

1 PARTIAL ROOF PLAN  
1/4"=1'-0"

**DRAWING NOTES**

- ROOFTOP EQUIPMENT LOCATIONS SHOWN ARE GENERAL. ACTUAL LOCATIONS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS.
- ROOF OPENINGS FOR ROOFTOP UNITS AND EXHAUST FANS SHALL BE COORDINATED WITH THE MANUFACTURER.
- ROOF OPENINGS FOR PIPE PORTALS SHALL ONLY BE LARGE ENOUGH TO ALLOW PIPE AND CONDUIT PENETRATIONS. PIPE PORTAL CURB SHALL BE FILLED WITH AS MUCH BATT INSULATION AS POSSIBLE.
- PRIOR TO INSTALLING THE TOP OF THE EQUIPMENT PLATFORM, INSIDE OF THE PLATFORM SHALL BE INSULATED WITH AS MUCH BATT INSULATION AS POSSIBLE.

**KEYED NOTES**

- M1 ARROW INDICATES DIRECTION OF EXHAUST FAN HINGE SWING (TYP.)
- M2 6"Ø ALUMINUM EXHAUST DUCT FROM EXHAUST FAN (EF-5). PROVIDE PORTALS PLUS PLASTI-FLASH WITH C-126 CAP (OR EQUAL) FOR ROOF PENETRATION. TERMINATE DUCT A MIN. OF 24" ABOVE FINISHED ROOF WITH GOOSENECK.
- M3 NOT USED
- M4 NOT USED
- M5 NOT USED
- M6 NOT USED
- M7 NOT USED
- M8 NOT USED
- M9 ROOF PIPE PORTAL FOR MAC UNIT
- M10 ROOF PIPE PORTAL FOR CONDENSING UNITS
- M11 ROOF PIPE PORTAL FOR ROOFTOP UNITS (TYP. 4 PLACES)
- M12 NOT USED
- M13 NOT USED
- M14 ARROW INDICATES DIRECTION OF AIRFLOW FOR CONDENSING OR ROOFTOP UNIT AIR INTAKE (TYP.)
- M16 PROVIDE HAIL GUARD FOR RTU-1 PROTECTING CONDENSER COILS FROM GREASE.
- M17 EXHAUST FANS WITH WINDBAND EXTENSION AND/OR RAISED CURBS TO PREVENT DIRECT GREASE BLOW ONTO CONDENSER COIL OF UNIT RTU-1.
- P1 NOT USED
- P2 PLUMBING VENT THROUGH ROOF (SEE PLUMBING DRAWINGS). PROVIDE PORTALS PLUS PLASTI-FLASH WITH C-126 CAP (OR EQUAL) FOR ROOF PENETRATION.
- P3 PRIMARY ROOF DRAIN WITH DOME STRAINER (TYP.) (SEE PLUMBING DRAWINGS)
- P4 OVERFLOW ROOF DRAIN WITH DOME STRAINER (TYP.) (SEE PLUMBING DRAWINGS)
- P5 AREA OF ROOF SERVED BY ROOF DRAIN (TYP.)
- P6 ROOFTOP UNIT CONDENSATE OUTLET (TYP.) FIELD OR FACTORY INSTALL CONDENSER DRAIN TRAP AND PIPING PER MANUFACTURER'S SPECIFICATIONS, DISCHARGE TO ROOF SURFACE, OR AS REQUIRED BY CODE.

**PIPE PORTAL SCHEDULE**

MANUFACTURER	CURB DIMENSIONS	CURB TYPE	CAP TYPE (QTY)	SERVES
RPS	12"x12"x11"H	RC-2A	N18 (1)	RTU-1 THROUGH RTU-4
RPS	43"x12"x13"H	RC-2A	N18 (3)	CU-1 THROUGH CU-4

**SEQUENCE OF OPERATION**

THERMOSTAT SETTINGS			
MODE	FAN	SETPOINTS	
		COOLING	HEATING
OCCUPIED	ON	75°F	70°F
UNOCCUPIED	AUTO	90°F	55°F
HUMIDITY SETPOINT (FOR DEHUMIDIFICATION UNITS ONLY)			60%

RTU-1, RTU-2, RTU-3, & RTU-4:  
 1. OCCUPIED MODE SHALL BEGIN AS FOLLOWS:  
 • RTU-1: 1.5 HOURS BEFORE OPEN  
 • RTU-2: 1 HOUR BEFORE OPEN  
 • RTU-3: 30 MINUTES BEFORE OPEN  
 • RTU-4: 30 MINUTES BEFORE OPEN

2. ROOFTOP UNIT FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE  
 3. ECONOMIZER SHALL BE OPEN DURING OCCUPIED MODE (OUTDOOR AIR THROUGH ROOFTOP UNITS SERVES AS MAKE-UP AIR FOR THE KITCHEN EXHAUST SYSTEM) - REFER TO E3.2 FOR HOOD/FAN INTERLOCK DETAILS.  
 4. UNOCCUPIED MODE SHALL BEGIN ONE (1) HOUR AFTER STORE CLOSES  
 5. DURING UNOCCUPIED MODE, ECONOMIZER IS CLOSED AND HEATING, COOLING AND FAN OPERATE IN AUTO MODE (ON DEMAND)

PREPARED FOR: **McDonald's USA, LLC**  
 2124 E. 34th Street  
 Bentonville, AR 72713  
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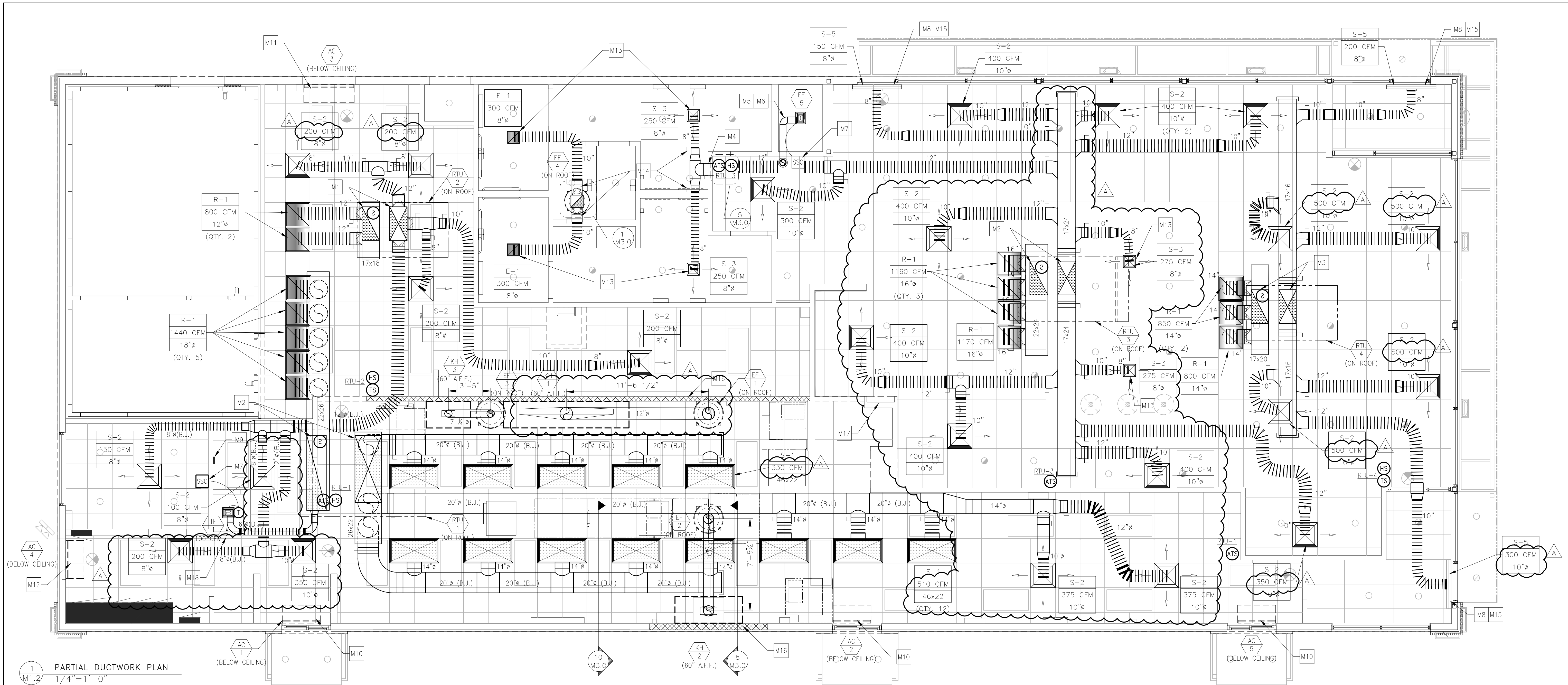
ENGINEER OF RECORD:  
**DAVID MICHAEL LEFFLER**  
 PROFESSIONAL ENGINEER  
 NUMBER: PE23010214  
 EXPIRES: 08/25/2025

DATE: 08/25/23  
 REV: A  
 DESCRIPTION: ES  
 BY: ES

TITLE: 2022 STANDARD BUILDING - BB20  
 45114-WOOD/WOOD  
 DESCRIPTION: WOOD BEARING WALLS W/HARDBOARD SIDING  
 WOOD ROOF TRUSS FRAMING  
 EIFS/BATTEN/ACM PANEL/HARDBOARD SIDING  
 SITE ID: 024-1289  
 1000 S Main Street  
 SALEM, MO

SHEET NO. **M1.0**  
 PARTIAL ROOF PLAN

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1  
M1.2  
PARTIAL DUCTWORK PLAN  
1/4" = 1'-0"

### DRAWING NOTES

1. ALL DUCTWORK SHALL BE RUN BETWEEN OR THROUGH THE JOISTS UNLESS NOTED OTHERWISE. DUCTWORK DESIGNATED WITH (B.J.) SHALL BE RUN BELOW THE JOISTS.
2. DUCT SIZES SHOWN ARE INTERNAL FREE AREA DIMENSIONS UNLESS NOTED OTHERWISE.
3. ALL SHEET METAL DUCTWORK SHALL BE EXTERNALLY INSULATED. INSULATION IS NOT SHOWN FOR CLARITY. SEE MECHANICAL NOTES FOR INSULATION REQUIREMENTS.
4. CARBON STEEL KITCHEN EXHAUST DUCTWORK SHALL BE EXTERNALLY INSULATED. INSULATION NOT SHOWN FOR CLARITY. SEE MECHANICAL NOTES AND DETAILS FOR INSULATION REQUIREMENTS.
5. RETURN AIRFLOW VOLUME SHOWN ON PLAN IS FOR DUCTWORK SIZING PURPOSES WHEN THE UNIT IS IN RECIRCULATION (UNOCCUPIED) MODE.
6. DIFFUSERS IN DINING ROOM ARE SPECIFIC TO THE DECOR PLAN SHOWN. DIFFERENT CEILING LAYOUTS MAY REQUIRE A DIFFERENT DIFFUSER TYPES, QUANTITIES, LOCATIONS AND FINISHES/COLORS.

### KEYED NOTES

- |     |   |
|-----|---|
| M1  | 17x33 SUPPLY AND 17x33 RETURN DUCT DROPS FROM ROOFTOP UNIT (RTU-2 & RTU-4)  |
| M2  | 26x63 SUPPLY AND 19x73 RETURN DUCT DROPS FROM ROOFTOP UNIT (RTU-1)  |
| M3  | 17x33 SUPPLY AND 17x33 RETURN DUCT DROPS FROM ROOFTOP UNIT (RTU-3)  |
| M4  | PROVIDE SHEET METAL DUCT AT ALL DRAFTSTOP WALL PENETRATIONS (TYP.) (WHERE REQUIRED BY CODE.)  |
| M5  | 6"Ø ALUMINUM DUCT FROM EXHAUST FAN UP THROUGH ROOF  |
| M6  | EXTERNALLY INSULATE EXHAUST DUCT FROM FAN TO ROOF PENETRATION   |
| M7  | STEADY STATE SPEED CONTROLLER FOR CEILING MOUNTED EXHAUST FAN. STEADY STATE SPEED CONTROLLER SHALL BE INSTALLED OVER SUSPENDED CEILING FOR ACCESS. DO NOT INSTALL OVER AREAS WITH DRYWALL CEILINGS.                     |
| M8  | SET DIFFUSER (S-5) FOR VERTICAL AIR THROW PATTERN (TYP.)  |
| M9  | BUILDING AUTOMATION SYSTEM LOCATION. SEE LIGHTING CONTROL DETAILS ON SHEET E4.1.  |
| M10 | MOUNT AIR CURTAIN TIGHT TO CEILING  |
| M11 | MOUNT AIR CURTAIN WITH BOTTOM OF UNIT AT TOP OF DOOR FRAME  |
| M12 | MOUNT AIR CURTAIN WITH BOTTOM OF UNIT ABOVE DOOR FRAME AND TOP OF SWITCHGEAR TO MEET 3'-0" MINIMUM SWITCHGEAR'S CLEARANCE REQUIREMENT   |
| M13 | FOR DIFFUSERS INSTALLED IN DRYWALL CEILINGS, VOLUME DAMPER IS INTEGRAL TO DIFFUSER AND ADJUSTABLE AT FACE OF DIFFUSER (SEE NOTE 18 UNDER "VENTILATION SYSTEMS" ON DRAWING M4.0 AND AIR DEVICE SCHEDULE ON DRAWING M4.1) |
| M14 | FOR DIFFUSERS INSTALLED IN DRYWALL CEILINGS, INSTALL HIGH-EFFICIENCY TAKE-OFFS WITH VOLUME DAMPER IN FULL-OPEN POSITION TO FACILITATE BALANCING AT FACE OF DIFFUSER.  |
| M15 | GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL T-BAR FRAME TO PROPERLY LOCATE DIFFUSER AS SHOWN. AIR STREAM FROM DIFFUSER SHALL COVER ENTIRE DOOR OPENING.   |
| M16 | NONCOMBUSTIBLE WALL CONSTRUCTION BEHIND TYPE I KITCHEN HOODS. REFER TO SHEET A1.0 FOR MORE INFORMATION.   |
| M17 | CONTRACTOR TO PROVIDE LOUVERED RETURN AIR BEHIND EACH RECESSED MENU BOARD.  |
| M18 | DOOR UNDERCUT TRANSFER AIR TO CLOSET (100 CFM)  |

### 2015 IMC SECTION 403.3 - VENTILATION SCHEDULE

UNIT	AREA SERVED	AREA FT² (Az)	CFM/PERSON (Rp)	CFM/FT² (Ra)	PEOPLE OR PEOPLE/1000 FT² (Pz)	UNCORRECTED REQUIRED O/A CFM (Vbz)	Ez*	Ev**	REQUIRED O/A CFM (Vot)***	ACTUAL O/A CFM	REQUIRED EXHAUST CFM	ACTUAL EXHAUST CFM
RTU-1	PRESENTER	387	5	0.06	4	44	0.8	0.98	-	-	-	-
	KITCHEN	726	7.5	0.18	18	-	0.8	-	-	-	-	-
RTU-2	SUPPORT	618	0	0.12	0	74	0.8	-	-	-	-	-
	MANAGER'S OFFICE	60	5	0.06	1	9	0.8	0.84	-	-	-	-
	CREW ROOM	99	5	0.06	5	31	0.8	-	-	-	-	-
	ORDER	147	5	0.06	7	46	0.8	-	-	-	-	-
RTU-3	DINING	1400	7.5	0.18	98	987	0.8	0.89	189	350	-	-
	WOMEN'S	197	0	0.06	0	12	0.8	-	-	-	-	-
	MEN'S	166	0	0.06	0	10	0.8	-	-	-	-	-
RTU-4	FRONT DINING	350	7.5	0.18	25	247	0.8	0.96	-	-	-	-
	VESTIBULE 1	89	0	0.06	0	5	0.8	-	-	-	-	-
	VESTIBULE 2	50	0	0.06	0	3	0.8	-	-	-	-	-
EF-1, 2 & 3	KITCHEN	726	-	0.7	-	-	-	-	-	-	508	2615
EF-4	WOMEN'S	197	-	-	-	-	-	-	-	-	150	300
	MEN'S	166	-	-	-	-	-	-	-	-	150	300
EF-5	JANITOR'S CLOSET	19	-	-	-	-	-	-	75	50	75	-
										350	675	

\* Zone Air Distribution Effectiveness Based on ASHRAE 62.1 Table 6.2 for Ceiling Supply of Warm Air 15° F or More Above Space Temperature and Ceiling Return (IMC Table 403.3.1.2)  
 \*\* Ventilation System Efficiency Based on ASHRAE 62.1 Table 6.3 and Section 6.2.5 (IMC Section 403.3.2.3 MZ)  
 \*\*\* Corrected Required O/A Intake Required for System Calculated Based on ASHRAE 62.1 Section 6.2 (IMC Section 403.3)

### AIR BALANCE SCHEDULE

UNIT	SUPPLY AIR	RETURN AIR	OUTDOOR AIR	EXHAUST AIR	PRESSURE
RTU-1	7200	5900	1300	1300	
RTU-2	1600	1250	350	350	
RTU-3	4650	3550	1100	1100	
RTU-4	2500	1810	690	690	
EF-1				1350	-1350
EF-2				785	-785
EF-3				480	-480
EF-4				600	-600
EF-5				75	-75
TOTALS	15950	12510	3440	3290	150

- NOTES:
1. BALANCING TOLERANCES ARE AS FOLLOWS:  
 HOODS: 0% TO +10%  
 OUTDOOR AIR: 0% TO +10%  
 SUPPLY AND RETURN AIR DIFFUSERS: -10% TO +10%  
 TOILET EXHAUST AIR: -10% TO +10%
  2. BALANCE ROOFTOP UNIT SUPPLY AND RETURN AIR PRIOR TO TURNING ON EXHAUST FANS.
  3. EXHAUST HOODS SHALL BE BALANCED WITH A 4" VANE ANEMOMETER.
  4. RTU BLOWER TO RUN CONTINUOUSLY DURING OCCUPIED HOURS. REFER TO SEQUENCE OF OPERATIONS ON M1.0 AND E3.2 FOR HOOD/FAN INTERLOCK DETAILS.

### HEATING SCHEDULE

EQUIPMENT	INPUT (kW)	OUTPUT (BTU/HR)	REQUIRED HEAT (BTU/HR)
ROOFTOP UNIT (RTU-1)	54	138,308	124,050
ROOFTOP UNIT (RTU-2)	17	45,128	44,261
ROOFTOP UNIT (RTU-3)	54	138,308	136,379
ROOFTOP UNIT (RTU-4)	27	92,180	58,516
TOTALS	152	413,924	363,206

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PREPARED BY: **CORE STATES GROUP**

ENGINEER OF RECORD: **DAVID MCAN LEVIGER**

212 E. Main Street  
Birmingham, AL 35203  
www.corestates.com

DATE: 08/25/2023

REV: A

DESCRIPTION: PARTIAL DUCTWORK PLAN

2022 STANDARD BUILDING - BB20

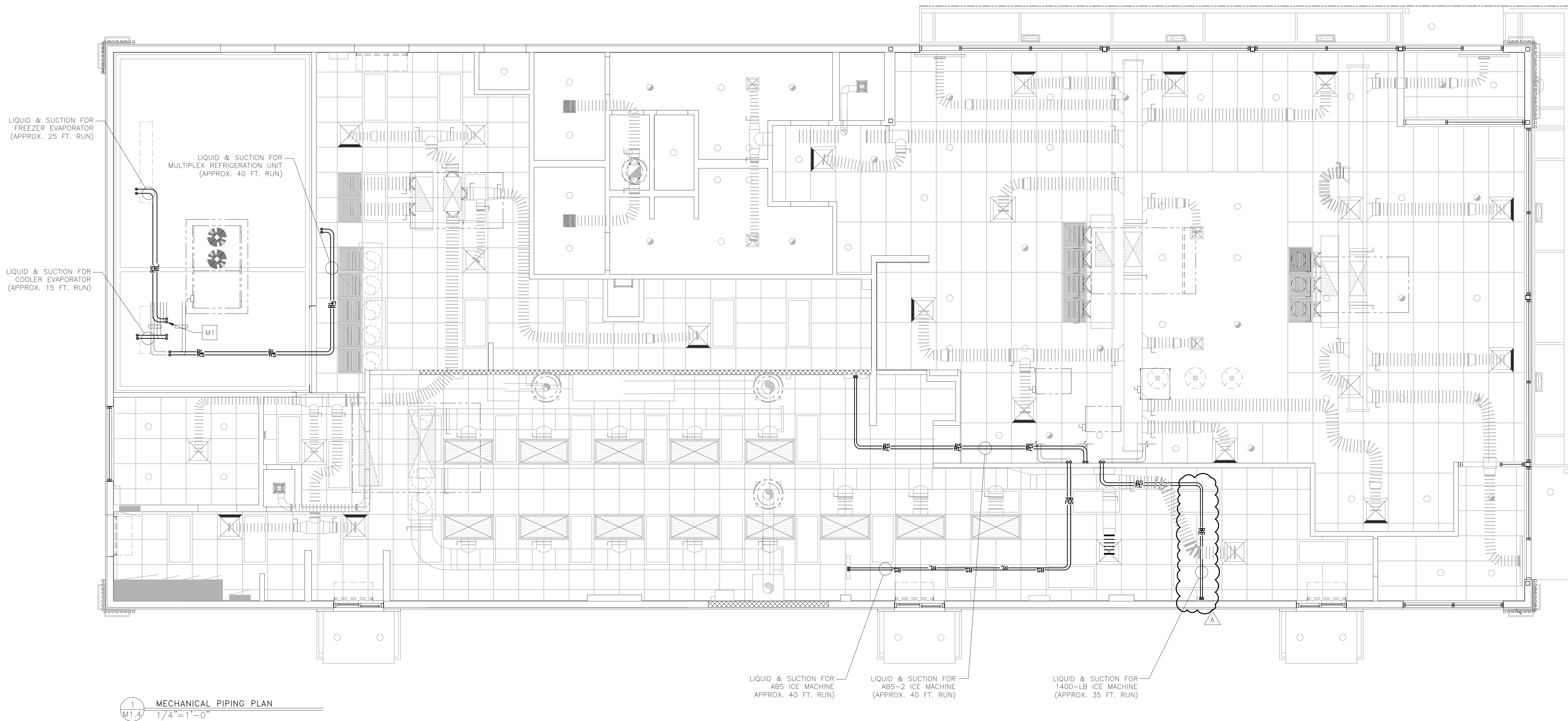
45114 - WOOD/WOOD

WOOD BEARING WALLS W/HARDE BOARD SIDING  
WOOD ROOF TRUSS FRAMING  
E/F5/BATTEN/ACM PANEL/HARDE BOARD SIDING

24-1289.00.0

**M1.2**

1000 S Main Street  
SALEM, MO  
024-1289



1  
M1.4 MECHANICAL PIPING PLAN  
1/4"=1'-0"

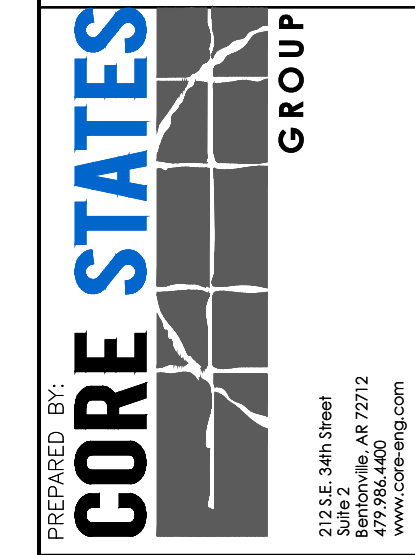
**DRAWING NOTES**

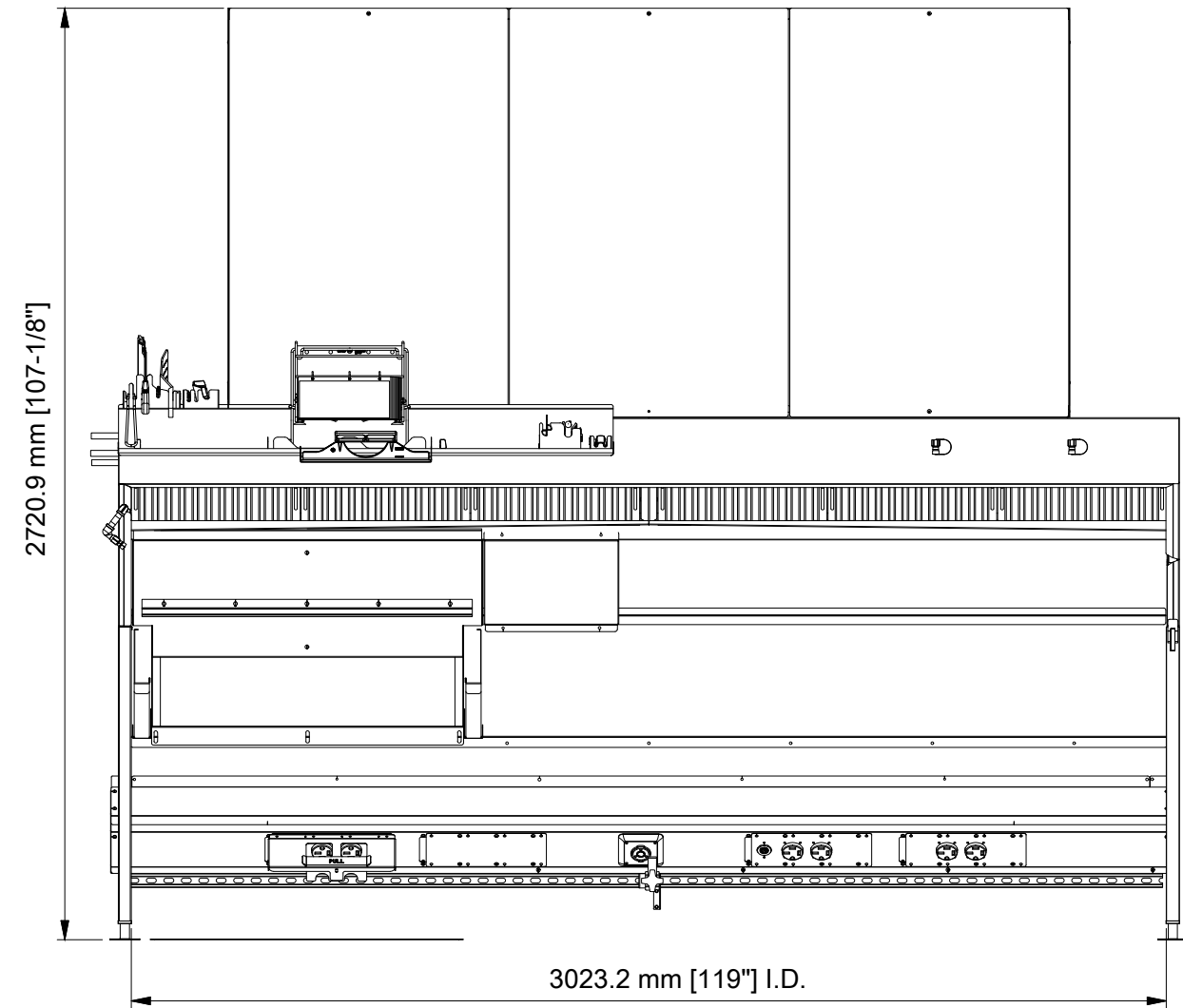
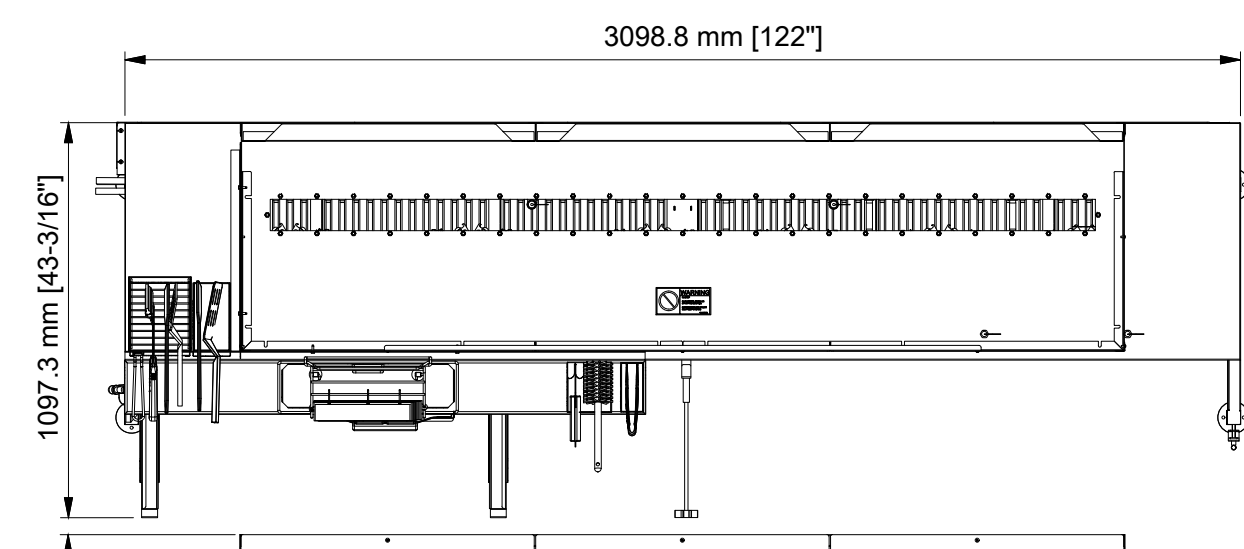
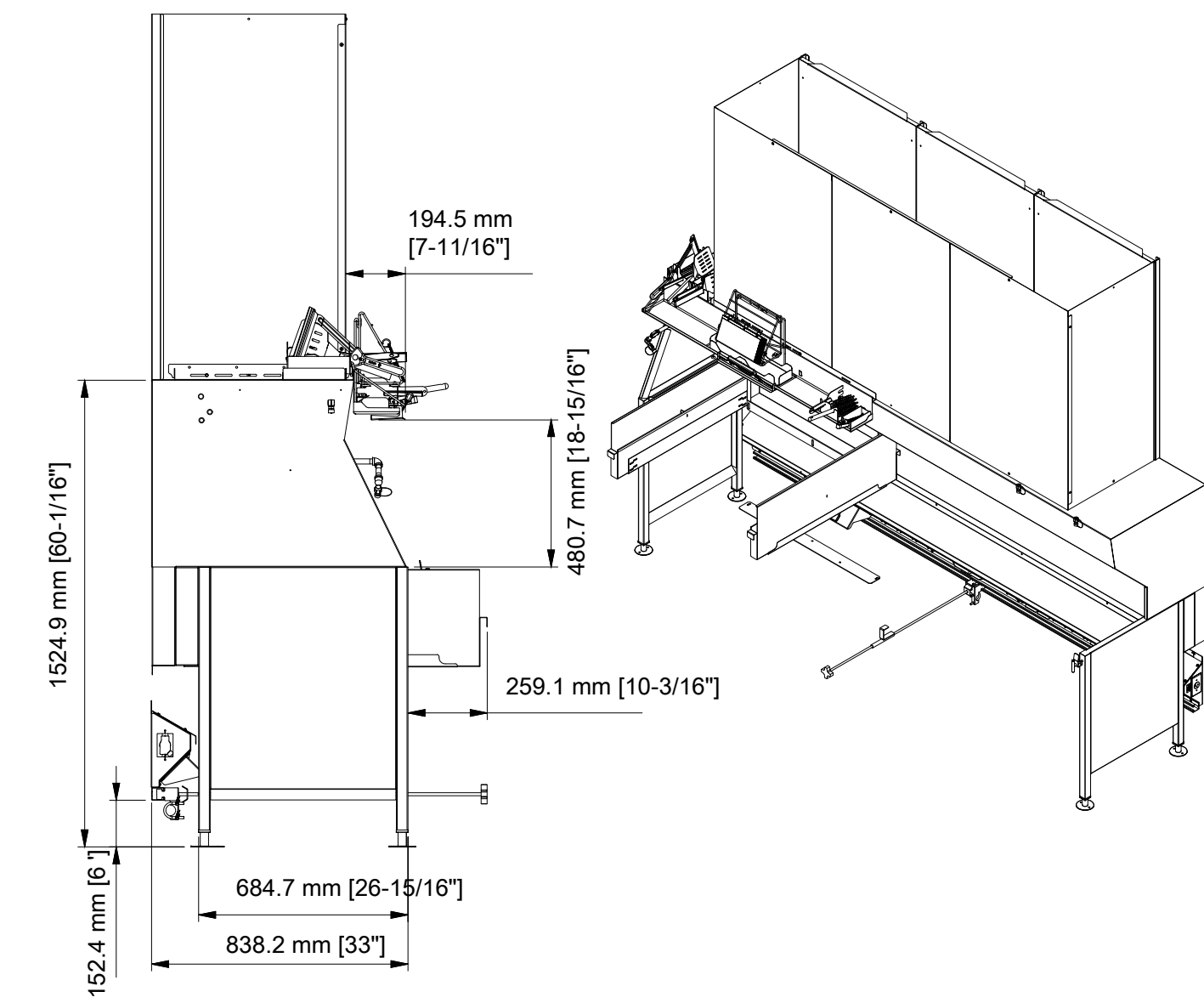
1. REFRIGERANT PIPE SIZES SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

**KEYED NOTES**

M1 REFRIGERANT LIQUID AND SUCTION LINES UP THROUGH ROOF TO CONDENSING UNITS (TYP. 6 PLACES - SEE DETAIL 3 ON DRAWING M3.0)

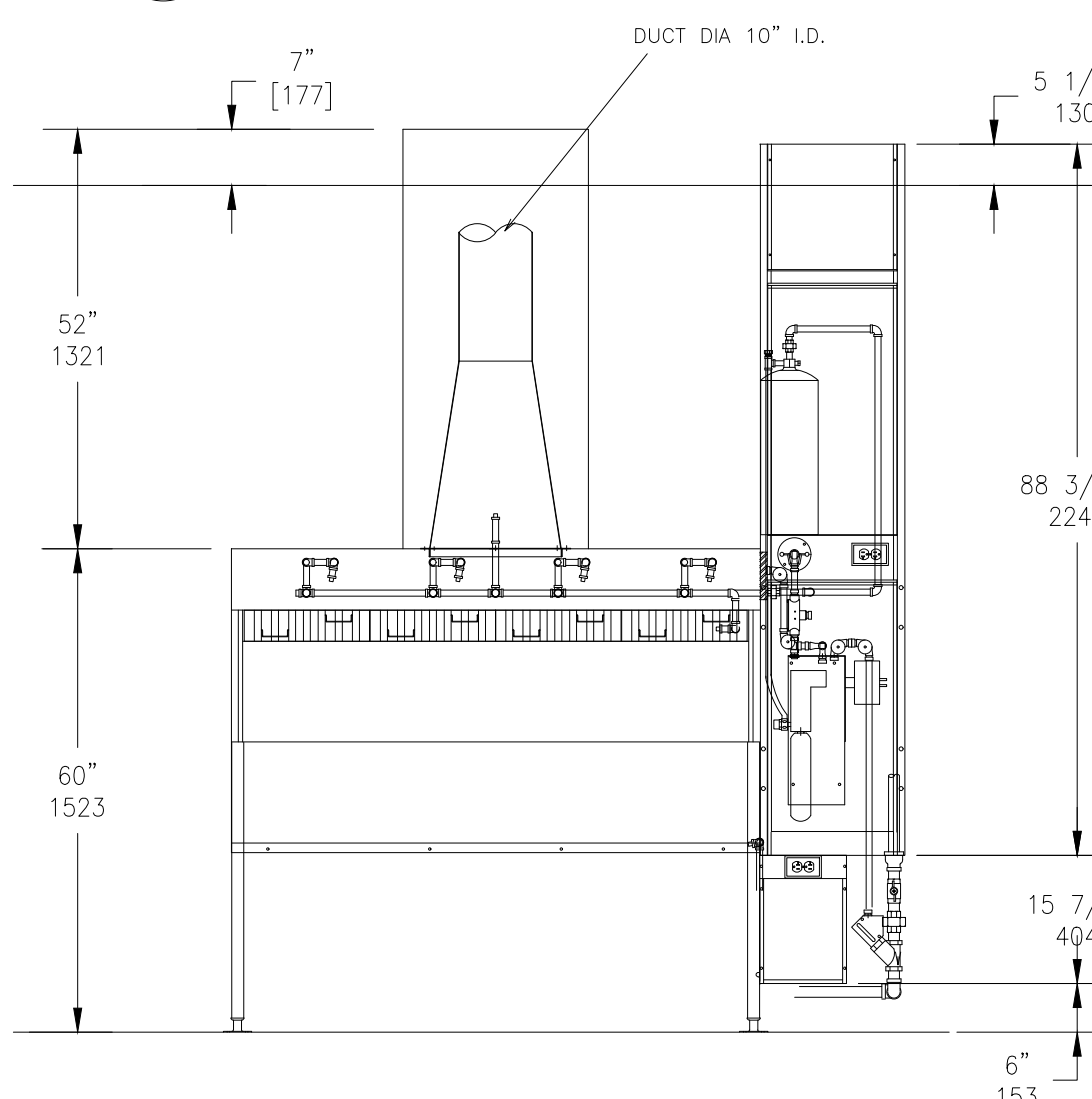
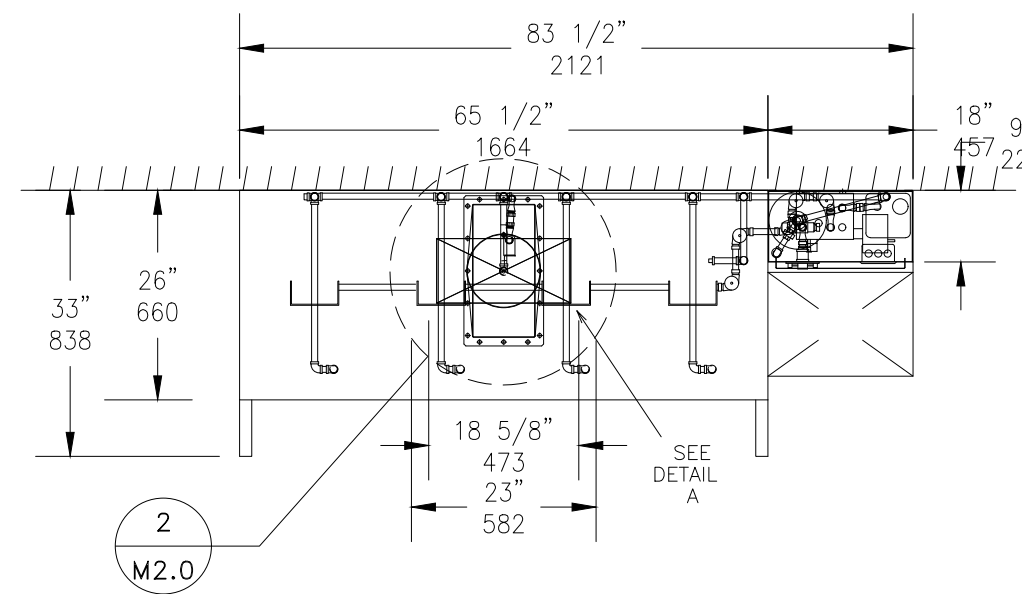
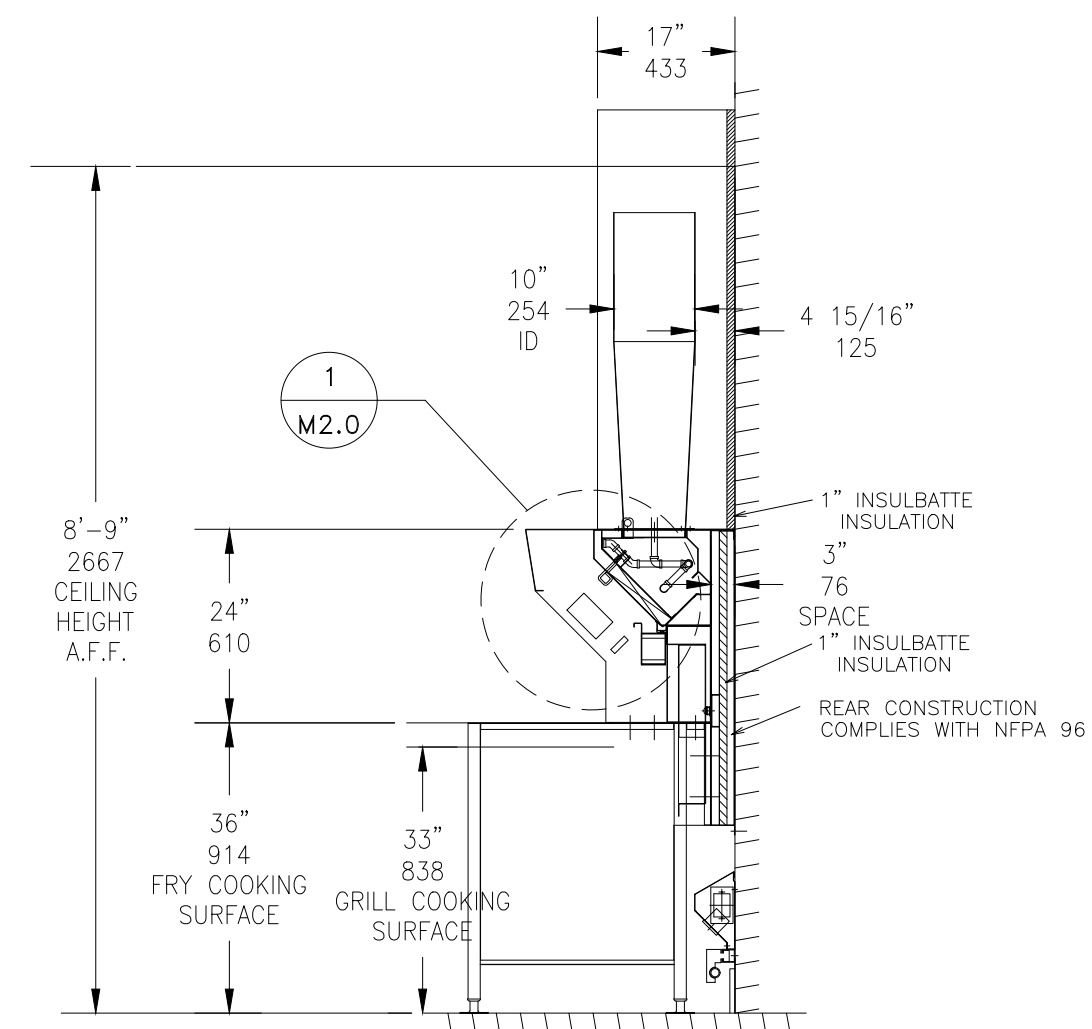
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SHEET NO.	45114-WOOD/WOOD	
DESCRIPTION	WOOD BEARING WALLS W/HARDE BOARD SIDING WOOD ROOF TRUSS FRAMING EPS/BATTEN/ACM PANEL/HARDE BOARD SIDING	
DATE ISSUED	10-21-2022	
REVIEWED BY	D. BEFFER	
STD ISSUE DATE	2022_08	
DRAWN BY	ES	
PREPARED BY:	<p>© 2023 McDonald's USA, LLC</p> <p><b>McDonald's USA, LLC</b></p> <p>These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared not suitable for use on a different site or at a later time. Use of these drawings for reference or example on another project requires the the contract documents for reuse on another project is not authorized.</p>	
ENGINEER OF RECORD:	<p>DAVID MCAH LESTER</p> <p>NUMBER PC20190214</p> <p>PROFESSIONAL ENGINEER</p> <p>08/25/2023</p>	
REV	A	08/25/23
DATE		
DESCRIPTION	ESE UPDATE	ES
BY		





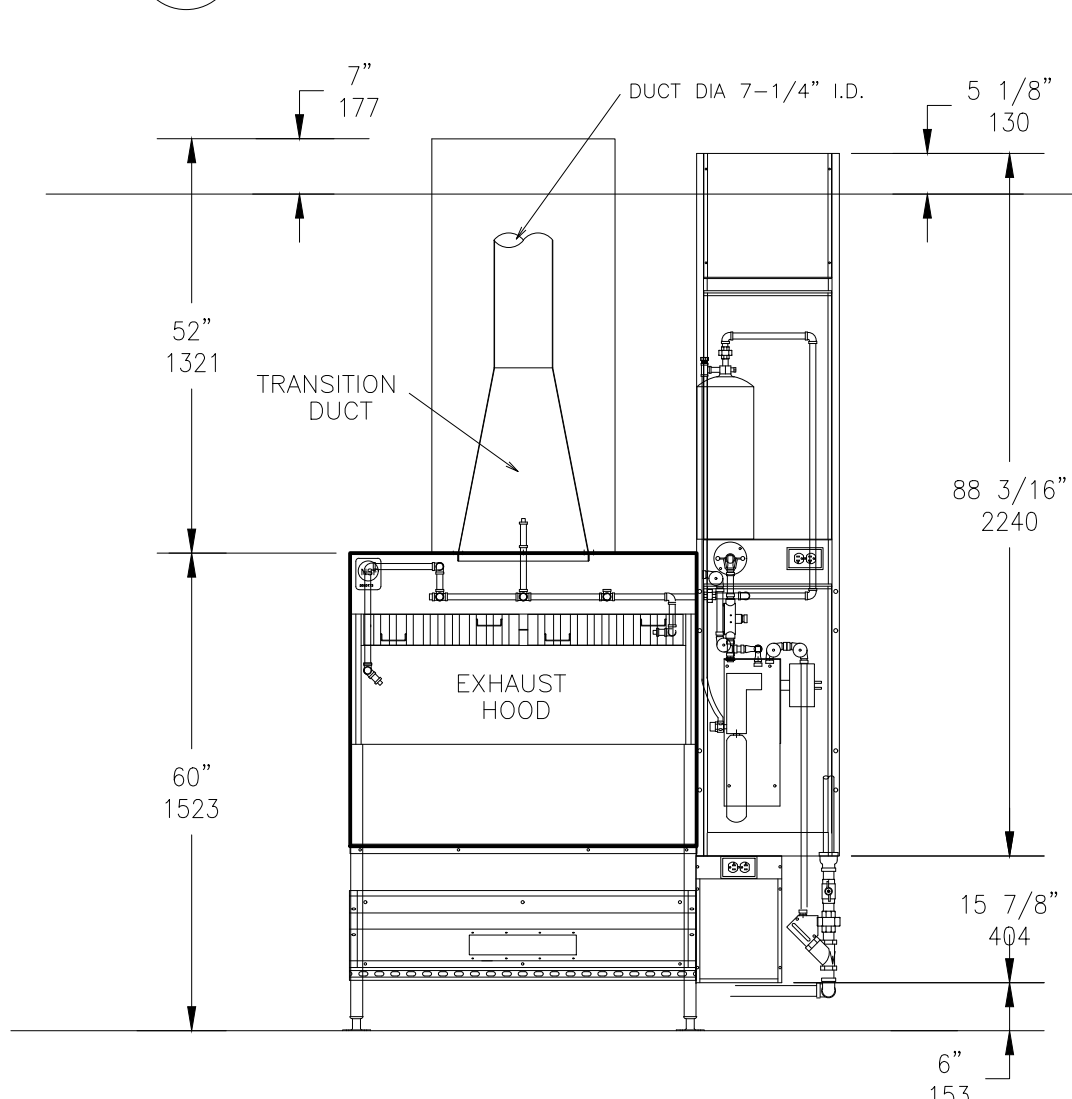
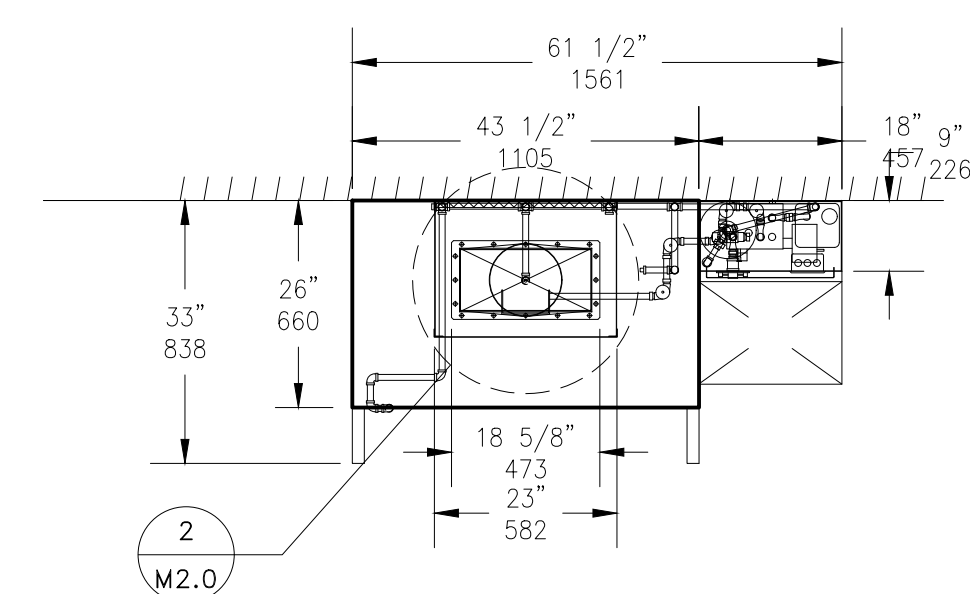
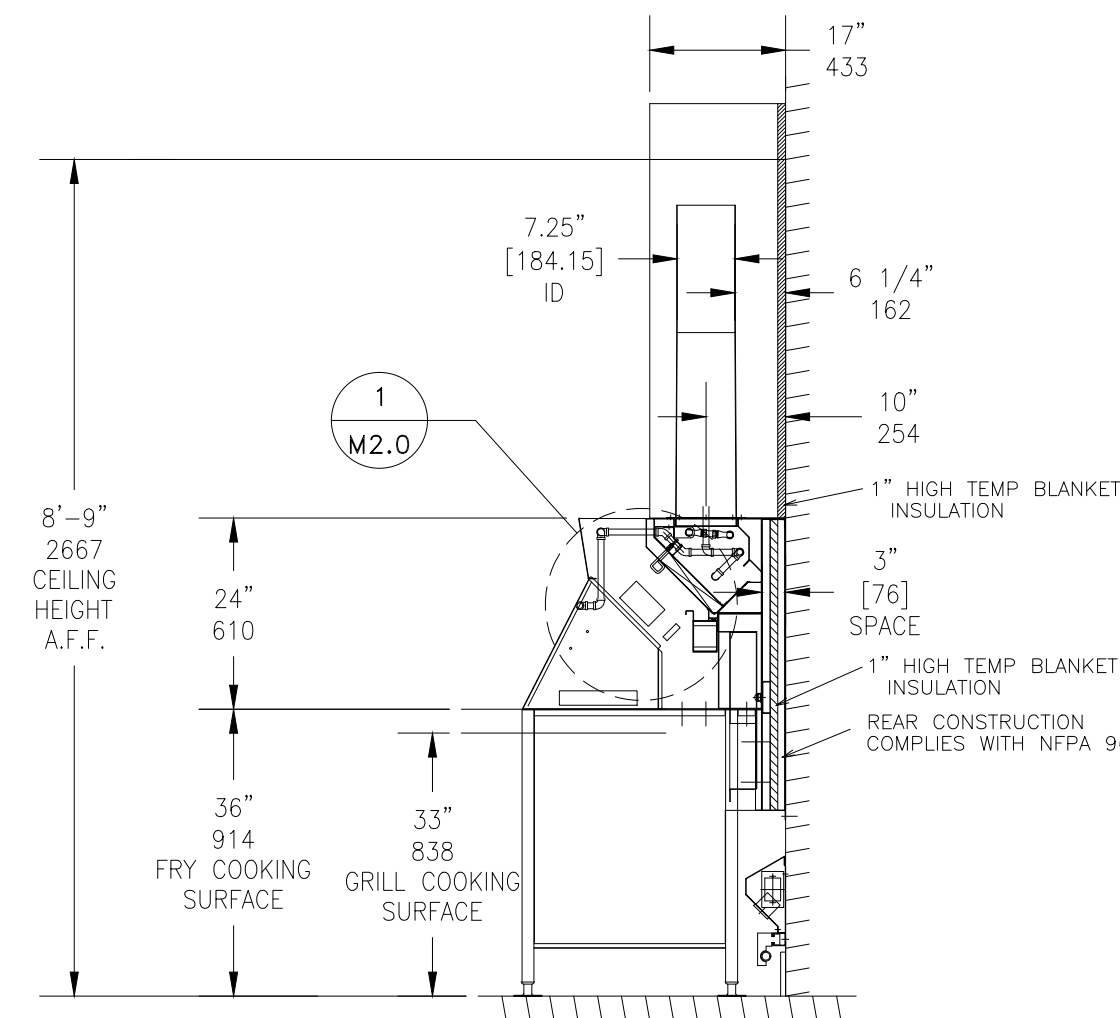
**KITCHEN EXHAUST HOOD**

TAG: KH-1 (SEE KITCHEN EXHAUST HOOD SCHEDULE)  
SCALE: 1/2"=1'-0"



**KITCHEN EXHAUST HOOD**

TAG: KH-2 (SEE KITCHEN EXHAUST HOOD SCHEDULE)  
SCALE: 1/2"=1'-0"



**KITCHEN EXHAUST HOOD**

TAG: KH-3 (SEE KITCHEN EXHAUST HOOD SCHEDULE)  
SCALE: 1/2"=1'-0"

**McDONALD'S CORPORATION**  
OAK BROOK, ILLINOIS 60521

EQUIP. ID.	EXHAUST HOOD: UK SERIES	MANUF. ID.	MANUF. ID.	MANUF. ID.	MANUF. ID.	MANUF. ID.	MANUF. ID.	MANUF. ID.	MANUF. ID.
LENGTH OF HOOD	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW	EXHAUST AIR FLOW
36" (914)	130 (12.7)	130 (12.7)	130 (12.7)	130 (12.7)	130 (12.7)	130 (12.7)	130 (12.7)	130 (12.7)	130 (12.7)
36" (914)	140 (13.0)	140 (13.0)	140 (13.0)	140 (13.0)	140 (13.0)	140 (13.0)	140 (13.0)	140 (13.0)	140 (13.0)
36" (914)	150 (14.0)	150 (14.0)	150 (14.0)	150 (14.0)	150 (14.0)	150 (14.0)	150 (14.0)	150 (14.0)	150 (14.0)
36" (914)	160 (15.0)	160 (15.0)	160 (15.0)	160 (15.0)	160 (15.0)	160 (15.0)	160 (15.0)	160 (15.0)	160 (15.0)
36" (914)	170 (16.0)	170 (16.0)	170 (16.0)	170 (16.0)	170 (16.0)	170 (16.0)	170 (16.0)	170 (16.0)	170 (16.0)

FOR USE OVER COMMERCIAL GAS OR ELECTRIC COOKING EQUIPMENT UP TO 200 BTU PER HOUR (EXCEPT UPPER PLATES OF 2000 BTU COOKERS MAY BE UP TO 400 BTU PER HOUR).

22.5" MINIMUM CLEARANCE FROM COOKING SURFACE TO FRONT LOWER EDGE OF HOOD.

2" MINIMUM CLEARANCE FROM COOKING SURFACE TO REAR LOWER EDGE OF HOOD.

3" MINIMUM SIDE HOOD OVERHANG FROM EDGE OF COOKING SURFACE TO REAR HOOD BATTEN/ADM PANEL/HARDIE BOARD SIDING SURFACE.

THESE HOODS ARE LISTED FOR DIRECT REAR MOUNTING ON A COMBUSTIBLE SURFACE.

HOODS MAY BE INSTALLED WITH DUCTS OR BEP DIRECTLY ON TOP OF HOOD ASSEMBLY.

HOODS SHALL BE OPERATED UNDER THE HOOD EXTENSION SIDE PANEL (REMOVABLE OR INTERNAL) MUST BE MAINTAINED AT ALL TIMES.

HOODS SHALL ONLY BE REPLACED WITH FILTERS TESTED TO UL 1006.8 STANDARDS FOR USE OF HOODS. HOODS SHALL BE REPLACED OR MAINTAINED ONLY BY THE REMOVABLE SIDE PARTS WILL BE INDIVIDUALLY MARKED AS FOLLOWS: UK 1006.8 (10-11).

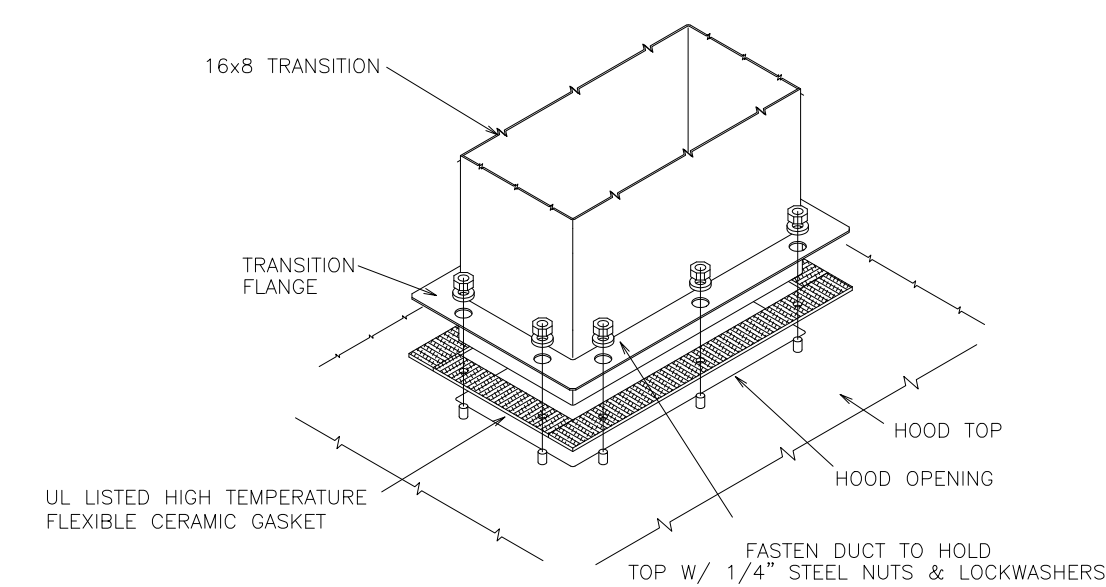
THESE HOODS ARE LISTED FOR COMPLIANCE WITH ICCB, ICCA, AND ICCB PER NISSA.

THESE HOODS MUST BE INSTALLED PER IHPAAS.

**Intertek**  
4001095

**EXHAUST HOOD WITHOUT EXHAUST DAMPERS (COA #5535)**

DETAIL  
UL LABEL  
SCALE: NONE



DETAIL  
HOOD CONNECTION  
SCALE: NONE

**DRAWING NOTES**

- 16 GA. STAINLESS STEEL MATERIAL USED FOR HOOD CONSTRUCTION
- FILTER BAFFLE:  
UL FILE R14372, VOL. 1, SEC. 1  
UL CONTROL NUMBER 5L65  
MEA-446-92-M
- EXHAUST HOOD:  
UL FILE MH12755, VOL. 4  
UL CONTROL NUMBER 78L1
- UTILITY CHASE AND RACEWAY:  
UL FILE E163328, VOL.1, SEC.3
- HIGH TEMP GASKET:  
UL FILE MH12755, VOL. 2, SEC. 1, ILL. 9
- HOOD CONSTRUCTION COMPLIES WITH NSF STANDARD 2
- HOOD PERFORMANCE TESTED IN ACCORDANCE WITH UL 710
- UL 300 AND NFPA 17A COMPLIANT R-102 WET CHEMICAL SYSTEM INCLUDED WITH HOOD INSTALLATION
- ANSUL CONNECTIONS AND STARTUP BY APPROVED ANSUL REPRESENTATIVE
- REFER E3.2 FOR HOOD/FAN INTERLOCK DETAILS
- CAPTURE JET PLENUMS ARE TO BE ATTACHED WHEN CALLED OUT PER KITCHEN SCHEDULE.

TITLE	2022 STANDARD BUILDING - BB20	DATE	2022-08
DESCRIPTION	45114-WOOD/WOOD	REVIEWED BY	D. BECKER
DESCRIPTION	WOOD BEARING WALLS W/HARDIE BOARD SIDING	DATE ISSUED	10-21-2022
DESCRIPTION	WOOD ROOF TRUSS FRAMING	DATE ISSUED	10-21-2022
DESCRIPTION	EFP/BATTEN/ADM PANEL/HARDIE BOARD SIDING	DATE ISSUED	10-21-2022
DESCRIPTION	SITE ADDRESS	1000 S Main Street	SALEM, MO
DESCRIPTION	024-1289	1000 S Main Street	SALEM, MO
DESCRIPTION	24-1289.00.0	1000 S Main Street	SALEM, MO
DESCRIPTION	M2.0	1000 S Main Street	SALEM, MO
DESCRIPTION	EXHAUST HOODS	1000 S Main Street	SALEM, MO

ENGINEER OF RECORD:

**DAVID MCALISTER**

PROFESSIONAL ENGINEER

NUMBER: PE20100214

EXPIRES: 08/25/2025

PREPARED BY:

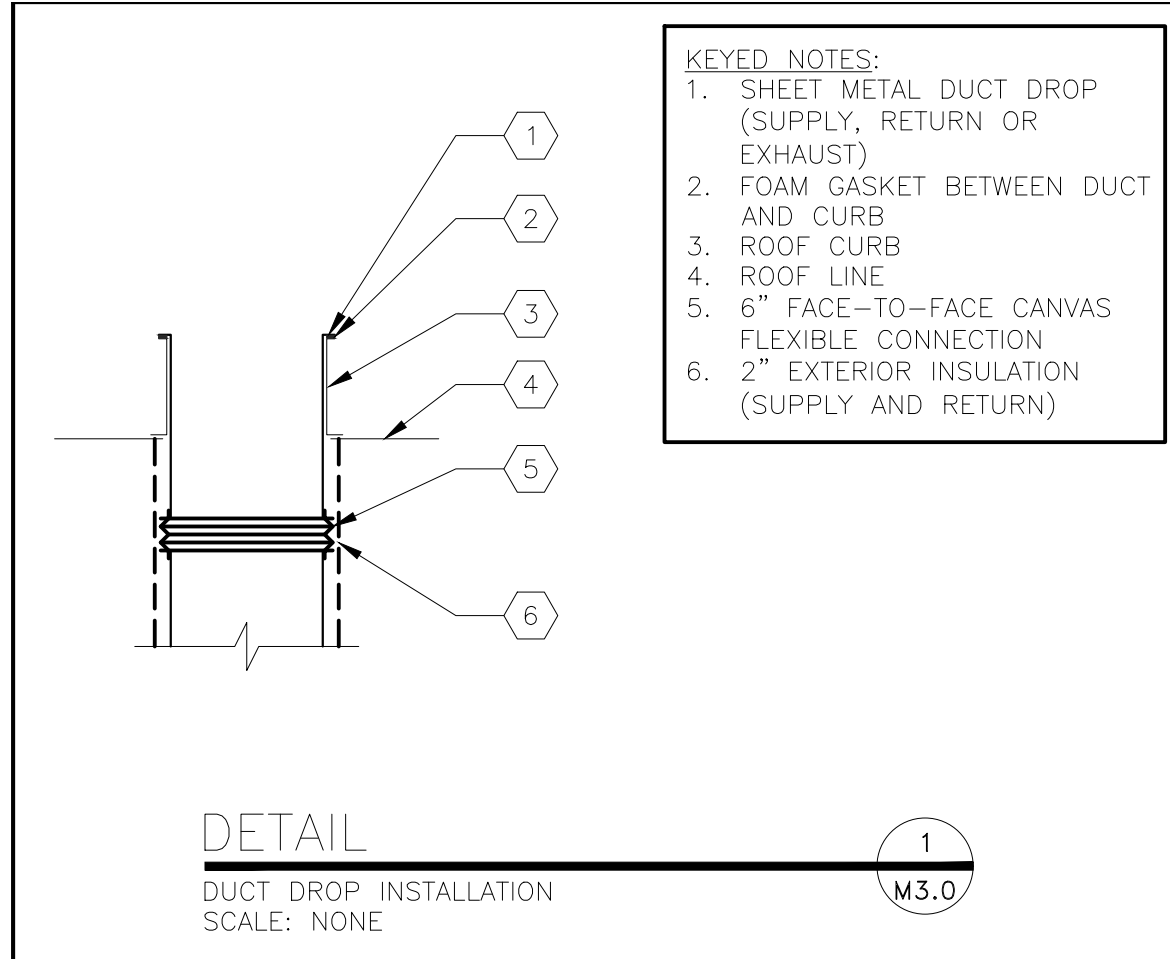
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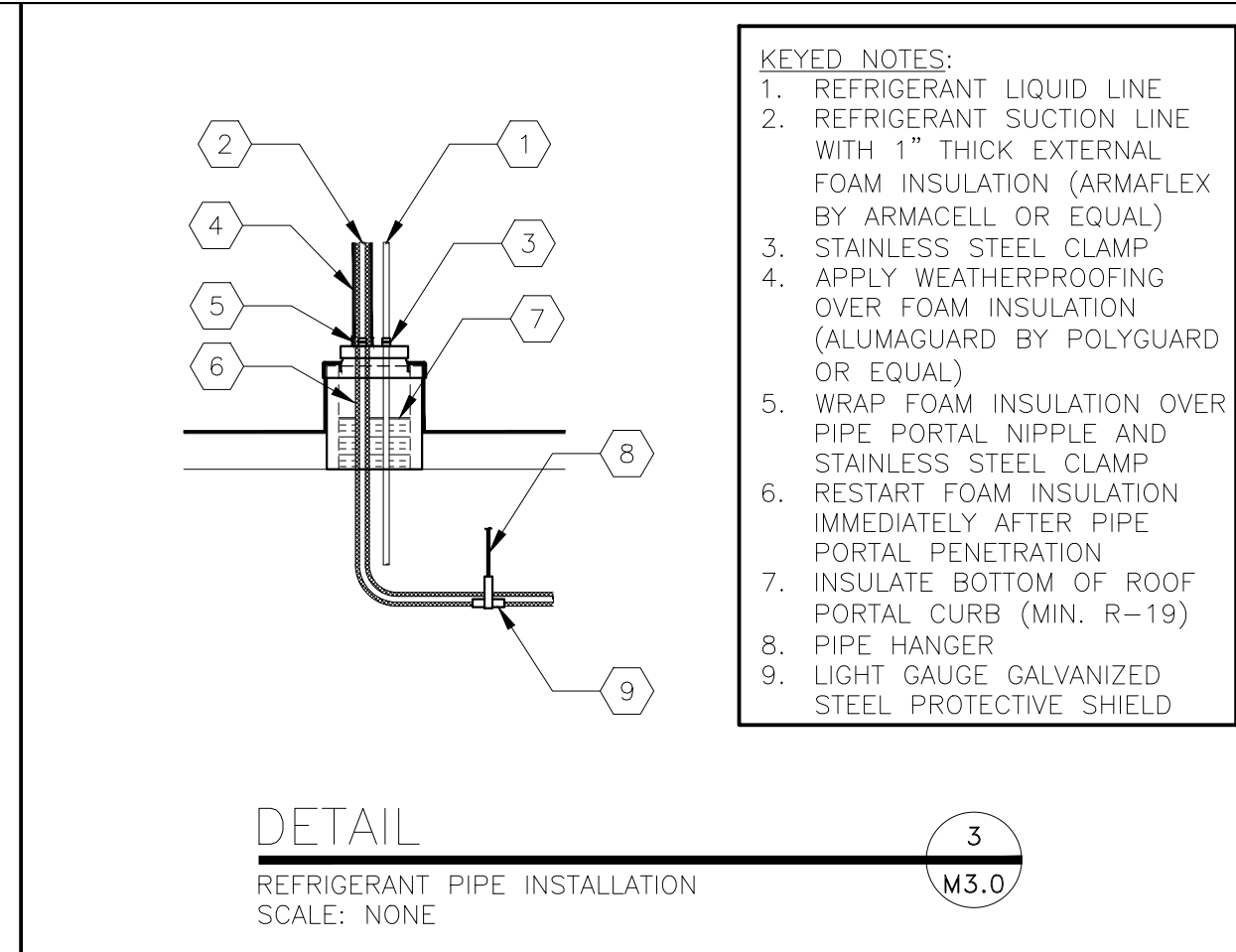
**KEYED NOTES:**

1. SHEET METAL DUCT DROP (SUPPLY, RETURN OR EXHAUST)
2. FOAM GASKET BETWEEN DUCT AND CURB
3. ROOF CURB
4. ROOF LINE
5. 6" FACE-TO-FACE CANVAS FLEXIBLE CONNECTION
6. 2" EXTERIOR INSULATION (SUPPLY AND RETURN)

**DETAIL**  
DUCT DROP INSTALLATION  
SCALE: NONE  
M3.0



**DETAIL**  
NOT USED  
M3.0



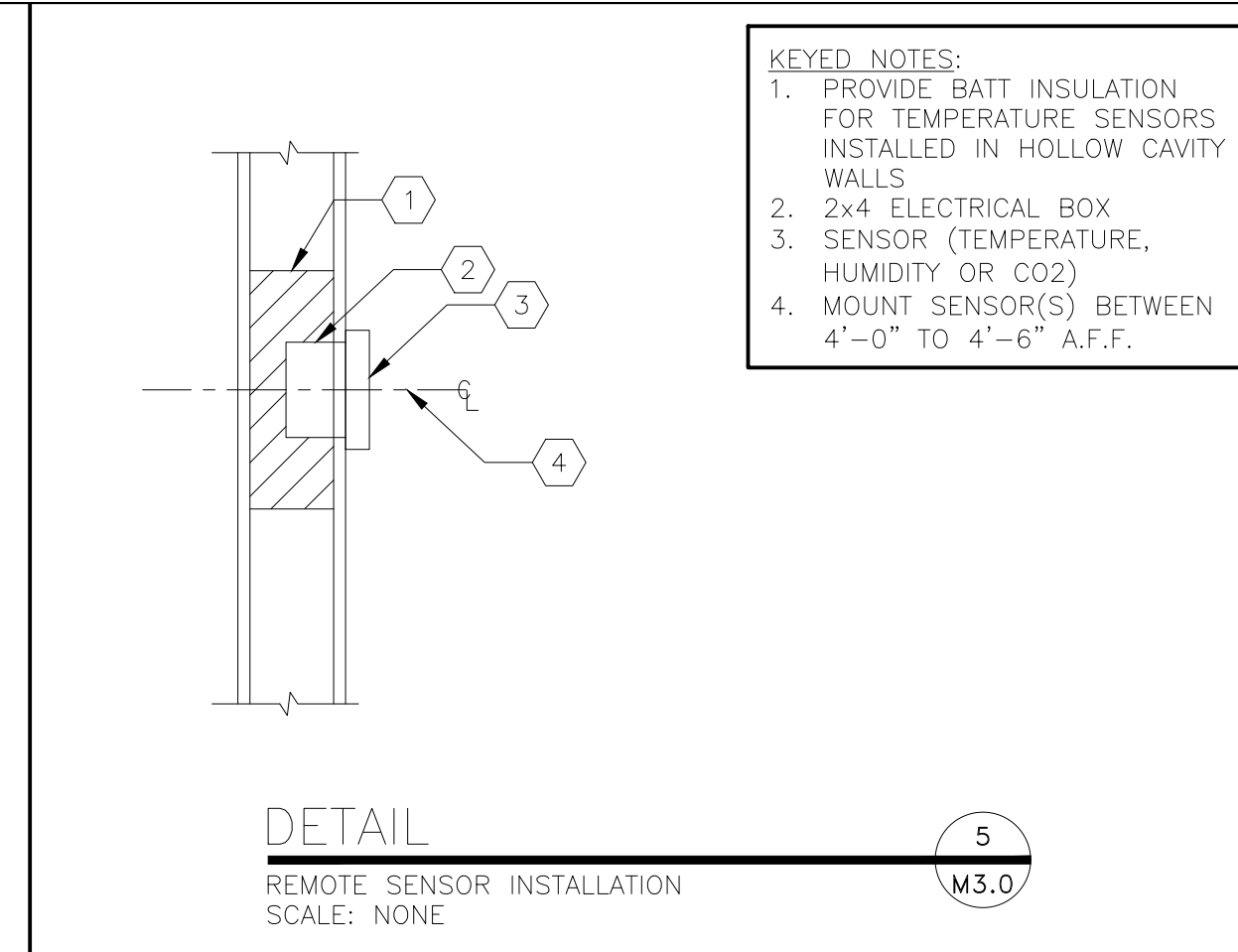
**KEYED NOTES:**

1. REFRIGERANT LIQUID LINE
2. REFRIGERANT SUCTION LINE WITH 1" THICK EXTERNAL FOAM INSULATION (ARMAFLEX BY ARMACELL OR EQUAL)
3. STAINLESS STEEL CLAMP
4. APPLY WEATHERPROOFING OVER FOAM INSULATION (ALUMAGUARD BY POLYGUARD OR EQUAL)
5. WRAP FOAM INSULATION OVER PIPE PORTAL NIPPLE AND STAINLESS STEEL CLAMP
6. RESTART FOAM INSULATION IMMEDIATELY AFTER PIPE PORTAL PENETRATION
7. INSULATE BOTTOM OF ROOF PORTAL CURB (MIN. R-19)
8. PIPE HANGER
9. LIGHT GAUGE GALVANIZED STEEL PROTECTIVE SHIELD

**DETAIL**  
REFRIGERANT PIPE INSTALLATION  
SCALE: NONE  
M3.0



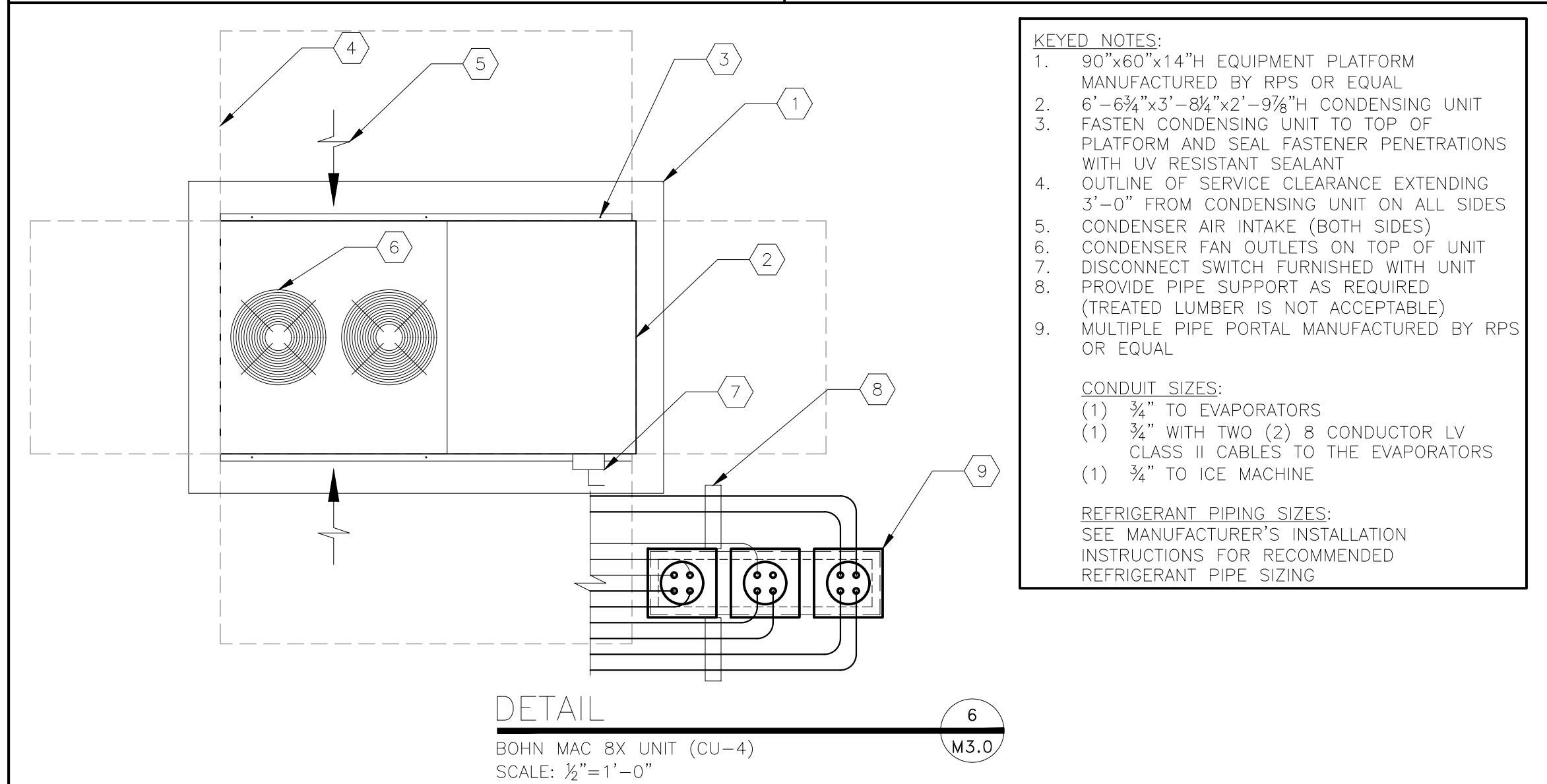
**DETAIL**  
NOT USED  
M3.0



**KEYED NOTES:**

1. PROVIDE BATT INSULATION FOR TEMPERATURE SENSORS INSTALLED IN HOLLOW CAVITY WALLS
2. 2x4 ELECTRICAL BOX
3. SENSOR (TEMPERATURE, HUMIDITY OR CO2)
4. MOUNT SENSOR(S) BETWEEN 4'-0" TO 4'-6" A.F.F.

**DETAIL**  
REMOTE SENSOR INSTALLATION  
SCALE: NONE  
M3.0



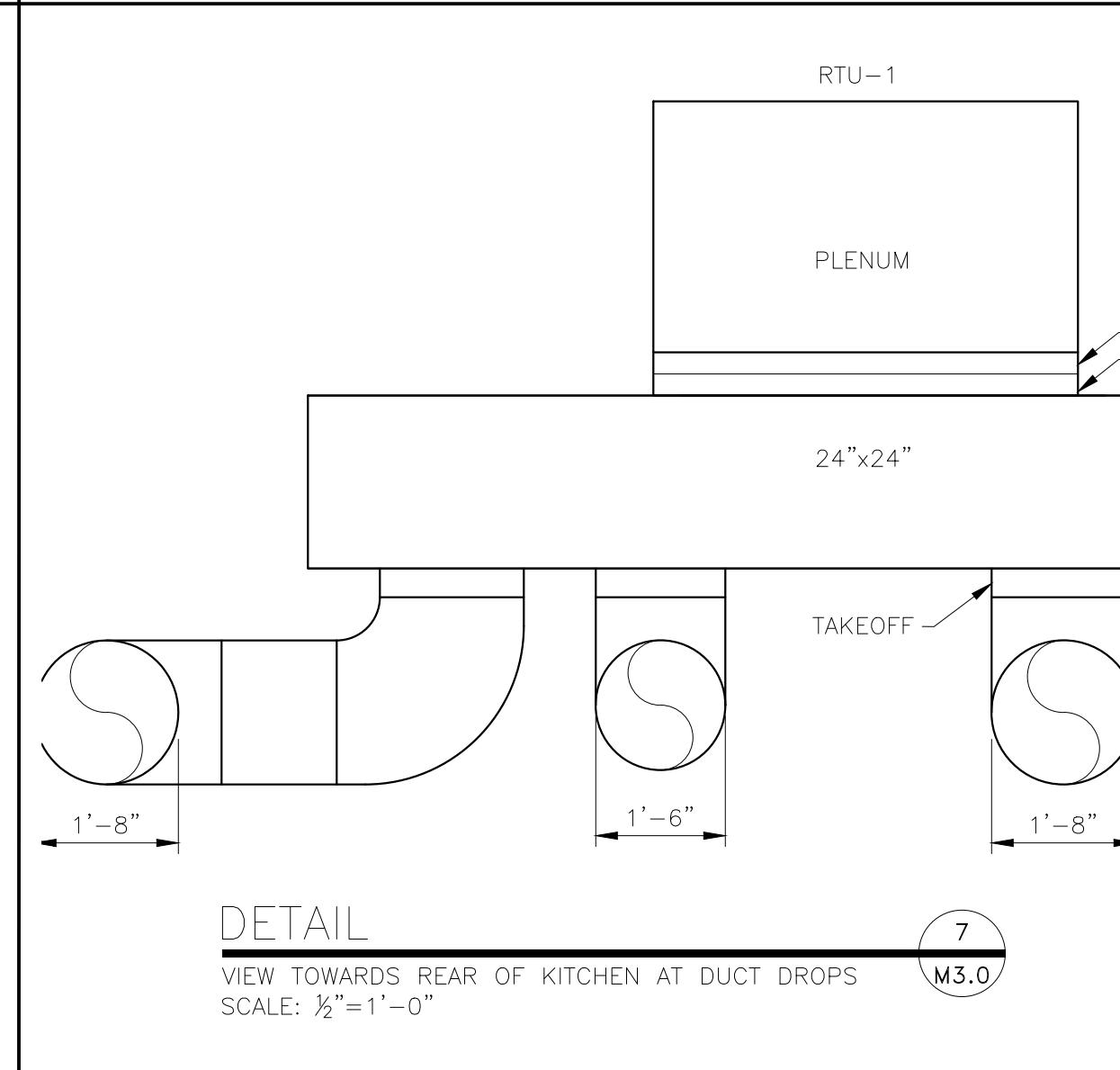
**KEYED NOTES:**

1. 90"x60"x14" EQUIPMENT PLATFORM MANUFACTURED BY RPS OR EQUAL
2. 6'-6 1/4"x3'-8 1/4"x2'-9 1/4" CONDENSING UNIT
3. FASTEN CONDENSING UNIT TO TOP OF PLATFORM AND SEAL FASTENER PENETRATIONS WITH UV RESISTANT SEALANT
4. OUTLINE OF SERVICE CLEARANCE EXTENDING 3'-0" FROM CONDENSING UNIT ON ALL SIDES
5. CONDENSER AIR INTAKE (BOTH SIDES)
6. CONDENSER FAN OUTLETS ON TOP OF UNIT
7. DISCONNECT SWITCH FURNISHED WITH UNIT
8. PROVIDE PIPE SUPPORT AS REQUIRED (TREATED LUMBER IS NOT ACCEPTABLE)
9. MULTIPLE PIPE PORTAL MANUFACTURED BY RPS OR EQUAL

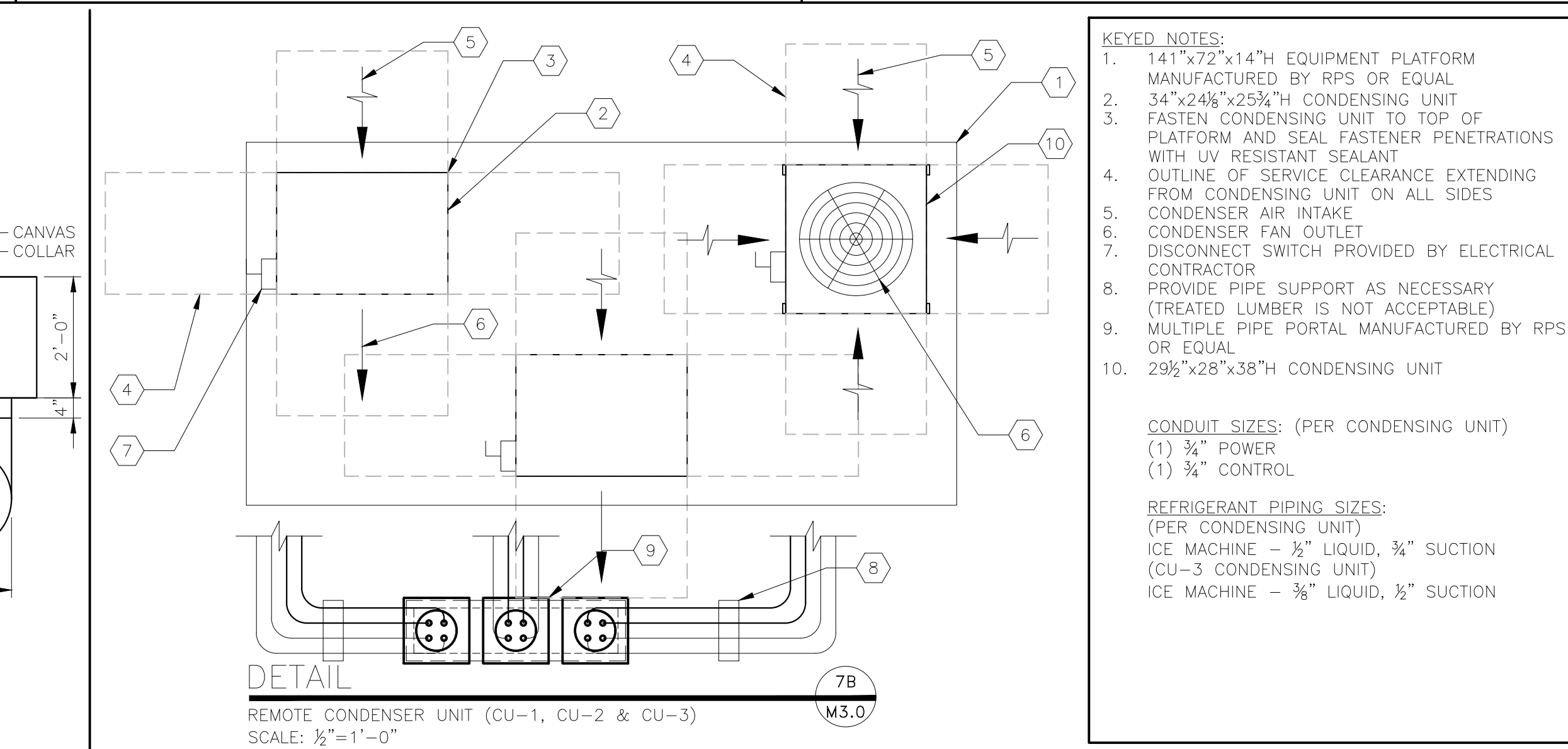
**CONDUIT SIZES:**  
(1) 3/4" TO EVAPORATORS  
(1) 3/4" WITH TWO (2) 8 CONDUCTOR LV CLASS II CABLES TO THE EVAPORATORS  
(1) 3/4" TO ICE MACHINE

**REFRIGERANT PIPING SIZES:**  
SEE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR RECOMMENDED REFRIGERANT PIPE SIZING

**DETAIL**  
BOHN MAC 8x UNIT (CU-4)  
SCALE: 1/2"=1'-0"  
M3.0



**DETAIL**  
VIEW TOWARDS REAR OF KITCHEN AT DUCT DROPS  
SCALE: 1/2"=1'-0"  
M3.0



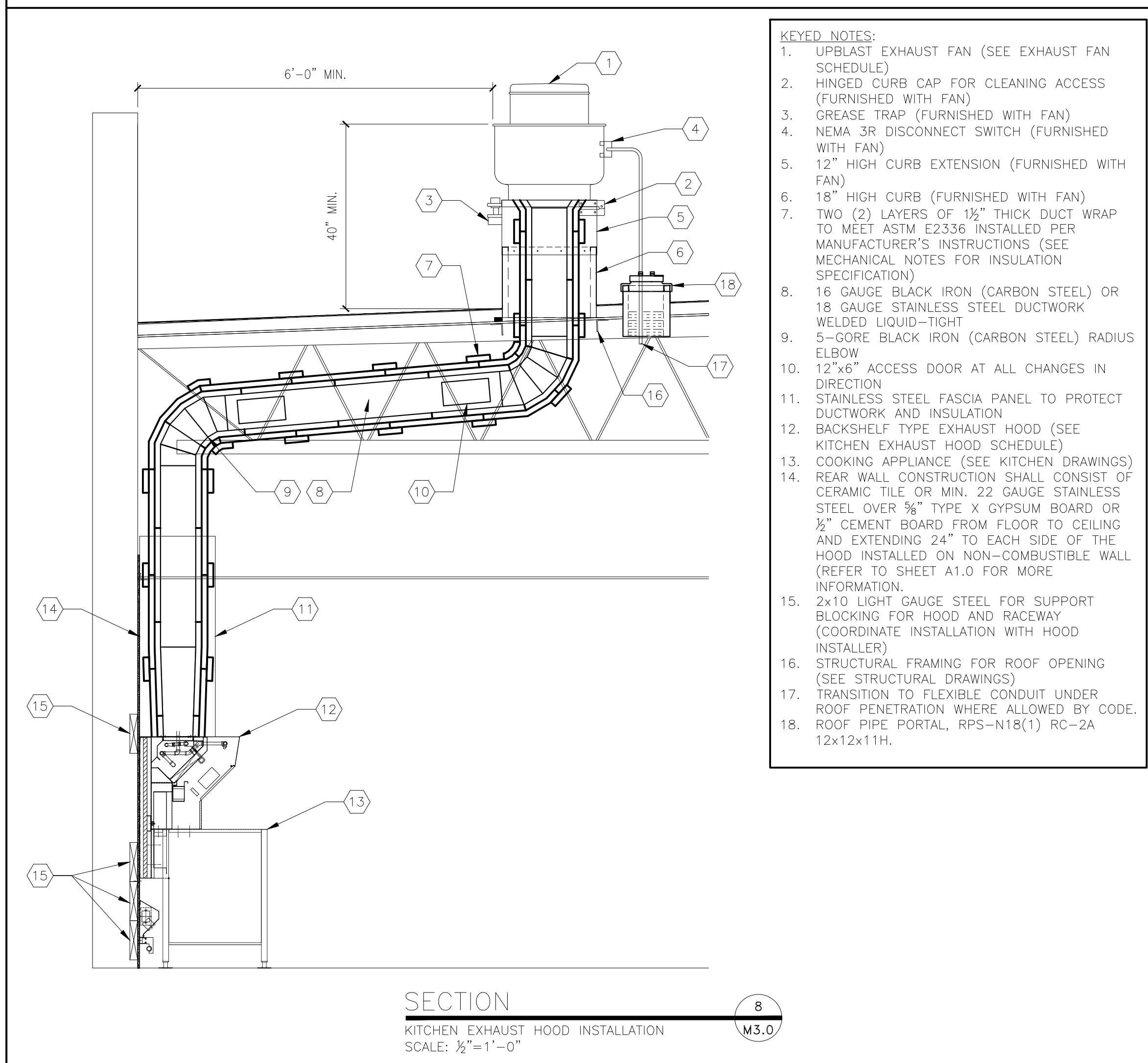
**KEYED NOTES:**

1. 14 1/2"x72"x14" EQUIPMENT PLATFORM MANUFACTURED BY RPS OR EQUAL
3. 34"x24 1/2"x25 3/4" CONDENSING UNIT
3. FASTEN CONDENSING UNIT TO TOP OF PLATFORM AND SEAL FASTENER PENETRATIONS WITH UV RESISTANT SEALANT
4. OUTLINE OF SERVICE CLEARANCE EXTENDING FROM CONDENSING UNIT ON ALL SIDES
5. CONDENSER AIR INTAKE
6. CONDENSER FAN OUTLET
7. DISCONNECT SWITCH PROVIDED BY ELECTRICAL CONTRACTOR
8. PROVIDE PIPE SUPPORT AS NECESSARY (TREATED LUMBER IS NOT ACCEPTABLE)
9. MULTIPLE PIPE PORTAL MANUFACTURED BY RPS OR EQUAL
10. 29 1/2"x28"x38" CONDENSING UNIT

**CONDUIT SIZES: (PER CONDENSING UNIT)**  
(1) 3/4" POWER  
(1) 3/4" CONTROL

**REFRIGERANT PIPING SIZES:**  
(PER CONDENSING UNIT)  
ICE MACHINE - 1/2" LIQUID, 3/4" SUCTION  
CU-3 CONDENSING UNIT  
ICE MACHINE - 3/8" LIQUID, 1/2" SUCTION

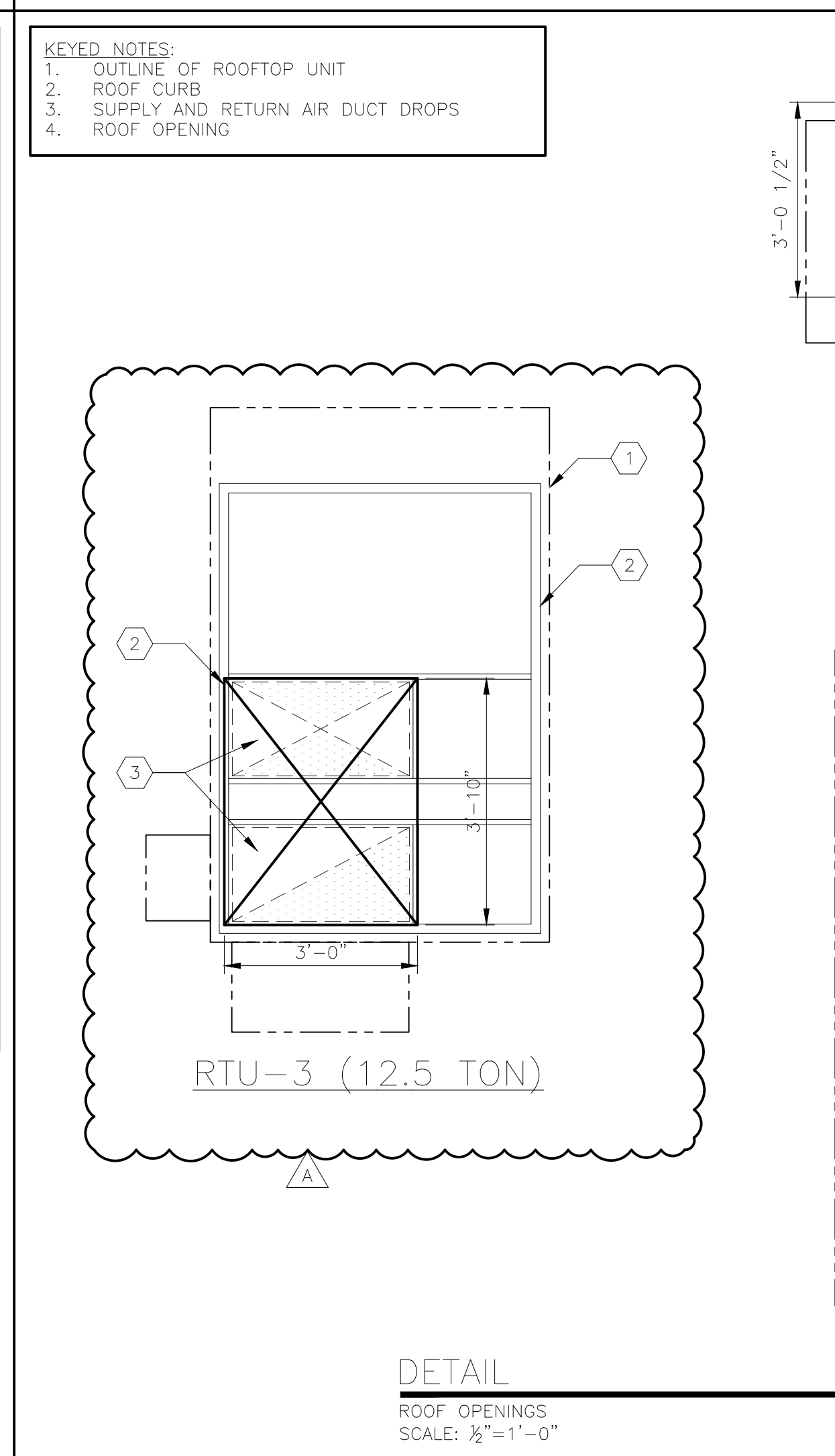
**DETAIL**  
REMOTE CONDENSER UNIT (CU-1, CU-2 & CU-3)  
SCALE: 1/2"=1'-0"  
M3.0



**KEYED NOTES:**

1. UPBLAST EXHAUST FAN (SEE EXHAUST FAN SCHEDULE)
2. HINGED CURB CAP FOR CLEANING ACCESS (FURNISHED WITH FAN)
3. GREASE TRAP (FURNISHED WITH FAN)
4. NEMA-3R DISCONNECT SWITCH (FURNISHED WITH FAN)
5. 12" HIGH CURB EXTENSION (FURNISHED WITH FAN)
6. 18" HIGH CURB (FURNISHED WITH FAN)
7. TWO (2) LAYERS OF 1 1/2" THICK DUCT WRAP TO MEET ASTM E2336 INSTALLED PER MANUFACTURER'S INSTRUCTIONS (SEE MECHANICAL NOTES FOR INSULATION SPECIFICATION)
8. 16 GAUGE BLACK IRON (CARBON STEEL) OR 18 GAUGE STAINLESS STEEL DUCTWORK WELDED LIQUID-TIGHT
9. 5-GORE BLACK IRON (CARBON STEEL) RADIUS ELBOW
10. 12"x6" ACCESS DOOR AT ALL CHANGES IN DIRECTION
11. STAINLESS STEEL FASCIA PANEL TO PROTECT DUCTWORK AND INSULATION
12. BACKSHELF TYPE EXHAUST HOOD (SEE KITCHEN EXHAUST HOOD SCHEDULE)
13. COOKING APPLIANCE (SEE KITCHEN DRAWINGS)
14. REAR WALL CONSTRUCTION SHALL CONSIST OF CERAMIC TILE OR MIN. 22 GAUGE STAINLESS STEEL OVER 5/8" TYPE X GYPSUM BOARD OR 1/2" CEMENT BOARD FROM FLOOR TO CEILING AND EXTENDING 24" TO EACH SIDE OF THE HOOD INSTALLED ON NON-COMBUSTIBLE WALL (REFER TO SHEET A1.0 FOR MORE INFORMATION)
15. 2x10 LIGHT GAUGE STEEL FOR SUPPORT BLOCKING FOR HOOD AND RACEWAY (COORDINATE INSTALLATION WITH HOOD INSTALLER)
16. STRUCTURAL FRAMING FOR ROOF OPENING (SEE STRUCTURAL DRAWINGS)
17. TRANSITION TO FLEXIBLE CONDUIT UNDER ROOF PENETRATION WHERE ALLOWED BY CODE.
18. ROOF PIPE PORTAL, RPS-N18(1) RC-2A 12x12x11H.

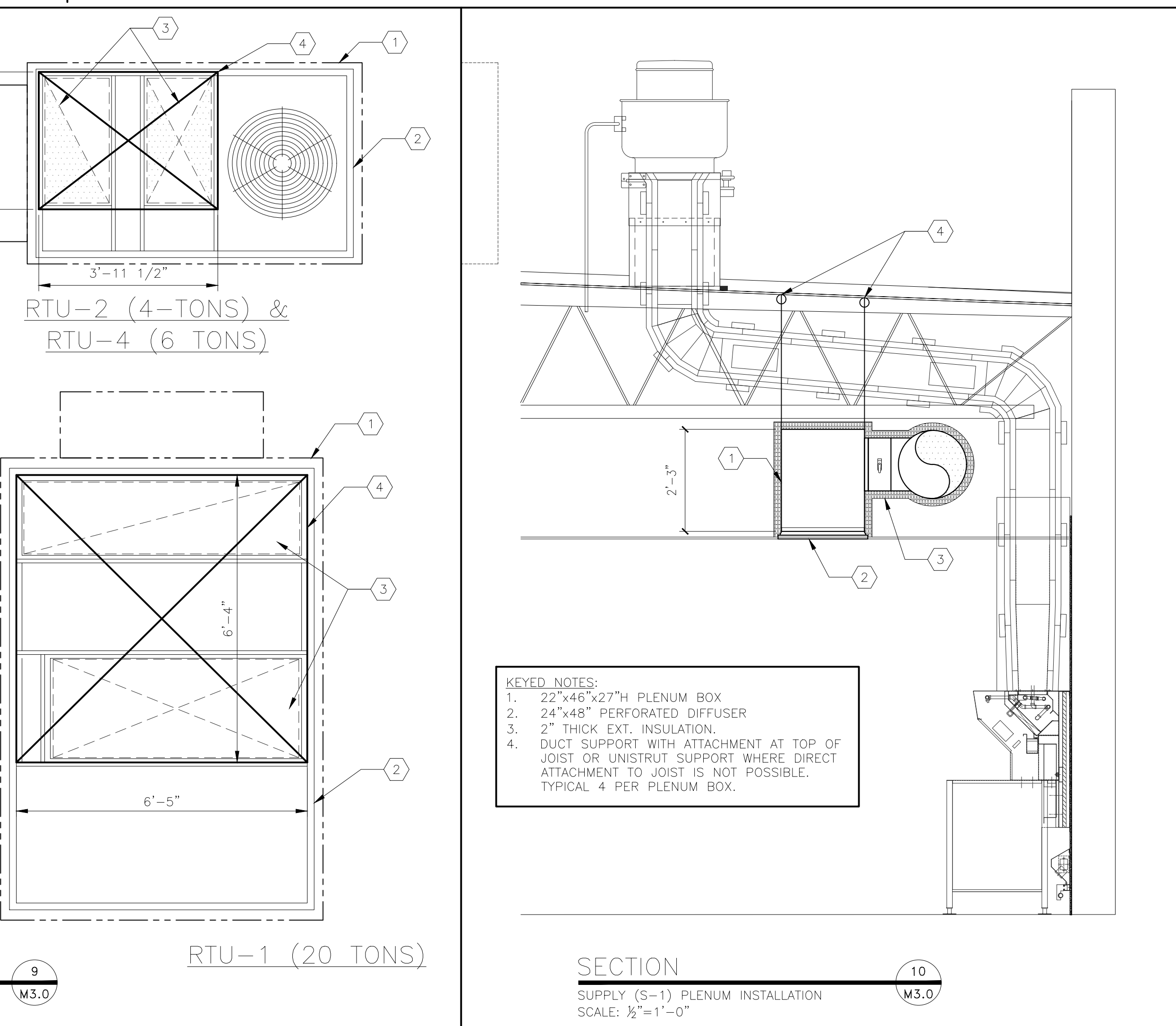
**SECTION**  
KITCHEN EXHAUST HOOD INSTALLATION  
SCALE: 1/2"=1'-0"  
M3.0



**KEYED NOTES:**

1. OUTLINE OF ROOFTOP UNIT
2. ROOF CURB
3. SUPPLY AND RETURN AIR DUCT DROPS
4. ROOF OPENING

**DETAIL**  
ROOF OPENINGS  
SCALE: 1/2"=1'-0"  
M3.0



**KEYED NOTES:**

1. 22"x46"x27" PLENUM BOX
2. 24"x48" PERFORATED DIFFUSER
- 2" THICK EXT. INSULATION.
- DUCT SUPPORT WITH ATTACHMENT AT TOP OF JOIST OR UNISTRUT SUPPORT WHERE DIRECT ATTACHMENT TO JOIST IS NOT POSSIBLE. TYPICAL 4 PER PLENUM BOX.

**SECTION**  
SUPPLY (S-1) PLENUM INSTALLATION  
SCALE: 1/2"=1'-0"  
M3.0

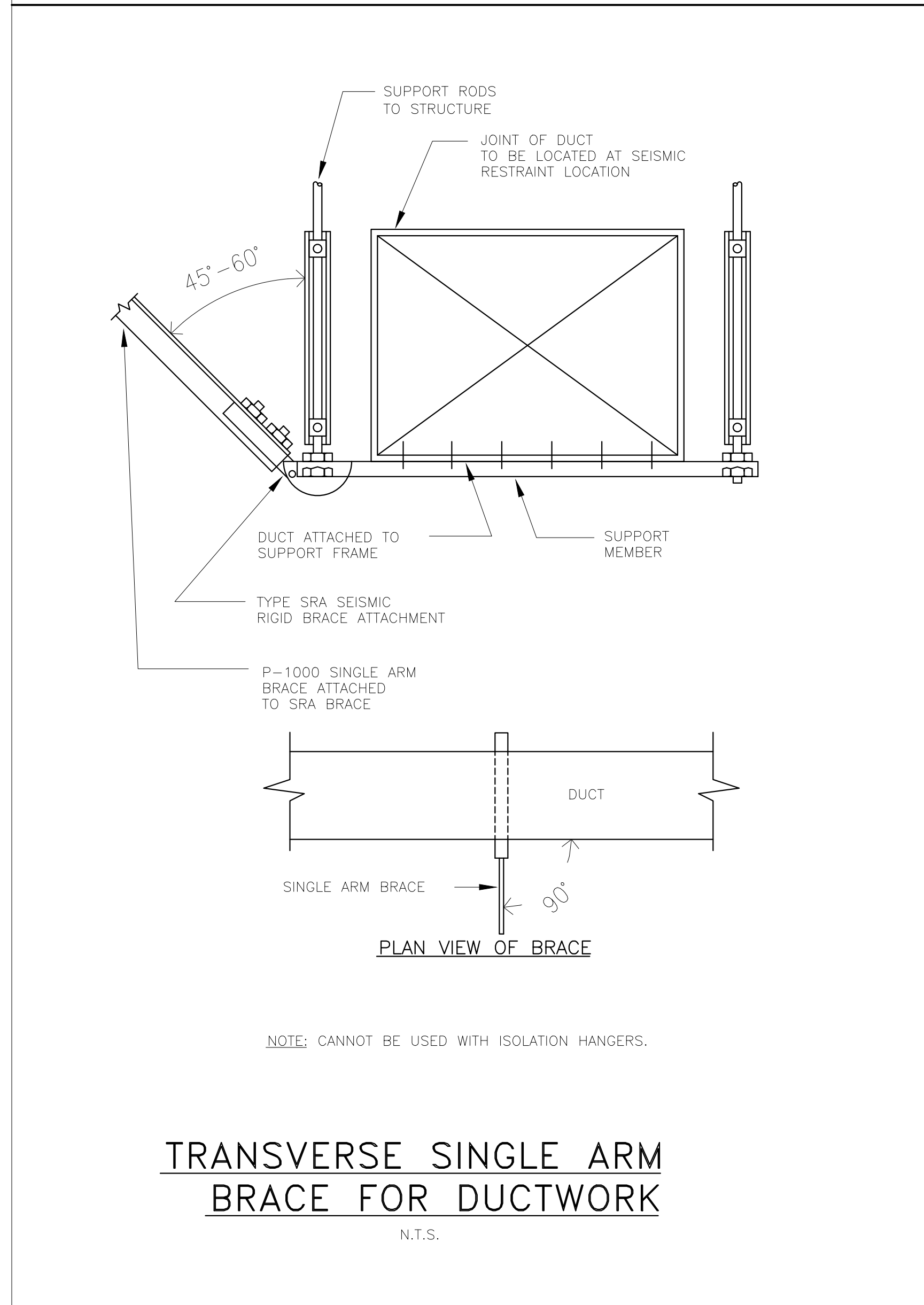
NO.	REV.	DATE	DESCRIPTION	BY
A	08/25/23		DATE	ES
PREPARED BY:			ENGINEER OF RECORD:	
CORE STATES GROUP			DAVID MICHAEL LEFFLER	
2124 S. Main Street			PROFESSIONAL EXHIBIT	
Birmingham, AL 35213			08/25/2023	
www.corestates.com				
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TITLE	2022 STANDARD BUILDING - BB20	SALEM, MO		
SHEET NO.	45114-WOOD/WOOD	24-1289.00.0		
DESCRIPTION		M3.0		
WOOD BEARING WALLS W/HARDBOARD SIDING		DETAILS		
WOOD ROOF TRUSS FRAMING				
EIFS/BATTEN/ACM PANEL/HARDBOARD SIDING				
SITE ID				
SITE ADDRESS				
024-1289				

# MECHANICAL NOTES

- GENERAL:**
- ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
  - ALL DIMENSIONS, CLEARANCES AND TOLERANCES SHALL BE VERIFIED PRIOR TO INSTALLATION.
  - ALL MATERIALS, FIXTURES AND EQUIPMENT USED SHALL BE IN ACCORDANCE WITH McDONALD'S SPECIFICATIONS. SPECIFICATIONS ARE CONTAINED WITHIN THESE DRAWINGS AND THE McDONALD'S PROJECT MANUAL. ANY CONTRACTOR IN NEED OF A COPY OF THE McDONALD'S PROJECT MANUAL SHALL CONTACT THE McDONALD'S AREA CONSTRUCTION MANAGER. ANY VARIANCE FROM THE McDONALD'S SPECIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER-OF-RECORD.
  - ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND/OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - SEE COORDINATION SCHEDULE FOR ADDITIONAL SCOPE OF WORK.
  - PRIOR TO BUILDING TURNOVER, A COMPLETE START-UP, TEST, ADJUST AND BALANCE SHALL BE PERFORMED ON ALL MECHANICAL SYSTEMS. THIS WORK SHALL BE PERFORMED BY A CERTIFIED TEST AND BALANCE CONTRACTOR. A CERTIFIED TEST AND BALANCE CONTRACTOR CAN BE FOUND BY VISITING:  
[HTTP://WWW.AABCHO.COM/DIRECTORY](http://www.aabcho.com/directory)  
[HTTP://WWW.NEBB.ORG/DIRECTORY.HTM](http://www.nebb.org/directory.htm)  
[HTTP://WWW.TABCCERTIFIED.ORG/SITE/CONTENT/CONTRACTORS/SEARCH](http://www.tabccertified.org/site/content/contractors/search)
  - UPON COMPLETION OF THE PUNCHLIST, THE MECHANICAL CONTRACTOR AND TEST AND BALANCE CONTRACTOR SHALL SUBMIT REDLINED OR AS-BUILT DRAWINGS ALONG WITH THE TEST AND BALANCE REPORT AND ALL EQUIPMENT OPERATION AND MAINTENANCE MANUALS TO THE McDONALD'S AREA CONSTRUCTION MANAGER. A MINIMUM OF TWO (2) COPIES SHALL BE PROVIDED, ONE (1) FOR REGIONAL RECORDS AND ONE (1) FOR THE RESTAURANT.
  - ALL PENETRATIONS OF FIRE-RATED WALLS SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING SYSTEM.
- VENTILATION SYSTEMS:**
- ALL SHEET METAL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH LOCAL CODES AND SMACNA STANDARDS.
  - ALL DUCTWORK DIMENSIONS ARE INTERNAL FREE AREA DIMENSIONS AND SIZED FOR 0.1" W.C. PER 100 FT. OF DUCT.
  - ALL SHEET METAL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA TABLES FOR 2" W.C. AND SHALL BE SUPPORTED WITH AN APPROVED HANGER AT INTERVALS NOT EXCEEDING 10 FT.
  - ALL DUCT DROPS INTO THE BUILDING SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO ISOLATE THE DUCTWORK SYSTEM FROM NOISE AND VIBRATION. FLEXIBLE CONNECTIONS SHALL BE TESTED IN ACCORDANCE WITH UL 181 AND LISTED AS CLASS 0 OR CLASS 1.
  - ALL DUCT DROPS INTO THE BUILDING SHALL BE OFFSET AS NECESSARY TO ALLOW FOR THE CLEAR INSTALLATION OF THE EXTERNAL DUCTWORK INSULATION.
  - ALL DUCTWORK BRANCHES SHALL BE SUPPLIED WITH A VOLUME DAMPER FOR BALANCING. VOLUME DAMPER SHALL HAVE A 2" OFFSET TO ACCOMMODATE EXTERNAL INSULATION.
  - TAKE-OFFS FROM RECTANGULAR TO ROUND DUCT SHALL BE DUCTMATE STRAIGHT-SIDED OR CENTER HIGH-EFFICIENCY TAKE-OFFS WITH A 2" DAMPER STAND-OFF TO ACCOMMODATE FOR EXTERNAL INSULATION.
  - ALL DUCTWORK JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS SHALL BE SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), TAPES, ETC. ALL SEALANT MATERIALS SHALL BE LISTED IN ACCORDANCE WITH UL 181A OR 181B.
  - ALL SUPPLY AND RETURN SHEET METAL DUCTWORK LOCATED WITHIN THE CEILING SPACE SHALL BE EXTERNALLY INSULATED. INSULATION SHALL BE 2" THICK MICROLITE XG-100 BY JOHNS MANVILLE OR EQUAL.
  - ALL SUPPLY AND RETURN SHEET METAL DUCTWORK LOCATED OUTSIDE OF THE BUILDING SHALL BE INTERNALLY LINED WITH A 1" THICK FIBERGLASS (MIN. R-4.2) AND EXTERNALLY INSULATED WITH A 2" THICK RIGID POLYSTYRENE, POLYURETHANE OR POLYISOCYANURATE BOARD (MIN. R-8 FOR CLIMATE ZONES 1 THROUGH 4), OR A 3" THICK (MIN R-12 FOR CLIMATE ZONES 5 THROUGH 8). INTERNAL FIBERGLASS INSULATION SHALL BE LINATEX BY JOHNS MANVILLE OR EQUAL. EXTERNAL RIGID BOARD INSULATION SHALL BE THERMAPINK BY OWENS CORNING OR EQUAL.
  - ALL EXPOSED SPIRAL DUCTWORK SHALL BE INTERNALLY INSULATED TO PREVENT CONDENSATION (MIN. R-4.3). INTERNAL INSULATION SHALL BE 1" THICK SPIRACOUSTIC PLUS BY JOHNS MANVILLE OR EQUAL.
  - ALL DUCTWORK PENETRATIONS THROUGH FIRE-RATED WALLS, BARRIERS OR PARTITIONS SHALL BE PROTECTED WITH A FIRE DAMPER. THE PERIMETER OF THE FIRE DAMPER SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING MATERIAL.
  - ALL EXTERIOR SHEET METAL DUCTWORK SHALL BE EXTERNALLY WRAPPED WITH AN APPROVED WEATHERPROOFING MATERIAL TO PROTECT AGAINST WATER PENETRATION AND CORROSION. SIDES AND TOP OF EXTERNAL WEATHERPROOFING SHALL BE ALUMAGUARD 60 MIL UV BARRIER BY POLYGUARD OR EQUAL. BOTTOM OF EXTERNAL WEATHERPROOFING SHALL BE VAPORGUARD 5 MIL MEMBRANE BY POLYGUARD OR EQUAL.
  - ALL FLEXIBLE DUCTWORK, METALLIC AND NONMETALLIC, SHALL CONFORM TO THE FOLLOWING:
    - 2" THICK INSULATION (R-6.0)
    - INTEGRAL VAPOR BARRIER
    - LISTED AND LABELED UL 181, CLASS 0 OR CLASS 1
    - INSTALLED IN ACCORDANCE WITH:
      - SMACNA STANDARDS,
      - AIR DIFFUSION COUNCIL INSTALLATION GUIDELINES, AND/OR
      - MANUFACTURER'S INSTALLATION INSTRUCTIONS
  - FLEXIBLE DUCTWORK SHALL NOT PENETRATE WALLS. SHEET METAL DUCTWORK IS REQUIRED AT ALL FIRE-RATED AND DRAFTSTOP WALL PENETRATIONS.
  - ALL COVERINGS, LININGS AND ADHESIVES (TAPES, ETC.) SHALL HAVE A FLAME-SPREAD INDEX NOT GREATER THAN 25 AND A SMOKE-DEVELOPED INDEX NOT GREATER THAN 50.
  - DUCT-MOUNTED SMOKE DETECTORS SHALL BE INSTALLED IN SYSTEMS WITH DESIGN CAPACITY GREATER THAN 2,000 CFM. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DETECTORS. DUCT-MOUNTED SMOKE DETECTORS ARE NOT REQUIRED WHEN THE BUILDING IS PROTECTED THROUGHOUT BY AREA SMOKE DETECTORS CONNECTED TO A FIRE ALARM SYSTEM WHERE THE FIRE ALARM SYSTEM IS DESIGNED TO SHUT DOWN THE ROOFTOP UNITS.
  - ALL SUPPLY AIR DIFFUSERS SHALL BE INSULATED TO PREVENT CONDENSATION.
  - ALL AIR DEVICES LOCATED IN DRYWALL CEILINGS SHALL BE SUPPLIED WITH AN INTEGRAL VOLUME DAMPER ACCESSIBLE FROM THE AIR DEVICE FACE TO FACILITATE BALANCING.
  - ALL OUTDOOR AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10 FT. HORIZONTALLY FROM ANY SOURCE OF CONTAMINATION SUCH AS EXHAUST FANS, PLUMBING VENTS, WATER HEATER FLUES, ETC. WHERE A CONTAMINANT SOURCE IS LOCATED WITHIN 10 FT. OF AN INTAKE, THE INTAKE OPENING SHALL BE LOCATED A MINIMUM OF 2 FT. BELOW THE CONTAMINANT SOURCE.

- ALL ROOFTOP CONDENSING UNITS THAT DISCHARGE HORIZONTALLY SHALL BE ORIENTED SUCH THAT THE DISCHARGE DOES NOT BLOW IN THE DIRECTION OF AN OUTDOOR AIR INTAKE.
- COMMERCIAL KITCHEN EXHAUST SYSTEMS:**
- ALL METAL DUCTWORK USED FOR THE CONVEYANCE OF GREASE-LADEN AIR SHALL BE CONSTRUCTED OF MINIMUM 18 GAUGE STAINLESS STEEL OR 16 GAUGE CARBON STEEL (BLACK IRON).
  - ALL GREASE EXHAUST DUCTWORK JOINTS SHALL BE EITHER TELESOPING OR BELL TYPE. BUTT-WELDED JOINTS ARE PROHIBITED.
  - ALL GREASE EXHAUST DUCTWORK SEAMS AND JOINTS SHALL BE CONTINUOUSLY WELDED WATER-TIGHT ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER.
  - ALL GREASE EXHAUST DUCTWORK SHALL BE EXTERNALLY INSULATED WITH A ASTM E2336 LISTED AND LABELED GREASE DUCT ENCLOSURE SYSTEM. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - ACCESS PANELS SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION OF THE GREASE EXHAUST DUCTWORK SYSTEM. ACCESS PANELS SHALL BE INSTALLED IN ACCORDANCE WITH THE INSULATION MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SHALL BE LABELED AS FOLLOWS: "ACCESS PANEL - DO NOT OBSTRUCT".
  - ALL HORIZONTAL GREASE EXHAUST DUCTWORK SHALL BE INSTALLED WITH A MINIMUM 1/4" PER FOOT SLOPE AND SHALL BE PITCHED BACK TOWARD THE HOOD.
  - UPBLAST KITCHEN EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 6 FT. FROM ANY PARAPET WALL OR ADJACENT STRUCTURE AND SHALL TERMINATE A MINIMUM OF 40 INCHES ABOVE THE FINISHED ROOFING MATERIAL.
- REFRIGERANT PIPING:**
- ALL REFRIGERATION WORK SHALL BE PERFORMED BY A CERTIFIED REFRIGERATION CONTRACTOR.
  - ALL REFRIGERANT PIPING SHALL BE SEAMLESS COPPER TUBING OF TYPE L IN ACCORDANCE WITH ASTM B 88 AND ALL JOINTS SHALL BE SOLDERED.
  - ALL REFRIGERANT SUCTION LINES SHALL BE INSULATED WITH A MINIMUM 1" FOAM PIPE INSULATION. PIPE INSULATION INSTALLED OUTDOORS SHALL BE PROTECTED WITH AN APPROVED WEATHERPROOFING MATERIAL.
  - ALL SUSPENDED REFRIGERANT PIPING SHALL BE SUPPORTED AS FOLLOWS:
- | MATERIAL             | MAX. HORIZ. SPACING | MAX. VERT. SPACING |
|----------------------|---------------------|--------------------|
| COPPER TUBING ≤ 1/4" | 6 FT.               | 10 FT.             |
| COPPER TUBING ≥ 1/2" | 10 FT.              | 10 FT.             |
- ALL REFRIGERANT PIPING SHALL BE SIZED PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
  - PRE-CHARGED LINESETS ARE NOT PERMITTED AS LINES WILL MOST LIKELY NEED TO BE CUT TO FIT THE APPLICATION AND REFRIGERANT WILL NEED TO BE RECLAIMED.
  - ALL PIPE INSULATION SHALL BE PROTECTED FROM DAMAGE FROM PIPE HANGERS. PROTECTION SHALL BE LIGHT GAUGE GALVANIZED STEEL OR EQUAL.
  - ALL REFRIGERANT PIPING SYSTEMS SHALL BE PRESSURE TESTED FOR LEAKS PRIOR TO START-UP. ALL LEAKS SHALL BE REMEDIED PRIOR TO BUILDING TURNOVER.
- CO2 DETECTION EQUIPMENT:**
- THE CO2 DETECTOR SHALL BE HARD-WIRED TO PREVENT TAMPERING AND SHALL BE INSTALLED AT 12" A.F.F. WITHIN A 5 FT. RADIUS OF THE CO2 STORAGE TANKS.
  - ONE (1) AUDIBLE AND ONE (1) VISUAL ALARM SHALL BE INSTALLED A MINIMUM OF 7 FT. A.F.F., IN PLAIN SIGHT IN THE SAME ROOM AS THE CO2 STORAGE TANKS.
  - ONE (1) AUDIBLE AND ONE (1) VISUAL ALARM SHALL BE INSTALLED A MINIMUM OF 7 FT. A.F.F., AT THE BACK OF THE KITCHEN AND IN PLAIN SIGHT FROM THE MAIN SIDE OF THE PREP LINE.
- CONDENSATE PIPING:**
- CONDENSATE PIPING SHALL BE GALVANIZED STEEL, COPPER OR PVC.
  - PVC PIPE SHALL BE PAINTED WITH WATER BASED LATEX PAINTING TO RESIST DEGRADATION FROM ULTRAVIOLET EXPOSURE.
  - PIPE SUPPORTS SHALL BE RPS MODEL PMP-2 OR EQUAL. QUANTITY AS REQUIRED DEPENDANT UPON PIPING MATERIAL.
  - PIPING SHALL BE SUPPORTED AS FOLLOWS:
- | MATERIAL         | MAX. HORIZ. SPACING | MAX. VERT. SPACING |
|------------------|---------------------|--------------------|
| COPPER PIPE      | 12 FT.              | 10 FT.             |
| GALVANIZED STEEL | 12 FT.              | 15 FT.             |
| PVC              | 4 FT.               | 15 FT.             |
- CONDENSATE PIPING SHALL SLOPE A MINIMUM OF 1/8" PER FOOT.
  - CONDENSATE PIPING SHALL BE SIZED BASED ON THE FOLLOWING:
- | TOTAL TONS SERVED BY PIPE | MINIMUM PIPE SIZE |
|---------------------------|-------------------|
| <20 TONS                  | 3/4"              |
| >20 TONS, <40 TONS        | 1"                |
| >40 TONS, <125 TONS       | 1 1/2"            |
- ROOFTOP UNITS CONDENSATE TO BE FIELD OR FACTORY INSTALLED WITH CONDENSER DRAIN TRAP AND PIPING PER MANUFACTURER'S SPECIFICATIONS. DISCHARGE TO ROOF SURFACE OR AS REQUIRED BY CODE.

## SEISMIC DETAIL



# LEGEND

Ⓣ	TEMPERATURE SENSOR
Ⓜ	AVERAGING TEMPERATURE SENSOR
Ⓢ	CO2 SENSOR FOR ROOFTOP UNIT DEMAND CONTROL VENTILATION
Ⓜ	HUMIDITY SENSOR
Ⓣ	THERMOSTAT
Ⓢ	SMOKE DETECTOR
Ⓜ	EQUIPMENT TAG
R-1 1750 CFM 18"ø	DIFFUSER INFORMATION LINE 1: TAG LINE 2: AIRFLOW LINE 3: NECK SIZE
Ⓜ	SUPPLY AIR DUCT (VERTICAL)
Ⓜ	RETURN OR EXHAUST AIR DUCT (VERTICAL)
Ⓢ	ROUND DUCT (VERTICAL)
SSC	STEADY-STATE SPEED CONTROLLER
Ⓜ	PLAQUE DIFFUSER (SHADED AREA DESIGNATES BLANK-OFF PANEL LOCATION)
Ⓜ	LINEAR SLOT DIFFUSER
Ⓜ	LOUVERED FACE DIFFUSER
Ⓜ	CEILING-MOUNTED EXHAUST FAN
Ⓜ	SPIN-IN COLLAR WITH VOLUME DAMPER
Ⓜ	VOLUME DAMPER
Ⓜ	FLEXIBLE DUCTWORK
Ⓜ	PERFORATED FACE DIFFUSER
Ⓜ	SHEET METAL TEE WITH CAP

# ABBREVIATIONS

ACM	AREA CONSTRUCTION MANAGER
B.J.	BELOW JOISTS
BSI	BEVERAGE SYSTEM INSTALLER
DCV	DEMAND CONTROL VENTILATION
E.A.	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
FAC	FIRE ALARM CONTRACTOR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
I.D.	INSIDE DIMENSION
KEI	KITCHEN EQUIPMENT INSTALLER
KES	KITCHEN EQUIPMENT SUPPLIER
M.A. (S)	MIXED AIR - SUMMER
M.A. (W)	MIXED AIR - WINTER
MC	MECHANICAL CONTRACTOR
O.A.	OUTDOOR AIR
O.D.	OUTSIDE DIMENSION
O/O	OWNER/OPERATOR
PC	PLUMBING CONTRACTOR
R.A.	RETURN AIR
RC	REFRIGERATION CONTRACTOR
S.A.	SUPPLY AIR
S.P.	STATIC PRESSURE
MC	TEST AND BALANCE CONTRACTOR

ENGINEER OF RECORD:

DAVID MICHAEL LEFFLER  
 PROFESSIONAL ENGINEER  
 NUMBER: PE20010214  
 EXPIRES: 08/25/2025

PREPARED BY: CORE STATES GROUP

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McDonald's USA, LLC

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DRAWN BY: ES  
 STD ISSUE DATE: 2022\_08  
 REVIEWED BY: D. BEFFER  
 DATE ISSUED: 10-21-2022

TITLE: 2022 STANDARD BUILDING - BB20  
 45114 - WOOD/WOOD

DESCRIPTION: WOOD BEARING WALLS W/HARDBOARD SIDING  
 WOOD ROOF TRUSS FRAMING  
 EIFS/BATTEN/ACM PANEL/HARDBOARD SIDING

SHEET NO: M4.0  
 GENERAL NOTES

24-1289.00.0

SALEM, MO  
 1000 S Main Street  
 024-1289

COORDINATION SCHEDULE

Table with columns: GENERAL REQUIREMENTS, FURNISH, INSTALL, FINAL CONNECTION, NOTES. Includes sections for CONTRACTOR COORDINATION REQUIREMENTS, PLUMBING SYSTEMS, KITCHEN EQUIPMENT, and MISCELLANEOUS ITEMS.

- NOTES: 1. THIS SCHEDULE IS INTENDED AS A GUIDE FOR THE WORK TO BE PERFORMED. ALL WORK SHALL BE COORDINATED BETWEEN THE McDONALD'S AREA CONSTRUCTION MANAGER AND ALL GC AND O/O SUBCONTRACTORS. 2. ONE (1) COPY OF THE DECOR PACKAGE DRAWINGS SHALL BE SUPPLIED TO THE GENERAL CONTRACTOR AND EACH OF THE SUBCONTRACTORS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS TO INSURE THAT THEY HAVE RECEIVED THE DECOR PACKAGE DRAWINGS.

AIR DEVICE SCHEDULE

Table with columns: TAG, MANUFACTURER, MODEL, BORDER, SIZE, COLOR, ACCESSORIES, NOTES. Lists air devices like TITUS PRICE PDR PDDRE, TITUS OMNI SPD, etc.

- ACCESSORIES: 1. COMBINATION DAMPER AND EQUALIZING GRID. 2. PLASTER FRAME FOR DRYWALL CEILING INSTALLATION. 3. SQUARE-TO-ROUND COLLAR CONNECTION. 4. BACKPAN INSULATION. 5. NOT USED. 6. AIR DEVICE FINISH WILL VARY: \* KITCHEN, STORAGE, RESTROOMS - WHITE. \* DINING ROOM, VESTIBULES - WHITE, BLACK OR PAINTABLE/PRIME COAT (COORDINATE FINAL COLOR WITH DECOR PLANS).

AIR CURTAIN SCHEDULE

Table with columns: TAG, MANUFACTURER, MODEL, SERVES, AIRFLOW, ELEC, ACCESS, NOTES. Lists powered air units like AC 1, AC 2, AC 3, AC 4, AC 5.

- ACCESSORIES: 1. NSF LISTING. 2. DOOR SWITCH (AC-1,2,3; MAGNETIC; AC-4: ROLLER/PLUNGER). 3. DELAY TIMER. 4. 120V/ 1P /60HZ. 5. UNIT MOUNTED VARIABLE SPEED SWITCH. 6. 208V/ 1P /60HZ.

KITCHEN HOOD SCHEDULE

Table with columns: TAG, SERVED BY, MANUFACTURER, MODEL, NOTES, CFM, CFM/LF, QTY/SIZE. Lists exhaust fans like KH 1, KH 2, KH 3.

- NOTES: 1. HOODS SHALL BE PROVIDED BY THE KES (SEE COORDINATION SCHEDULE). 2. SEE HOOD DRAWINGS FOR CONSTRUCTION DETAILS AND UL INFORMATION. 3. REFER TO E3.2 FOR HOOD/FAN INTERLOCK DETAILS. 4. CAPTURE JET PLENUMS TO BE INSTALLED ON HOOD. REFER TO K2.1 KITCHEN SCHEDULE.

CONTROLS

Table with columns: SYMBOL, DESCRIPTION, MANUFACTURER, MODEL. Lists 120V THERMOSTAT, REMOTE TEMPERATURE SENSOR, etc.

- NOTES: 1. FOR TSTAT, TS, HS AND ATS INFORMATION, REFER TO E4.1. 2. TO ORDER HONEYWELL EQUIPMENT CALL (800)575-4841. 3. SEE KITCHEN DRAWINGS FOR BULK CO2 DETECTION LOCATIONS.

FAN SCHEDULE

Table with columns: TAG, MANUFACTURER, MODEL, SERVES, ACCESSORIES, NOTES, CFM, S.P., BHP, FRPM, VOLTS, Hz, HP, FLA AMPS. Lists fans like EF 1, EF 2, EF 3, EF 4, EF 5, TF 1.

- ACCESSORIES: 1. 2-POLE NEMA 3R DISCONNECT SWITCH FACTORY-WIRED AND MOUNTED TO FAN. 2. UL 762 LISTED AND LABELED. 3. ROOF CURB MODEL GPF-24-G30 WITH 1" INSULATION. 4. CURB EXTENSION INTEGRAL TO MCD FAN PACKAGE. 5. HINGED CURB CAP KIT WITH CABLES. 6. 120VAC BACKDRAFT DAMPER. 7. ROOF CURB MODEL GPI-19-G14 WITH 1" INSULATION AND DAMPER TRAY.

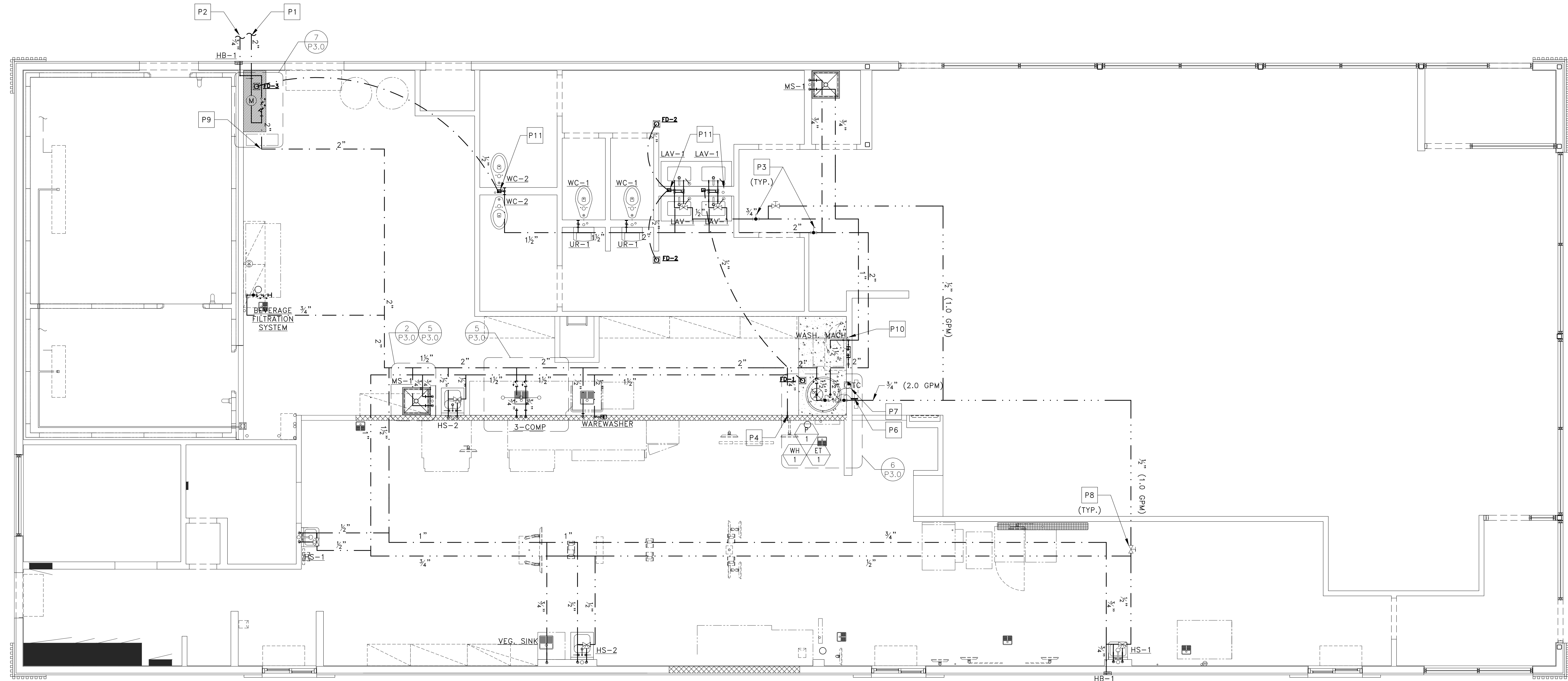
ROOFTOP UNIT SCHEDULE

Table with columns: TAG, MFR, MODEL, SERVES, GENERAL, ACCESSORIES, WEIGHT (LBS), AIRFLOW, COOLING(MBH), HEATING (ELEC), ARI RATING, MOTOR, ELECTRICAL. Lists RTU-1, RTU-2, RTU-3, RTU-4.

- ACCESSORIES: 1. Diff. Enthalpy Economizer. 2. Motorized O.A. Damper (Hawaii Only). 3. Barometric Relief. 4. 2" Pleated Filters. 5. Pwr. Exh. (PlayPlace ≥ 12.5 tons only). 6. CO2 Sensor for DCV (PlayPlace only). 7. Humidity Control. 8. Supply Air Tempering. 9. Temperature Sensor. 10. Combined Temp/Humidity Sensor. See Note 5. 11. Disconnect Switch. 12. Field Wired 120V Convenience Outlet. 13. Stainless Steel Heat Exchanger (MA < 45°F). 14. Condenser Coil Protective Coating (within 15 miles of salt water). 15. Evaporator Coil Protective Coating (within 5 miles of salt water). 16. Hail Guards. 17. Return Air Smoke Detector. 18. Supply Air Smoke Detector. 19. 14" High Roof Curb. 20. Condensate Drain with P-Trap. 21. Float Switch Kit.

- NOTES: 1. NO SUBSTITUTIONS PERMITTED. 2. TO ORDER TRANE EQUIPMENT, CALL (630) 400-4265. 3. SOME ELECTRIC-ELECTRIC ROOFTOP UNITS DO NOT COME WITH A FACTORY-INSTALLED DISCONNECT SWITCH. PLEASE COORDINATE WITH FACTORY WHEN ORDERING. 4. MECHANICAL CONTRACTOR SHALL INSTALL SECONDARY ENTHALPY SENSOR IN RETURN AIR DUCT DROP & WIRE TO UNIT PER MANUFACTURERS INSTRUCTIONS.

Project information including: TITLE: 2022 STANDARD BUILDING - BB20, 45114-WOOD/WOOD, DRAWN BY: JF/EES, DATE: 2022-08, REVIEWED BY: D. BEFFER, DATE ISSUED: 10-21-2022, PREPARED BY: CORE STATES GROUP, ENGINEER OF RECORD: DAVID MICHAEL LEHNER, PROFESSIONAL ENGINEER, LICENSE NO. 08/2572025, SALEM, MO. SHEET NO. M4.1 GENERAL NOTES.



**1**  
**P1.0** DOMESTIC WATER PIPING  
 SCALE: 1/4" = 1'-0"

**DRAWING NOTES**

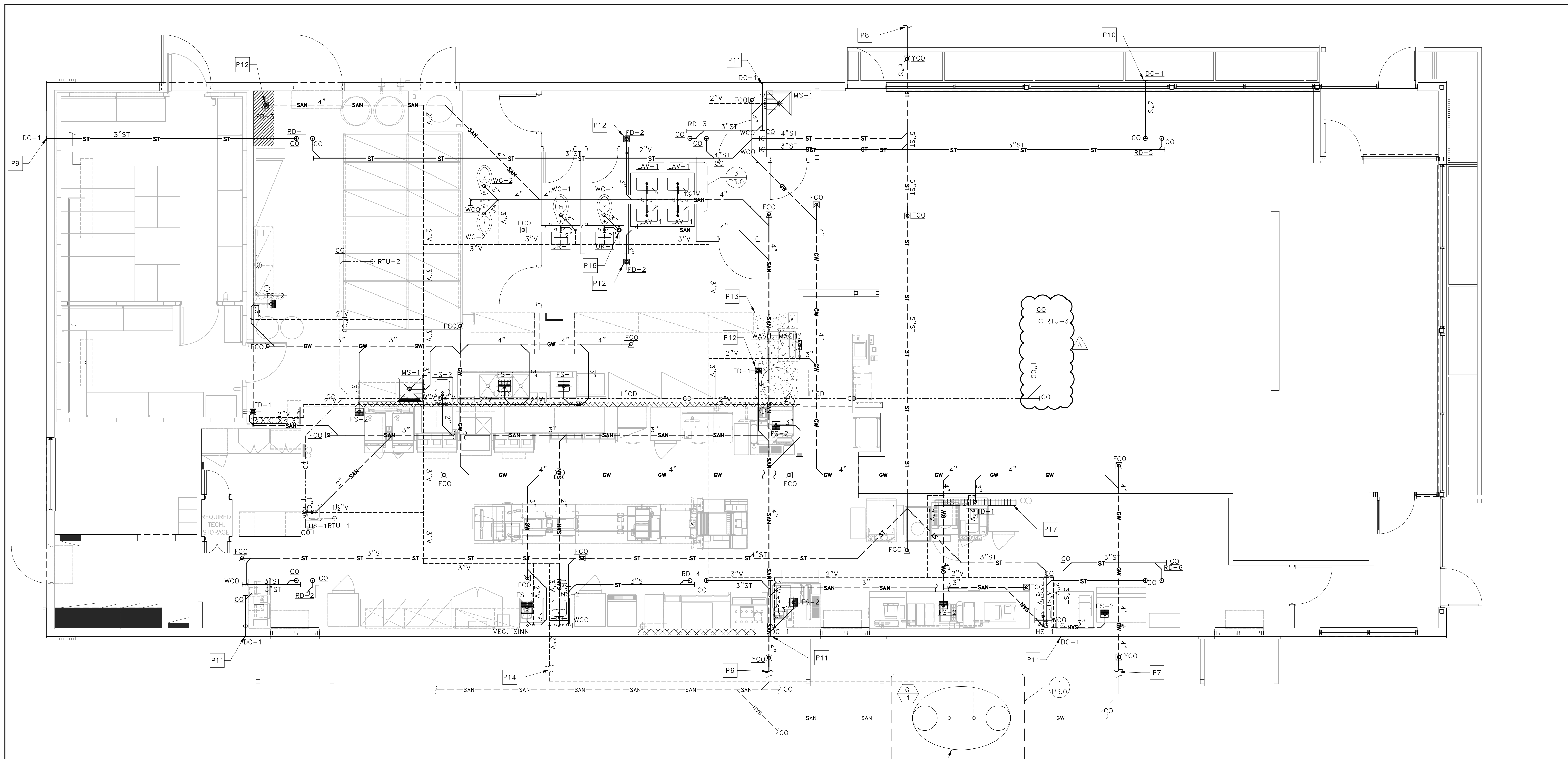
1. PIPING ROUTES AS SHOWN ARE GENERAL AND MAY VARY DUE TO FIELD CONDITIONS. COORDINATE ALL PIPE ROUTES WITH OTHER TRADES.
2. ALL WATER DISTRIBUTION PIPING SHALL BE INSULATED. INSULATION NOT SHOWN FOR CLARITY. SEE PLUMBING NOTES FOR INSULATION REQUIREMENTS.

**KEYED NOTES**

- P1 2" INCOMING UNDERGROUND WATER SERVICE (SEE SITE PLAN FOR CONTINUATION AND SIZE). WATER PIPING FROM THIS POINT TO CEILING PENETRATION INSIDE BUILDING SHALL BE COPPER.
- P2 3/4" COLD WATER UNDERGROUND TO YARD HYDRANT (HB-2) IN TRASH CORRAL. SEE SITE PLAN FOR CONTINUATION.
- P3 SHUT-OFF VALVE FOR RESTROOM ISOLATION. SEE VALVE SCHEDULE. ALL SHUT-OFF VALVES SHALL BE LOCATED OVER SUSPENDED CEILINGS FOR ACCESSIBILITY. DO NOT LOCATE IN AREAS WITH DRYWALL CEILINGS.
- P4 3/4" COLD WATER UP TO ROOF HYDRANT.
- P5 MIXING VALVE LOCATIONS SHOWN FOR INFORMATIONAL PURPOSES. SEE DETAIL 3 ON DRAWING P3.0 FOR MIXING VALVE INSTALLATION DETAILS.
- P6 PIPE-MOUNTED AQUASTAT TO SHUT PUMP DOWN WHEN RECIRCULATION TEMPERATURE REACHES 140°F. SEE DETAIL 6 ON DRAWING P3.0.
- P7 TIME CLOCK TO SHUT PUMP AND WATER HEATER DOWN DURING UNOCCUPIED HOURS. SEE ELECTRICAL DRAWINGS FOR WIRING DETAIL.
- P8 BALANCING VALVE FOR RECIRCULATION SYSTEM. SEE VALVE SCHEDULE. ALL BALANCING VALVES SHALL BE LOCATED OVER SUSPENDED CEILINGS FOR ACCESSIBILITY. DO NOT LOCATE IN AREAS WITH DRYWALL CEILINGS.
- P9 WATER PIPING AFTER CEILING PENETRATION CAN TRANSITION TO CPVC WHERE PERMITTED BY CODE.
- P10 PROPERLY SEAL ALL PIPE PENETRATIONS THROUGH DRAFT STOP WALL (TYP.)
- P11 PROVIDE TRAP PRIMER PROTECTION ON FLOOR DRAIN. P1-500 PRECISION PLUMBING PRODUCTS TRAP PRIMER TO BE MOUNTED IN WALL, MOUNTING HEIGHTS 18" A.F.F., PROVIDE CHROME PLATED ACCESS PANEL AND AG-500 AIR GAP CONNECTION.

ENGINEER OF RECORD:							
PREPARED BY:							
PREPARED FOR:							
DRAWN BY:	ES	STD ISSUE DATE:	2022_08	REVIEWED BY:	D. BEFFLER	DATE ISSUED:	10-21-2022
TITLE:	2022 STANDARD BUILDING - BB20		45114-WOOD/WOOD				SALEM, MO
SHEET NO.:	P1.0		DOMESTIC WATER PIPING				
DESCRIPTION:		WOOD BEARING WALLS W/HARDE BOARD SIDING WOOD ROOF TRUSS FRAMING EIFS/BATTEN/ADM PANEL/HARDE BOARD SIDING					
SITE ID:		024-1289					
SITE ADDRESS:		1000 S Main Street					
SHEET NO.:		24-1289.00.0					





1 WASTE, VENT & STORM PIPING  
 P1.2 SCALE: 1/4" = 1'-0"

### DRAWING NOTES

1. PIPING ROUTES ARE GENERAL AND MAY VARY DUE TO FIELD CONDITIONS. COORDINATE ALL PIPE ROUTES WITH OTHER TRADES.
2. WALL CLEAN-OUTS FOR WASTE PIPING NOT SHOWN FOR CLARITY. SEE GENERAL NOTES FOR REQUIREMENTS.
3. ONLY MAIN FLOOR CLEAN-OUTS ARE SHOWN FOR CLARITY. SEE GENERAL NOTES FOR REQUIREMENTS.
4. ALL HORIZONTAL STORM DRAINAGE PIPING SHALL BE INSULATED TO PREVENT CONDENSATION. INSULATION NOT SHOWN FOR CLARITY. SEE PLUMBING NOTES FOR INSULATION REQUIREMENTS.

### KEYED NOTES

- P6 4" SANITARY LINE TO SANITARY SEWER. SEE SITE PLAN FOR CONTINUATION.
- P7 4" GREASE LINE TO EXTERIOR GREASE INTERCEPTOR. SEE SITE PLAN FOR CONTINUATION
- P8 6" STORM LINE TO STORM SYSTEM. SEE SITE PLAN FOR CONTINUATION.
- P9 TERMINATE OVERFLOW DRAIN AS HIGH AS POSSIBLE WITH DOWNSPOUT COVER.
- P10 TERMINATE OVERFLOW DRAIN ABOVE TRELLIS WITH DOWNSPOUT COVER. BOTTOM OF DOWNSPOUT OUTLET PIPE SHALL BE AT LEAST 3" BUT NOT MORE THAN 8" ABOVE TOP OF TRELLIS.
- P11 TERMINATE BOTTOM OF OVERFLOW DRAIN A MINIMUM OF 12" ABOVE GRADE WITH DOWNSPOUT COVER.
- P12 PROVIDE PROSET TRAP GUARD® OR TRAP PRIMER FOR FLOOR DRAIN. IF TRAP PRIMER IS USED, CONNECT TO NEAREST WATER SOURCE.
- P13 TOP OF CONCRETE SLAB IS 0'-6" A.F.F.
- P14 VENT FROM GREASE INTERCEPTOR. SEE SITE PLAN FOR CONTINUATION. COORDINATE PIPE ROUTING WITH LOCATION OF GREASE INTERCEPTOR.
- P15 GREASE INTERCEPTOR LOCATION SHOWN FOR REFERENCE ONLY. COORDINATE GREASE INTERCEPTOR LOCATION WITH CIVIL ENGINEER AND SITE CONTRACTOR.
- P16 4" VENT THROUGH ROOF (4"Ø x 5"H)
- P17 REFERENCE MANUFACTURER INSTALLATION GUIDE FOR LAYOUT AND SLOPING GUIDELINES PRIOR TO INSTALL AND POURING THE SLAB.

### WASTE PIPE SIZING - IPC

FIXTURE TYPE	TRAP SIZE	DFU	QUANTITY	TOTAL
URINAL	2 IN.	4	2	8
WATER CLOSET	3 IN.	4	4	16
LAVATORY	1½ IN.	1	4	4
WASH SINK (HAND SINK)	1½ IN.	2	3	6
FLOOR DRAIN OR SINK	3 IN.	5	5	25
FLOOR DRAIN OR SINK	4 IN.	6	1	6
EMERGENCY FLOOR DRAIN (BATHROOMS)	3 IN.	0	2	0
TOTAL				65

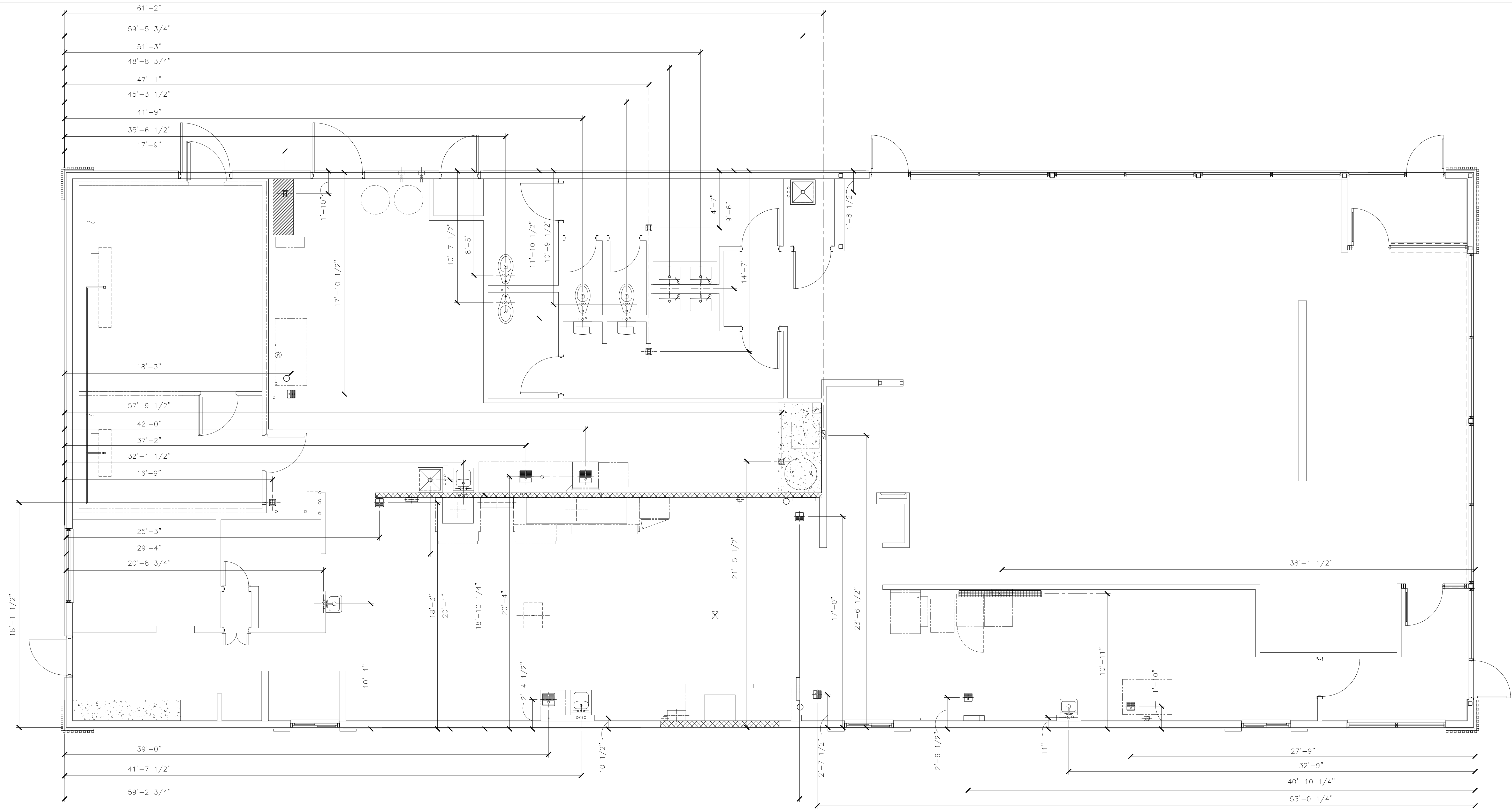
### GREASE PIPE SIZING - IPC

FIXTURE TYPE	TRAP SIZE	DFU	QUANTITY	TOTAL
SERVICE SINK (MOP SINK)	3 IN.	3	2	6
FLOOR DRAIN OR SINK	3 IN.	5	6	30
FLOOR DRAIN OR SINK	4 IN.	6	1	6
WASHING MACHINE	2 IN.	3	1	3
TOTAL				45

### STORM PIPE SIZING

RAINFALL = 3.4 IN./HR			
VERTICAL LEADERS			
ROOF DRAIN	ROOF AREA	SIZE	
RD-1	837	3	
RD-2	837	3	
RD-3	785	3	
RD-4	808	3	
RD-5	958	3	
RD-6	934	3	
TOTAL			5,159
HORIZONTAL PIPING (SLOPE 1/8" PER FOOT)			
ROOF DRAIN	ROOF AREA	SIZE	
RD-1 & RD-3	1,622	4	
RD-2 & RD-4	1,645	4	
RD-2, RD-4, & RD-6	2,579	5	
RD-2, RD-4, RD-5 & RD-6	3,537	5	
RD-1, RD-2, RD-3, RD-4, RD-5 & RD-6	5,159	6	

PREPARED BY: **McDonald's USA, LLC**  
 ENGINEER OF RECORD: **DAVID MCCAIG LEIFFER**  
 LICENSE NUMBER: **PC23002424**  
 PROFESSIONAL EXPIRES: **08/25/2023**  
 DATE: **08/25/23**  
 REV: **A**  
 ESE UPDATE  
 DESCRIPTION: **WASTE, VENT & STORM PIPING**  
 TITLE: **2022 STANDARD BUILDING - BB20**  
 SHEET NO.: **45114-WOOD/WOOD**  
 DESCRIPTION: **WOOD BEARING WALLS W/HARDBOARD SIDING**  
**WOOD ROOF TRUSS FRAMING**  
**EFS/BATTEN/ACM PANEL/HARDBOARD SIDING**  
 SITE ADDRESS: **1000 S Main Street**  
 SALEM, MO  
 24-1289.00.0  
**P1.2**

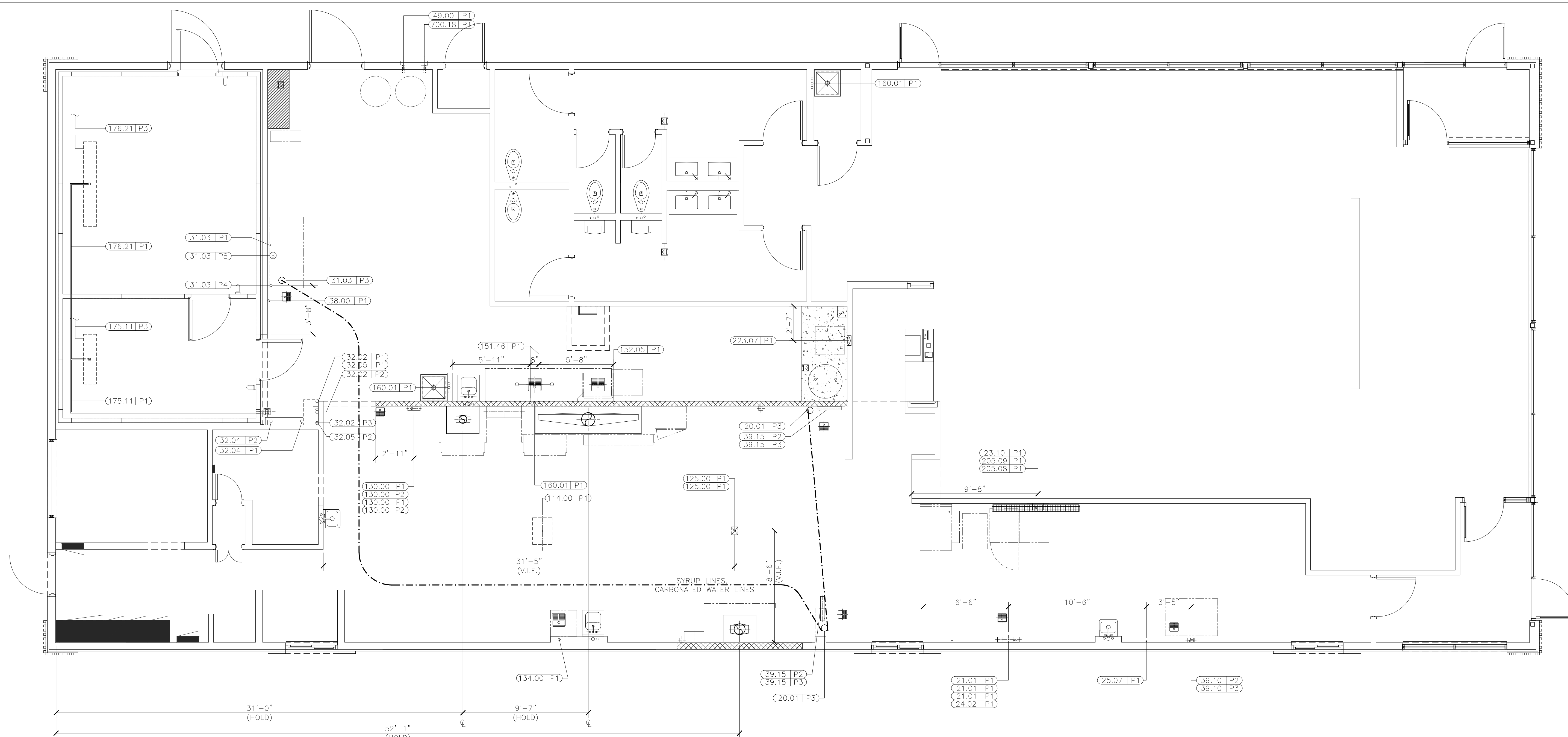


1 UNDERGROUND ROUGH-IN  
 SCALE: 1/4" = 1'-0"

**DRAWING NOTES**

1. THIS PLAN IS PROVIDED AS A GUIDE FOR THE PLUMBING CONTRACTOR. ALL DIMENSIONS ARE ROUNDED TO THE NEAREST 1/4" AND ARE TAKEN FROM THE OUTSIDE EDGE OF THE FOUNDATION WALL TO CENTERLINE OF SLAB PENETRATION.

TITLE	2022 STANDARD BUILDING - BB20	SALEM, MO
SHEET NO.	45114-WOOD/WOOD	
DESCRIPTION	WOOD BEARING WALLS W/HARDBOARD SIDING WOOD ROOF TRUSS FRAMING EIFS/BATTEN/ADM PANEL/HARDBOARD SIDING	
SITE ID	024-1289	
SITE ADDRESS	1000 S Main Street	
PREPARED FOR:	McDonald's USA, LLC	
PREPARED BY:	DAVID MCCAIG LEFFER	
PROFESSIONAL ENGINEER	NUMBER 123000214	
DATE	08/25/2023	
REV		
DATE		
DESCRIPTION		
BY		



1 OVERHEAD ROUGH-IN  
SCALE: 1/4" = 1'-0"

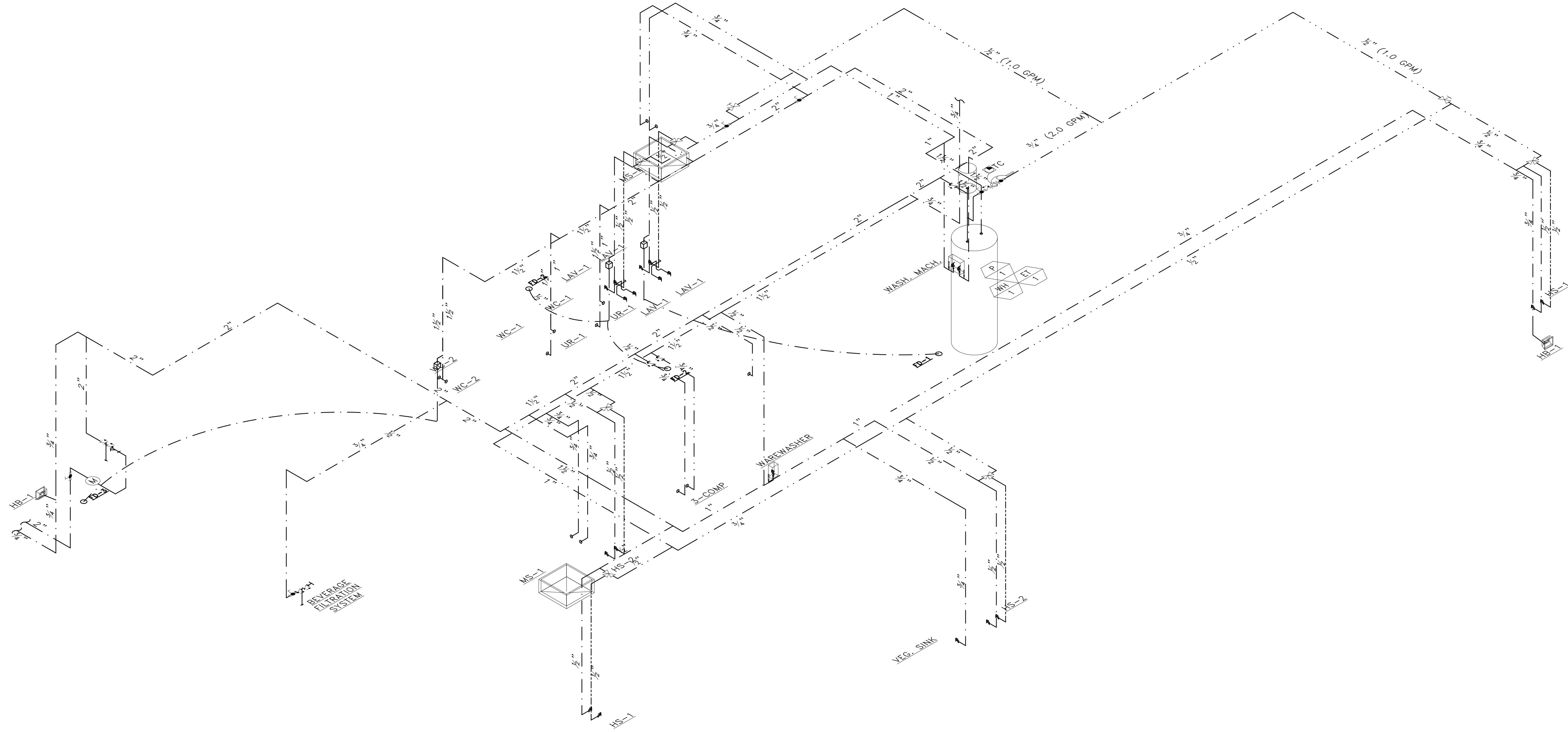
**PLUMBING SCHEDULE**

TAG #	QTY	DESCRIPTION	GAS TYPE	GAS BTU	GAS SIZE	HW	CW	MISC PLBG	HGT AFF	DRAIN	REQUIREMENTS & REMARKS
020.01P3	2	AUTOMATED BEVERAGE SYSTEM 2.0	-	-	-	-	-	SODA BUNDLE	SEE RMKS	-	DN CHASE FROM SODA SYSTEM - "T" FROM D/T - BSI TO MAKE FINAL CONNECTIONS PER LOCAL CODES
021.01P1	3	COFFEE BREWER (GLASS DECANTERS)	-	-	-	-	1/4" TRTD	-	SEE RMKS	-	DN CHASE FROM SODA SYSTEM - IF NO CHASE RUN IN 2"COND TO JB -BSI TO CONN CW LINE PER LOCAL CODES. 1/4" R.O. WATER OPTIONAL.
023.10P1	1	ESPRESSO BREWER	-	-	-	-	3/8" R.O.	-	SEE RMKS	3/8" IND	DN CHASE FROM R.O. SYSTEM - IF NO CHASE RUN IN 2"COND TO JB -BSI TO CONN CW LINE PER LOCAL CODES
024.02P1	1	JUICE DISPENSER	-	-	-	-	1/2" FLTR	-	SEE RMKS	-	-
025.07P1	1	INFUSION TEA BREWER - MIS	-	-	-	-	1/2" TRTD	3/8" CO2	SEE RMKS	-	DN CHASE FROM SODA SYSTEM - IF NO CHASE RUN IN 2"COND TO JB -BSI TO CONN CW LINE PER LOCAL CODES
031.03P1	1	SODA SYSTEM PACKAGE B.I.B.(RECIRCULATING- 3 TOWERS)	-	-	-	-	-	3/8" OUTLET	SEE RMKS	-	FLEX LINE OVERHEAD TO VARIOUS EQUIP. BSI TO MAKE FINAL CONN PER LOCAL CODES
031.03P3	1	SODA SYSTEM PACKAGE B.I.B.(RECIRCULATING- 3 TOWERS)	-	-	-	-	-	-	SEE RMKS	-	OVERHEAD TO SODA TOWER CHASE(S) - BSI TO MAKE FINAL CONNECTIONS PER LOCAL CODES
031.03P4	1	SODA SYSTEM PACKAGE B.I.B.(RECIRCULATING- 3 TOWERS)	-	-	-	-	3/4"	-	SEE RMKS	3/4" IND	BSI TO MAKE CONNECTION FROM BACKFLOW PREVENTER (VERIFY HEIGHT IN FIELD)
031.03P8	1	SODA SYSTEM PACKAGE B.I.B.(RECIRCULATING- 3 TOWERS)	-	-	-	-	-	REFRIG LINES	SEE RMKS	-	FROM REMOTE CONDENSING UNIT
032.02P1	1	REVERSE OSMOSIS WATER FILTRATION SYSTEM - TANKLESS	-	-	-	-	3/8" FLTR	-	SEE RMKS	-	FLEX LINE OVERHEAD FROM SODA SYSTEM -BSI TO MAKE FINAL CONN PER LOCAL CODES
032.02P2	1	REVERSE OSMOSIS WATER FILTRATION SYSTEM - TANKLESS	-	-	-	-	-	3/8" OUTLET	SEE RMKS	-	FLEX LINE OVERHEAD FROM RAPID STEAMER, ESPRESSO, AND COFFEE (OPT.) -BSI TO MAKE FINAL CONN PER LOCAL CODES
032.02P3	1	REVERSE OSMOSIS WATER FILTRATION SYSTEM - TANKLESS	-	-	-	-	-	-	SEE RMKS	1/4" WASTE	-
032.04P1	1	WATER FILTRATION SYSTEM	-	-	-	-	-	3/4" INLET	SEE RMKS	-	3/4" GHT RINSE CONN. FLEX LINE OVHD. TO RAPID STEAMER, ESPRESSO, & COFFEE (OPT.) -BSI TO MAKE FINAL CONN PER LOCAL CODE
032.04P2	1	WATER FILTRATION SYSTEM	-	-	-	-	-	3/4" OUTLET	SEE RMKS	-	FLEX LINE OVERHEAD FROM R.O. SYSTEM -BSI TO MAKE FINAL CONN PER LOCAL CODES
032.05P1	1	WATER FILTRATION SYSTEM	-	-	-	-	-	3/4" INLET	SEE RMKS	-	FLEX LINE OVERHEAD FROM R.O. SYSTEM -BSI TO MAKE FINAL CONN PER LOCAL CODES
032.05P2	1	WATER FILTRATION SYSTEM	-	-	-	-	-	3/4" OUTLET	SEE RMKS	-	FLEX LINE OVERHEAD TO COMBI OVENS AND STAGING CABINET -BSI TO MAKE FINAL CONN PER LOCAL CODES
038.00P1	1	CLEAN IN PLACE PANEL	-	-	-	-	1/2" FLTR	-	SEE RMKS	6'-0"	FOR CLEANING BULK COKE TANKS. INSTALL HEIGHT TO BOTTOM OF UNIT
039.10P2	1	ICE MACHINE - 1400 LB.	-	-	-	-	1/2" TRTD	-	SEE RMKS	3/4" IND	WATER LINE OVERHEAD FROM SODA SYSTEM - BSI TO MAKE FINAL CONNECTIONS PER LOCAL CODES
039.10P3	1	ICE MACHINE - 1400 LB.	-	-	-	-	-	REFRIG LINES	SEE RMKS	-	REFRIGERATION LINES OVERHEAD FROM REMOTE CONDENSING UNIT
039.15P2	2	ICE MACHINE - 1000 LB.	-	-	-	-	1/2" TRTD	-	SEE RMKS	3/4" IND	WATER LINE OVERHEAD FROM SODA SYSTEM - BSI TO MAKE FINAL CONNECTIONS PER LOCAL CODES
039.15P3	2	ICE MACHINE - 1000 LB.	-	-	-	-	-	REFRIG LINES	SEE RMKS	-	REFRIGERATION LINES OVERHEAD FROM REMOTE CONDENSING UNIT
049.00P1	1	CO2 FILL BOX	-	-	-	-	-	-	SEE RMKS	3'-4"	HEIGHT IS TO BOTTOM OF FILL BOX;SUPPLIED BY MANUFACTURER;INSTALLED BY G.C. SEE BUILDING ELEVATIONS.
114.00P1	1	HUMIDIFIED HOLDING CABINET	-	-	-	-	3/8" R.O.	-	SEE RMKS	-	BSI EXTENDS CW LINE OVERHEAD FROM R.O. SYSTEM & TERM. W/QUICK DISCONN. AND SHUTOFF

**PLUMBING SCHEDULE**

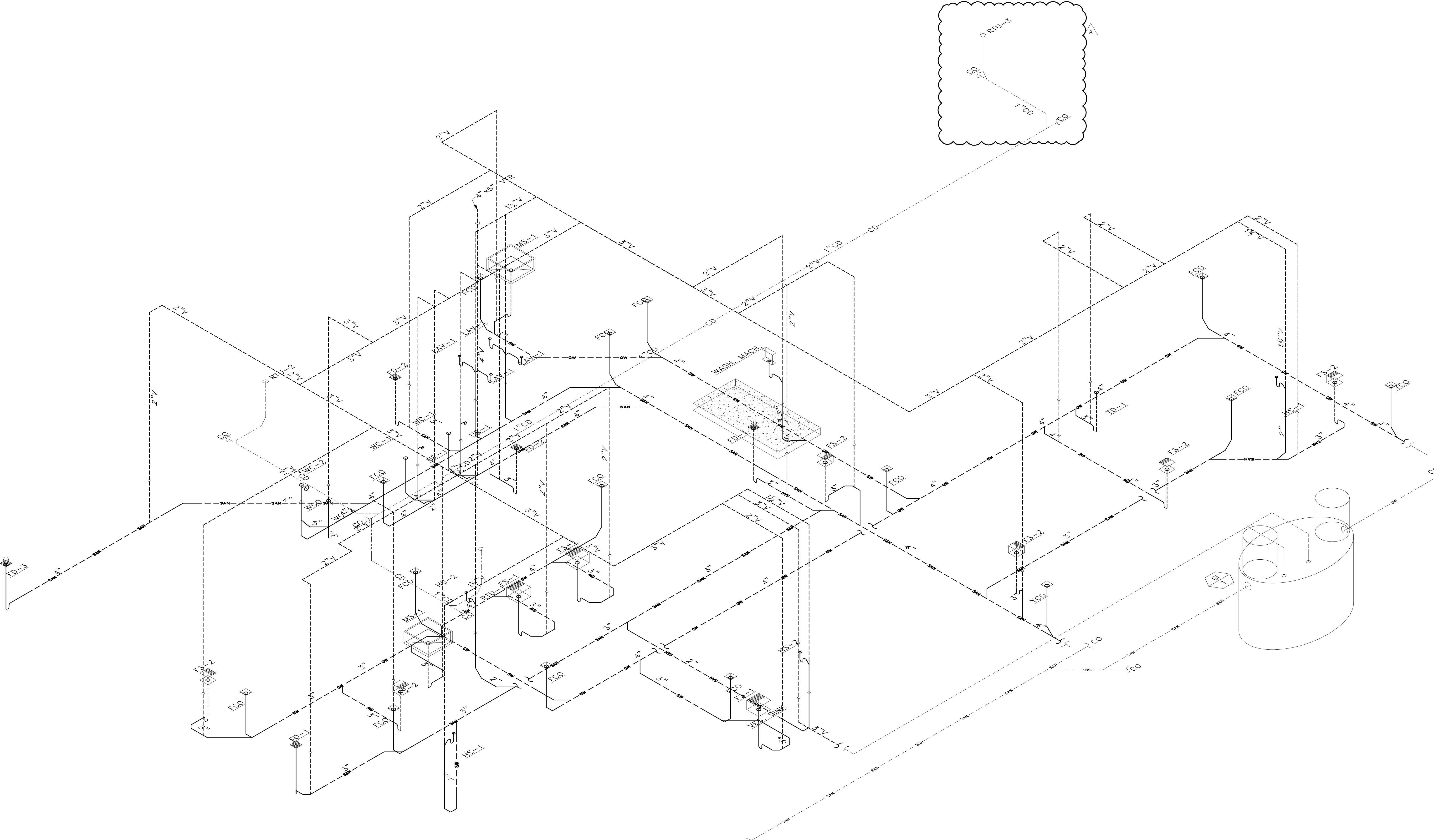
TAG #	QTY	DESCRIPTION	GAS TYPE	GAS BTU	GAS SIZE	HW	CW	MISC PLBG	HGT AFF	DRAIN	REQUIREMENTS & REMARKS
125.00P1	2	RAPID BUN STEAMER	-	-	-	-	-	3/8" R.O.	SEE RMKS	-	BSI EXTENDS CW LINE FROM R.O. SYSTEM & TERM. W/QUICK DISCONN.
130.00P1	2	COMBI OVEN	-	-	-	-	-	1/2" FLTR	SEE RMKS	1 1/2" IND	BSI EXTENDS CW LINE OVERHEAD FROM SODA SYSTEM & TERM. W/QUICK DISCONN. AND SHUTOFF
130.00P2	2	COMBI OVEN	-	-	-	-	-	3/8" R.O.	SEE RMKS	-	BSI EXTENDS CW LINE OVERHEAD FROM R.O. SYSTEM & TERM. W/QUICK DISCONN. AND SHUTOFF
134.00P1	1	VEGETABLE SINK	-	-	-	-	-	3/4"	SEE RMKS	1'-10"	1-1/2" IND
151.46P1	1	SOILED DISHTABLE - RIGHT HAND - 90.5" WIDE	-	-	-	-	3/4" 140	3/4"	SEE RMKS	1'-6"	-
152.05P1	1	WAREWASHER (WITH VAPOR VENT) - UPRIGHT	-	-	-	-	1/2" 140	1/2"	SEE RMKS	2" INDIRECT	PC TO PROVIDE HW, CW, INDIRECT DRAIN PIPING AND MAKE ALL FINAL CONNECTIONS. HW @ 5'-2" AFF, CW @ 4'-10" AFF, DRAIN @ 9"
160.01P1	3	CHEMICAL SYSTEM	-	-	-	-	3/4" 110	-	SEE RMKS	-	PC TO PROVIDE 3/4" MHT. FINAL CONNECTIONS BY EQUIPMENT INSTALLER PER LOCAL CODE. SEE SHEET P3.0 FOR INSTALLATION HEIGHT
175.11P1	1	COOLER EVAPORATOR	-	-	-	-	-	-	SEE RMKS	3/4" COND.	PC TO ROUTE CONDENSATE DRAIN LINE TO FLOOR DRAIN. PC TO LIQUID-TIGHT SEAL OPENING FOR LINE EXITING BOX. HEAT TAPE BY REF.
175.11P3	1	COOLER EVAPORATOR	-	-	-	-	-	REFRIG LINES	SEE RMKS	-	RUN TO REMOTE CONDENSING UNIT-INSULATE FULL RUN LENGTH-INSTALLED BY REFRIG. CONTRACTOR
176.21P1	1	FREEZER EVAPORATOR	-	-	-	-	-	-	SEE RMKS	3/4" COND.	PC TO ROUTE CONDENSATE DRAIN LINE TO FLOOR DRAIN. PC TO LIQUID-TIGHT SEAL OPENING FOR LINE EXITING BOX. HEAT TAPE BY REF.
176.21P3	1	FREEZER EVAPORATOR	-	-	-	-	-	REFRIG LINES	SEE RMKS	-	RUN TO REMOTE CONDENSING UNIT-INSULATE FULL RUN LENGTH-INSTALLED BY REFRIG. CONTRACTOR
205.08P1	1	BIC MACHINE	-	-	-	-	1/2" FLTR	-	SEE RMKS	1" IND	DN CHASE, IF NO CHASE RUN IN 2"COND TO JB -BSI TO CONNECT LINES PER LOCAL CODES
205.09P1	1	FROZEN BEVERAGE DISPENSER	-	-	-	-	1/2" FLTR	3/8" CO2	SEE RMKS	-	DN CHASE, IF NO CHASE RUN IN 2"COND TO JB -BSI TO CONNECT LINES PER LOCAL CODES
223.07P1	1	WASHER	-	-	-	-	3/4" 140	3/4"	SEE RMKS	4'-0"	1 1/2" D SEE PLUMBING DWGS FOR WALL BOX. INSTALL HEIGHT IS TO BOTTOM OF THE BOX
700.18P1	1	BULK OIL FILL BOX	-	-	-	-	-	-	SEE RMKS	3'-4"	HEIGHT IS TO BOTTOM OF FILL BOX;SUPPLIED BY MANUFACTURER;INSTALLED BY G.C. SEE BUILDING ELEVATIONS.

PREPARED BY: **McDonald's USA, LLC**  
 ENGINEER OF RECORD: **DAVID MCMAH LEIFFER**  
 PROFESSIONAL ENGINEER NUMBER: **PC20100214**  
 DATE: **08/25/2023**  
**CORE STATES GROUP**  
 212 E. 4th Street  
 Birmingham, AL 35203  
 www.corestates.com  
 DRAWN BY: **AJ/ES**  
 STD ISSUE DATE: **2022\_08**  
 REVIEWED BY: **D. LEIFFER**  
 DATE ISSUED: **10-21-2022**  
 TITLE: **2022 STANDARD BUILDING - BB20**  
 DESCRIPTION: **45114-WOOD/WOOD BEARING WALLS W/HARDBOARD SIDING WOOD ROOF TRUSS FRAMING E/F/S/BATTEN/ACM PANEL/HARDBOARD SIDING**  
 SHEET NO: **P1.6**  
 OVERHEAD ROUGH-IN  
 SALEM, MO  
 1000 S Main Street  
 024-1289

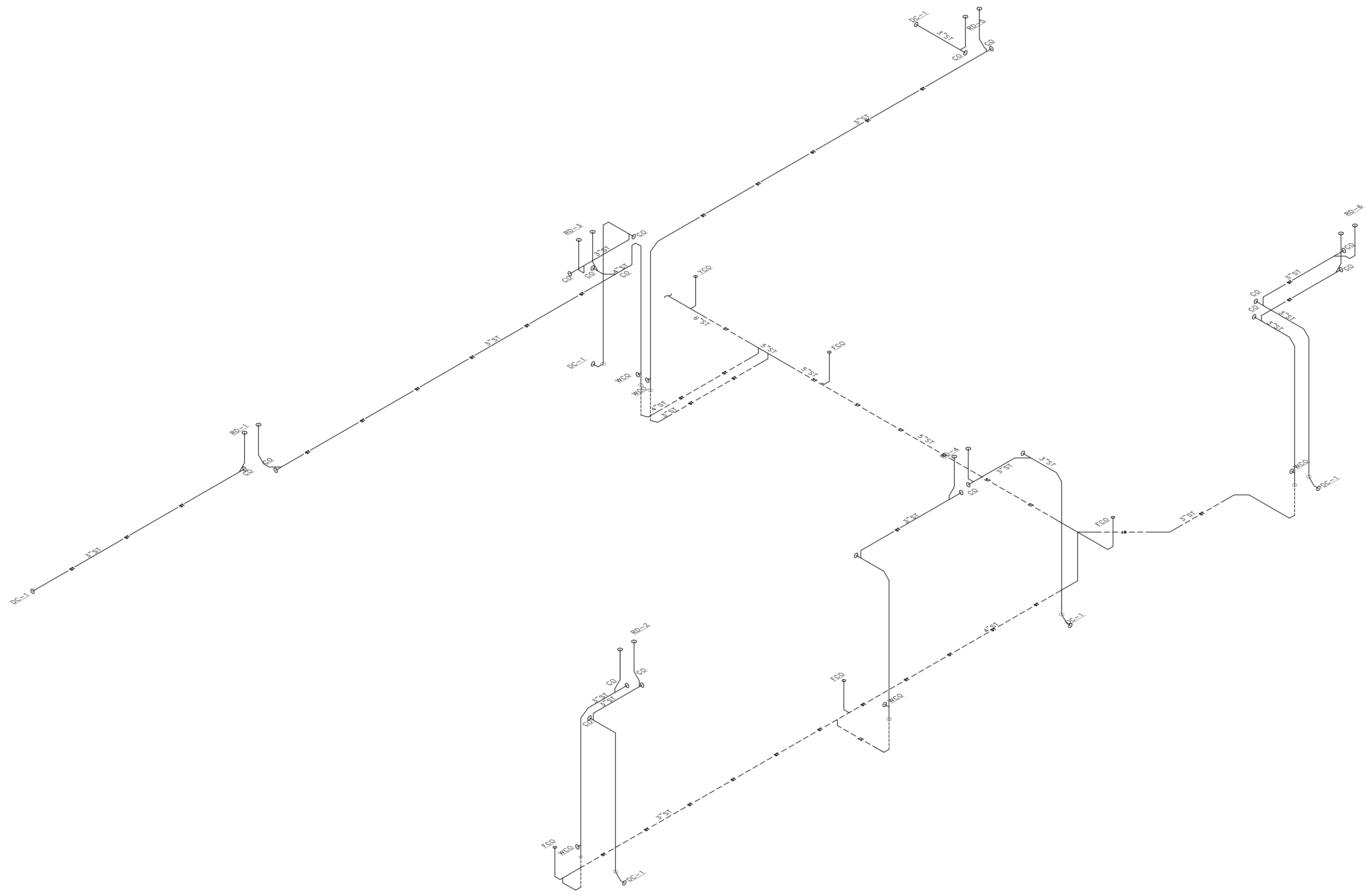


1 DOMESTIC WATER PIPING ISOMETRIC  
 P2.0 SCALE: NONE

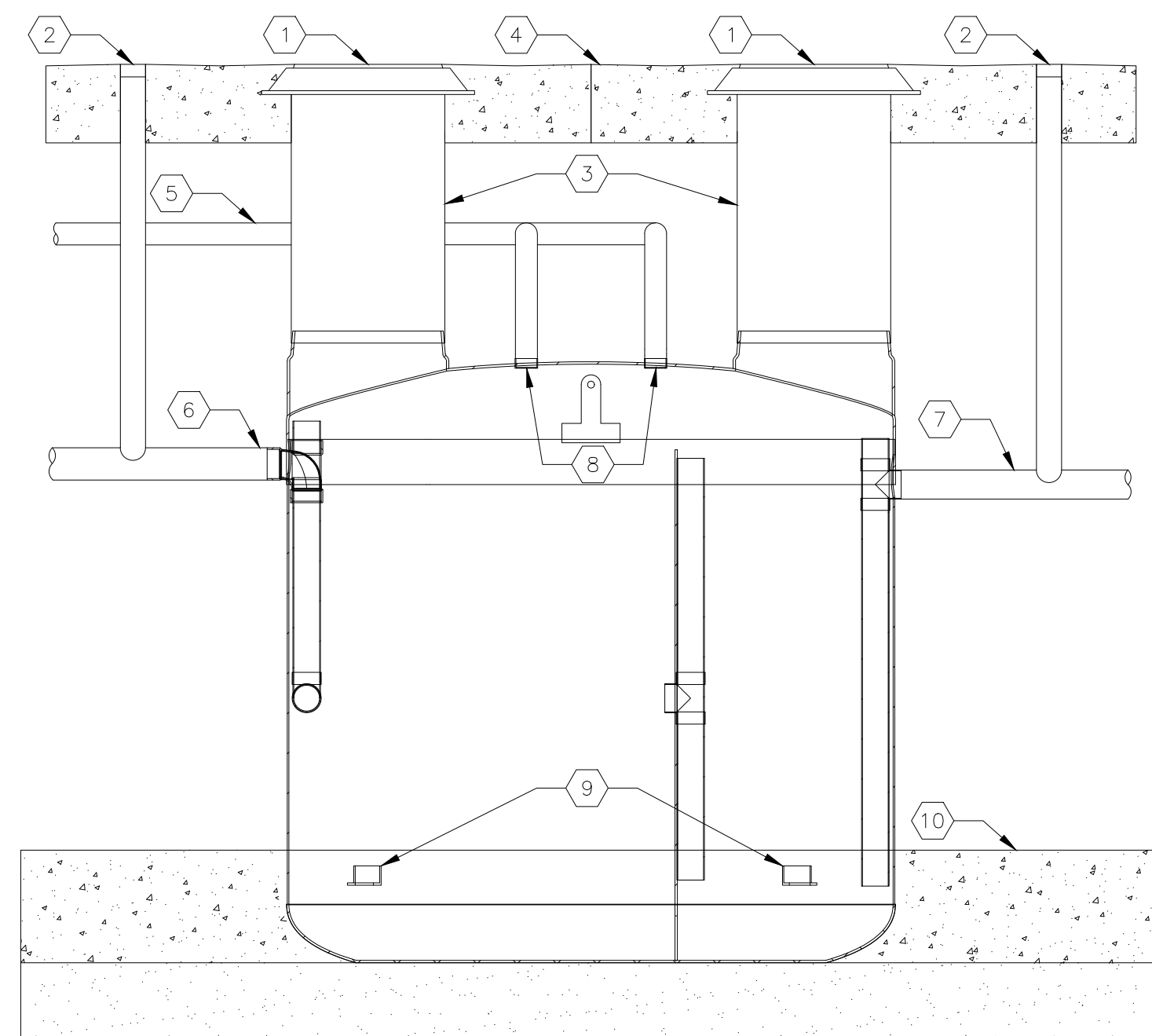
SHEET NO.	2022 STANDARD BUILDING - BB20		SALEM, MO
	45114-WOOD/WOOD		
DESCRIPTION	WOOD BEARING WALLS W/HARDE BOARD SIDING		
	WOOD ROOF TRUSS FRAMING		
	EIFS/BATTEN/ACM PANEL/HARDE BOARD SIDING		
TITLE	2022 STANDARD BUILDING - BB20		
DRAWN BY	ES		
STD. ISSUE DATE	2022_08		
REVIEWED BY	D. LEFFER		
DATE ISSUED	10-21-2022		
PREPARED FOR:	©2023 McDonald's USA, LLC <b>McDonald's USA, LLC</b> These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared not suitable for use on a different site or at a later time. Use of these drawings for reference or example on another project requires the contract documents for reuse on another project is not authorized.		
PREPARED BY:	<b>CORE STATES GROUP</b> 2114 E. 34th Street Bentonville, AR 72712 www.corestates.com		
ENGINEER OF RECORD:	STATE OF MISSOURI <b>DAVID MICHAEL LEFFER</b> NUMBER PE-20101211 PROFESSIONAL ENGINEER 08/25/2025		
REV.	DATE	DESCRIPTION	BY



TITLE	2022 STANDARD BUILDING - BB20	SALEM, MO
SHEET NO.	45114-WOOD/WOOD	
DESCRIPTION	WOOD BEARING WALLS W/HARDBOARD SIDING WOOD ROOF TRUSS FRAMING EIFS/BATTEN/ACM PANEL/HARDBOARD SIDING	
DATE ISSUED	10-21-2022	
REVIEWED BY	D. LEFFER	
STD ISSUE DATE	2022_08	
DRAWN BY	ES	
PREPARED FOR:	© 2023 McDonald's USA, LLC <b>McDonald's USA, LLC</b>	
PREPARED BY:	<b>CORE STATES GROUP</b>	
ENGINEER OF RECORD:	DAVID MCAH LEFFER PROFESSIONAL ENGINEER NUMBER: PC20004214 08/25/2023	
REV	A	08/25/23
DATE		
DESCRIPTION		
ESE UPDATE		
BY		



SHEET NO.	24-1289.00.0	TITLE	2022 STANDARD BUILDING - BB20	DRAWN BY	ES	PREPARED FOR:	© 2023 McDonald's USA, LLC	ENGINEER OF RECORD:		REV.	DATE	DESCRIPTION	BY
	P2.2		STORM ISOMETRIC		SALEM, MO		2022_08				McDonald's USA, LLC		
DESCRIPTION		45114 - WOOD/WOOD		REVIEWED BY		<p>These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared by McDonald's USA, LLC and shall not be used for any other project without the express written consent of McDonald's USA, LLC. Use of these drawings for reference or example on another project requires the approval of McDonald's USA, LLC. Use of these drawings for reuse on another project is not authorized.</p>							
SITE ADDRESS		1000 S Main Street		DATE ISSUED		<p>21244-3413-001 Bismarck, MO 64820 www.corestates.com</p>							
SITE ID		024-1289		10-21-2022									

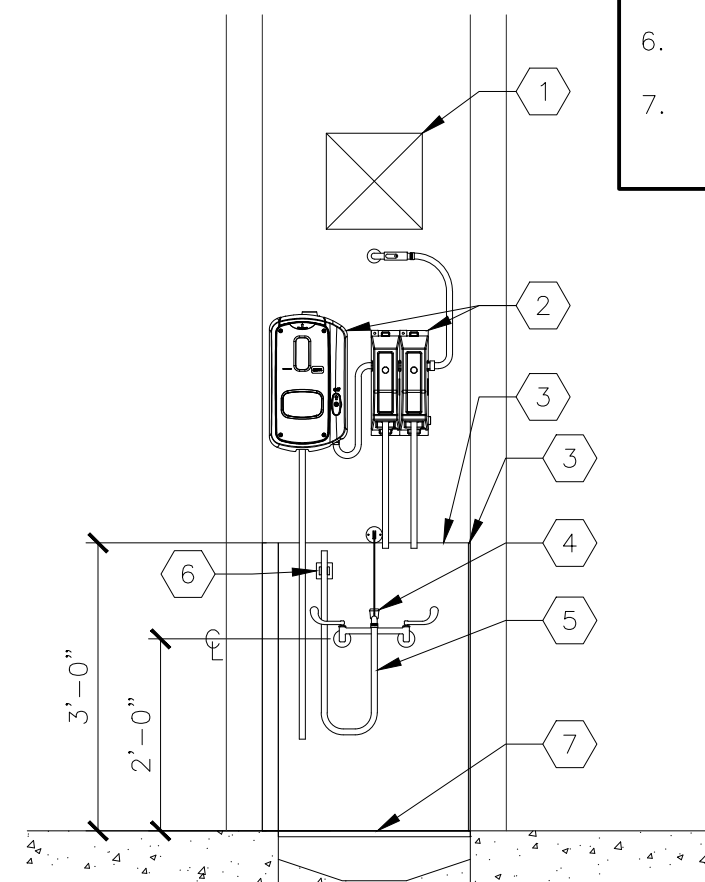


- KEYED NOTES:**
1. 24" MANWAY ACCESS COVER
  2. 4" CLEAN-OUT
  3. MANWAY EXTENSION TO FINISHED GRADE
  4. CONCRETE SLAB FOR TRAFFIC LOADING
  5. 3" VENT BACK TO BUILDING
  6. 4" INLET
  7. 4" OUTLET
  8. 3" VENT CONNECTION
  9. HOLD DOWN BRACKET
  10. ANTI-BUOYANCY PAD FOR HIGH WATER TABLE INSTALLATIONS

\*SEE GREEN TURTLE PROCEPTOR INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION.

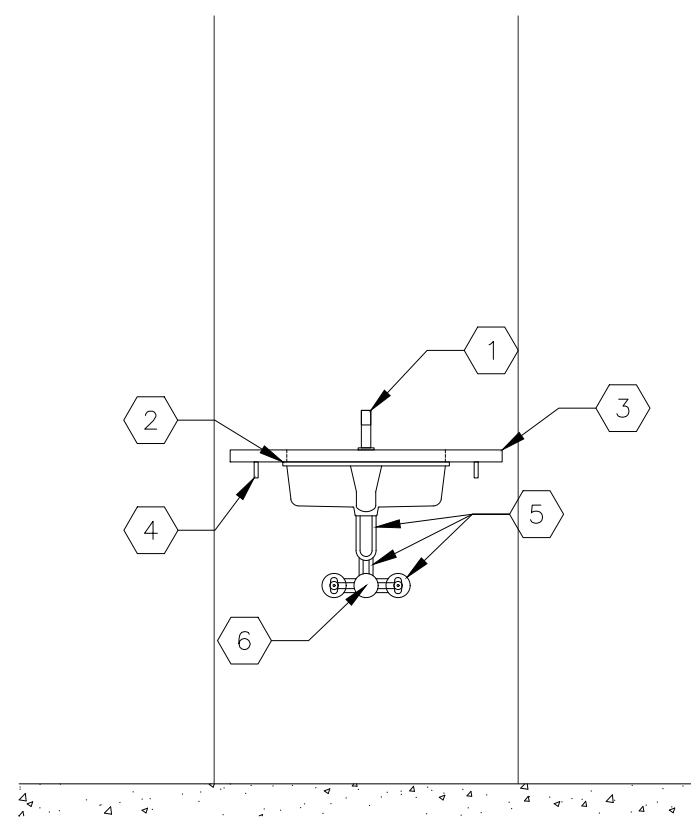
**DETAIL**  
ELEVATION VIEW  
GREASE INTERCEPTOR INSTALLATION  
SCALE: NONE  
P3.0

- KEYED NOTES:**
1. ACCESS PANEL FOR THERMOSTATIC MIXING VALVE (SEE CHEMICAL SYSTEM INSTALLATION DETAIL)
  2. ECOLAB CHEMICAL SYSTEM (SEE CHEMICAL SYSTEM INSTALLATION DETAIL)
  3. 24"Wx36"H WALL GUARD (QTY. 2) FURNISHED WITH MOP SINK (SEE PLUMBING FIXTURE SCHEDULE)
  4. MOP SINK FAUCET WITH INTEGRAL VACUUM BREAKER (SEE PLUMBING FIXTURE SCHEDULE)
  5. HOSE FURNISHED WITH MOP SINK FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
  6. HOSE BRACKET FURNISHED WITH MOP FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
  7. FLOOR GRATE

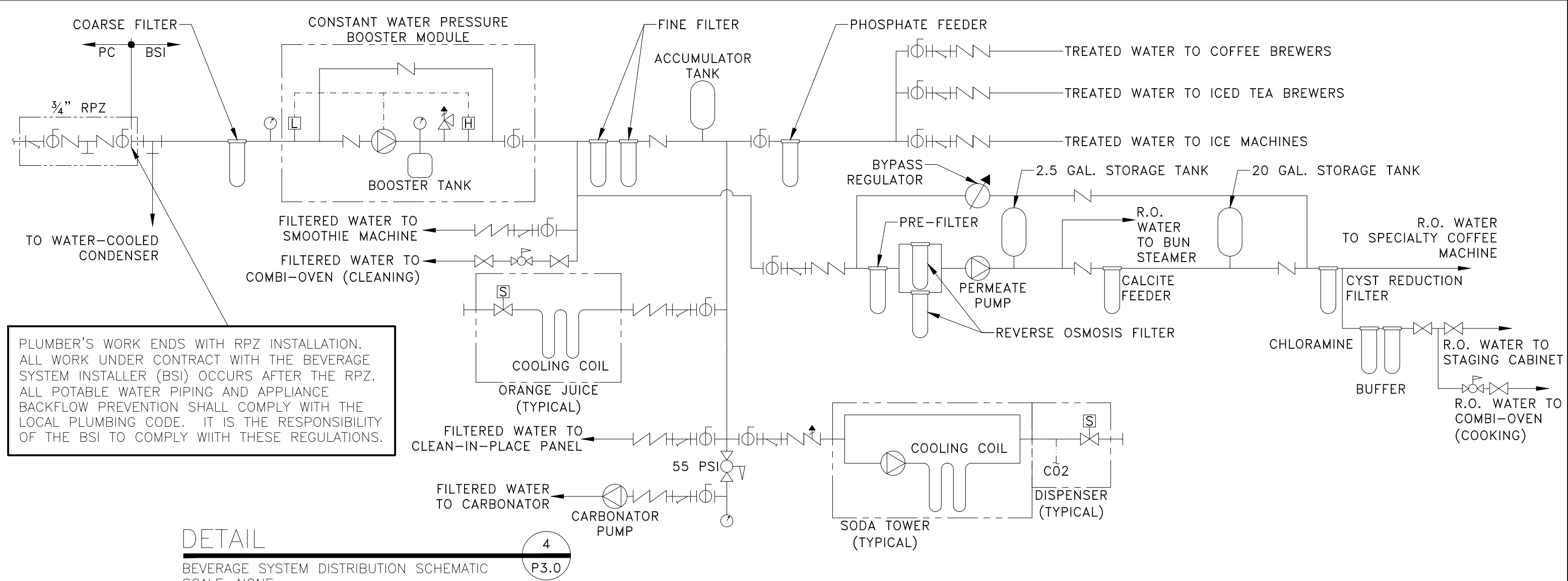


**DETAIL**  
RECESSED MOP SINK  
SCALE: 1/2"=1'-0"  
P3.0

- KEYED NOTES:**
1. FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
  2. LAVATORY OR HAND SINK (SEE PLUMBING FIXTURE SCHEDULE)
  3. CORIAN COUNTERTOP - TOILET ROOMS ONLY (FURNISHED BY G.C.)
  4. LAVATORY CARRIER - TOILET ROOMS ONLY (SEE ARCHITECTURAL DRAWINGS)
  5. OUTLINE OF ADA COMPLIANT WRAP (SEE PLUMBING FIXTURE SCHEDULE)
  6. THERMOSTATIC MIXING VALVE (SEE VALVE SCHEDULE)



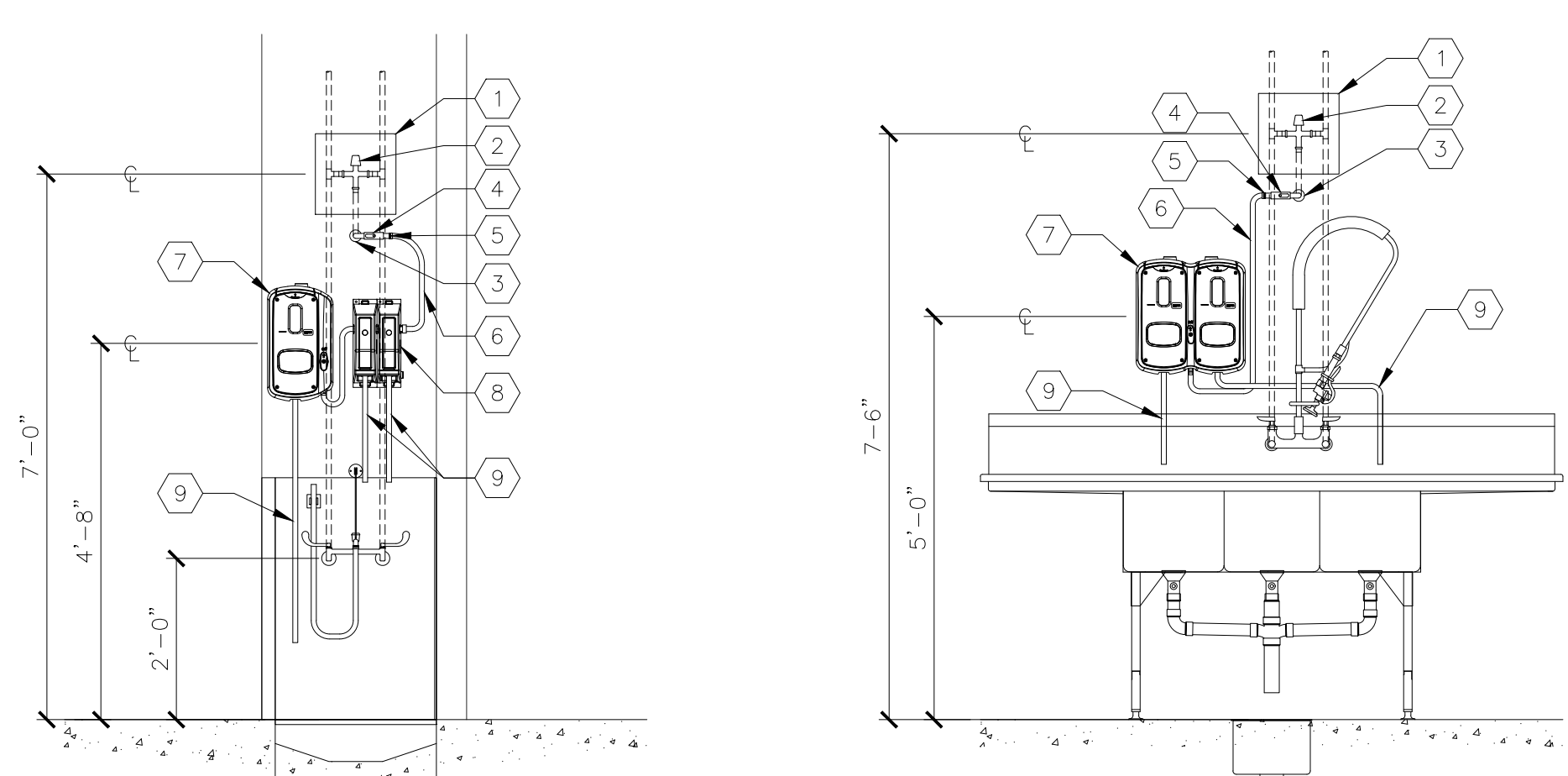
**DETAIL**  
LAVATORY (OR HAND SINK)  
SCALE: 1/2"=1'-0"  
P3.0



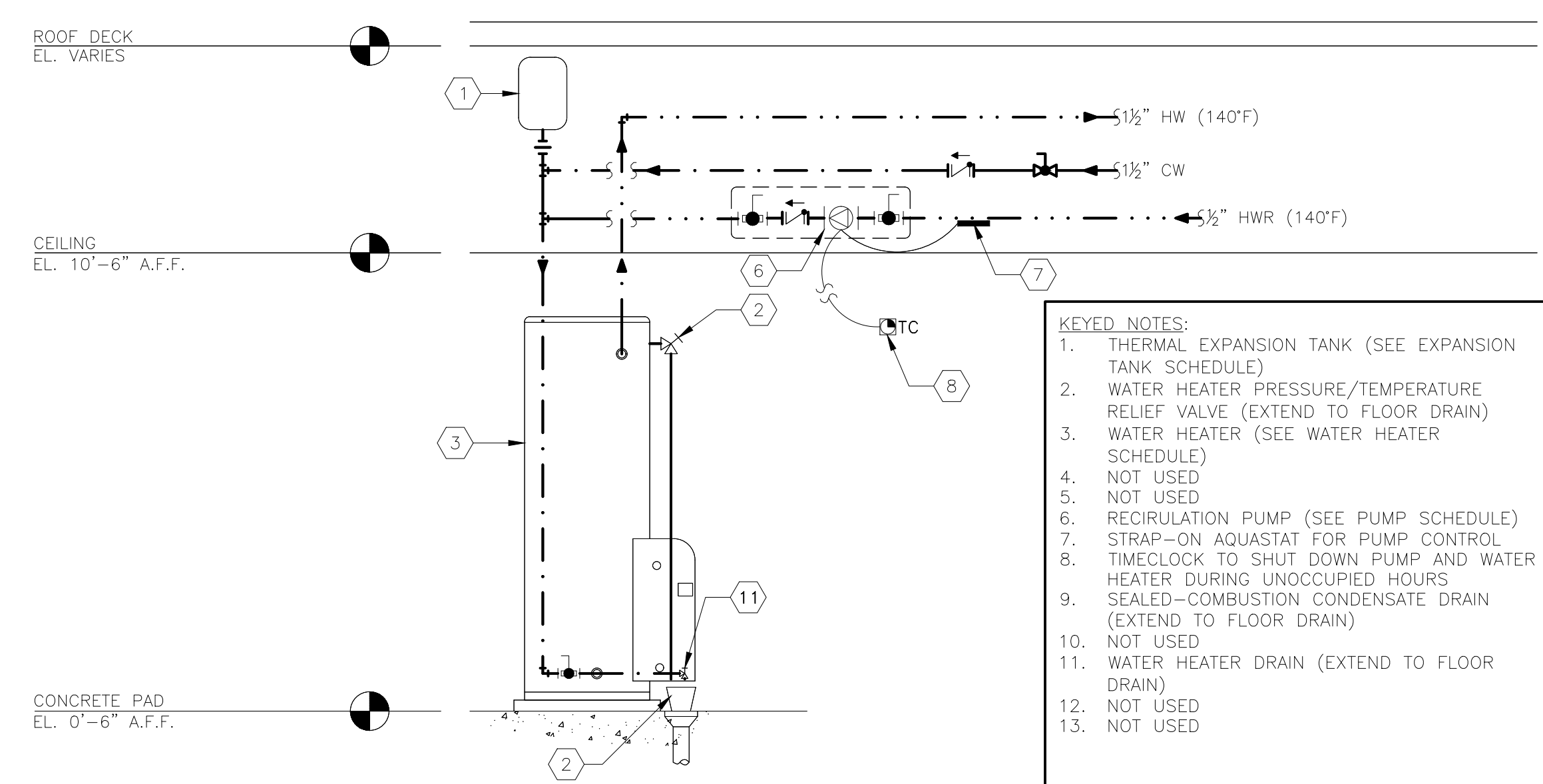
PLUMBER'S WORK ENDS WITH RPZ INSTALLATION. ALL WORK UNDER CONTRACT WITH THE BEVERAGE SYSTEM INSTALLER (BSI) OCCURS AFTER THE RPZ. ALL POTABLE WATER PIPING AND APPLIANCE BACKFLOW PREVENTION SHALL COMPLY WITH THE LOCAL PLUMBING CODE. IT IS THE RESPONSIBILITY OF THE BSI TO COMPLY WITH THESE REGULATIONS.

**DETAIL**  
BEVERAGE SYSTEM DISTRIBUTION SCHEMATIC  
SCALE: NONE  
P3.0

- KEYED NOTES:**
1. 12"x12" ACCESS PANEL (COORDINATE INSTALLATION WITH G.C.)
  2. THERMOSTATIC MIXING VALVE SET TO 110°F (SEE VALVE SCHEDULE)
  3. PIPE THROUGH WALL WITH ESCUTCHEON PLATE
  4. SHUT-OFF VALVE
  5. 3/4" MHT CONNECTION
  6. HOSE TO CHEMICAL SYSTEM
  7. ECOLAB SOLIDSENSE CHEMICAL DISPENSER
  8. ECOLAB SMARTSHAPE CHEMICAL DISPENSER
  9. CHEMICAL DISPENSING HOSE
- \*\*\*PLUMBER'S WORK ENDS AT MHT CONNECTION\*\*\*



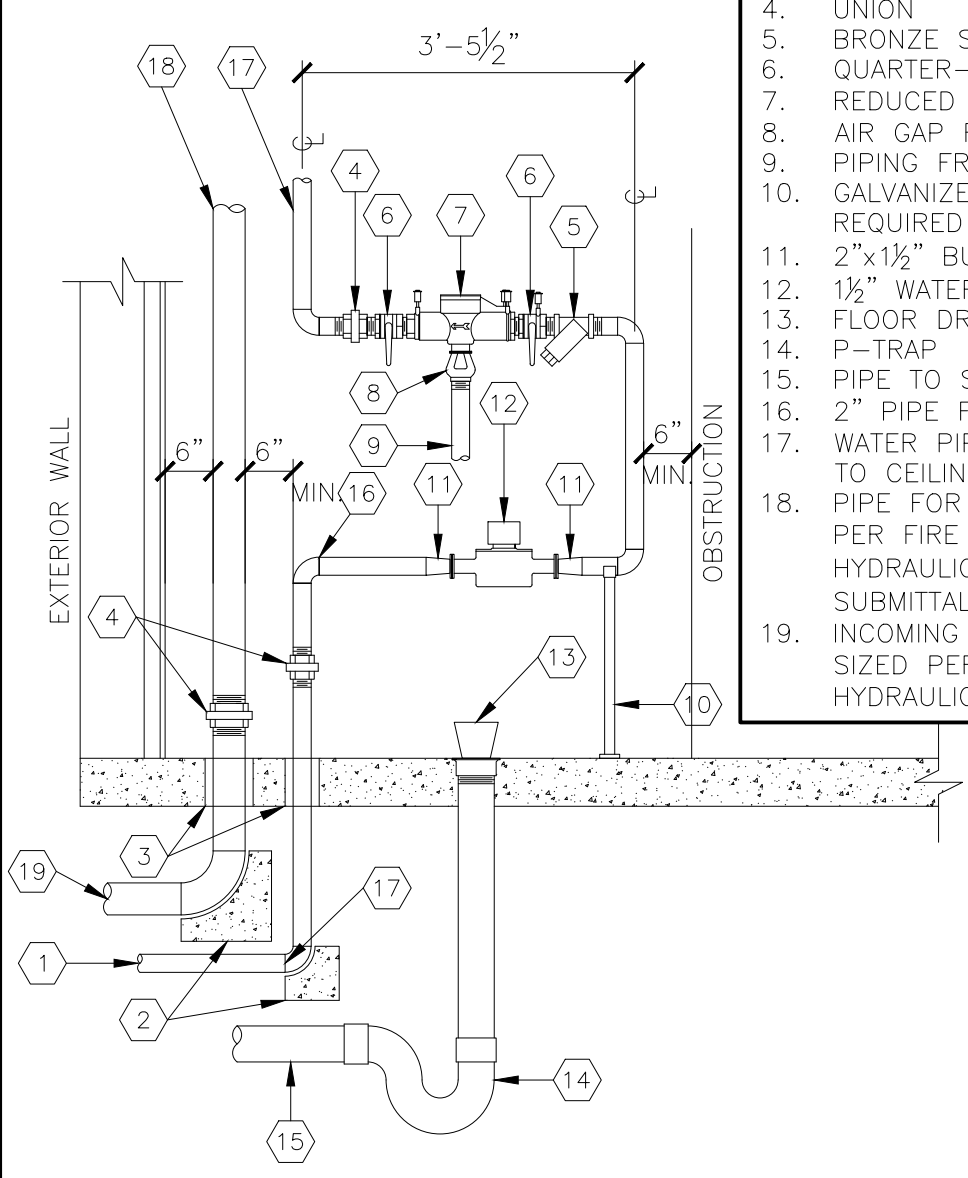
**DETAIL**  
CHEMICAL SYSTEM INSTALLATION  
SCALE: 1/2"=1'-0"  
P3.0



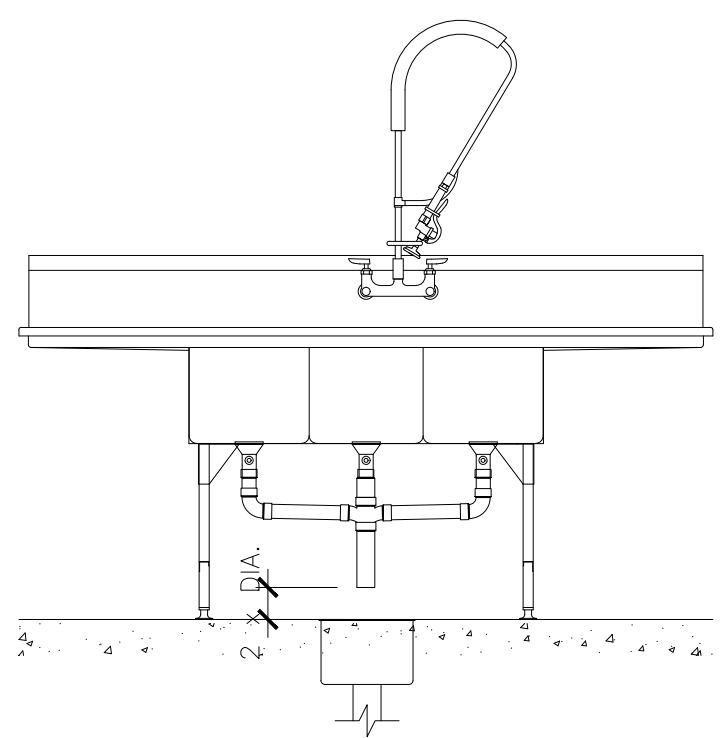
- KEYED NOTES:**
1. THERMAL EXPANSION TANK (SEE EXPANSION TANK SCHEDULE)
  2. WATER HEATER PRESSURE/TEMPERATURE RELIEF VALVE (EXTEND TO FLOOR DRAIN)
  3. WATER HEATER (SEE WATER HEATER SCHEDULE)
  4. NOT USED
  5. NOT USED
  6. RECIRCULATION PUMP (SEE PUMP SCHEDULE)
  7. STRAP-ON AQUASTAT FOR PUMP CONTROL
  8. TIMECLOCK TO SHUT DOWN PUMP AND WATER HEATER DURING UNOCCUPIED HOURS
  9. SEALED-COMBUSTION CONDENSATE DRAIN (EXTEND TO FLOOR DRAIN)
  10. NOT USED
  11. WATER HEATER DRAIN (EXTEND TO FLOOR DRAIN)
  12. NOT USED
  13. NOT USED

**DETAIL**  
WATER HEATER PIPING  
SCALE: NONE  
P3.0

- KEYED NOTES:**
1. 2" INCOMING UNDERGROUND WATER SERVICE SIZED PER BUILDING PLUMBING WATER CALCULATIONS
  2. BLOCKING AT CHANGES IN DIRECTION
  3. MINIMUM 1/2" ANNULAR CLEARANCE
  4. UNION
  5. BRONZE STRAINER
  6. QUARTER-TURN BALL VALVE
  7. REDUCED PRESSURE ZONE (RPZ) ASSEMBLY
  8. AIR GAP FOR RELIEF VALVE
  9. PIPING FROM AIR GAP TO FLOOR DRAIN
  10. GALVANIZED STEEL PIPE SUPPORTS AS REQUIRED
  11. 2"x1/2" BUSHING
  12. 1/2" WATER METER\*\*
  13. FLOOR DRAIN-PITCH FLOOR TOWARDS DRAIN
  14. P-TRAP
  15. PIPE TO SEWER-PITCH AND VENT PER CODE
  16. 2" PIPE FOR WATER SERVICE
  17. WATER PIPING FROM 5 FT. FROM BUILDING TO CEILING PENETRATION SHALL BE COPPER. PIPE FOR FIRE SPRINKLER SYSTEM SIZED PER FIRE PROTECTION CONTRACTOR'S HYDRAULIC CALCULATIONS. (SEPARATE SUBMITTAL)
  18. INCOMING UNDERGROUND WATER SERVICE SIZED PER FIRE PROTECTION CONTRACTOR'S HYDRAULIC CALCULATIONS



**DETAIL**  
INCOMING WATER SERVICE  
SCALE: 1/2"=1'-0"  
P3.0



**DETAIL**  
INDIRECT DRAINAGE PIPING (TYP.)  
SCALE: 1/2"=1'-0"  
P3.0

ENGINEER OF RECORD:  
DAVID MCCAIG LEED AP  
PROFESSIONAL ENGINEER  
NUMBER  
PE230012414  
08/25/2023

PREPARED BY:  
**CORE STATES GROUP**  
212 E. 3rd Street  
Baltimore, MD 21202  
www.corestates.com

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DRAWN BY: ES  
STD ISSUE DATE: 2022\_08  
REVIEWED BY: D. BEFFER  
DATE ISSUED: 10-21-2022

TITLE: 2022 STANDARD BUILDING - BB20  
DESCRIPTION: 45114-WOOD/WOOD  
WOOD BEARING WALLS W/HARDBOARD SIDING  
WOOD ROOF TRUSS FRAMING  
EFS/BATTEN/ACM PANEL/HARDBOARD SIDING  
SITE ID: 024-1289  
SITE ADDRESS: 1000 S Main Street  
SALEM, MO

24-1289.00.0  
**P3.0**  
DETAILS

REV	DATE	DESCRIPTION

## GENERAL PLUMBING NOTES

**GENERAL:**

- ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
- ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBER.
- ALL DIMENSIONS, CLEARANCES AND TOLERANCES SHALL BE VERIFIED PRIOR TO INSTALLATION. ALL ROUGH-IN LOCATIONS SHALL BE COORDINATED WITH THE MANUFACTURER'S SUBMITTAL INFORMATION.
- ALL DIMENSIONAL INFORMATION IS AS FOLLOWS (UNLESS NOTED OTHERWISE):
  - A. UNDERGROUND PIPE IS TO FOUNDATION
  - B. OVERHEAD PIPE IS TO FINISHED WALL
  - C. ELEVATIONS ARE TO FINISHED FLOOR
- ALL MATERIALS, FIXTURES AND EQUIPMENT USED SHALL BE IN ACCORDANCE WITH MCDONALD'S SPECIFICATIONS. SPECIFICATIONS ARE CONTAINED WITHIN THESE DRAWINGS AND THE MCDONALD'S PROJECT MANUAL. ANY CONTRACTOR IN NEED OF A COPY OF THE MCDONALD'S PROJECT MANUAL SHALL CONTACT THE MCDONALD'S AREA CONSTRUCTION MANAGER. ANY VARIANCE FROM THE MCDONALD'S SPECIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER-OF-RECORD.
- SEE COORDINATION SCHEDULE FOR ADDITIONAL SCOPE OF WORK.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND/OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- WHERE POOR SOIL CONDITIONS EXIST OR WHERE SUBSTANTIAL SETTLEMENT OF EITHER THE PIPING, THE BUILDING OR ADJACENT WALKS, PLANTERS, ETC., MAY OCCUR, THE CONTRACTOR SHALL PROVIDE ADEQUATE UNDERSLAB STAINLESS STEEL PIPE HANGERS OR APPROVED OTHER SUPPORT.
- ALL PIPE SLEEVES SHALL BE PROPERLY SEALED AND INSULATED TO PREVENT HEAT LOSS AND SEEPAGE.
- ALL PIPE INSULATION SHALL BE PROTECTED FROM DAMAGE FROM PIPE HANGERS. PROTECTION SHALL BE LIGHT GAUGE GALVANIZED STEEL OR EQUAL.
- ALL PENETRATIONS OF FIRE-RATED WALLS SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING SYSTEM.

**SANITARY AND VENT SYSTEMS:**

- THE BUILDING SANITARY PIPE SHALL BE LOCATED A MINIMUM OF 5 FT. FROM THE INCOMING WATER SERVICE. WHERE A 5 FT. SEPARATION IS NOT POSSIBLE, THE BOTTOM OF THE WATER SERVICE PIPE SHALL BE A MINIMUM OF 12 IN. ABOVE THE TOP OF THE HIGHEST POINT OF THE SANITARY PIPE.
- ALL SANITARY AND VENT PIPE SHALL BE PVC TYPE DWV, ABS OR CAST-IRON WHERE REQUIRED BY CODE.
- ALL HORIZONTAL SANITARY PIPE SHALL BE INSTALLED WITH A MINIMUM PITCH AS FOLLOWS:

PIPE SIZE	MIN. SLOPE
LESS THAN 4"	1/4" PER FT.
4" OR LARGER	1/8" PER FT.

- CLEANOUTS SHALL BE INSTALLED IN ALL HORIZONTAL DRAINAGE PIPE AND SHALL BE LOCATED NOT MORE THAN 100 FT. APART.
- CLEANOUTS SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION GREATER THAN 45 DEGREES. WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A SINGLE PIPE RUN, ONLY ONE (1) CLEANOUT SHALL BE REQUIRED FOR EVERY 40 FEET OF DEVELOPED LENGTH.
- CLEANOUTS SHALL BE INSTALLED ON PIPES PRIOR TO ANY SLAB PENETRATION.
- WHERE PIPING IS LOCATED WITHIN WALL CAVITIES, ACCESS TO THE CLEANOUTS SHALL BE PROVIDED.
- CLEANOUTS ON 6-IN. AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 IN. CLEANOUTS ON 8-IN. AND LARGER PIPE SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 36 IN.
- ALL SUSPENDED SANITARY AND VENT PIPE SHALL BE SUPPORTED AS FOLLOWS:

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
ABS	4 FT.	10 FT.
PVC (TYPE DWV)	4 FT.	10 FT.
CAST-IRON (<10 FT. PIPE SECTIONS)	5 FT.	15 FT.
CAST-IRON (10 FT. PIPE SECTIONS)	10 FT.	15 FT.

- ALL PLUMBING FIXTURES SHALL BE VENTED AND THE MAXIMUM DISTANCE FROM THE FIXTURE TRAP TO THE VENT SHALL BE AS FOLLOWS:

TRAP SIZE	SLOPE	DISTANCE
1 1/2"	1/2" PER FT.	2'-6"
1 1/2"	1/4" PER FT.	3'-6"
2"	1/2" PER FT.	5'-0"
3"	1/8" PER FT.	6'-0"
4" & LARGER	1/8" PER FT.	10'-0"

- ALL PLUMBING VENTS THROUGH THE ROOF SHALL TERMINATE A MINIMUM OF 12 INCHES ABOVE THE ROOF AND SHALL BE LOCATED A MINIMUM OF 8 FT. FROM ANY PARAPET WALL. WHERE A VENT TERMINATES WITHIN 8 FT. OF A PARAPET WALL, THE VENT SHALL TERMINATE A MINIMUM OF 6 INCHES ABOVE THE PARAPET.
- ALL PLUMBING VENTS SHALL TERMINATE A MINIMUM OF 10 FT. HORIZONTALLY FROM ANY OUTDOOR AIR INTAKE. WHERE A PLUMBING VENT IS LOCATED WITHIN 10 FT. OF AN INTAKE, THE VENT SHALL TERMINATE A MINIMUM OF 2 FT. ABOVE THE INTAKE.
- ALL SIDE WALL VENT TERMINATIONS SHALL BE PROTECTED TO PREVENT BIRDS OR RODENTS FROM ENTERING OR BLOCKING THE VENT OPENING.
- ALL FLOOR DRAINS THAT DO NOT SERVE EQUIPMENT SHALL BE PROTECTED AGAINST DRYING OUT EITHER THROUGH THE INSTALLATION OF A TRAP PRIMER, DEEP SEAL TRAP OR PROSET TRAP GUARD.
- ALL APPLIANCES SHALL DRAIN TO AN APPROVED SANITARY WASTE RECEPTOR (FLOOR SINK OR FLOOR DRAIN WITH FUNNEL). INDIRECT DRAINAGE FROM AN APPLIANCE SHALL MAINTAIN AN AIR GAP BETWEEN THE PIPE OUTLET AND THE TOP OF THE RECEPTOR. THE MINIMUM DISTANCE BETWEEN THE PIPE OUTLET AND THE TOP OF THE RECEPTOR SHALL BE TWICE THE DIAMETER OF THE APPLIANCE DRAIN PIPE.

**GREASE INTERCEPTORS:**

- SEE SITE PLAN FOR THE SIZE AND LOCATION OF THE GREASE INTERCEPTOR.
- THE GREASE INTERCEPTOR SHALL BE INSTALLED IN A LOCATION THAT IS ACCESSIBLE FOR PUMPING.
- THE GREASE INTERCEPTOR SHALL BE CONSTRUCTED OF FIBERGLASS OR PRECAST CONCRETE. GREASE INTERCEPTOR CONSTRUCTION SHALL CONFORM TO ALL LOCAL CODES.
- PRECAST CONCRETE INTERCEPTORS SHALL BE CAPABLE OF 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. SHALL BE REINFORCED WITH BAR OR WIRE MESH AND SHALL BE COATED WITH A MINIMUM OF TWO (2) LAYERS OF NOVOLAC EPOXY ON THE INTERIOR. NOVOLAC EPOXY SHALL BE SHERWIN-WILLIAMS NOVA-PLATE UHS (OR EQUAL).

- THE GREASE INTERCEPTOR SHALL BE VENTED IN ACCORDANCE WITH THE LOCAL CODE OR THE MANUFACTURER'S REQUIREMENTS.
- ACCESS TO THE GREASE INTERCEPTOR SHALL BE PROVIDED WITH TWO (2) 24-IN. MANHOLES. ALL SURFACE WATER MUST DRAIN AWAY FROM MANHOLES.
- PIPING INLET AND OUTLET SIDES SHALL BE CLEARLY LABELED ON THE TOP OF THE GREASE INTERCEPTOR TO INSURE PROPER INSTALLATION.

**DOMESTIC SUPPLY SYSTEMS:**

- THE INCOMING WATER SERVICE PIPE SHALL BE LOCATED A MINIMUM OF 5 FT. FROM THE EXITING SANITARY PIPE. WHERE A 5 FT. SEPARATION IS NOT POSSIBLE, THE BOTTOM OF THE WATER SERVICE PIPE SHALL BE A MINIMUM OF 12 IN. ABOVE THE TOP OF THE HIGHEST POINT OF THE SANITARY PIPE.
- ALL UNDERGROUND SITE PLUMBING SHALL CONFORM TO NSF 61, SHALL BE TYPE K COPPER TUBING OR COPPER PIPE, POLYETHYLENE (PE) OR CPVC. IF CPVC IS USED, FOAM INSULATION SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION TO ACCOUNT FOR EXPANSION AND CONTRACTION.
- INCOMING WATER SERVICE PRESSURE SHOULD BE BETWEEN 45 AND 55 PSI STATIC. WHERE WATER PRESSURE SERVICE EXCEEDS 80 PSI STATIC, AN APPROVED WATER-PRESSURE REDUCING VALVE WITH STRAINER CONFORMING TO ASSE 1003 SHALL BE INSTALLED. WHERE INCOMING WATER PRESSURE IS BELOW 45 PSI STATIC, A PRESSURE BOOSTER SYSTEM SHALL BE INSTALLED.
- IF THE RESTAURANT HAS A COMBINED WATER AND FIRE SPRINKLER SERVICE, THE INCOMING WATER SERVICE SHALL BE SIZED BASED ON THE FIRE SPRINKLER CONTRACTOR'S HYDRAULIC CALCULATIONS.
- PROVIDE A MINIMUM 1/2" ANNUAL CLEARANCE AROUND ALL PIPE SLAB PENETRATIONS.
- A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED AT THE INCOMING SERVICE WHERE REQUIRED BY CODE.
- AN EXPANSION TANK SHALL BE INSTALLED ON THE COLD WATER LINE INLET TO THE WATER HEATER. SEE EXPANSION TANK SCHEDULE.
- ALL WATER SUPPLY PIPE WITHIN 5 FT. OF THE BUILDING AND INSIDE THE BUILDING SHALL COMPLY WITH NSF 61 AND SHALL BE TYPE L COPPER TUBING, COPPER PIPE OR CPVC PIPE.
- CPVC PIPE SHALL BE FLOWGUARD GOLD OR FLOWGUARD BENDABLE AS MANUFACTURED BY LUBRIZOL.
- CPVC PIPE SHALL BE CONNECTED WITH FLOWGUARD GOLD YELLOW LOW-VOC SOLVENT CEMENT AS MANUFACTURED BY IPS WELD-ON OR OATEY.
- ALL CPVC PIPE SHALL BE INSULATED TO PREVENT EXPOSURE TO GREASE.
- ALL SUSPENDED PIPE SHALL BE SUPPORTED AS FOLLOWS:

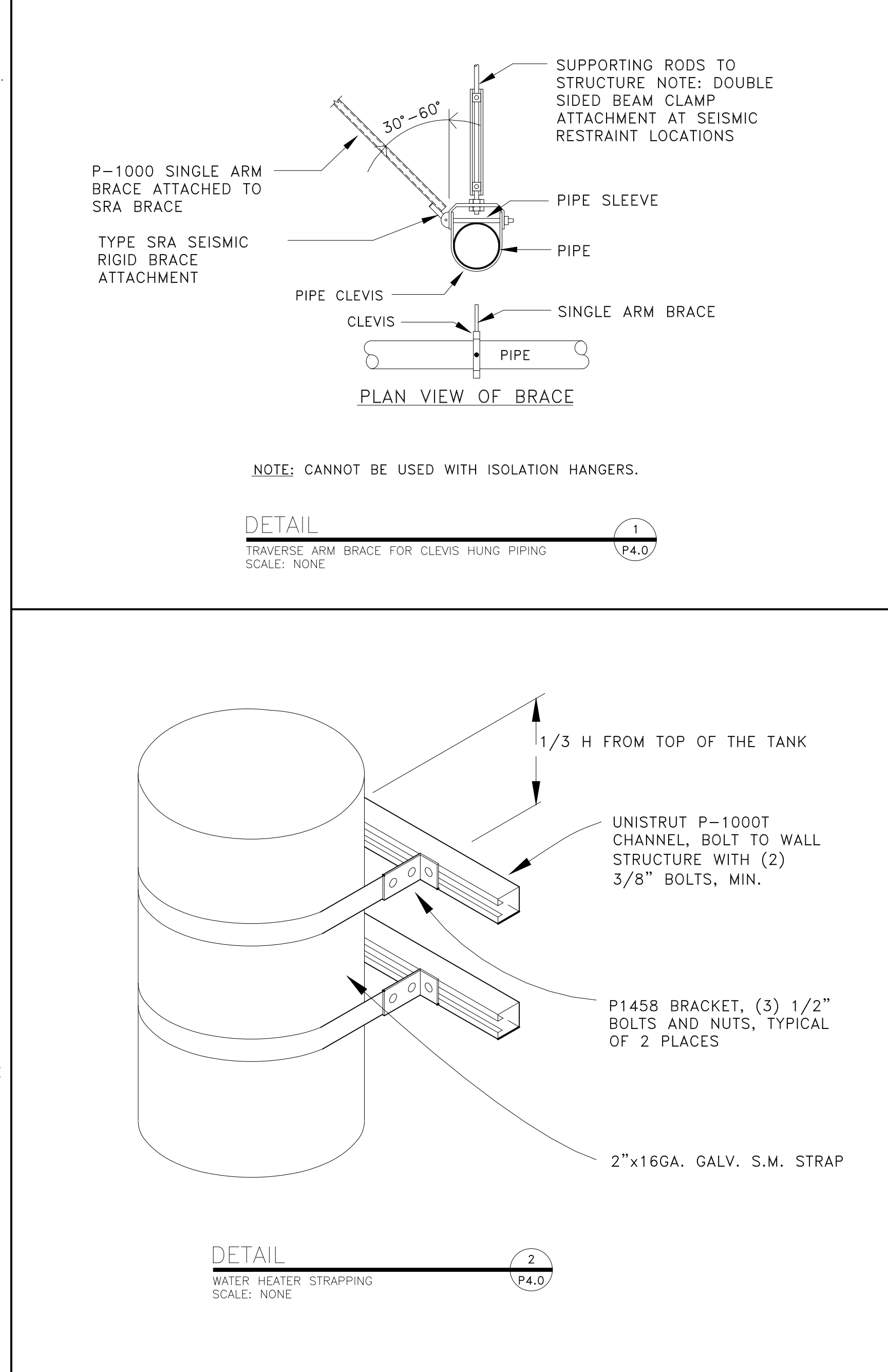
MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
COPPER PIPE	12 FT.	10 FT.
COPPER TUBING <1 1/2"	6 FT.	10 FT.
COPPER TUBING >1 1/2"	10 FT.	10 FT.
CPVC <=1"	3 FT.	10 FT.
CPVC >1 1/2"	4 FT.	10 FT.

- A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED AT THE INLET TO THE WATER FILTRATION SYSTEM. ALL PIPING DOWNSTREAM OF THE RPZ SHALL BE COPPER OR CROSS-LINKED POLYETHYLENE (PEX).
- ALL DEVICES, APPLIANCES, AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION SHALL BE PROVIDED WITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY SYSTEM. ALL BACKFLOW PREVENTION DEVICES SHALL BE ASSE LISTED AND APPROVED FOR THE DEVICE OR APPLIANCE THEY SERVE.
- ALL WATER SUPPLY LINES SHALL BE PROVIDED WITH A QUARTER-TURN SHUT-OFF VALVE BEFORE FINAL CONNECTION TO EQUIPMENT.
- QUARTER-TURN SHUT-OFF VALVES SHALL BE INSTALLED UPSTREAM OF ANY INLINE BACKFLOW PREVENTION DEVICE.
- ALL VALVES AND BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED WITH FITTINGS THAT FACILITATE REMOVAL IN CASE OF FAILURE.
- ALL OVERHEAD WATER LINES SHALL BE INSULATED WITH 1" THICK EXTERNAL JACKETED INSULATION AND A MINIMUM INSTALLED R-VALUE OF 3.7.
- PRIOR TO BUILDING TURNOVER, THE DOMESTIC WATER SUPPLY SYSTEM SHALL BE PURGED OF DELETERIOUS MATERIAL AND DISINFECTED. DISINFECTION SHALL BE DONE IN ACCORDANCE WITH THE LOCAL HEALTH CODE, PLUMBING CODE OR IN ACCORDANCE WITH AWWA C651 OR AWWA C652.

**STORM DRAINAGE SYSTEMS:**

- ALL ROOF DRAINS SHALL BE SIZED IN ACCORDANCE WITH LOCAL CODES AND SHALL CONFORM TO ASME A112.21.2M OR A112.3.1.
- ALL STORM DRAINAGE PIPING SHALL BE ABS, PVC TYPE DWV OR CAST-IRON WHERE REQUIRED BY CODE.
- ALL SUSPENDED STORM DRAINAGE PIPE SUPPORT REQUIREMENTS SHALL BE THE SAME AS THE SANITARY AND VENT REQUIREMENTS.
- ALL HORIZONTAL STORM DRAINAGE PIPE PITCH REQUIREMENTS SHALL BE THE SAME AS THE SANITARY AND VENT REQUIREMENTS.
- ALL HORIZONTAL STORM DRAINAGE PIPE SHALL BE INSULATED WITH 1" THICK EXTERNAL JACKETED INSULATION AND A MINIMUM INSTALLED R-VALUE OF 3.7 TO PROTECT AGAINST CONDENSATION.
- CLEANOUTS SHALL BE INSTALLED IN ALL HORIZONTAL DRAINAGE PIPE AND SHALL BE LOCATED NOT MORE THAN 100 FT. APART.
- CLEANOUTS SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION GREATER THAN 45 DEGREES. WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A SINGLE PIPE RUN, ONLY ONE (1) CLEANOUT SHALL BE REQUIRED FOR EVERY 40 FEET OF DEVELOPED LENGTH.
- CLEANOUTS SHALL BE INSTALLED ON PIPES PRIOR TO ANY SLAB PENETRATION.
- WHERE PIPING IS LOCATED WITHIN WALL CAVITIES, ACCESS TO THE CLEANOUTS SHALL BE PROVIDED.
- ROOF DRAINS AND OVERFLOW ROOF DRAINS SHALL BE PIPED INDEPENDENTLY. OVERFLOW ROOF DRAINS SHALL NOT BE CONNECTED TO THE PRIMARY ROOF DRAINAGE SYSTEM.

## SEISMIC DETAILS



## LEGEND

---	COLD WATER PIPING	ACM	AREA CONSTRUCTION MANAGER
----	TEMPERED WATER PIPING (110°F)	AVB	ATMOSPHERIC VACUUM BREAKER
----	HOT WATER PIPING (140°F)	BSI	BEVERAGE SYSTEM INSTALLER
----	RECIRCULATED HOT WATER PIPING	CO	CLEAN-OUT
----	OVERHEAD LINES (BY P.C.)	DC	DOWNSPOUT COVER
---SAN---	UNDERGROUND SANITARY PIPING	DFU	DRAINAGE FIXTURE UNIT(S)
---GW---	UNDERGROUND GREASE WASTE PIPING	EC	ELECTRICAL CONTRACTOR
-----	VENT PIPING	FAC	FIRE ALARM CONTRACTOR
---ST---	ABOVE GROUND STORM PIPING	FCO	FLOOR CLEAN-OUT
---	UNDERGROUND STORM PIPING	FD	FLOOR DRAIN
+	HOSE BIBB	FPC	FIRE PROTECTION CONTRACTOR
↑	CHECK VALVE	FS	FLOOR SINK
●	BALL VALVE	GC	GENERAL CONTRACTOR
⊗	THERMOSTATIC MIXING VALVE	GI	GREASE INTERCEPTOR
⊠	FLOOR DRAIN	GPF	GALLONS PER FLUSH
⊠	CLEAN-OUT (FLOOR OR YARD)	GPM	GALLONS PER MINUTE
⊠	FLOOR SINK	GW	GREASE WASTE
○	PRESSURE GAUGE	HS	HAND SINK
⊞	LOW PRESSURE SWITCH	I.P.S.	IRON PIPE SIZE (ALSO NPS)
⊞	HIGH PRESSURE SWITCH	KEI	KITCHEN EQUIPMENT INSTALLER
⊞	SOLENOID VALVE	KES	KITCHEN EQUIPMENT SUPPLIER
⊞	THREE-WAY VALVE	LAV	LAVATORY
⊞	PRESSURE REGULATOR	MC	MECHANICAL CONTRACTOR
↔	DUAL CHECK VALVE OR RPZ	MHT	MALE HOSE THREADS
↔	DUAL CHECK VALVE WITH ATMOSPHERIC VENT	MS	MOP SINK
⊞	STRAINER	NPS	NATIONAL PIPE THREAD STANDARD
↔	RELIEF VENT	NPT	NATIONAL PIPE THREAD TAPERED

	O/O	OWNER/OPERATOR
	OH	OVERHEAD
	P	PUMP
	PC	PLUMBING CONTRACTOR
	RC	REFRIGERATION CONTRACTOR
	RPZ	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
	SS	SANITARY SEWER
	ST	STORM SEWER
	SVB	ANTI-SIPHON, SPILL RESISTANT VACUUM BREAKER
	TAB	TEST AND BALANCE CONTRACTOR
	UG	UNDERGROUND
	UR	URINAL
	V	VENT
	WC	WATER CLOSET
	WCO	WALL CLEAN-OUT
	WSFU	WATER SUPPLY FIXTURE UNIT(S)
	YC	YARD CLEAN-OUT

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<b>TITLE:</b> 2022 STANDARD BUILDING - BB20 <b>DESCRIPTION:</b> WOOD BEARING WALLS W/HARDBOARD SIDING WOOD ROOF TRUSS FRAMING EPS/BATTEN/ACM PANEL/HARDBOARD SIDING <b>SITE ID:</b> 1000 S Main Street SALEM, MO 644-1289	<b>DRAWN BY:</b> ES <b>STD ISSUE DATE:</b> 2022_08	<b>REVIEWED BY:</b> D. BEFFER <b>DATE ISSUED:</b> 10-21-2022	<b>DATE:</b> 10-21-2022 <b>BY:</b>
	<b>SHEET NO.:</b> P4.0 <b>GENERAL NOTES</b>		24-1289.00.0 <b>P4.0</b> GENERAL NOTES

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COORDINATION SCHEDULE

Table with 5 columns: GENERAL REQUIREMENTS, FURNISH, INSTALL, FINAL CONNECTION, NOTES. Includes sections for CONTRACTOR COORDINATION REQUIREMENTS and MISCELLANEOUS ITEMS.

NOTES: 1. THIS SCHEDULE IS INTENDED AS A GUIDE FOR THE WORK TO BE PERFORMED. ALL WORK SHALL BE COORDINATED BETWEEN THE MCDONALD'S AREA CONSTRUCTION MANAGER AND ALL GC AND O/O SUBCONTRACTORS. 2. ONE (1) COPY OF THE DECOR PACKAGE DRAWINGS SHALL BE SUPPLIED TO THE GENERAL CONTRACTOR AND EACH OF THE SUBCONTRACTORS...

EXPANSION TANK SCHEDULE

Table with 6 columns: TAG, MANUFACTURER, MODEL, TOTAL VOL., CONNECTION, ACCESSORIES. Row: ET-1, AMTROL, ST-12, 4.4 GAL., 3/4", -.

NOTES: 1. SEE DETAIL 6 ON DRAWING P.3.0

PUMP SCHEDULE

Table with 7 columns: TAG, MANUFACTURER, MODEL, HP, V, Ø, Hz, ACCESSORIES. Row: P-1, GRUNDFOS, UP 15-18 B7, 1/25, 120, 1, 60, 1-3.

Table with 5 columns: TYPE, MFR, MODEL, ASSE LISTING, SERVES, LOCATION. Rows include AG FURN. WITH CHEM. SYS., AVB FURN. WITH FAUCET, VB FURN. WITH HB, etc.

BACKFLOW PREVENTER SCHEDULE

Table with 5 columns: TAG, DESCRIPTION, MANUFACTURER, MODEL, ACCESSORIES, NOTES. Row: GI-1, EXTERIOR GREASE INTERCEPTOR, GREEN TURTLE, PROCEPTOR MODEL GMC1300-UPC.

NOTES: 1. SEE GREASE INTERCEPTOR NOTES ON DRAWING P.4.0 2. GREASE INTERCEPTOR IS SIZED FOR CITY SEWER APPLICATIONS ONLY. DO NOT USE FOR SEPTIC FIELDS.

PLUMBING FIXTURE SCHEDULE

Large table with 8 columns: TAG, QTY., DESCRIPTION, MANUFACTURER, MODEL, WATER USE, ACCESSORIES/COMMENTS. Rows include F-1 FAUCET FOR LAV-1, F-2 FAUCET FOR MS-1, FCO 6x6 FLOOR CLEAN OUT, etc.

ROOF DRAINS AND ACCESSORIES

Table with 5 columns: TAG, DESCRIPTION, MANUFACTURER, MODEL, ACCESSORIES, NOTES. Row: RD-1 THRU RD-6, COMBINATION MAIN ROOF AND OVERFLOW DRAIN, ZURN, Z165.

NOTES: 1. SEE MCDONALD'S PROJECT MANUAL FOR ADDITIONAL MANUFACTURERS 2. PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE BLOCKING FOR PROPER URINAL SUPPORT

WATER HEATER SCHEDULE

Table with 10 columns: TAG, MANUFACTURER, MODEL, SIZE GAL., HEATING TYPE, KW, REC. 100°F ΔT, GPH, VOLTS, Ø, Hz, F.L.A. Row: WH-1, BRADFORD-WHITE, M-II-120A-54-3, 119, ELEC., 54, 223, 208, 3, 60, 150.

Table with 5 columns: MANUFACTURER, MODEL, TEMP. SETTING, LISTING, SERVES. Rows include WATTS LFMV, WATTS LFMV, ZURN ZW3870XLT, etc.

VALVE SCHEDULE

Table with 5 columns: TAG, DESCRIPTION, MANUFACTURER, MODEL, ACCESSORIES, NOTES. Row: GI-1, EXTERIOR GREASE INTERCEPTOR, GREEN TURTLE, PROCEPTOR MODEL GMC1300-UPC.

Vertical sidebar containing engineering information: ENGINEER OF RECORD (DAVID MICHAEL LEHRER), CORE STATES GROUP logo, McDonald's USA, LLC project details, and SHEET NO. P4.1 SCHEDULES.