PROJECT:

HENDERSON COUNTY HIGH SCHOOL CTE RENOVATION

OWNER:

HENDERSON COUNTY SCHOOLS
1805 2nd ST, HENDERSON, KY 42420

DR. BOB LAWSON
SUPERINTENDENT

CHAD THOMPSON
ASSISTANT SUPERINTENDENT

ARCHITECT:

R.B.S. DESIGN GROUP, P.S.C.
723 HARVARD DRIVE
OWENSBORO, KENTUCKY 42301
270-683-1158 (F)270-683-2446

M.E.P. ENGINEER:

C.M.T.A.
115 MEMORIAL DRIVE
PADUCAH, KENTUCKY 42001
270-984-0066

STRUCTURAL ENGINEER:

WILKIE STRUCTURAL ENGINEERING, INC.
20 NW THIRD ST. SUITE 1220
EVANSVILLE, INDIANA 47708
812-423-6347

CIVIL ENGINEER:

ASSOCIATED ENGINEERS, INC.
2740 N. MAIN STREET
MADISONVILLE, KENTUCKY 42431
270-821-7732

SHEET INDEX

MATERIAL & GRAPHIC SYMBOLS

Category			
EARTHWORK	TOP SOIL	DRAINAGE FILL; COMPACT FILL/BACKFILL	DGA
CONCRETE	CAST-IN-PLACE CONC.	PRECAST CONCRETE	CEMENTITIOUS DECKS AND TOPPINGS
MASONRY	CMU (PLAN); CMU (SECTION)	GROUT; CMU (ELEV); SPLIT FACE CMU (ELEV)	BRICK (SECT., PLAN); FIRE BRICK (SECT., PLAN); BRICK (ELEV.)
STONE	RUBBLE STONE (ELEV.)	CUT STONE (SECT.); CAST STONE (SECT.)	MARBLE
METAL		STEEL (SECT.)	
WOOD	FINISH WOOD (SECT.); PARTICAL BOARD	CONT. WOOD FRAMING; PLYWOOD (SECT.)	WOOD BLOCKING; OSB
GLAZING	GLASS (ELEV.)	GLASS (PLAN)	GLASS BLOCK (ELEV.)
INSULATION	BATT/BLANKET INSUL.	E.I.F.S. (ELEV.); RIGID INSULATION	E.I.F.S. (SECT.); SPRAY/FOAM INSUL.
FINISHES	GYP. BOARD	CERAMIC TILE; LATH AND PLASTER	CARPET (SECT.); TERRAZZO
PARTITIONS	WOOD STUD	CMU; METAL STUD	CAST-IN-PLACE CONC; PRECAST CONCRETE

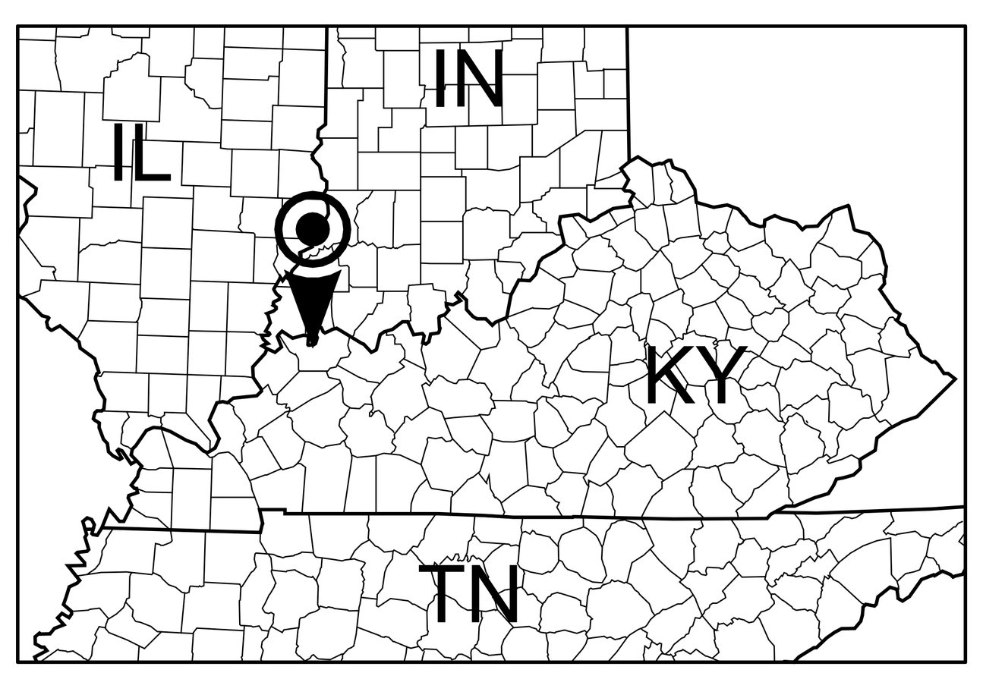
SYMBOLS

- ROOM TAG: ROOM; 028 (ROOM #); B (ROOM FINISH KEY); 8' - 0" (CLG HT (IF SHOWN))
- COLUMN REFERENCE GRID: A
- CEILING TAG: A (CLG TYPE); 8' - 0"
- WINDOW TYPE: C
- DOOR NUMBER: 101
- KEYNOTE: 04-A1 — FORMAT: (SPEC SECTION)-(NOTE ID)
- TOILET ACCESSORY: 2
- DETAIL: 7 / A3.2
- ELEVATION POINT
- POSITIVE DRAINAGE
- SECTION/ELEVATION: 1 / A2.1

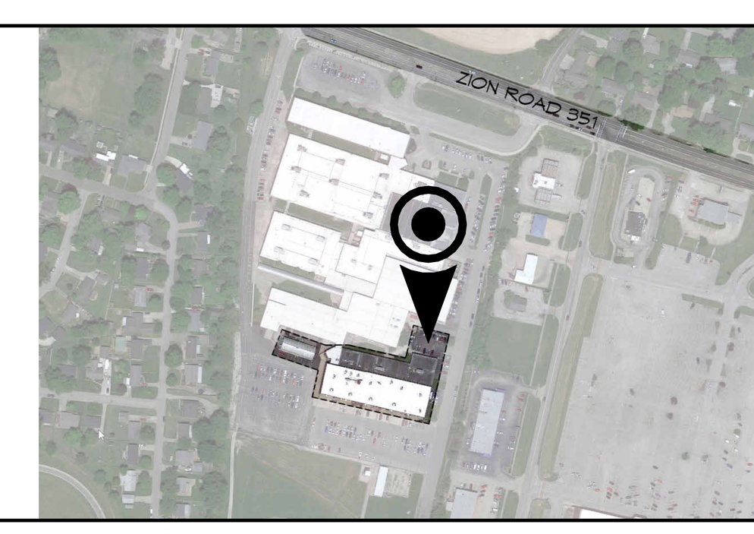
ABBREVIATIONS

A.F.F.	ABOVE FINISH FLOOR
ACOUS.	ACOUSTICAL
ADJ.	ADJUSTABLE
A.C.	AIR CONDITIONER
A.H.U.	AIR HANDLING UNIT
ALUM.	ALUMINUM
A.B.	ANCHOR BOLT
APPROX.	APPROXIMATE
A/E	ARCHITECT/ENGINEER
A.D.	AREA DRAIN
AVG.	AVERAGE
B.C.	BASE CABINET
BSMT.	BASEMENT
BM.	BEAM
BRG	BEARING
B.M.	BENCH MARK
BLK.	BLOCK
BLKG.	BLOCKING
BD.	BOARD
BOT.	BOTTOM
B.O.F.	BOTTOM OF FOOTING
B.T.U.	BRITISH THERMAL UNIT
BLDG.	BUILDING
B.U.R.	BUILT-UP ROOFING
B.N.	BULL NOSE
B.B.	BULLETIN BOARD
CAB.	CABINET
C.I.	CAST IRON
C.I.P.	CAST IRON PIPE
CLG.	CEILING
CLG. HT.	CEILING HEIGHT
CTR.	CENTER
℄	CENTER LINE
C/C	CENTER TO CENTER
CER.	CERAMIC
CB.	CHALKBOARD
CLRM.	CLASSROOM
CO.	CLEANOUT
CLR.	CLEAR
C.W.	COLD WATER
COL.	COLUMN
COMB.	COMBINATION
CONC.	CONCRETE
C.M.U.	CONCRETE MASONRY UNIT
CONF.	CONFERENCE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
C.J.	CONTROL JOINT
CORR.	CORRIDOR
CTSK.	COUNTERSINK
C.F.M.	CUBIC FEET PER MINUTE
D.L.	DEAD LOAD
DTL.	DETAIL
DIAG.	DIAGONAL
DIA.	DIAMETER
DIM.	DIMENSION
DW.	DISHWASHER
DIV.	DIVISION
DR.	DOOR
DBL.	DOUBLE
DN.	DOWN
DS.	DOWNSPOUT
DRN.	DRAIN
DWG.	DRAWING
D.F.	DRINKING FOUNTAIN
EA.	EACH
E.W.	EACH WAY
E.W.C.	ELECTRIC WATER COOLER
ELEC.	ELECTRICAL
E.C.	ELECTRICAL CLOSET
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXIST.	EXISTING
EXP.	EXPANSION
E.J.	EXPANSION JOINT
EXT.	EXTERIOR
FIN.	FINISH
FIN. FL.	FINISH FLOOR
F.F.E.	FROM FLOOR ELEVATION
FIN. GRD.	FINISH GRADE
FRD.	FIRE DAMPER
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER AND CABINET
F.H.C.	FIRE HOSE CABINET
F.H.	FIRE HYDRANT
F.TD.	FIRE TREATED
FIX.	FIXTURE
F.G.	FIXED GLASS
FLEX.	FLEXIBLE
FLR.	FLOOR
F.D.	FLOOR DRAIN
FLOUR.	FLOURESCENT
FT.	FOOT/FEET
FTG.	FOOTING
FDN.	FOUNDATION
FRM.	FRAME
GA.	GUAGE
GALV.	GALVANIZED
G.I.	GALVANIZED IRON
G.C.	GENERAL CONTRACTOR
G.B.	GRAB BAR
GRD.	GRADE
GRD. BM.	GRADE BEAM
GYP.	GYPSUM
H.D.	HAND DRYER
HC.	HANDICAPPED
HDBD.	HARDBOARD
HDW.	HARDWARE
HTR.	HEATER
H.V.A.C.	HEATING, VENTALATING AND AIR CONDITIONING
HT.	HEIGHT
H.M.	HOLLOW METAL
H.B.	HOSE BIBB
HORIZ.	HORIZONTAL
HR.	HOUR
I.D.	INSIDE DIAMETER
INSUL. PNL.	INSULATED PANEL
INSUL.	INSULATION
INT.	INTERIOR
I.P.	IRON PIPE
JT.	JOINT
JST.	JOIST
KIT.	KITCHEN
KD.	KNOCKDOWN
LAM.	LAMINATED
LAV.	LAVATORY
LH.	LEFT HAND
L.L.	LIVE LOAD
LONG.	LONGITUDINAL
LVR.	LOUVER
MH.	MANHOLE
MFR.	MANUFACTURER
M.B.	MARKER BOARD
M.O.	MASONRY OPENING
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
M.C.	MEDICINE CABINET
MTL.	METAL
M.T.	METAL THRESHOLD
MIN.	MINIMUM
MIR.	MIRROR
M.S.	MOP SINK
MTD.	MOUNTED
MTG.	MOUNTING
M.HT.	MOUNTING HEIGHT
MULL.	MULLION
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO.	NUMBER
O.C.	ON CENTER
OPNG.	OPENING
OPP.	OPPOSITE
OZ.	OUNCE
O.D.	OUTSIDE DIAMETER
OA.	OVERALL
PR.	PAIR
PNL.	PANEL
PERF.	PERFORATED
P.LAM.	PLASTIC LAMINATE
℘	PLATE
PV.C.	POLYVINYL CHLORIDE
P.P.	POWER POLE
PREFAB.	PREFABRICATED
P.T.	PRESSURE TREATED
PROJ.	PROJECTED
P.L.	PROPERTY LINE
QTY.	QUANTITY
Q.T.	QUARRY TILE
RAD.	RADIUS
REF.	REFERENCE
REFR.	REFRIGERATOR
REINF.	REINFORCING/REINFORCEMENT
REBAR	REINFORCING BAR
REQD.	REQUIRED
R.A.	RETURN AIR
REV.	REVISE/REVISION
R.H.	RIGHT HAND
R./W.	RIGHT-OF-WAY
R.	RISER
R.D.	ROOF DRAIN
R.E.S.	ROOF EDGE SYSTEM
R.T.U.	ROOF TOP UNIT
RM.	ROOM
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
SECT.	SECTION
SHTHG.	SHEATHING
SHT.	SHEET
SIM.	SIMILAR
S.P.M.	SINGLE PLY MEMBRANE
S.B.C.	SINK BASE CABINET
S.C.	SOLID CORE
S.A.F.B.	SOUND ATTENUATION FIRE BLANKETS
S.T.C.	SOUND TRANSMISSION CLASSIFICATION
SPEC.	SPECIFICATION
SB.	SPLASHBACK
SQ.	SQUARE
S.F.	SQUARE FOOT
STAG.	STAGGERED
S.S.	STAINLESS STEEL
STD.	STANDARED
STL.	STEEL
STOR.	STORAGE
S.A.P.C.	SUSPENDED ACOUSTICAL PANEL CEILING
TB.	TACKBOARD
TH.	THRESHOLD
T.M.E.	TO MATCH EXISTING
T.&G.	TONGUE AND GROOVE
T.&B.	TOP AND BOTTOM
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.M.	TOP OF MASONRY
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UTIL.	UTILITY
V.T.R.	VENT THRU ROOF
VENT.	VENTILATING
VERT.	VERTICAL
VEST.	VESTIBULE
V.A.T.	VINYL ASBESTOS TILE
V.C.T.	VINYL COMPOSITION TILE
V.W.C.	VINYL WALL COVERING
VOL.	VOLUME
W.H.	WALL HYDRANT
WRB.	WARDROBE
W.C.	WATER CLOSET
WT.	WIGHT
W.W.F.	WELDED WIRE FABRIC
W.F.	WIDE FLANGE
WDW.	WINDOW
W/	WITH
W/O	WIITHOUT
WD.	WOOD
W.I.	WROUGHT IRON

VACINITY MAP



LOCAL MAP



2424 ZION RD
HENDERSON, KY 42420

DESIGN DATA

2018 KENTUCKY BUILDING CODE

CLASSIFICATION:	2B
GROSS SF(ADDITION):	2,118 SF
OCC. FACTOR:	20 NET
OCC. LOAD:	76

PROJECT STATUS

DRAWN BY: BTG
DATE: 02-01-2024

SET NUMBER

RBS DESIGN GROUP
ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

DO NOT SCALE DRAWINGS
USE GIVEN DIMENSIONS ONLY. IF NOT SHOWN, VERIFY AND DOCUMENT CORRECT DIMENSION WITH THE ARCHITECT OR ENGINEER. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE.

JOB NUMBER	Y21037
DRAWN BY	BTG
CHECKED BY	CT
DATE	02-01-2024

No.	Description	Date

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION
TITLE SHEET

SHEET NUMBER
T1.1

LEGEND

- EXISTING CONCRETE/ASPHALT
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND FIBER
- EXISTING STORM WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CONTOUR
- EXISTING FENCE/HANDRAIL
- EXISTING BUILDING
- EXISTING ASPHALT
- EXISTING CONCRETE
- CO EXISTING CLEANOUT

<u>General Notes:</u>

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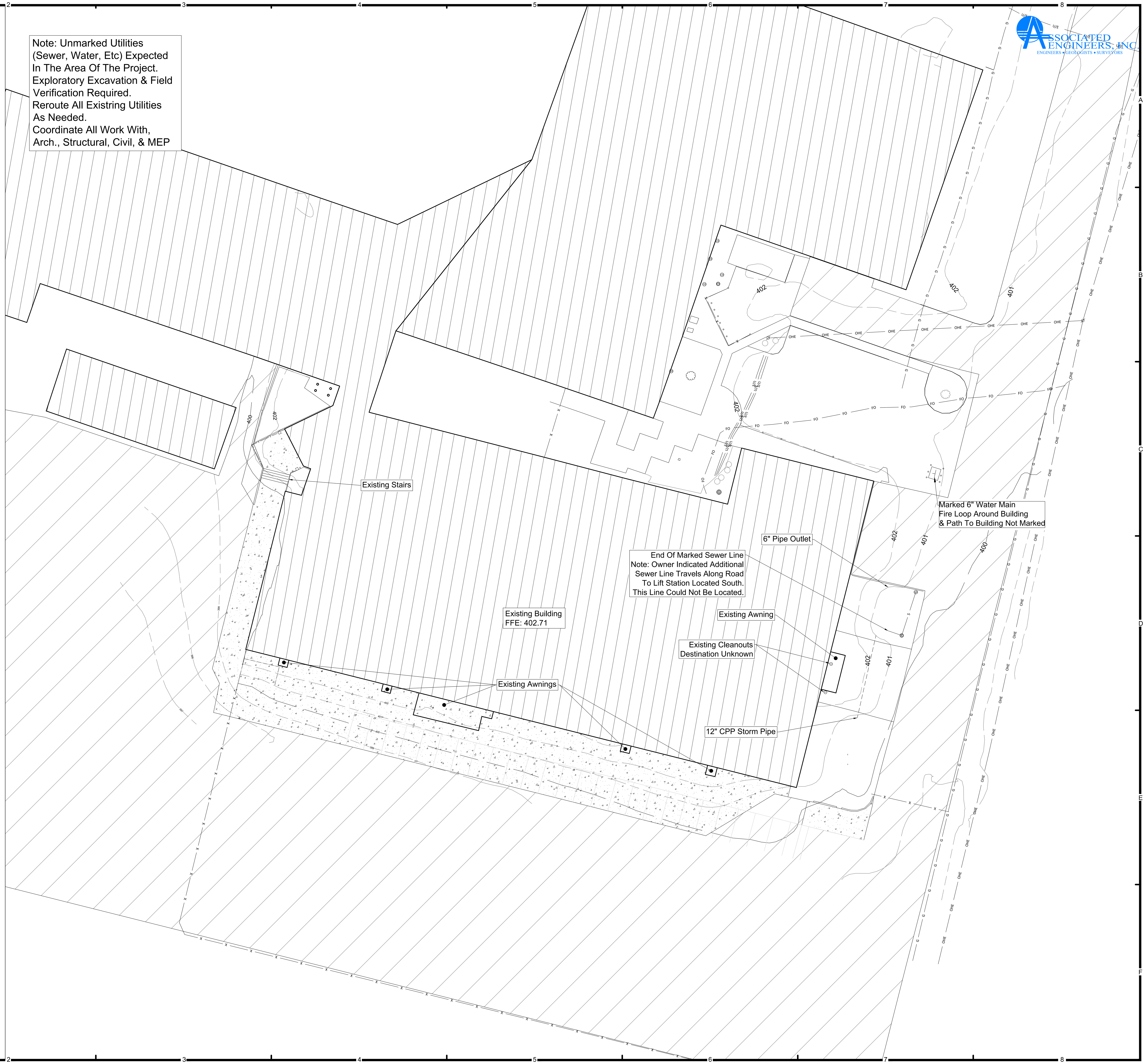
Kentucky 811



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JOB NUMBER	23-0102C
DRAWN BY	C.J.S.
CHECKED BY	D.A.L.
DATE	02/01/2024

REVISIONS

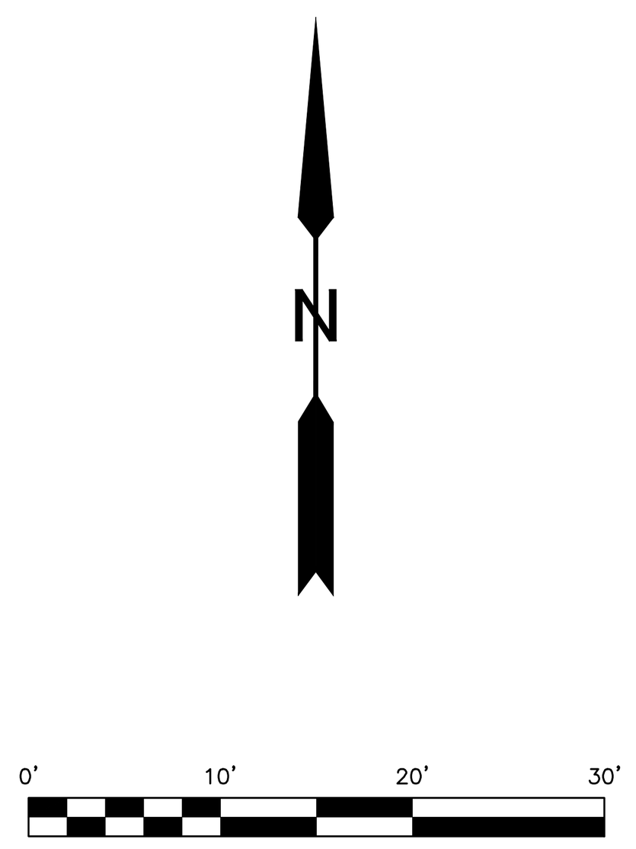
NO.	DATE

STATE OF KENTUCKY
DAVID A. LAMB
17822
LICENSED
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY

SITE DEMOLITION

SHEET NUMBER
SS-1



LEGEND

- EXISTING CONCRETE/ASPHALT
- EXISTING GAS LINE (G)
- EXISTING UNDERGROUND ELECTRIC LINE (U/E)
- EXISTING OVERHEAD ELECTRIC (OHE)
- EXISTING UNDERGROUND FIBER (FO)
- EXISTING STORM WATER LINE
- EXISTING SANITARY SEWER LINE (S)
- EXISTING CONTOUR (450)
- EXISTING BUILDING
- EXISTING ASPHALT REMOVED

General Notes:

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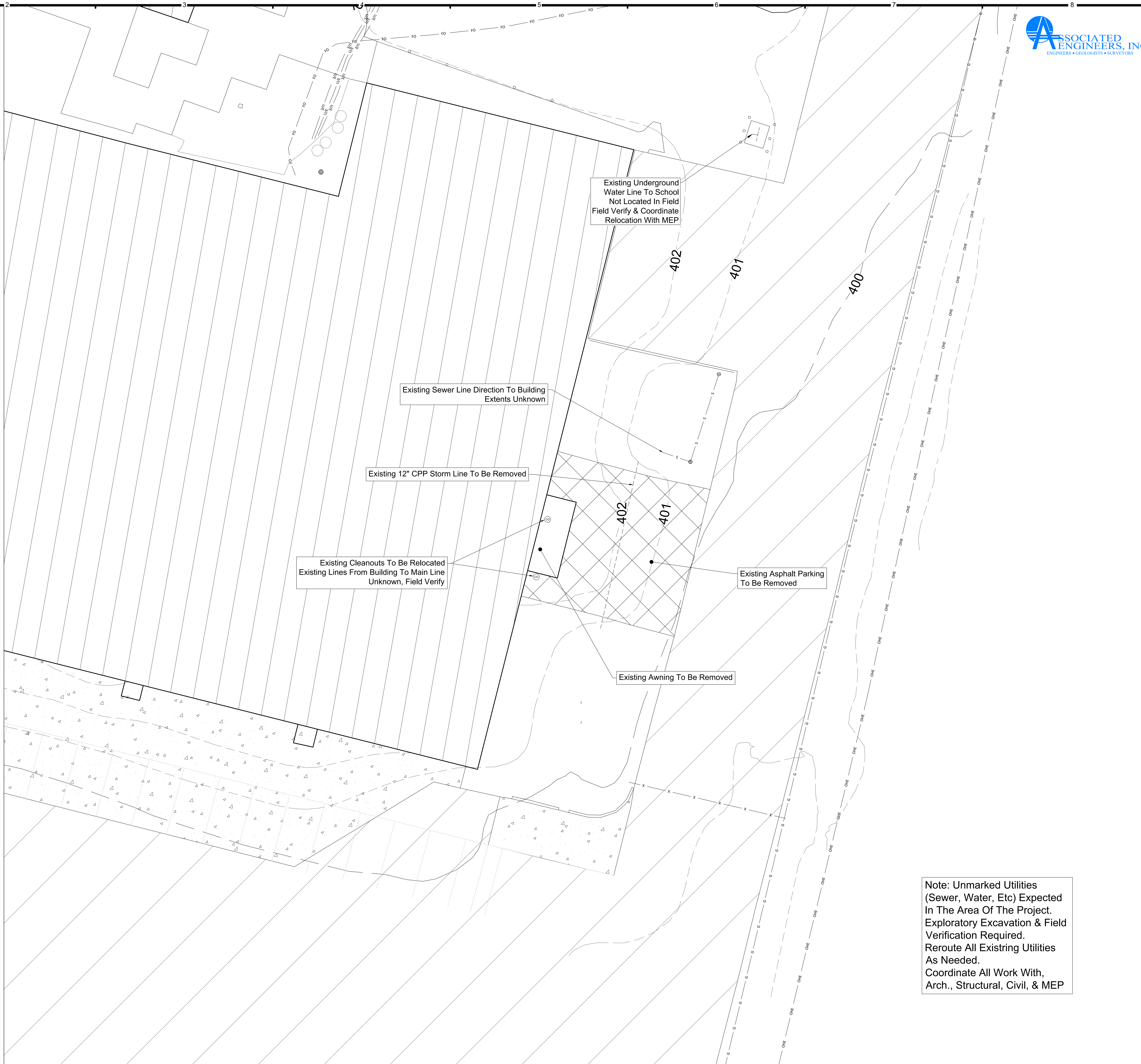

Note: Unmarked Utilities (Sewer, Water, Etc) Expected In The Area Of The Project. Exploratory Excavation & Field Verification Required. Reroute All Existring Utilities As Needed. Coordinate All Work With, Arch., Structural, Civil, & MEP

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ENGINEERS • GEOLOGISTS • SURVEYORS

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JOB NUMBER	23-0102C
DRAWN BY	C.J.S.
CHECKED BY	D.A.L.
DATE	02/01/2024

REVISIONS

NO.	DATE

STATE OF KENTUCKY
DAVID A. LAMB
17622
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY
SITE DEMOLITION

SHEET NUMBER
D-1

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JOB NUMBER	23-0102C
DRAWN BY	C.J.S.
CHECKED BY	D.A.L.
DATE	02/01/2024

REVISIONS

NO.	DATE

STATE OF KENTUCKY
DAVID A. LAMB
17822
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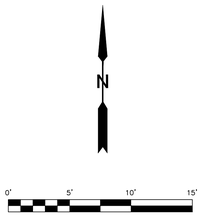
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY

SITE DEMOLITION

SHEET NUMBER
D-2



LEGEND

- EXISTING CONCRETE/ASPHALT
- G G — EXISTING GAS LINE
- U/E — EXISTING UNDERGROUND ELECTRIC LINE
- OHE — EXISTING OVERHEAD ELECTRIC
- FO — EXISTING UNDERGROUND FIBER
- EXISTING STORM WATER LINE
- S S — EXISTING SANITARY SEWER LINE
- 450 — EXISTING CONTOUR
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED CONCRETE SIDEWALK

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Note: Unmarked Field Utilites (Sewer, Water, Etc) Expected In The Area Of The Project. Explority Excavation & Field Verification Required. Relocate Field Utilities As Needed. Coordinate All Work With, Arch., Structural, Civil, & MEP

Relocate Cleanout Field Verify Existing Utility Line & Tie-In Coordinate With MEP

Existing Building

Proposed Addition FFE: 402.71

15' of 12" RCP Pipe N IE: 399.96' S IE: 399.88'

Sawcut & Tie-Into Existing Pavement

Four 7"x11" Steps

Relocate Cleanout Field Verify Existing Utility Line & Tie-In Coordinate With MEP

402

401

400

86.67'

24.67'

4.00'

9.91'

5.00'

402.89

399.86

CO

RBS DESIGN GROUP
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723 Harvard Drive Owensboro, KY 42301
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23-0102C	C.J.S.	D.A.L.	02/01/2024

REVISIONS	
NO.	DATE

COMMONWEALTH OF KENTUCKY
DAVID A. LAMB
17922
LICENSED PROFESSIONAL ENGINEER
02/01/24

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY

CLASSROOM ADDITION SITE LAYOUT & GRADING

SHEET NUMBER
C-1

LEGEND

- EXISTING CONCRETE/ASPHALT
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING OVERHEAD ELECTRIC
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REVISIONS

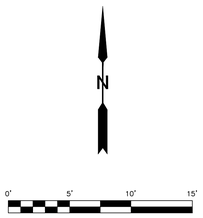
NO.	DATE

STATE OF KENTUCKY
DAVID A. LAMB
17822
LICENSED
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY

ADA ENTRANCE SITE LAYOUT & GRADING

SHEET NUMBER
C-2



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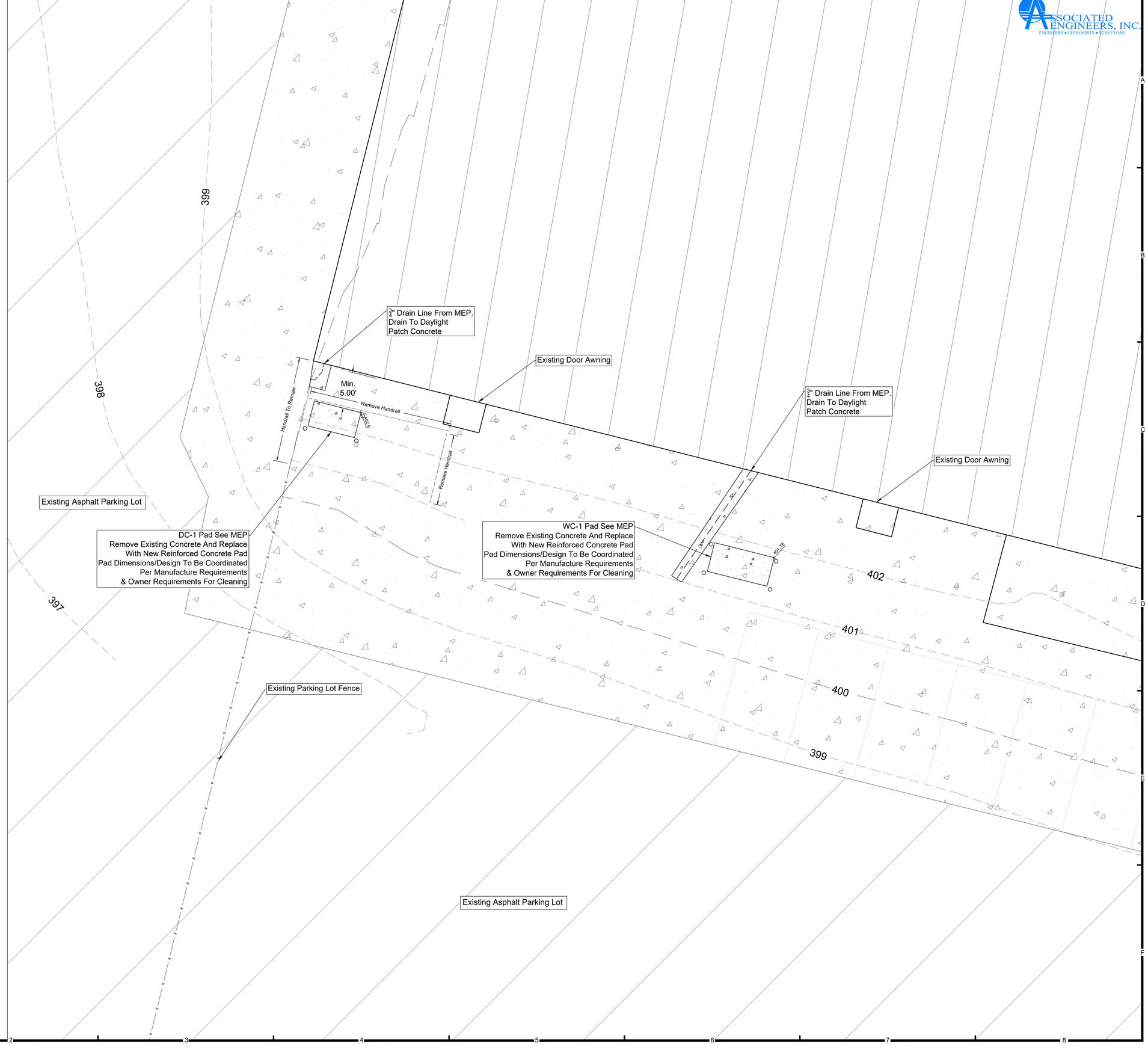

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CHECKED BY	D.A.L.
DATE	02/01/2024

REVISIONS

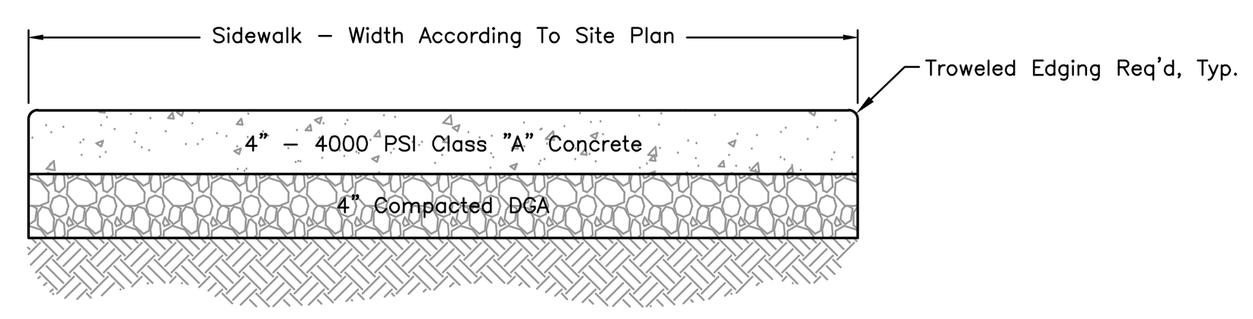
NO.	DATE

COMMONWEALTH OF KENTUCKY
DAVID A. LAMS
17702
LICENSED PROFESSIONAL ENGINEER
02/01/2024

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY

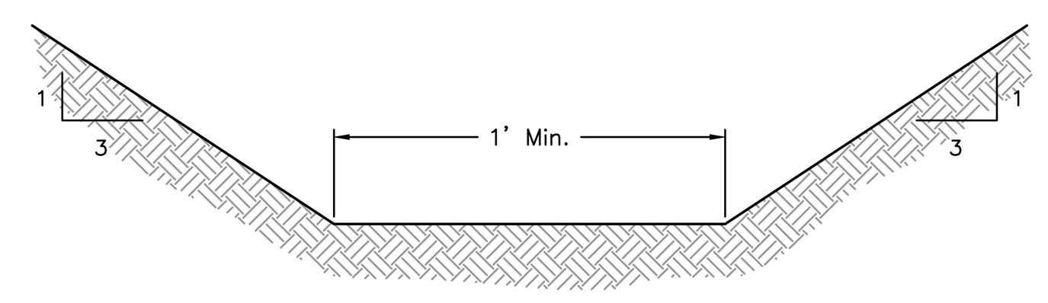
DC-1 & WC-1 CONCRETE PADS

SHEET NUMBER
C-3



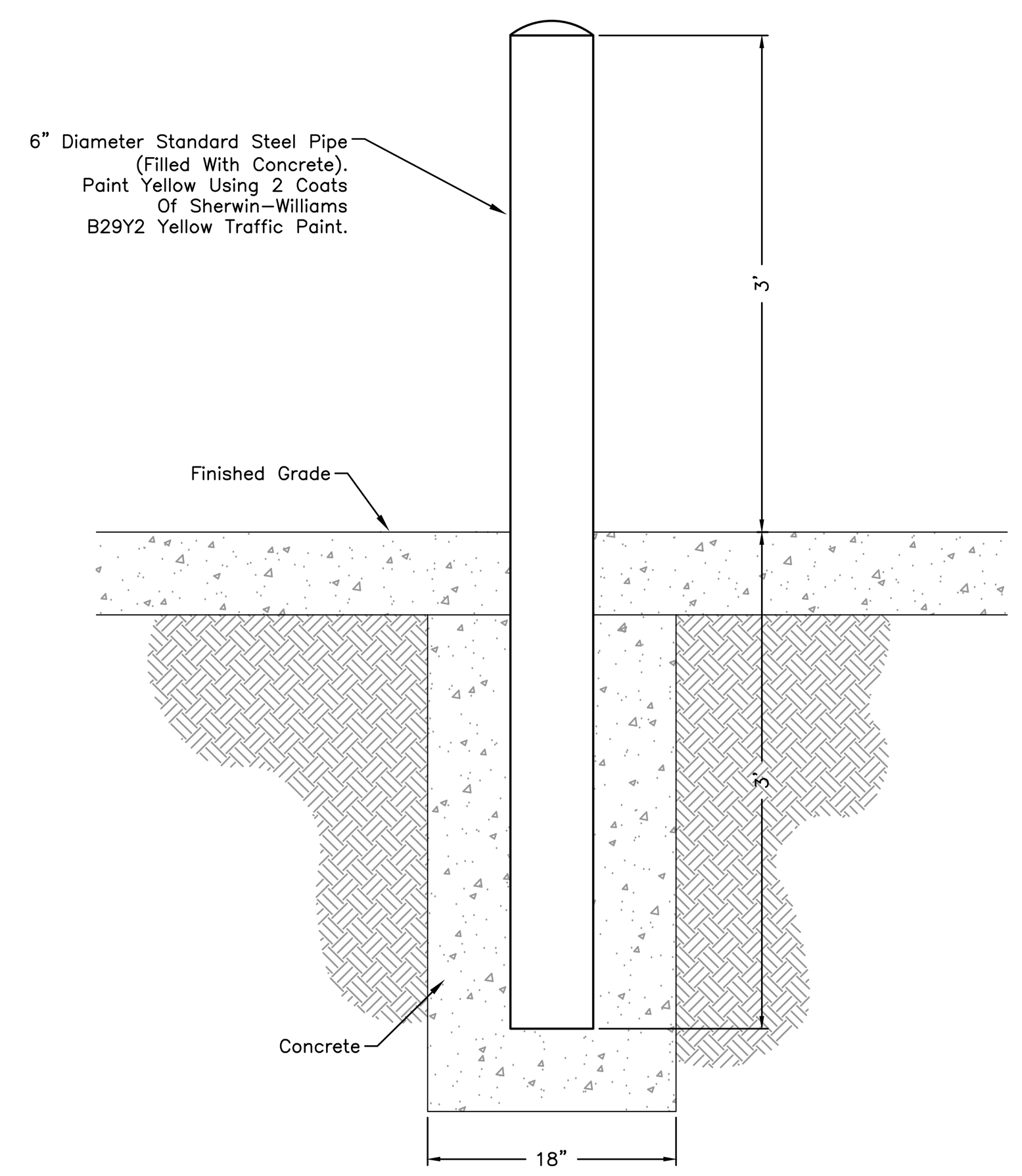
CONCRETE SIDEWALK

N.T.S.



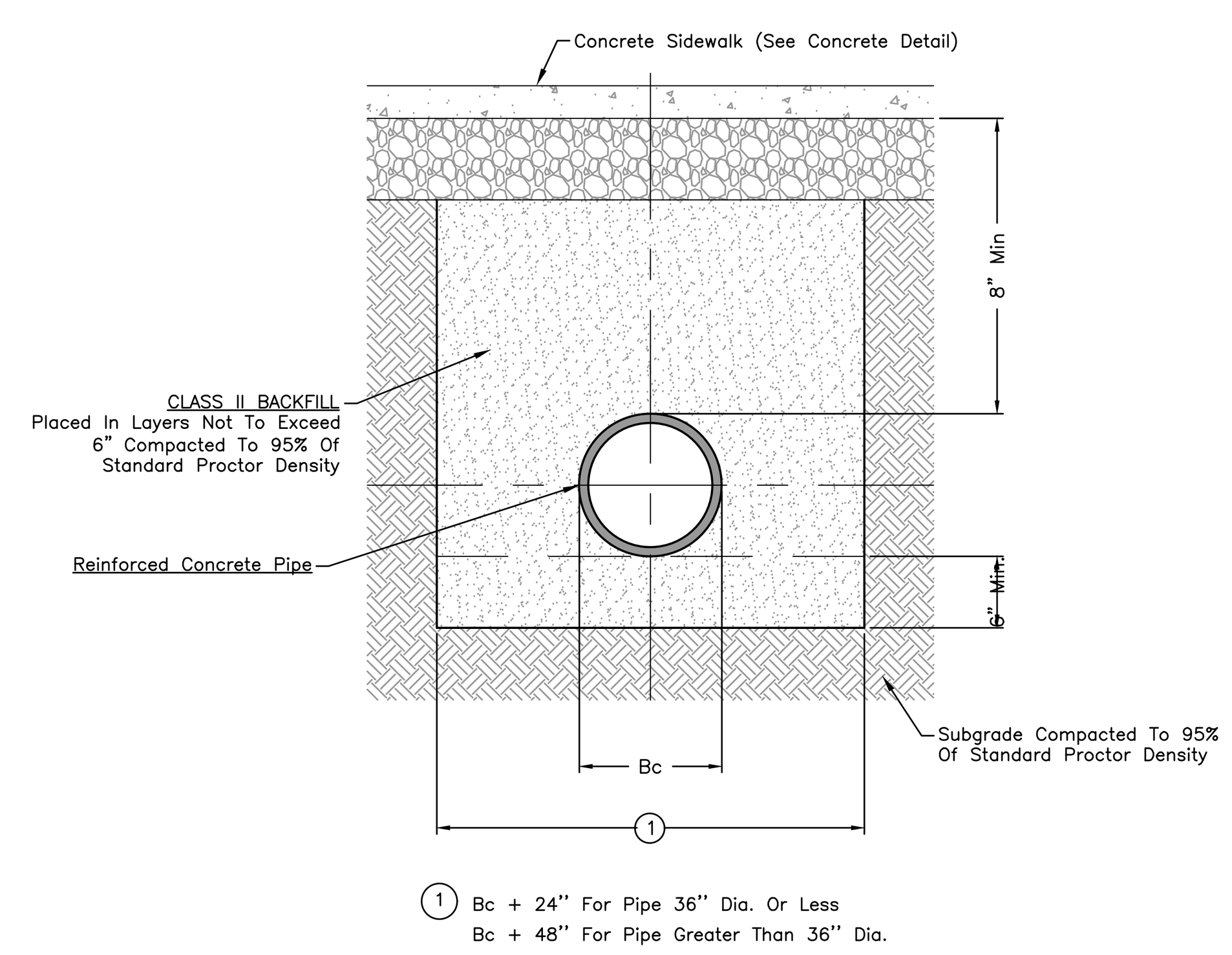
TYPICAL GRASS LINED SWALE

N.T.S.



6" PIPE BOLLARD

N.T.S.



(1) Bc + 24" For Pipe 36" Dia. Or Less
Bc + 48" For Pipe Greater Than 36" Dia.

PIPE BEDDING DETAIL - PAVEMENT

N.T.S.

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17822
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
CTE EXPANSION
HENDERSON, KY

SITE DETAILS

SHEET NUMBER

C–4

A - DESIGN LOADS

1 - SLAB ON GRADE LIVE LOAD	100 psf
2 - ROOF LIVE LOAD	20 psf
3 - SNOW, WIND, SEISMIC	2018 KENTUCKY BUILDING CODE
4 - RISK CATEGORY	III

B - SNOW LOAD

SNOW EXPOSURE FACTOR, Ce	1.0
SNOW LOAD IMPORTANCE FACTOR, Is	1.1
THERMAL FACTOR, Ct	1.0
GROUND SNOW LOAD, Pg	15 psf
FLAT ROOF SNOW LOAD, Pf	11.6 psf

C - WIND LOAD

ULTIMATE WIND SPEED	120 MPH
WIND EXPOSURE CATEGORY	C

D - SEISMIC

MAPPED SPECTRAL RESPONSE ACCELERATIONS, S_S	0.676
MAPPED SPECTRAL RESPONSE ACCELERATIONS, S_1	0.230
SPECTRAL RESPONSE COEFFICIENT, S_{DS}	0.567
SPECTRAL RESPONSE COEFFICIENT, S_{D1}	0.297
SEISMIC IMPORTANCE FACTOR, Ie	1.25
SITE CLASS	D
SEISMIC DESIGN CATEGORY	D
SPECIAL REINFORCED MASONRY SHEAR WALLS	
RESPONSE MODIFICATION COEFFICIENT, R	5
SEISMIC RESPONSE COEFFICIENT, Cs	0.142
EQUIVALENT LATERAL FORCE PROCEDURE	

E - SOIL PRESSURES:

	P.S.F.
1 - SPREAD FOOTINGS	1,000

F - EXCAVATION AND BACKFILLING:

1 - A MINIMUM OF 8" OF TOP SOIL IS TO BE REMOVED PRIOR TO ANY CONSTRUCTION.

2 - WHERE FILL IS REQUIRED UNDER SLABS, SIDEWALKS, TRENCHES, ETC., IT SHALL BE AS PROJECT SPECIFICATIONS.

3 - WALLS WITH FILL ON BOTH SIDES: PLACE FILL EQUALLY EACH SIDE WITH A 1'-0 MAXIMUM DIFFERENTIAL IN HEIGHT AT ANY TIME.

4 - COMPACT ALL FILL AS PER PROJECT SPECIFICATIONS. USE MECHANICAL COMPACTOR.

5 - REMOVE ALL EXISTING NONCOMPACTED FILL AND REPLACE w/ COMPACTED FILL.

6 - SLAB SUB BASE MATERIAL SHALL BE GRANULAR AND SHALL MEET THE FOLLOWING REQUIREMENTS:

1" MAXIMUM SIZE
15% (MAXIMUM) PASSING #200 SIEVE.
6 (MAXIMUM) PLASTICITY INDEX.
25 (MAXIMUM) LIQUID LIMIT.

G - CONCRETE AND REINFORCING:

1 - CONCRETE STRENGTH SHALL BE AS FOLLOWS: F'c 28 DAYS

ALL CONCRETE 4000 PSI

TEST CYLINDERS TO BE TAKEN FROM CONCRETE BEING PLACED.

ONE SET OF TEST CYLINDERS TO BE TAKEN FROM EACH 50 CUBIC YARDS AND OR EACH INDIVIDUAL POUR. GENERAL CONTRACTOR TO PAY FOR TEST SPECIMENS. ANY ADDITIONAL TESTING, ETC., DUE TO LESS THAN ADEQUATE CONCRETE STRENGTH TO BE PAID FOR BY THE GENERAL CONTRACTOR. ASTM TESTING PROCEDURES TO BE FOLLOWED FOR ALL TESTS.

2 - REINFORCING BARS TO BE ASTM A615 - GRADE 60, UNLESS NOTED.

3 - FURNISH ACCESSORIES IN ACCORDANCE WITH LATEST EDITION OF A.C.I. DETAILING MANUAL. A.C.I. RECOMMENDATIONS AND GUIDELINES TO BE FOLLOWED WHILE FORMING AND POURING CONCRETE.

4 - FLOOR SLABS ON GRADE TO HAVE CONSTRUCTION OR CONTROL JOINTS ON COLUMN LINES WHERE POSSIBLE BUT NOT TO EXCEED 20'-0 APART.

5 - ALL REINFORCED CONCRETE WALLS SHALL HAVE CONSTRUCTION OR CONTROL JOINTS NOT MORE THAN 30'-0 APART NOR MORE THAN 15'-0 FROM CORNERS.

6 - CONCRETE COVER OVER REINFORCING:

A -- WALLS - 2 INCHES, OR AS NOTED.

B -- PIERS - 2 INCHES, OR AS NOTED.

C -- SLABS - CENTER

D -- FOOTINGS - 3 INCHES OR AS NOTED.

7 - ALL REINFORCED CONCRETE WALL INTERSECTIONS TO HAVE CORNER BARS SAME SIZE AND QUANITY AS HORIZONTAL WALL REINFORCING.

8 - LAP ALL REINFORCING BARS A MINIMUM OF 32 BAR DIAMETERS AT SPLICES.

9 - ALL CONCRETE EXPOSED TO WEATHER TO HAVE 6% ± 1% ENTRAINED AIR.

10 - REINFORCING BAR DETAILS TO BE SUBMITTED FOR APPROVAL BEFORE BEGINNING FABRICATION.

H - STRUCTURAL AND MISC. STEEL:

1 - ALL STRUCTURAL STEEL SHALL BE ASTM A992, UNLESS NOTED.

2 - ANGLES, CHANNELS, AND PLATES SHALL BE ASTM A36.

3 - TUBE STEEL SHALL BE ASTM A500 GRADE B (46 KSI).

4 - SHOP CONNECTIONS GENERALLY TO BE WELDED. USE E70XX WELD RODS. FABRICATOR HAS OPTION OF PROVIDING SHOP BOLTED CONNECTIONS.

5 - FIELD CONNECTIONS TO BE BOLTED WITH 3/4"Φ A325 BOLTS, UNLESS NOTED .

6 - STEEL FABRICATION AND ERECTION SHALL ADHERE TO THE REQUIREMENTS OF AISC MANUAL OF STEEL CONSTRUCTION, 9th EDITION AND THE AISC "CODE OF STANDARD PRACTICE".

7 - STEEL JOISTS TO CONFORM TO THE SPECIFICATIONS OF THE JOINT AISC-SJI "STANDARD SPECIFICATIONS FOR OPEN WEB JOISTS AND LONG SPAN STEEL JOISTS", LATEST EDITION.

8 - STEEL JOISTS SHALL HAVE DOUBLE ANGLE BOTTOM CHORDS.

9 - USE E7018 WELD RODS FOR ALL DECK WELDS.

10 - SETS OF CHECKED SHOP DETAILS TO BE SUBMITTED FOR APPROVAL BEFORE BEGINNING FABRICATION. UNCHECKED SHOP DRAWINGS SUBMITTED FOR APPROVAL SHALL BE REJECTED. EACH SHEET OF SHOP DRAWINGS SHALL HAVE CHECKERS INITIALS OR NAME CLEARLY INDICATED.

11 - PROVIDE LINTELS OVER MASONRY WALL OPENINGS AS FOLLOWS, UNLESS NOTED:

EACH 4" COURSE OF WALL	SPAN	SOLID BEARING
1L-3½ X 3½ X ¼	UP TO 6'-0	6"
1L-4 X 3½ X ¼	6'-0 TO 8'-0	6"
1L-5 X 3½ X 5/16	8'-0 TO 10'-0	8"
1L-6 X 3½ X 3/8	10'-0 TO 12'-0	8"

J - REINFORCED MASONRY WALL NOTES:

1 - USE 2-CORE LIGHT WEIGHT BLOCKS - GRADE N - TYPE I CONFORMING TO ASTM C90.

2 - GROUT FOR CORES TO BE 7 BAG MIX WITH 3/8" TOP SIZE GRAVEL WITH A MINIMUM STRENGTH OF 3,000 psi. @ 28 DAYS AND SLUMP = 10" ± 1".

3 - WEBS OF BLOCKS AT GROUTED CORES SHALL BE BUTTERED WITH MORTAR.

4 - GROUT TO BE PLACED IN 4'-0 LIFTS (MAXIMUM).

5 - GROUT TO BE VIBRATED, ONCE IMMEDIATELY WHEN PLACED AND 30 MINUTES AFTER PLACING. USE "PENCIL" VIBRATOR. GROUT TO BE STOPPED TO FORM A 1½" KEY AT JOINTS.

6 - ALL WALLS TO BE INSTALLED AS RECOMMENDED IN THE "DESIGN MANUAL - THE APPLICATION OF REINFORCED CONCRETE MASONRY LOAD BEARING WALLS IN MULTI-STORIED STRUCTURES" PUBLISHED BY THE NATIONAL CONCRETE MASONRY ASSOCIATION.

7 - MORTAR TO BE ASTM C270.

8 - USE VERTICAL BAR POSITIONERS TO LOCATE BARS AS NOTED ON PLANS.

9 - POSITION REINFORCING BARS PRIOR TO GROUT PLACEMENT. DO NOT FLOAT REBARS IN GROUTED CORE.

10 - LAP REINFORCING 40 BAR DIAMETERS.

K - MISC. ITEMS:

1 - NO CONDUIT OR CALCIUM CHLORIDE TO BE USED IN CONCRETE.

2 - MECHANICAL OPENINGS NOT SHOWN OR SIZED ON PLANS TO BE SIZED AND LOCATED BY MECHANICAL CONTRACTOR WITH VERIFICATIONS MARKED ON DRAWINGS SUBMITTED FOR APPROVAL.

3 - PLACE STANDARD WT., LADDER TYPE JOINT REINFORCING AT 16" CENTERS VERTICALLY IN ALL MASONRY WALLS, UNLESS NOTED. SPACE JOINT REINFORCING AT 8" VERTICALLY IN REINFORCED BRICK WALLS & PARAPET WALLS. USE 2 WIRE AT INTERIOR WALLS, UNLESS NOTED.

4 - GENERAL CONTRACTOR TO LAYOUT NEW ADDITION. ANY DISCREPANCIES SHALL BE REPORTED TO ARCHITECT'S OFFICE AS SOON AS POSSIBLE.

5 - ROOF OPENINGS TO HAVE AN ANGLE FRAME. SEE TYPICAL DETAILS.

6 - CONTRACTOR TO EMPLOY INDEPENDENT TESTING AGENCY TO VERIFY SOIL BEARING CAPACITY.

L - SPECIAL INSPECTIONS:

1 - SPECIAL INSPECTIONS AS PER CHAPTER 17 SHALL BE PERFORMED AS FOLLOWS:

INSPECTION	INSPECTOR
CONCRETE	INDEPENDENT TESTING AGENCY EMPLOYED BY OWNER
SOILS & FOUNDATION	INDEPENDENT TESTING AGENCY EMPLOYED BY OWNER
MASONRY	INDEPENDENT TESTING AGENCY EMPLOYED BY OWNER
STRUCTURAL STEEL/JOIST	INDEPENDENT TESTING AGENCY EMPLOYED BY OWNER

CONCRETE INSPECTIONS

ITEM	SCOPE	FREQUENCY
MIX DESIGN	REVIEW CONCRETE BATCH TICKETS AND VERIFY COMPLIANCE WITH APPROVED MIX DESIGN. VERIFY THAT WATER ADDED AT THE SITE DOES NOT EXCEED THAT ALLOWED BY MIX DESIGN.	PERIODIC
CONCRETE PLACEMENT	INSPECT PLACEMENT OF CONCRETE. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.	CONTINUOUS
SAMPLING AND TESTING OF CONCRETE	TEST CONCRETE COMPRESSIVE STRENGTH (ASTM C31 & C390, SLUMP (ASTM C143), AIR-CONTENT (ASTM C231 OR C173), AND TEMPERATURE (ASTM C1064).	CONTINUOUS
CURING AND PROTECTION	INSPECT CURING, COLD WEATHER PROTECTION AND HOT WEATHER PROCEDURES.	PERIODIC
FORMWORK	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC
REINFORCEMENT INSTALLATION	INSPECT SIZE, SPACING, COVER, POSITIONING AND GRADE OF REINFORCING STEEL. VERIFY THAT REINFORCING BARS ARE FREE OF FORM OIL OR OTHER DELETERIOUS MATERIALS. INSPECT BAR LAPS AND MECHANICAL SPLICES. VERIFY THAT BARS ARE ADEQUATELY TIED AND SUPPORTED ON CHAIRS OR BOLSTERS.	PERIODIC
ANCHOR RODS	INSPECT SIZE, POSITIONING AND EMBEDMENT OF ANCHOR RODS. INSPECT CONCRETE PLACEMENT AND CONSOLIDATION AROUND ANCHORS.	CONTINUOUS

SOILS AND FOUNDATIONS INSPECTIONS

ITEM	SCOPE	FREQUENCY
SHALLOW FOUNDATIONS	INSPECT SOILS BELOW FOOTINGS FOR ADEQUATE BEARING CAPACITY AND CONSISTENCY WITH GEOTECHNICAL REPORT. INSPECT REMOVAL OF UNSUITABLE MATERIAL AND PREPARATION OF SUBGRADE PRIOR TO PLACEMENT OF CONTROLLED FILL.	PERIODIC
CONTROLLED STRUCTURAL FILL	PERFORM SIEVE TESTS (ASTM D422 & D1140) AND MODIFIED PROCTOR TESTS (ASTM D1557) OF EACH SOURCE OF FILL MATERIAL. INSPECT PLACEMENT, LIFT THICKNESS, AND COMPACTION OF CONTROLLED FILL. TEST DENSITY OF EACH LIFT OF FILL.	CONTINUOUS

MASONRY INSPECTIONS

ITEM	SCOPE	FREQUENCY
MIXING OF MORTAR AND GROUT	INSPECT PROPORTIONING, MIXING, AND RETEMPERING OF MORTAR AND GROUT.	PERIODIC
INSTALLATION OF MASONRY	INSPECT SIZE, LAYOUT, BONDING, AND PLACEMENT OF MASONRY UNITS.	PERIODIC
MORTAR JOINTS	INSPECT CONSTRUCTION OF MORTAR JOINTS INCLUDING TOOLING AND FILLING OF HEAD JOINTS.	PERIODIC
GROUTING OPERATIONS	INSPECT PLACEMENT AND CONSOLIDATION OF GROUT. INSPECT MASONRY CLEAN-OUTS FOR HIGH-LIFT GROUTING.	CONTINUOUS
WEATHER PROTECTION	INSPECT COLD WEATHER PROTECTION AND HOT WEATHER PROTECTION PROCEDURES. VERIFY THAT WALL CAVITIES ARE PROTECTED AGAINST PRECIPITATION.	PERIODIC
EVALUATION OF MASONRY STRENGTH	TEST COMPRESSIVE STRENGTH OF MORTAR AND GROUT CUBE SAMPLES (ASTM C780). TEST COMPRESSIVE STRENGTH OF MASONRY PRISMS (ASTM C1314).	CONTINUOUS
REINFORCEMENT INSTALLATION	INSPECT PLACEMENT, POSITIONING, AND LAPPING OF REINFORCING STEEL.	PERIODIC
ANCHORS & TIES	INSPECT SIZE, LOCATION, SPACING AND EMBEDMENT OF DOWELS, ANCHORS, & TIES.	PERIODIC

STRUCTURAL STEEL/JOIST INSPECTIONS

ITEM	SCOPE	FREQUENCY
MATERIAL CERTIFICATION	REVIEW CERTIFIED MILL TEST REPORTS AND IDENTIFICATION MARKINGS ON WIDE-FLANGE SHAPES, HIGH-STRENGTH BOLTS, NUTS AND WELDING ELECTRODES.	PERIODIC
OPEN WEB STEEL JOISTS	INSPECT INSTALLATION, FIELD WELDING AND BRIDGING OF JOISTS.	PERIODIC
BOLTING	INSPECT INSTALLATION AND TIGHTENING OF HIGH-STRENGTH BOLTS. VERIFY PROPER TIGHTENING SEQUENCE. CONTINUOUS INSPECTION OF BOLTS IN SLIP-CRITICAL CONNECTIONS.	PERIODIC
WELDING	VISUALLY INSPECT ALL WELDS. INSPECT PRE-HEAT, POST-HEAT AND SURFACE PREPARATION BETWEEN PASSES. VERIFY SIZE AND LENGTH OF FILLET WELDS. ULTRASONIC TESTING OF ALL FULL-PENETRATION WELDS.	PERIODIC
STRUCTURAL DETAILS	INSPECT STEEL FRAME FOR COMPLIANCE WITH STRUCTURAL DRAWINGS, INCLUDING BRACING, MEMBER CONFIGURATION AND CONNECTION DETAILS.	PERIODIC
METAL DECK	INSPECT WELDING AND SIDE-LAP FASTENING OF METAL ROOF AND FLOOR DECK.	PERIODIC
LINTEL	INSPECT PLACEMENT AND POSITIONS OF LINTELS. VERIFY BEARING LENGTH AND LINTEL SIZE AND CONFIGURATIONS.	CONTINUOUS

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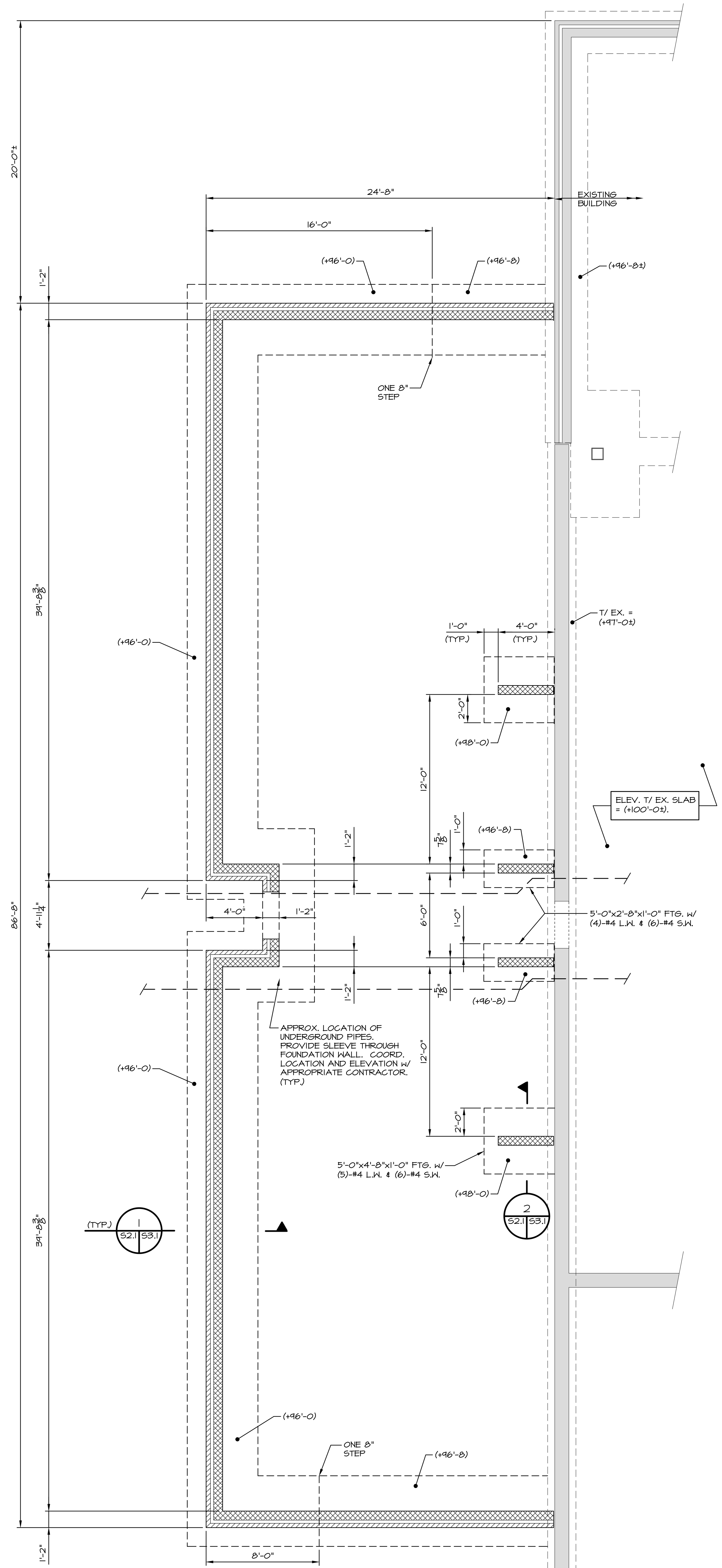
JOB NUMBER	Y21037
DRAWN BY	AS
CHECKED BY	KB
DATE	02-01-2024

No.	Description	Date

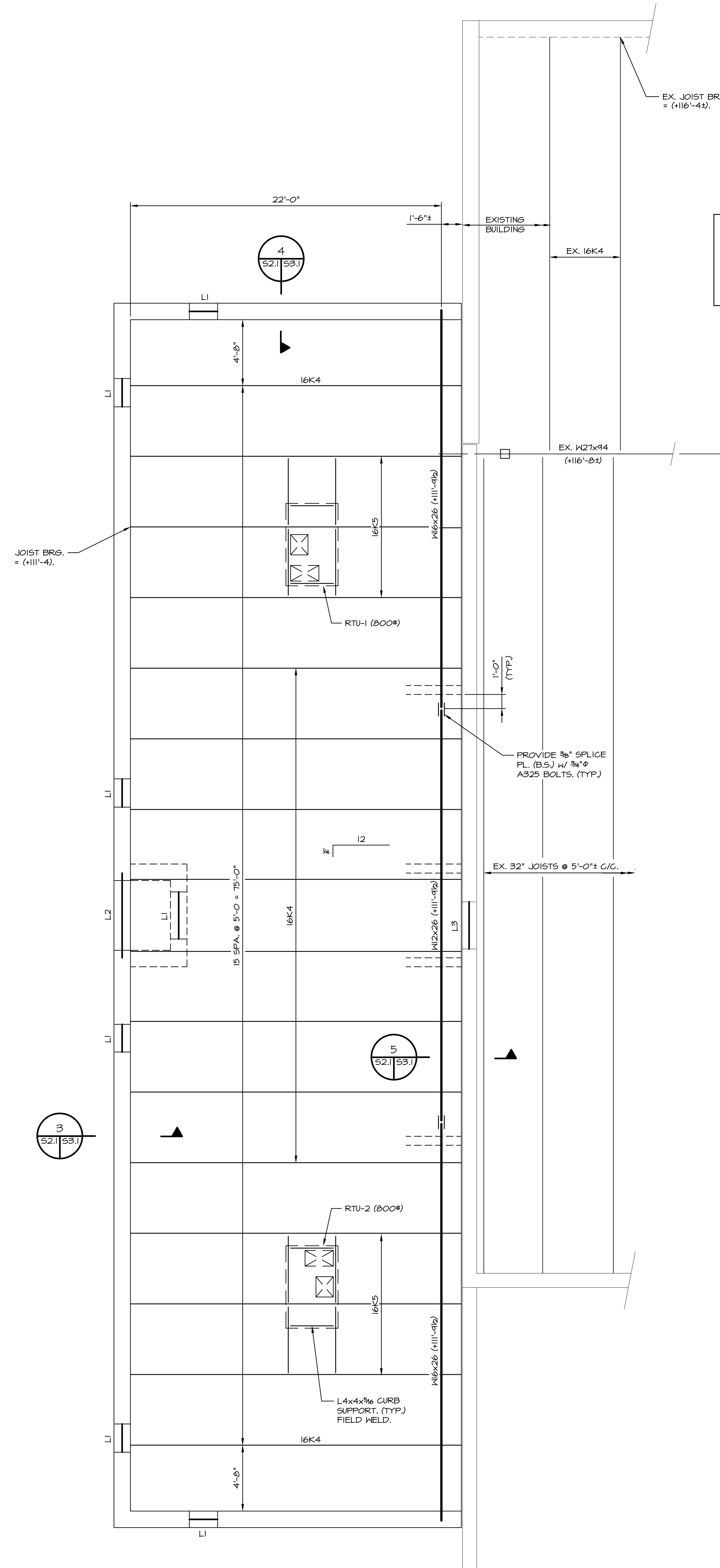
STATE OF KENTUCKY ★ Kenneth M. Balczo 17461 ★ LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION
GENERAL NOTES

SHEET NUMBER
S1.1



FOUNDATION PLAN - CLASSROOM ADDITION
1/4" = 1'-0"



ROOF FRAMING PLAN - CLASSROOM ADDITION
1/4" = 1'-0"

NOTE:

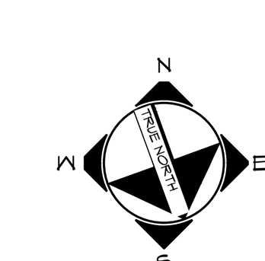
IN ROOM 106, WHERE DUCTS PENETRATE EXISTING WALL, EXISTING WINDOW OPENING SHALL BE ENLARGED. REMOVE EXISTING LINTEL. SHORE, AS REQUIRED. PROVIDE NEW W8x18 w/ ⅜"x13" BOTTOM PLATE LINTEL. COORDINATE w/ APPROPRIATE CONTRACTOR. REFER TO SHEET M3.2.

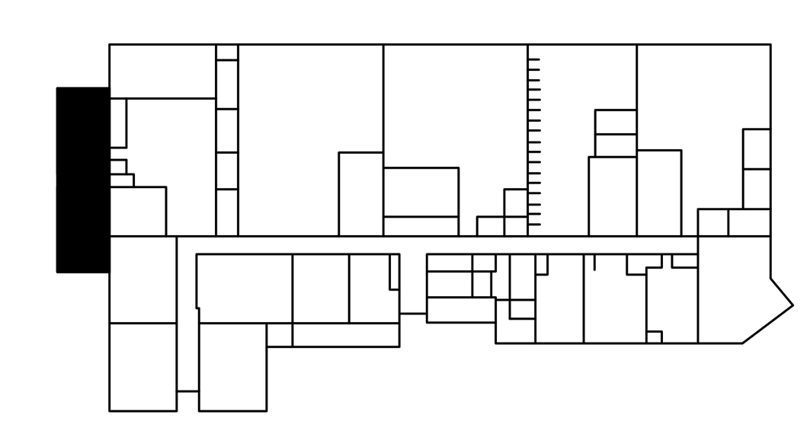
LINTEL SCHEDULE

MARK	SIZE	CONFIG.
L1	(3)-L3½x3½x¼ w/ ¼"x13" ℙ.	⅃ ⅃L
L2	(3)-L5x3½x5/16 (LLBB) w/ ¼"x13" ℙ.	⅃ ⅃L
L3	(3)-L3½x3½x¼ w/ ¼"x11" ℙ.	⅃ ⅃L

NOTES:

1. FLOOR TO BE 4" CONCRETE SLAB w/ ONE LAYER OF 6x6-10/10 WWF ON VAPOR RETARDER ON 6" GRAVEL.
2. ELEVATION TOP OF SLAB = (+100'-0). IT IS THE INTENT TO MATCH EXISTING.
3. REPLACE ANY EXISTING NON-COMPACTED FILL w/ COMPACTED GRANULAR FILL.
4. (+) INDICATES ELEVATION TOP OF FOOTING OR TOP OF STEEL.
5. ROOF SHALL BE 1½"x22 GA., GALV., TYPE B METAL ROOF DECK.
6. JOISTS TO HAVE 2½" DEEP HEELS.
7. JOIST MANUFACTURER SHALL SUPPLY AND ERECTOR SHALL INSTALL ALL TOP AND BOTTOM CHORD BRIDGING, NOT SHOWN.
8. PROVIDE ⅜"x6"x12" BRG. PLATE WITH (2)-½"Φx4" HEADED ANCHORS @ 8"C/C AT BEAM BEARING.




KEY PLAN
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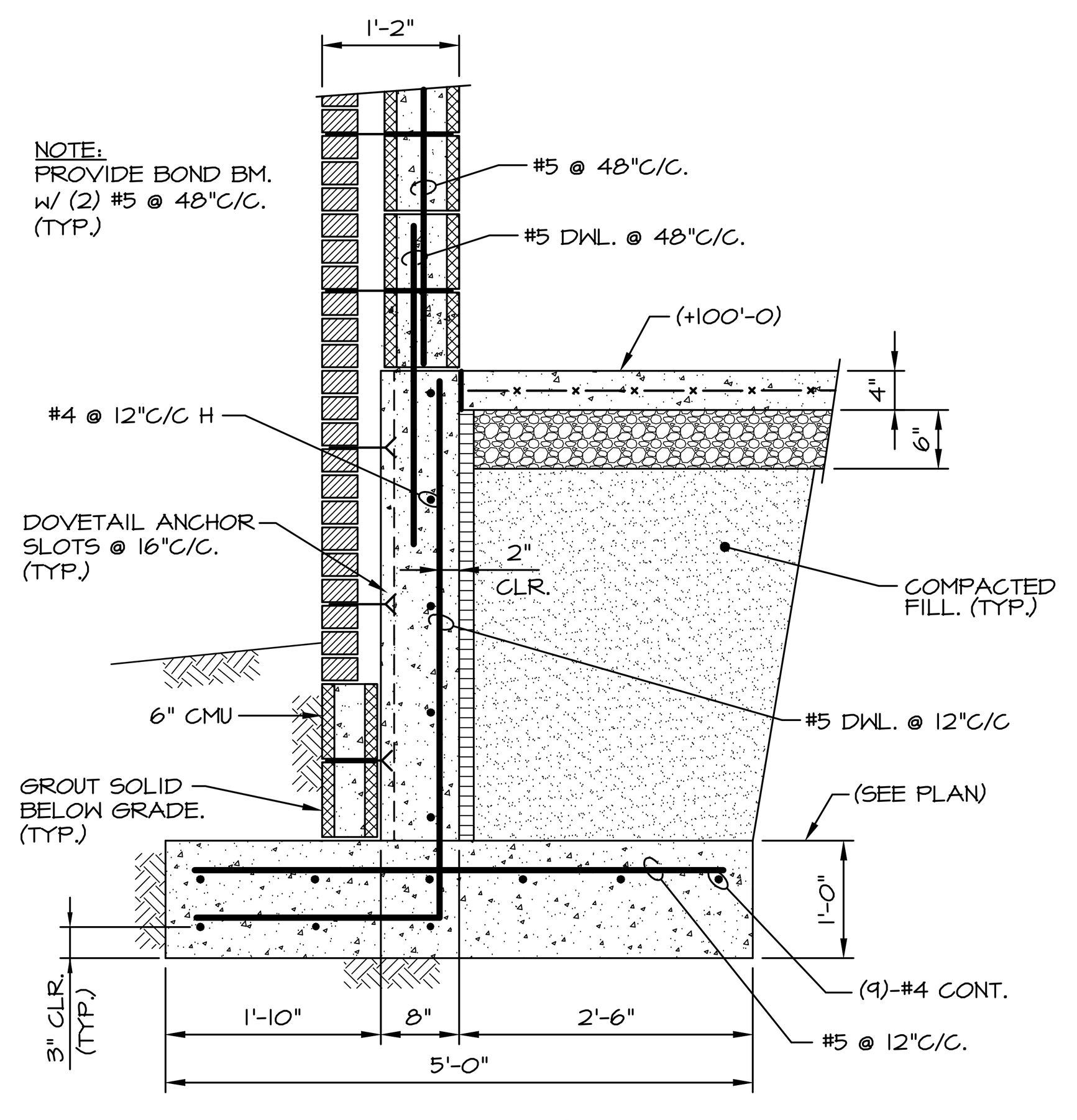
STATE OF KENTUCKY
Kenneth M. Balczo
17461
LICENSED PROFESSIONAL ENGINEER

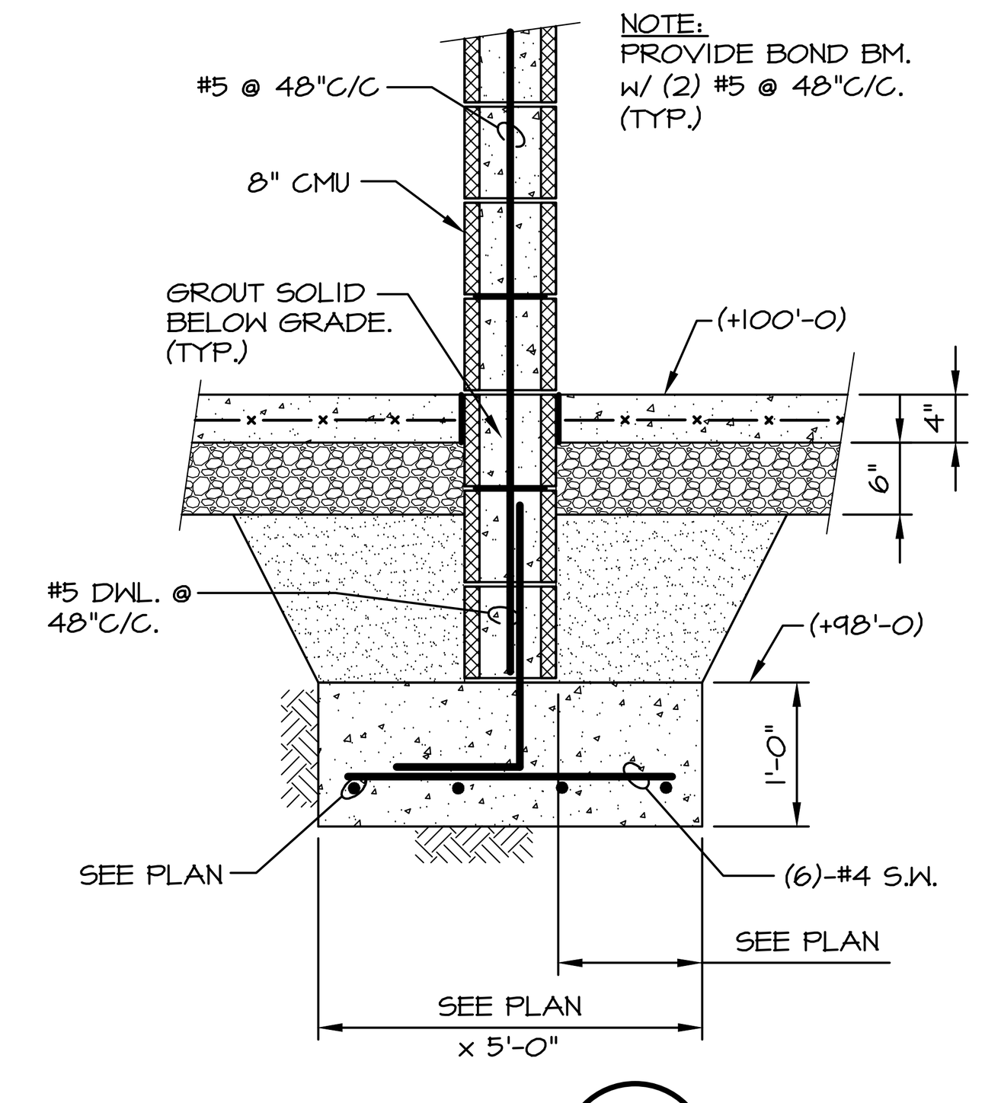
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION

FOUNDATION & ROOF FRAMING PLAN

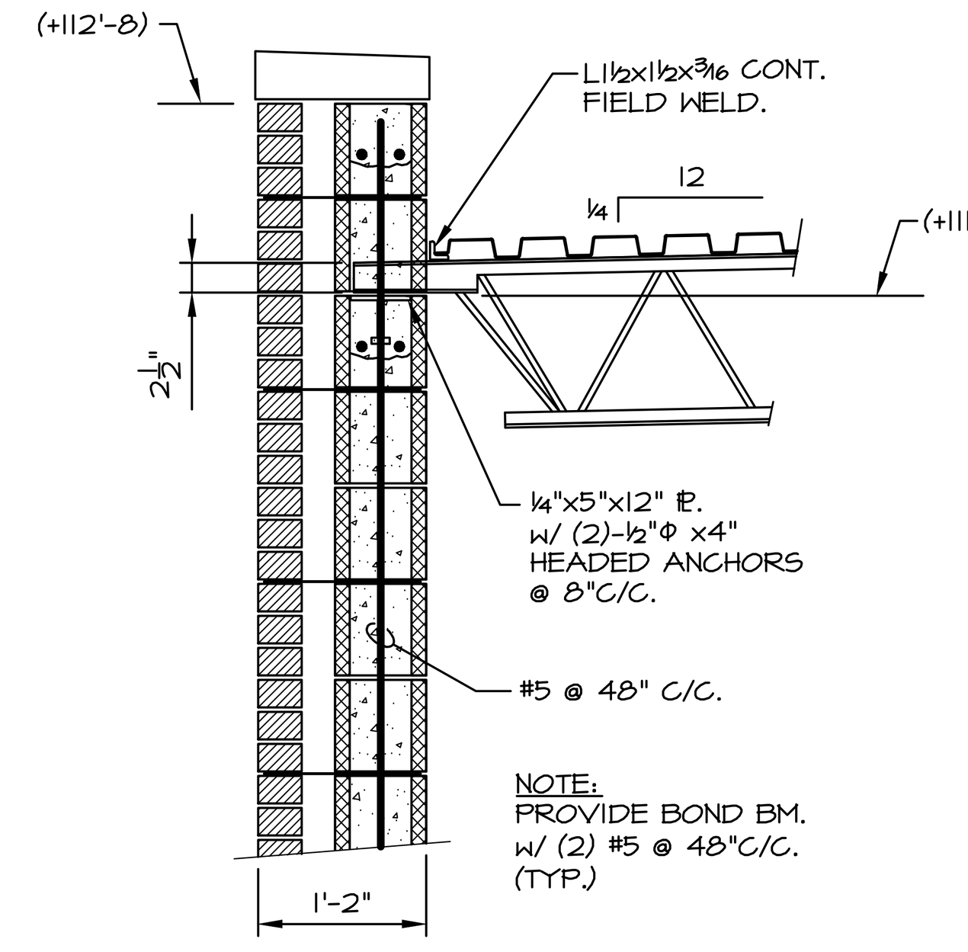
SHEET NUMBER
S2.1



SECTION 1
3/4" = 1'-0" S2.1 S3.1



SECTION 2
3/4" = 1'-0" S2.1 S3.1



SECTION 3
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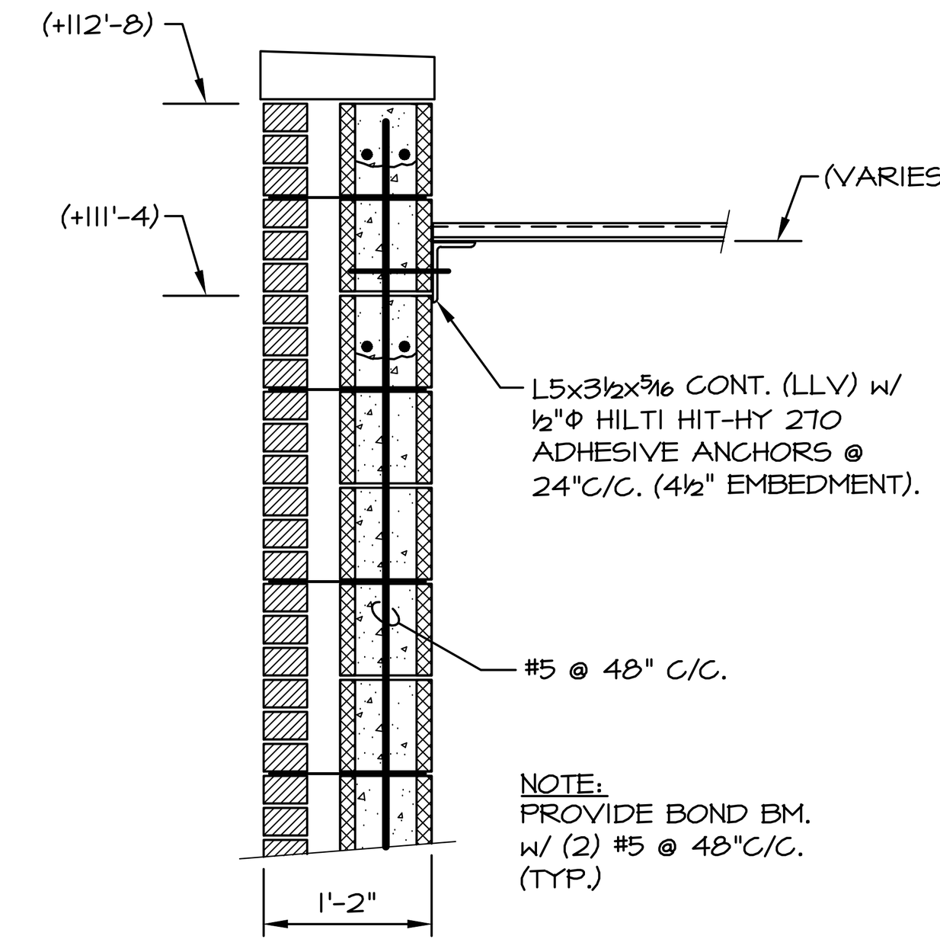

SECTION 4
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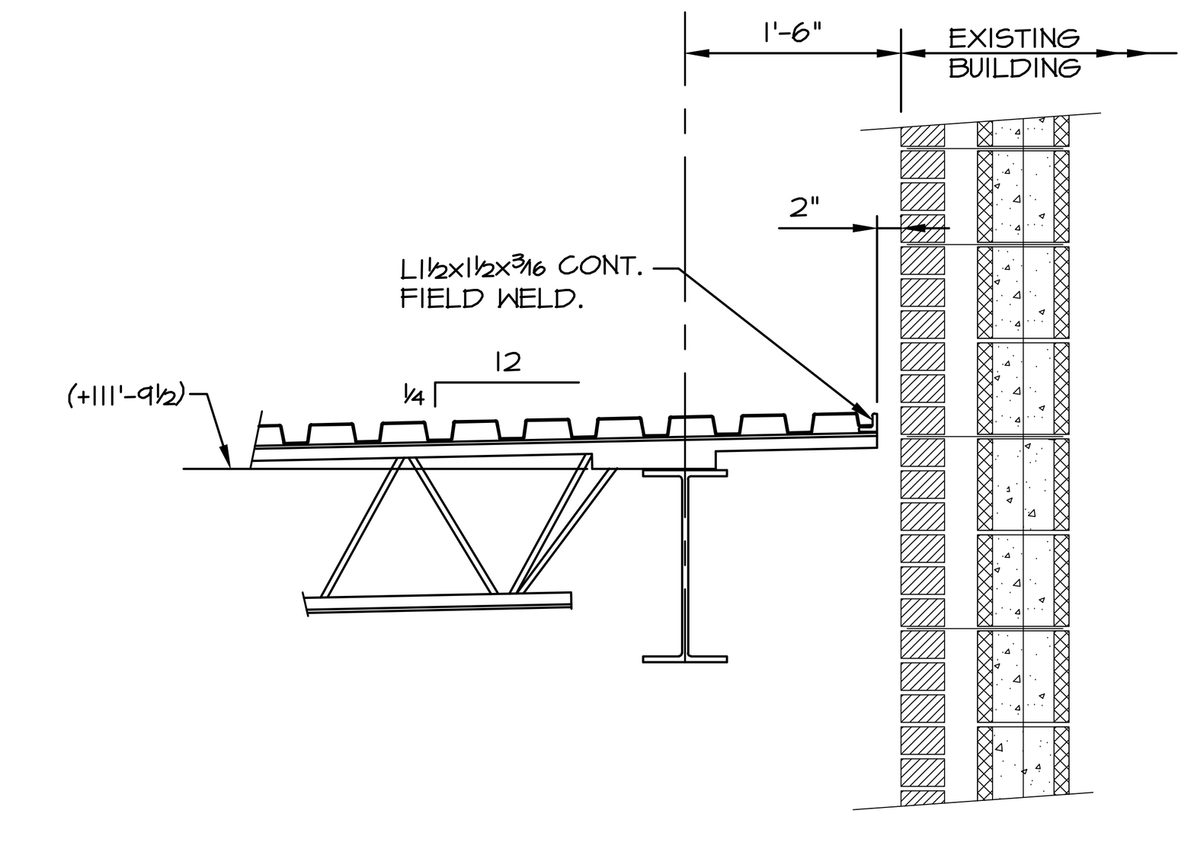
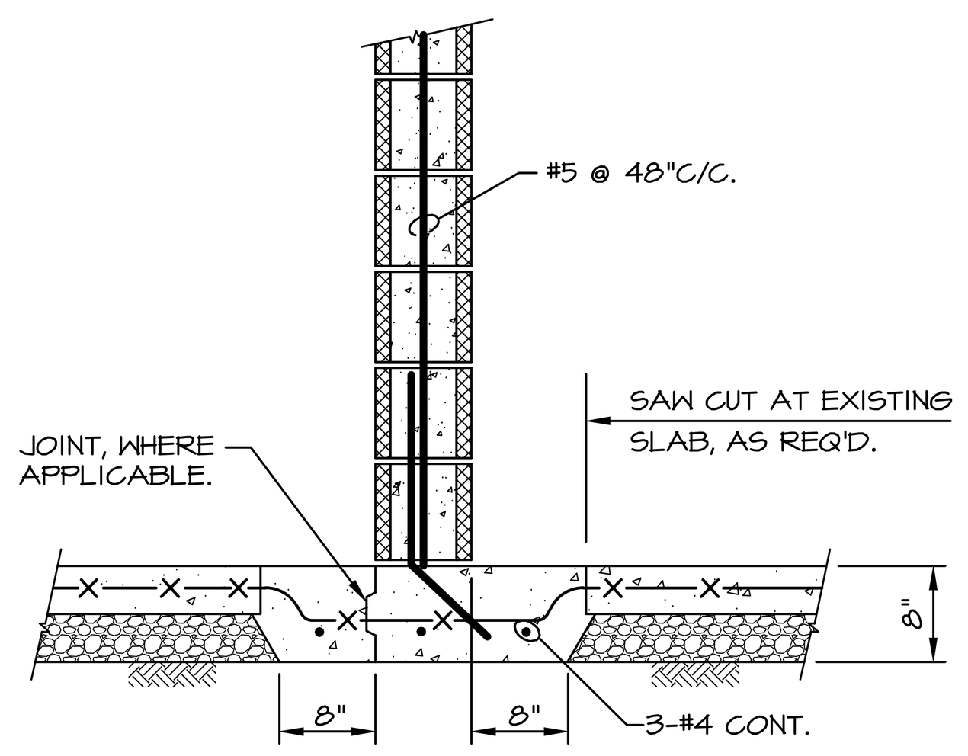
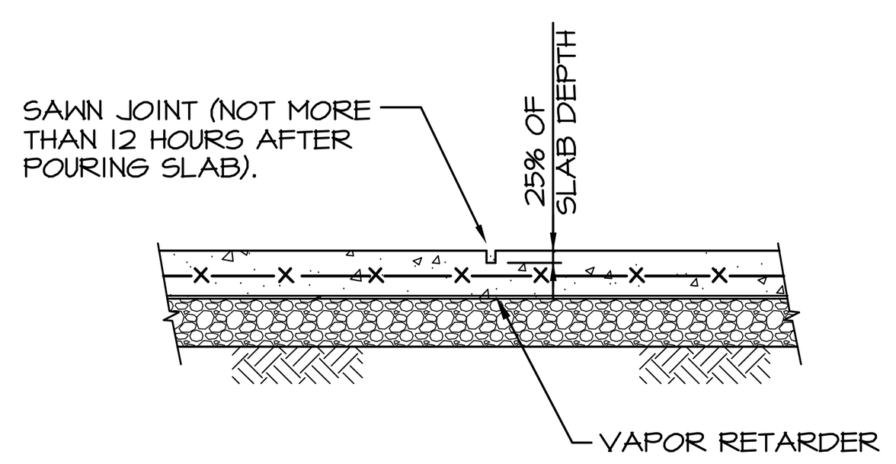


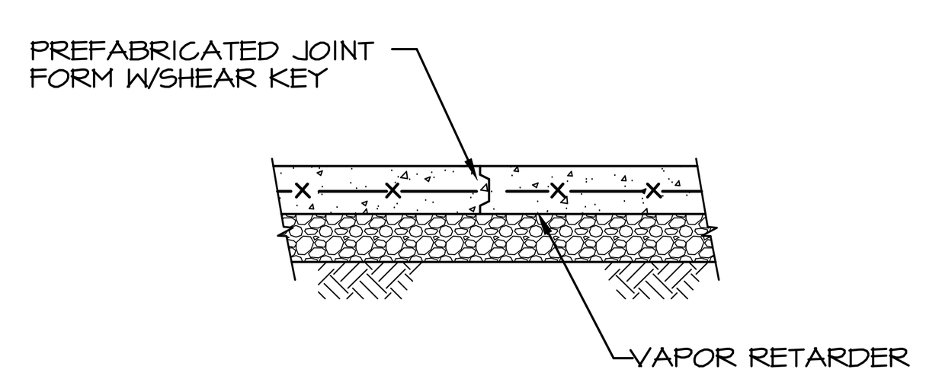
SECTION 5
3/4" = 1'-0" S2.1 S3.1



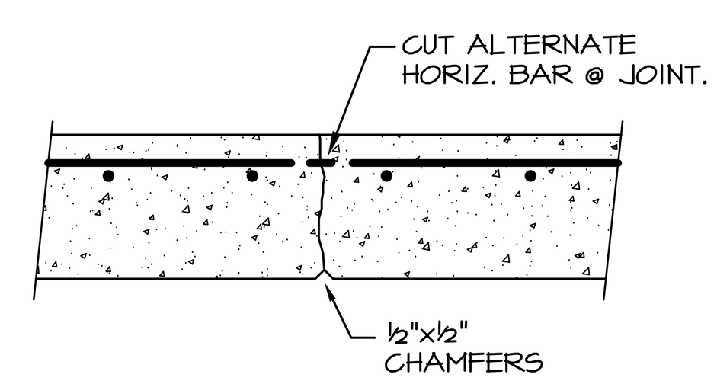
THICKENED SLAB DETAIL
(TYP. @ MASONRY WALLS, 5 7/8" OR WIDER)



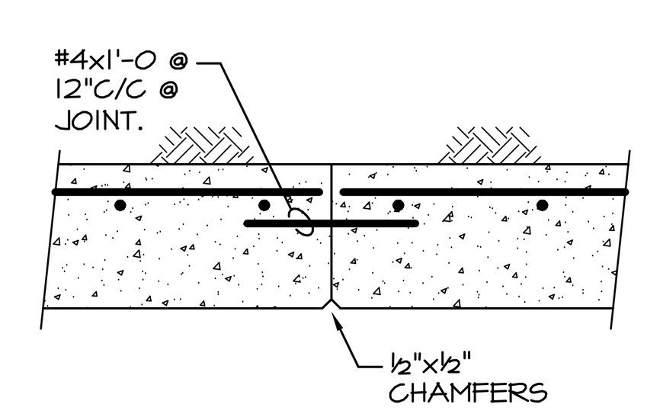
TYP. SLAB CONTROL JOINT DETAIL



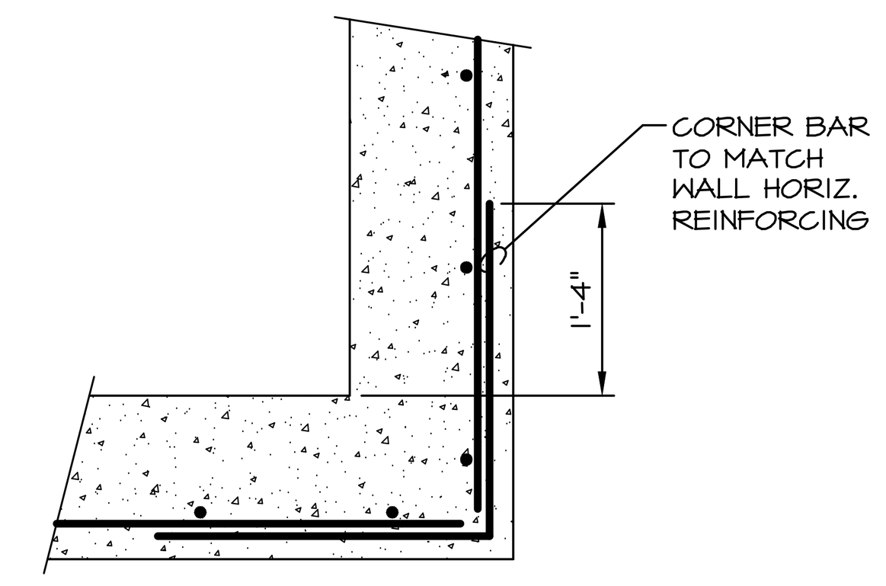
TYP. SLAB CONSTRUCTION JOINT DETAIL



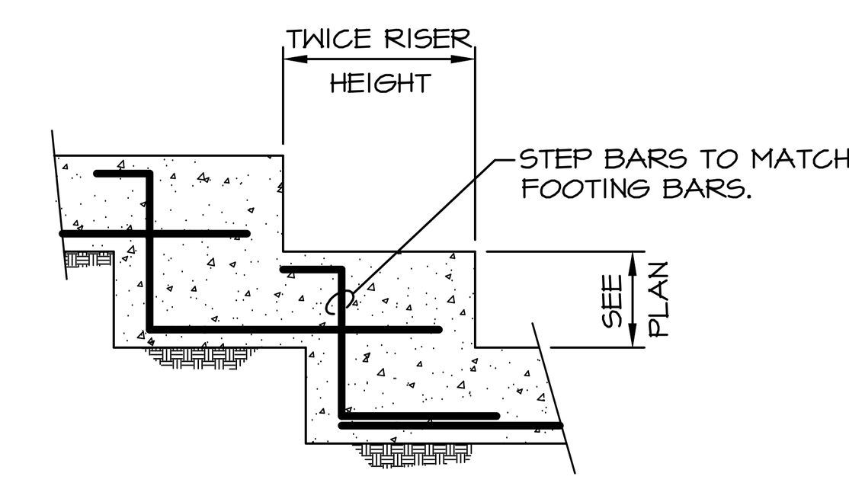
TYP. CONCRETE WALL CONTROL JOINT DETAIL



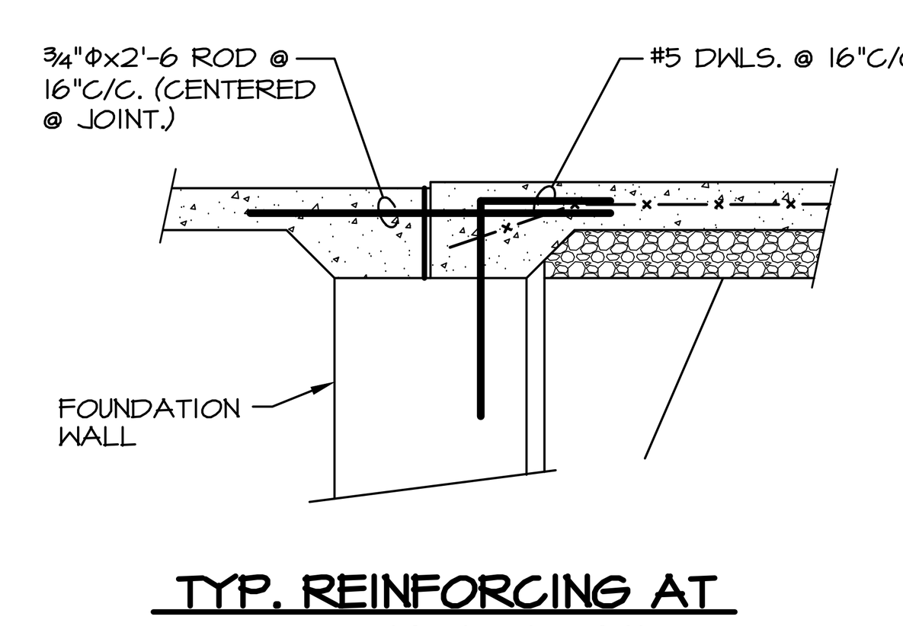
TYP. CONCRETE WALL CONSTRUCTION JOINT DETAIL



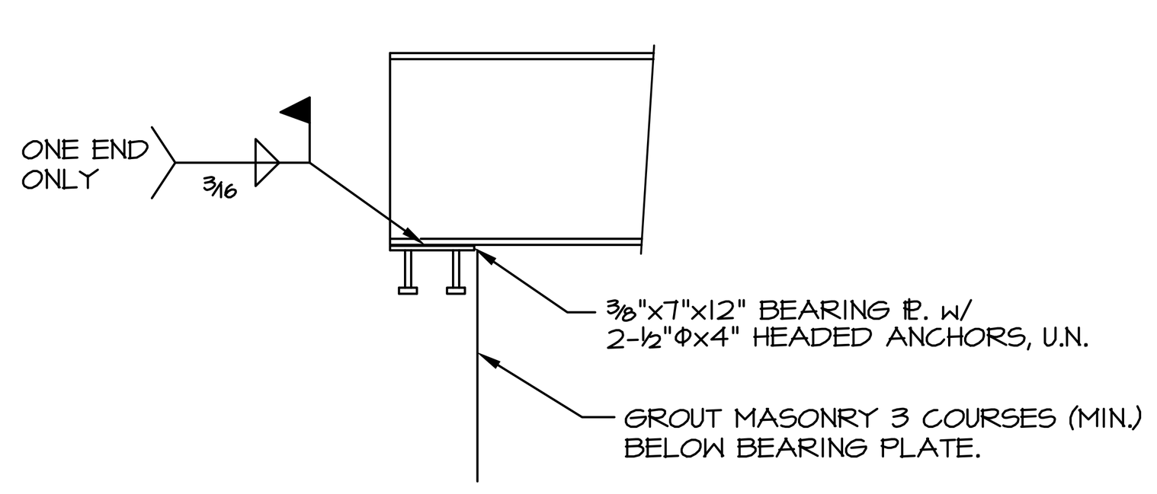
TYP. CORNER BAR DETAIL



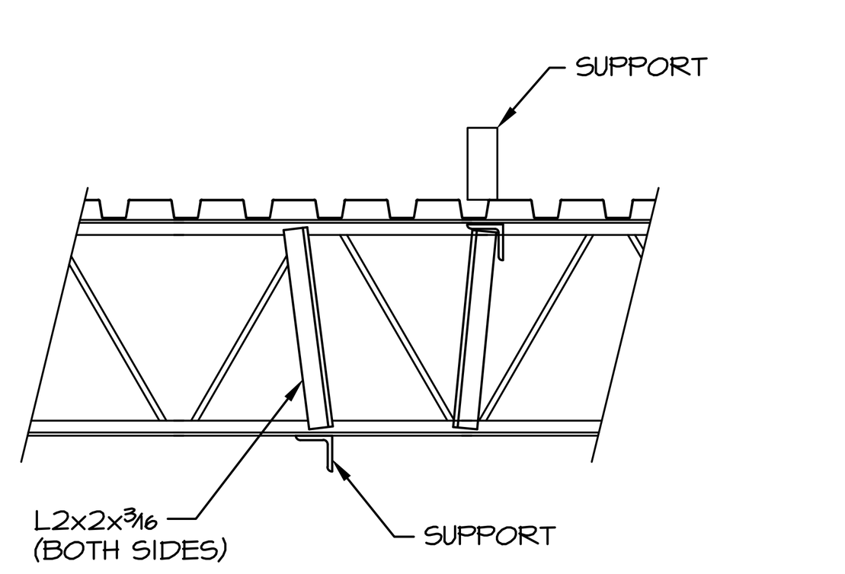
STEP FOOTING DETAIL



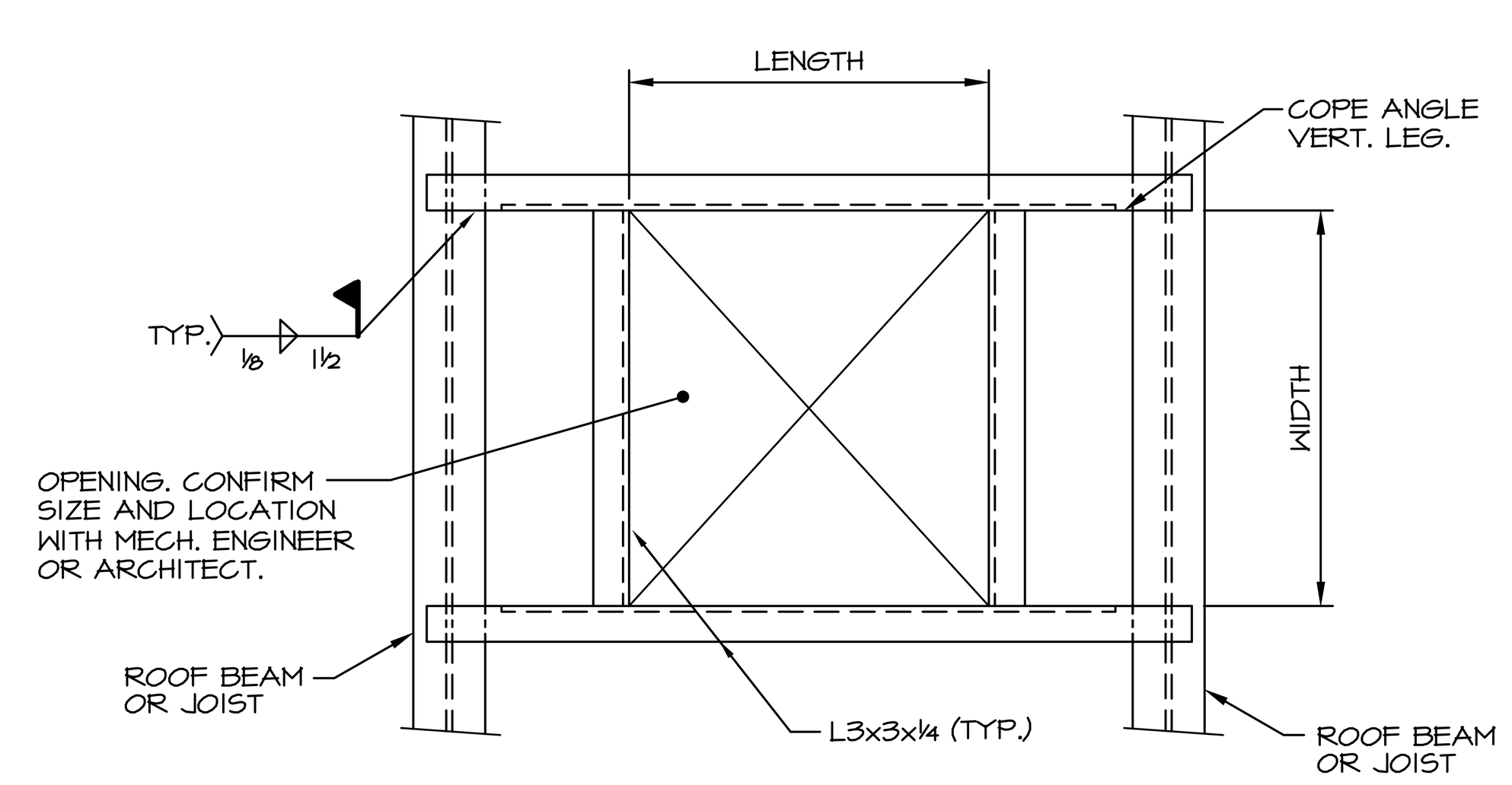
TYP. REINFORCING AT DOORWAY DETAIL



TYP. BEARING PLATE DETAIL

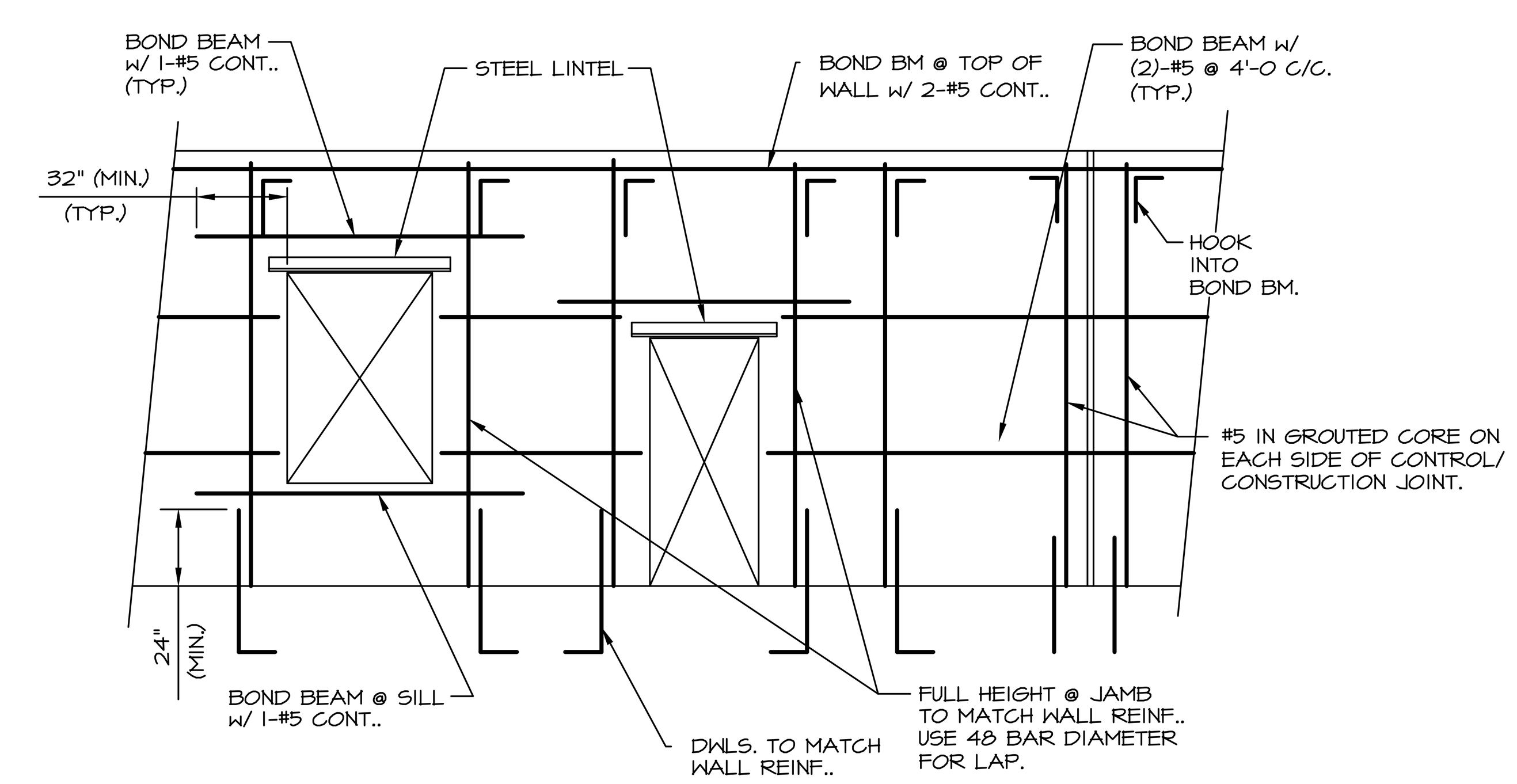


TYP. SUPPORT AT JOIST DETAIL



NOTE: FRAME REQ'D AT ALL ROOF DECK OPENINGS WHERE WIDTH IS GREATER THAN 12" OR LENGTH IS GREATER THAN 24".

TYP. ROOF OPENING DETAIL



ADDITIONAL REINFORCEMENT OF MASONRY WALL DETAIL

RBS DESIGN GROUP
ARCHITECTURE

JOB NUMBER	Y21057
DRAWN BY	AS
CHECKED BY	KB
DATE	02-01-2024

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION

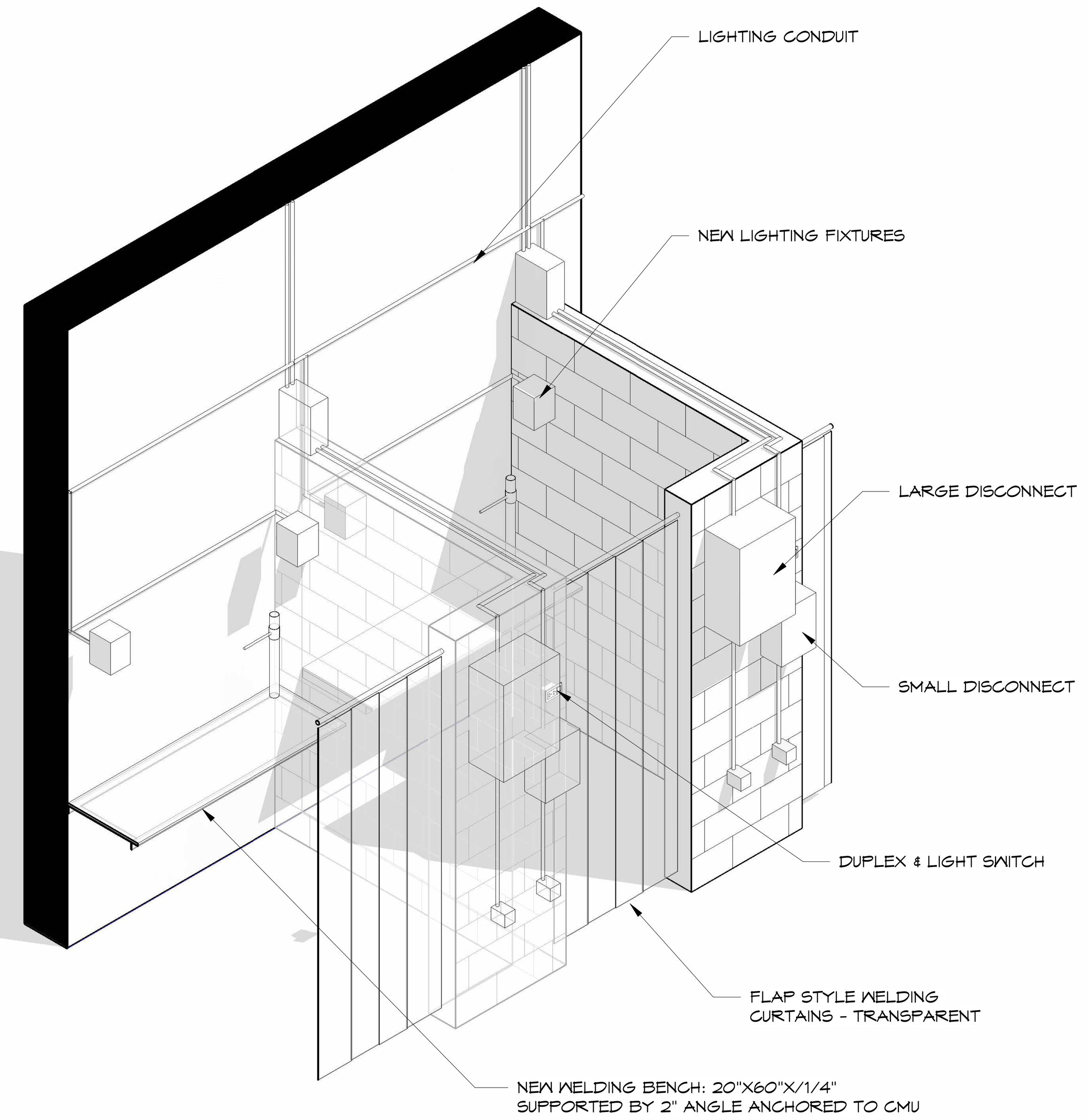
SECTIONS & DETAILS

SHEET NUMBER
S3.1

ROOM FINISH LEGEND

MARK	FLOOR	BASE	WALL	CEILING	NOTES
A	CARPET	VINYL	PAINT	2x2 CEILING TILE	
C	LVT	VINYL	PAINT	2x2 CEILING TILE	
E	EXIST	EXIST	EXIST	EXIST	
H	EXIST	VINYL	PAINT	2x2 CEILING TILE	
R	TILE	COVE TILE	TILE 0-4'-0"	2x4 CEILING TILE	
S	<varies>	VINYL	PAINT	NONE	
V	WALK-OFF CARPET	VINYL	PAINT	2x2 CEILING TILE	

1 OVERALL FLOOR PLAN
1/16" = 1'-0"



2 TYPICAL WELDING BOOTH LAYOUT

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DO NOT SCALE DRAWINGS
USE GIVEN DIMENSIONS ONLY. IF NOT SHOWN, VERIFY AND DOCUMENT CORRECT DIMENSION WITH THE ARCHITECT OR ENGINEER. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE.

JOB NUMBER	Y21037
DRAWN BY	BTG
CHECKED BY	CT
DATE	02-01-2024

No.	Description	Date

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION

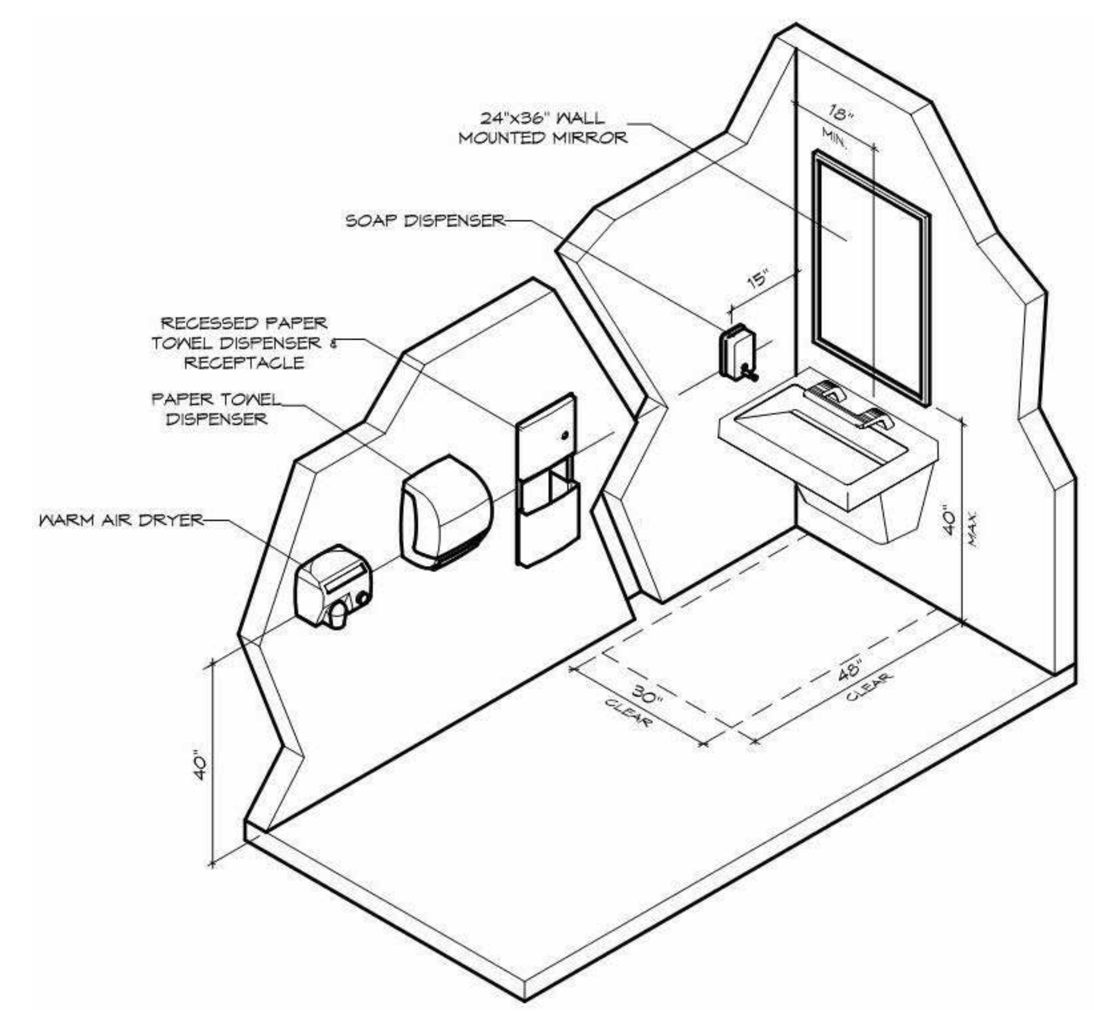
OVERALL FLOOR PLAN

SHEET NUMBER
A1.0

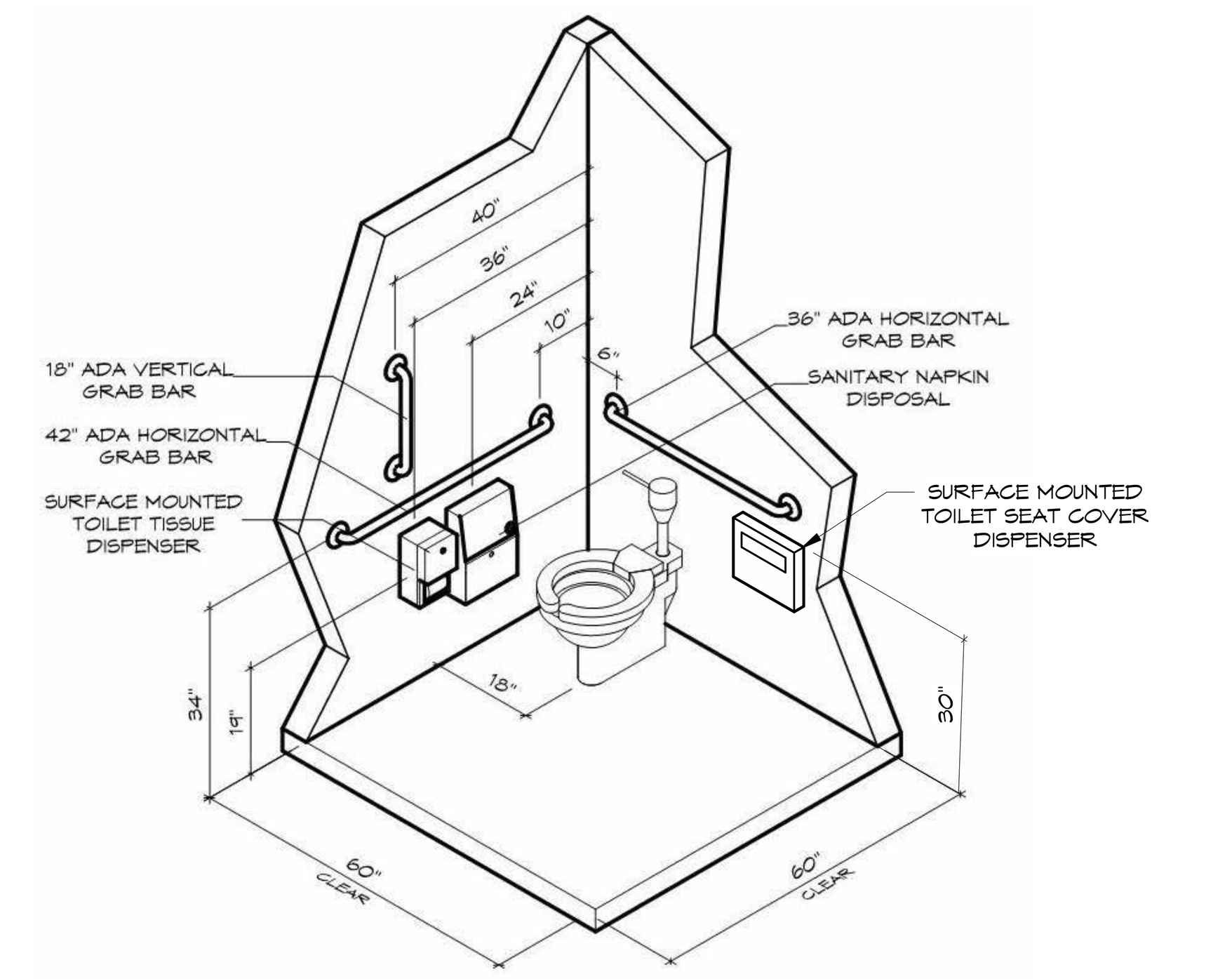
ENLARGED FLOOR PLAN - RR RENOVATION

ROOM FINISH LEGEND					
MARK	FLOOR	BASE	WALL	CEILING	NOTES
A	CARPET	VINYL	PAINT	2x2 CEILING TILE	
C	LVT	VINYL	PAINT	2x2 CEILING TILE	
E	EXIST	EXIST	EXIST	EXIST	
H	EXIST	VINYL	PAINT	2x2 CEILING TILE	
R	TILE	COVE TILE	TILE 0-4'-0"	2x4 CEILING TILE	
S	<varies>	VINYL	PAINT	NONE	
V	WALK-OFF CARPET	VINYL	PAINT	2x2 CEILING TILE	

TOILET ACCESSORY LEGEND		
MARK	DESCRIPTION	NOTES
1	36" ADA HORIZONTAL GRAB BAR	
2	42" ADA HORIZONTAL GRAB BAR	
3	18" ADA VERTICAL GRAB BAR	
5	24"x36" WALL MOUNTED MIRROR	
6	SOAP DISPENSER	
8	WARM AIR DRYER	
11	SANITARY NAPKIN DISPOSAL	

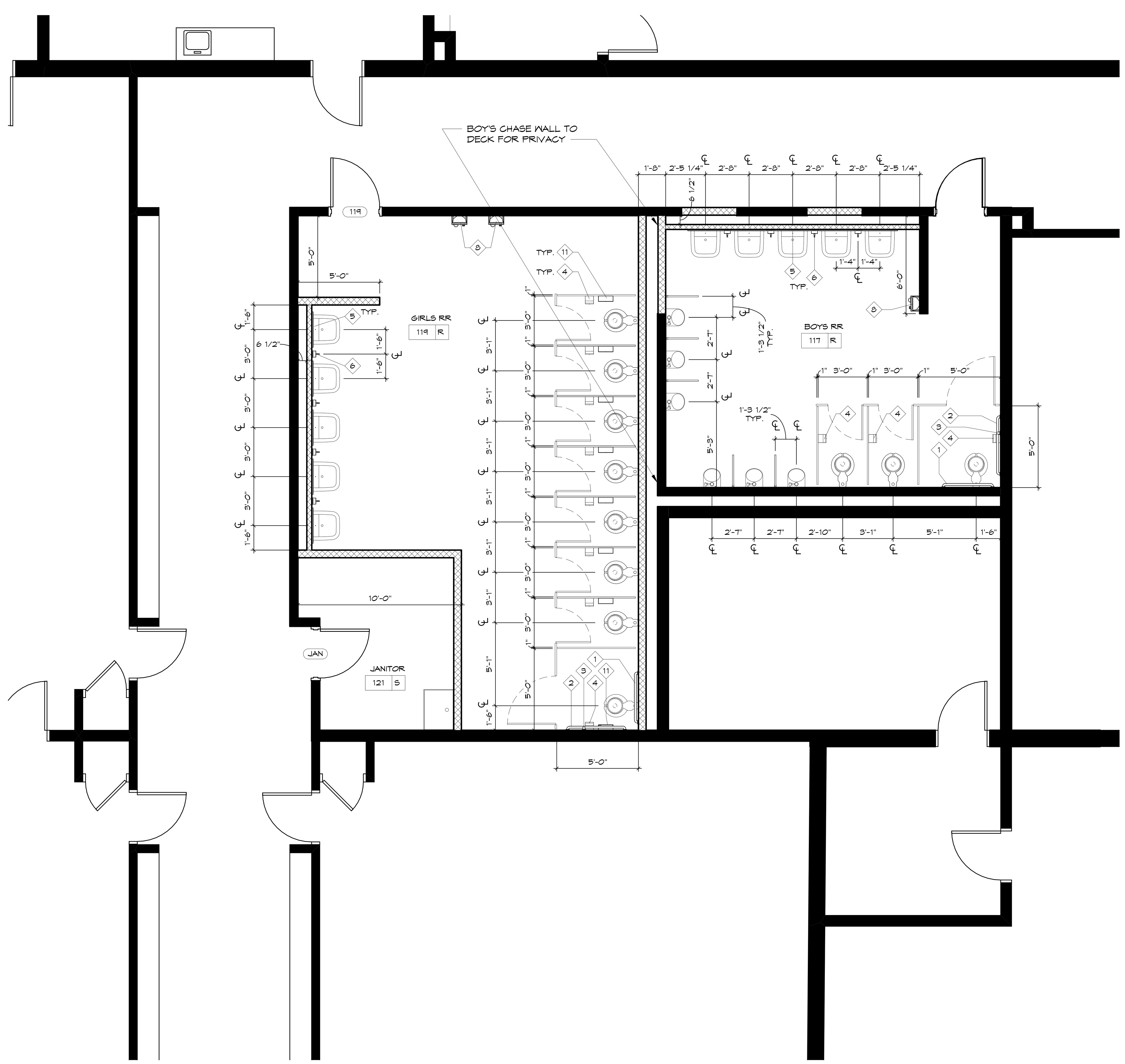


3 TYP MOUNTING HEIGHTS
NTS



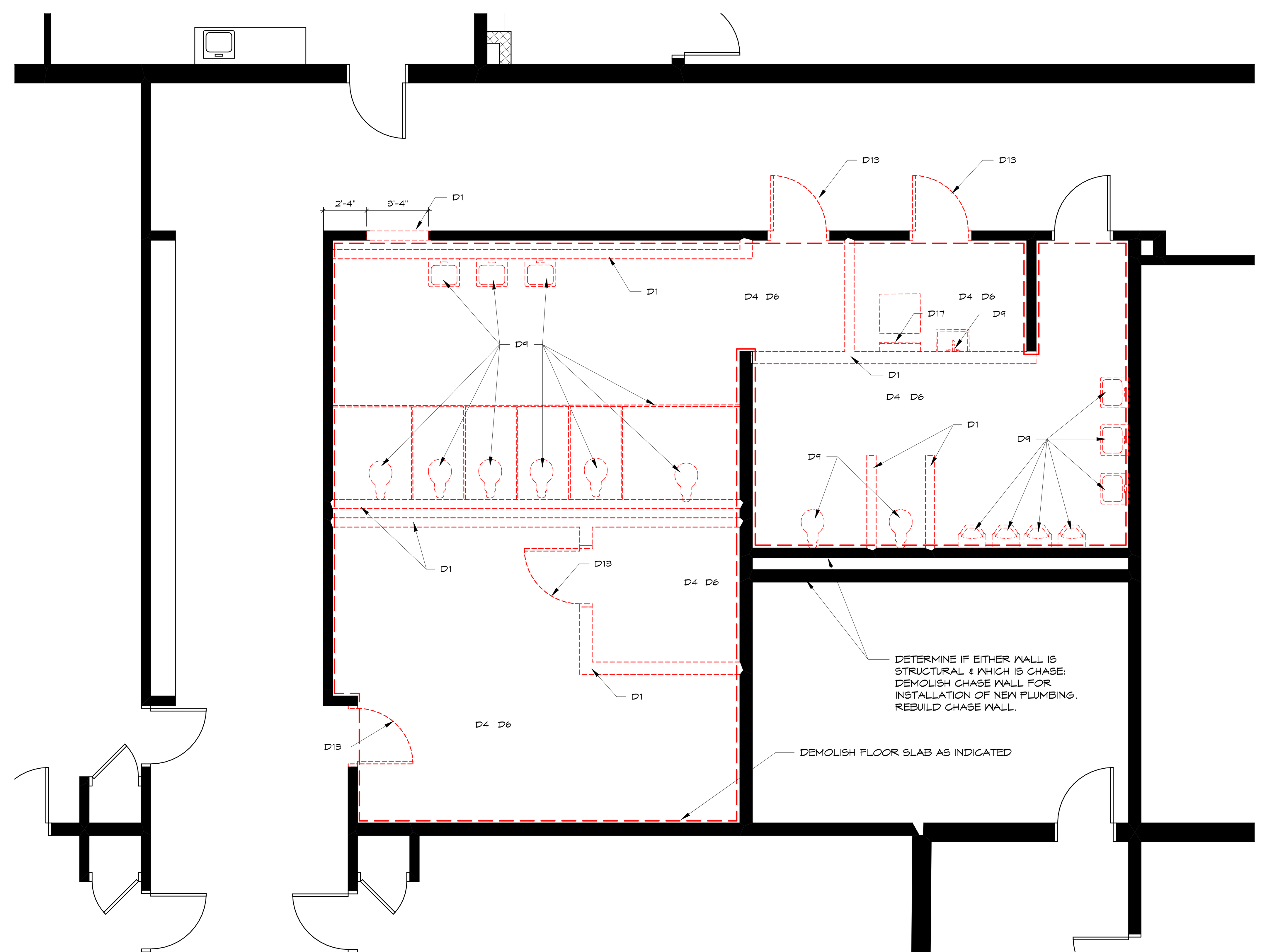
4 TYP ADA STALL
NTS

NEW WORK



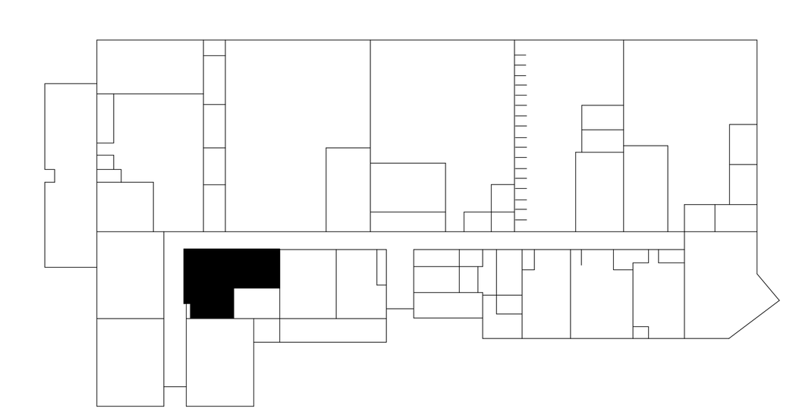
2 ENLARGED PLAN - RR NEW WORK
1/4" = 1'-0"

DEMOLITION



DEMO KEYNOTE LEGEND	
MARK	DESCRIPTION
D1	REMOVE EXISTING WALL AS INDICATED. INCLUDING BUT NOT LIMITED TO GYPSUM BOARD, STUDS, DOORS, WALL TOPS, WALL BASE. CLEAN & PAINT ADJACENT WALLS AND MATERIALS THAT ARE TO REMAIN. PATCH HOLES IN WALLS & FLOOR TO REMAIN.
D4	REMOVE EXISTING FINISH FLOOR IN IT'S ENTIRETY. PREP SLAB TO RECEIVE NEW FINISH FLOOR.
D6	REMOVE EXISTING S.A.P.C. CEILING AND EXISTING PLASTER CEILING ABOVE IN IT'S ENTIRETY INCLUDING BUT NOT LIMITED TO EXISTING TILE, GRID, SUPPORTS, FURRING, GYP., & LATH. PREP TO RECEIVE NEW S.A.P.C.
D9	REMOVE EXISTING BATHROOM FIXTURES & TOILET ACCESSORIES IN THEIR ENTIRETY. INCLUDING BUT NOT LIMITED TO SINKS, TOILET, URINALS, GRAB BARS, TOILET PAPER DISPENSERS, HAND DRYERS, TOILET PARTITIONS, MIRRORS, SOAP DISPENSERS, SANITARY NAPKIN DISPENSER, & URINAL SCREENS. PREP WALLS/ FLOOR AS NECESSARY FOR NEW WORK. SEE PLUMBING FOR FURTHER DETAILS.
D13	REMOVE EXISTING DOOR, FRAME, AND HARDWARE IN ITS ENTIRETY. CLEAN AND PREP EXISTING SURFACES TO REMAIN FOR NEW DOOR & FRAME.
D17	REMOVE EXISTING ACCESS LADDER & CEILING ACCESS HATCH

1 ENLARGED PLAN - RR DEMO
1/4" = 1'-0"



KEY PLAN
NTS

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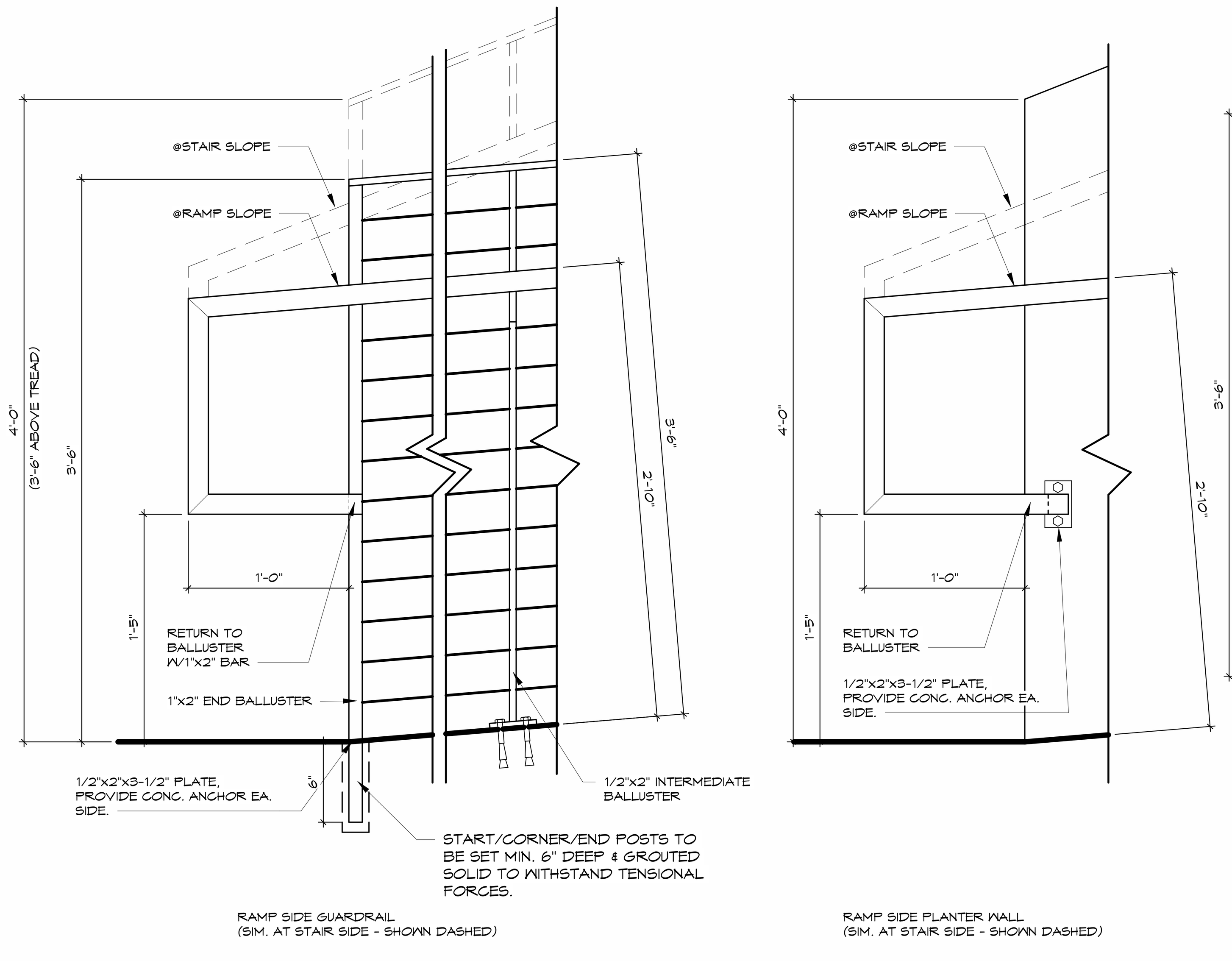
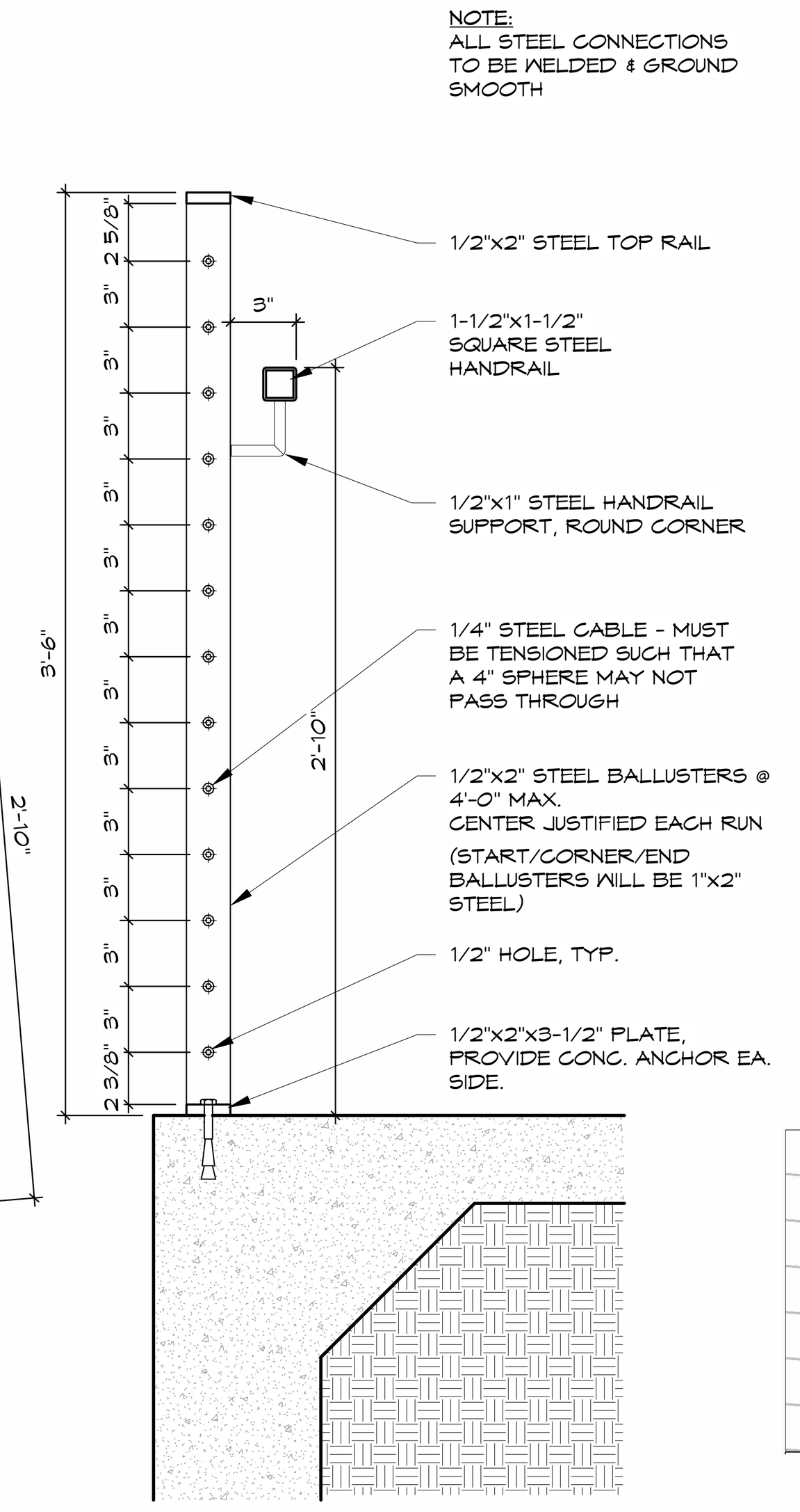
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION
ENLARGED FLOOR PLAN - RR RENOVATION

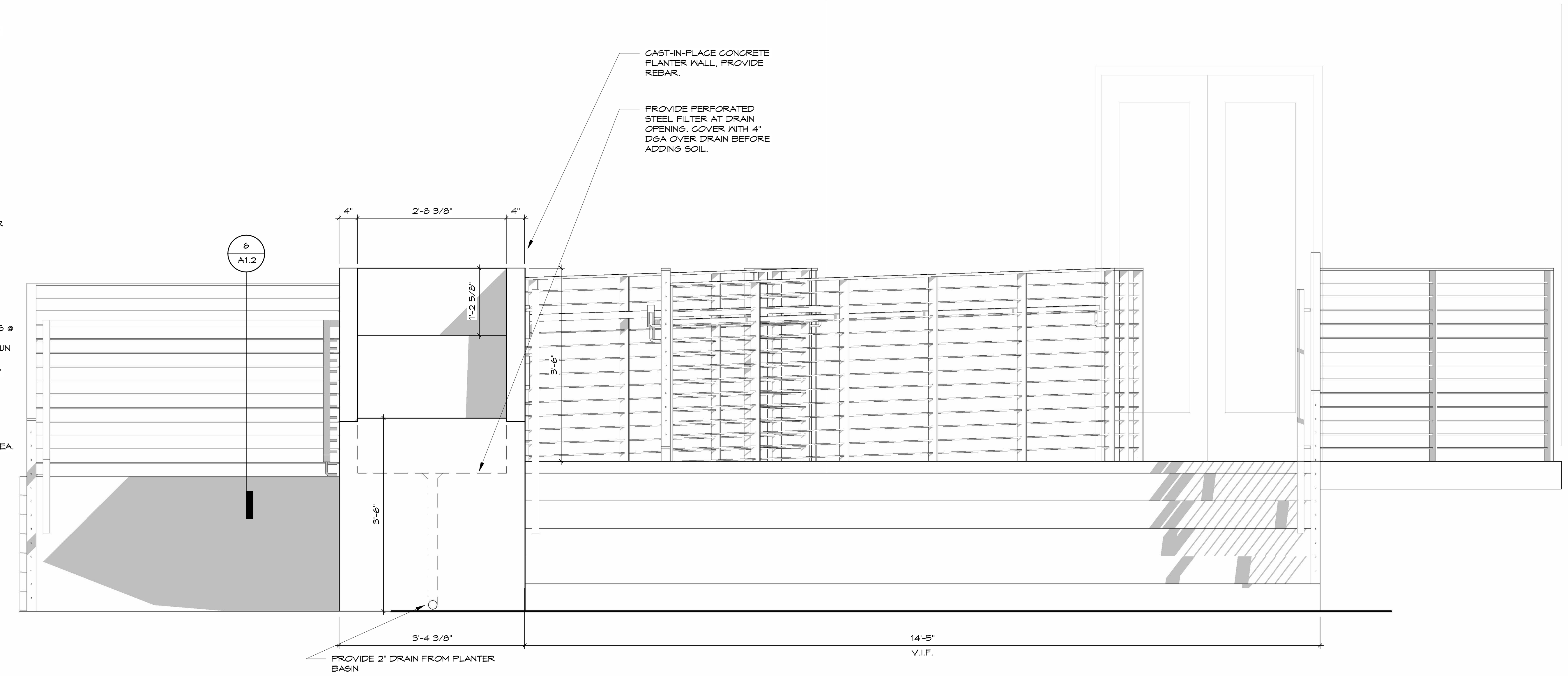
SHEET NUMBER
A1.1



7 HANDRAIL EXTENSION & SUPPORT @ RAMP
1 1/2" = 1'-0"



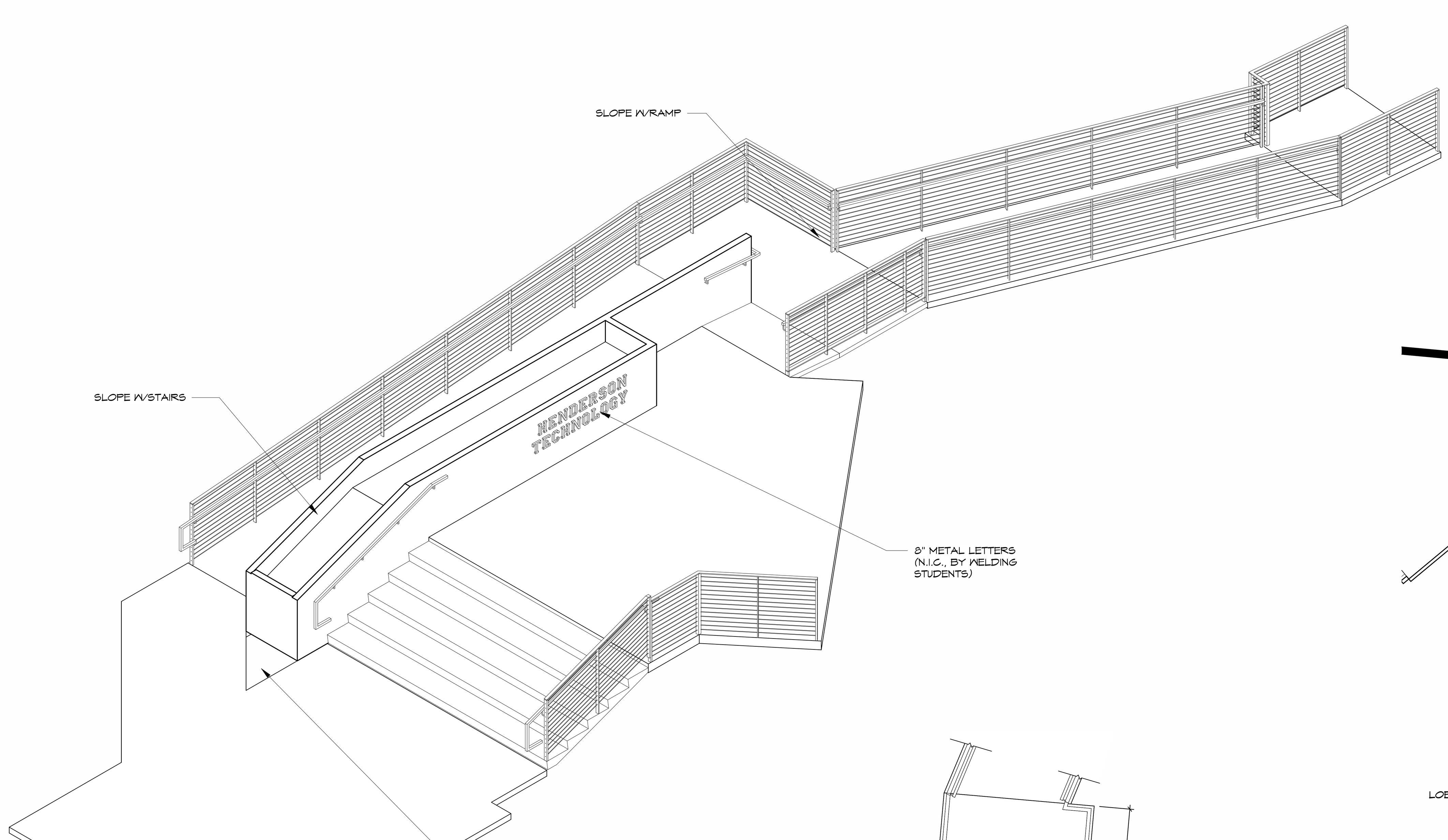
6 GUARDRAIL SECTION
1 1/2" = 1'-0"



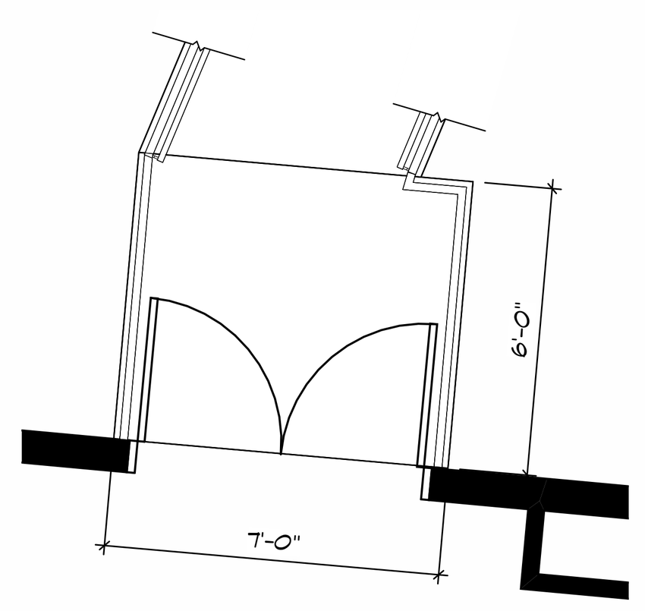
5 RAMP/STAIR ELEVATION
3/4" = 1'-0"

NEW WORK

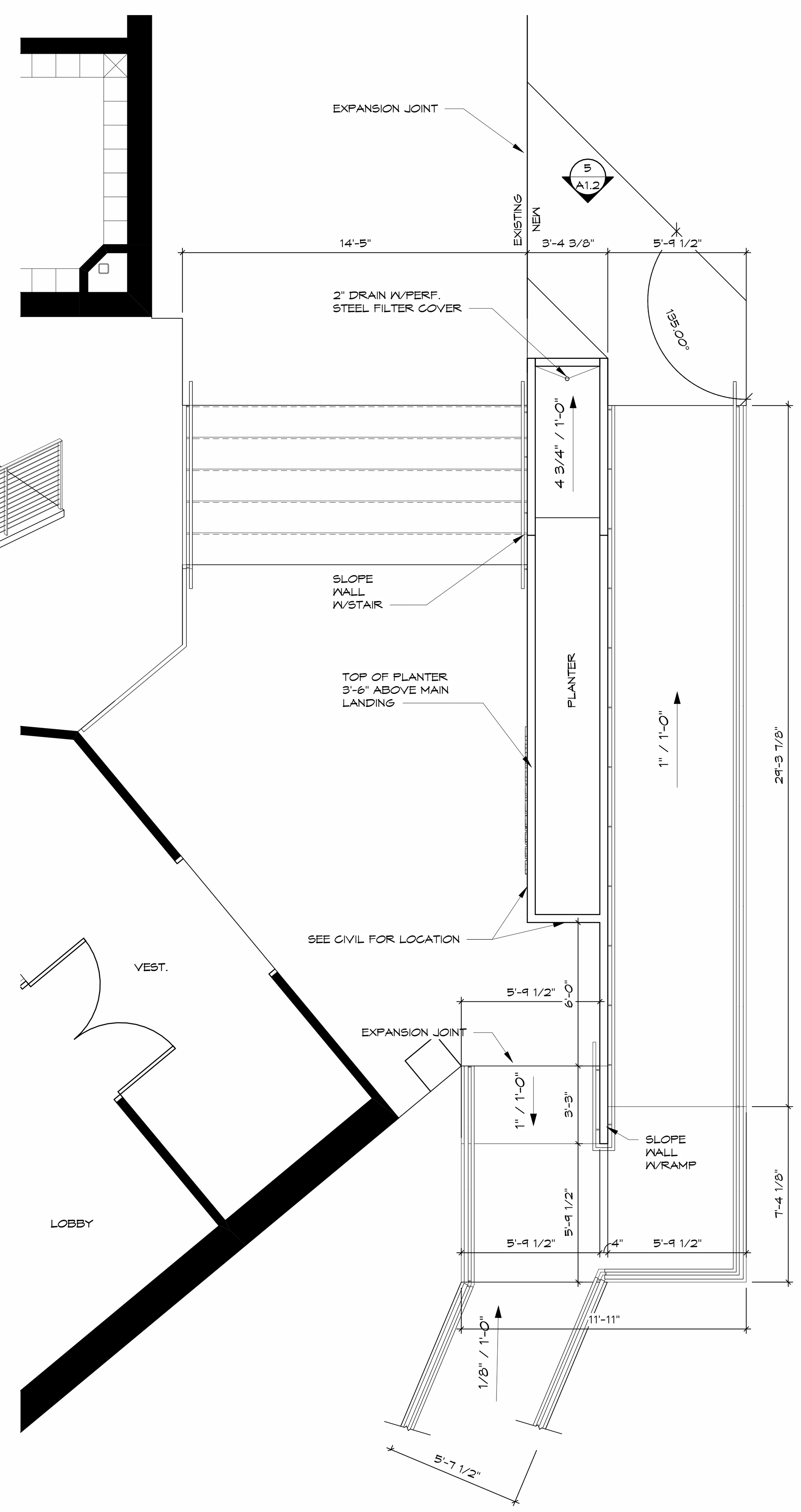
DEMOLITION



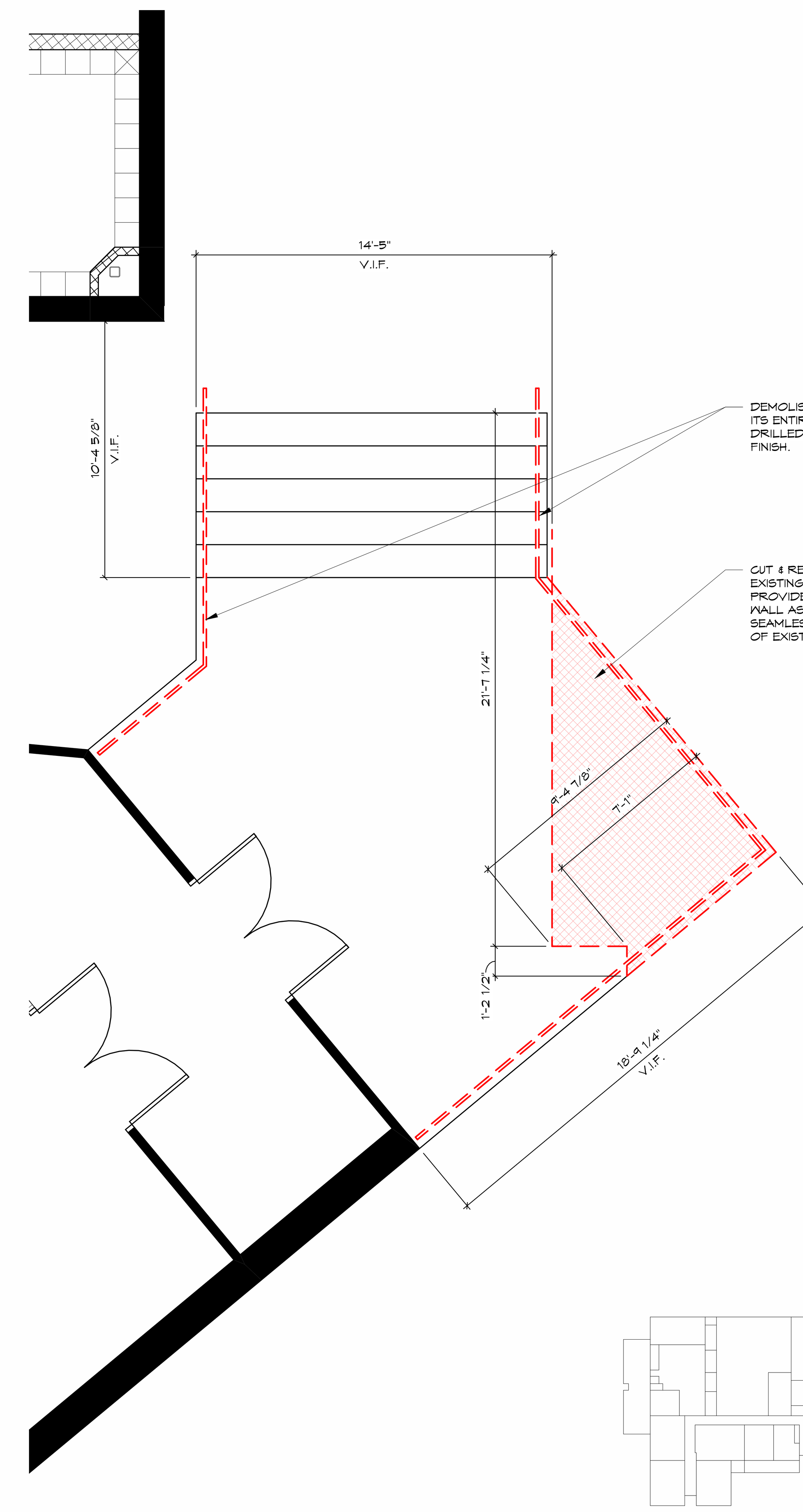
4 NEW RAMP ISO VIEW



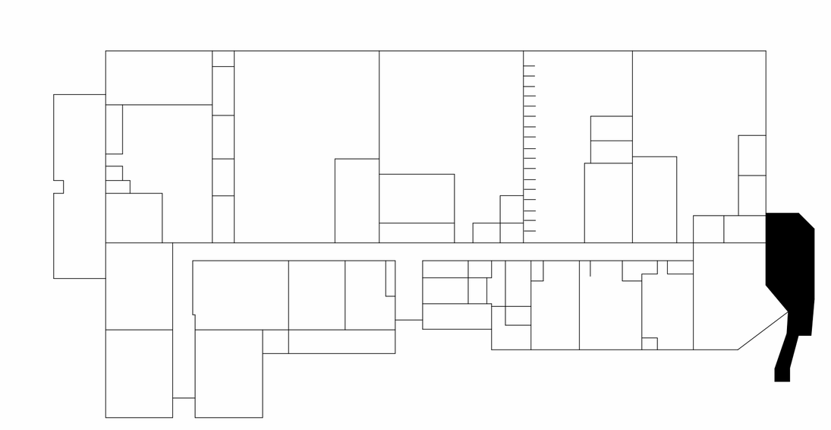
3 ENLARGED PLAN - ENTRY ADA RAMP - NEW WORK
1/4" = 1'-0"



2 ENLARGED PLAN - ENTRY ADA RAMP - NEW WORK
1/4" = 1'-0"



1 ENLARGED PLAN - ENTRY ADA RAMP - DEMO
1/4" = 1'-0"



KEY PLAN
NTS

RBS DESIGN GROUP
ARCHITECTURE
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JOB NUMBER	Y21037
DRAWN BY	BTG
CHECKED BY	CT
DATE	02-01-2024

No.	Description	Date

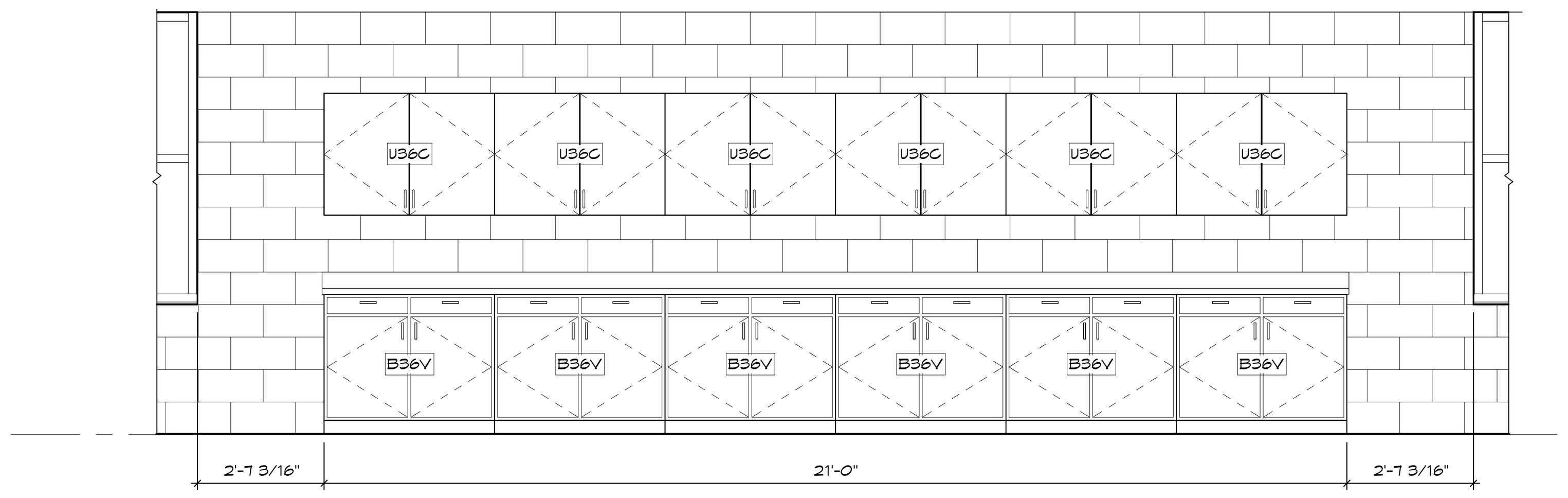
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
CTE RENOVATION

ENLARGED FLOOR PLAN - ENTRY RAMP

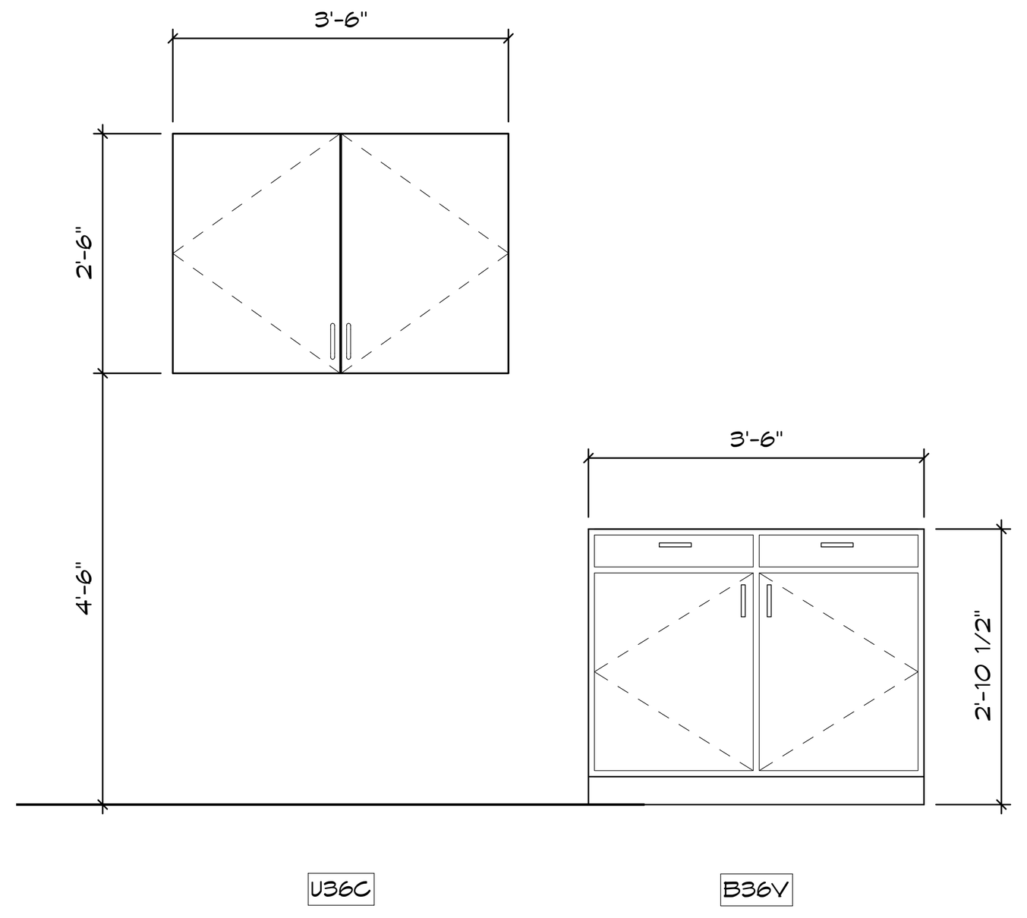
SHEET NUMBER
A1.2

NEW WORK

DEMOLITION



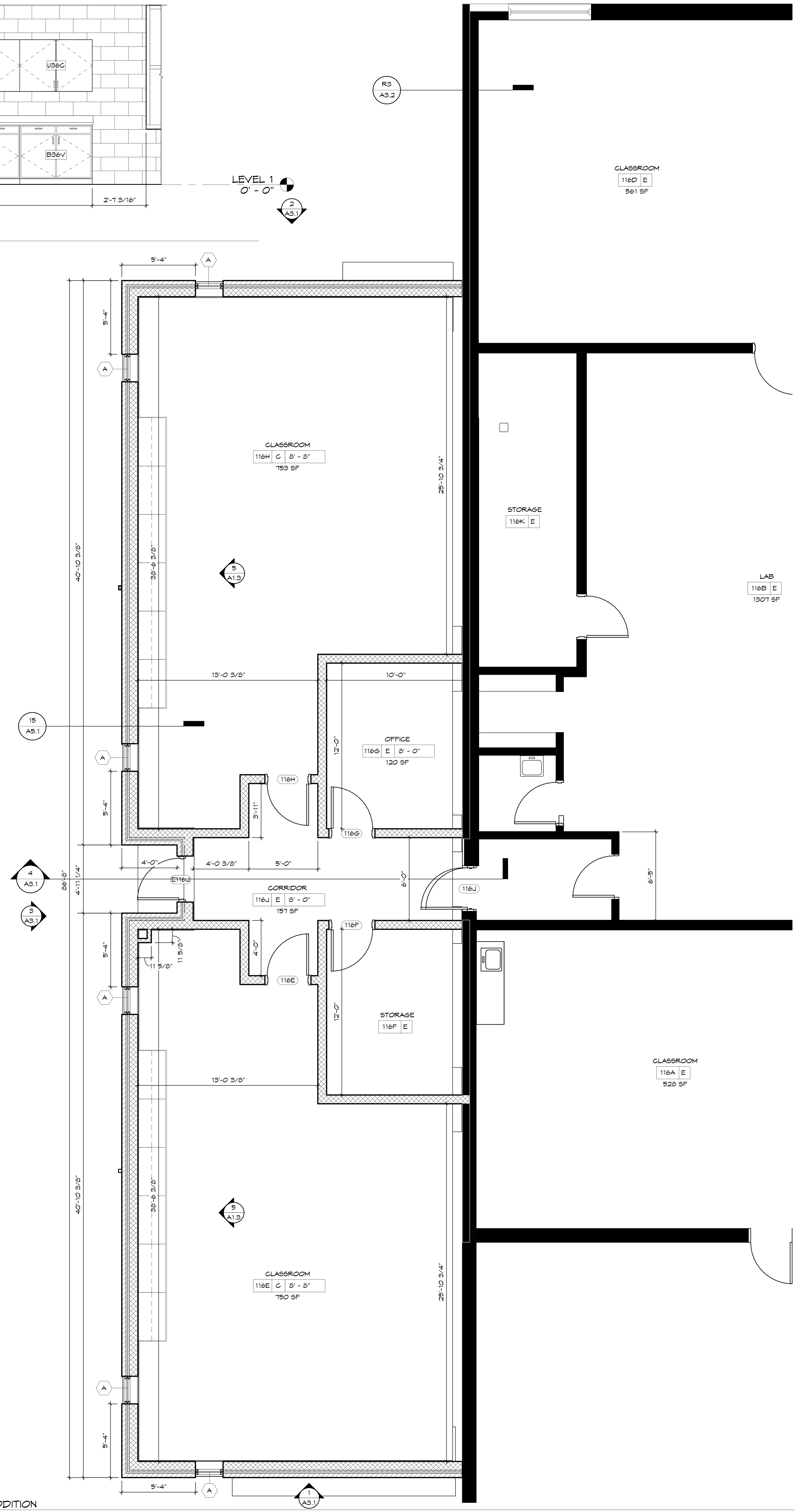
5 TYP CASEWORK ELEVATION
3/8" = 1'-0"



4 CASEWORK TYPES
1/2" = 1'-0"

ROOM FINISH LEGEND

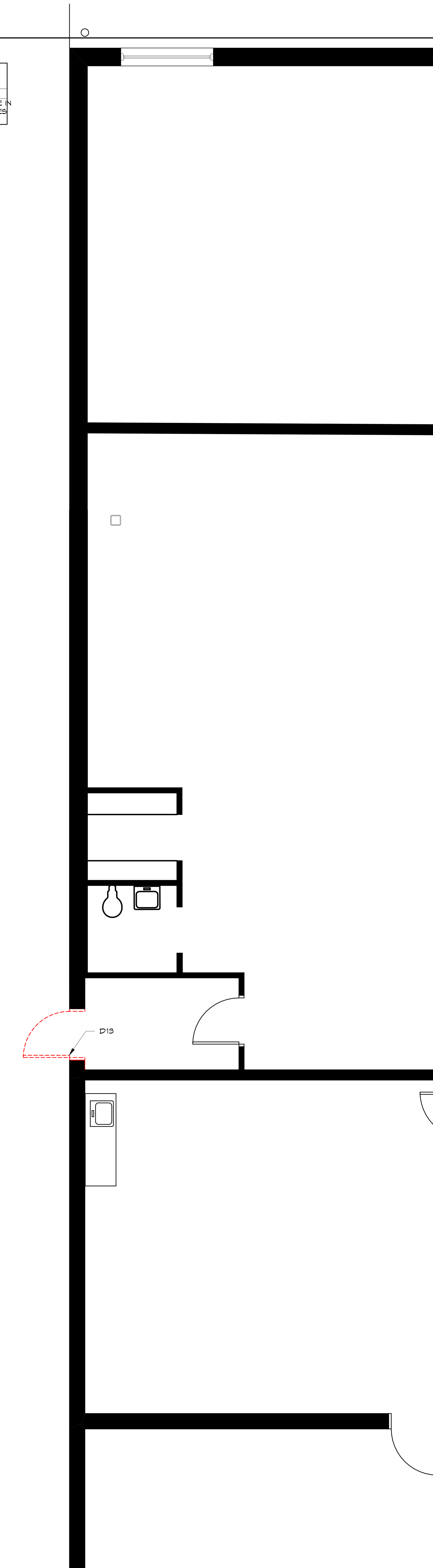
MARK	FLOOR	BASE	WALL	CEILING	NOTES
A	CARPET	VINYL	PAINT	2x2 CEILING TILE	
C	LVT	VINYL	PAINT	2x2 CEILING TILE	
E	EXIST	EXIST	EXIST	EXIST	
H	EXIST	VINYL	PAINT	2x2 CEILING TILE	
R	TILE	COVE TILE	TILE 0-4'-0"	2x4 CEILING TILE	
S	<varies>	VINYL	PAINT	NONE	
V	WALK-OFF CARPET	VINYL	PAINT	2x2 CEILING TILE	



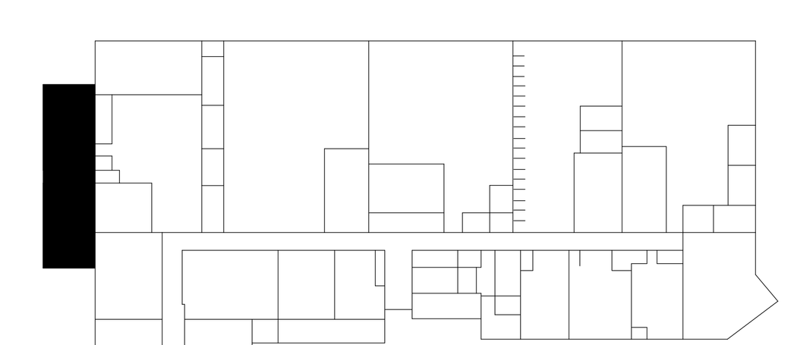
1 ENLARGED PLAN - CLASSROOM ADDITION
1/4" = 1'-0"

DEMO KEYNOTE LEGEND

MARK	DESCRIPTION
D13	REMOVE EXISTING DOOR, FRAME, AND HARDWARE IN ITS ENTIRETY. CLEAN AND PREP EXISTING SURFACES TO REMAIN FOR NEW DOOR & FRAME.



2 ENLARGED PLAN - CLASSROOM ADDITION DEMO
1/4" = 1'-0"



KEY PLAN
NTS

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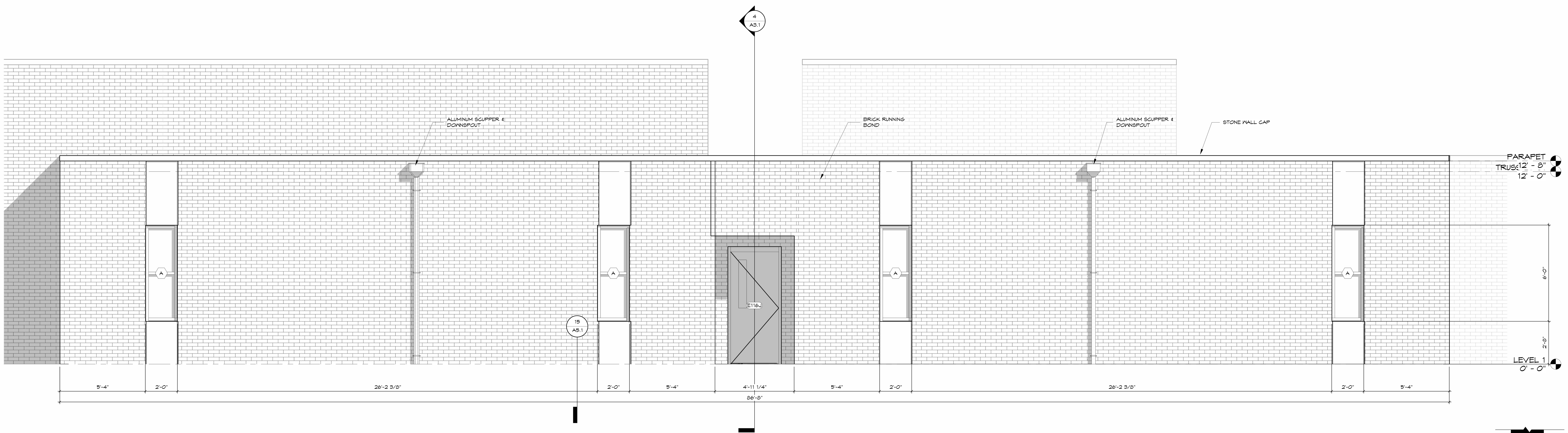
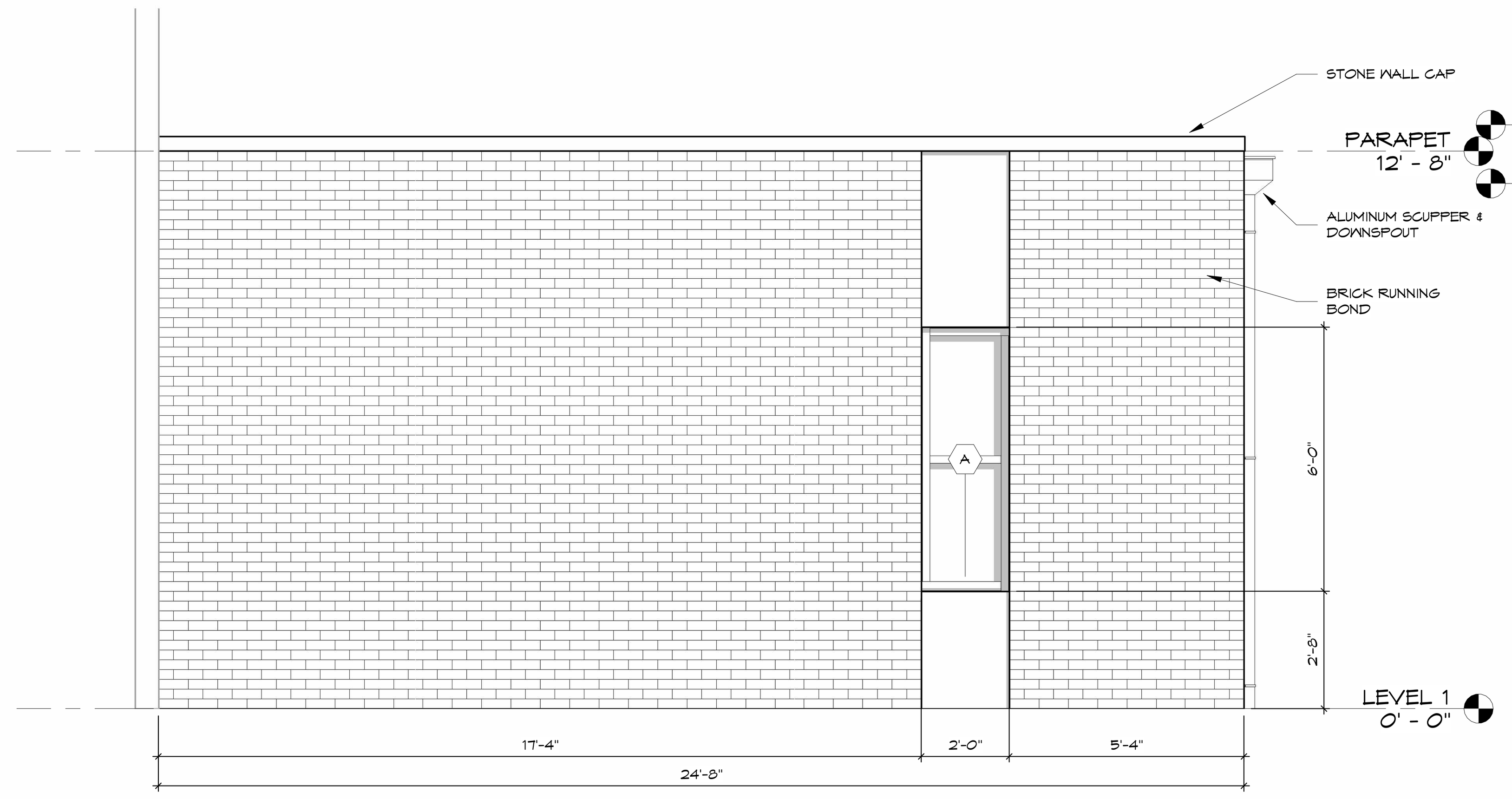
ENLARGED FLOOR PLAN - CLASSROOM ADDITION

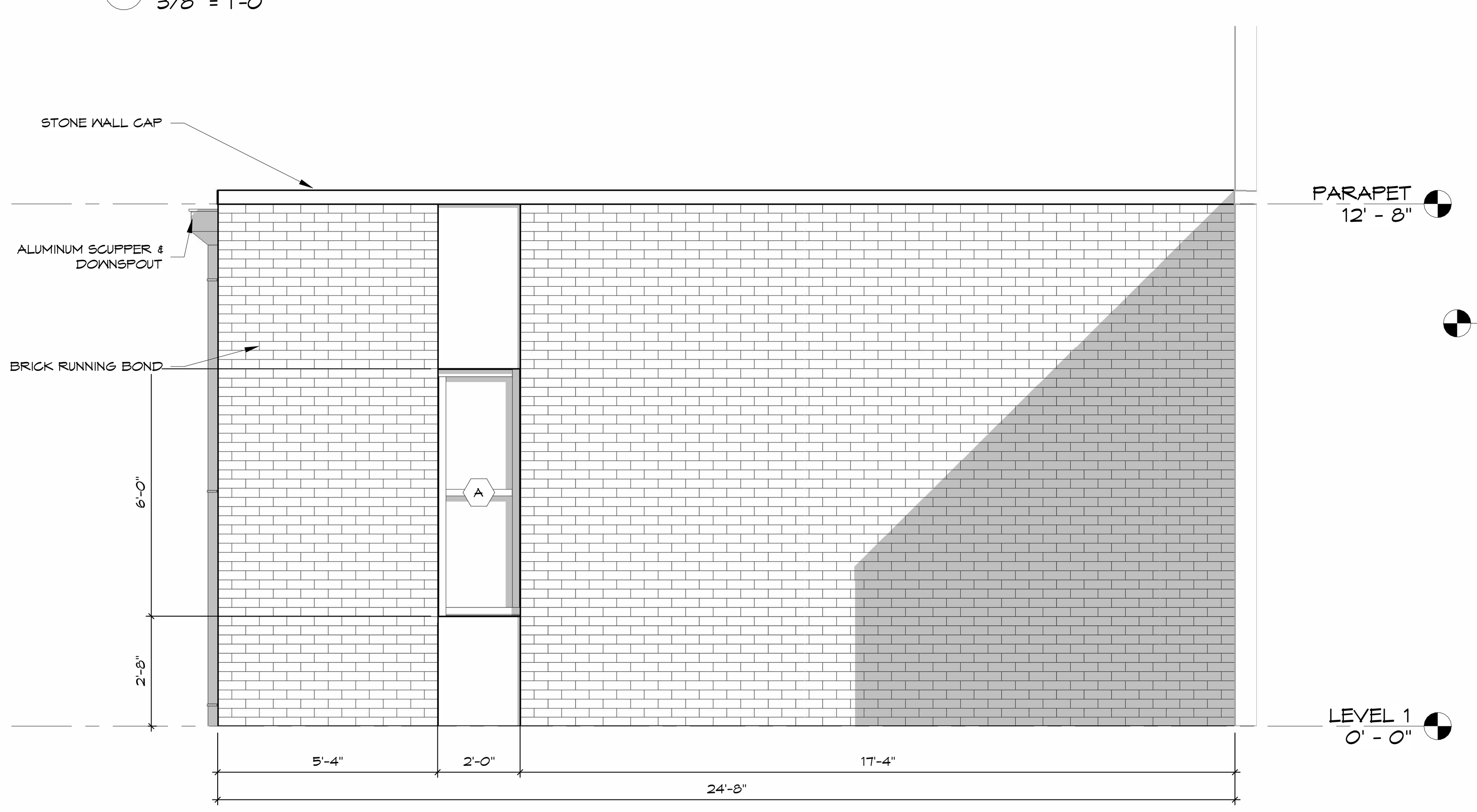
SHEET NUMBER
A1.3



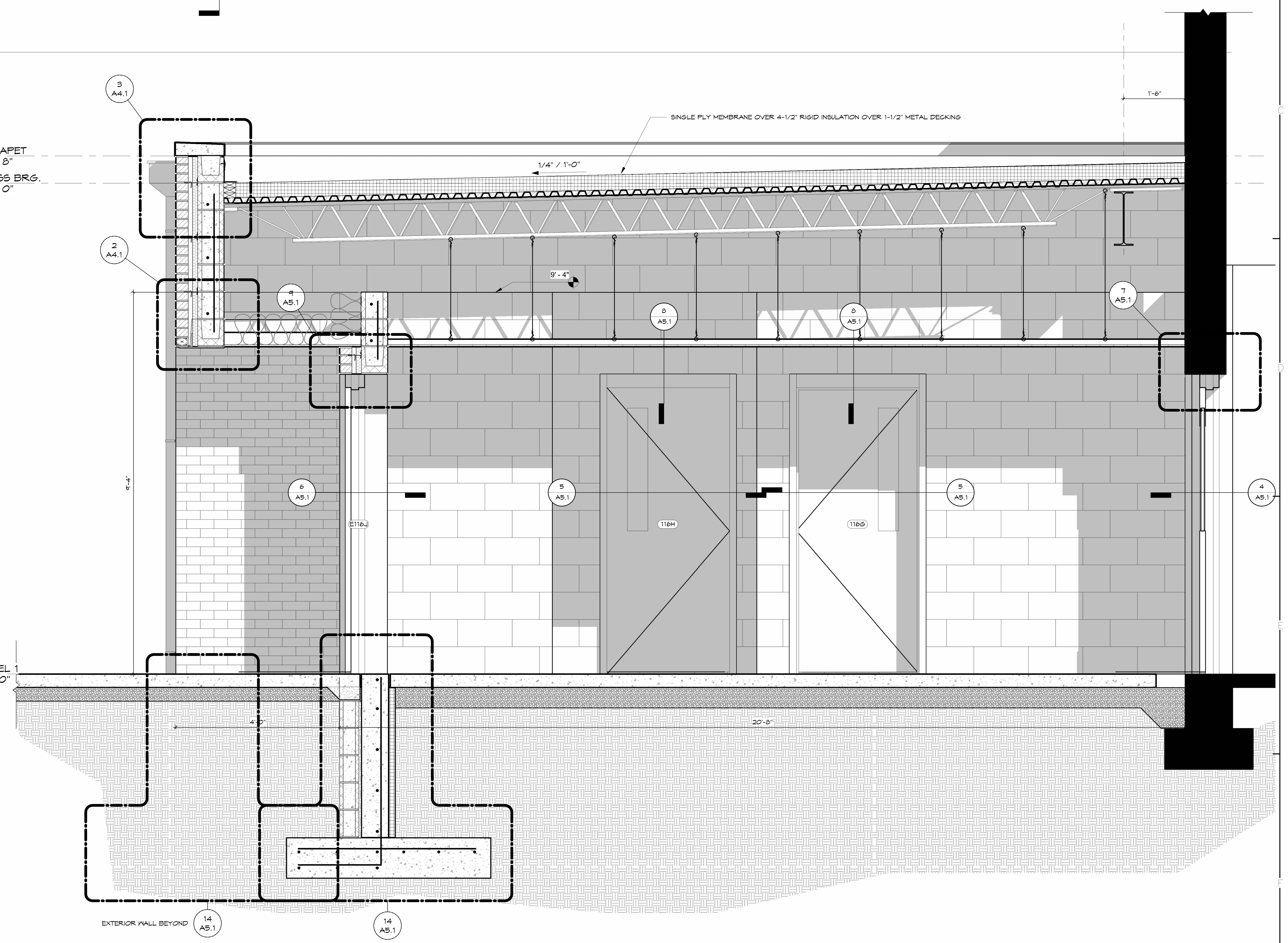
3 BUILDING ELEVATION A-CLASSROOMS ADDITION
3/8" = 1'-0"



2 BUILDING ELEVATION C-CLASSROOMS ADDITION
3/8" = 1'-0"



1 BUILDING ELEVATION B-CLASSROOMS ADDITION
3/8" = 1'-0"



4 BUILDING SECTION - CLASSROOM ADDITION
3/4" = 1'-0"

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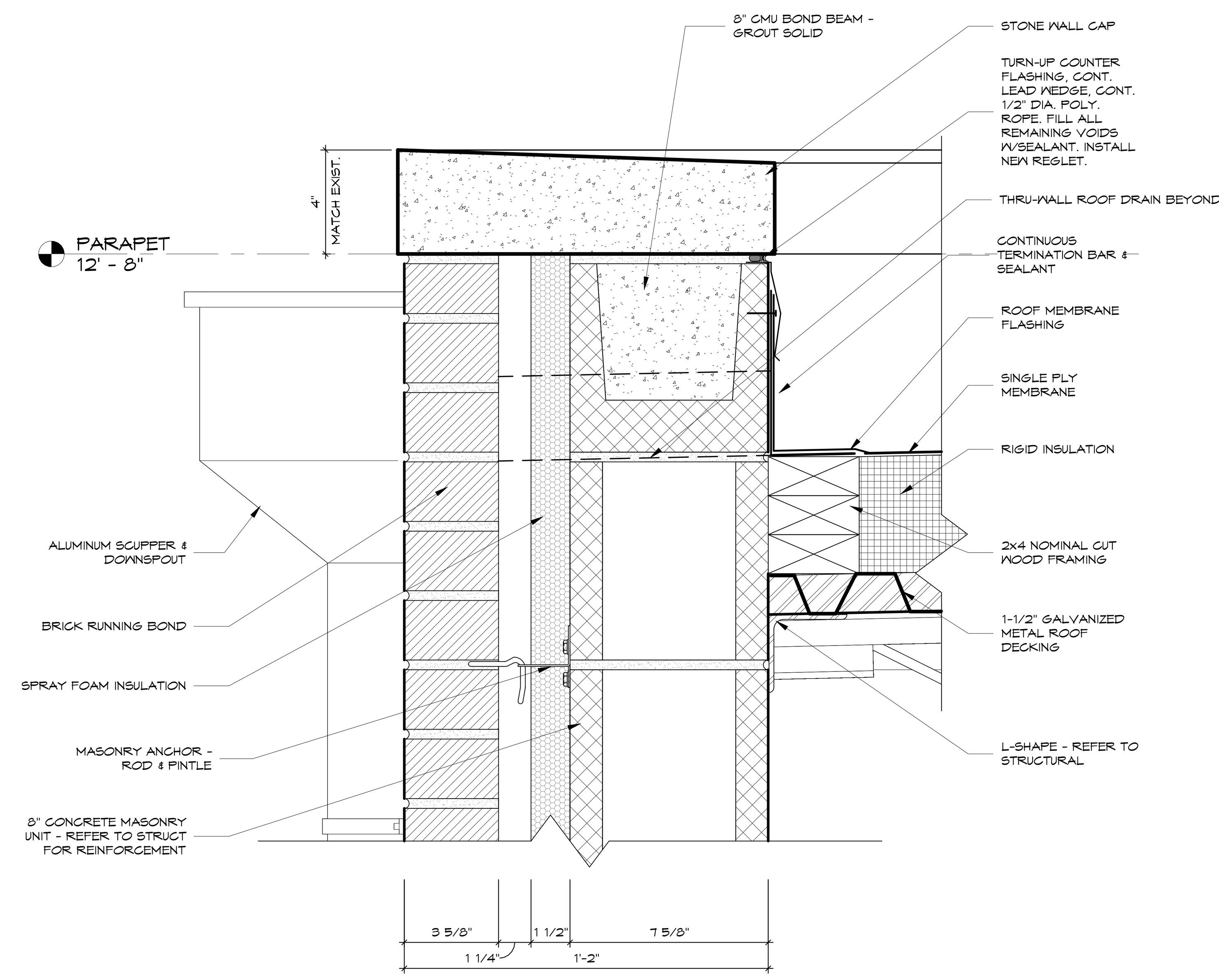
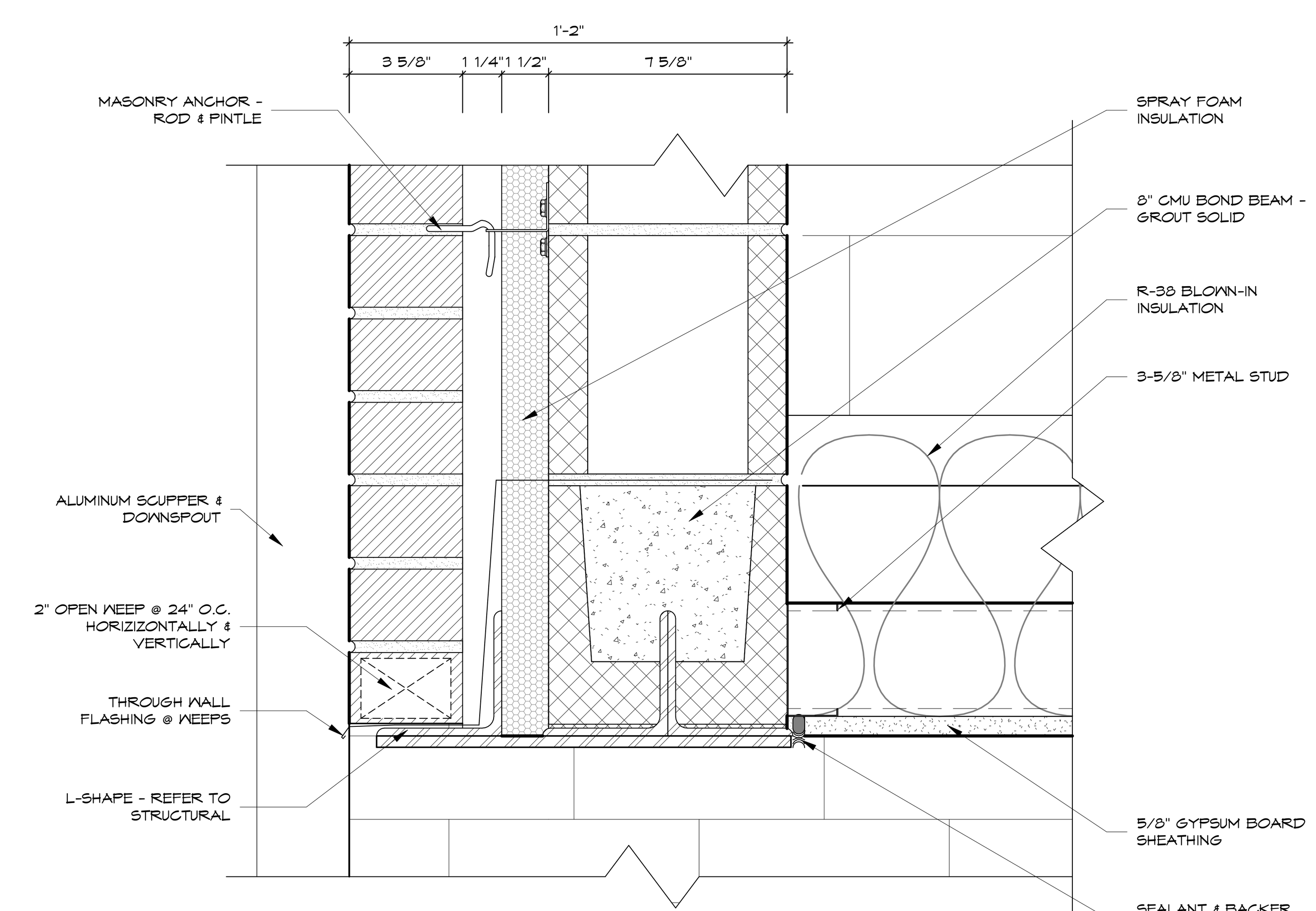
BUILDING SECTIONS & ELEVATIONS - CLASSROOMS

SHEET NUMBER
A3.1

1 OVERALL ROOF PLAN
1/16" = 1'-0"



3 PARAPET DETAIL
3" = 1'-0"



2 SOFFIT DETAIL
3" = 1'-0"

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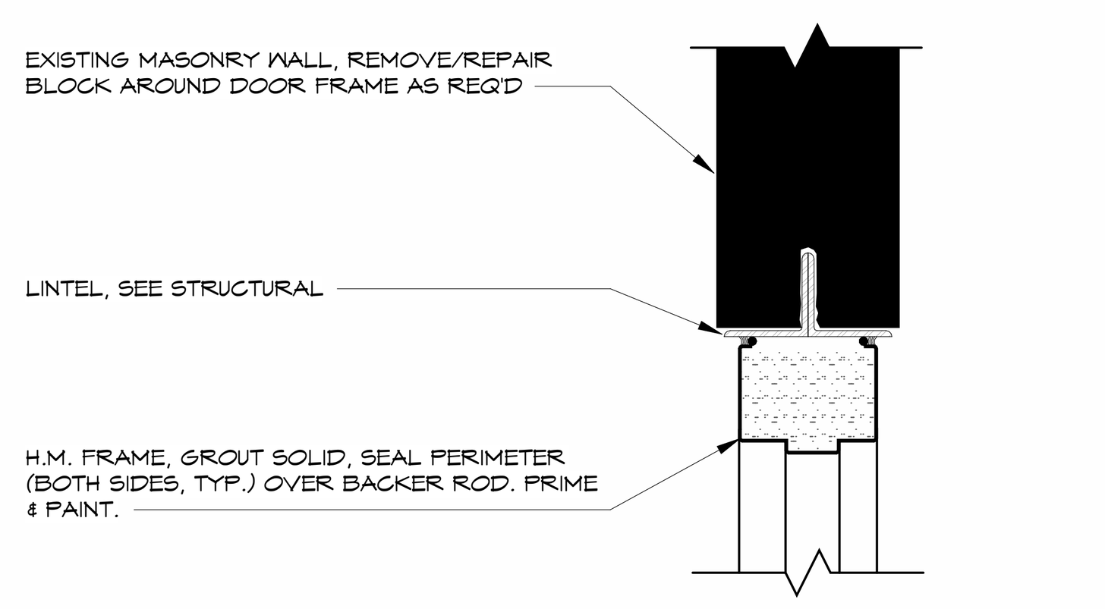
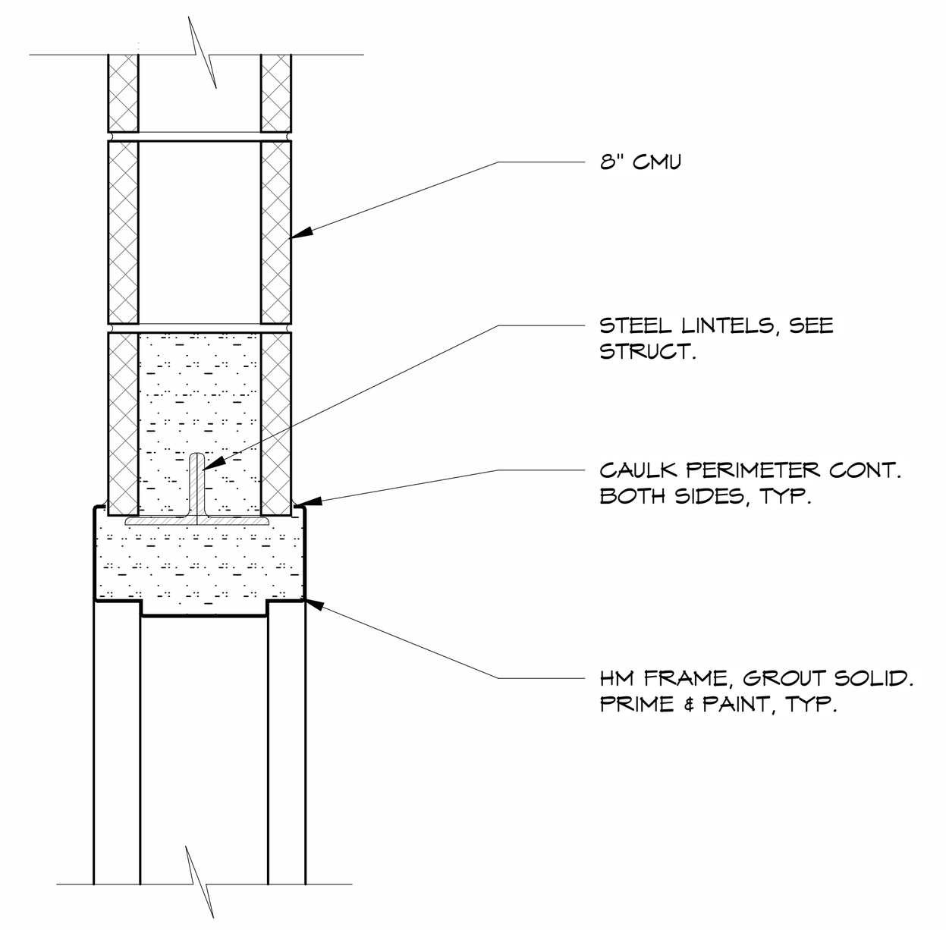
OVERALL ROOF PLAN

SHEET NUMBER
A4.1

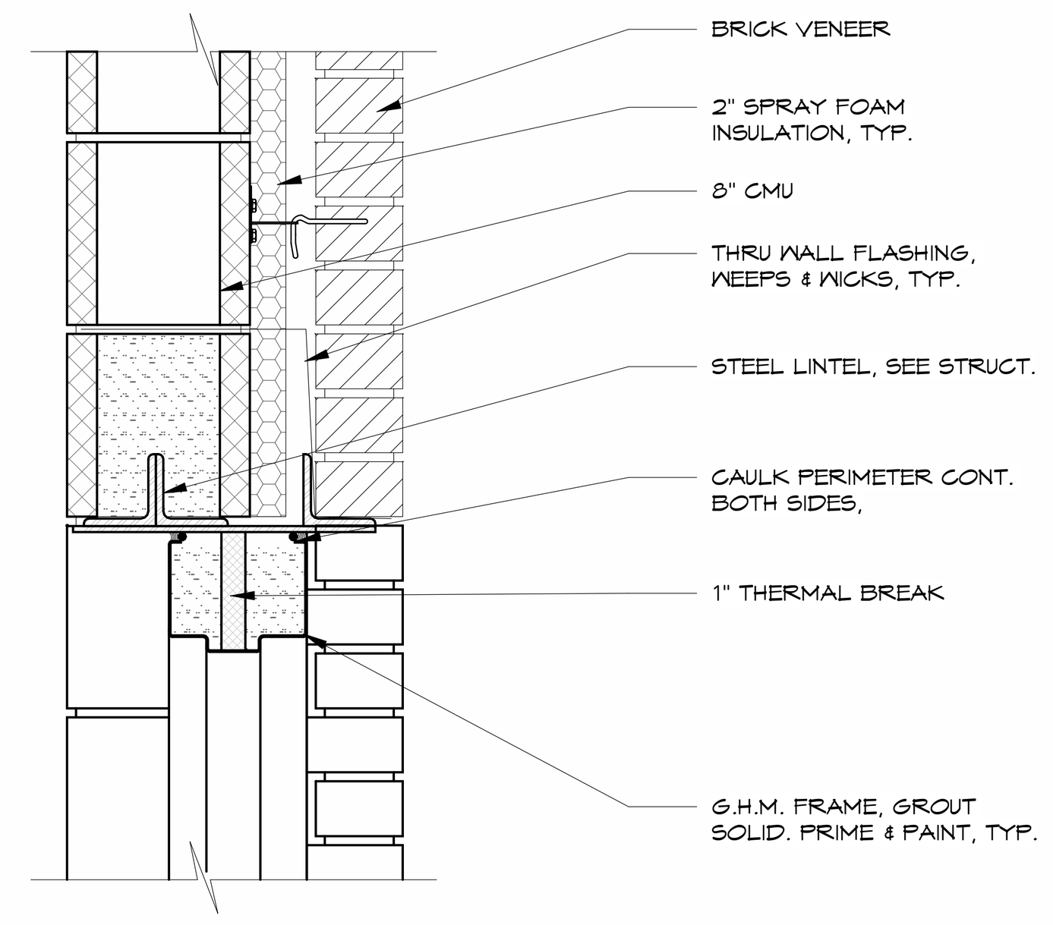
DOOR DETAILS



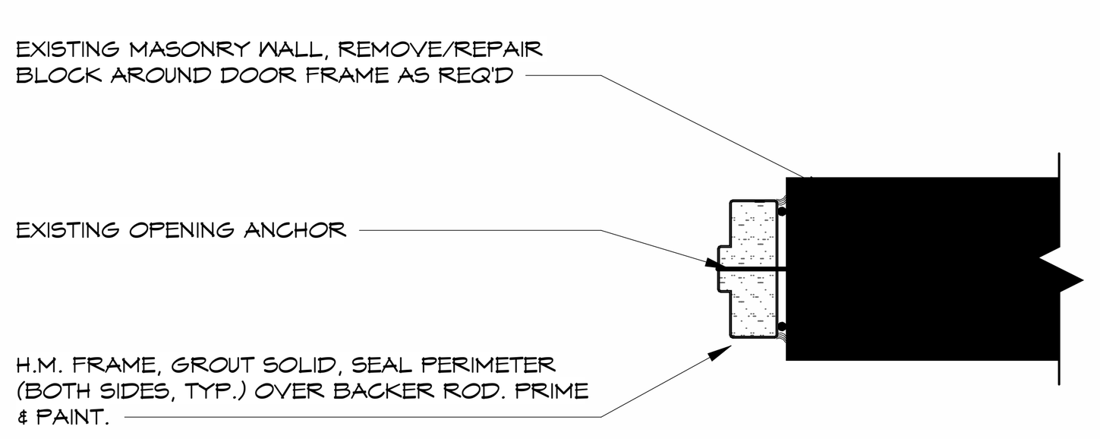
7 HM HEAD-INT-EXIST
1 1/2" = 1'-0"



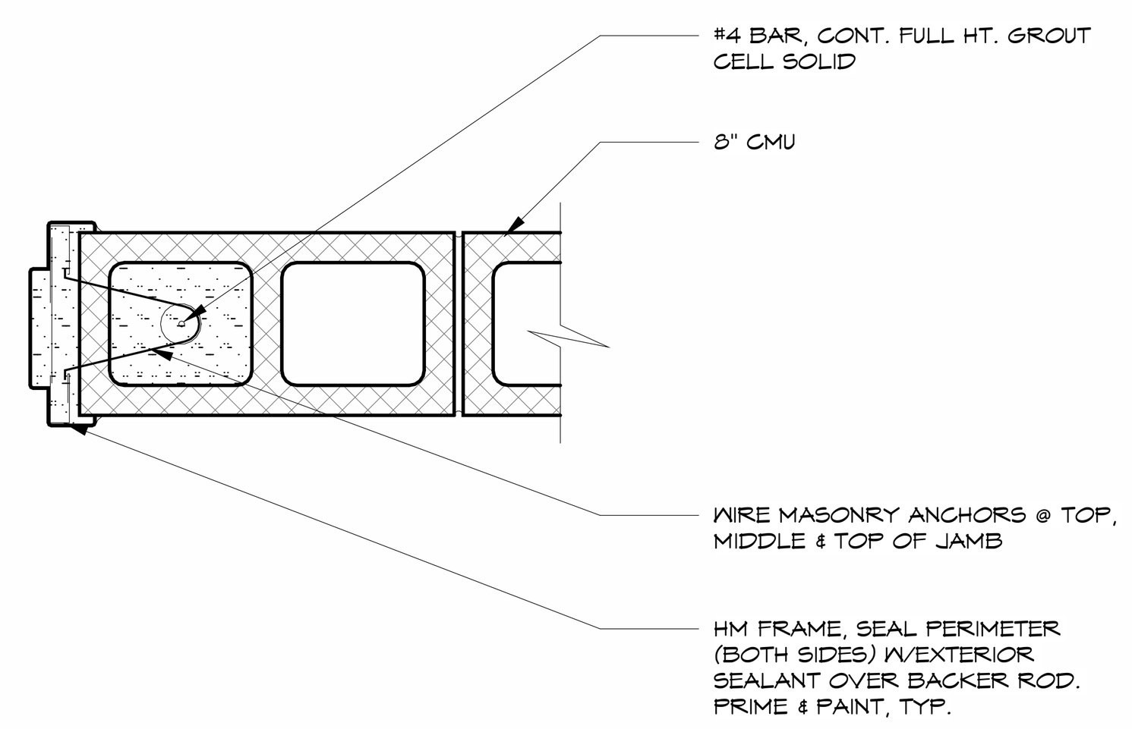
8 HM HEAD-INT
1 1/2" = 1'-0"



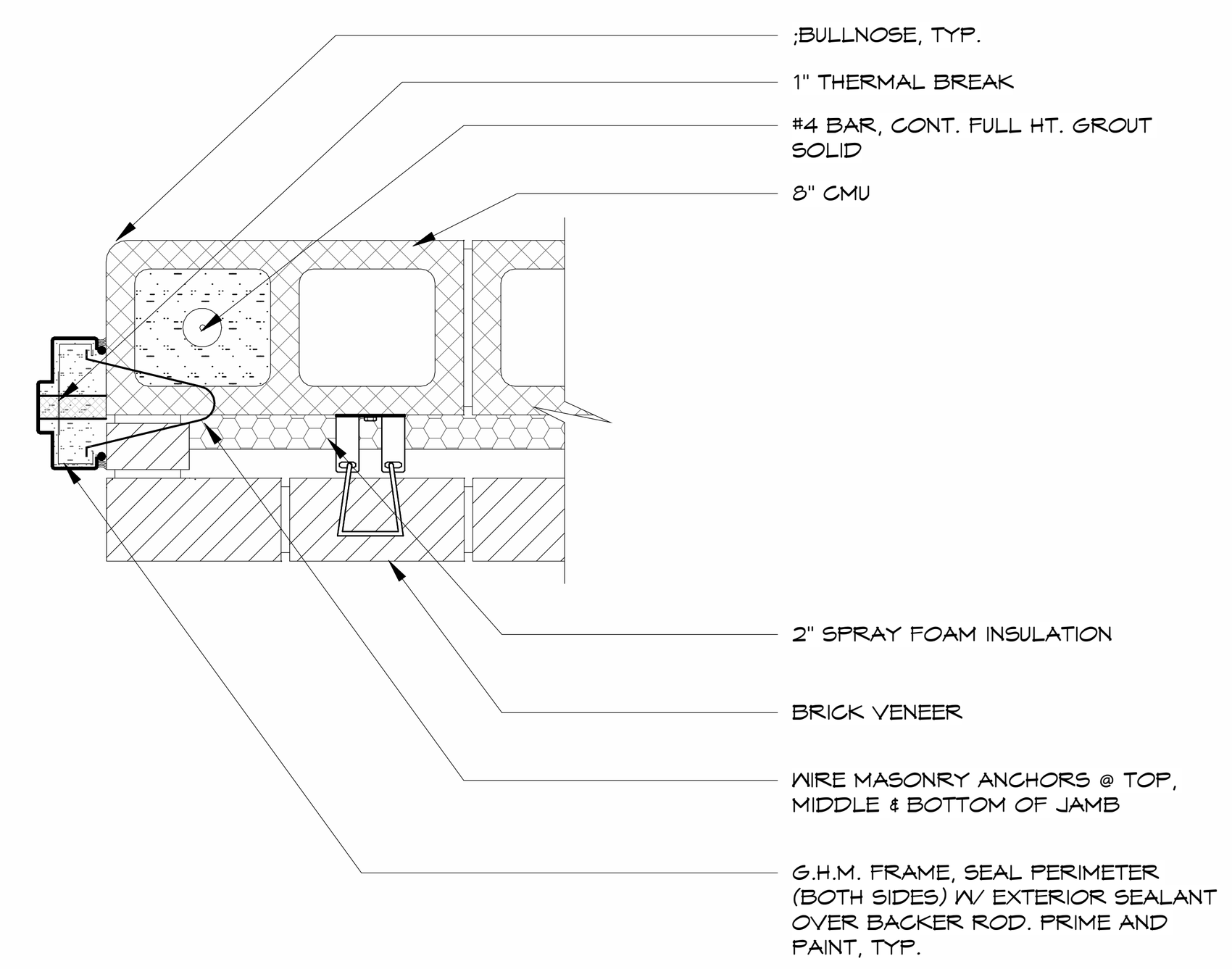
9 HM HEAD-EXT
1 1/2" = 1'-0"



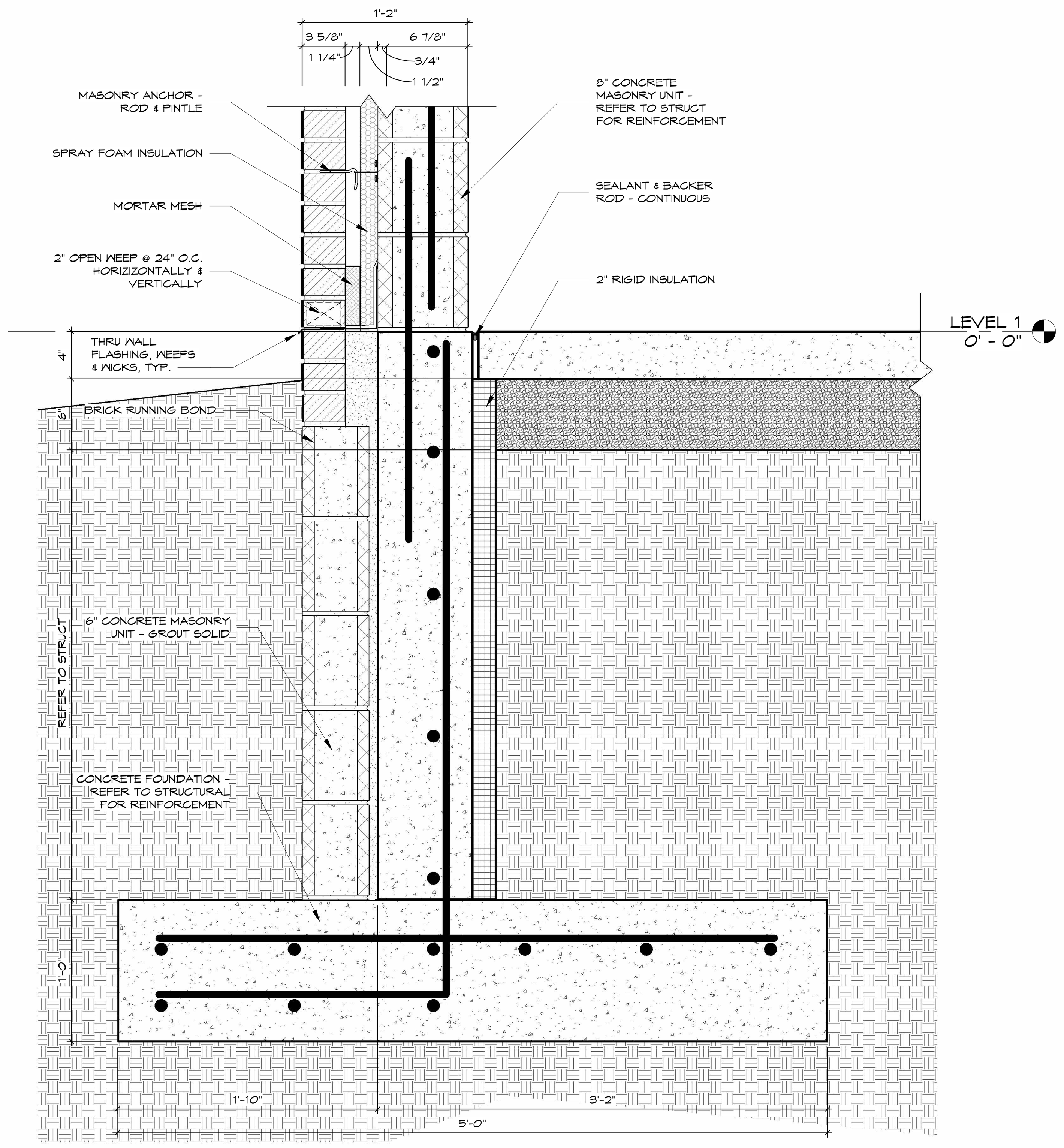
4 HM JAMB-INT-EXIST
1 1/2" = 1'-0"



5 HM JAMB-INT
1 1/2" = 1'-0"

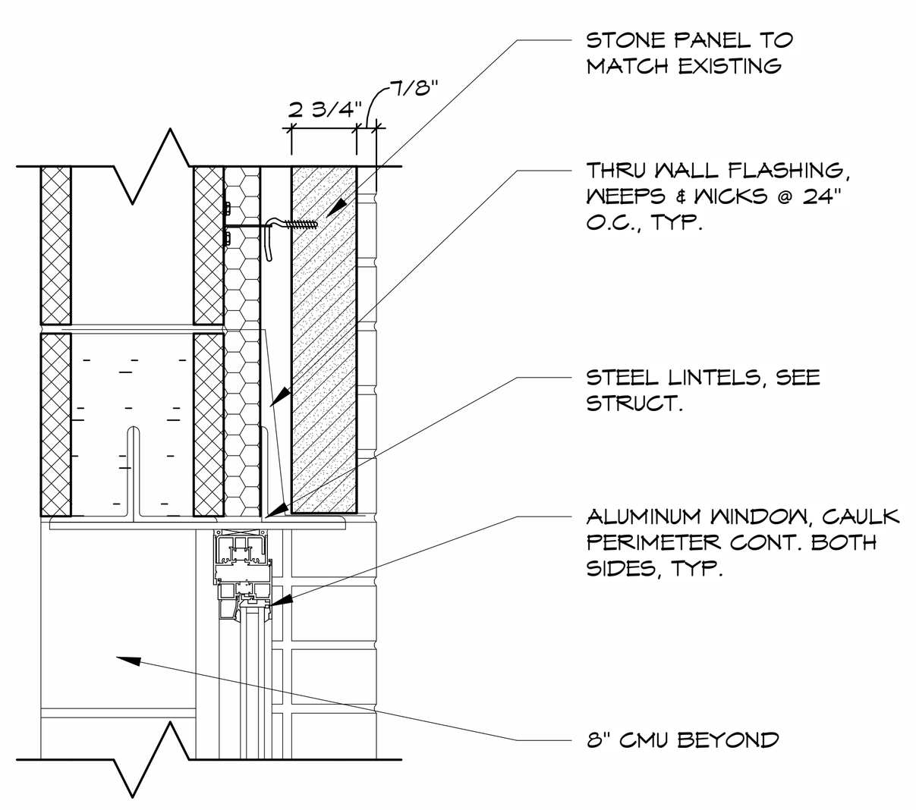


6 HM JAMB-EXT
1 1/2" = 1'-0"

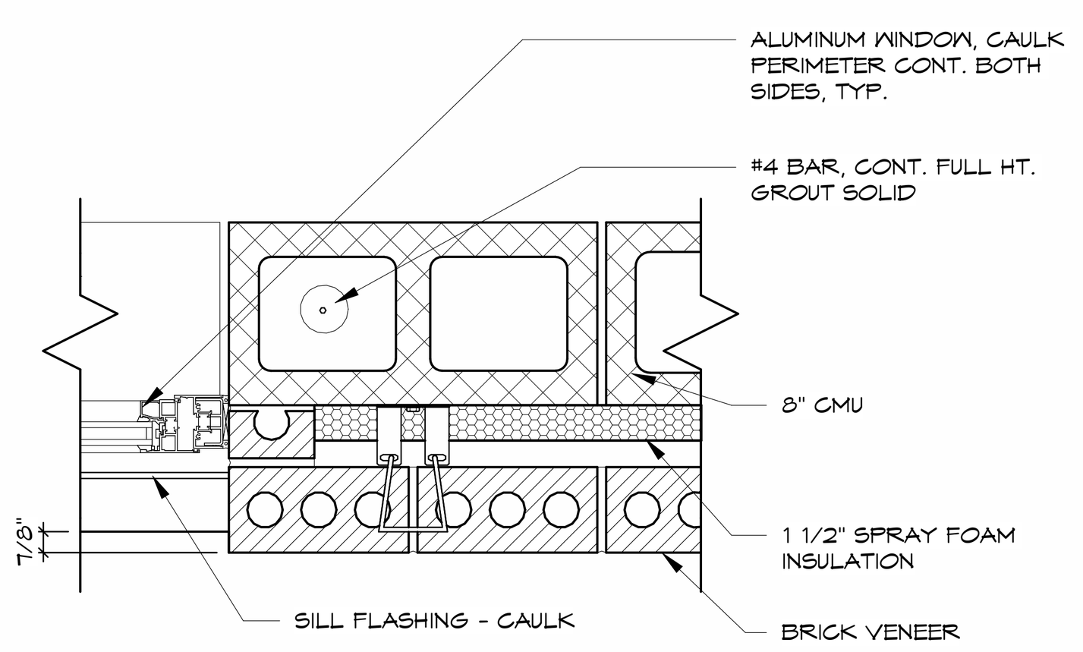


15 FOUNDATION DETAIL A
1 1/2" = 1'-0"

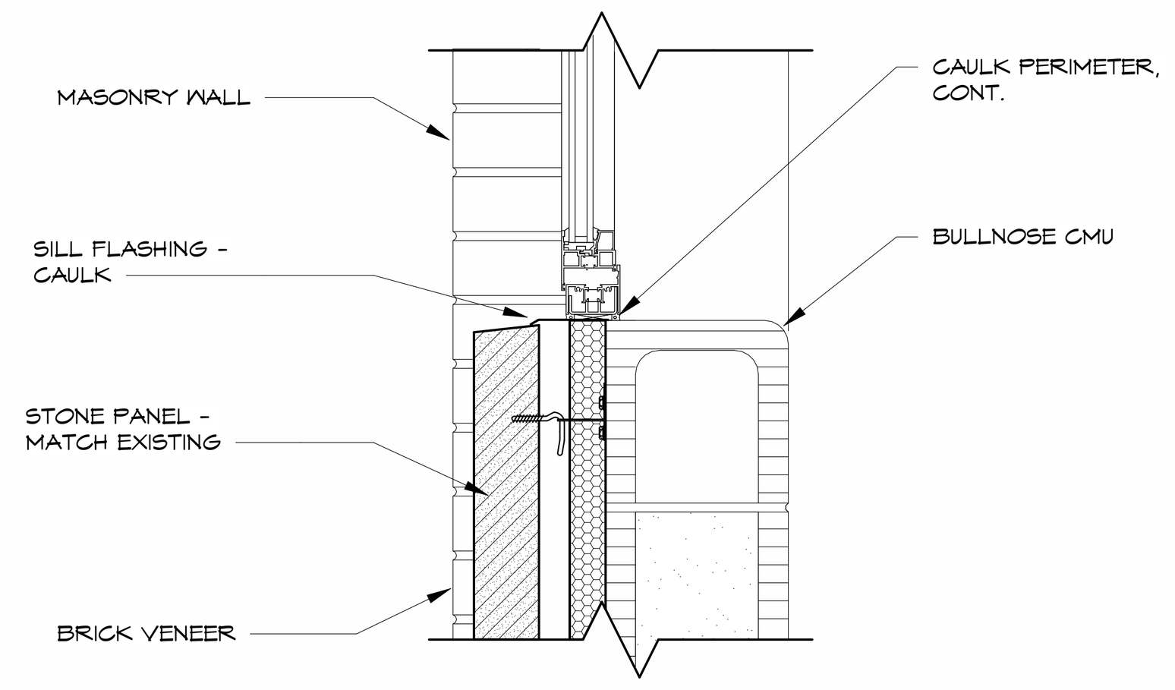
WINDOW DETAILS



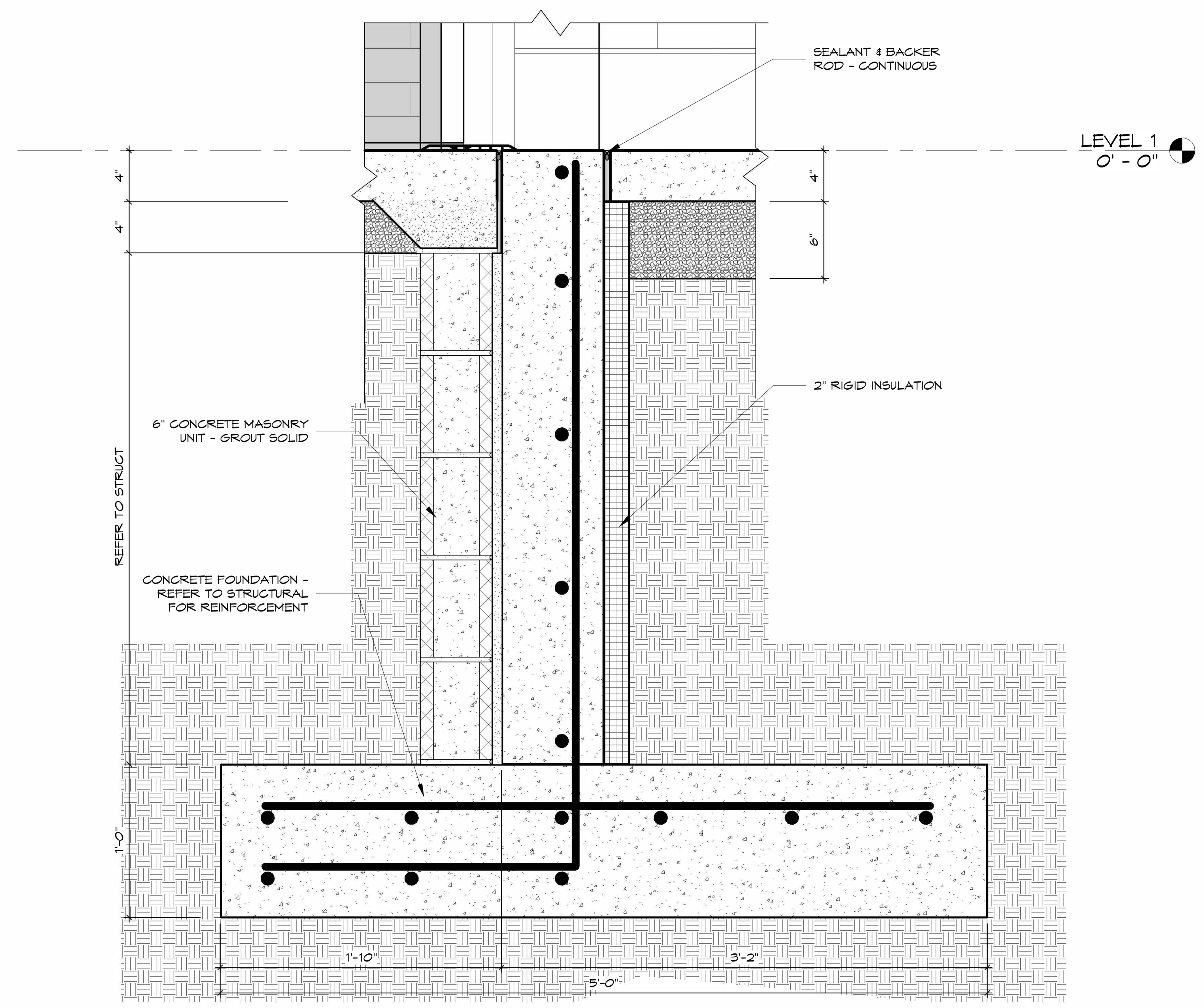
1 ALUMINUM WINDOW HEAD
1 1/2" = 1'-0"



2 ALUMINUM WINDOW JAMB
1 1/2" = 1'-0"

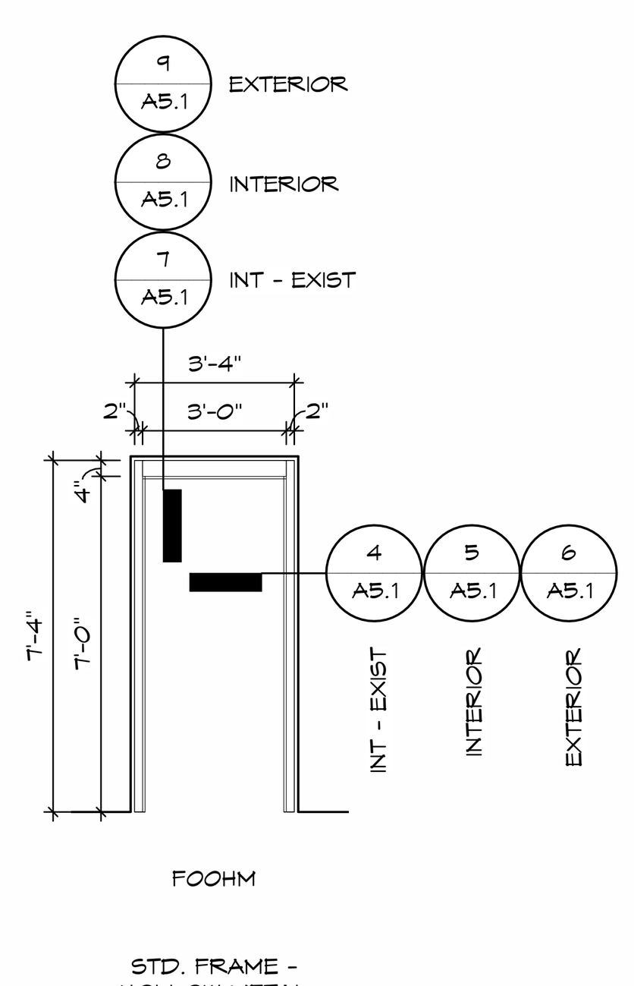


3 ALUMINUM WINDOW SILL
1 1/2" = 1'-0"



14 FOUNDATION DETAIL B
1 1/2" = 1'-0"

DOOR SCHEDULE, WINDOW & DOOR TYPES

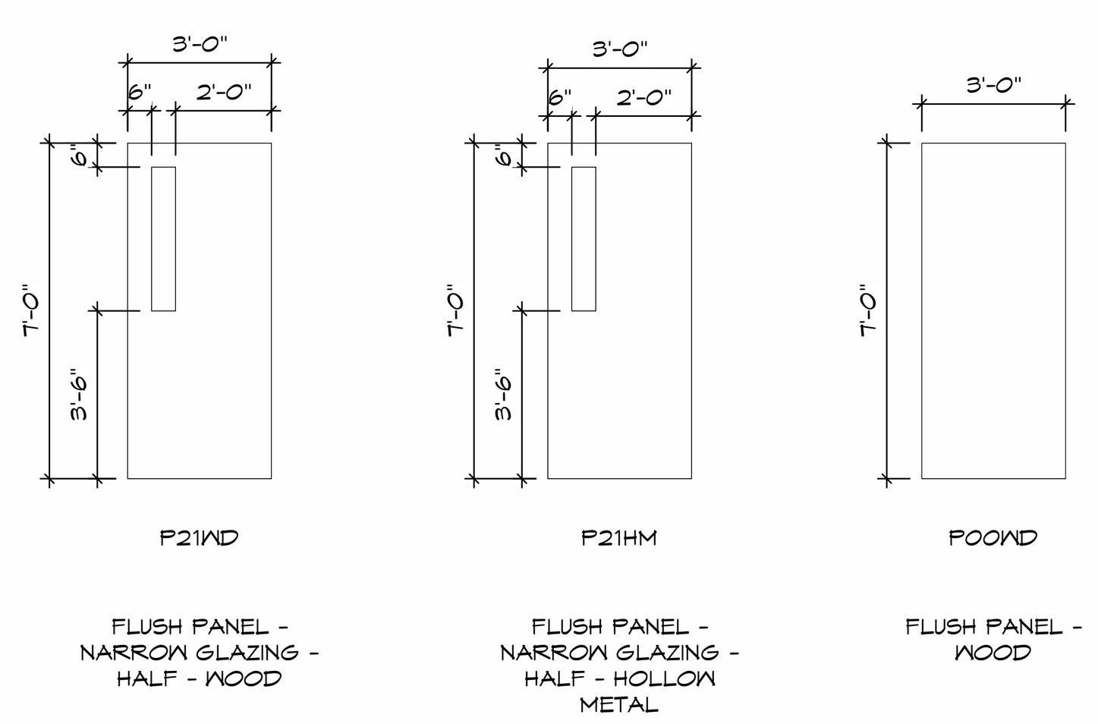


11 DOOR FRAME TYPE
1/4" = 1'-0"

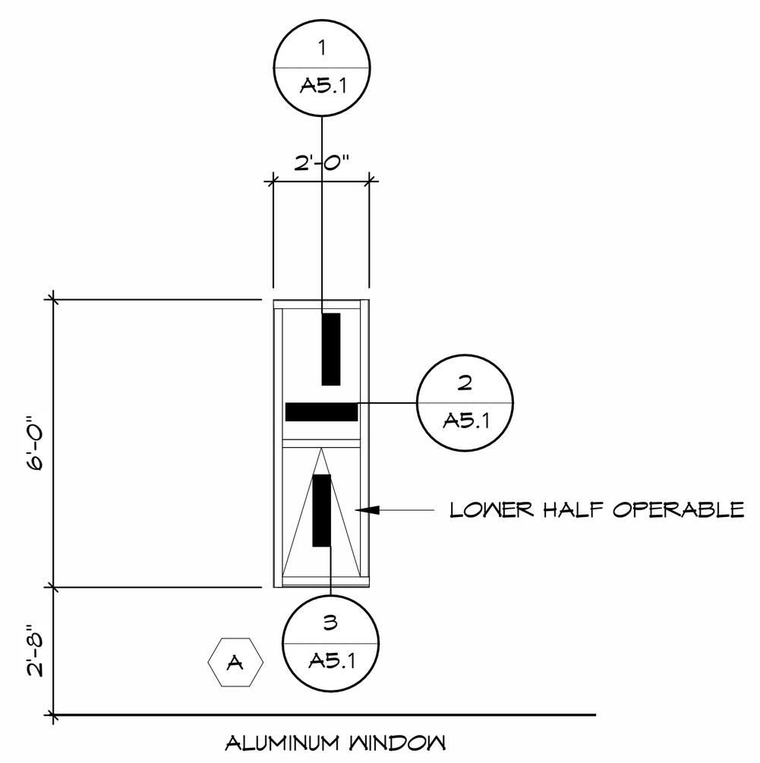
DOOR & FRAME SCHEDULE

NO.	DOOR SIZE WD	DOOR SIZE HGT	DOOR SIZE THK	DOOR TYPE	FRAME TYPE	FRAME JAMB	HW SET
116E	3' - 0"	7' - 0"	0' - 1 3/4"	P21WD	FOOHM	0' - 8 1/2"	#1
116F	3' - 0"	7' - 0"	0' - 1 3/4"	POOWD	FOOHM	0' - 8 1/2"	#1
116G	3' - 0"	7' - 0"	0' - 1 3/4"	P21WD	FOOHM	0' - 8 1/2"	#2
116H	3' - 0"	7' - 0"	0' - 1 3/4"	P21WD	FOOHM	0' - 8 1/2"	#1
116J	3' - 0"	7' - 0"	0' - 1 3/4"	P21WD	FOOHM	0' - 5 3/4"	#3
119	3' - 0"	7' - 0"	0' - 1 3/4"	POOWD	FOOHM	0' - 6 7/8"	#5
E116J	3' - 0"	7' - 0"	0' - 1 3/4"	P21HM	FOOHM	0' - 5 3/4"	#4
JAN	3' - 0"	7' - 0"	0' - 1 3/4"	POOWD	FOOHM	0' - 6 7/8"	#6

REFER TO SPECIFICATION 08710 FOR HARDWARE SCHEDULE



10 DOOR PANEL TYPES
1/4" = 1'-0"



12 WINDOW TYPE A
1/4" = 1'-0"

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DO NOT SCALE DRAWINGS
USE GIVEN DIMENSIONS ONLY. IF NOT SHOWN, VERIFY AND DOCUMENT CORRECT DIMENSION WITH THE ARCHITECT OR ENGINEER. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE.

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OPENING SCHEDULE & DETAILS

SHEET NUMBER
A5.1

PLUMBING GENERAL NOTES:

A. COORDINATE THE LOCATION OF DRAINS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.
B. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
C. WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.
D. ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.
E. COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.
F. PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
G. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)
H. CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.
I. ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.
J. ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.
K. ALL PIPING IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.
L. IN ACCORDANCE WITH K.R.S. ALL PLUMBING WORK SHALL BE CONSTRUCTED IN COMPLIANCE WITH PLANS APPROVED BY AND BEARING THE APPROVAL STAMP OF THE KENTUCKY DIVISION OF PLUMBING AND/OR THE DIVISION OF WATER. THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL HE HAS RECEIVED SUCH APPROVED PLANS.
M. LOCATIONS OF PIPING AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.
N. ALL OFFSETS IN PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.
O. INSTALL ALL PIPING AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.
P. SEAL AIRTIGHT AROUND ALL PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.
Q. THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.
R. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.
S. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.
T. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
U. VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.
V. ALL CLEANOUTS SHALL HAVE THE TOP ELEVATION SET FLUSH WITH FINISHED GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.
W. UNDER NO CIRCUMSTANCES SHOULD NEW WORK BE INSTALLED BELOW A FOOTER OR WITHIN THE ZONE OF INFLUENCE OF A FOOTER WITHOUT EXPRESS WRITTEN PERMISSION BY THE STRUCTURAL ENGINEER. IF SUCH CONDITION IS UNAVOIDABLE, COORDINATE WITH STRUCTURAL ENGINEER AND INSTALL AND BACKFILL PER STRUCTURAL DETAILS AND REQUIREMENTS.
X. WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

PLUMBING PHASING NOTES:

A. THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

PLUMBING HAZARDOUS NOTES:

A. THE CONTRACTOR IS HEREBY ADVISED THAT IT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPLTY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.
B. CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING, OR DISPOSAL OF SUCH MATERIAL.
C. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.
D. THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.
E. THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE (AMP, AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BREAK HORSEPOWER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
C.I.	CAST IRON
CLG	CEILING
CLR	CLEAR
CO	CLEAN OUT
COND	CONDENS (-ER, -ING, -ATION, -ATE)
CONT	CONTINU (-ED, -OUS)
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CV	VALVE FLOW COEFFICIENT
dB	DECIBEL
DB	DRY BULB
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE (-S)
DIA	DIAMETER (-S)
DN	DOWN
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVA (-TION, -TOR)
ENGR	ENGINEER
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ING, -ED, -OR, -ION)
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
EXT	EXTERIOR
FA	FREE AREA

ABBREVIATIONS (CONTINUED)

FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET **OR** FOOT
FUT	FUTURE
FV	FACE VELOCITY
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HUMIDITY
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	H (-ORSEPOWER, -EAT PUMP)
HR	HOUR (-S)
HVAC	HEATING, VENTILATING, & AIR-CONDITIONING
Hz	HERTZ
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INSUL	INSULAT (-ED, -ION)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
kW	KILOWATT
kWh	KILOWATT HOUR
LBS	POUNDS
LF	LINEAR FEET/FOOT
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR [THOUSANDS]
MCA	MINIMUM CIRCUIT AMPS
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION [AMPS]
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NIC	NOT IN CONTRACT

ABBREVIATIONS (CONTINUED)

NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OR	OPEN RECEPTACLE
OZ	OUNCE (-S)
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE [ELECTRICAL]
PLBG	PLUMBING
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SQ	SQUARE
SQ FT	SQUARE FEET **OR** FOOT
SQ IN	SQUARE INCH **OR** INCHES
TAB	TESTING AND BALANCING
TBD	TO BE DETERMINED
TE	TOP ELEVATION
TEMP	TEMPERATURE
TPA	TRAP PRIMER ADAPTER
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT (-AGE, -S)
VAR	VARI (-ABLE, -IES)
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FEQUENCY DRIVE
W	WATT (-AGE, -S)
WB	WET BULB
WBT	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
ΔP	DIFFERENTIAL PRESSURE
ΔT	TEMPERATURE DIFFERENCE
℄	CENTERLINE

GENERAL SYMBOLS

#	TAGGED NOTE DESIGNATOR
X	REVISION TRIANGLE
	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
XXX ##	DOMESTIC WATER RISER TAG
XXX ##	SANITARY, WASTE, & VENT RISER TAG
XXX ##	FIRE SUPPRESSION RISER TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM

VALVE SYMBOL LEGEND

	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT (AAV)
	MANUAL AIR VENT (MAV)
	MANUAL BALANCING VALVE (BV)
	BALL VALVE
	BUTTERFLY VALVE
	TRIPLE DUTY VALVE (TDV)
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	AUTO-FLOW CONTROL VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY

PLUMBING PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
DCW	DOMESTIC COLD WATER (DCW)
DHW DHW(#°F)	DOMESTIC HOT WATER (DHW)
DHR DHR(#°F)	RECIRCULATED DOMESTIC HOT WATER (DHR)
G	NATURAL GAS
RL	ROOF LEADER
SAN	SANITARY
VT	VENT

PLUMBING SYMBOL LEGEND

	FLEXIBLE PIPE CONNECTION
	FLOW METER (VENTURI)
	PIPING UNION
FS	FLOW SWITCH
PS	PRESSURE SWTICH
TS	TAMPER SWITCH
	THERMOMETER
T	PETE'S PLUG; TEMPERATURE/PRESSURE PORT

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC)	STATE EDITION	2012
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE	KBC	2018

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	CW	HW	VENT	WASTE/DRAIN
FD-1	FLOOR DRAIN - 6" DIA. : ZURN, Z415B OR EQUAL FLOOR DRAIN WITH 6" DIAMETER TOP, TYPE "B" NICKEL BRONZE STRAINER, 4" DRAIN OUTLET AND TRAP PRIMER CONNECTION.	-	-	2"	4"
FPWH-1	FREEZE-PROOF WALL HYDRANT : ZURN 1300 OR EQUIVALENT, 3/4", ENCASED, FLUSH, NON-FREEZE WALL HYDRANT WITH KEY LOCK AND COMBINATION BACKFLOW PREVENTER/VACUUM BREAKER. MOUNT HYDRANT AT A MINIMUM OF 20" ABOVE FINISHED GRADE. REFER TO MECHANICAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.	3/4"	-	-	-
HB-1	HOSE BIBB : ZURN MODEL Z1350 OR EQUAL ENCASED MODERATE CLIMATE WALL HYDRANT FOR NARROW WALL INSTALLATION. WITH ALL BRONZE BODY, ALL BRONZE INTERIOR PARTS, REPLACEABLE SEAT WASHER, LOOSE KEY OPERATED CONTROL VALVE, VACUUM BREAKER AND 3/4" MALE HOSE CONNECTION. ADJUSTABLE STAINLESS STEEL BOX FURNISHED WITH HINGED COVER CYLINDER LOCK AND "WATER" STAMPED ON THE COVER. MOUNTED WITH HOSE CONNECTION AT 18" ABOVE FINISHED FLOOR ELEVATION OF AREA SERVED.	1/2"	-	-	-
P-1	WATER CLOSET - FLOOR MOUNTED - MANUAL FLUSH VALVE: SLOAN MODEL NO. ST-2029, VITREOUS CHINA, 18" HIGH ELONGATED BOWL, SIPHON JET, 11/2" TOP SPUD INLET, CHINA BOLT CAPS AND WHITE OPEN FRONT PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. PROVIDE SLOAN MODEL NO.111, MANUAL 1.6 GPF FLUSH VALVE WITH HANDLE AT A MAXIMUM OF 31" AFF.	1-1/2"	-	2"	4"
P-1A	WATER CLOSET - FLOOR MOUNTED - MANUAL FLUSH VALVE - ADA COMPLIANT : SLOAN MODEL NO. ST-2029, VITREOUS CHINA, 18" HIGH ELONGATED BOWL, SIPHON JET, 11/2" TOP SPUD INLET, CHINA BOLT CAPS AND WHITE OPEN FRONT PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. PROVIDE SLOAN MODEL NO. 111, MANUAL 1.6 GPF FLUSH VALVE WITH HANDLE AT A MAXIMUM OF 31" AFF.	1-1/2"	-	2"	4"
P-2	URINAL - ADA COMPLIANT : SLOAN MODEL NO. SU-1009-A, VITREOUS CHINA SIPHON JET URINAL WITH 3/4' TOP SPUD INLET, 2" I.P.S. OUTLET AND SLOAN MODEL NO. 111, 1.0 GPF MANUAL FLUSH VALVE. MOUNT WITH LIP OF URINAL AT 17" ABOVE FINISHED FLOOR. CONTROLS SHALL BE A MAXIMUM OF 39" ABOVE FINISHED FLOOR. PROVIDE FLOOR MOUNTED WALL CARRIER.	3/4"	-	2"	2"
P-3	LAVATORY - WALL HUNG W/ SINGLE LEVER FAUCET - ADA COMPLIANT : SLOAN MODEL NO. SS-3017, VITREOUS CHINA, 20"X18" WALL HUNG LAVATORY WITH 4" FAUCET CENTERS, CONCEALED ARMS AND 4" HIGH BACKSPLASH. PROVIDE WITH A ZURN MODEL NO. Z81103-XL, 0.5 GPM DUAL LEVER FAUCET, CHROME PLATED 3/8" SUPPLIES WITH STOPS, GRID DRAIN, A KENTUCKY CODE P-TRAP, TAILPIECE AND ESCUTCHEONS. MOUNT LAVATORY AT A HEIGHT LEAVING A CLEARANCE OF AT LEAST 29" FROM THE FLOOR TO THE APRON AND THE RIM AT A MAXIMUM OF 34" AFF. PROVIDE ON THE EXPOSED WASTE PIPE AND WATER SUPPLY LINES A TRAP-WRAP INSULATION KIT WITH A VINYL AND PLASTIC COVERING.	1/2"	1/2"	2"	2"
P-4	MOP BASIN : ZURN MODEL NO. Z1996-27, 24"X24"X10" HIGH MOLDED STONE MOP SERVICE BASIN, IN WHITE DRIFT COLOR, 3" DRAIN, SERVICE FAUCET, HOSE AND HOSE BRACKET, VINYL BUMPERGUARD AND STAINLESS STEEL WALL GUARDS. THE DRAIN SHALL BE LOCATED 12" TO THE CENTER. PROVIDE A CHECK VALVE IN THE HOT AND COLD WATER SUPPLIES.	3/4"	3/4"	2"	3"
TP-1	TRAP PRIMER TYPE-1 : PRECISIONS PLUMBING PRODUCTS PRIME-TIME OR EQUAL ELECTRONIC TRAP PRIMING MANIFOLD, WITH ATMOSPHERIC VACUUM BREAKER, PRE-SET 24 HOUR CLOCK, MANUAL OVERRIDE SWITCH, 120 VOLT SOLENOID VALVE WITH 120V/3WIRE CONNECTION. PROVIDE IN 12" X 12" X 4" SURFACE MOUNTED METAL CABINET. PROVIDE WITH 10 OPENING MANIFOLD, UN-USED MANIFOLD OPENING SHALL BE CAPPED. INSTALL UNITED AS REQUIRED BY MANUFACTURER.	3/4"	-	-	-

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STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
PLUMBING LEGEND

SHEET NUMBER
P1.0

PLUMBING DEMOLITION NOTES:

A. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING, ETC.
B. DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.
C. ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL PATCH AND REPAIR REQUIREMENTS.
D. ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.
E. HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.

TAGGED NOTES

##

PD1 DEMOLISH EXISTING LAVATORY AND ALL ASSOCIATED WASTE PIPING TO POINT INDICATED AND CAP IN CODE APPROVED MANNER. DEMOLISH EXISTING VENT, DOMESTIC COLD WATER, AND DOMESTIC HOT WATER PIPING BACK TO RESPECTIVE MAIN AND CAP WATER TIGHT.

PD2 DEMOLISH EXISTING WATER CLOSET AND ALL ASSOCIATED WASTE PIPING TO POINT INDICATED AND CAP IN CODE APPROVED MANNER. DEMOLISH EXISTING VENT, AND DOMESTIC COLD WATER PIPING BACK TO RESPECTIVE MAIN AND CAP WATER TIGHT.

PD3 DEMOLISH EXISTING URINAL AND ALL ASSOCIATED WASTE PIPING TO POINT INDICATED AND CAP IN CODE APPROVED MANNER. DEMOLISH EXISTING VENT, AND DOMESTIC COLD WATER PIPING BACK TO RESPECTIVE MAIN AND CAP WATER TIGHT.

PD5 DEMOLISH EXISTING FLOOR DRAIN AND ALL ASSOCIATED WASTE PIPING TO POINT INDICATED AND CAP IN CODE APPROVED MANNER. DEMOLISH EXISTING VENT PIPING BACK TO RESPECTIVE MAIN AND CAP WATER TIGHT.

PD6 DEMOLISH EXISTING SERVICE SINK AND ALL ASSOCIATED WASTE PIPING TO POINT INDICATED AND CAP IN CODE APPROVED MANNER. DEMOLISH EXISTING VENT PIPING BACK TO RESPECTIVE MAIN AND CAP WATER TIGHT.

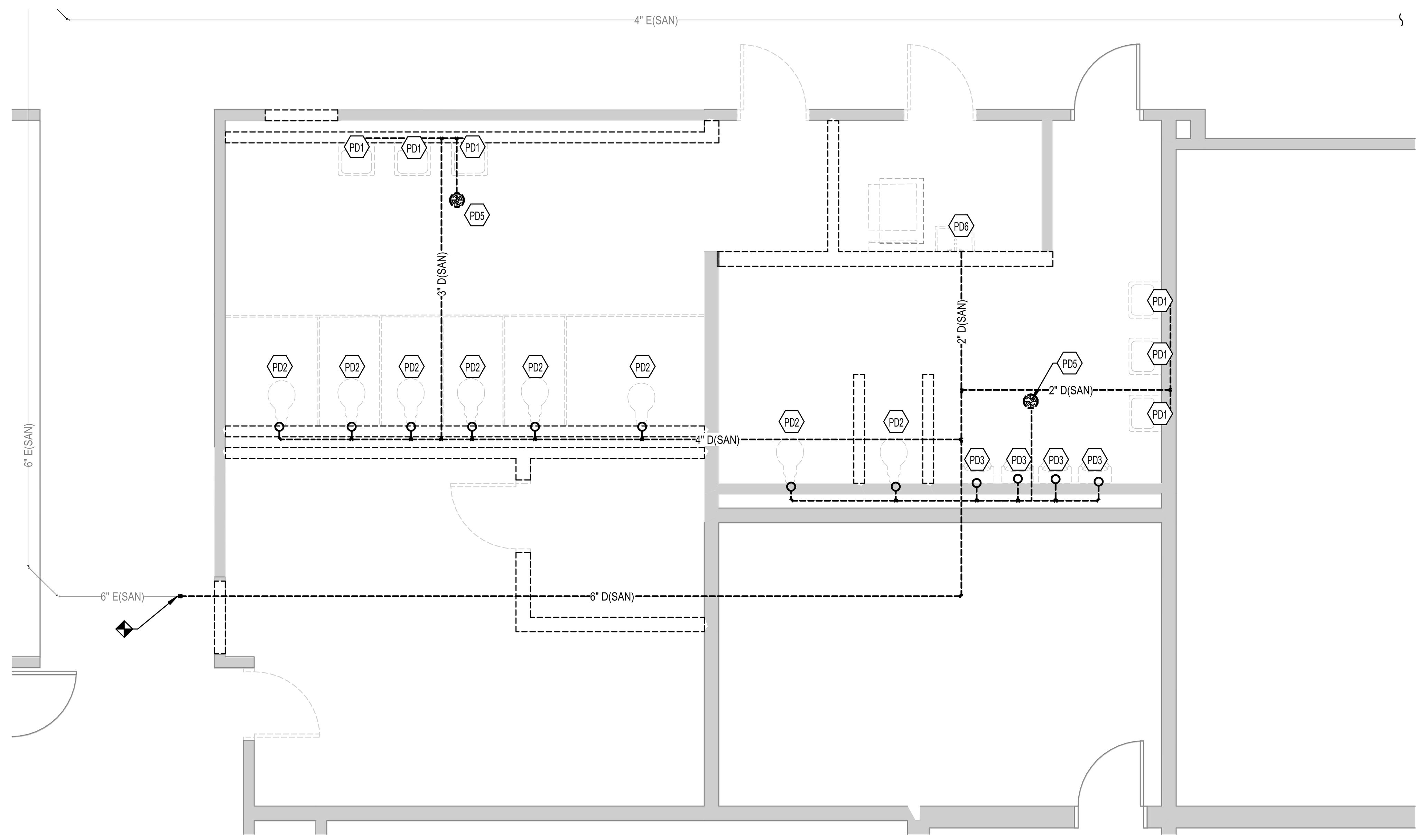
PD9 EXISTING HOSE BIBB AND ASSOCIATED DOMESTIC WATER PIPING TO BE DEMOLISHED COMPLETELY.

PD12 EXISTING VENT THROUGH ROOF TO BE DEMOLISHED COMPLETELY.

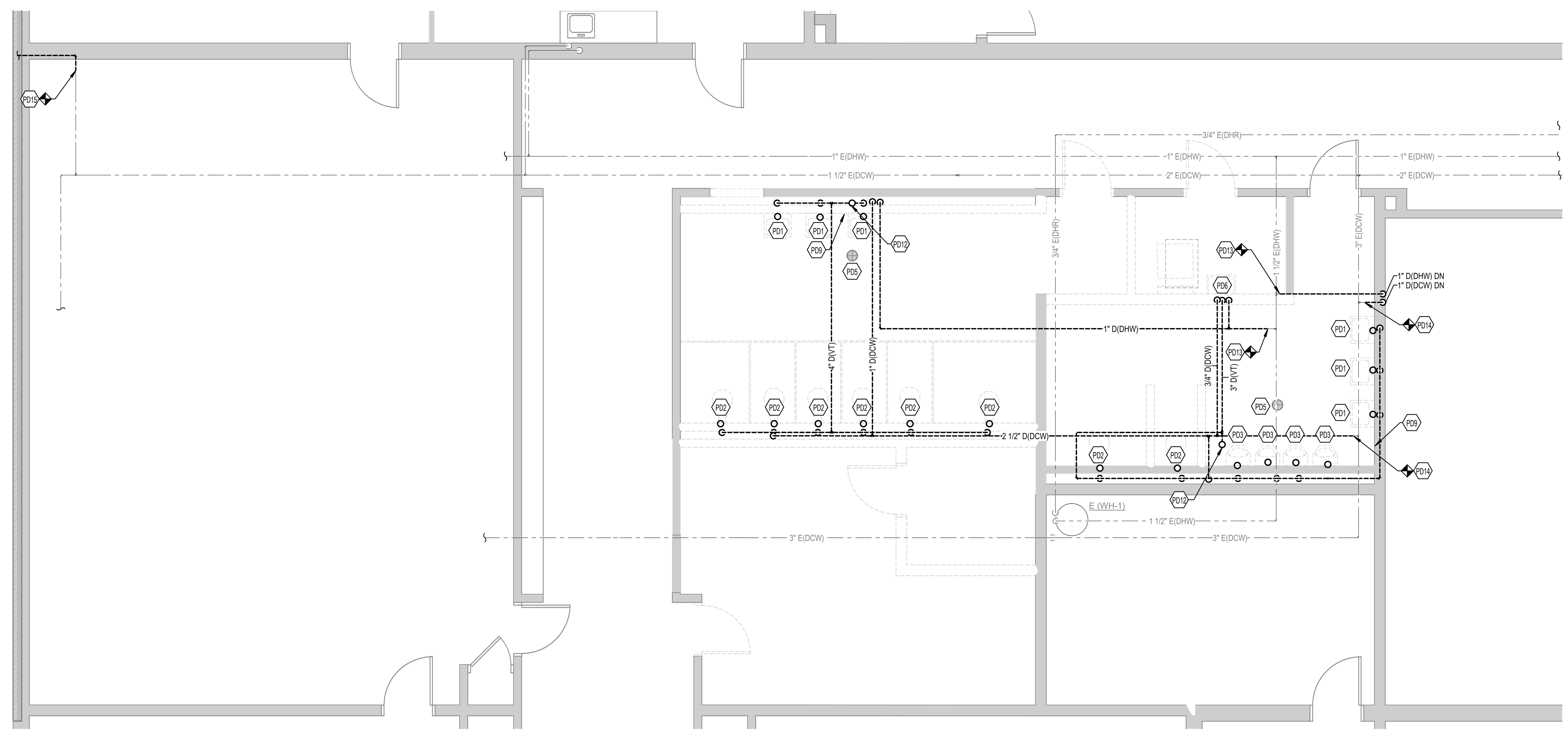
PD13 DOMESTIC HOT WATER LINE TO BE DEMOLISHED BACK TO POINT INDICATED. CAP AND SEAL AIR TIGHT.

PD14 DOMESTIC COLD WATER LINE TO BE DEMOLISHED BACK TO POINT INDICATED. CAP AND SEAL AIR TIGHT.

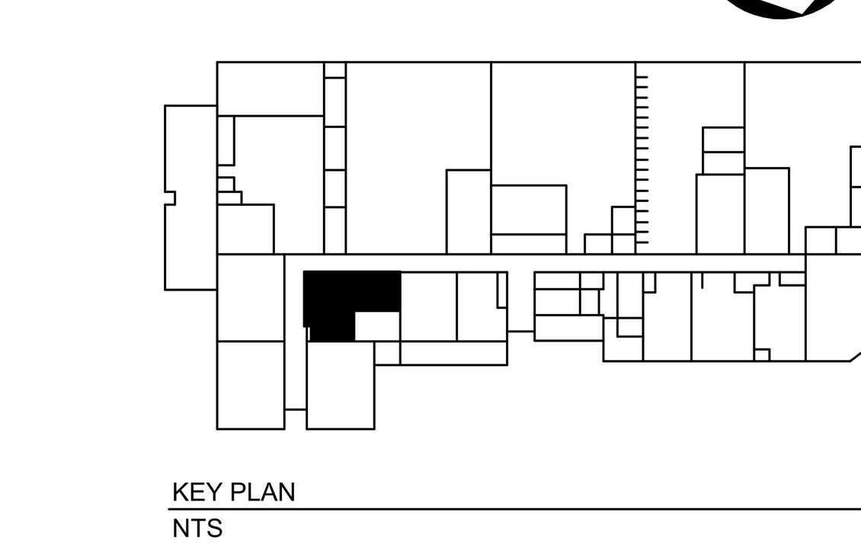
PD15 EXISTING EXTERIOR WALL HYDRANT AND ASSOCIATED DOMESTIC WATER PIPING TO BE DEMOLISHED BACK TO POINT INDICATED. REFER TO NEW WORK PLAN.



3 PLUMBING UNDERSLAB DEMOLITION PLAN - GANG RR
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8' 12' 16'



1 PLUMBING DEMOLITION PLAN - GANG RR
SCALE: 1/4" = 1'-0"
0 2' 4' 8' 16' 24' 32'



KEY PLAN
NTS

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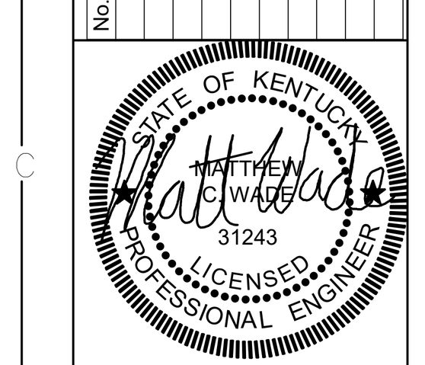
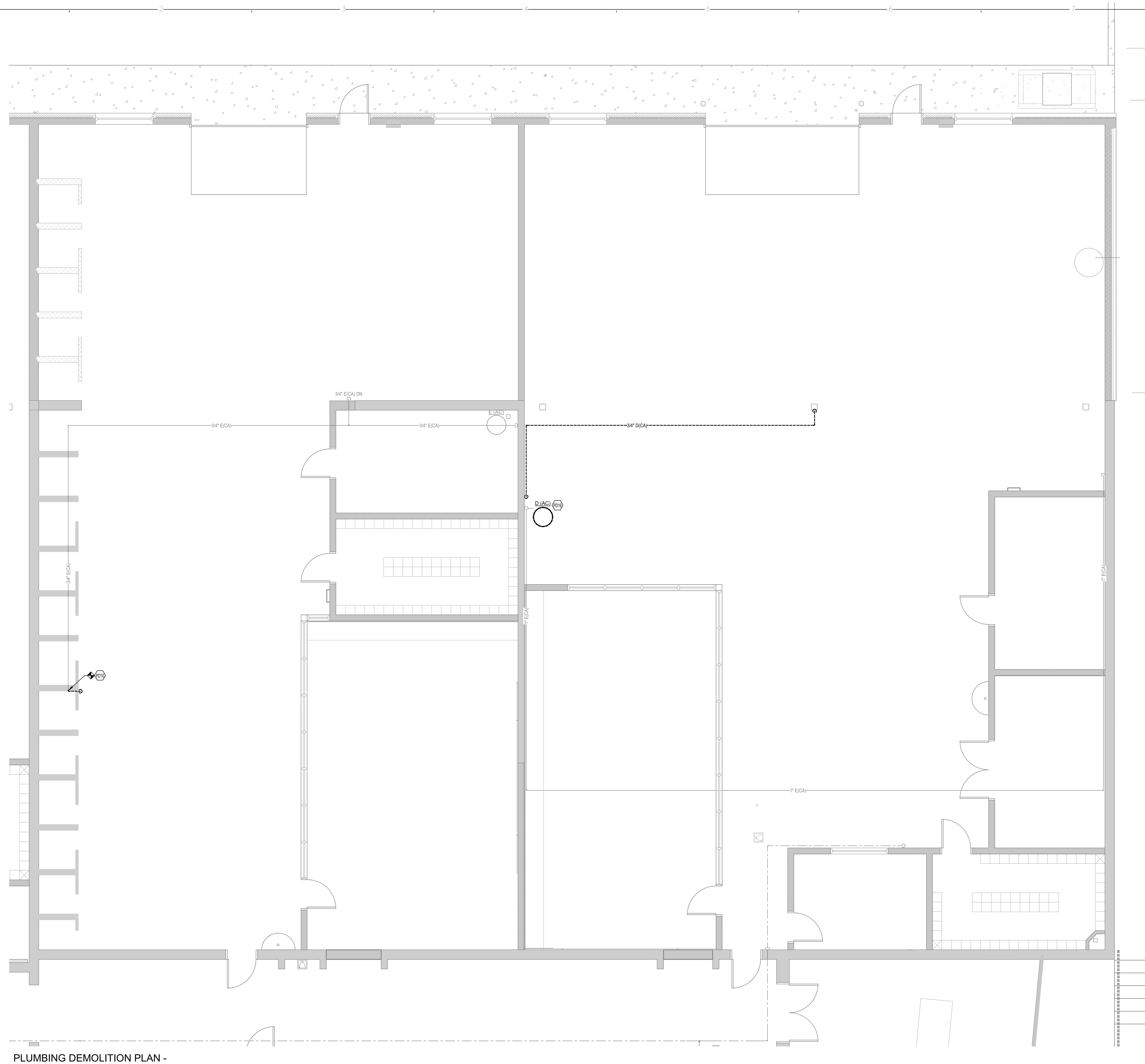


HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
PLUMBING DEMOLITION PLAN - GANG RR

SHEET NUMBER
P2.0



PLUMBING DEMOLITION PLAN - WELDING/CARPENTRY

1 SCALE: 1/4" = 1'-0"

0 4' 8' 16' 32' 48' 64'

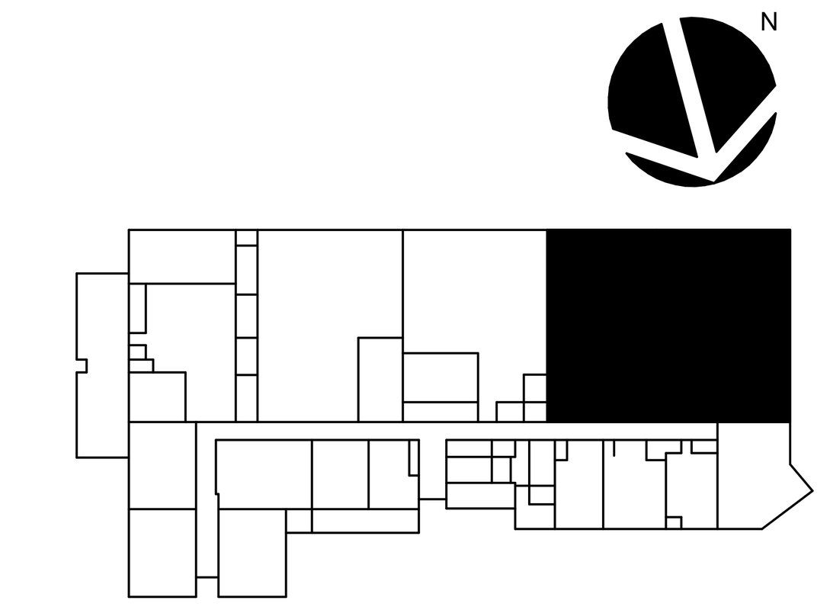
PLUMBING ABOVE GRADE GENERAL NOTES:

A. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS OF UNDERSLAB PIPING ROUTED NEAR FOOTINGS. ZONE OF INFLUENCE PIPING SHALL BE INSTALLED IN A MANNER THAT DOES NOT UNDERMINE FOOTINGS.
B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.
C. ALL EXPOSED PIPING SHALL BE CLEANED AND PREPARED FOR PAINTING ACCORDING TO ARCHITECT'S INSTRUCTIONS AND SPECIFICATIONS.
D. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRE STOPPING ACCORDINGLY.

TAGGED NOTES ##

PD10 COMPRESSED AIR LINE TO BE DEMOLISHED AT POINT INDICATED TO ACCOMODATED DEMOLITION OF WELDING BOOTH WALL. REFER TO NEW PLUMBING PLAN.

PD16 EXISTING AIR COMPRESSOR TO BE SALVAGED BY OWNER. EXISTING PIPING TO REMAIN. REFER TO NEW WORK PLAN.



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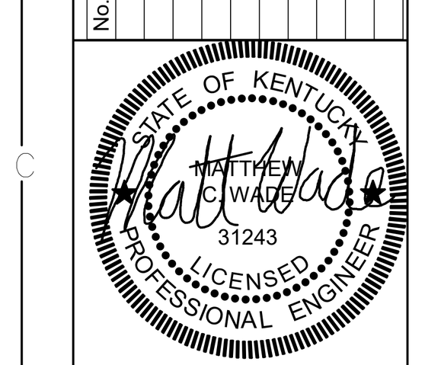


HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
PLUMBING DEMOLITION PLAN - WELDING/CARPENTRY

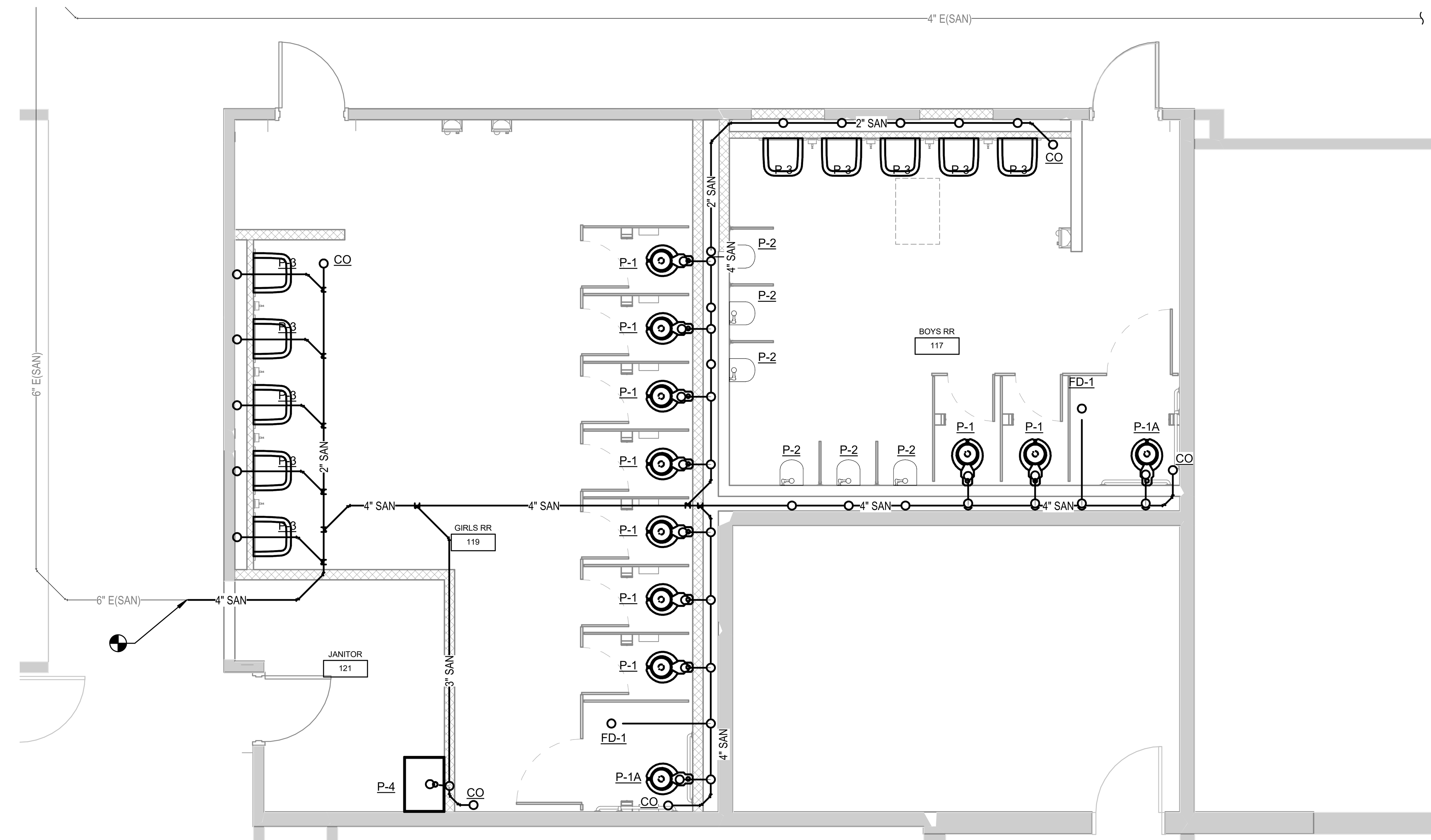
SHEET NUMBER
P2.1

PLUMBING ABOVE GRADE GENERAL NOTES:

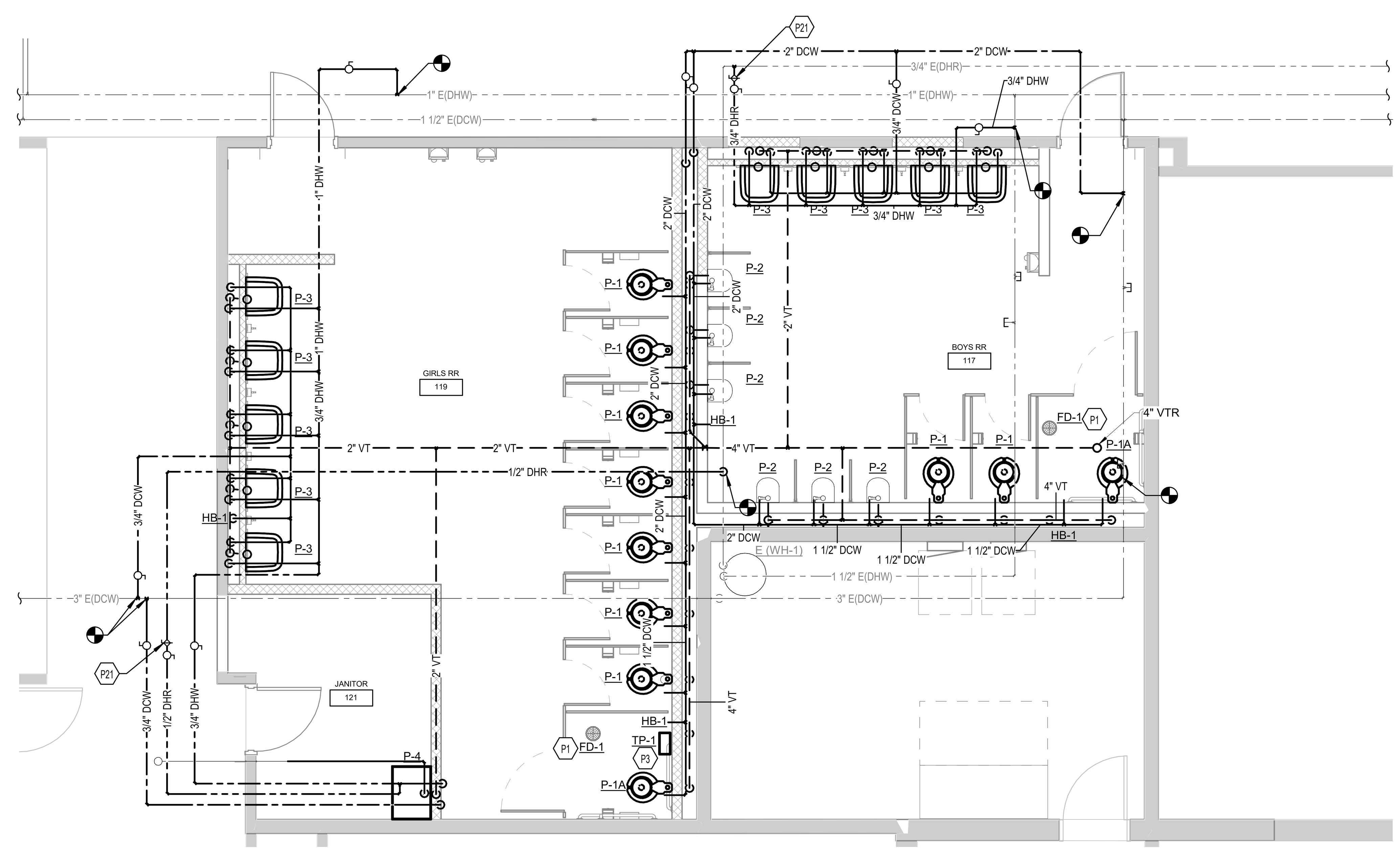
A. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS OF UNDERSLAB PIPING ROUTED NEAR FOOTINGS. ZONE OF INFLUENCE PIPING SHALL BE INSTALLED IN A MANNER THAT DOES NOT UNDERMINE FOOTINGS.
B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.
C. ALL EXPOSED PIPING SHALL BE CLEANED AND PREPARED FOR PAINTING ACCORDING TO ARCHITECT'S INSTRUCTIONS AND SPECIFICATIONS.
D. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRE STOPPING ACCORDINGLY.

TAGGED NOTES

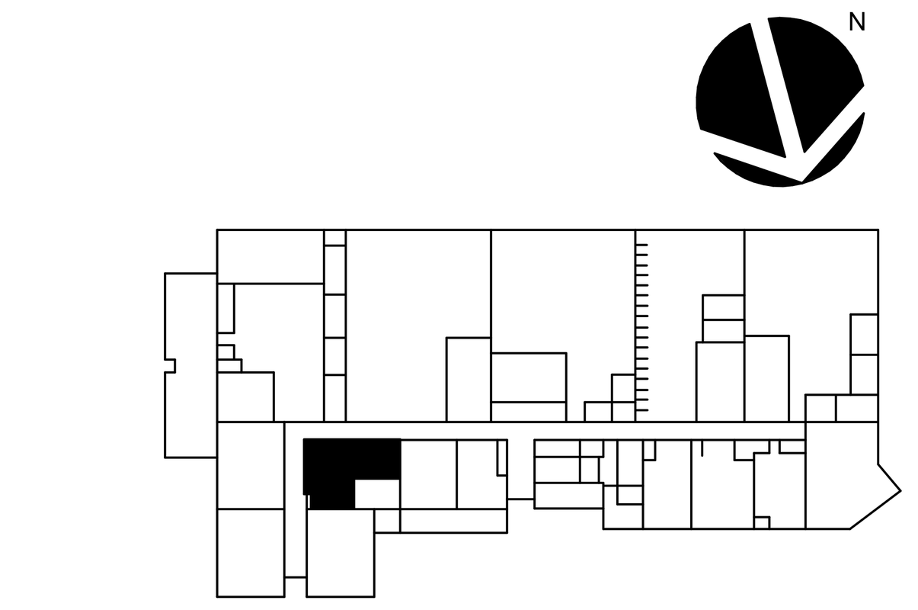
P1 TRAP PRIMER TO BE CONNECTED TO FLOOR DRAIN.
P3 TRAP PRIMER TO BE MOUNTED ABOVE CEILING. PROVIDE ACCESS PANEL IN CHASE WALL. REFER TO ARCHITECTURAL DRAWINGS.
P21 BALANCE TO 0.5 GPM. REFER TO TEST AND BALANCE SPECIFICATIONS.



3 NEW UNDERSLAB PLUMBING PLAN - GANG RR
SCALE: 1/4" = 1'-0"



1 NEW PLUMBING PLAN - GANG RR
SCALE: 1/4" = 1'-0"



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STATE OF KENTUCKY MATTHEW C. WADE 31243 LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW PLUMBING PLAN - GANG RR

SHEET NUMBER
P3.0

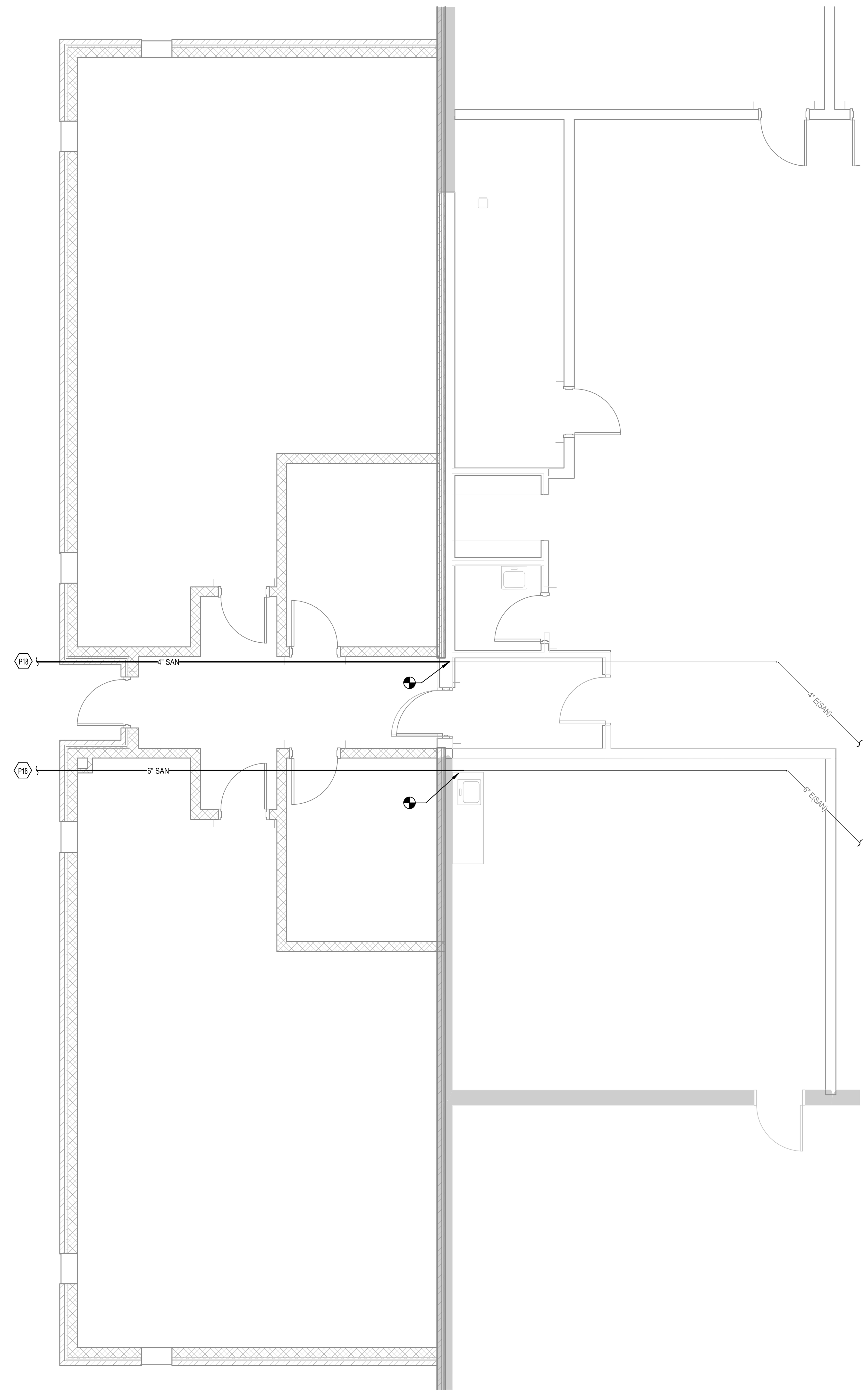
PLUMBING UNDERSLAB GENERAL NOTES:

A. REFER TO STRUCTURAL DRAWINGS SHEET S2.1, FOR REQUIREMENTS OF UNDERSLAB PIPING ROUTED NEAR FOOTER ZONE OF INFLUENCE. PIPING SHALL BE INSTALLED IN A MANNER WHICH DOES NOT UNDERMINE FOOTINGS.
B. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INSTALLATION OF UNDERSLAB SANITARY, ROOF LEADER, FORCED MAIN, AND ACID WASTE PIPING WITH THE BUILDING FOOTINGS. REFER TO STRUCTURAL DRAWINGS FOR FOOTING AND FOUNDATION PLAN.
C. REFER TO P4 SERIES SHEETS FOR FIXTURE TYPES.

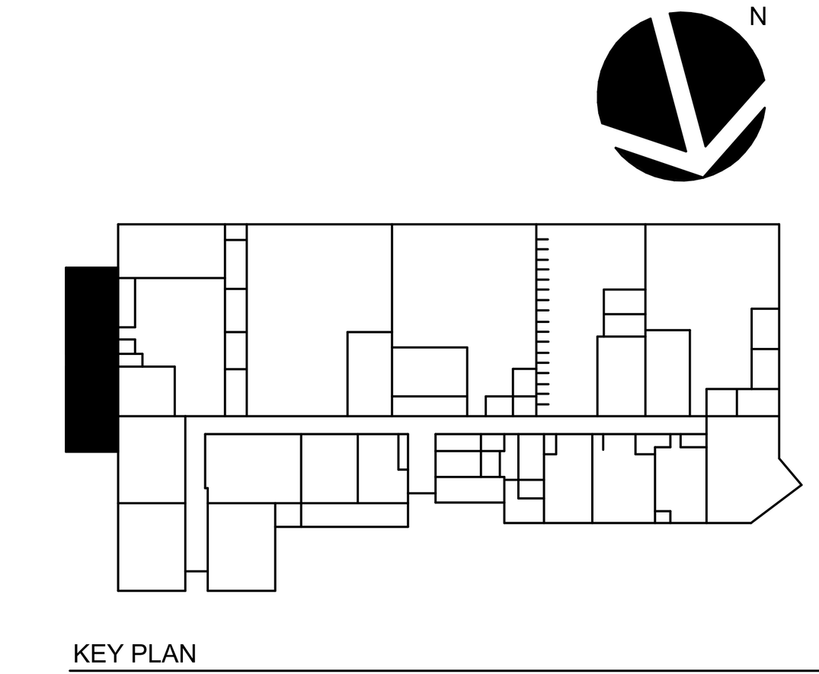
TAGGED NOTES

##

P18 NEW SANITARY PIPIING. REFER TO SITE UTILITY PLAN FOR CONTINUATION.



NEW UNDERSLAB PLUMBING PLAN - CTE ADDITION
2
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8' 12' 16'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MATTHEW C. WADE
31243
LICENSED
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW UNDERSLAB PLUMBING PLAN - CTE ADDITION

SHEET NUMBER
P3.1

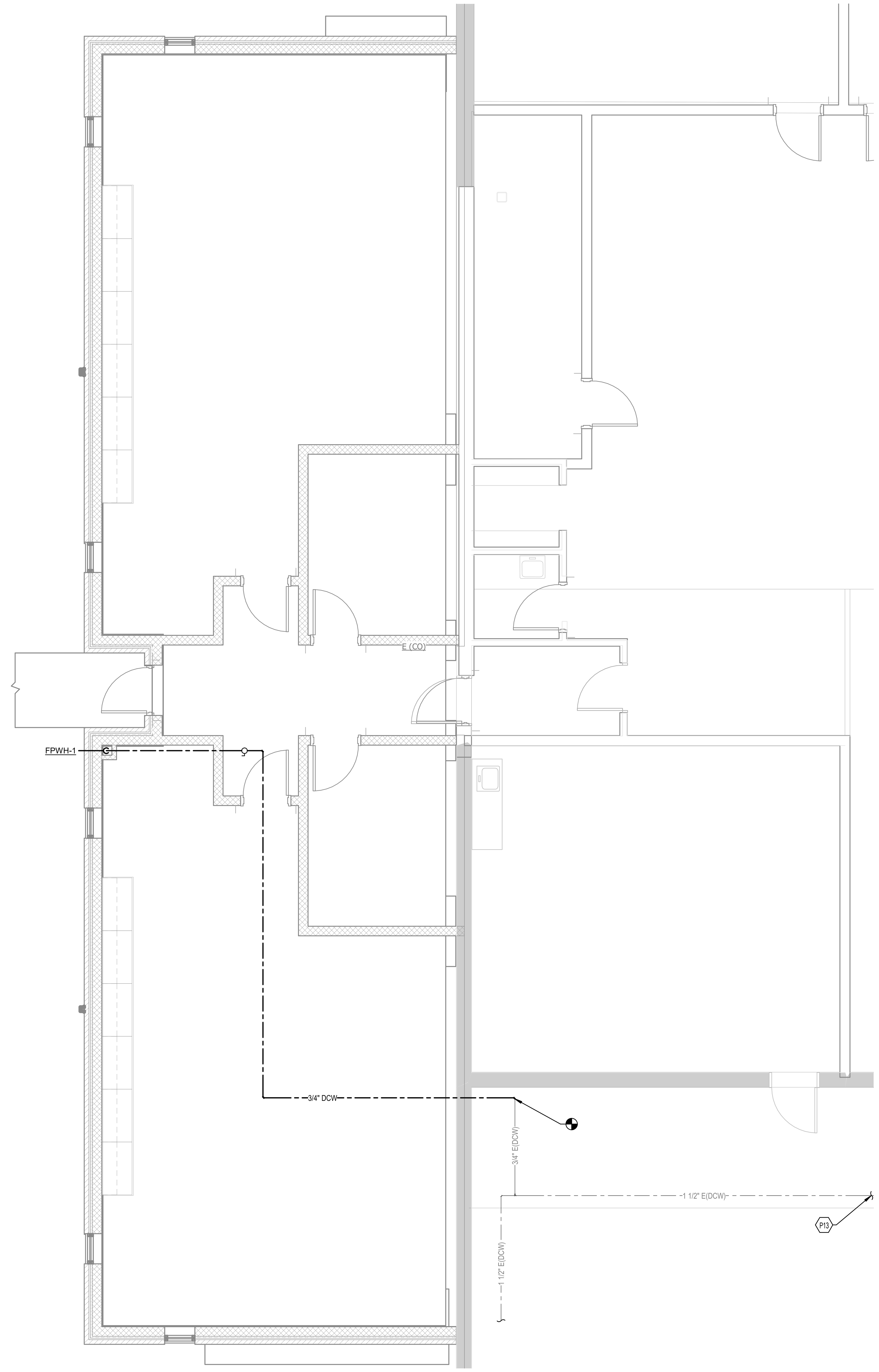
PLUMBING ABOVE GRADE GENERAL NOTES:

A. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS OF UNDERSLAB PIPING ROUTED NEAR FOOTINGS. ZONE OF INFLUENCE PIPING SHALL BE INSTALLED IN A MANNER THAT DOES NOT UNDERMINE FOOTINGS.
B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.
C. ALL EXPOSED PIPING SHALL BE CLEANED AND PREPARED FOR PAINTING ACCORDING TO ARCHITECT'S INSTRUCTIONS AND SPECIFICATIONS.
D. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRE STOPPING ACCORDINGLY.

TAGGED NOTES

##

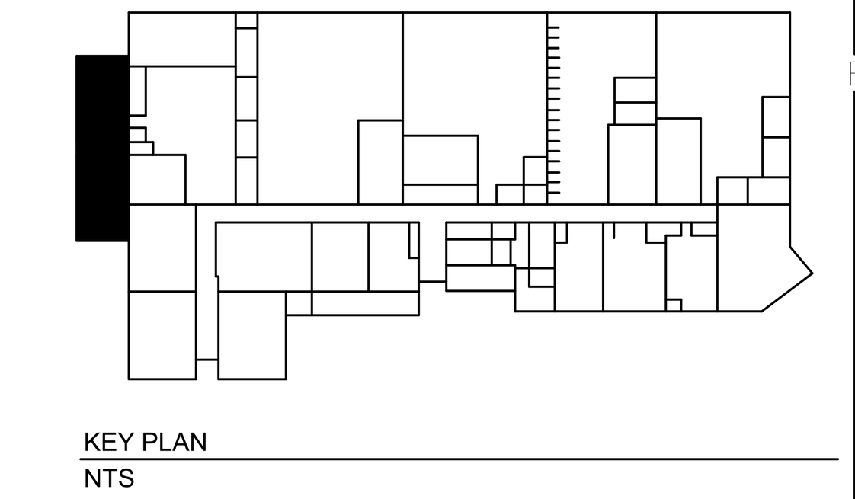
P13 DOMESTIC COLD WATER PIPING. REFER TO GANG RESTROOM PLUMBING PLAN FOR CONTINUATION.



1 NEW PLUMBING PLAN - CTE ADDITION

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



KEY PLAN

NTS

RBS DESIGN GROUP
ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

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JOB NUMBER	Y21037/XHCR23
DRAWN BY	DRH
CHECKED BY	MCW
DATE	02/01/24

No.	Description	Date

STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW PLUMBING PLAN - CTE ADDITION

SHEET NUMBER

P3.2

1 NEW PLUMBING PLAN - WELDING/CARPENTRY

SCALE: 1/4" = 1'-0"

0 4' 8' 16' 32' 48' 64'

PLUMBING ABOVE GRADE GENERAL NOTES:

A. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS OF UNDERSLAB PIPING ROUTED NEAR FOOTINGS. ZONE OF INFLUENCE PIPING SHALL BE INSTALLED IN A MANNER THAT DOES NOT UNDERMINE FOOTINGS.

B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.

C. ALL EXPOSED PIPING SHALL BE CLEANED AND PREPARED FOR PAINTING ACCORDING TO ARCHITECT'S INSTRUCTIONS AND SPECIFICATIONS.

D. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRE STOPPING ACCORDINGLY.

TAGGED NOTES

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P2 COMPRESSED AIR LINE TO BE RECONNECTED AT POINT INDICATED. COMPRESSED AIR LINE DROP TO BE MOUNTED TIGHT TO WALL. TERMINATE WITH AIR FILTER, PRESSURE GAUGE, BALL VALVE, AND FEMALE QUICK CONNECT FITTING. COORDINATE FINAL LOCATION AND ELEVATION WITH SCHOOL DISTRICT.

P4 ROUTE COMPRESSED AIR PIPING DOWN TIGHT TO WALL INSIDE BUILDING AND THROUGH WALL OUT TO DUST COLLECTOR CONNECTION TIMES 2. PROVIDE SHUTOFF VALVE, PRESSURE GAUGE, PRESSURE REDUCING VALVE WITHIN BUILDING PRIOR TO WALL PENETRATION. MAKE FINAL CONNECTION TO DUST COLLECTOR EQUIPMENT. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS.

P5 PROVIDE 1" DOMESTIC COLD WATER CONNECTION TO SPARK EXTINGUISH SYSTEM. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS.

P6 EXISTING DOMESTIC COLD WATER LINE. REFER TO SHEET P3.1 FOR CONTINUATION.

P7 ROUTE COMPRESSED AIR PIPING UP TIGHT TO WALL TO 12' AFF.

P8 DUST COLLECTOR CONTROL PANEL. REFER TO MECHANICAL DRAWINGS.

P9 DUST COLLECTOR BOOSTER PANEL. REFER TO MECHANICAL DRAWINGS.

P10 DUST COLLECTOR SPARK DETECTION PANEL. REFER TO MECHANICAL DRAWINGS.

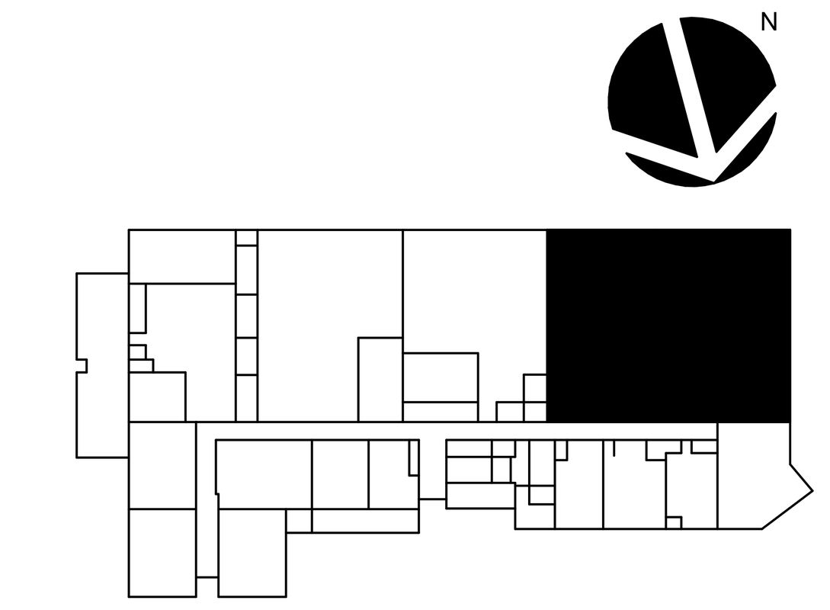
P15 REFRIGERATED AIR DRYER. REFER TO AIR COMPRESSOR SCHEMATIC FOR DETAILS.

P16 3/4" DRAIN EXITING THE BUILDING AT LOCATION INDICATED. REFER TO CIVIL DRAWINGS FOR CONTINUATION.

P17 3/4" DRAIN LINE FROM BLADDER BOOSTER PUMP TO BE ROUTED UNDERSLAB INTO DRAIN. CONCRETE SLAB TO BE CUT, PATCHED, AND REPAIRED. REFER TO ARCHITECTURAL PLANS. PROVIDE P-TRAP AT BOTTOM OF DROP. REFER TO DRAIN DETAIL.

P19 OWNER PROVIDED DOWNDRAFT PLASMA TABLE SHOWN FOR REFERENCE ONLY. REFER TO MECHANICAL DRAWINGS.

P20 NEW COMPRESSED AIR LINE TO BE CONNECTED AT POINT INDICATED.



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HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW PLUMBING PLAN - WELDING/CARPENTRY

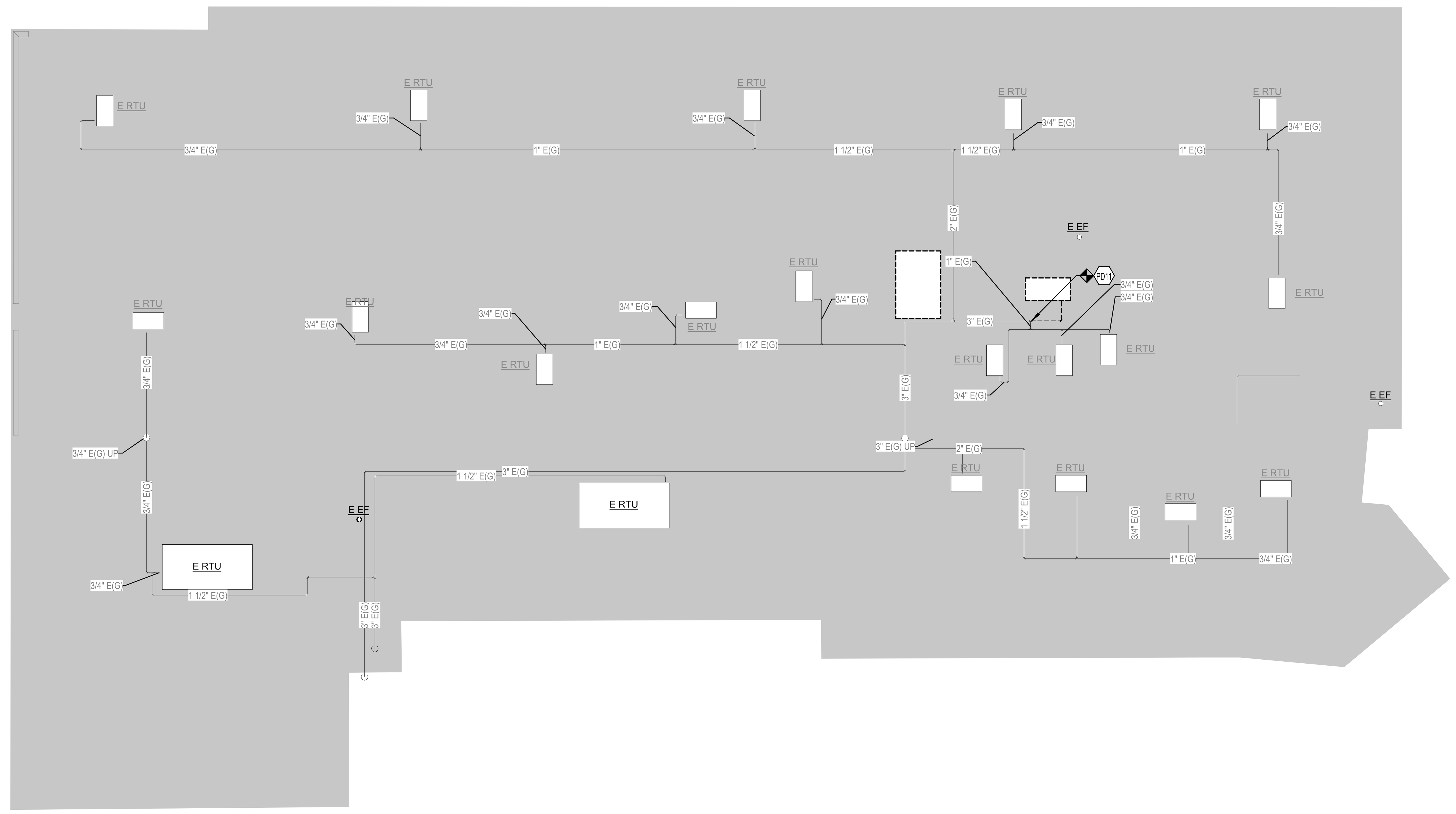
SHEET NUMBER

P3.3

TAGGED NOTES

P11 CONNECT GAS LINE TO ROOFTOP UNIT. REFER TO EQUIPMENT MANUFACTURER FOR CONNECTION SIZE. REFER TO GAS CONNECTION DETAIL FOR FURTHER INSTRUCTIONS.

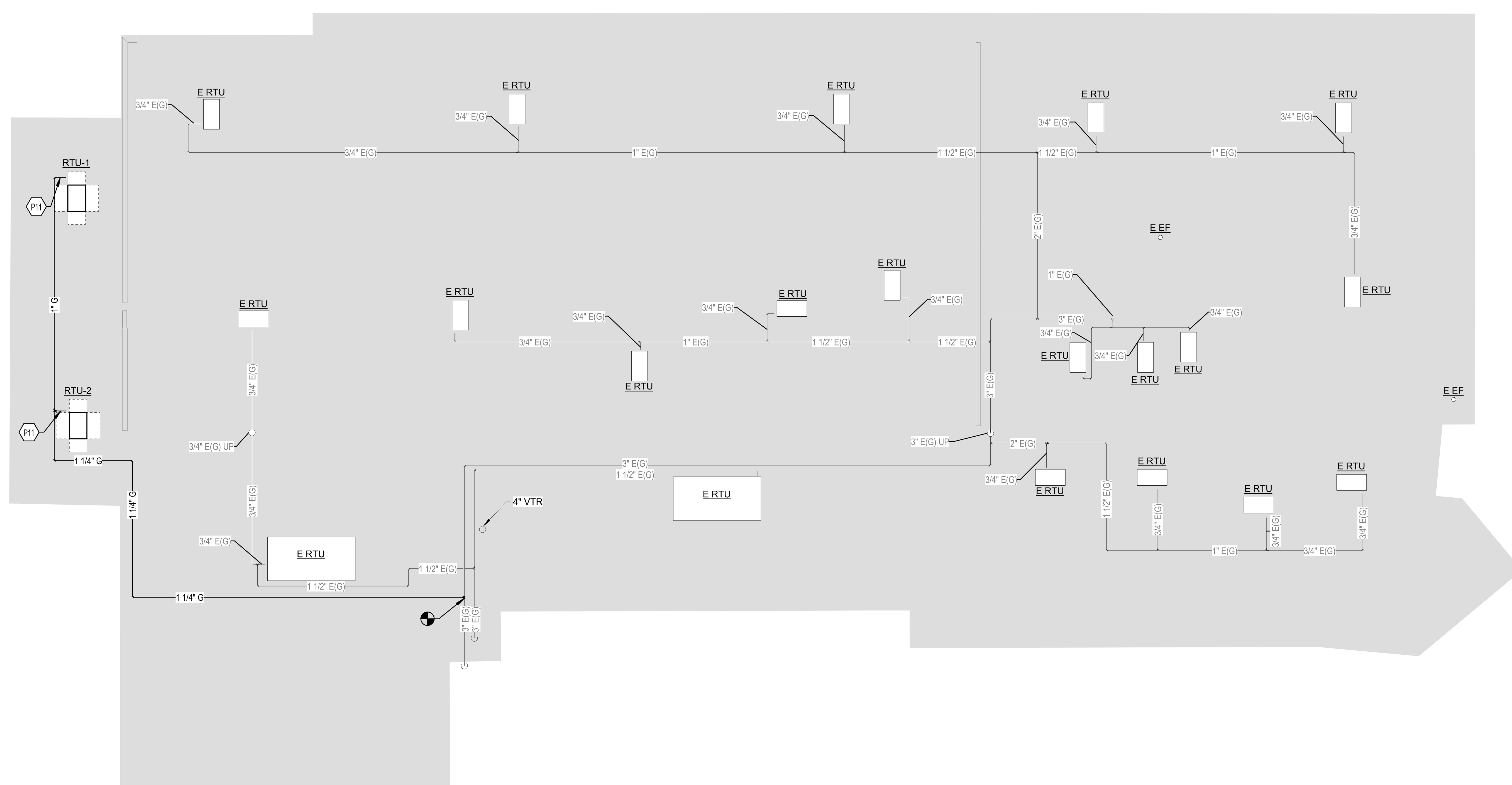
PD11 MAKE-UP AIR UNIT NATURAL GAS LINE BE DEMOLISHED BACK TO T FITTTING. CAP AND SEAL WATER TIGHT.



1 PLUMBING DEMOLITION ROOF PLAN

SCALE: 1/16" = 1'-0"

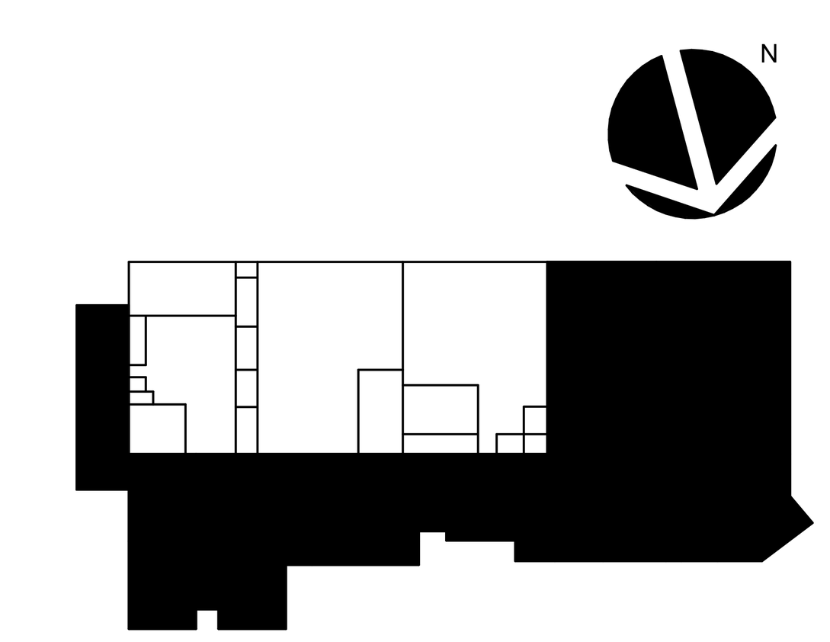
0 4' 8' 16' 32' 48' 64'



2 NEW PLUMBING ROOF PLAN

SCALE: 1/16" = 1'-0"

0 4' 8' 16' 32' 48' 64'



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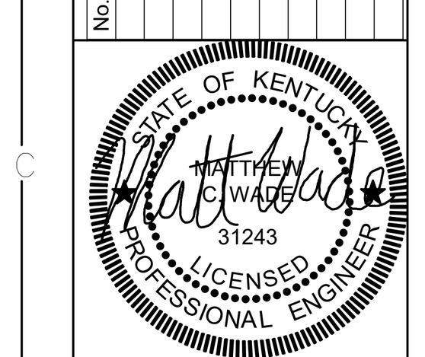
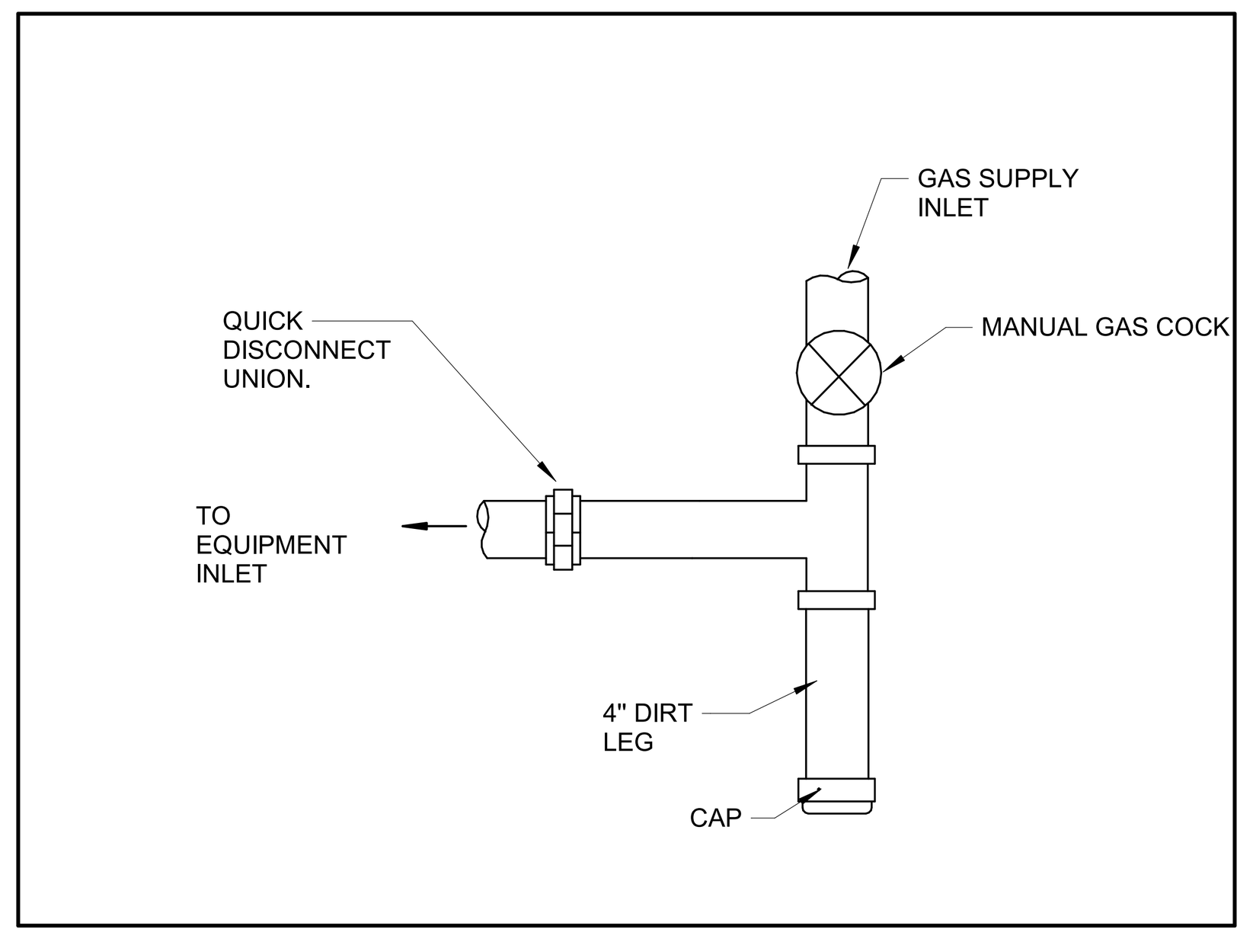


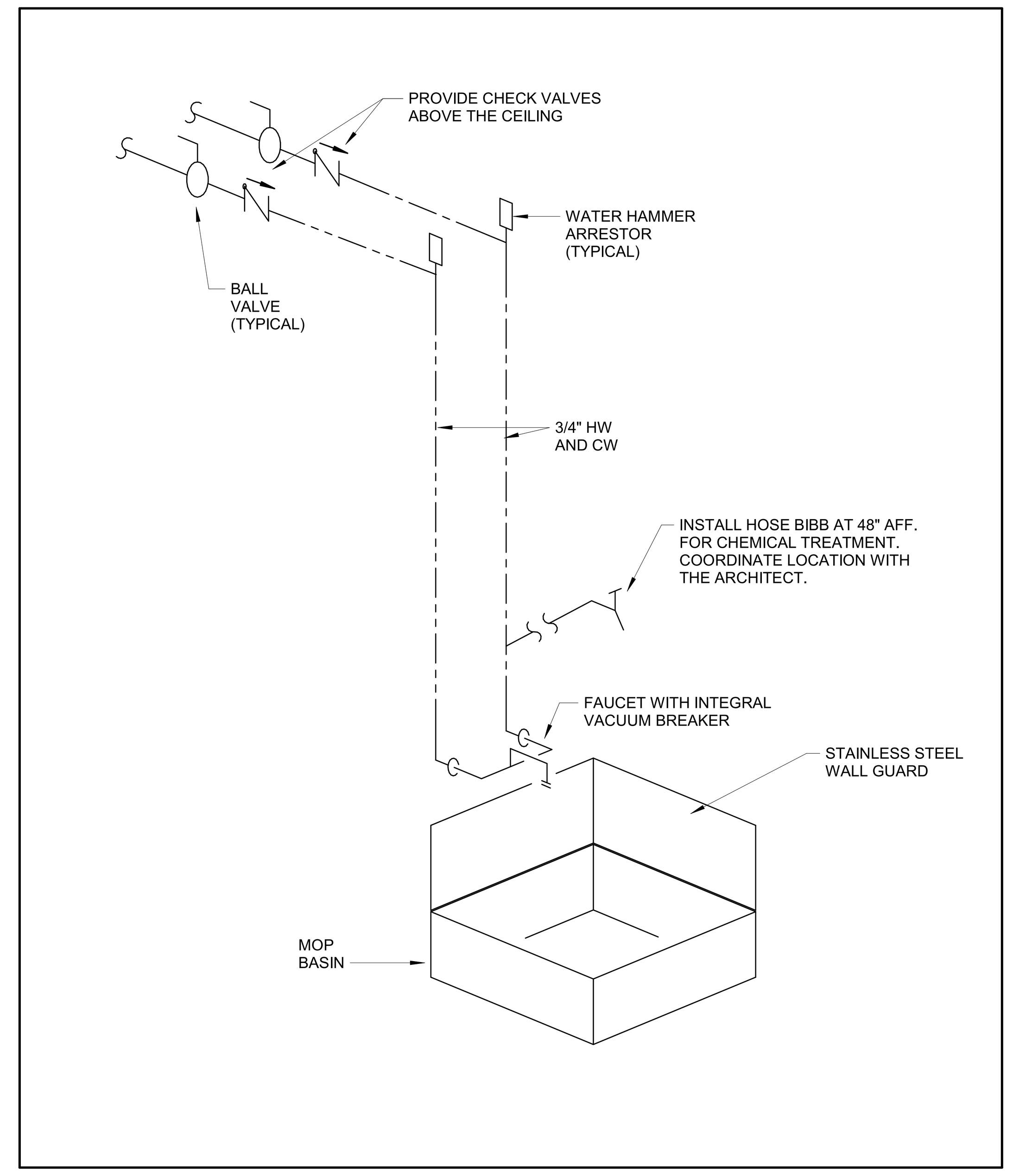
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
PLUMBING ROOF PLAN

SHEET NUMBER

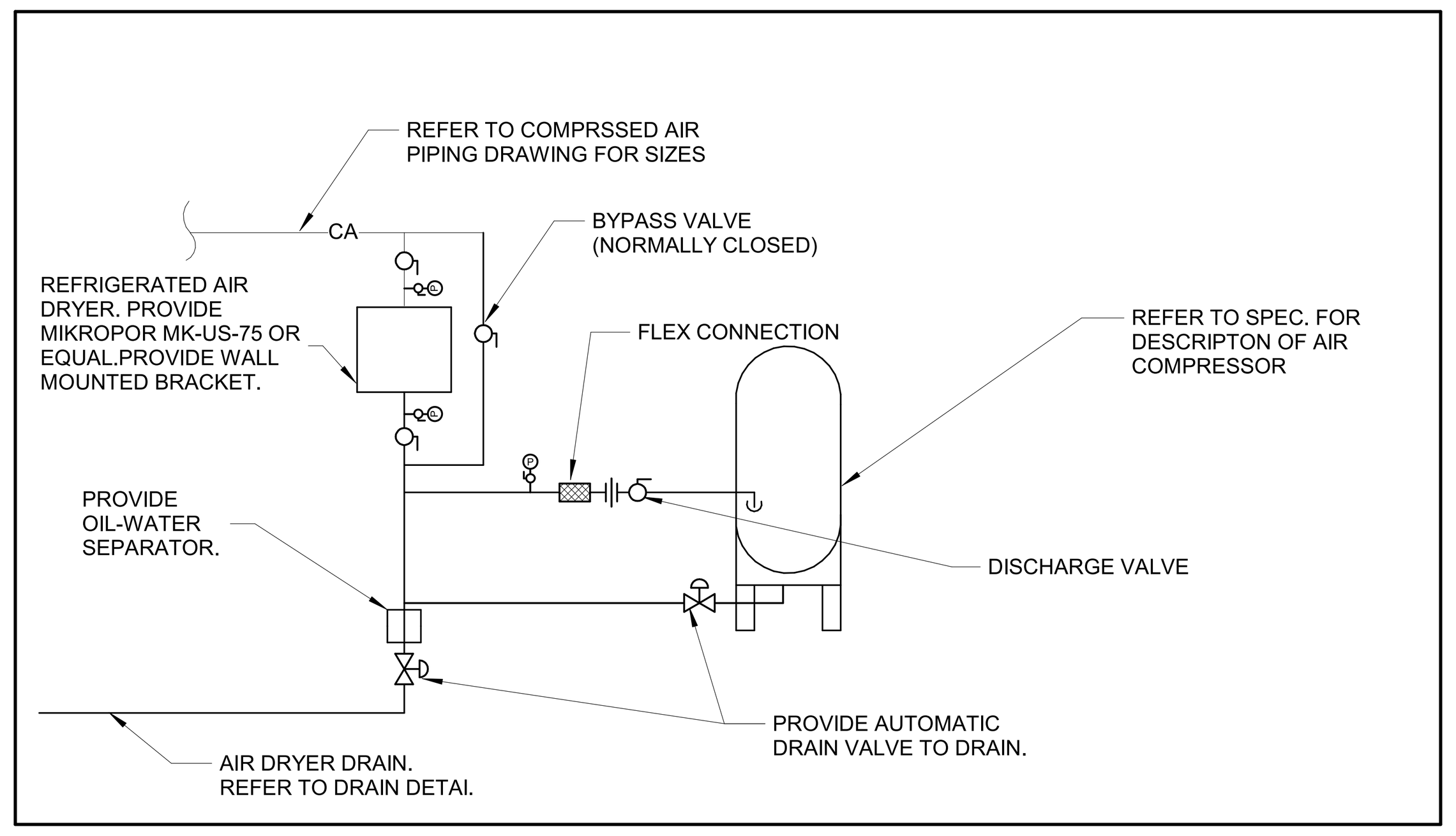
P4.0



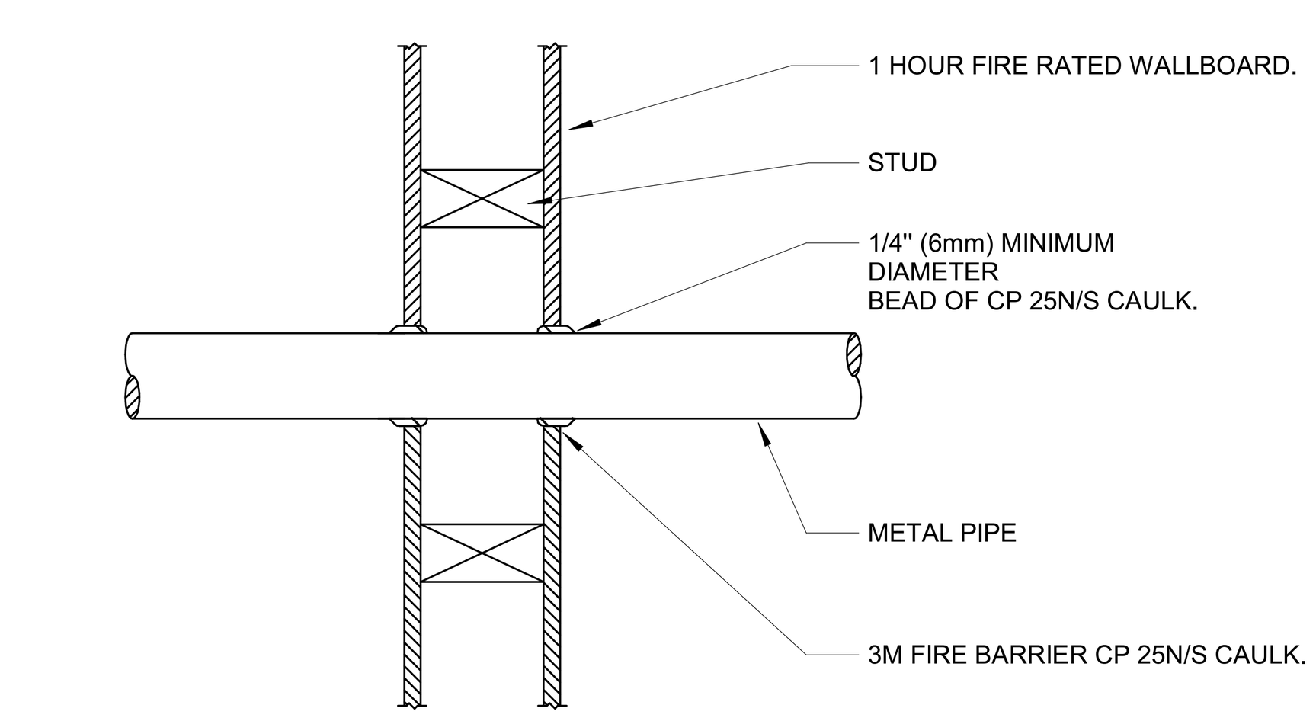
5 TYPICAL GAS CONNECTION DETAIL
SCALE: NONE



1 MOP BASIN DETAIL
SCALE: NONE



4 AIR COMPRESSOR SCHEMATIC
SCALE: NONE



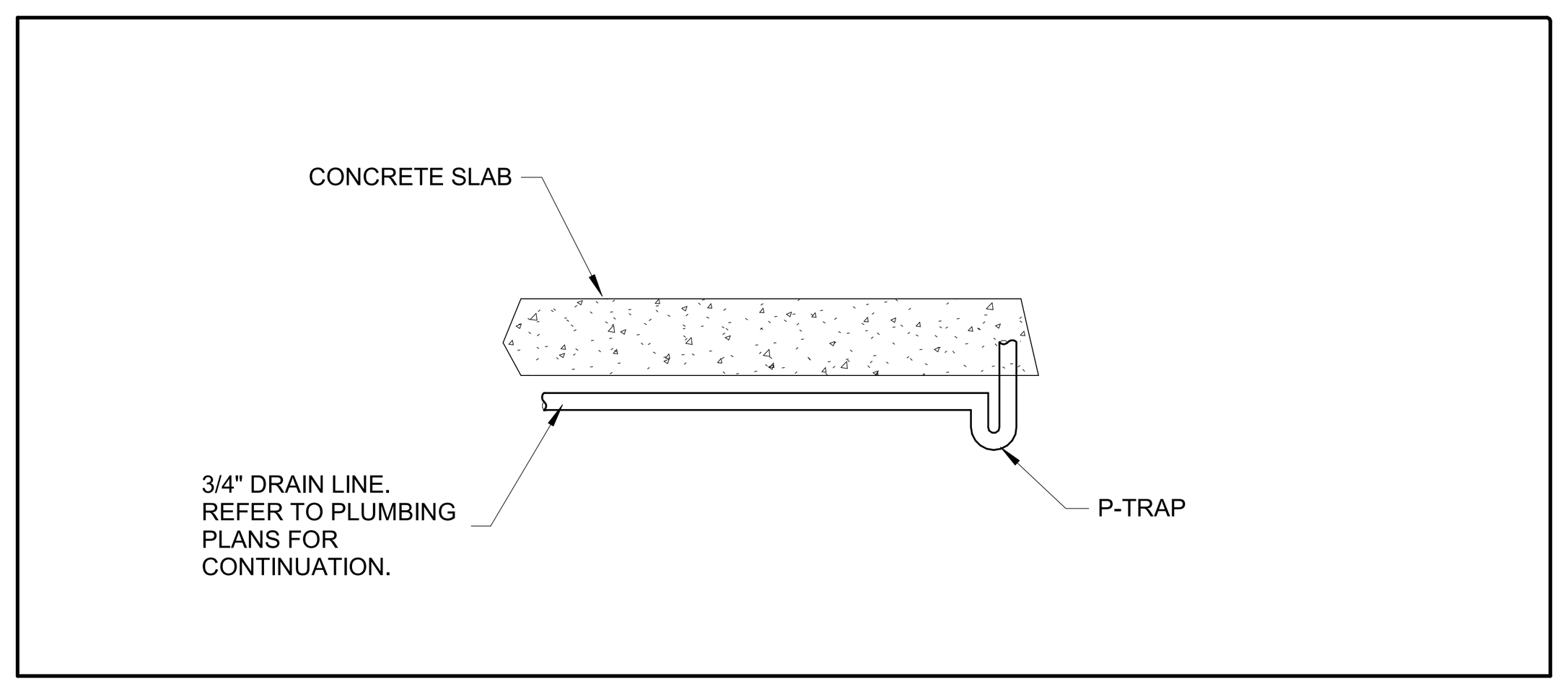
NOTES

1. FORCE THE 3M MODEL# CP 25N/S CAULK INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE, FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD OF CP 25N/S CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5mm). (IF IT DOES PATCH WALL AND PENETRATE WALL AT ANOTHER LOCATION).
4. INSTALL THE 3M FIRESTOP ON BOTH SIDES OF THE WALL.

FIRE STOPPING NOTES:

1. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS. ALL FLOORS CORRIDOR WALLS, STAIR WALLS, MECHANINCAL ROOM WALLS, STORAGE ROOM WALLS AND OTHER HAZARDOUS ROOM WALLS ARE ONE HOUR RATED.
2. A FOUR-HOUR TRAINING SESSION SHALL BE CONDUCTED BY MANUFACTURER OF THE FIRESTOPPING MATERIAL. THIS SHALL BE DONE PRIOR TO THE INSTALLATION OF THE MATERIAL. CONTACT HOSPITAL ENGINEER AND CMTA TO ADVISE OF DATE AND TIME OF THIS MEETING.
3. ALL PENETRATIONS WILL BE REVIEWED BY THE HOSPITAL ENGINEER OR CMTA. PRIOR TO INSPECTION, ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.

3 PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH ONE HOUR WALL
SCALE: NONE



2 CARPENTRY AIR COMPRESSOR/BLADDER TANK DRAIN DETAIL
SCALE: NONE

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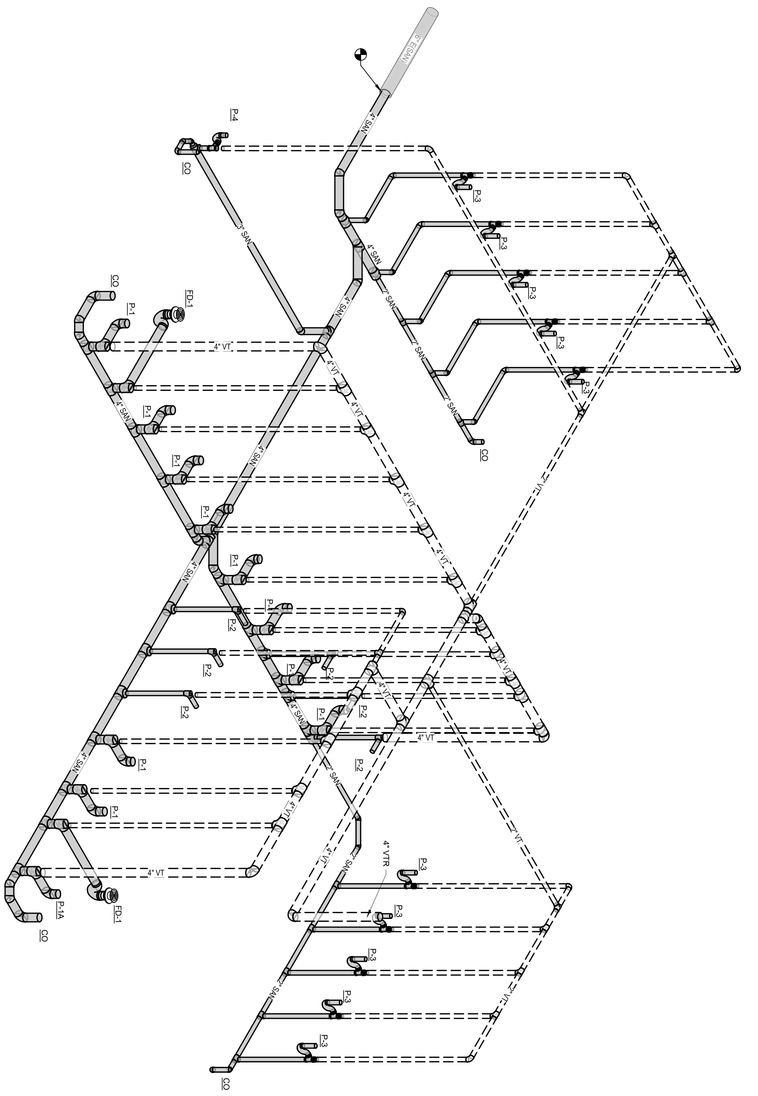
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
PLUMBING DETAILS AND SCHEDULES

SHEET NUMBER
P5.0



PLUMBING RUNOUT FIXTURE SCHEDULE

TAG	VENT	WASTE/DRAIN
FD-1	2"	4"
P-1	2"	4"
P-1A	2"	4"
P-2	2"	2"
P-3	2"	2"
P-4	2"	3"

1 OVERALL PLUMING RISER
SCALE: NONE

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HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION

PLUMBING RISERS

SHEET NUMBER
P6.0

MECHANICAL GENERAL NOTES:

A. COORDINATE THE LOCATION OF DRAINS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.
B. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
C. WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.
D. ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.
E. COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.
F. PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
G. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)
H. CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING, HVAC AND ELECTRICAL WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.
I. ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.
J. ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.
K. ALL DUCTWORK, PIPING, CONDUITS, ETC. IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.
L. INSTALL AIR VENTS AT HIGH POINTS IN PIPING AND DRAINS IN LOW POINTS. USE CARE TO AVOID FREEZING OF EXTERIOR VENTS.
M. LOCATIONS OF PIPING, DUCTS AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.
N. ALL OFFSETS IN DUCTS AND PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.
O. COORDINATE ALL HVAC WORK WITH ELECTRICAL, PLUMBING AND OTHER TRADES TO AVOID INTERFERENCE WITH PIPING, DUCTS, CONDUIT AND OTHER EQUIPMENT.
P. INSTALL ALL PIPING, DUCTWORK AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.
Q. SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.
R. SEAL ALL NEW DUCTWORK JOINTS WITH UNITED MCGILL, IRONGRIP 6O1 OR EQUAL WATER BASED SEALANT.
S. ALL MOTOR DRIVEN EQUIPMENT SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO DUCTWORK, PIPING, ETC., UNLESS OTHERWISE NOTED.
T. THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.
U. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.
V. DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS.
W. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.
X. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
Y. VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.
Z. UNDER NO CIRCUMSTANCES SHOULD NEW WORK BE INSTALLED BELOW A FOOTER OR WITHIN THE ZONE OF INFLUENCE OF A FOOTER WITHOUT EXPRESS WRITTEN PERMISSION BY THE STRUCTURAL ENGINEER. IF SUCH CONDITION IS UNAVOIDABLE, COORDINATE WITH STRUCTURAL ENGINEER AND INSTALL AND BACKFILL PER STRUCTURAL DETAILS AND REQUIREMENTS.
AA. WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

MECHANICAL HAZARDOUS NOTES:

A. THE CONTRACTOR IT IS HEREBY ADVISED THAT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.
B. CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL.
C. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.
D. THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.
E. THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

MECHANICAL PHASING NOTES:

A. THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE (AMP, AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
ATU	AIR TERMINAL UNIT
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BREAK HORSEPOWER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
C.I.	CAST IRON
CLG	CEILING
CLR	CLEAR
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COND	CONDENS (-ER, -ING, -ATION, -ATE)
CONT	CONTINU (-ED, -OUS)
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CV	VALVE FLOW COEFFICIENT
dB	DECIBEL
DB	DRY BULB
DBT	DRY BULB TEMPERATURE
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE (-S)
DIA	DIAMETER (-S)
DN	DOWN
DWG	DRAWING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVA (-TION, -TOR)
ENGR	ENGINEER
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ING, -ED, -OR, -ION)
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
EXT	EXTERIOR
FA	FREE AREA

ABBREVIATIONS (CONTINUED)

FD	FIRE DAMPER
FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET **OR** FOOT
FUT	FUTURE
FV	FACE VELOCITY
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HUMIDITY
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	H (-ORSEPOWER, -EAT PUMP)
HR	HOUR (-S)
HVAC	HEATING, VENTILATING, & AIR-CONDITIONING
Hz	HERTZ
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INSUL	INSULAT (-ED, -ION)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
kW	KILOWATT
kWh	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FEET/FOOT
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR [THOUSANDS]
MCA	MINIMUM CIRCUIT AMPS
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION [AMPS]
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NIC	NOT IN CONTRACT

ABBREVIATIONS (CONTINUED)

NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OR	OPEN RECEPTACLE
OZ	OUNCE (-S)
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE [ELECTRICAL]
PLBG	PLUMBING
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
RH	RELATIVE HUMIDITY [%]
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SQ	SQUARE
SQ FT	SQUARE FEET **OR** FOOT
SQ IN	SQUARE INCH **OR** INCHES
TAB	TESTING AND BALANCING
TBD	TO BE DETERMINED
TE	TOP ELEVATION
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT (-AGE, -S)
VAR	VARI (-ABLE, -IES)
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FEQUENCY DRIVE
W	WATT (-AGE, -S)
WB	WET BULB
WBT	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
ΔP	DIFFERENTIAL PRESSURE
ΔT	TEMPERATURE DIFFERENCE
℄	CENTERLINE

GENERAL SYMBOLS

#	TAGGED NOTE DESIGNATOR
#	REVISION TRIANGLE
ROOM NAME ### #	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION

HVAC LEGEND

	SUPPLY AIR DIFFUSER
	RETURN AIR DIFFUSER
	EXHAUST AIR DIFFUSER
	SIDEWALL DIFFUSER/GRILLE
TAG 0000 AIRFLOW #,###	AIR DEVICE TAG (REGISTER, GRILLE, DIFFUSER,LOUVER)
##x##	RECTANGULAR DUCT
#ø	ROUND/SPIRAL DUCT
##/##	FLAT OVAL DUCT
SA	SUPPLY AIR DUCT
RA	RETURN AIR DUCT
EA	EXHAUST AIR DUCT
OA	OUTSIDE AIR DUCT
TA	TRANSFER AIR DUCT
DC	DUST COLLECTION DUCT
CAE	COMBUSTION AIR EXHAUST DUCT
CAI	COMBUSTION AIR INTAKE DUCT
SA	SA AIR DUCT TURNING UP
SA	SA AIR DUCT TURNING DOWN
RA	RA AIR DUCT TURNING UP
RA	RA AIR DUCT TURNING DOWN
EA	EA AIR DUCT TURNING UP
EA	EA AIR DUCT TURNING DOWN
E(XXX)	EXISTING DUCT - (XXX) DENOTES SYSTEM
D(XXX)	DUCT TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
A(XXX)	DUCT TO BE ABANDONED IN PLACE - (XXX) DENOTES SYSTEM
	MITERED ELBOW WITH TURNING VANES
	FLEXIBLE DUCT
T	THERMOSTAT
T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
C	CARBON DIOXIDE SENSOR
TC	TEMPERATURE & CARBON DIOXIDE SENSOR
VERT. HORIZ.	MANUAL BALANCING/VOLUME DAMPER
VERT. HORIZ.	MOTORIZED DAMPER
VERT. HORIZ.	FIRE DAMPER
VERT. HORIZ.	SMOKE DAMPER
VERT. HORIZ.	COMBINATION FIRE & SMOKE DAMPER

MECHANICAL PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
CD	CONDENSATE DRAIN
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT (AAV)
	MANUAL AIR VENT (MAV)
	MANUAL BALANCING VALVE (BV)
	BALL VALVE
	BUTTERFLY VALVE
	TRIPLE DUTY VALVE (TDV)
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	AUTO-FLOW CONTROL VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	FLEXIBLE PIPE CONNECTION
	FLOW METER (VENTURI)
	PIPING UNION
	FLOW SWITCH
	PRESSURE SWITCH
	TAMPER SWITCH
	THERMOMETER
	PETE'S PLUG; TEMPERATURE/PRESSURE PORT

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC)	STATE EDITION	2012
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE	KBC	2018

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED ON THIS PROJECT

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STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
MECHANICAL LEGEND

SHEET NUMBER
M1.0

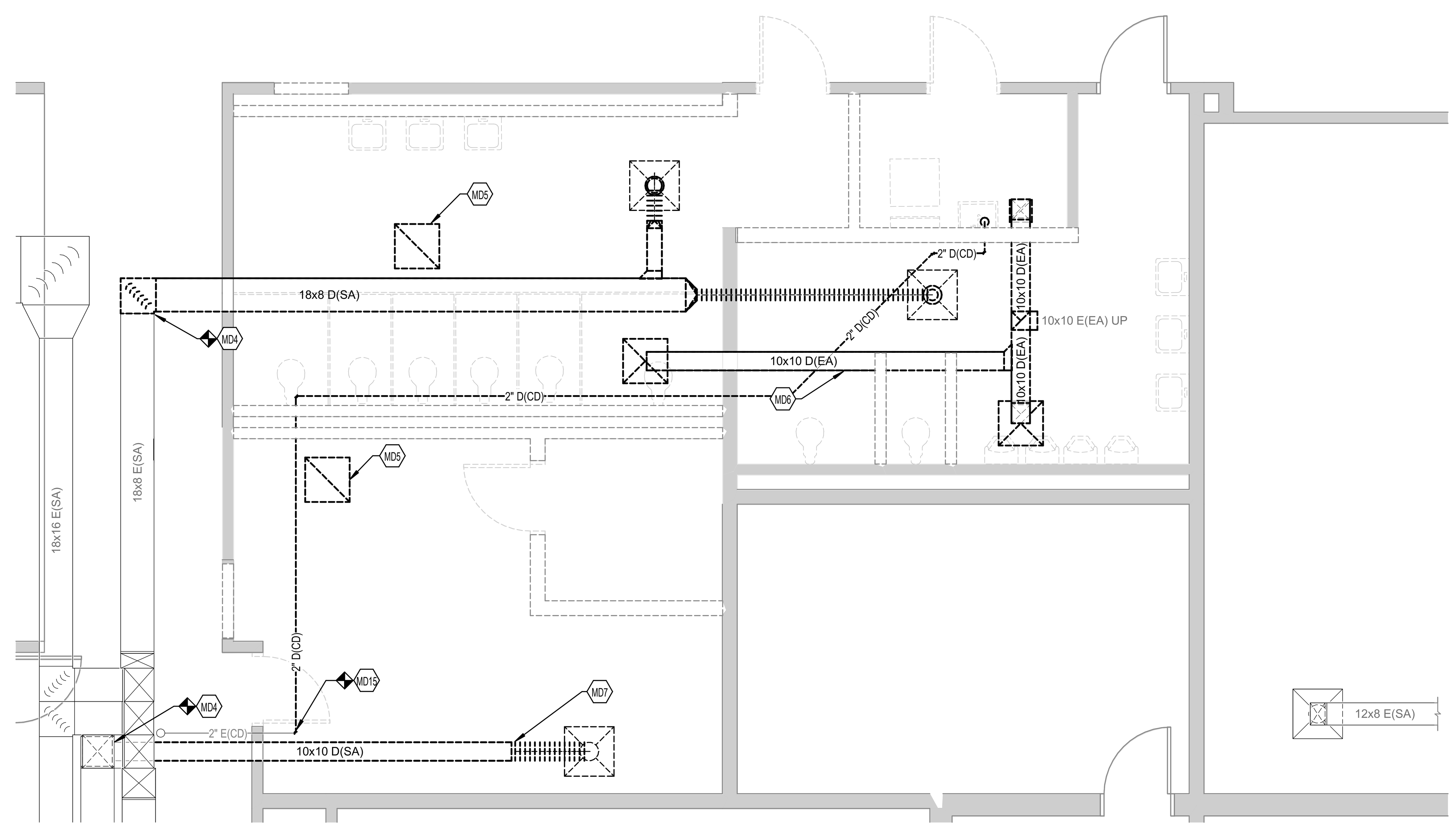
MECHANICAL DEMOLITION NOTES:

A. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING ETC. REPLACE BROKEN CEILING TILES WITH NEW AT NO ADDITIONAL COST TO OWNER. FIELED VERIFY EXACT REQUIREMENTS.
B. DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.
C. ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING.
D. ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.
E. HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.
G. ALL OUTAGES SHALL BE SCHEDULED THROUGH THE HENDERSON COUNTY MAINTENANCE REPRESENTATIVE FOR PROPER COORDINATION. A REQUEST FOR AN OUTAGE SHALL BE SUBMITTED IN WRITING A MINIMUM OF TWO WEEKS IN ADVANCE.
H. ALL DUCTWORK, PIPING, CONDUIT, ETC. SHALL BE INSTALLED A MINIMUM OF 4" ABOVE THE TOP OF THE CEILING GRID.

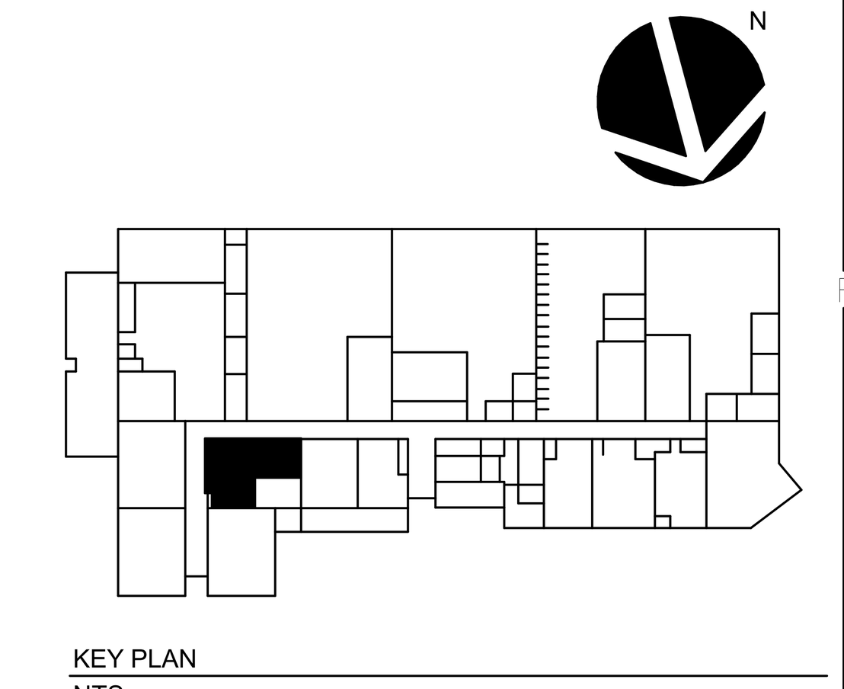
TAGGED NOTES

##

MD4	SUPPLY AIR DUCT TO BE DEMOLISHED BACK TO POINT INDICATED. CAP AND SEAL AIR TIGHT. REFER TO NEW WORK PLAN.
MD5	RETURN DIFFUSER TO BE DEMOLISHED.
MD6	EXHAUST FAN, DUCTWORK, DIFFUSERS, HANGERS, ASSOCIATED POWER, ETC. TO BE DEMOLISHED COMPLETELY.
MD7	EXISTING SUPPLY AIR DUCT, FLEX DUCT, DIFFUSER, ETC. TO BE DEMOLISHED COMPLETELY. CAP AND SEAL MAIN AIRTIGHT. REFER TO NEW WORK MECHANICAL PLAN.
MD15	CONDENSATE PIPING TO BE DEMOLISHED BACK TO POINT INDICATED. REFER TO NEW WORK PLANS FOR CONTINUATION.



1 MECHANICAL DEMOLITION PLAN - GANG RR
SCALE: 1/4" = 1'-0"
0 2' 4' 8' 16' 24' 32'



KEY PLAN
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STATE OF KENTUCKY MATTHEW C. WADE 31243 LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
MECHANICAL DEMOLITION PLAN - GANG RR

SHEET NUMBER
M2.0

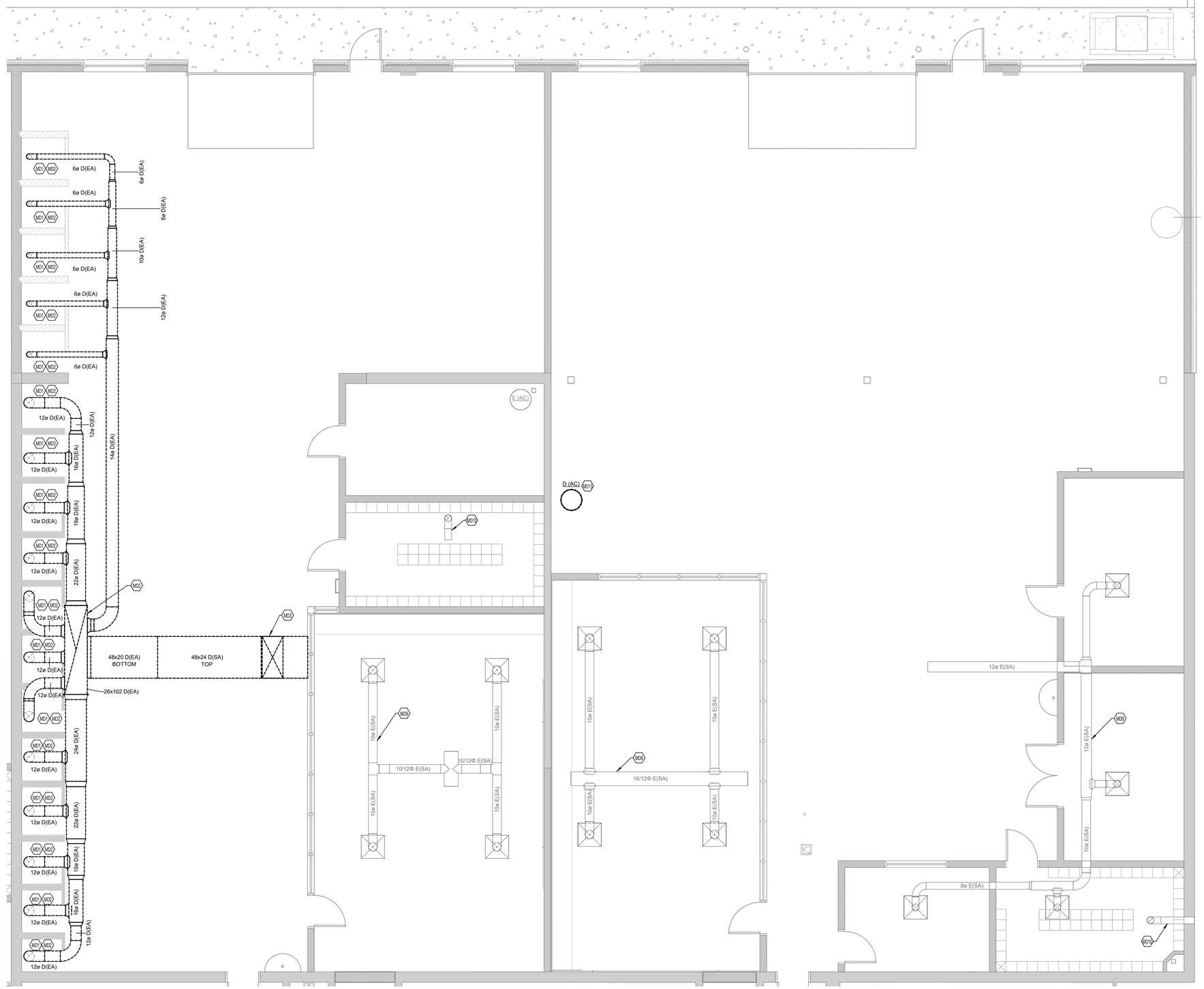
MECHANICAL DEMOLITION NOTES:

A. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING ETC. REPLACE BROKEN CEILING TILES WITH NEW AT NO ADDITIONAL COST TO OWNER. FIELED VERIFY EXACT REQUIREMENTS.
B. DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.
C. ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING.
D. ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.
E. HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.
G. ALL OUTAGES SHALL BE SCHEDULED THROUGH THE HENDERSON COUNTY MAINTENANCE REPRESENTATIVE FOR PROPER COORDINATION. A REQUEST FOR AN OUTAGE SHALL BE SUBMITTED IN WRITING A MINIMUM OF TWO WEEKS IN ADVANCE.
H. ALL DUCTWORK, PIPING, CONDUIT, ETC. SHALL BE INSTALLED A MINIMUM OF 4" ABOVE THE TOP OF THE CEILING GRID.

TAGGED NOTES

(##)

MD1 SHEET METAL CEILING FOR EACH WELDING BOOTH TO BE REMOVED COMPLETELY TO ACCOMMODATE NEW WELDING EXHAUST SYSTEM.
MD2 EXISTING WELDING EXHAUST FAN, ROOF CURB, WELDING EXHAUST DUCT, WELDING SLOTTED HOODS, ASSOCIATED POWER, ETC. TO BE DEMOLISHED COMPLETELY. EXISTING STRUCTURAL STEEL SUPPORTING EXHAUST FAN TO REMAIN. PATCH AND REPAIR ROOF TO LIKE NEW CONDITION. REFER TO ARCHITECTURAL PLANS. TYPICAL.
MD3 EXISTING MAKEUP AIR UNIT, ROOF CURB, MAKEUP AIR DUCT, LOUVERS, ETC. TO BE DEMOLISHED COMPLETELY. EXISTING STRUCTURAL STEEL SUPPORTING MAKEUP AIR UNTI TO REMAIN. PATCH AND REPAIR ROOF TO LIKE NEW CONDITION. REFER TO ARCHITECTURAL PLANS.
MD9 EXISTING SUPPLY AIR DUCT WORK, DIFFUSERS, ETC. TO REMAIN. TYPICAL.
MD10 EXISTING EXHAUST DUCT WORK UP TO ROOF, FITTINGS, ETC. TO REMAIN. TYPICAL.
MD13 EXISTING AIR COMPRESSOR TO BE SALVAGED BY OWNER. REFER TO PLUMBING PLAN.



MECHANICAL DEMOLITION PLAN - WELDING/CARPENTRY
1 SCALE: 1/4" = 1'-0"
0 2' 4' 8' 16' 24' 32'

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HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
MECHANICAL DEMOLITION PLAN - WELDING/CARPENTRY

SHEET NUMBER
M2.1

R,G,D RUNOUT SCHEDULE	
MARK	DUCT BRANCH SIZE
E-1	6"
E-4	12"
R-2	8"
R-4	12"
S-2	8"
S-3	10"
S-4	SEE DWGS
S-5	SEE DWGS

GENERAL HVAC DESIGN NOTES:

A. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL MANUAL BALANCING DAMPERS IN THE DUCTWORK PER RUNOUT DETAIL FOR ALL GRILLES, REGISTERS, AND DIFFUSERS WHICH LIST A CFM. IN ALL CASES DAMPERS ARE TO BE INSTALLED IN AN ACCESSIBLE LOCATION.

B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.

C. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRESTOPPING ACCORDINGLY.

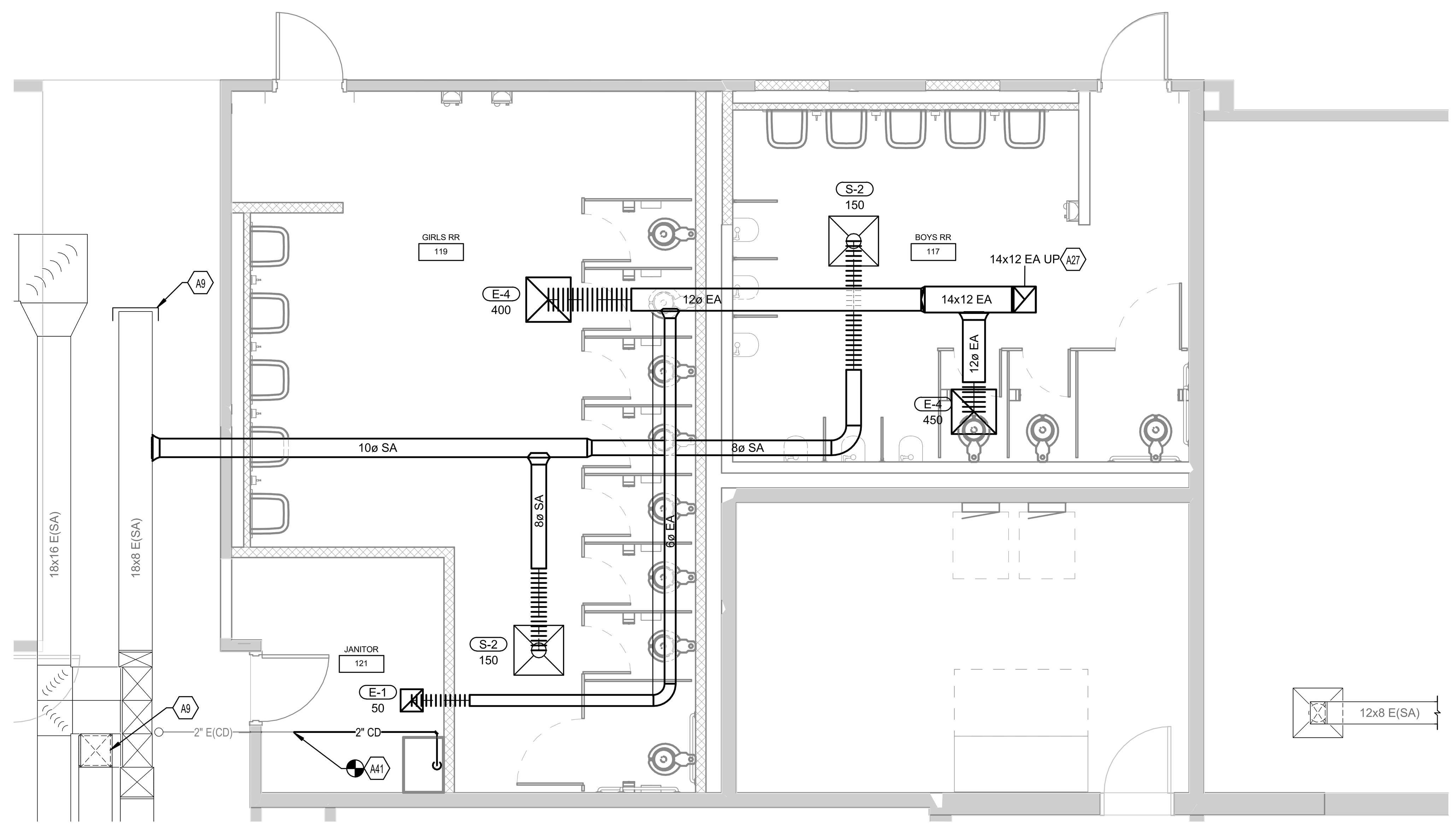
TAGGED NOTES

##

A9 EXISTING SUPPLY AIR DUCT TO BE CAPPED AT POINT INDICATED. REFER TO MECHANICAL DEMOLITION PLAN.

A27 EXHAUST AIR DUCT UP THROUGH ROOF. REUSE EXISTING ROOF PENETRATION. REFER TO MECHANICAL ROOF PLAN. TRANSITION AS REQUIRED TO FAN INLET.

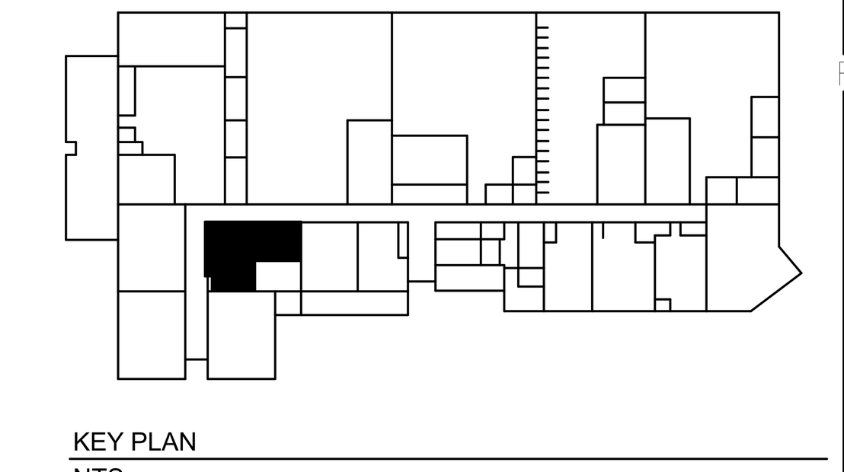
A41 CONDENSATE PIPING TO BE RECONNECTED AT POINT INDICATED. CONDENSATE PIPING TO DRAIN INTO MOP SINK.



1 NEW MECHANICAL PLAN - GANG RR

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



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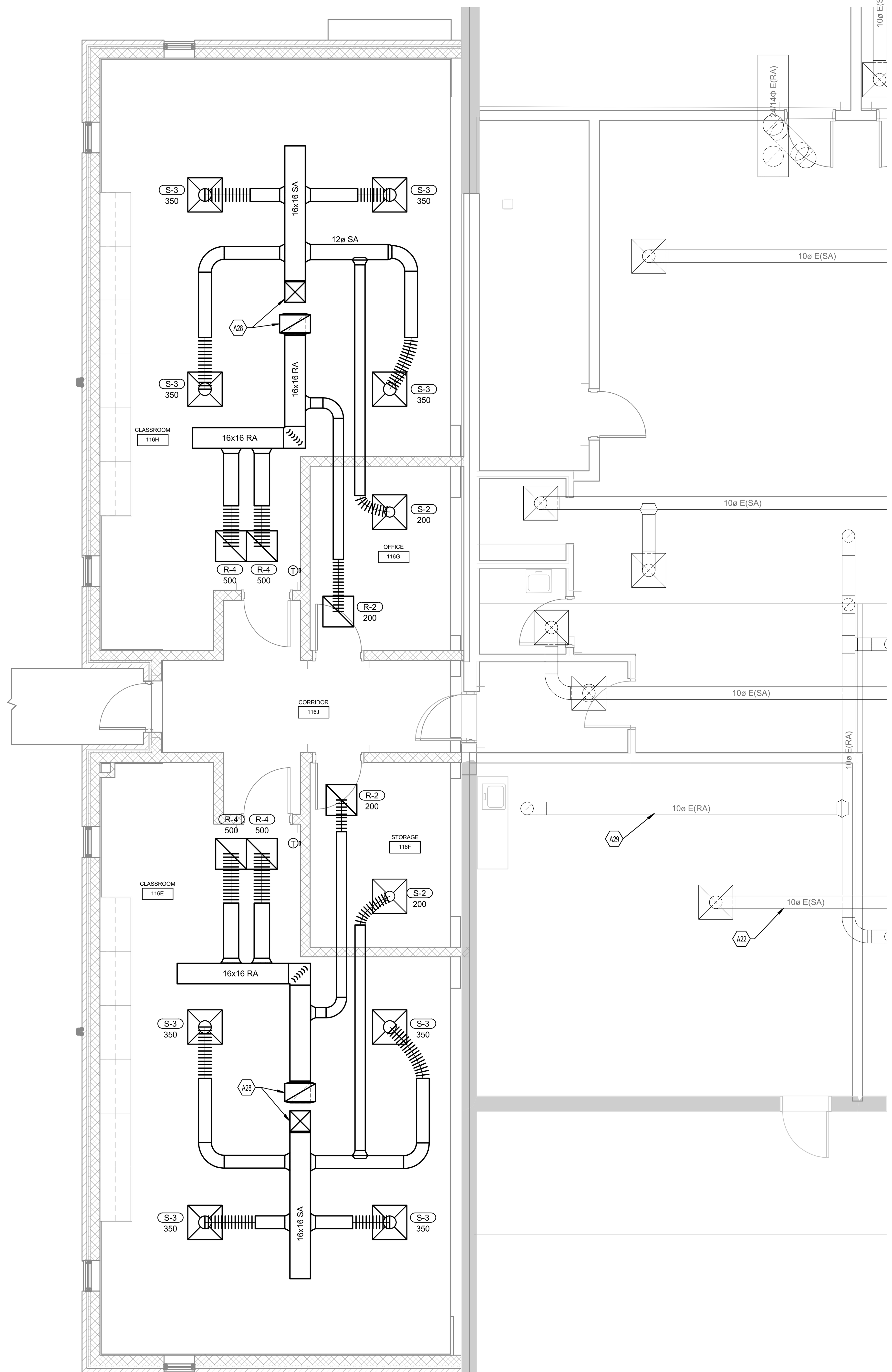
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW MECHANICAL PLAN - GANG RR

SHEET NUMBER

M3.0



1 NEW MECHANICAL PLAN - CTE ADDITION
SCALE: 1/4" = 1'-0"

R,G,D RUNOUT SCHEDULE

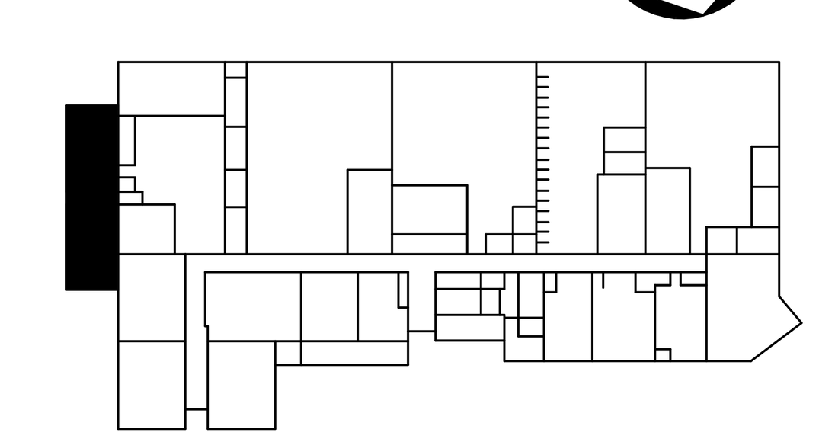
MARK	DUCT BRANCH SIZE
E-1	6"
E-4	12"
R-2	8"
R-4	12"
S-2	8"
S-3	10"
S-4	SEE DWGS
S-5	SEE DWGS

GENERAL HVAC DESIGN NOTES:

A. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL MANUAL BALANCING DAMPERS IN THE DUCTWORK PER RUNOUT DETAIL FOR ALL GRILLES, REGISTERS, AND DIFFUSERS WHICH LIST A CFM. IN ALL CASES DAMPERS ARE TO BE INSTALLED IN AN ACCESSIBLE LOCATION.
B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.
C. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRESTOPPING ACCORDINGLY.

TAGGED NOTES

A22 EXISTING SUPPLY AIR DUCT WORK, DIFFUSERS, ETC. TO REMAIN. TYPICAL.
A28 TRANSITION SUPPLY/RETURN AIR DUCT UP AS REQUIRED THROUGH ROOF TO ROOFTOP UNIT OPENING. REFER TO ROOFTOP UNIT MANUFACTURERS REQUIRMENTS.
A29 EXISTING RETURN AIR DUCT WORK, DIFFUSERS, ETC. TO REMAIN. TYPICAL.



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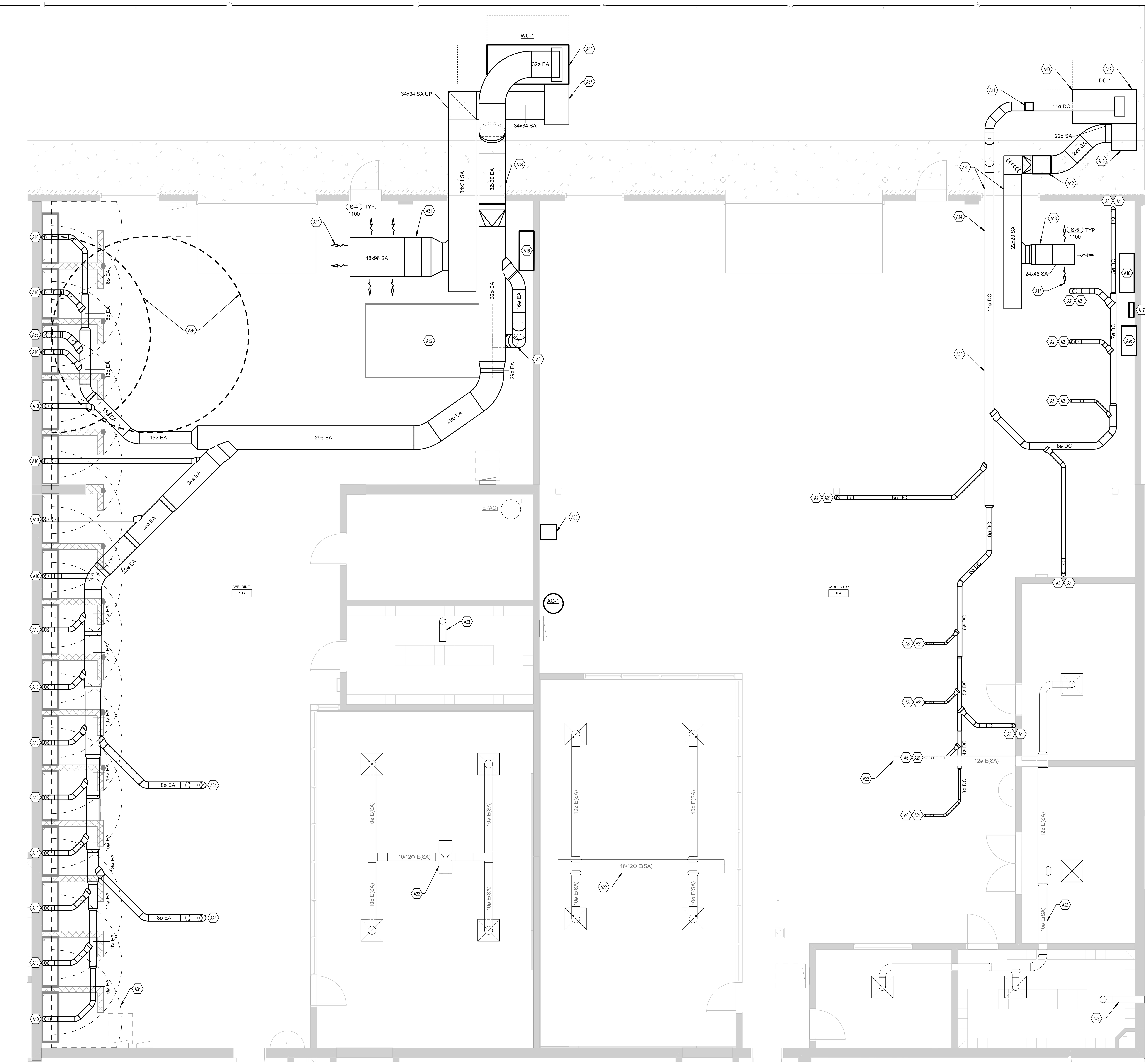
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW MECHANICAL PLAN - CTE ADDITION

SHEET NUMBER
M3.1



NEW MECHANICAL PLAN - WELDING/CARPENTRY

1 SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

GENERAL HVAC DESIGN NOTES:

A. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL MANUAL BALANCING DAMPERS IN THE DUCTWORK PER RUNOUT DETAIL FOR ALL GRILLES, REGISTERS, AND DIFFUSERS WHICH LIST A CFM. IN ALL CASES DAMPERS ARE TO BE INSTALLED IN AN ACCESSIBLE LOCATION.

B. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.

C. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRESTOPPING ACCORDINGLY.

TAGGED NOTES

##

A2 PROVIDE DUST COLLECTION DROP FOR TABLE SAW. REFER TO DUST COLLECTION EQUIPMENT RUNOUT SCHEDULE FOR BRANCH SIZING. REFER TO MANUFACTURER REQUIREMENTS FOR CONNECTION SIZE. COORDINATED FINAL LOCATION WITH OWNER.

A3 PROVIDE ONEIDA AIR SYSTEM 5" FLOOR SWEEP WITH NO DOOR OR EQUAL.

A4 PROVIDE BLAST GATE APPROXIMATELY 4' AFF. TYPICAL ALL FLOOR SWEEP DROPS.

A5 PROVIDE DUST COLLECTION DROP FOR MITER SAW. REFER TO DUST COLLECTION EQUIPMENT RUNOUT SCHEDULE FOR BRANCH SIZING. REFER TO MANUFACTURER REQUIREMENTS FOR CONNECTION SIZE.

A6 PROVIDE DUST COLLECTION DROP FOR SANDING TABLE. REFER TO DUST COLLECTION EQUIPMENT RUNOUT SCHEDULE FOR BRANCH SIZING. PROVIDE VENTAIRE WH30 HOOD WITH WELDING GRADE FLEXIBLE CONNECTION TO BE MOUNTED AT SANDING TABLE. REFER TO DETAIL. COORDINATE FINAL LOCATION WITH OWNER.

A7 PROVIDE DUST COLLECTION DROP FOR PLANER. REFER TO DUST COLLECTION EQUIPMENT RUNOUT SCHEDULE FOR BRANCH SIZING. REFER TO MANUFACTURER REQUIREMENTS FOR CONNECTION SIZE.

A8 PROVIDE WELDING EXHAUST 16" DROP FOR PLASMA CUTTING TABLE. REFER TO MANUFACTURER REQUIREMENTS FOR CONNECTION SIZE. COORDINATE FINAL TRANSITION TO TABLE AND LOCATION OF TRANSITION WITH OWNER.

A10 PROVIDE WALL MOUNTED WELDING FUME EXTRACTION ARM MILLER OR EQUAL 6 IN. DIAMETER, 7 FT. LENGTH ITEM # 300953 OR EQUAL. PROVIDE WALL MOUNTING BRACKET KIT ITEM # 300952 OR EQUAL. REFER TO DETAIL. PROVIDE BLAST GATE VENTAIRE BG60 WITH SLEEVE TO BE MOUNTED IN HARD DUCT BEFORE TYING INTO FUME EXTRACTION ARM. BALANCE TO 650 CFM. TYPICAL

A11 PROVIDE VIGI FLAP - BOSS PRODUCTS OR EQUAL TO PROVIDE RETURN AIR ISOLATION FOR COMBUSTIBLE DUST PER NFPA - SUPPORT FROM CONCRETE MOUNTED POLE. PROVIDE LOW VOLTAGE WIRING FROM DUST COLLECTOR CONTROL PANEL FOR DUST LEVEL SENSOR AND MICRO-SWITCH.

A12 PROVIDE VIGI FLAP - BOSS PRODUCTS OR EQUAL TO PROVIDE INLET ISOLATION FOR COMBUSTIBLE DUST PER NFPA - SUPPORT FROM EXTERIOR WALL. REFER TO MANUFACTURER SPECIFICATIONS. PROVIDE LOW VOLTAGE WIRING FROM DUST COLLECTOR CONTROL PANEL FOR DUST LEVEL SENSOR AND MICRO-SWITCH.

A13 PROVIDE CAMFIL FILTER HOUSING MODEL M24601204 OR EQUAL - 24X48 FOR (2) 95% ASHRAE FILTERS ACROSS (2X2) - 21" DEEP FILTER RACK - PREMANUFACTURED FILTER RACK. NEED 1" PRE-FILTER. PRESSURE PORTS UPSTREAM AND DOWNSTREAM OF FILTER HOUSING. PROVIDE TUBING FROM FILTER OUTLETS TO DUST COLLECTOR CONTROL PANEL. PROVIDE DUCT TRANSITION AS REQUIRED.

A14 PROVIDE SPARK EXTINGUISH SYSTEM WITH DOMESTIC WATER CONNECTION - 3/4" NPT FITTING. REFER TO PLUMBING DRAWINGS AND COORDINATE WITH PLUMBING CONTRACTOR. WIRE TO FIRE ALARM PANEL.

A15 (3) 22X22 EGGCRATE GRILLES TO ACCOMMODATE AIRFLOW INTRODUCED BACK TO SPACE. TYPICAL.

A16 DUST COLLECTOR CONTROL PANEL - INCLUDES VFD, ON/OFF CONTROL, AND SPARK ALARM.

A17 SPARK DETECTION CONTROL PANEL. POWER FROM DUST COLLECTOR CONTROL PANEL.

A18 UNIT MOUNTED DIRECT DRIVE FAN. PROVIDE DUCT TRANSITION AS REQUIRED.

A19 PROVIDE PNEUMATIC TUBING PER MANUFACTURER REQUIREMENTS. ROUTE TO DUST COLLLECTOR CONTROL PANEL.

A20 PROVIDE PHOTOCELL SENSOR - SPARK DETECTION SYSTEM. TWO PHOTO SYSTEM (ONE ON EACH SIDE). REFER TO SHOP DRAWINGS. WIRE TO ALARM CONTROL PANEL.

A21 PROVIDE BLAST GATE APPROXIMATELY 7' AFF. TYPICAL ALL DROPS EXCEPT FLOOR SWEEP DROPS. REFER TO DUST COLLECTION SCHEMATIC ON SHEET M5.0.

A22 EXISTING SUPPLY AIR DUCT WORK, DIFFUSERS, ETC. TO REMAIN. TYPICAL.

A23 EXISTING EXHAUST DUCT WORK UP TO ROOF, FITTINGS, ETC. TO REMAIN. TYPICAL.

A24 GENERAL PURPOSE WELDING EXHAUST DROP TO BE FIELD COORDINATED IN THE MIDDLE OF THE SHOP AREA. FINAL HEIGHT AND LOCATION TO BE COORDINATED BY CONTRACTOR WITH OWNER. PROVIDE BLAST GATE VENTAIRE BG60 WITH SLEEVE.

A26 PROVIDE BOSS ECO MAXX BOOSTER PUMP, OR EQUAL. PROVIDE 3/8" WATER INLET AND 3/8" COMPRESSED AIR INLET WITH 1" WATER OUT TO SPARK EXTINGUISHMENT SYSTEM. PROVIDE LOCAL DRAIN. PROVIDE 120V POWER TO BOOSTER PUMP PANEL. INSTALL PER MANUFACTURERS RECOMMENDATIONS AND PROVIDE ALL REQUIRED CLEARANCES. REFER TO PLUMBING DRAWINGS FOR WATER AND COMPRESSED AIR PIPE ROUTING.

A30 REFRIGERATED AIR DRYER. REFER TO AIR COMPRESSOR SCHEMATIC FOR DETAILS.

A31 PROVIDE CAMFIL FILTER HOUSING MODEL M24601408 OR EQUAL - 48X96 FOR (2) 95% ASHRAE FILTERS ACROSS (2X2) - 21" DEEP FILTER RACK - PREMANUFACTURED FILTER RACK. NEED 1" PRE-FILTER. PRESSURE PORTS UPSTREAM AND DOWNSTREAM OF FILTER HOUSING. PROVIDE TUBING FROM FILTER OUTLETS TO DUST COLLECTOR CONTROL PANEL. PROVIDE DUCT TRANSITION AS REQUIRED.

A32 OWNER PROVIDED CONTRACTOR INSTALLED DOWNDRAFT PLASMA TABLE SHOWN FOR REFERENCE ONLY. COORDINATED FINAL REQUIREMENTS WITH OWNER.

A34 DASHED ARC LINE INDICATES RADIUS OF WELDING BOOTH EXTRACTION ARM. REFER TO WELDING FUME EXTRACTION ARM DETAIL. TYPICAL.

A35 PROVIDE WALL MOUNTED WELDING FUME EXTRACTION BOOM ARM VENTAIRE EXB 8200 OR EQUAL. PROVIDE WALL MOUNTING BRACKET KIT. PROVIDE BLAST GATE VENTAIRE BG80 WITH SLEEVE TO BE MOUNTED IN HARD DUCT BEFORE TYING INTO FUME EXTRACTION ARM. REFER TO DETAIL.

A36 HEAVY DASHED ARC LINES INDICATE RADII OF WELDING FUME EXTRACTION BOOM ARM. REFER TO WELDING BOOM ARM DETAIL.

A37 PAD MOUNTED DIRECT DRIVE FAN. PROVIDE TRANISTION AS REQUIRED.

A38 PROVIDE FLASHING FOR WATER-TIGHT PENETRATION. REFER TO DUCT PENETRATION THROUGH EXTERIOR WALL DETAIL.

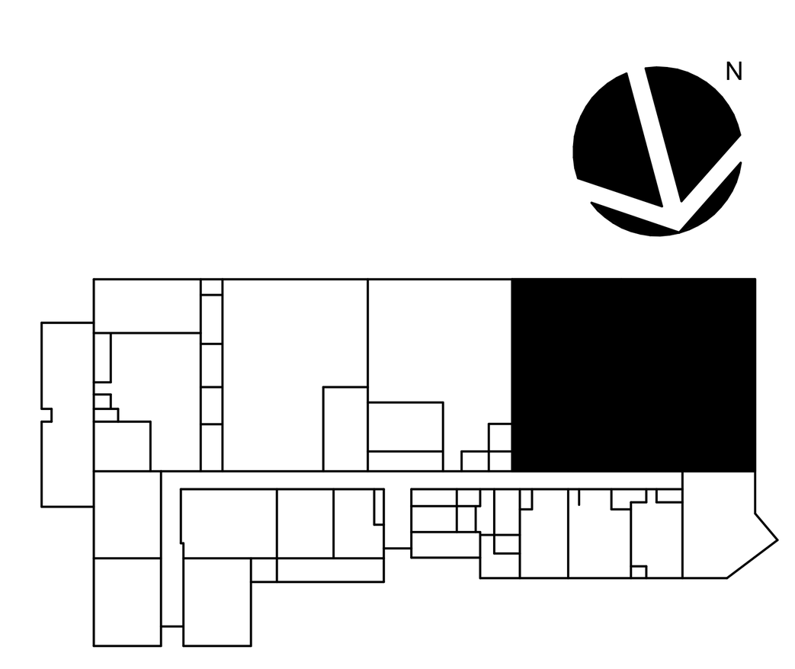
A39 PROVIDE DOUBLE WALL INSULATED PANEL AROUND DUCT PENETRATION. SEAL WATER TIGHT. REFER TO ARCHITECTURAL PLANS.

A40 DUST COLLECTOR TO BE CONCRETE PAD MOUNTED. REFER TO CIVIL DRAWINGS AND MANUFACTURER REQUIREMENTS FOR CONCRETE PAD SIZING.

A43 (13) 16X16 EGGCRATE GRILLES TO ACCOMMODATE AIRFLOW INTRODUCED BACK TO SPACE. TYPICAL.

DUST COLLECTION RUNOUT SCHEDULE

Equipment Type	Branch Size (in)	CFM
Belt/Disc Sander	3	250
Floor Sweep	5	500
Miter Saw	3	200
Planer	7	1200
Table Saw	5	550



KEY PLAN
NTS

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ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
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E-Mail: office@rbsdesigngroup.com

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DRAWN BY	DRW
CHECKED BY	MCW
DATE	02/01/24

No.	Description	Date

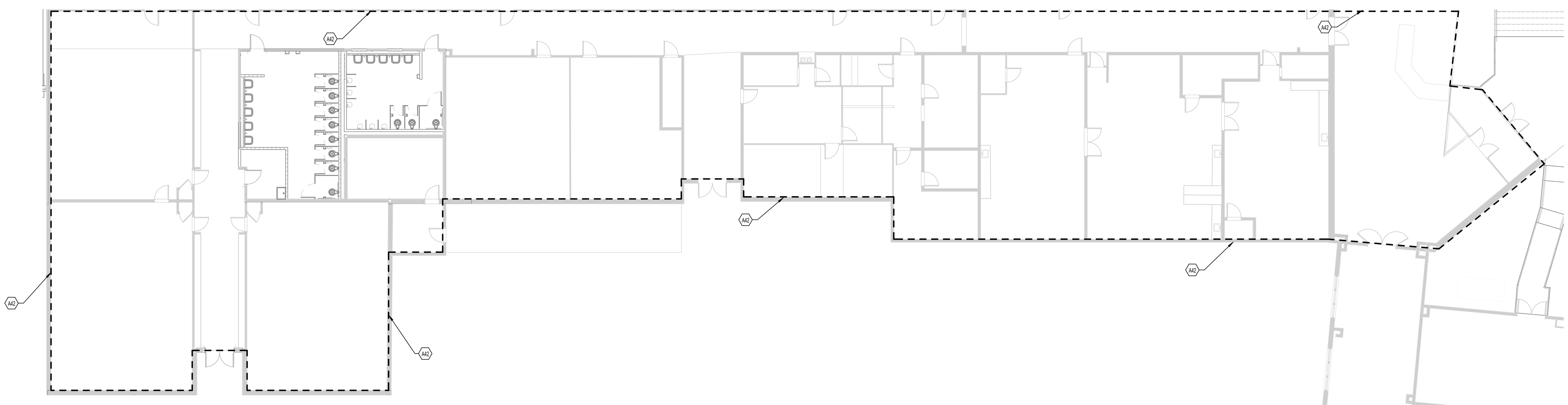
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION

NEW MECHANICAL PLAN - WELDING/CARPENTRY

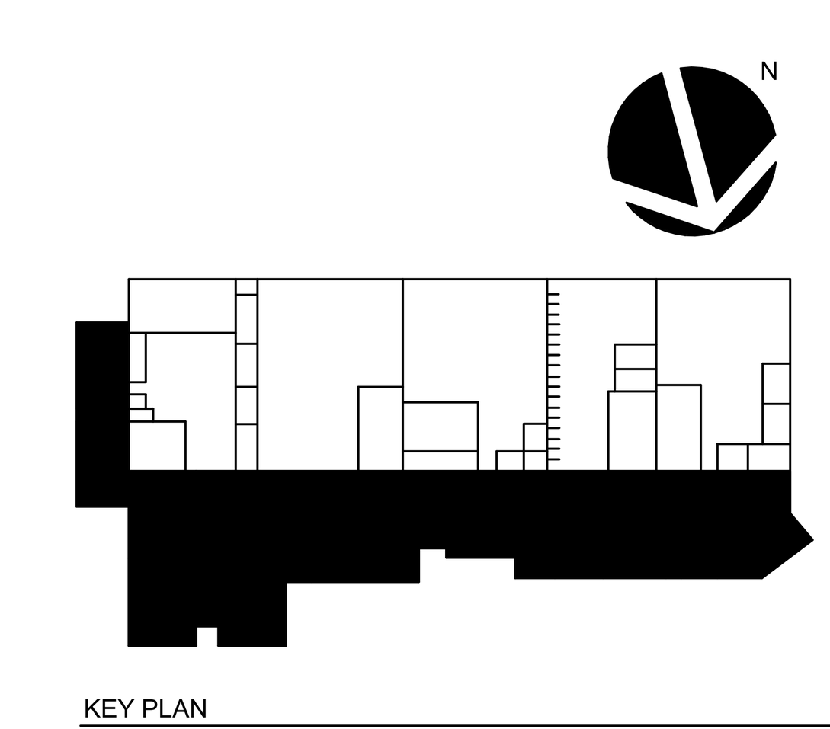
SHEET NUMBER
M3.2

TAGGED NOTES

A42 REFER TO ARCHITECTURAL PLANS FOR AREA OF CEILING TILE REPLACEMENT. ALL 70 REGISTERS, GRILLES, AND DIFFUSERS IN THIS AREA INDICATED BY HEAVY DASHED LINES TO BE REMOVED, CLEANED, AND REINSTALLED.



1 NEW MECHANICAL PLAN - PLAN SOUTH
SCALE: NONE



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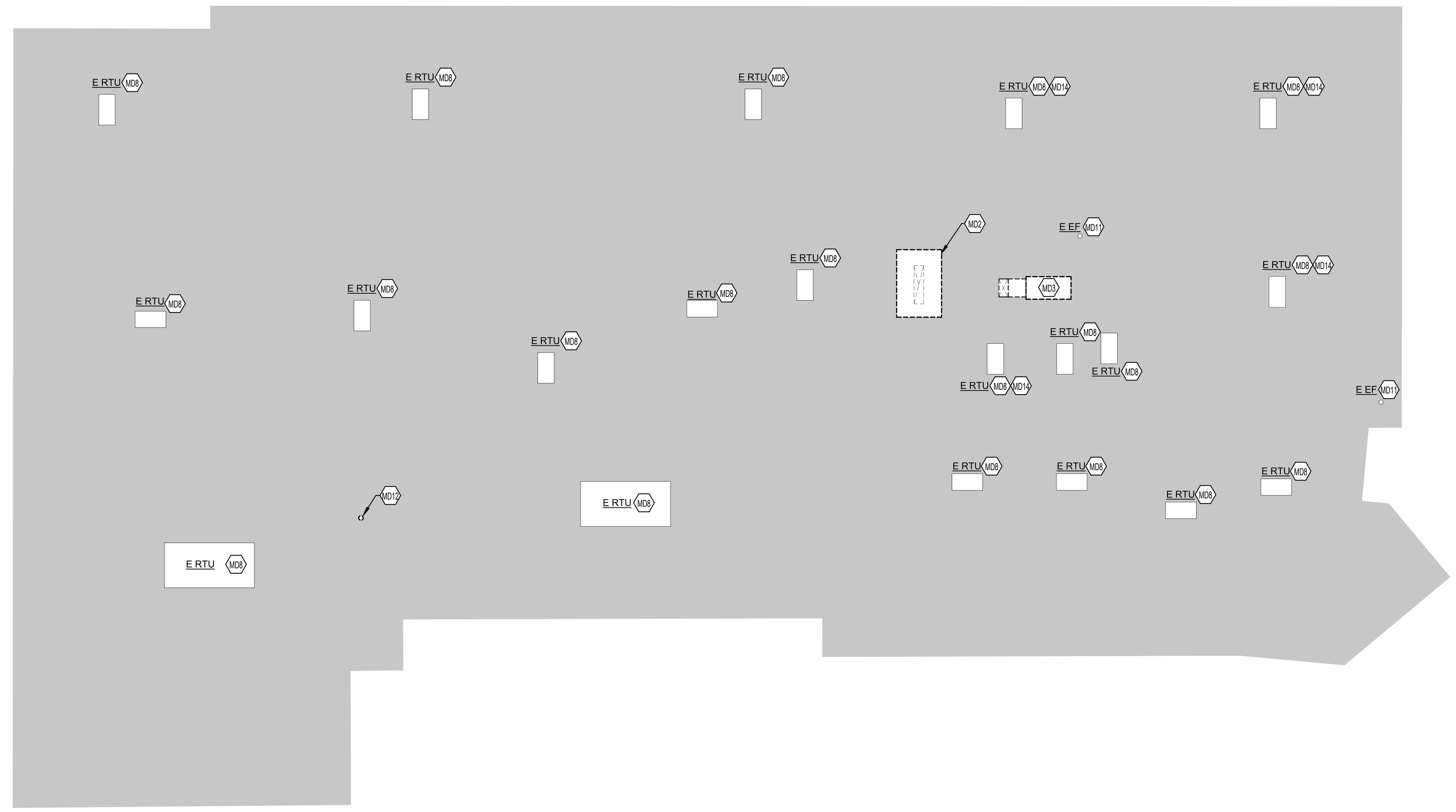
STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW MECHANICAL PLAN - PLAN SOUTH

SHEET NUMBER
M3.3

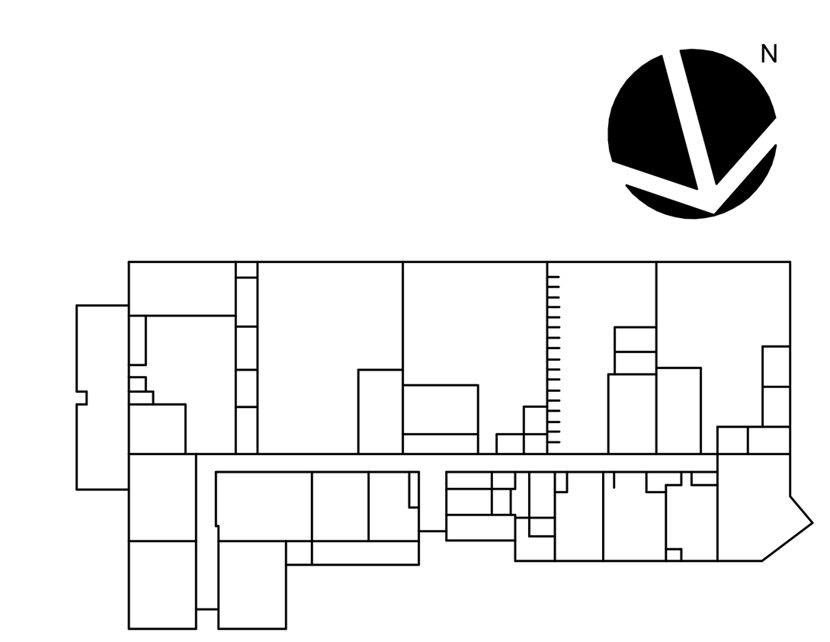


2 MECHANICAL DEMOLITION ROOF PLAN
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32' 48' 64'

1 NEW MECHANICAL ROOF PLAN
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32' 48' 64'

TAGGED NOTES

- A1 — RESTROOM EXHAUST FAN TO MOUNTED ON THE ROOF. EXISTING ROOF PENETRATION TO BE REUSED.
- A33 — CONDENSATE PIPING TO DRAIN TO ROOF. REFER TO CONDENSATE DRAIN DETAIL FOR SIZING.
- MD2 — EXISTING WELDING EXHAUST FAN, ROOF CURB, WELDING EXHAUST DUCT, WELDING SLOTTED HOODS, ASSOCIATED POWER, ETC. TO BE DEMOLISHED COMPLETELY. EXISTING STRUCTURAL STEEL SUPPORTING EXHAUST FAN TO REMAIN. PATCH AND REPAIR ROOF TO LIKE NEW CONDITION. REFER TO ARCHITECTURAL PLANS. TYPICAL.
- MD3 — EXISTING MAKEUP AIR UNIT, ROOF CURB, MAKEUP AIR DUCT, LOUVERS, ETC. TO BE DEMOLISHED COMPLETELY. EXISTING STRUCTURAL STEEL SUPPORTING MAKEUP AIR UNTI TO REMAIN. PATCH AND REPAIR ROOF TO LIKE NEW CONDITION. REFER TO ARCHITECTURAL PLANS.
- MD8 — EXISTING ROOFTOP UNIT TO REMAIN.
- MD11 — EXISTING EXHAUST FAN TO REMAIN.
- MD12 — RESTROOM EXHAUST FAN TO BE DEMOLISHED COMPLETELY. ROOF PENETRATION TO BE REUSED FOR NEW EXHAUST FAN. REFER TO NEW MECHANICAL DRAWINGS FOR DETAILS.
- MD14 — ALL COILS, COMPRESSORS, ETC. ON EXISTING ROOFTOP UNITS SHALL BE DEEP CLEANED.



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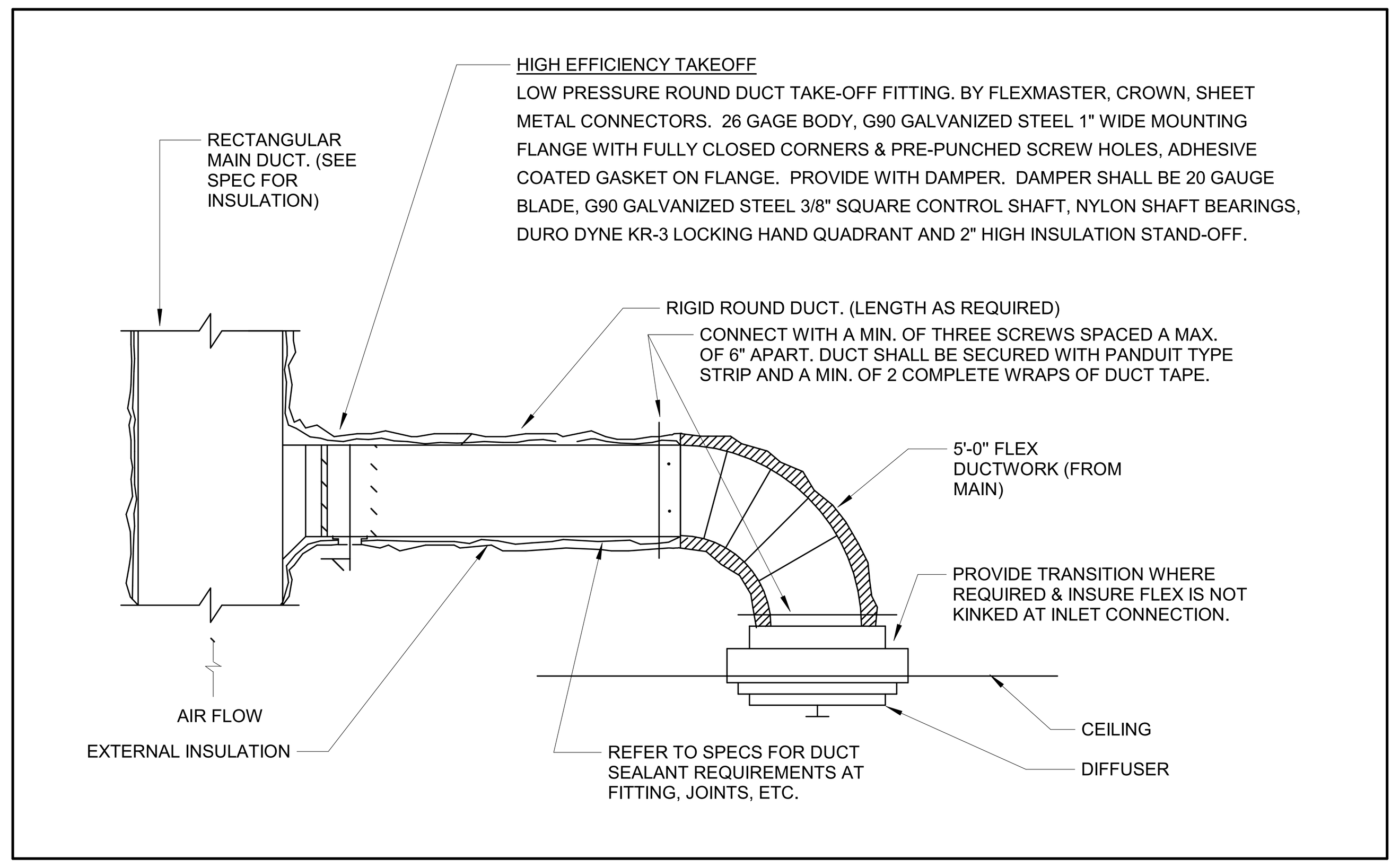
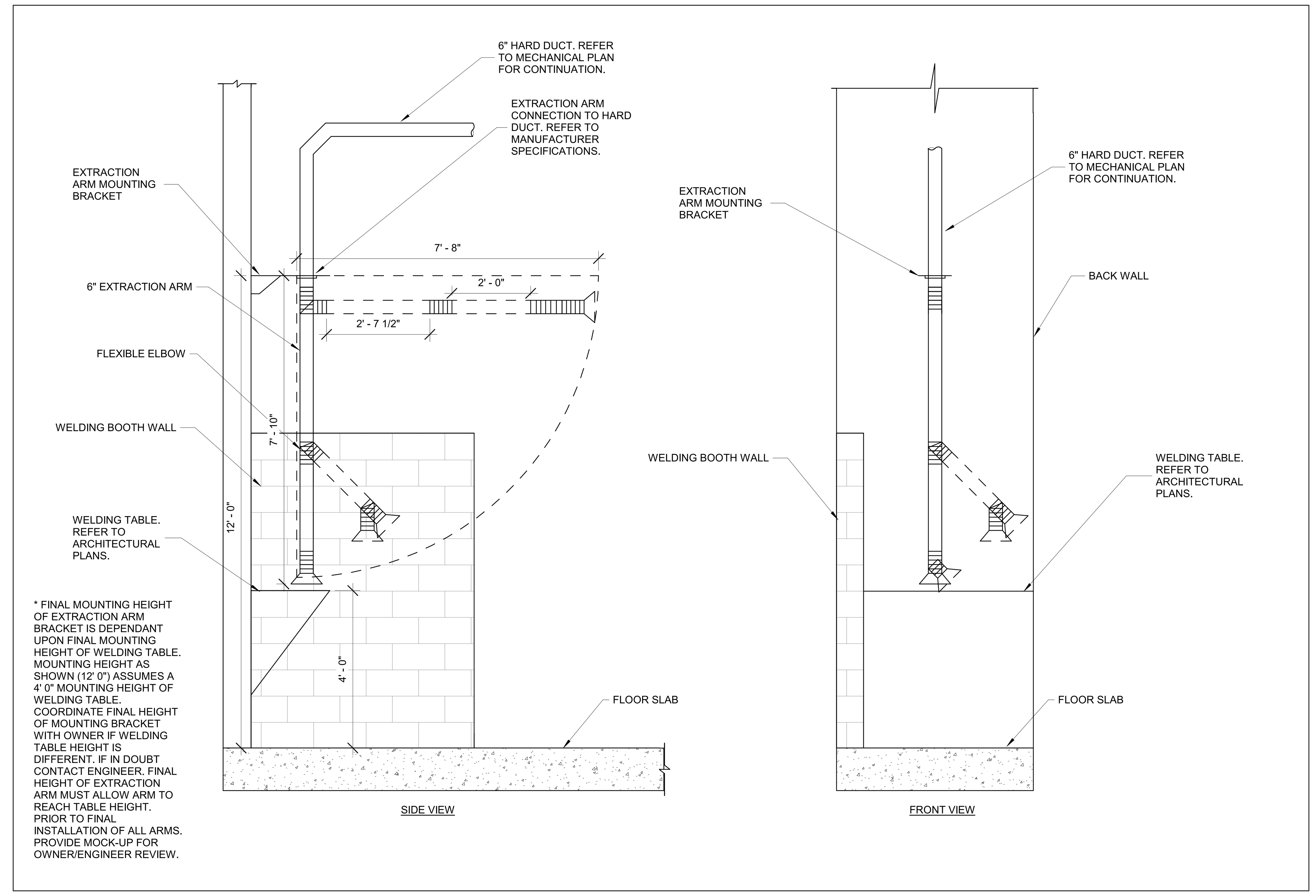
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
MECHANICAL ROOF PLAN

SHEET NUMBER
M4.0

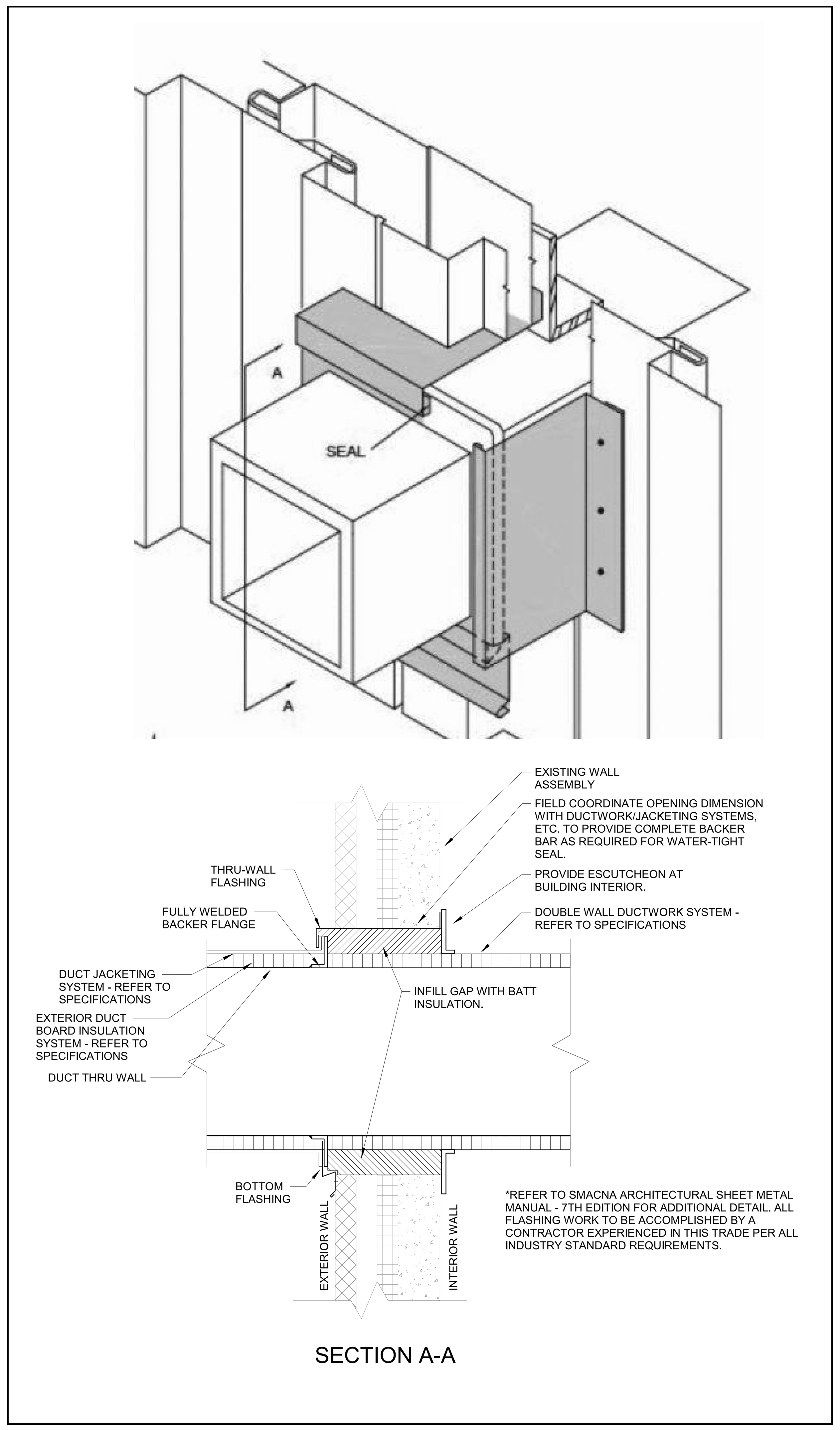


1 TYPICAL ROUND SUPPLY, RETURN, & EXHAUST BRANCH DUCT DETAIL
SCALE: NONE



* FINAL MOUNTING HEIGHT OF EXTRACTION ARM BRACKET IS DEPENDANT UPON FINAL MOUNTING HEIGHT OF WELDING TABLE. MOUNTING HEIGHT AS SHOWN (12' 0") ASSUMES A 4' 0" MOUNTING HEIGHT OF WELDING TABLE. COORDINATE FINAL HEIGHT OF MOUNTING BRACKET WITH OWNER IF WELDING TABLE HEIGHT IS DIFFERENT. IF IN DOUBT CONTACT ENGINEER. FINAL HEIGHT OF EXTRACTION ARM MUST ALLOW ARM TO REACH TABLE HEIGHT. PRIOR TO FINAL INSTALLATION OF ALL ARMS. PROVIDE MOCK-UP FOR OWNER/ENGINEER REVIEW.

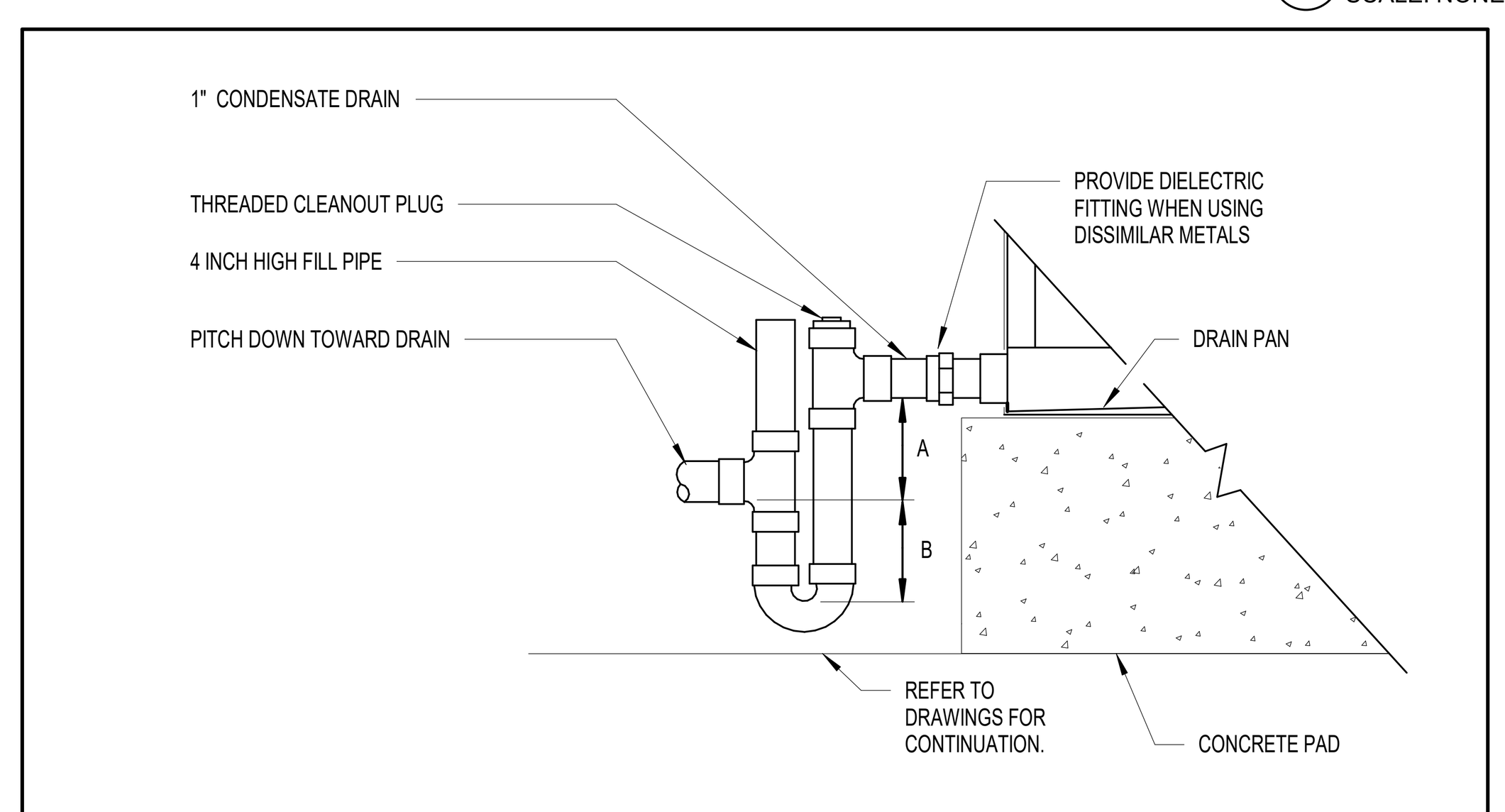
4 WELDING FUME EXTRACTION ARM DETAIL
SCALE: NONE



*REFER TO SMACNA ARCHITECTURAL SHEET METAL MANUAL - 7TH EDITION FOR ADDITIONAL DETAIL. ALL FLASHING WORK TO BE ACCOMPLISHED BY A CONTRACTOR EXPERIENCED IN THIS TRADE PER ALL INDUSTRY STANDARD REQUIREMENTS.

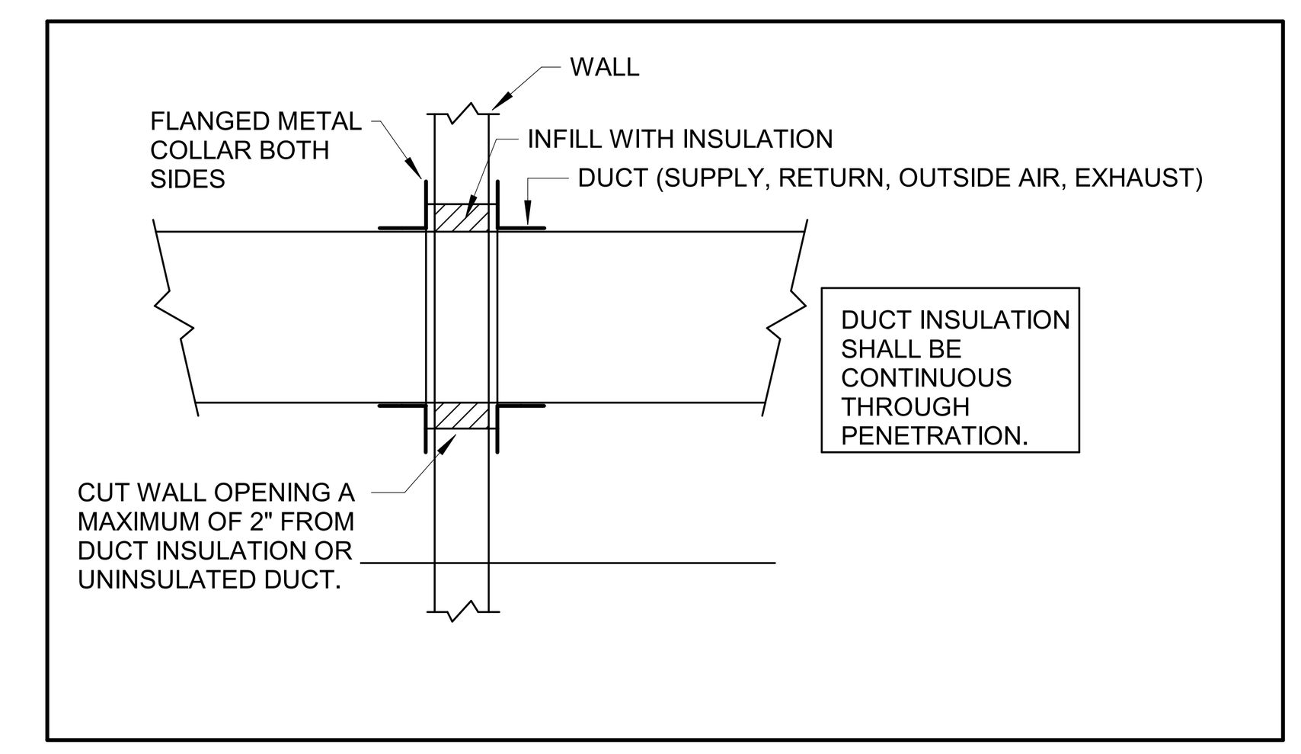
SECTION A-A

9 DUCT PENETRATION THROUGH EXTERIOR WALL DETAIL
SCALE: NONE

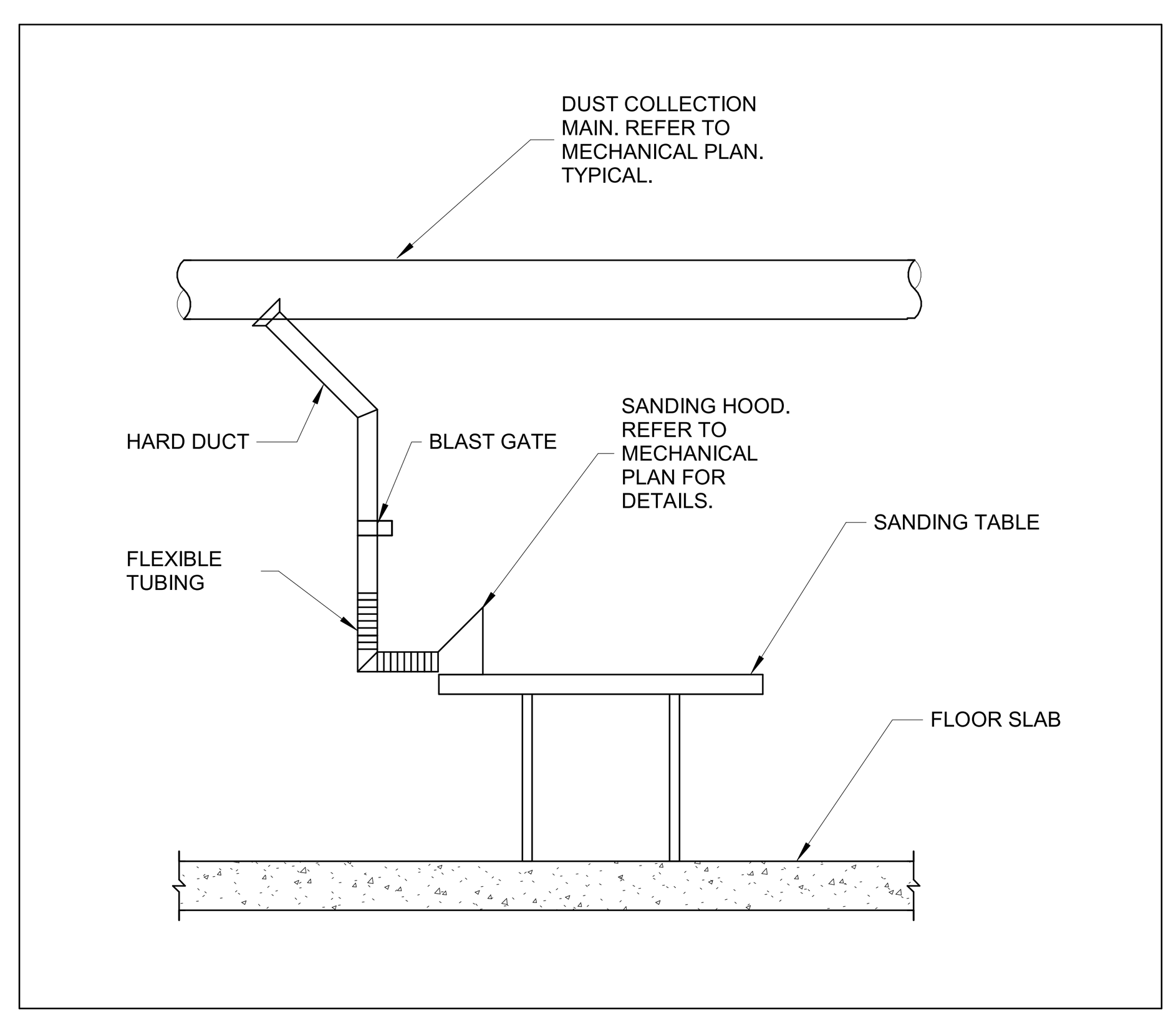


UNIT TYPE	A	B
DRAW THRU	1.5"	0.75"

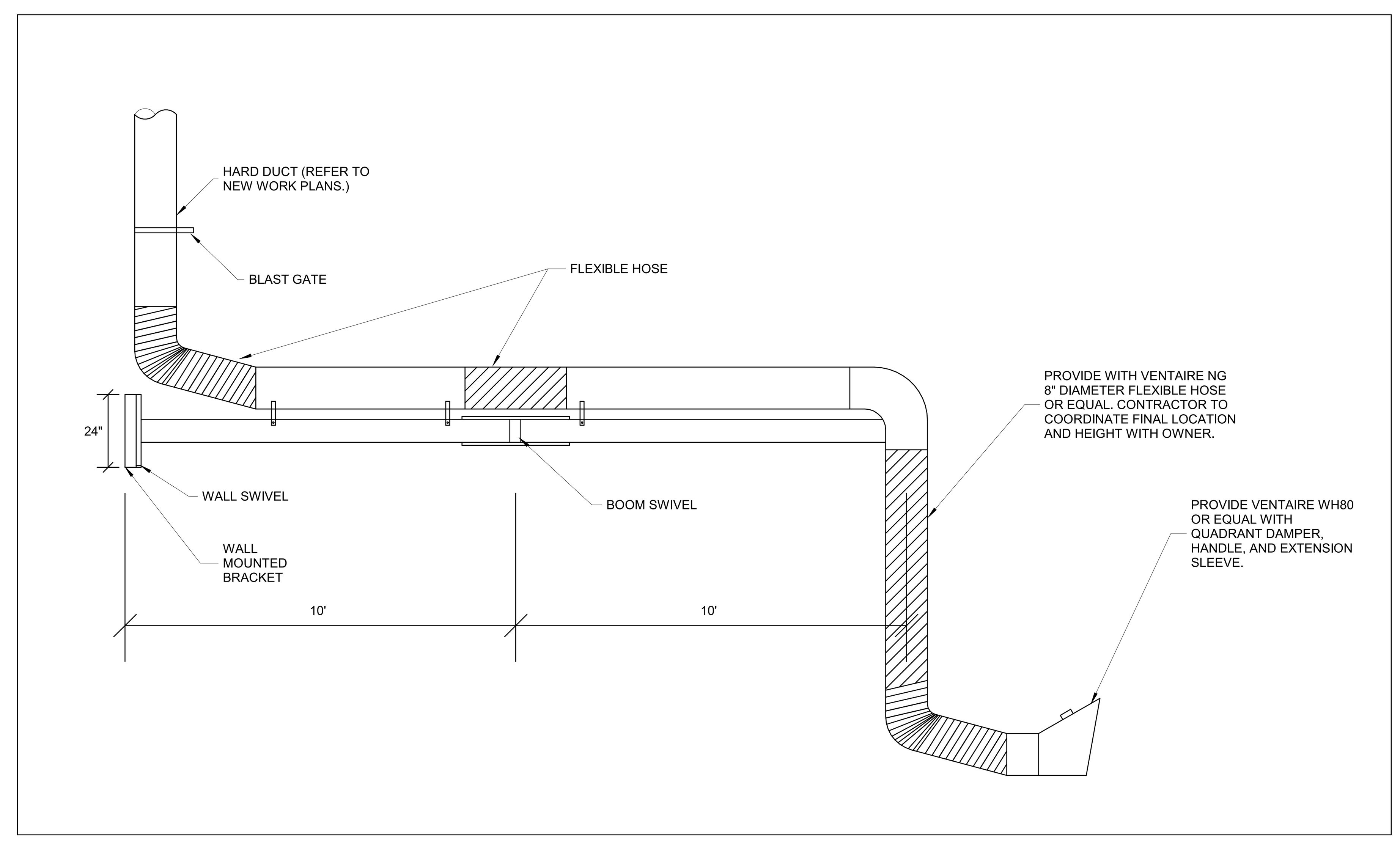
6 ROOFTOP UNIT DRAIN TRAP DETAIL
SCALE: NONE



2 DUCT PENETRATION THROUGH NON-RATED WALL DETAIL
SCALE: NONE



3 CARPENTRY SANDING TABLE DUST EXTRACTION SIMPLE DROP DETAIL
SCALE: NONE



5 WELDING BOOM ARM DETAIL
SCALE: NONE

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HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
MECHANICAL DETAILS

SHEET NUMBER
M5.0

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL #	SERVICE	TYPE	AIRFLOW (CFM)	E.S.P.	DRIVE	RPM	WEIGHT (LB)	FAN HP	ELECTRICAL DATA			SONES	REMARKS
											VOLTAGE	PHASE	HZ		
EF-1	TWIN CITY	DCRD130BE	RESTROOMS	CENTRIFUGAL	900	0.25	DIRECT	883	108	0.75	208 V	1	60	7.5	ALL

REMARKS:
1. PROVIDE GALVANIZED BIRD SCREEN.
2. PROVIDE ALUMINUM BACKDRAFT DAMPER.
3. PROVIDE 18" TALL ROOF CURB, CANTED & GALVANIZED W/ INSULATION.
4. GREENHECK AND COOK ARE ACCEPTABLE.

REGISTERS, GRILLES, AND DIFFUSERS

MARK	MANUFACTURER	MODEL #	TYPE	GRILLE SIZE	DUCT INLET SIZE	DUCT BRANCH SIZE	MAX CFM	P.D.	NOISE CRITERIA	THROW PATTERN	REMARKS
E-1	TITUS	45F	ALUMINUM 1/2" EGG CRATE - SIGHT PROOF	24x24	6"	6"Ø	100	0.05	25	-	1,3
E-4	TITUS	45F	ALUMINUM 1/2" EGG CRATE - SIGHT PROOF	24x24	12"	12"Ø	600	0.05	25	-	1,3
R-2	TITUS	45F	ALUMINUM 1/2" EGG CRATE - SIGHT PROOF	24x24	8"	8"Ø	225	0.05	25	-	1,3
R-4	TITUS	45F	ALUMINUM 1/2" EGG CRATE - SIGHT PROOF	24x24	12"	12"Ø	600	0.05	25	-	1,3
S-2	TITUS	TMSA-AA SERIES	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24x24	8"	8"Ø	225	0.05	25	4-WAY	1,3
S-3	TITUS	TMSA-AA SERIES	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24x24	10"	10"Ø	350	0.05	25	4-WAY	1,3
S-4	TITUS	45F	ALUMINUM 1/2" EGG CRATE - SIGHT PROOF	16x16	SEE DWGS	SEE DWGS	1100	0.15	39	-	ALL
S-5	TITUS	45F	ALUMINUM 1/2" EGG CRATE - SIGHT PROOF	22x22	SEE DWGS	SEE DWGS	1100	0.15	27	-	ALL

REMARKS:
1. COLOR BY ARCHITECT.
2. DIFFUSER TO BE DUCT MOUNTED.
3. PRICE AND METALAIRE ARE ACCEPTABLE.

PACKAGED ROOFTOP UNIT SCHEDULE

MARK	MANUFACTURER	MODEL #	PHYSICAL DATA				SUPPLY FAN													REMARKS
			WIDTH (IN.)	LENGTH (IN.)	HEIGHT (IN.)	WEIGHT (LBS)	TOTAL SA CFM	MIN. OA CFM	# OF FANS	FAN RPM	E.S.P. (" WC)	T.S.P. (" WC)	RATED H.P. (PER FAN)	B.H.P. (PER FAN)	VOLT.	PH.	MCA	MOCP	OP. FREQ.	
RTU-1	TRANE	YHC048E3RHA	54	89	41	976	1600	352	1	880	0.50	0.73	1.00	0.53	208 V	3	24 A	35	60	ALL
RTU-2	TRANE	YHC048E3RHA	54	89	41	976	1600	349	1	880	0.50	0.73	1.00	0.53	208 V	3	24 A	35	60	ALL

MARK	REFRIGERANT	COOLING PERFORMANCE											GAS HEATING			
		DX COIL								HOT GAS REHEAT COIL						
		TOTAL (MBH)	SENSIBLE (MBH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	FACE VELOCITY (FPM)	EER	TOTAL CAPACITY (MBH)	LAT (°F)	UNIT LAT (°F)	INPUT HEATING CAPACITY (MBH)	OUTPUT HEATING CAPACITY (MBH)	MAX PRESURE (PSI)	MIN PRESSURE (PSI)
RTU-1	R-410A	47.47	36.87	77.00	64.00	57.21	54.42	94.10	11.6	31.26	72	72	120.0	96.00	14.00	6.00
RTU-2	R-410A	47.47	36.87	77.00	64.00	57.21	54.42	94.10	11.6	31.26	72	72	120.0	96.00	14.00	6.00

REMARKS:
1. ECONOMIZER TO BE FACTORY INSTALLED ON THE UNIT WITH DRY-BULB ECONOMIZER CONTROL.
2. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT.
3. HAIL GUARD TO BE FACTORY INSTALLED.
4. PROVIDE WITH SINGLE POINT POWER AND FACTORY MOUNTED DISCONNECT.
5. PROVIDE INSULATED ROOF CURB.
6. PROVIDE WITH GAS HEATING.
7. PROVIDE WITH (1) SINGLE STAGE COMPRESSOR AND SEER RATING OF 14.2.
8. PROVIDE WITH PLEATED MERV13 FILTERS.
9. CARRIER AND LENNOX ARE ACCEPTABLE.

CARPENTRY DUST COLLECTOR SCHEDULE

MARK	MANUFACTURER	MODEL #	SERVICE	TYPE	DIMENSIONS			CFM	ESP	ELECTRICAL DATA			FILTER		REMARKS
					WIDTH	DEPTH	HEIGHT			VOLTAGE	PHASE	HP	COUNT	AREA	
DC-1	DONALDSON - TORIT	DFE 3-6	CARPENTRY LAB	DOWN FLOW WITH CARTRIDGE FILTERS	48"	75"	130"	3250	19"	208 V	3	25	6	1524	ALL

REMARKS:
1. PROVIDE UNIT WITH A SINGLE HOPPER WITH HOPPER ACCESS PANEL AND NFPA RATED SEALED DRUM KIT.
2. PROVIDE WITH QTY (1) 55 GAL. DRUM.
3. CONTRACTOR SHALL MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES.
4. PROVIDE WITH SPARK DETECTION SYSTEM. SYSTEM SHALL DETECT AND EXTINGUISH (BOSS PRODUTS EM-FCS-PWE OR EQUAL). THE DETECT AND QUENCH SYSTEM REQUIRES ~ 18-25 FT OF STRAIGHT RUN BETWEEN THE INLET ISOLATION VALVE (NRV/VIGIFLAP) AND THE FIRST BRANCH IN THE DUCTWORK. THE DETECT AND EXTINGUISH SYSTEM SHALL BE COORDINATED WITH THE PLUMBING CONTRACTOR (1.25" WATER CONNECTION - PROVIDE 16 GPM @ 59 PSI TO VALVE). REFER TO SPECIFICATIONS.
5. PROVIDE WITH CAMFIL M24601204 OR EQUAL SAFETY AFTER FILTER ASSEMBLY. PROVIDE MERV14 PREFILTERS WITH 95% ASHRAE FINAL FILTERS. PROVIDE WEATHER CAP AND MAGNEHELIC GAUGES. AFTER FILTER ASSEMBLY SHALL BE 1 FILTERS HIGH BY 2 FILTERS WIDE (APPROX. 2'X4').
6. PROVIDE WITH EXPLOSION RELIEF DOOR/PANEL.
7. PROVIDE WITH INLET ISOLATION VALVE (BOSS PRODUCTS EM-NRV OR EQUAL) INCLUDING REQUIRED SENSORS AND CONTROLS TO COMPLY WITH NFPA AND LOCAL GUIDELINES. DUCTWORK BETWEEN NRV AND COLLECTOR SHALL BE OF RATING AS COLLECTOR.
8. PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION.
9. ALL NFPA GUIDELINES SHALL BE ADHERED TO PER LOCAL AUTHORITY HAVING JURISDICTION.
10. PROVIDE FACTORY WIRED NEMA12 CONTROL ENCLOSURE FOR CONTROLLER. REFER TO SPECIFICATIONS TO TOUCH SCREEN CONTROLS ON CONTROL PANEL WITH LOCKABLE USER INTERFACE.
11. PROVIDE SUPPORT GROUND MOUNTED SUPPORT BRACKET FOR NO-RETURN VALVE.
12. PROVIDE CLEAN/DRY AIR CONNECTION @ 90-100 PSI.
13. START-UP AND SYSTEM VERIFICATION MUST BE PERFORMED BY APPROVED MANUFACTURER'S FACTORY EMPLOYED TECHNICIAN. START-UP REPORT SHALL BE PROVIDED, DUCT TRAVERSE AND FULL UNIT BALANCE INCLUDED IN REPORT. CONTRACTOR TECHNICIAN'S WILL NOT BE ACCEPTED.
14. APPLICABLE TO THE FAN FOR DC-1:
   A. PROVIDE UNIT MOUNTED EXHAUST FAN. MAINTAIN ALL REQUIRED MANUFACTURER CLEARANCES.
   B. FAN SHALL BE UL LISTED.
   C. PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR.
   D. PROVIDE WITH FLANGED INLET AND OUTLET. CONTRACTOR TO PROVIDE FLEXIBLE CONNECTION.
   E. PROVIDE WITH SHAFT GROUNDING RING.
   F. PROVIDE WITH ACCESS DOOR FOR EASY ACCESS TO FAN INTERIOR.
   G. PROVIDE WITH WEATHER COVER FOR THE BELT DRIVE, FAN BEARINGS, AND MOTOR.
   H. PROVIDE WITH 3/4" DRAIN AND PLUG.
   I. APPROVED MANUFACTURERS: TWIN CITY, JENCO, GREENHECK, PENN, ACME, COOK, FANTECH, AND NEW YORK BLOWER.
15. ACCEPTABLE MANUFACTURERS INCLUDE DONALDSON-TORIT, MAC, AAF, AND CAMCORP.

WELDING EXHAUST COLLECTOR SCHEDULE

MARK	MANUFACTURER	MODEL #	SERVICE	TYPE	DIMENSIONS			CFM	ESP	ELECTRICAL DATA			FILTER		REMARKS
					WIDTH	DEPTH	HEIGHT			VOLTAGE	PHASE	HP	COUNT	AREA	
WC-1	DONALDSON - TORIT	DFE 4-16	WELDING LAB	DOWN FLOW WITH CARTRIDGE FILTERS	48"	101"	160"	13500	12"	208 V	3	50	16	4064	ALL

REMARKS:
1. PROVIDE CONTROL PANEL WITH DONALDSON-TORIT DELTA P CONTROLLER AND AIRFLOW CONTROLLER, OR LIKE-EQUAL. CONTROLS MUST BE SUPPLIED FROM SAME MANUFACTURER AS THE DUST COLLECTOR. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR MAIN POWER. ELECTRICAL CONTRACTOR SHALL SUPPLY FIELD WIRING BETWEEN THE CONTROL PANEL AND THE UNIT. COORDINATE WITH THE ELECTRICAL CONTRACTOR. VFD AND DISCONNECT FOR EXTERIOR FAN/UNIT WILL BE INCLUDED IN THE CONTROL PANEL INSIDE THE BUILDING.
2. PROVIDE FACTORY WIRED NEMA12 CONTROL ENCLOSURE FOR CONTROLLER.
3. ELECTRICAL CONTRACTOR TO PROVIDE LOCAL DISCONNECT AND FIELD WIRING FOR WC-1 FAN MOTOR. COORDINATE WITH ELECTRICAL CONTRACTOR.
4. PROVIDE WELDING SHOP COLLECTOR WITH SINGLE HOPPER AND QTY (1) 55-GALLON DRUM WITH LID AND LATCH KIT FOR DUST COLLECTION.
5. PROVIDE BOLT-ON ACCESS PORT IN FRONT SECTION OF HOPPER.
6. PROVIDE CAMFIL M24601408 OR EQUAL SAFETY AFTER FILTER HOUSING ASSEMBLY RATED FOR 13,500 CFM. PROVIDE 95% ASHRAE FILTERS WITH MERV 8 PRE FILTERS. PROVIDE WITH PHOTOHELIC GAUGE WITH FEEDBACK TO DUST COLLECTOR CONTROL PANEL. PROVIDE MINIMUM QTY 8, 95% ASHRAE FILTERS. AFTER FILTER ASSEMBLY SHALL BE 2 FILTERS HIGH BY 4 FILTERS WIDE (APPROX. 4'X8').
7. UNIT REQUIRES CLEAN, DRY COMPRESSED AIR: 90-100 PSI. AT EACH SOLENOID. PROVIDE PIPING AND REGULATOR AS REQUIRED TO MAKE CONNECTION. COORDINATE WORK WITH PLUMBING CONTRACTOR.
8. ELECTRICAL CONTRACTOR SHALL FIELD WIRE THE SOLENOIDS TO THE CONTROL PANEL AS REQUIRED FOR OPERATION.
9. CONTRACTOR SHALL MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES.
10. FUME COLLECTOR START-UP AND SYSTEM VERIFICATION MUST BE PERFORMED BY MANUFACTURER'S FACTORY EMPLOYED TECHNICIAN. START-UP REPORT SHALL BE PROVIDED, DUCT TRANSVERSE INCLUDED IN REPORT. CONTRACTOR TECHNICIAN'S WILL NOT BE ACCEPTED.
11. APPLICABLE TO THE FAN FOR WC-1:
   A. PROVIDE GRADE MOUNTED EXHAUST FAN. MAINTAIN ALL REQUIRED MANUFACTURER CLEARANCES.
   B. FAN SHALL BE UL LISTED.
   C. PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR.PROVIDE WITH FLANGED INLET AND OUTLET. CONTRACTOR TO PROVIDE FLEXIBLE CONNECTION TO DUCTWORK.
   D. PROVIDE WITH SHAFT GROUNDING RING.
   E. PROVIDE WITH ACCESS DOOR FOR EASY ACCESS TO FAN INTERIOR.
   F. PROVIDE WITH WEATHER COVER FOR THE BELT DRIVE, FAN BEARINGS AND MOTOR.
   G. PROVIDE WITH A 3/4" DRAIN AND PLUG.
   H. PROVIDE WITH 1" SPRING ISOLATION BASE.
   I. APPROVED MANUFACTURERS: TWIN CITY, JENCO, GREENHECK, PENN, ACME, COOK, FANTECH, AND NEW YORK BLOWER
   J. PROVIDE ACCEPTABLE MANUFACTURERS: DONALDSON-TORIT, AAF, MAC, AND CAMCORP.

AIR COMPRESSOR

MARK	MANUFACTURER	MODEL #	SERVICE	DIMENSIONS (IN)			WEIGHT	TANK VOLUME (GAL)	CFM	MAX PSI	HP	MAX RPM	FLA	MCA	MOCP	VOLTAGE	PHASE	REMARKS
				WIDTH	HEIGHT	LENGTH												
AC-1	CHAMPION	VR10-12	WELDING/CARPENTRY LAB	38	76	43	895.00	120.0	35	175.00	10	1050	30.8 A	38.5 A	45	208 V	3	ALL

REMARKS:
1. PROVIDE WITH FACTORY-MOUNTED DISCONNECT.
2. PROVIDE WITH MK-US-75 (OR EQUAL) DRYER. REFER TO FLOOR PLAN FOR LOCATION.
3. PROVIDE WITH AIR COOLED AFTERCOOLER.

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No.	Description	Date

STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
MECHANICAL SCHEDULES

SHEET NUMBER
M6.0

MECHANICAL CONTROL LEGEND

AFF	ABOVE FINISHED FLOOR	SETPT	SETPOINT
AFMS	AIR FLOW MONITORING STATION	SF	SUPPLY FAN
AI	ANALOG INPUT	SFA	SUPPLY FAN ARRAY
AO	ANALOG OUTPUT	STS	STATUS
BAS	BUILDING AUTOMATION SYSTEM	SW	SOFT WATER
BP	BOOSTER PUMP	TCC	TEMPERATURE CONTROL CONTRACTOR
CCF	100 CUBIC FEET NATURAL GAS	TEMP	TEMPERATURE
CHWR	CHILLED WATER RETURN	U/C	UNOCCUPIED COOLING SETPOINT
CHWS	CHILLED WATER SUPPLY	U/H	UNOCCUPIED HEATING SETPOINT
CHW	CHILLED WATER	VFD	VARIABLE FREQUENCY DRIVE
CMD	COMMAND	Ta	AVERAGING TEMPERATURE SENSOR
CO2	CARBON DIOXIDE	Ts	INSERTION TEMPERATURE SENSOR
CR	CONDENSER RETURN	H	HUMIDITY SENSOR
CS	CONDENSER SUPPLY	h	ENTHALPY SENSOR
CSR	CURRENT SENSOR RELAY	LL	LOW LIMIT TEMPERATURE SENSOR
DAT	DISCHARGE AIR TEMPERATURE	P	PRESSURE SENSOR
DI	DIGITAL INPUT	DP	DUCT STATIC PRESSURE SENSOR
DO	DIGITAL OUTPUT	DPSW	DIFFERENTIAL PRESSURE SWITCH
DP	DEWPOINT	ES	DAMPER END SWITCH
DPR	DAMPER	DPS	DIFFERENTIAL PRESSURE SENSOR
EA	EXHAUST AIR PATH	C	START/STOP COMMAND
FBD	FACE AND BYPASS DAMPER	M	MOTORIZED DAMPER
HL	HIGH LIMIT	F	FLOW METER
HP	HEAT PUMP	CS	CURRENT SENSOR
HR	HEAT PUMP RETURN	SD	DUCT MOUNTED SMOKE DETECTOR
HS	HEAT PUMP SUPPLY	COS	CONDENSATE OVERFLOW SWITCH
HWR	HOT WATER RETURN	DSP-HL	DUCT STATIC PRESSURE HIGH LIMIT
HWS	HOT WATER SUPPLY	DSP-LL	DUCT STATIC PRESSURE LOW LIMIT
LL	LOW LIMIT	ZN-DP	ZONE DEW POINT
LPC	LOW PRESSURE CONDENSATE	ZN-OCC	ZONE OCCUPANCY SENSOR
LPS	LOW PRESSURE STEAM	ZN-T	ZONE TEMPERATURE - 48" AFF
MAT	MIXED AIR TEMPERATURE	H/W	HEATING COIL
MAU	MAKE-UP AIR UNIT	Co2	CARBON DIOXIDE SENSOR
MIN	MINIMUM	C/W	CHILLED WATER COIL
NSW	NON-SOFTENED WATER	E/R	ENERGY RECOVERY COIL
NC	NORMALLY CLOSED	HUMID	HUMIDIFIER
O/C	OCCUPIED COOLING SETPOINT		
O/H	OCCUPIED HEATING SETPOINT		
OA	OUTSIDE AIR PATH		
OAD	OUTSIDE AIR DAMPER		
OAH	OUTSIDE AIR HUMIDITY		
OAT	OUTSIDE AIR TEMPERATURE		
OCC	OCCUPANCY		
OVR	OVERRIDE VIA USER INTERFACE		
PRESS	PRESSURE		
RA	RETURN AIR PATH		
RF	RETURN FAN		
RH	RELATIVE HUMIDITY		
SA	SUPPLY AIR PATH		

GENERAL CONTROL REQUIREMENTS:

A. ALL EQUIPMENT SHALL HAVE BACNET COMPATIBLE CONTROLLERS UNLESS OTHERWISE NOTED. ALL BACNET CONTROLLED EQUIPMENT SHALL BE CONNECTED WITH THE BASE FRONT END WITH REMOTE ACCESS FOR FACILITY OPERATORS.
B. ALL HARDWARE, EQUIPMENT, AND THE BAS FRONT END MUST FULLY COMPLY WITH THE CONTROLS SPECIFICATIONS.
C. A VALVE EXERCISE PROGRAM SHALL BE INCLUDED AS PART OF THE DDC SYSTEM TO OPEN AND CLOSE AUTOMATIC CONTROL VALVES AND ACTUATORS 2 FULL STROKES DURING AN UNOCCUPIED PERIOD EVERY WEEK.
D. ALL POINT NAMES SHALL HAVE A STANDARDIZED NAMING CONVENTION TO BE COORDINATED AND APPROVED BY CMTA.
E. ALL EQUIPMENT TO HAVE UNIQUE TAG. COORDINATE NAMING WITH MECHANICAL PLANS AND EQUIPMENT LABELING.
F. ALL FANS AND PUMPING MONITORED BY THE BAS SHALL HAVE RUN HOURS ACCUMULATED.
G. GRAPHICS SHALL INCLUDE A SUMMARY TABLE FOR EACH EQUIPMENT TYPE WITH MORE THAN 1 PIECE OF EQUIPMENT. COORDINATE PERTINENT OPERATING PARAMETERS FOR EACH SYSTEM TYPE WITH CMTA.
H. PROVIDE CMTA ACCESS TO ALL DATA, PROGRAMMING LOGIC, WIRE SHEETS, ETC. ALL SHALL BE EXPOSED TO CMTA FOR REVIEW COMMENT, AND TROUBLESHOOTING. PROVIDE CMTA WITH ALL ACCESS, LICENSES, ETC. AS REQUIRED. A CONTROLS PROGRAMMING SOFTWARE PACKAGE SHALL BE PROVIDED TO CMTA AND THE OWNER FOR ACCESS TO UNITARY CONTROLS PROGRAMMING LOGIC.
I. PROVIDE ALL INSTALLATION, SUPERVISION, LABOR, AND MATERIAL (IE CONDUIT, WIRE, CABLE, ETC) AS REQUIRED TO INSTALL THE ENTIRE CONTROLS SYSTEM PER DOCUMENT REQUIREMENTS.
J. PROVIDE ENGINEERED DRAWINGS, STARTUP, DATABASE PROGRAMMING, STANDARD COLOR GRAPHICS, INCLUDING THERMOGRAPHIC SITE PLAN, EQUIPMENT, FLOORPLANS, ETC.
K. ALL EXPOSED WIRING, WIRING IN WALLS, HARD CEILINGS, AND MECHANICAL ROOMS SHALL BE IN CONDUIT. ALL CONCEALED WIRING SHALL BE PLENUM RATED WIRE NEATLY SUPPORTED UTILIZING BRIDAL RINGS. REFER TO CONTROLS SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
L. INCLUDE 1-YEAR PARTS WARRANTY, 1-YEAR LABOR WARRANTY, AND ONE YEAR JACE SOFTWARE MAINTEANCE AGREEMENT (SMA) FROM THE SIGNED DATE OF FINAL COMPLETION OF EACH SCHOOL. REFER TO COMMISSIONING REQUIREMENTS FOR ADDITIONAL VERIFICATION AND TESTING REQUIREMENTS AND INCLUDE ALL COSTS REQUIRED TO ACCOMMODATE COMMISSIONING OF BUILDING CONTROL SYSTEM. REFER TO RELATED COMMISSIONING SPECIFICATION FOR FURTHER DETAIL.
M. ALL DEVICES THAT ARE ON THE BAS MUST HAVE A WARNING LABEL ON THE EQUIPMENT THAT IS CONTROLLED USING REMOTE PROGRAMMING AND CAN START AT ANY TIME.
N. ALL THERMOSTATS TO HAVE UNOCCUPIED OVERRIDE BUTTON THAT GIVES OCCUPANT 90 MINUTES (ADJ.) OF OCCUPIED OPERATION WHEN PRESSED. THERMOSTATS SHALL HAVE AN OVERRIDE AND SHALL DISPLAY ROOM TEMPERATURE BUT ABLE TO BE PROGRAMMED TO SHOW ONLY SETPOINT IF DESIRED. ALL THERMOSTATS WILL MONITOR TEMPERATURE. ALL THERMOSTATS SHALL HAVE A WARMER/COOLER WHEEL OR SLIDE FOR OCCUPANCY ADJUSTMENT AT THE SPACE THAT SHALL BE LIMTED BY OPERATOR PROGRAMMING. WHERE SPECIFIED IN THE INDIVIDUAL FACILITY BID PACKAGE SECTION, THERMOSTATS SHALL MONITOR SPACE TEMPERATURE AND/OR RELATIVE HUMIDITY.

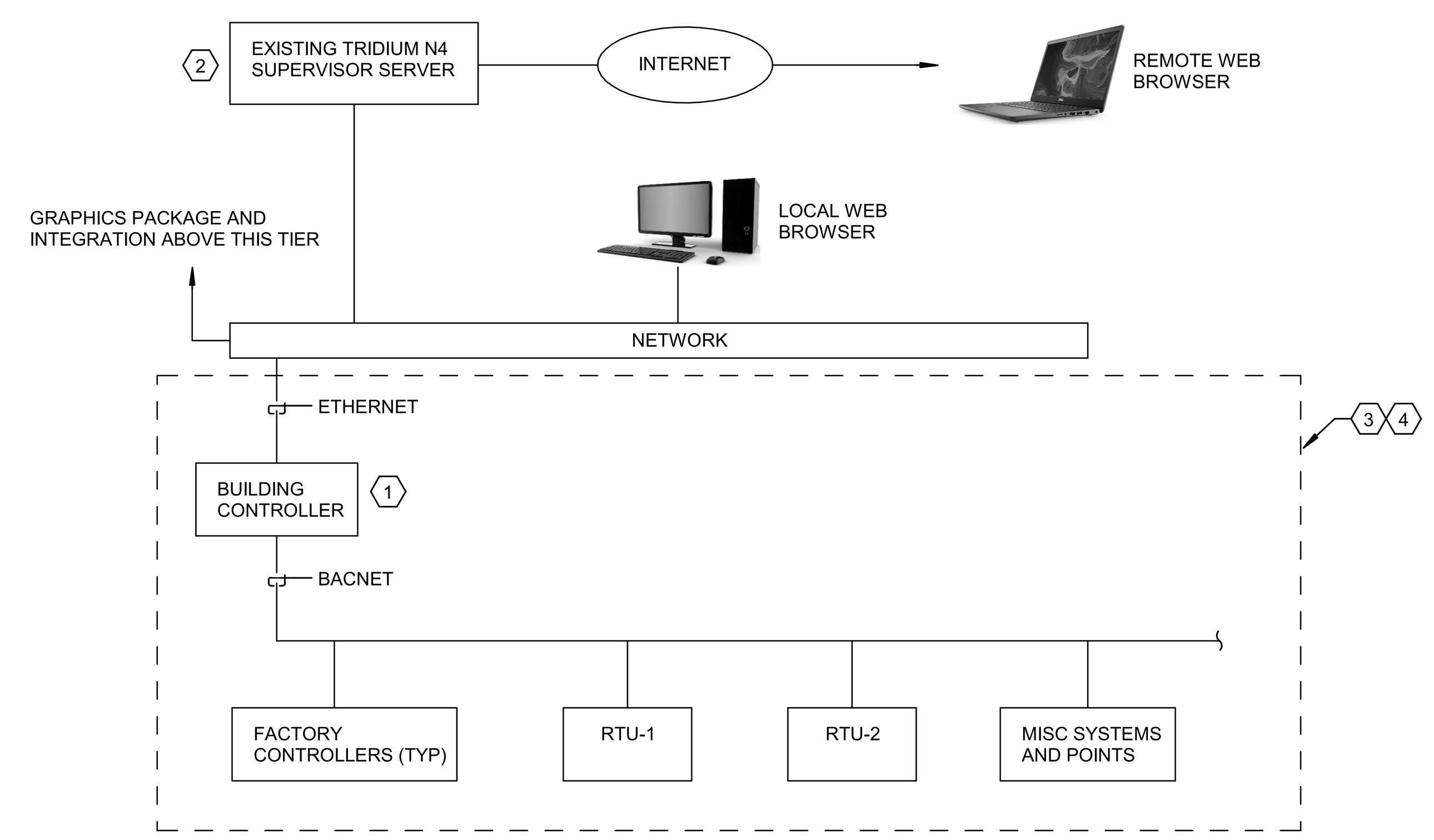
CONTROL GRAPHIC REQUIREMENTS:

A. SETPOINTS & SOFT SETBACK: EACH UNIT USED FOR SPACE CONDITIONING SHALL, ON THE GRAPHIC, SHOW CURRENT HEATING AND COOLING SETPOINT, UNOCCUPIED AND OCCUPIED HEATING AND COOLING SETPOINT, AND TIME FOR WHICH SPACE SHALL CHANGE STATUS (IE. FROM OCCUPIED TO UNOCCUPIED OR UNOCCUPIED TO OCCUPIED). THESE SETPOINTS SHALL BE ADJUSTABLE ON THE GRAPHIC PAGE. ALL TEMPERATURE ADJUSTMENT VALUES (TEMPERATURE RESETS, DEMAND LIMITING, OCCUPANT ADJUST, ETC.) SHALL BE SHOWN ON THE GRAPHICS.
B. TRENDS ON GRAPHICS: ALL TRENDED POINTS SHALL BE MADE AVAILABLE THROUGH THE GRAPHICAL INTERFACE.
C. SAMPLES FOR REVIEW: PROVIDE A SAMPLE OF EACH FOR REVIEW WITH SUBMITTALS OR UNDER SEPARATE COVER.
D. ANIMATION LINKED TO STATUS. ANY ANIMATION SUCH AS FLOWING PIPE ARROWS SHALL BE LINKED TO THE STATUS OF THE EQUIPMENT. FOR EXAMPLE, DO NOT SHOW MOVING PIPE ARROWS FOR PUMPS THAT ARE OFF.
E. COLORS: USE BACKGROUND COLOR AS DIRECTED BY CMTA (WHITE OR BLACK).
F. ALARMS: EQUIPMENT GRAPHICS PAGE SHALL HAVE SECTION THAT CLEARLY DISPLAYS ANY SYSTEM RELATED ALARMS IN EFFECT.
G. GRAPHICS SHALL HAVE ROOM NAMES, ROOM NUMBERS, AND UNIT DESCRIPTORS SHOWN. THE GRAPHICS SHALL SHOW OUTSIDE AIR TEMPERATURE AND THE CURRENT FACILITY ELECTRIC DEMAND LEVEL (KW). BOUNDARIES SHALL BE DEPICTED OF WHAT UNITS SERVE WHICH AREAS. COLOR CODEING OR BOUNDARY OUTLINE OR OTHER APPROVED METHOD. CMTA SHALL BE PROVIDED WITH AN EXAMPLE AND APPROVE THE METHOD USED. GRAPHICS SHALL INCLUDE SECTION THAT CLEARLY DISPLAYS CURRENT ALARMS WITH LINK TO ASSOCIATED SYSTEM.

CONTROLS POINTS LIST CLARIFICATION:

ALL POINTS LISTS WITHIN THIS DOCUMENT INCLUDE THE DESIGNATIONS AV AND BV. THESE REPRESENT ANALOG VALUES AND BINARY VALUES RESPECTIVELY. THESE DESIGNATIONS WILL DIFFER BY EQUIPMENT AS FOLLOWS:

A. IF EQUIPMENT IS FURNISHED WITH A FACTORY BACNET CONTROLLER, ALL AVAILABLE POINTS ARE BROUGHT IN THROUGH INTEGRATION BY CONTROLS CONTRACTOR. POINTS ALL FUNCTION AS SOFTWARE POINTS EVEN IF SENSOR REQUIRE TO BE FIELD INSTALLED AND WILL ALL BE DESIGNATED AS VIRTUAL POINTS. AV/BV SENSORS WILL BE FURNISHED WITH THE EQUIPMENT, UNLESS OTHERWISE NOTED. CONFIRM AVAILABLE POINTS AND CONFIGURATION WITH CMTA UPON EQUIPMENT SELECTION.
B. IF EQUIPMENT IS FURNISHED WITH A TERMINAL STRIP FOR CONNECTION TO A THIRD PARTY CONTROLLER BY THE CONTROLS CONTRACTOR, THE INPUTS AND OUTPUTS FUNCTION AS HARDWARE POINTS WHILE THE VIRTUAL POINTS FUNCTION AS SOFTWARE POINTS. CONFIRM AVAILABLE POINTS AND CONFIGURATION WITH CMTA UPON EQUIPMENT SELECTION.
C. PLEASE NOTE FOR FACTORY-IMPORTED ALARMS, THE GRAPHICS SHALL BE PROGRAMMED SUCH THAT IN THE EVENT OF AN ALARM, BOTH AN ALARM CODE AS WELL AS DESCRIPTION MUST DISPLAY ON THE GRAPHIC. ALARM CODE ONLY IS NOT ACCEPTABLE.



CONTROL RISER GENERAL NOTES:

A. ALL WORKS SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES. CONTROLS CONTRACTOR SHALL PROVIDE ALL PERMITS AND APPLICABLE FEES REQUIRED.
B. CONTROLS CONTRACTOR SHALL COORDINATE CONTROL POWER REQUIREMENTS FOR NEW AND REPLACEMENT CONTROLLERS AND CONTROL DEVICES.
C. PROVIDE NEW KEYED LOCKABLE UL LISTED CONTROL CABINETS.
D. PROVIDE NEW COMMUNICATION NETWORKS AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION FOR EACH DEVICE.
E. CONTROLS CONTRACTOR SHALL ENSURE ALL BAS CONTROLLERS ARE COMMUNICATING PRIOR TO COMPLETION OF WORK.
F. ALL EQUIPMENT TO BE CONNECTED TO NEW BACNET NETWORK UNLESS OTHERWISE SPECIFIED BY CMTA.
G. CONTROLS CONTRACTOR TO CONFIRM ALL EQUIPMENT COUNTS USING DESIGN MECHANICAL DRAWINGS.

CONTROL RISER TAGGED NOTES:

1. PROVIDE NEW NETWORK ROUTER/JACE AS REQUIRED TO INTEGRATE ALL POINTS WITH HENDERSON COUNTY SCHOOLS FACILITY MANAGEMENT'S EXISTING BACNET HEAD-END SOFTWARE USING BACNET/IP.
2. TEMPERATURE CONTROLS SUBCONTRACTOR IS RESPONSIBLE FOR INTEGRATION TO SUPERVISOR SERVER.
3. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL OR INTEGRATE ALL NEW CONTROLLERS.
4. TYPICAL BACNET TRUNK SHOWN FOR REFERENCE ONLY. CONTROLS CONTRACTOR TO PROVIDE SYSTEM ARCHITECTURAL DRAWING IN SUBMITTAL.

EQUIPMENT SCHEDULING REQUIREMENTS:

EQUIPMENT SCHEDULES:

EVERY SYSTEM SHALL OPERATE ACCORDING TO A USER DEFINABLE SCHEDULE. COORDINATE FINAL SCHEDULES AND GROUPS WITH CMTA PRIOR TO IMPLEMENTATION. COORDINATE FINAL SCHEDULING CAPABILITY WITH OTHER BID REQUIREMENTS.

NORMAL SCHEDULE - THESE ARE THE BASIC NORMAL WEEKLY SCHEDULES THAT ARE ENTERED AND RETAINED. THESE MAY BE PUT IN AT ANY LEVEL CHOSEN BY THE USER (EQUIPMENT, ZONE, SCHOOL, DISTRICT, ETC) AND MUST BE ADJUSTABLE. AN ADJUSTABLE STAGED OR OPTIMAL START ALGORITHM MUST BE INCLUDED TO ENABLE SPACES TO MEET NORMAL SCHEDULE OCCUPIED SETPOINT BY NORMAL SCHEDULE START TIME.

HOLIDAY SCHEDULE - THESE SCHEDULES PUT EQUIPMENT, ZONES, SCHOOL, OR THE DISTRICT IN UNOCCUPIED MODE WHILE "NORMAL" SCHEDULES REMAIN INTACT WHEN SCHOOL IS CANCELED OR OVER BREAKS. MANY TIMES, THESE ARE PUT IN AT DISTRICT OR SCHOOL LEVEL. HOLIDAY TAKES PRIORITY OVER "NORMAL" SO THAT SCHOOL/ ZONES/EQUIPMENT OPERATE AS UNOCCUPIED.

OVERRIDE SCHEDULES - TURNS EQUIPMENT OR AREAS TO OCCUPIED MODE WHILE "HOLIDAY" OR "NORMAL" IS RETAINED. OVERRIDE TAKE PRIORITY OVER "HOLIDAY" AND "NORMAL."

SUMMER MODE OPERATION - DURING THE SUMMER MONTHS, THE BUILDING SHALL OPERATE AT REDUCED OCCUPANCY LOAD. THIS MODE SHALL ONLY AFFECT SPECIFIED EQUIPMENT WITHIN THE BUILDING THAT HAS REGULAR SUMMER OCCUPANCY. REMAINING EQUIPMENT WITHIN THE BUILDING SHALL OPERATE UNDER THEIR OWN SCHEDULE GROUPS IN THE UNOCCUPIED MODE TO CONTROL SPACE TEMPERATURE AND HUMIDITY WHILE IN SETBACK. COORDINATE FINAL SCHEDULE GROUPS WITH CMTA PRIOR TO IMPLEMENTATION.

SNOW DAY OPERATION - FUNCTIONALITY SHALL BE BUILT INTO THE CONTROLS TO ALLOW FOR TEH OVERRIDE OF ALL SCHEDULES INTO AN UNOCCUPIED STATE DUE TO THE SUDDEN CANCELLATION OF SCHOOL OR SIMILAR EVENT. SYSTEM OVERRIDE SWITCHES SHALL REMIAN IN PLACE AS STATED IN EACH SYSTEM'S CONTROL SEQUENCE TO ALLOW FO ISOLATED SPACES TO BE PLACED IN OCCUPIED MODE DURING SCHEDULED UNOCCUPIED HOURS.

BASE/DEFAULT TIME IN ALL SCHEDULES SHALL BE UNOCCUPIED. IF THERE IS NO EVENT, OR NO SCHEDULE, THE ITEM IS TO BE UNOCCUPIED. DO NOT REQUIRE THE USER TO PUT IN BOTH UNOCCUPIED TIME AND OCCUPIED TIME FOR SCHEDULES. ONLY OCCUPIED TIME IS TO BE INPUT BY USER. IF A PIECE OF EQUIPMENT IS TO BE OCCUPIED/ENABLED 24 HOURS PER DAY, THE SCHEDULE SHALL BE PUT IN AS 24 HOURS PER DAY. DO NOT CHANGE DEFAULT TO OCCUPIED.

BASE BUILDING GROUPS ARE AS FOLLOWS:
RTU-1: OFFICE 116G & CLASSROOM 116H
RTU-2: CLASSROOM 116E

SEE EXAMPLE SCHEDULE BELOW:

BUILDING SCHEDULE

SEMESTER	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
FALL	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	UNOCCUPIED	UNOCCUPIED
SPRING	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	UNOCCUPIED	UNOCCUPIED
SUMMER	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	UNOCCUPIED	UNOCCUPIED

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MECHANICAL CONTROLS

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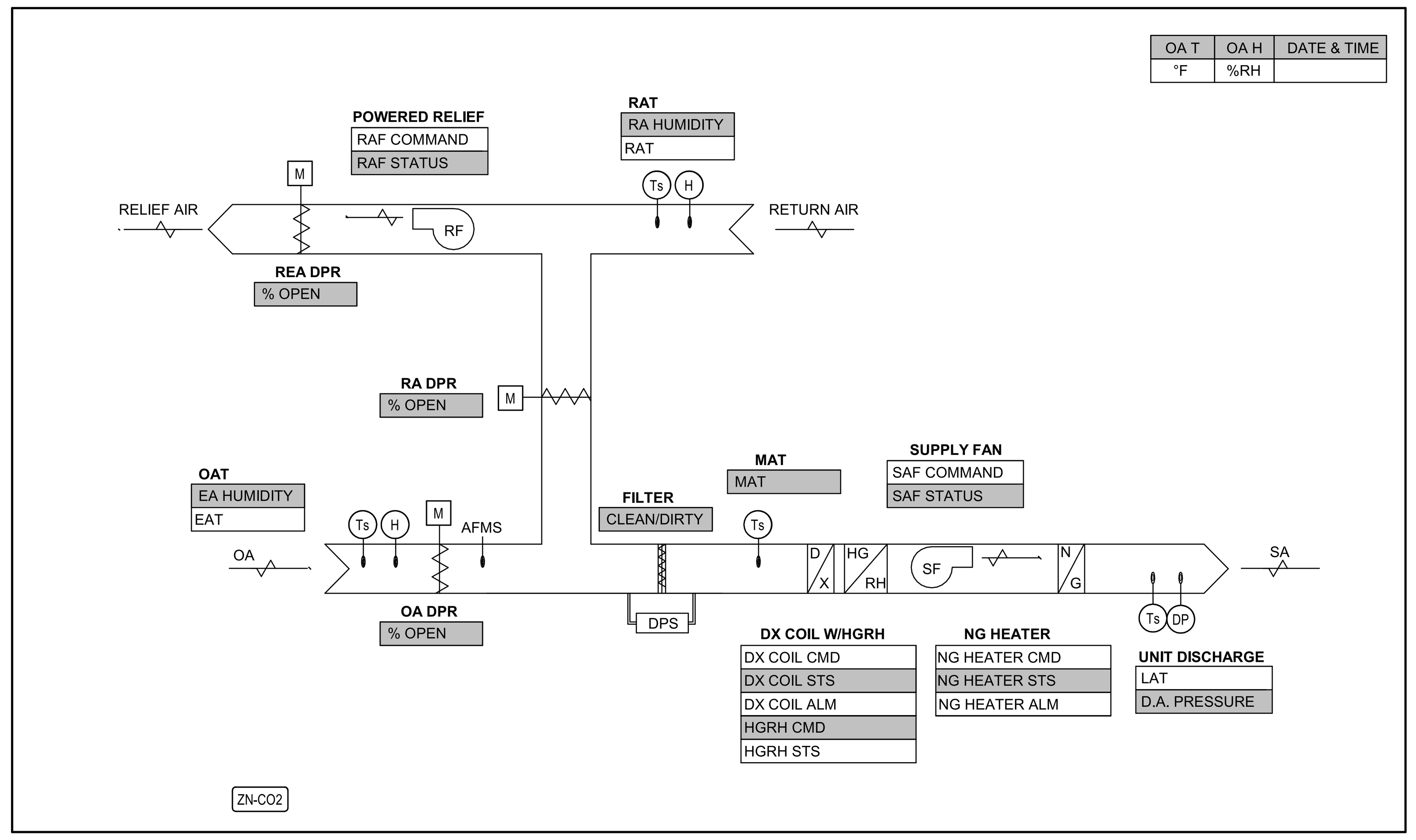


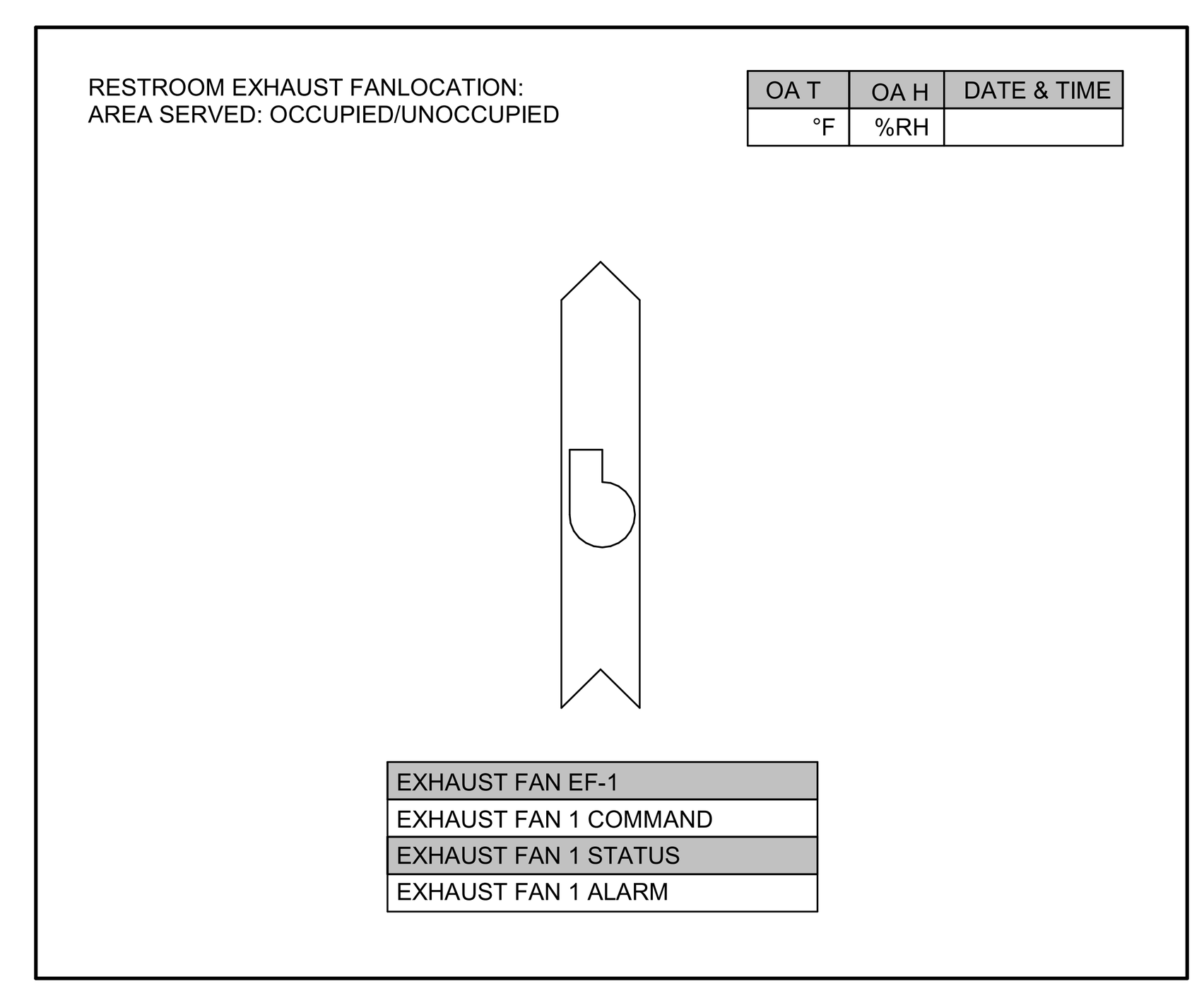
3 RTU-1, 2 CONTROLS SCHEMATIC
SCALE: NONE

POINTS LIST - RTU1, 2

POINT DESCRIPTION	BI	BO	BV	AI	AO	AV	OVR	ALARMS	GRAPHIC	TREND
DA PRESSURE				X				HIGH	Yes	Yes
DAT				X				HIGH/LOW	Yes	Yes
DX COIL ALM			X					ALL FACTORY ALARMS	Yes	Yes
DX COIL CMD		X					X		Yes	No
DX COIL HGRH CMD		X					X		Yes	No
DX COIL HGRH STS			X						Yes	Yes
DX COIL STAGE				X					Yes	Yes
DX COIL STS			X						Yes	Yes
FILTER PRESSURE DROP				X				HIGH	Yes	Yes
MIXED AIR TEMPERATURE				X					Yes	Yes
NATURAL GAS HEATER %					X				Yes	Yes
NG HEATER ALM			X					ALL FACTORY ALARMS	Yes	Yes
NG HEATER CMD		X					X		Yes	No
NG HEATER STS				X					Yes	Yes
OA CFM				X				15% LOW/HIGH ALARM	Yes	Yes
OA DAMPER CMD					X		X		Yes	No
OA DAMPER STS				X				DAMPER ALARM	Yes	Yes
OA HUMIDITY				X					Yes	Yes
OAT				X					Yes	Yes
RA DAMPER CMD					X		X		Yes	No
RA DAMPER STS				X				DAMPER ALARM	Yes	Yes
RA HUMIDITY				X					Yes	Yes
RAF CFM				X					Yes	Yes
RAF CMD					X		X		Yes	No
RAF SPEED				X					Yes	Yes
RAF STS	X							FAN ALARM	Yes	Yes
RAT				X					Yes	Yes
REA DAMPER CMD					X		X		Yes	No
REA DAMPER STS				X				DAMPER ALARM	Yes	Yes
SAF CFM				X					Yes	Yes
SAF CMD					X		X		Yes	No
SAF SPEED				X					Yes	Yes
SAF STS	X							FAN ALARM	Yes	Yes

RTU-1, 2 SEQUENCE OF OPERATION

1. General:
   A. RTU-1 is the sole unit responsible for the air conditioning and ventilation of the CTE Classroom 116H and Office 116G. The unit is a single zone packaged air handling unit with DX refrigeration with hot gas reheat as well as natural gas heating.
   B. RTU-2 is the sole unit responsible for the air conditioning and ventilation of the CTE Classroom 116E and Storage 116F. The unit is a single-zone packaged air handling unit with DX refrigeration with hot gas reheat as well as natural gas heating.
   C. The unit will be provided with complete field mounted controls. DX cooling coil, HGRH, and natural gas heating coil provided by manufacturer will require some interface with supplied factory controllers. The controls contractor shall coordinate with manufacturer during shop drawing review period to ensure that all coordination required to achieve the sequence of operation takes place prior to the ordering of equipment.
   D. The units shall be provided with averaging thermostats.The classroom and office shall have an average temperature that meets the setpoint temperature of the below sequence. Refer to floor plan for thermostat location.
2. Occupancy Schedule:
   A. Refer to Controls General Notes for occupancy Schedule.
   B. The unit shall be placed into occupied or unoccupied mode from the DDC control system. Refer to scheduling requirements for additional information.
   C. In the occupied mode, the supply fan shall be on and the temperature control shall be active to maintain occupied setpoint of 72 degrees (adj) with a deadband of 2 degrees (adj).
   D. In the unoccupied mode, the unit shall be off, outside and relief dampers closed and fan and compressors shall cyclel as required to maintain unoccupied room setpoint of 65 degrees (adj.) winter; 80 degrees (adj.) summer.
3. Supply and Relief Fan Control:
   A. Supply fan to be single packaged fan provided with rooftop air handling unit. Coordinate with TAB contractor to set final fan speed to maintain target airflow as scheduled.
   B. Supply fan will be started and stopped from the local DDC Panel per the schedule. When the start command is issued the outside air damper and relief air damper will open to their minimum positions and return air damper will open 100%. When the dampers have proven their required positions, an end switch will engage an EP which will then allow the fan to start. If the end switch fails to engage the EP the fan will not be allowed to start. If for this or any other reason the supply fan status does not match the commanded value an alarm will be generated. When the supply fan status indicates the fan has started, the control sequence will be enabled.
   C. The relief fan shall normally be off. Refer to economizer section for powered relief fan operation.
4. Unit Damper Control:
   A. Damper TAB: The controls contractor is to assist the TAB contractor to set minimum OA damper position. Refer to TAB specification for additional requirements.
   B. Occupied Mode: In the occupied mode, OA damper will be at minimum position as set by TAB, the Relief air damper shall maintain it's minimum position as set by TAB and the return air damper shall be open 100%. Refer to economizer mode of operation for additional requirements.
   C. Unoccupied Mode: In the unoccupied mode, the OA damper and REA damper position will be closed and the RA damper will be open 100%. Refer to economizer model for additional requirements
   D. Demand-Control Ventilation:Space-Mounted CO2 sensor will record the the space CO2 level. When not in economizer mode ,OA damper postion will modulate between it's minimum position and closed as required to maintain a CO2 differential of 700PPM from ambient.
5. Economizer Control:
   A. Economizer mode shall be activated if the outside air temperature is less than 65 deg. (adj.). In the event that the economiizer mode is activated, outside air damper and return air damper and relief air damper shall be modulated proportionally from their minimum position to 100% open as required to achieve a unit discharge air temperature of 55 deg (adj.). Relief air damper position shall mirror outside air damper position. Outside air damper position will modulate to unit DAT. RA Damper will be modulated opposite relief air damper position. (Eg. When Relief air damper is 100% open, RA damper will be 0% open, etc.)
   B. Relief Fan Control: Powered relief fan shall activate in economizer mode when OA damper is between 60 to 100% (adj.) open and shall otherwise be "off".
   C. Provide Economizer mode, damper and relief fan status and setpoints on graphic.
6. Supply Air Temperature Controls - Cooling:
   A. When the space zone temperature sensor calls for cooling, cooling mode shall be enabled.
   B. When cooling mode is enabled, the control system will enable the onboard packaged dx cooling coil to stage onboard compressors as required to meet the required unit DAT SP of 55 deg. (adj.)
   C. Cooling mode lockout: Cooling mode shall be disabled when OAT is less than 50 degrees (Adj.)
7. Supply Air Temperature Controls - Heating:
   A. When the unit DAT is less than or equal to 53°F (adj.), heating mode shall be enabled.
   B. When heating mode is enabled, the control system will enable the onboard packaged natural gas heating unit and modulate the onboard gas control valve as required to provide 55 deg (adj.) DAT.
   C. Heating mode lockout: Heating mode shall be disabled with OAT is greater than 50 degrees (Adj.)
8. Dehumidification Control:
   A. The unit shall monitor zone humidity via zone humidity sensor. In the event that zone humidity exceeds 60% (adj.), The unit shall activate it's cooling coil and stage HGRH as required to maintain room-nuetral discharge air temperature. Dehumidification mode shall be deactivated when space humidity falls below 55% (adj).
9. Filter Monitoring: Each filter in the air handler will be provided with an analogue input which tracks the actual pressure drop across the filter. Coordinate alarm for each filter such that is adjustable by the user. Initial setpoint to be at 0.5 " WC (adj.) greater than the initial filter pressure drop with clean filters. Coordinate with test and balance contractor to obtain this setpoint and program accordingly.
10. Outside Air Monitoring: An airflow monitoring station must be provided to monitor the flow of outdoor air and alarm should the outdoor air quantity fall 15% above or below the required OA threshold for the unit.



5 EXHAUST FAN SCHEMATIC
SCALE: NONE

EXHAUST FAN SEQUENCE OF OPERATION:

1. General:
   A. Exhaust fan throughout the project are provided by mechanical contractor. In all cases, the controls contractor shall provide controls, sensors, etc as required to fully monitor all fans as called for in the sequence of operation.
2. Hardwired Exhaust Fans with Switch:
   A. Fan shall be operated by motion activated sensor mounted on the ceiling. Motion activated sensor shall be connected to restroom lighting. Electrician to provide and wire switches to control exhaust fan operation.
   B. BAS to monitor fan status via current sensor.
3. Scheduled Exhaust Fans:
   A. Exhaust fans to be controlled via building schedule as input by the user. Refer to Building Schedule.
   B. Should command not equal status, provide fan malfunction alarm.

EXHAUST FANS POINT LIST

POINTS	BI	BO	AI	AO	ALARMS	GRAPHIC	TREND
EF STS	X				FAN MALFUNCTION	Yes	Yes
EF CMD	X					Yes	No

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LIGHTING CONTROLS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
LIGHT SWITCH: LOW VOLTAGE (WHEN PRESENT, # INDICATES QUANTITY OF CHANNELS)	46"	$#
NIGHT LIGHT SWITCH WITH CONSTANTLY ILLUMINATED HANDLE	46"	$N
LOW VOLTAGE DIMMER SWITCH (WHEN PRESENT, # INDICATES QUANTITY OF CHANNELS)	46"	$D#
GRAPHIC TOUCHSCREEN CONTROL STATION	46"	$G
LINE VOLTAGE SWITCH	46"	$LV
LINE VOLTAGE THREE-WAY, FOUR-WAY SWITCH	46"	$LV3 $LV4
LINE VOLTAGE THREE-WAY, FOUR-WAY DIMMER SWITCH	46"	$LV3D $LV4D
KEYED SWITCH	46"	$K
OCCUPANCY OR VACANCY SENSOR SWITCH	46"	$OS $VS
OCCUPANCY OR VACANCY SENSOR SWITCH WITH DIMMING	46"	$DOS
LIGHT SWITCH FOR UNDER-CABINET LIGHTS	46"	$U
ILLUMINATED HANDLE LIGHT SWITCH (ILLUMINATED WHEN LOAD IS OFF)	46"	$IL
PILOT LIGHT SWITCH (ILLUMINATED WHEN LOAD IS ON)	46"	$PL
TIMER SWITCH	46"	$T
OCCUPANCY OR VACANCY SENSOR, CEILING MOUNT	CLG	(OS) (VS)
OCCUPANCY SENSOR, CORNER MOUNT	CLG	(OS)
DAYLIGHT SENSOR	AS NOTED	(DS)
PHOTOCELL	AS NOTED	(PC)
LIGHTING RELAY	AS NOTED	LR
EMERGENCY AUTOMATIC TRANSFER SWITCH FOR LIGHTING CONTROLS (REFER TO DETAIL)	CLG	ER

POWER OUTLETS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
SIMPLEX RECEPTACLE (TEXT INDICATES NEMA TYPE)	1'-6"	X
DUPLEX RECEPTACLE	1'-6"	
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH		
'G' INDICATES INTEGRAL GROUND FAULT PROTECTION (GFCI)	1'-6"	G
DEAD FRONT GFCI DEVICE, LABEL AND INSTALL IN READILY ACCESSIBLE LOCATION		G
DUPLEX RECEPTACLE WITH TWO INTEGRAL USB CHARGING PORTS	1'-6"	U
USB CHARGING OUTLET WITH FOUR INTEGRAL USB PORTS	1'-6"	U
GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER IF LIGHTING CIRCUIT IS 277V)	46"	C/S
DUPLEX RECEPTACLE, CEILING MOUNTED	CLG	
QUADRUPLEX RECEPTACLE	1'-6"	
JUNCTION BOX, CEILING OR WALL		J J
VOLTAGE/2 POLE RECEPTACLE, TEXT INDICATES NEMA TYPE	1'-6"	X
VOLTAGE/3 POLE RECEPTACLE, TEXT INDICATES NEMA TYPE	1'-6"	X
'T' INDICATES SAFETY TYPE, TAMPER RESISTANT OUTLET(S)		T
SS INDICATES SURGE SUPPRESION TYPE OUTLET(S)		SS
GROUND FAULT PROTECTED DUPLEX WITH WEATHER-PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH LOCKABLE ENCLOSURE AT OUTLET - SEE SPECIFICATIONS	2'-2"	G WP
DUPLEX FOR ELECTRIC WATER COOLER: COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR TO CONCEAL OUTLET BEHIND COOLER, PROVIDE READILY ACCESSIBLE GFI DEVICE AT 18" ADJACENT TO WATER COOLER		G EWC
BOX ON ANY DEVICE INDICATES SURFACE MOUNTED BACKBOX/WIREMOLD		
CIRCLE ON ANY DEVICE INDICATES DEVICE FED FROM STUB UP CONDUIT		

FIRE ALARM

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
MAIN CONTROL PANEL CENTRAL PROCESSING UNIT (CPU)	6'-6" TO TOP	FACP
REMOTE L.C.D. FIRE ALARM ANNUNCIATOR	54"	FAA
REMOTE FIRE ALARM ANNUNCIATOR W/ MICROPHONE	54"	FAAM
LOCAL OPERATOR CONSOLE	54"	LOC
SMOKE EVACUATION CONTROL PANEL	54"	SECP
POWER SUPPLY/CONTROL FOR AUDIO/VISUAL DEVICES	46"	NAC
TRANSPONDER CABINET	46"	TRAN
GRAPHICS DISPLAY TERMINAL		GDT
FIRE ALARM CONTROL EXTENDER		EXT
POST INDICATOR VALVE		PIV
PULL STATION : DOUBLE ACTION	46" TO LEVER	F
KEYED, LOCKED PULL STATION : DOUBLE ACTION. STATION SHALL ONLY BE OPERABLE VIA KEY IN POSSESSION OF STAFF.	46" TO LEVER	FK
AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL, CLG	F (F)
AUDIO-ONLY NOTIFICATION APPLIANCE	WALL, CLG	A (A)
VISUAL-ONLY NOTIFICATION APPLIANCE	WALL, CLG	V (V)
BELL / LIGHT	80"	BL
BELL ONLY	80"	B
PHOTO-ELECTRIC SMOKE DETECTOR	CLG	SD
REAL-TIME VAPE DETECTOR AND SECURITY DEVICE.	CLG	VD
PROJECTED BEAM SMOKE DETECTOR; EMITTER (BE) AND RECEIVER (BR)		BE BR
HEAT DETECTOR	CLG	HD
CARBON MONOXIDE DUCT DETECTOR	ABOVE CEILING	CD
CARBON MONOXIDE ALARM: SINGLE STATION W/SOUNDER BASE	CLG	CM
CARBON MONOXIDE AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL	F CM
DOOR HOLDER : WALL TYPE	WALL	DH
DOOR HOLDER : CLOSURE TYPE	ABV DOOR	DH C
DUCT SMOKE DETECTOR	ABV CLG	DD
CONNECTION TO SPRINKLER FLOW SWITCH WITH ADDRESSABLE MODULE		FS
CONNECTION TO SPRINKLER TAMPER SWITCH WITH ADDRESSABLE MODULE		TS
PRESSURE SWITCH		PS
ISOLATION MODULE	WALL	I
ZONE ADDRESSABLE MODULE		Z
H.V.A.C. SMOKE DAMPER CONNECTION		SM
FLUSH MOUNTED REMOTE ALARM INDICATING STATION/TEST SWITCH	7'-6"	RI
FIREMAN'S PHONE JACK	4'-6"	FP
FIREMAN'S KNOX BOX CONNECTION		KB
ADDRESSABLE RELAY MODULE		R
INDICATES VANDAL-PROOF POLYCARBONATE COVER, VANDAL PROOF COVERS SHALL BE UL LISTED FOR USE WITH THE SPECIFIC DEVICE THEY ARE PROTECTING		VR
INDICATES CHIME AUDIBLE NOTIFICATION		CH
DEVICE USED FOR ELEVATOR CONTROL		EL

LIGHTING FIXTURES AND EQUIPMENT

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
REFER TO LUMINAIRE SCHEDULE FOR EXACT FIXTURE SPECIFICATIONS, MOUNTING HEIGHTS, ETC.		
SURFACE OR SUSPENDED CEILING FIXTURE		
RECESSED CEILING FIXTURE		
POLE MOUNTED AREA LIGHT WITH CONCRETE BASE		
LIGHTED BOLLARD WITH CONCRETE BASE		
EMERGENCY BATTERY WALL-PACK		
WALL MOUNT FIXTURE		
TRACK COMPLETE WITH POWER SUPPLIES AND FIXTURE HEADS		
FLOODLIGHT		
EXIT LIGHT (CEILING, END, WALL MOUNT) WITH OR WITHOUT DIRECTIONAL ARROWS, WITH OR WITHOUT EGRESS HEADS		
STRIP FIXTURE		
CROSS-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-CRITICAL BRANCH		▨
PARALLEL-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-LIFE SAFETY BRANCH		▥
REMOTE LIGHT FIXTURE DRIVER	AS NOTED	RD
REMOTE BATTERY BACKUP	AS NOTED	RB
CENTRAL BATTERY INVERTER	AS NOTED	INV

MISCELLANEOUS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS.		PHASE NEUTRAL GROUND
NON-REVERSING MOTOR STARTER SNAP SWITCH	AS NOTED	$M
MOMENTARY CONTACT SWITCH	46"	$MC
HAND-OFF-AUTO 3-POSTION SWITCH	46"	$HOA
DISCONNECT SWITCH	5'-0"	
MAGNETIC STARTER	5'-0"	
MAGNETIC COMBINATION STARTER	5'-0"	
VARIABLE FREQUENCY DRIVE	5'-0"	
ENCLOSED FLUSH MTD. CIRCUIT BREAKER	5'-0"	
MUSHROOM SWITCH	46"	
PUSHBUTTON STATION WITH 1, 2, OR 3 BUTTONS.	46"	
PANELBOARD, SURFACE OR FLUSH MOUNTED, HATCHING INDICATES EMERGENCY	6'-6" TO TOP	
TRANSFORMER	AS NOTED	
EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL)		J
MOTOR CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE		
PLUMBING FIXTURE SOLENOID VALVE/ELECTRIC EYE SENSOR CONNECTION. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.		
PLUMBING FIXTURE ELECTRIC EYE TRANSFORMER CONNECTION. TRANSFORMER SHALL BE 120V-24V. MOUNT ABOVE SUSPENDED ACCESSIBLE CEILING IN J-BOX. PROVIDE ADDITIONAL TRANSFORMERS OF SAME TYPE AS/IF NEEDED		
PROVIDE CONNECTION TO HAND DRYER (SEE ARCHITECTURAL SPECIFICATIONS)	VERIFY WITH ARCHITECT	
SURGE PROTECTION DEVICE (SURFACE OR FLUSH MOUNTED)		SPD
GENERATOR ANNUNCIATOR PANEL (SURFACE OR FLUSH MOUNTED) - SEE SPECIFICATIONS	46"	GEN-A
CONDUIT UP		○
CONDUIT DOWN		⊘
FLEXIBLE CONDUIT		∼
GROUND BUS BAR ON INSULATED STANDOFFS	2'-0"	
BUS DUCT, AMPERAGES AS NOTED	AS SHOWN	
WIREWAY WITH REMOVABLE COVER (SIZE AS NOTED)	AS SHOWN	
TRENCH DUCT (SIZE AS NOTED)	AS SHOWN	
WIRE BASKET CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LADDER CABLE TRAY, SIZE AS NOTED	AS SHOWN	
SOLID BOTTOM CABLE TRAY, SIZE AS NOTED	AS SHOWN	
J-HOOK PATHWAY		
EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE		EQUIP-#
MECHANICAL EQUIPMENT DESIGNATOR (SEE MECH. SCHEDULES)		EQUIP-#
TAGGED NOTE		⬡
REVISION TAG		△

LINETYPE LEGEND

———————	EXISTING
– – – – – – –	DEMOLISHED
━━━━━━━	NEW

ABBREVIATIONS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
UNLESS OTHERWISE NOTED		UON
OWNER FURNISHED CONTRACTOR INSTALLED		OFCI
OWNER FURNISHED OWNER INSTALLED		OFOI
CONTRACTOR FURNISHED CONTRACTOR INSTALLED		CFCI
CONTRACTOR FURNISHED OWNER INSTALLED		CFOI
INDICATES EMERGENCY POWER		EM
WIREGUARD - PROVIDE MANUFACTURER'S SPECIFIC GUARD FOR DEVICE NOTED		WG
WEATHERPROOF - NEMA-3R, WET LOCATION LISTED. PROVIDE COVERS, RATINGS, ETC, AS SUITABLE FOR OUTDOORS.		WP
EXPLOSION PROOF - PROVIDE WIRING METHODS, ENCLOSURES, RATINGS, ETC. AS SUITABLE FOR HAZARDOUS LOCATION.		XP

SPECIAL OUTLETS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
FLOORBOX, AS SCHEDULED	FLOOR	FB#
POKE-THRU, AS SCHEDULED	FLOOR	(P#)
WALLBOX, AS SCHEDULED	WALL	WB#
AUDIO/VISUAL SYSTEM OUTLET WITH DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	AV
COMBINATION POWER AND DATA OUTLET LOCATION, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
COMBINATION POWER AND DATA OUTLET LOCATION, GFCI DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
OVERHEAD PROJECTOR: PROVIDE DUPLEX RECEPTACLE, ONE DATA, HDMI, 3.5mm AUDIO, AND VGA OUTLET ON (3) PLATES	CLG	
SPECIAL VIDEO SYSTEM SIGNAL INPUT		-NA-
SURFACE PLUG-MOLD		
SURFACE WIRE-MOLD		
POWER POLE AS NOTED		PP

TELEVISION

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
TELEVISION HEADEND (SPLITTERS/AMPLIFIERS/DISTRIBUTION)	46"	TV
TELEVISION SYSTEM OUTLET WITH DUPLEX RECEPTACLE, COORDINATE LOCATION WITH WALL BRACKET WHERE APPLICABLE	7'-0"	T

OVERHEAD PAGING

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
PAGING SPEAKER: CEILING	CLG	S
PAGING SPEAKER W/ VOLUME CONTROL	CLG	SV
PAGING SPEAKER: WALL	8'-0"	S
RECESSED WALL MOUNTED PAGING SPEAKER DUKANE 5A606 SPEAKER. ATLAS 417-8WD	8'-0"	RS
VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER. QUAM VP1	SEE FLOOR PLANS	VS V
EXTERIOR VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER, SHALL BE PAINTED COLOR SELECTED BY ARCHITECT/OWNER. QUAM VP6	SEE FLOOR PLANS	S WP
WALL MOUNTED PAGING HORN	9'-0"	H
CALL INITIATION STATION	46"	C
WALL VOLUME CONTROL	46"	V
PAGING MICROPHONE	1'-6"	M
PANIC BUTTON (MOUNTING PER DRAWINGS)	46", UNDER DESK	PB PB
NOTIFICATION LIGHT (MOUNTING PER DRAWINGS)	7'-6", CLG	NL PB
LCD WALL DISPLAY		LCD
PAGING SYSTEM HEADEND	46"	PA

CLOCKS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
TYPICAL CLOCK MOUNTING HEIGHTS: FOR CEILING HEIGHTS < 9'-8" : MOUNT CENTER OF BACKBOX AT 8" BELOW CEILING. FOR CEILING HEIGHTS >= 9'-8" : MOUNT CENTER OF BACKBOX AT 9'-0" AFF.		
ANALOG CLOCK: SINGLE FACE	SEE ABOVE	
ANALOG CLOCK: DUAL FACE	SEE ABOVE	
DIGITAL CLOCK: SINGLE FACE	SEE ABOVE	DC
DIGITAL CLOCK: DUAL FACE	SEE ABOVE	2DC
CLOCK SYSTEM HEAD END	84"	CLOCK

AV SYSTEMS

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
PROJECTOR WITH MOUNT (CEILING OR WALL AS INDICATED)	REFER TO DRAWINGS	P P
LOCAL SOUND SPEAKER: CEILING	CLG	(LS)
WIRELESS MICROPHONE ANTENNA	CLG	(MA)
LOCAL SOUND SPEAKER: WALL	REFER TO SPECS.	LS
MICROPHONE INPUT: # INDICATES NUMBER OF INPUTS.	1'-6"	M
WIRELESS MICROPHONE ANTENNA, WALL MOUNT	REFER TO SPECS.	MA
AV INPUT (OR OUTPUT) WALL PLATE. REFER TO DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY OF CONNECTIONS.	1'-6"	AV
BLUETOOTH INPUT MODULE	1'-6"	BT
AV TOUCHSCREEN CONTROL STATION	46"	CS
LOCAL SOUND SYSTEM HEADEND	REFER TO SPECS.	LS

PANEL FURNITURE

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
PANEL FURNITURE DUPLEX RECEPTACLE. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		
PANEL FURNITURE QUADRUPLEX RECEPTACLE. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		
PANEL FURNITURE DATA/VOICE OUTLET. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		2D
POWER CONNECTION TO PANEL FURNITURE, PROVIDE SEAL-TIGHT CONDUIT CONNECTION FROM RECESSED WALL BOX TO PANEL FURNITURE, PROVIDE FINAL CONNECTIONS TO PANEL FURNITURE AS REQUIRED BY PANEL FURNITURE VENDOR	1'-6"	J FP
COMBINATION POWER AND LOW VOLTAGE CONNECTION TO PANEL FURNITURE, PROVIDE SEAL-TIGHT CONDUIT CONNECTION FROM RECESSED WALL BOX TO PANEL FURNITURE, PROVIDE FINAL CONNECTIONS TO PANEL FURNITURE AS REQUIRED BY PANEL FURNITURE VENDOR	1'-6"	FF

SECURITY PANIC ALARM

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
PANIC ALARM BUTTON	SEE DRAWINGS	PB
PANIC ALARM ANNUNCIATOR	46"	PA
PANIC ALARM STROBE - REFER TO SPECIFICATIONS FOR LENS AND HOUSING COLOR	SAME AS FIRE ALARM	PS PS
PANIC ALARM POWER SUPPLY CABINET	5'-0"	SEC-P

SECURITY INTERCOM

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
AUDIO/VIDEO INTERCOM STATION: MASTER WITH SELECTIVE DOOR CONTROLS, POWER SUPPLIES & DOOR RELAY CONTACTS AS REQUIRED FOR OPERATION OF ANY DOOR IN THE SYSTEM AND VIEWING OF ANY AUDIO/VIDEO INTERCOM REMOTE ON THE SYSTEM. AIPHONE#IX-MV W/DESK STAND - COLOR BY ARCHITECT.	DESK MOUNT	IM
AUDIO/VIDEO INTERCOM STATION: REMOTE WITH FLUSH-MTD S.S. ENCLOSURE. AIPHONE #IX-DVF.	46"	IR

SECURITY ACCESS CONTROL

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
DOOR ALARM	DOOR FRAME	DA DA
DOOR POSITION SWITCH	DOOR FRAME	DP
MAGNETIC LOCK(S)	ABV DOOR	ML
ELECTRIC LOCKSET	AT LATCH	EL
DOOR DELAYED EGRESS/ELECTRIFIED PANIC MECHANISM	ABV DOOR	DE
ELECTRIC STRIKE	AT LATCH	ES
AUTOMATIC DOOR CONNECTION (MAY ALSO HAVE ELECTRIC STRIKE/MAG-LOCK/ELECTRIFIED PANIC CONNECTION - SEE ARCHITECTURAL HARDWARE SPECIFICATIONS)	CLG	AD
DOOR RELEASE PUSH-PLATE / INFRA-RED OPERATOR STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	PP
DOOR RELEASE KEYSWITCH STATION	6'-0"	KS
DOOR RELEASE KEYPAD STATION	46"	KP
DOOR RELEASE PROXIMITY READER STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	PR
SAME AS "PR" EXCEPT MULLION MOUNT	46"	PR M
MOTION SENSOR DOOR CONTROL	CLG	MS MS
PUSH-TO-EXIT BUTTON	46"	PE
REMOTE DOOR RELEASE PUSH-BUTTON	8" ACT	RR
RECESSED JUNCTION BOX	SEE DRAWINGS	JB JB
ACCESS CONTROL HEADEND	5'-0"	SEC-A

SECURITY CCTV VIDEO SURVEILLANCE

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
CCTV CAMERA: CEILING MOUNT DOME (TEXT INDICATES TYPE) REFER TO SCHEDULE FOR TYPES	CLG	###
CCTV CAMERA: WALL MOUNT DOME (TEXT INDICATES TYPE) REFER TO SCHEDULE FOR TYPES	WALL	###
INDICATES EXTERIOR CAMERA RATED FOR CONDITIONS, WET LOCATION LISTED, WITH AUXILLARY HEATER		WP
INDICATES CAMERA WITH PAN/TILT/ZOOM FUNCTION		PTZ
CCTV HEAD END	SEE DRAWINGS	SEC-C

SECURITY INTRUSION DETECTION

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
MOTION DETECTOR (WALL OR CEILING MOUNT)	CLG	MD MD
GLASS BREAK SENSOR (WALL OR CEILING MOUNT)	CLG	GB GB
LOCAL SOUNDER	SEE DRAWINGS	LS LS
INTRUSION DETECTION KEYPAD CONTROLLER	46"	ID
SECURITY SYSTEM HEAD END	5'-0"	SEC

DATA / VOICE

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
DATA OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA JACKS. NO NUMBER INDICATES 1 JACK.	1'-6"	2D ▽
VOICE OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS. NO NUMBER INDICATES 1 JACK.	1'-6"	▼
COMBINATION OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS	1'-6"	2D/1V
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH		
OUTLET (VOICE ONLY) : PAYPHONE TYPE	AS REQ'D.	PAY ▼
DATA RACK: TWO POST. REFER TO COMMUNICATIONS RISERS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
DATA RACK: FOUR POST. REFER TO COMMUNICATIONS RISERS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
TELECOMMUNICATIONS SYSTEM BACKBOARD. PROVIDE 96"H x 3/4"D FIRE-RETARDENT PLYWOOD BACKBOARD WITH TWO (2) COATS OF NON-C0NDUCTIVE, FIRE-RETARDANT LIGHT GRAY PAINT, #3/0 TO GROUND BAR AT MAIN SERVICE SWITCHBOARD, 30-PT GROUND BAR AND A 6'-0", #3 AWG PIGTAIL AT BACKBOARD. INSTALL BOARD AT 2' AFF. (LENGTH OF BOARD AS INDICATED ON FLOOR PLAN)		
WIRELESS ACCESS POINT OUTLET WITH PROVISIONS FOR (2 DATA OUTLET FOR ANTENNA. PROVIDE A COMPLETE DATA OUTLET WITH FACEPLATE ABOVE CEILING, MOUNTED AT AN ACCESSIBLE HEIGHT NO MORE THAN 24" ABOVE CEILING. AT EACH OUTLET, PROVIDE A 20' COIL OF CABLE AHEAD OF THE OUTLET FOR ADJUSTMENT OF FINAL OUTLET LOCATION. THE CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH THE OWNER AND ADJUST OUTLET LOCATIONS AT SUBSTANTIAL COMPLETION TO ACCOMMODATE OWNER'S WAP LOCATIONS.	CEILING WALL	WAP WAP

ELECTRICAL DEMOLITION NOTES:

A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND SOLID HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN.
B. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.
C. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.
D. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).
E. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.
F. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.
G. PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.
H. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.
I. UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.
J. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.
K. CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.
L. DEVICES INDICATED WITH AN "R" SHALL BE RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.
M. ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.
N. CONTRACTOR TO VERIFY THAT THERE ARE NO ELECTRICAL CIRCUITS IN CHASES BEING REMOVED UNDER DEMOLITION WHICH REMAIN IN SERVICE AND CANNOT BE REMOVED. SHOULD SUCH CIRCUITS BE ENCOUNTERED, THE CONTRACTOR IS TO REROUTE AND RECONNECT AS REQUIRED TO MAINTAIN SERVICE.

ELECTRICAL GENERAL NOTES:

A. EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.
B. ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR’S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.
C. WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES. INCLUDING BUT NOT LIMITED TO NFPA 70 (NEC), NFPA 72, INTERNATIONAL BUILDING CODES, ETC.
D. CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN LATEST ADOPTED STATE AND INTERNATIONAL BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
E. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER’S DISCRETION.
F. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ENGINEER.
G. ADVISE THE ENGINEER OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.
H. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF DISCREPANCY IN WRITING.
I. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
J. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).
K. MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UON. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UON.
L. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.
M. DO NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.
N. THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE-NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.
O. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ENGINEER
P. ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.
Q. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.
R. WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT.
S. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, DATA, ETC.).
T. COORDINATE WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND CASEWORK DETAILS FOR LOCATION OF ADDITIONAL RECEPTACLES, UTILITY OUTLETS, ELECTRICAL DEVICES, ETC.
U. CEILING-MOUNTED ELECTRICAL DEVICES SHALL BE CENTERED IN 2'X2' CEILING TILE AND INSTALLED CENTERED ON 2' DIMENSION OF 2'X4' TILE AND ON CENTERLINE OR A QUARTER POINT ON 4' DIMENSION.
V. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.
W. CHECK ALL THREE PHASE MOTORS WITH A PHASE ROTATION METER, PRIOR TO PLACING IN SERVICE.
X. PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT
Y. DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
Z. THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC. POOR OR UNTIMELY WORK ON THE PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.
AA. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.
BB. WHERE FIRE-RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE UL-LISTED FIRE-RATED GYPSUM BOARD OR PRE-MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
CC. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
DD. ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
EE. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR, SHALL BE INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT.
FF. NO CONDUIT, SUPPORTS, ETC. SHALL BE RUN THROUGH ACCESS CLEARANCES OF EQUIPMENT BY OTHER TRADES (I.E. VAV BOXES). COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.
GG. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES. PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
HH. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.
II. WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME AS NEEDED.
JJ. REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND EQUIPMENT. IF IN DOUBT, CONTACT ENGINEER FOR DIRECTION PRIOR TO ROUGH IN.
KK. FLUSH OR PEDESTAL TYPE FLOOR OUTLETS/BOXES, AS INDICATED ON PLAN, SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER PRIOR TO ROUGHING-IN ANY WORK.
LL. AS APPLICABLE, REFER TO ARCHITECTURAL PHASING PLANS AND PHASING BOUNDARIES ON THESE DRAWINGS FOR SEQUENCING OF WORK, FULL EXTENT OF AREAS INVOLVED, EXTENT OF CEILING WORK, ETC. PROVIDE TEMPORARY CONNECTIONS FOR CIRCUITS AND WORK AS REQUIRED TO MAINTAIN SEQUENCE OF THE WORK FROM PHASE TO PHASE.
MM. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK.
NN. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.
OO. INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER, GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST TWO WEEKS IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.
PP. WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY AROUND BOXES AS REQUIRED TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.
QQ. JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE LOCATED NO MORE THAN 36” ABOVE CEILING LEVEL. LABEL EACH BOX IN AREA OF WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
RR. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR THE MOST STRINGENT SHALL APPLY.
SS. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.
TT. NOISY WORK, WORK OUTSIDE CONSTRUCTION BARRIERS, WORK IN OCCUPIED AREAS, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT SCHEDULING WITH FACILITY PRIOR TO CONSTRUCTION.
UU. ALL ITEMS HAVING KEYED LOCKS/OPERATORS SHALL HAVE CORED LOCKS/OPERATORS. ALL KEYING SHALL MATCH THE OWNER'S EXISTING KEY-WAYS. COORDINATE EXACT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.
VV. REFER TO ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. WORK SHALL BE COMPLETED IN PHASES PER THE PHASING PLAN AND AS COORDINATED WITH OWNER AND GENERAL CONTRACTOR. PROVIDE ALL REQUIRED INCREMENTAL INSPECTIONS, CERTIFICATIONS, ETC. AND ALL TEMPORARY SERVICES AS REQUIRED BY OWNER TO ACCOMPLISH THE PHASING PLAN.

ELECTRICAL PHASING NOTES:

A. THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

ELECTRICAL HAZARDOUS NOTES:

A. THE CONTRACTOR IT IS HEREBY ADVISED THAT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.
B. CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL.
C. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.
D. THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.
E. THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

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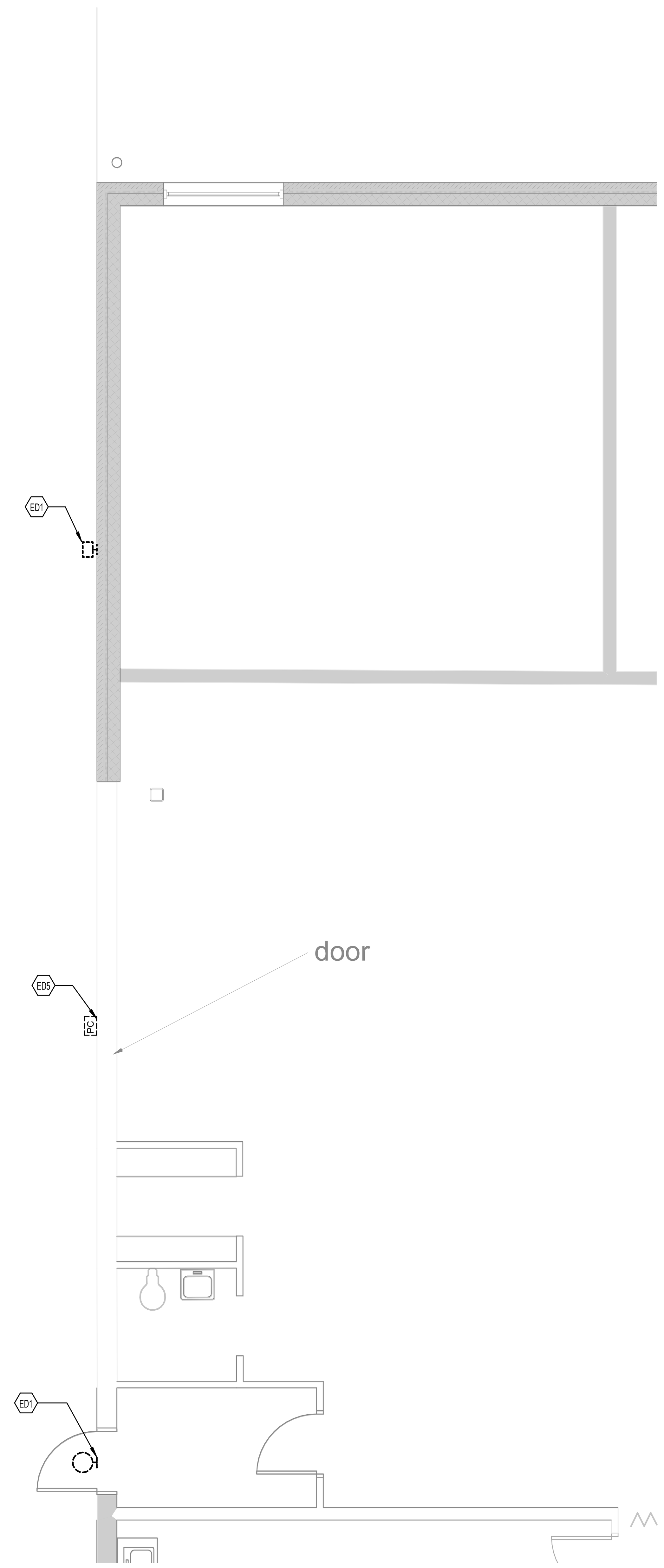
DATE	02/01/24

No.	Description	Date

BRADLEY WYNN REEVES

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
ELECTRICAL LEGEND

SHEET NUMBER
E1.0



LIGHTING DEMOLITION PLAN - CTE ADDITION AREA

1 SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

ELECTRICAL DEMOLITION NOTES:

A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND SOLID HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN.

B. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

C. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.

D. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).

E. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

F. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

G. PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.

H. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.

I. UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.

J. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.

K. CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.

L. DEVICES INDICATED WITH AN "R" SHALL BE RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.

M. ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.

N. CONTRACTOR TO VERIFY THAT THERE ARE NO ELECTRICAL CIRCUITS IN CHASES BEING REMOVED UNDER DEMOLITION WHICH REMAIN IN SERVICE AND CANNOT BE REMOVED. SHOULD SUCH CIRCUITS BE ENCOUNTERED, THE CONTRACTOR IS TO REROUTE AND RECONNECT AS REQUIRED TO MAINTAIN SERVICE.

TAGGED NOTES

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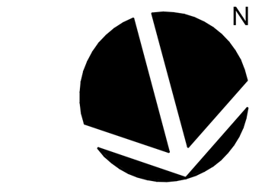
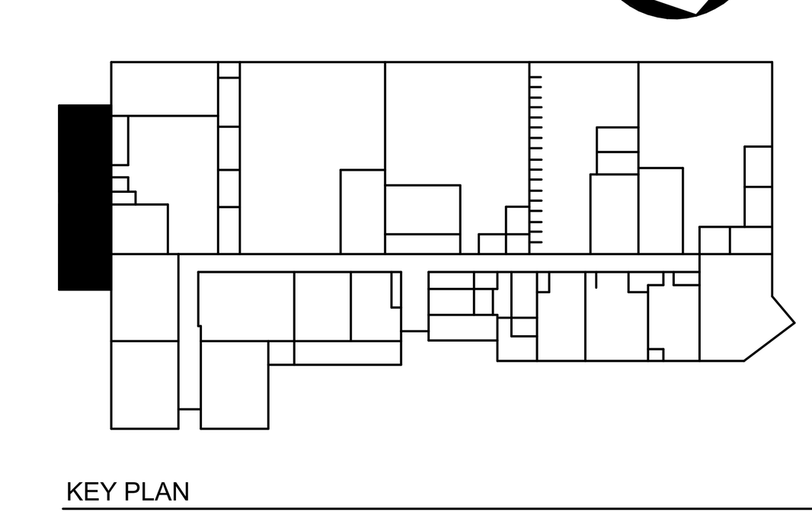
ED1 DEMOLISH EXTERIOR LIGHTING, ASSOCIATED CONDUIT, BACKBOXES AND CONDUCTORS BACK TO NEAREST JUNCTION BOX. (TYPICAL)

ED5 DEMOLISH EXTERIOR PHOTOCELL, ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST JUNCTION BOX.





KEY PLAN
NTS

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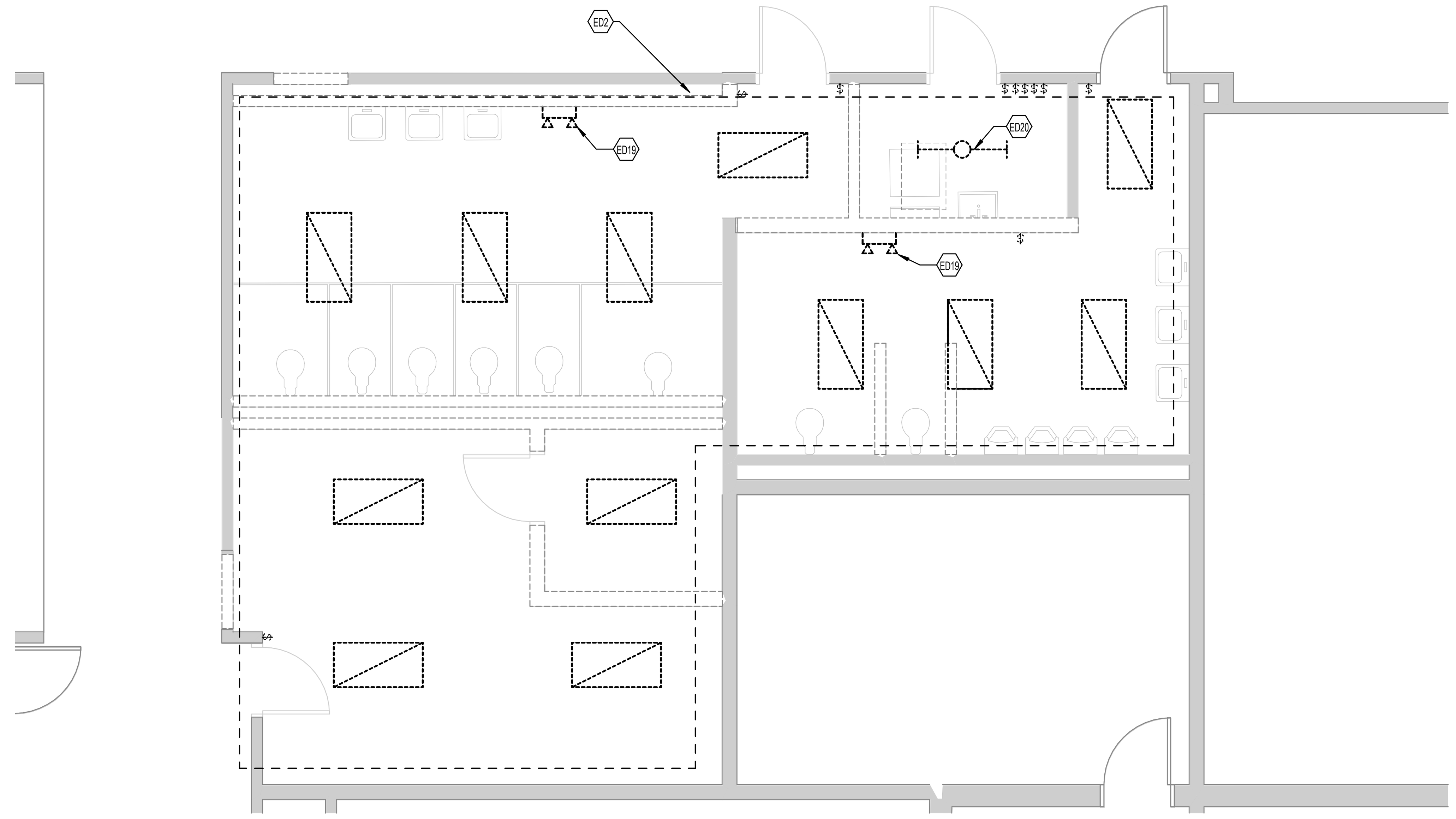
No.	Description	Date

STATE OF KENTUCKY
BRADLEY WYNN REEVES
20984
LICENSED
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
LIGHTING DEMOLITION PLAN - CTE ADDITION AREA

SHEET NUMBER
E2.0



1 LIGHTING DEMOLITION PLAN - GANG RR

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

ELECTRICAL DEMOLITION NOTES:

A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND SOLID HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN.

B. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

C. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.

D. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).

E. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

F. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

G. PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.

H. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.

I. UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.

J. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.

K. CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.

L. DEVICES INDICATED WITH AN "R" SHALL BE RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.

M. ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.

N. CONTRACTOR TO VERIFY THAT THERE ARE NO ELECTRICAL CIRCUITS IN CHASES BEING REMOVED UNDER DEMOLITION WHICH REMAIN IN SERVICE AND CANNOT BE REMOVED. SHOULD SUCH CIRCUITS BE ENCOUNTERED, THE CONTRACTOR IS TO REROUTE AND RECONNECT AS REQUIRED TO MAINTAIN SERVICE.

TAGGED NOTES

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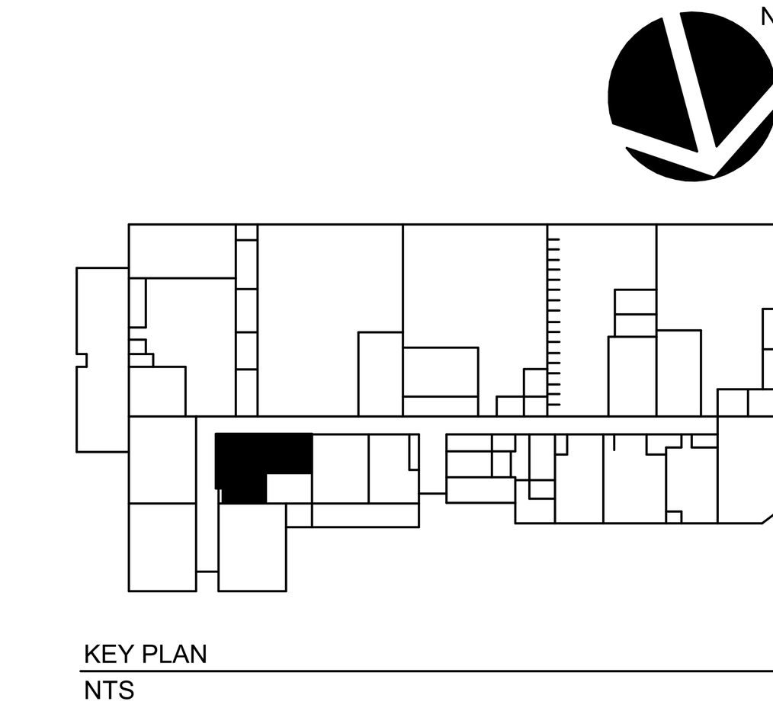
ED2 ALL CEILING MOUNTED LIGHT FIXTURES IN THIS AREA INDICATED BY DASHED LINES TO BE REMOVED, CLEANED, AND REINSTALLED. DEMOLISH ASSOCIATED SWITCHES, BACKBOXES, CONDUIT AND CONDUCTORS BACK TO NEAREST JUNCTION BOX. REFER TO NEW WORK LIGHTING PLAN SHEET E3.0 NEW LAYOUT. (TYPICAL)

ED19 DEMOLISH WALL MOUNTED BATTERY PACKS.

ED20 DEMOLISH LIGHT FIXTURE, ASSOCIATED LIGHTING SWITCH, ASSOCIATED CONDUIT AND CONDUCTORS BACK TO ASSOCIATED ELECTRICAL PANEL.



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No.	Description	Date

STATE OF KENTUCKY
BRADLEY WYNN REEVES
20984
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
LIGHTING DEMOLITION PLAN - GANG RR

SHEET NUMBER
E2.1

ELECTRICAL DEMOLITION NOTES:

A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND SOLID HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN.

B. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

C. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.

D. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).

E. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

F. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

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TAGGED NOTES

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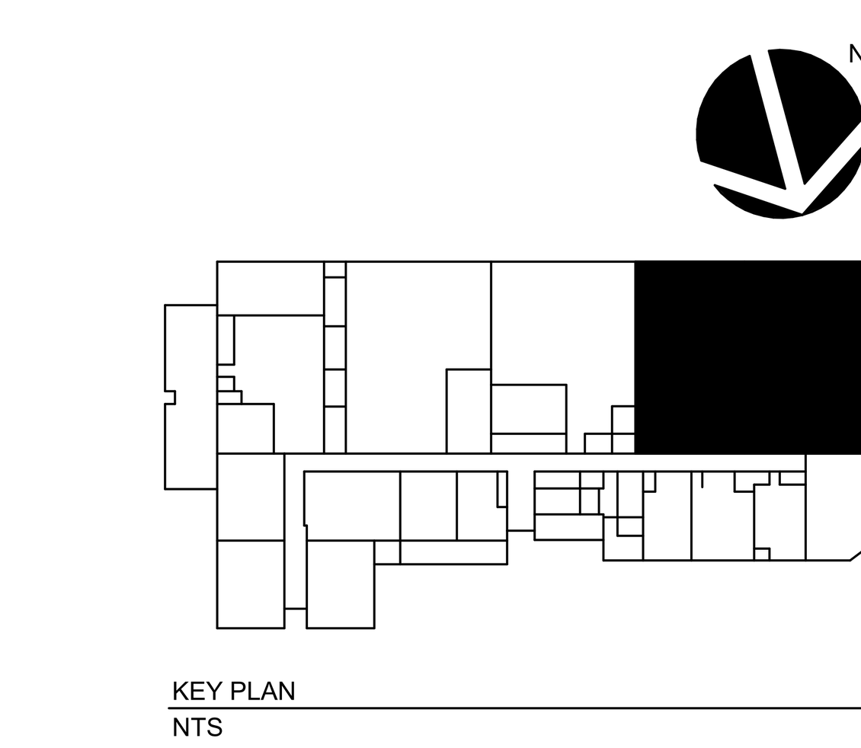
1 LIGHTING DEMOLITION PLAN - WELDING/CARPENTRY

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



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NTS

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HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION

LIGHTING DEMOLITION PLAN - WELDING/CARPENTRY

SHEET NUMBER

E2.2

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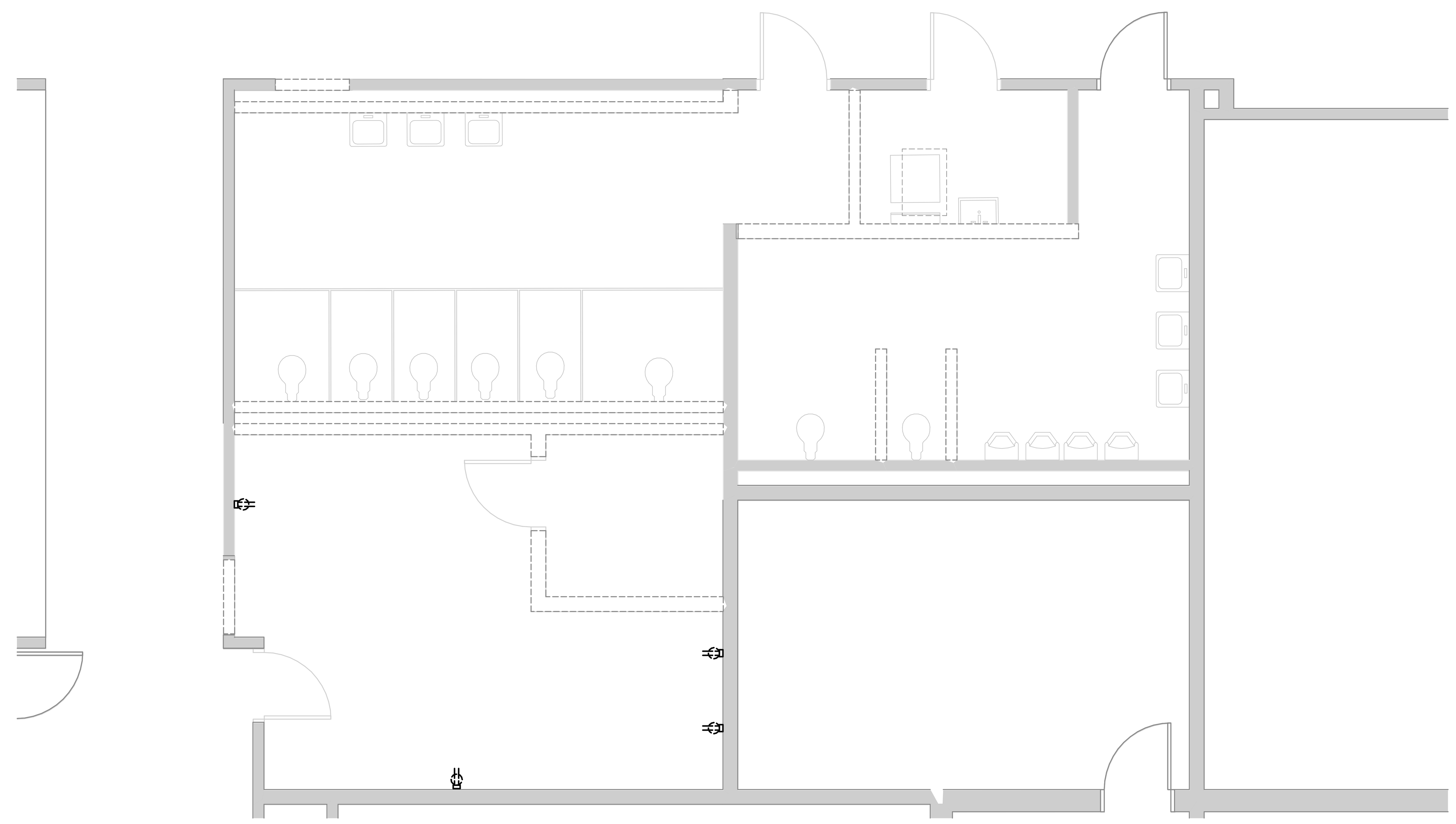

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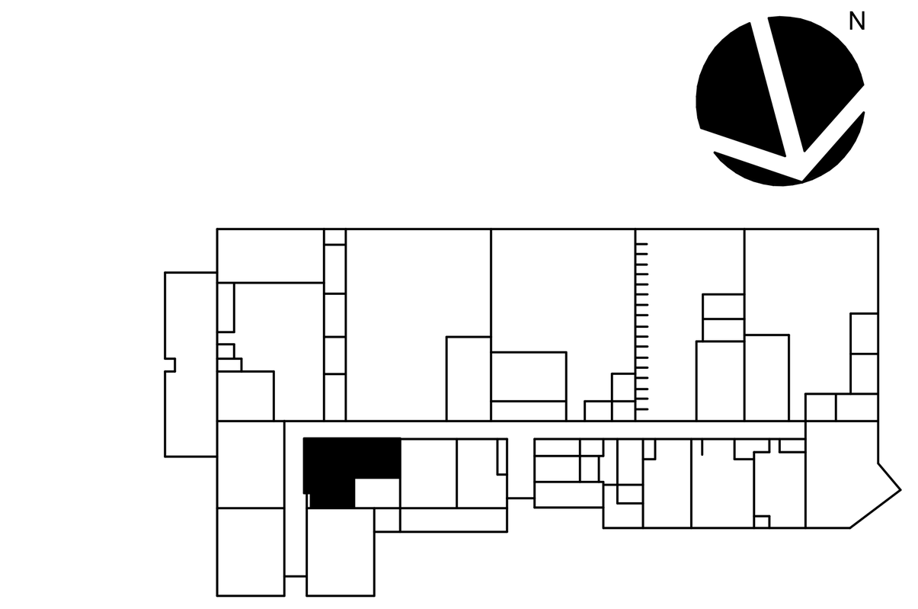

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HENDERSON COUNTY CTE RENOVATION
POWER DEMOLITION PLAN - GANG RR

SHEET NUMBER
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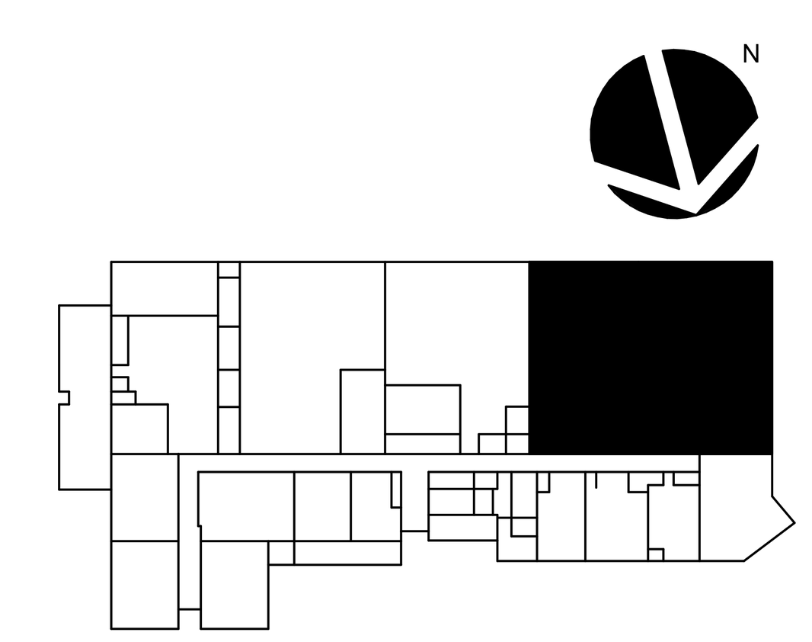

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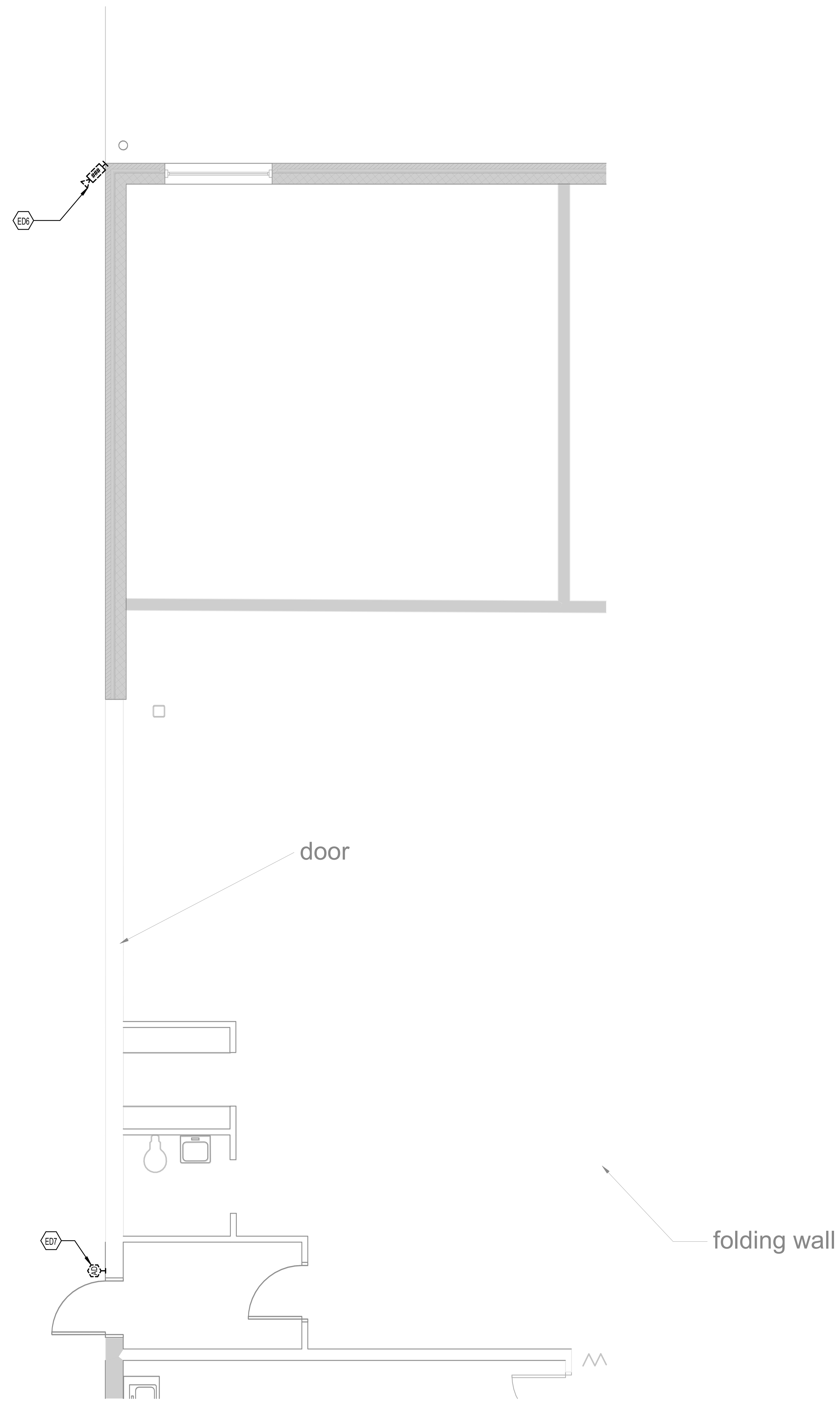
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
POWER DEMOLITION PLAN WELDING/CARPENTRY

SHEET NUMBER
E2.4



SYSTEMS DEMOLITION PLAN - CTE ADDITION AREA

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TAGGED NOTES

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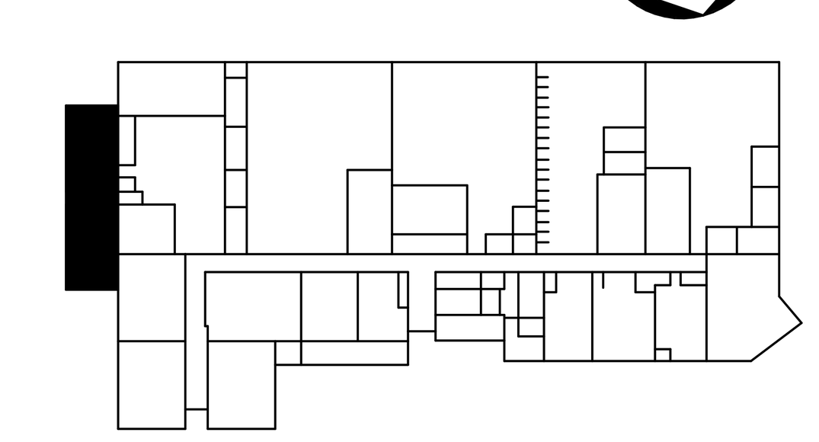
ED6 SALVAGE EXISTING SECURITY CAMERA AND RELINQUISH TO OWNER.

ED7 SALVAGE EXISTING SECURITY ACCESS CONTROL DEVICE AND RELINQUISH TO OWNER. ASSOCIATED SECURITY DOOR HARDWARE CONNECTIONS TO BE DEMOLISHED.



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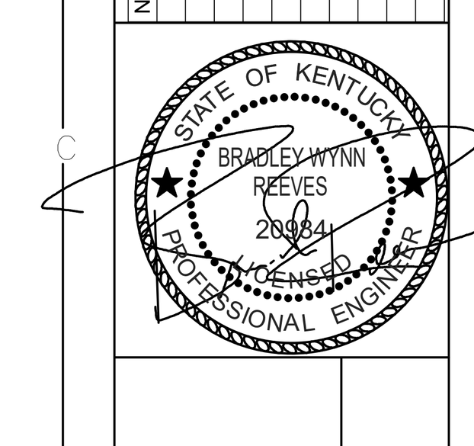

HENDERSON COUNTY SCHOOLS
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SYSTEMS DEMOLITION PLAN - CTE ADDITION AREA

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E2.5

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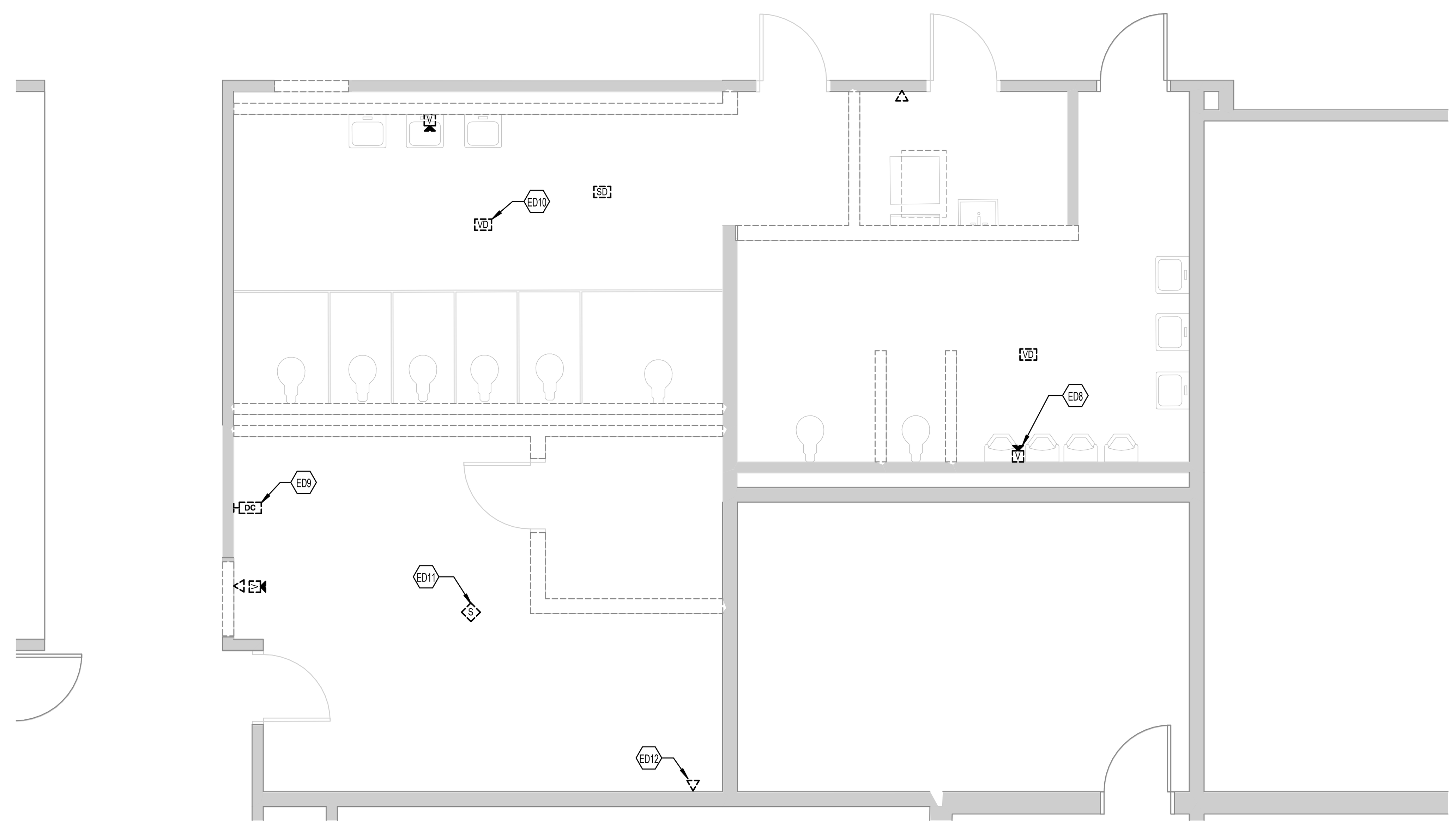
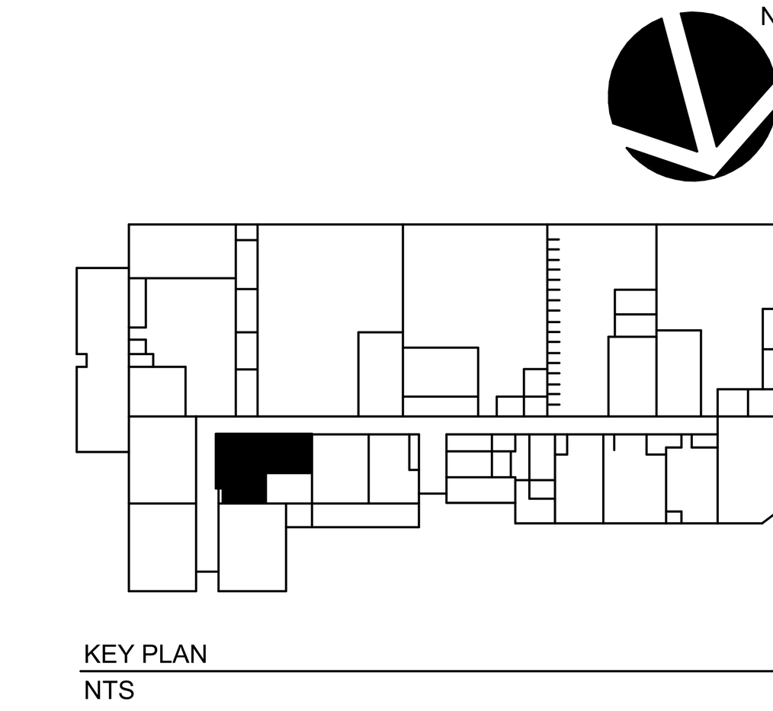
ED8	DEMOLISH FIRE ALARM DEVICES, ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST JUNCTION BOX. PROVIDE NECESSARY PROGRAMMING AT FACP LOCATION FOR REMOVAL OF DEVICE. (TYPICAL)
ED9	SALVAGE EXISTING ANALOG CLOCK AND RELINQUISH TO OWNER.
ED10	SALVAGE EXISTING VAPE DETECTOR DEVICE AND RELINQUISH TO OWNER. (TYPICAL)
ED11	SALVAGE EXISTING PAGING INTERCOM AND RELINQUISH TO OWNER.
ED12	DEMOLISH DATA DROPS, ASSOCIATED CONDUIT AND CONDUCTORS BACK TO EXISTING IDF (REFER TO SHEET E2.4 AND E4.1 FOR IDF LOCATION).



1 SYSTEMS DEMOLITION PLAN - GANG RR

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



KEY PLAN

NTS

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723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

JOB NUMBER	Y21037/XHCR23
DRAWN BY	ASP
CHECKED BY	BWR
DATE	02/01/24

No.	Description	Date

STATE OF KENTUCKY
BRADLEY WYNN REEVES
20984
LICENSED
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
SYSTEMS DEMOLITION PLAN - GANG RR

SHEET NUMBER

E2.6

ELECTRICAL LIGHTING NOTES:

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. ALSO, MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D. LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING, TO MAXIMIZE AVAILABLE LIGHT. SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

E. LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

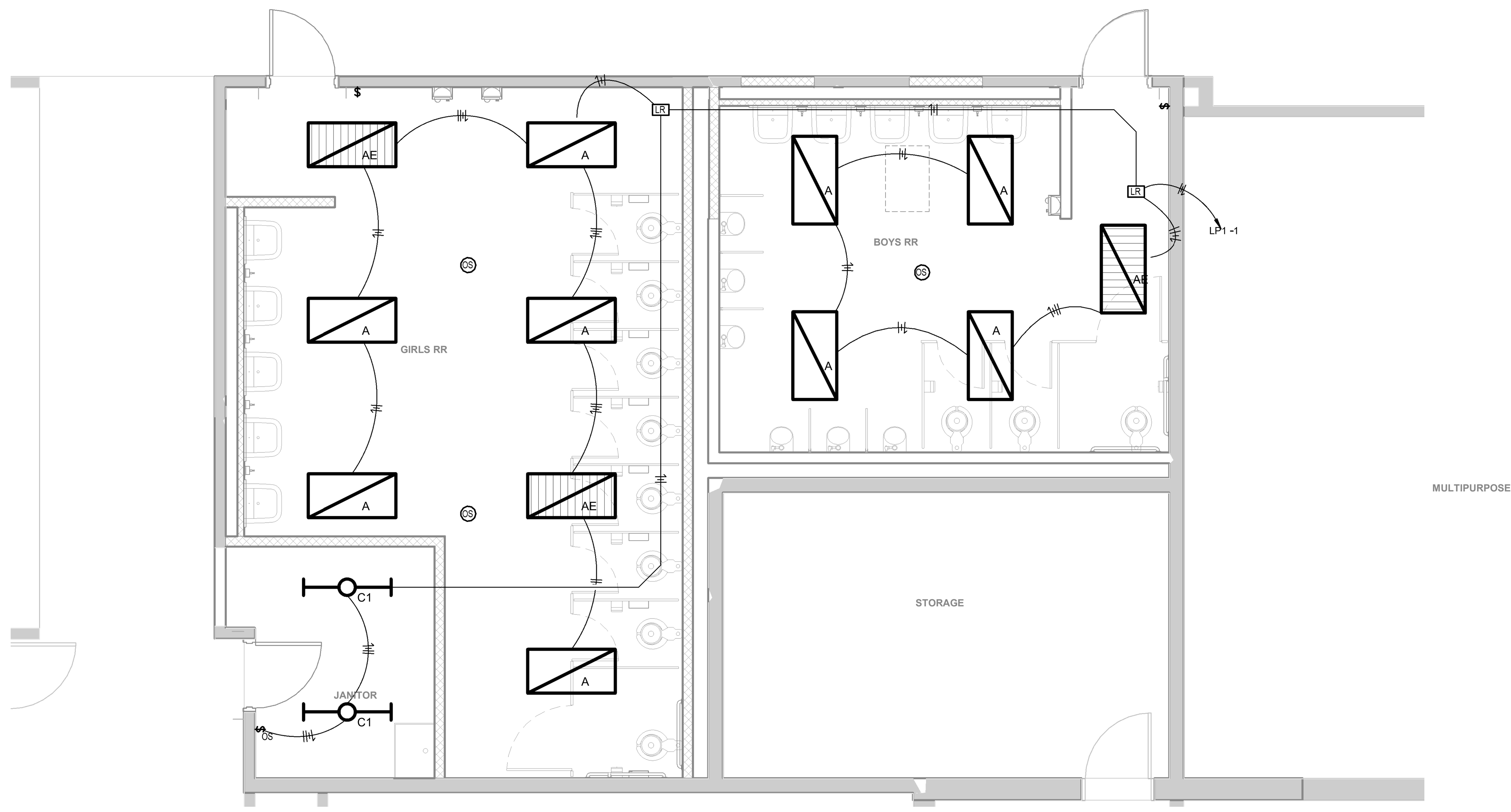
F. LUMINAIRES INDICATED WITH MULTI-LEVEL SWITCHING SHALL HAVE SIMILAR LAMPS CONTROLLED TOGETHER, I.E. INBOARD AND OUTBOARD LAMPS OR RIGHT AND LEFT HAND LAMPS.

G. ALL LIGHTING FIXTURE LENSES, PARABOLIC LOUVERS, DOWNLIGHTING ALZAK CONES AND "PARACUBE" LOUVERS SHALL BE HANDLED WITH COTTON GLOVES DURING INSTALLATION AND LAMPING TO AVOID FINGERPRINTS OR DIRT DEPOSITS. IT IS PREFERRED THAT FIXTURES BE SHIPPED AND INSTALLED WITH CLEAR PLASTIC BAGS TO PROTECT LOUVERS. AT CLOSE OF PROJECT, AND AFTER CONSTRUCTION AIR FILTERS ARE CHANGED, REMOVE BAGS. ANY LOUVER OR CONE SHOWING DIRT OR FINGER PRINTS SHALL BE CLEANED WITH SOLVENT RECOMMENDED BY THE MANUFACTURER, OR REPLACED AS NECESSARY IN ORDER TO TURN OVER TO THE OWNER NEW FIXTURES AT OCCUPANCY.

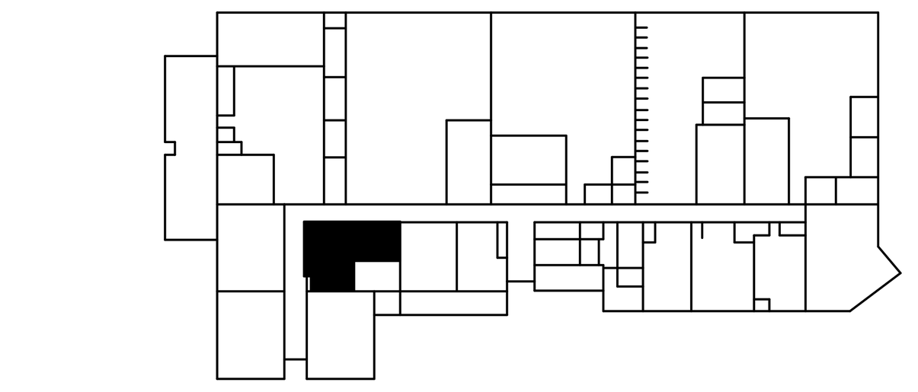
H. RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

I. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, EMERGENCY INVERTER BATTERY PACKS, AND NIGHT LIGHTS AS REQUIRED.

TAGGED NOTES ##



1 NEW LIGHTING PLAN - GANG RR
SCALE: 1/4" = 1'-0"



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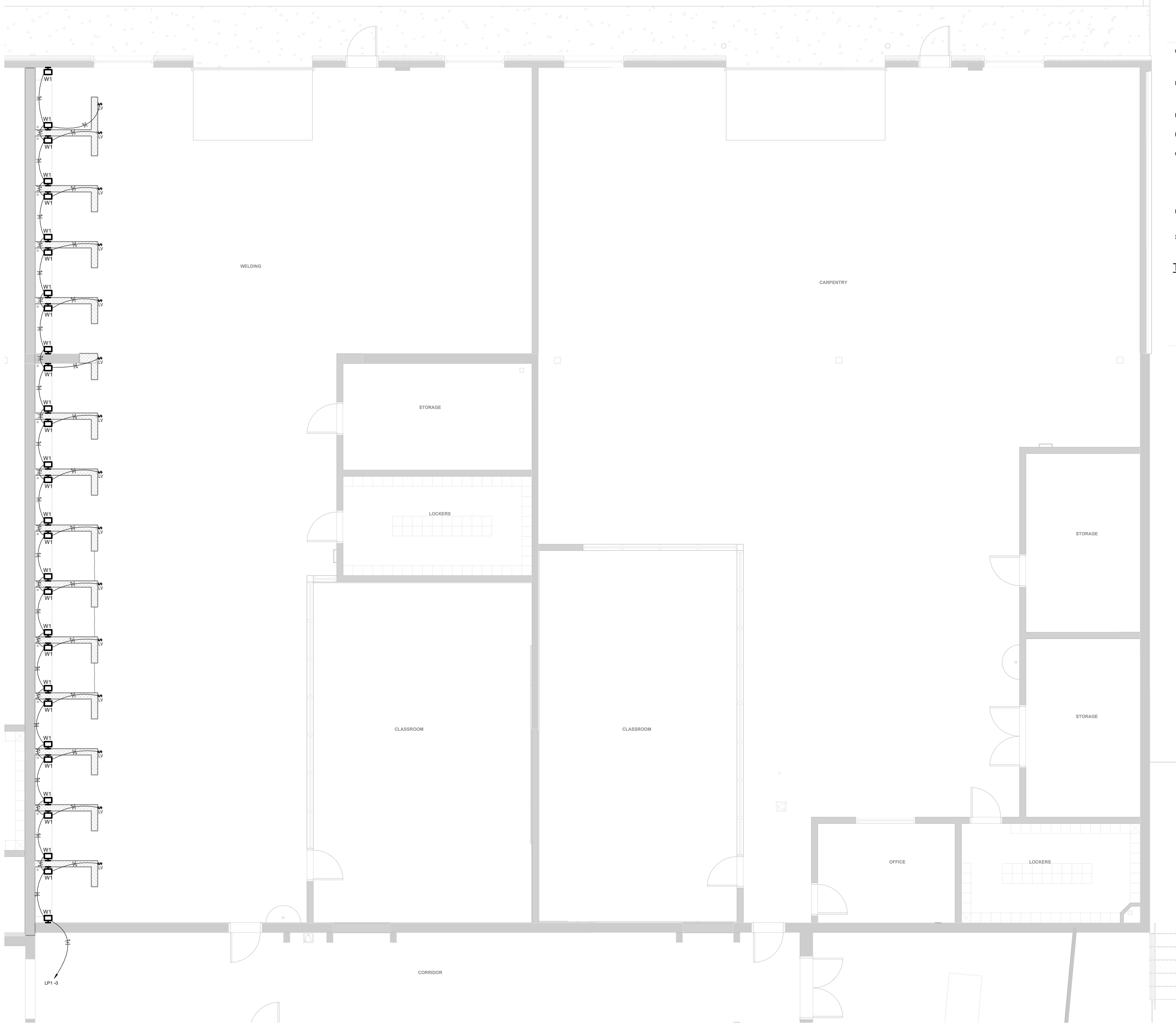
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW LIGHTING PLAN - GANG RR

SHEET NUMBER
E3.0



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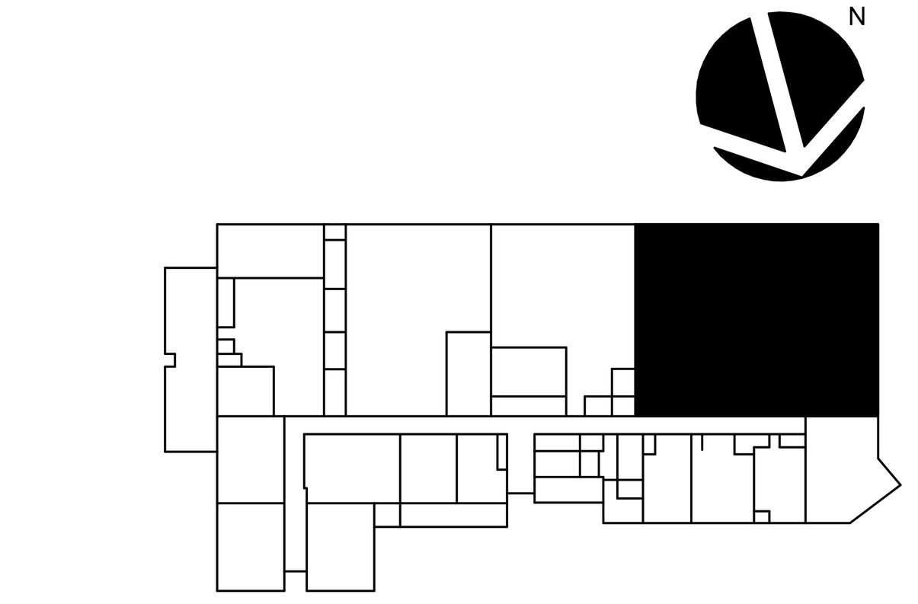
TAGGED NOTES

##

1 NEW LIGHTING PLAN - WELDING/CARPENTRY

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



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HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW LIGHTING PLAN - WELDING/CARPENTRY

SHEET NUMBER

E3.1

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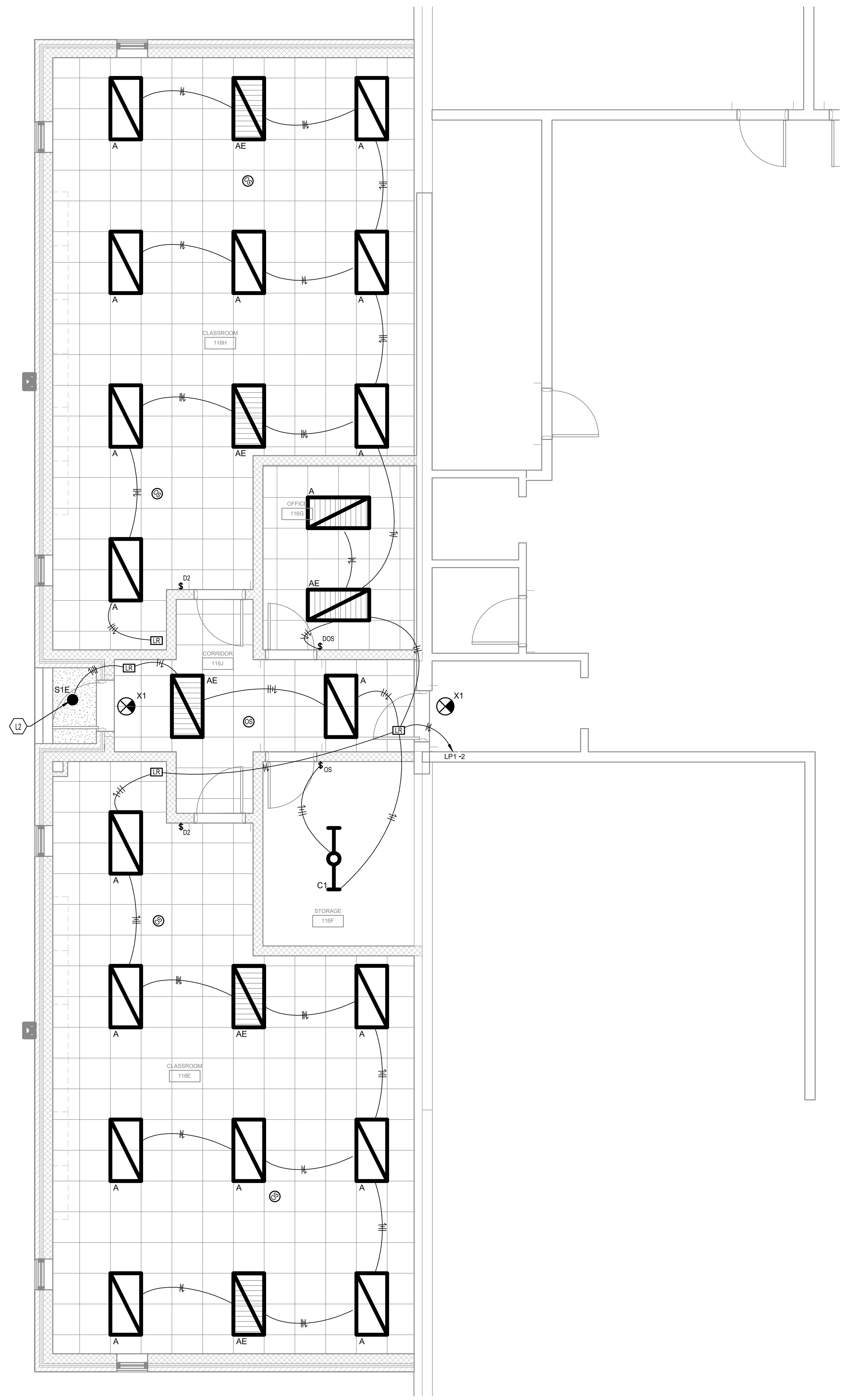
TAGGED NOTES

##

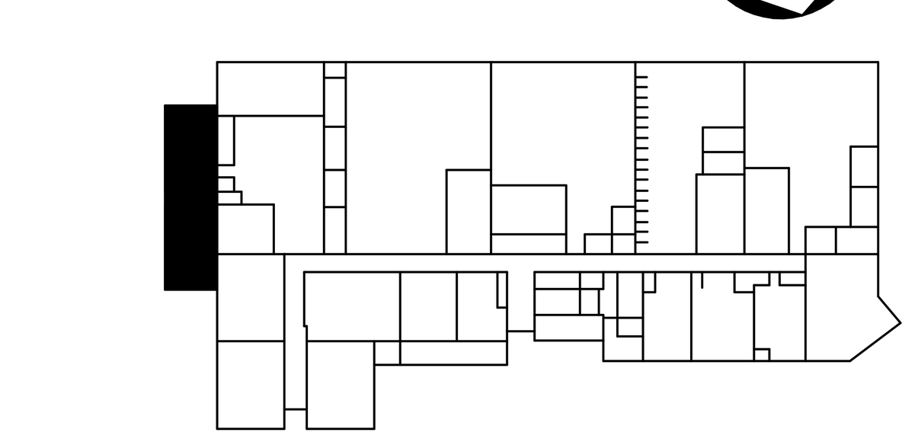
L2 REFER TO EXTERIOR LIGHTING CONTROL DIAGRAM FOR EXTERIOR LIGHTING CONTROL.



1 NEW LIGHTING PLAN - CTE ADDITION

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



KEY PLAN

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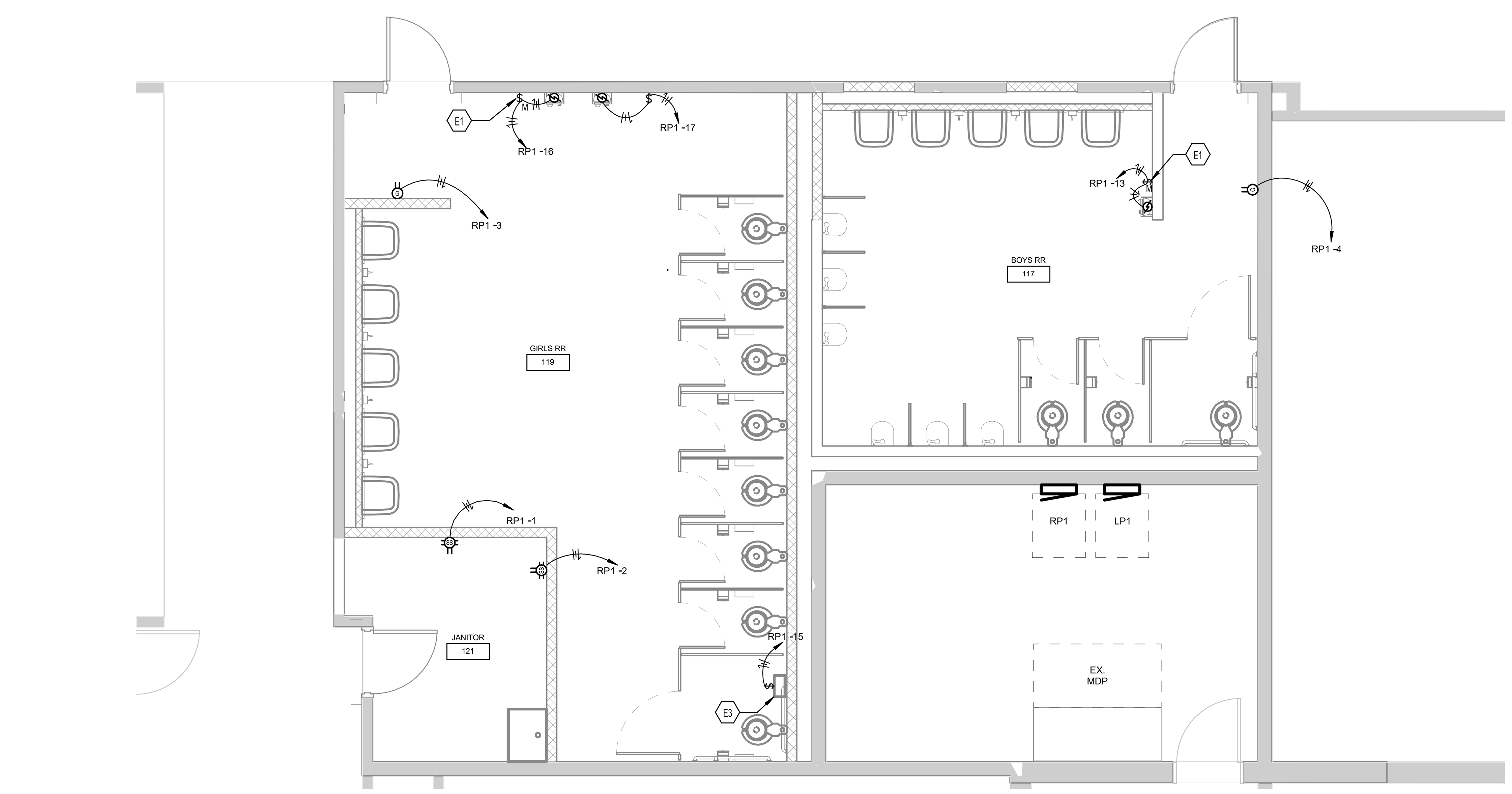
STATE OF KENTUCKY
BRADLEY WYNN REEVES
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW LIGHTING PLAN - CTE ADDITION

SHEET NUMBER

E3.2



1 NEW POWER PLAN - GANG RR

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

ELECTRICAL POWER NOTES:

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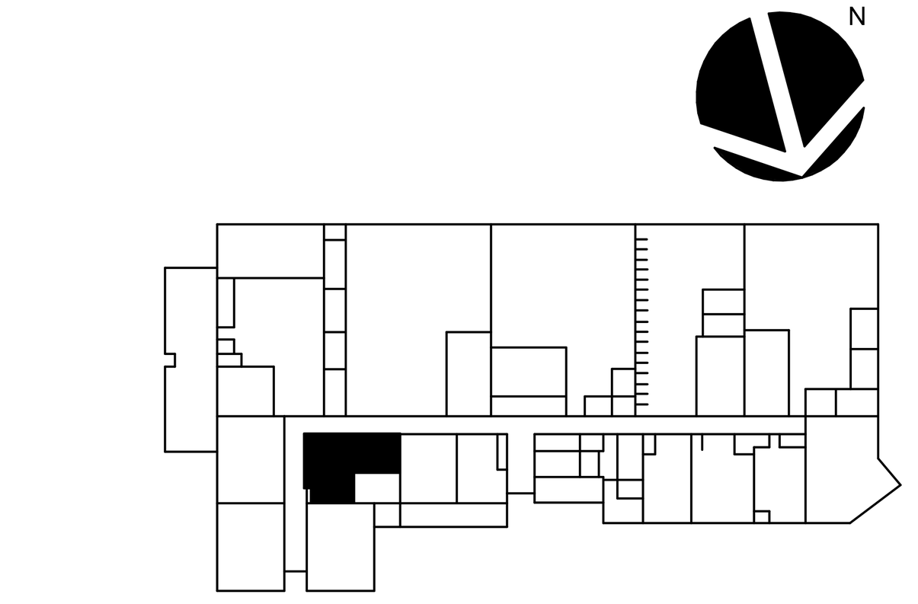
D. RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

E. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

TAGGED NOTES

##

E1	LOCATE MOTOR RATED SWITCH ABOVE ACCESSIBLE CEILING FOR ELECTRIC HAND DRYER CIRCUIT. COORDINATE MOUNTING HEIGHT OF HAND DRYER WITH ARCHITECTURAL SHEETS.
E3	LOCATE MOTOR RATED SWITCH ABOVE ACCESSIBLE CEILING FOR TRAP PRIMER CIRCUIT.



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HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW POWER PLAN - GANG RR

SHEET NUMBER

E4.0

1 NEW POWER PLAN - WELDING/CARPENTRY
SCALE: 1/4" = 1'-0"

ELECTRICAL POWER NOTES:

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TAGGED NOTES

##

E2 PLUG TO NEARBY EXISTING TYPICAL 120V RECEPTACLE FOR POWER CONNECTION.

E5 PROVIDE POWER TO DUST COLLECTOR. COORDINATE REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.

E6 DUST COLLECTOR CONTROL PANEL - INCLUDES VFD, ON/OFF CONTROL, AND SPARK ALARM. EXTEND CIRCUIT FOR DUST COLLECTOR FAN THROUGH VFD THEN TO EXTERIOR DISCONNECT/DUST COLLECTOR.

E7 SPARK DETECTION CONTROL PANEL, POWER FROM DUST COLLECTOR CONTROL PANEL.

E8 PROVIDE POWER TO WELDING COLLECTOR. COORDINATE REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.

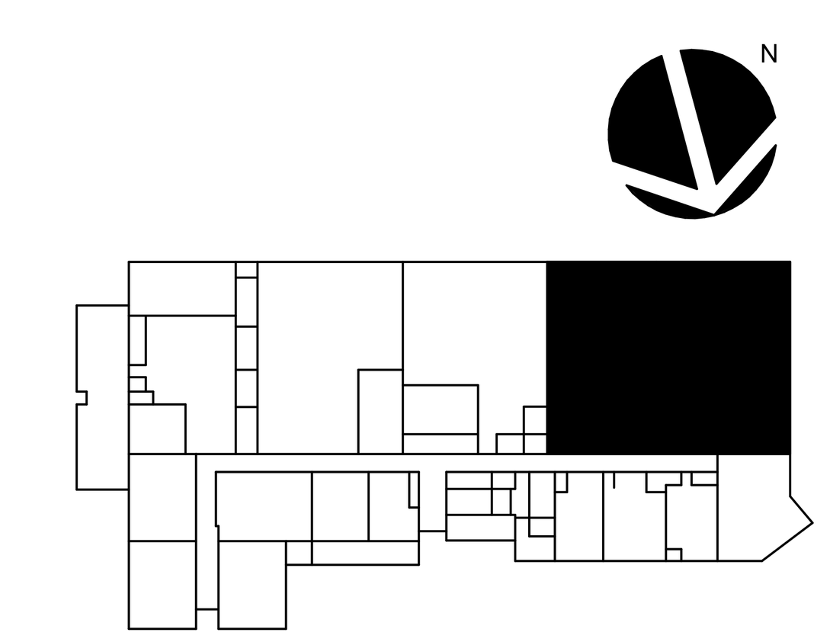
E9 PROVIDE 120V POWER TO BOOSTER PUMP PANEL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE ALL REQUIRED CLEARANCES.

E10 PROVIDE 3/200-50/1 SAFETY SWITCH AND A NEMA 6-50R RECEPTACLE. REFER TO PANEL SCHEDULES FOR WIRING SIZE. (TYPICAL)

E12 WELDING COLLECTOR CONTROL PANEL - INCLUDES VFD AND ON/OFF CONTROL. EXTEND CIRCUIT FOR THE WELDING COLLECTOR FAN THROUGH VFD THEN TO EXTERIOR DISCONNECT/WELDING COLLECTOR.

E13 PROVIDE A 120V RECEPTACLE DEDICATED FOR THE AIR COMPRESSOR AUTOMATIC CONTROL VALVE.

E14 PROVIDE 3/100-75/1 SAFETY SWITCH AND A NEMA 6-50R RECEPTACLE. REFER TO PANEL SCHEDULES FOR WIRING SIZE. (TYPICAL)



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HENDERSON COUNTY CTE RENOVATION
NEW POWER PLAN - WELDING/CARPENTRY

SHEET NUMBER
E4.1

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D. RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

E. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

TAGGED NOTES

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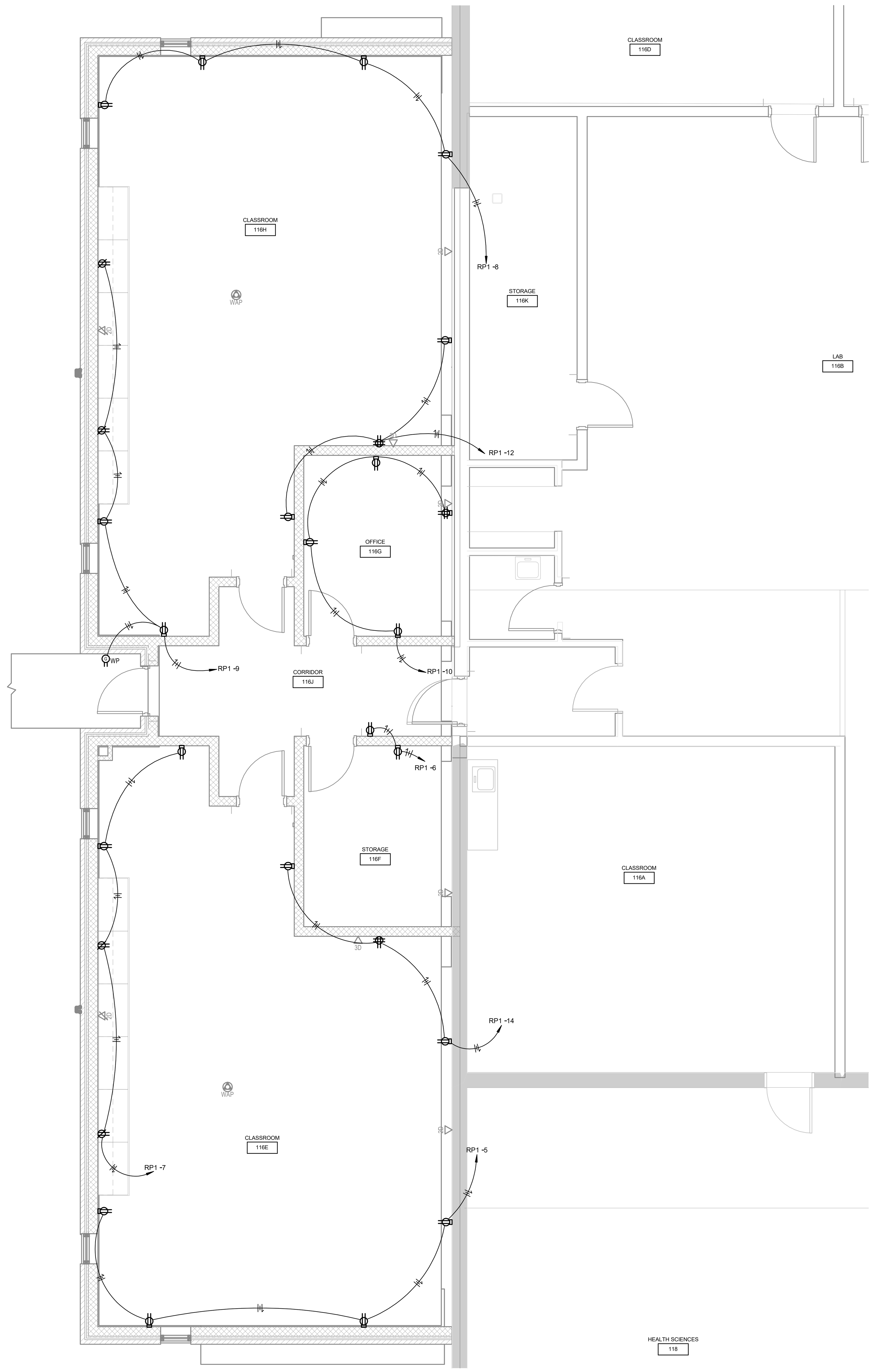
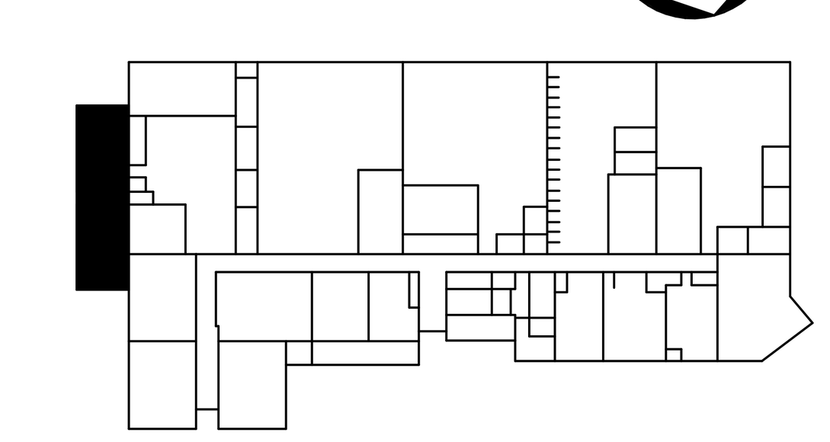


1 NEW POWER PLAN - CTE ADDITION

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



KEY PLAN

NTS

RBS DESIGN GROUP
ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

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JOB NUMBER	Y21037/XHCR23
DRAWN BY	ASP
CHECKED BY	BWR
DATE	02/01/24

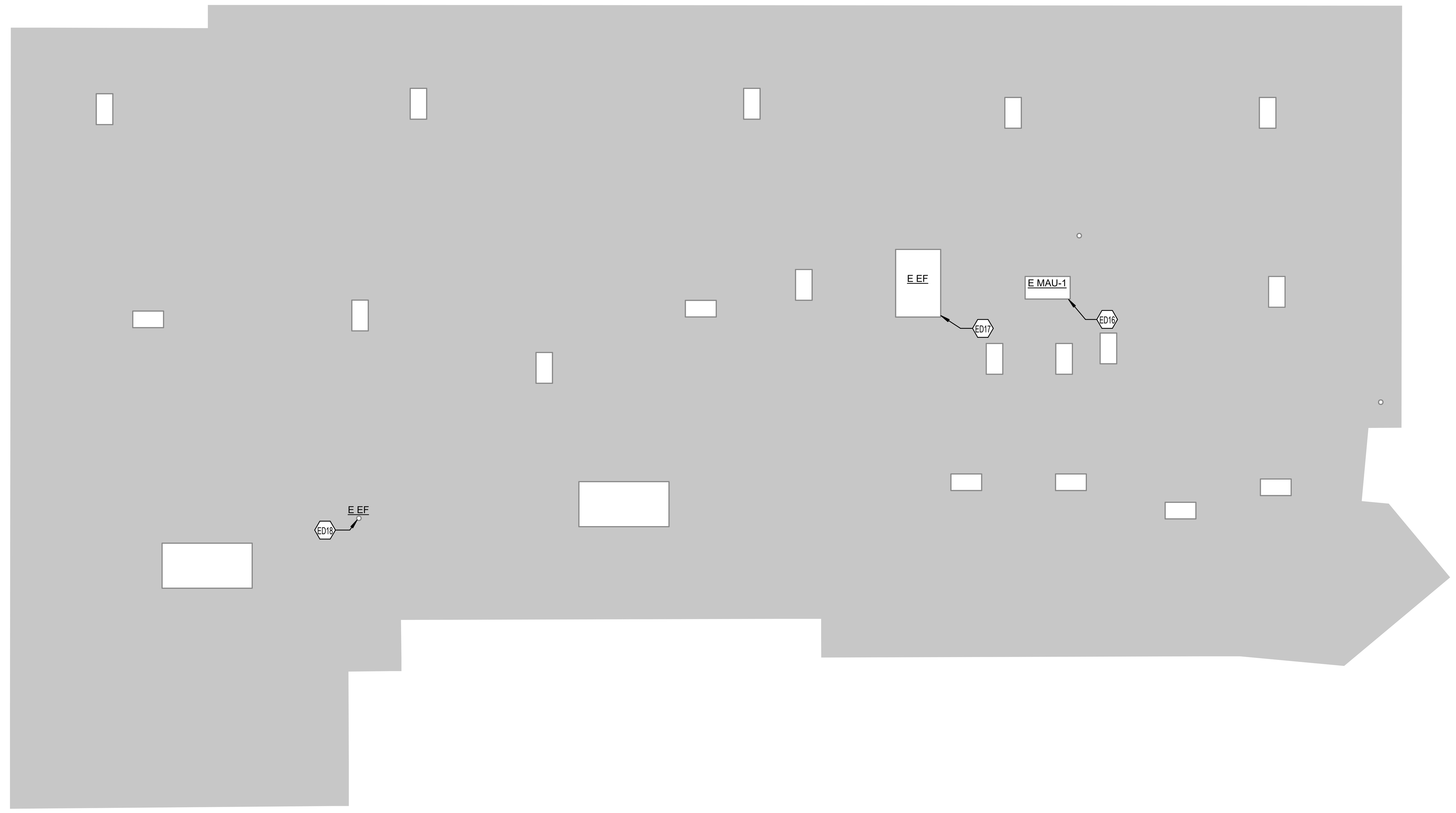
No.	Description	Date

STATE OF KENTUCKY
BRADLEY WYNN REEVES
20984
LICENSED
PROFESSIONAL ENGINEER

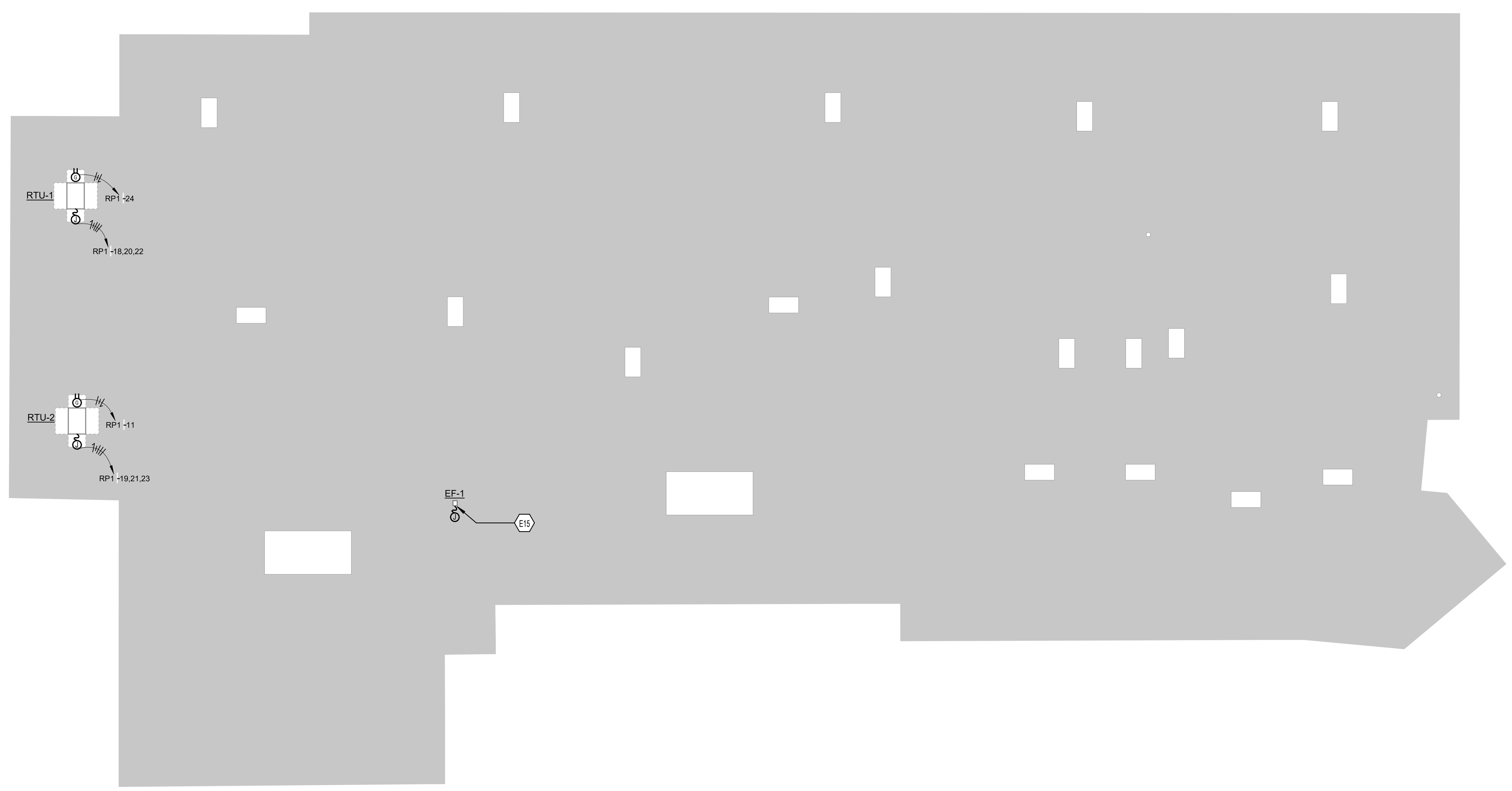
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW POWER PLAN - CTE ADDITION

SHEET NUMBER

E4.2



(1) ROOF - HVAC POWER DEMOLITION
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32' 48' 64'



(2) ROOF - HVAC POWER NEW WORK
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32' 48' 64'

ELECTRICAL POWER NOTES:

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.
B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.
C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.
D. RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).
E. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

ELECTRICAL ROOF NOTES:

A. REFER TO POWER, SYSTEMS, AND LIGHTING PLANS FOR GENERAL NOTES APPLICABLE TO INTERIOR SPACES SHOWN ON THIS PLAN.
B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.
C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE ENGRAVED LAMACOID LABLES FOR ALL EXTERIOR DEVICES. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.
D. PROVIDE UNI-STRUT AS REQUIRED FOR MOUNTING OF ALL DEVICES ON ROOF. COORDINATE WITH ROOFING CONTRACTOR PRIOR TO CONSTRUCTION FOR ALL PENETRATIONS. SEAL PENETRATIONS AS REQUIRED PER ROOFING CONTRACTOR AND ROOFING MANUFACTURER'S RECOMMENDATIONS AS REQUIRED TO MAINTAIN ROOF WARRANTY. PROVIDE CURBS AND/OR FLASHED BOOTS AT ALL DEVICES AND PENETRATIONS.
E. CONDUITS SHALL PENETRATE ROOF FROM BELOW AS CLOSE TO FINAL ROOF EQUIPMENT TERMINATION POINT AS POSSIBLE. SUPPORT ALL ROOF MOUNTED CONDUITS AT INTERVALS NOT EXCEEDING 10 FEET WITH STRUT-BASED SUPPORT SYSTEM. SUPPORT SYSTEM TO BE CADDY PYRAMID ST SERIES OR APPROVED EQUAL.
F. ALL CONDUIT EXPOSED TO DIRECT SUNLIGHT SHALL BE AT LEAST 12" ABOVE THE ROOF-TOP. NO CONDUIT SHALL BE EXPOSED TO DIRECT SUNLIGHT BELOW THIS HEIGHT.
G. WHERE RACEWAY OR CONDUCTORS ARE INSTALLED EXPOSED ON ROOF, DERATE AMPACITY OF CONDUCTORS IN ACCORDANCE WITH NEC.
H. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.
I. PROVIDE MAINTENANCE RECEPTACLE WITHIN 25 FT OF EACH MECHANICAL UNIT AS REQUIRED BY NEC. COORDINATE INSTALLATION LOCATIONS WITH FINAL EQUIPMENT LAYOUT PROVIDE BY MECHANICAL CONTRACTOR.
J. CONDUIT FOR ROOF MOUNTED EQUIPMENT SHALL BE ROUTED IN CEILING SPACE BELOW ROOF DECK UON.

TAGGED NOTES

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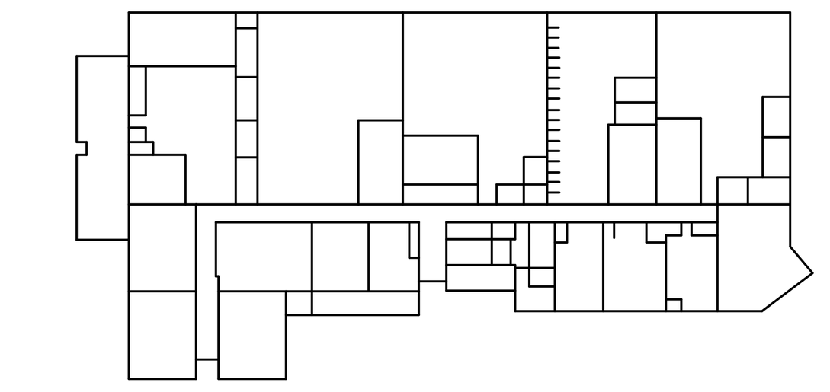
E15	EXTEND CONTROL CIRCUIT FOR EF-1 TO RESTROOM LIGTING CONTROLS.
ED16	DEMOLISH ALL ASSOCIATED ELECTRICAL CONNECTIONS, CABLE, CONDUIT, ETC. FOR THIS EXISTING MAKE UP AIR UNIT COMPLETELY BACK TO ASSCOCIATED FEEDER PANEL.
ED17	DEMOLISH ALL ASSOCIATED ELECTRICAL CONNECTIONS, CABLE, CONDUIT, ETC. FOR THIS EXISTING WELDING EXHAUST FAN COMPLETELY BACK TO ASSOCIATED FEEDER PANEL.
ED18	DEMOLISH ALL ASSOCIATED ELECTRICAL CONNECTIONS, CABLE, CONDUIT, ETC. FOR THIS EXHISTING RESTROOM EXHAUST FAN COMPLETELY BACK TO ASSOCIATED FEEDER PANEL.

N



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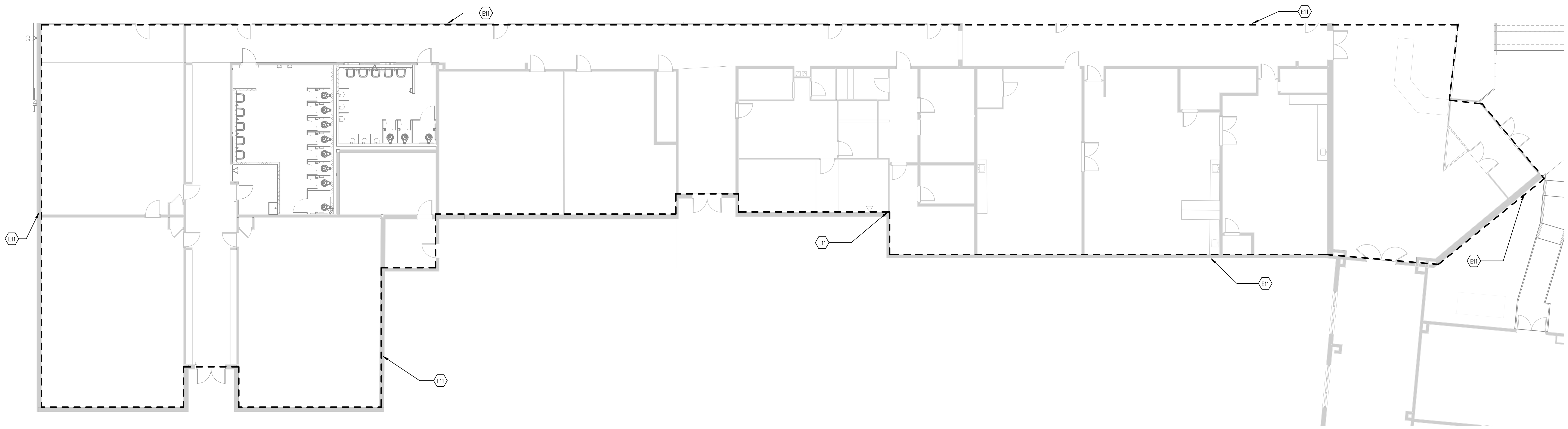
20984
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
HVAC POWER ROOF PLAN

SHEET NUMBER
E4.3

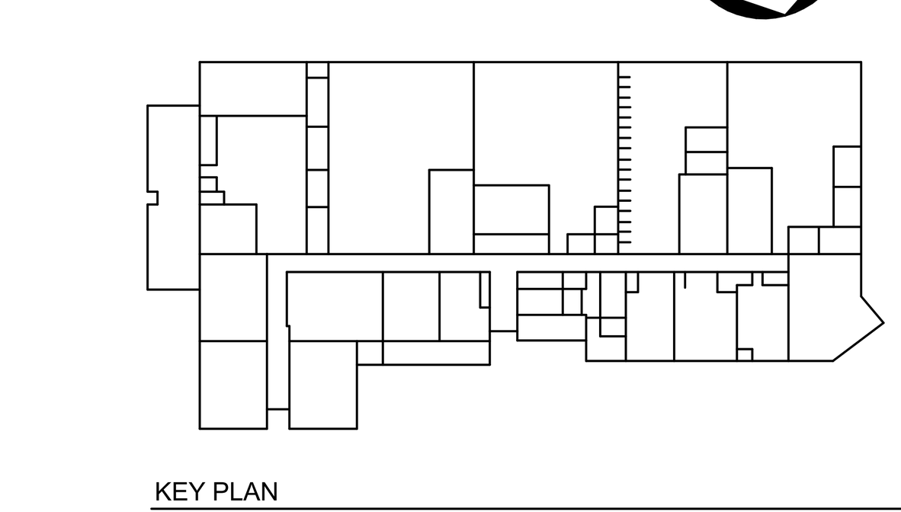


NEW ELECTRICAL PLAN - PLAN SOUTH

1 SCALE: NONE

TAGGED NOTES

E11 REFER TO ARCHITECTURAL PLANS FOR AREA OF CEILING TILE REPLACEMENT. ALL LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL FIXTURES IN THIS AREA INDICATED BY HEAVY DASHED LINES TO BE REMOVED, CLEANED, AND REINSTALLED.



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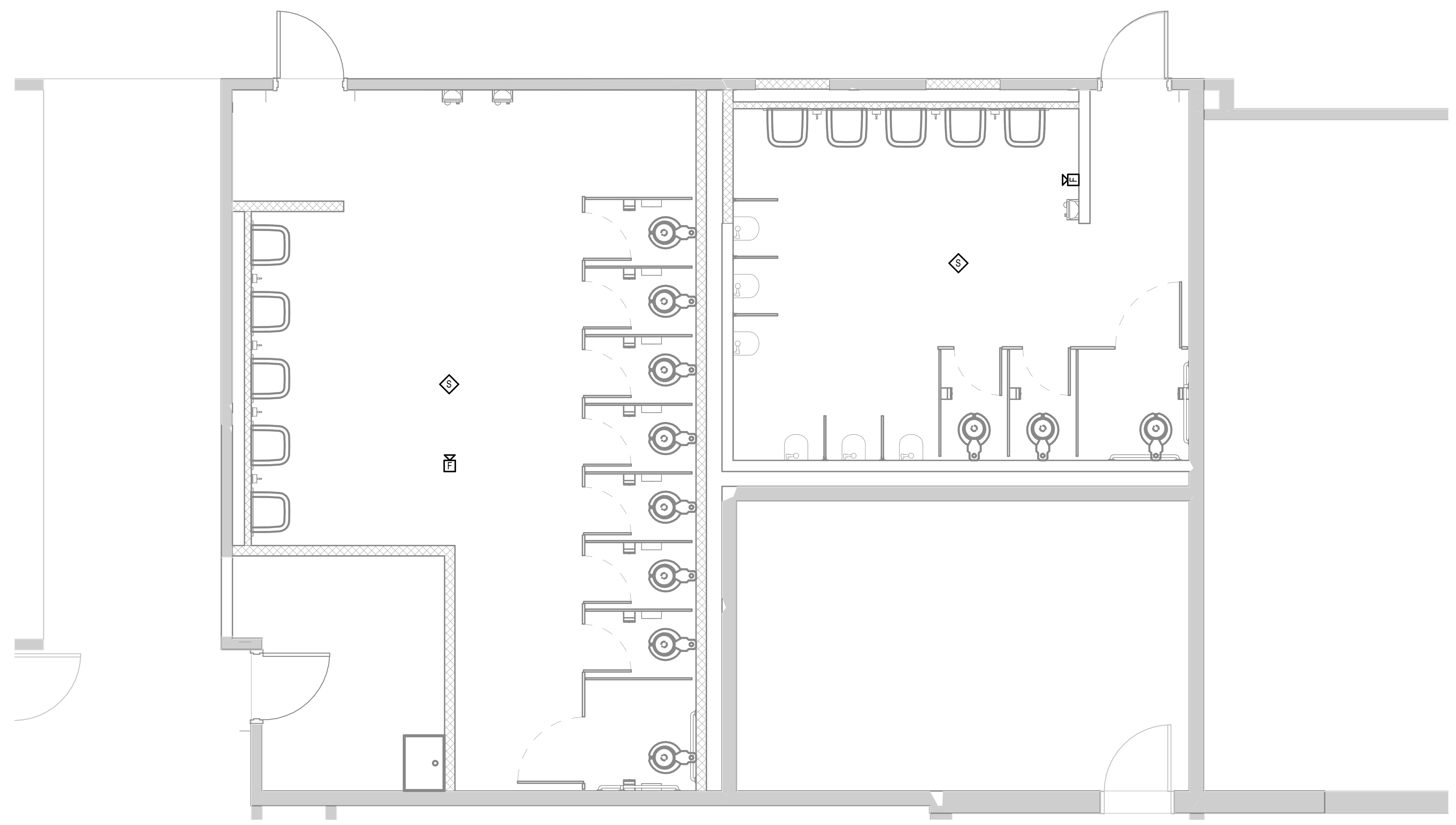
HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW ELECTRICAL PLAN - PLAN SOUTH

SHEET NUMBER
E4.4



1 NEW SYSTEMS PLAN - GANG RR

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

ELECTRICAL SYSTEMS NOTES:

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D. REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.

E. THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST CORRIDOR CABLING PATH (SEE "STUB-UP" DETAILS). REFER TO CABLING PATH INSTALLATION DETAIL FOR ADDITIONAL REQUIREMENTS.

F. CONTRACTOR SHALL PAINT ALL SYSTEMS CONDUIT STUB-UPS LIGHT BLUE FOR SYSTEMS CABLING INTO THE CORRIDOR CABLING PATH. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.

ELECTRICAL FIRE ALARM NOTES:

A. THIS RISER IS PARTIAL. ALL THE DEVICES CONNECTED TO THE "FACP" UNITS ARE NOT SHOWN. THE CONTRACTOR SHALL REFER TO THE ELECTRICAL FLOOR PLANS FOR THE COMPLETE FIRE ALARM SYSTEM.

B. THE EXTENT OF ALL FIRE ALARM SYSTEM WORK IS INDICATED OR IMPLIED ON THE CONTRACT DRAWINGS.

C. FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.

D. PROVIDE CONNECTIONS TO ALL FIRE PROTECTION TAMPER AND FLOW SWITCHES VIA ZONE ADDRESSABLE MODULES AS REQUIRED. CONTRACTOR SHALL VERIFY ALL LOCATIONS WITH FIRE PROTECTION SYSTEM SHOP DRAWINGS. CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR COMPLETE INSTALLATION OF A CONNECTION TO EXISTING FIRE PROTECTION SWITCHES.

E. ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.

F. TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.

G. SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.

H. AIR HANDLING UNITS SHALL ONLY SHUT DOWN WHEN SMOKE IS DETECTED AT THAT PARTICULAR AIR HANDLING UNIT (UON). SMOKE DAMPERS SHALL CLOSE ONLY WHEN SMOKE IS DETECTED AT THAT PARTICULAR SMOKE DAMPER BY ACTIVATION OF THE CONTROLLING SMOKE DETECTOR. REFER TO THE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

I. PROVIDE DUCT SMOKE DETECTORS WITH REMOTE TEST SWITCH/INDICATOR LIGHT AT 7'-6" AFF ON WALL IN AREA BELOW DETECTOR.

J. RISER DIAGRAM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR AUTHORITY HAVING JURISDICTION.

K. PROVIDE FIRE ALARM MANUFACTURER WITH LOCATION DESCRIPTIONS FOR ALL FIRE ALARM DEVICES AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT FOR PRE-PROGRAMMING OF FIRE ALARM SYSTEM. COORDINATE DESCRIPTIONS WITH BUILDING OWNER. UTILIZE FINAL ROOM NAMES AND NUMBERS, NOT NAMES AND NUMBERS FROM FLOOR PLANS.

L. EACH FIRE ALARM DEVICE SHALL BE LABELED WITH SELF ADHESIVE POLYESTER COATED PRINTED LABELS INDICATING DEVICE ADDRESS AND CIRCUIT PER FIRE ALARM SHOP DRAWINGS.

M. MODIFY AND/OR EXPAND EXISTING CONTROL PANEL(S) AND ANNUNCIATOR(S) TO ACCOMMODATE AS REQUIRED TO SUPPORT ADDITIONAL DEVICES SHOWN. FURNISH AND INSTALL ANY MODULES OR EQUIPMENT NECESSARY TO EXPAND SYSTEM. EXISTING ANNUNCIATOR(S) AND CONTROL PANEL(S) SHALL BE UPDATED TO DISPLAY TROUBLES AND ALARM LOCATIONS FOR ALL NEW ZONES.

N. PROVIDE CONNECTIONS TO NEW ACCESS CONTROL DOORS TO ALLOW POSITIVE LATCHING AND FREE EGRESS UNDER ALARM CONDITIONS. COORDINATE EXACT REQUIREMENTS WITH SUCCESSFUL DOOR HARDWARE MANUFACTURER PRIOR TO CONSTRUCTION.

O. PROVIDE ACCESS PANELS AS REQUIRED FOR MAINTENANCE AND TESTING FOR SMOKE DETECTORS LOCATED ABOVE INACCESSIBLE CEILINGS. COORDINATE SIZE AND LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

P. PROVIDE APPROVED TESTING AND REQUIRED CERTIFICATION OF SYSTEM COMPONENTS AND PROVE OPERATION OF SYSTEM FOR THE AREA OF WORK WHEN COMPLETE.

Q. WIRING TO ALL FIRE ALARM DEVICES SHALL BE PER NEC AND MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL WIRING REQUIREMENTS WITH THE OWNER AND FIRE ALARM VENDOR.

R. ALL NEW DEVICES INDICATED, SUCH AS SMOKE DETECTORS, NOTIFICATION APPLIANCES, ETC., SHALL MATCH AND BE COMPATIBLE WITH EXISTING BUILDING SYSTEM.

S. ALL 120V POWER FOR NEW FIRE ALARM SYSTEM COMPONENTS SHALL BE CONNECTED TO EMERGENCY LIFE-SAFETY BRANCH PANELS AS APPLICABLE. PROVIDE ALL NEW POWER CONNECTIONS AS REQUIRED FOR SYSTEM OPERATION.

T. PROVIDE A DEDICATED POWER CIRCUIT TO EACH FIRE ALARM EQUIPMENT PANEL OR POWER SUPPLY.

U. FIRE ALARM OCP DEVICES SHALL HAVE NON-REMOVABLE LOCKABLE HANDLE PAINTED RED.

V. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS, ELECTRICAL APPROVALS, AND APPROVALS FROM THE STATE OFFICE OF FIRE SAFETY OR AUTHORITY HAVING JURISDICTION (AHJ). THIS INCLUDES PREPARING DRAWINGS, CUTSHEETS, AND OTHER DOCUMENTATION REQUIRED BY THE AHJ OR FIRE ALARM EQUIPMENT MANUFACTURER. A COPY OF THESE REQUIREMENTS SHALL BE OBTAINED FROM AHJ. THE DRAWINGS SHALL BE PREPARED AS A FINAL SUBMITTAL AS OUTLINED IN THE SUBMITTAL REQUIREMENTS. ELECTRONIC COPIES OF THESE PLANS REQUIRED FOR THIS PURPOSE MAY BE OBTAINED FROM THE ENGINEER. DRAWINGS THAT ARE REQUIRED FOR APPROVAL SHALL BE FINISHED WITHIN 7 WORKING DAYS OF AWARD OF CONTRACT.

W. WRITTEN CERTIFICATION OF ENTIRE FIRE ALARM SYSTEM SHALL BE SUBMITTED TO OWNER & ENGINEER AT CLOSE OF PROJECT.

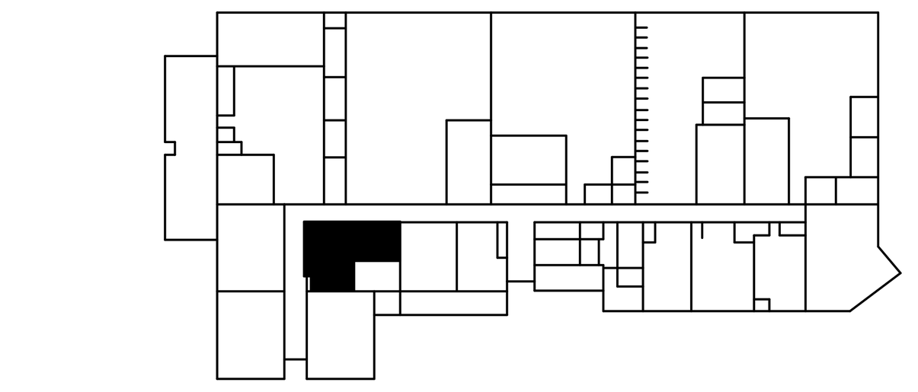
X. A TECHNICAL REPRESENTATIVE OF FIRE ALARM MANUFACTURER SHALL BE PRESENT AT ALL TIMES DURING FIRE ALARM CERTIFICATION.

Y. CONTRACTOR SHALL MONITOR TROUBLES ON EXISTING PANEL EQUIPMENT ON A DAILY BASIS. WHERE A TROUBLE IS INDICATED, IT SHALL BE REPORTED TO THE OWNER AND CONSTRUCTION SHALL STOP UNTIL TROUBLE IS RESOLVED UNLESS OTHERWISE INDICATED BY OWNER.

Z. INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS SHALL BE IN SEPARATE RACEWAYS. FIRE ALARM SYSTEM JUNCTION BOXES, BACK BOXES, AND PULL BOXES SHALL BE PAINTED RED.

AA. PROVIDE QUANTITY OF POWER SUPPLIES AND NAC PANELS BASED UPON FINAL SYSTEM DESIGN AND REQUIRED SPARE CAPACITY. LOCATE ADDITIONAL PANELS ADJACENT TO THOSE SHOWN ON PLANS. DO NOT INSTALL ADDITIONAL EQUIPMENT IN OTHER AREAS OF THE PROJECT WITHOUT WRITTEN CONSENT BY THE ENGINEER.

TAGGED NOTES ##



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LICENSED PROFESSIONAL ENGINEER

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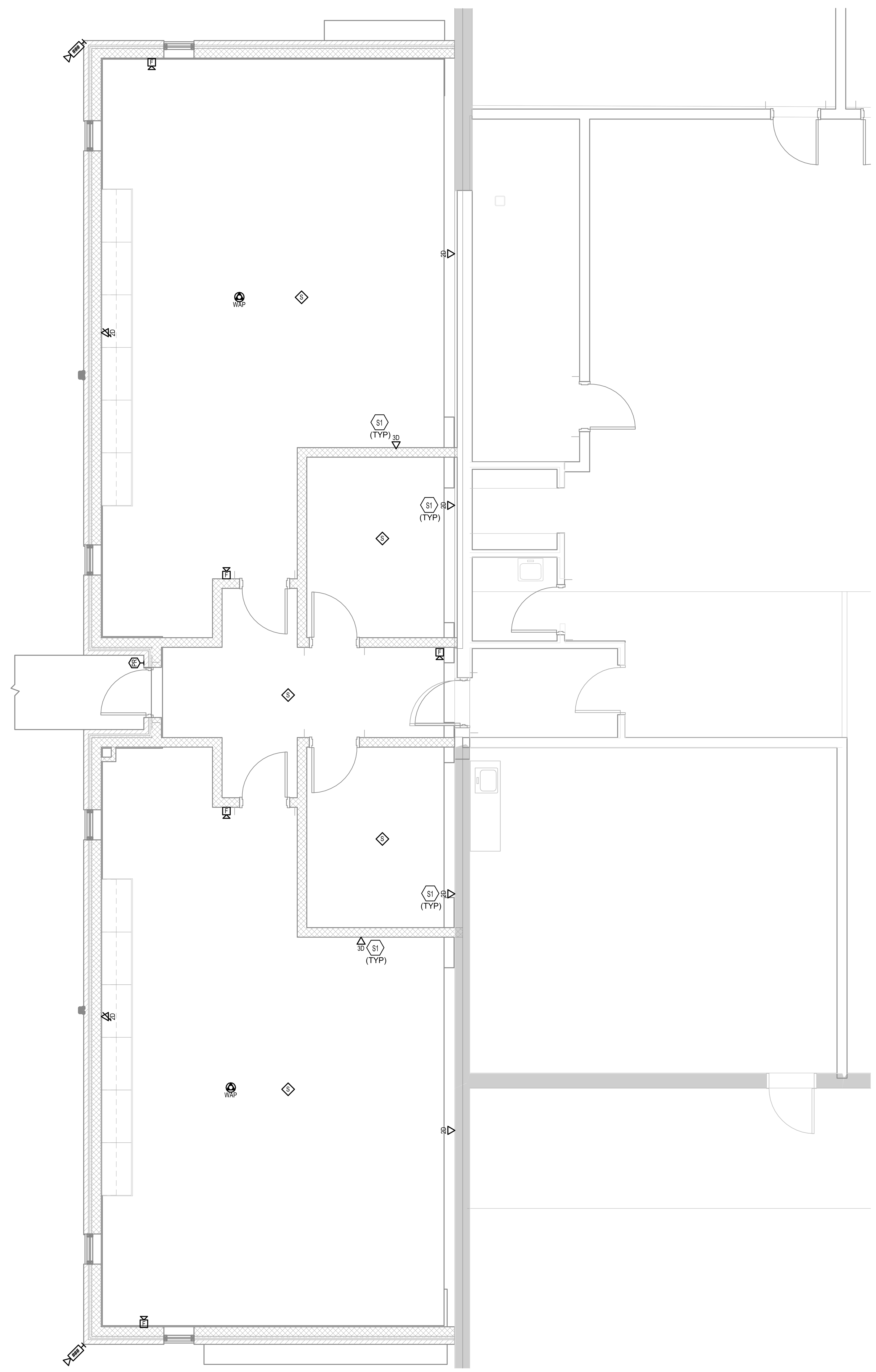
HENDERSON COUNTY CTE RENOVATION
NEW SYSTEMS PLAN - GANG RR

SHEET NUMBER
E5.0



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0 1' 2' 4' 8' 12' 16'

ELECTRICAL SYSTEMS NOTES:

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A. THIS RISER IS PARTIAL. ALL THE DEVICES CONNECTED TO THE "FACP" UNITS ARE NOT SHOWN. THE CONTRACTOR SHALL REFER TO THE ELECTRICAL FLOOR PLANS FOR THE COMPLETE FIRE ALARM SYSTEM.
B. THE EXTENT OF ALL FIRE ALARM SYSTEM WORK IS INDICATED OR IMPLIED ON THE CONTRACT DRAWINGS.
C. FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.
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E. ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.
F. TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.
G. SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.
H. AIR HANDLING UNITS SHALL ONLY SHUT DOWN WHEN SMOKE IS DETECTED AT THAT PARTICULAR AIR HANDLING UNIT (UON). SMOKE DAMPERS SHALL CLOSE ONLY WHEN SMOKE IS DETECTED AT THAT PARTICULAR SMOKE DAMPER BY ACTIVATION OF THE CONTROLLING SMOKE DETECTOR. REFER TO THE SPECIFICATIONS FOR FURTHER REQUIREMENTS.
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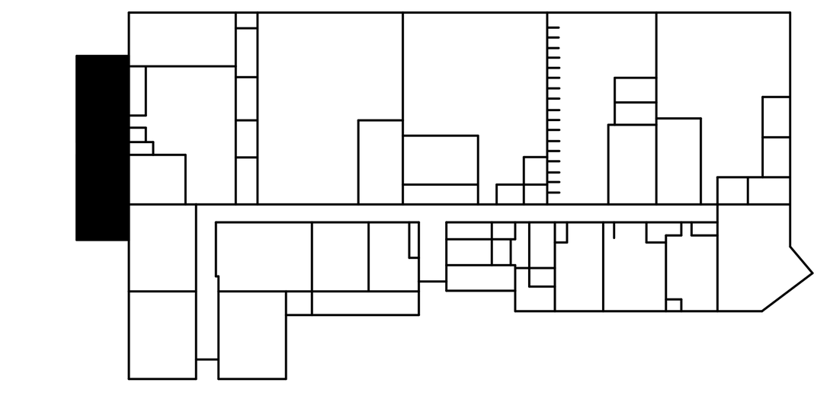
J. RISER DIAGRAM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR AUTHORITY HAVING JURISDICTION.
K. PROVIDE FIRE ALARM MANUFACTURER WITH LOCATION DESCRIPTIONS FOR ALL FIRE ALARM DEVICES AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT FOR PRE-PROGRAMMING OF FIRE ALARM SYSTEM. COORDINATE DESCRIPTIONS WITH BUILDING OWNER. UTILIZE FINAL ROOM NAMES AND NUMBERS, NOT NAMES AND NUMBERS FROM FLOOR PLANS.
L. EACH FIRE ALARM DEVICE SHALL BE LABELED WITH SELF ADHESIVE POLYESTER COATED PRINTED LABELS INDICATING DEVICE ADDRESS AND CIRCUIT PER FIRE ALARM SHOP DRAWINGS.
M. MODIFY AND/OR EXPAND EXISTING CONTROL PANEL(S) AND ANNUNCIATOR(S) TO ACCOMMODATE AS REQUIRED TO SUPPORT ADDITIONAL DEVICES SHOWN. FURNISH AND INSTALL ANY MODULES OR EQUIPMENT NECESSARY TO EXPAND SYSTEM. EXISTING ANNUNCIATOR(S) AND CONTROL PANEL(S) SHALL BE UPDATED TO DISPLAY TROUBLES AND ALARM LOCATIONS FOR ALL NEW ZONES.
N. PROVIDE CONNECTIONS TO NEW ACCESS CONTROL DOORS TO ALLOW POSITIVE LATCHING AND FREE EGRESS UNDER ALARM CONDITIONS. COORDINATE EXACT REQUIREMENTS WITH SUCCESSFUL DOOR HARDWARE MANUFACTURER PRIOR TO CONSTRUCTION.
O. PROVIDE ACCESS PANELS AS REQUIRED FOR MAINTENANCE AND TESTING FOR SMOKE DETECTORS LOCATED ABOVE INACCESSIBLE CEILINGS. COORDINATE SIZE AND LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
P. PROVIDE APPROVED TESTING AND REQUIRED CERTIFICATION OF SYSTEM COMPONENTS AND PROVE OPERATION OF SYSTEM FOR THE AREA OF WORK WHEN COMPLETE.
Q. WIRING TO ALL FIRE ALARM DEVICES SHALL BE PER NEC AND MANUFACTURER’S RECOMMENDATIONS. VERIFY ALL WIRING REQUIREMENTS WITH THE OWNER AND FIRE ALARM VENDOR.
R. ALL NEW DEVICES INDICATED, SUCH AS SMOKE DETECTORS, NOTIFICATION APPLIANCES, ETC., SHALL MATCH AND BE COMPATIBLE WITH EXISTING BUILDING SYSTEM.
S. ALL 120V POWER FOR NEW FIRE ALARM SYSTEM COMPONENTS SHALL BE CONNECTED TO EMERGENCY LIFE-SAFETY BRANCH PANELS AS APPLICABLE. PROVIDE ALL NEW POWER CONNECTIONS AS REQUIRED FOR SYSTEM OPERATION.
T. PROVIDE A DEDICATED POWER CIRCUIT TO EACH FIRE ALARM EQUIPMENT PANEL OR POWER SUPPLY.
U. FIRE ALARM OCP DEVICES SHALL HAVE NON-REMOVABLE LOCKABLE HANDLE PAINTED RED.
V. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS, ELECTRICAL APPROVALS, AND APPROVALS FROM THE STATE OFFICE OF FIRE SAFETY OR AUTHORITY HAVING JURISDICTION (AHJ). THIS INCLUDES PREPARING DRAWINGS, CUTSHEETS, AND OTHER DOCUMENTATION REQUIRED BY THE AHJ OR FIRE ALARM EQUIPMENT MANUFACTURER. A COPY OF THESE REQUIREMENTS SHALL BE OBTAINED FROM AHJ. THE DRAWINGS SHALL BE PREPARED AS A FINAL SUBMITTAL AS OUTLINED IN THE SUBMITTAL REQUIREMENTS. ELECTRONIC COPIES OF THESE PLANS REQUIRED FOR THIS PURPOSE MAY BE OBTAINED FROM THE ENGINEER. DRAWINGS THAT ARE REQUIRED FOR APPROVAL SHALL BE FINISHED WITHIN 7 WORKING DAYS OF AWARD OF CONTRACT.
W. WRITTEN CERTIFICATION OF ENTIRE FIRE ALARM SYSTEM SHALL BE SUBMITTED TO OWNER & ENGINEER AT CLOSE OF PROJECT.
X. A TECHNICAL REPRESENTATIVE OF FIRE ALARM MANUFACTURER SHALL BE PRESENT AT ALL TIMES DURING FIRE ALARM CERTIFICATION.
Y. CONTRACTOR SHALL MONITOR TROUBLES ON EXISTING PANEL EQUIPMENT ON A DAILY BASIS. WHERE A TROUBLE IS INDICATED, IT SHALL BE REPORTED TO THE OWNER AND CONSTRUCTION SHALL STOP UNTIL TROUBLE IS RESOLVED UNLESS OTHERWISE INDICATED BY OWNER.
Z. INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS SHALL BE IN SEPARATE RACEWAYS. FIRE ALARM SYSTEM JUNCTION BOXES, BACK BOXES, AND PULL BOXES SHALL BE PAINTED RED.
AA. PROVIDE QUANTITY OF POWER SUPPLIES AND NAC PANELS BASED UPON FINAL SYSTEM DESIGN AND REQUIRED SPARE CAPACITY. LOCATE ADDITIONAL PANELS ADJACENT TO THOSE SHOWN ON PLANS. DO NOT INSTALL ADDITIONAL EQUIPMENT IN OTHER AREAS OF THE PROJECT WITHOUT WRITTEN CONSENT BY THE ENGINEER.

TAGGED NOTES

##

S1 EXTEND DATA FROM EXISTING IDF CLOSET, PROVIDE 24 PORT CAT6 PATCH PANEL IN EXISTING RACK FOR NEW DATA OUTLETS. PROVIDE 1" CONDUIT FROM DEVICE TO ACCESSIBLE CEILING SPACE, THEN ROUTE CABLING ON J-HOOK PATH ABOVE ACCESSIBLE CEILING SPACE TO EXISTING IDF.

N



KEY PLAN
NTS

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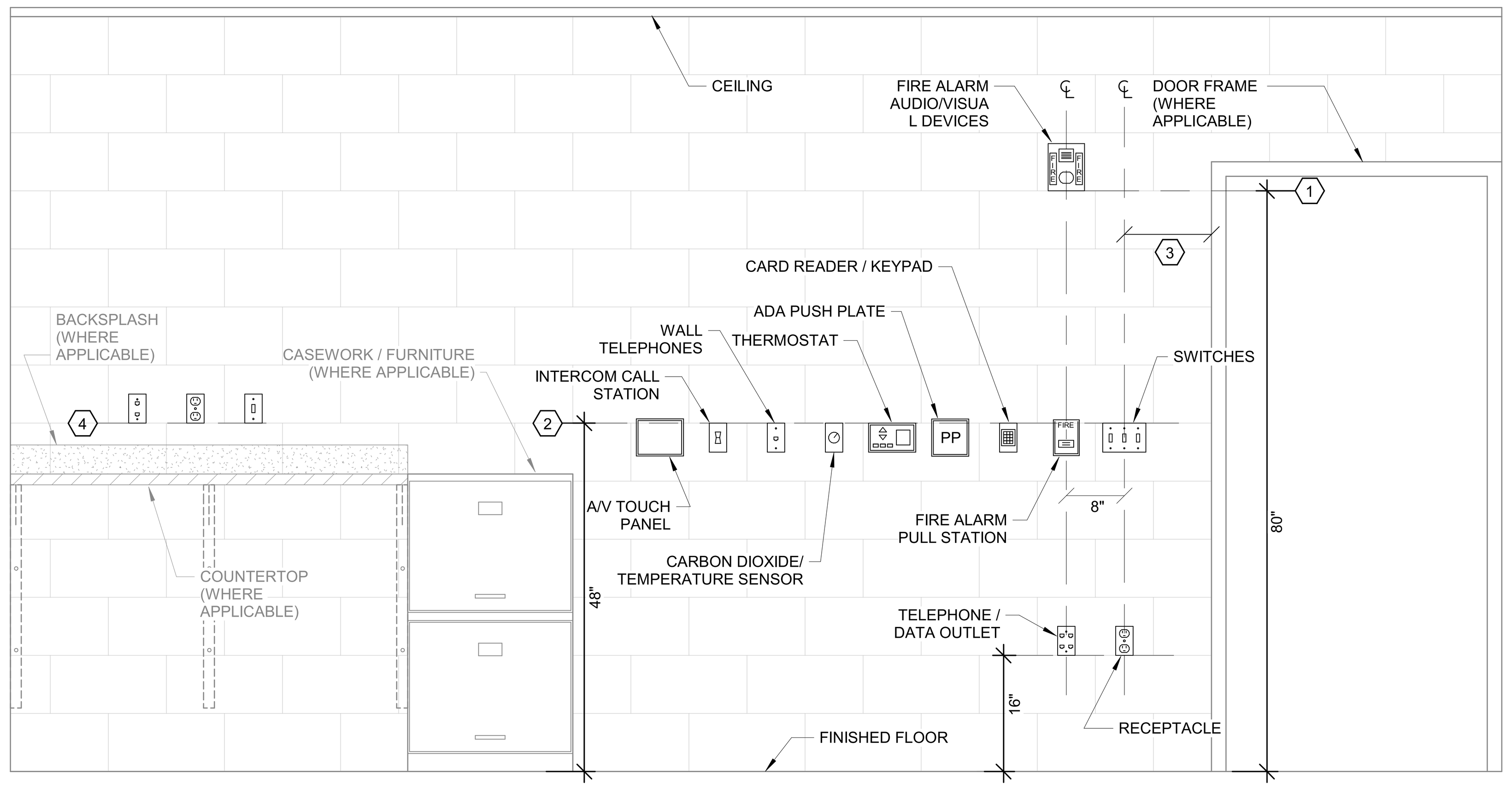
No.	Description	Date

STATE OF KENTUCKY
BRADLEY WYNN REEVES
20984
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
NEW SYSTEMS PLAN - CTE ADDITION

SHEET NUMBER
E5.1



DEVICE MOUNTING DETAIL - GENERAL NOTES:

A. WHERE DEVICES OF ANY DISCIPLINE ARE LOCATED IN THE SAME GENERAL AREA ON THE PLANS AND ARE SHOWN TO BE MOUNTED AT A SIMILAR HEIGHT, ALIGN HORIZONTALLY ALONG TOP OF DEVICE BACKBOX (AS SHOWN IN DETAIL AND DESCRIBED IN KEY NOTE #2).

B. WHERE DEVICES OF ANY DISCIPLINE ARE LOCATED IN THE SAME GENERAL AREA ON THE PLANS AND ARE SHOWN MOUNTED AT DIFFERENT HEIGHTS, ALIGN VERTICALLY ALONG THE CENTERLINE OF THE DEVICE BACKBOX (AS SHOWN IN DETAIL).

C. FOR ANY WALL OTHER THAN PAINTED GYPSUM BOARD OR CMU, DEVICE LOCATIONS MUST BE FIELD APPROVED BY ENGINEER OR ARCHITECT PRIOR TO INSTALLATION OF FINISHES.

DEVICE MOUNTING DETAIL - KEY NOTES:

1. MOUNT VISUAL NOTIFICATION APPLIANCES SO THAT ENTIRE LENS IS BETWEEN 80" AND 96" AFF. IF CEILING IS TOO LOW FOR DEVICE TO BE MOUNTED ABOVE 80", MOUNT SO THAT THE LENS IS WITHIN 6" OF FINISHED CEILING.

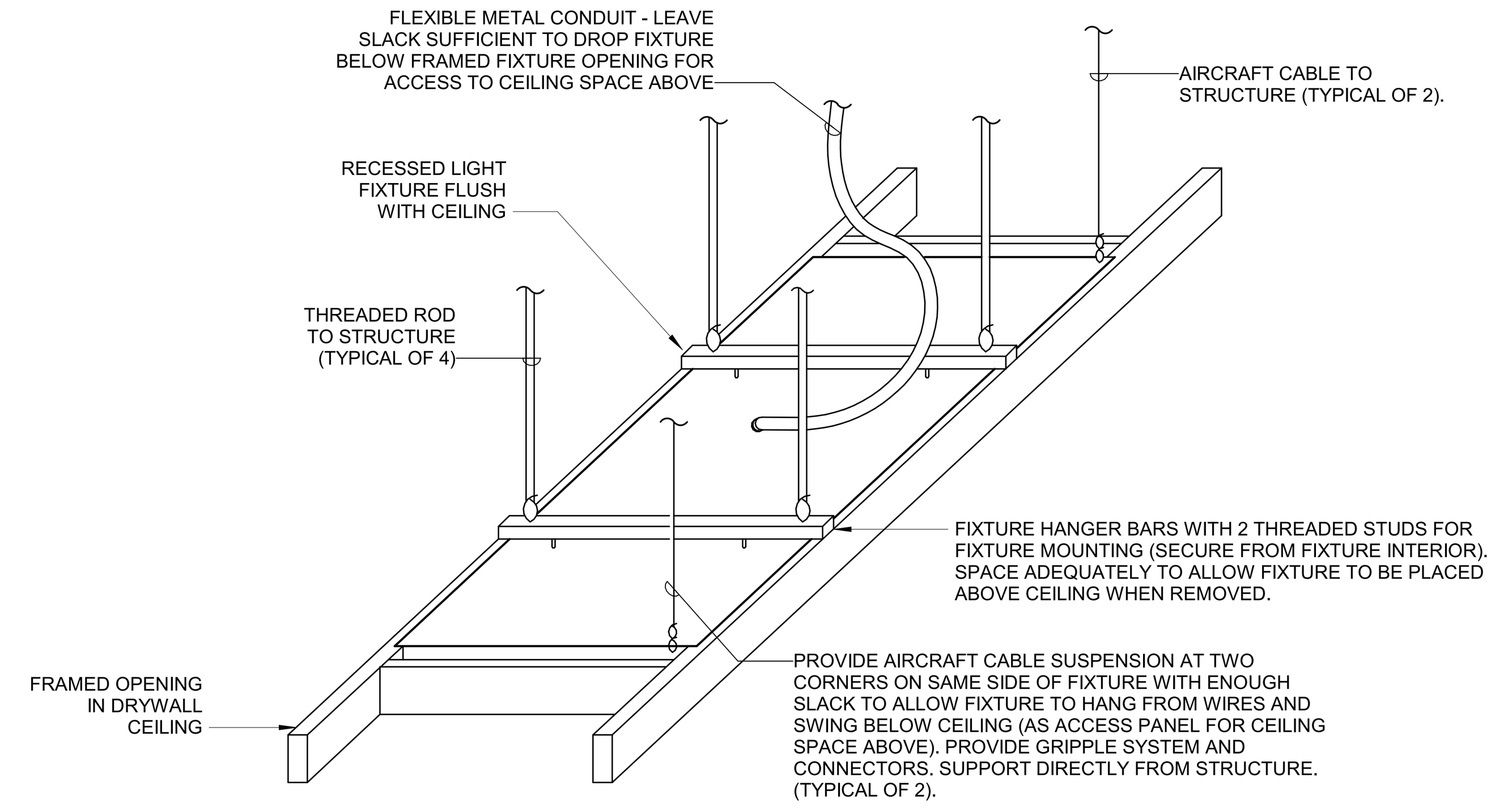
2. ALIGN BACKBOXES OF DEVICES AT THE MOUNTING HEIGHT INDICATED. MEASURE TO THE TOP OF THE BACKBOX FOR STANDARD OUTLET BOXES. NON-STANDARD BACKBOXES ARE TO BE INSTALLED SUCH THAT THE FINISHED DEVICES ARE ALIGNED ALONG THEIR RESPECTIVE CENTERLINES.

3. MOUNTING HEIGHTS SHOWN ILLUSTRATE DESIGN INTENT AND ARE TO BE FOLLOWED UNLESS CONTRADICTED BY APPLICABLE CODE. WHERE DEVICES ARE SHOWN ADJACENT TO DOOR FRAMES ON PLANS INSTALL 12" FROM FRAME TO AVOID SLUSHED SECTIONS OR BRACING. SPECIFIC DEVICES ARE SHOWN IN RELATIVE ORDER FROM DOOR FRAME; WHERE THESE DEVICES ARE NOT PRESENT AT A PARTICULAR LOCATION, ADJUST LOCATIONS CLOSER TO DOOR ACCORDINGLY.

4. THE CONTRACTOR IS TO COORDINATE ALL ROUGH-INS WITH ANY COUNTERTOPS/BACKSPLASHES TO AVOID CONFLICT. ALIGN DEVICE BACKBOXES IN THE BOTTOM OF THE NEXT FULL BLOCK ABOVE THE BACKSPLASH AS SHOWN. FOR NON-BLOCK WALLS ALIGN BOTTOM OF DEVICE BACKBOXES 4" ABOVE BACKSPLASH. COORDINATE WORK WITH CASEWORK AND KITCHEN SHOP DRAWINGS ACCORDINGLY. IF CONFLICT STILL ARISES CONTACT THE ENGINEER FOR DIRECTION ON HOW TO PROCEED.

1 TYPICAL WALL DEVICE MOUNTING DETAIL

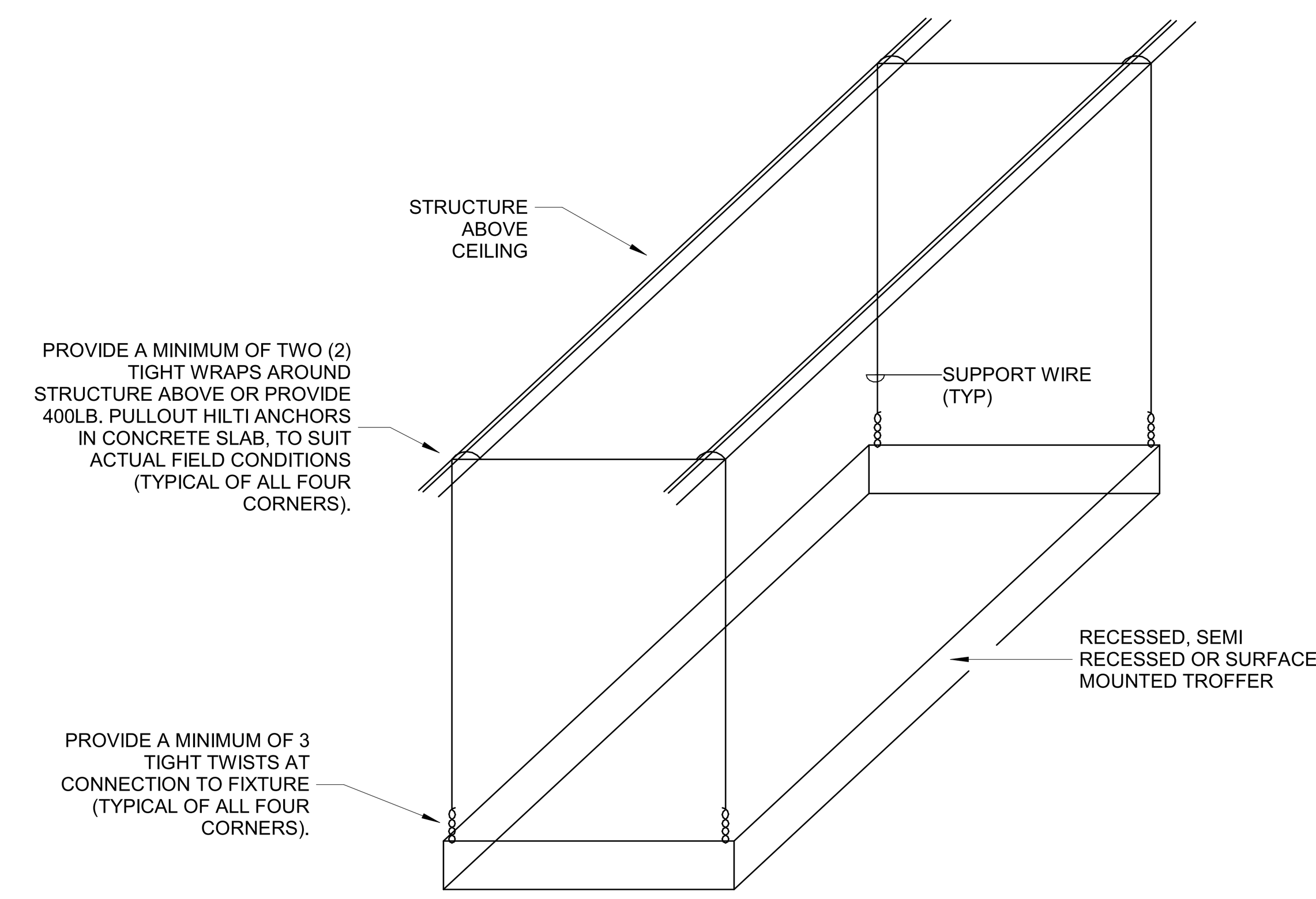
SCALE: NONE



NOTES:
A. COORDINATE ABOVE CEILING WORK WITH ALL TRADES TO ENSURE COMPONENTS ABOVE CEILING REQUIRING ACCESS ARE INSTALLED IN SUCH A WAY THAT THEY CAN BE ACCESSED THROUGH FIXTURE OPENING.
B. COMPLETE INSTALLATION SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2 FIXTURE ACCESS IN DRYWALL CEILING DETAIL

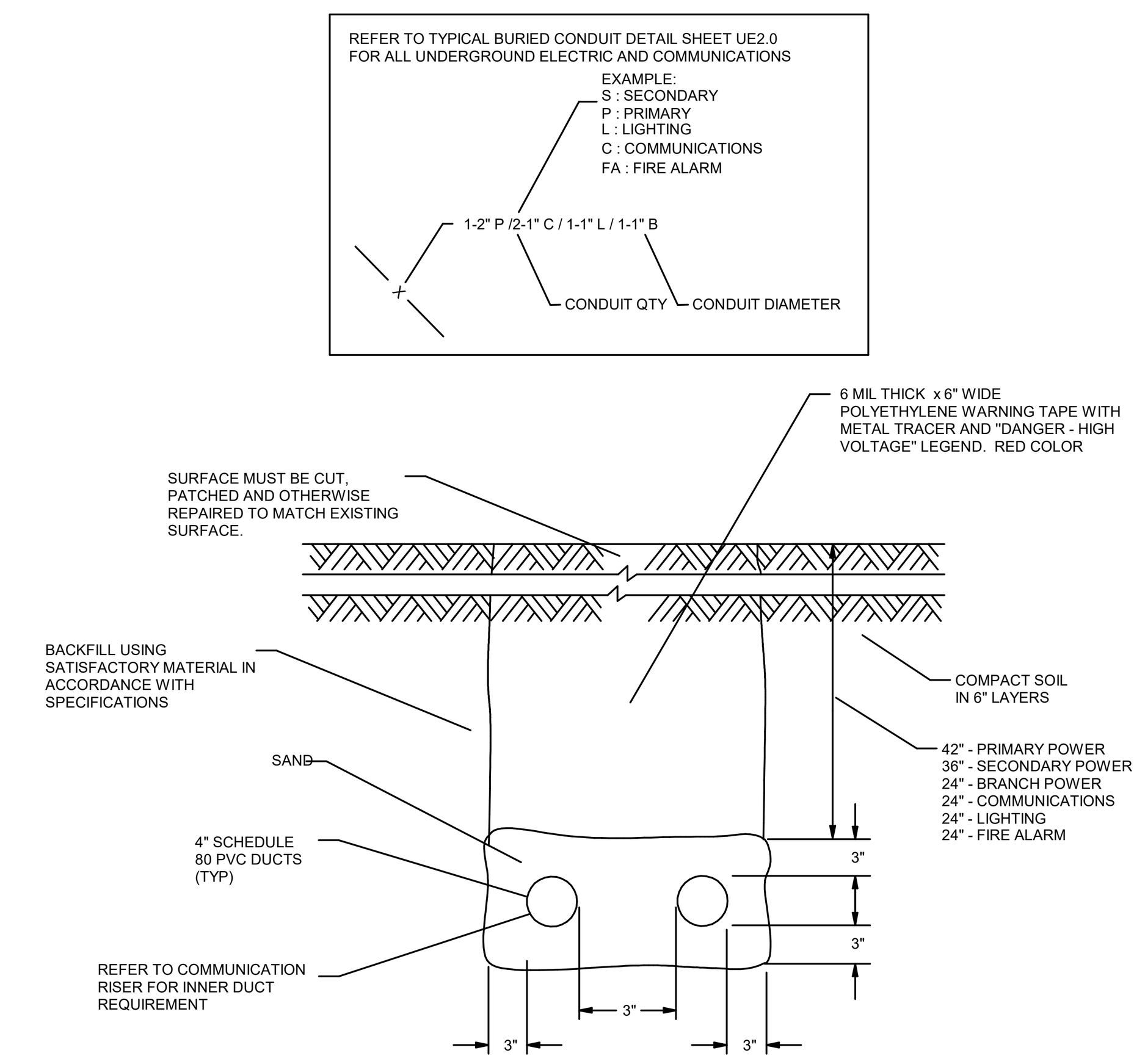
SCALE: NONE



GENERAL TROFFER SUPPORT DETAIL NOTES:
A. SUPPORT WIRES SHALL BE GALVANIZED REGULAR COATING, SOFT TEMPER, 0.1055 INCHES IN DIAMETER (12 GAGE).
B. ALTERNATELY, CONTRACTOR MAY SUPPORT FIXTURES WITH SINGLE WIRE FROM ALL FOUR CORNERS OF FIXTURE PER SPECIFICATIONS WITH NUMBER OF TWISTS AT FIXTURE AND NUMBER OF WRAPS AROUND STRUCTURE INDICATED IN THIS DETAIL.

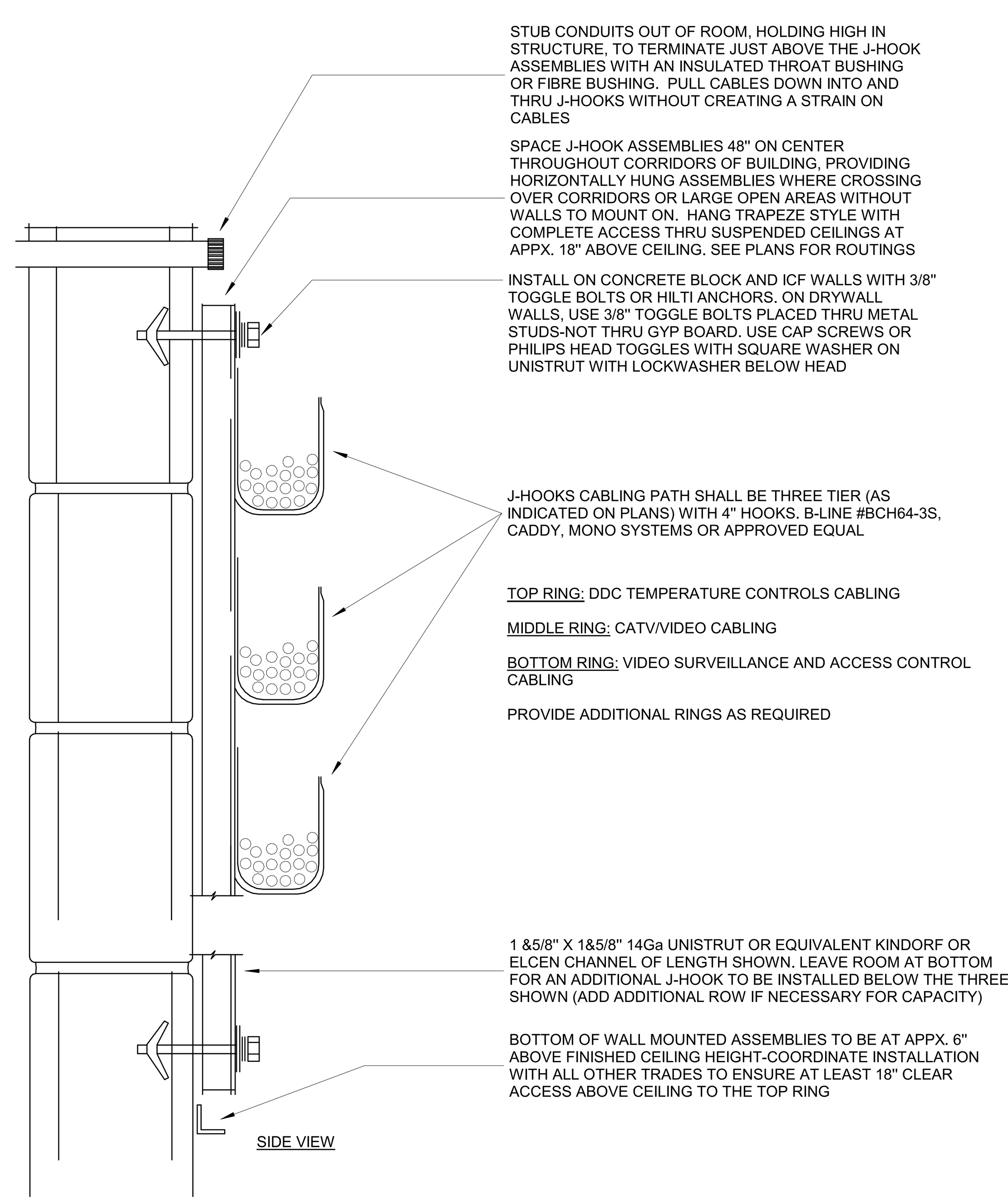
3 TROFFER SUPPORT DETAIL

SCALE: NONE



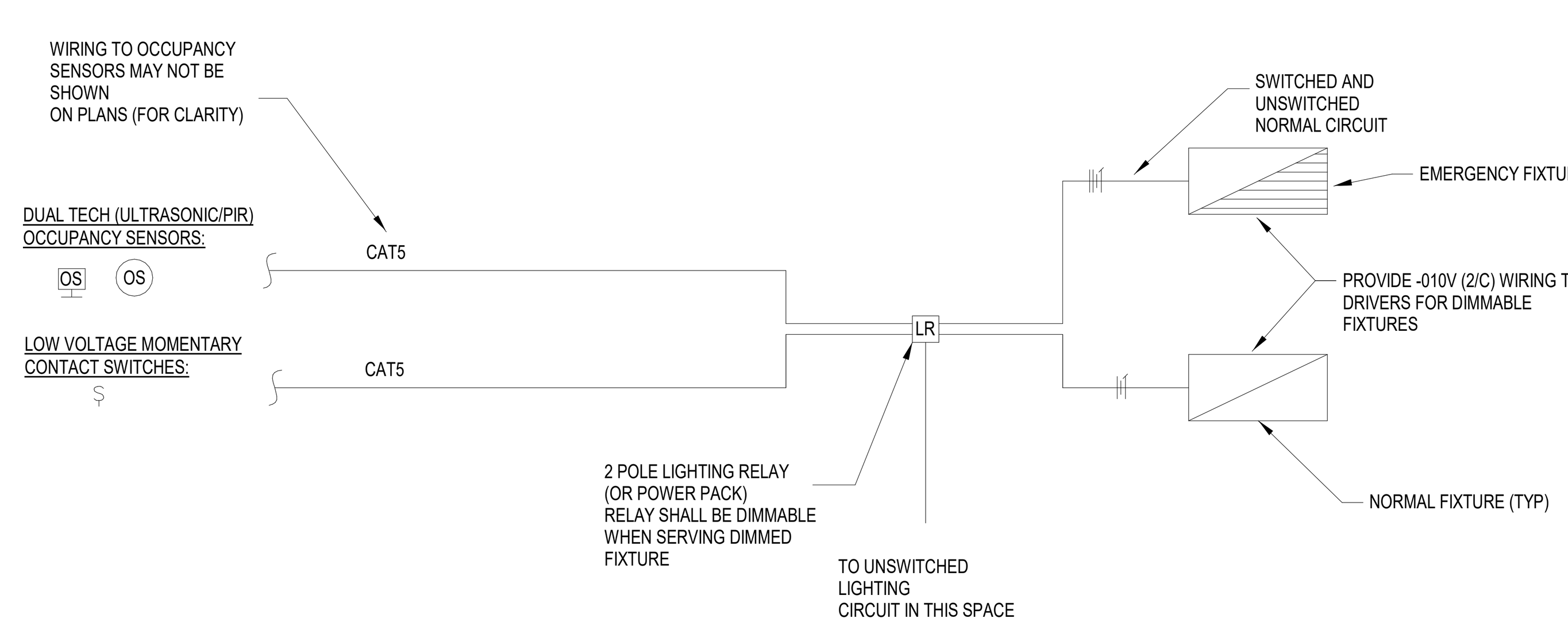
4 TYPICAL CONDUIT BURIAL DETAIL

SCALE: NONE



7 J-HOOK MOUNTING DETAIL

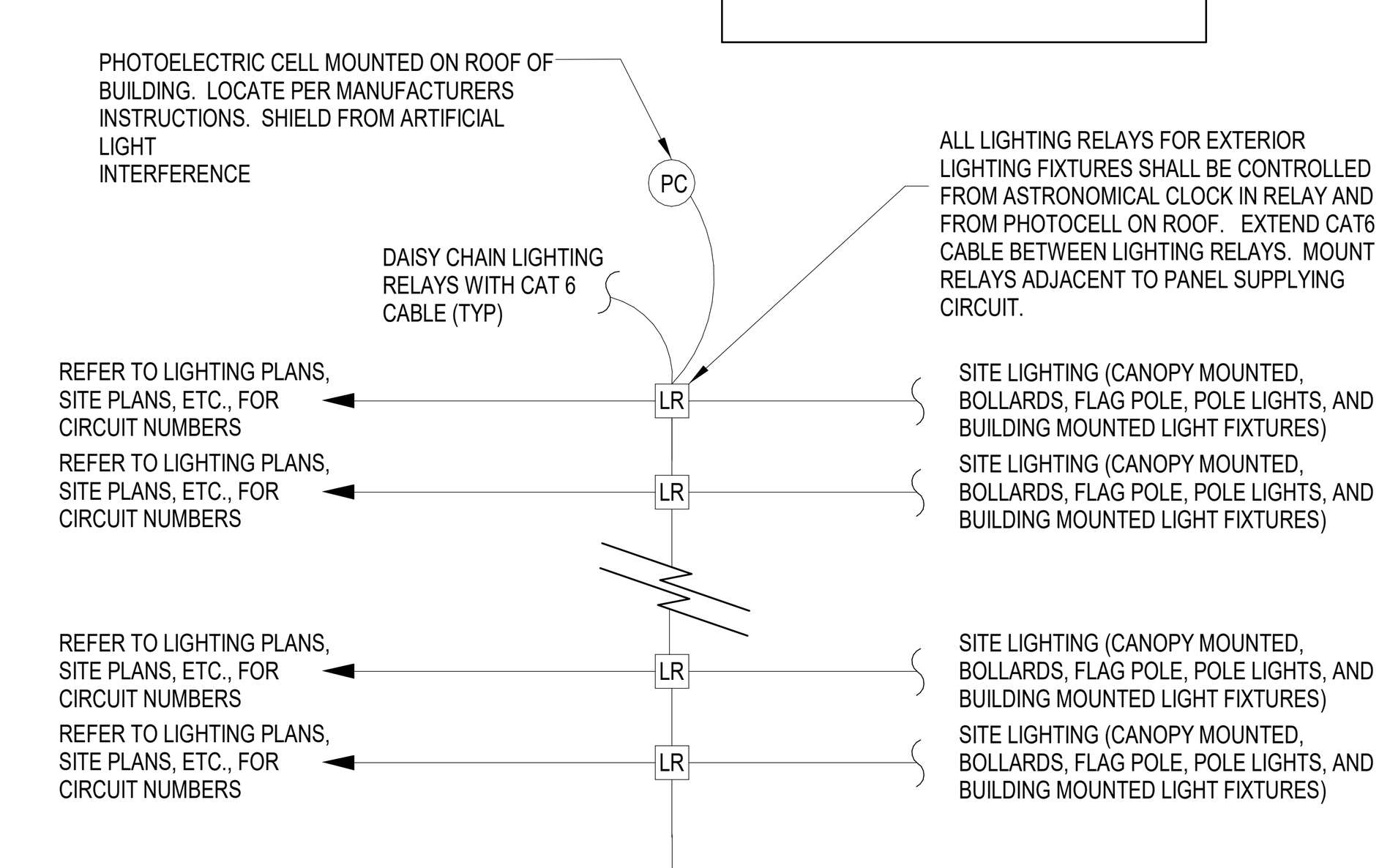
SCALE: NONE



6 LIGHTING CONTROL DIAGRAM

SCALE: NONE

BUILDING MOUNTED EXTERIOR FIXTURES:
EMERGENCY DRIVER ON EXTRIOR BUILDING MOUNTED EMERGENCY FIXTURE(S) SHALL BE WIRED TO ALLOW FOR FIXTURE TO BURN UPON POWER LOSS



*REFER TO LIGHTING PLANS AND ELECTRICAL SITE PLAN FOR EXACT QUANTITY OF FIXTURES/CIRCUITS TO BE CONTROLLED THROUGH EXTERIOR LIGHTING CONTROLS. ALL EXTERIOR FIXTURES (BUILDING MOUNTED, CANOPY MOUNTED, ON SITE, ETC.) SHALL BE CONTROLLED PER THIS DIAGRAM.

5 EXTERIOR LIGHTING CONTROL DIAGRAM

SCALE: NONE

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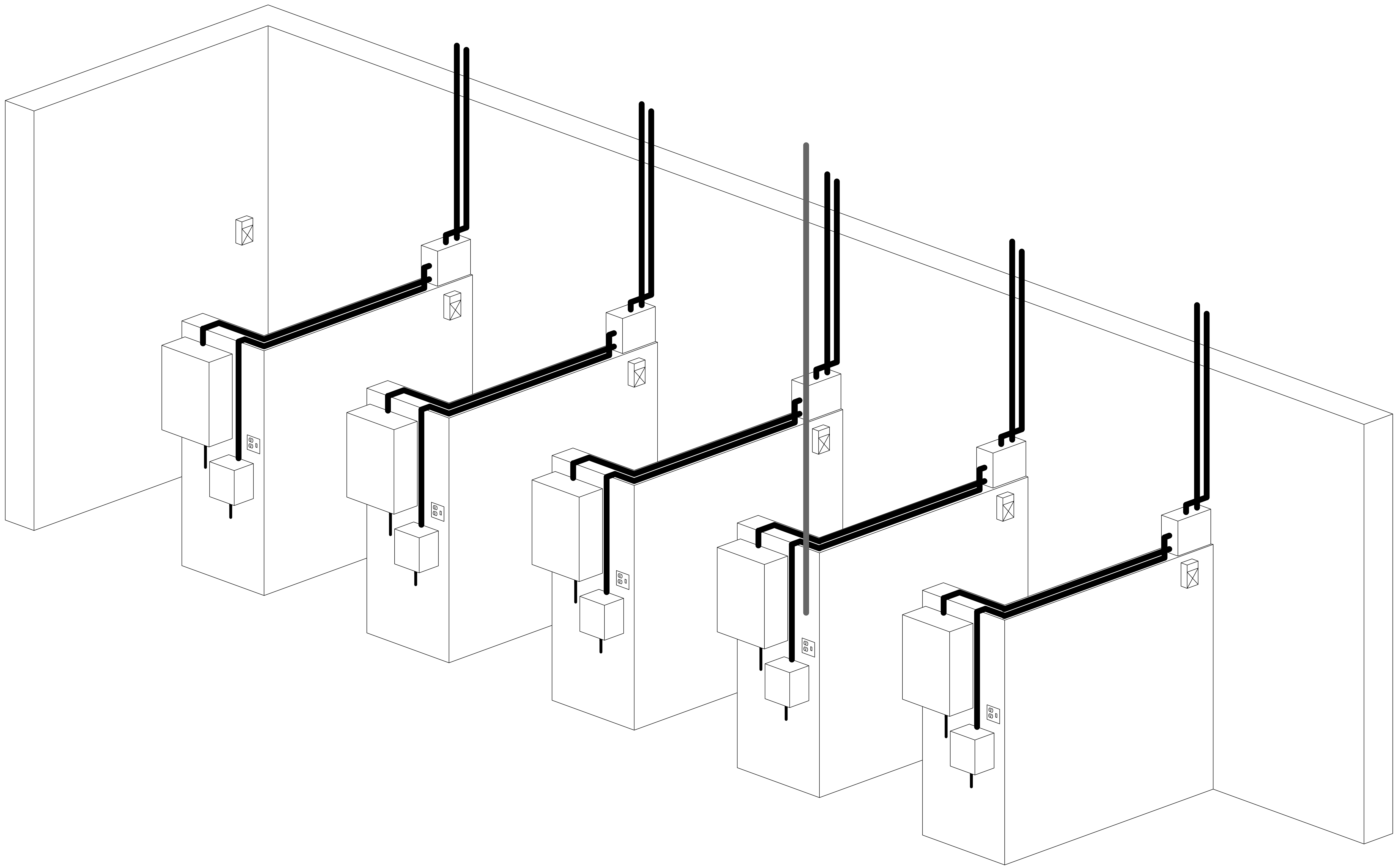
PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
ELECTRICAL DETAILS

SHEET NUMBER
E6.0



1 ELECTRICAL WELDING BOOTH DETAIL
SCALE: NONE

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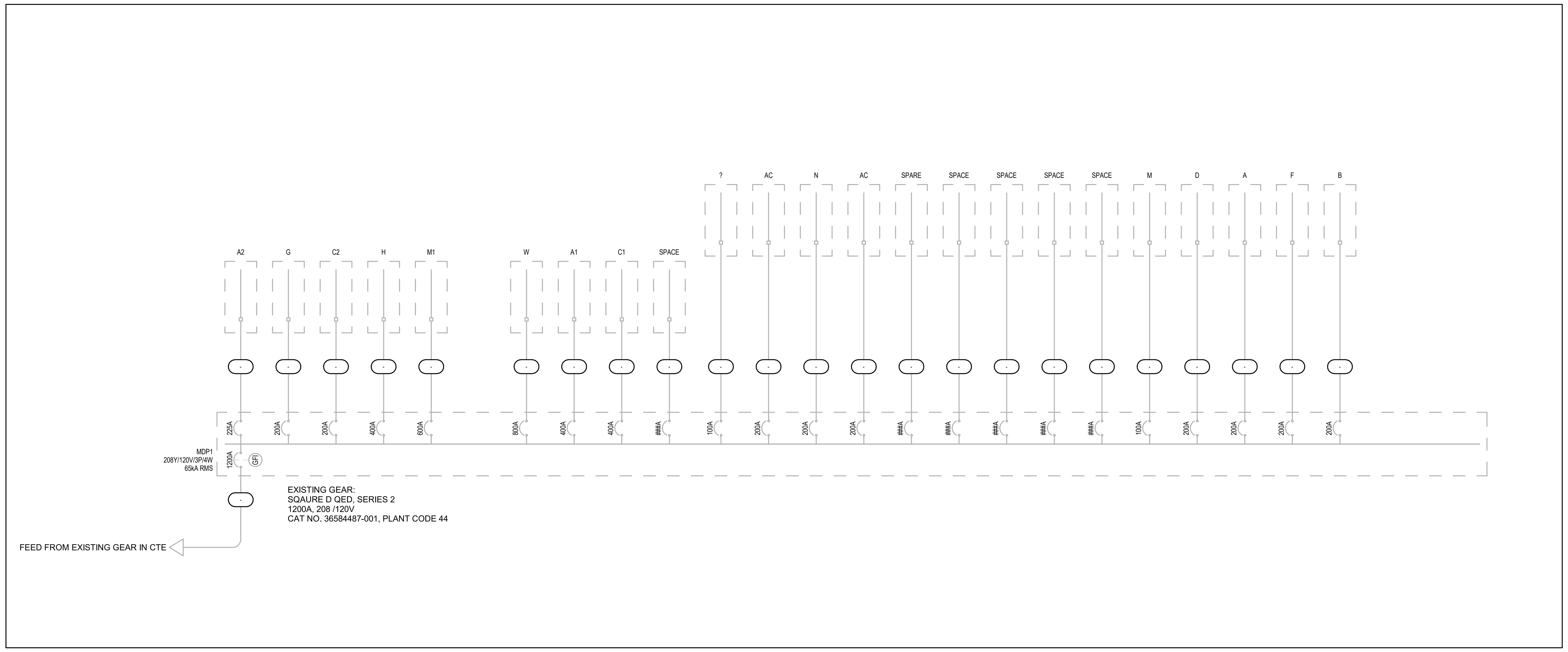
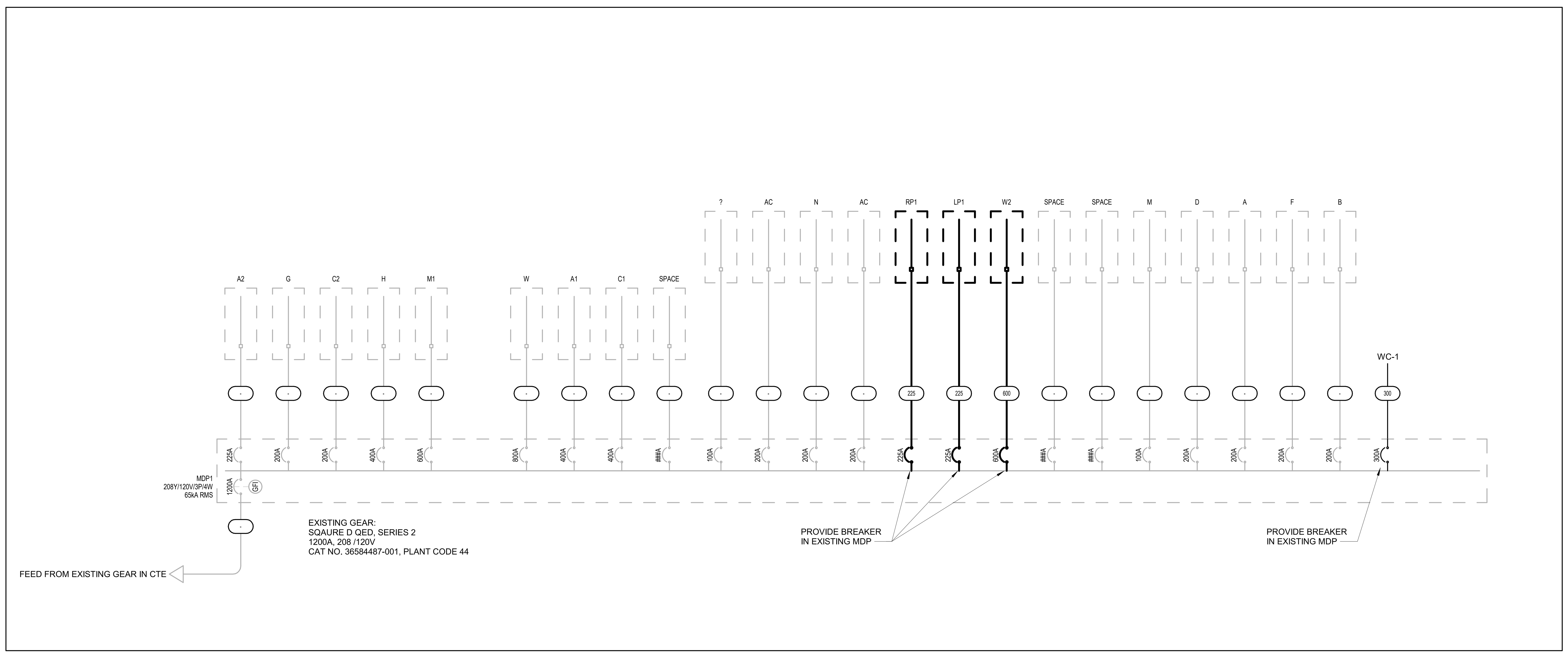


2 EXISTING ONE-LINE DIAGRAM
SCALE: NONE



1 NEW ONE-LINE DIAGRAM
SCALE: NONE

ONE-LINE FEEDER SCHEDULE (COPPER)

NOTES:
• TAGS WITH SUFFIX "-3W" ARE THREE-WIRE, NO NEUTRAL.

TAG	OCPD SETTING	WIRE SIZE	EQUIP. GROUND SIZE	CONDUIT SIZE
-	-	-	-	-
20	20/3 (4W)	(4) #12	(1) #12	3/4"
30	30/3 (4W)	(4) #10	(1) #10	3/4"
50	40/3 OR 50/3 (4W)	(4) #8	(1) #10	1"
60	60/3 (4W)	(4) #6	(1) #10	1"
80	70/3 OR 80/3 (4W)	(4) #4	(1) #8	1-1/4"
100	90/3 OR 100/3 (4W)	(4) #3	(1) #8	1-1/4"
110	110/3 (4W)	(4) #2	(1) #6	1-1/2"
125	125/3 (4W)	(4) #1	(1) #6	1-1/2"
150	150/3 (4W)	(4) #1/0	(1) #6	2"
175	175/3 (4W)	(4) #2/0	(1) #6	2"
200	200/3 (4W)	(4) #3/0	(1) #6	2"
225	225/3 (4W)	(4) #4/0	(1) #4	2-1/2"
250	250/3 (4W)	(4) #250 KCMIL	(1) #4	3"
300	300/3 (4W)	(4) #350 KCMIL	(1) #4	3"
350	350/3 (4W)	(4) #500 KCMIL	(1) #3	3-1/2"
400	400/3 (4W)	(4) #500 KCMIL	(1) #3	3-1/2"
600	600/3 (4W)	2 RUNS OF (4) - #350 KCMIL/PHASE	(1) #1	3"
EX	EXISTING TO REMAIN			

ONE-LINE DIAGRAM LINETYPE LEGEND

NEW
NEW ENCLOSURE
EXISTING
EXISTING ENCLOSURE
DEMOLITION

ONE-LINE NEW WORK TAGGED NOTES

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HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
ONE-LINE DIAGRAM

SHEET NUMBER
E7.0

ELEC - LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	BASIS OF DESIGN	EQUALS	LAMPS / CCT	DRIVER	MINIMUM LUMENS	MOUNTING	MAXIMUM WATTAGE	VOLTAGE	REMARKS
A	2X4 LED RECESSED TROFFER	2BLT4R-48LHE-LP835		40K		4900	RECESSED	34	120	
AE	2X4LED RECESSED TROFFER WITH INTEGRAL EMERGENCY BATTERY	2BLT4R-48LHE-LP835-E10WLCP		40K		4900	RECESSED	34	120	
C1	48" LED STRIPLIGHT	HZL1N-L48		40K		5000	SUSPENDED	0	120	
EM								0		
S1E	6" RECESSED LED CAN LIGHT FIXTURE WITH REMOTE EMERGENCY BATTERY	GOTHAM EVO SERIES		40K		2000	RECESSED	20	120	
W1	LED VAPOR PROOF, VANDAL RESISTANT WALL MOUNTED WELDING BOOTH LIGHT	ECLIPSE 220 SERIES		40K		1200	WALL	25	120	
X1	LED EXIT SIGN	LITHONIA TLE SERIES		40K		10	RECESSED	2	120	

PANELBOARD AND WIRING SCHEDULE

PANEL: LP1 **MAINS TYPE:** MCB **PANEL INTERRUPTING RATING:** <ENGINEER TO SPECIFY>
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** STORAGE XX3
AMPERES: 225 A **MOUNTING:** SURFACE **SUPPLY FROM:** EX. MDP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
	LTNG	1-#12, 1-#12, 1-#12	20	1	1	0.4	0.8					2	1	20	1-#10, 1-#10, 1-#10	LTNG	
	LTNG - WELDING BOOTH	1-#10, 1-#10, 1-#10	20	1	3			0.8				4					
					5							6					
					7							8					
					9							10					
					11							12					
					13							14					
					15							16					
					17							18					
					19							20					
					21							22					
					23							24					
					25							26					
					27							28					
					29							30					
					31							32					
					33							34					
					35							36					
					37							38					
					39							40					
					41							42					
						1.2 kVA		0.8 kVA		0.0 kVA							
						11 A		7 A		0 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
LTNG	1974 VA	100.00%	1974 VA	TOTAL CONNECTED LOAD:	1974 VA
				TOTAL ESTIMATED DEMAND:	1974 VA
				TOTAL CONNECTED CURRENT:	5 A
				TOTAL ESTIMATED DEMAND CURRENT:	5 A
				25 % ADDITIONAL CAPACITY:	1 A
				TOTAL PANEL CURRENT:	7 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: RP1 **MAINS TYPE:** MCB **PANEL INTERRUPTING RATING:** <ENGINEER TO SPECIFY>
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** STORAGE XX3
AMPERES: 225 A **MOUNTING:** SURFACE **SUPPLY FROM:** EX. MDP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
	NEW STORAGE RECEPT.	1-#12, 1-#12, 1-#12	20	1	1	0.4	0.4					2	1	20	1-#12, 1-#12, 1-#12	NEW STORAGE RECEPT.	
	NEW GIRLS RR RECEPT.	1-#12, 1-#12, 1-#12	20	1	3			0.2	0.2			4	1	20	1-#12, 1-#12, 1-#12	NEW BOYS RR RECEPT.	
	NEW CLASSROOM 116E RECEPT.	1-#12, 1-#12, 1-#12	20	1	5					0.7	0.4	6	1	20	1-#12, 1-#12, 1-#12	NEW STORAGE/CORRIDOR RECEPT.	
	NEW CLASSROOM 116E RECEPT.	1-#12, 1-#12, 1-#12	20	1	7	0.7	0.7					8	1	20	1-#10, 1-#10, 1-#10	NEW CLASSROOM 116H RECEPT.	
	NEW CLASSROOM 116E RECEPT.	1-#10, 1-#10, 1-#10	20	1	9			0.9	0.7			10	1	20	1-#10, 1-#10, 1-#10	NEW OFFICE 116G RECEPT.	
	REC	1-#12, 1-#12, 1-#12	20	1	11					0.2	0.5	12	1	20	1-#12, 1-#12, 1-#12	NEW CLASSROOM 116H RECEPT.	
	NEW BOYS RR HAND DRYER	1-#12, 1-#12, 1-#12	20	1	13	1.9	0.5					14	1	20	1-#12, 1-#12, 1-#12	NEW CLASSROOM 116E RECEPT.	
	NEW TRAP PRIMER	1-#12, 1-#12, 1-#12	20	1	15			0.5	1.9			16	1	20	1-#12, 1-#12, 1-#12	NEW GIRLS HAND DRYER	
	NEW GIRLS HAND DRYER	1-#12, 1-#12, 1-#12	20	1	17					1.9	3.7	18					
					19	3.7	3.7					20	3	35	3-#6, 1-#6, 1-#6	RTU-1	
	RTU-2	3-#8, 1-#8, 1-#10	35	3	21			3.7	3.7			22					
					23					3.7	0.2	24	1	20	1-#12, 1-#12, 1-#12	REC	
					25							26					
					27							28					
					29							30					
					31							32					
					33							34					
					35							36					
					37							38					
					39							40					
					41							42					
						11.9 kVA		11.7 kVA		11.2 kVA							
						100 A		98 A		93 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	28200 VA	80.00%	22560 VA	TOTAL CONNECTED LOAD:	34860 VA
REC	6660 VA	100.00%	6660 VA	TOTAL ESTIMATED DEMAND:	29220 VA
				TOTAL CONNECTED CURRENT:	97 A
				TOTAL ESTIMATED DEMAND CURRENT:	81 A
				25 % ADDITIONAL CAPACITY:	20 A
				TOTAL PANEL CURRENT:	101 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: EX C1 **MAINS TYPE:** MCB **PANEL INTERRUPTING RATING:** <ENGINEER TO SPECIFY>
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** CARPENTRY 104
AMPERES: 400 A **MOUNTING:** SURFACE **SUPPLY FROM:**

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
	EX. BAY LIGHTS	--	20	1	1	1.4	0.8					2	1	20	--	EX. OFFICE RECEPTS	
	EX. BAY LIGHTS	--	20	1	3			1.3	1.6			4	1	20	--	EX. CLASSROOM RECEPTS	
	EX. BAY LIGHTS	--	20	1	5					1.2	1.2	6	1	20	--	EX. CLASSROOM DESK RECEPTS	
	EX. CLASSROOM/OFFICE/STORAG...	--	20	1	7	1.3	1.2					8	1	20	--	EX. STORAGE RECEPTS	
					9			3.3	0.8			10	1	20	--	EX. SHOP RECEPTS	
	EX. RTU 12	--	45	3	11					3.3	0.8	12	1	20	--	EX. SHOP/OUTSIDE RECEPTS	
					13	3.3	2.5					14					
	EX. SHUNT TRIP	--	20	1	15			1.5	2.5			16	3	30	--	EX. RTU 13	
					17					2.5	2.5	18					
	EX. 30A DISC. DRILL PRESS	--	20	3	19	2.5	2.5					20					
					21			2.5	2.5			22	3	20	--	EX. 30A DISC DILL PRESS	
	EX. SHUNT TRIP	--	20	1	23					1.5	2.5	24					
					25	3.0	1.5					26	1	20	--	EX. SHUNT TRIP	
	EX. 30A DISC. SANDER	--	20	3	27			3.0	1.5			28					
					29					3.0	1.5	30	3	20	--	EX. 30A DISC. TABLE SAW	
	EX. SHUNT TRIP	--	20	1	31	1.5	1.5					32					
					33			3.0	1.5			34	1	20	--	EX. SHUNT TRIP	
	EX. 30A DISC. PLANER	--	20	3	35					3.0	2.2	36					
					37	3.0	2.2					38	3	20	--	EX. 30A DISC. TABLE SAW	
	EX. SPARE	--	20	1	39			0.0	2.2			40					
	NEW BLADDER TANK CONTROL PNL	1-#12, 1-#12, 1-#12	20	1	41					0.1	1.5	42	1	20	--	EX. SHUNT TRIP	
	EX. SHOP RECEPTS	--	20	1	43	1.0	1.2					44	1	20	--	EX. CORD REEL	
	EX. SPARE	--	20	1	45			0.0	1.2			46	1	20	--	EX. CORD REEL	
	EX. SPARE	--	20	1	47					0.0	1.2	48	1	20	--	EX. CORD REEL	
	EX. SPARE	--	20	1	49	0.0	9.0					50					
	EX. SPARE	--	20	1	51			0.0	9.0			52	3	150	3-#3/0, 1-#3/0, 1-#6	NEW DC-1	
	EX. SPARE	--	20	1	53					0.0	9.0	54					
	EX. SPARE	--	20	1	55	0.0	0.0					56	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	57			0.0	0.0			58	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	59					0.0	0.0	60	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	61	0.0	0.0					62	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	63			0.0	0.0			64	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	65					0.0	0.0	66	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	67	0.0	0.0					68	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	69			0.0	0.0			70	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	71					0.0	0.0	72	1	20	--	EX. SPARE	
						39.4 kVA		37.4 kVA		37.0 kVA							
						329 A		312 A		308 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	27100 VA	80.00%	21680 VA	TOTAL CONNECTED LOAD:	113800 VA
Spare	86700 VA	100.00%	86700 VA	TOTAL ESTIMATED DEMAND:	108380 VA
				TOTAL CONNECTED CURRENT:	316 A
				TOTAL ESTIMATED DEMAND CURRENT:	301 A
				25 % ADDITIONAL CAPACITY:	75 A
				TOTAL PANEL CURRENT:	376 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: EX C2 **MAINS TYPE:** MCB **PANEL INTERRUPTING RATING:** <ENGINEER TO SPECIFY>
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** CARPENTRY 104
AMPERES: 225 A **MOUNTING:** SURFACE **SUPPLY FROM:**

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	1.7	2.7					2					
	EX. CARP. CLASSROOM RTU 10	3-#10, 1-#10, 1-#10	30	3	3			1.7	2.7			4	3	45	3-#6, 1-#6, 1-#10	EX. WELDING 5 TON RTU 9	
					5					1.7	2.7	6					
					7	0.0	6.7					8					
	EX. SPARE	--	30	3	9			0.0	6.7			10	3	80	3-#3, 1-#3, 1-#8	EX. CARP. 10 TON RTU 11	
					11					0.0	6.7	12					
					13	2.9	6.7					14					
	EX. SPARE	--	60	3	15			2.9	6.7			16	3	80	3-#3, 1-#3, 1-#8	EX. WELDING 10 TON RTU 8	
					17					2.9	6.7	18					
	SPARE	--	20	1	19	0.0	0.0					20	1	20	--	SPARE	
	SPARE	--	20	1	21			0.0	0.0			22	1	20	--	SPARE	
	SPARE	--	20	1	23					0.0	0.0	24	1	20	--	SPARE	
	SPARE	--	20	1	25	0.0	0.0					26	1	20	--	SPARE	
	SPARE	--	20	1	27			0.0	0.0			28	1	20	--	SPARE	
	SPARE	--	20	1	29					0.0	0.0	30	1	20	--	SPARE	
	SPARE	--	20	1	31	0.0	4.0					32					
	SPARE	--	20	1	33			0.0	4.0			34	3	45	3-#6, 1-#6, 1-#10	NEW 10HP AIR COMPRESSOR	
	SPARE	--	20	1	35					0.0	4.0	36					
	SPARE	--	20	1	37	0.0	1.0					38	1	20	--	EX. RECEPTION DESK RECEPT	
	SPARE	--	20	1	39			0.0	1.0			40	1	20	--	EX. RECEPTION DESK RECEPT	
	EX. UNDER PANEL RECEPT.	--	20	1	41					1.0	1.0	42	1	20	--	EX. RECEPTION DESK RECEPT	
						25.6 kVA		25.6 kVA		26.6 kVA							
						213 A		213 A		221 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	65000 VA	80.00%	52000 VA	TOTAL CONNECTED LOAD:	77700 VA
Spare	12700 VA	100.00%	12700 VA	TOTAL ESTIMATED DEMAND:	64700 VA
				TOTAL CONNECTED CURRENT:	216 A
				TOTAL ESTIMATED DEMAND CURRENT:	180 A
				25 % ADDITIONAL CAPACITY:	45 A
				TOTAL PANEL CURRENT:	224 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

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JOB NUMBER	Y21037/XHCR23
DRAWN BY	ASP
CHECKED BY	BWR
DATE	02/01/24

No.	Description	Date

STATE OF KENTUCKY
BRADLEY WYNN REEVES
20984
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
ELECTRICAL PANEL SCHEDULES

SHEET NUMBER
E8.0

PANELBOARD AND WIRING SCHEDULE

PANEL: W2 | **MAINS TYPE:** MLO | **PANEL INTERRUPTING RATING:** <ENGINEER TO SPECIFY>
VOLTAGE: 208Y/120V,3P,4W | **SPD:** | **LOCATION:** WELDING 106
AMPERES: 600 A | **MOUNTING:** SURFACE | **SUPPLY FROM:** EX. MDP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
	100A DISCONNECT #10	2-#1, 1-#1, 1-#8	100	2	1	8.0	0.0					2	1	20	--	SPARE	
					3			8.0	11.6			4	2	150	2-#3/0, 1-#3/0, 1-#6	200A DISCONNECT #2	
	200A DISCONNECT #1	2-#3/0, 1-#3/0, 1-#6	150	2	5					11.6	11.6	6					
					7	11.6	11.6					8	2	150	2-#3/0, 1-#3/0, 1-#6	200A DISCONNECT #4	
	200A DISCONNECT #3	2-#3/0, 1-#3/0, 1-#6	150	2	9			11.6	11.6			10					
					11					11.6	11.6	12	2	150	2-#3/0, 1-#3/0, 1-#6	200A DISCONNECT #6	
	200A DISCONNECT #5	2-#3/0, 1-#3/0, 1-#6	150	2	13	11.6	11.6					14					
					15			11.6	11.6			16	2	150	2-#3/0, 1-#3/0, 1-#6	200A DISCONNECT #8	
	200A DISCONNECT #7	2-#3/0, 1-#3/0, 1-#6	150	2	17					11.6	11.6	18					
					19	11.6						20					
	SPACE	--	--	1	21			--	0.0			22	1	20	--	SPARE	
	SPACE	--	--	1	23					--	--	24	1	--	--	SPACE	
	SPACE	--	--	1	25	--	--					26	1	--	--	SPACE	
	SPACE	--	--	1	27			--	--			28	1	--	--	SPACE	
	SPACE	--	--	1	29					--	--	30	1	--	--	SPACE	
	SPACE	--	--	1	31	--	--					32	1	--	--	SPACE	
	SPACE	--	--	1	33			--	--			34	1	--	--	SPACE	
	SPACE	--	--	1	35					--	--	36	1	--	--	SPACE	
	SPACE	--	--	1	37	--	--					38	1	--	--	SPACE	
	SPACE	--	--	1	39			--	--			40	1	--	--	SPACE	
	SPACE	--	--	1	41					--	--	42	1	--	--	SPACE	
						66.2 kVA		66.2 kVA		69.9 kVA							
						552 A		552 A		582 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	202268 VA	80.00%	161814 VA	TOTAL CONNECTED LOAD:	202268 VA
				TOTAL ESTIMATED DEMAND:	161814 VA
				TOTAL CONNECTED CURRENT:	561 A
				TOTAL ESTIMATED DEMAND CURRENT:	449 A
				25 % ADDITIONAL CAPACITY:	112 A
				TOTAL PANEL CURRENT:	561 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: EX W | **MAINS TYPE:** MCB | **PANEL INTERRUPTING RATING:** <ENGINEER TO SPECIFY>
VOLTAGE: 208Y/120V,3P,4W | **SPD:** | **LOCATION:** WELDING 106
AMPERES: 800 A | **MOUNTING:** SURFACE | **SUPPLY FROM:**

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
	200A DISCONNECT #15	2-#3/0, 1-#3/0, 1-#6	150	2	1	11.6	5.3					2	3	60	3-#4, 1-#4, 1-#10	EX. DISCONNECT #7	
					3			11.6	5.3			4					
	100A DISCONNECT #15	2-#1, 1-#1, 1-#8	100	2	5					7.9	5.3	6					
					7	7.9	0.0					8	1	20	--	EX. SPARE	
	200A DISCONNECT #14	2-#3/0, 1-#3/0, 1-#6	150	2	9			11.6	1.0			10	1	20	1-#12, 1-#12, 1-#12	EX. DISCONNECT #8	
					11					11.6	0.0	12	1	20	--	EX. SPARE	
	100A DISCONNECT #14	2-#1, 1-#1, 1-#8	100	2	13	7.9	0.0					14	1	20	--	EX. EMERGENCY SHUT DOWN	
					15			7.9	2.1			16	2	20	--	EX. ROD DRYER	
	100A DISCONNECT #13	2-#1, 1-#1, 1-#8	100	2	17					7.9	2.1	18					
					19	7.9	2.3					20	2	30	--	EX. AIR COMPRESSOR	
	200A DISCONNECT #13	2-#3/0, 1-#3/0, 1-#6	150	2	21			11.6	2.3			22					
					23					11.6	0.0	24	1	20	--	EX. SPARE	
	200A DISCONNECT #12	2-#3/0, 1-#3/0, 1-#6	150	2	25	11.6	2.8					26	2	30	2-#10, 1-#10, 1-#10	EX. CUTTING MACHINE	
					27			11.6	2.8			28					
	200A DISCONNECT #11	2-#3/0, 1-#3/0, 1-#6	150	2	29					11.6	11.6	30	2	150	2-#3/0, 1-#3/0, 1-#6	200A DISCONNECT #10	
					31	11.6	11.6					32					
	100A DISCONNECT #12	2-#1, 1-#1, 1-#8	100	2	33			7.9	7.9			34	2	100	2-#1, 1-#1, 1-#8	100A DISCONNECT #11	
					35					7.9	7.9	36					
	EX. SPARE	--	20	1	37	0.0	11.6					38	2	150	2-#3/0, 1-#3/0, 1-#6	200A DISCONNECT #9	
	EX. SPARE	--	20	1	39			0.0	11.6			40					
	EX. SPARE	--	20	1	41					0.0	0.0	42	1	20	--	EX. SPARE	
	EX. SPACE	--	20	3	43	0.0	--					44	3	--	--	EX. SPACE	
					45			0.0	--			46					
					47					0.0	--	48					
						92.3 kVA		95.4 kVA		85.6 kVA							
						778 A		804 A		713 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	264515 VA	80.00%	211612 VA	TOTAL CONNECTED LOAD:	273315 VA
Spare	8800 VA	100.00%	8800 VA	TOTAL ESTIMATED DEMAND:	220412 VA
				TOTAL CONNECTED CURRENT:	759 A
				TOTAL ESTIMATED DEMAND CURRENT:	612 A
				25 % ADDITIONAL CAPACITY:	153 A
				TOTAL PANEL CURRENT:	765 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

PANELBOARD AND WIRING SCHEDULE

PANEL: EX G | **MAINS TYPE:** MCB | **PANEL INTERRUPTING RATING:** 20kA
VOLTAGE: 208Y/120V,3P,4W | **SPD:** | **LOCATION:** WELDING 106
AMPERES: 225 A | **MOUNTING:** SURFACE | **SUPPLY FROM:**

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1		1.0					2	1	20	--	EX. CLASSROOM RECEPT	
					3				1.0			4	1	20	--	EX. STORAGE RECEPT	
					5						1.0	6	1	20	--	EX. CLASSROOM RECEPT	
	EX. BAY LTS	--	20	1	7	1.5	1.0					8	1	20	--	EX. SHOP	
	EX. BAY LTS	--	20	1	9			1.5	1.0			10	1	20	--	EX. SHOP	
	EX. CLASSROOM/STORAGE LTS	--	20	1	11					1.5	0.5	12	1	20	--	EX. GARAGE DOOR OPENER	
	EX. CORD REEL	--	20	1	13	0.8	0.8					14	1	20	--	SPARE	
	EX. CORD REEL	--	20	1	15			0.8	0.8			16	1	20	--	SPARE	
	EX. CORD REEL	--	20	1	17					0.8	0.8	18	1	20	--	EX. SPARE	
	REC WELDING BOOTHS	1-#12, 1-#12, 1-#12	20	1	19	1.0	0.0					20	1	20	--	EX. SPARE	
	REC WELDING BOOTHS	1-#12, 1-#12, 1-#12	20	1	21			1.0	1.0			22	1	20	1-#12, 1-#12, 1-#12	REC WELDING BOOTHS	
	REC WELDING BOOTHS	1-#12, 1-#12, 1-#12	20	1	23					1.0	1.0	24	1	20	1-#12, 1-#12, 1-#12	REC WELDING BOOTHS	
	REC WELDING BOOTHS	1-#12, 1-#12, 1-#12	20	1	25	1.0	0.5					26	1	20	1-#12, 1-#12, 1-#12	REC WELDING BOOTHS	
	EX. SPARE	--	20	3	27			0.0	0.0			28	1	20	--	EX. SPARE	
					29					0.0	1.0	30	1	20	1-#12, 1-#12, 1-#12	REC WELDING BOOTHS	
					31	0.0	0.0					32	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	33			0.0	0.0			34	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	35					0.0	0.0	36	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	37	0.0	0.0					38	1	20	--	EX. SPARE	
	EX. SPARE	--	20	1	39			0.0	0.0			40	1	20	--	EX. SPARE	
					41						0.0	42	1	20	--	EX. SPARE	
						7.6 kVA		7.1 kVA		7.6 kVA							
						64 A		59 A		64 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
REC	7500 VA	100.00%	7500 VA	TOTAL CONNECTED LOAD:	22300 VA
Spare	14800 VA	100.00%	14800 VA	TOTAL ESTIMATED DEMAND:	22300 VA
				TOTAL CONNECTED CURRENT:	62 A
				TOTAL ESTIMATED DEMAND CURRENT:	62 A
				25 % ADDITIONAL CAPACITY:	15 A
				TOTAL PANEL CURRENT:	77 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

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HENDERSON COUNTY SCHOOLS
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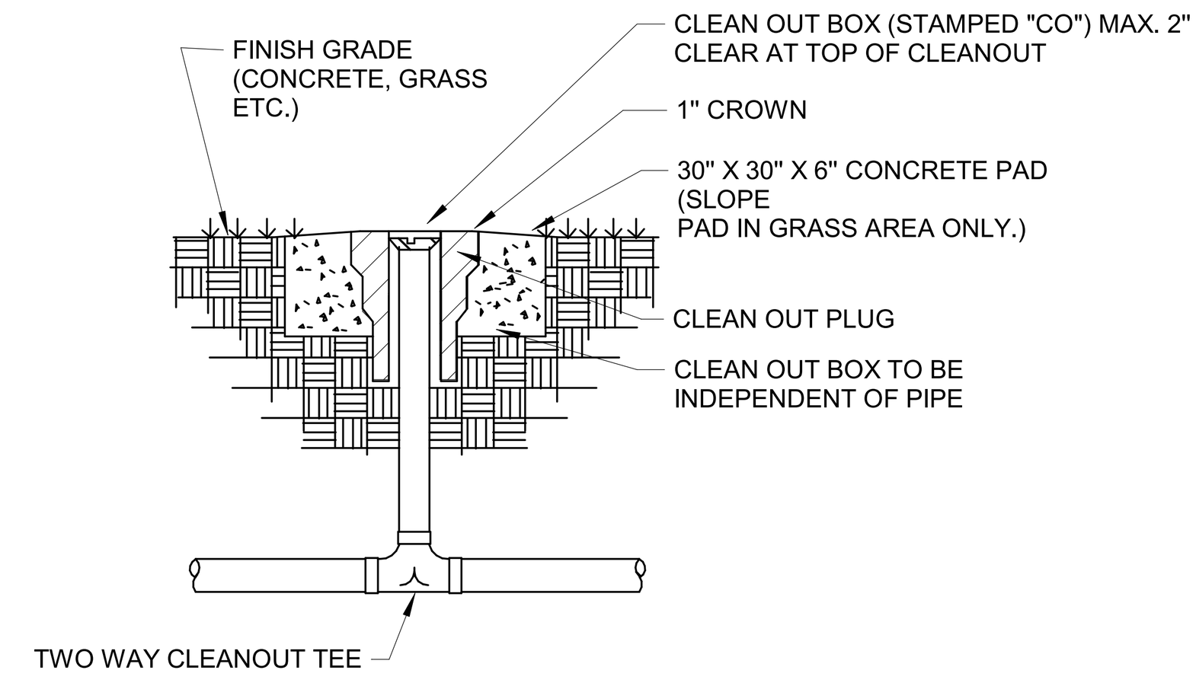
HENDERSON COUNTY CTE RENOVATION
ELECTRICAL PANEL SCHEDULES

SHEET NUMBER
E8.1



NOTE: ALL CLEANOUTS SHALL BE FLUSH WITH THE ELEVATION OF THE SURFACE ON WHICH IT IS BEING INSTALLED, WHETHER IT BE GRASS OR CONCRETE. INSTALL PER KBC AND OTHER APPLICABLE CODES.

3 EXTERIOR CLEANOUT DETAIL

SCALE: NONE

ELECTRICAL SITE NOTES:

A. DO NOT SCALE FROM MECHANICAL AND ELECTRICAL DRAWINGS. FIELD VERIFY REQUIRED DIMENSIONS AND COORDINATE WITH CIVIL DRAWINGS AND SURVEYS.
B. REFER ALSO TO ALL OTHER PLANS AND THE SPECIFICATION, BUT ESPECIALLY TO: THE SITE SURVEY, THE ARCHITECTURAL SITE PLAN, THE SITE GRADING PLAN, THE PLANTING PLAN (WHERE AVAILABLE), FOUNDATION PLAN(S), APPROPRIATE MECHANICAL & ELECTRICAL FLOOR PLANS FOR SERVICE CONTINUATIONS, THE SITE UTILITY PLAN - MECHANICAL & ELECTRICAL. WHERE THERE ARE CONFLICTS AMONG THESE PLANS AND/OR RELATED SPECIFICATIONS, ADVISE THESE ENGINEERS AT LEAST TEN DAYS PRIOR TO SUBMISSION OF BIDS.
C. ALL FEES AND ANY OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC. ARE TO BE INCLUDED AS A PART OF THIS CONTRACT.
D. FEDERAL, STATE, LOCAL, MUNICIPALITY AND UTILITY COMPANY CODES, RULES, REGULATIONS AND REQUIREMENTS APPLY UNLESS EXCEEDED BY THIS DESIGN.
E. WHEN INTERRUPTION OF AN EXISTING UTILITY OR SERVICE IS PLANNED OR OCCURS ACCIDENTALLY, THE CONTRACTOR(S) SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME PROVIDING PREMIUM TIME AS NEEDED AT NO INCREASE IN THE CONTRACT PRICE.
F. LOCATIONS, DEPTHS, MATERIAL TYPES, ELEVATIONS, ETC. OF ALL APPURTENANCES, LINES, BUILDINGS, ETC. INDICATED ON THESE DRAWINGS WERE TAKEN FROM VARIOUS SOURCES, ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO SUBSTANTIAL VARIATION FROM EXISTING CONDITIONS, EXISTING UTILITIES LOCATIONS MAY VARY. CONSEQUENTLY ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS.
G. PROVIDE LONG RADIUS ELBOWS FOR UNDERGROUND CONDUIT BENDS. WHERE SERVING A UTILITY OWNED TRANSFORMER, THE UTILTY STANDARDS SHALL TAKE PRECEDENCE.
H. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. IF ANY VARIATION OCCURS, CONSULT THE ENGINEER. CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY THE ROUTING OF ALL UTILITIES NEW AND EXISTING PRIOR TO SUBMISSION OF BIDS. SUBMISSION OF A BID PROPOSAL INDICATES THAT THE CONTRACTOR IS FULLY AWARE OF ALL OBSTRUCTIONS AND WILL INSTALL ALL OF THE NEW UTILITIES WITHOUT REQUESTS FOR ANY ADDITIONAL CHANGES.
I. PROVIDE GALVANIZED RIGID CONDUIT FOR EXTERIOR UNDERGROUND TRANSITIONS TO ABOVE GRADE; EXTEND CONDUIT A MINIMUM OF 6" ABOVE GRADE.
J. CONTRACTOR SHALL PERFORM A SMOKE TEST ON ALL CONDUITS INSTALLED ON SITE AND SHALL TAKE ALL NECESSARY CORRECTIVE ACTION IF NOT FOUND IN COMPLIANCE WITH FACILITY STANDARDS.
K. CONTRACTOR SHALL CONTACT ENGINEER FOR INSPECTION OF TRENCHES PRIOR TO INSTALLATION OF CONDUITS OR RACEWAYS. PROVIDE PHOTOS UPON REQUEST.
L. CONTRACTOR SHALL CUT AND PATCH ALL PAVEMENT, CURBING, ETC. AS REQUIRED FOR WORK. CONTRACTOR SHALL REPAIR ALL LANDSCAPING THAT IS DAMAGED FOR WORK. FINISH GRADE, SEED AND STRAW ALL DISTURBED GREEN SPACES. ALL PATCH AND REPAIR WORK SHALL BE IN ACCORDANCE WITH BOTH CIVIL AND LANDSCAPE DRAWINGS AND SPECIFICATIONS.
M. COORDINATE UNDERGROUND ELECTRICAL WITH ALL LANDSCAPING AND FENCING, ADJUST ELECTRICAL LINES TO AVOID CONFLICTS. REFER TO LANDSCAPING PLANS FOR FURTHER INFORMATION. AVOID ROUTING UNDERGROUND CONDUITS UNDER ROADWAYS OR PARKING LOTS, CROSS ROADWAYS WITH UNDERGROUND CONDUITS AT 90 ANGLES WHERE POSSIBLE.
N. PLANNED INTERRUPTION OF ANY SERVICE SHALL BE COORDINATED WITH THE APPROPRIATE MUNICIPALITY OR UTILITY COMPANY, THE ARCHITECT, AND THE BUILDING OPERATORS AT LEASTE ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED FROM THEM AT LEAST TWO WEEKS IN ADVANCE IN WRITING AND INSURE THAT THEY DO NOT DELAY WORK.
O. THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE DRAWINGS ARE APPROXIMATE ONLY.
P. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY EXCAVATION WORK REQUIRED TO LOCATE UNDERGROUND UTILITIES. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY ANY OTHER AFFECTED UTILITY OWNERS PRIOR TO DIGGING. IN THE EVENT OF ACCIDENTAL INTERRUPTION OF SERVICE, CONTRACTOR WILL IMMEDIATELY NOTIFY THE OTHER UTILITY OWNERS.
Q. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD OTHER EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE OTHER UTILITIES. THE UTILITY WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT.
R. CONTRACTOR SHALL PAY ALL TAP FEES, UTILITY COST, UTILITY CONNECTION COSTS, METER FEES, EXTENSION AND DEVELOPMENT CHARGES. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
S. THE UTILITY WILL PROVIDE STAKING DATA INCLUDING NORTHING AND EASTING DATA AS REQUIRED OR SHOWN ON DRAWINGS.
T. REATTACH ALL TAPS AND TRANSFORMERS AS TO MAINTAIN EXISTING PHASE CONNECTIONS.
U. CONTRACTOR RESPONSIBLE FOR MAINTAINING DOWNSTREAM SERVICE FROM REMOVED EQUIPMENT ON SITE. INCLUDING BUT NOT LIMITED TO SITE LIGHTING, TRANSFORMERS, ETC.
V. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE-DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.
W. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES/FIXTURES/ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON).
X. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.
Y. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

MECHANICAL SITE NOTES:

A. DO NOT SCALE FROM MECHANICAL AND ELECTRICAL DRAWINGS. FIELD VERIFY REQUIRED DIMENSIONS.
B. CONTRACTOR SHALL CUT AND PATCH ALL PAVEMENT, CURBING, ETC. AS REQUIRED FOR WORK. CONTRACTOR SHALL REPAIR ALL LANDSCAPING THAT IS DAMAGED FOR WORK.
C. FEDERAL, STATE, LOCAL, MUNICIPALITY AND UTILITY COMPANY CODES, RULES, REGULATIONS AND REQUIREMENTS APPLY UNLESS EXCEEDED BY THIS DESIGN.
D. WHEN INTERRUPTION OF AN EXISTING UTILITY OR SERVICES IS PLANNED OR OCCURS ACCIDENTALLY, THE CONTRACTOR(S) SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME PROVIDING PREMIUM TIME AS NEEDED AT NO INCREASE IN THE CONTRACT PRICE.
E. PLANNED INTERRUPTION OF ANY SERVICE SHALL BE COORDINATED WITH THE APPROPRIATE MUNICIPALITY OR UTILITY COMPANY, THE ARCHITECT AND THE BUILDING OPERATORS AT LEAST ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED FROM THEM AT LEAST TWO WEEKS IN ADVANCE IN WRITING AND INSURE THAT THEY DO NOT DELAY WORK.
F. LOCATIONS, DEPTHS, MATERIAL TYPES, ELEVATIONS, ETC. OF ALL APPURTENANCES, LINES, BUILDINGS, ETC. INDICATED ON THESE DRAWINGS WERE TAKEN FROM VARIOUS SOURCES, ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO SUBSTANTIAL VARIATION FROM EXISTING CONDITIONS. EXISTING UTILITIES LOCATIONS MAY VARY (CONSEQUENTLY ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE, AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS. UTILITIES SHALL ALSO BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. IF ANY VARIATION OCCURS, CONSULT THE BUILDING ENGINEER AND THE MECHANICAL ENGINEER'S REPRESENTATIVE). CONTRACTOR SHALL VISIT SITE AND FIELD VERIFY THE ROUTING OF ALL UTILITIES.
G. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR COORDINATION WITH OTHER UTILITIES.
H. THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE DRAWINGS ARE APPROXIMATE ONLY.
I. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY EXCAVATION WORK REQUIRED TO LOCATE UNDERGROUND UTILITIES. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY ANY OTHER AFFECTED UTILITY OWNERS PRIOR TO DIGGING. IN THE EVENT OF ACCIDENTAL INTERRUPTION OF SERVICE, CONTRACTOR WILL IMMEDIATELY NOTIFY THE OTHER UTILITY OWNERS.
J. THE UTILITY/CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD OTHER EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE OTHER UTILITIES. THE UTILITY WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT.
K. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSURE THAT ANY ABANDONED PIPING UNCOVERED IN THE COURSE OF THEIR WORK SHALL BE CAPPED WATER TIGHT.
L. TRENCHES FOR UTILITIES SHALL BE BACKFILLED PER MECHANICAL DETAILS AND SPECIFICATIONS. PAVEMENT, ASPHALT, AND OTHER SURFACE WORK SHALL BE PER CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS.

TAGGED NOTES

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U1 EXISTING SANITARY PIPING LOCATION UNKNOWN. POSSIBLE ROUTING SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL INCLUDE IN HIS BID COST TO LOCATE EXISTING PIPING THROUGH EXPLORATORY EXCAVATION PRIOR TO NEW BUILDING FOUNDATIONS. CLEANOUTS TO BE RELOCATED AS REQUIRED TO EXTERIOR OF NEW ADDITION. REFRE TO SITE UTILITY PLAN FOR CONTINUATION.
U2 EXISTING DOMESTIC WATER PIPING LOCATION UNKNOWN. POSSIBLE ROUTING SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL INCLUDE IN HIS BID COST TO LOCATE EXISTING PIPING THROUGH EXPLORATORY EXCAVATION PRIOR TO NEW BUILDING FOUNDATIONS. REFER TO SITE UTILITY PLAN FOR CONTINUATION.
U3 EXISTING DOMESTIC WATER PIPING ENTERS BUILDING AT POINT INDICATED.
U5 DOMESTIC WATER PIPING TO BE DEMOLISHED AT POINT INDICATED. REFER TO SITE UTILITY PLAN FOR NEW WORK.
U6 DOMESTIC WATER PIPING TO BE RECONNECTED AT POINT INDICATED. NEW WATER PIPING SHALL BE ENCASED IN A WATERTIGHT CARRIER PIPE WHEN CROSSING WITHIN 10 FEET OF SANITARY PIPING PER 10 STATES STANDARDS.

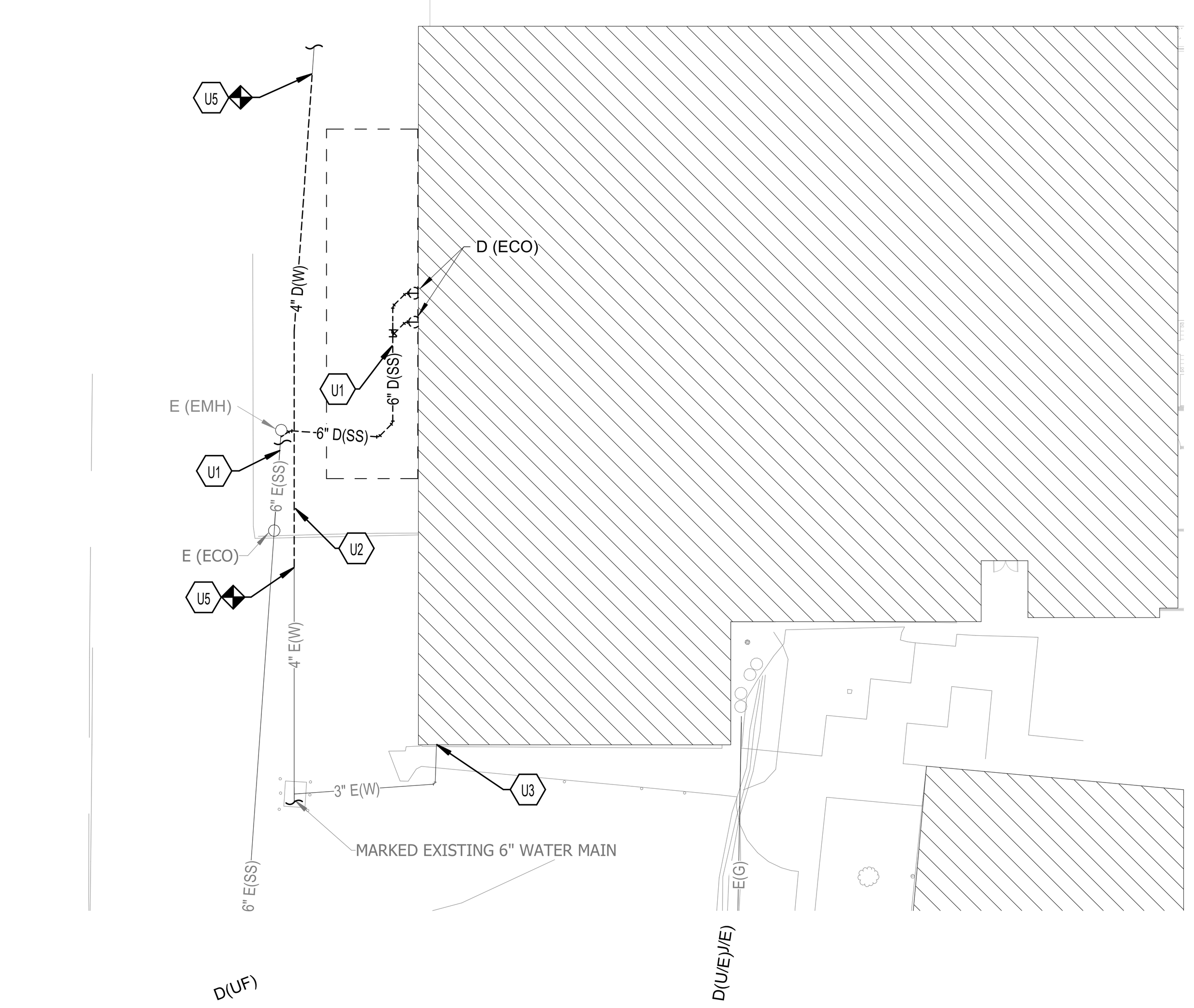
SITE UTILITIES LEGEND

	EXISTING, DEMOLITION, NEW WORK
	FIRE HYDRANT
	WATER VALVE
E (ECO) D(ECO) ECO	EXTERIOR CLEANOUT
E (EMH) D(EMH) EMH	EXTERIOR MANHOLE
TB D(TB) TB	THRUST BLOCK
XXX	NEW PIPING - (XXX) DENOTES SYSTEM
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM
OP	OVERHEAD PRIMARY
OS	OVERHEAD SECONDARY
OSL	OVERHEAD STREET LIGHT
OTS	OVERHEAD TRAFFIC SIGNAL
OT	OVERHEAD TELECOMMUNICATIONS
OF	OVERHEAD FIBER OPTIC
OTV	OVERHEAD CATV
UP	UNDERGROUND PRIMARY
US	UNDERGROUND SECONDARY
USL	UNDERGROUND STREET LIGHT
UTS	UNDERGROUND TRAFFIC SIGNAL
UT	UNDERGROUND TELECOMMUNICATIONS
UF	UNDERGROUND FIBER OPTIC
UTV	UNDERGROUND CATV
W	DOMESTIC WATER
SS	SANITARY SEWER
STORM	STORM

UTILITY COMPANY CONTACTS:

POWER:		
Henderson Municipal Utilities		270-831-1200
WATER SEWER:		
Henderson Water	Ian Snow	270-826-2824
GAS:		
Henderson Gas	Tim Clayton	270-831-1200
FIRE CHEIF:		
Fire Department	Josh Dixon	270-831-1201

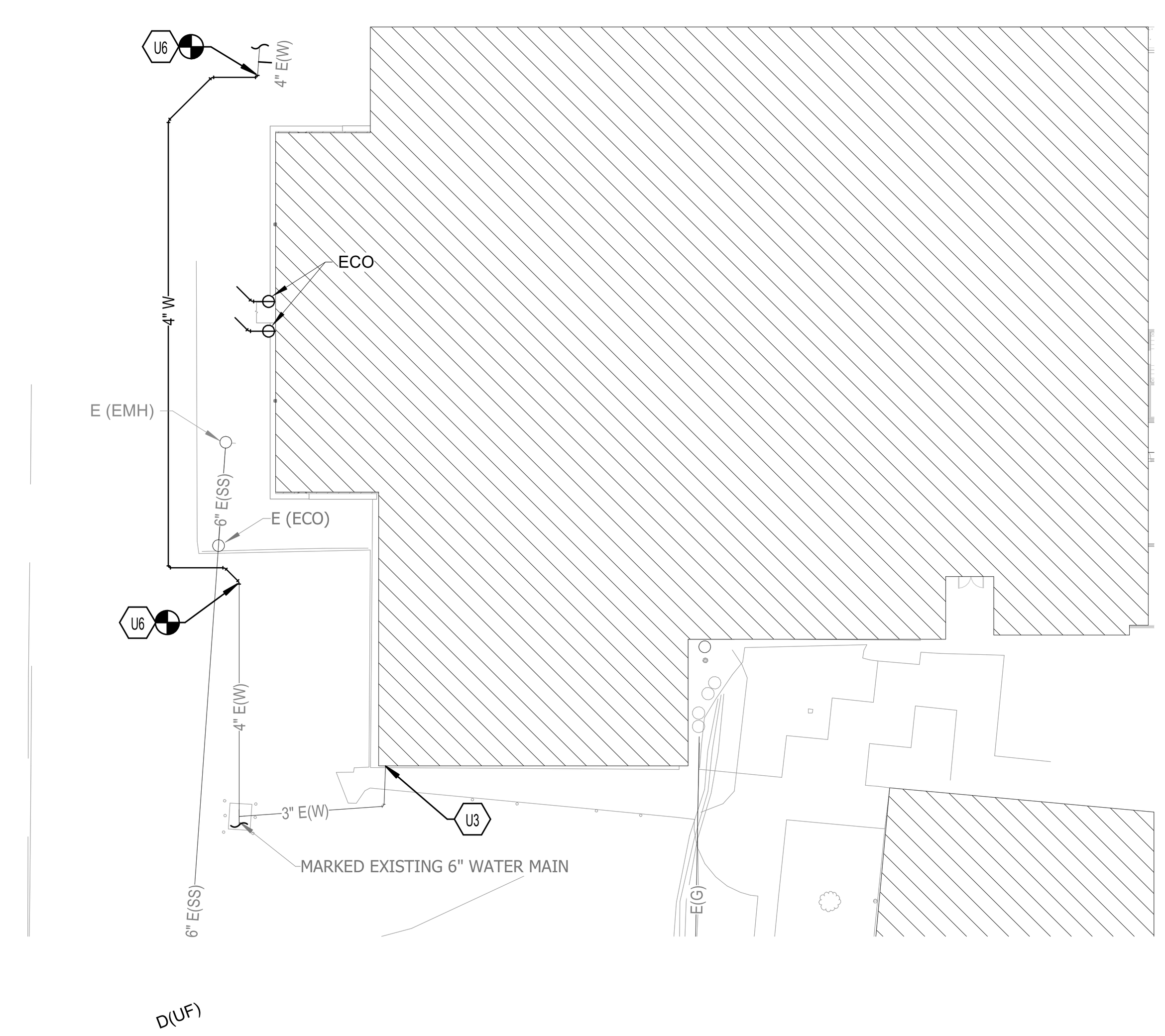
IT IS THE CONTRACTORS RESPONSIBILITY TO MEET ALL LOCAL ORDINANCE AND MUNICIPAL REQUIREMENTS RELATED TO UTILITY INSTALLATION, INSPECTIONS, MATERIALS, FEES, ETC.



1 SITE UTILITY DEMOLITION PLAN

SCALE: 1" = 30'-0"

0 15' 30' 60' 90' 120'



2 SITE UTILITY PLAN

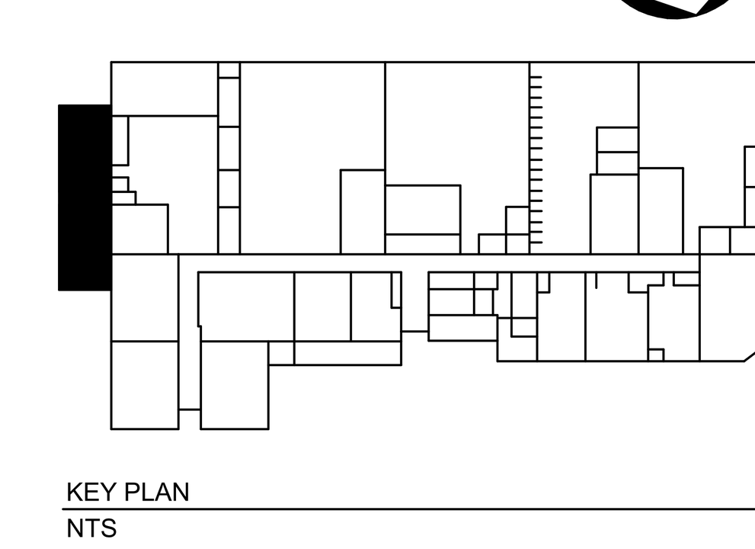
SCALE: 1" = 30'-0"

0 15' 30' 60' 90' 120'

BEFORE YOU DIG

THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL CONTACT "BUD (BEFORE YOU DIG)" AT 1-800-752-6007 TO OBTAIN UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY CONSTRUCTION. ANY CONTRACTOR OR SUBCONTRACTOR PERFORMING ANY TYPE OF EXCAVATION ON THIS PROJECT SHALL CALL "BUD" TO OBTAIN AN AUTHORIZATION NUMBER.

N



KEY PLAN
NTS

RBS DESIGN GROUP
ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

DO NOT SCALE DRAWINGS
USE GIVEN DIMENSIONS ONLY. IF NOT SHOWN, VERIFY AND DOCUMENT CORRECT DIMENSION WITH THE ARCHITECT OR ENGINEER. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE.

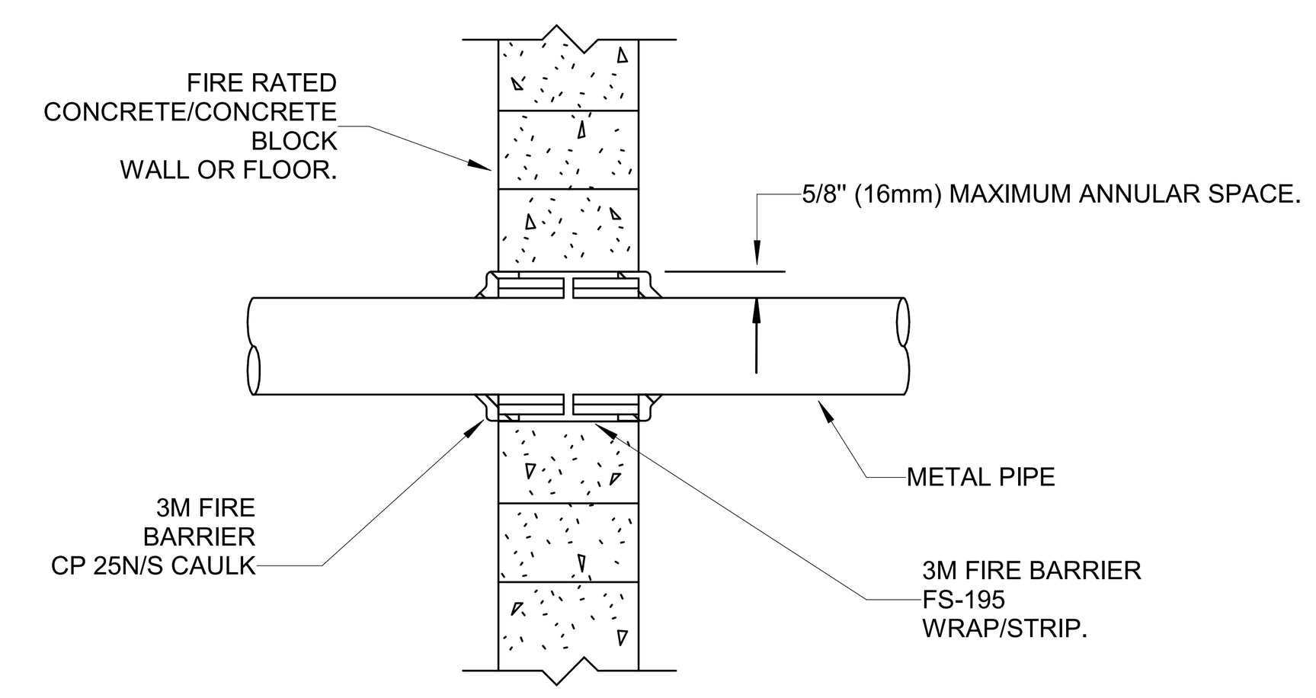
JOB NUMBER	Y21037/XHCR23
DRAWN BY	DRH
CHECKED BY	MCW
DATE	02/01/24

No.	Description	Date

STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
SITE UTILITY PLAN

SHEET NUMBER
U1.0



NOTES:

1. THE MAXIMUM ANNULAR SPACE AROUND THE METAL PIPE OR CONDUIT IS 5/8" (16mm). (IF THE ANNULAR SPACE EXCEEDS 5/8" PATCH THE WALL AND PENETRATE WALL AT ANOTHER LOCATION).

2. WRAP THE 3M MODEL# FS-195 WRAP/STRIP AROUND THE PIPE/CONDUIT, FOIL SIDE OUT, TO FILL THE SPACE BETWEEN THE PIPE/CONDUIT AND THE WALL OPENING. THE 3M MODEL# FS-195 WRAP/STRIP SHOULD BE TIGHTLY SECURED WITH ALUMINUM FOIL TAPE OR STEEL TIE WIRE AND PUSHED INTO THE OPENING UNTIL THE TOP EDGE OF THE WRAP IS FLUSH WITH THE WALL SURFACE. THE IDENTICAL INSTALLATION SHOULD BE INSTALLED ON THE OTHER SIDE OF THE WALL.

3. USE 3M MODEL# CP 25N/S(NO SAG) CAULK TO FILL THE AREA BETWEEN THE FS-195 WRAP/STRIP AND THE EDGES OF THE OPENING AND ANY VOIDS IN THE 3M MODEL# FS-195 WRAP/STRIP. A FILL OF CP 25 CAULK SHOULD COAT ALL EXPOSED EDGES OF THE FS-195 WRAP/STRIP AND COMPLETELY SEAL THE AREA BETWEEN THE FS-195 WRAP/STRIP, THE PIPE/CONDUIT AND THE WALL SURFACE.

PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH A CONCRETE WALL

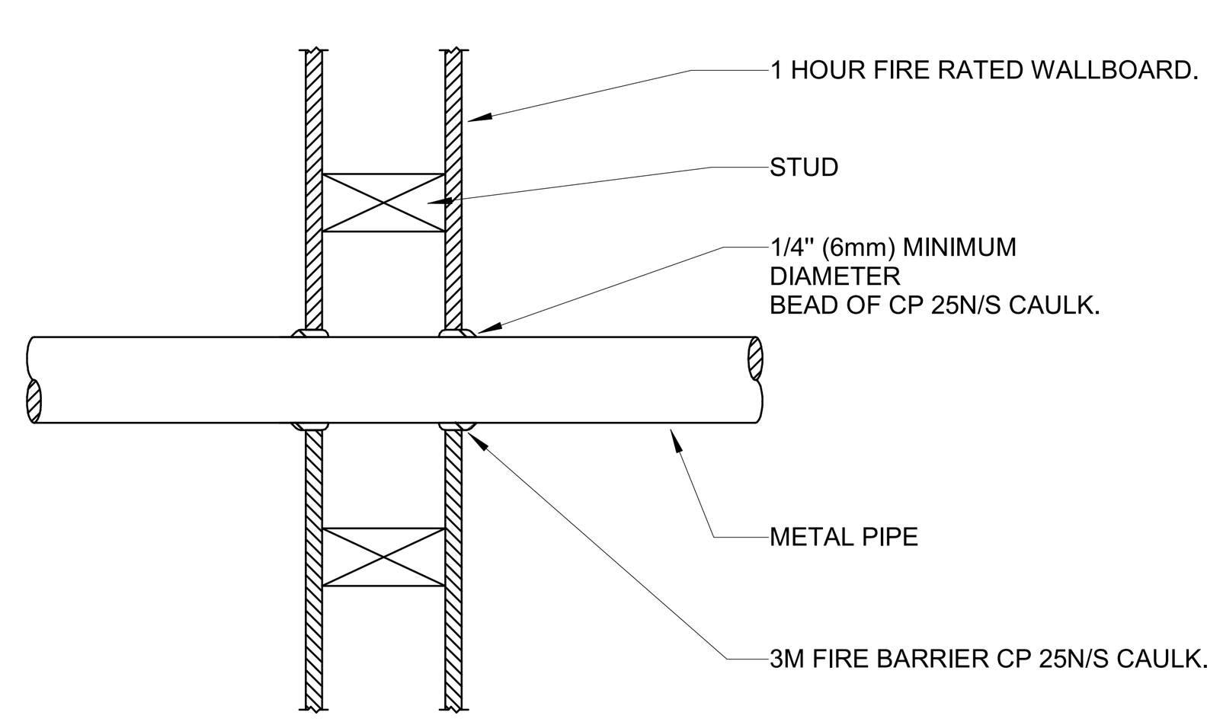
NOT TO SCALE

FIRE STOPPING NOTES:

1. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS. ALL FLOORS CORRIDOR WALLS, STAIR WALLS, MECHANICAL ROOM WALLS, STORAGE ROOM WALLS AND OTHER HAZARDOUS ROOM WALLS ARE ONE HOUR RATED.

2. A FOUR-HOUR TRAINING SESSION SHALL BE CONDUCTED BY MANUFACTURER OF THE FIRESTOPPING MATERIAL. THIS SHALL BE DONE PRIOR TO THE INSTALLATION OF THE MATERIAL. CONTACT HOSPITAL ENGINEER AND CMTA TO ADVISE OF DATE AND TIME OF THIS MEETING.

3. ALL PENETRATIONS WILL BE REVIEWED BY THE HOSPITAL ENGINEER OR CMTA. PRIOR TO INSPECTION, ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.



NOTES:

1. FORCE THE 3M MODEL# CP 25N/S CAULK INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE, FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.

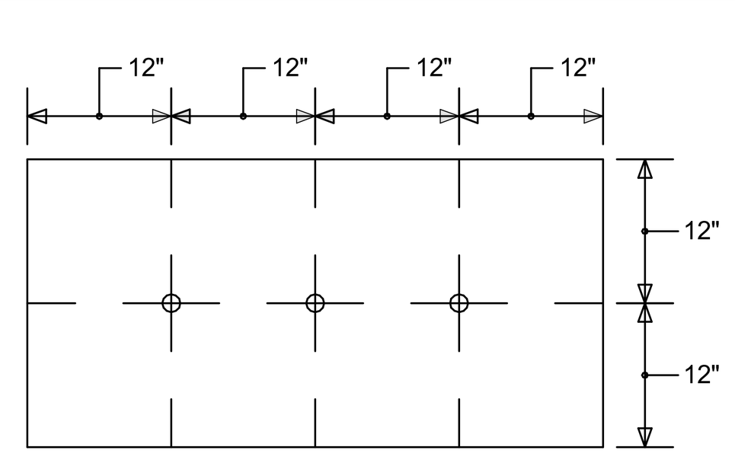
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD OF CP 25N/S CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.

3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5mm). (IF IT DOES PATCH WALL AND PENETRATE WALL AT ANOTHER LOCATION).

4. INSTALL THE 3M FIRESTOP ON BOTH SIDES OF THE WALL.

PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH ONE HOUR WALL

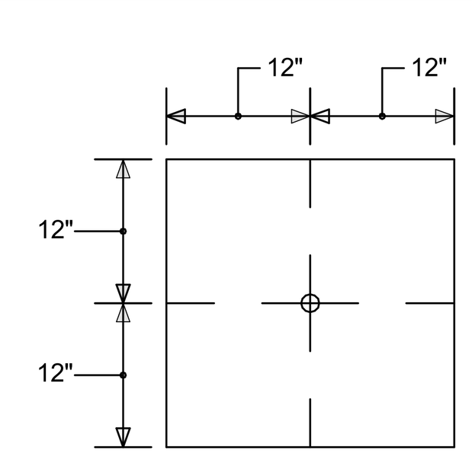
NOT TO SCALE



SPRINKLER HEADS MAY BE INSTALLED IN 2x4 CEILING TILES IN ANY OF THE THREE LOCATIONS INDICATED ABOVE. NO EXCEPTIONS!

2x4 CEILING TILE DETAIL

SCALE: NONE



SPRINKLER HEADS TO BE INSTALLED IN CENTER OF 2x2 CEILING TILES.

2x2 CEILING TILE DETAIL

SCALE: NONE

FIRE PROTECTION GENERAL NOTES:

A. COORDINATE THE LOCATION OF DRAINS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.
B. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
C. WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.
D. ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.
E. COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.
F. PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
G. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)
H. CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.
I. ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.
J. ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.
K. ALL PIPING IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.
L. LOCATIONS OF PIPING AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.
M. ALL OFFSETS IN PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.
N. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES OR OTHER COSTS THAT ANY UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (GAS, SEWER, WATER, ETC.).
O. INSTALL ALL PIPING AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.
P. SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS, AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.
Q. THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.
R. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.
S. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
T. VALVES REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.
U. WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

FIRE PROTECTION PHASING NOTES:

A. THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

FIRE PROTECTION HAZARDOUS NOTES:

A. THE CONTRACTOR IT IS HEREBY ADVISED THAT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.
B. CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL.
C. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.
D. THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.
E. THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

PLUMBING DEMOLITION NOTES:

A. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING, ETC.
B. DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.
C. ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL PATCH AND REPAIR REQUIREMENTS.
D. ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.
E. HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.

ABBREVIATIONS

ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
CLG	CEILING
CLR	CLEAR
DN	DOWN
ENGR	ENGINEER
EQ	EQUAL
ETR	EXISTING TO REMAIN
EXT	EXTERIOR
FVC	FIRE VALVE CABINET
FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FT	FEET **OR** FOOT
FUT	FUTURE
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
LBS	POUNDS
LF	LINEAR FEET/FOOT
MAX	MAXIMUM
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
SQ FT	SQUARE FEET **OR** FOOT
TBD	TO BE DETERMINED

ABBREVIATIONS (CONTINUED)

TE	TOP ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
℄	CENTERLINE

GENERAL SYMBOLS

#	TAGGED NOTE DESIGNATOR
	REVISION TRIANGLE
ROOM NAME	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION

MECHANICAL PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
FP	FIRE PROTECTION PIPING
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	FLEXIBLE PIPE CONNECTION
	PIPING UNION
	FLOW SWITCH
	PRESSURE SWITCH
	TAMPER SWITCH
	PETE'S PLUG; TEMPERATURE/PRESSURE PORT
	SEMI-RECESSED SPRINKLER HEAD WITH REMOVABLE ESCUTCHEON PLATE
	UPRIGHT TYPE SPRINKLER HEAD
	SIDEWALL TYPE SPRINKLER HEAD

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC)	STATE EDITION	2012
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE	KBC	2018

FLOW TEST

STATIC PSI: 50 PSI
RESIDUAL PSI: 37 PSI
FLOW: 888 GPM
DURATION: CONTINUOUS
DATE: JANUARY 29, 2024
SOURCE OF WATER: CITY SUPPLY
SOURCE OF DATA: HENDERSON WATER UTILITY
HAZARD: LIGHT & ORDINARY
OCCUPANCY OF BUILDING: SCHOOL

RBS DESIGN GROUP
ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

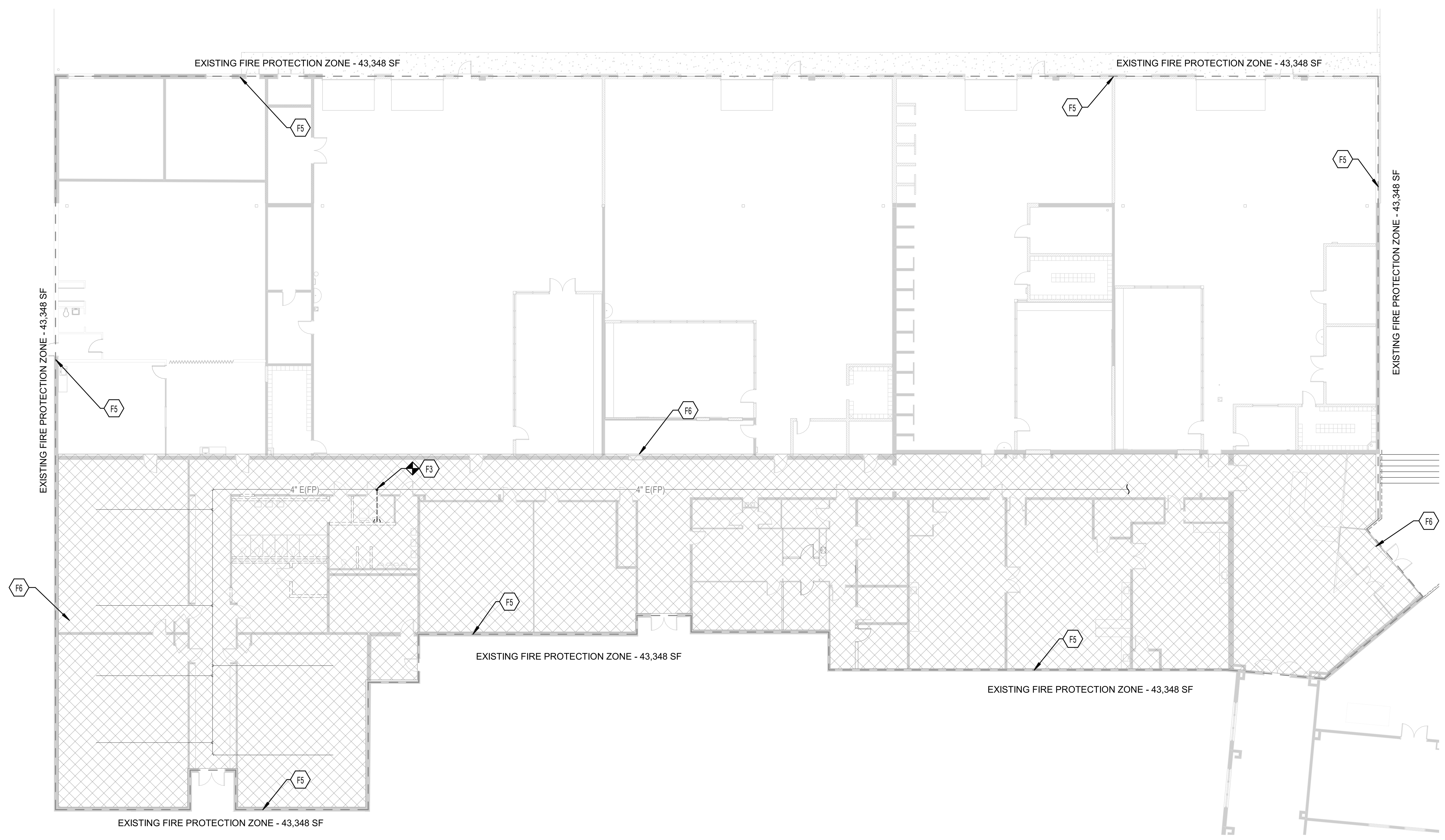
JOB NUMBER	Y21037/XHCR23
DRAWN BY	DRH
CHECKED BY	MCW
DATE	02/01/24

No.	Description	Date

STATE OF KENTUCKY MATTHEW C. WADE 31243 LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
FIRE PROTECTION LEGEND

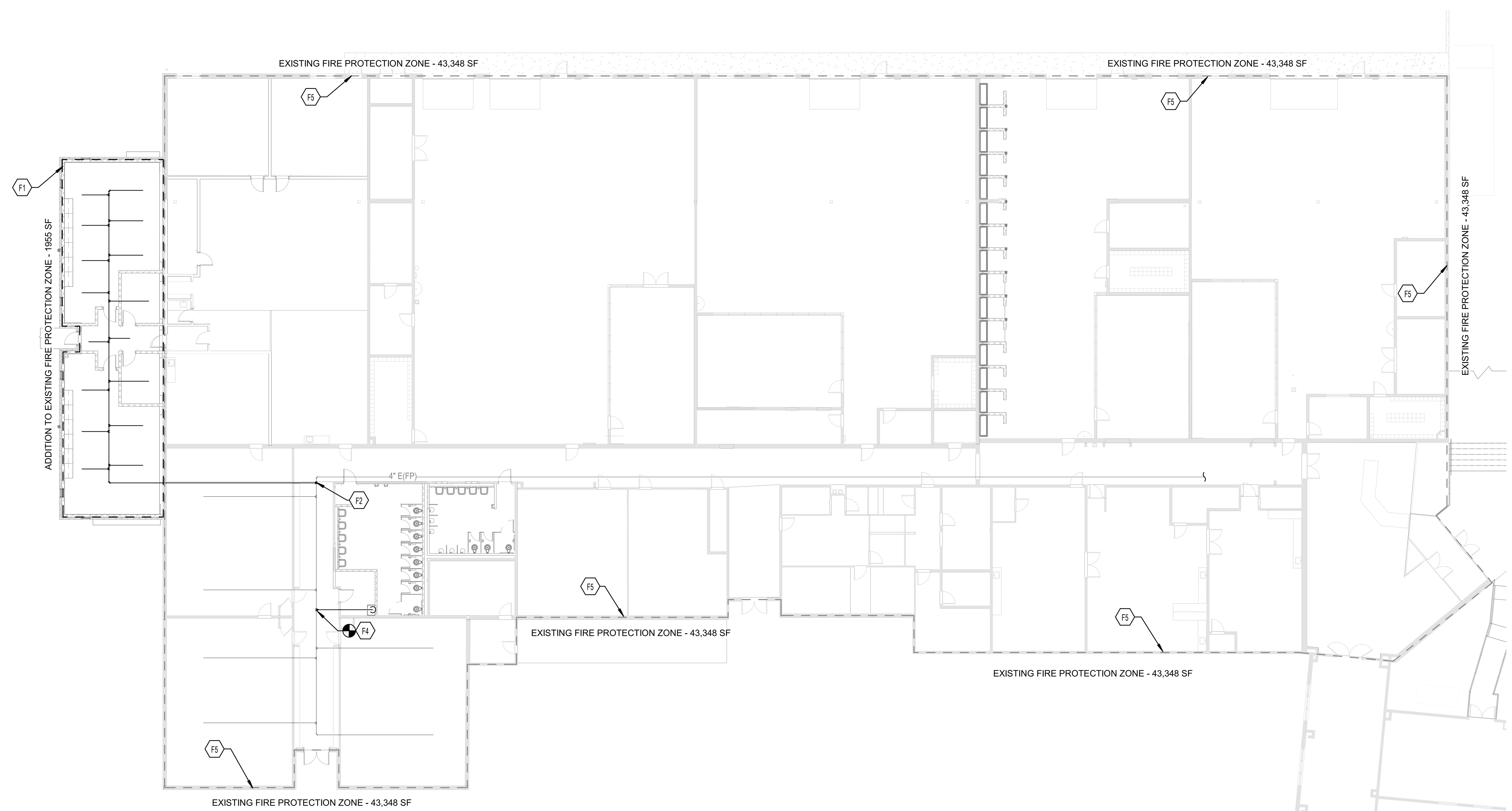
SHEET NUMBER
FP1.0



2 OVERALL FIRE PROTECTION DEMOLITION PLAN

SCALE: 1/16" = 1'-0"

0 4' 8' 16' 32' 48' 64'



1 OVERALL FIRE PROTECTION PLAN

SCALE: 1/16" = 1'-0"

0 4' 8' 16' 32' 48' 64'

PLUMBING FIRE PROTECTION GENERAL NOTES:

A. FIRE PROTECTION PIPING TO BE PROVIDED ABOVE AND BELOW CLOUD CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR COORDINATION OF CLOUD CEILINGS.

B. REFER TO STRUCTURAL DRAWINGS, DETAIL FOR REQUIREMENTS OF HANGING FROM JOISTS.

C. REFER TO ARCHITECTURAL PLANS FOR ALL WALLS. COORDINATE REQUIRED FIRE STOPPING ACCORDINGLY.

TAGGED NOTES

##

F1 THE ENTIRE OUTLINED AREA SHALL BE PROTECTED WITH A 100% "WET" TYPE SPRINKLER SYSTEMS INSTALLED IN ACCORDANCE WITH NFPA-13. PROVIDE EXTENDED COVERAGE SIDEWALL FREEZE PROOF HEADS AS REQUIRED. NOTE THAT SPRINKLER HEADS ARE SHOWN FOR COORDINATION PURPOSES ONLY. SPRINKLER CONTRACTOR SHALL INSTALL SPRINKLER PIPING SO AS TO NOT INTERFERE WITH HVAC, PLUMBING, AND ELECTRICAL EQUIPMENT. MAINTAIN ALL SERVICE CLEARANCES. OUTLINED AREA IS DESIGNATED LIGHT HAZARD PER NFPA-13.

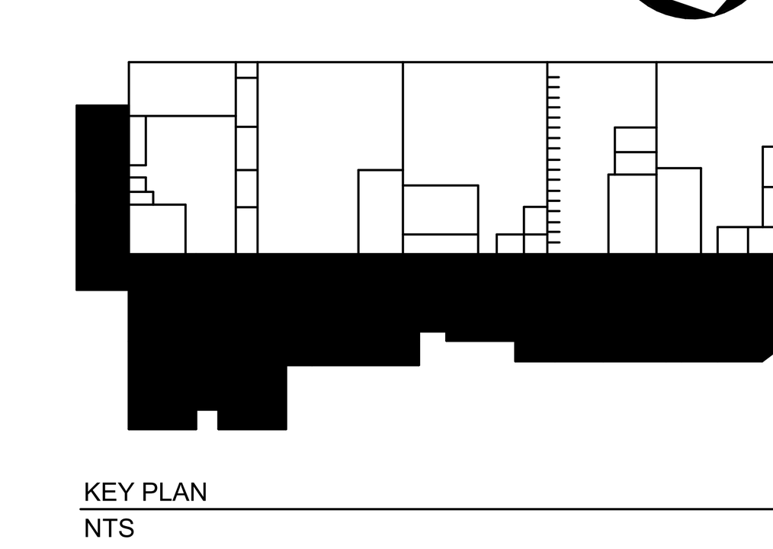
F2 PROVIDE FIRE MAIN TO NEW ADDITION SIZED PER HYDRAULIC CALCULATIONS. TIE IN TO EXISTING MAIN AT THE LOCATION INDICATED AND EXTENDED TO NEW ADDITION.

F3 FIRE PROTECTION DRAIN LINE TO BE DEMOLISHED AT POINT INDICATED. REFER TO NEW WORK PLAN FOR RECONNECTION LOCATION.

F4 FIRE PROTECTION DRAIN LINE TO BE RECONNECTED AT POINT INDICATED AND TO DRAIN INTO MOP BASIN.

F5 HEAVY DASHED LINE INDICATES EXISTING FIRE PROTECTION ZONE WITH SQUARE FOOTAGE AS NOTED.

F6 REFER TO ARCHITECUTURAL PLANS FOR AREA OF CEILING TILE REPLACEMENT. FIRE PROTECTION CONTRACTOR TO REMOVE AND INSTALL NEW SPRINKLER HEADS IN AREA INDICATED. REFER TO ARCHITECTURAL PLANS.



KEY PLAN

NTS

RBS DESIGN GROUP
ARCHITECTURE
723 Harvard Drive, Owensboro, KY 42301
Phone: (270) 683-1158 Fax: (270) 683-2446
E-Mail: office@rbsdesigngroup.com

DO NOT SCALE DRAWINGS
USE GIVEN DIMENSIONS ONLY. IF NOT SHOWN, VERIFY AND DOCUMENT CORRECT DIMENSION WITH THE ARCHITECT OR ENGINEER. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE.

JOB NUMBER	Y21037/XHCR23
DRAWN BY	DRH
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No.	Description	Date

STATE OF KENTUCKY
MATTHEW C. WADE
31243
LICENSED PROFESSIONAL ENGINEER

HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HENDERSON COUNTY CTE RENOVATION
FIRE PROTECTION PLAN

SHEET NUMBER

FP2.0