

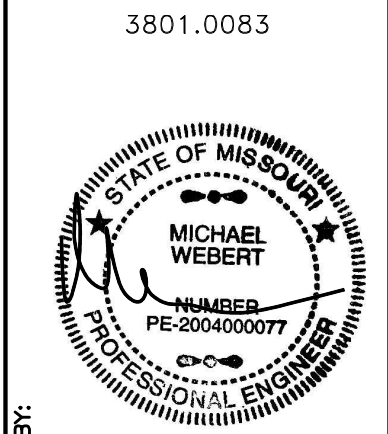
IF YOU HAVE ANY QUESTIONS REGARDING THE PLANS, PLEASE CALL THE DESIGNER.

DESIGNER: Wendy Wenborg
PHONE: 952-540-4047
EMAIL: wwenborg@epinc.com

REV	DATE	DESCRIPTION
0	01/07/26	MECHANICAL
1	12/03/25	CITY COMMENTS
2	09/24/25	CITY COMMENTS
3	08/14/25	PERMIT SET
4	06/26/25	USD PROCESS SET REVIEW

emanuelson-podas
consulting engineers

emanuelson-podas, Inc.
10000 Hennepin Avenue
Edina, MN 55436
(952) 930-0030 | www.epinc.com



3801.0083

01/07/26

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McDonald's USA, LLC

2024 STANDARD BUILDING - BB20
45114-WOOD/WOOD

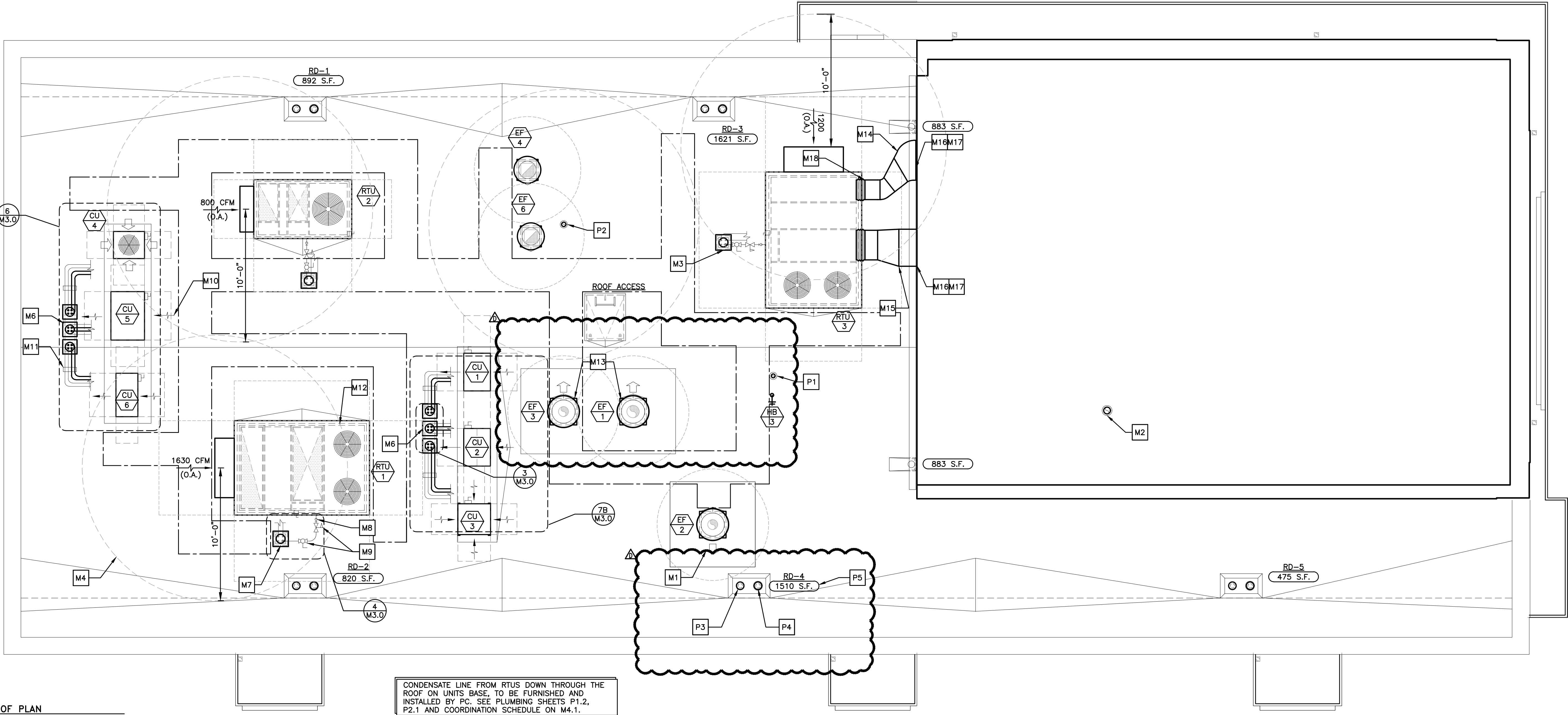
WOOD BEARING WALLS W/BRICK EXTERIOR FINISH & CI
WOOD TRUSS ROOF FRAMING
BATTEN/BRICK EXTERIOR FINISH

NSN: 7321
L/c: 024-0244

3255 Main Street, Kansas City, MO 64111

Ro# 2252

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



CONDENSATE LINE FROM RTUS DOWN THROUGH THE ROOF ON UNITS BASE, TO BE FURNISHED AND INSTALLED BY PC. SEE PLUMBING SHEETS P1.2, P2.1 AND COORDINATION SCHEDULE ON M4.1.

1 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.

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION. SCALES AS STATED HEREON ARE VALID ON THE ORIGINAL DRAWING ONLY. CONTRACTORS SHALL NOT SCALE OFF OF ANY DRAWINGS. IF DIMENSION IS NOT PROVIDED AND IS REQUIRED, CONTACT ARCHITECT TO HAVE THE DIMENSION CONFIRMED.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

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** GAS PIPING DOWN (TYP. 3 PLACES)
- M4** MAINTAIN A MINIMUM 10'-0" CLEARANCE FROM EDGE OF OUTLETS AND VENT TERMINALS TO FRESH AIR INTAKES (TYP.)
- M5** NOT USED
- M6** ROOF PIPE PORTAL FOR CONDENSING UNITS
- M7** ROOF PIPE PORTAL FOR ROOFTOP UNITS (TYP. 3 PLACES)
- M8** GAS PIPING FROM ROOF PORTAL TO ROOFTOP UNIT SHALL BE COATED WITH A CORROSION RESISTANT PAINT (SEE SHEET M4.0 "NATURAL GAS SYSTEMS", NOTE 8).
- M9** GAS PRESSURE REGULATOR AND SHUT-OFF VALVE, SET PRESSURE AT 7" W.C. - NATURAL GAS (TYP. OF 3)
- M10** ARROW INDICATES DIRECTION OF AIRFLOW FOR CONDENSING OR ROOFTOP UNIT AIR INTAKE (TYP.)
- M11** REFRIGERANT PIPING SUPPORT AS REQUIRED. PROVIDE ROOFTOP BLOX MODEL RTB-01 (OR EQUAL) AND ALL NECESSARY ACCESSORIES FOR PROPER PIPE AND CONDUIT SUPPORT. PROVIDE GALVANIZED PIPE SHIELD TO PROTECT INSULATION AT ALL SUPPORTS.
- M12** PROVIDE HAIL GUARD FOR RTU-1 PROTECTING CONDENSER COIL FROM GREASE.
- M13** EXHAUST FANS WITH WINDBAND EXTENSION TO PREVENT DIRECT GREASE BLOW ONTO CONDENSERS
- M14** TRANSITION RETURN AIR DUCTWORK FROM 20x45 O.D. TO 26x24 O.D.
- M15** TRANSITION SUPPLY AIR DUCTWORK FROM 27x26 O.D. TO 33x24 O.D.

- M16** SLOPE HORIZONTAL DUCTWORK AWAY FROM WALL PENETRATION MIN. 1/8" PER FOOT.
- M17** PROVIDE EXTERIOR WEATHERPROOFING FOR EXTERIOR DUCTWORK (SEE DETAIL 2 ON DRAWING M3.1)
- M18** FIELD INSTALL BAROMETRIC RELIEF ON RETURN AIR DUCT
- P1** CONCENTRIC VENTING KIT FOR COMBUSTION AIR INTAKE AND FLUE EXHAUST FOR SEALED COMBUSTION WATER HEATER (SEE PLUMBING DRAWINGS). PROVIDE PORTALS PLUS PLASTIFLASH WITH C-126 CAP (OR EQUAL) FOR ROOF PENETRATION.
- 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 (SEE PLUMBING DRAWINGS) (TYP.)
- P4** OVERFLOW ROOF DRAIN WITH DOME STRAINER (SEE PLUMBING DRAWINGS) (TYP.)
- P5** AREA OF ROOF SERVED BY ROOF DRAIN (TYP.)

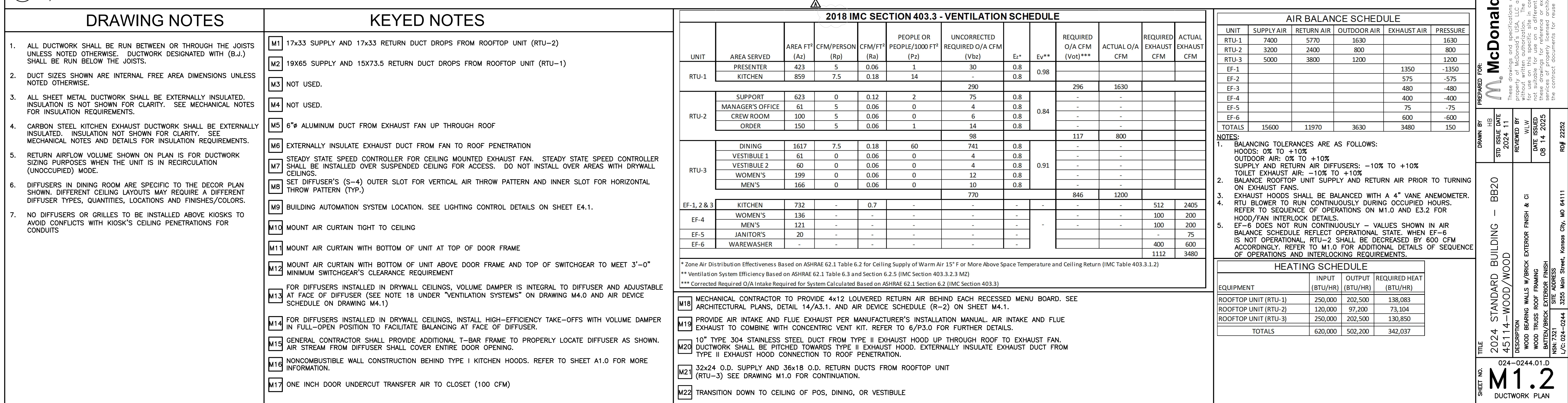
PIPE PORTAL SCHEDULE

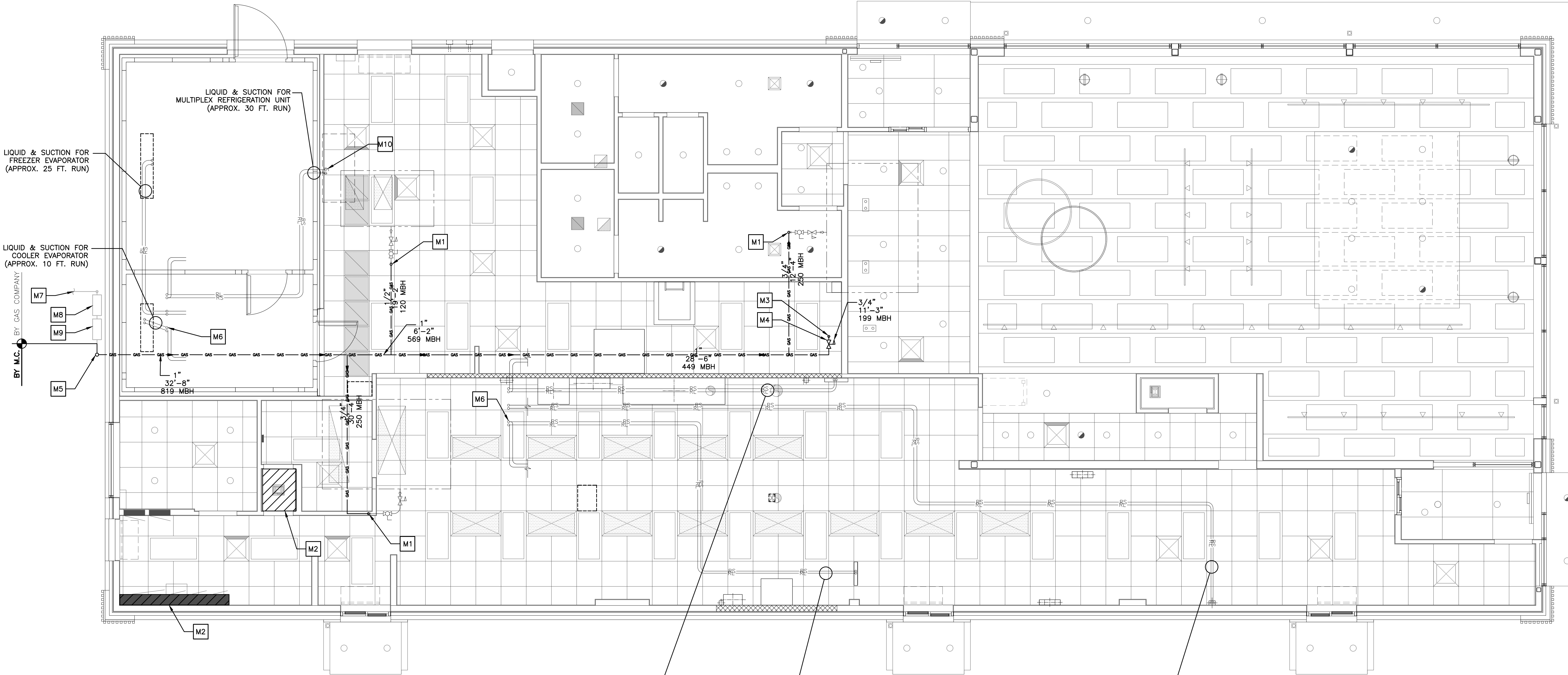
MANUFACTURER	CURB DIMENSIONS	CURB TYPE	CAP TYPE (QTY)	SERVES
RPS	12"x12"x11"H	RC-2A	N18 (1)	RTU-1 THROUGH RTU-3
RPS	43"x12"x13"H	RC-2A	N18 (3)	CU-1 THROUGH CU-6

SEQUENCE OF OPERATION

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

- RTU-1, RTU-2 & RTU-3:**
- 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
 - ROOFTOP UNIT FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE
 - 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.
 - UNOCCUPIED MODE SHALL BEGIN ONE (1) HOUR AFTER STORE CLOSES
 - DURING UNOCCUPIED MODE, ECONOMIZER IS CLOSED AND HEATING, COOLING AND FAN OPERATE IN AUTO MODE (ON DEMAND)
 - RTU-2 SHALL BE INTERLOCKED WITH EF-6. UPON ACTIVATION OF EF-6, RTU-2 SHALL INCREASE SUPPLY AND OUTSIDE AIR BY 600 CFM, WHILE MAINTAINING 1200 CFM RETURN AIR. COORDINATE WITH E.C. AND BAS SUPPLIER.





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

DRAWING NOTES

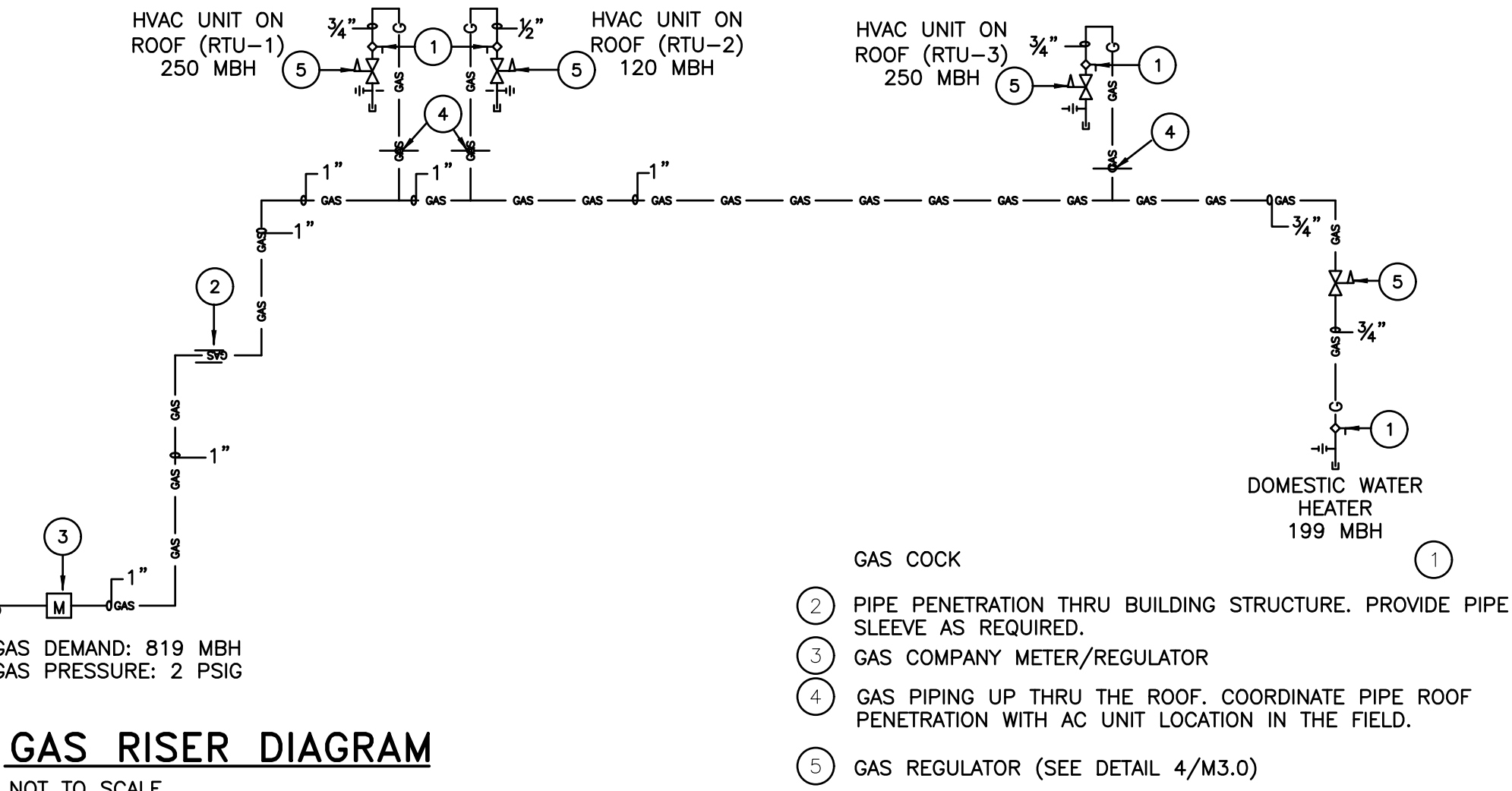
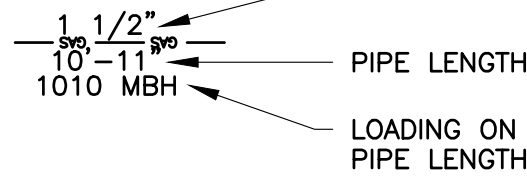
1. GAS PIPING LENGTHS ARE APPROXIMATE AND ARE SHOWN FOR SIZING PURPOSES ONLY.
2. REFRIGERANT PIPE SIZES SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

KEYED NOTES

- M1 GAS PIPE UP THROUGH ROOF TO RTU.
- M2 UTILITIES SHALL NOT BE ROUTED ABOVE TECH. CLOSET. OR SWITCHGEAR.
- M3 GAS PIPE DOWN TO WATER HEATER - APPROX. 10 FT. DROP
- M4 SIZE REGULATOR PROPERLY FOR APPLICATION - SET GAS PRESSURE REGULATOR OUTLET PRESSURE TO 10" W.C. AND PROVIDE VENT THROUGH ROOF AS REQUIRED
- M5 GAS PIPE UP IN WALL - APPROX. 10 FT. RISE
- M6 REFRIGERANT LIQUID AND SUCTION LINES UP THROUGH ROOF TO CONDENSING UNITS (TYP. 6 PLACES - SEE DETAIL 3 ON DRAWING M3.0)
- M7 INCOMING SERVICE LINE - SEE GAS PIPING NOTES ON DRAWING M4.0
- M8 INCOMING SERVICE REGULATOR SET TO 2 PSIG
- M9 INCOMING SERVICE METER - SEE GAS LOAD SCHEDULE FOR SIZING
- M10 REFRIGERANT LINES DOWN TO SODA SYSTEM (MULTIPLEX).

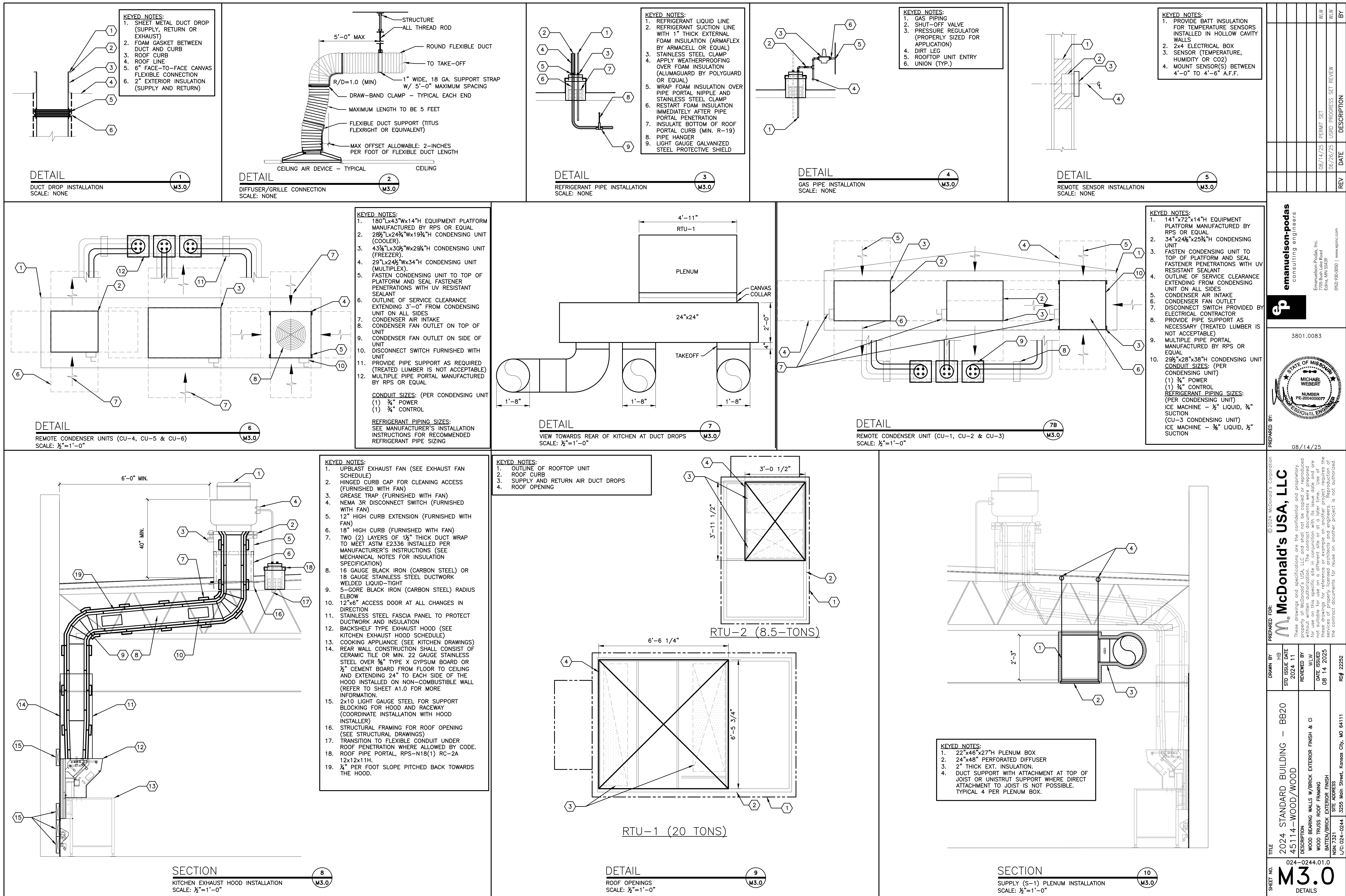
GAS LOAD SCHEDULE		
EQUIPMENT	INPUT (BTU/HR)	GAS FLOW (1,000 BTU/CF) (CF/HR)
ROOFTOP UNIT (RTU-1)	250,000	250
ROOFTOP UNIT (RTU-2)	120,000	120
ROOFTOP UNIT (RTU-3)	250,000	250
WATER HEATER (WH-1)	199,000	199
TOTAL	819,000	819

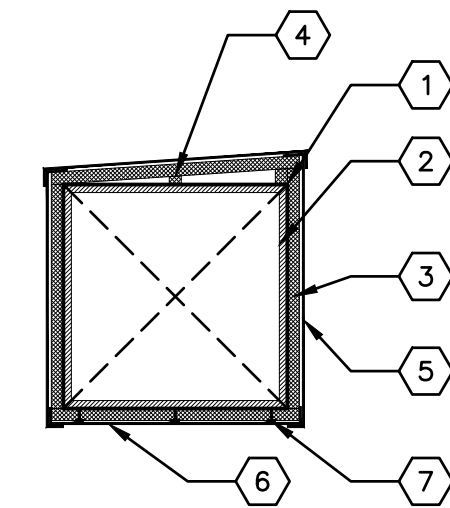
PIPING KEY



GAS RISER DIAGRAM
NOT TO SCALE

TITLE	DRAWN BY HB	STD 2024 11	REVIEWED BY WLV	DATE 08/14/25	REV	DESCRIPTION				
SHEET NO.	2024 STANDARD BUILDING - BB20	45114- WOOD/WOOD	DESCRIPTION WOOD BEARING WALLS W/BRICK EXTERIOR FINISH & CI WOOD TRUSS ROOF FRAMING BATEN/BRICK EXTERIOR FINISH	NSN: 7321	L/C: 024-0244	3255 Main Street, Kansas City, MO 64111				
emanuelson-podas consulting engineers		3801.0083		08/14/25		BY				
Emmanuel-Podas, Inc. Essex, MN 55438 (952) 930-0000 www.epic.com		MICHAEL WEBERT NUMBER PE-2004000077 PROFESSIONAL ENGINEER		06/26/25						
3801.0083		08/14/25		06/26/25						
3801.0083		08/14/25		06/26/25						





- DETAIL
-
- NOT USED
- 2
M3.1

NOT USED

SHEET NO.	024-0244.01.0	TITLE	2024 STANDARD BUILDING – BB20 451114-WOOD/WOOD	DRAWN BY NO. 11	STD ISSUE DATE 2024 11	DESCRIPTION	024-0244.01.0		BY
							M3.1		
							DETAILS		
							WOOD BEARING WALLS W/BRICK EXTERIOR FINISH & CI		
							WOOD TRUSS ROOF FRAMING		W/LW
							BATTEN/BRICK ROOF FRAMING		W/LW
							NSN 7321 SITE ADDRESS		
							L/C 024-0244 3255 Main Street, Kansas City, MO 64111		
							RefJ 22252		
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							PREPARED BY:		
							08/14/25		
							3801.0083		
									
							emanuelson-podas consulting engineers		
							Emanuelson-Podas, Inc. 10000 E. 12th Avenue Edina, MN 55459 (952) 930-0950 www.epc.com		
							08/14/25		PERMIT SET
							09/26/25		USD PROGRESS SET REVIEW
							REV		DATE
							DESCRIPTION		BY

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, PROVIDED BY ROOFTOP UNIT MANUFACTURER, 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.

	TEMPERATURE SENSOR
	AVERAGING TEMPERATURE SENSOR
	CO2 SENSOR FOR ROOFTOP UNIT DEMAND CONTROL VENTILATION

M	AREA CONSTRUCTION MANAGER
J.	BELOW JOISTS
GI	BEVERAGE SYSTEM INSTALLER

6. 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.AABCHQ.COM/DIRECTORY](http://www.aabchq.com/directory)
[HTTP://WWW.NEEB.ORG/DIRECTORY.HTM](http://www.neeb.org/directory.htm)
[HTTP://WWW.TABCCERTIFIED.ORG/SITE/CONTENT/CONTRACTORS/SEARCH](http://www.tabccertified.org/site/content/contractors/search)
7. 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.
8. ALL PENETRATIONS OF FIRE-RATED WALLS SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING SYSTEM.

5. ALL DUCT DROPS INTO THE BUILDING SHALL BE OFFSET AS NECESSARY TO ALLOW FOR THE CLEAR INSTALLATION OF THE EXTERNAL DUCTWORK INSULATION.
6. ALL DUCTWORK BRANCHES THAT SERVE A SINGLE DIFFUSER SHALL BE SUPPLIED WITH A VOLUME DAMPER FOR BALANCING. BRANCHES THAT SERVE MULTIPLE DIFFUSERS, THE BALANCING IS HANDLED VIA REMOTE DAMPER INSTALLED NEAR THE DIFFUSER. REFER TO M1.2 FOR DAMPER LOCATIONS. VOLUME DAMPER SHALL HAVE A 2" OFFSET TO ACCOMMODATE EXTERNAL INSULATION.
7. 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.
8. 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.

11. FOR APPLICABLE SITUATIONS OR PLAYPLACE ADDITIONS: 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.

12. 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.

13. 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.

DUCT LOCATION: UNCONDITIONED SPACE			CLIMATE ZONES 1 THROUGH 8
DUCTWORK CLASSIFICATION	PRESSURE	SEAL CLASS	INSULATION
SUPPLY	2.00" W.C.	A	TYPE A (R-6)
RETURN	-2.00" W.C.	A	TYPE A (R-6)
EXHAUST	-2.00" W.C.	A	(*)TYPE A (R-6)
HANGER SUPPORTS	EVERY 6 FT.		1" TYPE B

DUCT LOCATION: EXTERIOR (INCLUDES ATTICS ABOVE INSULATED CEILINGS AND CRAWL SPACES.			CLIMATE ZONES 1 THROUGH 4	CLIMATE ZONES 5 THROUGH 8
DUCTWORK CLASSIFICATION	PRESSURE	SEAL CLASS	INSULATION	INSULATION
SUPPLY	2.00" W.C.	A	TYPE A (R-8)	TYPE A (R-12)
RETURN	-2.00" W.C.	A	TYPE A (R-8)	TYPE A (R-12)
EXHAUST	-2.00" W.C.	A	(*)TYPE A (R-8)	(*)TYPE A (R-12)
HANGER SUPPORTS	EVERY 6 FT.		1" TYPE B	

3. INTEGRAL VAPOR BARRIER
C. LISTED AND LABELED UL 181, CLASS 0 OR CLASS 1
D. INSTALLED IN ACCORDANCE WITH:
i. SMACNA STANDARDS,
ii. AIR DIFFUSION COUNCIL INSTALLATION GUIDELINES, AND/OR
iii. MANUFACTURER'S INSTALLATION INSTRUCTIONS

15. ALL COVERINGS, LININGS AND ADHESIVES (TAPE, ETC.) SHALL HAVE A FLAME-SPREAD INDEX NOT GREATER THAN 25 AND A SMOKE-DEVELOPED INDEX NOT GREATER THAN 50.
16. DUCT-MOUNTED SMOKE DETECTORS, PROVIDED BY ROOFTOP UNIT MANUFACTURER, 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.
17. ALL SUPPLY AIR DIFFUSERS SHALL BE INSULATED TO PREVENT CONDENSATION.
18. ALL AIR DEVICES LOCATED IN DRYWALL CEILINGS SHALL BE SUPPLIED WITH AN INTEGRAL VOLUME DAMPER ACCESSIBLE FROM THE AIR DEVICE FACE TO FACILITATE BALANCING.
19. ALL OUTDOOR AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10 FT. HORIZONTALLY FROM ANY SOURCE OF CONTAMINATION SUCH AS EXHAUST FANS, FUMING 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.

1. 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).

2. ALL GREASE EXHAUST DUCTWORK JOINTS SHALL BE EITHER TELESCOPING OR BELL TYPE. BUTT-WELDED JOINTS ARE PROHIBITED.
3. 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.
4. 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.
5. 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".
6. ALL HORIZONTAL GREASE EXHAUST DUCTWORK SHALL BE INSTALLED WITH A MINIMUM $\frac{1}{4}$ " PER FOOT SLOPE AND SHALL BE PITCHED BACK TOWARD THE HOOD.
7. 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.

1. ALL REFRIGERATION WORK SHALL BE PERFORMED BY A CERTIFIED REFRIGERATION CONTRACTOR.
2. ALL REFRIGERANT PIPING SHALL BE SEAMLESS COPPER TUBING OF TYPE L IN ACCORDANCE WITH ASTM B 88 AND ALL JOINTS SHALL BE SOLDERED.
3. 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.

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
COPPER TUBING $\leq 1\frac{1}{4}"$	6 FT.	10 FT.
COPPER TUBING $\geq 1\frac{1}{2}"$	10 FT.	10 FT.

5. ALL REFRIGERANT PIPING SHALL BE SIZED PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
6. 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.
7. ALL PIPE INSULATION SHALL BE PROTECTED FROM DAMAGE FROM PIPE HANGERS. PROTECTION SHALL BE LIGHT GAUGE GALVANIZED STEEL OR EQUAL.
8. ALL REFRIGERANT PIPING SYSTEMS SHALL BE PRESSURE TESTED FOR LEAKS PRIOR TO START-UP. ALL LEAKS SHALL BE REMEDIED PRIOR TO BUILDING TURNOVER.
9. ALL PIPING SHALL MEET MINIMUM INSULATION THICKNESS PER THE TABLE BELOW:

PIPING	MINIMUM INSULATION THICKNESS (IN INCHES) PER NOMINAL PIPE OR TUBE SIZE				
NOMINAL PIPE SIZE	<1	1 TO 1.5	1.5 TO <4	4 TO <8	≥8
LIQUID (REFRIGERATION) (<40°F)	0.5	1.0	1.0	1.0	1.5
SUCTION (REFRIGERATION) (<40°F)	0.5	1.0	1.0	1.0	1.5

1. 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.
2. 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.
3. 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.
4. THE CO2 EXTERIOR STROBE SHALL BE INSTALLED AS SHOWN ON SHEET A2.0, (DETAIL 2) AND ON SHEET E1.1. THE INSIDE AUDIBLE AND VISUAL ALARM SHALL BE INSTALLED INSIDE THE CO2 CLOSET, AND IN THE SUPPORT/BACK-OF-THE HOUSE LOCATION AS SHOWN ON SHEETS E1.1 AND E3.0.

1. ALL GAS PIPING, WATER HEATER VENTS, INTAKES AND FLUES SHALL CONFORM TO THE CURRENT VERSION OF NFPA 54, NATIONAL FUEL GAS CODE, AND ANY LOCAL CODE REQUIREMENTS.

2. THE NATURAL GAS MAIN PIPE SIZING IS BASED ON THE FOLLOWING:
 - A. MINIMUM SUPPLY PRESSURE AT THE METER OF 2 PSIG
 - B. 1 PSIG PRESSURE DROP FROM METER TO FARTHEST APPLIANCE
 - C. 1,000 BTU PER CU. FT. OF NATURAL GAS

3. GAS PIPING RUN-OUTS TO EQUIPMENT ARE SIZED BASED ON THE FOLLOWING:
 - A. SUPPLY PRESSURE AT THE REGULATOR OF 10" W.C. ($\frac{1}{4}$ PSIG)
 - B. 0.5" W.C. PRESSURE DROP FROM REGULATOR TO FARTHEST APPLIANCE
 - C. 1,000 BTU PER CU. FT. OF NATURAL GAS

4. ALL NATURAL GAS PIPE SHALL BE SCHEDULE 40 CARBON STEEL PIPE WITH MALLEABLE IRON FITTINGS AND SHALL BE COMPLY TO ONE OF THE FOLLOWING STANDARDS: ASME B36.10, 10M; ASTM A 53; OR ASTM A 106.

5. NATURAL GAS PRESSURE REGULATORS SHALL BE MAXITROL 325 SERIES OR EQUAL.

7. GAS PIPING SHALL NOT PENETRATE ANY FIRE-RATED CHASE OR SHAFT, DUCTWORK OR PLENUM.
8. ALL NATURAL GAS PIPING INSTALLED OUTDOORS SHALL BE COATED WITH A CORROSION RESISTANT PAINT. PAINT COLOR SHALL BE ORANGE OR YELLOW.
9. ALL INTAKE AND VENT PIPING FOR SEALED-COMBUSTION WATER HEATERS SHALL BE PVC OR ABS. SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SHALL BE INSTALLED BY THE PLUMBING CONTRACTOR.

10. ALL WATER HEATER VENTS SHALL BE LOCATED A MINIMUM OF 10 FT. HORIZONTALLY FROM ANY OUTDOOR AIR INTAKE. WHERE A WATER HEATER VENT IS LOCATED WITHIN 10 FT. OF AN INTAKE, THE FLUE OR VENT SHALL TERMINATE A MINIMUM OF 2 FT. ABOVE THE INTAKE.

11. UPON COMPLETION OF INSTALLATION, THE GAS PIPING SYSTEM SHALL BE PURGED OF DELETERIOUS MATERIAL AND SHALL BE PRESSURE TESTED. PRESSURE TESTING SHALL BE PERFORMED WITH THE EQUIPMENT SHUT-OFF VALVES IN THE CLOSED POSITION TO PROTECT EQUIPMENT FROM DAMAGE DUE TO EXCESSIVE PRESSURE.

12. AFTER THE PRESSURE TEST HAS BEEN COMPLETED AND ANY LEAKS REMEDIED, THE INSTALLING CONTRACTOR SHALL MEASURE AND VERIFY THE FOLLOWING GAS PRESSURES WHILE EQUIPMENT IS IN OPERATION:

A. GRILL - 5" W.C. NATURAL, 14" W.C. L.P.
B. FRYER - 6" W.C. NATURAL, 14" W.C. L.P.
C. WATER HEATER - 6" W.C. NATURAL, 14" W.C. L.P.
D. HVAC UNIT - 7" W.C. NATURAL, 14" W.C. L.P.

13. IF THE MINIMUM PRESSURES ARE NOT MET, THIS SHALL BE IMMEDIATELY REPORTED TO THE MCDONALD'S AREA CONSTRUCTION MANAGER.

1. CONDENSATE PIPING SHALL BE GALVANIZED STEEL, COPPER OR PVC.
2. PVC PIPE SHALL BE PAINTED WITH WATER BASED LATEX PAINTING TO RESIST DEGRADATION FROM ULTRAVIOLET EXPOSURE.
3. PIPE SUPPORTS SHALL BE RPS MODEL PMP-2 OR EQUAL. QUANTITY AS REQUIRED DEPENDANT UPON PIPING MATERIAL.

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
COPPER PIPE	12 FT.	10 FT.
GALVANIZED STEEL	12 FT.	15 FT.
PVC	4 FT.	10 FT.

5. CONDENSATE PIPING SHALL SLOPE A MINIMUM OF $\frac{1}{8}$ " PER FOOT.

6. CONDENSATE PIPING SHALL BE SIZED BASED ON THE FOLLOWING:

TOTAL TONS SERVED BY PIPE	MINIMUM PIPE SIZE
<20 TONS	¾"
>20 TONS, <40 TONS	1"
>40 TONS, <125 TONS	1½"

IECC COMMISSIONING COMPLIANCE CHECKLIST

PERMIT NUMBER: _____ DATE: _____ PROJECT NAME: _____ PROJECT ADDRESS: _____

COMMISSIONING AUTHORITY: _____

COMMISSIONING PLAN (SECTION C408.2.1)

- ☐ COMMISSIONING PLAN WAS USED DURING CONSTRUCTING AND INCLUDES ALL ITEMS REQUIRED BY §C408.2.1.
- ☐ SYSTEMS ADJUSTING AND BALANCING HAS BEEN COMPLETED.
 - ☐ HVAC EQUIPMENT FUNCTIONAL TESTING HAS BEEN EXECUTED. IF APPLICABLE, DEFERRED AND FOLLOW-UP TESTING IS SCHEDULED TO BE PROVIDED ON ____
 - ☐ HVAC CONTROLS FUNCTIONAL TESTING HAS BEEN EXECUTED. IF APPLICABLE, DEFERRED AND FOLLOW-UP TESTING IS SCHEDULED TO BE PROVIDED ON ____
 - ☐ ECONOMIZER FUNCTIONAL TESTING HAS BEEN EXECUTED. IF APPLICABLE, DEFERRED AND FOLLOW-UP TESTING IS SCHEDULED TO BE PROVIDED ON ____
- ☐ MANUAL, RECORD DOCUMENTS AND TRAINING HAVE BEEN COMPLETED AND SCHEDULED.
- ☐ PRELIMINARY COMMISSIONING REPORT SUBMITTED TO OWNER AND REPORT INCLUDES ALL ITEMS REQUIRED BY §C408.2.4.

I HEREBY CERTIFY THE COMMISSIONING PROVIDER HAS PROVIDED ME WITH EVIDENCE OF MECHANICAL, SERVICE WATER HEATING, AND LIGHTING SYSTEMS COMMISSIONING, WHERE APPLICABLE, IN ACCORDANCE WITH THE CURRENT ADOPTED INTERNATIONAL ENERGY CONSERVATION CODE.

SIGNATURE OF BUILDING OWNER OR OWNER'S REPRESENTATIVE _____ DATE _____

[illegible]

1 VENT & STORM PIPING PLAN
P1.2 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

- STORM SYSTEM ONLY
- P1 TERMINATE OVERFLOW DRAIN AS HIGH AS POSSIBLE WITH DOWNSPOUT COVER.
- P2 TERMINATE BOTTOM OF OVERFLOW DRAIN A MINIMUM OF 12" ABOVE GRADE WITH LAMBS TOUNGE.
- P3 TERMINATE BOTTOM OF OVERFLOW DRAIN A MINIMUM OF 12" ABOVE GRADE WITH DOWNSPOUT COVER.
- P4 PROVIDE PROSET TRAP GUARD® FOR FLOOR DRAIN.
- P5 TOP OF CONCRETE SLAB IS 0'-6" A.F.F.
- P6 VENT FROM GREASE INTERCEPTOR. SEE SITE PLAN FOR CONTINUATION. COORDINATE PIPE ROUTING WITH LOCATION OF GREASE INTERCEPTOR.
- P7 4" VENT UP THROUGH ROOF WITH A 4"x5" VENT CAP
- P8 REFERENCE MANUFACTURER INSTALLATION GUIDE FOR LAYOUT AND SLOPING GUIDELINES PRIOR TO INSTALL AND POURING THE SLAB.
- P9 UTILITIES SHALL NOT BE ROUTED ABOVE THE TECH. CLOSET AND THE SWITCHGEAR.
- P10 CONDENSATE LINE FROM RTUs DOWN TO DRAIN AT MOP SINK INDIRECT WITH AIR GAP 2 x DIAMETER, TERMINATE PIPE ABOVE FLOOD RIM. FURNISHED AND INSTALLED BY PC. SEE COORDINATION SCHEDULE ON P4.1 & M4.1.
- P11 CONTRACTOR SHALL ROUTE 1/2" OD 304 S/S PIPE (PROVIDED BY OTHERS) FROM TYPE II EXHAUST HOOD TO FLOOR SINK.

- P12 CONTRACTOR SHALL INSTALL DRAIN PIPE AND AIR GAP KIT (PROVIDED BY OTHERS). CONNECT DRAIN HOSES FROM WAREWASHER TO DRAIN PIPE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO DETAIL 9/P3-0 FOR FURTHER DETAILS.
- P13 WALL CLEAN OUTS TO BE INSTALLED 18" AFF ON VESTIBULE SIDE **OR CHANGING ROOM SIDE**. OPTIONAL: PAINT TO MARCH WALL FINISH FOR CONCEALMENT.

STORM PIPE SIZING

RAINFALL = 4.5 IN./HR		
VERTICAL LEADERS		
	ROOF AREA	SIZE
	SQ. FT.	IN.
ROOF DRAIN		
RD-1	892	4
RD-2	820	4
RD-3	1621	4
RD-4	1510	4
RD-5	475	4
TOTAL 3,645		
HORIZONTAL PIPING (SLOPE 1/8" PER FOOT)		
	ROOF AREA	SIZE
	SQ. FT.	IN.
ROOF DRAIN		
RD-2 & RD-4	2330	6
RD-1 & RD-3	2513	6
RD-2, RD-4 & RD-5	2805	6
RD-1, RD-2, RD-3, RD-4 & RD-5	5318	8

emanuelson-podas
consulting engineers

3801.0083

MICHAEL WEBERT

REGISTERED PROFESSIONAL ENGINEER

PE-2004000077

01/07/26

PREPARED FOR: McDonald's USA, LLC

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DRAWN BY HB

STD ISSUE DATE 2024 11

REVIEWED BY WLW

DATE ISSUED 08 14 2025

NSN: 7321

L/C: 024-0244

3255 Main Street, Kansas City, MO 64111

REF: 22252

TITLE 2024 STANDARD BUILDING - BB20 45114-WOOD/WOOD

DESCRIPTION WOOD BEARING WALLS W/BRICK EXTERIOR FINISH & CI WOOD TRUSS ROOF FRAMING BATTEN/BRICK EXTERIOR FINISH

SHEET NO. P1.2

VENT & STORM PIPING PLAN

REV

DATE

DESCRIPTION

BY

01/07/26

MECHANICAL

01/07/26

12/03/25

CITY COMMENTS

09/24/25

CITY COMMENTS

08/14/25

PERMIT SET

06/26/25

USD PROGRESS SET REVIEW

WLW

WLW

WLW

WLW

WLW

BY

1 UNDERFLOOR PLUMBING PLAN
P1.3 1/4"=1'-0"

SANITARY AND STORM OUTFALL SIZING AND LOCATION TO BE COORDINATED WITH CIVIL ENGINEER AND DRAWINGS PRIOR TO CONSTRUCTION.

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.

KEYED NOTES

- P1 SANITARY LINE TO SANITARY SEWER. SEE SITE PLAN FOR CONTINUATION.
- P2 GREASE LINE TO EXTERIOR GREASE INTERCEPTOR. SEE SITE PLAN FOR CONTINUATION
- P3 STORM LINE TO STORM SYSTEM. SEE SITE PLAN FOR CONTINUATION.
- P4 VENT FROM GREASE INTERCEPTOR. SEE SITE PLAN FOR CONTINUATION. COORDINATE PIPE ROUTING WITH LOCATION OF GREASE INTERCEPTOR.
- P5 GREASE INTERCEPTOR LOCATION SHOWN FOR REFERENCE ONLY. COORDINATE GREASE INTERCEPTOR LOCATION WITH CIVIL ENGINEER AND SITE CONTRACTOR.
- P6 INSTALL SAMPLING PORT (IF REQUIRED) SCHIER MODEL SV10 OR APPROVED ALTERNATIVE.

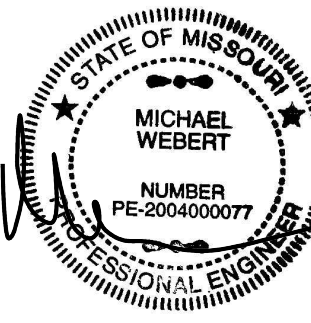
WASTE PIPE SIZING - UPC				
Fixture Type	TRAP SIZE	DFU	QUANTITY	TOTAL
URINAL	2 IN.	2	1	2
WATER CLOSET	3 IN.	4	3	12
LAVATORY SINK	1 1/4 IN.	1	2	2
WASH SINK (HAND SINK)	1 1/2 IN.	2	4	8
FLOOR DRAIN OR SINK	3 IN.	6	3	18
FLOOR DRAIN OR SINK	4 IN.	8	3	24
FLOOR DRAIN EMERGENCY	3 IN.	0	2	0
TOTAL			66	

GREASE PIPE SIZING - UPC				
Fixture Type	TRAP SIZE	DFU	QUANTITY	TOTAL
MOP SINK/3-COMP SINK	3 IN.	3	2	6
WASH SINK (HAND SINK)	1 1/2 IN.	2	0	0
FLOOR DRAIN OR SINK	3 IN.	3	3	9
TRENCH DRAIN	4 IN.	8	3	24
WASHING MACHINE	2 IN.	3	1	3
TOTAL			42	

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3801.0083



08/14/25

PREPARED FOR:
McDonald's USA, LLC
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DRAWN BY
HB

STD ISSUE DATE
2024 11

REVIEWED BY
WLV

DATE ISSUED
08 14 2025

TITLE
2024 STANDARD BUILDING – BB20
45114 – WOOD/WOOD

DESCRIPTION
WOOD BEARING WALLS W/BRICK EXTERIOR FINISH & CI
WOOD TRUSS ROOF FRAMING
BATEN/BRICK EXTERIOR FINISH

SHEET NO.
P1.3
UNDERGROUND PLUMBING

BY

DATE

REV

DESCRIPTION

08/14/25

06/26/25

PERMIT SET

USRD PROGRESS SET REVIEW

WLV

WLV

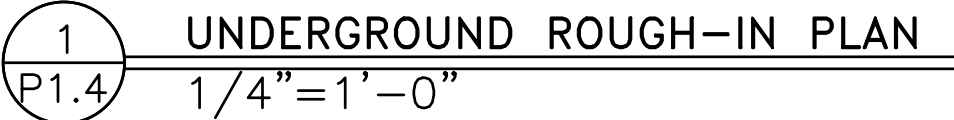
BY

PROJECT NO.
2024-0244-01.0

SITE ADDRESS
3255 Main Street, Kansas City, MO 64111

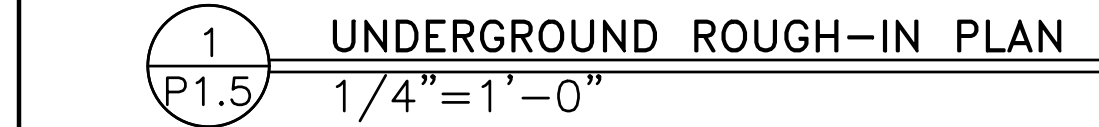
PROJECT NAME
2024 STANDARD BUILDING – BB20
45114 – WOOD/WOOD

PROJECT LOCATION
3255 Main Street, Kansas City, MO 64111



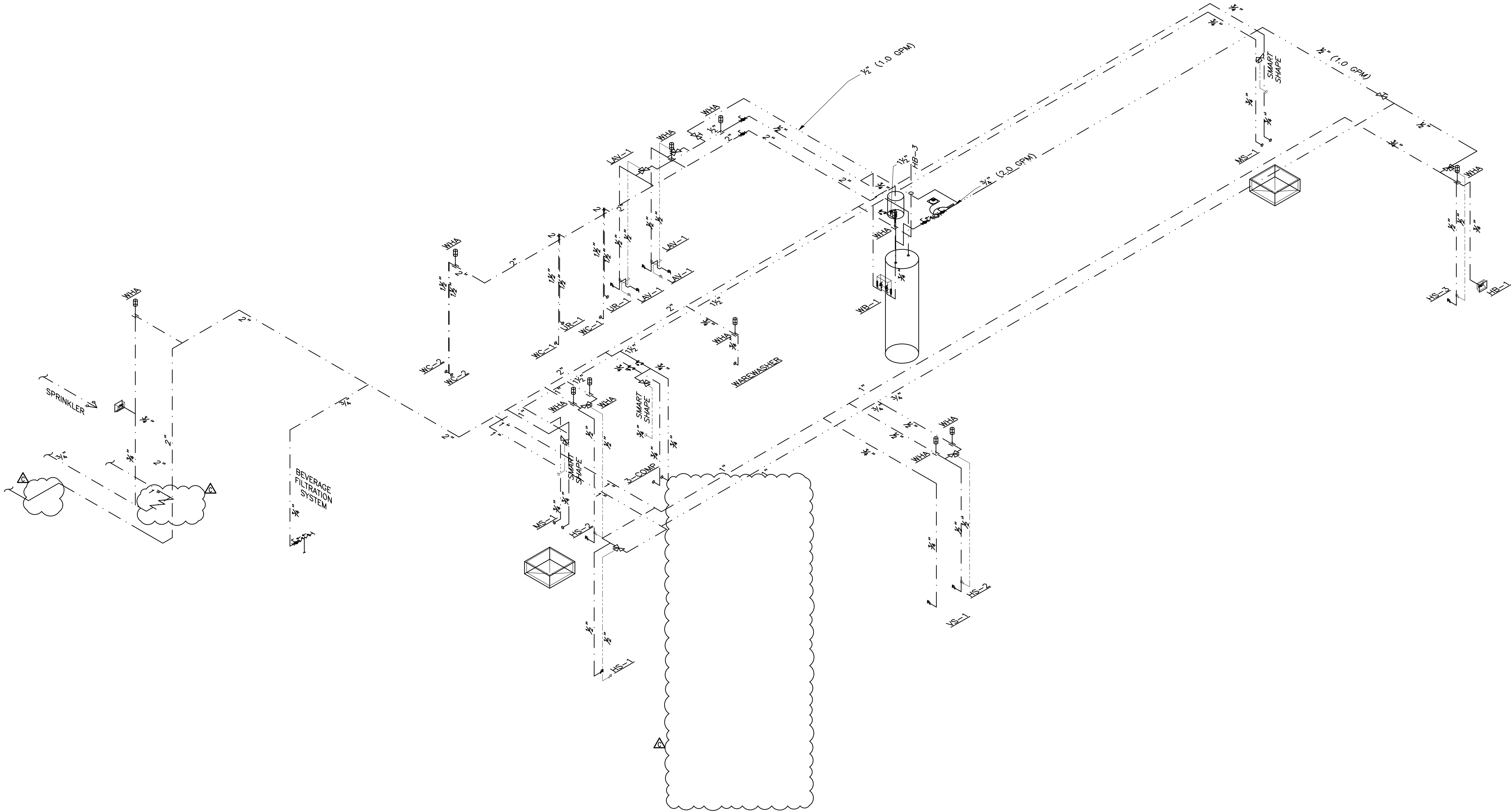
1. THIS PLAN IS PROVIDED AS A GUIDE FOR THE PLUMBING CONTRACTOR. ALL DIMENSIONS ARE ROUNDED TO THE NEAREST 1/4", AND ARE TAKEN FROM ARCHITECTURAL GRID LINES.

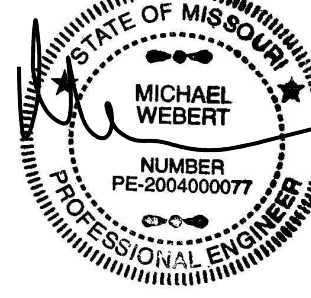
SHEET NO.	TITLE	DRAWN BY	PREPARED FOR:	 McDonald's USA, LLC ©2024, McDonald's Corporation		 emanuelsen-podas consulting engineers Emanuelsen-Podas, Inc. 10000 University Blvd Edina, MN 55439 (952) 930-0050 www.epc.com	REV	DATE	DESCRIPTION	BY
	2024 STANDARD BUILDING – BB20 451114 – WOOD/WOOD DESCRIPTION WOOD BEARING WALLS W/BRICK EXTERIOR FINISH & CI WOOD BEARINGS ROOF FRAMING DATE ISSUED 08 14 2025 BATTEN/BRICK EXTERIOR FINISH NSN-7321 L/C: 024–0244	HB STD ISSUE DATE 451114 – WOOD/WOOD REVIEWED DATE ISSUED 08 14 2025 R01/ 2232								
	024–0244.01.0				3801.0083	08/14/25				
UNDERGROUND ROUGH-IN										



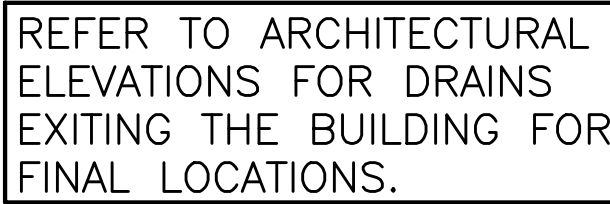
1. THIS PLAN IS PROVIDED AS A GUIDE FOR THE PLUMBING CONTRACTOR. ALL DIMENSIONS ARE ROUNDED TO THE NEAREST 1/4", AND ARE TAKEN FROM ARCHITECTURAL GRID LINES.

SHEET NO.	TITLE	DRAWN BY HB	PREPARED FOR: ©2024, McDonald's Corporation
	2024 STANDARD BUILDING – BBZ0	STD ISSUE DATE 451114–WOOD/WOOD	McDonald's USA, LLC
	DESCRIPTION	REVIEWED BY WJW	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 from McDonald's USA, LLC. The contract documents are not suitable for use on a different site at a later time. Use of the contract documents on any other project without the prior written consent of McDonald's USA, LLC constitutes unauthorized reproduction of the contract documents for reuse on another project is not authorized.
	WOOD BEARINGS WALLS W/BRIK EXTERIOR FINISH & CI	DATE ISSUED O8 14 2025	
	WOOD TRUSS ROOF FRAMING	REVISED O8 14 2025	
	BATTEN/BRICK EXTERIOR FINISH		
NKS-7321	SITE ADDRESS		
L/C: 024–0244	3255 Main Street, Kansas City, MO 64111	Rd# 22322	
024–0244.01.0	P1.5		
UNDERGROUND ROUGH-IN			



SHEET NO.	TITLE	DRAWN BY HB	STD 2024 11	ISSUE DATE	REVIEWED BY WLV	DATE ISSUED 08 14 2025	NSN: 7321	SITE ADDRESS L/C: 024-0244 3255 Main Street, Kansas City, MO 64111	RC# 22252	PREPARED FOR: McDonald's USA, LLC © 2024 McDonald's Corporation 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 Emanuelson-Podas, Inc. and are not to be used for any other project. Use of these drawings for reference or example on another project requires the written consent of Emanuelson-Podas, Inc. the contract documents for reuse on another project is not authorized.	PREPARED BY:  3801.0083	emanuelson-podas consulting engineers Emanuelson-Podas, Inc. 10000 E. 12th Street Edina, MN 55438 (952) 930-0000 www.epinc.com	REV	DATE	DESCRIPTION	BY
													C	12/03/25	CITY COMMENTS	WLV
													A	09/24/25	CITY COMMENTS	WLV
														08/14/25	PERMIT SET	WLV
														06/26/25	USD PROGRESS SET REVIEW	WLV

[illegible]



A circular professional engineer seal for the State of Missouri. The outer ring contains the text "STATE OF MISSOURI" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. In the center, the name "MICHAEL WEBERT" is printed above the license number "PE-2004000077". A handwritten signature is written across the seal, overlapping the name and the number.

SIZING DETAILS:

PROJECT INFORMATION:
CONSTRUCTIONS TYPE: NEW CONSTRUCTION
ADDITIONAL NOTES: McDONALD'S 4584 BUILDING - PROTOTYPICAL

LOCATION: OUTDOORS
BURRED: YES
HIGH WATER AREA: NO

FLOW RATE CALCULATION:
FLOW RATE TO INTERCEPTOR = (LESSER OF FLOW RATE BY PIPE SIZE AND FLOW RATE BY FIXTURES)
SIZE OF PIPE CONNECTED TO THE GREASE INTERCEPTOR: 4 IN.
DRAINAGE PERIOD: 2 MINUTES
FLOW RATE BY PIPE SIZE: 75 GPM
FLOW RATE BY FIXTURES, 2-MINUTE DRAINAGE PERIOD: 104.097 GPM
FLOW RATE BY FIXTURES, 1-MINUTE DRAINAGE PERIOD: 208.195 GPM
FLOW RATE USED TO SELECT GREASE INTERCEPTOR: 75 GPM
FIXTURE DFW: 38

GREASE OUTPUT:
MENU TYPE: FAST FOOD - FULL PREP
FRYER IN KITCHEN: YES
FOOD WASTE DISPOSER: YES
NUMBER OF SEATS: 43 SEATS
GREASE PRODUCTION VALUE: 0.035 LBS. PER SERVING (6.02 LBS. PER DAY)

30-DAY GREASE PRODUCTION 180.6 LBS.
60-DAY GREASE PRODUCTION: 361.2 LBS.
90-DAY GREASE PRODUCTION: 541.8 LBS.

CALCULATION:
GREASE OUTPUT=(NUMBER OF SEATS)x4(AVERAGE TURNS PER SEAT PER 24 HOURS)x(GREASE PRODUCTION VALUE)x(DAYS BETWEEN PUMP-OUT).

DETAIL

1

GREASE INTERCEPTOR
SCALE: NONE

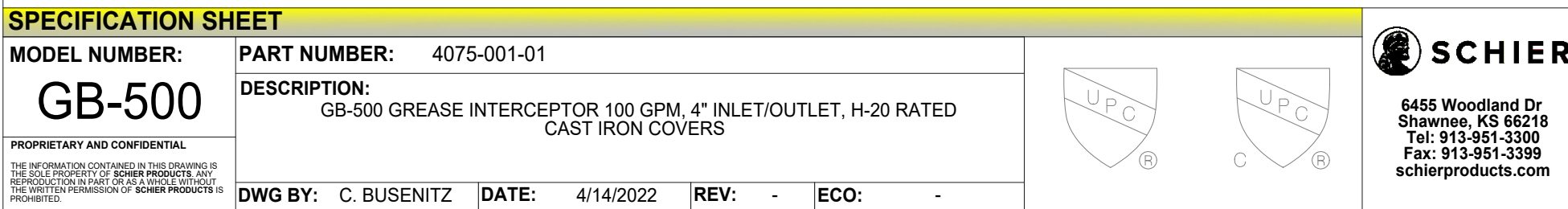
P3.0

ENGINEER SPECIFICATION GUIDE

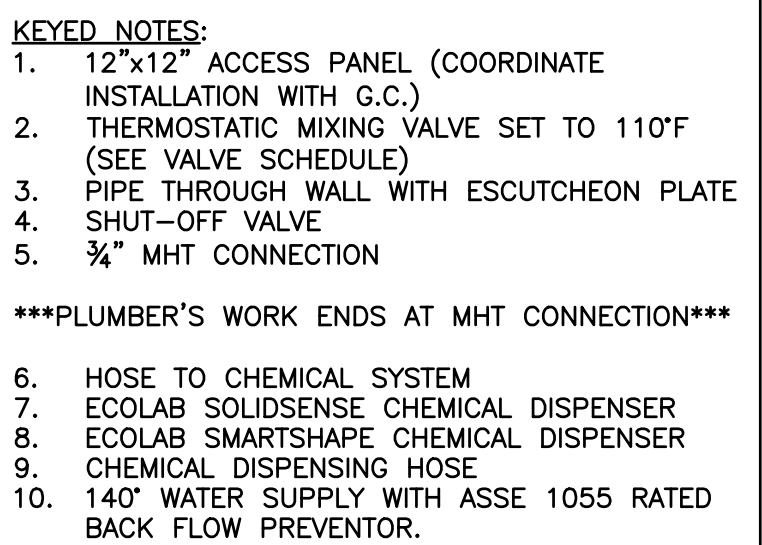
SCHIER Great Basin™ grease interceptor model #GB-500 is a lifetime quality grease separator. It is made of 304 stainless steel, rotationally-molded polyethylene with minimum 7" uniform wall thickness. Flow control cartridge shall be P.V.C. Interceptor shall be mounted for above or below-grade installation with adjustable cover adapter. Safety Star® access restrictor built into each cover adapter, and three outlet options. Interceptor shall be certified to ASME A112.14.3 (Type C) and CSA B481. Interceptor shall be tested to NSF 36. Interceptor grease capacity shall be 3,048 lbs. Cover shall provide water/gas-tight seal and have minimum 16,000 lbs. load capacity.

CERTIFIED PERFORMANCE

SCHIER Great Basin™ hydromechanical grease interceptors are the third party performance tested and listed by IAPMO to ASME A112.14.3 and CSA B481.1 storage interceptor standards and greatly exceed requirements for grease storage and retention. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.



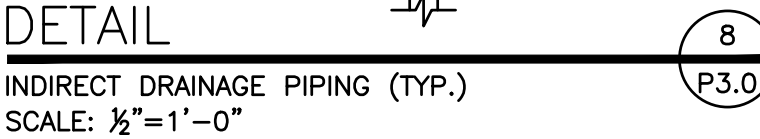
- KEYED NOTES:**
1. FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
 2. LAVATORY OR HAND SINK (SEE PLUMBING FIXTURE SCHEDULE)
 3. CORIAN COUNTERTOP — TOILET ROOMS ONLY (FURNISHED BY G.C.)
 4. ADA BARRIER — TOILET ROOMS ONLY (SEE ARCHITECTURAL DRAWINGS)
 5. OUTLINE OF ADA COMPLIANT WRAP (SEE PLUMBING FIXTURE SCHEDULE)
 6. THERMOSTATIC MIXING VALVE (SEE VALVE SCHEDULE)
 7. HOT WATER AND HWC DOWN WALL (WITH BALANCING VALVE AND CHECK VALVE INSTALLED).
 8. COLD WATER DOWN TO MIXING VALVE
 9. TEMPERED WATER TO FIXTURES
 10. COLD WATER TO FIXTURES AS APPLICABLE.



- [illegible]



- REFER TO CIVIL PLANS FOR
EXTERIOR WATER METER
LOCATION.



SIZING IS PER THE ZURN PROCEPTOR (GRAVITY INTERCEPTOR SIZING)

GREASE INTERCEPTORS:

1. SEE SITE PLAN FOR THE SIZE AND LOCATION OF THE GREASE INTERCEPTOR.
2. THE GREASE INTERCEPTOR SHALL BE INSTALLED IN A LOCATION THAT IS ACCESSIBLE FOR PUMPING.
3. THE GREASE INTERCEPTOR SHALL BE CONSTRUCTED OF FIBERGLASS OR ROTATIONALLY-MOLDED POLYETHYLENE. GREASE INTERCEPTOR CONSTRUCTION SHALL CONFORM TO ALL LOCAL CODES. CONCRETE GREASE INTERCEPTORS ARE NOT PERMITTED UNLESS REQUIRED BY THE LOCAL AHJ.
4. GREASE INTERCEPTORS SHALL BE GRAVITY OR HYDROMECHANICAL TYPE, SIZED FOR THE APPLICATION LISTED.
5. THE GREASE INTERCEPTOR SHALL BE VENTED IN ACCORDANCE WITH THE LOCAL CODE OR THE MANUFACTURER'S REQUIREMENTS.
6. ACCESS TO THE GREASE INTERCEPTOR SHALL BE PROVIDED WITH TWO (2) 24-IN. MANHOLES. COVER SHALL PROVIDE WATER/GAS-TIGHT SEAL AND HAVE A MINIMUM 16,000 LBS. LOAD CAPACITY. ALL SURFACE WATER MUST DRAIN AWAY FROM MANHOLES.
7. PIPING INLET AND OUTLET SIDES SHALL BE CLEARLY LABELED ON THE TOP OF THE GREASE INTERCEPTOR TO INSURE PROPER INSTALLATION.

DOMESTIC WATER LINE.

- DOMESTIC SUPPLY SYSTEMS:**
1. THE INCOMING WATER SERVICE PIPE SHALL BE LOCATED A MINIMUM OF 5 FT. FROM THE EXISTING 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.
 2. ALL UNDERGROUND SITE PLUMBING SHALL CONFORM TO NSF 61, SHALL BE TYPE K COPPER TUBING OR COPPER PIPE, POLYETHYLENE (PE), PEX OR CPVC. IF CPVC IS USED, FOAM INSULATION SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION TO ACCOUNT FOR EXPANSION AND CONTRACTION.
 3. INCOMING DOMESTIC WATER SIZE TO BE 2" INNER DIAMETER. FOR PROJECTS WISHING TO DOWNSIZE, A HYDRANT FLOW TEST IS REQUIRED PRIOR TO CONSTRUCTION DOCUMENTS. ENGINEER OF RECORD TO SUBMIT PRESSURE DROP CALCULATIONS AND HYDRANT FLOW TEST TO USD FOR REVIEW AND APPROVAL OF SMALLER INCOMING DOMESTIC WATER LINE.
 4. IF PEX PIPING IS USED, ALL MAINS SHALL BE UPSIZED BY 0.5" DIAMETER.
 5. INCOMING WATER SERVICE PRESSURE SHOULD BE BETWEEN 50 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 50 PSI STATIC, A PRESSURE BOOSTER SYSTEM SHALL BE INSTALLED.
 6. 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" ANNULAR CLEARANCE AROUND ALL PIPE SLAB PE
A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (RPZ) SHALL B
AT THE INCOMING SERVICE WHERE REQUIRED BY CODE. (MIN. 60" A.F.F.)

9. AN EXPANSION TANK SHALL BE INSTALLED ON THE COLD WATER LINE INLET TO THE WATER HEATER. SEE EXPANSION TANK SCHEDULE.
 10. 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 PEX OR CPVC PIPE.
 11. CPVC PIPE SHALL BE FLOWGUARD GOLD OR FLOWGUARD BENDABLE AS MANUFACTURED BY LUBRIZOL.
 12. CPVC PIPE SHALL BE CONNECTED WITH FLOWGUARD GOLD YELLOW LOW-VOC SOLVENT CEMENT AS MANUFACTURED BY IPS WELD-ON OR OATEY.
 13. ALL CPVC PIPE SHALL BE INSULATED TO PREVENT EXPOSURE TO GREASE.
 14. ALL SUSPENDED PIPE SHALL BE SUPPORTED AS FOLLOWS:
- | MATERIAL | MAX. HORIZ. SPACING | MAX. VERT. SPACING |
|---------------|---|--------------------|
| COPPER PIPE | 12 FT. | 10 FT. |
| COPPER TUBING | $\leq 1\frac{1}{4}$ " 6 FT. $> 1\frac{1}{4}$ " 10 FT. | 10 FT. |

CPVC	≤1 3 FT. ≥1/4" 4 FT.	10 FT.
PEX	≤1 32 IN. ≥1/4" 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, APPARANCES, AND APPARATUS INTENDED TO SERVE SOME OF THE

15. 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).
16. ALL DEVICES, APPLIANCES, AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION (EX.: SODA MACHINE, COFFEE MACHINE, BEVERAGE DISPENSERS, ETC.) SHALL BE PROVIDED WITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY SYSTEM. ALL BACKFLOW PREVENTION DEVICES SHALL BE ASSESS LISTED AND APPROVED FOR THE DEVICE OR APPLIANCE THEY SERVE.
17. ALL WATER SUPPLY LINES SHALL BE PROVIDED WITH A QUARTER-TURN SHUT-OFF VALVE BEFORE FINAL CONNECTION TO EQUIPMENT.
18. QUARTER-TURN SHUT-OFF VALVES SHALL BE INSTALLED UPSTREAM OF ANY INLINE BACKFLOW PREVENTION DEVICE.
19. ALL VALVES AND BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED WITH FITTINGS THAT FACILITATE REMOVAL IN CASE OF FAILURE.
20. ALL OVERHEAD WATER LINES SHALL BE INSULATED WITH 1" THICK EXTERNAL JACKETED INSULATION AND A MINIMUM INSTALLED R-VALUE OF 3.7. ALL HOT WATER AND HOT WATER RETICULATION OF 1.5" OR LARGER SHALL BE INSULATION OF 1.5".
21. 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.

1. ALL ROOF DRAINS SHALL BE SIZED IN ACCORDANCE WITH LOCAL CODES AND SHALL CONFORM TO ASME A112.21.2M OR A112.3.1.
2. ALL STORM DRAINAGE PIPING SHALL BE ABS, PVC TYPE DWV OR CAST-IRON WHERE REQUIRED BY CODE.
3. ALL SUSPENDED STORM DRAINAGE PIPE SUPPORT REQUIREMENTS SHALL BE THE SAME AS THE SANITARY AND VENT REQUIREMENTS.
4. ALL HORIZONTAL STORM DRAINAGE PIPE PITCH REQUIREMENTS SHALL BE THE SAME AS THE SANITARY AND VENT REQUIREMENTS.
5. 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.
6. CLEANOUTS SHALL BE INSTALLED IN ALL HORIZONTAL DRAINAGE PIPE AND SHALL BE LOCATED NOT MORE THAN 100 FT. APART.
7. 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.
8. CLEANOUTS SHALL BE INSTALLED ON PIPES PRIOR TO ANY SLAB PENETRATION.

A. DRAINAGE FIXTURE UNITS	
1. Total drainage fixture units (DFU):	42 DFU
B. INTERCEPTOR MINIMUM VOLUME	
2. Minimum volume from UPC Table 1014.3.6	1250 Gal.
*Note: Update required volume manually, see table below	

3. WHERE PIPING IS LOCATED WITHIN WALL CAVITIES, ACCESS TO THE CLEANOUTS SHALL BE PROVIDED.
 10. ROOF DRAINS AND OVERFLOW ROOF DRAINS SHALL BE PIPED INDEPENDENTLY. OVERFLOW ROOF DRAINS SHALL NOT BE CONNECTED TO THE PRIMARY ROOF DRAINAGE SYSTEM.
- "PEX" TUBING MUST MEET THE FOLLOWING STANDARDS:**
1. THE TUBING MUST COMPLY WITH ASTM STANDARD F877 AND D2846
 2. WHEN INSTALLED AS A SYSTEM IN ACCORDANCE WITH WITH F877 THE SYSTEM TUBING AND FITTINGS MUST BE FROM THE SAME MANUFACTURER.
 3. WHEN OTHER FITTINGS ARE USED WITH ASTM STANDARD F877 AND F876 TUBING, FITTINGS MUST COMPLY AND BE MARKED WITH ASTM STANDARD F1807, F1960, F2080, F2098-01, OR F2159. IN ADDITION THE TUBING MUST BE MARKED TO INDICATE THE FITTING STANDARD AND CORRESPONDING TUBING STANDARD (E.G. ASTM F877/F876/F1960, F877/F876/F1807, ECT.)
 4. THE SYSTEM MUST BE INSTALLED BY A FACTORY TRAINED INSTALLER OF THE PARTICULAR PEX SYSTEM TO BE INSTALLED. CERTAIN MANUFACTURERS REQUIRED INSTALLATION BY A LICENSED PLUMBER WHO HAS BEEN TRAINED TO INSTALL THEIR MATERIAL.
 5. ALL PERSONS INSTALLING PEX MATERIALS SHALL HAVE A CARD IN THEIR POSSESSION DOCUMENTING COMPLETION OF TRAINING BY MANUFACTURER OR HIS AGENT FOR THE MATERIAL TO BE INSTALLED.
 6. THE TUBING AND FITTINGS MUST BE MARKED AS REQUIRED BY THE APPLICABLE STANDARD SPECIFICATION AND WITH APPROPRIATE ASTM DESIGNATIONS BY THE MANUFACTURER.
 7. THE INSTALLATION MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 8. ALL PIPING MUST BE UPSIZED BY 0.5" DIAMETER.
9. VERTICAL TUBING SHALL
- 9.A. BE SUPPORTED AT EACH FLOOR OR AS SPECIFIED BY THE WATER-DISTRIBUTION SYSTEM DESIGNER TO ALLOW FOR EXPANSION AND CONTRACTION.
 - 9.A.A. ARE SUPPORTED AT INTERVALS NOT EXCEEDING 1.8M (6 FT)
 - 9.A.B. HAVE A MAXIMUM CANTILEVER, MEASURED FROM THE SUPPORT TO THE END OF THE CTS SUPPORT CHANNEL, PORT CHANKEK OF 0.5M (1.5 FT)
10. HORIZONTAL TUBING SHALL
- 10.A. NTS-1 AND SMALLER SHALL BE SUPPORTED EVERY 0.8M (32 IN), UNLESS CONTINUOUSLY SUPPORTED BY METALLIC CTS OR V CHANNELS THAT
 - 10.B. NTS-1½ AND LARGER SHALL BE SUPPORTED EVERY 1.2M (4 FT), UNLESS CONTINUOUSLY SUPPORTED BY METALLIC CTS OR V CHANNELS THAT.
 - 10.B.A. ARE SUPPORTED AT INTERVALS NOT EXCEEDING 2.4M (8 FT) AND
 - 10.B.B. HAVE A MAXIMUM CANTILEVER, MEASURED FROM THE SUPPORT TO THE END OF THE CTS SUPPORT CHANNEL, OF 0.5M (1.5 FT.)
- PIPING INSULATION THICKNESS:**
1. MINIMUM PIPING INSULATION THICKNESS HEATING AND HOT-WATER SYSTEMS (STEAM, STEAM CONDENSATE, HOT-WATER HEATING AND DOMESTIC WATER SYSTEMS). PLEASE REFER TO THE LATEST EDITION OF IECC FOR MINIMUM PIPE INSULATION THICKNESS (TABLE C403.12.3)

PIPING	MINIMUM INSULATION THICKNESS (IN INCHES) PER NOMINAL PIPE OR TUBE SIZE						
NOMINAL PIPE SIZE	<1	1	TO 1.5	1.5 TO <4	4 TO <8	≥8	
DOMESTIC COLD WATER (40°F TO 60°F)	0.5	0.5	1.0	1.0	1.0	1.0	
TEMPERATE HOT WATER (105°F TO 140°F)	1.0	1.0	1.0	1.5	1.5	1.5	
HOT WATER (141°F TO 200°F)	1.5	1.5	2.0	2.0	2.0	2.0	
STORM DRAIN (HORIZONTAL)	—	—	1.0	1.0	1.0	1.0	

ABBREVIATIONS

[illegible]

PERMIT NUMBER: _____ DATE: _____ PROJECT NAME: _____ PROJECT ADDRESS: _____
COMMISSIONING AUTHORITY: _____

☐ COMMISSIONING PLAN WAS USED DURING CONSTRUCTING AND INCLUDES ALL ITEMS REQUIRED BY §C408.2.1.

☐ SERVICE WATER HEATER SYSTEM FUNCTIONAL TESTING HAS BEEN EXECUTED. IF APPLICABLE, DEFERRED AND FOLLOW-UP TESTING IS SCHEDULED TO BE PROVIDED ON _____.

☐ MANUAL, RECORD DOCUMENTS AND TRAINING HAVE BEEN COMPLETED AND SCHEDULED.

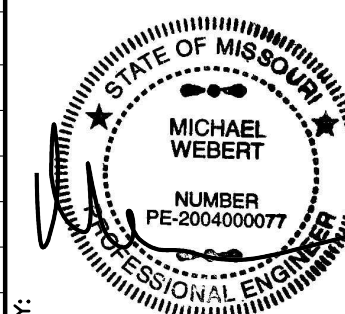
☐ PRELIMINARY COMMISSIONING REPORT SUBMITTED TO OWNER AND REPORT INCLUDES ALL ITEMS REQUIRED BY §C408.2.4.

I HEREBY CERTIFY THE COMMISSIONING PROVIDER HAS PROVIDED ME WITH EVIDENCE OF MECHANICAL, SERVICE WATER HEATING, AND LIGHTING SYSTEMS COMMISSIONING, WHERE APPLICABLE, IN ACCORDANCE WITH THE CURRENT ADOPTED INTERNATIONAL ENERGY CONSERVATION CODE.

SIGNATURE OF BUILDING OWNER OR OWNER'S REPRESENTATIVE DATE



3801.0083



BY:

08/14/25

ion

REPAIRED FOR:  **McDonald's USA, LLC** © 2024 McDonald's Corporation

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COORDINATION SCHEDULE

GENERAL REQUIREMENTS	FURNISH	INSTALL	FINAL CONNECTION	NOTES
MECHANICAL PERMIT	MC			1-3
HOT WORK (WELDING) PERMIT (IF APPLICABLE)	MC			1-3
REFRIGERATION PERMIT (IF APPLICABLE)	KES			1-3
PLUMBING PERMIT	PC			1-3
ELECTRICAL PERMIT	EC			1-3
FIRE SPRINKLER PERMIT (IF APPLICABLE)	FPC			1-3
FIRE ALARM PERMIT (IF APPLICABLE)	FAC			1-3
CONTRACTOR COORDINATION REQUIREMENTS				
HEATING & AIR-CONDITIONING				
ROOFTOP UNITS, INTAKE AND RELIEF	MCD CP	MC		1-5, 17, 22
ROOF CURBS	MCD CP	MC		1-3, 20, 22
GAS PIPING AND GAS PIPE KIT	PC		PC	1-3, 14, 22-23
CONTROLS WIRING	MC	EC	EC	1-3, 19, 22, 24
POWER WIRING	EC		EC	1-3, 19, 22, 24
CONDENSATE TRAP	MC	PC		1-3, 22-23
CONDENSATE PIPING (IF APPLICABLE)	PC	PC		1-3, 22-23
DUCT-MOUNTED SMOKE DETECTOR	MC		EC	1-3, 22, 24
GENERAL EXHAUST SYSTEMS				
EXHAUST FANS	MCD CP	MC		1-3, 17, 22
ROOF CURBS	MCD CP	MC		1-3, 22
CONTROLS (WHERE APPLICABLE)	MC	EC	EC	1-3, 22, 24
POWER WIRING	EC		EC	1-3, 22, 24
TEMPERATURE CONTROLS				
BUILDING AUTOMATION SYSTEM	MCD CP	MC	EC	1-3, 22, 24
REMOTE SENSORS (RH AND/OR TEMPERATURE)	MC	MC	EC	1-3, 22, 24
CONTROLS WIRING (WHERE APPLICABLE)	MC	EC	EC	1-3, 22, 24
POWER WIRING	EC		EC	1-3, 22, 24
DUCTWORK AND ACCESSORIES				
GALVANIZED SHEET METAL DUCTWORK	MC	MC		1-3, 22
EXTERNAL INSULATION	MC	MC		1-3, 22
INTERNAL INSULATION (IF APPLICABLE)	MC	MC		1-3, 22
WEATHERPROOFING (IF APPLICABLE)	MC	MC		1-3, 22
SPIN-IN COLLARS	MC	MC		1-3, 22
FLEXIBLE DUCTWORK	MC	MC		1-3, 22
VOLUME/BALANCING DAMPERS	MC	MC		1-3, 22
FIRE DAMPERS (IF APPLICABLE)	MC	MC		1-3, 22
FIRESTOPPING (IF APPLICABLE)	MC	MC		1-3, 22
AIR DEVICES AND ACCESSORIES	MC	MC	MC	1-3, 7, 22, 28
PLUMBING SYSTEMS				
WATER HEATERS	MCD PC	PC	PC	1-3, 11-12, 23
HOT AND COLD WATER PIPE	PC	PC	PC	1-3, 23
VENTS AND INTAKES	PC	PC	PC	1-3, 23
THERMOSTATIC MIXING VALVE	PC	PC	PC	1-3, 23
POWER AND CONTROL WIRING	EC	EC	EC	1-3, 23-24
KITCHEN EXHAUST SYSTEMS				
McDONALD'S BACKSHELF EXHAUST HOODS	KES	KEI		1-3, 6, 22, 27
CANOPY EXHAUST HOODS (IF APPLICABLE)	KES	KEI		1-3, 6, 22, 27
BLACK IRON DUCTWORK	KES	KEI		1-3, 6, 22
STAINLESS STEEL DUCTWORK (IF APPLICABLE)	KES	KEI		1-3, 6, 22
ALUMINUM DUCTWORK (IF APPLICABLE)	KES	KEI		1-3, 6, 22
UL LISTED DUCT WRAP	MC	MC		1-3, 6, 22
FIRE-RATED DUCT ENCLOSURE (IF APPLICABLE)	GC	GC		1-3, 6, 20, 22
EXHAUST FANS	MC	MC		1-3, 6, 17, 22
ROOF CURBS	MC	MC		1-3, 6, 20, 22
CURB EXTENSIONS	MC	MC		1-3, 6, 22
CONTROLS (WHERE APPLICABLE)	EC	EC	EC	1-3, 6, 22, 24
POWER WIRING	EC		EC	1-3, 6, 22, 24
FIRE SUPPRESSION SYSTEM	KES	KES	KES	1-3, 16, 22, 27
KITCHEN EQUIPMENT				
COOLER/FREEZER	KES	GC		1-3, 27
EVAPORATOR COILS	KES	MC		1-3, 27
CONDENSATE PIPING	PC	PC	PC	1-3, 23, 27
REMOTE CONDENSING UNIT (MAC)	KES	MC		1-3, 22, 27
ROOF CURBS	MC	MC		1-3, 22
REFRIGERANT PIPING	KES	MC	MC	1-3, 22, 27
POWER WIRING	EC	EC	EC	1-3, 22, 24, 27
CONTROL WIRING	EC	EC	EC	1-3, 24, 27
PIPE PORTALS	MC	MC		1-3, 22
ICE MACHINES	KES	KEI		1-3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1-3, 27
REMOTE CONDENSING UNITS	KES	MC		1-3, 22, 27
ROOF CURBS	MC	MC		1-3, 22, 27
REFRIGERANT PIPING	KES	MC	MC	1-3, 22, 27
POWER WIRING	EC	EC	EC	1-3, 22, 24, 27
CONTROL WIRING	KES	EC	EC	1-3, 24, 27
PIPE PORTALS	MC	MC		1-3, 22
GRILLS	KES	KES		1-3, 27
GAS PIPING (IF APPLICABLE)	PC	PC	PC	1-3, 23, 27
POWER WIRING	EC	EC	EC	1-3, 24, 27
CONTROL CABLE (6" CLAMSHELL ONLY)	MC	EC	EC	1-3, 23, 24, 27
FRYERS	KES	KES		1-3, 27
GAS PIPING (IF APPLICABLE)	PC	PC	PC	1-3, 23, 27
POWER WIRING	EC	EC	EC	1-3, 24, 27
3-COMPARTMENT SINK	KES	KES		1-3, 12, 27
FAUCETS AND PRE-RINSE SPRAYER	KES	KES		1-3, 27
WATER SUPPLY PIPING	PC	PC	PC	1-3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1-3, 23, 27
HAND SINKS	MCD CP	PC		1-3, 23, 27
FAUCET	MCD CP	PC		1-3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1-3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1-3, 23, 27
VEGETABLE SINK	KES	KES		1-3, 23, 27
FAUCET	KES	KES		1-3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1-3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1-3, 23, 27
WASHING MACHINE	KES	KES		1-3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1-3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1-3, 23, 27
WARE WASHER	KES	KES		1-3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1-3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1-3, 23, 27
MISCELLANEOUS ITEMS				
FIRE SPINKLER SYSTEMS	FPC	FPC	FPC	1-3, 15, 25
HVAC EQUIPMENT START-UP	MC			1-3, 22
TEST, ADJUST AND BALANCE HVAC SYSTEMS	TAB			1-3, 22
DOOR GRILLES (IF APPLICABLE)	MC	GC		1-3, 20, 22
ROOF/WALL OPENINGS	GC			1-3, 20-24
APPLIANCE BACKFLOW PREVENTION	KES/BSI	PC	PC	1-3, 23, 27
CO2 DETECTION SYSTEM	KES/BSI	EC/BSI	EC/BSI	1-3, 22, 27

- NOTES:**
- 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.
 - 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.
 - FOR ANY WORK NOT CLARIFIED IN THIS SCHEDULE OR IN THE NOTES AND SPECIFICATIONS, PLEASE CONSULT THE McDONALD'S CONSTRUCTION MANAGER FOR SCOPE OF WORK.
 - ALL ROOFTOP UNIT EQUIPMENT SUPPLIED BY THE MECHANICAL CONTRACTOR AND THE KITCHEN EQUIPMENT SUPPLIER SHALL BE ON SITE AT THE SAME TIME FOR A SINGLE CRANE LIFT. EQUIPMENT SITE ARRIVAL DATE SHALL BE COORDINATED BETWEEN THE CONSTRUCTION MANAGER, MECHANICAL CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER.
 - ALL ROOFTOP UNITS INSTALLED IN McDONALD'S RESTAURANTS SHALL BE HIGH EFFICIENCY EQUIPMENT. THE INSTALLATION OF STANDARD EFFICIENCY ROOFTOP UNITS IS PROHIBITED. PLEASE REFER TO THE LATEST EDITION OF IECC FOR HVAC EQUIPMENT PERFORMANCE REQUIREMENTS.
 - ALL KITCHEN EQUIPMENT REQUIRING EXHAUST SHALL BE INSTALLED IN ACCORDANCE WITH THESE PLANS. ANY VARIATION FROM THESE PLANS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER AND THE ENGINEER-OF-RECORD.
 - WHERE GYPSUM BOARD CEILINGS ARE INSTALLED, THE MECHANICAL CONTRACTOR SHALL SUPPLY DRYWALL MOUNTING FRAMES FOR LAY-IN TYPE DIFFUSERS.
 - ALL WORK SHOWN ON P1.6 DRAWING(S) SHALL BE COMPLETED BY THE BEVERAGE SYSTEM INSTALLER (OR K.E.S.) UNLESS OTHERWISE NOTED IN THE PLUMBING DRAWINGS.
 - ALL WORK ON P1.0 & P1.2 DRAWING(S) SHALL BE BY THE PLUMBING CONTRACTOR.
 - THE BEVERAGE SYSTEM INSTALLER FURNISHES, RUNS AND CONNECTS ALL FLEXIBLE WATER AND SYRUP LINES FOR ALL AFFECTED EQUIPMENT INCLUDING THE FOLLOWING:
A. HOT CHOCOLATE
B. COFFEE BREWER
C. ICE MACHINE
D. O.J.
E. SODA TOWERS
 - ALL WATER HEATERS INSTALLED IN McDONALD'S RESTAURANTS SHALL BE HIGH EFFICIENCY SEALED-COMBUSTION WATER HEATERS. THE INSTALLATION OF STANDARD EFFICIENCY GRAVITY-VENTED WATER HEATERS IS PROHIBITED. PLEASE REFER TO THE LATEST EDITION OF IECC FOR SERVICE WATER-HEATING EQUIPMENT PERFORMANCE EFFICIENCY REQUIREMENTS.
 - THE CONSTRUCTION MANAGER, PLUMBING CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER SHALL COORDINATE WHICH SOILED DISHWASHER (3-COMPARTMENT SINK) IS BEING INSTALLED IN THE RESTAURANT.
 - ALL GAS PIPING FOR COOKING EQUIPMENT SHALL TERMINATE IN THE CEILING PRIOR TO THE INSTALLATION OF THE PIPING CHASE. UPON INSTALLATION OF THE CHASE, THE GAS PIPING SHALL THEN BE CONTINUED IN THE CHASE FOR FINAL CONNECTION TO THE APPLIANCE.
 - ALL GAS PIPING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THROUGH THE BASE OF THE UNIT TO MINIMIZE ROOF PENETRATIONS. WHERE THIS IS NOT POSSIBLE, THE PLUMBING CONTRACTOR SHALL PROVIDE THE NECESSARY PIPE PORTALS ON ROOF.
 - ALL FIRE PROTECTION DRAWINGS CONTAINED WITHIN THIS SET ARE STRICTLY FOR REFERENCE ONLY. FIRE SPRINKLER DRAWINGS SHALL BE DESIGNED AND PERMITTED BY A FIRE PROTECTION CONTRACTOR.
 - ALL R-102 WET CHEMICAL FIRE SUPPRESSION SYSTEMS FOR TYPE I HOODS SHALL BE DESIGNED AND INSTALLED BY A LOCAL ANSUL AGENT. THE USE OF DRY CHEMICAL SYSTEMS IS PROHIBITED. THE LOCAL ANSUL AGENT CONTRACT IS HANDLED THROUGH THE KITCHEN EQUIPMENT SUPPLIER.
 - ALL ROOFTOP UNITS AND EXHAUST FANS ARE SUPPLIED WITH A FACTORY-INSTALLED DISCONNECT SWITCH.
 - ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES FOR REMOTE CONDENSING UNITS.
 - ALL ELECTRICAL CONDUITS FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THROUGH THE BASE OF THE UNIT TO MINIMIZE ROOF PENETRATIONS. WHERE THIS IS NOT POSSIBLE, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE NECESSARY PIPE PORTALS ON ROOF.
 - WALK-IN COOLER AND WALK-IN FREEZER REFRIGERATION SYSTEMS SHALL MEET THE PERFORMANCE REQUIREMENTS OUTLINED IN THE LATEST EDITION OF IECC. MINIMUM ANNUAL WALK-IN ENERGY FACTOR (AWEF) PROVIDED BY EQUIPMENT MANUFACTURER IS DETERMINED IN ACCORDANCE WITH AHRI 1250.
 - SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE KITCHEN DRAWINGS FOR ADDITIONAL INFORMATION.
 - SEE DECOR DRAWINGS FOR ADDITIONAL INFORMATION.

PUMP SCHEDULE

TAG	MANUFACTURER	MODEL	HP	V	Ø	Hz	ACCESSORIES
P-1	GRUNDFOS	UP 15-18 B7	1/25	120	1	60	1-3
ACCESSORIES:			NOTES:				
1. TIMECLOCK			1. SEE ELECTRICAL DRAWINGS FOR TIMECLOCK WIRING				
2. AQUASTAT			2. DESIGN: 2 GPM, 7 FT. HEAD				
3. CHECK VALVE			3. SEE DETAIL 6 ON DRAWING P3.0				

BACKFLOW PREVENTER SCHEDULE

TYPE	MFR.	MODEL	ASSE LISTING	SERVES	LOCATION
AG FURN. WITH CHEM. SYS.		1055B	CHEMICAL SYSTEM	DIN. RM.-MOP SINK	
AG FURN. WITH CHEM. SYS.		1055B	CHEMICAL SYSTEM	KITCHEN-MOP SINK	
AVB FURN. WITH CHEM. SYS.		1001	CHEMICAL SYSTEM	SUPP. RM.-3-COMP	
AVB FURN. WITH FAUCET			MOP SINK FAUCET	SEE DRAWINGS	
VB FURN. WITH HB		1011	WALL HYDRANT	SEE DRAWINGS	
DCV FURN. WITH HB		1052	YARD HYDRANT	TRASH CORRAL	
DCV FURN. WITH HB		1052	ROOF HYDRANT	ROOF	
DCV WATTS		SD-3	1022	SODA TOWERS AND SPEC. COFFEE	
RPZ WILKINS		375XL-SXL-AG	1013	INCOMING WATER	SUPPORT ROOM
RPZ WILKINS		375XL-AG	1013	FILTRATION SYSTEM	SUPPORT ROOM
PVB WATTS		WAB00M40T-100	1020	IRRIGATION SYSTEM	IRRIGATION SYSTEM
BFP PROVIDED BY FIRE PROTECTION CONTRACTOR					
DCV WATTS		1 inch 007M1QT	1015	IRRIGATION SYSTEM	IRRIGATION SYSTEM
DCV WATTS		007M3-QT 3/4"	1015	YARD HYDRANT	TRASH CORRAL

INTERCEPTOR SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	ACCESSORIES	NOTES
GI-1	EXTERIOR GREASE INTERCEPTOR	SCHIER PRODUCTS ZURN - GREEN TURTLE	GB-500 PROCEPTOR MODEL GMC1300-UPC		1-4 1-3, 5
NOTES:					
1. SEE GREASE INTERCEPTOR NOTES ON DRAWING P4.0					
2. GREASE INTERCEPTOR IS SIZED FOR CITY SEWER APPLICATIONS ONLY. DO NOT USE FOR SEPTIC FIELDS.					
3. SEE SITE PLAN FOR LOCATION					
4. FOR SCHIER HYDROMECHANICAL GREASE INTERCEPTOR ORDERING, CONTACT: LEE FLASHER, HUGHES SUPPLY, DIRECT LINE: (407) 509-7626, OR E-MAIL: MCDCOORD@HAJOCA.COM					
5. FOR ZURN PROCEPTOR ORDERING, CONTACT HUGHES SUPPLY, DIRECT LINE: (407) 244-7918, OR E-MAIL: MCDCOORD@HAJOCA.COM					

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	WATER USE	ACCESSORIES/COMMENTS
F-1	FAUCET FOR LAV-1	ZURN	SF-2150 Z6950-XL-S-N-10S	0.5 GPM (0.08 GAL/10 SEC CYCLE)	FAUCET OPERATION: SENSOR
F-2	FAUCET FOR MS-1	ZURN	Z843M4		FAUCET OPERATION: MANUAL SEE DETAIL 2 ON DRAWING P3.0 SEE NOTE 8
FCO	6x6 FLOOR CLEAN OUT	ZURN JAY R. SMITH	Z1400-SZ 4040		SEE DRAWINGS FOR PIPE SIZES SEE NOTE 8
FD-1	6x6 FLOOR DRAIN WITH FUNNEL	ZURN JAY R. SMITH	Z415-SZ1 3510-F25		PIPE SIZE: 3" STRAINER SIZE: 6" NICKEL BRONZE FUNNEL: ZURN Z329 SEE NOTE 8
FD-2	6x6 FLOOR DRAIN	ZURN JAY R. SMITH	Z415-SZ1 2005		PIPE SIZE: 3" STRAINER SIZE: 6" NICKEL BRONZE FUNNEL: NONE SEE NOTE 8
FD-3	6x6 FLOOR DRAIN WITH FUNNEL	ZURN JAY R. SMITH	Z415-SZ1 3510-F25		PIPE SIZE: 4" STRAINER SIZE: 6" NICKEL BRONZE FUNNEL: ZURN Z329 SEE NOTE 8
FD-4	6x6 FLOOR DRAIN	ZURN JAY R. SMITH	Z415-SZ1 2005		PIPE SIZE: 4" STRAINER SIZE: 6" NICKEL BRONZE FUNNEL: NONE SEE NOTE 8
FS-1	12x12 FLOOR SINK WITH HALF-GRATE	ZURN JAY R. SMITH	ZN1901 3435		PIPE SIZE: 3" DOME STRAINER: ALUMINUM GRATE: HALF - NICKEL-BRONZE SEE NOTE 8
FS-2	8x8 FLOOR SINK WITH HALF-GRATE	ZURN JAY R. SMITH	ZN1910 3415		PIPE SIZE: 3" DOME STRAINER: ALUMINUM GRATE: HALF - NICKEL-BRONZE SEE NOTE 8
FS-3	8x8 FLOOR SINK	ZURN JAY R. SMITH	ZN1910 3415		PIPE SIZE: 3" DOME STRAINER: ALUMINUM GRATE: FULL - NICKEL-BRONZE SEE NOTE 8
HB-1	WALL HYDRANT	ZURN JAY R. SMITH	Z1320-EZ 5519		WALL CLAMP: ADJUSTABLE WALL THICKNESS: M/S = 9 3/4" W/W = 1 3/4"
HB-2	YARD HYDRANT	WOODFORD	S4H		SEE NOTES 4 & 9 (NO DRAIN REQUIRED)
HB-3	ROOF HYDRANT	WOODFORD	RHY2-MS		
HS-1	STAINLESS STEEL HAND SINK	ADVANCE TABCO	7-PS-61		FAUCET: INCLUDED WITH SINK SEE NOTES 6 & 10
HS-2	STAINLESS STEEL HAND SINK - ADA	ADVANCE TABCO	7-PS-26		FAUCET: INCLUDED WITH SINK SEE NOTES 6 & 10
LAV-1	LAVATORY	KOHLER SLOAN	K-2882-0 SS3021		FAUCET: F-1 TRUEBRO LAVGUARD2 MODEL #102-E-Z CORIAN COUNTER BY G.C. SEE NOTE 11
MS-1	MOP SINK	FIELD FABRICATED ADVANCE TABCO	RECESSED - FLOOR (24x24x12) 9-OP-24FM Z886-DGC		FAUCET: F-2 INCLUDES HOSE, HOSE BRACKET AND TWO (2) 24"Wx36"H WALL GUARDS SEE DETAIL 2 ON P3.0
TD-1	TRENCH DRAIN	ZURN			CLASS A STAINLESS STEEL MESH SCREEN GRATE. NO-HUB BOTTOM OUTLET. BOTTOM DOME STRAINER. CLOSED END CAP
UR-1	ADA WALL-HUNG URINAL	SLOAN ZURN	SU-1009 Z5755	0.125 GPF	FLUSH VALVE: SLOAN SOLIS 8186 ZURN ZTR6203-ULF-LL 3/4" I.P.S., 1" TOP SPUD FLUSH VALVE OPERATION: SENSOR SEE NOTE 2
WB-1	WALL BOX FOR WASHING MACHINE	SIoux CHIEF	696-2313		HAMMER ARRESTERS INCLUDED WITH BOX MOUNTING HEIGHT: 12" A.F.F. SEE NOTE 7
WB-2	WALL BOX FOR WAREWASHER	SIoux CHIEF	687-3PV		MOUNTING HEIGHT: 12" A.F.F. SEE NOTE 7
WC-1	WATER CLOSET	SLOAN ZURN	ST-2009 Z5655	1.28 GPF	FLUSH VALVE: SLOAN SOLIS 8111 ZURN ZTR6200EV-LL 1" I.P.S., 1 1/2" TOP SPUD FLUSH VALVE OPERATION: SENSOR SEAT: BEMIS MODEL 2155CT
WC-2	ADA WATER CLOSET	SLOAN ZURN	ST-2029 ADA Z5665	1.28 GPF	FLUSH VALVE: SLOAN SOLIS 8111 ZURN ZTR6200EV-CC-LL 1" I.P.S., 1 1/2" TOP SPUD FLUSH VALVE OPERATION: SENSOR SEAT: BEMIS MODEL 2155CT
-	SOILED DISHTABLE (3-COMPARTMENT SINK)	-	-		ITEM: 151.46 SEE NOTE 7
-	VEGETABLE PREPARATION SINK	-	-		ITEM: 134.02 SEE NOTE 7
-	WAREWASHER	HOBART	AM16SVLT WITH DRAIN WATER ENERGY RECOVERY		ITEM: 152.05 WALL BOX: WB-2 SEE NOTE 7
-	WASHING MACHINE	-	-		ITEM: 223.07 WALL BOX: WB-1 SEE NOTE 7
WCO	WALL CLEAN OUT	ZURN JAY R. SMITH	Z1446 9776T		SEE DRAWINGS FOR PIPE SIZES
WHA	WATER-HAMMER ARRESTER	SIoux CHIEF	SERIES 650		SEE SHEET P1.2
ROOF DRAINS AND ACCESSORIES					
DC-1	OVERFLOW DOWNSPOUT COVER	ZURN JAY R. SMITH	Z199-SS 1770-BB		SEE DRAWINGS FOR PIPE SIZES BIRD SCREEN SEE NOTE 8
RD-1 THRU RD-4	COMBINATION MAIN ROOF AND OVERFLOW DRAIN	ZURN	Z165		SEE DRAWINGS FOR PIPE SIZES ROOF OPENING: 30"x14"

- NOTES:**
- SEE McDONALD'S PROJECT MANUAL FOR ADDITIONAL MANUFACTURERS
 - PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE BLOCKING FOR PROPER URINAL SUPPORT
 - PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE INTERIOR BLOCKING ON W/W BUILDING FOR WALL CLAMP
 - YARD HYDRANT IS FOR TRASH CORRAL - SEE SITE PLAN FOR LOCATION
 - PLUMBING CONTRACTOR SHALL ROUTE 3/8" DRAIN PIPE FROM HOSE BIBB TO NEAREST FLOOR DRAIN OR FLOOR SINK
 - PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE BLOCKING FOR PROPER SINK SUPPORT
 - SEE KITCHEN DRAWINGS FOR ADDITIONAL INFORMATION - PLUMBING CONTRACTOR SHALL COORDINATE INSTALLATION WITH K.E.S.
 - PLUMBING CONTRACTOR SHALL SPECIFY CONNECTION MATERIAL/TYPE WHEN ORDERING
 - PLUMBING CONTRACTOR SHALL SPECIFY BURY DEPTH WHEN ORDERING
 - PLUMBING CONTRACTOR SHALL PROVIDE GRID DRAIN, P-TRAP AND VALVE STOPS FOR ALL SINKS & LAVS
 - FOR ALTERNATIVE LAVATORY OPTIONS, SUCH AS MOLDED SINKS OR DECK MOUNTED HAND DRYER, PLEASE CONTACT USRD OR HUGHES DIRECTLY.

WATER HEATER SCHEDULE

TAG	MANUFACTURER	MODEL	SIZE	HEATING		RECOV.	ELECTRICAL			
			GAL.	TYPE	MBH	GPH	100°F ΔT	VOLTS	Ø	Hz
WH-1	BRADFORD-WHITE	EF-100T-199E-3N	100	GAS	199	239	120	1	60	<20
	RHEEM	GHE100SU/SS-200(A)	100			227				
ACCESSORIES:			NOTES:							
1. CONCENTRIC VENT KIT.			1. MINIMUM THERMAL EFFICIENCY 97%							