**

SCALE: N.T.S.



**GENERAL NOTE:**

- INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

**05 DOWNLIGHT MOUNTING - GYPBOARD CEILING**

SCALE: N.T.S.

PROFESSIONAL'S SEAL

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NICHOLAS E. RABROKER, P.E.  
104767 ON 10/28/2022

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| REVISION HISTORY | DATE       | DESCRIPTION       |
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| 0                | 10-28-2022 | ISSUED FOR REVIEW |

SHEET DESCRIPTION  
**ELECTRICAL  
DETAILS**

SHEET NUMBER

**E4.1**




**TRENCH SPECIFICATIONS:**  
 Installation of conduit:  
 1. Minimum cover to be 30" from the top of primary conduit to sub-grade.  
 2. Bottom of trench shall be sanded to provide smooth, even support for conduits.  
 3. Sand to be placed directly around conduits for initial backfill.  
 4. There is to be a minimum of 12" separation between electrical conduits and all other utilities' conduits.  
 5. Warning tape to be a minimum of 12" above electrical conduits.  
 6. Concrete or flowable fill to be poured around all conduit crossings and 90-degree bends. On conduit bends of other angles, concrete or flowable fill may be required upon inspection.  
 7. Trench may be used jointly if adequate separation is provided. (See drawings 510-014, 510-022, 510-023, 510-024 and 510-025).  
 8. Conduit may be under pavement if a depth of 30" cover to sub-grade is maintained.  
 9. Trench may be on property if adequate depth is maintained. "Adequate depth" is defined as 30" below the lowest point between the edge of pavement and property line.

Inspection schedule:  
 1. After primary conduit installation.  
 2. After initial backfill.  
 3. After secondary conduit installation.  
 4. After remainder of initial backfill and warning tape.  
 5. After secondary backfill (rock-free dirt).  
**Failure to receive inspection will require removal of the backfill to allow inspection.**

**DEVELOPER/CONTRACTOR CONTRIBUTION:**  
 1. Payment to PEC for materials per the Line Extension Policy.  
 2. Trench.  
 3. Conduit:  
 a. 3" conduit Schedule 40, conduit bends Schedule 80 with 3", 36" minimum radius and accessories.  
 b. 4" conduit Schedule 40, conduit bends Schedule 80 with 4", 48" minimum radius and accessories.  
 c. Conduit for service will be sized as needed.  
 d. 2" conduit for controls or temporary service only.  
 e. Conduit bends with a 24" radius may be used only for secondary.  
**NOTE: Contractor may be required to pull a mandrel, of a diameter not less than 80% of the inside diameter of the conduit through all conduits, under the supervision of a PEC representative.**  
 4. Conduit spacers.  
 5. Transformer pads.  
 6. Meter pedestal pads.  
 7. Underground secondary enclosures and extensions.  
 8. Ground rods and clamps.  
 9. Polyester pulling tape (2,500-pound tensile strength) in all conduit. No knots to be tied in the mule tape. It must be a continuous run.  
 10. Sand for initial backfill.  
 11. Rock-free dirt over initial backfill.  
 12. 1/2" to 3/4" gravel for the bottom of vaults and secondary enclosures.  
 13. Concrete or flowable fill where required. Flowable fill is NOT allowed as a substitute for concrete for PEC equipment pads. Flowable fill may be used as backfill in situations where trench setting may be an issue or anywhere that does not require structural strength. The 28-day compressive strength range when tested must be a minimum of 300-psi. Flowable fill is NOT a substitute for concrete except where explicitly listed in the Underground Installation Specifications.  
 14. Install meter socket when metering on building.  
 15. Furnish and install any gang-type meter sockets.  
 16. Primary enclosures and extensions (if applicable).  
 17. Meter sockets (PEC will provide pedestal-mounted sockets only).  
 18. Switchgear (if applicable).  
 19. Bollards, if deemed necessary by PEC to protect electrical equipment. Design must be approved by PEC prior to installation.

**MEMBER'S RESPONSIBILITY:**  
 Meter pedestals are approved by PEC. In situations where meter pedestals are used, the following conditions will apply:  
 1. Purchase and install circuit breaker in box. Circuit breakers are the bolt-in type. The box will accommodate 150 and 200 amp breakers. The breaker must have an interrupting capacity of 10,000 amps rated at 240 volts. GE Cat. No. TQD22 (amp needed) WL and Eaton Cutler-Hammer FD2200 or equal (old Westinghouse # CA2200W).  
 2. Install insulated jumpers from bottom of meter socket to top of breakers.  
 3. Install galvanized rigid conduit, Schedule 40 PVC or an approved equal from pedestal pad to bottom of box.  
 4. Member will be responsible for the installation of underground cable from the meter pedestal to the house and the connections to the bottom of the circuit breakers. The underground cable used from the meter pedestal to the house shall be an approved type for underground installation (USE or UF type). Conductor size will be based on member load, location of meter and National Electrical Code for size of conduit.  
**Refer to applicable drawings within these specifications.**

REV | B | DATE | 07/09/2020 | REVISION | ADD 2" CONDUIT AND FLOWABLE FILL NOTES | BY | RWC | CHK | SSS | APR | MMG

|   |  |               |
|---|--|---------------|
|  <b>UNDERGROUND INSTALLATION SPECIFICATIONS</b> | DEVELOPER/MEMBER/PEC SUPPLIED MATERIAL |               |
|   | drawn: RWC                             | approved: MMG |
|   | date: 07/09/2020                       | 500-100       |


**MEMBER'S RESPONSIBILITY CONTINUED:**  
 5. Underground conductor from secondary enclosure/transformer to meter shall have 24" of cover. This depth may be reduced to 18" when a 2" supplemental protective covering of concrete or flowable fill is provided. If rigid conduit is used, the depth can be reduced by 6". Red electric warning tape is also required in the ditch.  
 6. Apply and receive all applicable inspections.  
 7. When all work is completed according to specifications, notify PEC you are ready for electric service. PEC will make the connect and set the meter on a routine connect order.  
 8. For commercial and residential applications, the member shall supply the CT enclosure (if needed) and all secondary cable in accordance with the National Electrical Code.

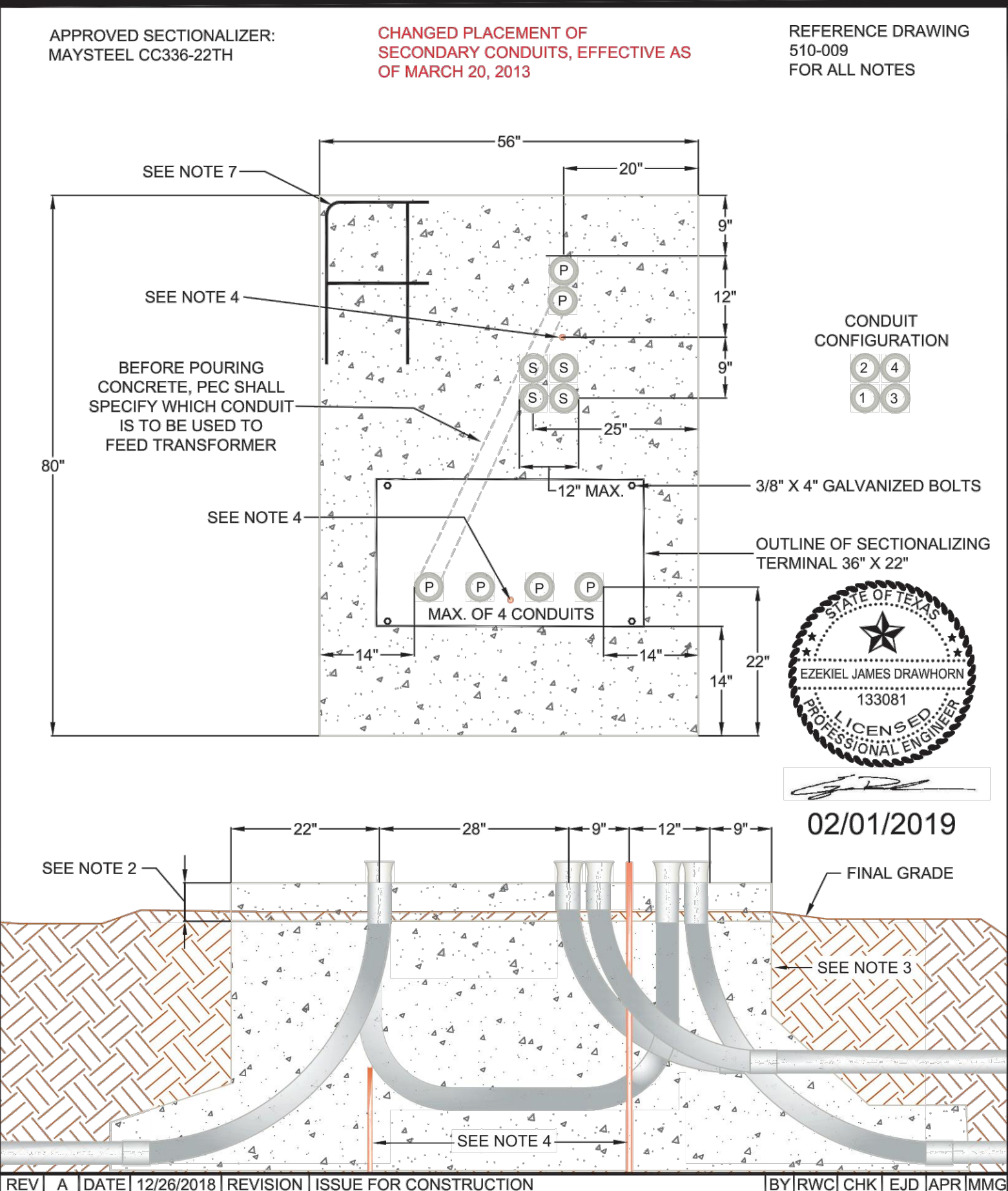
**PEC CONTRIBUTION PAID FOR BY DEVELOPER/MEMBER AS INDICATED ON THE LINE EXTENSION POLICY:**  
 1. Primary conductors.  
 2. Secondary conductors.  
 3. Cable terminations.  
 4. Transformers.  
 5. Meter pedestals.  
 6. Switchgear.  
 7. Secondary GelPort connectors.  
 8. Meter socket combo.

**PEC RESPONSIBILITY:**  
 1. Furnish and install meter pedestal.  
 2. Furnish and install combination meter socket and breaker box.  
 3. Install jumper wires from top of meter socket to pedestal connector and set meter on connect order after all work has been completed.


**Refer to applicable drawings within these specifications.**

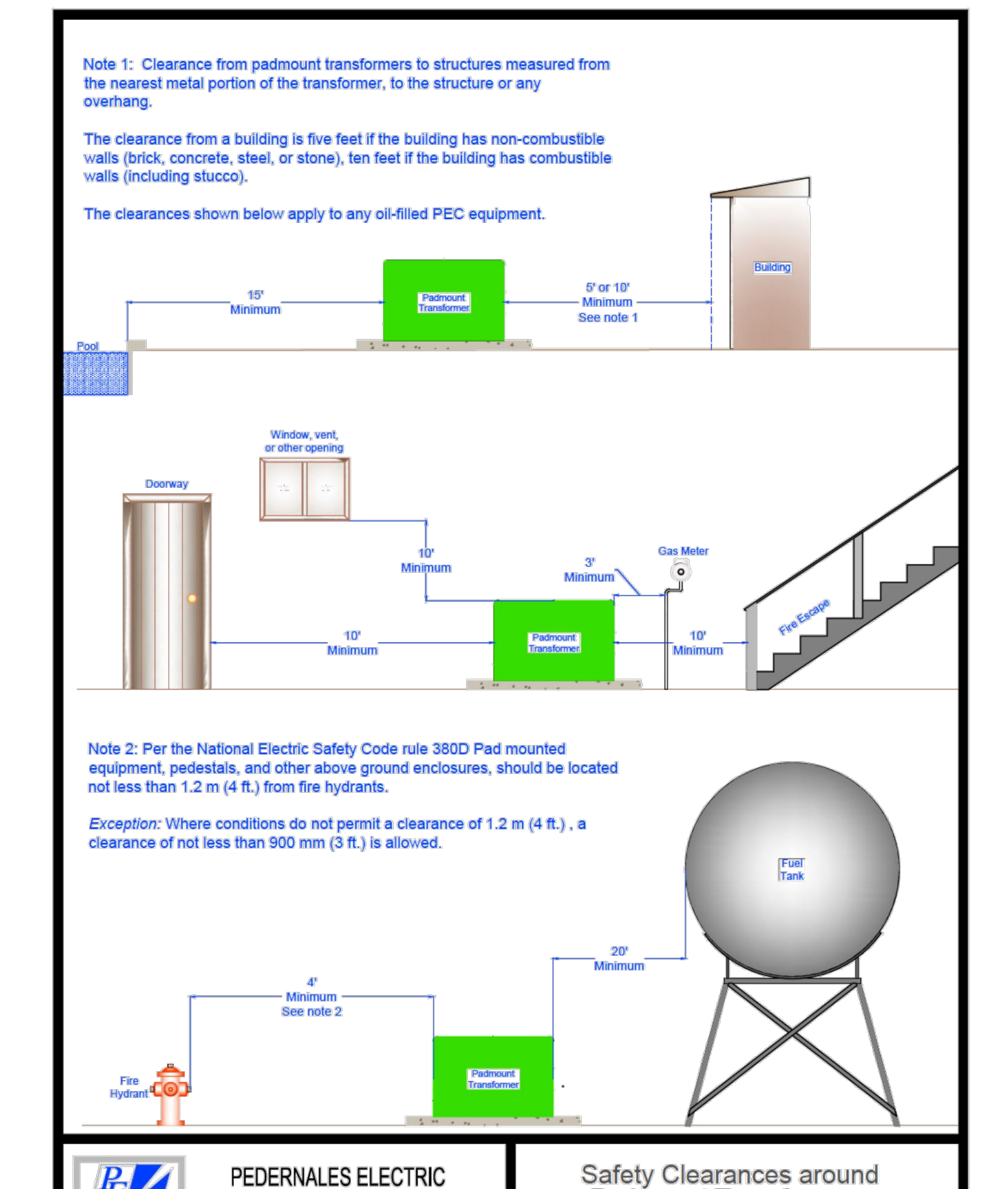
REV | B | DATE | 07/09/2020 | REVISION | ADD 2" CONDUIT AND FLOWABLE FILL NOTES | BY | RWC | CHK | SSS | APR | SSS

|  |  |               |
|--|--|---------------|
|  <b>UNDERGROUND INSTALLATION SPECIFICATIONS</b> | DEVELOPER/MEMBER/PEC SUPPLIED MATERIAL |               |
|  | drawn: RWC                             | approved: MMG |
|  | date: 07/09/2020                       | 500-100       |




REV | A | DATE | 12/26/2018 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | EJD | APR | MMG

|  |   |               |
|--|---|---------------|
|  <b>UNDERGROUND INSTALLATION SPECIFICATIONS</b> | 1Ø COMBINATION SECTIONALIZING ENCLOSURE AND TRANSFORMER PAD |               |
|  | drawn: RWC  | approved: MMG |
|  | date: 12/26/2018  | 530-023       |



REV | B | DATE | 02/01/2019 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | EJD | APR | MMG

|   |  |                              |
|---|--|------------------------------|
|  <b>PEDERNALES ELECTRIC COOPERATIVE, INC.</b><br>URD DEVELOPER'S SPECIFICATIONS | Safety Clearances around Padmount Transformers |                              |
|   | drawn: JBS                                     | approved: MJB                |
|   | date: March 11, 2015                           | drawing number: 570-010-0911 |


**Typical All Pads**  
 1. Require 3" conduit (unless otherwise specified by PEC) with bell-end fittings to extend 1 1/2" to 2" above pad.  
 2. Pads must extend a minimum of 4" above final grade and 1 1/2" below final grade. All pads must be placed on a slope less than or equal to 3:1. If greater than 3:1, contractor must bring slope to required grade.  
 3. All disturbed soil underneath pad must be replaced by concrete.  
 4. All ground rods shall be 3/4" X 10' copper-clad with clamp and must extend 3" above top of pad.  
 5. Wood float finish leaving pad square and level with no dips or crown.  
 6. **Contact PEC before pouring concrete and comply with the following instructions:**  
 • Pre-pour inspection: Check framing and layout of pad and conduit components.  
 • Final inspection: Overall review of pad and conduits. Ensure bell ends are on conduit.

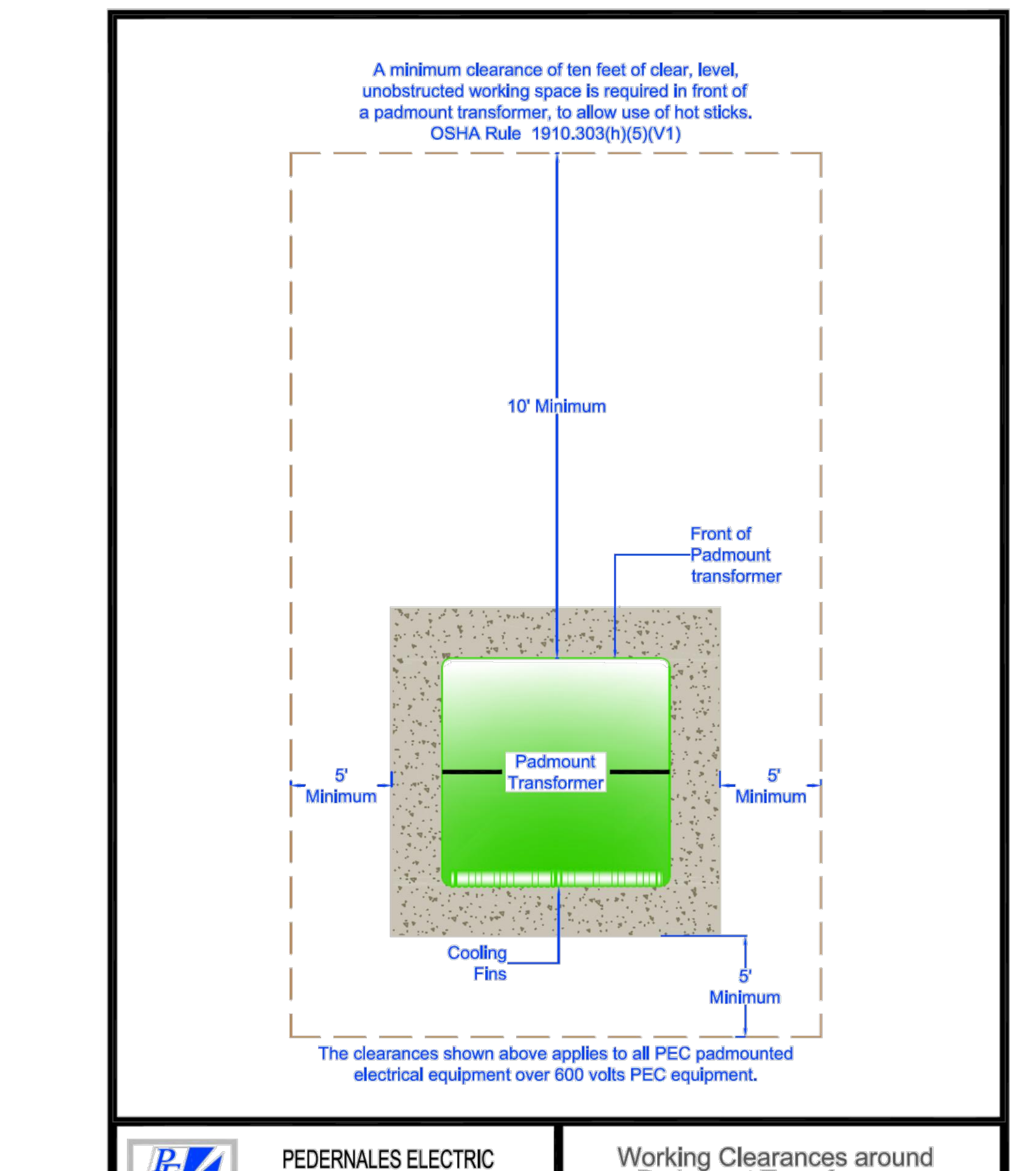
**Typical For Single-Phase Transformer, Combination, Sectionalizer, and Secondary Pads**  
 7. Concrete to have minimum strength of 3,000 PSI.  
 8. Steel reinforcing shall be 6" X 6" No. 10 wire mesh or 3/8" re-bar on 12" center to stop 1" from the sides.

**Typical For Three-Phase Transformer Pads**  
 9. Concrete testing, 4,000 PSI; 4%-6% entrained air, 3/4" maximum-size aggregate.  
 10. Steel reinforcement shall be 3/8" re-bar on 12" center to stop 1" from sides.  
 11. Minimum concrete cover over reinforcing steel 2" unless noted.


**Typical Trench Details**  
 12. Schedule 40 electrical grade PVC conduit. Schedule 80 electrical-grade conduit can be used in place of sand in secondary-only trenches.  
 13. Initial backfill shall be manufactured or commercial sand. Minimum 3/8" pea gravel may be used for initial backfill in flood-prone areas.  
 14. With PEC approval, minimum cover requirements may be reduced by six inches with every two inches of 3,000 PSI concrete poured directly onto conduit. **"Contact PEC before pouring concrete"**  
 15. If any type of vault or pedestal for the underground electric is planned, then all other utilities should be routed around these facilities.  
 16. For 2" and smaller waterlines, special permission must be granted by PEC. Water lines larger than 2" will not be allowed in PEC trench.  
 17. Refer to drawings 510-023 and 510-025 for PEC specifications and trench details on gas joint trench installations.

REV | B | DATE | 07/23/2020 | REVISION | NOTE 4: 3/4" X 10" GROUND ROD WAS 5/8" X 8" | BY | RWC | CHK | SSS | APR | MMG

|   |                              |               |
|---|------------------------------|---------------|
|  <b>UNDERGROUND INSTALLATION SPECIFICATIONS</b> | TYPICAL NOTES REFERENCE PAGE |               |
|   | drawn: RWC                   | approved: MMG |
|   | date: 07/23/2020             | 510-009       |



REV | B | DATE | 02/01/2019 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | EJD | APR | MMG

|  |   |                              |
|--|---|------------------------------|
|  <b>PEDERNALES ELECTRIC COOPERATIVE, INC.</b><br>URD DEVELOPER'S SPECIFICATIONS | Working Clearances around Padmount Transformers |                              |
|  | drawn: JBS                                      | approved: MJB                |
|  | date: February 28, 2015                         | drawing number: 570-015-0911 |

**STAR OF TEXAS ENGINEERING, PLLC**  
 128 North Main, Suite B, Belton, TX 76513  
 254-613-1711  
 rabroker@starofTEXASengineering.com  
 TXBE 1-15783

**MAYFIELD OFFICE PARK - BUILDING ONE**  
 3835 COUNTY ROAD 175  
 LEANDER, TX 78641

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| 0        | 10-28-2022 | ISSUED FOR REVIEW |

SHEET DESCRIPTION  
**ELECTRICAL DETAILS**  
 SHEET NUMBER  
**E4.2**



| PANELBOARD LA (1-SECTION PANELBOARD) |      |      |   |          |           |                      |             |  |                       |    |      |       |                                     |      |      |     |  |
|--------------------------------------|------|------|---|----------|-----------|----------------------|-------------|--|-----------------------|----|------|-------|-------------------------------------|------|------|-----|--|
| PROJECT : 1460 Office                |      |      | MAIN CKT BRKR RATING :                                      |          |           | ENCLOSURE : NEMA 1   |             |  | SECTION 1 CKT QTY: 42 |    |      |       |                                     |      |      |     |  |
| PROJECT # : 202217                   |      |      | MAIN LUGS ONLY RATING : 150                                 |          |           | MOUNTING : RECESSED  |             |  | SECTION 2 CKT QTY: 0  |    |      |       |                                     |      |      |     |  |
| LOCATION : RE-PLANS                  |      |      | BUS RATING : 150  |          |           | CB TYPE : BOLT-ON    |             |  |                       |    |      |       |                                     |      |      |     |  |
|                                      |      |      | VOLTAGE : 120/240V, 1PH, 3W                                 |          |           | 100% NEUTRAL BUS     |             |  |                       |    |      |       |                                     |      |      |     |  |
|                                      |      |      | INTERRUPTING CAPACITY : 22,000A RMS SYM. MIN. (FULLY-RATED) |          |           | EQUIPMENT GROUND BUS |             |  |                       |    |      |       |                                     |      |      |     |  |
| FEEDER SIZE                          | RISQ | SETS | Φ, QTY  | Φ, SIZE  | NEUTRAL   | EGG.                 | ° C         | NOTE: ALUMINUM CONDUCTORS  |                       |    |      |       |                                     |      |      |     |  |
| CKT                                  | AMPS | POLE | 1   | 2        | 3Ø        | 4                    | 2           | LOAD   | TYPE                  | PH | TYPE | LOAD  | LOAD DESCRIPTION                    | AMPS | POLE | CKT |  |
| 1                                    | 20   | 1    |   |          |           |                      |             | 500  | 4                     | A  | 0    | 751   | REC - OFFICE 103                    | 20   | 1    | 2   |  |
| 3                                    | 20   | 1    |   |          |           |                      |             | 791  | 4                     | B  | 0    | 791   | REC - OFFICE 109                    | 20   | 1    | 4   |  |
| 5                                    | 20   | 1    |   |          |           |                      |             | 791  | 4                     | A  | 0    | 840   | REC - HALL 109, COFFEE 107 & RR 108 | 20   | 1    | 6   |  |
| 7                                    | 20   | 1    |   |          |           |                      |             | 1,800  | 2                     | B  |      |       | SPARE                               | 20   | 1    | 8   |  |
| 9                                    | 20   | 1    |   |          |           |                      |             | 1,800  | 2                     | A  | 0    | 360   | REC - EXTERIOR                      | 20   | 1    | 10  |  |
| 11                                   | 20   | 1    |   |          |           |                      |             | 616  | 1                     | B  | 2    | 2,500 | EW-1                                | 25   | 1    | 12  |  |
| 13                                   | 50   | 2    |   |          |           |                      |             | 5,820  | 6                     | A  | 2    | 1,800 | REC - COMMUNICATIONS EQUIPMENT      | 20   | 1    | 14  |  |
| 15                                   | -    | -    |   |          |           |                      |             | 5,820  | 6                     | B  |      |       | SPARE                               | 20   | 1    | 16  |  |
| 17                                   | 30   | 2    |   |          |           |                      |             |  |                       | A  | 2    | 1,200 | REC - COFFEE 107 REFRIGERATOR       | 20   | 1    | 18  |  |
| 19                                   | -    | -    |   |          |           |                      |             |  |                       | B  |      |       | SPARE                               | 20   | 1    | 20  |  |
| 21                                   | 20   | 1    |   |          |           |                      |             |  |                       | A  |      |       | SPARE                               | 20   | 1    | 22  |  |
| 23                                   | 20   | 1    |   |          |           |                      |             |  |                       | B  |      |       | SPARE                               | 20   | 1    | 24  |  |
| 25                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 26  |  |
| 27                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 28  |  |
| 29                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 30  |  |
| 31                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 32  |  |
| 33                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 34  |  |
| 35                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 36  |  |
| 37                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 38  |  |
| 39                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 40  |  |
| 41                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 42  |  |
|                                      |      |      | PANEL VA  | SUB FEED | FEED THRU | CONN. LOAD           | DEMAND LOAD | NOTES: (THESE NOTES APPLY TO THIS PANELBOARD ONLY, UNLESS NOTED OTHERWISE) |                       |    |      |       |                                     |      |      |     |  |
| PHASE A                              |      |      | 13,602  | 0        | 0         | 13,602               | 13,683      | 114  |                       |    |      |       |                                     |      |      |     |  |
| PHASE B                              |      |      | 12,318  | 0        | 0         | 12,318               | 12,391      | 103  |                       |    |      |       |                                     |      |      |     |  |
| TOTAL                                |      |      | 25,920  | 0        | 0         | 25,920               | 26,073      | 109  |                       |    |      |       |                                     |      |      |     |  |

| ELECTRICAL LOAD ANALYSIS                    |                      |               |            |                |
|---|----------------------|---------------|------------|----------------|
| 1460 OFFICE                                 |                      |               |            |                |
| SERVICE VOLTAGE : 120/240V, 1 PHASE, 3 WIRE |                      |               |            |                |
| LOAD DESCRIPTION                            | CONNECTED LOAD (KVA) | DEMAND FACTOR | DEMAND KVA | DEMAND AMPERES |
| GP RECEPTACLES                              | 5.0                  | PER NEC       | 5          | 21             |
| LIGHTING - CONNECTED LOAD                   | 1.2                  | -             | -          | 0.0            |
| LIGHTING - SQ. FT. BASIS                    | 2.3                  | 120           | 3          | 12.1           |
| EQUIPMENT                                   | 19.2                 | 100           | 19         | 75.9           |
| MOTORS                                      | 0.0                  | 100           | -          | 0.0            |
| COMPUTERS                                   | 4.2                  | 100           | 4          | 17.4           |
| ELECTRIC HEATING                            | 0.0                  | 100           | -          | 0.0            |
| AIR CONDITIONING                            | 23.3                 | 100           | 23         | 97.0           |
| KITCHEN EQUIP. (COMMERCIAL)                 | 0.0                  | 100           | -          | 0.0            |
| ELEVATORS                                   | 0.0                  | 100           | -          | 0.0            |
| LARGEST MOTOR                               | 0.0                  | 100           | -          | 0.0            |
| SHOW WINDOWS                                | 0.0                  | 100           | -          | 0.0            |
| RESERVED                                    | 0.0                  | 100           | -          | 0.0            |
| N.E.C. DEMAND LOAD                          |                      |               | 53.5       | 223            |

| PANELBOARD LB (1-SECTION PANELBOARD) |      |      |   |          |           |                      |             |  |                       |    |      |       |                                     |      |      |     |  |
|--------------------------------------|------|------|---|----------|-----------|----------------------|-------------|--|-----------------------|----|------|-------|-------------------------------------|------|------|-----|--|
| PROJECT : 1460 Office                |      |      | MAIN CKT BRKR RATING :                                      |          |           | ENCLOSURE : NEMA 1   |             |  | SECTION 1 CKT QTY: 42 |    |      |       |                                     |      |      |     |  |
| PROJECT # : 202217                   |      |      | MAIN LUGS ONLY RATING : 150                                 |          |           | MOUNTING : RECESSED  |             |  | SECTION 2 CKT QTY: 0  |    |      |       |                                     |      |      |     |  |
| LOCATION : RE-PLANS                  |      |      | BUS RATING : 150  |          |           | CB TYPE : BOLT-ON    |             |  |                       |    |      |       |                                     |      |      |     |  |
|                                      |      |      | VOLTAGE : 120/240V, 1PH, 3W                                 |          |           | 100% NEUTRAL BUS     |             |  |                       |    |      |       |                                     |      |      |     |  |
|                                      |      |      | INTERRUPTING CAPACITY : 22,000A RMS SYM. MIN. (FULLY-RATED) |          |           | EQUIPMENT GROUND BUS |             |  |                       |    |      |       |                                     |      |      |     |  |
| FEEDER SIZE                          | RISQ | SETS | Φ, QTY  | Φ, SIZE  | NEUTRAL   | EGG.                 | ° C         | NOTE: ALUMINUM CONDUCTORS  |                       |    |      |       |                                     |      |      |     |  |
| CKT                                  | AMPS | POLE | 1   | 2        | 3Ø        | 4                    | 2           | LOAD   | TYPE                  | PH | TYPE | LOAD  | LOAD DESCRIPTION                    | AMPS | POLE | CKT |  |
| 1                                    | 20   | 1    |   |          |           |                      |             | 500  | 4                     | A  | 0    | 751   | REC - OFFICE 204                    | 20   | 1    | 2   |  |
| 3                                    | 20   | 1    |   |          |           |                      |             | 791  | 4                     | B  | 0    | 791   | REC - OFFICE 205                    | 20   | 1    | 4   |  |
| 5                                    | 20   | 1    |   |          |           |                      |             | 791  | 4                     | A  | 0    | 840   | REC - HALL 209, COFFEE 207 & RR 208 | 20   | 1    | 6   |  |
| 7                                    | 20   | 1    |   |          |           |                      |             | 1,800  | 2                     | B  |      |       | SPARE                               | 20   | 1    | 8   |  |
| 9                                    | 20   | 1    |   |          |           |                      |             | 1,800  | 2                     | A  | 0    | 360   | REC - EXTERIOR                      | 20   | 1    | 10  |  |
| 11                                   | 20   | 1    |   |          |           |                      |             | 616  | 1                     | B  | 2    | 2,500 | EW-1                                | 25   | 1    | 12  |  |
| 13                                   | 50   | 2    |   |          |           |                      |             | 5,820  | 6                     | A  | 2    | 1,800 | REC - COMMUNICATIONS EQUIPMENT      | 20   | 1    | 14  |  |
| 15                                   | -    | -    |   |          |           |                      |             | 5,820  | 6                     | B  |      |       | SPARE                               | 20   | 1    | 16  |  |
| 17                                   | 30   | 2    |   |          |           |                      |             |  |                       | A  | 2    | 1,200 | REC - COFFEE 208 REFRIGERATOR       | 20   | 1    | 18  |  |
| 19                                   | -    | -    |   |          |           |                      |             |  |                       | B  |      |       | SPARE                               | 20   | 1    | 20  |  |
| 21                                   | 20   | 1    |   |          |           |                      |             |  |                       | A  |      |       | SPARE                               | 20   | 1    | 22  |  |
| 23                                   | 20   | 1    |   |          |           |                      |             |  |                       | B  |      |       | SPARE                               | 20   | 1    | 24  |  |
| 25                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 26  |  |
| 27                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 28  |  |
| 29                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 30  |  |
| 31                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 32  |  |
| 33                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 34  |  |
| 35                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 36  |  |
| 37                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 38  |  |
| 39                                   |      |      |   |          |           |                      |             |  |                       | B  |      |       | BUSSED SPACE                        |      |      | 40  |  |
| 41                                   |      |      |   |          |           |                      |             |  |                       | A  |      |       | BUSSED SPACE                        |      |      | 42  |  |
|                                      |      |      | PANEL VA  | SUB FEED | FEED THRU | CONN. LOAD           | DEMAND LOAD | NOTES: (THESE NOTES APPLY TO THIS PANELBOARD ONLY, UNLESS NOTED OTHERWISE) |                       |    |      |       |                                     |      |      |     |  |
| PHASE A                              |      |      | 13,602  | 0        | 0         | 13,602               | 13,683      | 114  |                       |    |      |       |                                     |      |      |     |  |
| PHASE B                              |      |      | 12,318  | 0        | 0         | 12,318               | 12,391      | 103  |                       |    |      |       |                                     |      |      |     |  |
| TOTAL                                |      |      | 25,920  | 0        | 0         | 25,920               | 26,073      | 109  |                       |    |      |       |                                     |      |      |     |  |

| EQUIPMENT CONNECTION SCHEDULE |                       |                |                           |      |      |      |         |      |                 |              |         |         |             |                        |              |                    |
|-------------------------------|-----------------------|----------------|---------------------------|------|------|------|---------|------|-----------------|--------------|---------|---------|-------------|------------------------|--------------|--------------------|
| MARK                          | EQUIPMENT DESCRIPTION | LOCATION       | EQUIPMENT CHARACTERISTICS |      |      |      | VOLTAGE | POLE | AMPERE          | FUSE RATINGS | STARTER | E L C M | M P L C H G | MINIMUM CIRCUIT SIZE   | SOURCE PANEL | REMARKS/NOTES      |
|                               |                       |                | MCA                       | MOCF | VOLT | P.H. |         |      |                 |              |         |         |             |                        |              |                    |
| EF-1                          | EXHAUST FAN           | RE-MECH PLANS  | 0.22                      | 20   | 120  | 1    | 125VAC  | 1P   | 30A             | N/A          | X       |         | X           | (2)-#10, #10G, 3/4" C. | LB           | NOTES 1,2,3,4      |
| EF-2                          | EXHAUST FAN           | RE-MECH PLANS  | 0.22                      | 20   | 120  | 1    | 125VAC  | 1P   | 30A             | N/A          | X       |         | X           | (2)-#10, #10G, 3/4" C. | LA           | NOTES 1,2,3,4      |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |
| FCU-1                         | INDOOR UNIT           | RE-MECH PLANS  | 48.50                     | 50   | 240  | 1    | 240VAC  | 2P   | 60A             | N/A          | X       |         | X           | (2)-#6, #10G, 1" C.    | LB           | NOTES 1,2,3,4,5    |
| FCU-2                         | INDOOR UNIT           | RE-MECH PLANS  | 48.50                     | 50   | 240  | 1    | 240VAC  | 2P   | 60A             | N/A          | X       |         | X           | (2)-#6, #10G, 1" C.    | LA           | NOTES 1,2,3,4,5    |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |
| CU-1                          | CONDENSING UNIT       | RE-MECH PLANS  | 18.10                     | 30   | 240  | 1    | 240VAC  | 2P   | 30A             | N/A          | X       |         | X           | (2)-#10, #10G, 3/4" C. | LB           | NOTES 1,2,3,4      |
| CU-2                          | CONDENSING UNIT       | RE-MECH PLANS  | 18.10                     | 30   | 240  | 1    | 240VAC  | 2P   | 30A             | N/A          | X       |         | X           | (2)-#10, #10G, 3/4" C. | LA           | NOTES 1,2,3,4      |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |
| EW-1                          | ELECTRIC WATER HEATER | RE-PLBG. PLANS | 20.83                     | 25   | 120  | 1    | 125VAC  | 1P   | 30A             | N/A          | X       |         | X           | (2)-#10, #10G, 3/4" C. | LA, LB       | NOTES 1,2,3,4      |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |
|                               | RESERVED              |                |                           |      |      |      |         |      | AS REQ'D BY NEC | N/A          |         |         |             |                        |              | AS REQUIRED BY NEC |

| PANELBOARD SP (1-SECTION PANELBOARD) |      |      |   |          |           |                      |             |  |                       |    |      |      |                                  |      |      |     |  |
|--------------------------------------|------|------|---|----------|-----------|----------------------|-------------|--|-----------------------|----|------|------|----------------------------------|------|------|-----|--|
| PROJECT : 1460 Office                |      |      | MAIN CKT BRKR RATING :                                      |          |           | ENCLOSURE : NEMA 1   |             |  | SECTION 1 CKT QTY: 24 |    |      |      |                                  |      |      |     |  |
| PROJECT # : 202217                   |      |      | MAIN LUGS ONLY RATING : 150                                 |          |           | MOUNTING : RECESSED  |             |  | SECTION 2 CKT QTY: 0  |    |      |      |                                  |      |      |     |  |
| LOCATION : RE-PLANS                  |      |      | BUS RATING : 150  |          |           | CB TYPE : BOLT-ON    |             |  |                       |    |      |      |                                  |      |      |     |  |
|                                      |      |      | VOLTAGE : 120/240V, 1PH, 3W                                 |          |           | 100% NEUTRAL BUS     |             |  |                       |    |      |      |                                  |      |      |     |  |
|                                      |      |      | INTERRUPTING CAPACITY : 22,000A RMS SYM. MIN. (FULLY-RATED) |          |           | EQUIPMENT GROUND BUS |             |  |                       |    |      |      |                                  |      |      |     |  |
| FEEDER SIZE                          | RISQ | SETS | Φ, QTY  | Φ, SIZE  | NEUTRAL   | EGG.                 | ° C         | NOTE: ALUMINUM CONDUCTORS  |                       |    |      |      |                                  |      |      |     |  |
| CKT                                  | AMPS | POLE | 1   | 2        | 3Ø        | 4                    | 2           | LOAD   | TYPE                  | PH | TYPE | LOAD | LOAD DESCRIPTION                 | AMPS | POLE | CKT |  |
| 1                                    | 20"  | 2    |   |          |           |                      |             | 245  | 1                     | A  | 0    | 180  | REC - ELECTRIC SERVICE           | 20   | 1    | 2   |  |
| 3                                    | -    | -    |   |          |           |                      |             | 245  | 1                     | B  | 2    | 200  | REC - IRRIGATION CONTROLLER      | 20   | 1    | 4   |  |
| 5                                    | 20"  | 2    |   |          |           |                      |             | 245  | 1                     | A  | 1    | 240  | LIGHTING CONTACTOR CONTROL, COOL | 20   | 1    | 6   |  |
| 7                                    | -    | -    |   |          |           |                      |             | 245  | 1                     | B  |      |      | SPARE                            | 20   | 1    | 8   |  |
| 9                                    | 20   | 1    |   |          |           |                      |             |  |                       | A  |      |      | SPARE                            | 20   | 1    | 10  |  |
| 11                                   | 20   | 1    |   |          |           |                      |             |  |                       | B  |      |      | SPARE                            | 20   | 1    | 12  |  |
| 13                                   | 20   | 1    |   |          |           |                      |             |  |                       | A  |      |      | SPARE                            | 20   | 1    | 14  |  |
| 15                                   | 20   | 1    |   |          |           |                      |             |  |                       | B  |      |      | SPARE                            | 20   | 1    | 16  |  |
| 17                                   | 20   | 1    |   |          |           |                      |             |  |                       | A  |      |      | SPARE                            | 20   | 1    | 18  |  |
| 19                                   | 20   | 1    |   |          |           |                      |             |  |                       | B  |      |      | BUSSED SPACE                     |      |      | 20  |  |
| 21                                   | 20   | 1    |   |          |           |                      |             |  |                       | A  |      |      | BUSSED SPACE                     |      |      | 22  |  |
| 23                                   | 20   | 1    |   |          |           |                      |             |  |                       | B  |      |      | BUSSED SPACE                     |      |      | 24  |  |
|                                      |      |      | PANEL VA  | SUB FEED | FEED THRU | CONN. LOAD           | DEMAND LOAD | NOTES: (THESE NOTES APPLY TO THIS PANELBOARD ONLY, UNLESS NOTED OTHERWISE) |                       |    |      |      |                                  |      |      |     |  |
| PHASE A                              |      |      | 809   | 0        | 0         | 809                  | 1,902       | 9  |                       |    |      |      |                                  |      |      |     |  |
| PHASE B                              |      |      | 689   | 0        | 0         | 689                  | 820         | 7  |                       |    |      |      |                                  |      |      |     |  |
| TOTAL                                |      |      | 1,598   | 0        | 0         | 1,598                | 1,903       | 8  |                       |    |      |      |                                  |      |      |     |  |

### EQUIP. CONN. SCHED. GENERAL NOTES:

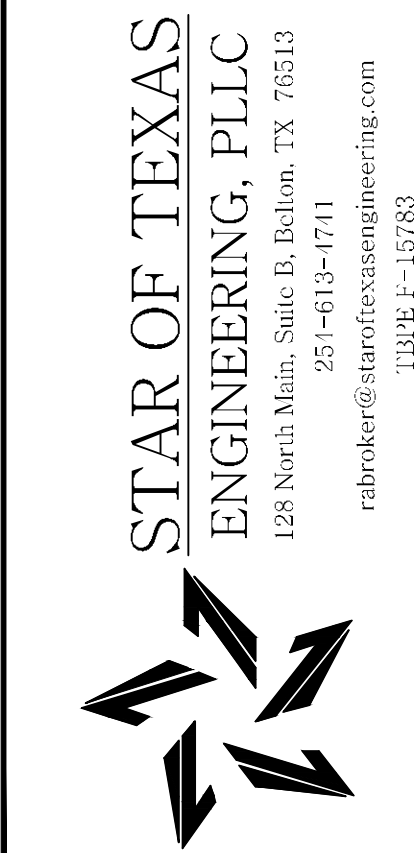
(THESE NOTES APPLY TO ALL EQUIPMENT SPECIFIED ON THE EQUIPMENT CONNECTION SCHEDULE FOR AND/OR PROVIDED FOR THIS PROJECT.)

- ALL ENCLOSURES SHALL BE LISTED. THE INDIVIDUAL NEMA RATING OF THE DISCONNECT AND/OR STARTER ENCLOSURE SHALL BE APPROVED FOR USE IN THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED. PROVIDE NEMA 1" ENCLOSURES FOR DRY LOCATIONS INTERIOR TO STRUCTURES UNLESS SPECIFICALLY NOTED OTHERWISE. PROVIDE NEMA 3R" ENCLOSURES FOR WATER HEATERS AND DAMP OR WET LOCATIONS INTERIOR AND EXTERIOR TO THE STRUCTURE UNLESS NOTED OTHERWISE. STARTERS AND DISCONNECTS INSTALLED IN AREAS SUBJECT TO CONSTANT MOISTURE, SUCH AS FOOD PREPARATION AREAS AND COOLING TOWERS, SHALL BE PROVIDED WITH NEMA 4X" ENCLOSURES UNLESS EXPLICITLY NOTED OTHERWISE IN THE EQUIPMENT CONNECTION SCHEDULE.
- ALL SAFETY SWITCHES (DISCONNECTS) SHALL BE HEAVY-DUTY WITH A GROUND LUG KIT. PROVIDE AUXILIARY CONTACTS AS NECESSARY. FIELD-VERIFY AUXILIARY CONTACT REQUIREMENTS WITH OTHER TRADES AND PROJECT REQUIREMENTS PRIOR TO BID AND ROUGH-IN.
- FIELD-COORDINATE THE FINAL EQUIPMENT RATINGS (MCA, MOCF, LOCATION) WITH ALL OTHER TRADES AND PROVIDE THE STARTER AND/OR SAFETY SWITCH DISCONNECT PLUS ENCLOSURE AS NECESSARY.
- ALL EQUIPMENT SHALL FEATURE A SINGLE POINT ELECTRICAL CONNECTION.
- INSTALL DISCONNECTS FURNISHED BY MECHANICAL CONTRACTOR AT CODE COMPLIANT, ACCESSIBLE LOCATION THAT IS ACCEPTABLE TO THE AHJ. MAKE ALL TERMINATIONS REQUIRED.
- 'E', 'M', OR 'P' IN THE SCHEDULE DESIGNATES WHICH TRADE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE DEVICE (STARTER OR LOCAL DISCONNECT SWITCH).
- FUSE SIZES RECOMMENDED BY THE ACTUAL SELECTED EQUIPMENT MANUFACTURERS SHALL TAKE PRECEDENCE OVER FUSE SIZES SHOWN IN THIS SCHEDULE. CONFIRM FUSE SIZES REQUIRED WITH SELECTED MANUFACTURERS PRIOR TO BID AND PROVIDE AS PER MANUFACTURER RECOMMENDATIONS. SHOULD THE RECOMMENDED FUSE SIZE NECESSITATE A LARGER RATED DISCONNECT, FURNISH AND INSTALL LARGER RATED DISCONNECT AT NO ADDITIONAL COST.
- INSTALL DISCONNECT AT A CODE COMPLIANT, ACCESSIBLE LOCATION ADJACENT TO THE UNIT THAT IS ACCEPTABLE TO THE AHJ, OWNER, ARCHITECT, AND ENGINEER.

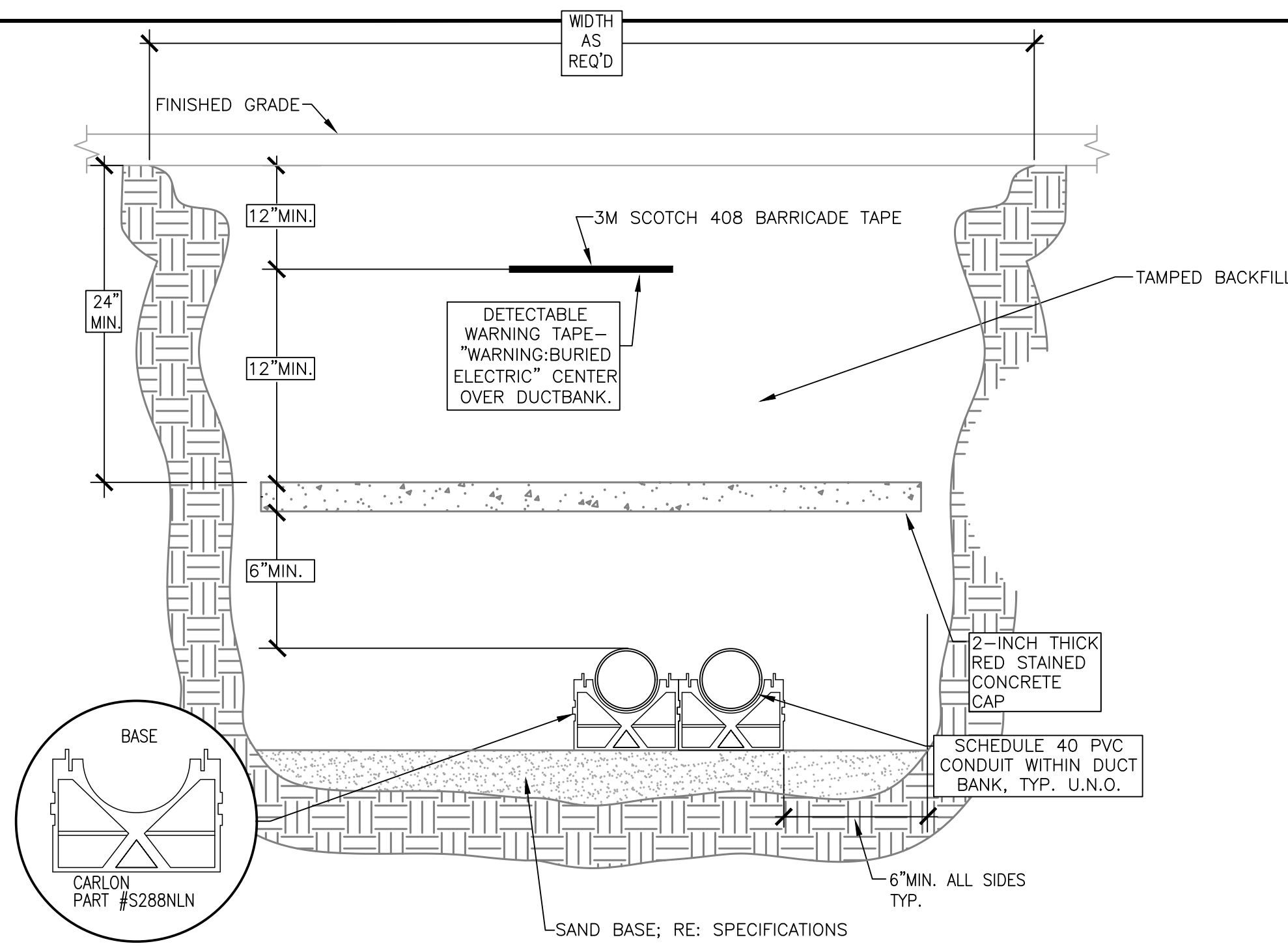
### EQUIP. CONN. SCHED. NOTES:

(RE: 'REMARKS' COLUMN IN EQUIPMENT CONNECTION SCHEDULE. THESE NOTES APPLY TO ALL EQUIPMENT ITEMS UNLESS NOTED OTHERWISE. TYPICAL)

- LOCAL DISCONNECTING MEANS IS FURNISHED BY EQUIPMENT MANUFACTURER. THE CONTRACTOR SHALL INSTALL DISCONNECT IF NOT MOUNTED UPON EQUIPMENT. FIELD-VERIFY PRIOR TO BID. FIELD-COORDINATE TERMINATION LOCATION FOR THE POWER SUPPLY CIRCUIT ON EQUIPMENT PRIOR TO ROUGH-IN.



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 rabroker@starofTEXASengineering.com  
 T18191-



**KEYED NOTES: (INDICATED BY "Ⓢ")**

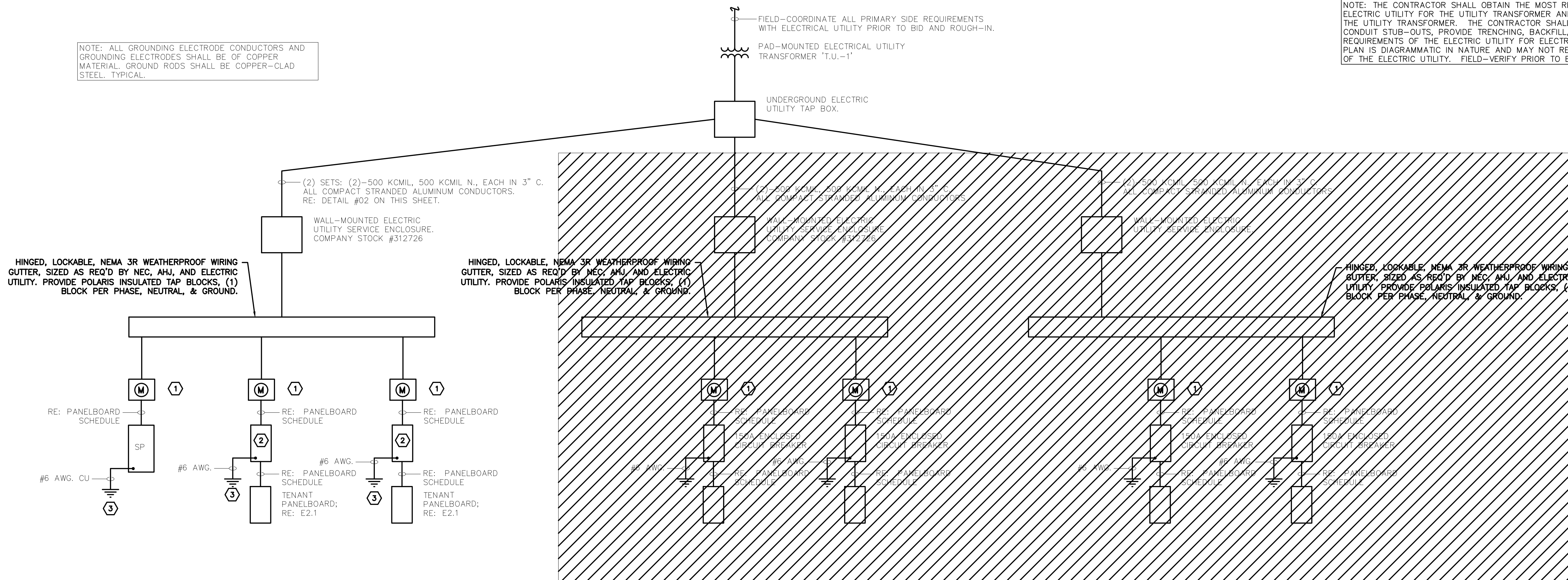
- UTILITY COMPANY ELECTRIC METER. COORDINATE WITH ELECTRIC DELIVERY COMPANY FOR EXACT REQUIREMENTS. COORDINATE EXACT LOCATION WITH THE ELECTRIC DELIVERY COMPANY, OWNER, AND ARCHITECT PRIOR TO ROUGH-IN. PROVIDE ALL INFRASTRUCTURE REQUIRED BY OWNER AND ELECTRIC DELIVERY COMPANY, INCLUDING, BUT NOT LIMITED TO: ALL CONDUCTORS, CONDUIT, ENCLOSURES, METER BASE, TERMINATIONS, BOXES, LUGS, ETC.
- ENCLOSED CIRCUIT BREAKER. 240VAC/150A/2P/NEMA 3R, UL LISTED AS SERVICE EQUIPMENT. RATED AND BRACED FOR A MINIMUM 65,000 AMPERES. TYPICAL U.N.O.
- CONNECT TO GROUNDING ELECTRODE SYSTEM. PROVIDE (2)-5/8" X 10" COPPER-CLAD STEEL GROUND RODS AND DRIVE A MINIMUM OF EIGHT-FEET (8') INTO THE EARTH. PROVIDE A CONNECTION TO THE CONCRETE REINFORCING STEEL (UPPER GROUND) IF CONCRETE IS INSTALLED IN CONTACT WITH THE EARTH AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. PROVIDE A CONNECTION TO THE MAIN INCOMING WATER PIPE IF METALLIC AND IN CONTACT WITH THE EARTH FOR A MINIMUM OF TEN-FEET (10') AS REQUIRED BY CODE. BOND ALL SYSTEMS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. REFER TO ELECTRICAL SPECIFICATIONS FOR MORE INFORMATION.

**02 CONDUIT DUCT BANK ELEVATION**

SCALE: N.T.S.

NOTE: ALL GROUNDING ELECTRODE CONDUCTORS AND GROUNDING ELECTRODES SHALL BE OF COPPER MATERIAL. GROUND RODS SHALL BE COPPER-CLAD STEEL, TYPICAL.

NOTE: THE CONTRACTOR SHALL OBTAIN THE MOST RECENT DESIGN PLANS FROM THE ELECTRIC UTILITY FOR THE UTILITY TRANSFORMER AND PRIMARY SIDE INFRASTRUCTURE TO THE UTILITY TRANSFORMER. THE CONTRACTOR SHALL INSTALL CONDUITS, PULLBOXES, CONDUIT STUB-OUTS, PROVIDE TRENCHING, BACKFILL, ETC. ACCORDING TO THE REQUIREMENTS OF THE ELECTRIC UTILITY FOR ELECTRIC SERVICE TO THE PROJECT. THIS PLAN IS DIAGRAMMATIC IN NATURE AND MAY NOT REPRESENT THE MOST RECENT DESIGN OF THE ELECTRIC UTILITY. FIELD-VERIFY PRIOR TO BID AND ROUGH-IN.



**01 ELECTRICAL ONE-LINE DIAGRAM - TRANSFORMER 'T.U.-1'**

SCALE: NO SCALE

PROFESSIONAL'S SEAL

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NICHOLAS E. RABROKER, P.E.  
104767 ON 10/28/2022

IT IS NOT INTENDED FOR CONSTRUCTION, BIDDING, REGULATORY APPROVAL OR PERMITTING PURPOSES.

| REVISION | DATE       | DESCRIPTION       |
|----------|------------|-------------------|
| 0        | 10-28-2022 | ISSUED FOR REVIEW |

SHEET DESCRIPTION  
**ELECTRICAL ONE-LINE DIAGRAM**

SHEET NUMBER

**E6.1**



# PLUMBING LEGEND

(NOTE: ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

| SYMBOL LEGEND |   |
|---------------|---|
| <b>VALVES</b> |   |
|               | UNION   |
|               | BUTTERFLY VALVE                                 |
|               | TEMPERATURE/ PRESSURE RELIEF VALVE              |
|               | GLOBE VALVE                                     |
|               | CHECK VALVE                                     |
|               | GATE VALVE                                      |
|               | GATE VALVE WITH C.I. VALVE BOX                  |
|               | PRESSURE REDUCING VALVE                         |
|               | STRAINER W/ BLOWDOWN GATE VALVE                 |
|               | THERMOWELL W/ THERMOMETER (TI)                  |
|               | PRESSURE GAUGE W/ GAUGE COCK (PI)               |
|               | BALL VALVE                                      |
|               | CIRCUIT SETTER, BALANCING VALVE (B&G CB-SERIES) |
|               | PLUG VALVE                                      |
|               | NEEDLE VALVE                                    |
|               | VALVE IN VERTICAL                               |
|               | DIRT LEG (6" LONG)                              |
| <b>PIPING</b> |   |
|               | DOMESTIC COLD WATER (DOMESTIC/POTABLE)          |
|               | DOMESTIC HOT WATER SUPPLY (120°F)               |
|               | DOMESTIC HOT WATER RETURN (120°F)               |
|               | SANITARY SEWER                                  |
|               | HVAC CONDENSATE DRAIN (UNDERGROUND)             |
|               | HVAC CONDENSATE DRAIN (ABOVE GROUND)            |
|               | SANITARY VENT                                   |
|               | STORM DRAIN                                     |
|               | EMERGENCY OVERFLOW DRAIN                        |
|               | DIRECTION OF FLOW                               |
|               | NATURAL GAS                                     |
|               | HIGH PRESSURE GAS                               |
|               | WATER HAMMER ARRESTOR (PLAN)                    |
|               | WATER HAMMER ARRESTOR (ISOMETRIC)               |
|               | FLOOR CLEANOUT                                  |
|               | WALL CLEANOUT                                   |
|               | P - TRAP  |
|               | ELBOW TURNING DOWN                              |
|               | ELBOW TURNING UP                                |
|               | CAPPED PIPE                                     |
|               | FLEXIBLE CONNECTION                             |
|               | CONCENTRIC PIPE REDUCER/INCREASER               |
|               | ECCENTRIC PIPE REDUCER/INCREASER                |
|               | PIPE SLEEVE                                     |
|               | DIRECTION OF SLOPE (DNWARD)                     |
|               | FLOOR DRAIN                                     |
|               | VENT THRU ROOF (RISER)                          |
|               | VENT THRU ROOF (PLAN)                           |
|               | SANITARY WASTE OR VENT STACK WASTE OR VENT NO.  |
|               | STORM DRAIN DOWNSPOUT                           |

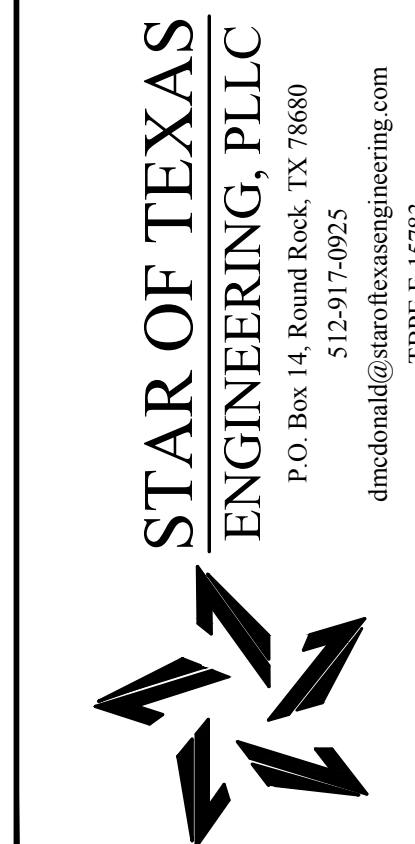
| ABBREVIATIONS |                                      |
|---------------|--------------------------------------|
|               | B. VA. BALL VALVE                    |
|               | BAL. VA. CKT. SETTER BALANCING VALVE |
|               | C.O. CLEANOUT                        |
|               | CW DOM. COLD WTR. (POTABLE)          |
|               | D CONDENSATE DRAIN LINE              |
|               | E.O.D. EMERGENCY OVERFLOW DRAIN      |
|               | EXT.FCO EXTERIOR FLOOR CLEANOUT      |
|               | FCO FLOOR CLEANOUT                   |
|               | FD (OR) SD FIRE / SMOKE DAMPER       |
|               | GT. V GATE VALVE                     |
|               | GL. V GLOBE VALVE                    |
|               | G NATURAL GAS                        |
|               | HPG HIGH PRESSURE NATURAL GAS        |
|               | HW DOMESTIC HOT WATER 140°F          |
|               | NPW NON-POTABLE WATER (COLD)         |
|               | PW DOMESTIC COLD WATER               |
|               | PI PRESSURE INDICATOR (GAUGE)        |
|               | RED. REDUCER                         |
|               | SAN SOIL & WASTE (ABOVE GRADE)       |
|               | SD STORM DRAIN                       |
|               | TI TEMP. INDICATOR (THERMOMETER)     |
|               | T.&P. TEMP. & PRESS. RELIEF VALVE    |
|               | VD VOLUME DAMPER                     |
|               | VIR VENT THRU ROOF                   |
|               | V SANITARY VENT                      |
|               | WHA WATER HAMMER ARRESTOR            |
|               | WCO WALL CLEANOUT                    |

| PLUMBING FIXTURE SCHEDULE            |   |  |  |                                |
|--------------------------------------|---|--|--|--------------------------------|
| MARK                                 | FIXTURE   | TRIM & ACCESSORIES   | SUPPORT  | REMARKS                        |
| WC-1                                 | WATER CLOSET, FLOOR MOUNTED FLUSH TANK, ADA, VORTEN NO. 3140-V-02     | STOP: MCGUIRE NO. 2169-YK SEAT: PROFLO NO. PFTSW2000WH FLOOR FLANGE: JONES NO. CF4-SERIES  | FLOOR MOUNTED  | ADA COMPLIANT, 1.28-GPF        |
| L-1                                  | LAVATORY, WALL HUNG, ADA KOHLER NO. K-1728                            | FAUCET: MOEN COMMERCIAL NO. 8800 MIXING VALVE: SYMMONS NO. 4-10(B) OFFSET STRAINER: MCGUIRE NO. 155WC STOPS: CHICAGO FAUCET NO. 1006 TRAP: MCGUIRE NO. 8872-C-F STOP & TRAP COVERS: PLUMBEREX 'HANDY SHIELD' | ROUGH-IN BRACKET - SIOUX CHIEF "PIPE TITAN" NUMBER 572-2X SERIES ZURN NO. ZR-1224/-SERIES LAVATORY CARRIER | ADA COMPLIANT, 0.5 GPM AERATOR |
| SK-1                                 | UTILITY SINK, KINGSFORD 25"x22" STAINLESS STEEL 6" DEEP               | FAUCET: MOEN COMMERCIAL NO. 67430 OFFSET STRAINER-MCGUIRE NO. 1151AWC STOPS: CHICAGO FAUCET NO. 1006 TRAP: MCGUIRE NO. 8812-C-F STOP & TRAP COVERS: PLUMBEREX  | ROUGH-IN BRACKET - SIOUX CHIEF "PIPE TITAN" NUMBER 572-2X SERIES   | ADA COMPLIANT, 2.2 GPM AERATOR |
| HB-1                                 | HOSE BIBB, WATTS MODEL NO. SCB-4                                      | EXPOSED, CAST BRASS HOSE BIDD WITH TAMPER-PROOF VACUUM BREAKER   | SET IN WALL  |                                |
| FCO                                  | FLOOR CLEANOUT J.R. SMITH NO. 4053-F-C-U-NB (OR WATTS APPROVED EQUAL) | HEAVY DUTY TOP, TAPER THREAD BRONZE PLUG, NICKLE BRONZE TOP  | SET IN CONCRETE FLOOR  | TOP FLUSH WITH FINISHED FLOOR  |
| WCO                                  | WALL CLEANOUT J.R. SMITH NO. 4532-U-Y (OR WATTS APPROVED EQUAL)       | NO-HUB CONNECTIONS, TAPER THREAD BRONZE PLUG, STAINLESS STEEL ACCESS COVER VANDAL PROOF SCREW  | SET IN WALL  | COVER FLUSH WITH FINISHED WALL |
| WHA                                  | WATER HAMMER ARRESTORS J.R. SMITH NO. 5000-SERIES                     | STAINLESS STEEL BELOWS TYPE  | IN LINE  |                                |
| WATER SUPPLY BALL VALVES (ABV. GRD.) | APOLLO 70-100   | 600 PSI, TEFLON SEAT, CAST BRASS, BLOMENT PROOF STEM, FULL PORT, CHROME BALL, THREADED END   | IN LINE  |                                |

| PLUMBING FIXTURE CONNECTION SCHEDULE |   |            |           |                  |                 |
|--------------------------------------|---|------------|-----------|------------------|-----------------|
| MARK                                 | FIXTURE   | COLD WATER | HOT WATER | WASTE (SANITARY) | VENT (SANITARY) |
| WC-1                                 | WATER CLOSET, FLOOR MOUNTED FLUSH TANK, VITREOUS CHINA, ADA         | 1/2"       | -         | 4"               | 2"              |
| L-1                                  | LAVATORY, WALL HUNG, VITREOUS CHINA, ADA                            | 1/2"       | 1/2"      | 2"               | 2"              |
| SK-1                                 | UTILITY SINK, DOUBLE COMPARTMENT, COUNTER TOP, STAINLESS STEEL, ADA | 1/2"       | 1/2"      | 2" W/ 2"WCO      | -               |
| HB-1                                 | HOSE BIBB   | 1/2"       | -         | -                | -               |

| PIPING SCHEDULE |                            |                     |                        |                                |                        |
|-----------------|----------------------------|---------------------|------------------------|--------------------------------|------------------------|
| SYMBOL          | SERVICE                    | PIPE MATERIAL       | TYPE JOINT             | FITTINGS                       | TEST                   |
|                 | SANITARY WASTE             | SCHEDULE 40 PVC DWV | PRIME AND SOLVENT WELD | SCHEDULE 40 PVC FITTINGS (DWV) | PER LOCAL JURISDICTION |
|                 | SANITARY VENT              | SCHEDULE 40 PVC DWV | PRIME AND SOLVENT WELD | SCHEDULE 40 PVC FITTINGS (DWV) | PER LOCAL JURISDICTION |
|                 | DOMESTIC WATER BELOW GRADE | VEGA PEX PIPING     | VEGA PEX SOLUTIONS     | VEGA PEX FITTINGS              | PER LOCAL JURISDICTION |
|                 | DOMESTIC WATER ABOVE GRADE | VEGA PEX PIPING     | VEGA PEX SOLUTIONS     | VEGA PEX FITTINGS              | PER LOCAL JURISDICTION |

NOTE:  
ALL DOMESTIC WATER PIPING - BOTH HOT AND COLD SHALL BE INSULATED WITH PRE-FORMED FIBERGLASS PIPE INSULATION (MIN. THICKNESS=1", DOMESTIC HOT WATER 1-1/2" AND LARGER SHALL BE MIN. 1-1/2" THICKNESS) AS MANUFACTURED BY OWENS-CORNING SSL-11 OR EQUAL. INSTALLATION WILL INCLUDE "ALL SERVICE JACKET" WITH SELF-SEALING LAP JOINTS. PROPER SEALANTS AND ACCESSORIES SHALL BE USED TO ACHIEVE MANUFACTURER COMPLETE RECOMMENDED INSTALLATION. FLAME SPREAD RATING SHALL BE 25 OR LESS. SMOKE DEVELOPMENT RATING WILL BE 50 OR LESS. INSULATED PIPE SHALL BE INSTALLED SUCH THAT INSULATION REMAINS FULL THICKNESS AND WATER VAPOR BARRIER REMAINS INTACT.



MAYFIELD OFFICE PARK  
2-UNIT BUILDING  
3835 COUNTY ROAD 175  
LEANDER, TX 78641

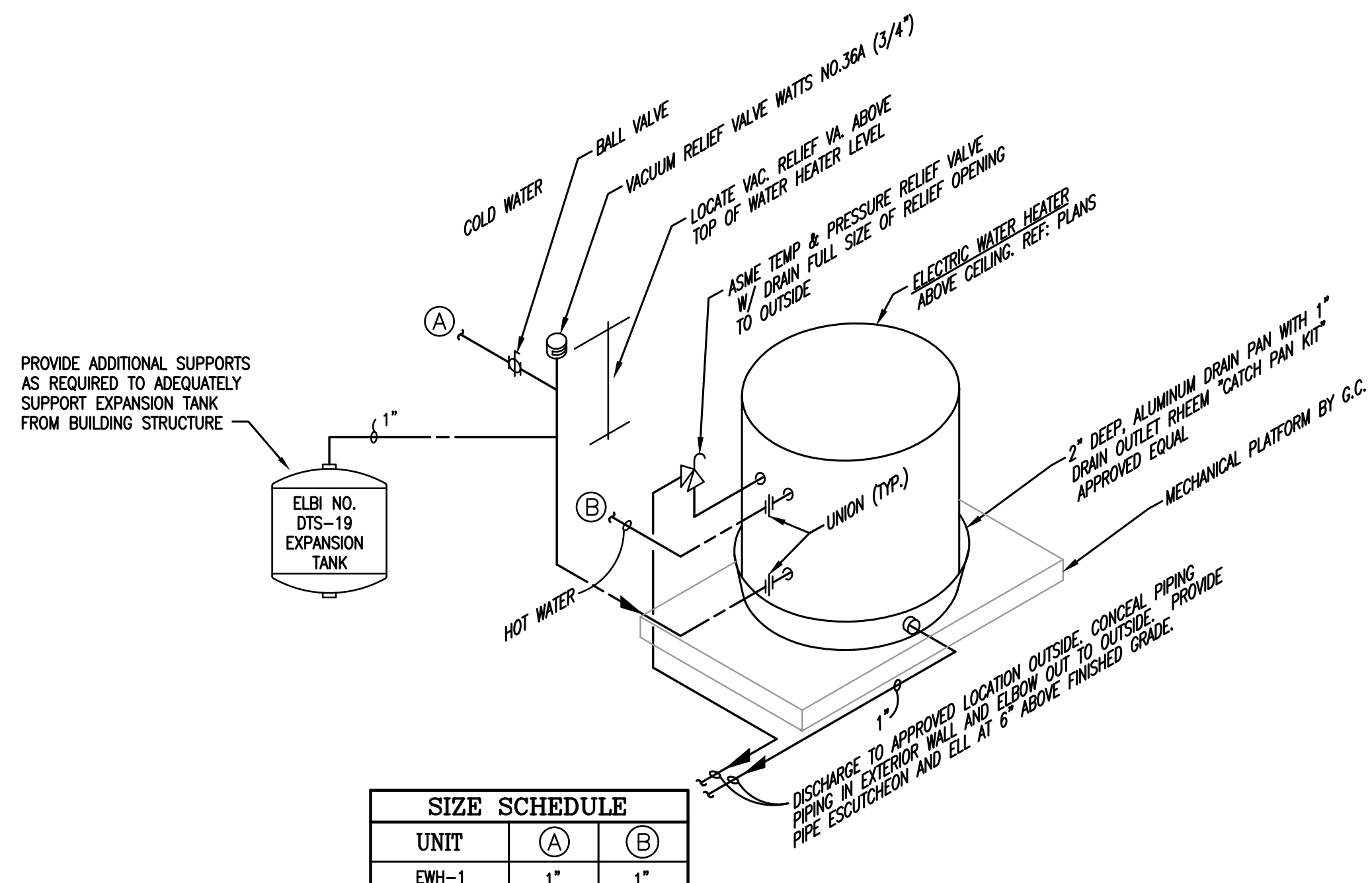
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| REVISION HISTORY | DATE       |
|------------------|------------|
| DESCRIPTION      | 02-22-2023 |
| BY               |            |
| REVIEW           |            |

SHEET DESCRIPTION  
Symbols/Legend & Abbr. - PLBG

SHEET NUMBER  
P1-0

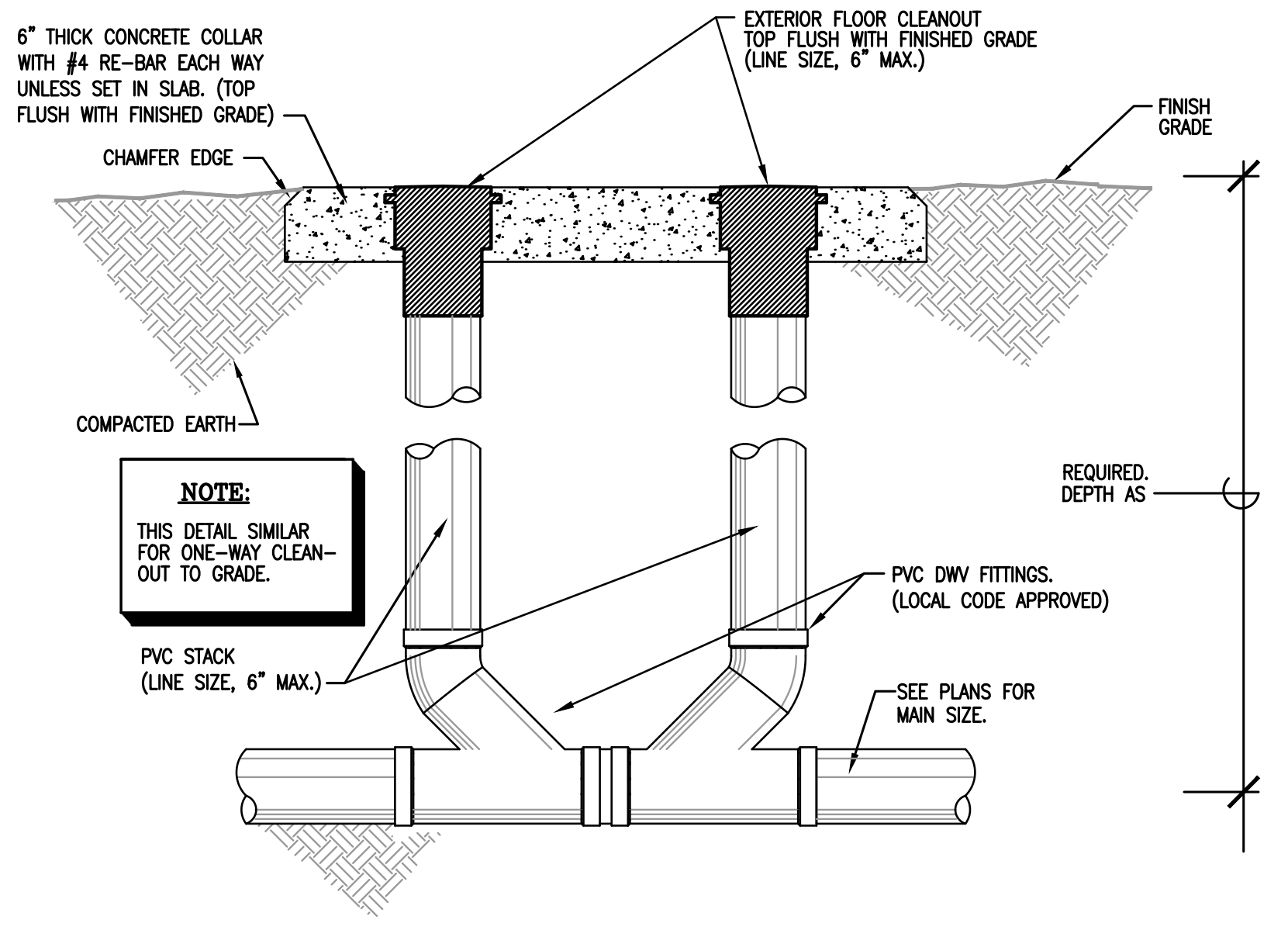




| SIZE SCHEDULE |     |     |
|---------------|-----|-----|
| UNIT          | (A) | (B) |
| EWH-1         | 1"  | 1"  |

| ELECTRIC WATER HEATER SCHEDULE |                            |    |                     |                            |                   |
|--------------------------------|----------------------------|----|---------------------|----------------------------|-------------------|
| MARK                           | RECOVERY GPH AT 100°F RISE | KW | VOLTS, PHASE CYCLES | STORAGE CAPACITY (GALLONS) | REMARKS           |
| EWH-1                          | 24                         | 2  | 120/1/60            | 6                          | RHEEM NO. 81VP-6S |

1 WATER HEATER DETAIL  
SCALE: NOT TO SCALE



2 TYPICAL DOUBLE TWO-WAY EXTERIOR FLOOR CLEANOUT DETAIL  
SCALE: NOT TO SCALE

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| 0 REVIEW         | 02-22-2023 |

SHEET DESCRIPTION  
Plumbing Details

SHEET NUMBER  
P3-1