

NORTH BUNCOMBE MIDDLE SCHOOL: KILN ROOM CONNEX

PROJECT DESCRIPTION:

WORK INVOLVES RENOVATIONS TO A STANDARD 8'X20' SHIPPING CONTAINER FOR PURPOSE OF A KILN ROOM TO SUPPORT THE ARTS PROGRAM. THE CONTAINER IS PROVIDED BY THE OWNER'S VENDOR AND IS UPFIT WITH A PERSONNEL DOOR AND IS PAINTED ON THE EXTERIOR ONLY.

THE CONTRACTOR'S RESPONSIBILITIES INCLUDE: PERMIT COSTS; ACCEPTANCE OF THE CONTAINER UPON DELIVERY; INSTALLATION OF A FOOTING, FOUNDATION WITH SLAB AND ACCESS RAMP WITH HANDRAILS; SETTING OF THE CONTAINER ON THE FOUNDATION; EXTENSION OF ELECTRICAL CIRCUITS FROM THE OWNER'S MAIN ELECTRICAL YARD UNDERGROUND INTO THE CONTAINER; CIRCUITRY AND DEVICES TO SERVE THE KILNS, LIGHTING AND EQUIPMENT; PROVISION AND INSTALLATION OF A PTAC HVAC THRU WALL; PAINTING AND FINISHES AND ALL OTHER WORK SHOWN ON THE DRAWINGS TO PROVIDE FOR A TURN-KEY PROJECT.

THE OWNER WILL INSTALL THE KILNS UPON COMPLETION AND WILL MAKE CONNECTIONS TO THE CONTRACTOR PROVIDED ELECTRICAL AND EXHAUST.

PROJECT SCHEDULE:

PREBID MEETING ON SITE OCT. 8, 2019 @ 1:30PM
 BID DATE: OCT. 17TH, 2019 4PM
 COMPLETION DATE: JANUARY 7, 2020 DATE CERTAIN
 LIQUIDATED DAMAGES OF \$300/DAY APPLY TO LATE COMPLETION

CONTACTS:

BIDDING & PURCHASING: MS. TIFFANY McCANTS, BCS PURCHASING SUPERVISOR PHONE: (828) 255-5891

DESIGN TEAM:

ARCHITECT: TIMOTHY FIERLE, AIA, BCS FACILITIES DIRECTOR PHONE: (828) 255-5916

PLUMBING SUD ASSOC., JEROME HAY, PE (828) 255-4691
 MECHANICAL
 ELECTRICAL
 LIFE SAFETY SYSTEMS

SCHOOL CONTACT:

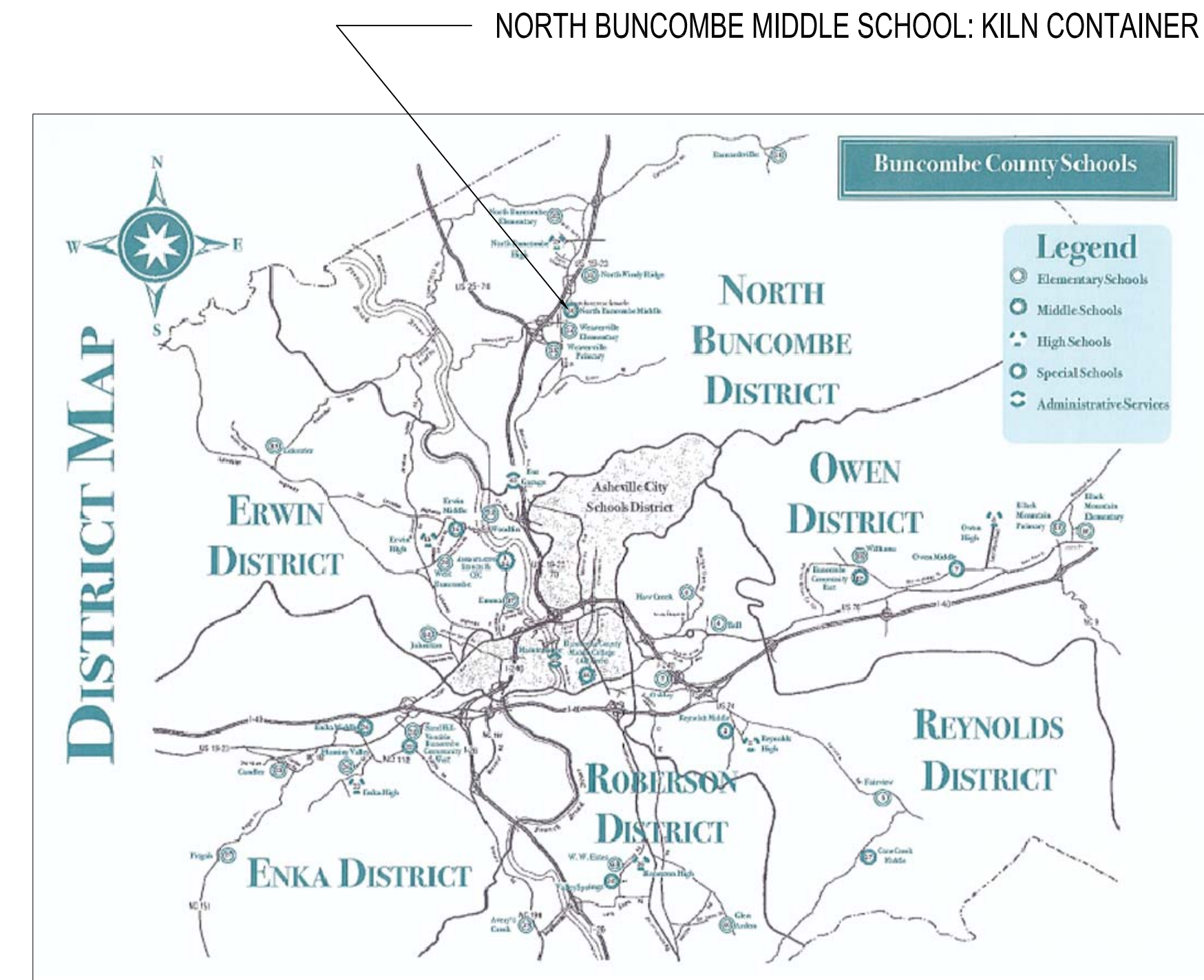
MR. KEVIN YONTZ, ASSISTANT PRINCIPAL (828) 645-7944

SHEET INDEX

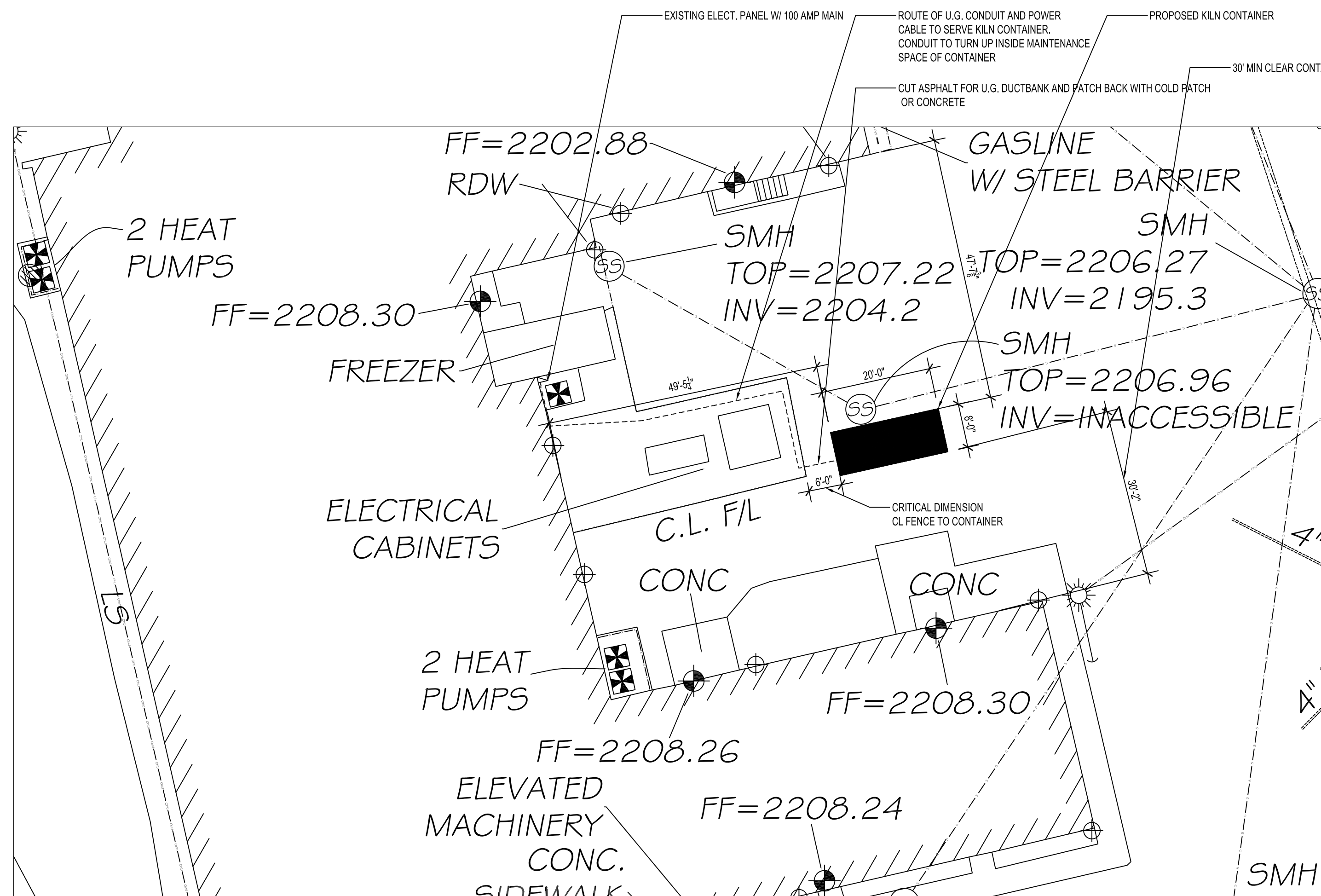
| | |
|--------|---------------------|
| C1 | COVER AND SITE PLAN |
| A102.1 | RENOVATION PLAN |
| M101 | MECHANICAL PLAN |
| E101 | ELECTRICAL PLAN |
| E102 | ELECTRICAL: GENERAL |

No. BUNCOMBE M.S. KILN ROOM CONNEX

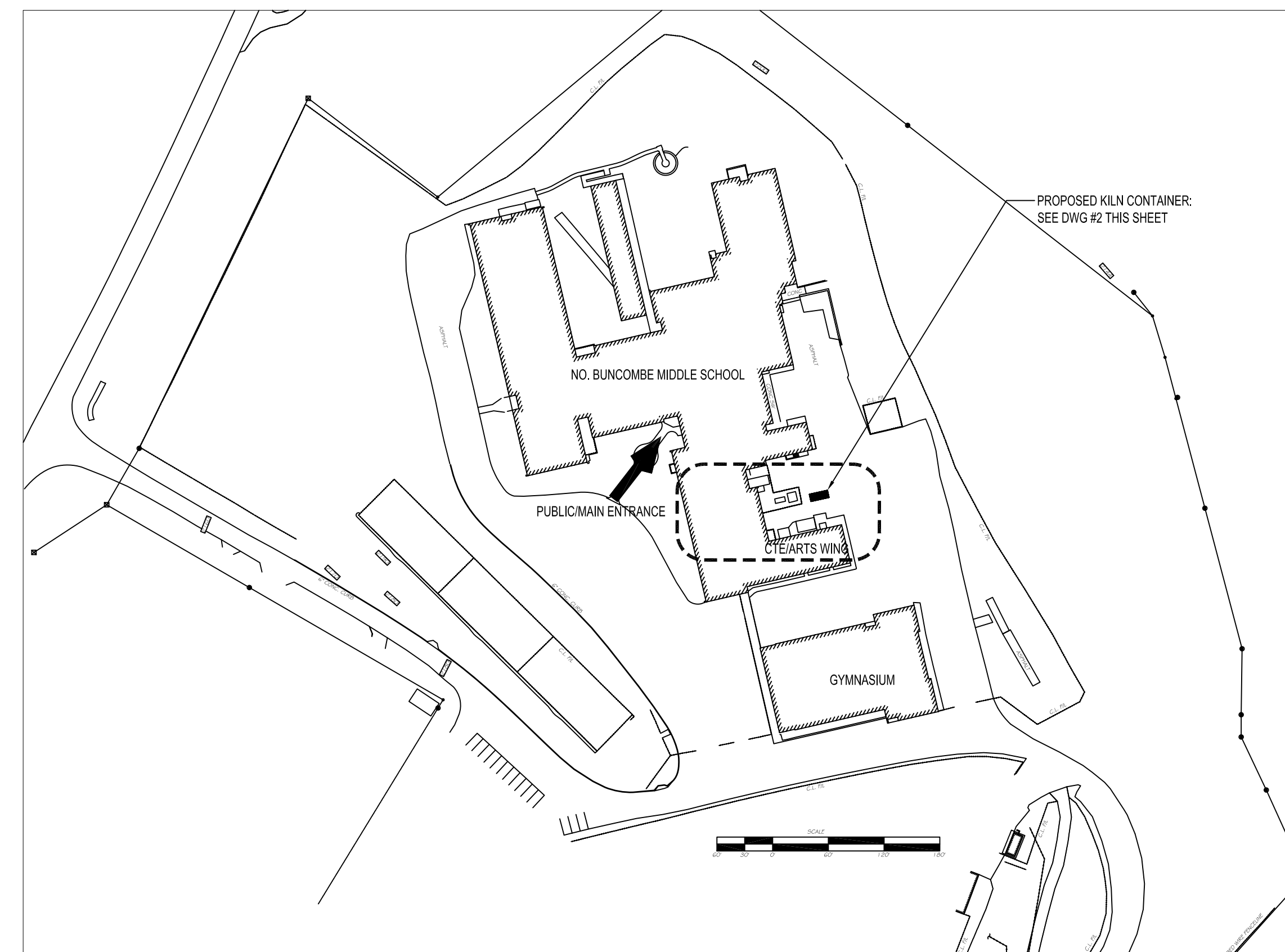
51 No. BUNCOMBE SCHOOL Rd.
WEAVERVILLE, NC 28787



VICINITY MAP



2 PARTIAL SITE PLAN
1/16"=1'-0"



1 SITE PLAN
NTS

Buncombe County Schools
Facilities and Planning

TIMOTHY M. FIERLE AIA, Director
 175 Bingham Road □ Asheville, N.C. 28806-3800
 Phone: (828) 255-5916 Fax: (828) 255-5923



BID DATE: October 17, 2019
 PROJECT: NBMS_KILN
 ISSUE:
 BID SET

DESIGNED BY: TMF
 DWG DATE: 9/29/19

C1
SITE PLAN

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Buncombe County Schools Facilities and Planning

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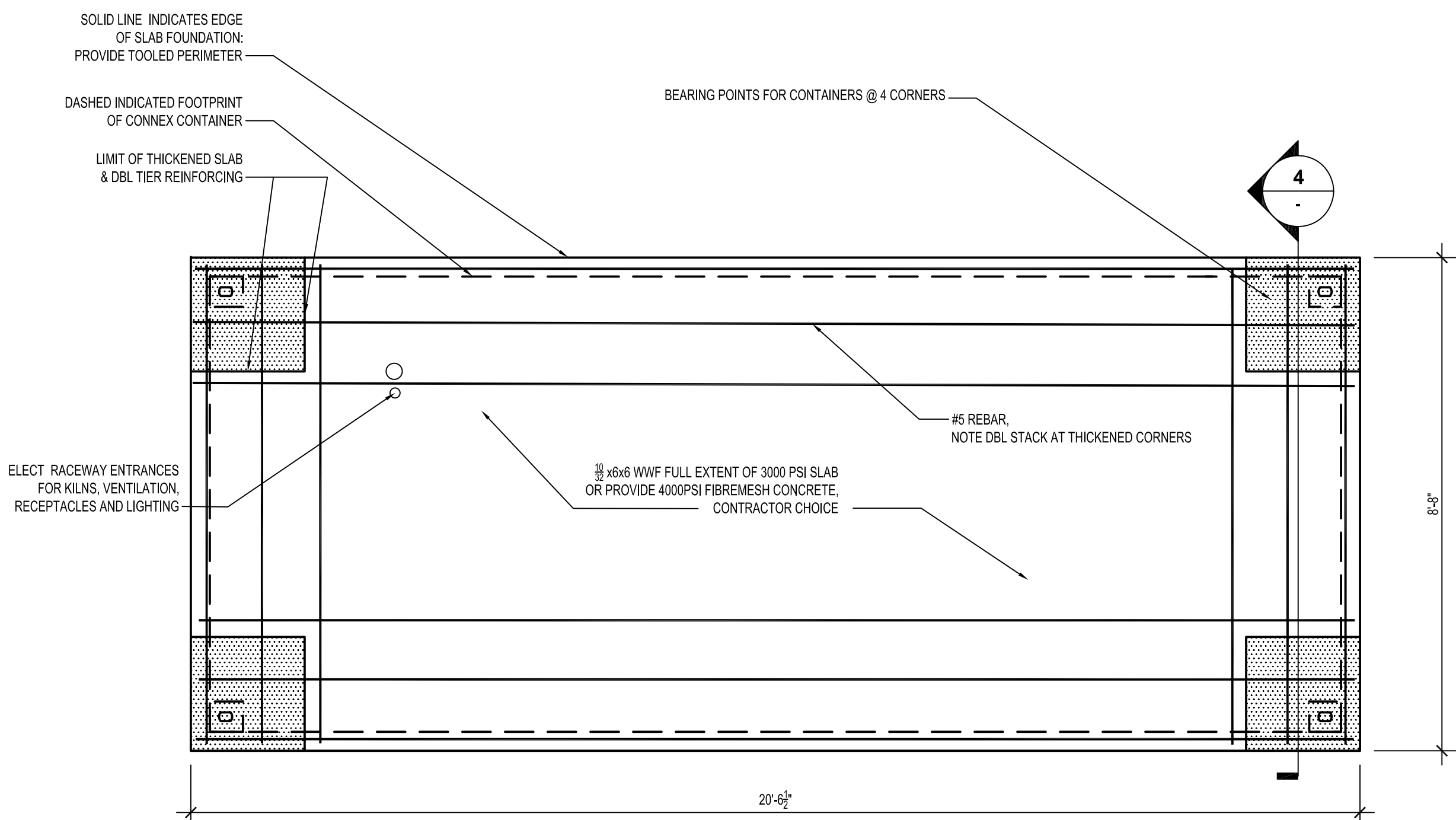
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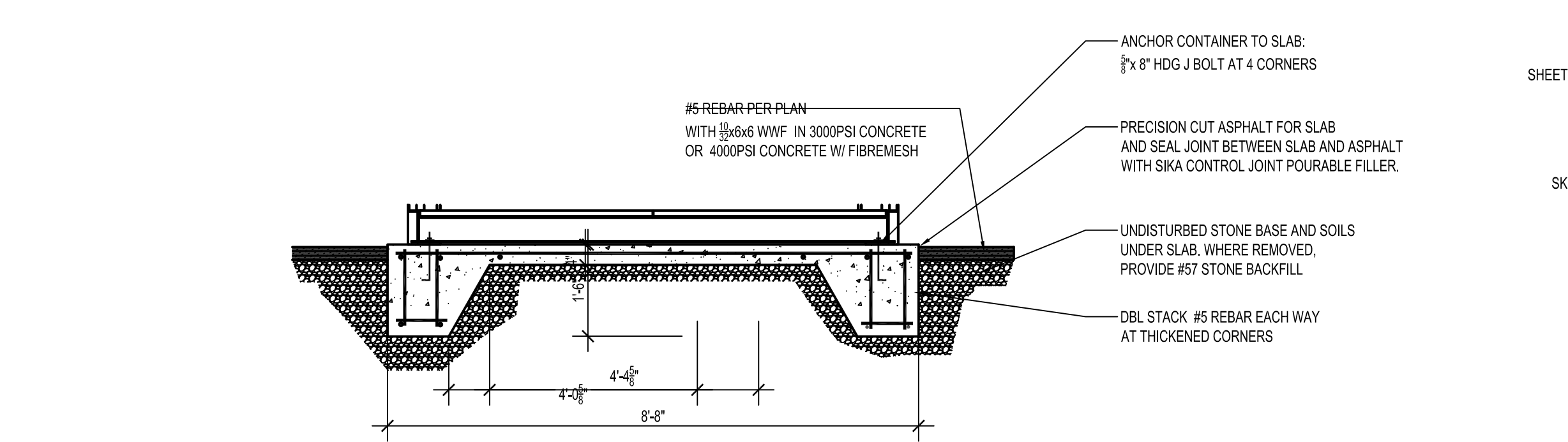
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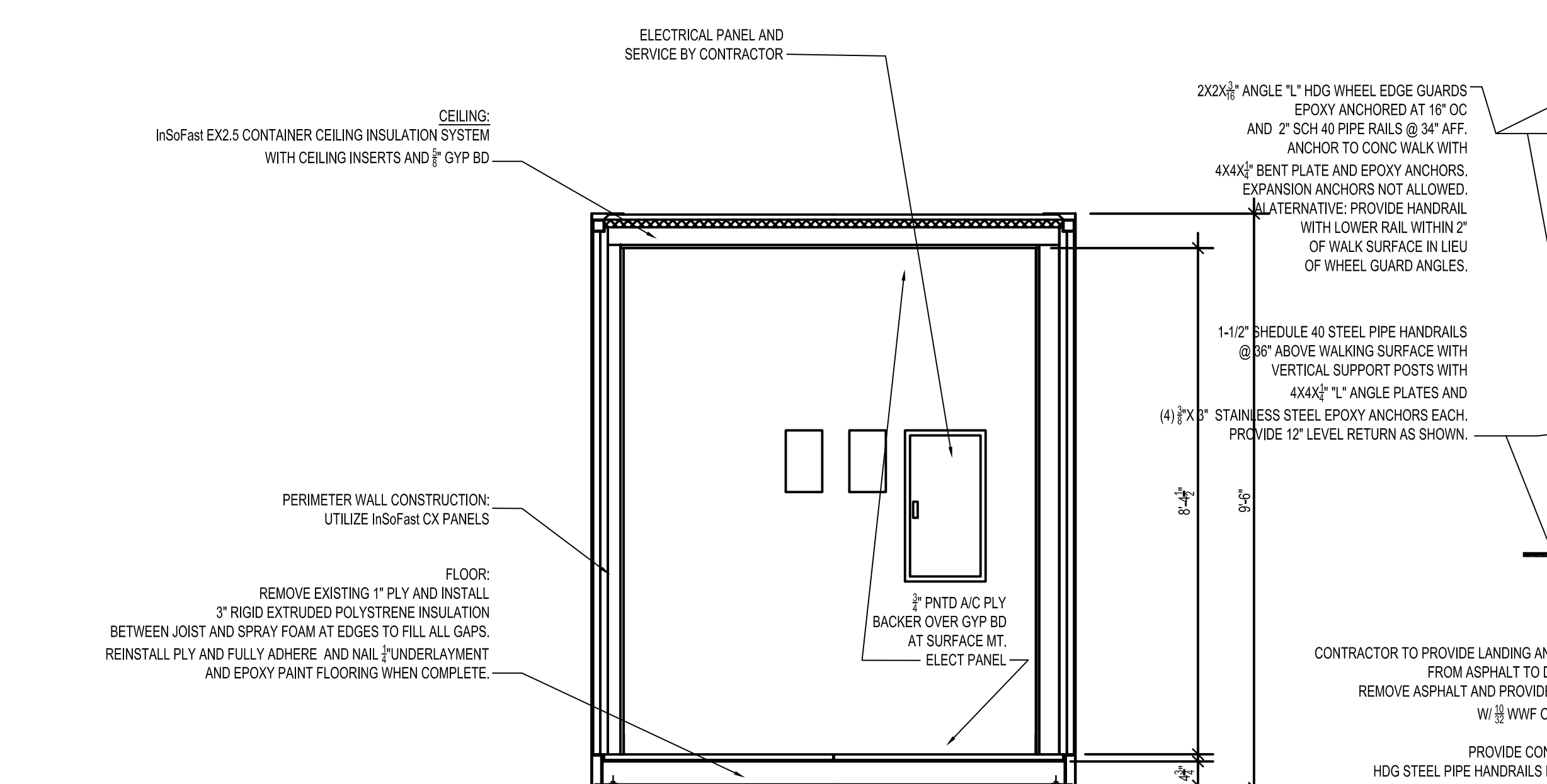
A102.1 RENOVATION PLAN



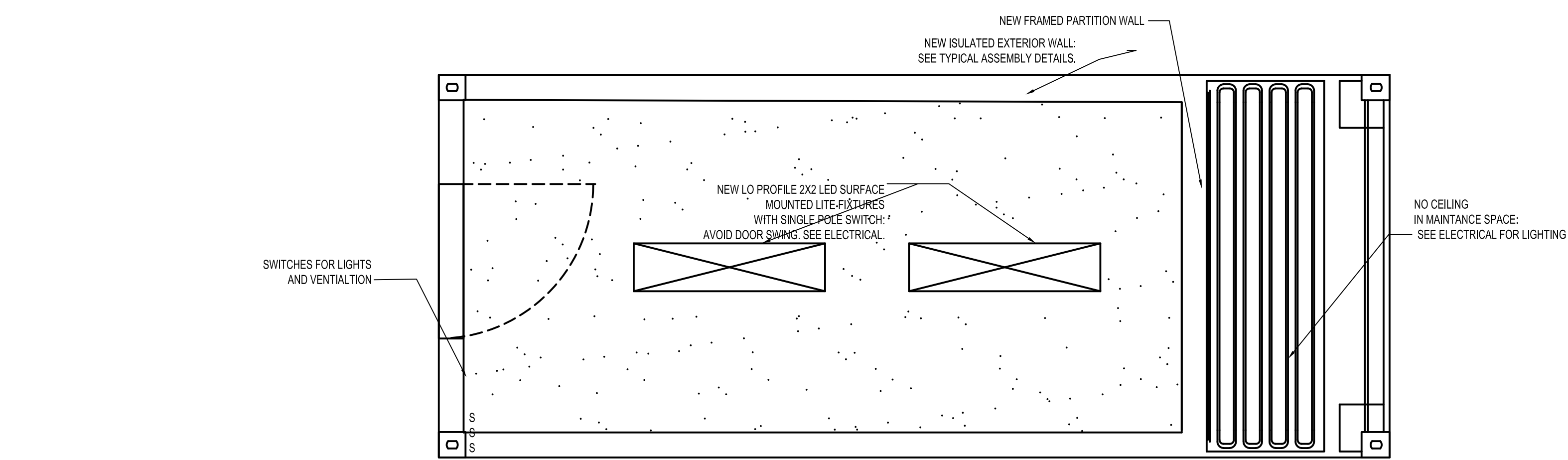
3 FOUNDATION PLAN
1/2" = 1'-0"



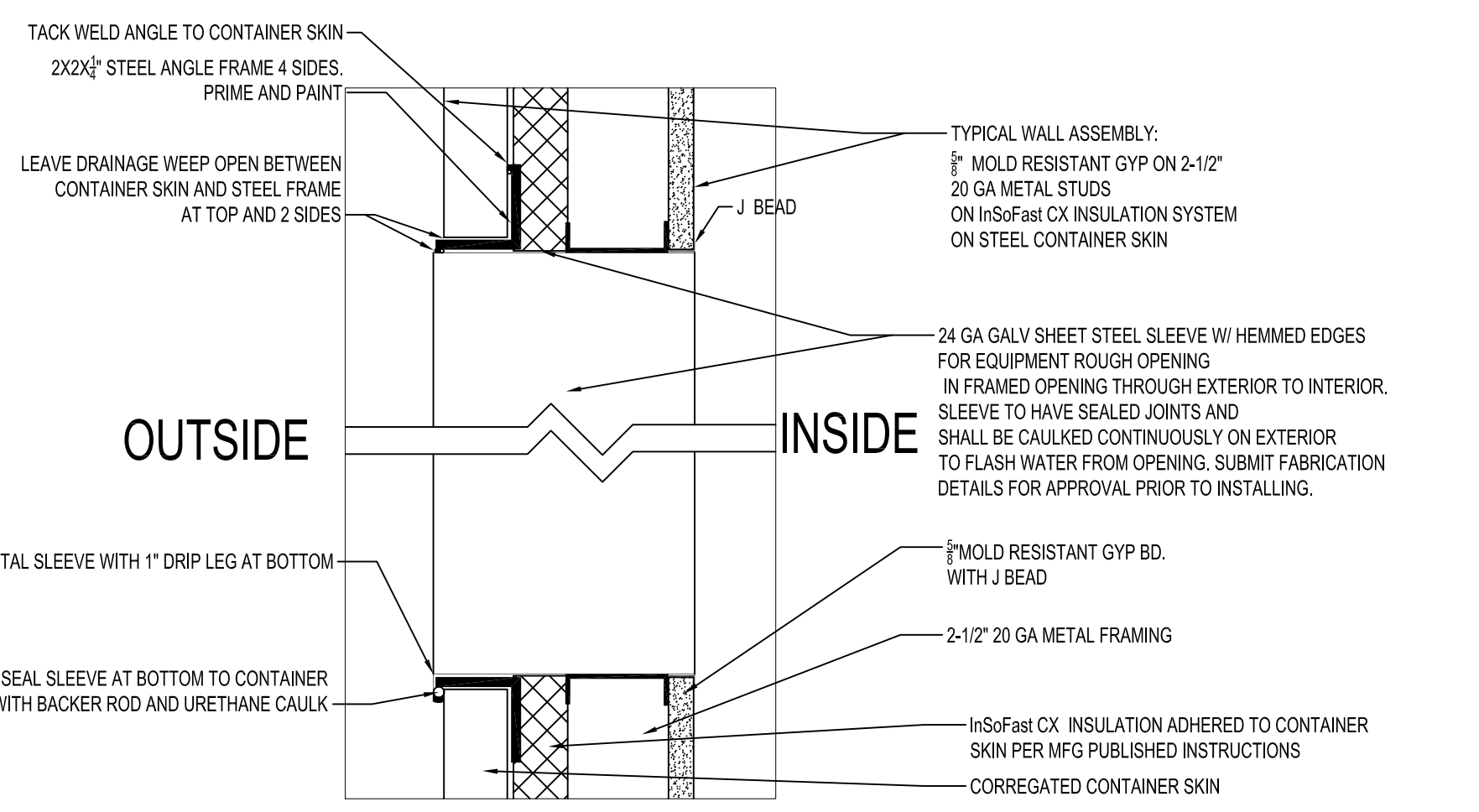
4 GRADE BEAM FOUNDATION SECTION
1/2" = 1'-0"



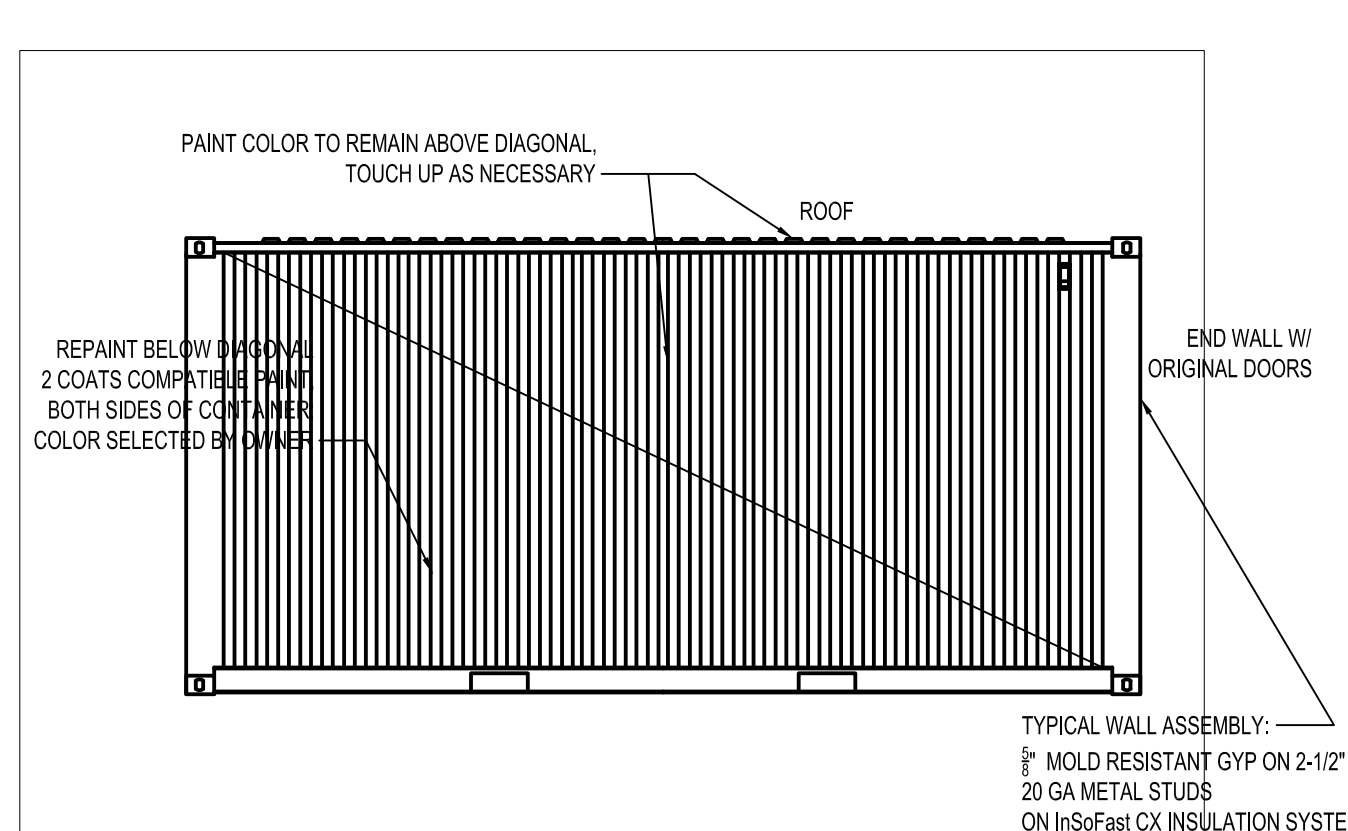
5 SECTION: WALL AND CEILING CONSTRUCTION
1/2" = 1'-0"



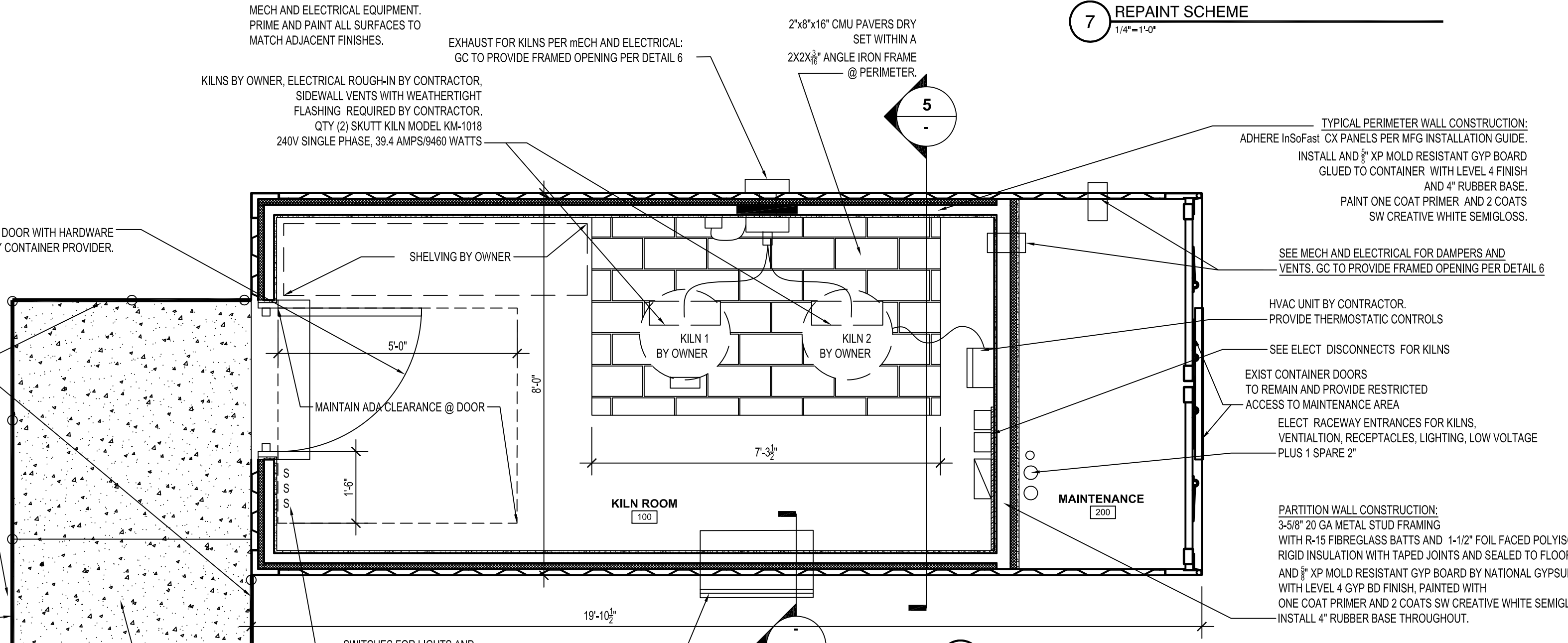
2 REFLECTED CEILING RENOVATION PLAN
1/2" = 1'-0"



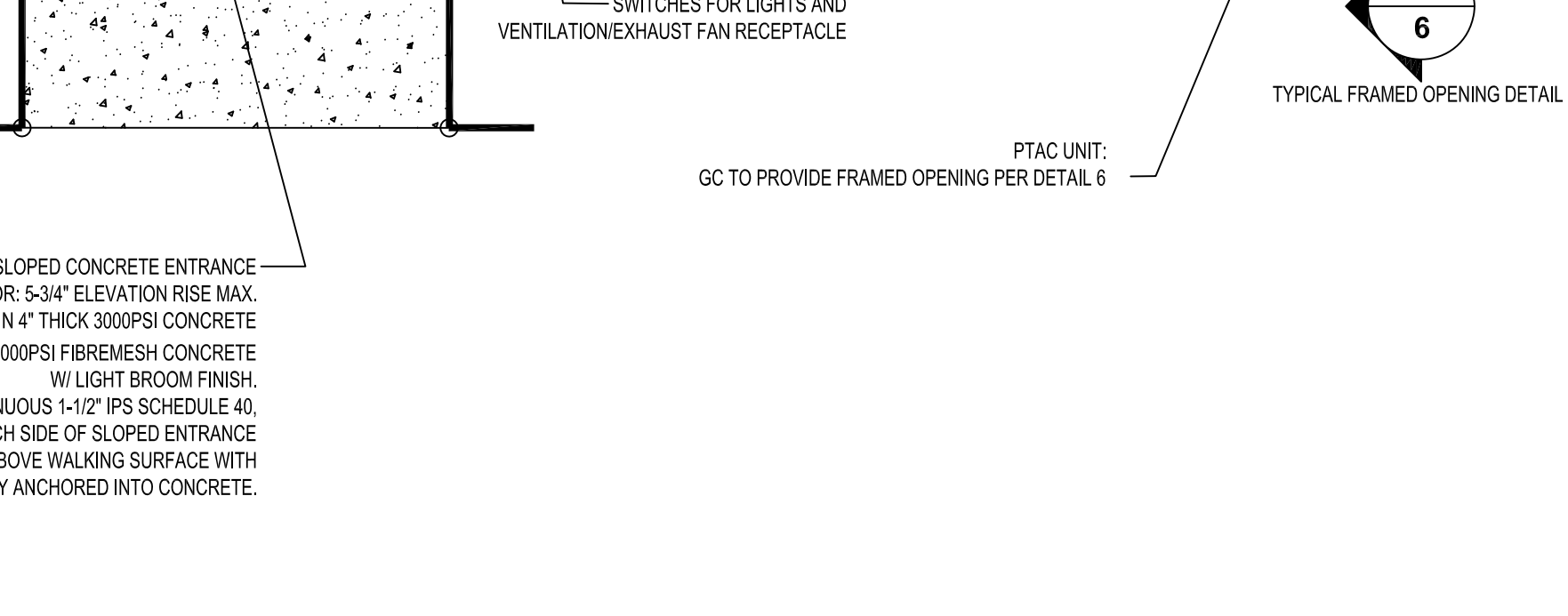
6 FRAMED OPENING IN EXTERIOR SKIN BY GC
3/8" = 1'-0"



7 REPAINT SCHEME
1/4" = 1'-0"



1 RENOVATION PLAN
1/2" = 1'-0"



6 TYPICAL FRAMED OPENING DETAIL
1/2" = 1'-0"

NO PENETRATION OF CONTAINER SKIN IS ALLOWED UNLESS SPECIFICALLY APPROVED BY OWNER FOR PME PENETRATIONS AND PROPERLY FLASHED AND SEALED.

CONTAINER HAS BEEN PAINTED ON EXTERIOR BY CONTAINER PROVIDER. TOUCH UP BY GC REQUIRED WHERE PAINT FINISH IS DAMAGED DURING CONSTRUCTION OR SETTING IN PLACE. GC TO REPAINT ALL DOORS AND DOORFRAME COMPONENTS AND PAINT 1/2 OF ONE LONG SIDE OF CONTAINER WITH A DIAGONAL GRAPHIC. 2 COLORS TO BE SELECTED BY OWNER.

BASE/RID WALL AND CEILING INSULATION INSOFast CONTAINER INSULATION SYSTEM INSTALLED PER MFG INSTALLATION GUIDE CONSISTING OF:
SIDEWALLS = CX PANELS
ENDWALLS = END WALL INSERTS + UXX.0 PANELS
CEILING = CEILING INSERTS + EX2.5 PANELS
1/2 ABUSE AND MOLD RESISTANT GYP BD TO BE INSTALLED, FINISHED AND PAINTED SW CREATIVE WHITE SEMI-GLOSS.

CONTRACTOR TO PROVIDE LANDING AND SLOPED CONCRETE ENTRANCE FROM ASPHALT TO DOOR: 5-3/4" ELEVATION RISE MAX. REMOVE ASPHALT AND PROVIDE MIN 4" THICK 3000PSI CONCRETE W/ 2" WWF OR 4000PSI FIBREMESH CONCRETE W/ LIGHT BROOM FINISH. PROVIDE CONTINUOUS 1-1/2" IPS SCHEDULE 40 HDG STEEL PIPE HANDRAILS EACH SIDE OF SLOPED ENTRANCE AT 36" ABOVE WALKING SURFACE WITH SUPPORT POSTS ANGLE PLATED AND EPOXY ANCHORED INTO CONCRETE.

KILNS BY OWNER. ELECTRICAL ROUGH-IN BY CONTRACTOR. SIDEWALL VENTS WITH WEATHERTIGHT FLASHING REQUIRED BY CONTRACTOR. QTY (2) SKUTT KILN MODEL KM-1018 240V SINGLE PHASE, 39.4 AMPS/9480 WATTS

2"x8"x16" CMU PAVERS DRY SET WITHIN A 2X2X4" ANGLE IRON FRAME @ PERIMETER.

TYPICAL PERIMETER WALL CONSTRUCTION:
ADHERE INSOFast CX PANELS PER MFG INSTALLATION GUIDE. INSTALL AND 1/2" MOLD RESISTANT GYP BOARD GLUED TO CONTAINER WITH LEVEL 4 FINISH AND 4" RUBBER BASE. PAINT ONE COAT PRIMER AND 2 COATS SW CREATIVE WHITE SEMI-GLOSS.

SEE MECH AND ELECTRICAL FOR DAMPERS AND VENTS. GC TO PROVIDE FRAMED OPENING PER DETAIL 6

HVAC UNIT BY CONTRACTOR. PROVIDE THERMOSTATIC CONTROLS

SEE ELECT DISCONNECTS FOR KILNS

EXIST CONTAINER DOORS TO REMAIN AND PROVIDE RESTRICTED ACCESS TO MAINTENANCE AREA

ELECT RACEWAY ENTRANCES FOR KILNS. VENTILATION, RECEPTACLES, LIGHTING, LOW VOLTAGE PLUS 1 SPARE 2"

PARTITION WALL CONSTRUCTION:
3-5/8" 20 GA METAL STUD FRAMING WITH R-15 FIBREGLASS BATTS AND 1-1/2" FOIL FACED POLYISO RIGID INSULATION WITH TAPED JOINTS AND SEALED TO FLOOR. AND 1/2" MOLD RESISTANT GYP BOARD BY NATIONAL GYPSUM WITH LEVEL 4 GYP BD FINISH, PAINTED WITH ONE COAT PRIMER AND 2 COATS SW CREATIVE WHITE SEMI-GLOSS. INSTALL 4" RUBBER BASE THROUGHOUT.

GC PROVIDE FRAMED, WATERTIGHT ROUGH OPENING REQUIRED BY MECH AND ELECTRICAL EQUIPMENT. PRIME AND PAINT ALL SURFACES TO MATCH ADJACENT FINISHES.

INSOFast CX INSULATION ADHERED TO CONTAINER SKIN PER MFG PUBLISHED INSTRUCTIONS

2-1/2" 20 GA METAL FRAMING

1" MOLD RESISTANT GYP BD WITH J BEAD

24 GA GALV SHEET STEEL SLEEVE W/ HEMMED EDGES FOR EQUIPMENT ROUGH OPENING IN FRAMED OPENING THROUGH EXTERIOR TO INTERIOR. SLEEVE TO HAVE SEALED JOINTS AND SHALL BE CAULKED CONTINUOUSLY ON EXTERIOR TO FLASH WATER FROM OPENING. SUBMIT FABRICATION DETAILS FOR APPROVAL PRIOR TO INSTALLING.

TYPICAL WALL ASSEMBLY:
1/2" MOLD RESISTANT GYP ON 2-1/2" 20 GA METAL STUDS ON INSOFast CX INSULATION SYSTEM ON STEEL CONTAINER SKIN

TACK WELD ANGLE TO CONTAINER SKIN - 2X2X4" STEEL ANGLE FRAME 4 SIDES. PRIME AND PAINT

LEAVE DRAINAGE WEEP OPEN BETWEEN CONTAINER SKIN AND STEEL FRAME AT TOP AND 2 SIDES

OUTSIDE

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SHEET METAL SLEEVE WITH 1" DRIP LEG AT BOTTOM

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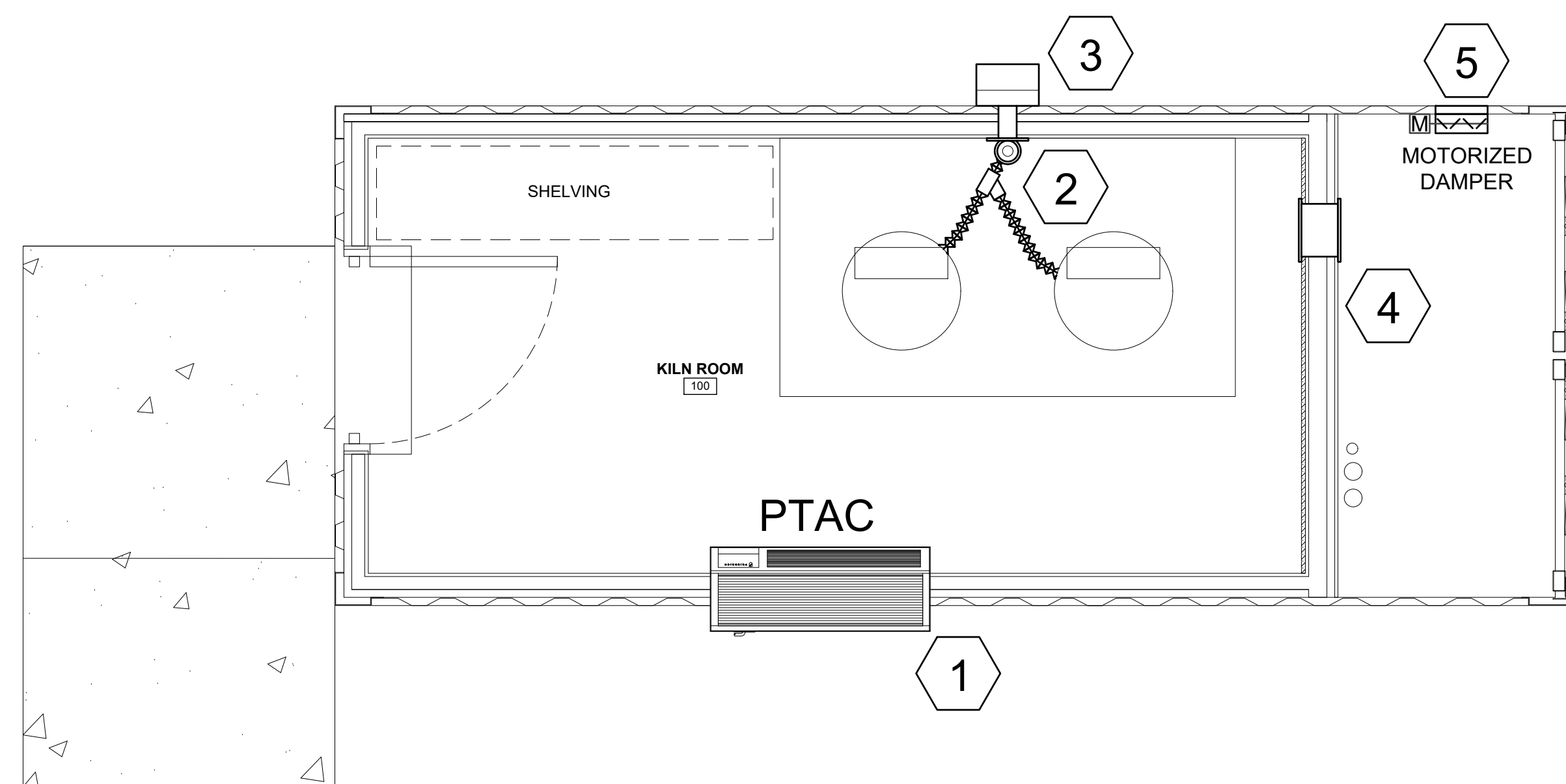
INSOFast CX INSULATION ADHERED TO CONTAINER SKIN PER MFG PUBLISHED INSTRUCTIONS

2-1/2" 20 GA METAL FRAMING

1" MOLD RESISTANT GYP BD WITH J BEAD

24 GA GALV SHEET STEEL SLEEVE W/ HEMMED EDGES FOR EQUIPMENT ROUGH OPENING IN FRAMED OPENING THROUGH EXTERIOR TO INTERIOR. SLEEVE TO HAVE SEALED JOINTS AND SHALL BE CAULKED CONTINUOUSLY ON EXTERIOR TO FLASH WATER FROM OPENING. SUBMIT FABRICATION DETAILS FOR APPROVAL PRIOR TO INSTALLING.

TYPICAL WALL AS



1 MECHANICAL - CONSTRUCTION
M101 1/2" = 1'

KEYED NOTES

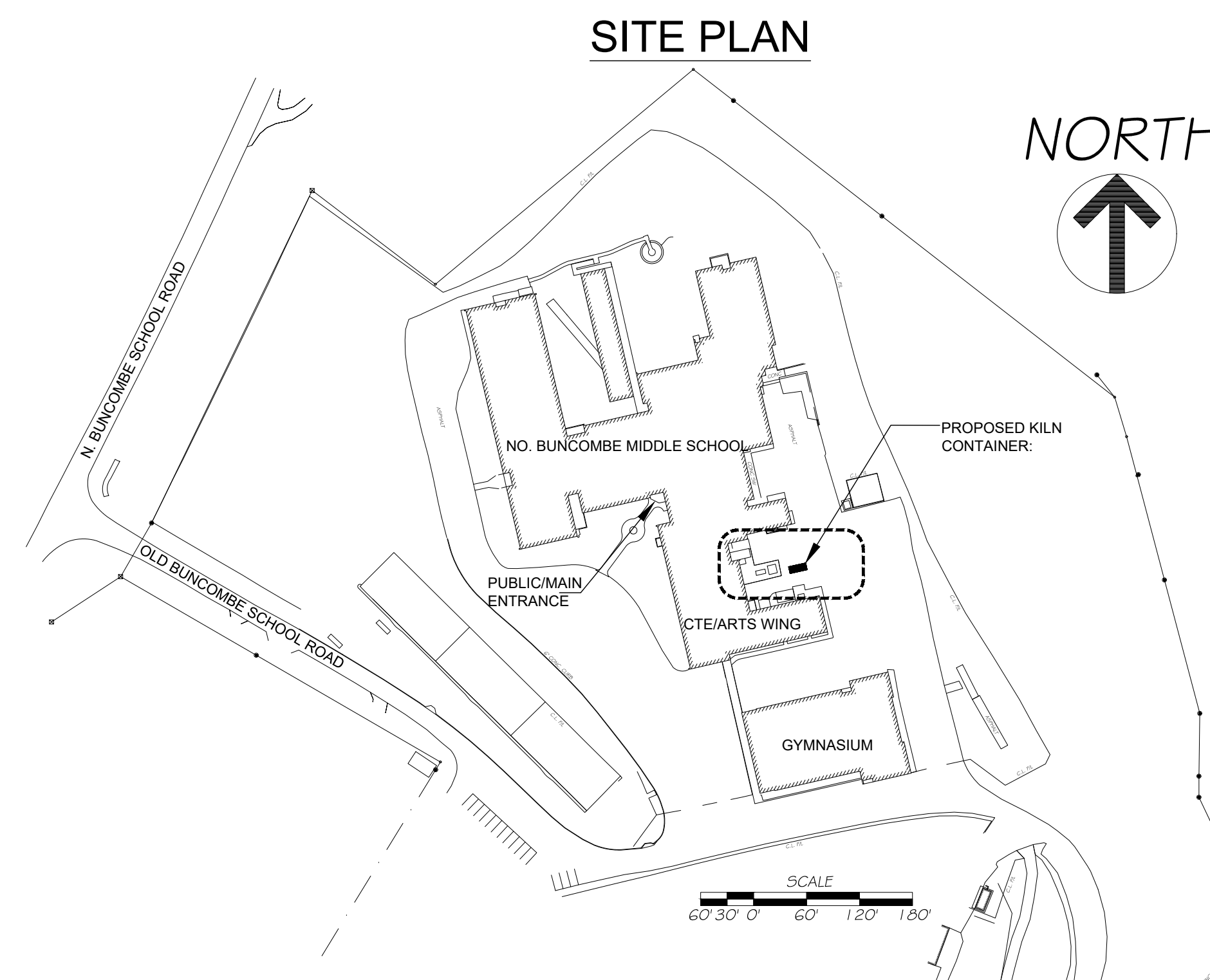
- 1 INSTALL PTAC IN WALL SLEEVE. COORDINATE EXACT LOCATION AND INSTALLATION WITH ARCHITECTURAL DRAWINGS.
- 2 KILN EXHAUST DUCT AND FAN INSTALLED BY KILN INSTALLER.
- 3 PROVIDE WALL HOOD WITH BIRD SCREEN AND DAMPER. GREENHECK WC - 8x8. COORDINATE MOUNTING DETAIL AT CORRUGATED EXTERIOR WITH ARCHITECTURAL DRAWINGS.
- 4 INSTALL 10x10 TRANSFER DUCT AT 60" AFF WITH LOUVERED REGISTERS ON EACH SIDE OF WALL.
- 5 INSTALL 12x12 FIXED LOUVER IN EXTERIOR WALL, GREENHECK ESJ-202 OR EQUAL. COORDINATE MOUNTING DETAIL WITH ARCHITECTURAL DRAWINGS. PROVIDE MOTORIZED DAMPER WITH 120 VOLT ACTUATOR CONTROLLED BY EXHAUST FAN SWITCH. SEE ELECTRICAL DRAWINGS.

| PACKAGED TERMINAL HEAT PUMP SCHEDULE | | | | | | | | | | | | | |
|--------------------------------------|-----------|-----------|-----------|---------|-------------|---------------|-------|---------|---------------|---------------|-------|------|----|
| MARK | MANU. * | MODEL * | TOTAL CFM | MIN. OA | COOLING | | | HEATING | ELECTRIC HEAT | VOLTS / PHASE | MCA | MOCP | |
| | | | | | TOTAL (MBH) | RATING (F) DB | WB OA | | | | | | |
| PTAC | FRIEDRICH | PZH09K3SB | 400 | 75 | 9.6 | 80 | 67 | 95 | 8.5 | 3.3 | 208/1 | 20 | 30 |

* BASIS OF DESIGN

MECHANICAL GENERAL NOTES:

- 1 THE BUILDING PLANS ARE BASED ON INFORMATION PROVIDED BY THE ARCHITECT. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, QUANTITIES, AND CONDITIONS PRIOR TO WORK. OWNER WILL NOT APPROVE ANY CHANGE ORDERS RESULTING FROM CONTRACTOR'S FAILURE TO FIELD VERIFY. DRAWINGS SHALL NOT BE SCALED TO DETERMINE ACTUAL DIMENSIONS.
- 2 THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE APPROXIMATE LOCATION OF EQUIPMENT, PIPING AND DUCTWORK. MINOR ADJUSTMENTS AND OFFSETS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER. COORDINATE CHANGES IN ROUTING OR OTHER WORK WITH THE ENGINEER PRIOR TO PROCEEDING.
- 3 EXISTING AREAS WHETHER WITHIN OR WITHOUT THE "GENERAL LIMITS OF CONSTRUCTION", SHALL BE REPAIRED WHERE ANY DAMAGE HAS OCCURRED DUE TO CONSTRUCTION BY THE CONTRACTOR.
- 4 CONTRACTOR IS RESPONSIBLE FOR SEALING ALL PENETRATIONS THROUGH ALL WALLS.
- 5 ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE NORTH CAROLINA STATE MECHANICAL CODE.
- 6 UNLESS OTHERWISE INDICATED MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, CORE-DRILLING AND PATCHING OF FLOORING AND WALLS.
- 7 MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MECHANICAL RELATED WORK WITH OTHER TRADES. MECHANICAL CONTRACTOR IS CAUTIONED THAT IT IS TOTALLY HIS RESPONSIBILITY TO COORDINATE HANGERS AND SUPPORTS ETC. WITH OTHER TRADES.
- 8 ALL SHUTDOWNS OF THE EXISTING UTILITIES SHALL BE SCHEDULED IN ADVANCE WITH OWNER.
- 9 PROPER FIRE WATCH TO BE MAINTAINED AT ALL TIMES DURING WELDING OR OPEN FLAME USE.



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PROJECT #19252

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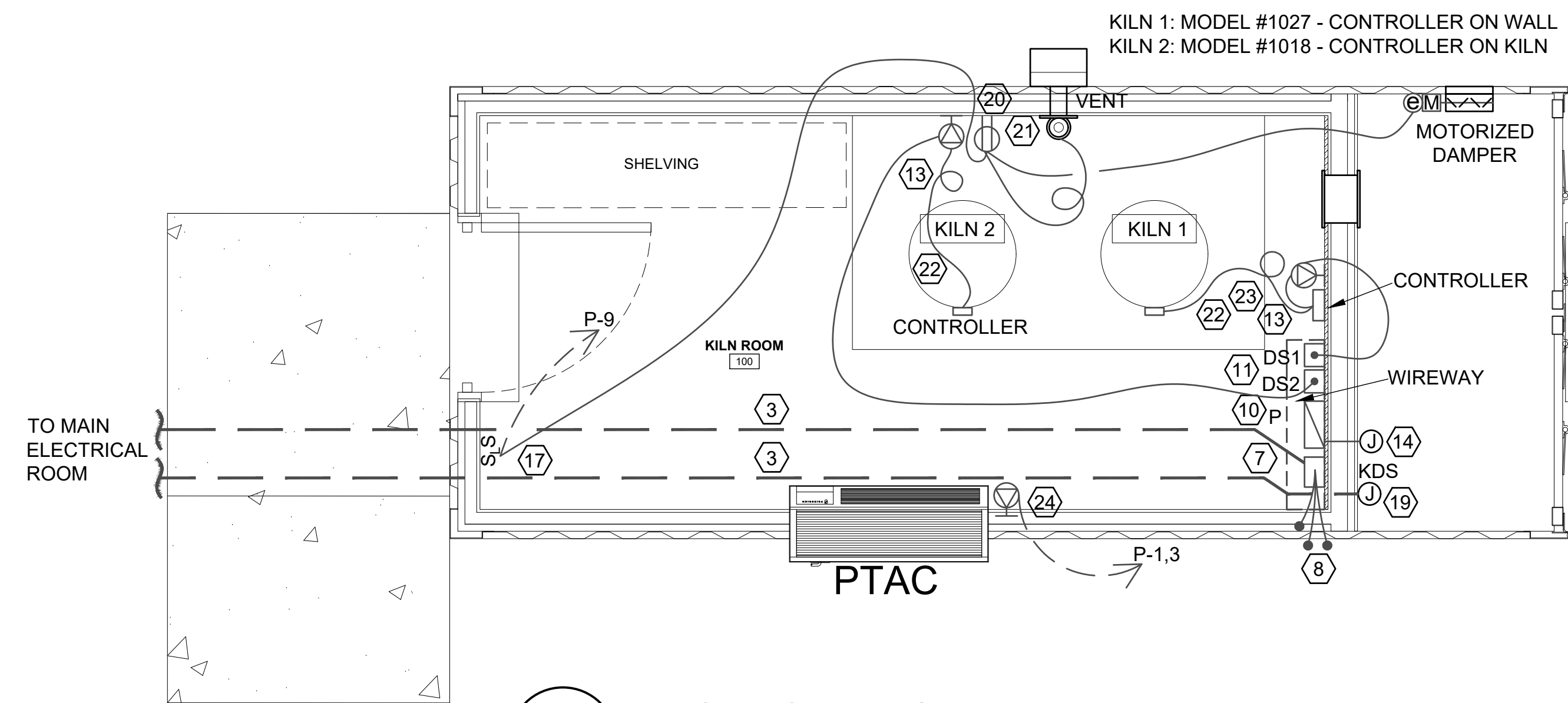
DESIGNED BY: JCH
DWG DATE: 09/27/2019

M101
MECHANICAL PLAN

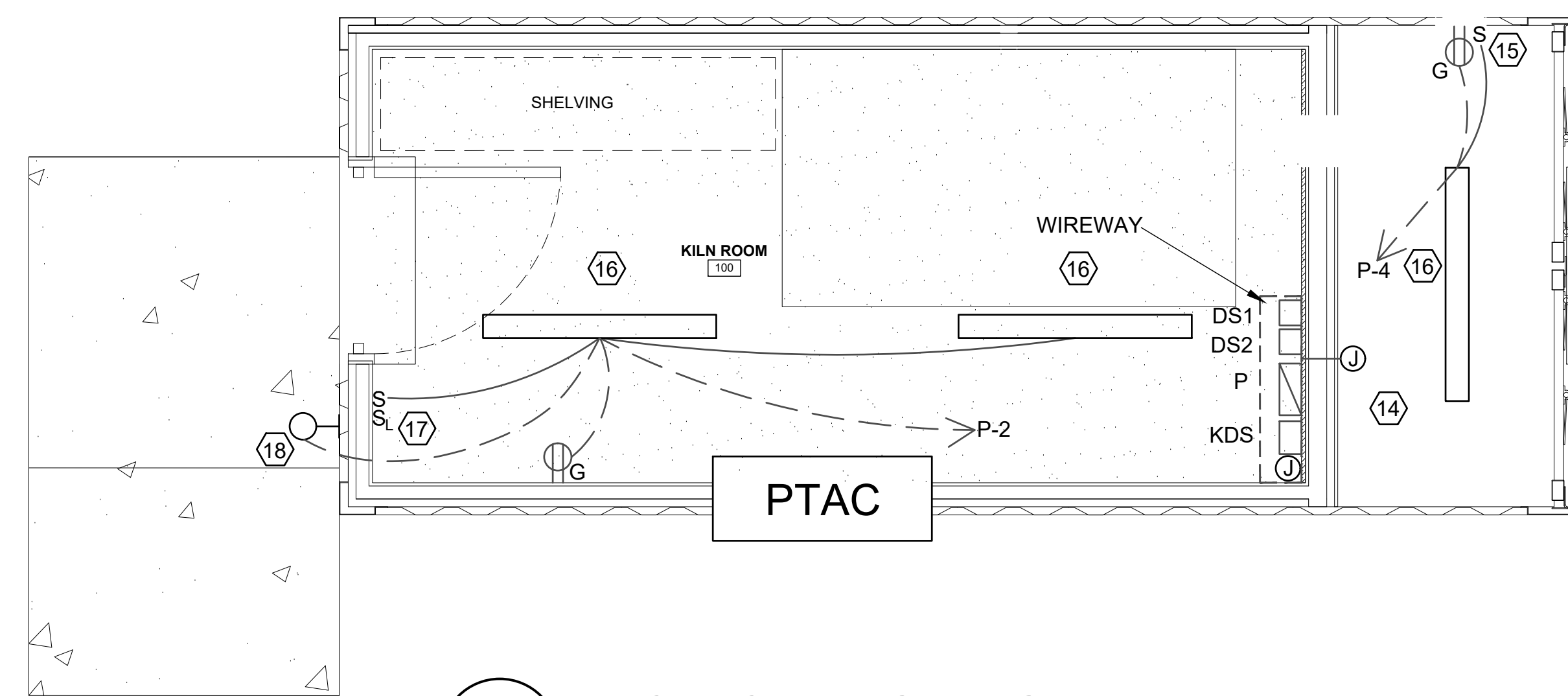
PERMIT SET

No. BUNCOMBE M.S. KILN ROOM CONNEX

51 No. BUNCOMBE SCHOOL Rd.
WEAVERVILLE, NC 28787



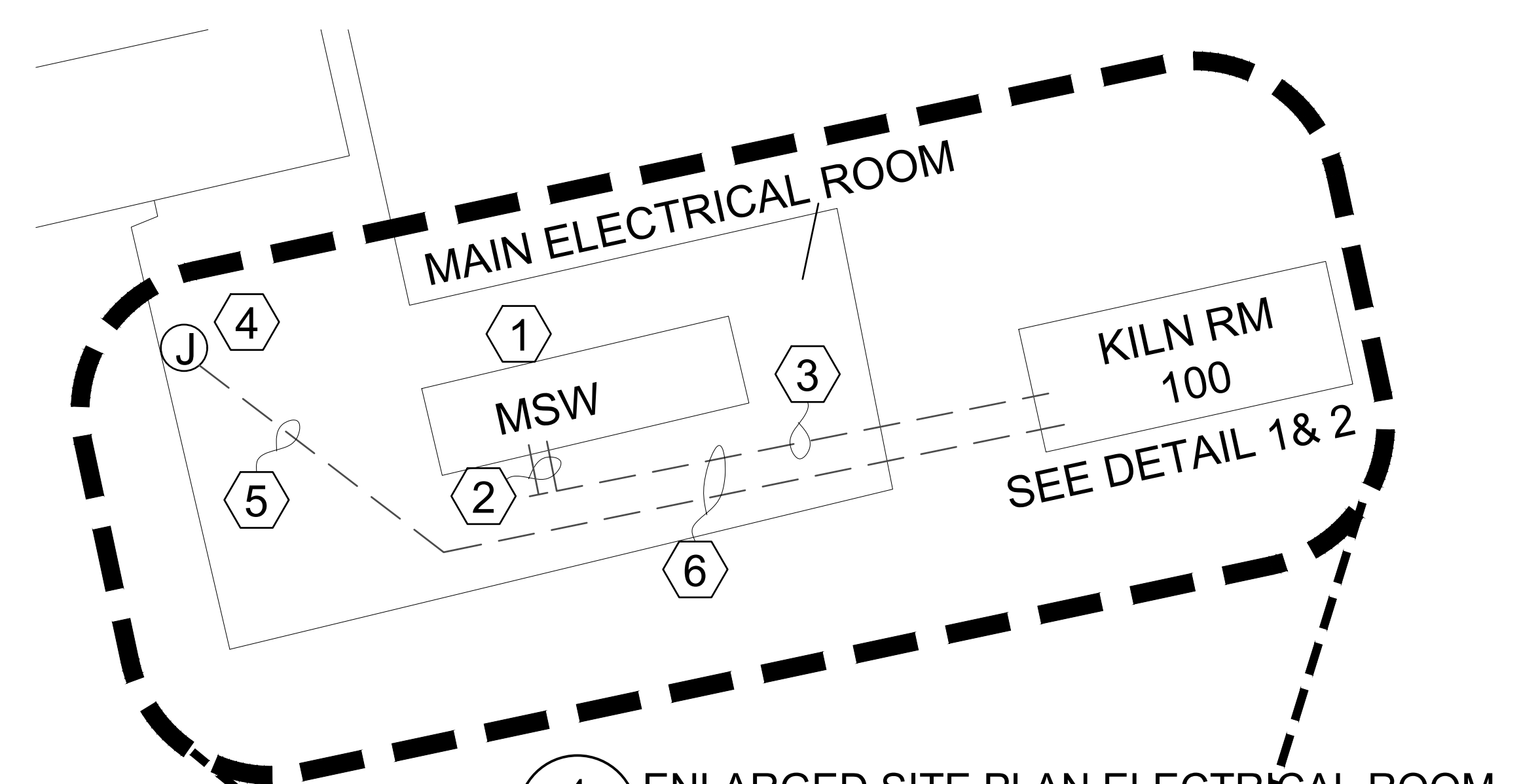
1 ELECTRICAL - POWER
E101 1/2" = 1'



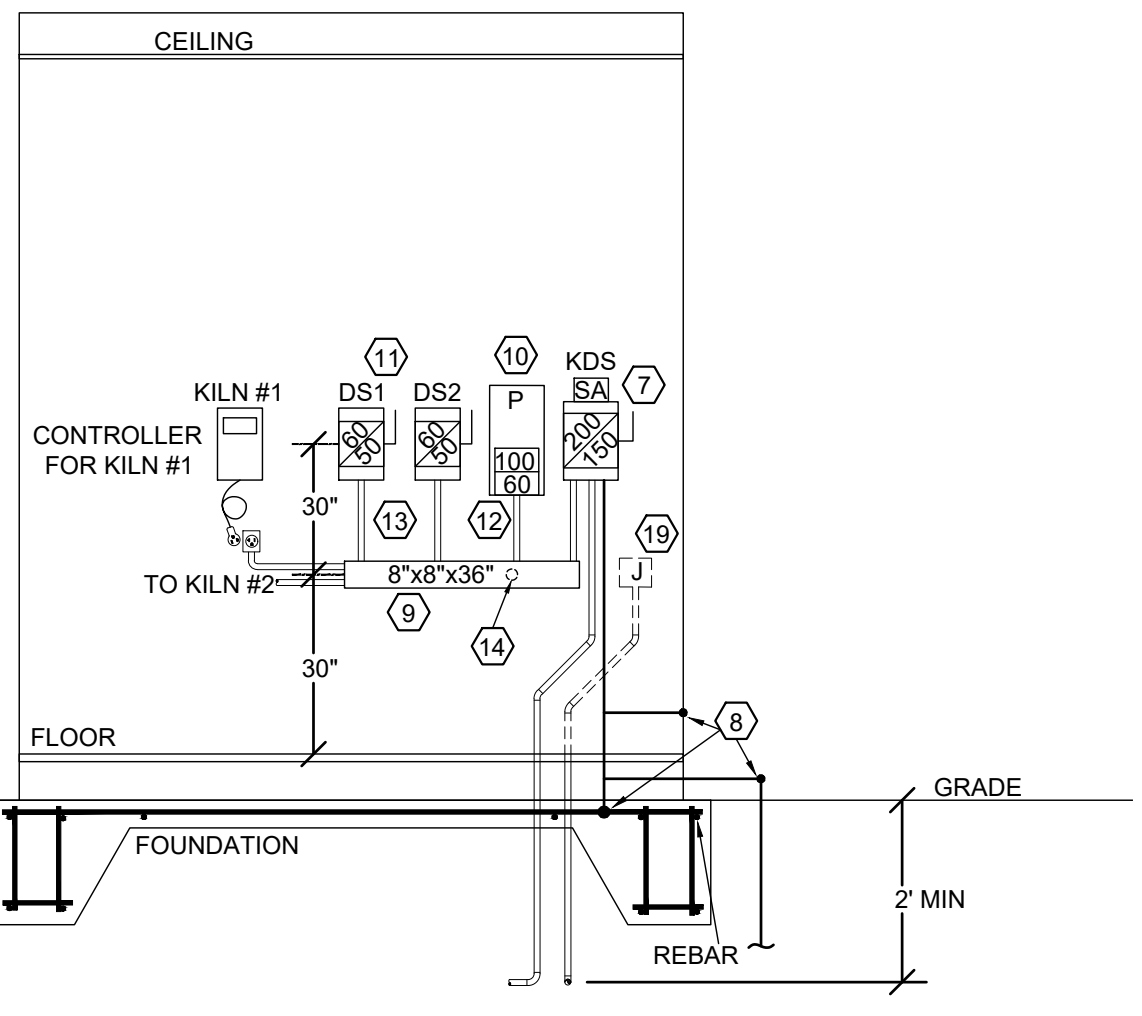
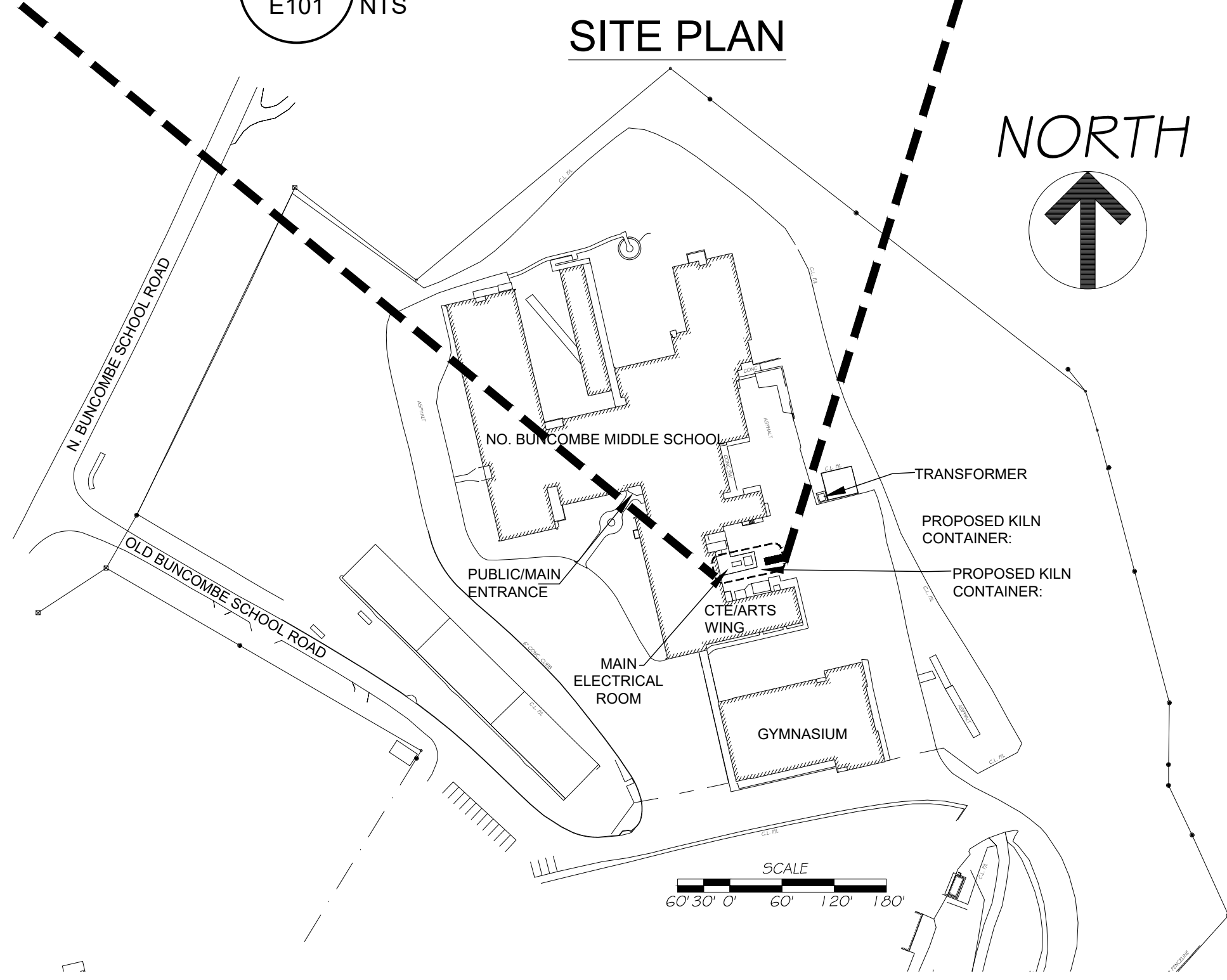
2 ELECTRICAL - LIGHTING
E101 1/2" = 1'

KEYED NOTES

- 1 PROVIDE 150 AMP BREAKER (240 VAC, 65 KAIC) TO MATCH EXISTING IN MAIN SWITCHGEAR. LABEL: KILN BLDG.
- 2 PROVIDE (2) 2" PVC SWEEPS FROM BOTTOM DISTRIBUTION SECTION. ONE IS SPARE TO BE CAPPED AT BOTH ENDS. CONTRACTOR SHALL SCRAPE OFF AND SAVE STONE SURFACE LAYER FOR REUSE WHEN TRENCH BACKFILL IS FINISHED.
- 3 PROVIDE 2" PVC, WITH (3) #1, #6N, #6G. AT 2' BFG MINIMUM TO KDS IN KILN BLDG.
- 4 PROVIDE 12"X12"X4" NEMA 4X PVC JUNCTION BOX AT 30" AFG ON NEXT TO BLDG. SERVICE PULL BOX.
- 5 PROVIDE 2" PVC CONDUIT FROM JUNCTION BOX IN 4 ABOVE TO KILN BLDG. AT 2' BFG MINIMUM TO JUNCTION BOX IN KILN BLDG. SEE 19. PROVIDE PULL STRING.
- 6 TAMP TRENCH FILL AND RESTORE SURFACE TO MATCH ORIGINAL CONDITION WITH ORIGINAL GRAVEL STONES.
- 7 PROVIDE SERVICE ENTRANCE LISTED 200 AMP FUSIBLE DISCONNECT SWITCH KDS. 240 VAC, 3 PHASE 4 WIRE WITH GROUND LUG. PROVIDE (6) 150 AMP TYPE RK1 FUSES (3) SPARES TO BE KEPT ON WIREWAY. LABEL TOP OF SWITCH: FAULT CURRENT < 40 KAIC. PROVIDE NEC TYPE 1 SPD (IE: SQUARE D SDSA 3650 OR EQUAL) AND WIRE TO LINE SIDE OF DISCONNECT.
- 8 PROVIDE #4 GROUND CONDUCTOR TO CONTAINER WALL AND PAD REBAR OR MESH. ALSO PROVIDE 3/4"X10" COPPER CLAD STEEL GROUND ROD OUTSIDE AND NEXT TO CONTAINER. PROVIDE #4 CONDUCTOR TO KDS GROUND.
- 9 PROVIDE 8"X8"X36" NEMA 1 WIREWAY WITH HINGED COVER FOR SPLICING WIRES. SERVICE CONDUIT SHALL NOT GO THRU THIS WIREWAY. PROVIDE (3) #1, #4N, #4G INTO WIREWAY FOR SPLICING. PROVIDE 1-1/4" EMT NIPPLES (NOT TO EXCEED 18") TO EACH OF (2) DISCONNECTS AND PANEL P.
- 10 PROVIDE 12 POLE PANELBOARD "P" PER SCHEDULE THIS SHEET. LABEL PANEL: FAULT CURRENT < 10 KAIC.
- 11 PROVIDE (2) 60 AMP FUSIBLE DISCONNECTS (DS1 & DS2), 240 VAC, TWO POLE, THREE WIRE PLUS GROUND LUG. PROVIDE 50 AMP, TYPE RK1 FUSES. PROVIDE (6) FUSES WITH (2) SPARES STORED ON WIREWAY. LABEL TOP OF SWITCH: FAULT CURRENT < 13 KAIC. LABEL BOTTOM OF SWITCH: FAULT CURRENT < 10 KAIC.
- 12 PROVIDE (4) #6, #6 G FROM WIREWAY CABLES TO PANEL P MCB.
- 13 PROVIDE (2) #6, #6N, #6G FROM WIREWAY CABLES TO EACH KILN DISCONNECT AND PROVIDE CONDUIT WITH SAME WIRES TO RECEPTACLES. PROVIDE MATCHING RECEPTACLES FOR KILN PLUGS. ORIENT RECEPTACLES FOR LOCATION OF PLUG GROUND. GROUND PIN TO BE IN DOWN POSITION FOR KILN #2, (MODEL #1027) AND IN THE UP POSITION FOR KILN #1, (MODEL #1018).
- 14 PROVIDE 1-1/4" NIPPLE FROM BACK OF WIREWAY INTO MAINTENANCE SECTION WITH 6"X6"X3" JUNCTION-PULL BOX. THIS SHALL BE USED TO CIRCUIT LIGHT AND RECEPTACLE IN THIS SPACE.
- 15 PROVIDE 2 GANG BOX AT 4' AFF COORDINATE WITH DOOR.
- 16 PROVIDE INDUSTRIAL LED LIGHTS: DAYBRITE #FSI-4-40L-835-120-NO DIM, SURFACE MOUNTED.
- 17 PROVIDE 2 GANG BOX WITH (2) LIGHT SWITCHES, WIRED TO GFCI RECEPTACLE AND STEEL COVER PLATE. SEPARATE SWITCH FOR KILN'S EXHAUST FAN TO HAVE INTEGRAL 'ON' POSITION INDICATOR LIGHT. EXHAUST SWITCH WILL ALSO CONTROL MOTORIZED DAMPER, COORDINATE WITH MECHANICAL CONTRACTOR.
- 18 PROVIDE WALL PACK AT 8' AFG, STONECO LYTEPRO #LP16-51BZ-PCB WITH INTEGRAL PHOTOCELL AND MOUNTING PLATE. PROVIDE 'BIRD SPIKES' ON TOP OF LIGHT.
- 19 PROVIDE 8"X8"X4" JUNCTION PULL BOX AT 30" AFF. LABEL: TO BLDG. MAIN ELECTRICAL ROOM.
- 20 MOUNT RECEPTACLE WITHIN 3' OF EXHAUST VENT.
- 21 EXHAUST FAN FURNISHED BY KILN OEM WITH POWER PLUG.
- 22 50 AMP, HEAVY DUTY, 6' CORD AND NEMA PLUG PROVIDED BY KILNS OEM. ROUTE UNDER KILNS, NOT ON SIDES OF KILNS.
- 23 KILN #1 HAS 50 AMP PLUG THAT PLUGS INTO CONTROLLER. MOUNT CONTROLLER ON WALL WITH WORKING CLEARANCE PER NEC 110. CONTROLLER ALSO HAS 50 AMP PLUG. PROVIDE 50 AMP RECEPTACLE, NEMA CONFIGURATION TO MATCH PLUG, UNDER CONTROLLER. PROVIDE 1" (2 OR 3) #6 + #10G TO DISCONNECT DS1.
- 24 PROVIDE RECEPTACLE, NEMA 6-20R CONFIGURATION, FOR PTAC. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.



4 ENLARGED SITE PLAN ELECTRICAL ROOM
E101 NTS



3 SECTION VIEW POWER ONE LINE
E101 NTS

| KVA | | DESIGNATION TYPED ON DIRECTORY | | | | | | | | | | DESIGNATION TYPED ON DIRECTORY | | | | | | | | | | KVA LOAD | |
|-----|-----|--------------------------------|-----|----------|-----|-------|--------|-----|--------|-------|-----|--------------------------------|-----|-----|--------------------------------|-----|-----|--|--|--|--|----------|--|
| A | B | GND | NEU | WIR SIZE | BKR | POLES | CKT NO | S/N | CKT NO | POLES | BKR | WIR SIZE | NEU | GND | DESIGNATION TYPED ON DIRECTORY | A | B | | | | | | |
| 1.6 | | 10 | 10 | 10 | 30 | 2 | 1 | | 2 | 1 | 20 | 12 | 12 | 12 | LIGHTS & RCPT - KILN | 0.5 | | | | | | | |
| 1.6 | | - | - | - | - | - | 3 | | 4 | 1 | 20 | 12 | 12 | 12 | LIGHTS & RCPT - MAINT. | 0.0 | 0.3 | | | | | | |
| 0.0 | | - | - | - | 15 | 2 | 5 | | 6 | 1 | 20 | - | - | - | SPARE | 0.0 | | | | | | | |
| 0.0 | | - | - | - | - | - | 7 | | 8 | 1 | - | - | - | - | SPACE | 0.0 | 0.0 | | | | | | |
| 0.5 | | 12 | 12 | 12 | 15 | 1 | 9 | | 10 | 1 | - | - | - | - | SPACE | 0.0 | 0.0 | | | | | | |
| 0.0 | | - | - | - | - | - | 11 | | 12 | 1 | - | - | - | - | SPACE | 0.0 | 0.0 | | | | | | |
| 2.1 | 1.6 | | | | | | | | | | | | | | TOTAL LEFT | 0.5 | 0.3 | | | | | | |
| | | | | | | | | | | | | | | | TOTAL RIGHT | 0.5 | 0.0 | | | | | | |

| LOAD | CONNECTED LOAD (KVA) | DEMAND FACTOR | DEMAND LOAD (KVA) |
|-------------------------|----------------------|---------------|-------------------|
| LIGHTING | 0.3 | 1.25 | 0.4 |
| HVAC (HEAT PUMP) | 3.2 | 0.80 | 2.6 |
| HVAC (COOLING) | 0.0 | 1.00 | 0.0 |
| HVAC (HEATING) | 0.0 | 1.00 | 0.0 |
| LARGE MOTORS (NON HVAC) | 0.0 | 1.25 | 0.0 |
| VENTILATION | 0.5 | 1.00 | 0.5 |
| PUMP EQUIPMENT | 0.0 | 1.00 | 0.0 |
| RECEPTACLES | 0.5 | 10+0.5 Remain | 0.5 |
| DATA/AV | 0.0 | 1.00 | 0.0 |
| MISCELLANEOUS | 0.0 | 0.50 | 0.0 |
| TOTAL | 4.5 | 0.00 | 3.9 |
| | A= 2.6 B= 1.9 | ΣD= 4.5 | FLA= 18.8 |

ENCLOSURE: NEMA 1 SURFACE MOUNT
VOLTAGE: 208/120V, 1-PH, 3-W
BUSES: 100 AMP AL BUS, 100% AL N
CU GROUND BUS
MAIN: 60 AMP MCB +
FEEDER: SEE "POWER RISER DIAGRAM"
INTERRUPTING RATING: 22 KAIC
SPECIAL FEATURES: SPACES ARE PROVISIONED
*MAY BE BACKFED MCB.
MINIMUM OF 12 POLES + MCB

PANEL 'P'
LOCATION: NEW KILN ROOM 100

BOTTOM FED BREAKER*
ARC FAULT < 13 KAIC

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ISSUE:
BID SET

DESIGNED BY: DLB
DWG DATE: 09/27/2019

E101 ELECTRICAL PLAN

PERMIT SET

ABBREVIATIONS

| | |
|-----|------------------------------------|
| A | AMP |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AL | ALUMINUM |
| BFG | BELOW FINISHED GRADE |
| C | CONDUIT (OR DEVICE COUNTER HEIGHT) |
| CU | COPPER OR CONDENSING UNIT |
| EC | ELECTRICAL CONTRACTOR |
| EF | EXHAUST FAN |
| ER | REMTOE EMERGENCY LIGHT |
| EX | EXIT SIGN |
| FMC | FLEXIBLE METAL CONDUIT |
| G | GROUND |
| GC | GENERAL CONTRACTOR |
| GFI | GROUND FAULT INTERRUPTER |
| MC | MECHANICAL CONTRACTOR |
| MCA | MINIMUM CIRCUIT AMPACITY |
| MCB | MAIN CIRCUIT BREAKER |
| MDS | MAIN DISCONNECT SWITCH |
| MSW | MAIN SWITCH GEAR |
| N | NEUTRAL |
| NIC | NOT IN CONTRACT |
| OEM | ORIGINAL EQUIPMENT MANU. |
| PVC | POLYVINYL CHLORIDE PIPE |
| PNL | PANELBOARD |
| SA | SURGE ARRESTER |
| TBD | TO BE DETERMINED |
| UON | UNLESS OTHERWISE NOTED |
| VAC | VOLTAGE AC |
| W | WET LOCATION RATED |
| WIR | WIRE (SIZE/RATING) |

SCOPE OF WORK

- PROVIDE TEMPORARY CONSTRUCTION PHASE POWER AND LIGHTING FOR ALL TRADES AS NEEDED.
- PROVIDE SUBMITTALS ON ALL POWER, LIGHTING, AND CONTROLS EQUIPMENT.
- PROVIDE ALL ELECTRICAL SHOWN ON DRAWINGS AND SPECIFICATIONS AND AS NEEDED TO PROVIDE A COMPLETE FUNCTIONAL INSTALLATION IN COMPLIANCE WITH STATE AND LOCAL CODES.
- PROVIDE FIELD COORDINATION WITH OTHER TRADES AND PROVIDE RED-LINE MARKED UP DRAWINGS TO OWNER OF ALL FIELD CHANGES.
- TEST ALL MOTORS FOR CORRECT ROTATION. TEST ALL LIGHTING AND SWITCHING FOR PROPER FUNCTION.
- ASSIST OTHER TRADES IN TESTING OF HVAC EQUIPMENT.
- TEST AND DEMONSTRATE OUTDOOR LIGHTING TO OWNER.
- PROVIDE ALL REQUIRED ELECTRICALLY RELATED PERMITS AND INSPECTIONS.
- PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR FROM DATE OF PROJECT ACCEPTANCE

GENERAL NOTES (ALL ELECTRICAL SHEETS)

- THIS DRAWING IS DIAGRAMMATIC AND INDICATES THE APPROXIMATE LOCATION OF DEVICES AND EQUIPMENT. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS ON SITE. MINOR ADJUSTMENTS AND OFFSETS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE ALL WORK IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND IN AN INDUSTRY STANDARD WORKMANLIKE MANNER.
- NMC (ROMEX AND SE CABLE FOR FEEDERS) IS NOT ACCEPTABLE. AC/MC CABLE IS ACCEPTABLE WHEN FISHED INSIDE EXISTING WALLS, FOR WHIPS, AND IN CONCEALED LOCATIONS. EMT CONDUITS WITH CRIMP COUPLINGS AND CONDUCTORS SHALL BE USED IN EXPOSED LOCATIONS. CONDUIT MINIMUM 3/4".
- RACEWAYS SHALL NOT BE RUN ON THE EXTERIOR OF BUILDING OR EXPOSED IN FINISHED USER/PUBLIC AREAS.
- ALL WALLS AND PENETRATIONS SHALL BE REPAIRED AND SEALED, SEE ARCHITECTURAL FOR WALL CONSTRUCTION.
- ALL WIRE SIZES SHOWN ARE FOR COPPER, UNLESS OTHERWISE NOTED. WIRES #10 OR LESS SHALL BE SOLID.
- RECEPTACLE AND SWITCH COVER PLATES SHALL BE STAINLESS STEEL, DEVICES SHALL BE GRAY.
- ALL SPARE BREAKERS SHALL BE TURNED OFF AND LABELED "SPARE" ON DIRECTORY CARD.
- PROVIDE ALL CONDUIT AND WIRE TERMINATIONS TO EQUIPMENT.
- THE ENGINEER HAS ATTEMPTED TO PROVIDE A COMPLETE DESIGN, COMPLIANT WITH ALL CODES. THE CONTRACTOR IS STILL RESPONSIBLE FOR MAKING MINOR ADJUSTMENTS TO MEET CODES AND THE DESIGN INTENT.

| GENERAL ELECTRICAL LEGEND | |
|---------------------------|---|
| SYMBOL | DESCRIPTION |
| | NEW EQUIPMENT |
| | EXISTING EQUIPMENT |
| | 1 HOUR FIRE RATED WALL |
| | 2 HOUR FIRE RATED WALL |
| | 4 HOUR FIRE RATED WALL |
| | TYPICAL LIGHT FIXTURES LETTER INDICATES TYPE |
| | DISCONNECT SWITCH - AMP RATING/NO. OF POLES/FUSE SIZE INDICATED |
| | NON-FUSIBLE DISCONNECT SWITCH, 60 AMP RATED, HP RATED FOR MOTORS NEMA ENCLOSURE RATING(3R) AS SHOWN. 3R: RAIN TIGHT. |
| | ELECTRICAL POWER SUPPLY CONNECTION TO EQUIPMENT - EQUIPMENT TAG OR DESIGNATION INDICATED. COORDINATE LOCATION AND CONNECTION DETAILS WITH EQUIPMENT PROVIDER. |
| | SPECIAL PURPOSE RECEPTACLE, MATCH RECEPTACLE TO EQUIPMENT PLUG. MAY ALSO BE HARDWIRED JUNCTION BOX OR TOGGLE DISCONNECT SWITCH, COORDINATE WITH EQUIPMENT. |
| | DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20R |
| | GFCI DUPLEX RECEPTACLE |
| | WEATHER TIGHT DUPLEX RECEPTACLE |
| | 20A, 120/277VAC SINGLE POLE SNAP SWITCH |
| | 20A, 120/277VAC DOUBLE POLE SNAP SWITCH |
| | 20A, 120/277VAC THREE WAY SNAP SWITCH |
| | MOTOR STARTER TOGGLE SWITCH, #POLE TO MATCH # CIRCUITS |
| | NEMA 4 WET RATED MOTOR STARTER TOGGLE SWITCH |
| | JUNCTION BOX |
| | SURGE ARRESTER, TYPE I |
| | UNDERGROUND CONDUIT |
| | SWITCHED CIRCUIT |
| | UNSWITCHED CIRCUIT |
| | HOMERUN CIRCUIT TO PANEL - CIRCUIT INDICATED |



ELEVATING YOUNG MINDS

**No. BUNCOMBE M.S.
KILN ROOM CONNEX**

51 No. BUNCOMBE SCHOOL Rd.
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E201

ELECTRICAL -
GENERAL

PERMIT SET