

Escalante UT Stake

Project No. 503-8197-20010101

HVAC Upgrade Escalante 1 & 2 Wards

8 South Center Street
Escalante, Utah 84726

Cedar City UT FM Group
1985 N. Main Street
Cedar City, Utah 84721
(435) 749-8019

Project For
**THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS**

ARCHITECTURAL CONSULTANT

KNELL ARCHITECTS, P.C. (ROGER KNELL)
45 EAST 300 NORTH
PROVO, UTAH 84606
(801) 373-6134 knellarch@gmail.com

ELECTRICAL ENGINEER

VBFA CONSULTING ENGINEERS (LEWIS WONG)
181 EAST 5600 SOUTH
MURRAY, UTAH 84107
(801) 530-3148 lwong@vbfa.com

MECHANICAL ENGINEER

VBFA CONSULTING ENGINEERS (JOHN ALEXANDER)
181 EAST 5600 SOUTH
MURRAY, UTAH 84107
(801) 530-3148 jalexander@vbfa.com

PROJECT ENGINEER

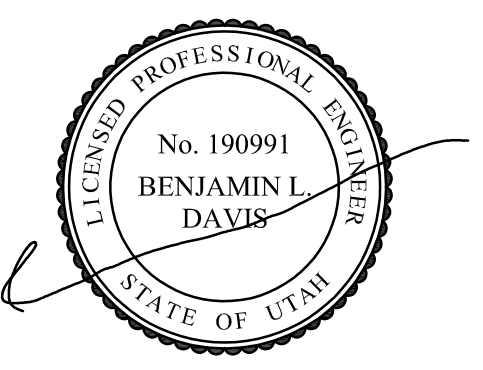
VBFA CONSULTING ENGINEERS
181 EAST 5600 SOUTH
MURRAY, UTAH 84107
(801) 530-3148 VBFA.COM

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EL101	MAIN LEVEL LIGHTING PLAN
EP101	MAIN LEVEL POWER PLAN



181 East 5600 South
Murray, UT 84107
801.530.3148 T
801.530.3150 F



Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
Van Boerum & Frank Assoc., 2014

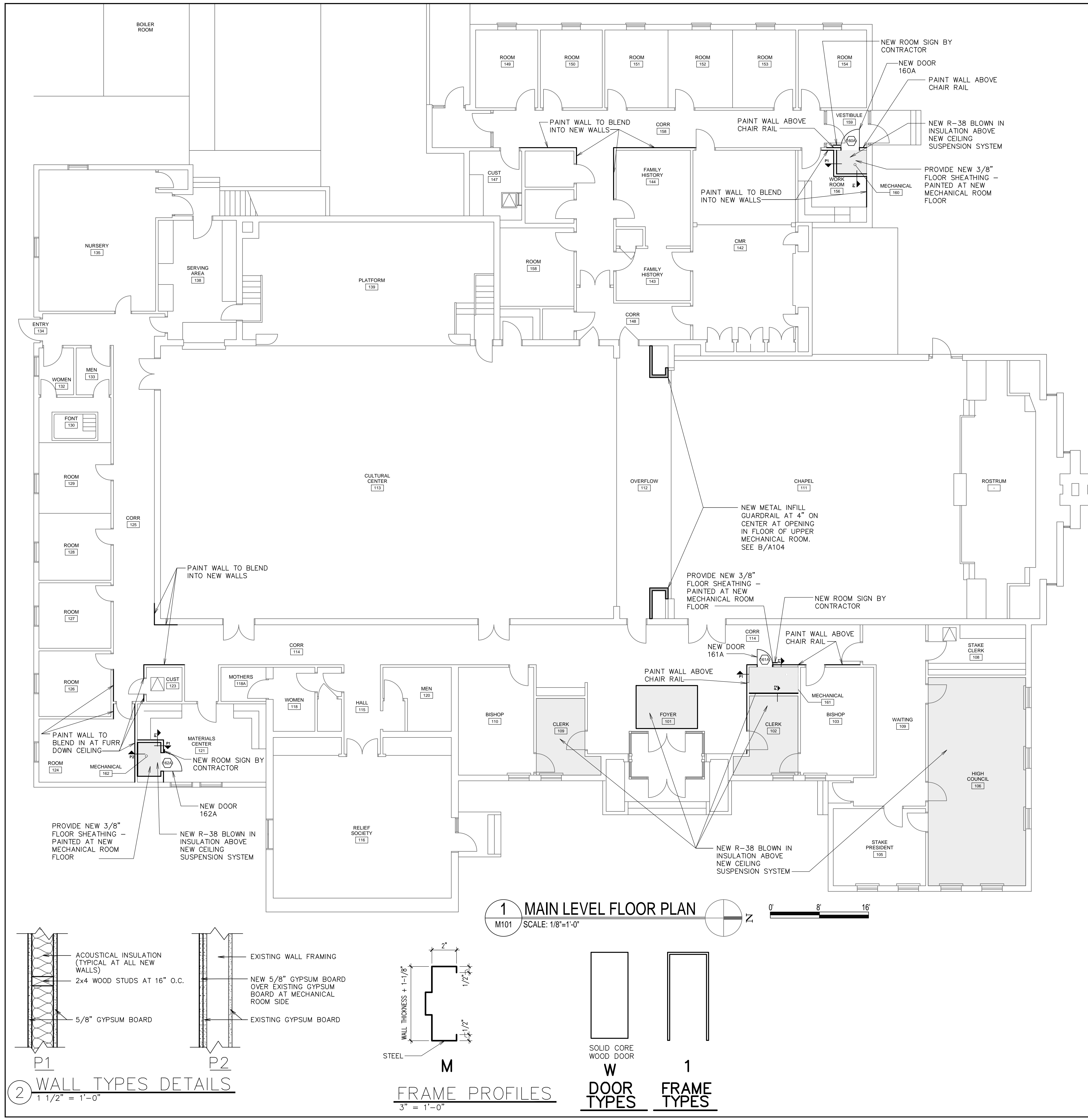
ESCALANTE 1 & 2 WARDS
ESCALANTE UTAH STAKE
HVAC UPGRADE
8 S. CENTER STREET, ESCALANTE, UT 84726

REVISIONS	

VBFA PROJECT #: 21033
CHECKED BY: JTA
DRAWN BY: JTA
CURRENT/ISSUE DATE: APRIL 2021

SHEET CONTENTS
COVER SHEET

M000



DOOR SCHEDULE

MARK	ROOM	TYPE	PAIR	SINGLE	SIZE	GLASS	PROFILE	FRAME TYPE	FRAME DETAILS		KEYING	HARDWARE GROUP	REMARKS
									HEAD	JAMB			
									MAIN FLOOR				
160A	101	W			S1		M	1	E/A104	F/A104	XAA13	26	T1
161A	101	W			S1		M	1	E/A104	F/A104	XAA13	26	T1
162A	101	W			S1		M	1	E/A104	F/A104	XAA13	26	T1

DESCRIPTION

S SIZE
 S1 3'-0" x 7'-0" x 1 3/4"

T THRESHOLD
 T1 ACOUSTICAL THRESHOLD - SEE D/A104

GENERAL NOTES:
 ALL ITEMS ARE NEW UNLESS NOTED AS EXISTING

FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING	FINISHED CEILING HEIGHT	SPECIAL TRIM OR EQUIPMENT
MAIN FLOOR							
101	FOYER	101	F1	B3	W4	C1, C2	CH1, CH4
102	CLERK	102	F1	B3	W4	C1	CH2
106	HIGH COUNCIL	106	F1	B3	W4	C1	CH2 S4
109	CLERK	109	F1	B3	W4	C1	CH2
114	CORRIDOR	114	F1	B2, B3	W3, W5	C2	CH1 S1
121	MATERIAL CENTER	121	F1	B1, B4	W1, W4	C2	CH1
124	ROOM	124	F1	B3	W5	C2, C3	CH4
125	COORIDOR	125	F1	B3	W5	C1, C3	CH3, CH5
134	ENTRY	134	F1	B3	W4	C1	CH3
156	WORK ROOM	156	F1	B1, B4	W1, W4	C2	CH1
158	COORIDOR	158	F1	B3	W5	C1	CH3
159	VESTIBULE	159	F1	B3	W3, W4	C2	CH1
160	MECHANICAL	160	F2	B5	W2	C4	CH2 S3
161	MECHANICAL	161	F2	B5	W2	C4	CH2 S3
162	MECHANICAL	162	F2	B5	W2	C4	CH2 S3

DESCRIPTION

F FLOOR
 F1 CARPET - EXISTING
 F2 3/8" FLOOR SHEATHING - PAINTED

B BASE
 B1 CARPET-SEE G/104
 B2 NEW WOOD - SEE H/A104
 B3 WOOD EXISTING
 B4 EXISTING
 B5 NONE

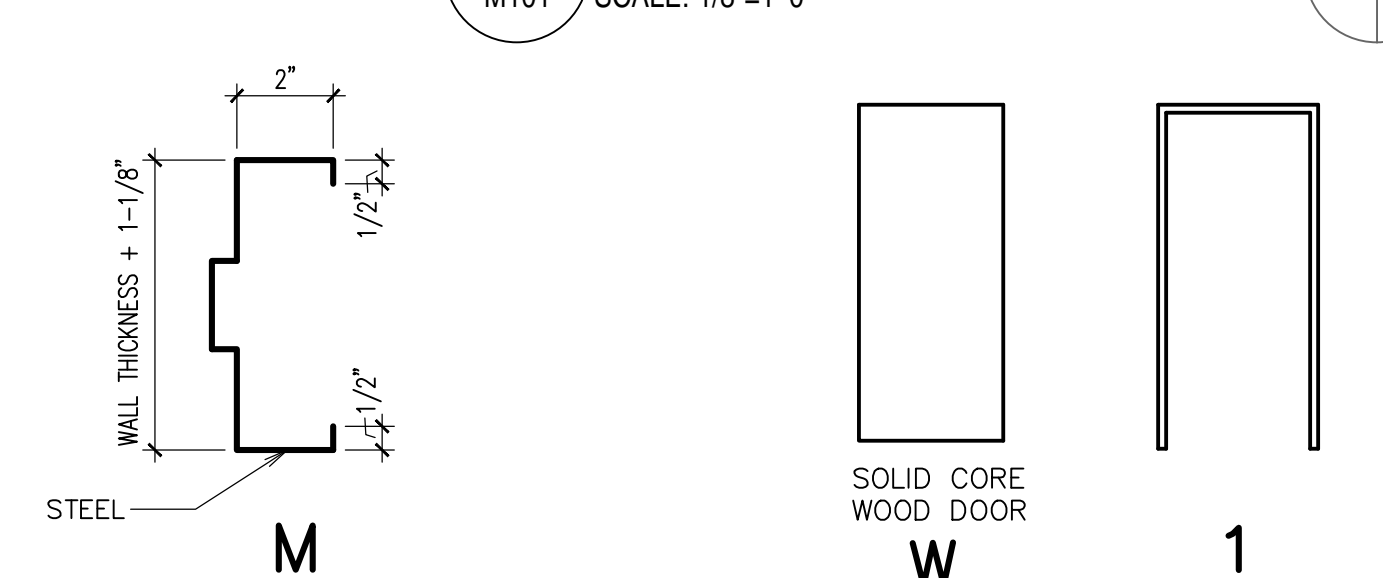
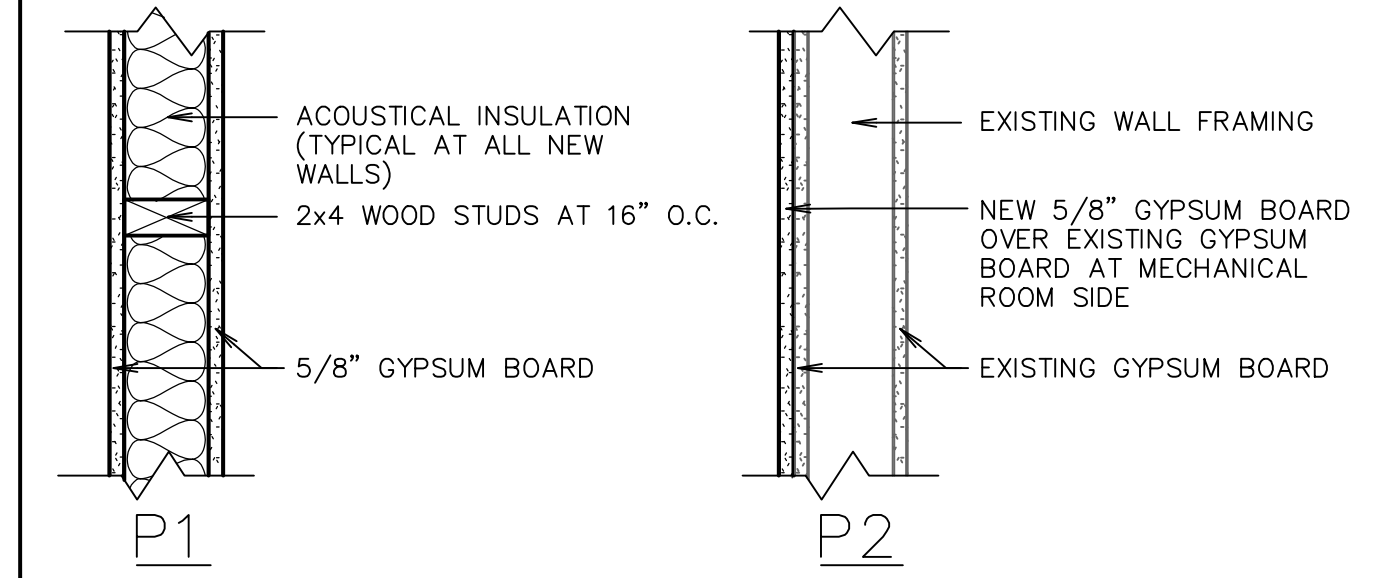
W WALLS
 W1 GYPSUM BOARD - TEXTURED FINISH - PAINTED
 W2 GYPSUM BOARD - TAPED - NOT PAINTED
 W3 SISAL BELOW CHAIR RAIL, GYPSUM BOARD PAINTED ABOVE CHAIR RAIL
 W4 EXISTING
 W5 EXISTING GYPSUM BOARD - PAINTED

C CEILING
 C1 CEILING SUSPENSION SYSTEM WITH GYPSUM BOARD AND ACOUSTICAL TILE
 C2 EXISTING
 C3 GYPSUM BOARD - PAINTED
 C4 CEILING SUSPENSION SYSTEM WITH GYPSUM BOARD - TAPED AND NOT PAINTED.

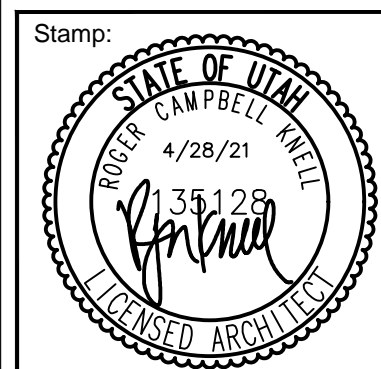
CH FINISHED CEILING HEIGHT
 CH1 EXISTING 8' TO 9' ±
 CH2 9'-0" ±
 CH3 7'-11"
 CH4 10'-6"
 CH5 7'-2" ±

S SPECIAL TRIM OR EQUIPMENT
 S1 WOOD TRIM - MATCH EXISTING
 S2 CEILING MOLDING - REMOVE EXISTING AND REINSTALL
 S3 ACOUSTICAL THRESHOLD - SEE D/A104
 S4 REMOVE EXISTING WOOD TRIM AT CEILING. SAVE AND REINSTALL

ALL ITEMS ARE NEW UNLESS NOTED AS EXISTING



Architect / Engineer:
KNELL ARCHITECTS, P.C.
 45 EAST 300 NORTH, PROVO, UTAH 84606
 PHONE: (800) 375-0634 FAX: (800) 377-0661



ESCALANTE
 8 S CENTER STREET
 ESCALANTE UTAH

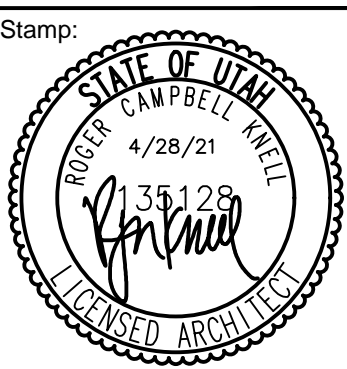
Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Project Number: 503-8197-20010101
Plan Series: R&1
Property Number: 503-8197-20010101

Sheet Title:
MAIN FLOOR PLAN

Sheet:
A101

Project Number: 503-8197-20010101
 Plan Series: R&1
 Property Number: 503-8197-20010101
 Sheet Title: MAIN FLOOR PLAN
 Sheet: A101
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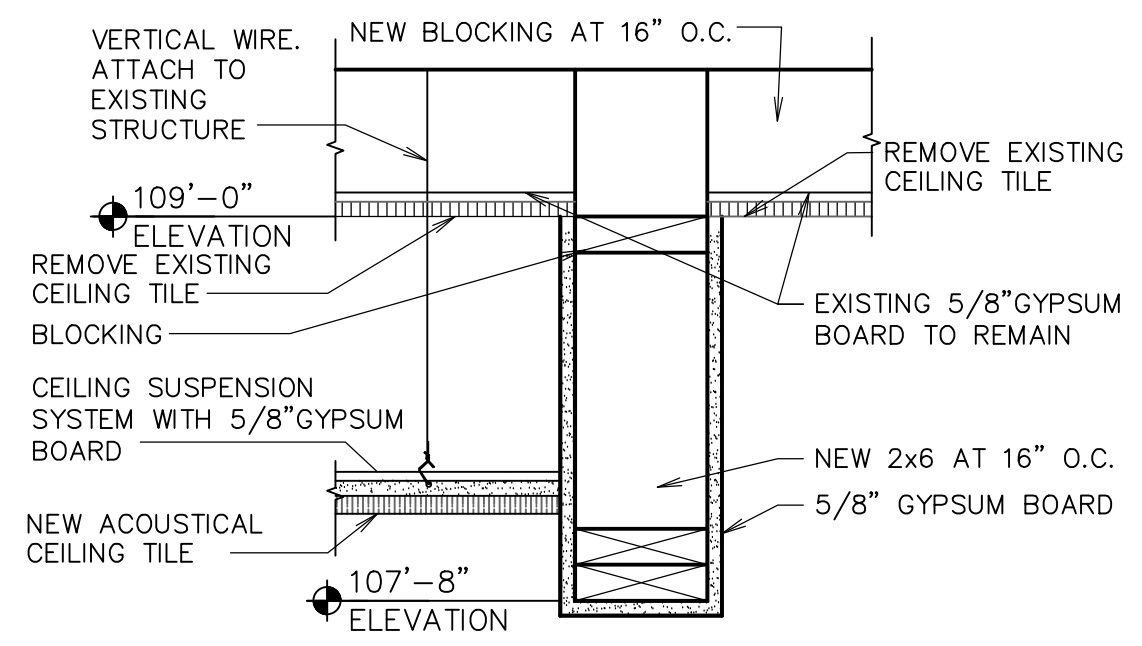
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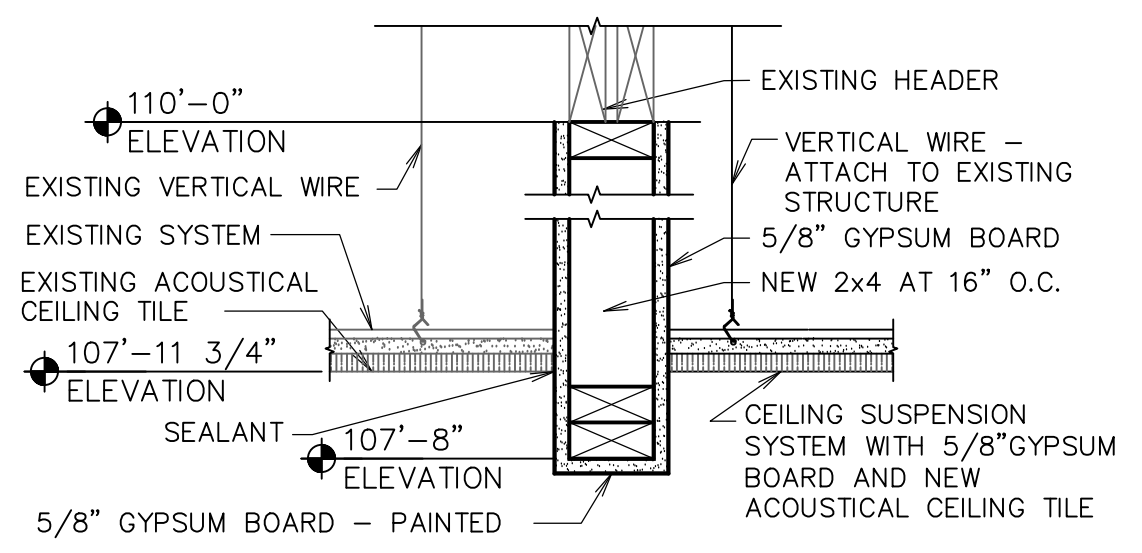
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REFLECTED CEILING PLAN

Sheet:
A102

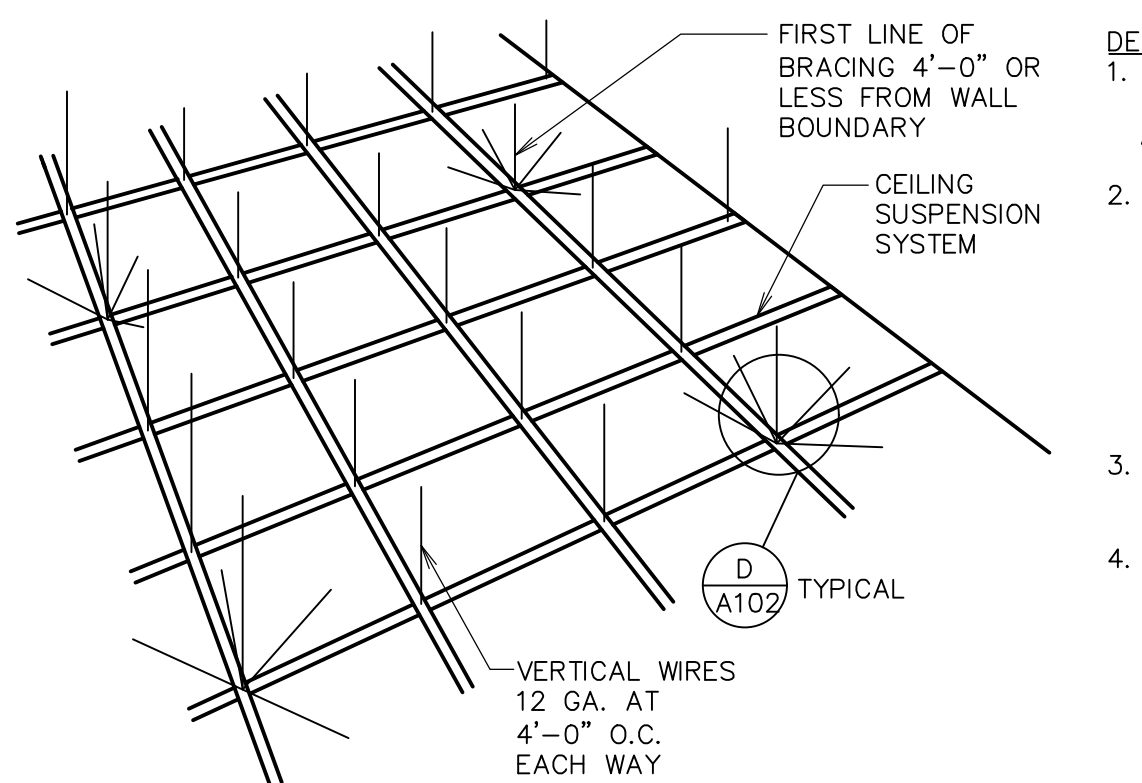
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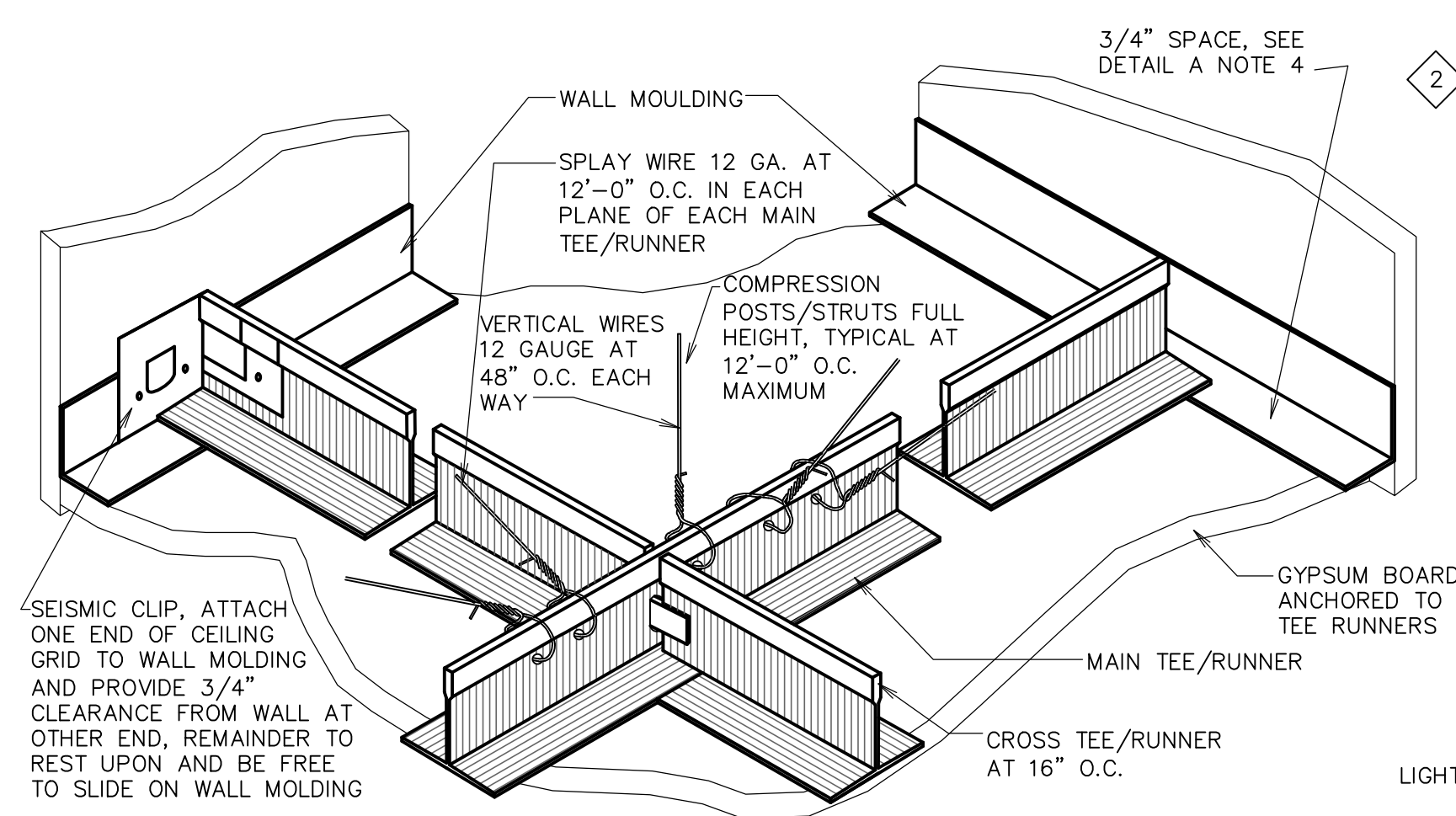
(A) NEW HEADER
 1 1/2" = 1'-0"



(B) NEW HEADER
 1 1/2" = 1'-0"



(C) CEILING SUSPENSION DETAIL
 SCALE: NONE FOR METAL ACoustical SUSPENSION ASSEMBLIES (SIMILAR FOR METAL SUSPENSION SYSTEM: GYPSUM BOARD)



(D) CEILING SUSPENSION DETAIL
 SCALE: NONE

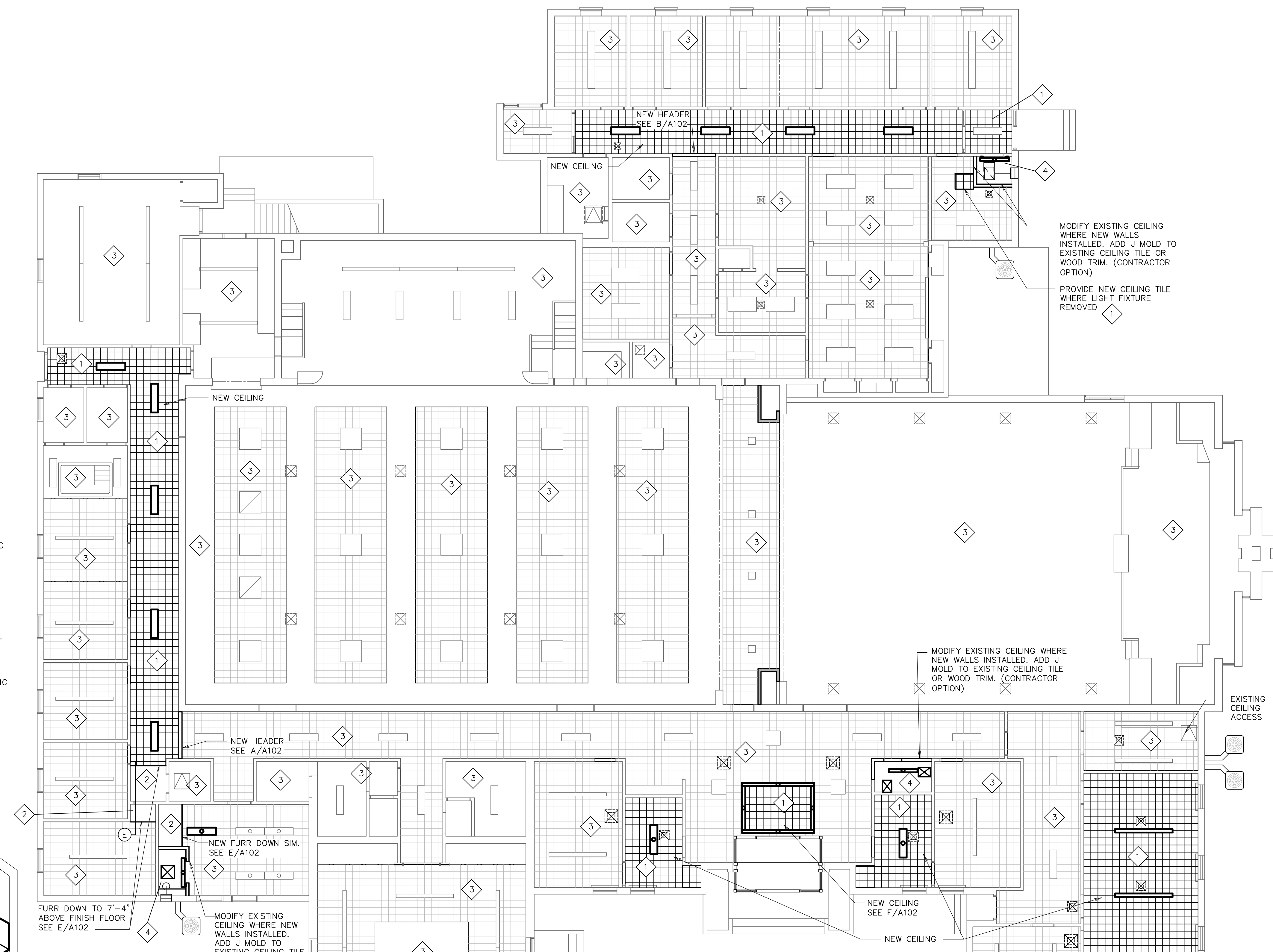
CEILING - FINISH SCHEDULE

- 1 CEILING SUSPENSION SYSTEM WITH GYPSUM BOARD AND ACOUSTICAL TILE SEE C/A102.
- 2 NEW GYPSUM BOARD FURR DOWN FOR NEW MECHANICAL DUCT - PAINTED
- 3 EXISTING TO REMAIN
- 4 GYPSUM BOARD - NOT PAINTED

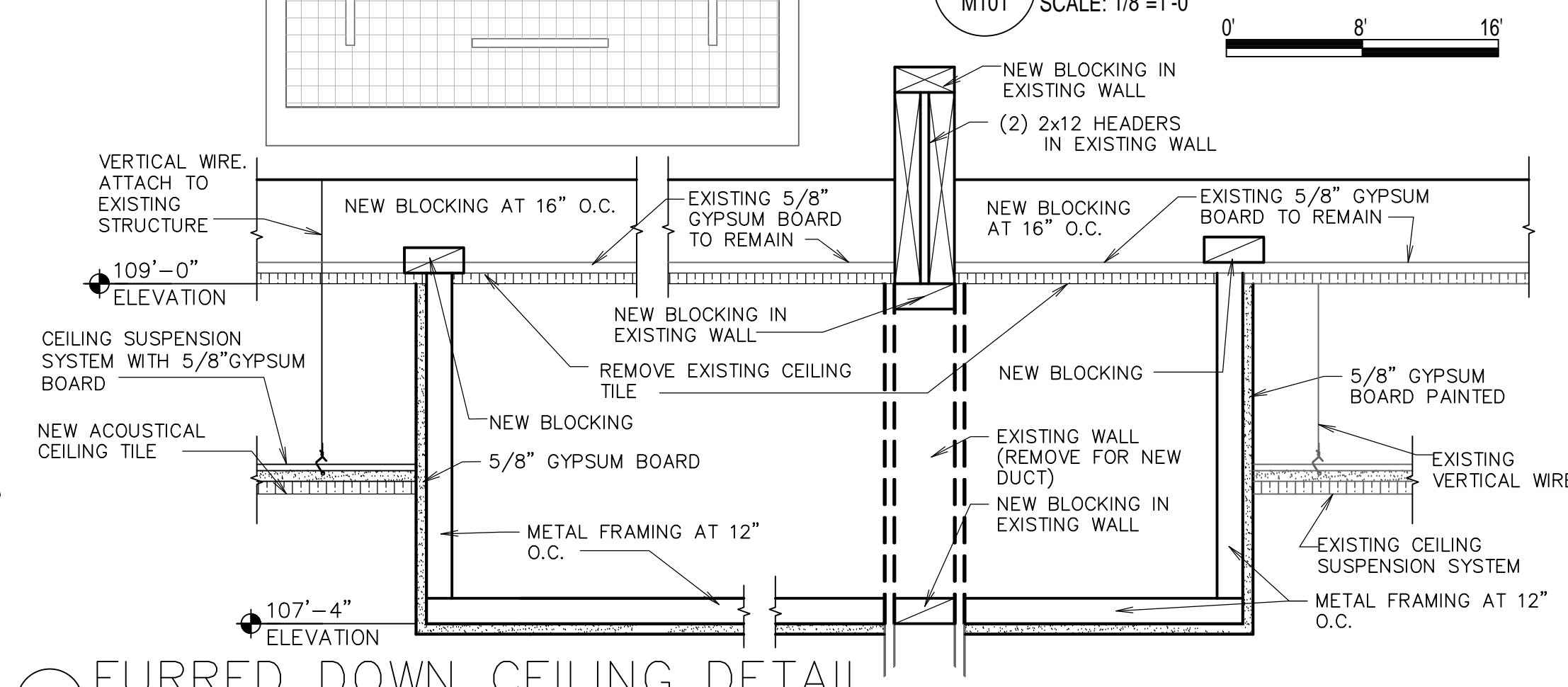
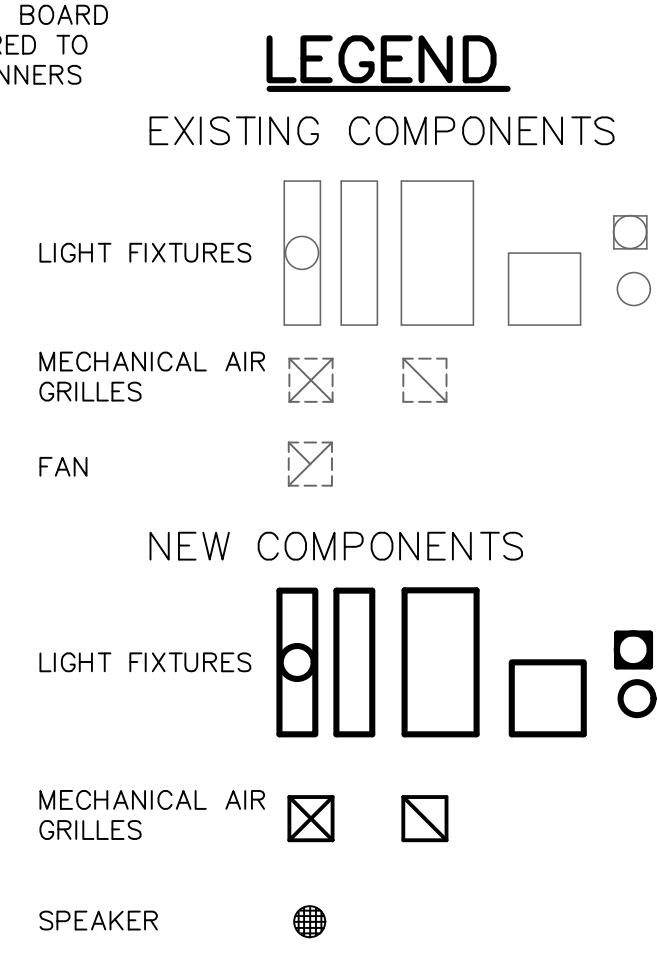
GENERAL NOTES

1. CENTER LIGHT FIXTURES IN ALL AREAS UNLESS NOTED AND DRAWN OTHERWISE.
2. ACOUSTIC CEILING TILE CENTERED IN AREAS AND WORKED TO WALLS.
3. PROVIDE SEISMIC BRACING FOR CEILING SUSPENSION SYSTEMS SEE C/A102.

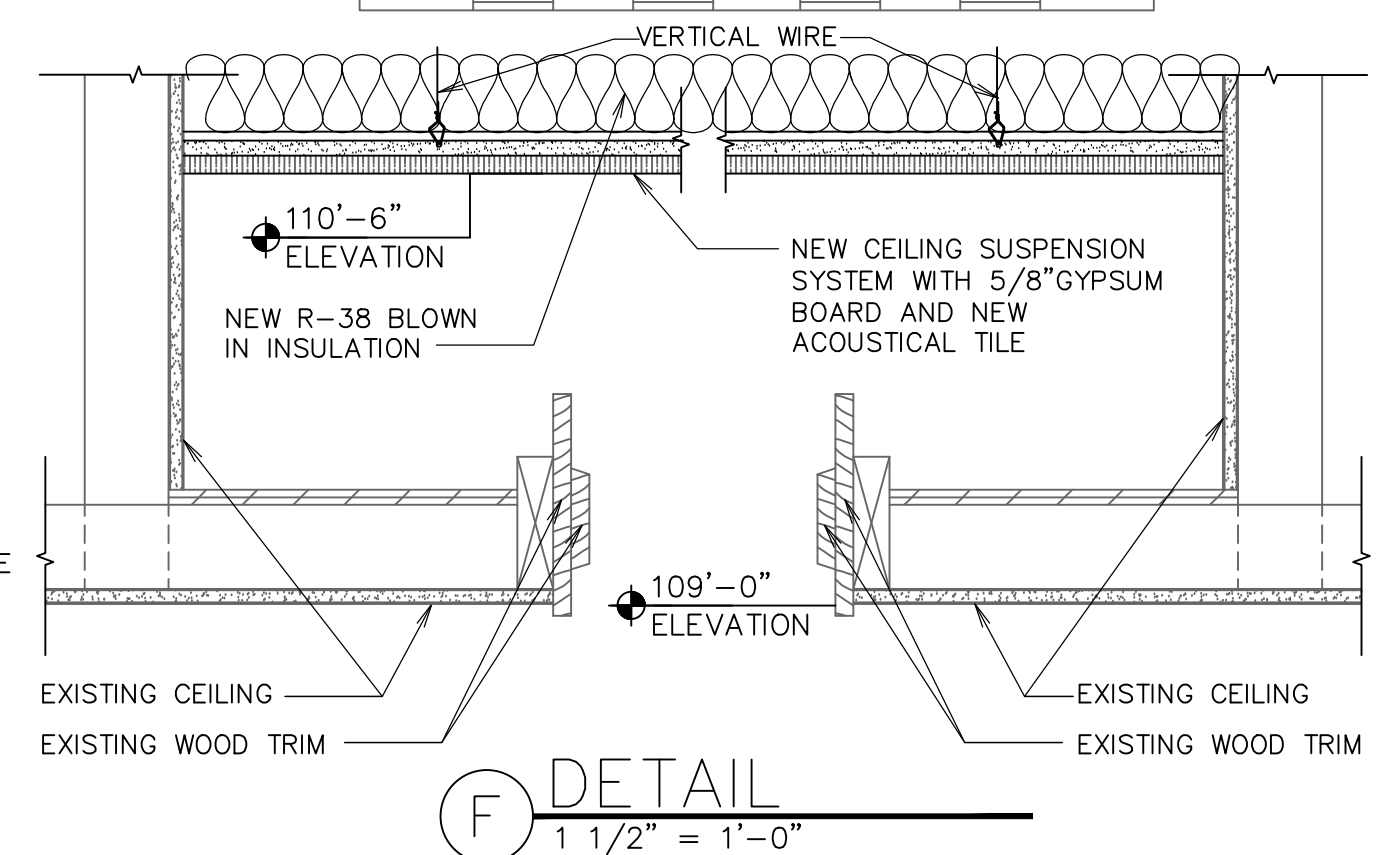
ALL ITEMS ARE NEW UNLESS NOTED AS EXISTING



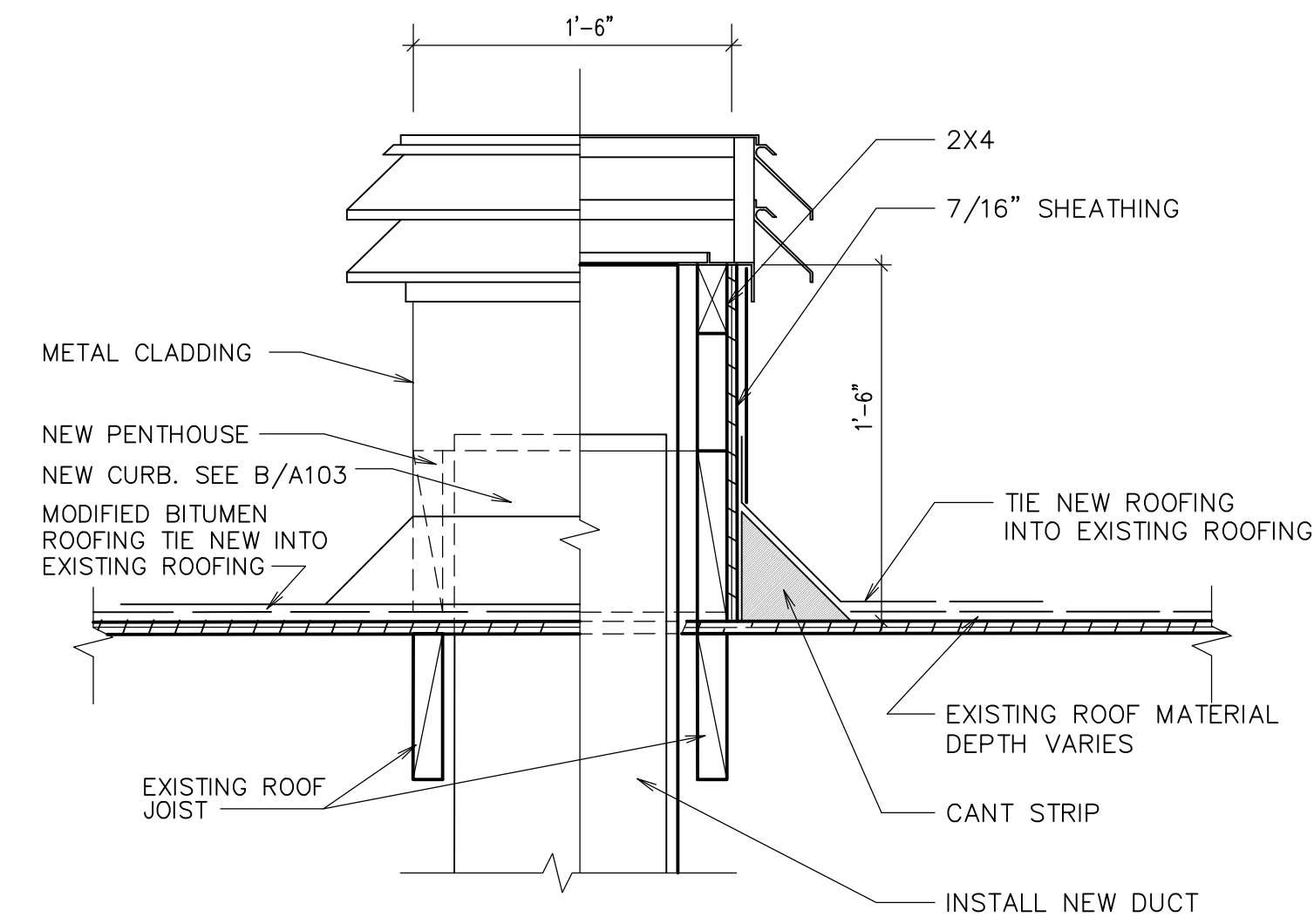
1 MAIN LEVEL MECHANICAL PLAN
 M101 SCALE: 1/8"=1'-0"



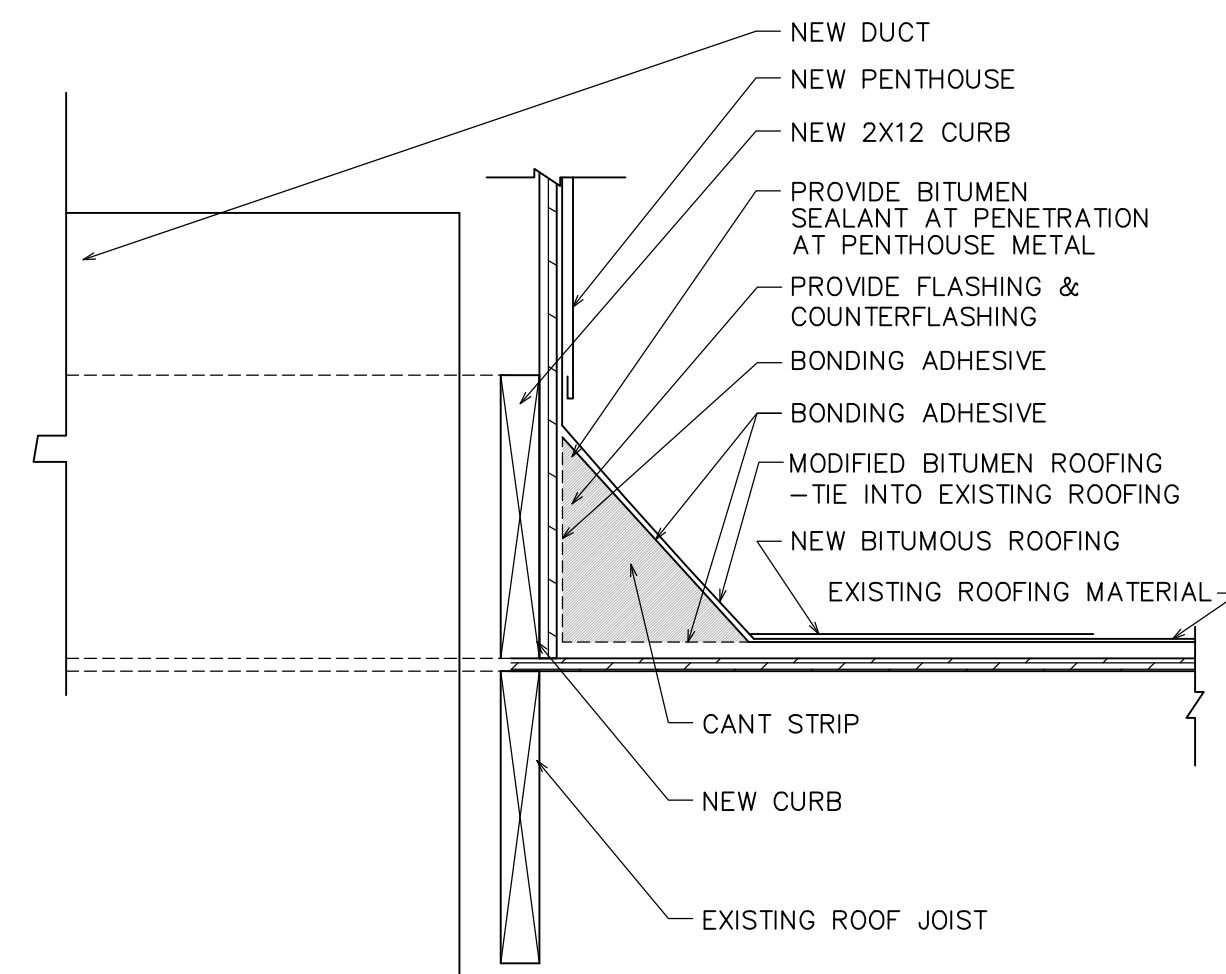
(E) FURRED DOWN CEILING DETAIL
 1 1/2" = 1'-0"



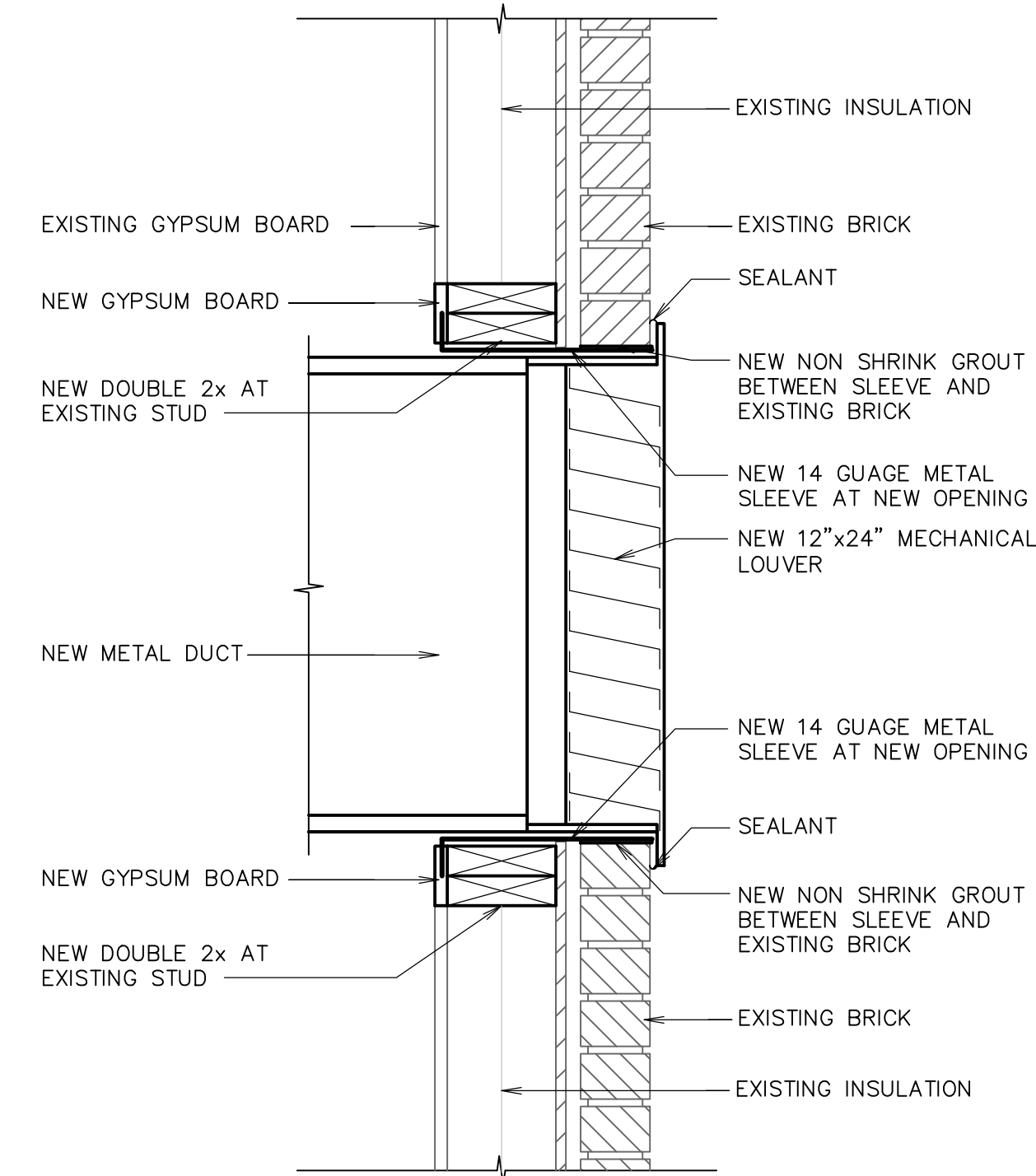
(F) DETAIL
 1 1/2" = 1'-0"



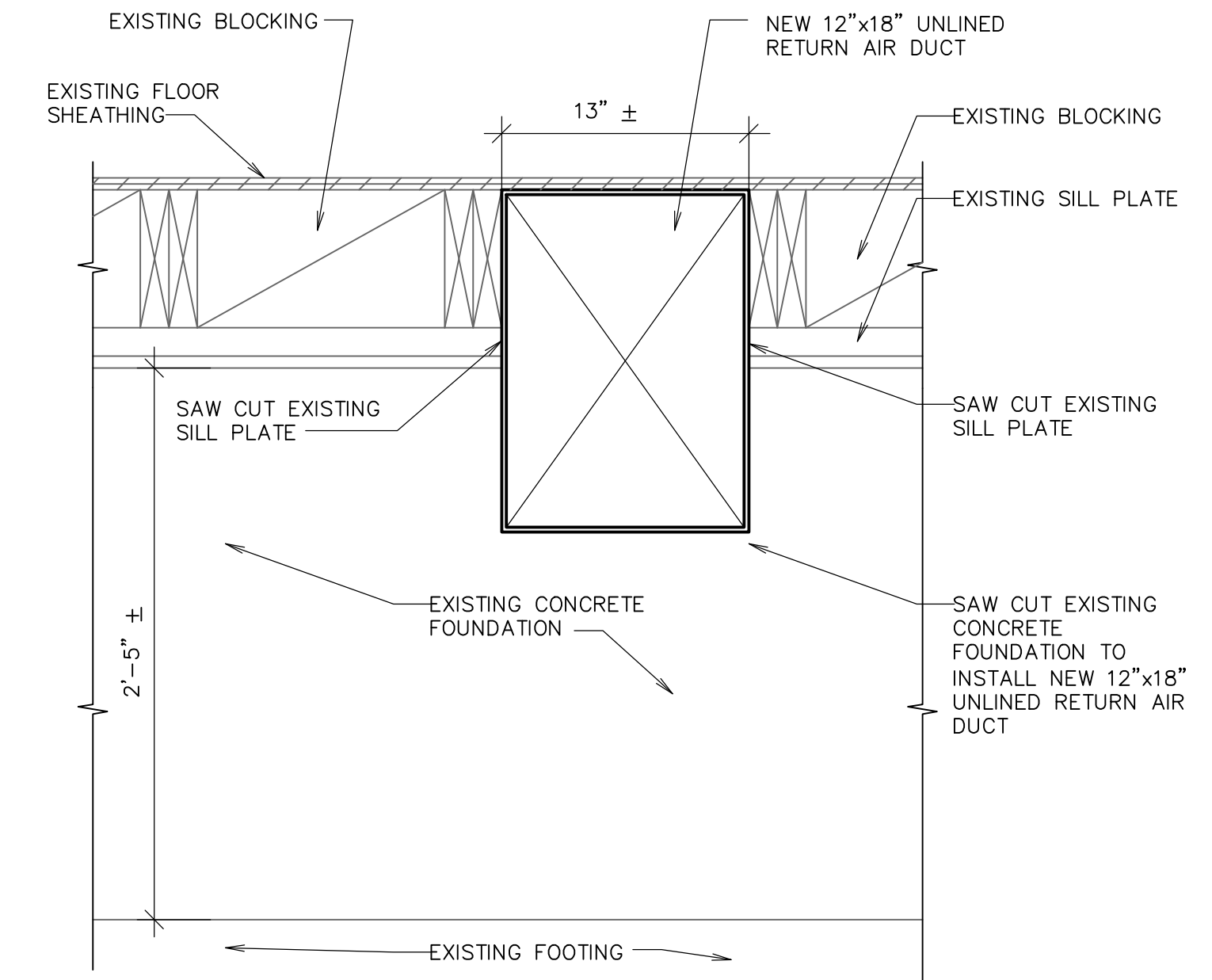
(A) MECHANICAL PENTHOUSE DETAIL
NONE



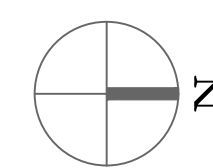
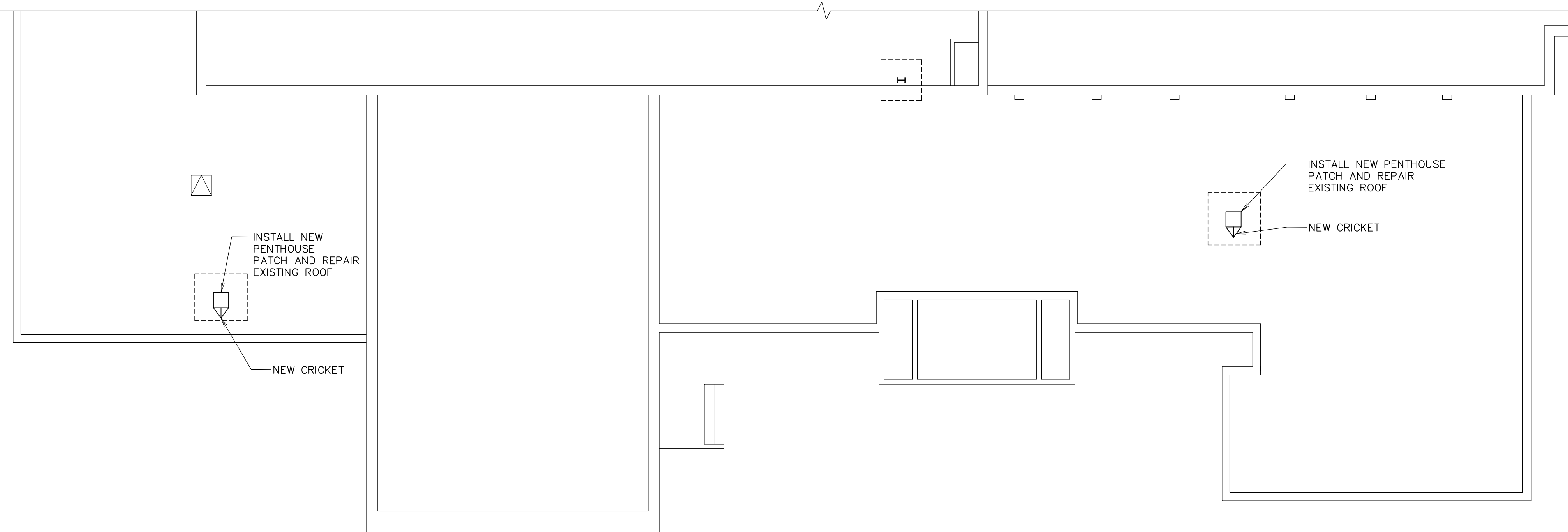
(B) CURB DETAIL
NONE



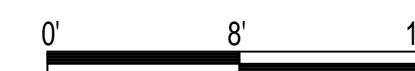
(C) DETAIL
1 1/2" = 1'-0"



(D) RETURN AIR DUCT DETAIL IN EXISTING CONCRETE FOUNDATION
1 1/2" = 1'-0"



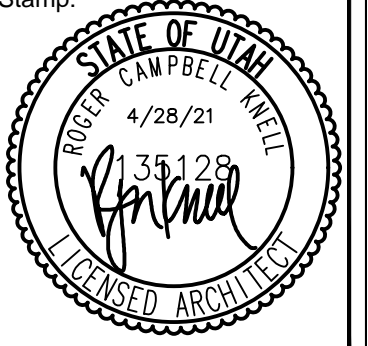
1 PARTIAL ROOF PLAN
M101 SCALE: 1/8"=1'-0"



Architect / Engineer:

KNELL ARCHITECTS, P.C.
45 EAST 300 NORTH, PROVO, UTAH 84606
PHONE: (800) 375-6244 FAX: (800) 377-1001

Stamp:



ESCALANTE

8 S CENTER STREET
ESCALANTE UTAH

Project for:

**THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS**

Project Number:

503-8197-20010101

Plan Series:

R&1

Property Number:

503-8197-20010101

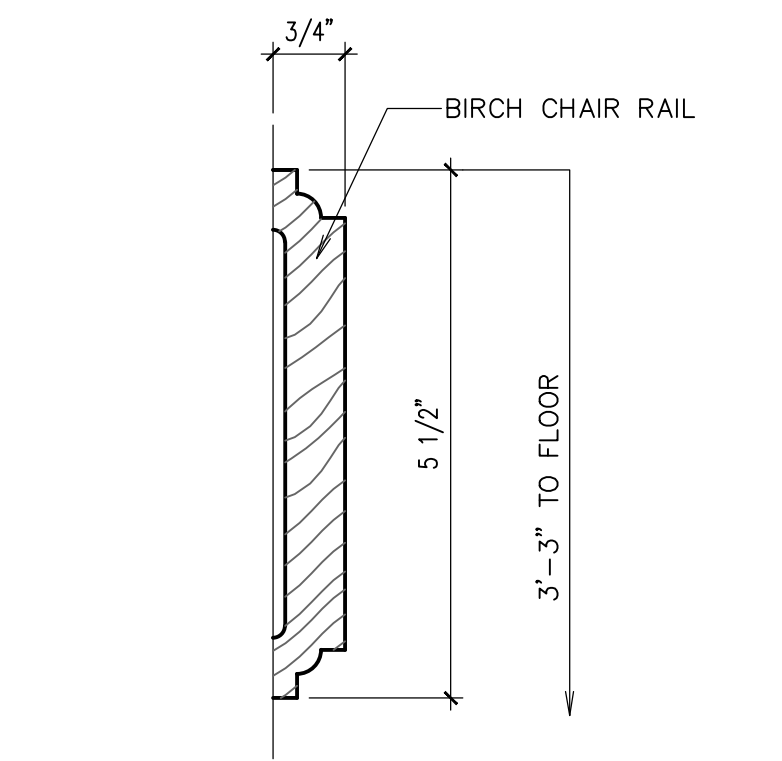
Sheet Title:

**ROOF
PLAN**

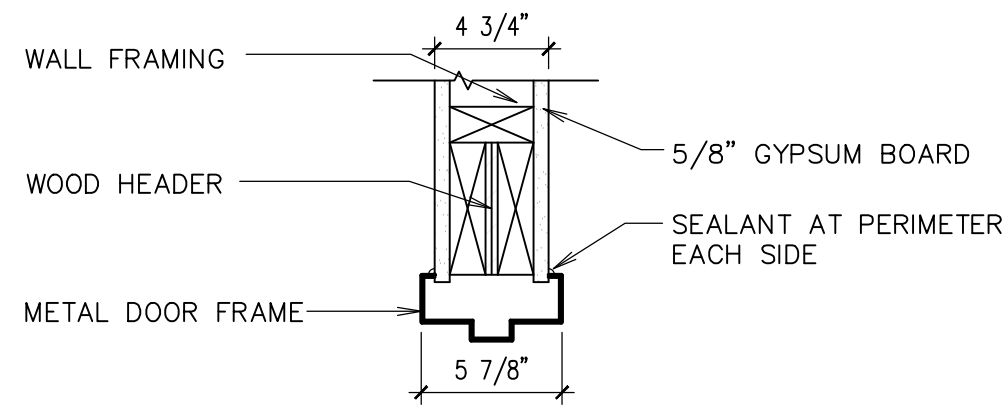
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A103

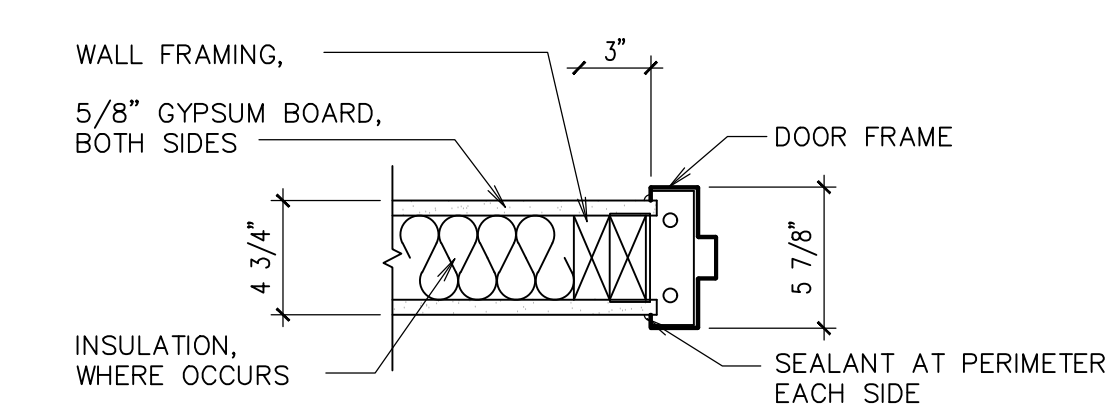
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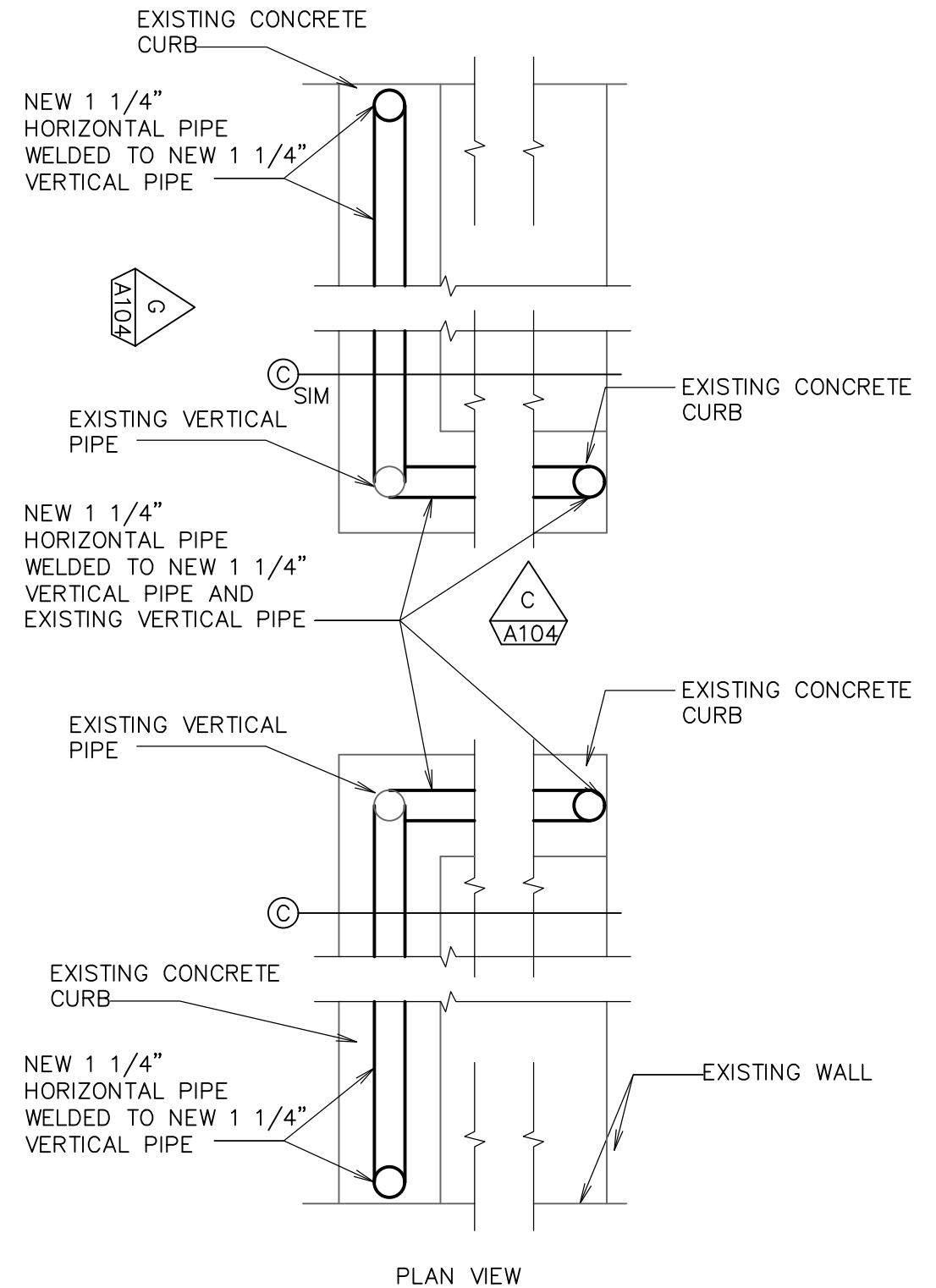
(A) WOOD TRIM DETAIL
6" = 1'-0"



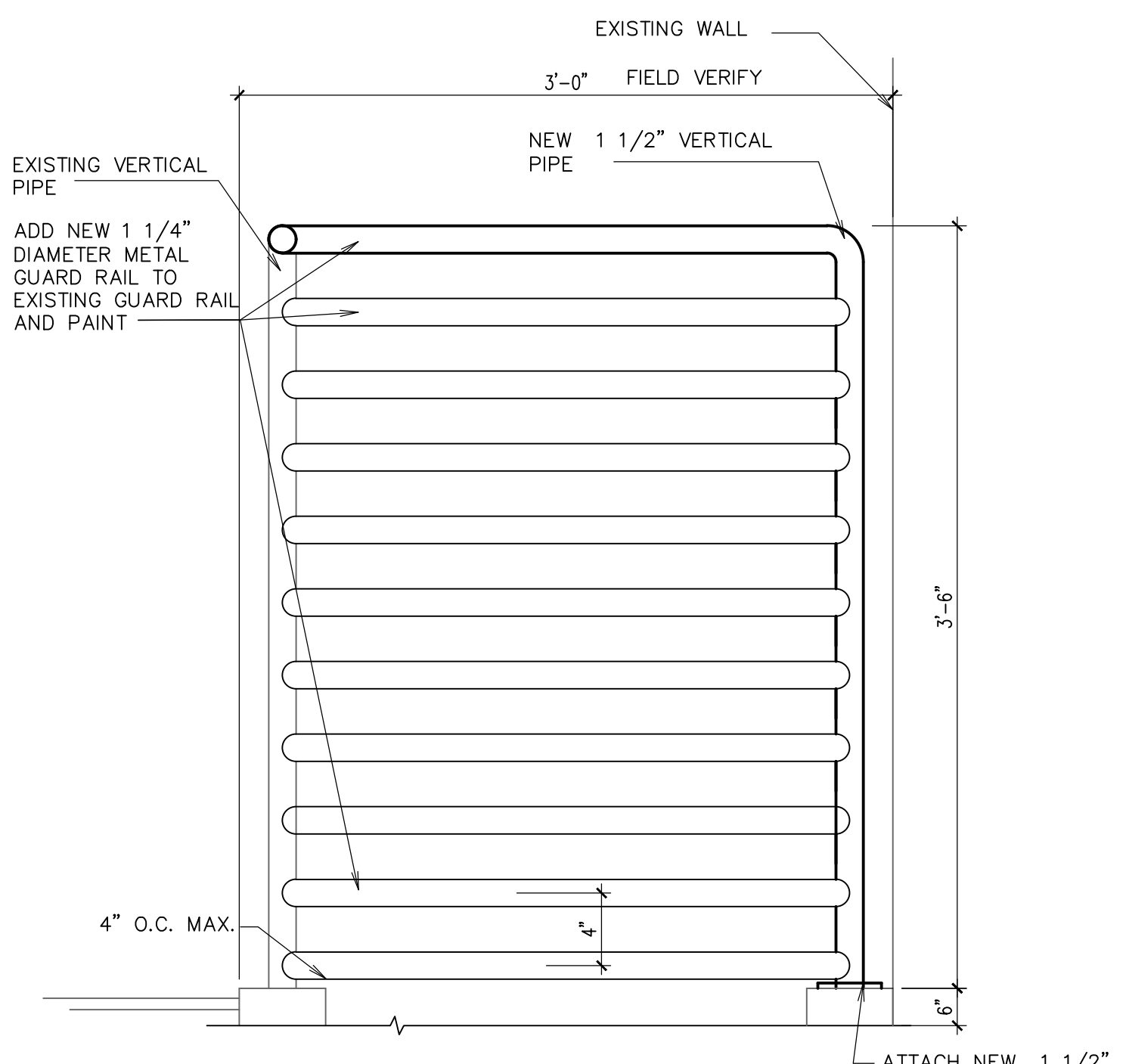
(E) HEAD
1 1/2" = 1'-0"



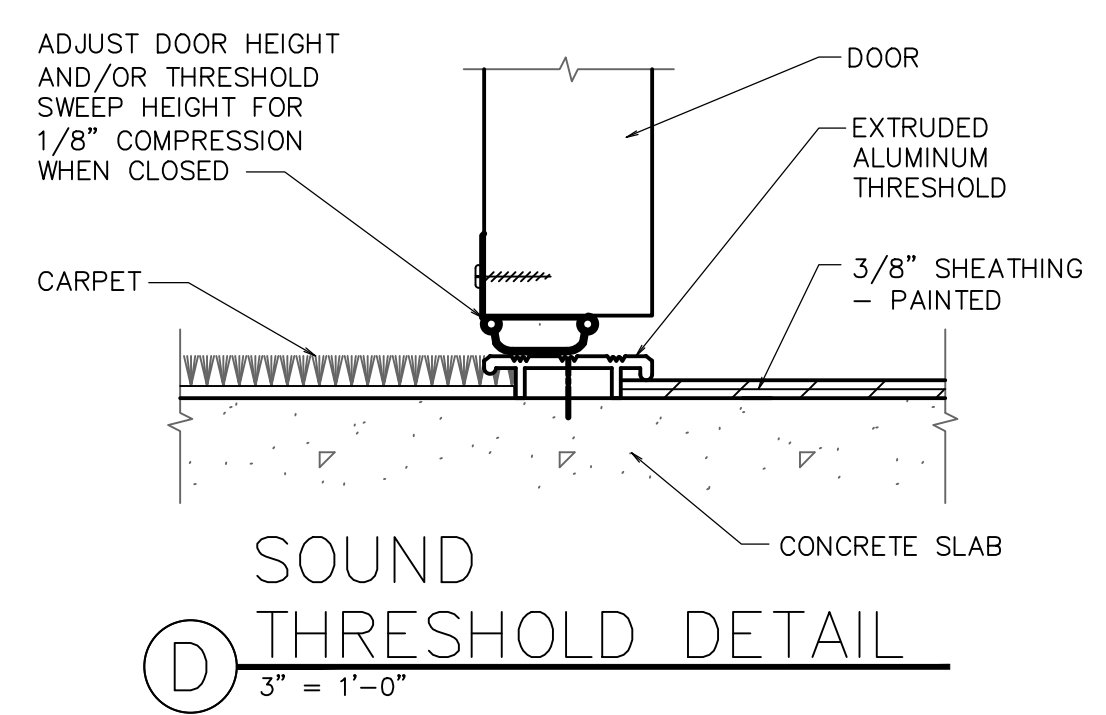
(F) JAMB
1 1/2" = 1'-0"



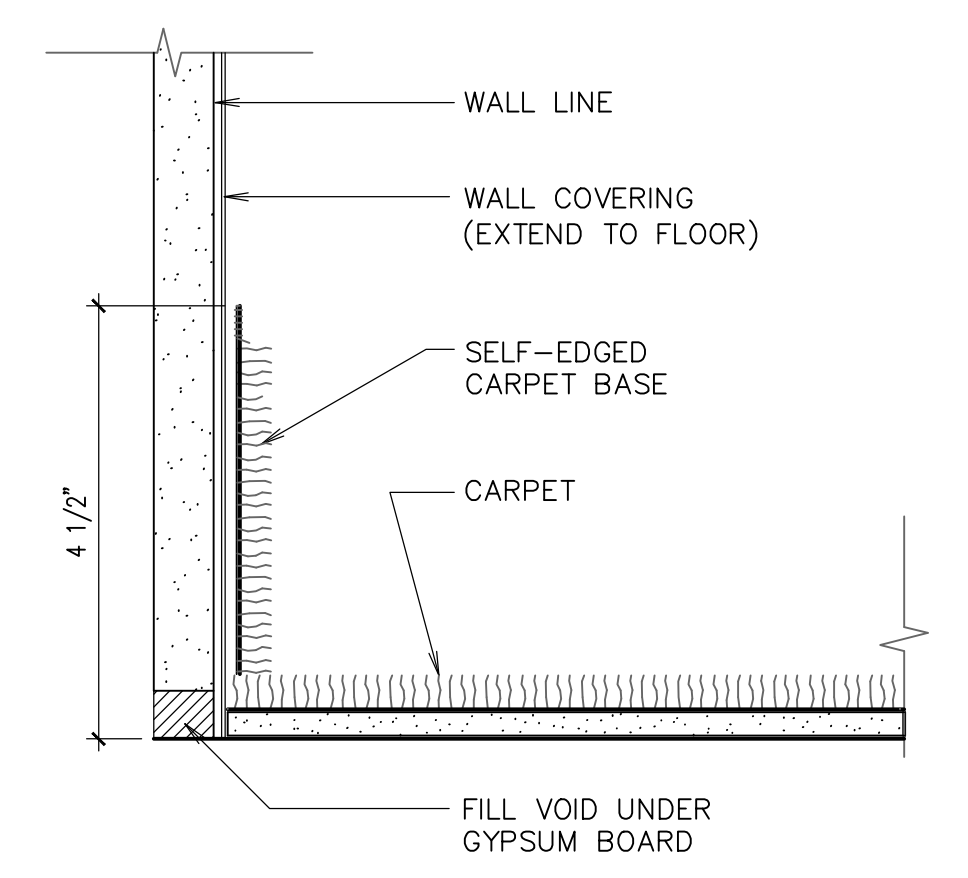
(B) DETAIL
1 1/2" = 1'-0"



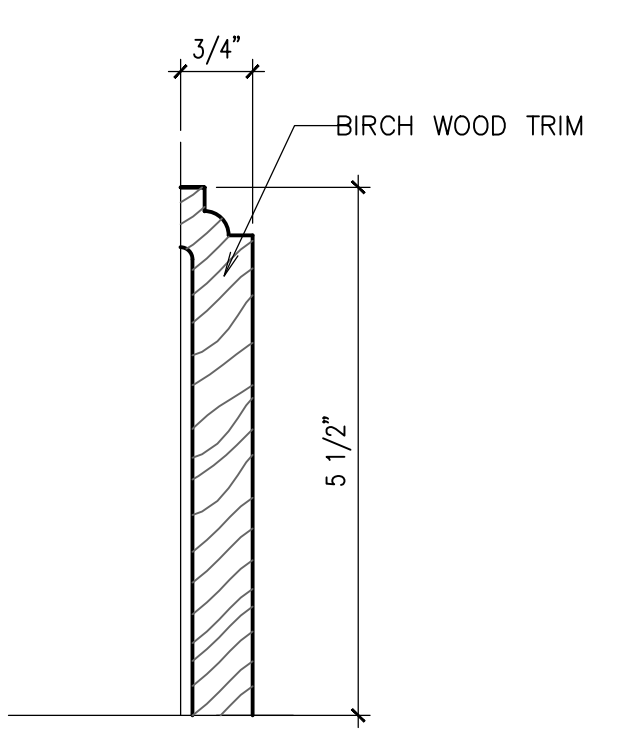
(C) DETAIL
1 1/2" = 1'-0"



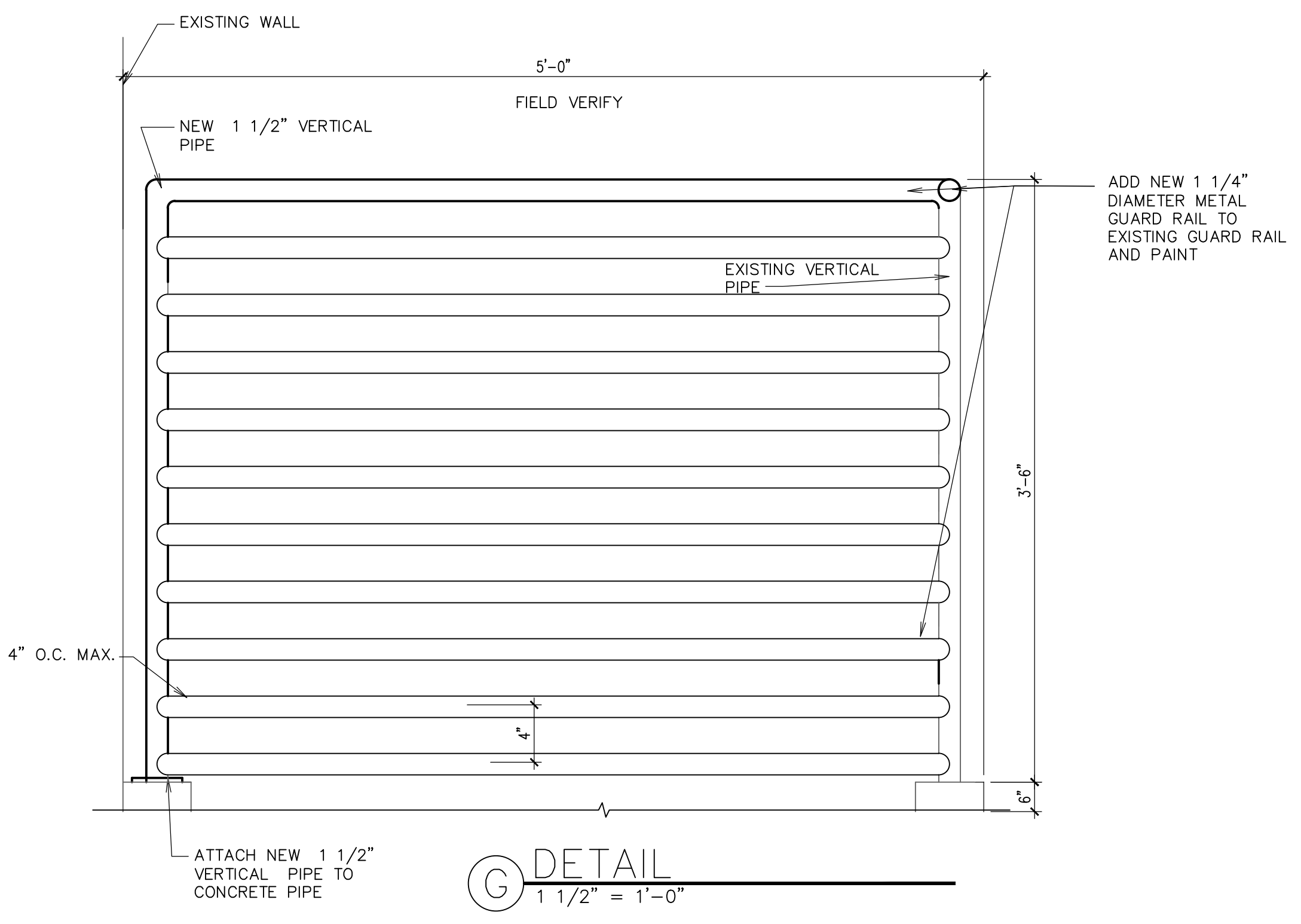
(D) SOUND THRESHOLD DETAIL
3" = 1'-0"



(G) CARPET BASE DETAIL
6" = 1'-0"

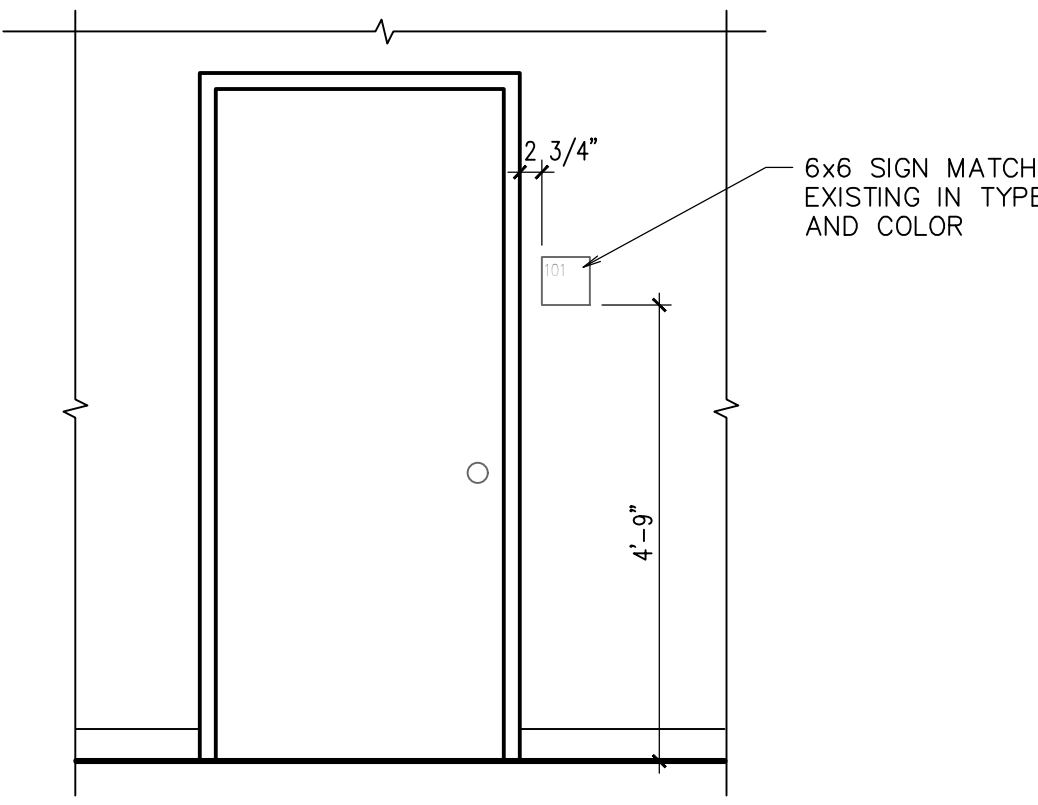


(H) WOOD TRIM DETAIL
6" = 1'-0"



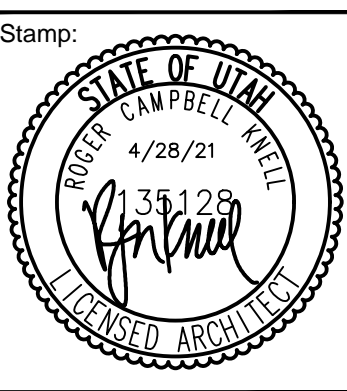
(G) DETAIL
1 1/2" = 1'-0"

BUILDING SIGNAGE SCHEDULE				
SIGNAGE ROOM NAME OR NUMBER	QUANTITY	SIZE	MOUNTING	PLAN ROOM NUMBER
M101	1	6x6	H/A104	101
M102	1	6x6	H/A104	102
M103	1	6x6	H/A104	103



(H) MOLDED SIGN MOUNTING
1/2" = 1'-0"

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45 EAST 300 NORTH, PROVO, UTAH 84606
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Project Number:
503-8197-20010101
Plan Series:
R&1
Property Number:
503-8197-20010101

Sheet Title:
DETAILS AND ROOM SIGNAGE SCHEDULE

Sheet:
A104

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1

2

3

4

5

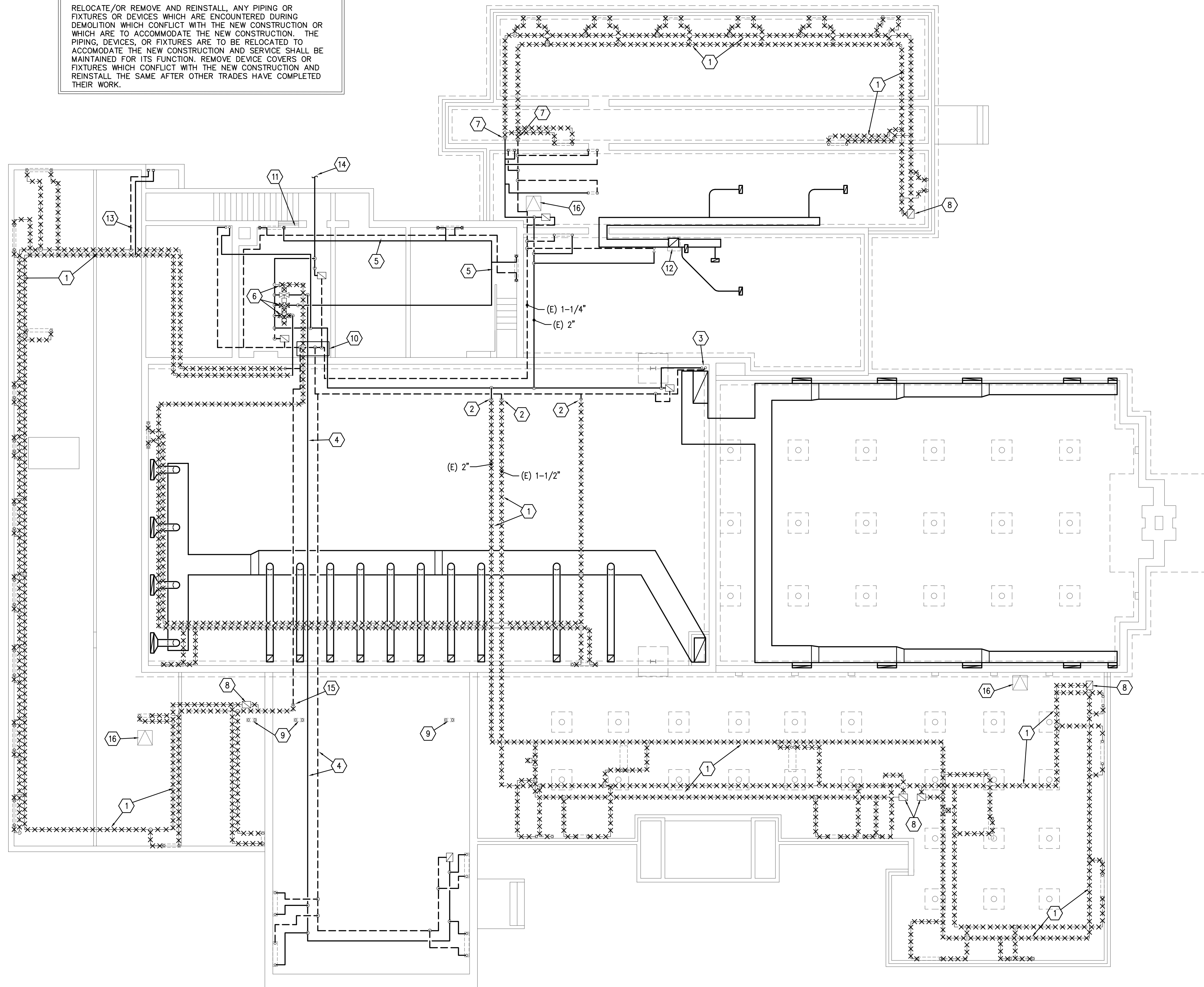
D

C

B

A

RELOCATE/OR REMOVE AND REINSTALL, ANY PIPING OR FIXTURES OR DEVICES WHICH ARE ENCOUNTERED DURING DEMOLITION WHICH CONFLICT WITH THE NEW CONSTRUCTION OR WHICH ARE TO ACCOMMODATE THE NEW CONSTRUCTION. THE PIPING, DEVICES, OR FIXTURES ARE TO BE RELOCATED TO ACCOMMODATE THE NEW CONSTRUCTION AND SERVICE SHALL BE MAINTAINED FOR ITS FUNCTION. REMOVE DEVICE COVERS OR FIXTURES WHICH CONFLICT WITH THE NEW CONSTRUCTION AND REINSTALL THE SAME AFTER OTHER TRADES HAVE COMPLETED THEIR WORK.



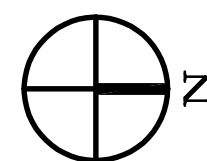
KEYED NOTES

1. REMOVE EXISTING STEAM AND STEAM CONDENSATE PIPING WHERE INDICATED IN CRAWLSPACE. REMOVE BRANCH PIPING UP TO TERMINAL UNITS AT FLOOR PENETRATIONS AS CLOSE TO FLOOR AS POSSIBLE.
2. CAP EXISTING PIPING BEING REMOVED AT MAIN.
3. EXISTING STEAM PIPING UP TO UPPER MECHANICAL ROOM TO REMAIN ACTIVE.
4. EXISTING STEAM PIPING ZONE SERVING RELIEF SOCIETY TO REMAIN ACTIVE.
5. EXISTING STEAM PIPING ZONE SERVING PLATFORM CONVECTORS TO REMAIN ACTIVE.
6. REMOVE EXISTING ZONE VALVES SERVING SOUTH CLASSROOMS, PLATFORM, AND CULTURAL CENTER CONVECTORS INCLUDING ASSOCIATED CONTROL WRING. SEE SHEET P102 FOR PIPE RECONNECTIONS.
7. REMOVE STEAM AND CONDENSATE PIPING TO THIS POINT. SEE SHEET P102 FOR INSTALLATION OF END OF MAIN TRAP AND CONDENSATE RETURN TO KEEP PORTION OF STEAM LOOP ACTIVE.
8. EXISTING END OF MAIN STEAM TRAP TO BE REMOVED. KEEP FOR RE-USE AT ALTERNATE LOCATION WHERE EXISTING STEAM LOOP IS BEING REVISED AND/OR SHORTENED. REFER TO SHEET P102.
9. EXISTING CONVECTORS ABOVE TO REMAIN ACTIVE ON A NON-CONTROL VALVE LOOP. REMOVE EXISTING BRANCH PIPING AS REQUIRED AND SEE SHEET P102 FOR PROPOSED NEW STEAM PIPING LOOP. FIELD VERIFY ACTUAL EXISTING STEAM PIPING AND CONTROL POINT(S).
10. EXISTING CONDENSATE RETURN TANK, BOILER FEED PUMP AND CONTROLS TO REMAIN.
11. REMOVE EXISTING COMBUSTION AIR DUCT ATTACHED TO INTAKE LOUVER AND PROVIDE SHEET METAL COVER OVER BACK OF LOUVER. SEAL AIR TIGHT AND COVER WITH DUCT WRAP.
12. FAN COIL UNIT FC-4 ABOVE WITH STEAM HEATING TO REMAIN IN SERVICE.
13. BRANCH STEAM PIPING SERVING CONVECTOR AT STORAGE ROOM TO REMAIN. SEE SHEET P102 FOR NEW STEAM PIPING CONNECTIONS.
14. EXISTING 4\"/>

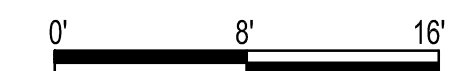
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• Van Boerum & Frank Assoc., 2014

ESCALANTE 1 & 2 WARDS
ESCALANTE UTAH STAKE
HVAC UPGRADE
8 S. CENTER STREET, ESCALANTE, UT 84726



1 BASEMENT & CRAWLSPACE LEVEL MECHANICAL DEMOLITION PLAN
MD102 SCALE: 1/8"=1'-0"



REVISIONS	

VBFA PROJECT #: 21033
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DRAWN BY: JTA
CURRENT/ISSUE DATE: APRIL 2021

SHEET CONTENTS
BASEMENT & CRAWLSPACE LEVEL MECH. DEMOLITION PLAN

MD102

1

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4

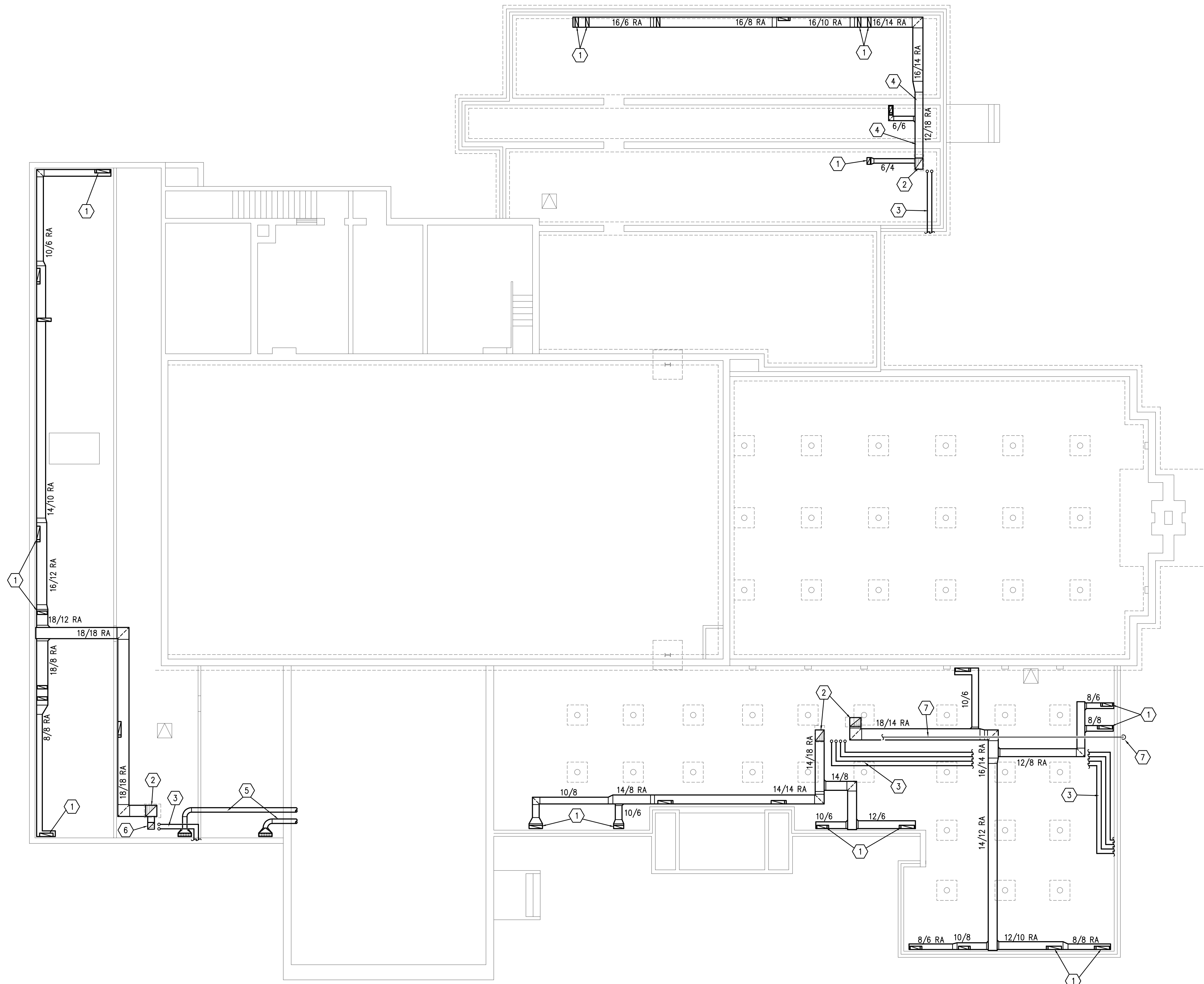
5

D

C

B

A



KEYED NOTES

1. UNLINED RETURN AIR BRANCH DUCT UP TO FLOOR RETURN AIR GRILLE ABOVE. REFER TO GRILLE SIZE ABOVE. TYPICAL.
2. MAIN RETURN AIR DUCT UP TO FURNACE ABOVE. PROVIDE SHEET METAL PAN AROUND ANY CONFLICTING WOOD FLOOR JOISTS. SEAL ALL EDGES.
3. ROUTE NEW REFRIGERANT PIPING THROUGH CRAWLSPACE AND UP THROUGH FLOOR TO MECHANICAL ROOM.
4. SAW CUT THROUGH EXISTING CONCRETE FOUNDATION TO ALLOW INSTALLATION OF NEW RETURN AIR DUCT. REFER TO ARCHITECTURAL PLANS.
5. ROUTE NEW 8" ROUND BRANCH SUPPLY DUCTS TO NEW FLOOR SUPPLY GRILLES AT MATERIAL CENTER. CONNECT NEW BRANCH DUCTS TO LARGEST MAIN SUPPLY DUCT BELOW RELIEF SOCIETY. FIELD VERIFY EXACT ROUTING AND LOCATIONS.
6. 12X12 OA DUCT FROM MECHANICAL SPACE ABOVE. CONNECT TO MAIN RETURN AIR DUCT AT CRAWLSPACE.
7. PROPOSED ROUTING OF 4" PVC 'LPG DRAIN'. REFER TO LARGE SCALE MECHANICAL ROOM PLANS. SHEET M301. FIELD VERIFY OPTIMAL ROUTING.

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www.vbfa.com
181 East 5600 South
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801.530.3150 F

LICENSED PROFESSIONAL ENGINEER
No. 190991
BENJAMIN L. DAVIS
STATE OF UTAH

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SHEET CONTENTS
BASEMENT & CRAWLSPACE LEVEL MECHANICAL PLAN

M102

1 BASEMENT & CRAWLSPACE LEVEL MECHANICAL PLAN
M102 SCALE: 1/8"=1'-0"
0' 8' 16'

1

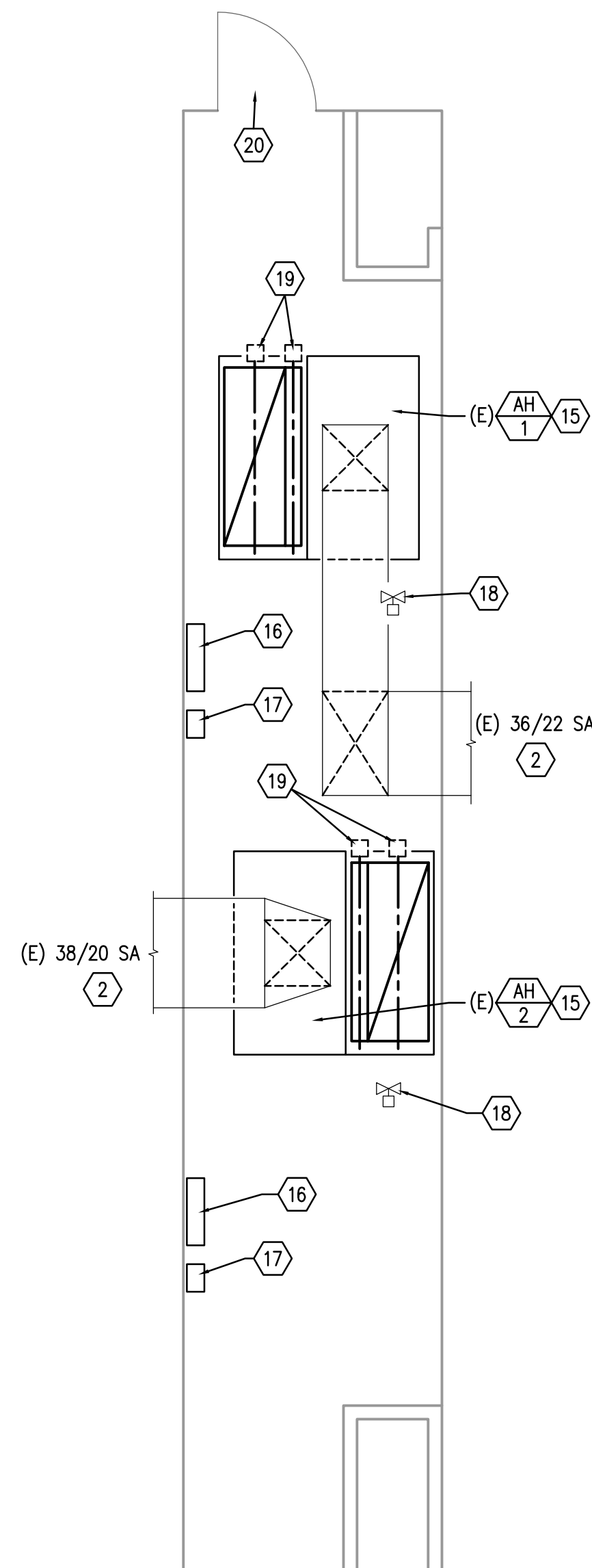
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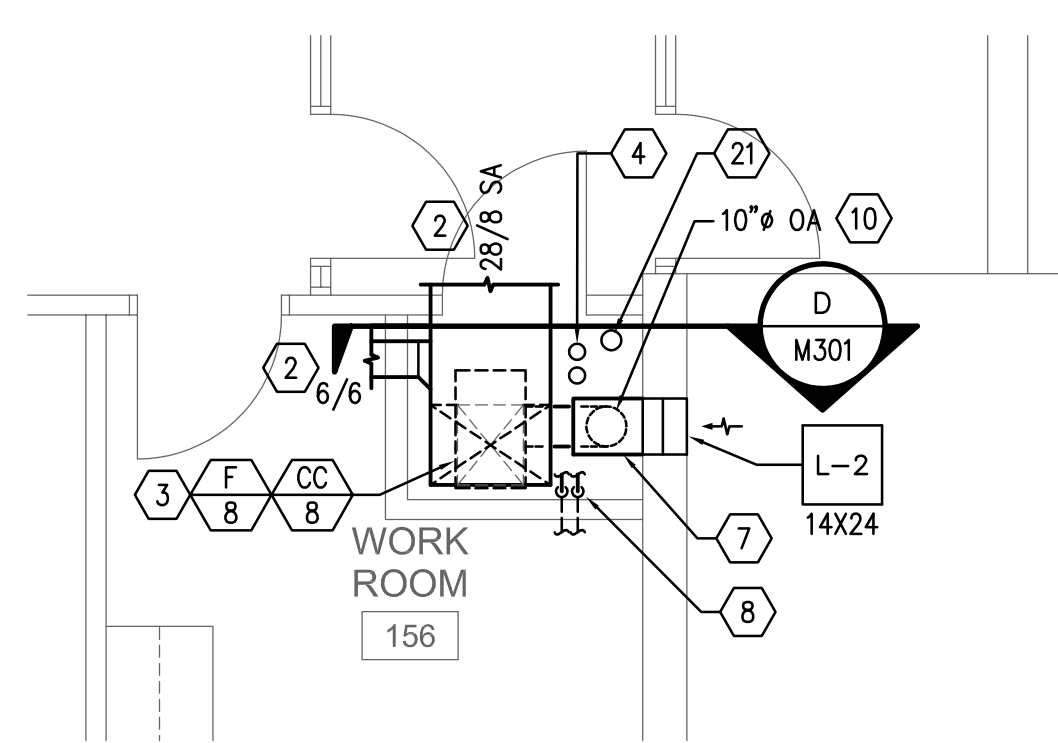
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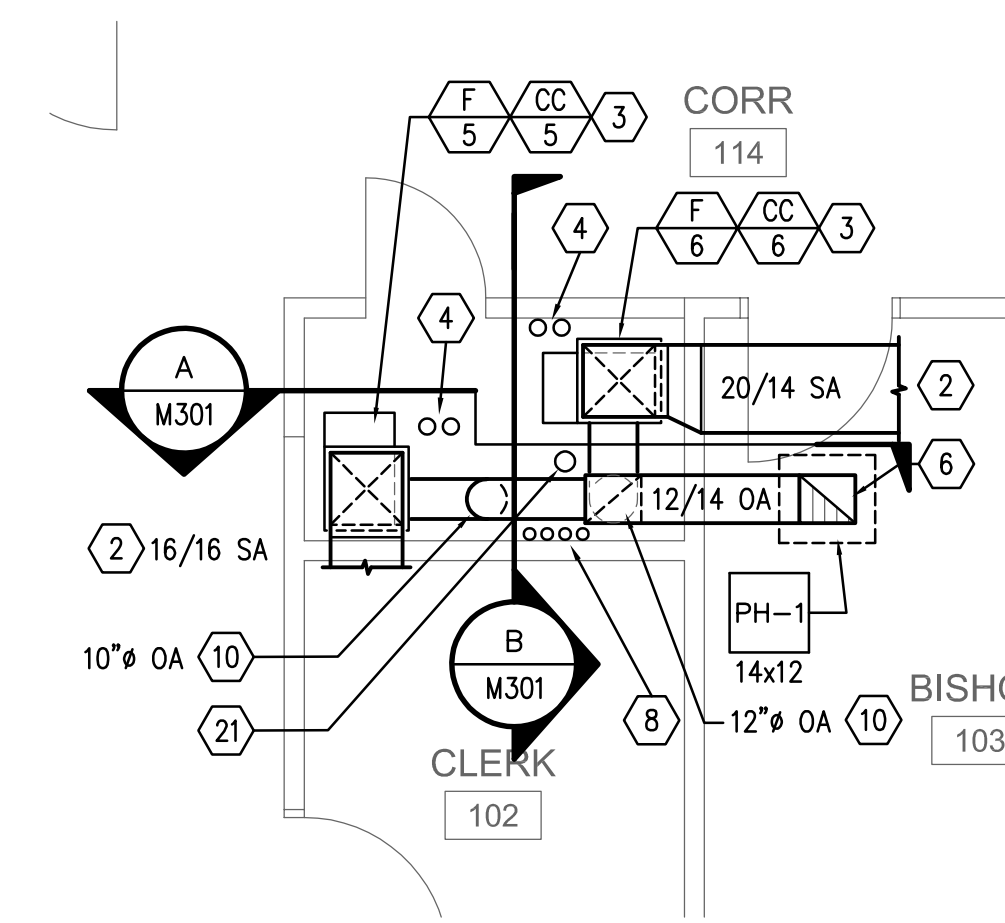


3 ENLARGED MECHANICAL PLAN

M301 SCALE: 1/4" = 1'-0" 0' 4' 8'

2 ENLARGED MECHANICAL PLAN

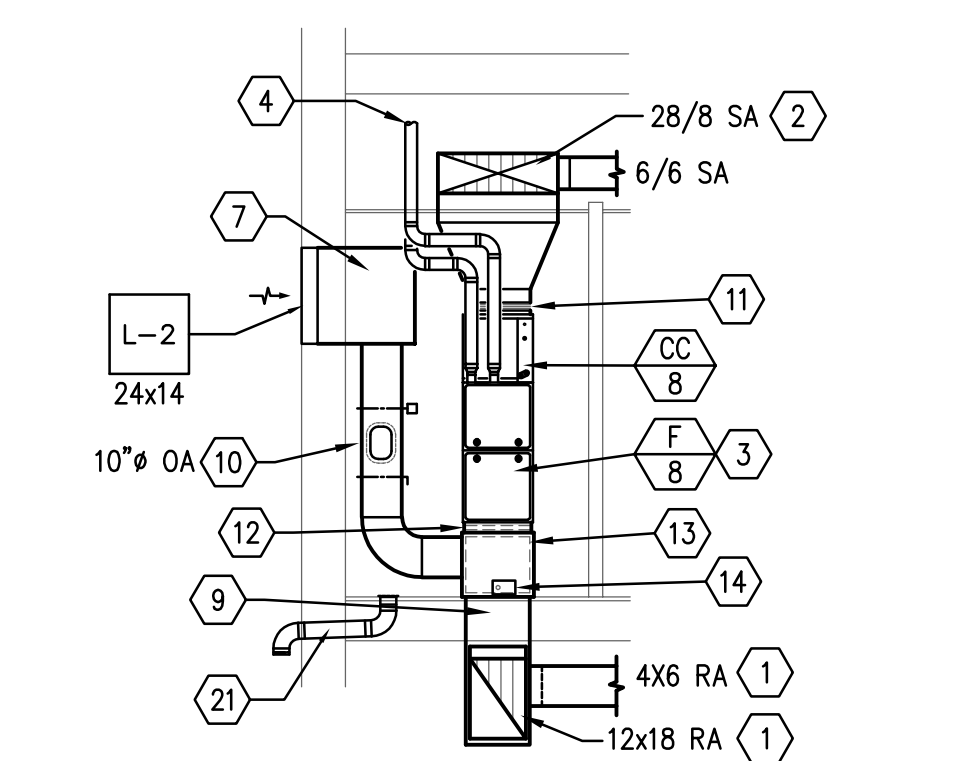
M301 SCALE: 1/4" = 1'-0" 0' 4' 8'



1 ENLARGED MECHANICAL PLAN

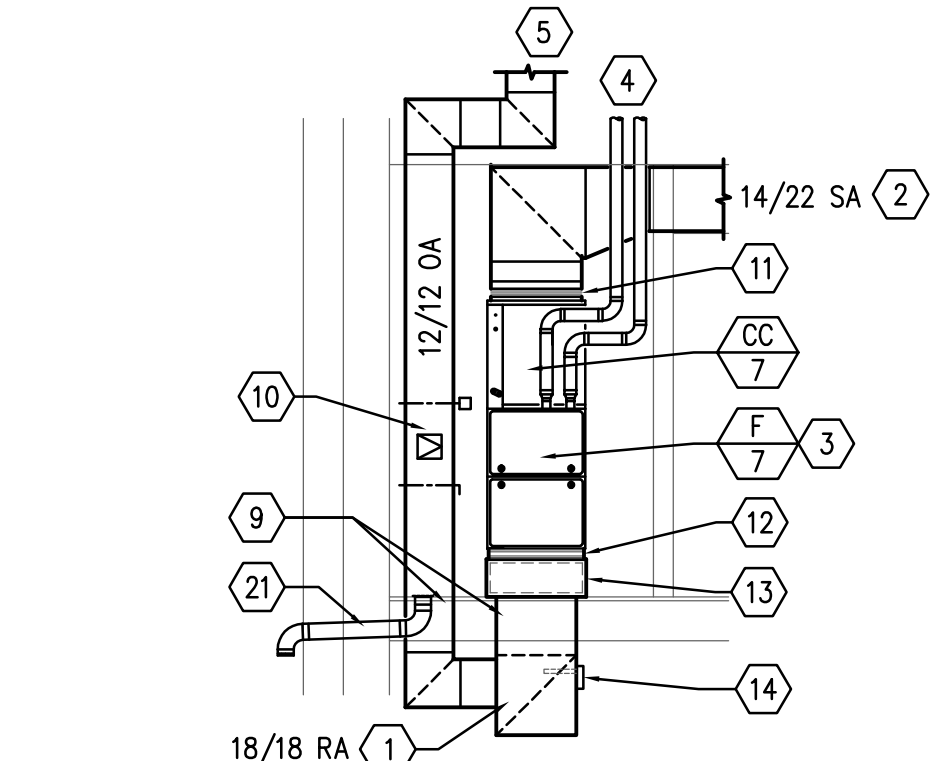
M301 SCALE: 1/4" = 1'-0" 0' 4' 8'

B



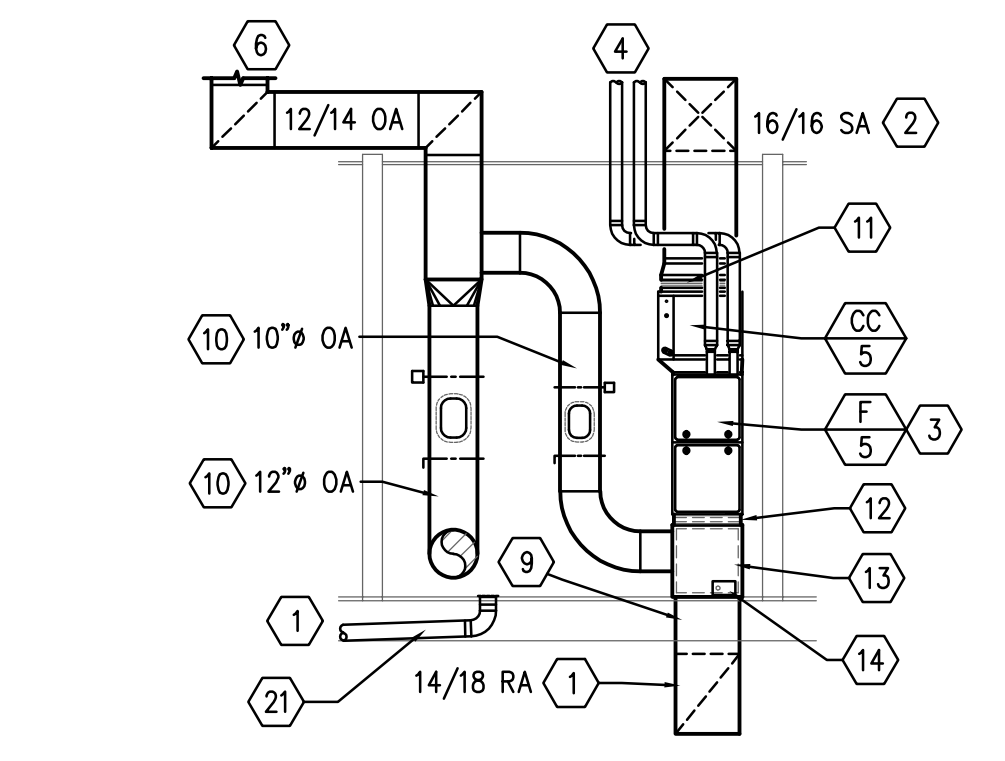
D MECHANICAL ROOM SECTION

M301 SCALE: 1/4" = 1'-0" 0' 4' 8'



C MECHANICAL ROOM SECTION

M301 SCALE: 1/4" = 1'-0" 0' 4' 8'



A MECHANICAL ROOM SECTION

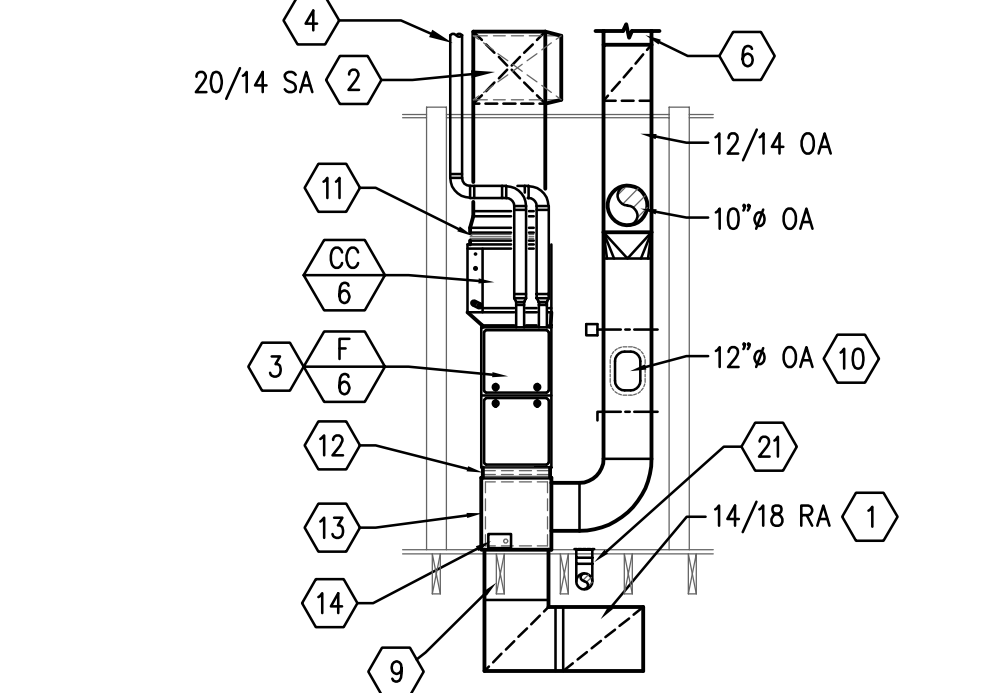
M301 SCALE: 1/4" = 1'-0" 0' 4' 8'

A



4 ENLARGED MECHANICAL PLAN

M301 SCALE: 1/4" = 1'-0" 0' 4' 8'



B MECHANICAL ROOM SECTION

M301 SCALE: 1/4" = 1'-0" 0' 4' 8'

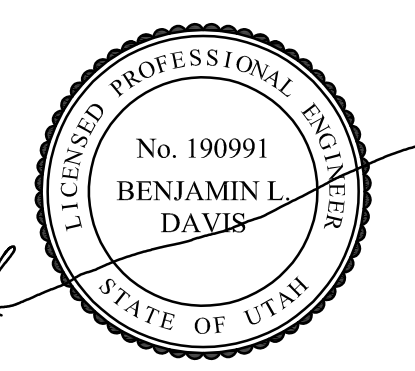
KEYED NOTES

- SEE SHEET M102 FOR CONTINUATION.
- SEE SHEET M101 FOR CONTINUATION.
- INSTALL NEW GAS-FIRED FURNACE AND DX COOLING COIL. PROVIDE LINED MIXED AIR PLENUM WITH FILTER RACK (J/M502) BELOW FURNACE. REFER TO SHEET P101 FOR REQUIRED GAS & CONDENSATE DRAIN PIPING.
- FURNACE VENT AND COMBUSTION AIR PIPING. ROUTE UP TO AND THROUGH ROOF. TERMINATE WITH CONCENTRIC VENT (D/M502) 10 FT. MIN. AWAY FROM ANY OA INTAKE LOCATION. FIELD VERIFY EXACT ROUTING.
- 12X12 UNLINED OUTSIDE AIR DUCT UP TO INTAKE PENTHOUSE PH-2 ON ROOF. WRAP OUTSIDE AIR DUCT AS SPECIFIED.
- 14X12 UNLINED OUTSIDE AIR DUCT UP TO INTAKE PENTHOUSE PH-1 ON ROOF. WRAP OUTSIDE AIR DUCT AS SPECIFIED.
- UNLINED OUTSIDE AIR PLENUM AT BACK OF INTAKE LOUVER. FULL LOUVER SIZE, DEPTH AS REQUIRED.
- ROUTE REFRIGERANT PIPING UP FROM CRAWLSPACE TO MECHANICAL ROOM.
- PROVIDE SHEET METAL PAN AROUND ANY CONFLICTING WOOD FLOOR JOISTS. SEAL ALL EDGES.
- UNLINED AND WRAPPED OUTSIDE AIR DUCT. CONNECT TO MAIN RETURN AIR DUCT OR MIXED AIR PLENUM. REFER TO DETAIL H/M502 FOR OUTSIDE AIR CONTROLS.
- FLEXIBLE CONNECTION. TYPICAL.
- EXTERNAL FILTER RACK. REFER TO DETAIL J/M502. TYPICAL.
- LINED MIXED AIR PLENUM BELOW FURNACE. HEIGHT AS REQUIRED FOR RA/OA DUCT CONNECTION.
- CO2 SENSOR. REFER TO SHEET ME101. INSTALL AT RETURN AIR ONLY. DO NOT INSTALL DOWNSTREAM OF OUTSIDE AIR CONNECTION.
- EXISTING AIR HANDLER TO REMAIN. REFER TO ATC SHEETS FOR NEW AUTOMATIC TEMPERATURE CONTROLS.
- EXISTING RELAY PANEL TO BE REMOVED AND REPLACED WITH UNITARY CONTROL PANEL. REFER TO SHEET ME 702 FOR NEW UC PANEL WIRING DIAGRAM.
- INSTALL NEW VARIABLE FREQUENCY DRIVE FOR EXISTING FAN MOTOR.
- EXISTING MODULATING STEAM VALVE AND ACTUATOR TO REMAIN FOR RE-USE.
- REMOVE AND REPLACE EXISTING RELIEF AND RETURN AIR DAMPER ACTUATORS FOR ECONOMIZER CONTROLS. REFER TO ATC SHEETS.
- ACCESS DOOR TO UPPER MECHANICAL ROOM AT SOUTH ROOF.
- PROVIDE 4" PVC 'LPG DRAIN' FROM MECHANICAL ROOM FLOOR TO EXTERIOR. INLET END AT MECHANICAL ROOM TO BE FLUSH WITH FINISHED FLOOR TO ALLOW ANY LEAKING LPG TO DRAIN INTO PIPE. ROUTE TO EXTERIOR FOUNDATION WALL WITH 2% MINIMUM SLOPE. TERMINATE OUTSIDE EXTERIOR FOUNDATION WALL WITH DOWNTURN 90° ELBOW. SEAL ALL PENETRATIONS. COVER BOTH ENDS WITH GALVANIZED 1/4" WIRE FABRIC.



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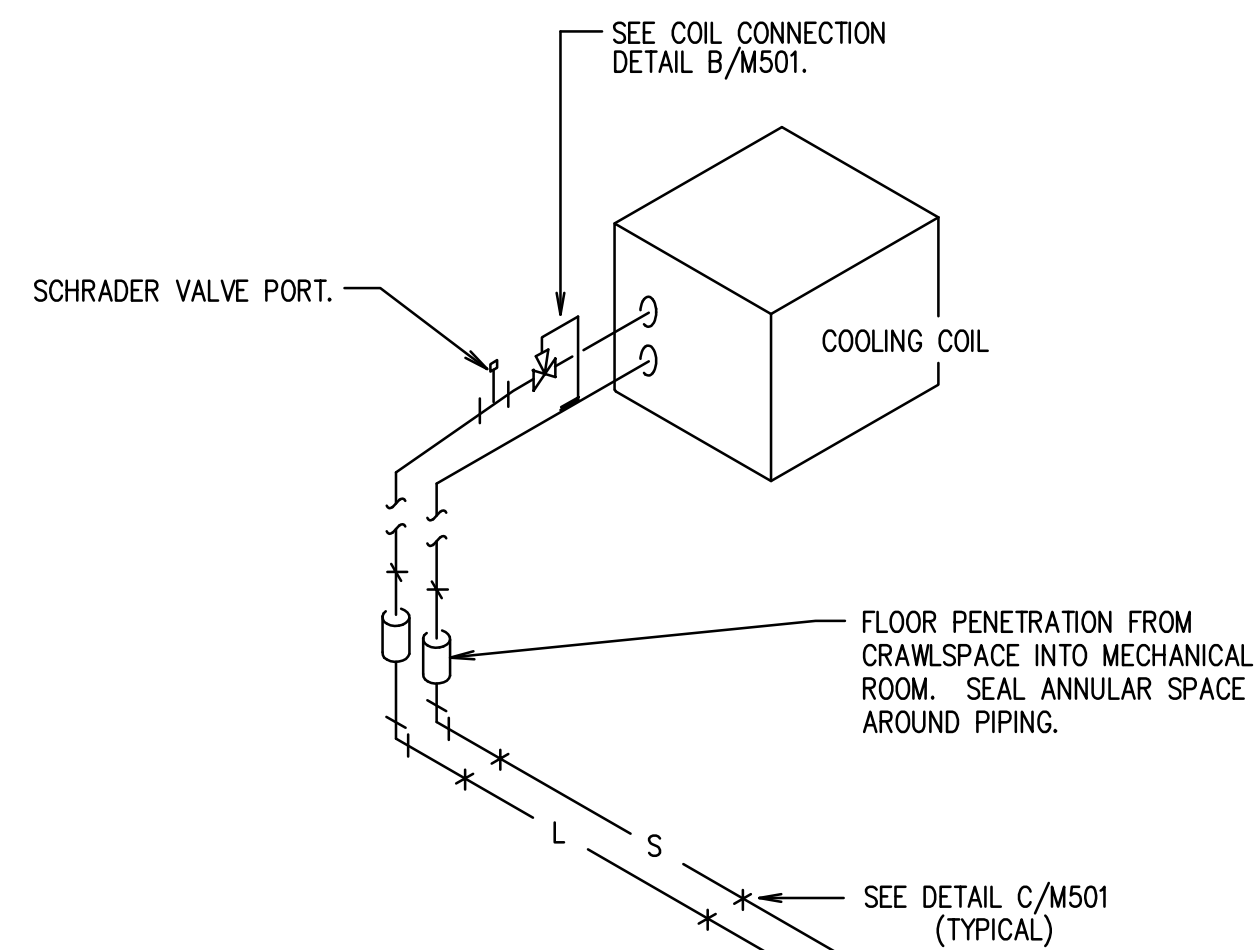
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SHEET CONTENTS
LARGE SCALE
MECHANICAL
PLANS &
SECTIONS

M301

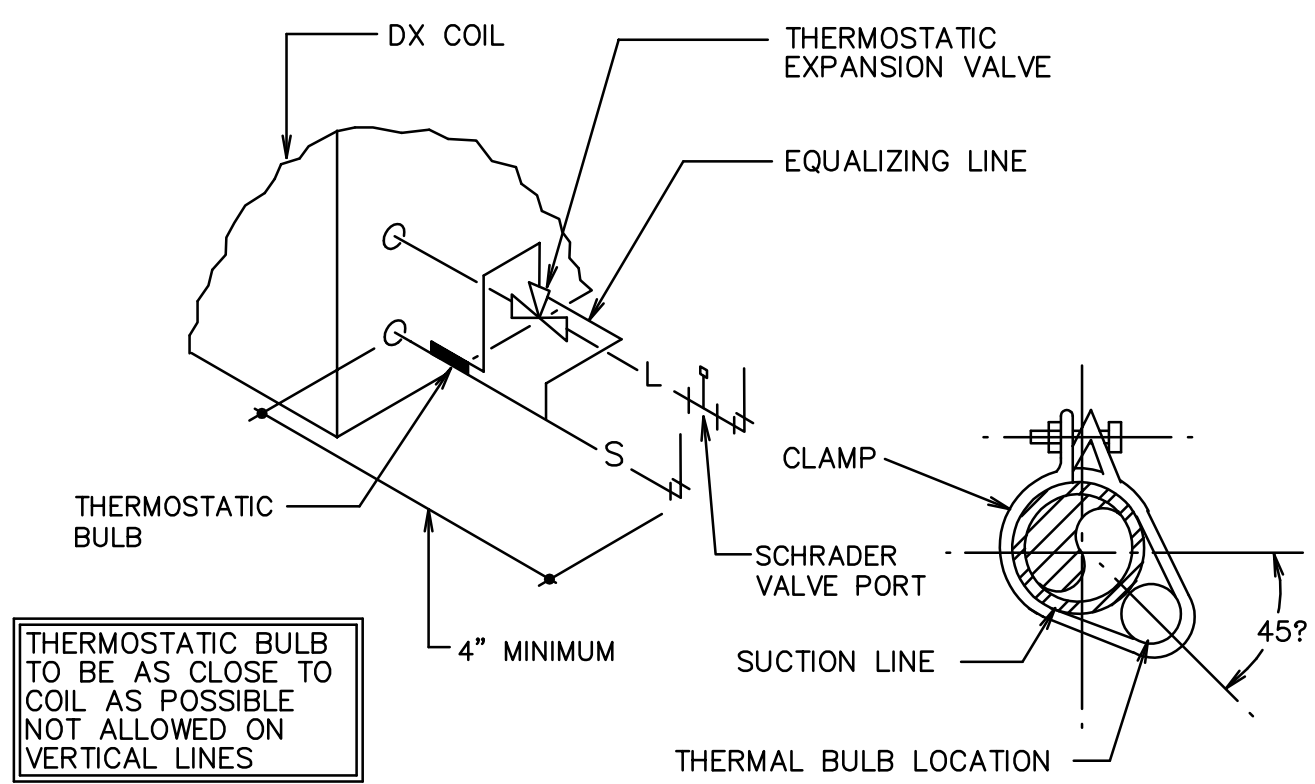
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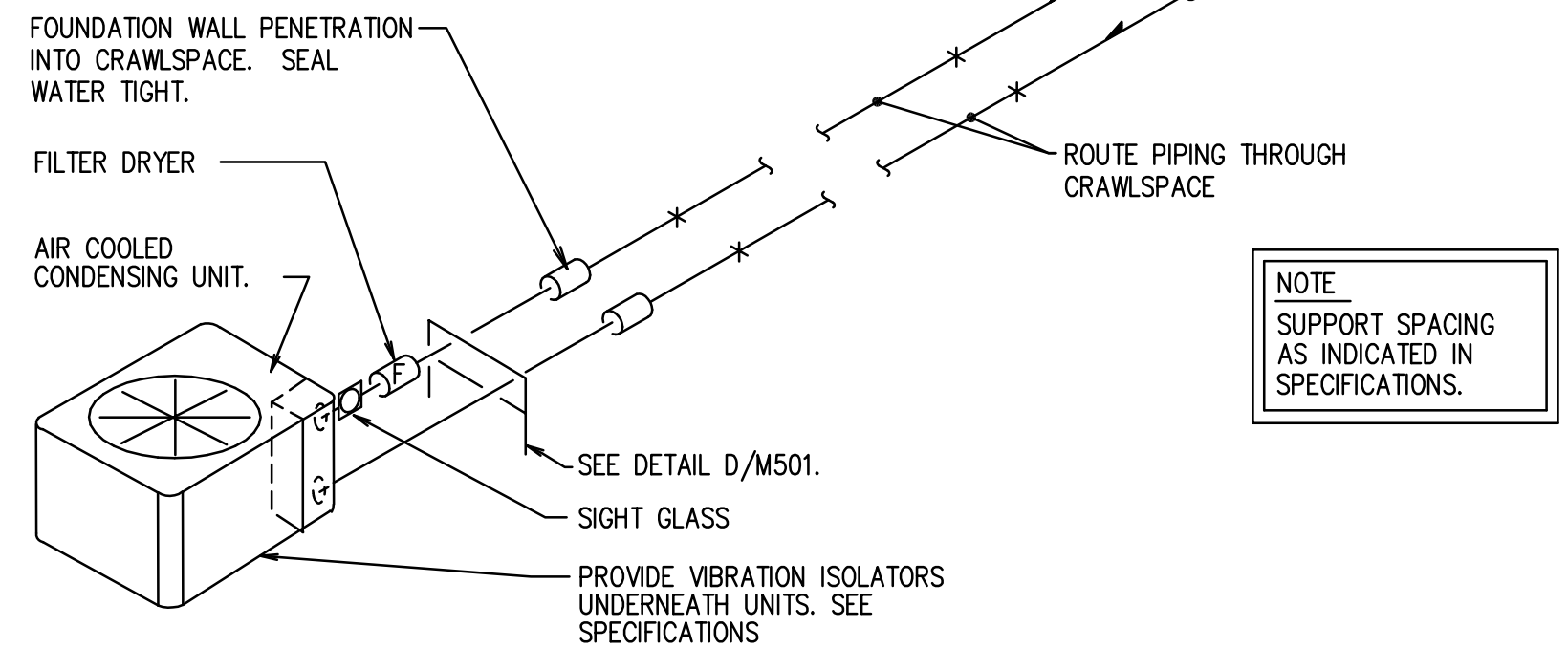
A REFRIGERANT SCHEME
M501 NO SCALE

UNIT	LIQUID	SUCTION	REMARKS
CU 5	3/8"	7/8"	3.0 TON
CU 6	3/8"	7/8"	3.0 TON
CU 7	3/8"	7/8"	4.0 TON
CU 8	3/8"	7/8"	2.5 TON

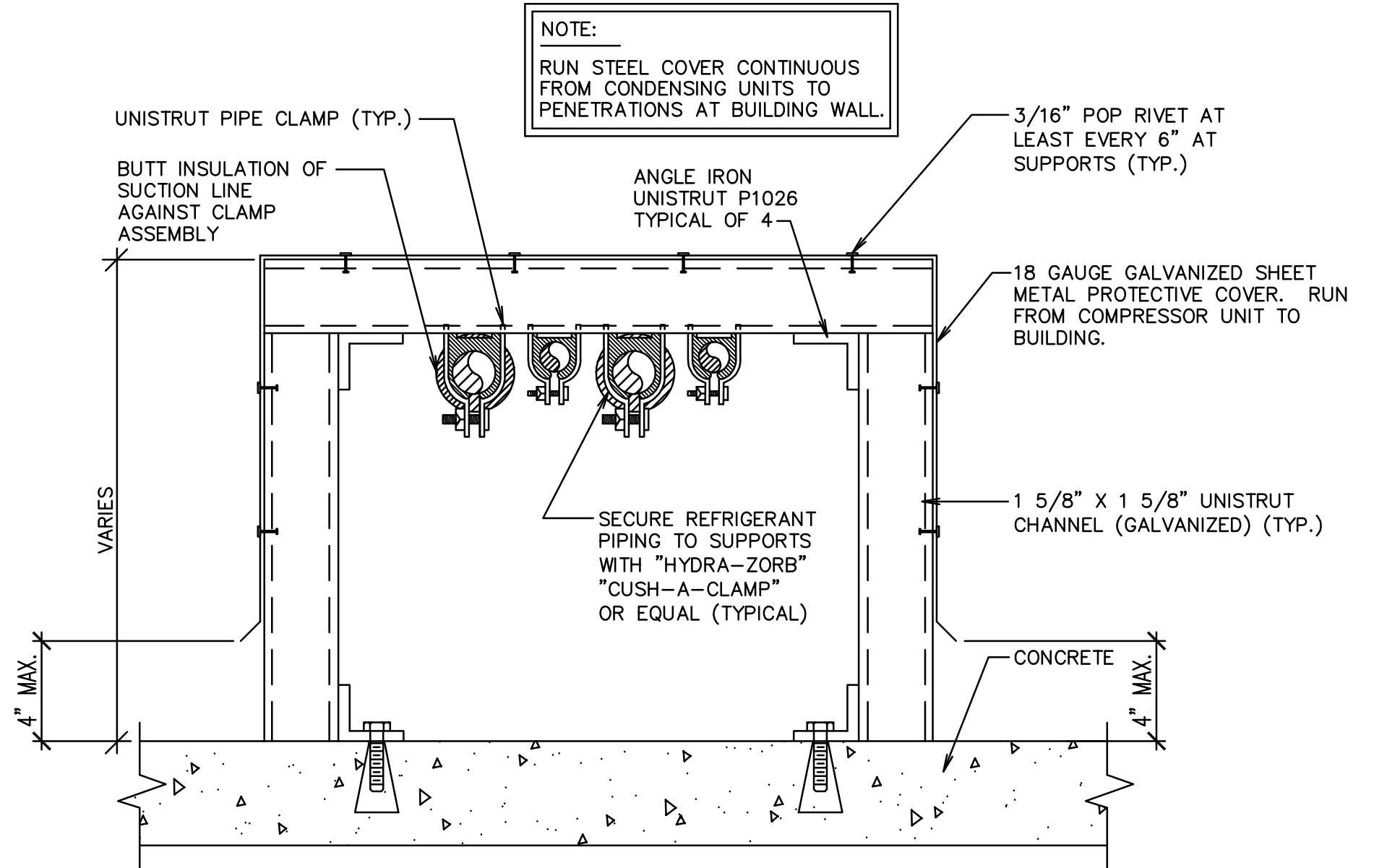
SYMBOL	DESCRIPTION
	EXPANSION VALVE. SEE DETAIL B M501
	MOISTURE INDICATING SIGHT GLASS
	FILTER DRIER
	PIPE SUPPORT. SEE DETAIL C M501 E M501
	EXTERIOR PIPE SUPPORT. SEE DETAIL D M501
	TRAP. ONE PIECE FACTORY FABRICATED
	DIRECTION OF SLOPE DOWN
	SUCTION LINE
	LIQUID LINE
	SCHRADER VALVE PORT



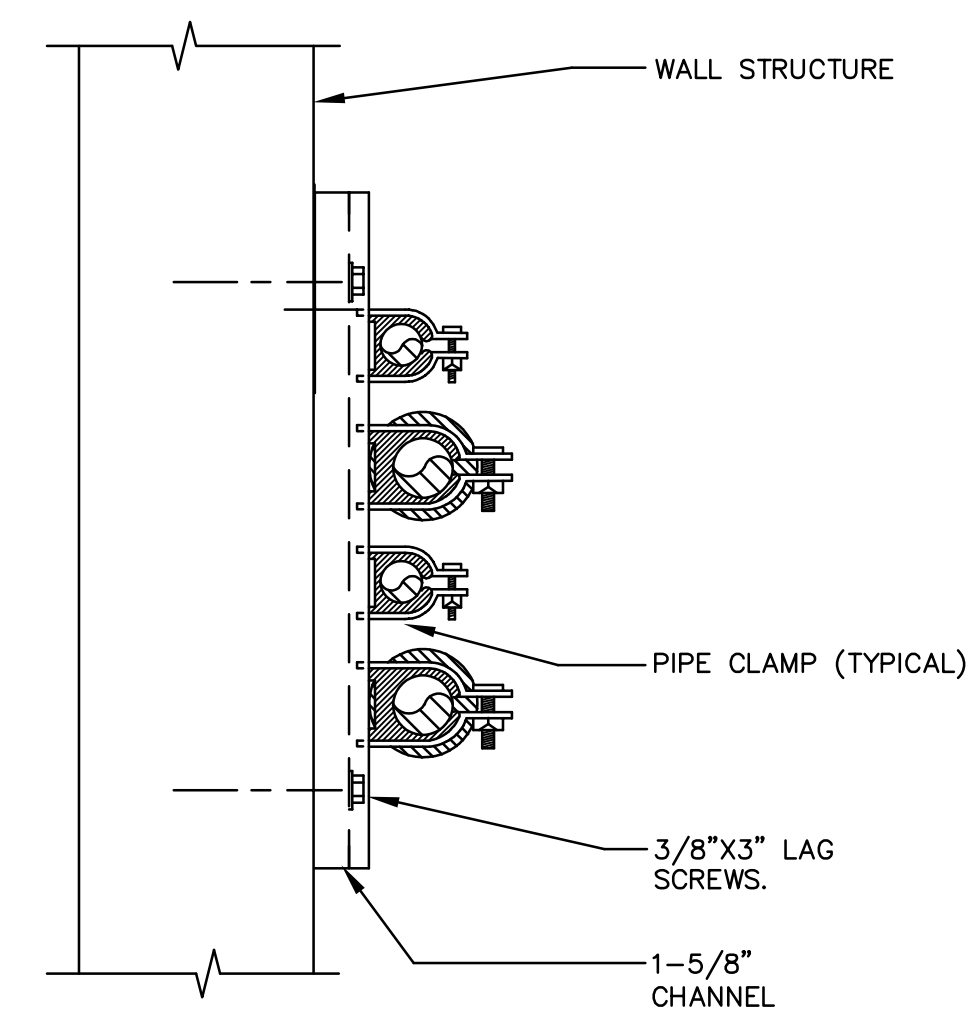
B REFRIGERANT COIL CONNECTION DETAIL
M501 NO SCALE



C REFRIGERANT PIPE SUPPORT AT CRAWLSPACE
M501 NO SCALE



D EXTERIOR REFRIGERANT PIPE SUPPORT DETAIL
M501 NO SCALE

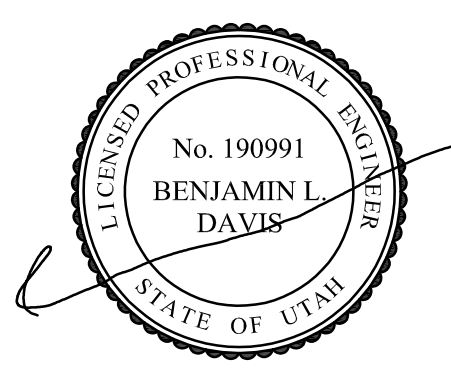


E REFRIGERANT PIPE WALL SUPPORT
M501 NO SCALE

C

B

A



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SHEET CONTENTS
MECHANICAL DETAILS

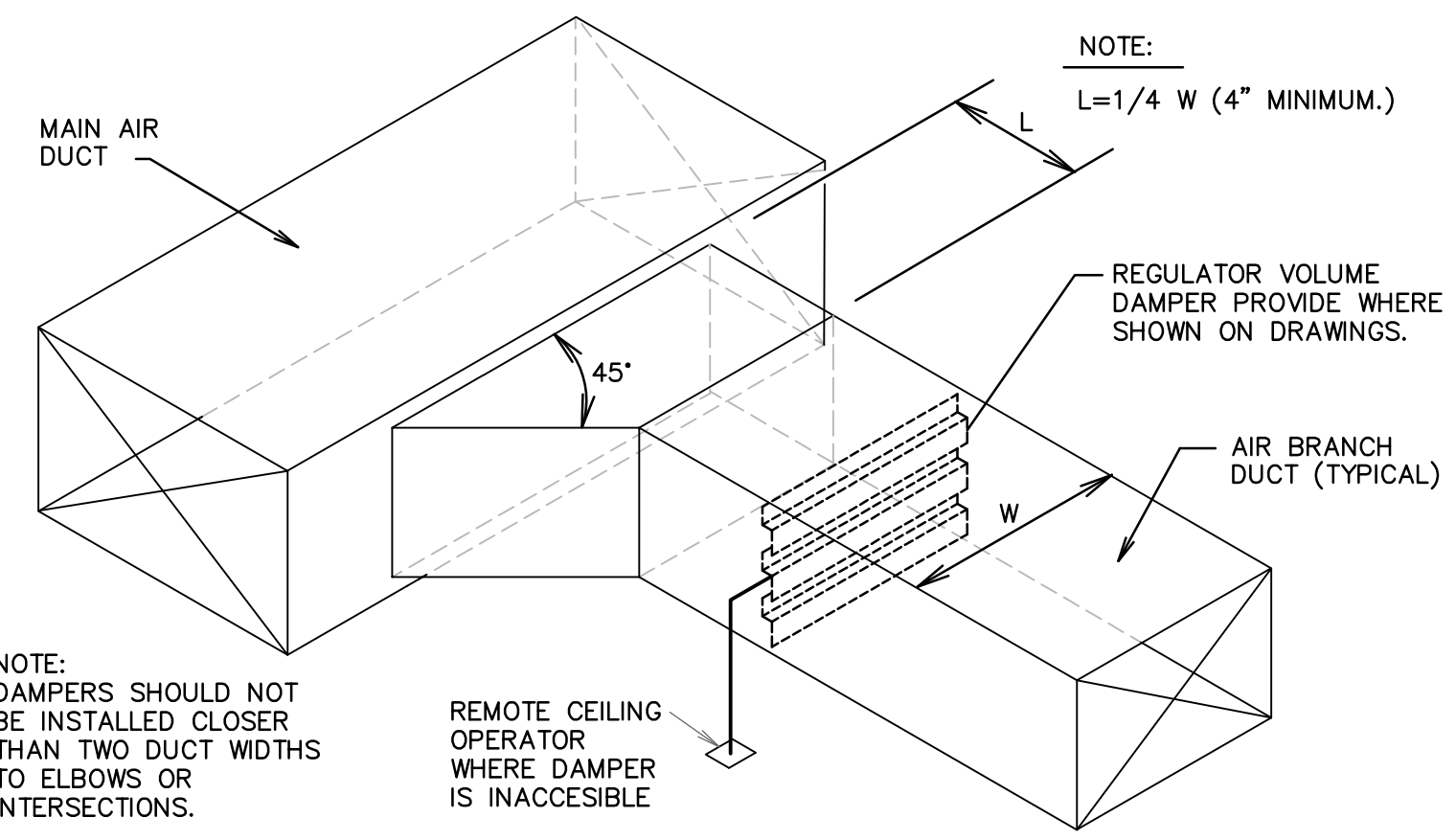
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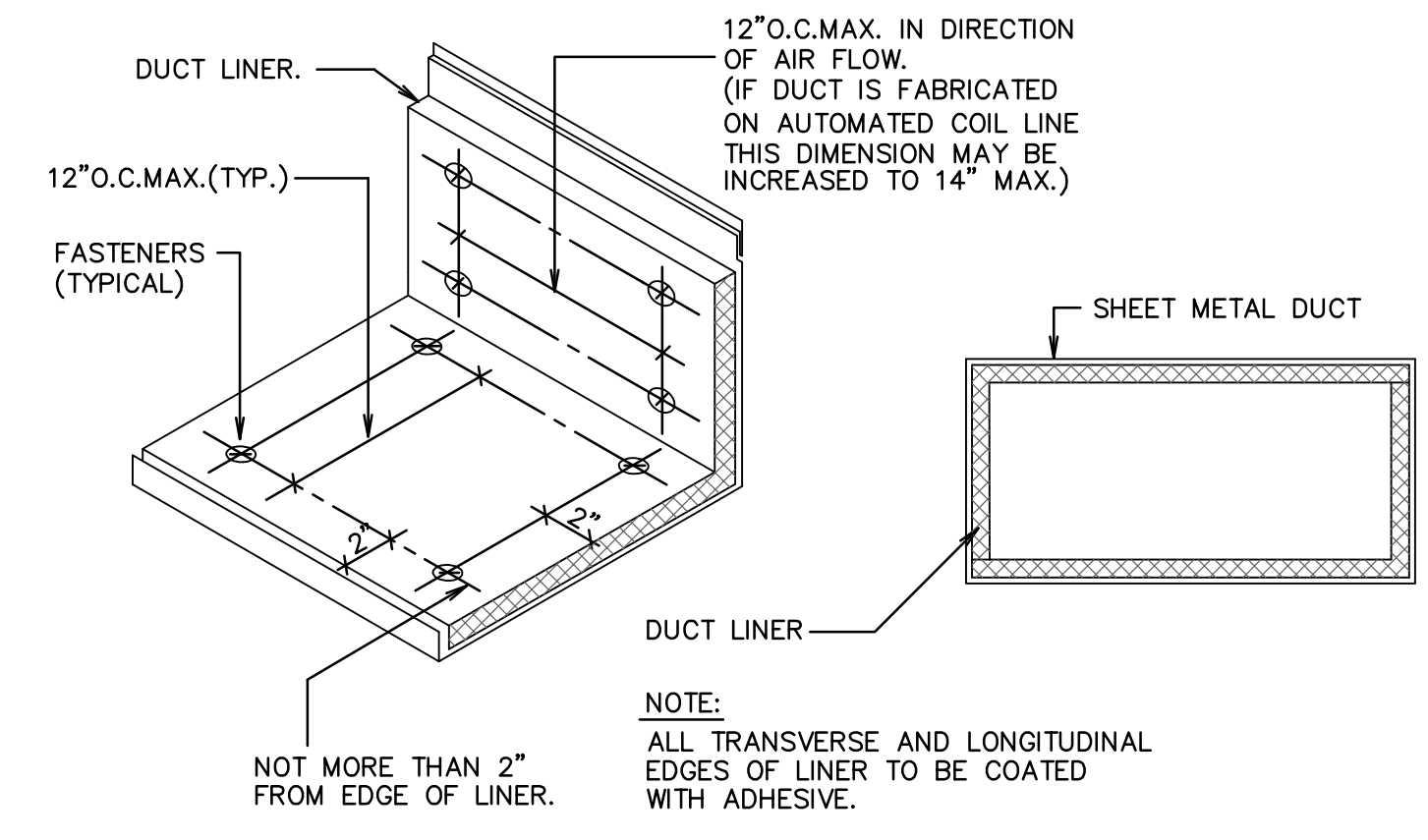


A
M502
SUPPLY OR RETURN AIR DUCT BRANCH CONNECTION DETAIL
NO SCALE

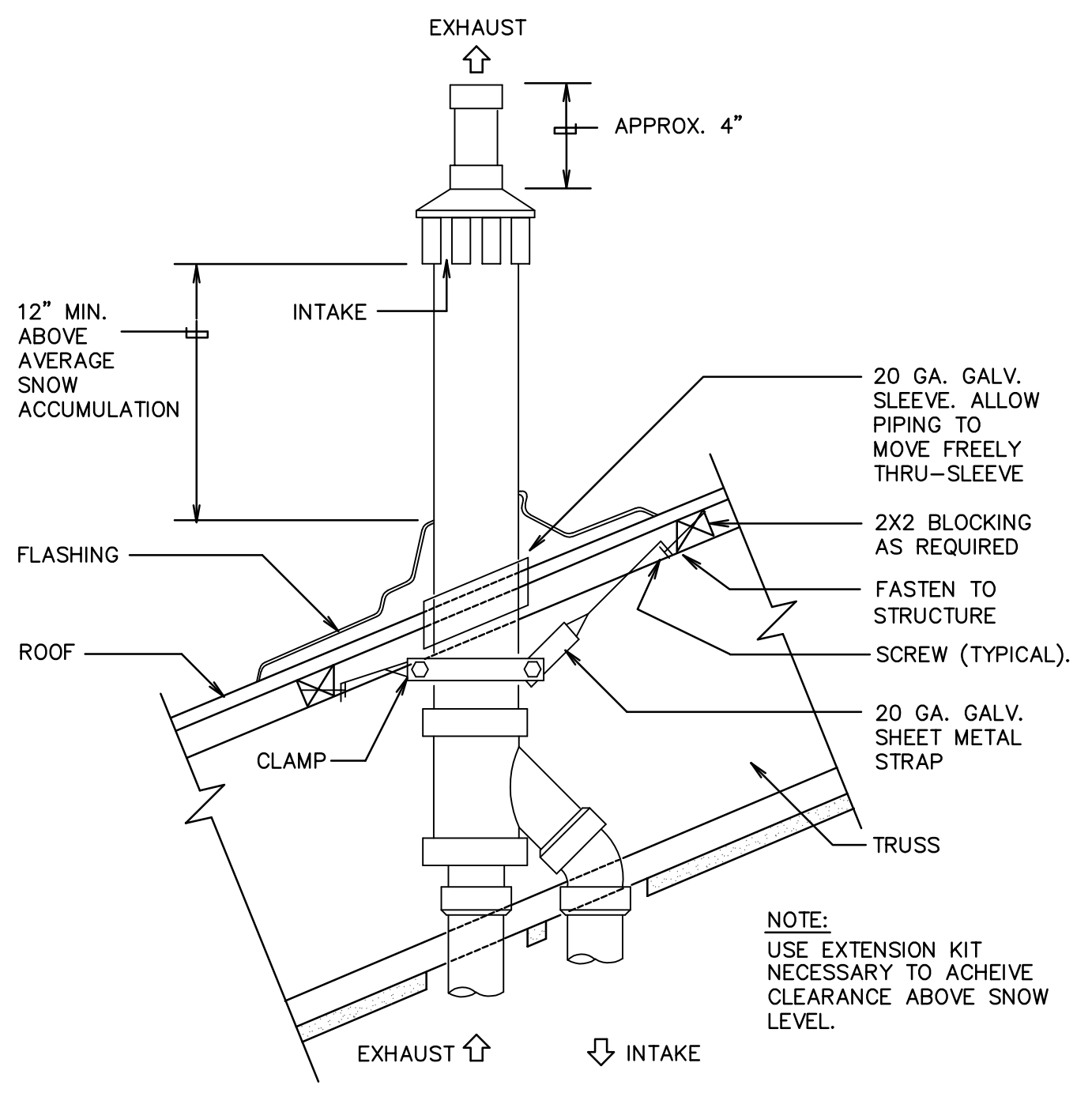
DIMENSION OF LONGEST SIDE, INCHES	SHEET METAL GAGE (ALL FOUR SIDES)	MINIMUM REINFORCING ANGLE SIZE AND MAXIMUM LONGITUDINAL SPACING BETWEEN TRANSVERSE JOINTS &/OR INTERMEDIATE REINFORCING	TRANSVERSE REINFORCING (1)				
			AT JOINTS				
			MIN. H. IN.	DRIVE SLIP	HEMME'S SLIP	ALTERN'T BAR SLIP	REIN-FORCED BAR SLIP
UP THRU 12	26	NONE REQUIRED	1	26	26	24	24
13 - 18	24	NONE REQUIRED	1	24	24	24	24
19 - 30	24	1"x1"x1/8" @ 60 IN	1	-	24	24	24
31 - 36	22	1"x1"x1/8" @ 60 IN	1	-	-	22	22

(1) TRANSVERSE REINFORCING SIZE IS DETERMINED BY DIMENSION OF SIDE TO WHICH ANGLE IS APPLIED.
(2) LONGITUDINAL JOINTS TO BE PITTSBURG OR SNAP LOCK TYPE.

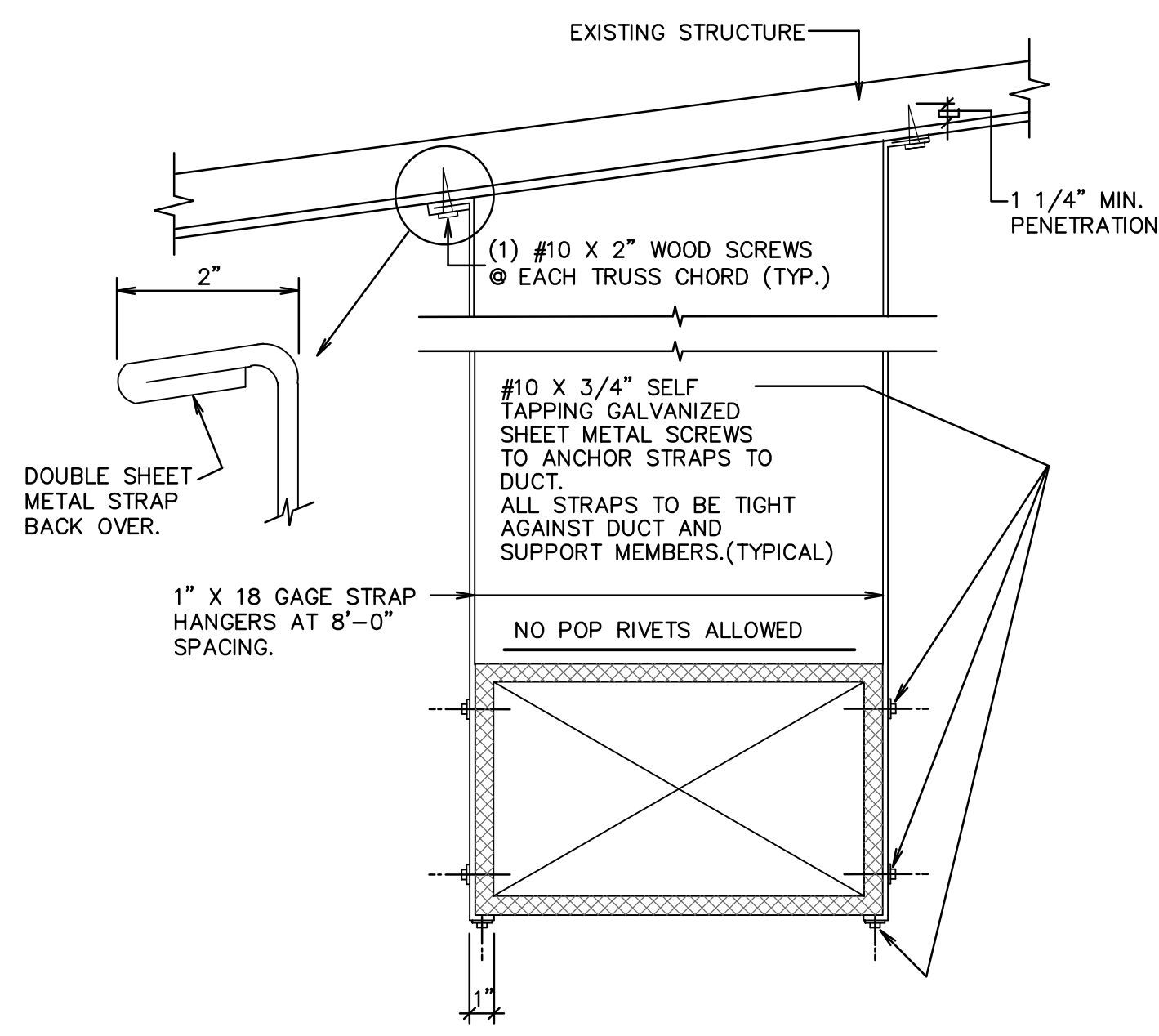
B
M502
DUCT CONSTRUCTION DETAIL
NO SCALE



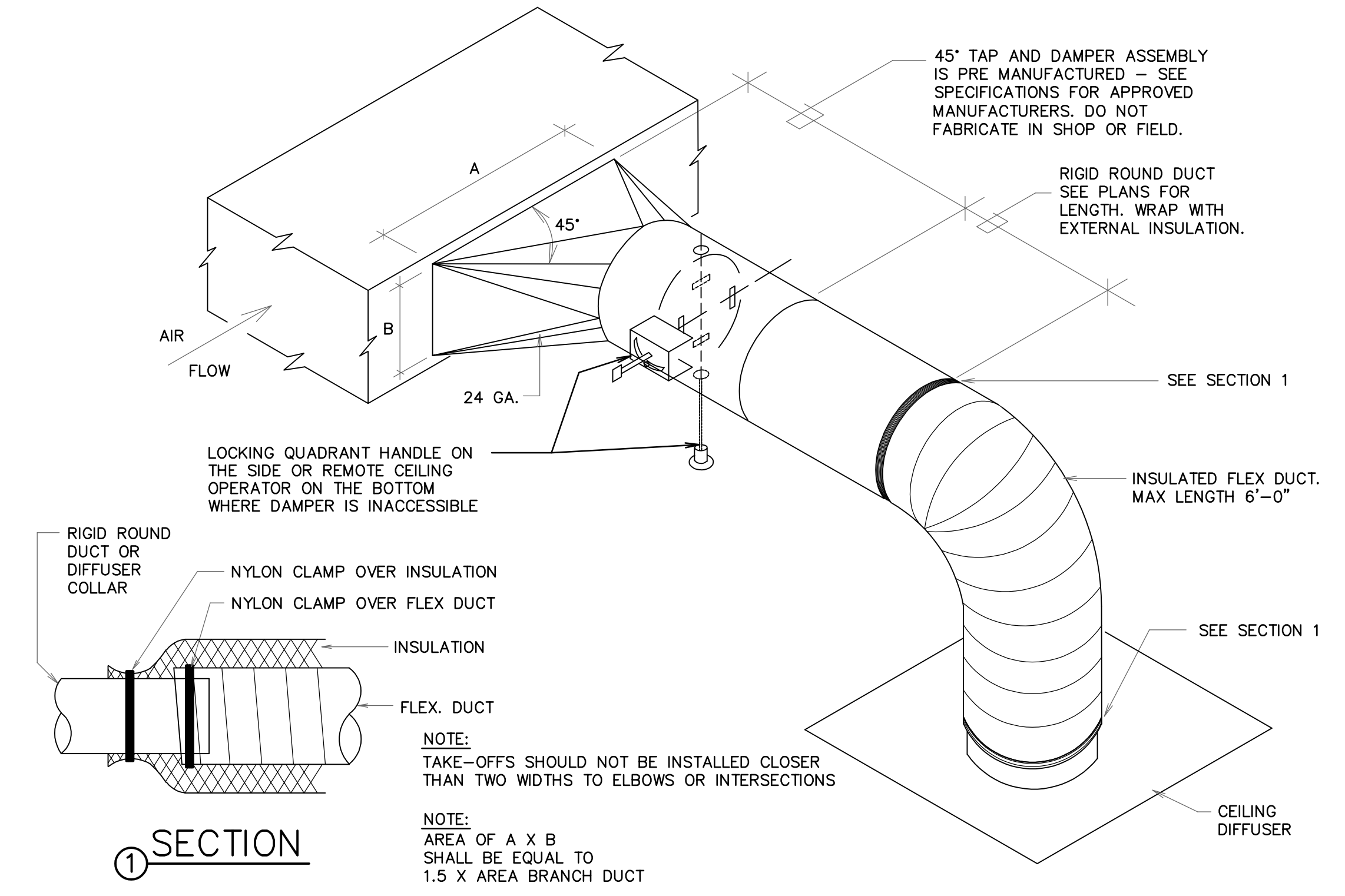
C
M502
DUCT LINER DETAIL
NO SCALE



D
M502
CONCENTRIC ROOF TERMINATION DETAIL (SIMILAR)
NO SCALE

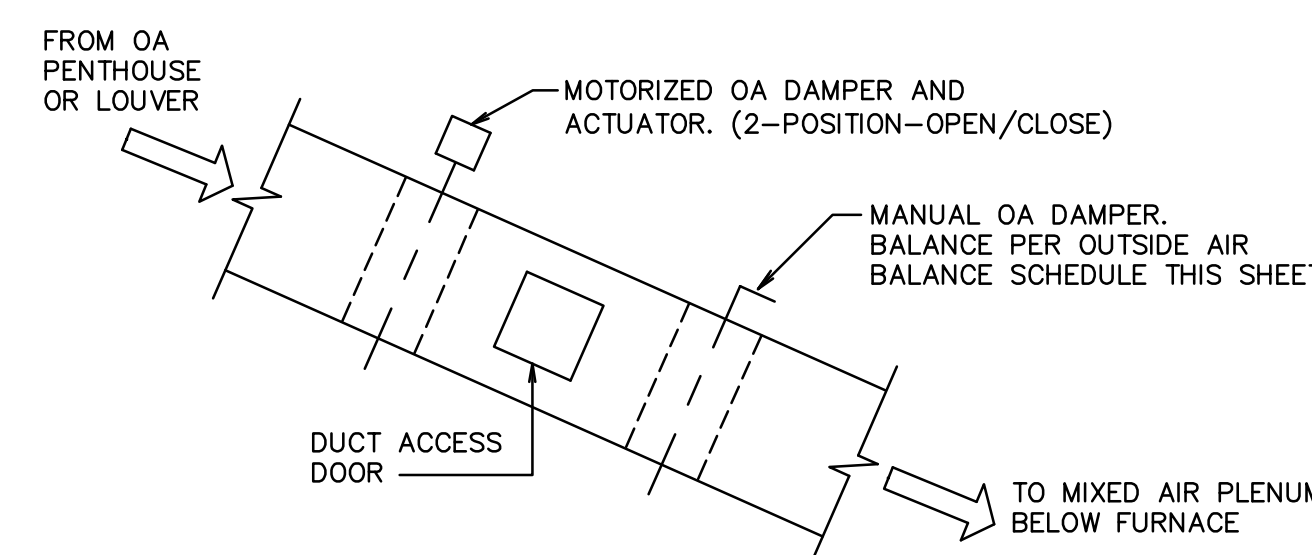


E
M502
DUCT STRAP HANGER DETAIL
NO SCALE

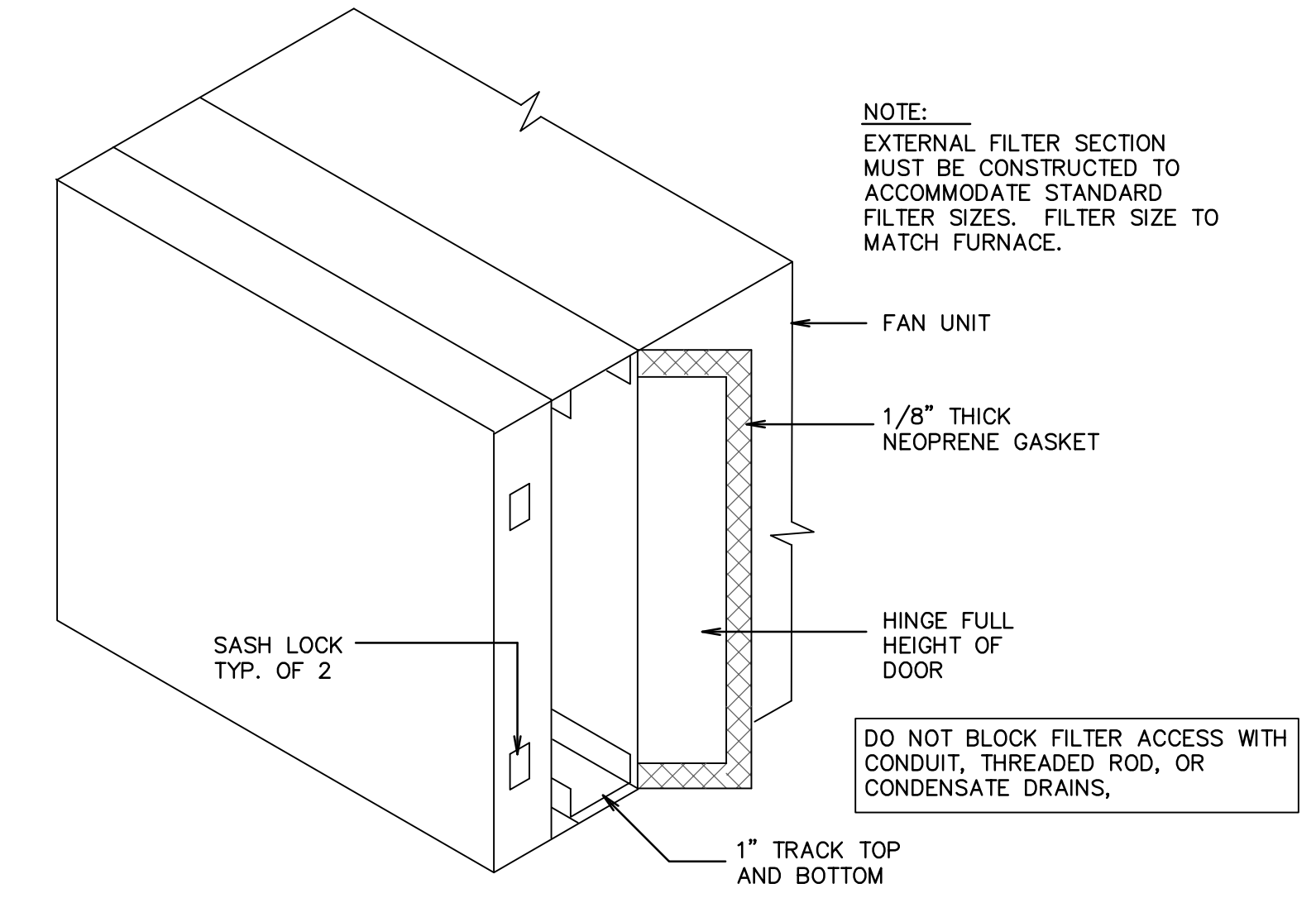


F
M502
SQUARE TO ROUND TAKE-OFF DETAIL
NO SCALE

MARK	MIN OA SETTING	DUCT SIZE	MARK	BALANCE TO CFM	DUCT SIZE	MARK	BALANCE TO CFM	DUCT SIZE
AH 1	1200	NA	F 3	NA	NA	F 6	330	12"ø
AH 2	1200	NA	F 4	220	(E) 8/8	F 7	400	12/12
			F 5	250	10"ø	F 8	280	10"ø



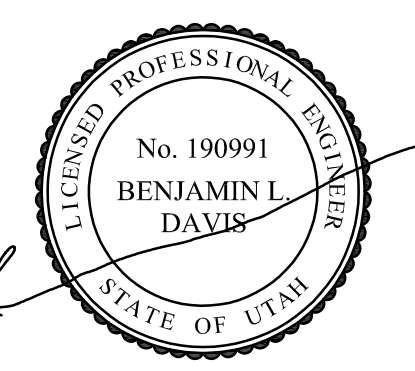
H
M502
OUTSIDE AIR DUCT DETAIL
NO SCALE



J
M502
EXTERNAL FILTER SECTION DETAIL
NO SCALE



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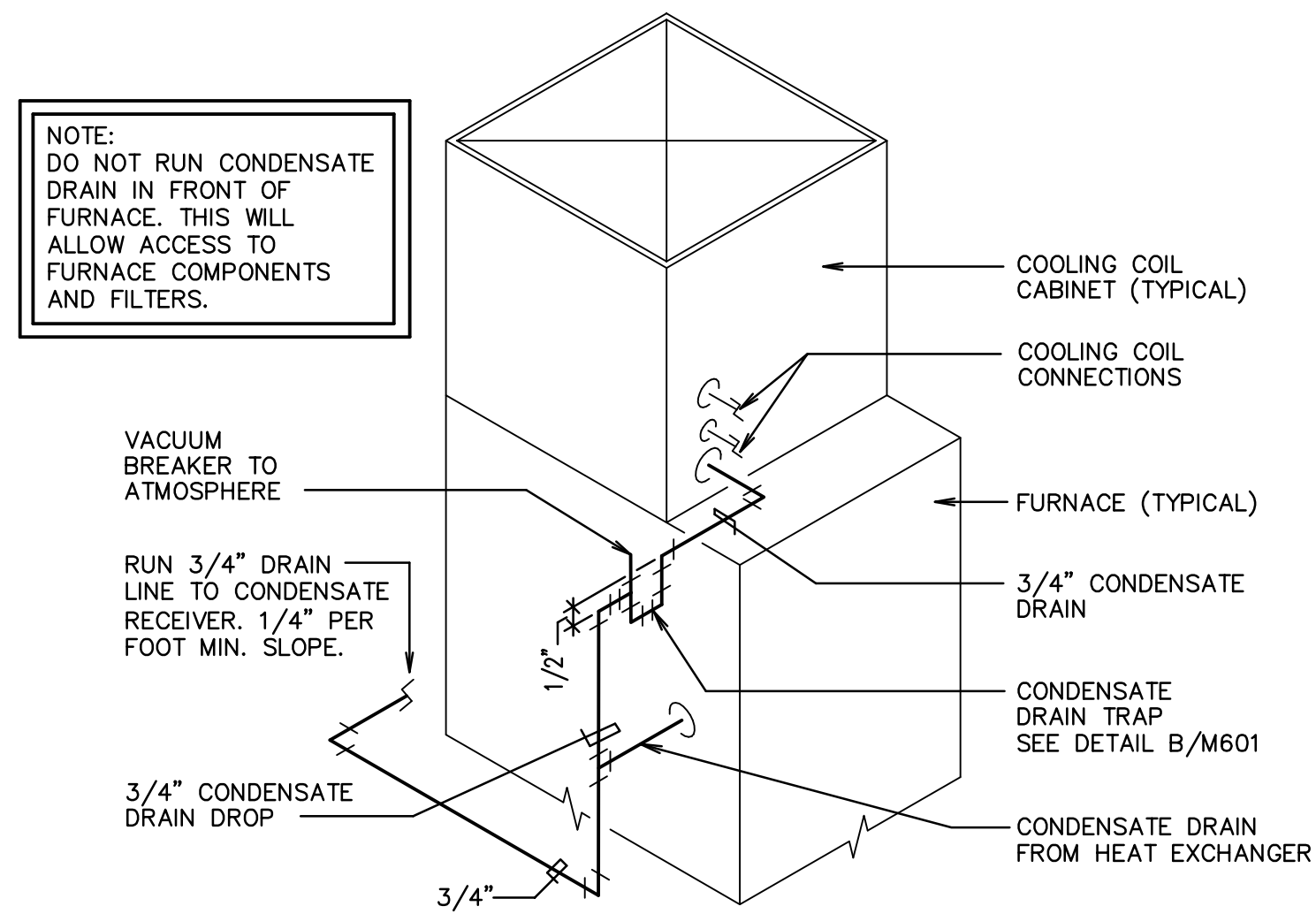
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NO.	DESCRIPTION

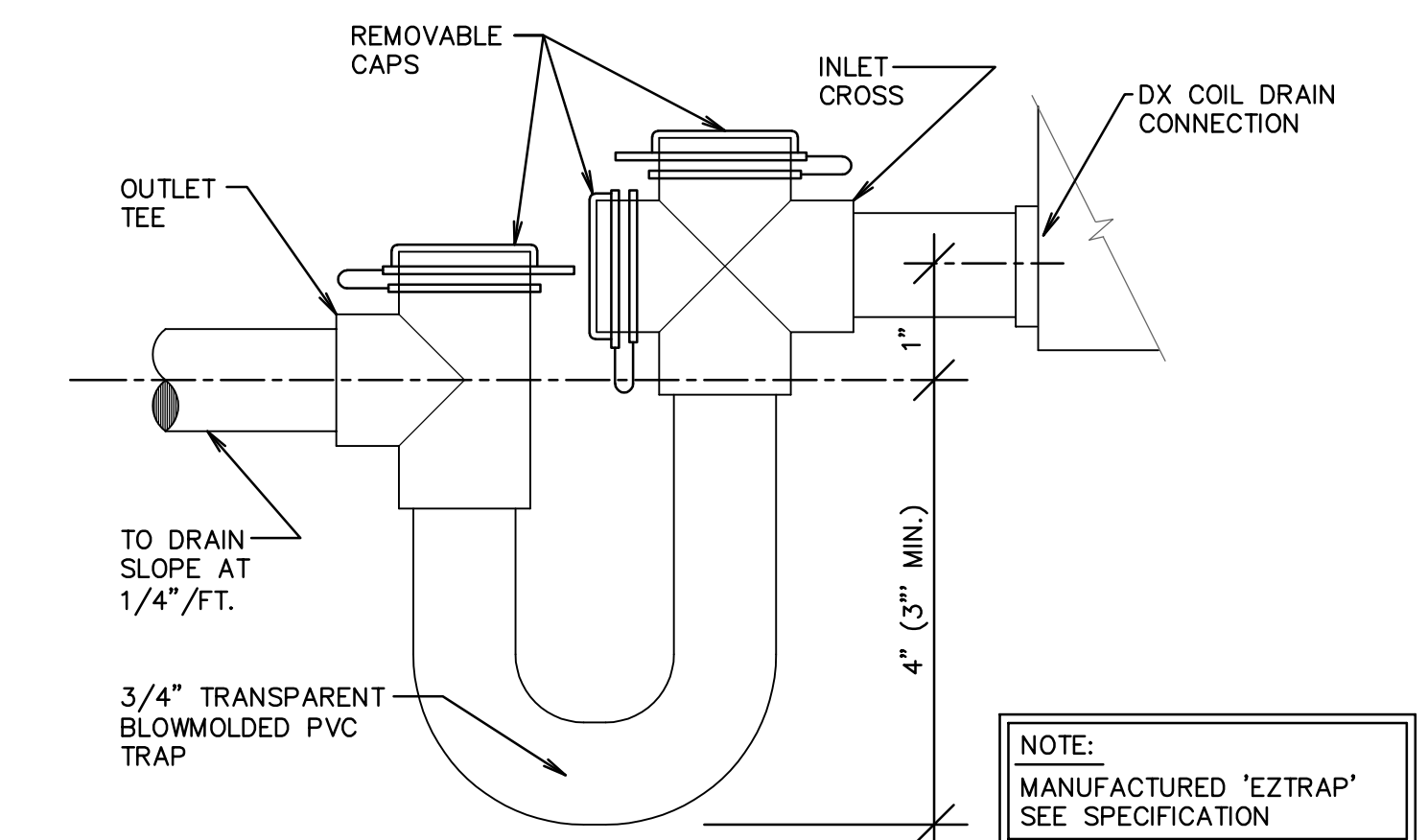
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SHEET CONTENTS
MECHANICAL DETAILS

M502



A CONDENSATE DRAIN TRAP DETAIL
M601 NO SCALE



B COOLING COIL CONDENSATE DRAIN DETAIL
M601 NO SCALE

MARK	C.F.M. RANGE ①	DIFFUSER SIZE	NECK CONN.	BLOW	PATTERN	AIR DIST./SIDE ② ④	
						A (%)	B (%)
D-1	60 - 90	6X6	6X6	3 WAY	⬅️ A ➡️ B	38	31
D-2	130 - 200	9X9	9X9	2 WAY	⬅️ A ➡️ B	50	50
D-3	140 - 240	9X9	9X9	4 WAY	⬅️ A ➡️ B	25	25
D-4	260	12X12	12X12	3 WAY	⬅️ A ➡️ B	38	31
D-5	300	12X12	12X12	2 WAY	⬅️ A ➡️ B	50	50

MARK	TYPE	SERVICE	CFM RANGE ①	NOMINAL SIZE	REMARKS ③
R-1	FLOOR ⑤	RETURN AIR	60-90	12X5	
R-2	FLOOR ⑤	RETURN AIR	130-175	18X5	
R-3	FLOOR ⑤	RETURN AIR	190-260	24X5	
S-1	SIWALL ④	SUPPLY AIR	90	7X5	⑥ ⑦
S-2	SIWALL ④	SUPPLY AIR	160-215	12X5	⑥ ⑦
S-3	FLOOR ⑤	SUPPLY AIR	200	24X5	
L-1	LOUVER	OUTSIDE AIR	280	14X24	⑧ ⑨
PH1	PENTHOUSE	OUTSIDE AIR	580	14X12 THROAT	⑧ ⑩
PH2	PENTHOUSE	OUTSIDE AIR	400	12X12 THROAT	⑧ ⑩

- ① MAXIMUM NC=25 @ MAXIMUM CFM NOTED.
- ② SHALL BE TITUS TDC TYPE 6 OR EQUAL BY OTHER APPROVED MANUFACTURERS. (SEE SPECIFICATIONS)
- ③ SEE SPECIFICATION FOR APPROVED MANUFACTURERS.
- ④ FINISH SHALL BE WHITE BAKED ENAMEL.
- ⑤ FINISH SHALL BE ANODIZED ALUMINUM.
- ⑥ BLADE ORIENTATION SHALL BE HORIZONTAL.
- ⑦ SET REGISTER BLADES FOR 15° UPWARD DEFLECTION.
- ⑧ PROVIDE ALUMINUM BIRD SCREENS.
- ⑨ FINISH COLOR TO MATCH SURROUNDING SURFACE FINISH.
- ⑩ COMPLETE WITH ACCESSORY ROOF CURB TO MATCH ROOF SLOPE. SEE SPECIFICATIONS.

- NOTES:
- 1- THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWINGS BEFORE ORDERING MOTORIZED EQUIPMENT & CONTROLS. MOTOR NAME PLATE VOLTAGE SHALL BE NEMA STANDARD 200 VOLT FOR 208 VOLT THREE PHASE SYSTEM AND SHALL BE NEMA STANDARD 230 VOLT FOR 240 VOLT THREE PHASE OR SINGLE PHASE SYSTEM. STARTER HEATERS INSTALLED SHALL BE COORDINATED WITH THE NAME PLATE DATA.
 - 2- S.C.F.M. LISTED IS STANDARD AIR. A.C.F.M. IS ACTUAL SITE CFM.

MARK ②	NO. REQ'D	MIN. REQ'D OUTPUT BTU/HR ①	MINIMUM A.C.F.M.	EXT. S.P. IN. W.G.	M O T O R				REMARKS	
					H.P.	HERTZ	VOLTS	SPEED ⑤		
F 5	1	78,000	1350	0.80	0.75	1	60	115	③	59SC5B080E17 ④
F 6	1	78,000	1350	0.80	0.75	1	60	115	③	59SC5B080E17 ④
F 7	1	116,000	1800	0.80	1.00	1	60	115	③	59SC5B120E24 ④
F 8	1	78,000	1125	0.80	0.75	1	60	115	③	59SC5B080E17 ④

- ① SEA LEVEL CAPACITY.
- ② FURNACE MARKS CORRESPOND WITH CONDENSING UNIT AND COOLING COIL MARKS.
- ③ FIXED-SPEEDS, CONSTANT TORQUE ECM MOTOR.
- ④ CARRIER MODEL LISTED. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
- ⑤ SET FAN MOTOR SPEED TAP TO LOWEST POSSIBLE SETTING REQUIRED TO ACHIEVE DESIGN AIRFLOW.

MARK ⑤	NO. REQ'D	CALCULATED LOAD		COND. ENT. EVAP.		A.C.F.M.	MAX. PR. DR. IN. W.G. ③	S.C.F.M. ④	REMARKS ②
		TOT. MBH	SEN. MBH	DB °F	WB °F				
CC 5	1	26.0	26.0	79.5	63.4	1350	0.27	1090	CNPVP4221
CC 6	1	28.0	28.0	80.8	63.1	1350	0.27	1090	CNPVP4221
CC 7	1	36.1	36.1	80.2	62.4	1800	0.26	1453	CNPVP6024
CC 8	1	17.9	17.9	80.6	62.7	1125	0.29	908	CNPVP3617

- ① COMPLETE WITH FACTORY COIL BOX AND COIL
- ② CARRIER MODEL LISTED. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
- ③ WET COIL
- ④ SITE ELEVATION = 5800 FEET (0.807 CFM TRANSMISSION FACTOR)
- ⑤ COOLING COIL MARKS CORRESPOND WITH FURNACE AND CONDENSING UNIT MARKS.

MARK ③	NO. REQ'D	AREA SERVED	MIN. SIZE ② (TONS)	COMPRESSOR RATED LOAD AMPS ⑥	MCA ⑥	MOCP ⑥	REMARKS
CU 5	1	MAIN FOYER/BISHOPS/CLERKS	3.0	13.6	18.1	30	24ABB336 ① ④ ⑤
CU 6	1	STAKE SUITE	3.0	13.6	18.1	30	24ABB336 ① ④ ⑤
CU 7	1	SOUTH CLASSROOMS & NURSERY	4.0	18.3	24.3	40	24ABB348 ① ④ ⑤
CU 8	1	WEST CLASSROOMS	2.5	12.8	16.6	25	24ABB330 ① ④ ⑤

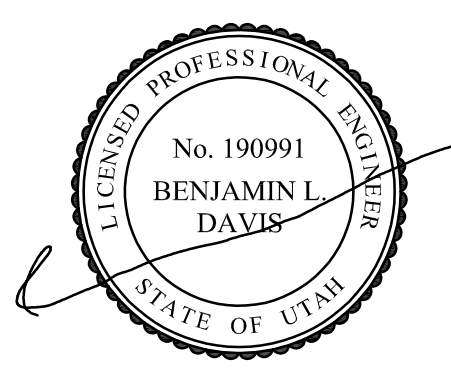
- ① REFRIGERANT R-410a; 40°F SUCTION TEMPERATURE.
- ② AT DESIGN CONDITIONS AND 98° ENTERING AIR TEMPERATURE TO CONDENSER.
- ③ CONDENSING UNIT MARKS CORRESPOND WITH FURNACE AND COOLING COIL MARKS.
- ④ CARRIER MODEL LISTED. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
- ⑤ ELECTRICAL CHARACTERISTICS: 208V/1 PHASE/60 HZ.
- ⑥ ELECTRICAL RATING FOR SCHEDULED CARRIER UNIT. COORDINATE ACTUAL RATING OF UNIT PROVIDED WITH DIVISION 26.

MARK	SERVES ROOM	MIN. S.C.F.M. ①	STATIC PRESSURE IN. W.G.	MIN. WATTS	REMARKS
EF 1	TECHNOLOGY ROOM	200	0.2	166W	④

- ① SET BALANCE DAMPER SHOWN ON M101 TO CFM LISTED
- ② CONTROL: LINE VOLTAGE THERMOSTAT BY DIVISION 23. INSTALLED BY DIVISION 26.
- ③ VOLTAGE IS 115/1PHASE/60
- ④ PROVIDE ACCESSORY ROOF CAP AND BACK DRAFT DAMPER.



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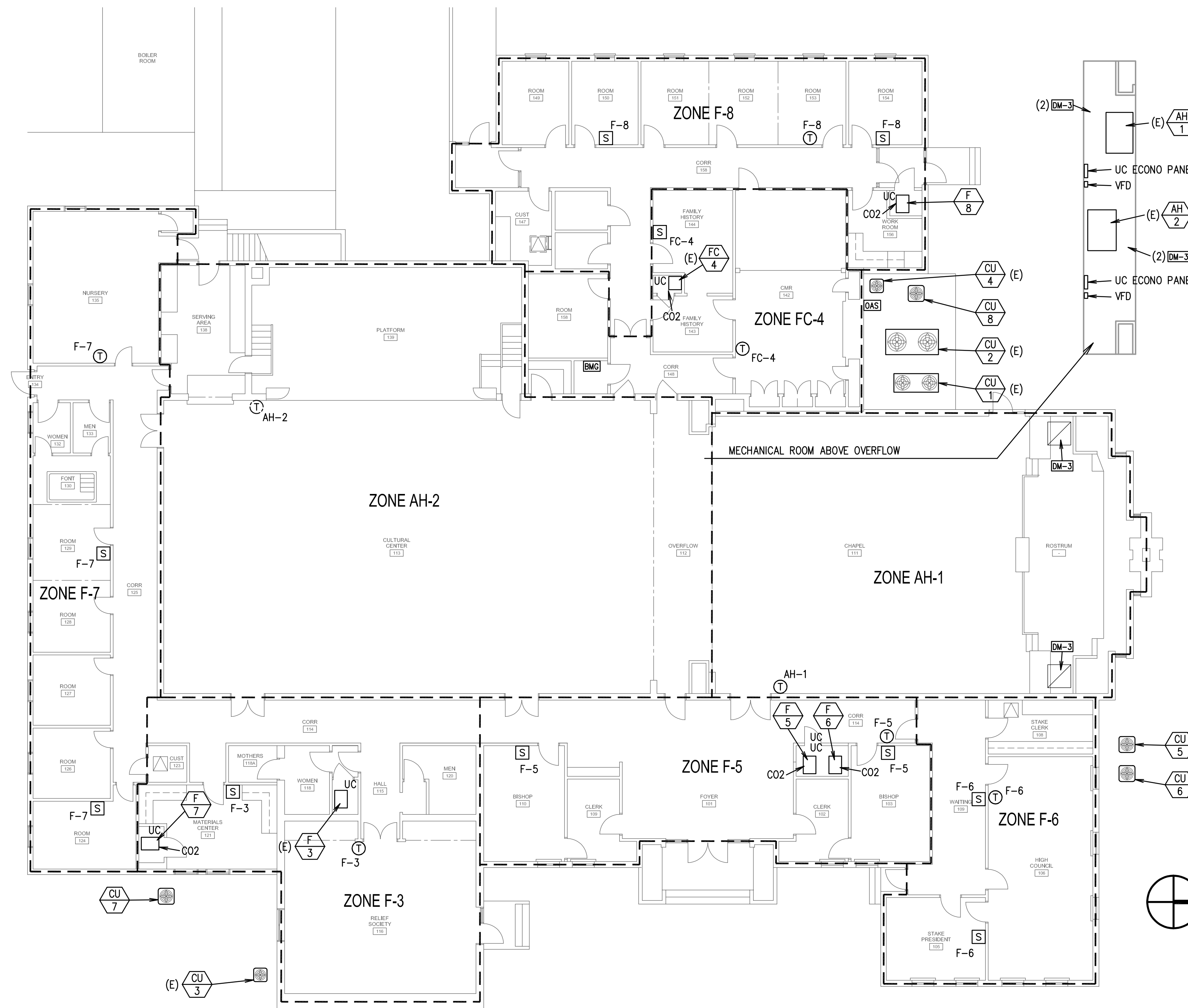
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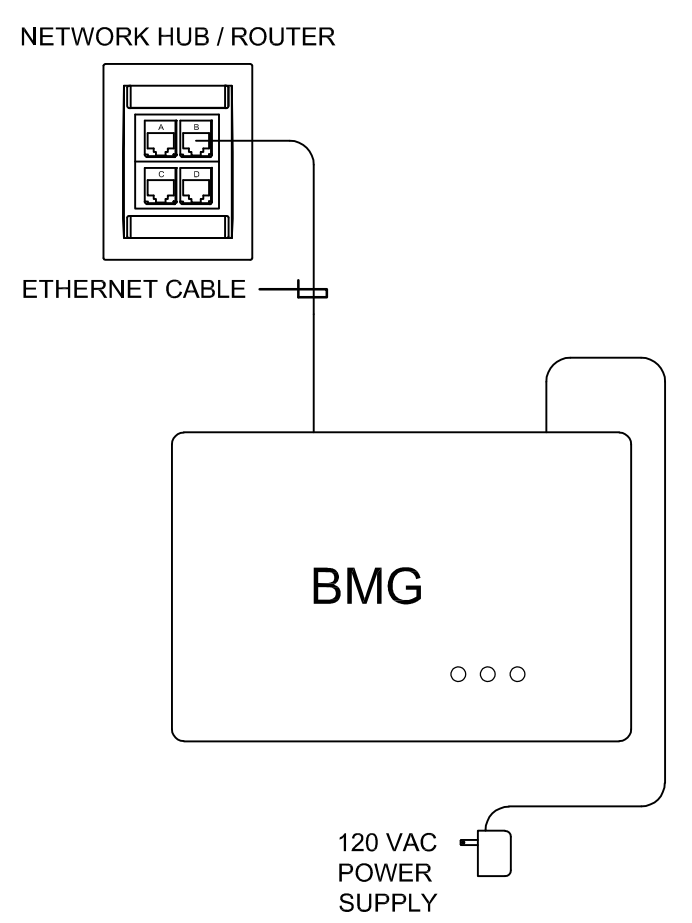
A



1 AUTOMATIC TEMPERATURE CONTROL PLAN
ME101 SCALE: 3/32"=1'-0"

SYMBOLS

- BMG** BUILDING MANAGEMENT GATEWAY
LOCATE ADJACENT TO NETWORK HUB/ROUTER FOR CONNECTION.
- S** AVERAGING SENSOR
MOUNT ON WALL W/INSULATED WOOD BASE AT BLOCK WALL LOCATIONS. B/ME704.
- T** LCBS TOUCH SCREEN WALL MODULE (THERMOSTAT)
MOUNT ON WALL W/INSULATED WOOD BASE AT BLOCK WALL LOCATIONS. B/ME704.
- UC** UNITARY CONTROLLER. MOUNT ON WALL ADJACENT TO EQUIPMENT OR RELAY PANEL.
- CO2** CO₂ SENSOR (DIV 23)
MOUNTED ON MAIN RA DUCT
- DM-1** 2-POSITION DAMPER MOTOR (DIV 23)
MOUNTED ON MINIMUM OA DAMPER
- DM-3** MODULATING DAMPER MOTOR (DIV 23)
MOUNTED ON ECONOMIZER DAMPER
- OAS** GLOBAL OUTDOOR AIR SENSOR
MOUNTED ON NORTH SIDE OF BUILDING



BMG WIRING DIAGRAM

NOTES:

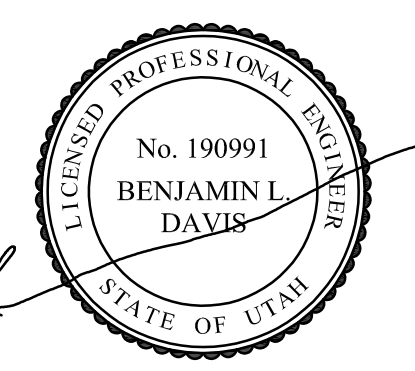
1. THERMOSTAT CABLE-- 4, 8 OR 12 CONDUCTOR-- 18 AWG SOLID COPPER WIRE INSULATED WITH HIGH DENSITY POLYETHYLENE. CONDUCTORS PARALLEL ENCLOSED IN BROWN PVC JACKET. (NO 22 AWG CABLE ALLOWED).
2. IF COMPRESSOR UNITS HAVE THEIR OWN POWER SUPPLY IT MAY BE NECESSARY TO ADD ADDITIONAL RELAYS IN COMPRESSOR UNIT TO PROPERLY INTERFACE CONTROLS.
3. USE WIRE NUT CONNECTORS FOR SPLICING CONDUCTORS IN SPECIFIED LOCATIONS. AND TYTON TYPE CRIMP CONNECTORS FOR TERMINAL CONNECTIONS. NO TERMINAL CONNECTORS REQUIRED AT THERMOSTAT OR SENSOR.
4. DO NOT RUN ANY OTHER WIRING IN THIS CONDUIT EXCEPT THERMOSTAT CABLE.
5. VERIFY THAT FAN UNIT FAN SPEED CONTROL WIRING IS SET TO MATCH SCHEDULE SHEET AND THAT FAN OPERATES AT COOLING SPEED ONLY.
6. DO NOT SPLICE WIRE IN RUNS FROM SENSOR TO THERMOSTAT, THERMOSTAT TO FURNACE, AND THERMOSTAT TO DISCHARGE AIR SENSOR.
7. PROVIDE CHASE NIPPLE W/PLASTIC BUSHING WHEN ATTACHING J-BOX TO EQUIPMENT.
8. PROVIDE CABLE CLAMP SO THAT CABLES CANNOT BE PULLED OUT OF J-BOX.
9. CONDUIT TO BE 1/2" UNLESS OTHERWISE NOTED. ALL WIRING LOCATED IN WALLS AND IN MECHANICAL ROOMS TO BE ROUTED IN CONDUIT. CONDUIT FOR LOW VOLTAGE WIRING BY DIV. 26.
10. ALL CONTROLS ARE NEW UNLESS NOTED OTHERWISE. EXISTING WIRING AND CONDUIT MEETING REQUIREMENTS MAY BE REUSED, OTHERWISE PROVIDE NEW.

CONTROL EQUIPMENT					
MARK	DESCRIPTION	CAT. NO. (1)	MARK	DESCRIPTION	CAT. NO. (1)
BMG	BUILDING MANAGEMENT GATEWAY	LGM1000 (GATEWAY) WPM-8000 (WALL PLUG)	UC PANEL	UC ECONO PANEL W/MOD HEAT 24X18X6W/COVER	(2) (4)
UC	UNITARY CONTROLLER	CRL6438SR1000	DM-1	DAMPER MOTOR TWO POSITION	MS8105A1030
T	THERMOSTAT WALL MODULE	LCBS WALL MODULE TS120	DM-3	DAMPER MOTOR MODULATING	MS7503A2130
	THERMOSTAT COVER PLATE ASSEMBLY	50002883-001	X-1	TRANSFORMER 120,208 240V/24V 75VA	AT175F1023
S	REMOTE SENSOR	TR40	X-2	TRANSFORMER 120,208 240V/24V 50VA	AT150F1022
G-1	THERMOSTAT GUARD	(2)	VFD	HONEYWELL SMART DRIVE W/O BYPASS	HVFD2xxxx (3)
DS	DUCT AIR SENSORS	C7041B2005	EBUS	ECHOLON NETWORK CABLE	W221P-20018
CO ₂	CO ₂ SENSOR	C7232B1006	V-1	2-WAY MODULATING CONTROL VALVE	(E)V5011N
OAS	GLOBAL OUTSIDE AIR SENSOR	C7041F2006	VM-1	VALVE MOTOR	(E)ML7984A
RIB	TWO POLE RELAY	RIBU1C (2)	SD-1	DUCT SMOKE DETECTOR	EXISTING

- (1) ALL CATALOG NUMBERS SHOWN ARE HONEYWELL UNLESS NOTED OTHERWISE.
- (2) SEE SPECIFICATIONS
- (3) TO BE SELECTED BY EQUIPMENT PROVIDER TO MATCH EXISTING FAN MOTOR. (AH-1 & 2 ONLY)
- (4) TO BE PURCHASED FROM AN APPROVED PRE-BUILT PANEL BUILDER SEE SPECIFICATION.



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• Van Boerum & Frank Assoc., 2014

ESCALANTE 1 & 2 WARDS
ESCALANTE UTAH STAKE
HVAC UPGRADE
8 S. CENTER STREET, ESCALANTE, UT 84726

REVISIONS

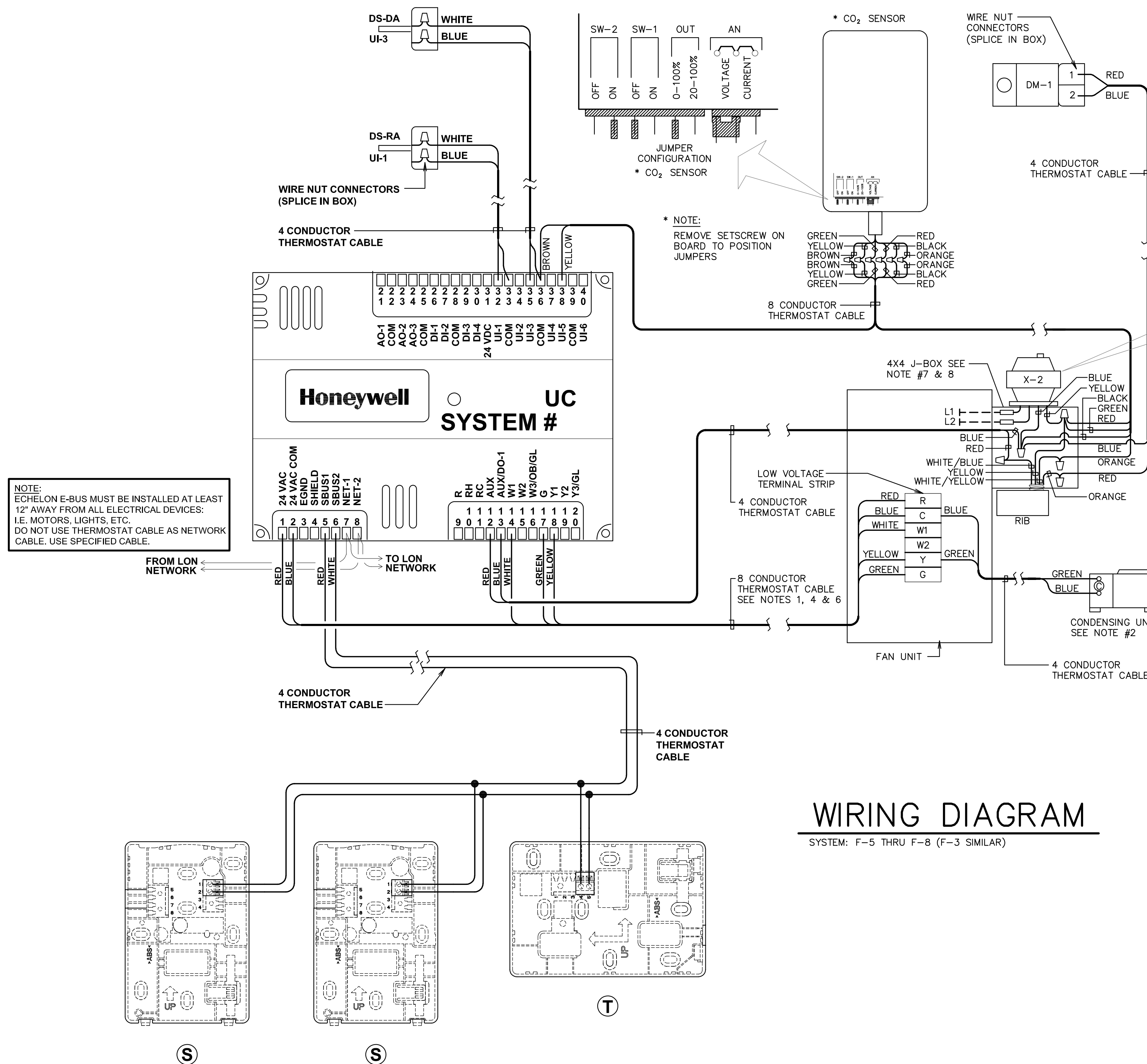
NO.	DESCRIPTION

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SHEET CONTENTS

AUTOMATIC TEMPERATURE CONTROLS

ME101



NOTE:
 ECHELON E-BUS MUST BE INSTALLED AT LEAST
 12" AWAY FROM ALL ELECTRICAL DEVICES:
 I.E. MOTORS, LIGHTS, ETC.
 DO NOT USE THERMOSTAT CABLE AS NETWORK
 CABLE. USE SPECIFIED CABLE.

* NOTE:
 REMOVE SETSCREW ON
 BOARD TO POSITION
 JUMPERS

WIRING DIAGRAM

SYSTEM: F-5 THRU F-8 (F-3 SIMILAR)

WIRING SCHEMATIC, X-2

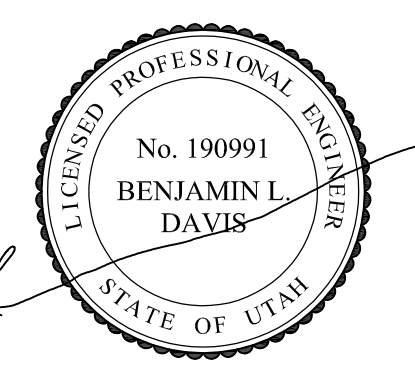
LEGEND:
 - - - - - DIVISION 26 OR
 FACTORY
 PRE-WIRED
 _____ DIVISION 23 WIRING

- NOTES:
1. THERMOSTAT CABLE- 4, 8 OR 12 CONDUCTOR- 18 AWG SOLID COPPER WIRE INSULATED WITH HIGH DENSITY POLYETHYLENE. CONDUCTORS PARALLEL. ENCLOSED IN BROWN PVC JACKET. (NO 22 AWG CABLE ALLOWED).
 2. IF COMPRESSOR UNITS HAVE THEIR OWN POWER SUPPLY IT MAY BE NECESSARY TO ADD ADDITIONAL RELAYS IN COMPRESSOR UNIT TO PROPERLY INTERFACE CONTROLS.
 3. USE WIRE NUT CONNECTORS FOR SPLICING CONDUCTORS IN SPECIFIED LOCATIONS. AND TYTON TYPE CRIMP CONNECTORS FOR TERMINAL CONNECTIONS. NO TERMINAL CONNECTORS REQUIRED AT THERMOSTAT OR SENSOR.
 4. DO NOT RUN ANY OTHER WIRING IN THIS CONDUIT EXCEPT THERMOSTAT CABLE.
 5. VERIFY THAT FAN UNIT FAN SPEED CONTROL WIRING IS SET TO MATCH SCHEDULE SHEET AND THAT FAN OPERATES AT COOLING SPEED ONLY.
 6. DO NOT SPLICE WIRE IN RUNS FROM SENSOR TO THERMOSTAT, THERMOSTAT TO FURNACE, AND THERMOSTAT TO DISCHARGE AIR SENSOR.
 7. PROVIDE CHASE NIPPLE W/PLASTIC BUSHING WHEN ATTACHING J-BOX TO EQUIPMENT.
 8. PROVIDE CABLE CLAMP SO THAT CABLES CANNOT BE PULLED OUT OF J-BOX.
 9. INSTALL GLOBAL OUTDOOR AIR SENSOR ON NORTH SIDE OF BUILDING OUT OF DIRECT SUNLIGHT. ONE SENSOR PER BUILDING (MAY BE CONNECTED TO ANY CONTROLLER). SEE PROPOSED LOCATION ON PLAN, SHEET ME101.

GENERAL NOTE:
 EXISTING CONTROLS ARE BEING UPDATED TO WORK WITH NEW AND EXISTING HVAC SYSTEMS. DIAGRAMS SHOWN ARE FOR CONTRACTORS REFERENCE AND MAY NOT SHOW EXACT CONDITIONS. CONTRACTOR SHOULD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING AND/OR STARTING CONTROL WORK. EXIST. EQUIPMENT, CONDUIT, AND WIRING MAY BE RE-USED IF THEY COMPLY WITH NEW REQUIREMENTS. REMOVE ALL UNUSED EQUIPMENT, CONDUIT, AND WIRING.



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 Van Boerum & Frank Assoc., 2014

ESCALANTE 1 & 2 WARDS
 ESCALANTE UTAH STAKE
 HVAC UPGRADE
 8 S. CENTER STREET, ESCALANTE, UT 84726

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SHEET CONTENTS
 AUTOMATIC
 TEMPERATURE
 CONTROLS

ME701

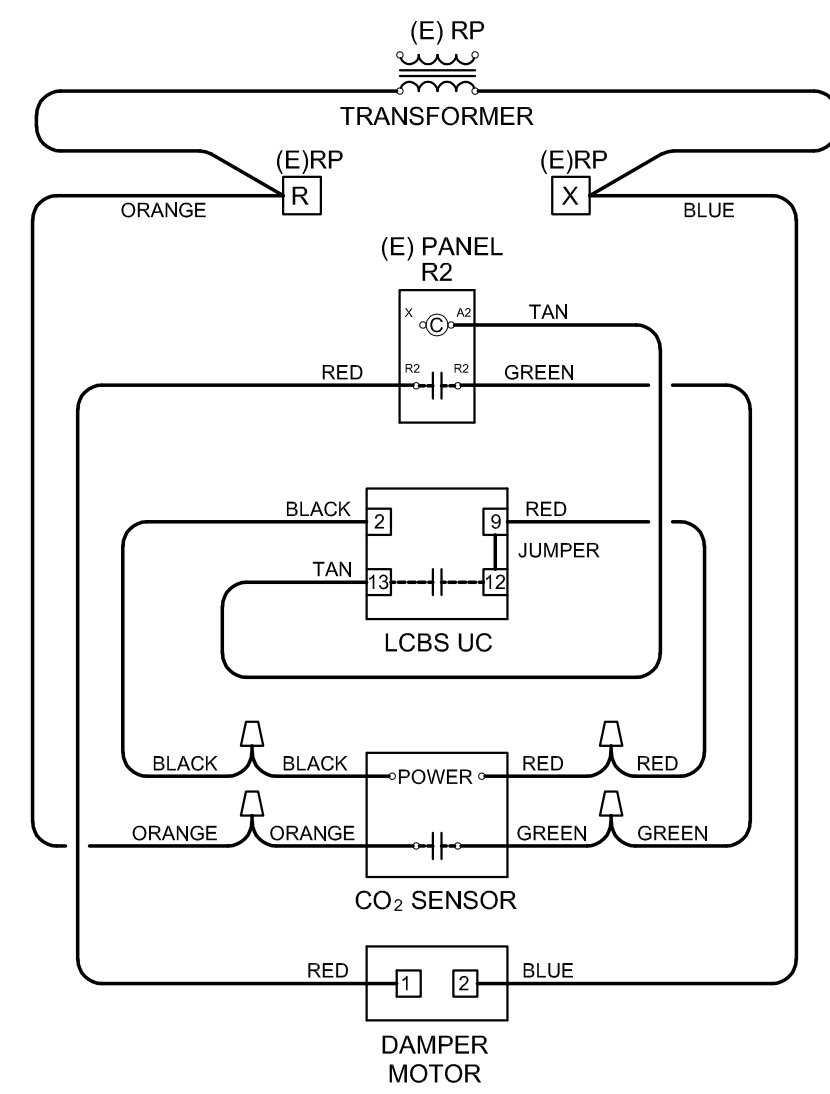
1

2

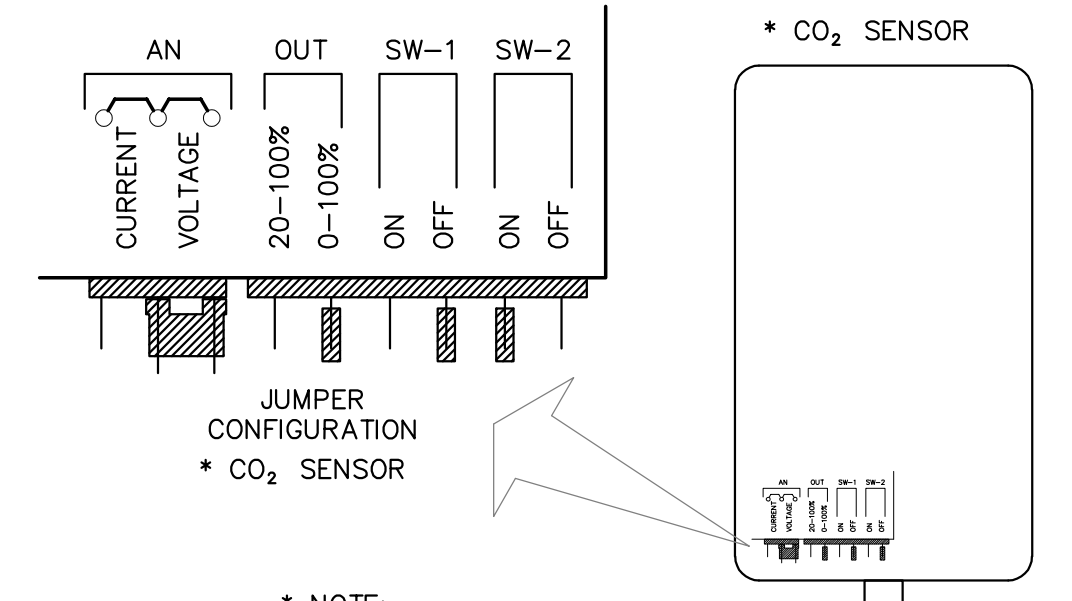
3

4

5



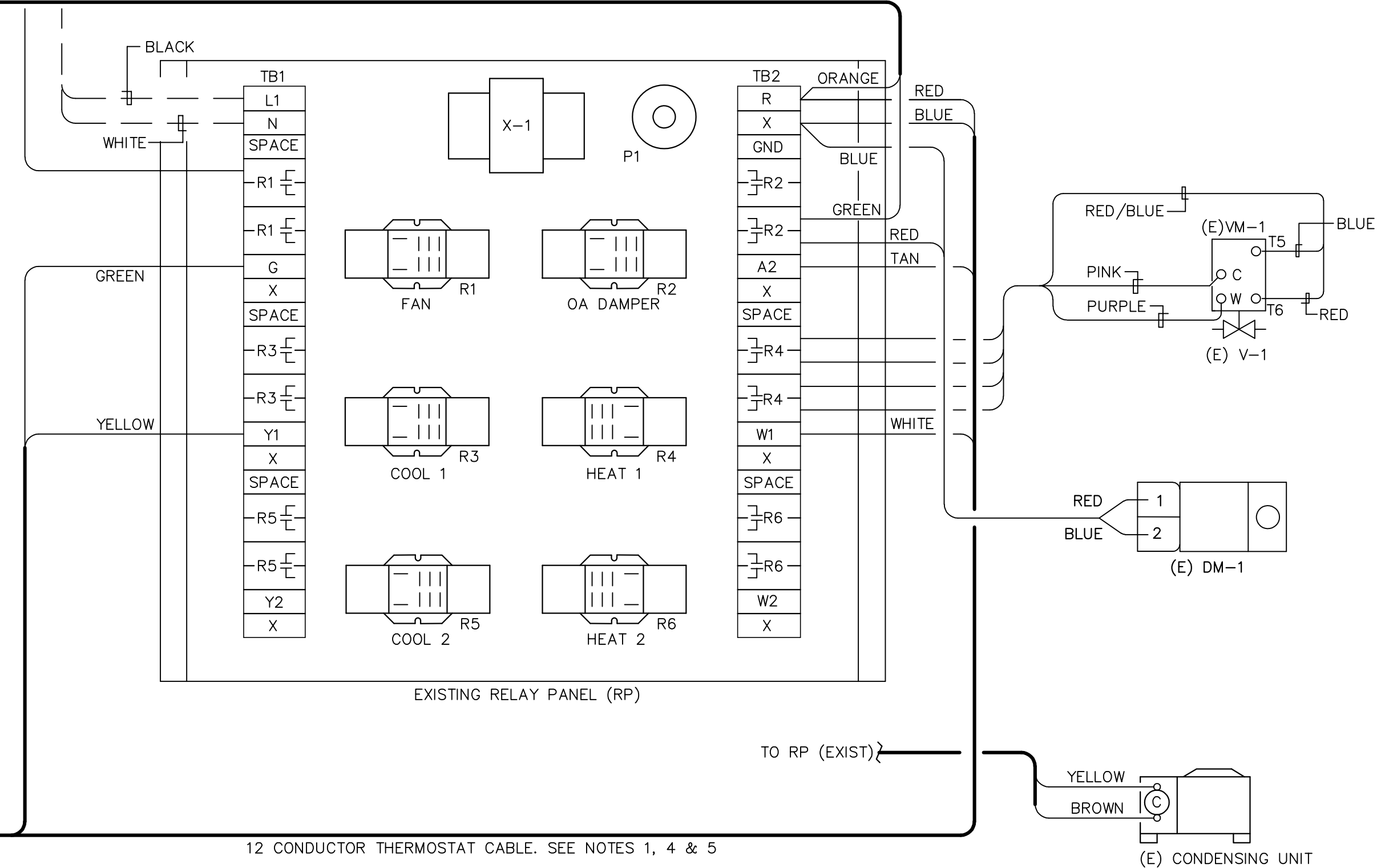
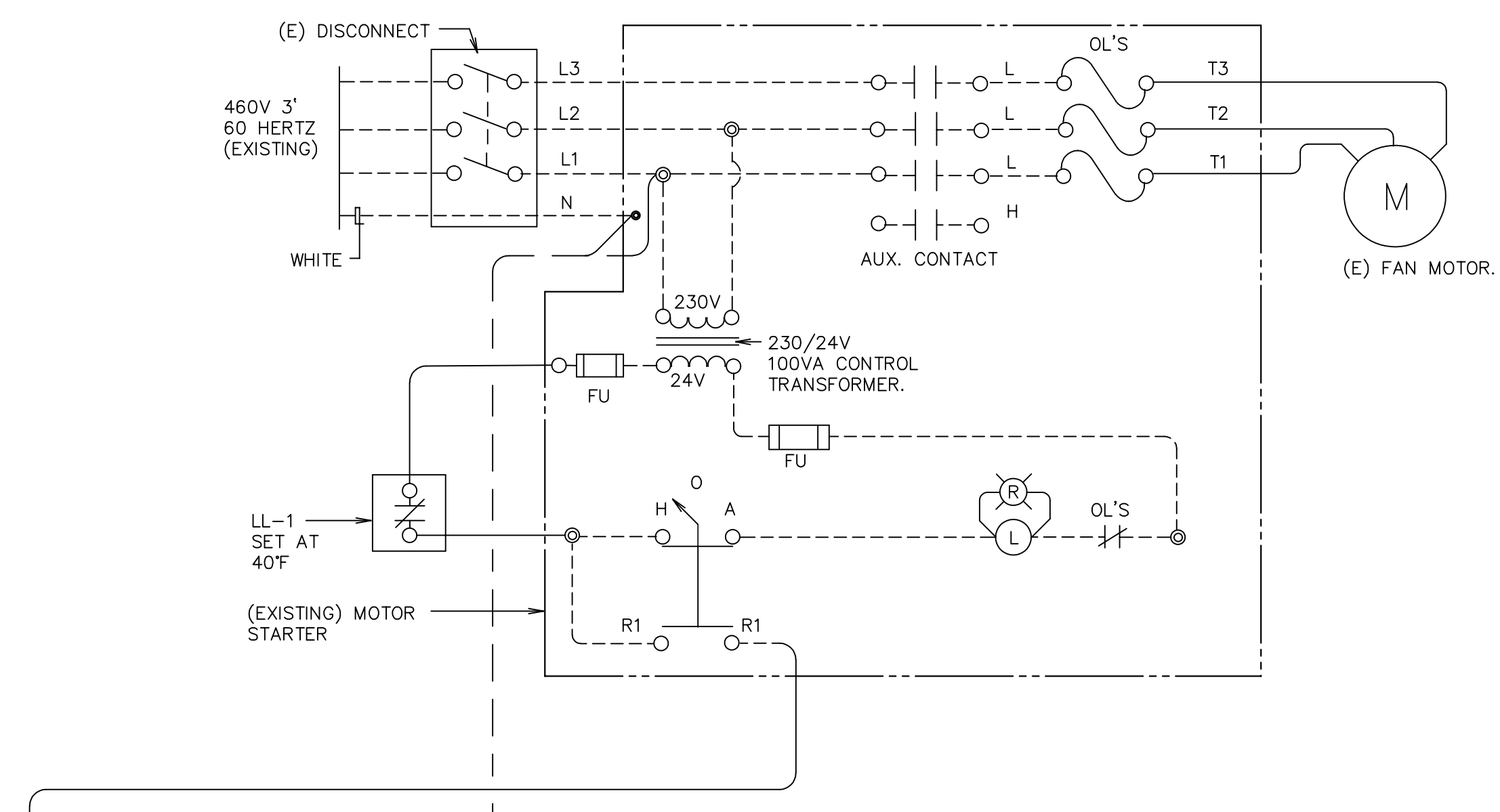
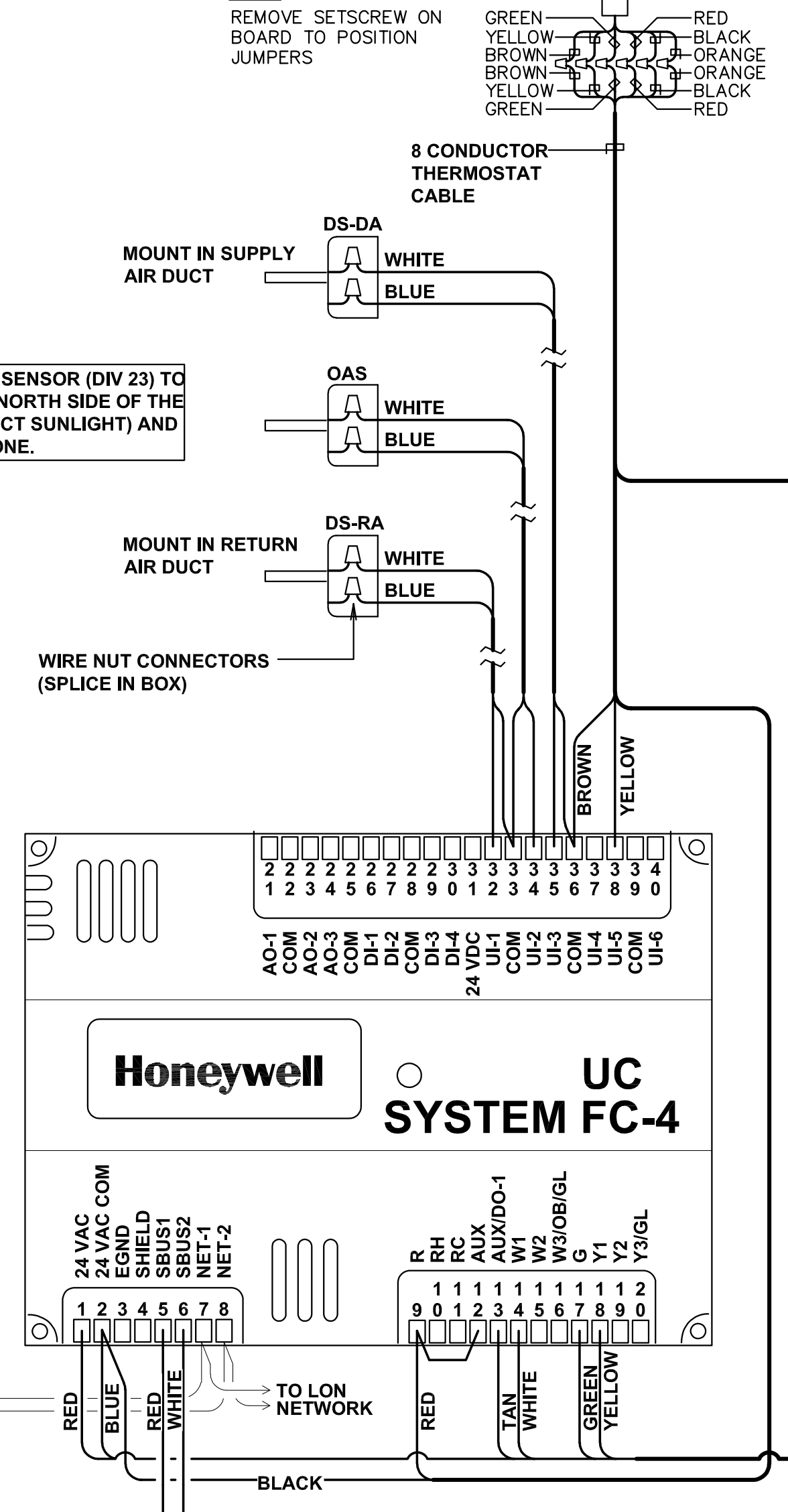
WIRING SCHEMATIC



* NOTE:
REMOVE SETSCREW ON BOARD TO POSITION JUMPERS

GLOBAL OUTDOOR AIR SENSOR (DIV 23) TO BE INSTALLED ON THE NORTH SIDE OF THE BUILDING (OUT OF DIRECT SUNLIGHT) AND CONNECTED TO ANY ZONE.

NOTE:
ECHOLON E-BUS MUST BE INSTALLED AT LEAST 12" AWAY FROM ALL ELECTRICAL DEVICES: I.E. MOTORS, LIGHTS, ETC. DO NOT USE THERMOSTAT CABLE AS NETWORK CABLE. USE SPECIFIED CABLE.



WIRING DIAGRAM

SYSTEMS: FC-4

LEGEND:

- DIVISION 26 OR FACTORY PRE-WIRED
- DIVISION 23 WIRING

NOTES:

FOR NOTES SEE SHEET ME701

GENERAL NOTE:

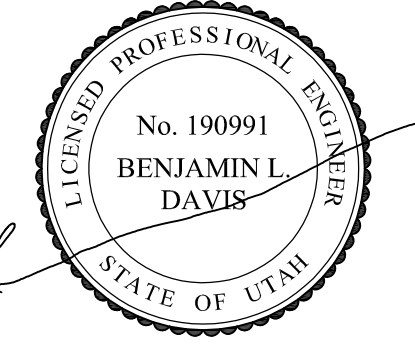
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Van Boerum & Frank Assoc., 2014

ESCALANTE 1 & 2 WARDS
ESCALANTE UTAH STAKE
HVAC UPGRADE
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SHEET CONTENTS
AUTOMATIC TEMPERATURE CONTROLS

ME703

D

C

B

A

TWIST WIRE TOGETHER AND MOUNT UNDER "EB" TERMINAL SCREW.

WHITE W/BBLUE STRIPE BLUE

E-BUS CONNECTION DETAIL

NO SCALE

A

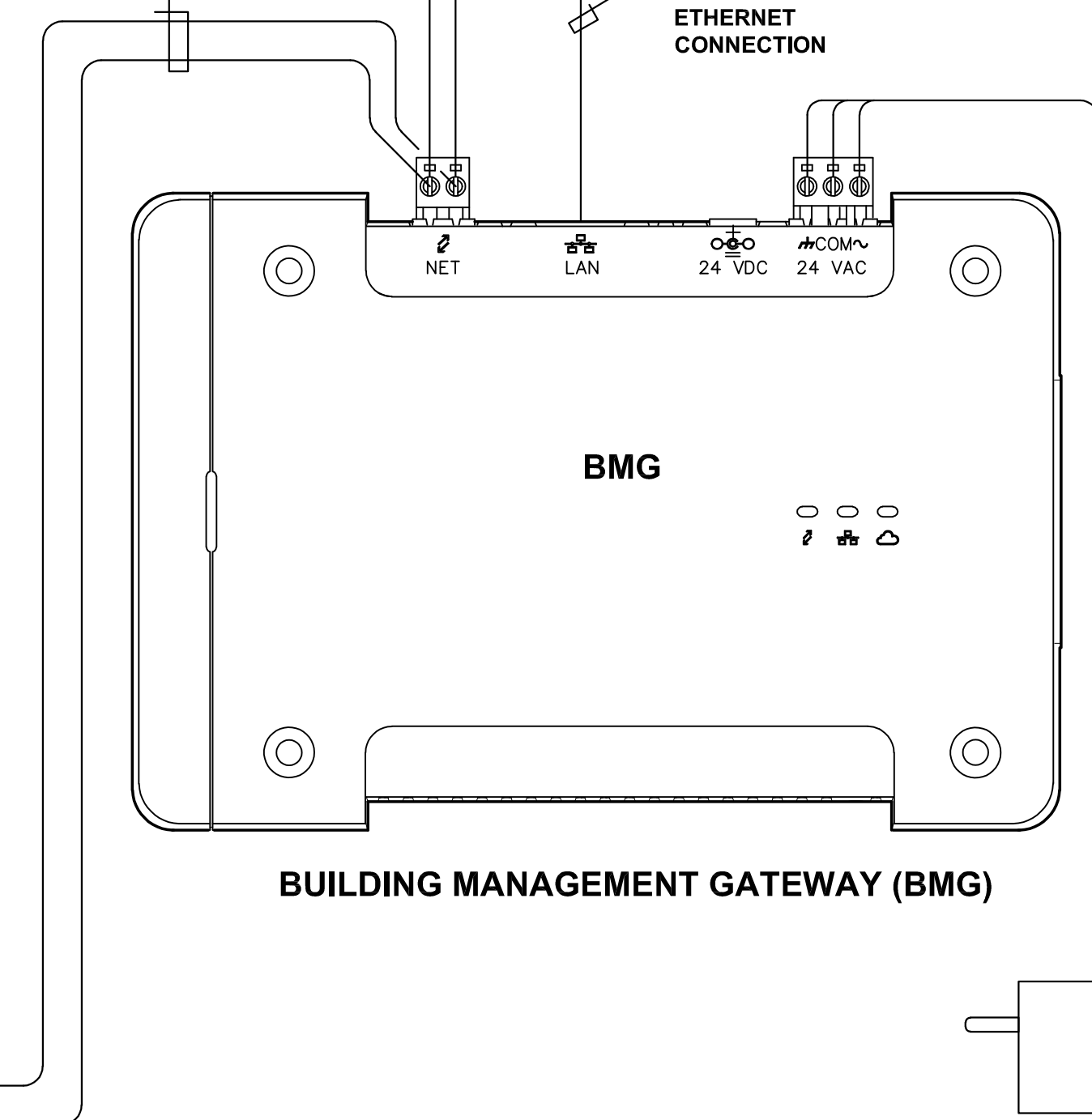
THE E.O.L. IS FOR THE TWO ENDS OF THE ECHELON NETWORK. THE BMG IS NOT REQUIRED TO BE AT THE END OF THE NETWORK; THE BMG CAN RESIDE ANYWHERE IN THE NETWORK CHAIN.

E-BUS CABLE SEE SPECIFICATIONS. (TYPICAL)

E.O.L. 209541B

PROVIDE CAT6 ETHERNET CONNECTION

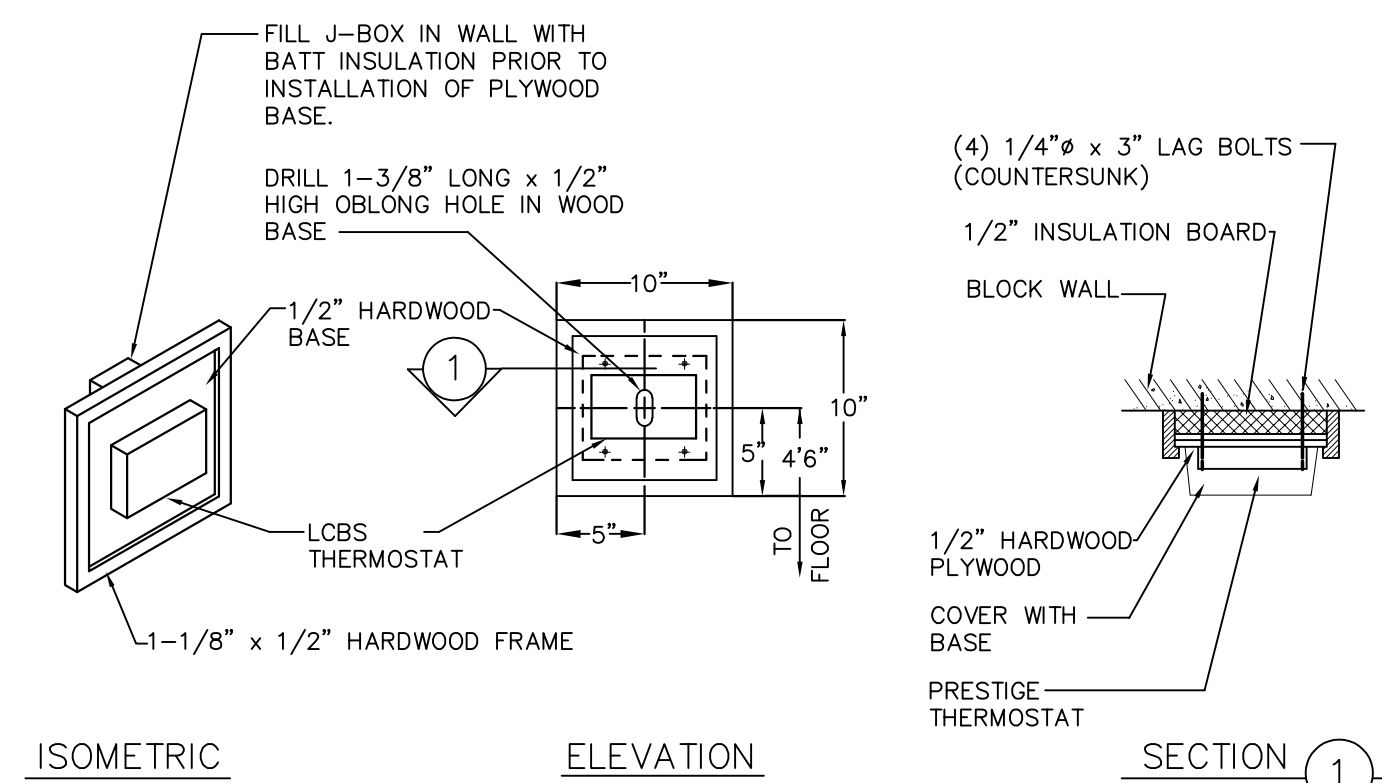
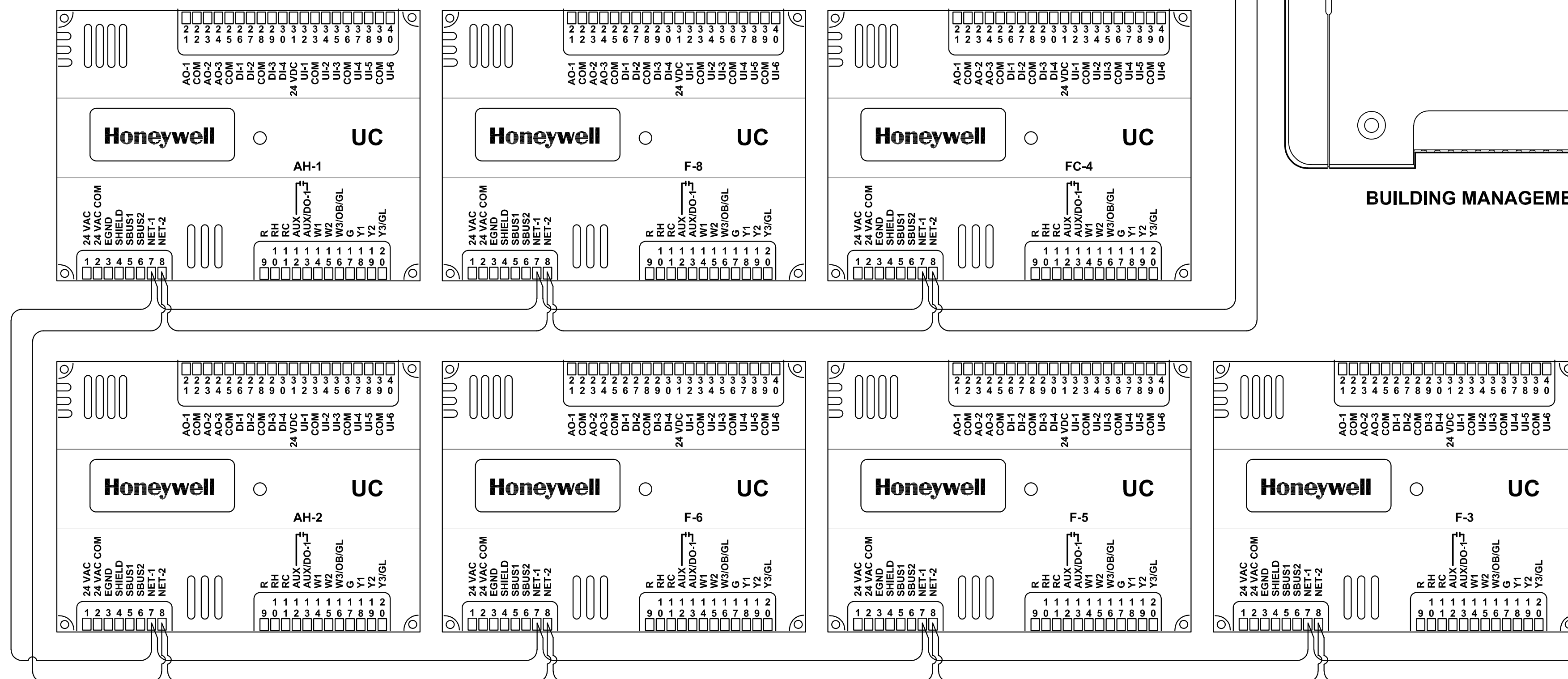
NETWORK HUB/ROUTER BY OTHERS



BMG

BUILDING MANAGEMENT GATEWAY (BMG)

POWER SUPPLY TO CONVENIENCE OUTLET ON TELEPHONE BOARD



B PLYWOOD BASE FOR TOUCHSCREEN / SENSOR DETAIL
ME704 NO SCALE

- NOTES:
- 1- FINISH OF HARDWOOD FRAME AND HARDWOOD PLYWOOD PANEL TO MATCH OTHER WOOD TRIM OR FRAMES.
 - 2- SEE SHEET M101 & ME101 FOR LOCATIONS OF THERMOSTATS AND SENSORS.
 - 3- INSTALL ONLY WHERE THERMOSTATS OR SENSOR ARE LOCATED ON MASONRY WALL.
 - 4- EXISTING BASES MAY BE REUSED.

SEE DETAIL THIS SHEET (TYPICAL)

E.O.L. 209541B

E-BUS WIRING DIAGRAM

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SHEET CONTENTS
AUTOMATIC TEMPERATURE CONTROLS

ME704

1

2

3

4

5

D

C

B

A



KEYED NOTES

1. BRANCH LPG LINE UP FROM CRAWLSPACE. REFER TO DETAIL D/P501 FOR CONNECTION TO FURNACE.
2. PROVIDE CONDENSATE RECEIVER WITH DEEP SEAL TRAP FOR CONDENSATE DRAINAGE. REFER TO DETAIL A/P501. ROUTE 2" DRAIN LINE TO EXISTING WASTE LINE IN CRAWLSPACE FOR CONNECTION.
3. 2" VENT UP TO ACCESSIBLE STUDOR VENT.
4. PROVIDE CONDENSATE DRAINAGE FROM FURNACE HEAT EXCHANGER AND DX COOLING COIL. REFER TO DETAIL A/M601
5. EXISTING STEAM CONVECTOR TO REMAIN IN SERVICE. INSTALL NEW THERMOSTATIC STEAM TRAP AT CONVECTOR RETURN SIDE AND NEW DANFOSS SELF-CONTAINED THERMOSTATIC VALVE AT CONVECTOR SUPPLY SIDE. NEW VALVES TO MATCH EXISTING BRANCH PIPE SIZES, TYPICALLY 3/4". REFER TO DETAIL C/P501 AND SEE SPECIFICATIONS.
6. EXISTING RELIEF SOCIETY STEAM CONVECTOR TO REMAIN IN SERVICE. ZONE CONTROL VALVE IS LOCATED IN OLD BOILER ROOM AND WILL BE CONTROLLED THROUGH NEW AUTOMATIC TEMPERATURE CONTROLS AS FIRST HEATING STAGE.
7. EXISTING CEILING MOUNTED CABINET UNIT HEATER WITH WALL THERMOSTAT TO REMAIN IN SERVICE.
8. (E) 3/4" 10 PSIG LPG YARD LINE BACK TO EXISTING LPG STORAGE TANKS.
9. PROVIDE 10 PSIG TO 11" W.C. PRESSURE REGULATOR (460 CFH) AT EXISTING 3/4" 10 PSIG LPG YARD LINE RISING AT SIDE OF BUILDING.
10. PROVIDE NEW SEISMIC SHUT-OFF VALVE SIZED FOR LPG VOLUME AND INSTALLED IN CORRECT ORIENTATION. ANCHOR TO EXTERIOR OF BUILDING PER MANUFACTURER'S RECOMMENDATIONS.
11. DROP 1-1/4" LPG PIPE DOWN AND INTO STORAGE ROOM BELOW. SEE SHEET P102 FOR CONTINUATION.



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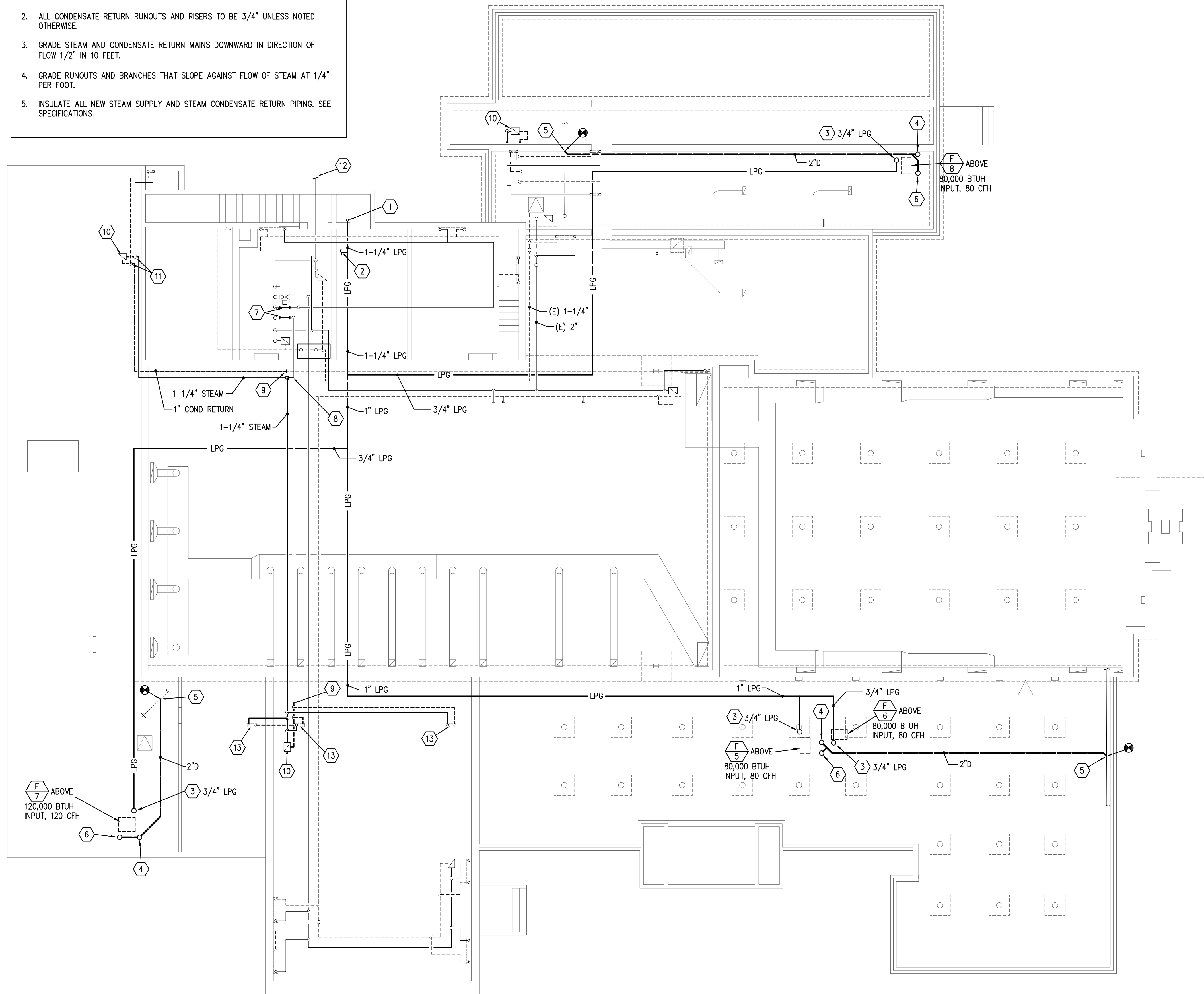
SHEET CONTENTS
MAIN LEVEL PLUMBING PLAN

1 MAIN LEVEL PLUMBING PLAN
P101 SCALE: 1/8" = 1'-0"
0' 8' 16'

P101

Steam Piping System General Notes

1. ALL STEAM PIPING RUNOUTS TO BE 1" AND RISERS TO BE 3/4" UNLESS NOTED OTHERWISE.
2. ALL CONDENSATE RETURN RUNOUTS AND RISERS TO BE 3/4" UNLESS NOTED OTHERWISE.
3. GRADE STEAM AND CONDENSATE RETURN MAINS DOWNWARD IN DIRECTION OF FLOW 1/2" IN 10 FEET.
4. GRADE RUNOUTS AND BRANCHES THAT SLOPE AGAINST FLOW OF STEAM AT 1/4" PER FOOT.
5. INSULATE ALL NEW STEAM SUPPLY AND STEAM CONDENSATE RETURN PIPING. SEE SPECIFICATIONS.

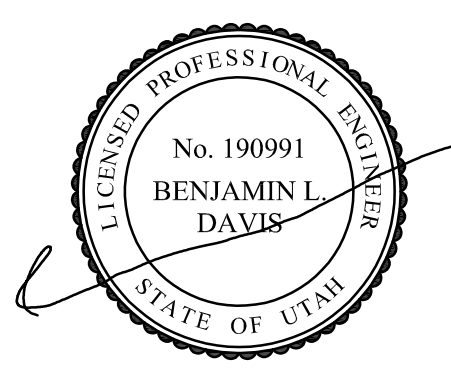


KEYED NOTES

1. 1-1/4" LPG UP TO EXTERIOR OF BUILDING. SEE SHEET P101 FOR CONTINUATION.
2. 3/4" LPG BRANCH PIPING. CONNECT TO EXISTING LPG PIPING SERVING EXISTING RELIEF SOCIETY FURNACE F-3. FIELD VERIFY EXACT LOCATION.
3. LPG BRANCH PIPING UP THROUGH FLOOR TO NEW GAS-FIRED FURNACE ABOVE.
4. 2" WASTE UP TO NEW CONDENSATE RECEIVER.
5. CONNECT NEW 2" CONDENSATE DRAIN TO EXISTING WASTE PIPING IN CRAWLSPACE AT THIS POINT. FIELD VERIFY EXACT LOCATION.
6. 2" VENT PIPING UP TO ACCESSIBLE STUDOR VENT ABOVE. SEE SHEET P101 FOR CONTINUATION.
7. RECONNECT STEAM SUPPLY PIPING WHERE CONTROL VALVE WAS REMOVED. MATCH EXISTING SIZE.
8. CONNECT NEW 2" STEAM PIPING TO EXISTING NEAR THIS LOCATION TO PROVIDE STEAM TO EXISTING CONVECTORS REMAINING ACTIVE. FIELD VERIFY EXISTING CONDITIONS FOR EXACT LOCATION AND ROUTING.
9. CONNECT NEW 1" STEAM CONDENSATE RETURN PIPING TO EXISTING PIPING TO PROVIDE RETURN FROM EXISTING CONVECTORS TO REMAIN ACTIVE. FIELD VERIFY EXISTING CONDITIONS FOR EXACT LOCATION AND ROUTING.
10. RE-INSTALL EXISTING END OF MAIN TRAP AT THIS LOCATION TO PROVIDE ACTIVE STEAM LOOP TO EXISTING CONVECTORS TO REMAIN IN USE. REFER TO DETAIL B/P501.
11. RECONNECT EXISTING BRANCH STEAM AND CONDENSATE RETURN TO NEW PIPING.
12. EXISTING MAIN STEAM SUPPLY BELOW GRADE FROM EXTERIOR BOILER BUILDING.
13. BRANCH STEAM SUPPLY AND CONDENSATE RETURN UP TO EXISTING CONVECTOR ABOVE. REFER TO DETAIL C/P501. FIELD VERIFY EXISTING CONDITIONS FOR EXACT PIPING ROUTING REQUIRED.



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SHEET CONTENTS
BASEMENT & CRAWLSPACE LEVEL PLUMBING PLAN

P102

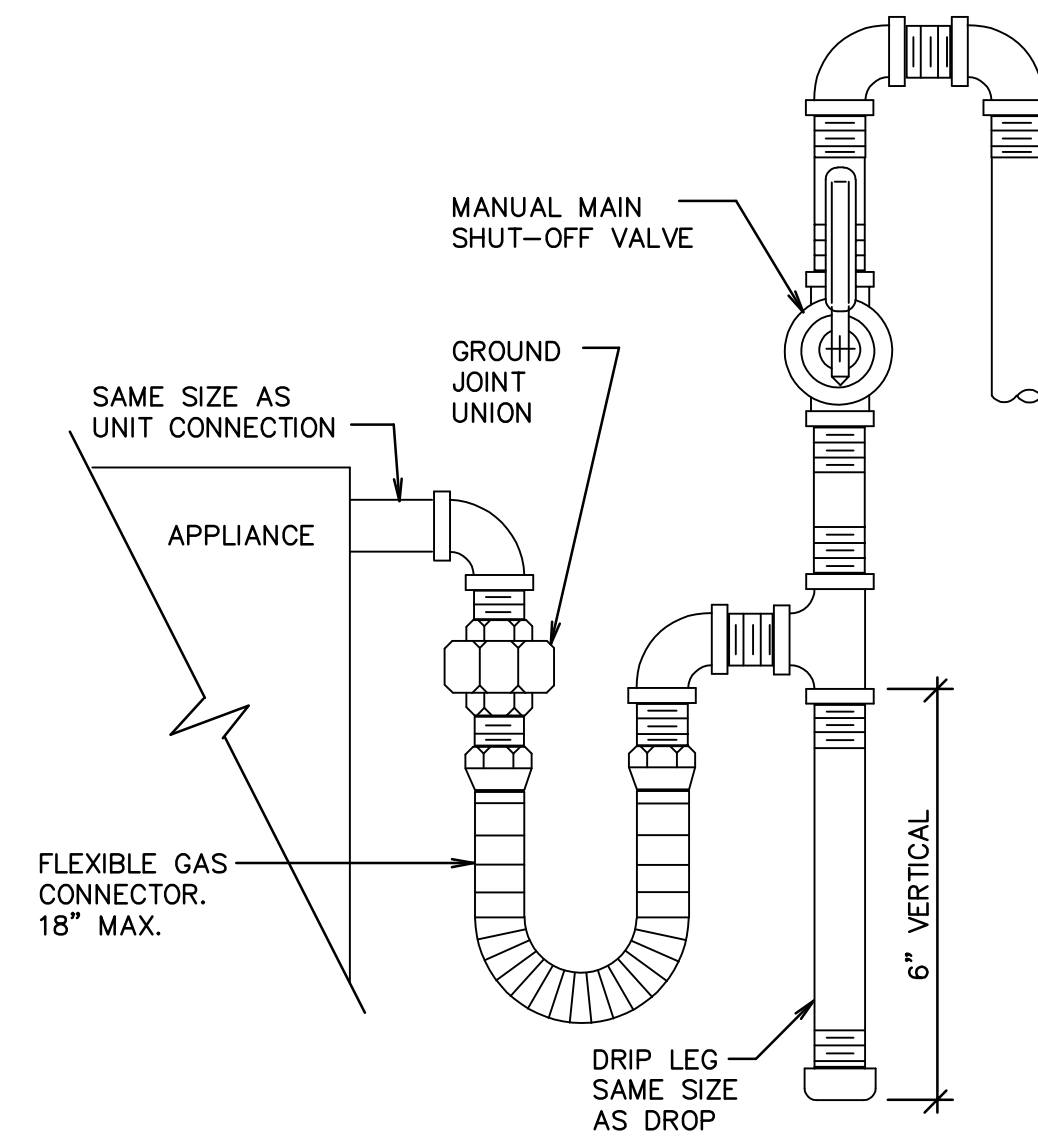
1 BASEMENT & CRAWLSPACE LEVEL PLUMBING PLAN
SCALE: 1/8" = 1'-0"
0' 8' 16'

D

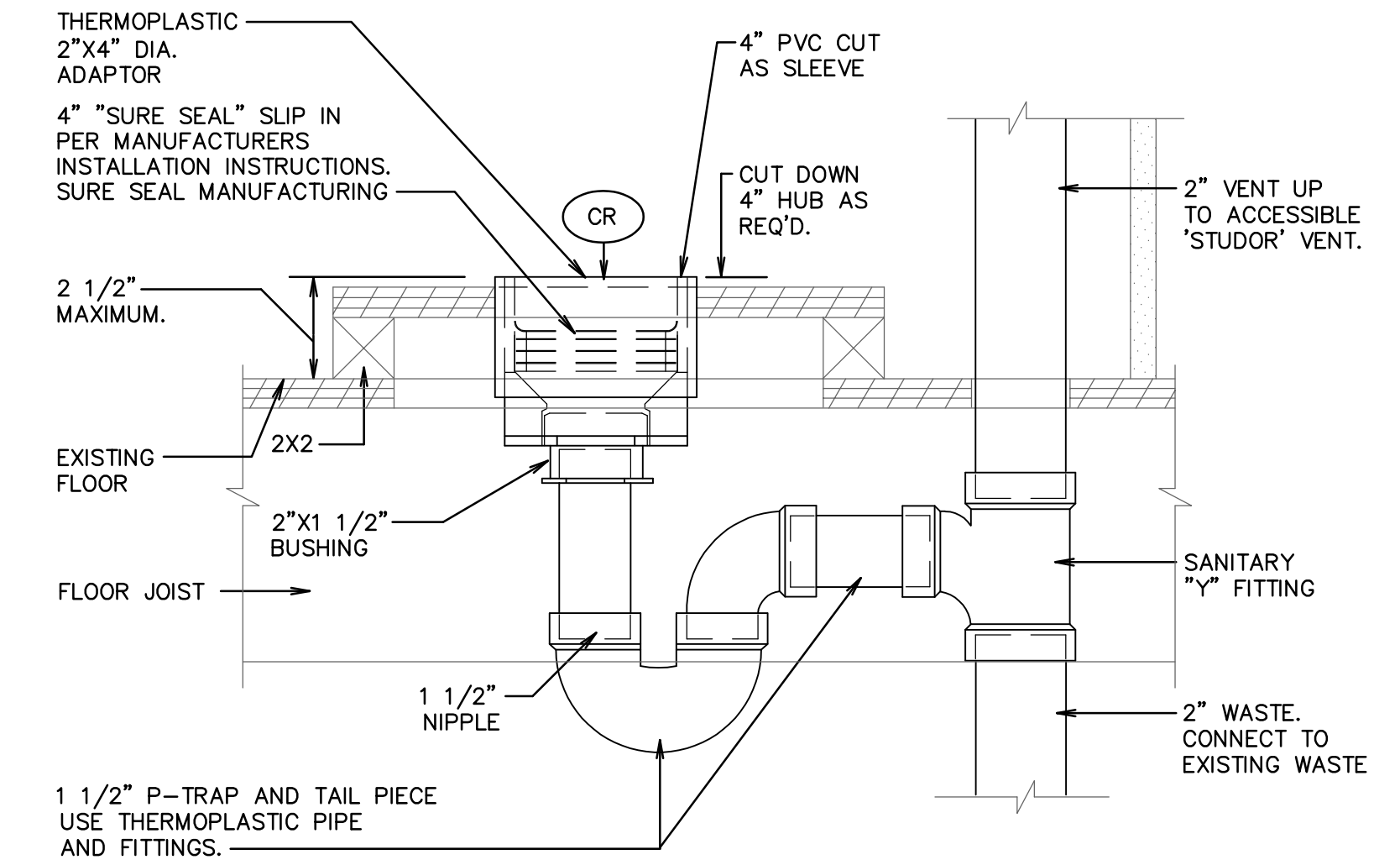
C

B

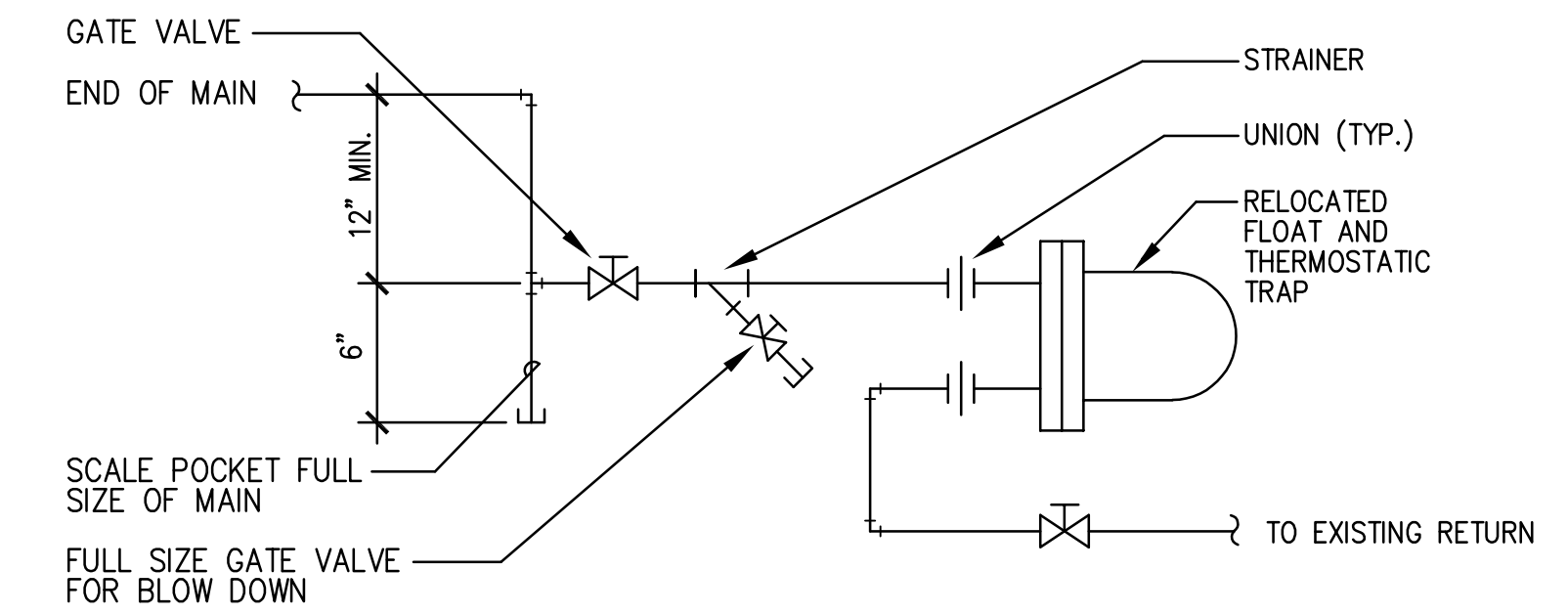
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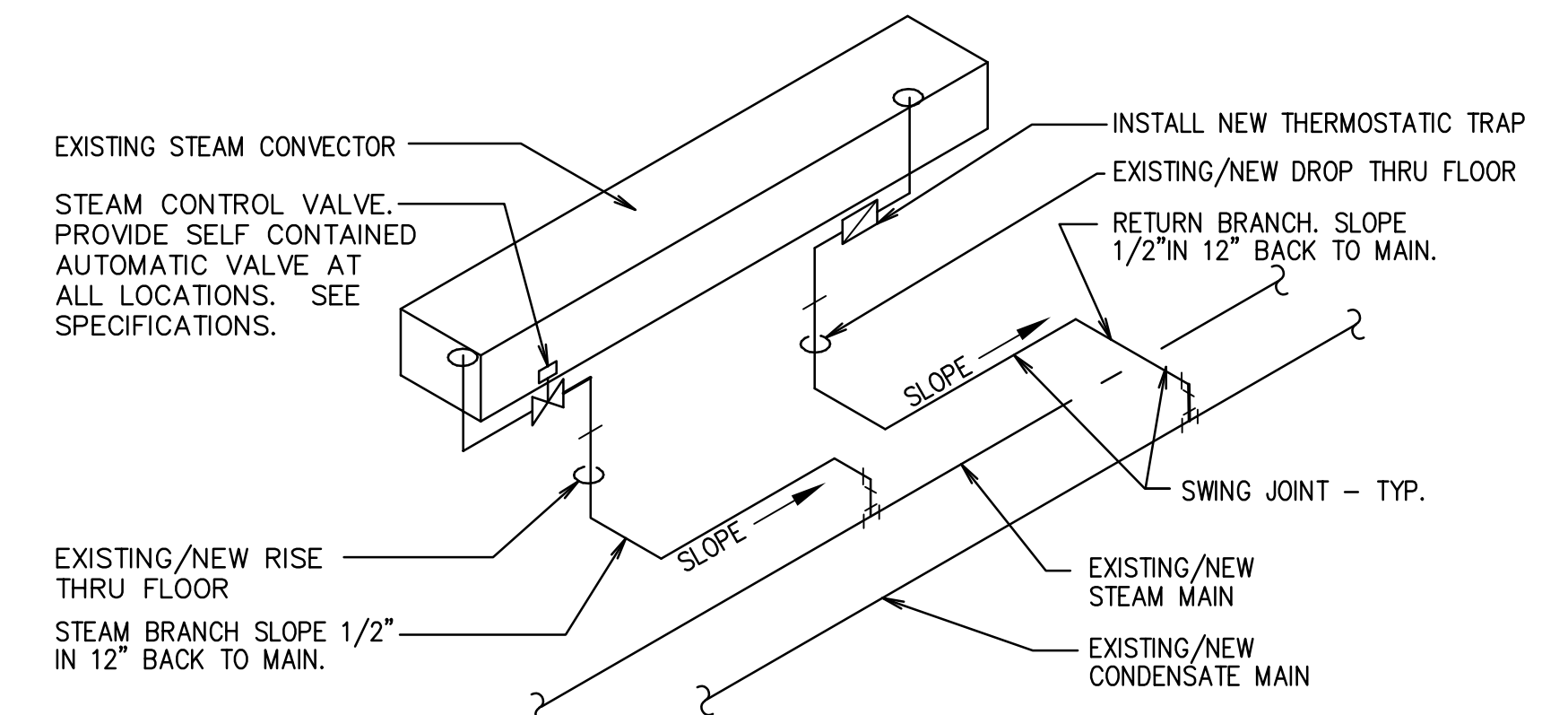
D LPG LINE CONNECTION DETAIL
P501 NO SCALE



A CONDENSATE RECEIVER DETAIL
P501 NO SCALE



B LOW PRESSURE END OF MAIN DRIP DETAIL
P501 NO SCALE



C TERMINAL UNIT STEAM PIPING DETAIL
P501 NO SCALE



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ESCALANTE UTAH STAKE
HVAC UPGRADE
8 S. CENTER STREET, ESCALANTE, UT 84726

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SHEET CONTENTS

PLUMBING AND PIPING DETAILS

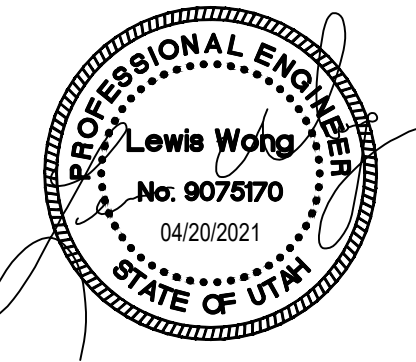
P501



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ESCALANTE UTAH STAKE
HVAC UPGRADE
8 S. CENTER STREET, ESCALANTE, UT 84726

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SHEET CONTENTS
ELECTRICAL GENERAL

EG001

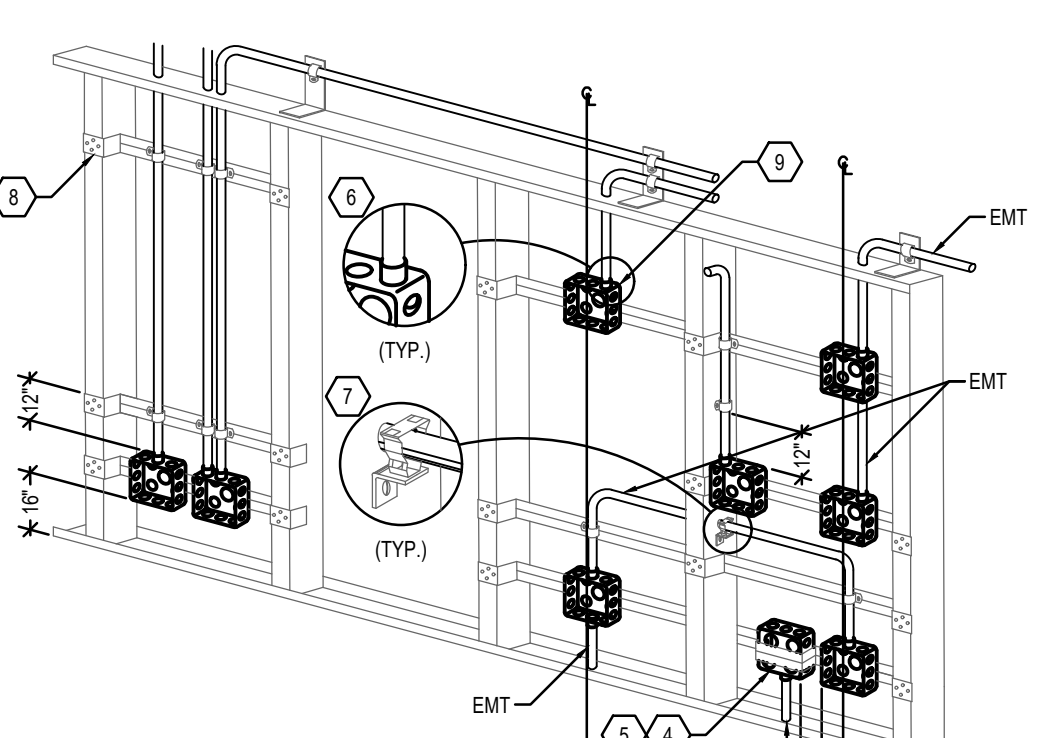
GENERAL NOTES

- THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING HIS BID PRICE SO A CHANGE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS AT THEIR OWN EXPENSE. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM ITS PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE.
- THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS ANY ELECTRICAL ITEMS THEY MAY CONTAIN. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURES TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.
- NO ADDITIONS TO THE CONTRACTOR BID WILL BE ALLOWED FOR CHANGES MADE NECESSARY BY INTERFERENCE WITH OTHER WORK.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS - ARCHITECTURAL, MECHANICAL, ETC.
- THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL AND STATE CODES AND THE NEC. IF AT ANY TIME DURING CONSTRUCTION, OR AFTER, SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THE CODES LISTED ABOVE, IT SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- ALL EQUIPMENT PROVIDED BY THE ELECTRICAL CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, AND BE PROPERLY INSTALLED FOR THE CONDITIONS AND SPACE THAT EQUIPMENT IS BEING INSTALLED WITHIN.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE POWER PANELS FROM WHICH NEW CIRCUITS ARE BEING FED FROM. VERIFY EXISTING BRANCH CIRCUIT BREAKERS AND PROVIDE NEW BREAKERS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE TELEDATA ROOM FROM WHICH NEW TELEDATA OUTLETS WILL BE FED FROM. VERIFY EXISTING PATCH PANEL SPACES AND PROVIDE NEW PATCH PANELS AS NECESSARY TO LAND ALL NEW TELEDATA CABLING.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE ELECTRICAL CONTRACTOR SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
- THE ELECTRICAL CONTRACTOR SHALL CONFIRM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS OR CABINETS AND SHALL MOVE THE PANELS AT HIS EXPENSE IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
- CONDUIT LAYOUTS SHOWN ON THE PLANS ARE DIAGRAMATIC, NOT INDICATING THE ROUTING REQUIRED. THE EC SHALL ROUTE THE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION AND SHALL COORDINATE WITH DUCTWORK, PIPING, EQUIPMENT, BUILDING STRUCTURE AND OTHER POTENTIAL OBSTRUCTIONS.
- THE CONTRACTOR SHALL ALLOW THE MOVEMENT, BEFORE ROUGH-IN, OF ANY ELECTRICAL PANEL, DEVICE, LUMINAIRE, ETC. A DISTANCE OF 10 FEET WITHOUT REQUIRING ADDITIONAL COST TO THE PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES.
- MINIMUM SIZE CONDUIT SHALL BE 3/4". ABOVE GROUND CONDUIT SHALL BE EMT WITH STEEL SET SCREW FITTINGS. UNDERGROUND CONDUIT SHALL BE PVC (SCH40) WITH GRC ELBOWS AND RISERS WRAPPED IN CORROSION RESISTANT MATERIALS WHERE IN DIRECT CONTACT WITH THE SOIL.
- FLEXIBLE CONDUIT SHALL BE LIMITED TO CONNECTIONS TO LIGHT FIXTURES AND FINAL CONNECTIONS TO MOTORS OR OTHER EQUIPMENT SUBJECT TO VIBRATION. LENGTHS OF FLEXIBLE OR SEALTITE CONDUIT SHALL NOT BE GREATER THAN 72" INCHES.
- WIRING DEVICES SHALL MATCH EXISTING COLOR AND FACEPLATE TYPE.
- TO ASSURE ALL DEVICES ARE RIGIDLY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVICE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION. ANY DEVICE BOXES NOT SECURED WILL BE MADE SECURE AT THE CONTRACTOR'S EXPENSE.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EMPTY CONDUITS WITH 200LB RATED NYLON PULL CORD.
- BEFORE ANY ELECTRICAL CONDUIT, BOXES, ETC. ARE COVERED (FLOOR, CEILINGS, WALLS, ETC.), THEY SHALL BE APPROVED BY THE INSPECTING OFFICER (INSPECTOR). THE UNDERCOVERING AND REPLACEMENT OF ELECTRICAL WORK FOR THE INSPECTION PURPOSES WILL BE AT THE COST OF THE ELECTRICAL CONTRACTOR.
- WHERE WIRE SIZE IS NOT SHOWN ON THE DRAWINGS FOR 20A, 120 OR 277VAC BRANCH CIRCUITS, THE CIRCUIT SHALL CONSIST OF 2#12(CU THHN) #12(CU THHN) IN 3/4" EMT CONDUIT. THIS WIRE SIZE SHALL BE INCREASED TO #10(CU THHN) FOR 120VAC BRANCH CIRCUITS WITH OVERALL LENGTHS EXCEEDING 125' TO ACCOMMODATE FOR VOLTAGE DROP. REFER TO EQUIPMENT SCHEDULES, FEEDER SCHEDULES AND NOTES ON DRAWINGS FOR ALL OTHER BRANCH CIRCUIT AND FEEDER WIRE/CONDUIT SIZING.
- CONDUCTORS SHALL BE COPPER, 800V RATED, TYPE THHN/THWN-2 UNLESS OTHERWISE NOTED. CONDUCTORS SIZES UP TO #10AWG SHALL BE SOLID AND #8AWG AND LARGER SHALL BE STRANDED.
- METAL CLAD CABLING MAY BE USED BETWEEN DEVICES SUCH AS LIGHTING, RECEPTACLES, SWITCHES, ETC... UNLESS OTHERWISE REQUIRED BY THE NEC. HOME RUNS SHALL BE INSTALLED IN CONDUIT. MC CABLE SHALL NOT BE INSTALLED EXPOSED.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT SUPPLIERS ON THE EXACT LOCATIONS OF ALL EQUIPMENT AND ELECTRICAL CONNECTIONS PRIOR TO ROUGH-IN. THE ELECTRICAL CONTRACTOR SHALL MAKE THE FINAL CONNECTION TO ALL EQUIPMENT UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT SUPPLIER.
- THE ELECTRICAL CONTRACTOR SHALL CLEAN THE ENTIRE ELECTRICAL SYSTEM AFTER COMPLETION OF THE INSTALLATION. REMOVE ALL FINGER PRINTS, FOREIGN MATTER, PAINT, DIRT, GREASE, UN-NEEDED LABELS OR STICKERS FROM FIXTURES AND EQUIPMENT. REMOVE ALL RUBBISH AND DEBRIS ACCUMULATED DURING INSTALLATION FROM THE PREMISES.
- OBTAIN FROM SUPPLIERS ALL WIRING DIAGRAMS FOR EQUIPMENT PRIOR TO ANY ROUGH-IN. TO ASSURE THAT PROPER CHARACTERISTICS ARE PROVIDED, ANY INCORRECT WIRING OR DEVICES INSTALLED BY THE ELECTRICAL CONTRACTOR WITHOUT THE WIRING DIAGRAM SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. PROVIDE COPIES OF WIRING DIAGRAMS WITHIN EACH PIECE OF EQUIPMENT AND ADDITIONAL COPIES WITH THE OPERATION AND MAINTENANCE MANUALS.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE CONDUIT AND DEVICE MOUNTING BOXES FOR THERMOSTATS AND OTHER MECHANICAL CONTROLS.
- IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS FOR ALL DEVICES TO BE FLUSH MOUNTED AND CONDUIT/CABLING INSTALLED CONCEALED WITHIN WALLS/CEILINGS. IN AREAS WHERE CONDUIT MUST BE INSTALLED EXPOSED IT SHALL BE COORDINATED WITH THE ARCHITECT AND/OR ENGINEER. ALL EFFORTS SHALL BE MADE TO CONCEAL WIRING METHODS.
- PROVIDE AN UPDATED, TYPED PANEL CIRCUIT DIRECTORY FOR ALL PANELS WHERE CIRCUITS HAVE BEEN MODIFIED, ADDED, OR REMOVED BY THE SCOPE OF THIS PROJECT. CIRCUIT DESCRIPTIONS ON THE DIRECTORY SHALL BE UNIQUE AND INDICATE THE ROOM AND EQUIPMENT/DEVICE IT IS FEEDING. DIRECTORY SHALL INCLUDE CONTRACTOR CONTACT INFORMATION AND DATE OF PROJECT COMPLETION.

ELECTRICAL SYMBOL SCHEDULE			
SYMBOL	DEVICE/FIXTURE DESCRIPTION	MOUNTING	COMMENTS
(S) (D) (Q)	(S) SIMPLEX (D) DUPLEX (Q) QUADPLEX OR DOUBLE DUPLEX		
⊙	STANDARD CONVENIENCE OUTLET	18"	
⊙	CONVENIENCE OUTLET, GFCI	18"	
⊙	VARIABLE FREQUENCY DRIVE		
⊙	JUNCTION BOX	AS NOTED	(12)
⊙	MANUAL SWITCH WITH THERMAL OVERLOAD		
⊙	FUSED DISCONNECT SWITCH		(13) (14)
⊙	MAGNETIC STARTER		(13) (14)
⊙	MAGNETIC STARTER WITH FUSED DISCONNECT		(13) (14)
⊙	MAGNETIC STARTER WITH BREAKER DISCONNECT		(13) (14)
⊙	MOTOR OUTLET		
⊙	TRANSFORMER	SEE PLANS	
⊙	PANEL BOARD, SURFACE	6'-6" TO TOP	(15)
⊙	PANEL BOARD, RECESSED	6'-6" TO TOP	(15)
⊙	DUCT SMOKE DETECTOR	SEE MECH.	(9)
⊙	MECHANICAL/PLUMBING EQUIPMENT CALLOUT		
⊙	KITCHEN EQUIP. CALLOUT, OR AS NOTED BY ARCH.		
⊙	KITCHEN EQUIP. CALLOUT, OR AS NOTED BY ARCH.		
⊙	LUMINAIRE TYPE		
⊙	DIAGRAM/DETAIL CALLOUT		
⊙	CONDUIT RUN CONCEALED IN WALL OR CEILING		
⊙	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
⊙	SURFACE RACEWAY/WIREMOLD		
⊙	LOW VOLTAGE CONDUIT RUN		
⊙	DEMOLITION		
⊙	EXISTING		
⊙	HOME RUN TO PANEL		
⊙	CONDUIT STUB		
⊙	CONDUIT BREAK/CONTINUATION		
⊙	CONDUIT STUB DOWN		
⊙	CONDUIT STUB UP		
⊙	FUSE		
⊙	GROUND/GROUND ROD		
⊙	CIRCUIT BREAKER		

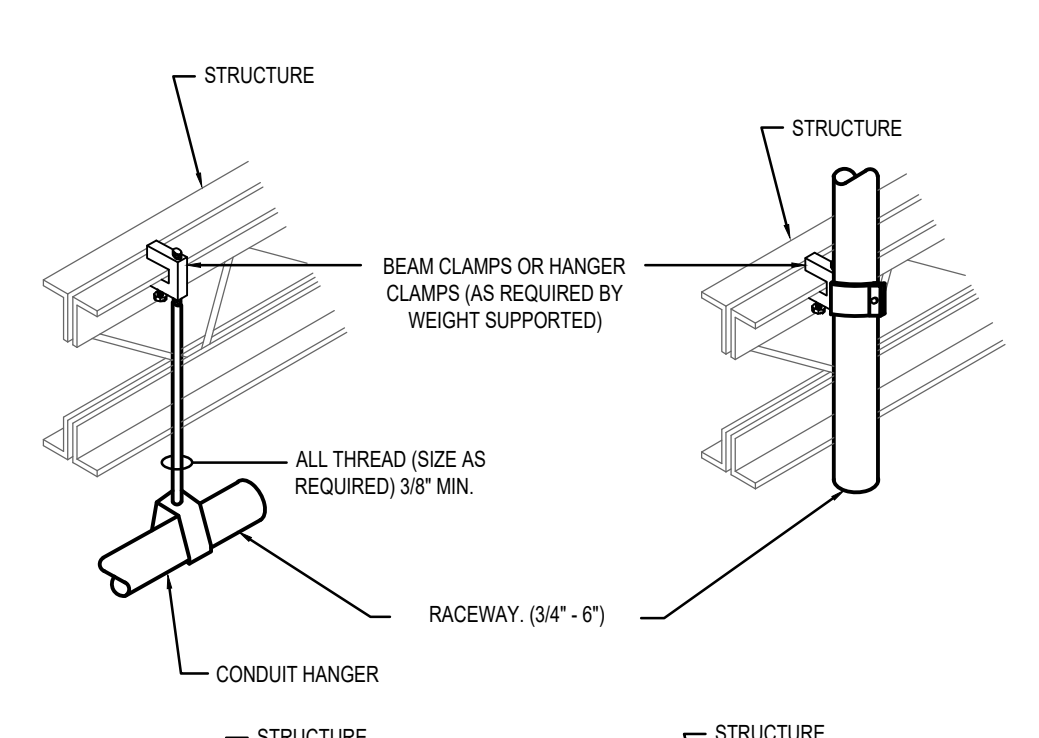
ABBREVIATIONS		
A	AMPS	ENT
AFC	AVAILABLE FAULT CURRENT	ER
AFF	ABOVE FINISHED FLOOR	EX
AFG	ABOVE FINISHED GRADE	FMC
AIC	AMPS INTERR. CAPACITY	GC
AWG	AMERICAN WIRE GAUGE	GEC
BC	BARE COPPER	GFCI
BFC	BELOW FINISHED CEILING	GND
BFG	BELOW FINISHED GRADE	IMC
C	CONDUIT	IG
CND	CONDUIT	KCMIL
CO	CONDUIT ONLY	LFMC
CT	CURRENT TRANSDUCER	METAL COND.
CU	COPPER MATERIAL	LFNC
DED	DEDICATED	LIQUID-TIGHT FLEX.
DFA	DROP FROM ABOVE	LMND
EC	ELECTRICAL CONTRACTOR	MC
EF	EXHAUST FAN	MCA
EM	EMER. EXPRESS BATTERY	NI
EMT	ELEC. METALLIC TUBING	NSR
		N
		NEW
		NL
		EXISTING TO BE RELOCATED
		EXISTING TO REMAIN
		PC
		PLUMBING CONTRACTOR
		POC
		POINT OF CONNECTION
		POS
		POINT OF SALE
		R
		RELOCATED
		RM
		ROOF MOUNTED
		RMC
		RIGID METALLIC CONDUIT
		RNC
		RIGID NON-METALLIC COND.
		SBJ
		SYSTEM BONDING JUMPER
		SCA
		SHORT CIRCUIT AMPERES
		T
		TRANSMITTER
		TC
		TEMP. CONTROL CONTR.
		UG
		UNDERGROUND
		UNO
		UNLESS NOTED OTHERWISE
		VA
		VOLT/AMPS
		VIF
		VERIFY IN FIELD
		WP
		WEATHERPROOF/NEMA 3R
		XP
		EXPLOSION PROOF
		XR
		EXISTING TO BE REMOVED

NOTES	
(1)	SEE LUMINAIRE SCHEDULE FOR FIXTURE TYPES AND DETAILS.
(2)	SEE LUMINAIRE SCHEDULE FOR MOUNTING REQUIREMENTS.
(3)	WIRE LIGHT FIXTURE FROM ADJACENT J-BOX
(4)	CONNECT NEAREST UN-SWITCHED HOT CONDUCTOR TO EMERGENCY BALLAST
(5)	DIRECTIONAL ARROWS INDICATE REQUIRED CHEVRONS
(6)	COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR ELEVATIONS
(7)	USE WITH POWER PACK
(8)	"X" IN SYMBOL IS INCHES BETWEEN RECEPTACLE ALONG WIREWAY. SEE DRAWINGS.
(9)	PROVIDE UL LISTED DEVICE COMPATIBLE WITH THE FIRE ALARM PANEL/SYSTEM
(10)	MATCH THE VOLTAGE OF THE RELAY WITH THAT OF THE CONTROLLING CIRCUIT.
(11)	USE A 4" X 4" BOX WITH A MUD RING TO MATCH THE DEVICE AND INSTALLATION.
(12)	PROVIDE MUD RING AND/OR BOX COVER APPROPRIATE FOR DEVICE/FIXTURE SERVED.
(13)	USE HEAVY DUTY DEVICE FOR 480 VOLT.
(14)	SIZE TO THE EQUIPMENT BEING CONTROLLED
(15)	FIRE ALARM PANELS: FACP: FIRE ALARM CONTROL PANEL, NAC: NOTIFICATION APPLIANCE PANEL, ANNUN: GRAPHIC ANNUNCIATOR PANEL, AND SES: SMOKE EVACUATION SYSTEM PANEL.
(16)	LIGHT FIXTURES ARE SCALED WITHIN THE DRAWINGS BASED ON ACTUAL DIMENSIONS.



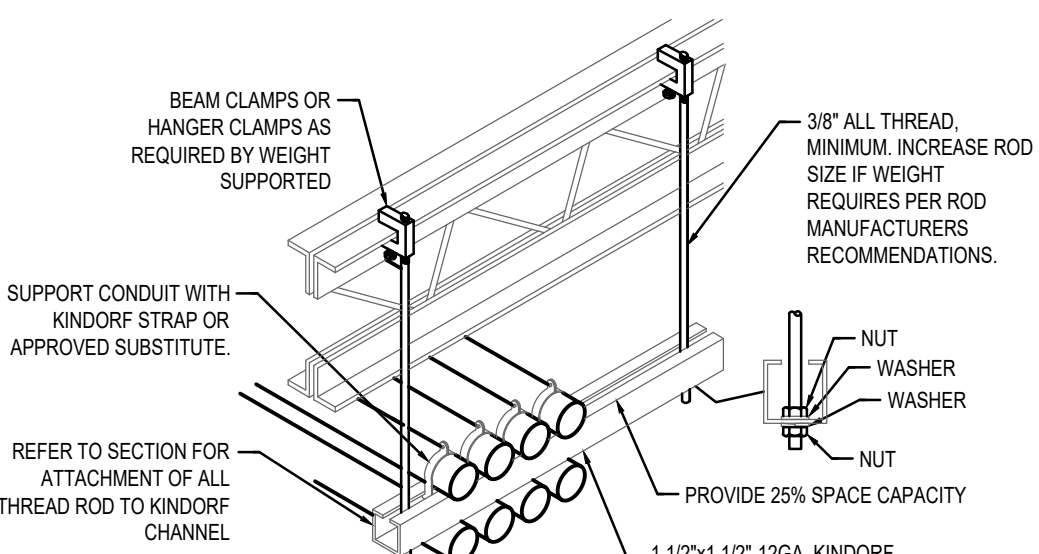
- NOTES:
- TYP. FOR WOOD AND METAL STUD ROUGH-IN.
 - PLASTER RINGS NOT SHOWN. COORDINATE RING DEPTH TO BE FLUSH WITH FINISHED SURFACE, UNLESS NOTED OTHERWISE.
 - LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCH. AND MECH. DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
 - OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 6" HORIZONTAL DISTANCE.
 - ELECTRICAL BOXES INSTALLED IN FIRE RESISTANT WALLS OR PARTITIONS SHALL COMPLY WITH IBC 714.3.2.
 - INSULATED THROAT EMT CONNECTOR.
 - CADDY FASTENER, THROUGH STUD CABLE/CONDUIT SUPPORT FB12P.
 - ADJUSTABLE BAR HANGER.
 - TYPICAL DEVICE JUNCTION BOX.

1 TYPICAL ROUGH-IN DETAIL
EG001 NO SCALE

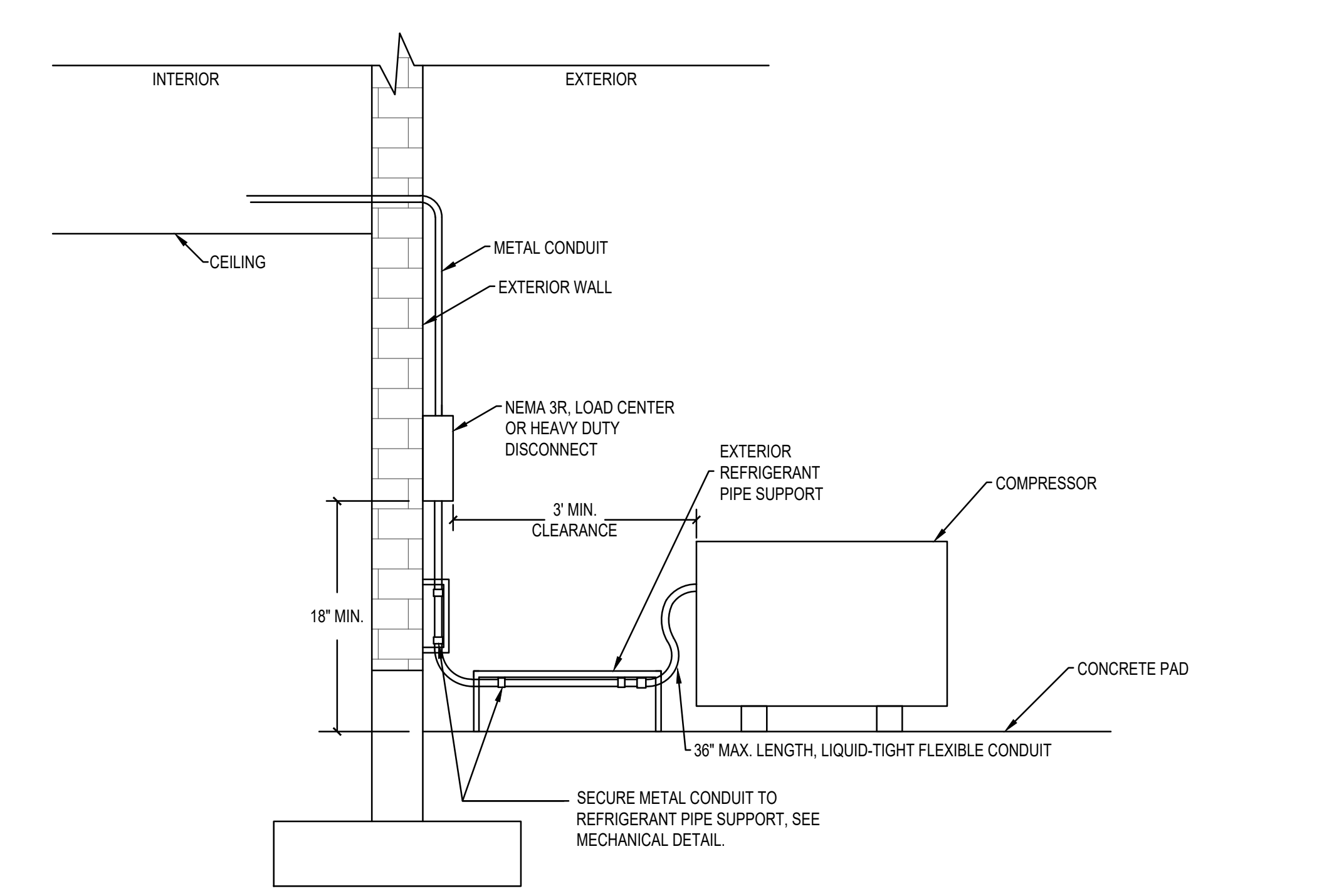


- NOTES:
- WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGER SYSTEM.
 - DO NOT SUPPORT ANY RACEWAY LARGER THAN 1" FROM BOTTOM CORD OF STEEL TRUSSES.

2 RACEWAY SUPPORT METHODS DIAGRAM
EG001 NO SCALE



3 TRAPEZE SUPPORT DETAIL
EG001 NO SCALE



4 EXTERIOR COMPRESSOR/DISCONNECT DETAIL (TYP.)
EG001 NO SCALE

Sheet List Table	
Sheet Number	Sheet Title
EG001	ELECTRICAL GENERAL
EG001	ELECTRICAL SCHEDULES
ED101	MAIN LEVEL DEMO POWER PLAN
EL101	MAIN LEVEL LIGHTING PLAN
EP101	MAIN LEVEL POWER PLAN

D

C

B

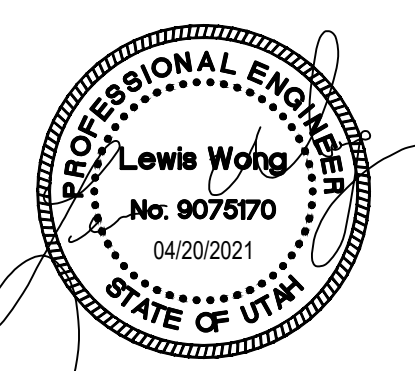
A

LUMINAIRE SCHEDULE										
TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTS	LAMPS			MOUNTING	DIMMING	VA
					QTY	TYPE				
YL1	WRAPAROUND 10'W X 4'L X 2.75'H. LOW PROFILE. NARROW BODY.	METALUX	4WSNLED-LD4-44SL-F-UNV-L840-CD1-U	UNV	1	LED	4253 LUMENS 4000K 82 CRI	SURFACE		32
		LITHONIA	LBL4 LP840							
		LA LIGHTING	WAN107-4-4L-FPA-DRDM-UNV-2-840							
		COLUMBIA	LAW4-40VL-EDU							
		HE WILLIAMS	17-4-L55840-AF-(L43)-DIM-UNV							
		ELITE	4-0W-LED-4000L-DIM10-MVOLT-40K-85							
YL2	WRAPAROUND 15.5'W X 4'L X 3'H. WIDE BODY.	LITHONIA	LBL4W 6500LM 80CRI 40K MIN10 GZT MVOLT	UNV		LED	6500 LUMENS 4000K 80 CRI	SURFACE		50
		METALUX	4WSNLED-LD4-64HL-F-UNV-L840-CD1-U							
		LA LIGHTING	WAN113-6-4L-FPA-1DRDM-UNV-2-840							
		COLUMBIA	LAW4-40VL-EDU							
		HE WILLIAMS	18-4-L90840-AF-(L65)-DIM-UNV							
		ELITE	4-0W-LED-6000L-DIM10-MVOLT-40K-85							
SL1	STRIP LIGHT 4'L. LOW GLARE DIFFUSE LENS	LITHONIA	CSSL48 4000LM MVOLT 40K 80CRI	UNV	1	LED	4298 LUMENS 4000K 80 CRI	SURFACE/WALL		35.3
		ALS	IL-4A-SWSC-WH-UD							
		ELITE	4-0C4-LED-4000L-DIM10-MVOLT-40K-85							
		METALUX	4SNLED-LD5-41SL-SLW-UNV-L840-CD1-U							
		HE WILLIAMS	7SR-4-L50840-QS-DIM-UNV							
		LSI	SDL4 LED 40L FL UNV DIM1 40 80CRI							
CL1	COVE LIGHT STRIPLIGHT WITH FLAT ACRYLIC LENS. REFER TO DRAWING FOR LENGTHS AND QUANTITY. FIELD VERIFY EXACT COVE LENGTH AND CONFIRM LIGHT FIXTURE LENGTHS WILL FIT IN COVE PRIOR TO ORDERING. (2,3,4,8 FT LENGTHS)	LITHONIA	CLX LXX XXXLM SEF FDL MVOLT GZ10 40K 80CRI	UNV	1	LED	750 LMS/FT	COVE		SWIFT
		PRIMUS	ALXS-FRL-CPT50LIFT-4K-XX-BEL-W-X							
		ESI	F-1XMT-XX-40-FR-D							
		PURELIGHT	LX1-C*-SC-WH							
		HE WILLIAMS	7SL-4-L38840-DMA-(L30)-DIM-UNV							
		LSI	S4 LED 30L UNV DIM1 40 80CRI							
XL1	EXIT DEVICE UNIVERSAL EXIT SIGN WITH BATTERY BACKUP. GREEN.	LITHONIA	EXG LED EL M6	UNV	1	LED	GREEN	UNIVERSAL		5
		EXITRONIX	VEGWEM							
		ELITE	ELX-603-G-W							
		BARRON	ILX G EM WH							
		HE WILLIAMS	EXIT G EM WHT D							
		LSI	EMS LED G UNV BB WHT							
Luminaire Schedule General Notes:										
1 Refer to Luminaire description for fixture requirements. Manufacturers model numbers may not be specific or complete. The contractor is responsible to provide complete fixtures as described on this schedule with all mounting hardware and equipment for a complete installation.										
2 Refer to the architectural reflected ceiling drawings for exact fixture locations and ceiling types. Verify exact ceiling types and bring to the attention of the architect and electrical engineer any discrepancies prior to bid. Fixtures shall match architectural ceiling types.										
3 Provide all fixture support and seismic bracing to secure fixture to structure, walls and ceiling systems. Refer to mounting details for additional requirements. Provide all pole bases as shown on the details.										
4 Prior approval shall be required for all manufacturers who are not listed on this schedule. The prior approvals shall be submitted to the electrical engineer (7) working days prior to the bid. Prior approvals received after this time cut-off shall not be reviewed or approved.										
5 Submittals for prior approval shall be equivalent to the specified fixtures and reviewed and signed by the principle of the organization that is submitting for approval. Provide complete fixture submittals as listed in the specification. All information that does not apply to the fixture being submitted shall be crossed out. The electrical engineer shall be the final determination if the fixture is equivalent or not.										
6 Fixtures that have been reviewed and approved as equivalent to the specified fixtures shall be listed in and addendum prior to bid. Light fixtures without prior approval are rejected and contractor shall base their bid on the approved listed fixtures. A verbal approval will not be given or approved by VBFA at any time.										
7 Any additional time required to verify if submitted fixture meets all photometric requirements shall be paid by the agency requesting approval. Photometric point-by-point plans may be required from the agency submitting for approval indicating equivalency.										
8 Color temperature for all lighting shall be 4000K unless noted otherwise in the schedule.										
9 Verify exact fixture finishes with the architect prior to submittal.										
10 Provide minimum 5 year warranty on all light fixtures.										
11 LED light fixtures shall meet LM79 and LM80 standards with +50,000 hour L70 lamp life										
12 Luminaire shall be listed per NEC 410.6.										
13 Lumens specified for fixtures with integral LEDs are total delivered fixture lumens										
14 Fixtures identified as emergency on the plans shall be provided with an emergency battery pack or remote inverter with a 1400 lumen output minimum for each emergency fixture.										

EQUIPMENT SCHEDULE																	
TYPE	DESCRIPTION	ELECTRICAL								OVER CURRENT PROTECTION				STR	REMARKS		
		VOLT	PHASE	LOAD	FLA	SETS	QTY	SIZE	GND	COND	OC/PD	TYPE	DISCONNECT			FUSE	NEMA
F - 5	FURNACE	120	1	0.75 HP	13.8	1	2	12	12	3/4	20	C1	-	-	-	-	4 A
F - 6	FURNACE	120	1	0.75 HP	13.8	1	2	12	12	3/4	20	C1	-	-	-	-	4 A
F - 7	FURNACE	120	1	1 HP	16.0	1	2	12	12	3/4	20	C1	-	-	-	-	4 A
F - 8	FURNACE	120	1	0.75 HP	13.8	1	2	12	12	3/4	20	C1	-	-	-	-	4 A
CU - 5	CONDENSING UNIT	208	1	18.1 MCA	14.5	1	2	10	10	3/4	30	C1	30	2	20	-	9 A
CU - 6	CONDENSING UNIT	208	1	18.1 MCA	14.5	1	2	10	10	3/4	30	C1	30	2	20	-	9 A
CU - 7	CONDENSING UNIT	208	1	24.3 MCA	19.4	1	2	8	10	3/4	40	C1	30	2	25	-	9 A
CU - 8	CONDENSING UNIT	208	1	16.6 MCA	13.3	1	2	10	10	3/4	25	C1	30	2	20	-	9 A
EF - 1	EXHAUST FAN	120	1	166 W	1.4	1	2	12	12	3/4	15	-	-	-	-	-	4 A
ABBREVIATIONS: KW = KILOWATTS V/PH = VOLTAGE/PHASE HP = HORSEPOWER W = WATTS VA = VOLT AMPERES KVA = KILOVOLT AMPERES FLA = FULL LOAD AMPERES MCA = MINIMUM CIRCUIT AMPACITY DISC = DISCONNECT GND = GROUND STR = STARTER PL = POLE OCPD = OVERCURRENT PROTECTIVE DEVICE COND = CONDUIT MOCP = MAXIMUM OCPD (LISTED BY THE MANUFACTURER)																	
REMARKS: 1. NEMA 1 FUSED DISCONNECT SWITCH 2. NEMA 1 NON-FUSED DISCONNECT SWITCH 3. BREAKER IN ENCLOSURE 4. MANUAL STARTER WITH THERMAL OVERLOAD 5. MANUAL MOTOR CONTROLLER W/OUT THERMAL OVERLOAD 6. MAGNETIC STARTER 7. MAGNETIC STR/NON-FUSED DISCONNECT COMBINATION 8. MAGNETIC STR/FUSED DISCONNECT COMBINATION 9. NEMA 3R FUSED DISCONNECT SWITCH 10. NEMA 3R NON-FUSED DISCONNECT SWITCH 11. VARIABLE FREQUENCY DRIVE 12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC. 13. DIRECT CONNECTION 14. DUCT DETECTOR IN RETURN AIR DUCT 15. CONTROLLED WITH LIGHTS 16. LM-EB DISCONNECT W/CNTRL WIRING TO VFD NOTES: - THE DIVISION 26 CONTRACTOR MAY INCREASE THE CONDUIT SIZE BY ONE INCREMENTAL SIZE TO FACILITATE INSTALLATION OR TO HELP WITH MATERIAL AVAILABILITY/COST.																	
GENERAL NOTE: THE EC SHALL COORDINATE ALL REQUIREMENTS (IE: MOCP SIZE, UNIT THERMAL PROTECTION, ETC) WITH APPROVED MECHANICAL SHOP DRAWINGS/SUBMITTALS AND BRING UP ANY DISCREPANCIES WITH THE ELECTRICAL ENGINEER OF RECORD IN WRITING PRIOR TO ROUGH-IN.																	



181 East 5600 South
Murray, UT 84107
801.530.3148 T
801.530.3150 F



Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
 • Van Boerum & Frank Assoc., 2014

ESCALANTE 1 & 2 WARDS
 ESCALANTE UTAH STAKE
 HVAC UPGRADE
 8 S. CENTER STREET, ESCALANTE, UT 84726

REVISIONS

VBFA PROJECT #: 21033
 CHECKED BY: LW
 DRAWN BY: EW
 CURRENT/ISSUE DATE: APR 2021

SHEET CONTENTS

ELECTRICAL SCHEDULES

EG601

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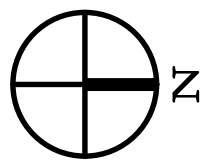
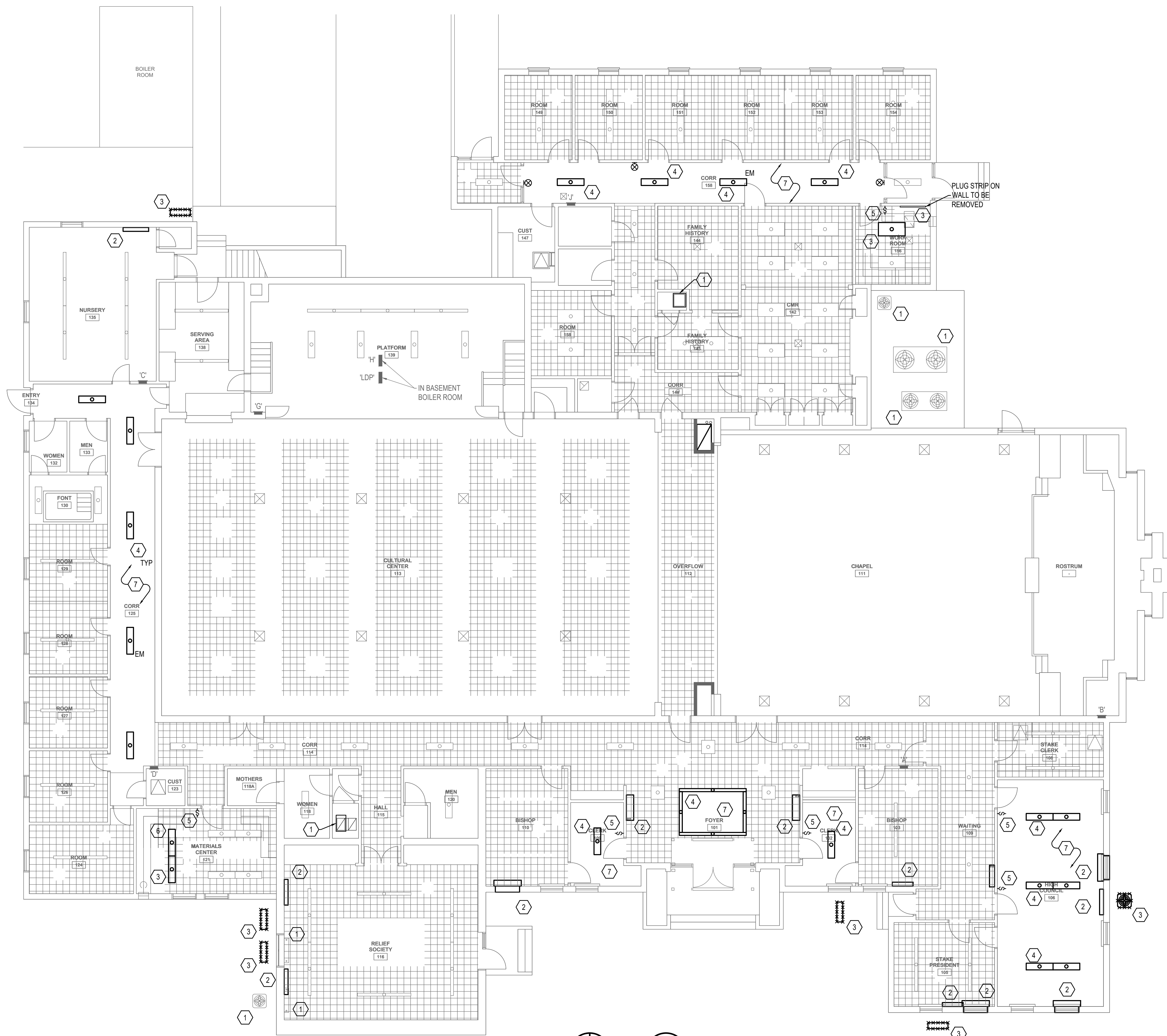
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1 MAIN LEVEL DEMO POWER PLAN
 EP101 SCALE: 1/8"=1'-0"
 0' 8' 16'

KEYED NOTES

1. EXISTING MECHANICAL EQUIPMENT TO REMAIN. PROTECT AND MAINTAIN CIRCUIT INTEGRITY.
2. EXISTING MECHANICAL EQUIPMENT TO BE ABANDONED IN PLACE. REMOVE CONDUIT, WIRE, AND ASSOCIATED DISCONNECTS BACK TO NEAREST REMAINING DEVICE/EQUIPMENT. MAINTAIN CIRCUIT INTEGRITY. IF NO DEVICES OR EQUIPMENT REMAIN, REMOVE CONDUIT AND WIRE BACK TO SOURCE AND MARK BREAKER AS SPARE. PROVIDE NEW UPDATED TYPED PANEL SCHEDULE INDEX. IF CONDUIT IS INACCESSIBLE, CUT CONDUIT FLUSH WITH STRUCTURAL SURFACE.
3. EXISTING EQUIPMENT/DEVICE TO BE REMOVED. REMOVE CONDUIT, WIRE, AND ASSOCIATED DISCONNECTS BACK TO NEAREST REMAINING DEVICE/EQUIPMENT. MAINTAIN CIRCUIT INTEGRITY. IF NO DEVICES OR EQUIPMENT REMAIN, REMOVE CONDUIT AND WIRE BACK TO SOURCE AND MARK BREAKER AS SPARE. PROVIDE NEW UPDATED TYPED PANEL SCHEDULE INDEX. IF CONDUIT IS INACCESSIBLE, CUT CONDUIT FLUSH WITH STRUCTURAL SURFACE.
4. EXISTING LIGHTS TO BE REPLACED. DISCONNECT POWER AND MAINTAIN CIRCUIT INTEGRITY FOR NEW LIGHTS.
5. EXISTING LIGHT SWITCH TO BE REPLACED.
6. EXISTING LIGHT TO BE RELOCATED. EXTEND CIRCUIT AS REQUIRED.
7. EXISTING CEILING TO BE REPLACED AND LOWERED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS. DISCONNECT EXISTING DEVICES ON CEILING OR UPPER WALLS TO ACCOMMODATE NEW CEILING. CLEAN AND STORE DEVICES IN A SECURE LOCATION UNTIL NEW CEILING IS IN PLACE. REINSTALL EXISTING CEILING DEVICES AND RELOCATE DEVICES ON WALLS AS REQUIRED. EXTEND CIRCUITS AS NEEDED.

GENERAL NOTES

- A. EC SHALL COORDINATE WITH ALL OTHER TRADES DURING DEMOLITION AND CONSTRUCTION TO FACILITATE TIMELY WORK.
- B. ALL AREAS ARE TO BE KEPT CLEAN AND CLEAR OF DEBRIS AT ALL TIMES.
- C. CONTRACTOR SHALL PATCH AND REPAIR ALL WALLS, CEILINGS ETC. TO MATCH EXISTING CONDITIONS. PENETRATIONS SHALL BE SEALED WITH FIRE RATED CAULK.
- D. ROUTE ALL CONDUIT IN A NEAT AND ORDERLY FASHION. ALL CONDUIT SHALL BE CONCEALED ABOVE CEILINGS OR IN WALLS OR FINISHED SPACES UNLESS OTHERWISE INDICATED ON THE PLANS.
- E. DEVICES SHOWN ON DEMOLITION SHEETS ARE GATHERED FROM AS-BUILT DRAWINGS AND FIELD INVESTIGATION. NOT ALL DEVICES ARE SHOWN. DEVICE PLACEMENT IS SCHEMATIC AND NOT EXACT. CONTRACTOR TO FIELD VERIFY FOR EXACT LOCATIONS AND COORDINATE WORK WITH ALL OTHER DEVICES, EQUIPMENT, CONDUIT, ETC. WHETHER OR NOT SHOWN TO COMPLETE PROJECT.
- F. CONTRACTOR TO COORDINATE WITH OWNER FOR ITEMS TO BE SALVAGED PRIOR TO DEMOLITION. CONTRACTOR RESPONSIBLE FOR DISPOSING OF ANY MATERIAL THAT THE OWNER DOES NOT WANT TO KEEP.
- G. CAP AND LABEL ALL EMPTY CONDUIT TO REMAIN.
- H. EXISTING DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO REMAIN. PRESERVE AND PROTECT.



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 Murray, UT 84107
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 801.530.3150 F



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 • Van Boerum & Frank Assoc., 2014

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HVAC UPGRADE
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REVISIONS

NO.	DESCRIPTION

VBFA PROJECT #: 21033
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 DRAWN BY: EW
 CURRENT/ISSUE DATE: APR 2021

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ED101

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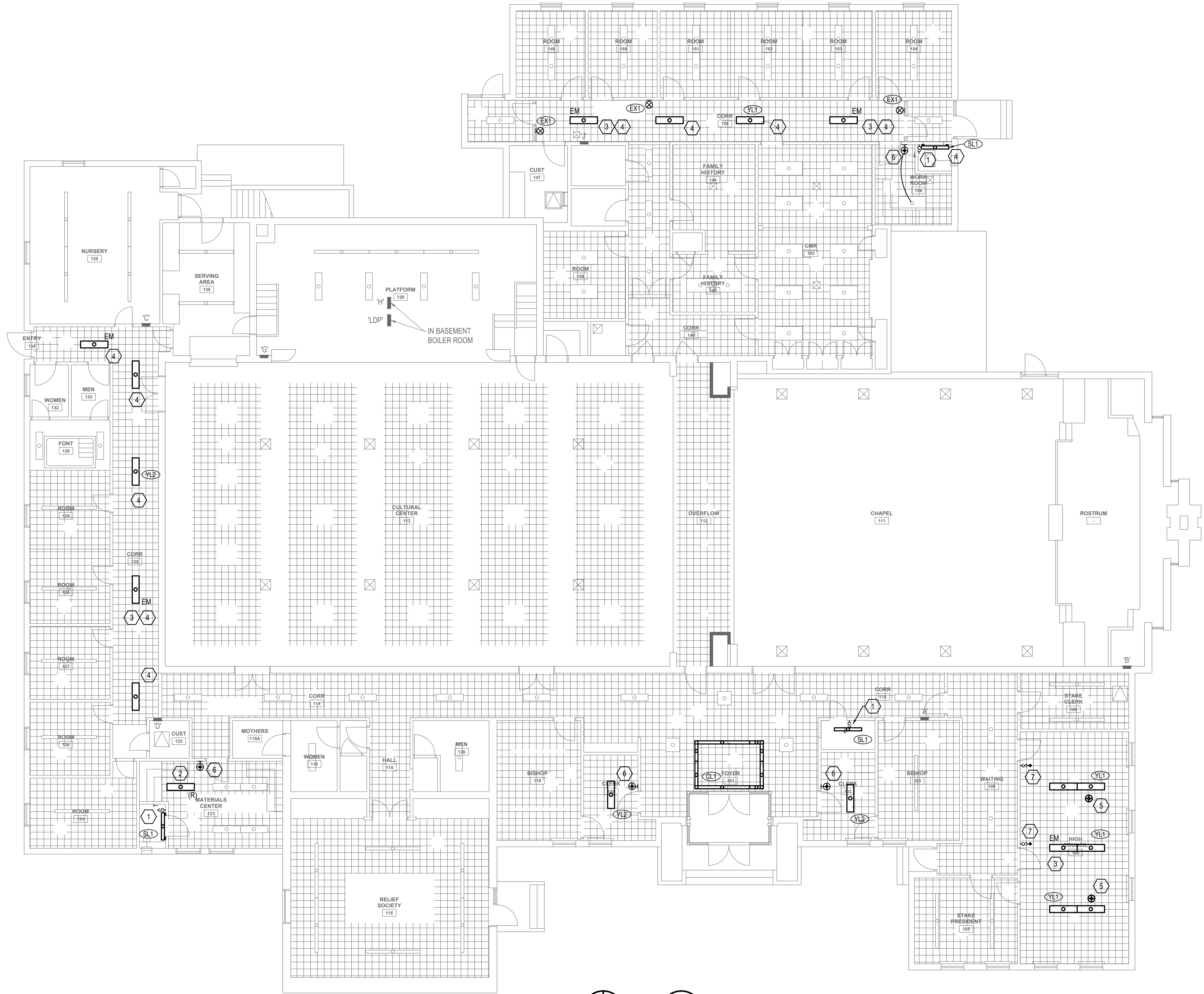
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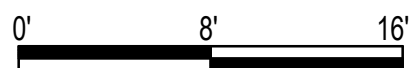
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1 MAIN LEVEL LIGHTING PLAN

EP101 SCALE: 1/8"=1'-0"



KEYED NOTES

- FURNISH AND INSTALL A 12 HOUR MAX TIMER SWITCH WITH BLINK AND BEEP WARNING EQUAL TO SENSOR SWITCH #PTS720. SET INITIAL TIME TO 2 HR. SENSOR SHALL NOT REQUIRE A MINIMUM LOAD REQUIREMENT.
- RELOCATE EXISTING LIGHT TO NEW LOCATION SHOWN. EXTEND CIRCUIT AS REQUIRED.
- PROVIDE AN EMERGENCY BATTERY PACK FOR EMERGENCY LIGHTS. FIXTURE SHALL DELIVER 1400 LUMENS MINIMUM UPON COMMERCIAL POWER FAILURE REGARDLESS OF CONTROL DEVICE POSITION. RUN AN UNSWITCHED HOT CONDUCTOR AHEAD OF THE SWITCHING DEVICE TO THE BATTERY PACK FROM THE SAME CIRCUIT AS NORMAL FIXTURE OPERATION. HATCHED AREAS ON LINEAR FIXTURES INDICATE EMERGENCY SECTION ON THE LUMINAIRE.
- EC TO TIE LIGHTS TO EXISTING CIRCUIT.
- FURNISH AND INSTALL A CEILING MOUNTED DUAL-TECHNOLOGY LOW VOLTAGE VACANCY SENSOR TO CONTROL THE LIGHTING IN THE SPACE. PROVIDE APPROPRIATE TYPE TO MATCH CEILING HEIGHT APPLICATION. LOCATE SENSOR IN SPACE FOR MAXIMUM COVERAGE. PROVIDE ADDITIONAL SENSORS AS NEEDED. SENSOR MANUFACTURER TO PROVIDE A LAYOUT SHOWING ADEQUATE COVERAGE OF EACH SPACE. IN AREAS WHERE MORE THAN ONE SENSOR IS NEEDED, DETECTION OF ANY OCCUPANCY BY ANY SENSOR IN THE SPACE WILL TURN LIGHTS ON IN THAT SPACE. INSTALL SENSOR A MINIMUM OF 3 FEET FROM DIFFUSER. PROVIDE CONDUIT, CONDUCTORS, POWER PACKS, ETC. FOR A COMPLETE INSTALLATION.
- FURNISH AND INSTALL A WALL BOX DUAL TECHNOLOGY OCCUPANCY SENSOR WITH VANDAL-RESISTANT LENS, AND ADJUSTABLE HORIZONTAL FIELD-OF-VIEW. SET INITIAL TIME DELAY TO 15 MINUTES. SET FINAL SETTINGS AS PER OWNER'S REQUIREMENTS.
- FURNISH AND INSTALL LOW VOLTAGE MOMENTARY SWITCH TURN ON LIGHTS IN THE ROOM THROUGH THE CEILING MOUNTED VACANCY SENSOR.

GENERAL NOTES

- EC SHALL COORDINATE WITH ALL OTHER TRADES DURING DEMOLITION AND CONSTRUCTION TO FACILITATE TIMELY WORK.
- ALL AREAS ARE TO BE KEPT CLEAN AND CLEAR OF DEBRIS AT ALL TIMES.
- CONTRACTOR SHALL PATCH AND REPAIR ALL WALLS, CEILINGS ETC. TO MATCH EXISTING CONDITIONS. PENETRATIONS SHALL BE SEALED WITH FIRE RATED CAULK.
- ROUTE ALL CONDUIT IN A NEAT AND ORDERLY FASHION. ALL CONDUIT SHALL BE CONCEALED ABOVE CEILINGS OR IN WALLS OR FINISHED SPACES UNLESS OTHERWISE INDICATED ON THE PLANS.
- CONTRACTOR TO COORDINATE WITH OWNER FOR ITEMS TO BE SALVAGED PRIOR TO DEMOLITION. CONTRACTOR RESPONSIBLE FOR DISPOSING OF ANY MATERIAL THAT THE OWNER DOES NOT WANT TO KEEP.
- CAP AND LABEL ALL EMPTY CONDUIT TO REMAIN.
- PROVIDE UPDATED TYPED PANEL SCHEDULES FOR PANELS AFFECTED BY THE SCOPE OF THIS WORK.
- ALL NEW BREAKERS SHALL MATCH EXISTING AIC RATINGS OF ITS CORRESPONDING PANEL WHERE IT IS INSTALLED.
- DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO REMAIN.
- CIRCUIT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT IN THE SPACE.
- RUN A SEPARATE UNSWITCHED HOT CONDUCTORS TO ALL EXIT AND EMERGENCY LIGHT FIXTURES.



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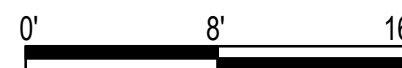
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1 MAIN LEVEL POWER PLAN

EP101 SCALE: 1/8"=1'-0"



KEYED NOTES

1. TIE MECHANICAL EQUIPMENT TO A DEDICATED BREAKER IN PANEL INDICATED. SEE MECHANICAL EQUIPMENT SCHEDULE FOR BREAKER AND WIRE SIZE. PROVIDE NEW BREAKER AS NEEDED. BREAKER SHALL MATCH EXISTING A.I.C. RATING.
2. PROVIDE CONVENIENCE OUTLET WITHIN 25' OF EQUIPMENT PER CODE AS REQUIRED. TIE TO NEAREST RECEPTACLE CIRCUIT WITH AVAILABLE CAPACITY.
3. LOCATE DISCONNECTS FOR NEW CONDENSING UNITS AT APPROXIMATE LOCATION SHOWN. COORDINATE LOCATIONS WITH MECHANICAL EQUIPMENT FOR PROPER CLEARANCES REQUIRED BY NEC.
4. TIE TO NEAREST LIGHTING CIRCUIT WITH AVAILABLE CAPACITY.

GENERAL NOTES

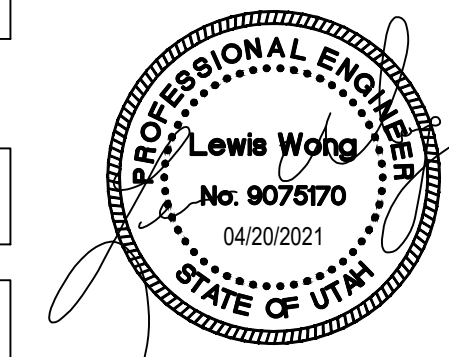
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- D. ROUTE ALL CONDUIT IN A NEAT AND ORDERLY FASHION. ALL CONDUIT SHALL BE CONCEALED ABOVE CEILING OR IN WALLS OR FINISHED SPACES UNLESS OTHERWISE INDICATED ON THE PLANS.
- E. CONTRACTOR TO COORDINATE WITH OWNER FOR ITEMS TO BE SALVAGED PRIOR TO DEMOLITION. CONTRACTOR RESPONSIBLE FOR DISPOSING OF ANY MATERIAL THAT THE OWNER DOES NOT WANT TO KEEP.
- F. CAP AND LABEL ALL EMPTY CONDUIT TO REMAIN.
- G. PROVIDE UPDATED TYPED PANEL SCHEDULES FOR PANELS AFFECTED BY THE SCOPE OF THIS WORK.
- H. ALL NEW BREAKERS SHALL MATCH EXISTING AIC RATINGS OF ITS CORRESPONDING PANEL WHERE IT IS INSTALLED.
- I. DISCONNECTS TO BE HEAVY DUTY AND SHALL BE LOCATED TO MEET NEC CLEARANCES. COORDINATE WITH EQUIPMENT LOCATIONS PRIOR TO ROUGH IN.
- J. DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO REMAIN.
- K. FURNISH AND INSTALL A CONVENIENCE OUTLET WITHIN 25' OF NEW EQUIPMENT IF NONE EXIST. TIE TO THE NEAREST 120V, 20A CIRCUIT THAT HAS AVAILABLE SPACE AND CAPACITY THAT IS NOT DEDICATED FOR EQUIPMENT.
- L. CIRCUIT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT IN THE SPACE.



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