

GENERAL NOTES

- BUILDING PERMIT BY OWNER. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL MEP PERMITS, PAYING ALL FEES, AND COMPLYING WITH ALL GOVERNING REGULATIONS.
- CONTRACTOR IS RESPONSIBLE FOR TURNING OVER A COMPLETE, COORDINATED, AND FULLY FUNCTIONAL SYSTEM. THIS WILL INCLUDE FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY. ANY PORTION OF THIS MAY BE CONSIDERED "MEANS AND METHODS", AND SHALL BE INCLUDED IN THE INITIAL BID.
- DO NOT PENETRATE WALLS EXTENDING TO DECK WITH FLEX DUCT. PROVIDE 12" MINIMUM HARD DUCT ON EACH SIDE OF WALLS EXTENDING TO DECK.
- ALLOW PROPER ACCESS TO ALL EQUIPMENT, INCLUDING CODE-REQUIRED ACCESS AND MANUFACTURER-RECOMMENDED ACCESS. COORDINATE LOCATIONS OF ALL MECHANICAL EQUIPMENT WITH ALL OTHER SYSTEMS AND TRADES TO ALLOW FOR PROPER ACCESS.
- THE DESIGN INTENT IS TO ALLOW CEILINGS TO BE INSTALLED AT ELEVATIONS NOTED ON ARCHITECTURAL PLANS. COORDINATE ALL SYSTEMS TO MEET THIS INTENT.
- ALL SYSTEMS SHALL BE INDEPENDENTLY SUPPORTED. WHERE INDEPENDENT SUPPORT IS NOT FEASIBLE, PROVIDE AN ENGINEERED SUPPORT SYSTEM SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.
- IF ANY EQUIPMENT OR MATERIALS ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THE EQUIPMENT OR MATERIALS AT NO CHARGE TO OWNER, INCLUDING SCHEDULE AND GENERAL CONDITIONS CHARGES.
- INSTALL DIELECTRIC UNIONS ON ALL CONNECTIONS BETWEEN MATERIALS OF DISSIMILAR METALS.
- PROVIDE BALANCING DAMPERS AT ALL DIFFUSER TAKE-OFFS OF SUPPLY, RETURN, AND EXHAUST DUCTWORK. DAMPERS CAN BE OMITTED FOR A SINGLE EXHAUST GRILLE SERVED BY AN EXHAUST FAN, OR SINGLE GRILLES SERVED BY VAV BOXES ON SUPPLY OR RETURN.
- COORDINATE ALL WALL MOUNTED THERMOSTATS, REMOTE SENSOR TEMPERATURE SENSORS, HUMIDISTATS, OR OTHER DEVICE LOCATIONS WITH ARCHITECTURAL ELEVATIONS AND ARCHITECTURAL EQUIPMENT PLANS. ARCHITECT SHALL HAVE FINAL APPROVAL OF DEVICE LOCATIONS. DO NOT LOCATE THERMOSTATS NEAR HEAT-PRODUCING EQUIPMENT, SUCH AS MULTI-FUNCTION PRINTERS OR STERILIZERS. DO NOT LOCATE THERMOSTATS, HUMIDISTATS, OR OTHER DEVICES BEHIND ANY EQUIPMENT WHERE DEVICE WOULD BE INACCESSIBLE.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY COST OR SCHEDULE CHANGES DUE TO DEVIATION FROM SCHEDULED, BASIS-OF-DESIGN EQUIPMENT.
- CONTRACTOR SHALL PROVIDE AND INSTALL LIFT OUT DIFFUSERS AND/OR GRILLES TO ACCESS ANY EQUIPMENT, DAMPERS, VALVES, SENSORS, OR PIPING SPECIALTIES LOCATED ABOVE HARD CEILINGS AT NO ADDITIONAL COST TO THE OWNER. IF LIFT OUT DIFFUSERS AND GRILLES ARE NOT POSSIBLE DUE TO CONSTRUCTION CONSTRAINTS, INSTALL ACCESS PANELS.

PERFORMANCE TESTING

FUNCTIONAL PERFORMANCE TESTING REQUIREMENT: MECHANICAL CONTRACTOR IS REQUIRED TO SUBMIT A FUNCTIONAL PERFORMANCE TEST OF THE EQUIPMENT PROVIDED. THIS TESTING SHALL BE DOCUMENTED BY THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER AND INCLUDE PARTICIPATION OF THE GENERAL MECHANICAL, ELECTRICAL, CONTROL, & BALANCING CONTRACTORS AND INCLUDE THE EQUIPMENT VENDOR AS REQUIRED. DOCUMENTATION SHALL INCLUDE A POINT-TO-POINT CHECK OF EVERY CONTROL SEQUENCE TO ENSURE THE UNIT IS RESPONDING AS DICTATED IN THE CONTROL SEQUENCES. ANY DISCREPANCIES TO THE SEQUENCE SHALL BE INDICATED IN THIS REPORT. CONTROL GRAPHICS AND EQUIPMENT CALIBRATION SHALL BE VERIFIED AS COMPLETED AS PART OF THIS REPORT. EACH CONTROL SENSOR WHETHER PROVIDED WITH EQUIPMENT OR BY THE CONTROLS CONTRACTOR SHALL BE VALIDATED AS REPORTING TO THE BAS APPROPRIATE VALUES. SIGNOFF ON THE REPORT IS REQUIRED FROM THE GC, MC, AND CONTROLS CONTRACTOR PRIOR TO SUBMISSION FOR REVIEW BY THE OWNER AND DESIGN TEAM. MECHANICAL CONTRACTOR SHALL NOTIFY THE CM OR GC OF THE TIME REQUIRED TO COMPLETE THESE EXERCISES AND THE GC OR CM IS REQUIRED TO HAVE A UNIQUE MILESTONE FOR THIS EXERCISE IN THEIR PROJECT SCHEDULE.

EQUIPMENT NOTE

ALL EQUIPMENT USED ON PROJECT SHALL BE SELECTED AND PURCHASED BASED ON PERFORMANCE AT PROJECT SITE ELEVATION.

SEISMIC DESIGN NOTE

PER ASCE 7 SECTION 13.1.4 - SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS, MECHANICAL / ELECTRICAL COMPONENTS ARE EXEMPT FROM CHAPTER 13'S DESIGN REQUIREMENTS. SEISMIC BRACING IS NOT REQUIRED FOR MECHANICAL OR ELECTRICAL EQUIPMENT AND COMPONENTS ON THIS PROJECT.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	NEW EQUIPMENT TAG
	EXISTING EQUIPMENT TAG
	NEW DIFFUSER TAG
	NEW DUCT
	EXISTING DUCT
	DEMOLISHED DUCT
	NEW SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER
	LINEAR DIFFUSER
	DEMOLISHED SUPPLY DIFFUSER
	NEW RETURN / EXHAUST GRILLE
	EXISTING RETURN / EXHAUST GRILLE
	DEMOLISHED RETURN / EXHAUST GRILLE
	FLEX DUCT
	THERMOSTAT
	PRESSURE MONITOR
	HUMIDISTAT
	COMBINATION TEMPERATURE/HUMIDITY SENSOR
	MANUAL VOLUME DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	FIRE/SMOKE DAMPER
	HOT WATER SUPPLY
	HOT WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	LOW PRESSURE SUPPLY
	LOW PRESSURE RETURN
	MEDIUM PRESSURE SUPPLY
	MEDIUM PRESSURE RETURN
	HIGH PRESSURE SUPPLY
	HIGH PRESSURE RETURN
	PUMPED CONDENSATE RETURN
	CONDENSATE DRAIN
	REFRIGERANT SUCTION
	REFRIGERANT LIQUID
	POINT OF DEMOLITION
	CONNECT TO EXISTING
	BUTTERFLY VALVE
	BALL VALVE
	GLOBE VALVE
	CHECK VALVE
	AUTOMATIC 2-WAY CONTROL VALVE
	AUTOMATIC 3-WAY CONTROL VALVE
	PLUG VALVE
	SOLENOID VALVE

PROJECT DESIGN CRITERIA

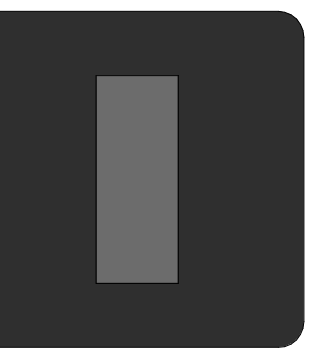
BUILDING OCCUPANCY DESIGN CRITERIA	
CONSTRUCTION TYPE	VB
USE GROUP	A2
HIGH-RISE CONSTRUCTION	NO

CODES LISTED BELOW SHOW CODES APPLICABLE TO BASIS-OF-DESIGN. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING LOCAL AMENDMENTS.

APPLICABLE CODES	
BUILDING	2021 IBC, NEW JERSEY EDITION
MECHANICAL	2021 IMC
PLUMBING	2021 NSPC, NEW JERSEY EDITION
ELECTRICAL	2020 NEC
ENERGY	ASHRAE 90.1-2019
FUEL GAS	2021 IFGC
SPRINKLER	2021 IFC
FIRE ALARM	2021 IFC

PROJECT LATITUDE	
DEG. N. LAT.	40.277
PROJECT ELEVATION	
FT. ASL	190
SUMMER DESIGN CONDITIONS	
0.4% DBWB °F	92.374.4
WINTER DESIGN CONDITIONS	
99.6% DB °F	11.6
DESIGN TEMPERATURE SETPOINTS	
SUMMER DB °F	72
WINTER DB °F	70

Design Consultant:



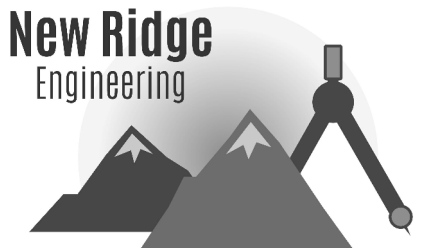
ARCHITECTURE
INNOVATION & DESIGN
In ARCHITECTURE, Inc.
115 Pine Avenue, Suite 250
Long Beach, CA 90802
www.idaexperience.com

Architect:

GEOFFREY B. LIM
AIA, NCARB, LEED AP

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Engineering Consultant:



Stamp:

Project Owner:

FOGO DE CHÃO

CONVERSION
FOGO DE CHÃO

Project
FOGO DE CHÃO - WEST WINDSOR, NJ
600 Loftis Drive
West Windsor, NJ

Issue For:

PERMIT

Issue Date:

07/01/2025

Revisions:

NO.	REASON	DATE
2	PERMIT SET	9/17/25

2

Principal in Charge:

TUCKER MATTHEWS

Project Manager:

TUCKER MATTHEWS

Drawn By:

KYLE KAESER

Project

NR-25757

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MECHANICAL LEGAL AND NOTES

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M1.0

10/8/2025

VENTILATION COMPLIANCE SCHEDULE												
SPACE NAME	OCCUPANCY TYPE	AIR FILTRATION	CONDITIONED AREA (SQFT)	2021 IMC VENTILATION CRITERIA								
				OCCUPANT DENSITY (PERSONS PER 1000 SQFT)	PEOPLE FACTOR (Rp)	AREA FACTOR (Ra)	REQUIRED MIN OA CFM	SUPPLY CFM	OA%	OA CFM PROVIDED	EXHAUST CFM	EXHAUST CFM/SQFT
100 - ENTRY VESTIBULE	CORRIDORS	MERV 8, MERV 13	91.4	0	0	0.06	5.5	650	22.0%	143.0	-	-
101 - HOST	CORRIDORS	MERV 8, MERV 13	62.6	0	0	0.06	3.8	240	22.0%	52.8	-	-
102 - BAR LOUNGE	DINING ROOMS	MERV 8, MERV 13	499.9	70	70	0.18	352.4	1410	25.0%	352.5	-	-
103 - BAR SEATING	DINING ROOMS	MERV 8, MERV 13	201.3	70	70	0.18	141.9	570	25.0%	142.5	-	-
103 - COCKTAIL BAR	BAR, COCKTAIL LOUNGES	MERV 8, MERV 13	183.8	100	100	0.18	170.9	710	25.0%	177.5	-	-
104 - DINING 1	DINING ROOMS	MERV 8, MERV 13	953.8	70	70	0.18	672.4	2690	25.0%	672.5	-	-
105 - DINING 2	DINING ROOMS	MERV 8, MERV 13	775.9	70	70	0.18	547.0	2490	22.0%	547.8	-	-
106 - DINING 3	DINING ROOMS	MERV 8, MERV 13	570.5	70	70	0.18	402.2	2030	22.0%	446.6	-	-
106 - CHURRASCO GRILL	KITCHENS (COOKING)	MERV 8, MERV 13	675	20	20	0.12	182.3	1770	11.0%	194.7	-	-
109 - PRIVATE DINING ROOM 1	DINING ROOMS	MERV 8, MERV 13	767.5	70	70	0.18	541.1	3130	17.3%	541.2	-	-
110 - PRIVATE DINING ROOM 2	DINING ROOMS	MERV 8, MERV 13	763.6	70	70	0.18	538.3	2580	20.9%	538.7	-	-
111 - RESTROOM CORRIDOR	CORRIDORS	MERV 8, MERV 13	240.1	0	0	0.06	7.2	60	25.0%	15.0	-	-
112 - MENS RESTROOM	OFFICE SPACE	MERV 8, MERV 13	278.9	5	5	0.06	23.7	130	25.0%	32.5	190.0	0.7
113 - WOMENS RESTROOM	OFFICE SPACE	MERV 8, MERV 13	279.8	5	5	0.06	23.8	110	25.0%	27.5	160.0	0.6
117 - BEVERAGE	KITCHENS (COOKING)	MERV 8, MERV 13	205.1	20	20	0.12	55.4	150	25.0%	113.0	-	-
118 - HOT PREP COOKLINE	KITCHENS (COOKING)	MERV 8, MERV 13	541.4	20	20	0.12	146.2	4940	75.3%	3719.8	4200.0	7.8
119 - DISHWASHING	KITCHENS (COOKING)	MERV 8, MERV 13	240.1	20	20	0.12	64.8	590	11.0%	64.9	600.0	2.5
124 - OFFICE	OFFICE SPACE	MERV 8, MERV 13	63.1	5	5	0.06	5.4	180	11.0%	19.8	-	-
125 - EMPLOYEE RESTROOM	OFFICE SPACE	MERV 8, MERV 13	57	5	5	0.06	4.8	50	11.0%	5.5	125.0	2.2
127 - MECH ROOM / KITCHEN UTILITY	CORRIDORS	MERV 8, MERV 13	639.5	0	0	0.06	38.4	520	11.0%	57.2	-	-

AIR BALANCE SCHEDULE											
UNIT	DINING (CFM)				KITCHEN (CFM)				EXHAUST		
	SUPPLY CFM	RETURN CFM	OUTSIDE CFM	EXHAUST	SUPPLY CFM	RETURN CFM	OUTSIDE CFM	EXHAUST			
RTU-1	2580	2045	539	-	-	-	-	-	-		
RTU-2	3130	2590	541	-	-	-	-	-	-		
RTU-3	5410	4220	1190	-	-	-	-	-	-		
RTU-4	5680	4290	1420	-	-	-	-	-	-		
RTU-5	1770	1610	195	-	1340	1160	147	-	-		
RTU-6	-	-	-	-	5090	1260	3833	-	-		
DOAS-1	4400	0	4400	-	-	-	-	-	-		
EF-1	-	-	-	-	-	-	-	-	2200		
EF-2	-	-	-	-	-	-	-	-	2000		
EF-3.1	-	-	-	2500	-	-	-	-	-		
EF-3.2	-	-	-	2500	-	-	-	-	-		
EF-4	-	-	-	-	-	-	-	-	600		
EF-5	-	-	-	350	-	-	-	-	-		
EF-6	-	-	-	-	-	-	-	-	125		
TOTALS	22970	14755	8285	5350	6430	2420	3980	4925	-		
DINING SPACE PRESSURIZATION (CFM): [SUPPLY CFM - RETURN CFM - EXHAUST CFM]				2865	KITCHEN SPACE PRESSURIZATION (CFM): [SUPPLY CFM - RETURN CFM - EXHAUST CFM]				-915		
DINING SPACE PRESSURIZATION (%): [SPACE PRESSURIZATION CFM / SUPPLY CFM]				12.5%	KITCHEN SPACE PRESSURIZATION (%): [SPACE PRESSURIZATION CFM / SUPPLY CFM]				-14.2%		
OVERALL SPACE PRESSURIZATION (CFM): [SUPPLY CFM - RETURN CFM - EXHAUST CFM]				1950							
OVERALL SPACE PRESSURIZATION (%): [SPACE PRESSURIZATION CFM / SUPPLY CFM]				6.6%							

FAN SCHEDULE												
TAG	SERVES	MAX. CFM	EXT. S.P.	MAX. SONES	RPM	MOTOR ENCL	HP	BHP	DISCHARGE VELOCITY	VOLTS/PH	MANUFACTURER / MODEL	NOTES
EF-1	PREP	2200	1,000	10.6	1033	ODP, PREMIUM	2,000	0.762	508	208 / 3	CAPTIVEAIRE / DU180HFA	1,2,4,5,6,7
EF-2	PREP	2000	1,250	12.1	1097	ODP, PREMIUM	2,000	0.875	462	208 / 3	CAPTIVEAIRE / DU180HFA	1,2,4,5,6,7
EF-3.1	GRILL	2500	1,150	23.3	1493	ODP, PREMIUM	3,000	1.799	1,450	208 / 3	CAPTIVEAIRE / CASRE18DD	1,2,4,5,6,7
EF-3.2	GRILL	2500	1,150	23.3	1493	ODP, PREMIUM	3,000	1.799	1,450	208 / 3	CAPTIVEAIRE / CASRE18DD	1,2,4,5,6,7
EF-4	DISH	600	0,500	10.7	1242	TEAO-ECM	0,333	0.119	297	115 / 1	CAPTIVEAIRE / DU33HFA	1,3,4,5,6
EF-5	PUBLIC TOILET	350	0,500	6.6	1326	TEAO-ECM	0,250	0.104	-	115 / 1	CAPTIVEAIRE / DR12HFA	1,3,4,5,8,9
EF-6	EMPLOYEE TOILET	125	0,500	5	1453	TEAO-ECM	1,666	0.058	-	115 / 1	CAPTIVEAIRE / DR10HFA	1,3,4,5,8,9

NOTES:
1. PROVIDE INTEGRAL DISCONNECT, IF AN INTEGRAL DISCONNECT IS NOT AVAILABLE CONTRACTOR IS TO PROVIDE DISCONNECT.
2. PROVIDE WITH VENTED HINGED CURB.
3. PROVIDE WITH CURB.
4. EQUIPMENT FURNISHED BY OWNER, CONTRACTOR INSTALLED. REFER TO KITCHEN VENDOR DRAWINGS FOR REQUIREMENTS.
5. ALL EXHAUST FANS ARE TO DISCHARGE A MINIMUM OF 10' AWAY FROM ALL OUTDOOR AIR INTAKES.
6. UL 762 RATED FOR KITCHEN APPLICATION.
7. PROVIDE WITH GREASE RESERVOIR.
8. PROVIDE BIRD SCREEN.
9. FURNISH WITH INTERNALLY MOUNTED SPEED CONTROLLER

PACKAGED ROOFTOP UNIT SCHEDULE																									
AIR HANDLING UNIT	SUPPLY FAN DATA			DX COOLING DATA				REHEAT DATA			GAS HEAT DATA				OUTDOOR AIR DATA			ELECTRICAL DATA				MANUFACTURER / MODEL	NOTES		
	CFM	EXT. S.P. (\"WG)	DRIVE	TYPE	EAT DB / WB (\"F)	LAT DB / WB (\"F)	CAP TOTAL / SENS (MBH)	IEER	DISCHARGE DB/WB (\"F)	CAPACITY DESIRED / MAX (MBH)	MOISTURE REMOVAL RATE (LBS/HR)	TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE (\"F)	REQUIRED INPUT GAS PRESSURE (IN. WC.)	CFM	SUMMER TEMP DB / WB (\"F)	WINTER TEMP DB / WB (\"F)	HP	VOLTS / PH			MCA	MOCPP
	RTU-1	2580	0.88	DIRECT	DX	77.6 / 65.7	53.8 / 53.8	90.2 / 65.7	18.6	70.0 / 60.1	46.6 / 60.0	22.6	NATURAL	97,709	79,144	28.0	7 - 14	539	92.3	74.4	5.0			208 / 3	40.4
RTU-2	3130	0.88	DIRECT	DX	77.1 / 65.0	54.8 / 54.6	95.8 / 74.8	18.6	70.0 / 60.5	52.9 / 60.0	19.2	NATURAL	109,583	88,762	26.0	7 - 14	541	92.3	74.4	5.0	208 / 3	40.4	45	CAPTIVEAIRE / CAS-HVAC1-I,125-18-7.5T	1 - 21
RTU-3	5410	0.88	DIRECT	DX	77.7 / 65.8	53.3 / 53.2	204.6 / 143.6	18.8	70.0 / 60.6	100.8 / 129.6	54.3	NATURAL	212,407	172,050	29.0	7 - 14	1190	92.3	74.4	7.5	208 / 3	78.5	90	CAPTIVEAIRE / CAS-HVAC3-I,250-24-15T	1 - 21
RTU-4	5680	0.88	DIRECT	DX	78.1 / 66.3	54.7 / 54.5	204.4 / 144.8	18.8	70.0 / 60.7	96.7 / 129.6	53.7	NATURAL	239,177	193,733	31.0	7 - 14	1420	92.3	74.4	10.0	208 / 3	85.9	110	CAPTIVEAIRE / CAS-HVAC3-I,250-24-15T	1 - 21
RTU-5	3110	0.88	DIRECT	DX	76.4 / 64.0	54.3 / 54.0	89.5 / 73.5	18.6	70.0 / 60.5	54.4 / 60.0	14.7	NATURAL	95,693	77,511	23.0	7 - 14	342	92.3	74.4	5.0	208 / 3	40.4	45	CAPTIVEAIRE / CAS-HVAC1-I,125-18-7.5T	1 - 21
RTU-6	HOOD ON - 5090 HOOD OFF - 3420	0.88	DIRECT	DX	84.3 / 73.9	54.6 / 52.3	349.2 / 160.4	14.9	70.0 / 58.5	87.1 / 204.6	171.1	NATURAL	431,935	349,867	59.0	7 - 14	HOOD ON - 3833 HOOD OFF - 1265	92.3	74.4	5.0	208 / 3	142.2	150	CAPTIVEAIRE / CAS-HVAC3-I,500-24-30T	ALL

NOTES:
1. PROVIDE INTEGRAL DISCONNECT.
2. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR, DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.
3. DIRECT DRIVE PLENUM BLOWER, BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE.
4. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.
5. PROVIDE TEMPERATURE AND HUMIDITY CONTROL.
6. AVERAGING INTAKE, EVAP. AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT).
7. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
8. CONTRACTOR TO PROVIDE AND INSTALL RETURN DUCT SMOKE DETECTOR TO DISABLE UNIT. CONNECT SMOKE DETECTOR TO FIRE ALARM PANEL. COORDINATE WITH FIRE ALARM INSTALLER.
9. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
10. EC MOTOR CONDENSING FANS.
11. ELECTRONIC EXPANSION VALVE, TXV NOT ACCEPTABLE.
12. SUCTION LINE ACCUMULATOR.
13. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE, 6:1 TURN DOWN W/ NG AND 5:1 TURNDOWN W/ LP.
14. 2\" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION - MINIMUM 20GA EXTERIOR W/ 14GA BASE.
15. HAIL GUARD FOR CONDENSING COIL.
16. BOTTOM SUPPLY CONNECTION.
17. PROVIDE 2\" MERV 8 AND 2\" MERV 13 FILTERS.
18. PROVIDE INTAKE AND RETURN DAMPERS.
19. SUPPLY AND INSTALL ON FACTORY ROOF CURB.
20. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
21. AIR HANDLING UNITS AND ROOF CURBS ARE CONTRACTOR FURNISHED, CONTRACTOR INSTALLED.
22. PROVIDE FACTORY PACKAGED CONTROLS FOR INTERLOCK WITH KITCHEN HOODS AND KITCHEN CONTROL PANEL.

DOAS UNIT SCHEDULE																									
AIR HANDLING UNIT	SUPPLY FAN DATA			DX COOLING DATA				REHEAT DATA			GAS HEAT DATA				OUTDOOR AIR DATA			ELECTRICAL DATA				MANUFACTURER / MODEL	NOTES		
	CFM	EXT. S.P. (\"WG)	DRIVE	TYPE	EAT DB / WB (\"F)	LAT DB / WB (\"F)	CAP TOTAL / SENS (MBH)	IEER	DISCHARGE DB/WB (\"F)	CAPACITY DESIRED / MAX (MBH)	MOISTURE REMOVAL RATE (LBS/HR)	TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE (\"F)	REQUIRED INPUT GAS PRESSURE (IN. WC.)	CFM	SUMMER TEMP DB / WB (\"F)	WINTER TEMP DB / WB (\"F)	HP	VOLTS / PH			MCA	MOCPP
	DOAS-1	4400	0.85	DIRECT	DX	87.5 / 77.1	56.6 / 53.1	349.2 / 144.0	14.9	70.0 / 58.5	65.3 / 204.6	185.3	NATURAL	446,030	361,284	69.0	7 - 14	4400	92.3 / 74.4	11.6 / 4.7	5.0			208/3	142.2

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4. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.
5. PROVIDE TEMPERATURE AND HUMIDITY CONTROL.
6. AVERAGING INTAKE, EVAP. AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT).
7. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
8. CONTRACTOR TO PROVIDE AND INSTALL RETURN DUCT SMOKE DETECTOR TO DISABLE UNIT. CONNECT SMOKE DETECTOR TO FIRE ALARM PANEL. COORDINATE WITH FIRE ALARM INSTALLER.
9. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
10. EC MOTOR CONDENSING FANS.
11. ELECTRONIC EXPANSION VALVE, TXV NOT ACCEPTABLE.
12. SUCTION LINE ACCUMULATOR.
13. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE, 6:1 TURN DOWN W/ NG AND 5:1 TURNDOWN W/ LP.
14. 2\" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION - MINIMUM 20GA EXTERIOR W/ 14GA BASE.
15. HAIL GUARD FOR CONDENSING COIL.
16. BOTTOM SUPPLY CONNECTION.
17. PROVIDE 2\" MERV 8 AND 2\" MERV 13 FILTERS.
18. PROVIDE INTAKE AND RETURN DAMPERS.
19. SUPPLY AND INSTALL ON FACTORY ROOF CURB.
20. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
21. PROVIDE FACTORY PACKAGED CONTROLS FOR INTERLOCK WITH KITCHEN HOODS AND KITCHEN CONTROL PANEL.
22. INSTALL HMW1 AT UNIT, INSTALL HMW2 IN MANAGERS OFFICE.
23. EQUIPMENT FURNISHED BY TEXAS METALS (KITCHEN VENDOR), CONTRACTOR INSTALLED. REFER TO KITCHEN VENDOR DRAWINGS FOR REQUIREMENTS.

MECHANICAL INSULATION SCHEDULE							
ITEM	SIZE	TYPE	MATERIAL	THERMAL CONDUCTIVITY (BTU / INCH THICKNESS)	THICKNESS	JACKET	NOTES
SUPPLY DUCTWORK - ABOVE ACOUSTIC CEILING TILES	ALL	BLANKET / WRAP	FIBERGLASS	0.27	2"	FOIL SCRIM KRAFT	1,2,3
RETURN DUCTWORK - ABOVE ACOUSTIC CEILING TILES	ALL	-	-	-	-	-	-
SUPPLY DUCTWORK - VISIBLE DUCTWORK IN DINING AREAS	ALL	DUCT LINER	FIBERGLASS	0.27	1-1/2"	-	1,2,3,4,5
RETURN DUCTWORK - VISIBLE DUCTWORK IN DINING AREAS	ALL	DUCT LINER	FIBERGLASS	0.27	1"	-	1,2,3,4,5
TOILET EXHAUST DUCTWORK	ALL	-	-	-	-	-	-
TYPE I AND TYPE II EXHAUST DUCTWORK	ALL	HIGH TEMPERATURE FOIL ENCAPSULATED FIBER BLANKET	INORGANIC FIBERS	0.60 @ 500\" F 2.94 @ 2000\" F	1-1/2"	SCRIM- REINFORCED FOIL	3,6

NOTES:
1. PRODUCTS SHALL NOT CONTAIN FORMALDEHYDE, ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.
2. INSULATION SHALL CONFORM TO THE REQUIREMENTS OF SECTION C403.11 OF 2018 INTERNATIONAL ENERGY CONSERVATION CODE.
3. SEE SPECIFICATIONS FOR FURTHER INSULATION REQUIREMENTS.
4. PRODUCT SHALL BE JOHN'S MANVILLE UNACOUSTIC OR EQUIVALENT; TO BE INSTALLED ON THE INTERIOR OF THE DUCT.
5. DUCT DIMENSIONS SHOWN ON PLANS ARE OF THE NET FREE AREA; INTERNALLY INSULATED DUCTS MUST INCREASE THE OUTER DIMENSION SIZE TO ACCOUNT FOR THE INSULATION THICKNESS.
6. PRODUCT SHALL BE 3M FIRE BARRIER DUCT WRAP 615+.

AIR DEVICE SCHEDULE									
TAG	TYPE	SIZE	FINISH	THROW	NECK SIZE	MANUFACTURER / MODEL	NOTES		
S1	SQUARE PLAQUE DIFFUSER	24\"x24"	NOTE 3	4-WAY	NOTE 1	TITUS / OMNI-AA	2,3,4		
S2	SQUARE PLAQUE DIFFUSER	12\"x12"	NOTE 3	4-WAY	NOTE 1	TITUS / OMNI-AA	2,3,4		
S3	LINEAR SUPPLY DIFFUSER	5'	NOTE 3	JET THROW	NOTE 1	TITUS / FL-15-JT 2-SLOT	ALL		
S4	ROUND ADJUSTABLE PLAQUE DIFFUSER	22"	NOTE 3	N/A	10\" Ø NECK	TITUS / TMRA-AA	2,3,4		
R1	LOUVERED RETURN GRILLE	24\"x24"	NOTE 3	N/A	NOTE 1	TITUS / 350FL	2,3,4		
R2	LOUVERED RETURN GRILLE	12\"x12"	NOTE 3	N/A	NOTE 1	TITUS / 350FL	2,3,4		
R3	LOUVERED RETURN GRILLE	24\"x24"	NOTE 3	N/A	FULL FACE	TITUS / 350FL	2,3,4		
E1	LOUVERED EXHAUST GRILLE	24\"x24"	NOTE 3	N/A	NOTE 1	TITUS / 350FL	2,3,4		
E2	LOUVERED EXHAUST GRILLE	12\"x12"	NOTE 3	N/A	NOTE 1	TITUS / 350FL	2,3,4		

NOTES:
1. NECK AND / OR DUCT RUNOUT SIZE

NECK AND / OR DUCT RUNOUT SIZE	AIRFLOW
6\"Ø	0-90
8\"Ø	91-180
10\"Ø	181-350
12\"Ø	351-550
14\"Ø	551-850
16\"Ø	851-1250

2. COORDINATE ALL FINISHES WITH ARCHITECTURAL PLANS.
3. CONTRACTOR TO COORDINATE MOUNTING STYLE WITH ARCHITECTURAL CEILING PLANS.
4. INSIDE OF ALL PLENUM BOXES TO BE PAINTED BLACK.
5. SUPPORT DIFFUSERS FROM STEEL ABOVE WHEN USED OVER MILLWORK CEILING SYSTEMS. SELECT APPROPRIATE BORDER CLIP TYPE WHEN USED WITH ACP CEILINGS.

ELECTRIC UNIT HEATER					
TAG	MOUNTING	HEATER SIZE (W)	ELECTRICAL DATA (VOLT/PH) FLA	MANUFACTURER / MODEL	NOTES
EUH-1	WALL MOUNTED	1000	120/1 8.3	INDEECO / 934W-D1012-W	ALL

NOTES:
1. EUH-1 SHALL BE SURFACE MOUNTED.
2. PROVIDE AND INSTALL OPTIONAL WHITE SURFACE MOUNT FRAME, MODEL # WIF-DSM-W.
3. PROVIDE AND INSTALL DISCONNECT.

ELECTRIC HEATER SCHEDULE						
TAG	MOUNTING	ELECTRICAL DATA			MANUFACTURER / MODEL	NOTES
		VOLT / PH	WATTS	AMPS		
H-1.1 THRU H-1.9	CEILING	208 / 1	2,900	11.8		

1. GENERAL CONDITIONS
- ALL WORK SHALL COMPLY WITH REQUIREMENTS OF NEW JERSEY, MERCER COUNTY, THE WEST WINDSOR BUILDING DEPARTMENT, BUILDING OWNER, AND ALL AUTHORITIES HAVING JURISDICTION.
 - THE CONTRACTOR SHALL PROVIDE ALL ITEMS OF LABOR OR MATERIALS NOT SPECIFICALLY INDICATED, BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATIONS.
 - THE WORK UNDER THIS CONTRACT SHALL BE PERFORMED SIMULTANEOUSLY WITH WORK OF OTHER TRADES, SO AS NOT TO DELAY THE OVERALL CONSTRUCTION SCHEDULE.
 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE, AND SHALL REPLACE ANY OF SAME WHICH MAY BE DAMAGED, LOST OR STOLEN, WITHOUT ADDITIONAL COSTS TO OWNER.
 - ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH OWNER SPECIFICATIONS AND STANDARDS UNLESS NOTED OTHERWISE ON PLANS.
 - ALL WORK IS TO BE CONDUCTED IN ACCORDANCE WITH THE BUILDING'S RULE AND REGULATIONS.
2. OPERATING AND MAINTENANCE INSTRUCTIONS
- AFTER FINAL TESTS AND ADJUSTMENTS, FULLY INSTRUCT OWNER'S OPERATING PERSONNEL IN ALL DETAILS OF OPERATION FOR EQUIPMENT INSTALLED.
 - PROVIDE THE OWNER WITH OPERATION AND MAINTENANCE MANUALS, GUARANTEE AND SERVICE.
 - THE CONTRACTOR SHALL GUARANTEE THE ENTIRE INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE INSTALLATION BY THE OWNER.
 - THE CONTRACTOR SHALL, DURING THE PERIOD OF GUARANTEE REPLACE OR REPAIR AT HIS OWN EXPENSE ANY PIECE OF EQUIPMENT AND/OR MATERIAL WHICH IS FOUND TO BE DEFECTIVE. THE CONTRACTOR SHALL ALSO REPAIR ALL DAMAGE TO SURROUNDING WORK CAUSED BY THE FAILURE, REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT AT HIS OWN EXPENSE.
3. SHOP DRAWINGS AND EQUIPMENT SUBMISSIONS
- ELECTRONIC COPIES OF DUCTWORK AND PIPING SHOP DRAWINGS AND CERTIFIED EQUIPMENT MANUFACTURER'S SUBMITTAL DATA SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION, ERECTION OR PURCHASE.
 - PRODUCT DATA - SUBMIT MANUFACTURER'S PRINTED LITERATURE, CATALOG CUTS, CERTIFIED EQUIPMENT PERFORMANCE DATA, WIRING DIAGRAMS AND INSTALLATION INSTRUCTIONS.
 - SHOP DRAWINGS - SUBMIT PLANS, SECTIONS, DETAILS, SCHEDULES, AND CALCULATIONS. LAYOUTS SHALL BE DOUBLE LINE. 1/2"=1'-0" COORDINATED WITH OTHER TRADES AND WITH BUILDING CONSTRUCTION ELEMENTS.
 - MAINTENANCE MANUALS - PREPARE OPERATING AND MAINTENANCE MANUAL INCLUDING THE FOLLOWING:
 - MANUFACTURER'S LITERATURE DESCRIBING EACH PIECE OF EQUIPMENT.
 - COPIES OF PRODUCT WARRANTIES AND GUARANTEES.
 - OPERATING AND MAINTENANCE PROCEDURES, SERVICING INSTRUCTIONS.
 - ALL SHOP DRAWINGS AND SUBMITTALS MUST BE APPROVED BY THE ENGINEER OF RECORD.
4. RECORD DRAWINGS
- ELECTRONIC RECORD DRAWINGS SHALL BE PROVIDED TO DEPICT AN ACCURATE AND COMPLETE RECORD OF THE WORK INSTALLED.
5. APPROVALS AND SUBSTITUTIONS
- IT IS THE INTENT OF THESE SPECIFICATIONS THAT WHEREVER A MANUFACTURER IS SPECIFIED AND SUBSTITUTIONS ARE MADE, THEY SHALL CONFORM IN ALL RESPECTS TO THE SPECIFIED ITEM. CRITERIA AS DELINEATED FOR EQUIPMENT SHALL BE INTERPRETED AS MINIMUM PERFORMANCE REQUIREMENTS.
 - SUBSTITUTED EQUIPMENT WHERE PERMITTED MUST CONFORM TO SPACE REQUIREMENTS. ANY SUBSTITUTED EQUIPMENT THAT CANNOT MEET SPACE REQUIREMENTS, WHETHER APPROVED OR NOT, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY MODIFICATION OF RELATED SYSTEMS OR ADDITIONAL COSTS THAT RESULT FROM SUBSTITUTED EQUIPMENT SHALL BE BORNE BY THIS CONTRACTOR.
6. TESTING, ADJUSTING, AND BALANCING
- WORK IN THIS SECTION INCLUDES THE PROVIDING OF LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR COMPLETE TESTING, ADJUSTING, AND BALANCING OF ALL HVAC SYSTEMS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, PROCEDURES AND STANDARDS DESCRIBED IN THE LATEST MANUALS AS PUBLISHED BY ASHRAE AND SMACNA FOR ALL AIR AND HYDRONIC SYSTEMS.
 - THE CONTRACTOR SHALL PROVIDE THE SERVICES OF AN AIR AND HYDRONIC TESTING AND BALANCING SPECIALIST WHO IS NEBB CERTIFIED.
 - ALL INSTRUMENTS USED SHALL BE ACCURATELY CALIBRATED AND MAINTAINED IN GOOD WORKING ORDER.
 - THE CONTRACTOR SHALL PROVIDE ALL ADDITIONAL BALANCING DAMPERS, PRESSURE TAPS, GAUGES AND OTHER SIMILAR APPURTENANCES AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COSTS TO THE OWNER.
 - ALL BALANCING SHALL BE PERFORMED IN STRICT ACCORDANCE WITH NEBB STANDARDS AND PROCEDURES.
 - THE TEST PROCEDURE SHALL INCLUDE BUT NOT BE LIMITED TO:
 - PITOT TUBE TRAVERSE READINGS OF MAIN SUPPLY, RETURN, AND EXHAUST DUCTS.
 - TEST AND ADJUST SYSTEM FOR THE DESIGN SUPPLY, RETURN, AND EXHAUST IN QUANTITIES WITHIN 5% OF DESIGN.
 - TEST AND RECORD SUPPLY AIR TEMPERATURES.
 - TEST AND RECORD ROOM AIR TEMPERATURES.
 - ADJUST ALL MAIN SUPPLY, EXHAUST AND RETURN DUCTS TO WITHIN 5% OF DESIGN CFM.
 - ADJUST ALL TERMINAL UNITS TO PROPER DESIGN MINIMUM AND MAXIMUM CFMS AND WATER FLOW RATES.
 - TEST AND ADJUST EACH AIR DEVICE TO WITHIN 5% OF DESIGN CFM.
 - TEST AND ADJUST ALL TEMPERATURE, PRESSURE, AND FLOW SENSORS TO WITHIN MANUFACTURER SPECIFIED CALIBRATION RANGE.
 - TEST AND ADJUST ALL ACTUATOR LINKAGES.
 - TEST AND ADJUST ALL ROOM PRESSURE BALANCES.
 - TEST AND ADJUST ALL VAV BOXES TO WITHIN 5% OF DESIGN CFM.
 - TEST BOTH HEATING AND COOLING FUNCTIONS OF EACH PIECE OF EQUIPMENT.
 - THE CONTRACTOR SHALL SUBMIT A REPORT OF ALL INITIAL AND FINAL TESTING AND BALANCING DATA TO BE REVIEWED BY THE ENGINEER OF RECORD.
 - IF THE TESTING AND BALANCING REPORT IS REJECTED BY THE ENGINEER DUE TO INCOMPLETENESS OR INACCURACY, THE TESTING AND BALANCING AGENT SHALL PERFORM ADDITIONAL TESTING AND BALANCING SERVICES AT NO ADDITIONAL COST TO THE OWNER, AND SUBMIT ADDITIONAL REPORTS TO THE ENGINEER UNTIL THE ENGINEER ACCEPTS THE FINAL TESTING AND BALANCING REPORT.
 - ALL OPENINGS IN DUCTS AND PLENUMS AND OTHER SIMILAR ITEMS AS A RESULT OF THE BALANCING WORK SHALL BE REPAIRED BY THE CONTRACTOR IN A SUITABLE MANNER.
7. ACCESS DOORS IN FINISHED CONSTRUCTION
- IN DRYWALL CEILINGS, CONTRACTOR SHALL SUPPLY LIFT OUT SUPPLY DIFFUSERS WHEREVER POSSIBLE IN PLASTER FRAME FOR ACCESS TO ABOVE CEILING SPACE. PROVIDE SUFFICIENT FLEX DUCT LENGTH (UP TO 5') TO ALLOW FOR DIFFUSER TO BE TEMPORARILY MOVED.
 - THIS CONTRACTOR SHALL PREPARE A LIST OF ALL ACCESS DOORS REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, DAMPERS, CONTROLS, AND OTHER SIMILAR DEVICES WHICH SHALL BE SUPPLIED TO THE GENERAL CONTRACTOR WHO SHALL FURNISH AND INSTALL THE SAME. ACCESS DOORS SHALL BE OF AMPLIFIED SIZE (18X18 MINIMUM) TO ALLOW FOR FULL ACCESS AND MAINTENANCE OF CONCEALED EQUIPMENT. COORDINATE LOCATION WITH ARCHITECT AND EQUIPMENT MANUFACTURER ACCESS REQUIREMENTS.
 - THIS CONTRACTOR IN ADVANCE OF CEILING INSTALLATIONS SHALL SUITABLY FIELD TAG AND IDENTIFY ALL CONCEALED EQUIPMENT, DAMPERS, ETC. WHICH REQUIRE ACCESS DOOR PROVISIONS.
8. ELECTRICAL WIRING AND WIRING DIAGRAMS
- GENERAL CONTRACTOR TO COORDINATE ITEMS BELOW, CLEARLY COMMUNICATE TO EACH TRADE DURING BIDDING IF THE DIRECTIVE IS TO BE DIFFERENT.
 - ELECTRICAL POWER WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
 - THE MECHANICAL CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL, TERMINAL POINT TO TERMINAL POINT, COMPLETELY COORDINATED AND INTEGRATED WIRING DIAGRAMS FOR ALL WIRING REQUIRING FIELD INSTALLATIONS BY THE ELECTRICAL CONTRACTOR.
 - SPECIFIC WIRING DIAGRAMS OF FACTORY INSTALLED EQUIPMENT WIRING SHALL ALSO BE SUBMITTED FOR APPROVAL AND FURNISHED TO THE ELECTRICAL CONTRACTOR FOR HIS INSTALLATION REQUIREMENTS AND OTHER USES.
 - MECHANICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT VENDOR AND ELECTRICAL CONTRACTOR TO ENSURE THAT A DISCONNECT IS PROVIDED AS REQUIRED FOR ALL EQUIPMENT.
9. CODES, PERMITS, AND INSPECTIONS
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS, PAYING ALL NECESSARY FEES, AND OBTAINING ALL NECESSARY INSPECTIONS OF WORK AS RELATED TO THIS PROJECT.
10. MECHANICAL PIPING
- CONDENSATE PIPING
 - PIPING SHALL MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN ONE-EIGHTH UNIT VERTICAL TO 12 UNITS HORIZONTAL.
 - CONNECT CONDENSATE DRAIN PANS USING NPS 1-1/4" ASTM 888, TYPE M COPPER TUBING. EXTEND TO NEAREST EQUIPMENT OR ROOF DRAIN. CONSTRUCT DEEP TRAP AT CONNECTION TO DRAIN PAN AND INSTALL CLEANOUTS AT CHANGES IN DIRECTION.
 - CONDENSATE DRAIN PIPING INSTALLED ABOVE GROUND TO BE: TYPE DWV, DRAIN-TEMPER COPPER TUBING, WROUGHT COPPER FITTINGS, AND SOLDERED OR PRESSURE-SEALED JOINTS.
 - INSULATION FOR CONDENSATE AND EQUIPMENT DRAIN WATER BELOW 60°F IS TO BE CELLULAR GLASS 1-1/2 INCHES THICK OR FLEXIBLE ELASTOMERIC 3/4 INCHES THICK.
 - PIPE STANDS FOR SUPPORT OF ROOF-MOUNTED PIPING
 - BRAND: MIRO INDUSTRIES.
 - DESCRIPTION: SINGLE BASE UNIT WITH PILLOW BLOCK SADDLE, INTEGRAL ROD ROLLER, STRUT, OR PIPE CLAMPS, FOR ROOF INSTALLATION WITHOUT MEMBRANE PENETRATION.
 - BASE: POLYCARBONATE.
 - HARDWARE: GALVANIZED STEEL STRUT / HANGERS, STAINLESS STEEL FASTENERS.
 - ACCESSORIES: SUPPORT / PROTECTION PADS MADE FROM RECYCLED RUBBER.
11. COORDINATION
- ALL NEW DUCTWORK SHALL BE KEPT AS HIGH AS POSSIBLE TO MAINTAIN CEILING HEIGHTS AS SHOWN ON ARCHITECTURAL DRAWINGS.
 - PROVIDE OFFSETS AND TRANSITIONS AS REQUIRED TO COORDINATE WITH OTHER SYSTEMS, TRADES, OR STRUCTURE.
 - WHERE PIPING, DUCTWORK, AND LIGHTS CONFLICT, THE DUCTWORK SHALL BE RECONFIGURED TO COORDINATE WITH SITE CONDITIONS, COORDINATE LOCATIONS OF ALL EQUIPMENT TO MAINTAIN CODE REQUIRED AND MANUFACTURER RECOMMENDED ACCESS.
 - COORDINATE PROVISION OF OPENINGS IN WALLS AND SLABS, POURING OF CONCRETE PADS, SETTING OF SLEEVES, ANCHORS, AND CURBS.
 - VERIFY ALL DIMENSIONS BY FIELD MEASUREMENT.
 - SEQUENCE PHASES OF MECHANICAL WORK WITH OTHER TRADES.
12. INSULATION
- INSULATION SHALL BE APPLIED TO DUCTWORK AND PIPING OF MATERIALS AS SPECIFIED BELOW.
 - INSULATION SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS NOT TO EXCEED FLAME SPREAD OF 25 AND SMOKE DEVELOPED OF 50. ACCESSORIES SUCH AS ADHESIVES, MASTICS, CEMENTS, AND TAPES FOR FITTINGS SHALL HAVE THE SAME COMPONENT RATING AS LISTED ABOVE. ALL PRODUCTS OR THEIR SHIPPING CARTONS SHALL BEAR A LABEL INDICATED THAT RATINGS DO NOT EXCEED THESE REQUIREMENTS.
 - DUCTWORK INSULATION MATERIAL
 - ALL VISIBLE, NON-CONCEALED INDOOR AIR SUPPLY DUCTWORK SHALL BE INTERNALLY LINED WITH JOHNS MANVILLE INACOUSTIC RC FIBERGLASS DUCT LINER WITH REINFORCED COATING SYSTEM (OR EQUIVALENT).
 - LINACOUSTIC RC DUCT LINER INSTALLATION MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NAIMA FIBROUS GLASS DUCT LINER STANDARDS OR SMACNA HVAC DUCT CONSTRUCTION STANDARD. ALL TRANSVERSE EDGES, OR ANY EDGES EXPOSED TO AIRFLOW, MUST BE COATED WITH JOHNS MANVILLE SUPERSEAL (OR EQUIVALENT).
 - ALL NON-VISIBLE, OR CONCEALED INDOOR AIR SUPPLY DUCTWORK SHALL BE INSULATED WITH 1-1/2 LB/FT³ DENSITY GLASS FIBER WITH A MAXIMUM K FACTOR OF 0.25 AT 75° MEAN TEMPERATURE WITH REINFORCED FOL-FACED FAME RESISTANT KRAFT VAPOR BARRIER.
 - INSULATION SHALL BE SECURED WITH DUCT ADHESIVE.
 - ALL JOINTS SHALL BE SEALED BY ADHERING A 2" SELF SEALING LAP AT ALL JOINTS WITH VAPOR BARRIER ADHESIVE OR 3" STRIPS OF VAPOR BARRIER JACKET APPLIED WITH VAPOR BARRIER ADHESIVE. INSULATION SHALL BE ADHERED WITH 16GA COPPER CLAD WIRE OR FIBERGLASS STRIPS. ALL JOINTS SHALL BE SEALED WITH 24" WIDE, WELDED PINS AND CLIPS SHALL BE USED ON THE UNDERSIDE.
 - ALL DUCTS SERVING TYPE 1 AND TYPE 2 HOODS SHALL BE WRAPPED WITH 1-1/2"; 2 HOUR RATED 3M FIRE BARRIER DUCT WRAP 615+ RATED FOR ZERO CLEARANCE TO COMBUSTIBLES. INSTALLER MUST FOLLOW INSULATION MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION IN ORDER TO MAINTAIN ZERO CLEARANCE TO COMBUSTIBLES AND 2 HOUR FIRE RATING. ALL DUCT ACCESS DOORS MUST BE INSULATED ACCORDING TO INSULATION MANUFACTURER'S INSTRUCTIONS AND MUST BE EASILY OPERABLE WITHOUT DAMAGING INSULATION.
13. DUCTWORK
- ALL DUCTWORK, DAMPERS, AND ALL AUXILIARY DEVICES AND WORK NECESSARY TO MAKE THE HVAC SYSTEMS COMPLETE AND FULLY FUNCTIONAL SHALL BE FURNISHED AND INSTALLED.
 - IN ACCORDANCE WITH SMACNA STANDARDS PROVIDE DUCTWORK CASING ACCESS AIR CONNECTION AND BRANCH DUCT TO AIR OUTLETS FOR BALANCING PURPOSES. DOORS TO ALL CONCEALED CONTROLS, FUSIBLE LINKS OF DAMPERS, ETC.
 - PROVIDE FUSIBLE LINK FIRE DAMPERS / AUTOMATIC RESET COMBINATION FIRE SMOKE DAMPERS AT LOCATIONS SHOWN ON DRAWINGS AND WHERE NECESSARY TO COMPLY WITH LOCAL OR OTHER AGENCIES OR JURISDICTIONS REQUIRING THEIR INSTALLATIONS AND IN COMPLIANCE WITH THEIR CONSTRUCTION REQUIREMENTS.
 - DUCTWORK LAYOUTS AND ROUTES AS SHOWN ON THE DRAWINGS ARE SCHEMATIC. THEREFORE CHANGES IN DUCT SIZES AND/OR LOCATIONS SHALL BE MADE WHERE NECESSARY TO CONFORM TO SPACE CONDITIONS OR OBTAIN MAXIMUM HEADROOM CONDITIONS; WITHOUT ADDITIONAL COSTS TO THE OWNER.
 - EXCEPT AS OTHERWISE NOTED, ALL DUCTS AND OTHER SHEET METAL WORK SHALL BE PRIME SHEETS OF GALVANIZED STEEL AND COMPLY WITH NFPA 90A AND ASTM A525 AND A527.
 - ALL VISIBLE DUCTWORK IN DINING AREAS TO BE FABRICATED FROM PAINT GRADE (PAINT GRIP) GALVANIZED STEEL.
 - DUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF SMACNA AND ASHRAE. FOR DUCTWORK DOWNSTREAM OF AIR CONDITIONING UNITS, A PRESSURE CLASSIFICATION OF 4" W.G. MAY BE USED. FOR DUCTWORK UPSTREAM OF AIR CONDITIONING UNITS, A PRESSURE CLASSIFICATION OF 3" W.G. MAY BE USED. FOR DUCTWORK DOWNSTREAM OF VAV BOXES, A PRESSURE CLASSIFICATION OF 2" MAY BE USED.
 - U.S. STANDARD GAUGES FOR DUCTWORK ARE TO CONFORM TO THE FOLLOWING REQUIREMENTS:
 - UP TO 30" WIDE - 24 GAUGE
 - 31" TO 48" WIDE - 22 GAUGE
 - 49" TO 60" WIDE - 20 GAUGE
 - 61" AND OVER - 18 GAUGE
 - MATERIALS FOR HANGERS AND SUPPORTS, INCLUDING FASTENERS, ANCHORS, RODS, STRAPS, TRIM, AND ANGLES SHALL MATCH THE DUCT FURNISHED. HORIZONTAL DUCTS CAN BE SUPPORTED WITH HANGERS SECURED TO THE EXISTING CONCRETE SLAB ABOVE. THE EXISTING TABS THAT ARE EMBEDDED IN THE CONCRETE ARE TO BE INSPECTED AND USED IN LIEU OF NEW EXPANSION BOLTS WHEREVER POSSIBLE. AIR DUCT SIZES SHOWN ON THE CONTRACT DRAWINGS ARE CLEAR INSIDE DIMENSIONS. ATTENTION MUST BE PAID BY THE CONTRACTOR TO FABRICATED DUCTWORK SO THAT NOTED CLEAR INSIDE DIMENSIONS ARE MAINTAINED AFTER THE INSTALLATION OF ANY SPECIFIED DUCT LINER.
 - RADIUS ELBOWS SHALL HAVE A CENTERLINE RADIUS EQUAL TO 1 TIMES THE DUCT WIDTH. PROVIDE SPLITTER VANES IN RADIUS ELBOWS WHERE INDICATED ON DRAWINGS. SQUARE ELBOWS SHALL HAVE DOUBLE THICKNESS TURNING VANES MAXIMUM 4" ON CENTER FOR DUCTS WITH A CROSS SECTIONAL AREA 4 SQUARE FT. OR LESS. HANGERS SHALL BE NO MORE THAN 8 FT APART. FOR DUCTS WITH CROSS SECTIONAL AREA BETWEEN 4 AND 10 SQUARE FT, HANGERS SHALL BE NO MORE THAN 6 FT APART. FOR DUCTS WITH CROSS SECTIONAL AREA OVER 10 SQUARE FT, HANGERS SHALL BE NO MORE THAN 4 FT APART.
 - ALL BRANCHES, TAKE-OFFS AND TIE-INS TO ALL BASE BUILDING DUCTS SHALL BE EQUIPPED WITH OPPOSED BLADE VOLUME DAMPERS.
 - ALL NEW AND EXISTING LOW VELOCITY DUCTS SHALL BE SEALED TO MEET SEAL CLASS 44 W.G. OF SMACNA.
 - ALL ACCESS DOORS SHALL BE PER SMACNA STANDARDS. PROVIDE ACCESS DOORS IN INSULATED DUCTS OF INSULATED DOUBLE WALL CONSTRUCTION NOT LESS THAN 20GA. ACCESS DOORS IN UNINSULATED DUCTS SHALL BE SINGLE WALL 16GA. PROVIDE ALL ACCESS DOORS WITH SPONGE RUBBER GASKETS AROUND THE ENTIRE PERIMETER.
 - FIRE, SMOKE, AND FIRE/SMOKE DAMPERS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH DAMPER MANUFACTURER'S DETAILS. DUCTS CONNECTING TO FIRE, SMOKE, AND FIRE/SMOKE DAMPER SLEEVE CONNECTIONS SHALL BE BREAKAWAY STYLE.
 - PROVIDE ACCESS DOORS ON EITHER SIDE OF FIRE, SMOKE AND FIRE/SMOKE DAMPERS TO PERMIT INSPECTION, TESTING, AND RESETTING OF DAMPERS.
 - ALL KITCHEN VENTILATION DUCT INSTALLATION AND DESIGN SHALL CONFORM TO ALL CURRENT CODES, NFPA 96, AND NFPA 13. GREASE DUCTS SHALL BE CONSTRUCTED OF NOT LESS THAN 0.065 INCH (16 GAUGE) GALVANIZED STEEL OR STAINLESS STEEL (STAINLESS STEEL ONLY FOR DISHWASHER EXHAUST DUCTS) AT LEAST 0.04 INCH IN THICKNESS. JOINTS AND SEAMS SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM. DUCT BRACING AND SUPPORTS SHALL BE MADE OF NON-COMBUSTIBLE MATERIALS. BOLTS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
 - SYSTEMS SHALL SLOPE NOT LESS THAN 1/4" PER LINEAR FOOT TOWARD THE HOOD OR TOWARD AN APPROVED GREASE RESERVOIR. WHERE HORIZONTAL, DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL BE NOT LESS THAN 1" INCH PER FOOT.
 - ANY PORTION OF A GREASE DUCT UNACCESSIBLE FROM THE DUCT ENTRY OR DISCHARGE SHALL BE PROVIDED WITH ADJUSTABLE CLEANOUT OPENINGS. CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. CLEANOUTS SHALL BE LOCATED BASED ON ALL CURRENT CODES IN THE FIELD AND SHALL BE READILY ACCESSIBLE FOR MAINTENANCE.
14. GRILLES, REGISTERS, AND DIFFUSERS
- FURNISH AND INSTALL ALL METAL DIFFUSERS, GRILLES, AND REGISTERS AS INDICATED ON THE CONTRACT DRAWINGS.
 - ALL CEILING TYPE AIR DIFFUSERS SHALL BE PROVIDED WITH AIR EQUALIZING DEFLECTORS, FULLY ADJUSTABLE FOR HORIZONTAL TO VERTICAL AIR FLOW.
 - EXACT LOCATIONS OF ALL AIR DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL CEILING PLANS. ARCHITECT SHALL HAVE FINAL DISCRETION OF AIR DEVICE LOCATIONS.
 - COORDINATE MOUNTING STYLE WITH ARCHITECTURAL CEILING PLANS.
15. HANGERS, SUPPORTS, ANCHORS AND GUIDES
- ALL REQUIRED HANGERS, SUPPORTS, ANCHORS AND GUIDES SHALL BE PROVIDED AND INSTALLED BY THIS CONTRACTOR.
 - INSTALL HANGERS AND SUPPORTS TO ALLOW CONTROLLED THERMAL AND SEISMIC MOVEMENT OF PIPING SYSTEMS, TO PERMIT FREEDOM OF MOVEMENT BETWEEN PIPE ANCHORS, AND TO FACILITATE ACTION OF EXPANSION JOINTS, EXPANSION LOOPS, EXPANSION BENDS, AND SIMILAR UNITS.
 - ALL PIPING SYSTEMS SHALL BE INDEPENDENTLY SUPPORTED. IN NO CASE SHALL PIPING HANGERS BE SUPPORTED BY VERTICAL EXPANSION BOLTS.
 - WHEN REMOVAL OF FIRE PROOFING IS REQUIRED FOR NEW INSTALLATION PURPOSES, SUCH REMOVAL SHALL BE PERFORMED BY THE CONTRACTOR AND KEPT TO A MINIMUM. THE CONTRACTOR SHALL REPLACE ALL REMOVED FIREPROOFING WITH NEW FIREPROOFING TO THE SATISFACTION OF THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.
 - SUPPORT HANGERS FROM BUILDING STEEL FRAMING WITH AN APPROVED TYPE CLAMP INSERT. PROVIDE ANY ADDITIONAL STEEL SUPPORTS BETWEEN EXISTING FRAMING MEMBERS AS MAY BE REQUIRED. NO HANGERS SHALL BE SUPPORTED FROM METAL DECK FLOOR. WELDING TO THE BUILDING STRUCTURAL MEMBERS IS NOT PERMITTED UNLESS APPROVED BY THE BUILDING OWNER.
16. ROOF MOUNTED FANS
- PROVIDE FANS AS SCHEDULED. INSTALL ALL FANS PROVIDED BY OWNER VENDOR.
 - FAN SHALL BE MANUFACTURED AT AN ISO 9001 CERTIFIED FACILITY. FAN SHALL BE LISTED BY UNDERWRITER LABORATORIES (UL 705). FAN SHALL BEAR THE AMCA CERTIFIED RATING SEAL FOR SOUND AND AIR PERFORMANCE. FAN SHALL BE NFPA 90A, NFPA 70, ASHRAE 62.1, AND ASHRAE 90.1 COMPLIANT. ALL FANS SERVING TYPE 1 AND TYPE 2 HOODS SHALL BE UL 762 COMPLIANT FOR RESTAURANT EXHAUST APPLICATIONS.
 - MOTOR SHALL BE AN ELECTRONICALLY COMMUTATED MOTOR RATED FOR CONTINUOUS DUTY AND FURNISHED EITHER WITH INTERNALLY MOUNTED POTENTIOMETER SPEED CONTROLLER OR WITH LEADS FOR CONNECTION TO 0-10 VDC EXTERNAL CONTROLLER.
 - FAN SHALL BE SPUN ALUMINUM, ROOF MOUNTED, DIRECT DRIVEN, UPRELAST CENTRIFUGAL EXHAUST VENTILATOR.
 - INSTALLATION:
 - INSTALL LEVEL PLUMB, AND WITH CLEARANCES FOR SERVICE, MAINTENANCE, AND AS REQUIRED FOR KITCHEN EXHAUST APPLICATIONS TO BUILDING COMPONENTS.
 - SECURE FAN TO ROOF WITH ZINC-PLATED HARDWARE.
 - PROVIDE VENTED EXTENSION, GREASE TRAP BOX, EXTERNAL WIRING, AND DISCHARGE EXTENSION FOR KITCHEN EXHAUST APPLICATIONS.
17. ROOF TOP UNITS
- PROVIDE ALL HVAC UNITS AS SCHEDULED.
 - PROVIDE ALL TRANSITIONS FROM DUCT CONNECTIONS TO DUCT SIZES AS SHOWN ON PLANS.
 - PROVIDE CANVAS FLEX CONNECTORS AT UNIT DUCT CONNECTIONS.
 - ALL UNITS SHALL BE INSTALLED LEVEL AND PLUMB.
 - ALL UNITS SHALL COMPLY WITH NFPA 90A FOR DESIGN FABRICATION, AND INSTALLATION OF RTU AND COMPONENTS.
 - PROVIDE SPRING VIBRATION ISOLATION FOR ALL UNITS.
 - INSTALL NEW FILTERS IN EACH UNIT AT TURNOVER.
 - UNITS MUST BE TURNED OVER CLEAN AND FREE OF DEBRIS.
 - ROUTE CONDENSATE DRAINS WITH AIR GAP TO STORM DRAINAGE.
 - FAN AND DRIVE ASSEMBLIES SHALL BE STATICALLY AND DYNAMICALLY BALANCED AND DESIGNED FOR CONTINUOUS OPERATION AT MAXIMUM RATED FAN SPEED AND MOTOR HORSEPOWER.
 - SUPPLY-AIR FANS SHALL BE CENTRIFUGAL. RATED ACCORDING TO AMCA 210, GALVANIZED OR PAINTED STEEL, MOUNTED ON SOLID-STEEL SHAFT.
 - DRIVES SHALL BE FACTORY-MOUNTED AND DIRECT DRIVE.
 - OUTDOOR AND RETURN AIR DAMPERS SHALL BE LOW-LEAKAGE.
18. SPLIT SYSTEMS
- PROVIDE ALL HVAC UNITS AS SCHEDULED.
 - PROVIDE ALL TRANSITIONS FROM DUCT CONNECTIONS TO DUCT SIZES AS SHOWN ON PLANS.
 - PROVIDE CANVAS FLEX CONNECTORS AT UNIT DUCT CONNECTIONS.
 - ALL UNITS ARE TO BE INSTALLED LEVEL AND PLUMB.
 - ALL UNITS SHALL COMPLY WITH NFPA 90A FOR DESIGN FABRICATION, AND INSTALLATION OF SPLIT SYSTEM AND COMPONENTS.
 - PROVIDE VIBRATION ISOLATION HANGERS.
 - FAN: DIRECT DRIVE, CENTRIFUGAL.
 - CONDENSATE DRAIN PANS:
 - FABRICATED WITH ONE PERCENT SLOPE IN AT LEAST TWO DIRECTIONS TO COLLECT CONDENSATE FROM COOLING COILS AND TO DIRECT WATER TOWARD DRAIN CONNECTION.
 - DRAIN CONNECTION: LOCATE AT LOWEST POINT OF PAN AND SIZED TO PREVENT OVERFLOW.
 - OUTDOOR UNIT:
 - CASING: STEEL, FINISHED WITH BAKED ENAMMEL, REMOVABLE PANELS FOR ACCESS CONTROLS, WEEP HOLES FOR DRAINAGE, AND MOUNTING HOLES AT BASE.
 - OUTDOOR UNIT FASTENED TO THE ROOF SHALL BE INSTALLED IN COMPLIANCE WITH THE WIND-RESISTANCE REQUIREMENTS OF THE FLORIDA BUILDING CODE.

Design Consultant:

ARCHITECTURE
INNOVATION & DESIGN
 IN ARCHITECTURE, INC.
 115 Pine Avenue, Suite 250
 Long Beach, CA 90802
 www.idaexperience.com

Architect:

GEOFFREY B. LIM
AIA, NCARB, LEED AP

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Issue Date:
07/01/2025

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Principal in Charge:
 TUCER MATHEWS

Project Manager:
 TUCER MATHEWS

Drawn By:
 KYLE KAISER

Project:
NR-25757

Sheet:
MECHANICAL SPECIFICATIONS

Sheet
M1.2

10/8/2025

KEYNOTES	
TAG	NOTE
1	KITCHEN VENDOR PROVIDED CONDENSING UNITS SHALL BE INSTALLED AND PIPED BY KITCHEN EQUIPMENT CONTRACTOR. ROUTE REFRIGERANT SUCTION AND LIQUID TO ASSOCIATED EVAPORATORS INDOORS. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
2	PROVIDE AND INSTALL THYBAR PIPE CURB; COORDINATE ADDITIONAL PENETRATION NEEDS WITH ELECTRICAL AND PLUMBING TRADES.

Design Consultant:
ARCHITECTURE
INNOVATION & DESIGN
 in ARCHITECTURE, Inc.
 115 Pine Avenue, Suite 250
 Long Beach, CA 90802
 www.idaexperience.com

Architect:
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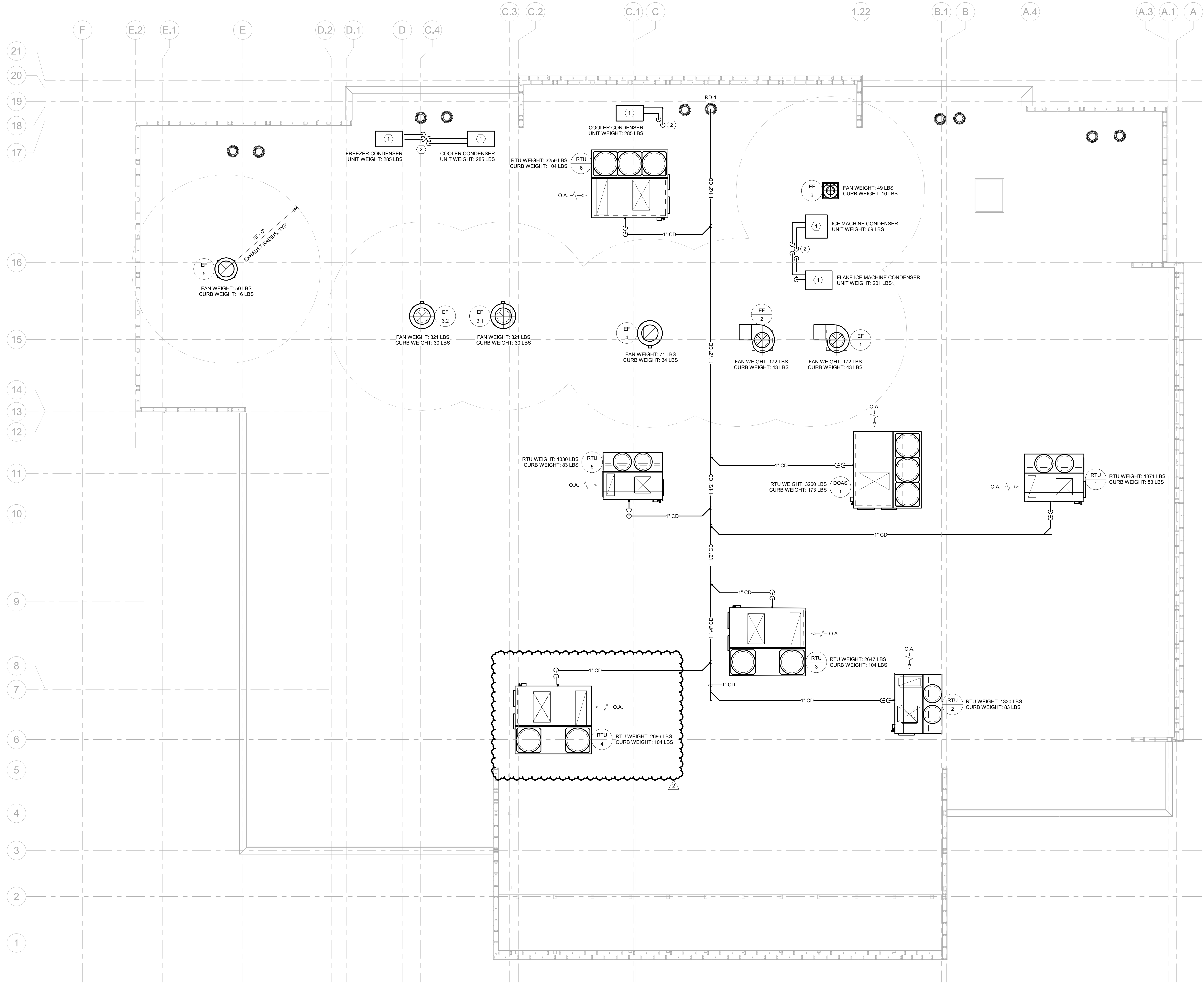
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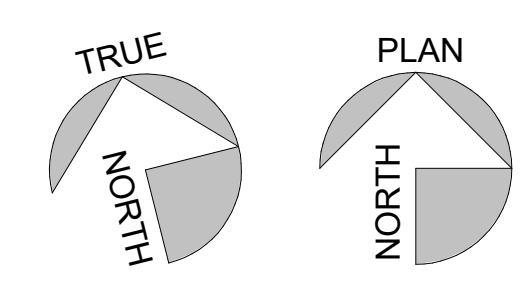
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 TUCKER MATTHEWS
 Project Manager:
 TUCKER MATTHEWS
 Drawn By:
 KYLIE KAESER

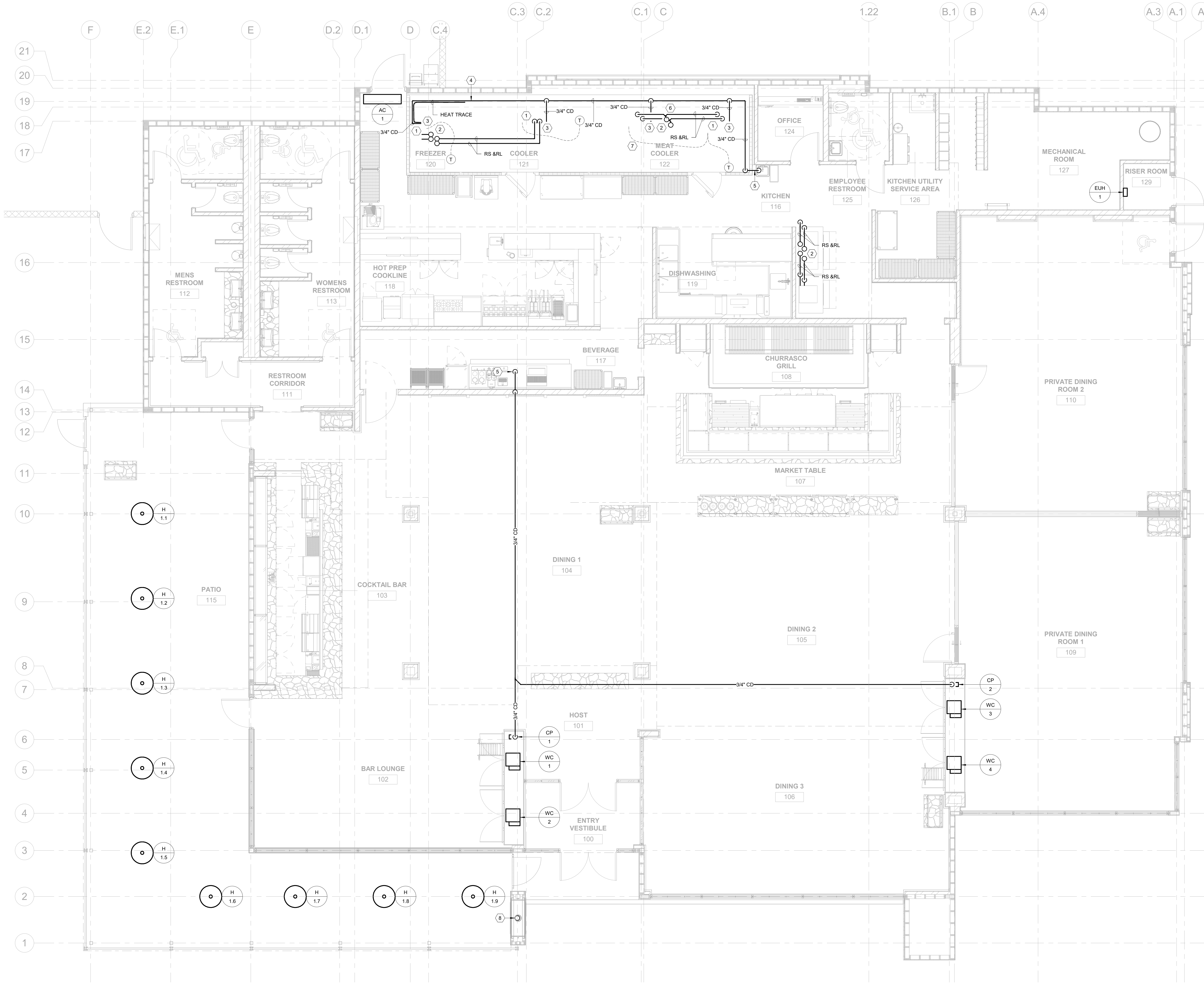
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 MECHANICAL ROOF NEW
 WORK PLAN

Sheet
M2.2
 10/8/2025



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





TAG	NOTE
1	INSTALL EVAPORATOR UNITS IN EACH COOLER / FREEZER. COORDINATE LOCATIONS WITH MANUFACTURER DOCUMENTATION. KITCHEN EQUIPMENT CONTRACTOR TO INSTALL AND COORDINATE WITH GC AND MECHANICAL CONTRACTOR.
2	ROUTE REFRIGERANT SUCTION AND LIQUID LINES FROM EVAPORATOR UNITS TO ASSOCIATED CONDENSING UNITS ON THE ROOF. SIZE LINES PER MANUFACTURER RECOMMENDATIONS. KITCHEN EQUIPMENT CONTRACTOR TO INSTALL AND COORDINATE WITH GC AND MECHANICAL CONTRACTOR.
3	EACH EVAPORATOR UNIT MUST HAVE A DEDICATED CONDENSATE TRAP INSTALLED AT THE DRAIN PAN.
4	INSTALL A COMMON CONDENSATE DRAIN LINE TIGHT ALONG REAR WALL. ALL DRAIN LINES MUST BE SLOPED AT LEAST 1/8\"/>
5	TERMINATE CONDENSATE LINE AT FLOOR SINK WITH 1\"/>
6	BOTH COOLER EVAPORATORS ARE TO BE PIPED BACK TO A COMMON CONDENSER. WYE FITTINGS ARE TO BE USED AT THE SPLIT AND EQUAL LENGTH / DIAMETER LINE SETS ARE TO BE INSTALLED FOR EACH EVAPORATOR. KITCHEN EQUIPMENT CONTRACTOR TO SIZE LINES PER MANUFACTURER RECOMMENDATIONS.
7	CONNECT EVAPORATORS WITH FACTORY SUPPLIED CATSE COMMUNICATION CABLE. SEE MANUFACTURER DOCUMENTATION.
8	VENT FIREPLACE FLUE THROUGH ROOF. PROVIDE VERTICAL TERMINATION CAP. INSTALL PER MANUFACTURER REQUIREMENTS.

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 www.idexperience.com

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FOGO DE CHÃO

Project:
FOGO DE CHÃO - WEST WINDSOR, NJ
 600 Loftis Drive
 West Windsor, NJ

CONVERSION
FOGO DE CHÃO
 Project:
FOGO DE CHÃO - WEST WINDSOR, NJ
 600 Loftis Drive
 West Windsor, NJ

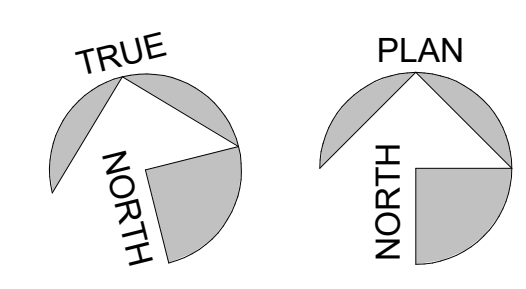
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Principal in Charge:
 TUCKER MATTHEWS
 Project Manager:
 TUCKER MATTHEWS
 Drawn By:
 KYLIE KAISER
 Project:
 NR-25757
 Sheet:
MECHANICAL PIPING NEW WORK PLAN

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M3.1
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1 MECHANICAL PIPING NEW WORK PLAN
 1/4" = 1'-0"

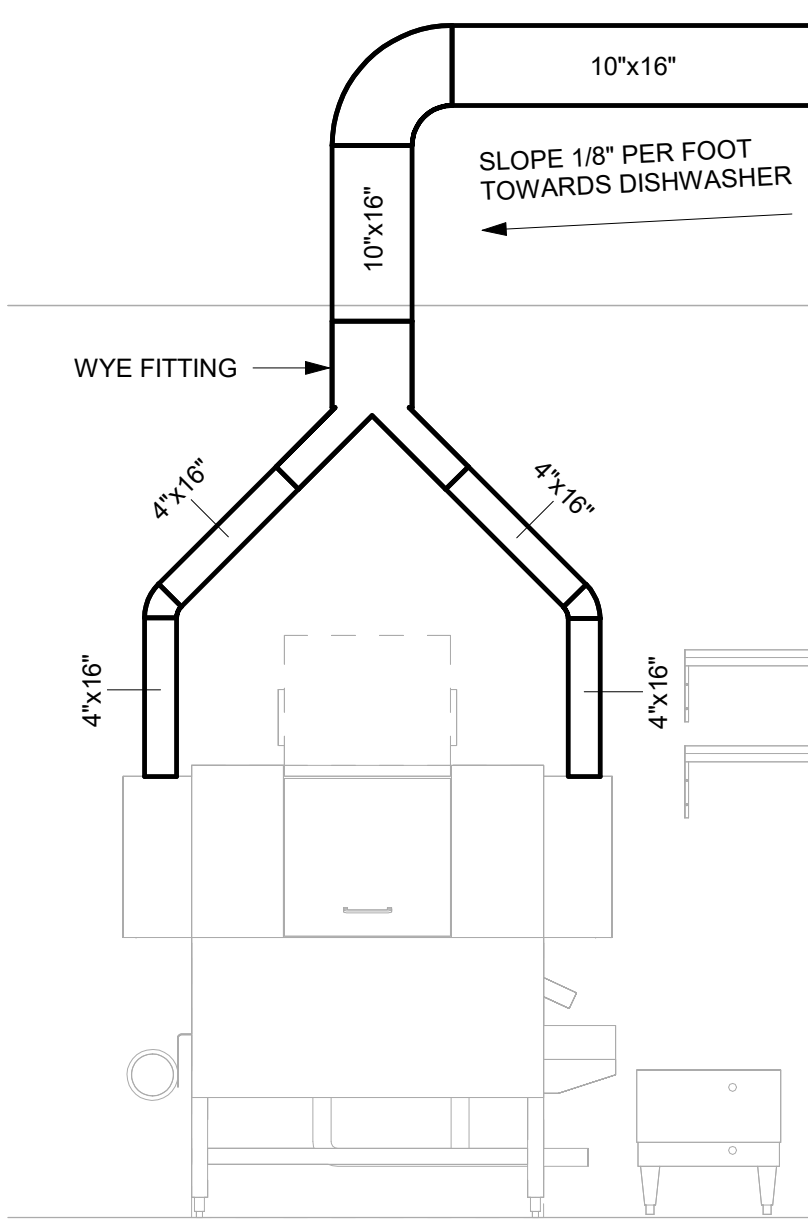


SEQUENCE OF OPERATIONS

1. CONTROL SYSTEM: UNITS SHALL HAVE FACTORY PACKAGED CONTROLS
2. ROOFTOP UNITS:
 - A. UNITS SHALL BE MONITORED BY INTERNAL CASLINK SYSTEM. EACH UNIT IS TO BE PROVIDED WITH REMOTE TEMPERATURE AND HUMIDITY SENSORS WITH A HUMAN INTERFACE THERMOSTAT TO BE INSTALLED IN MANAGERS OFFICE AND CLEARLY LABELED. CONTRACTOR SHALL PROVIDE THERMOSTATS CAPABLE OF 7 DAY PROGRAMMABLE SETBACK SCHEDULE.
 - B. RTU-1, -2, -3, -4, -5
 - a. UNITS SHALL BE CONSTANT VOLUME
 - b. COOLING CONTROL: DX COOLING COIL SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY COMBINATION TEMPERATURE AND HUMIDITY SENSOR AND SET BY HUMAN INTERFACE IN MANAGERS OFFICE.
 - c. HEATING CONTROL: ON A CALL FOR HEATING, THE GAS FURNACE SHALL ACTIVATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY COMBINATION TEMPERATURE AND HUMIDITY SENSOR AND SET BY HUMAN INTERFACE IN MANAGERS OFFICE.
 - d. DEHUMIDIFICATION CONTROL: WHEN SPACE RH IS ABOVE HUMIDISTAT SET POINT, REHEAT SHALL ACTIVATE AND MODULATE TO MAINTAIN THE SETPOINT RH. SPACE TEMPERATURE SETPOINT SHALL BE 70°F. INITIALLY, SETPOINT SHALL BE ADJUSTABLE FROM HUMAN INTERFACE TO BE INSTALLED IN MANAGERS OFFICE AND CLEARLY LABELED.
 - e. LIFE SAFETY CONTROL: INTERFACE SUPPLY AND RETURN DUCT SMOKE DETECTORS WITH FIRE ALARM SYSTEM, AND INTERLOCK TO SHUT DOWN UNIT ON DETECTION OF SMOKE.
 - C. RTU-6
 - a. OUTSIDE AIR DAMPER MODULATION SHALL BE INTERLOCKED TO HOOD SYSTEM TOGGLE SWITCH LOCATED ON KITCHEN HOOD. WHEN HOOD SYSTEM IS ON DAMPER SHALL MODULATE TO SCHEDULED "HOOD ON" OUTSIDE AIR CFM. WHEN HOOD SYSTEM IS OFF DAMPER SHALL MODULATE TO "HOOD OFF" OUTSIDE AIR CFM.
 - b. SUPPLY FAN CONTROL: FAN SHALL INCREASE TO SCHEDULED "HOOD ON" CFM WHEN HOOD IS ON. FAN SHALL DECREASE TO SCHEDULED "HOOD OFF" CFM WHEN HOOD IS OFF.
 - c. COOLING CONTROL: DX COOLING COIL SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY COMBINATION TEMPERATURE AND HUMIDITY SENSOR IN KITCHEN AND SET BY HUMAN INTERFACE IN MANAGERS OFFICE.
 - d. HEATING CONTROL: ON A CALL FOR HEATING, THE GAS FURNACE SHALL ACTIVATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY COMBINATION TEMPERATURE AND HUMIDITY SENSOR IN KITCHEN AND SET BY HUMAN INTERFACE IN MANAGERS OFFICE.
 - e. DEHUMIDIFICATION CONTROL: WHEN SPACE RH IS ABOVE HUMIDISTAT SET POINT, REHEAT SHALL ACTIVATE AND MODULATE TO MAINTAIN THE SETPOINT RH. LIFE SAFETY CONTROL: INTERFACE SUPPLY AND RETURN DUCT SMOKE DETECTORS WITH FIRE ALARM SYSTEM, AND INTERLOCK TO SHUT DOWN UNIT ON DETECTION OF SMOKE.
3. DOAS-1:
 - a. SUPPLY FAN CONTROL: UNIT START/STOP SHALL BE INTERLOCKED TO HOOD SYSTEM TOGGLE SWITCH LOCATED ON GRILL HOOD.
 - b. COOLING CONTROL: DX COOLING COIL SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY COMBINATION TEMPERATURE AND HUMIDITY SENSOR IN KITCHEN AND SET BY HUMAN INTERFACE IN MANAGERS OFFICE.
 - c. HEATING CONTROL: ON A CALL FOR HEATING, THE GAS FURNACE SHALL ACTIVATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY COMBINATION TEMPERATURE AND HUMIDITY SENSOR IN KITCHEN AND SET BY HUMAN INTERFACE IN MANAGERS OFFICE.
 - d. DEHUMIDIFICATION CONTROL: WHEN SPACE RH IS ABOVE HUMIDISTAT SET POINT, REHEAT SHALL ACTIVATE AND MODULATE TO MAINTAIN THE SETPOINT RH. LIFE SAFETY CONTROL: INTERFACE SUPPLY AND RETURN DUCT SMOKE DETECTORS WITH FIRE ALARM SYSTEM, AND INTERLOCK TO SHUT DOWN UNIT ON DETECTION OF SMOKE.
4. EXHAUST FANS:
 - A. EF-1 FAN CONTROL: UNIT START/STOP SHALL BE INTERLOCKED TO HOOD SYSTEM TOGGLE SWITCH LOCATED IN KITCHEN.
 - B. EF-2 FAN CONTROL: UNIT START/STOP SHALL BE INTERLOCKED TO HOOD SYSTEM TOGGLE SWITCH LOCATED IN KITCHEN.
 - C. EF-3 FAN CONTROL: UNIT START/STOP SHALL BE INTERLOCKED TO HOOD SYSTEM TOGGLE SWITCH LOCATED IN GRILL.
 - D. EF-3.2 FAN CONTROL: UNIT START/STOP SHALL BE INTERLOCKED TO HOOD SYSTEM TOGGLE SWITCH LOCATED IN GRILL.
 - E. EF-4 FAN CONTROL: UNIT START/STOP SHALL BE INTERLOCKED TO DISHWASHER SYSTEM AND RUN WHILE DISHWASHER IS ACTIVE.
 - F. EF-5 FAN CONTROL: UNIT SHALL OPERATE DURING OCCUPIED PERIODS. CONTRACTOR TO PROVIDE PROGRAMMABLE TIME CLOCK.
 - G. EF-6 FAN CONTROL: UNIT SHALL OPERATE DURING OCCUPIED PERIODS. CONTRACTOR TO PROVIDE PROGRAMMABLE TIME CLOCK.

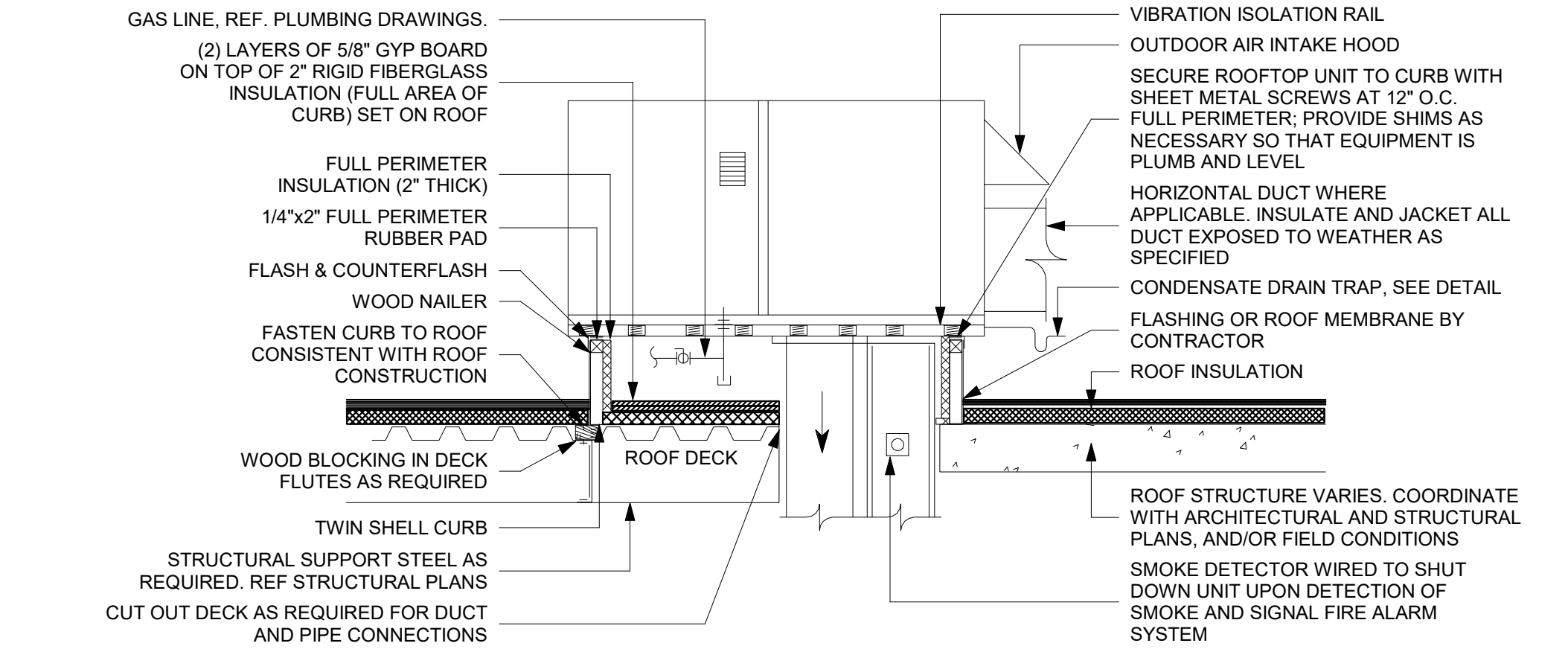
8 SEQUENCE OF OPERATIONS

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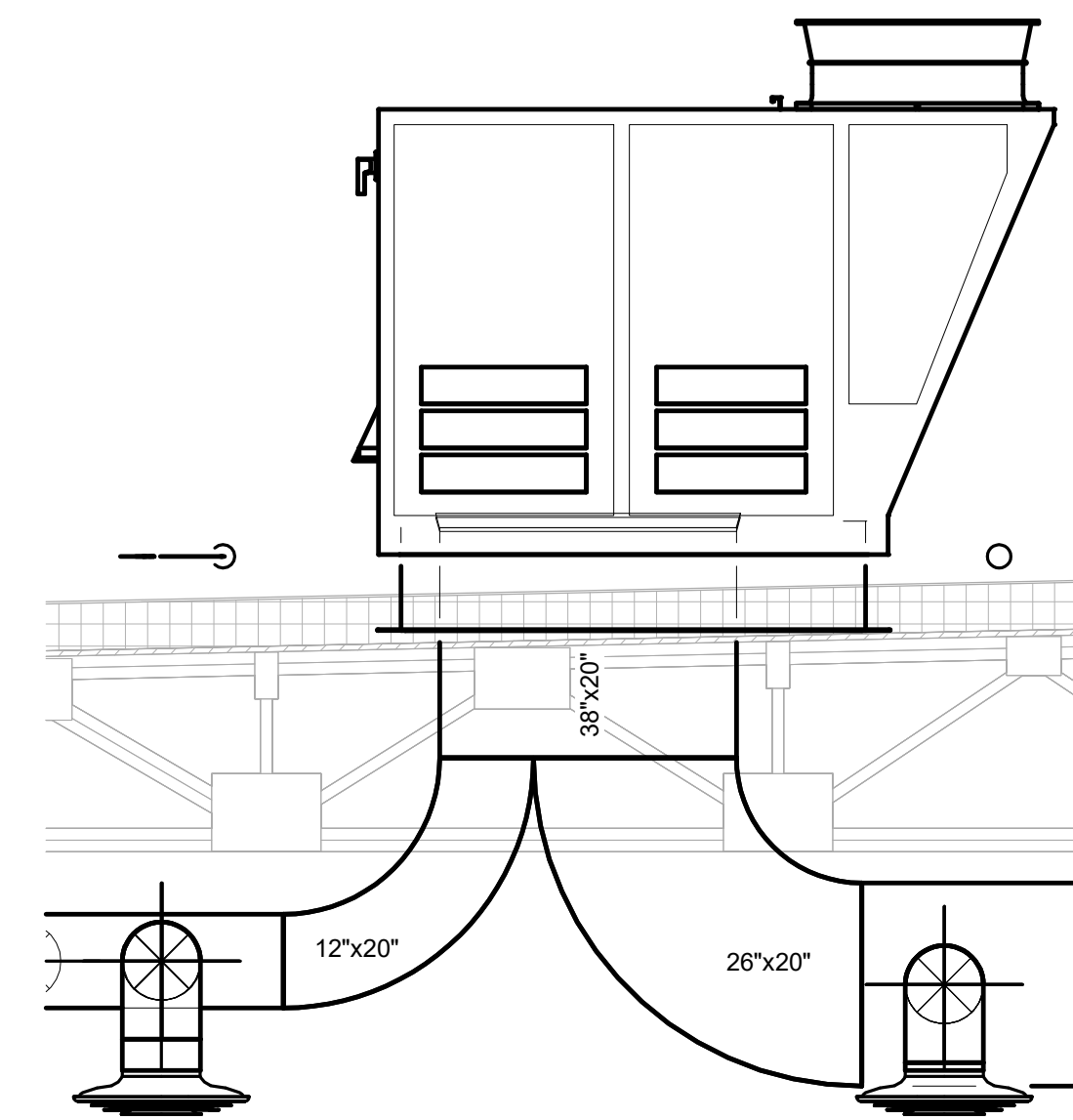
9 DISHWASHER DUCT DETAIL

1/2" = 1'-0"



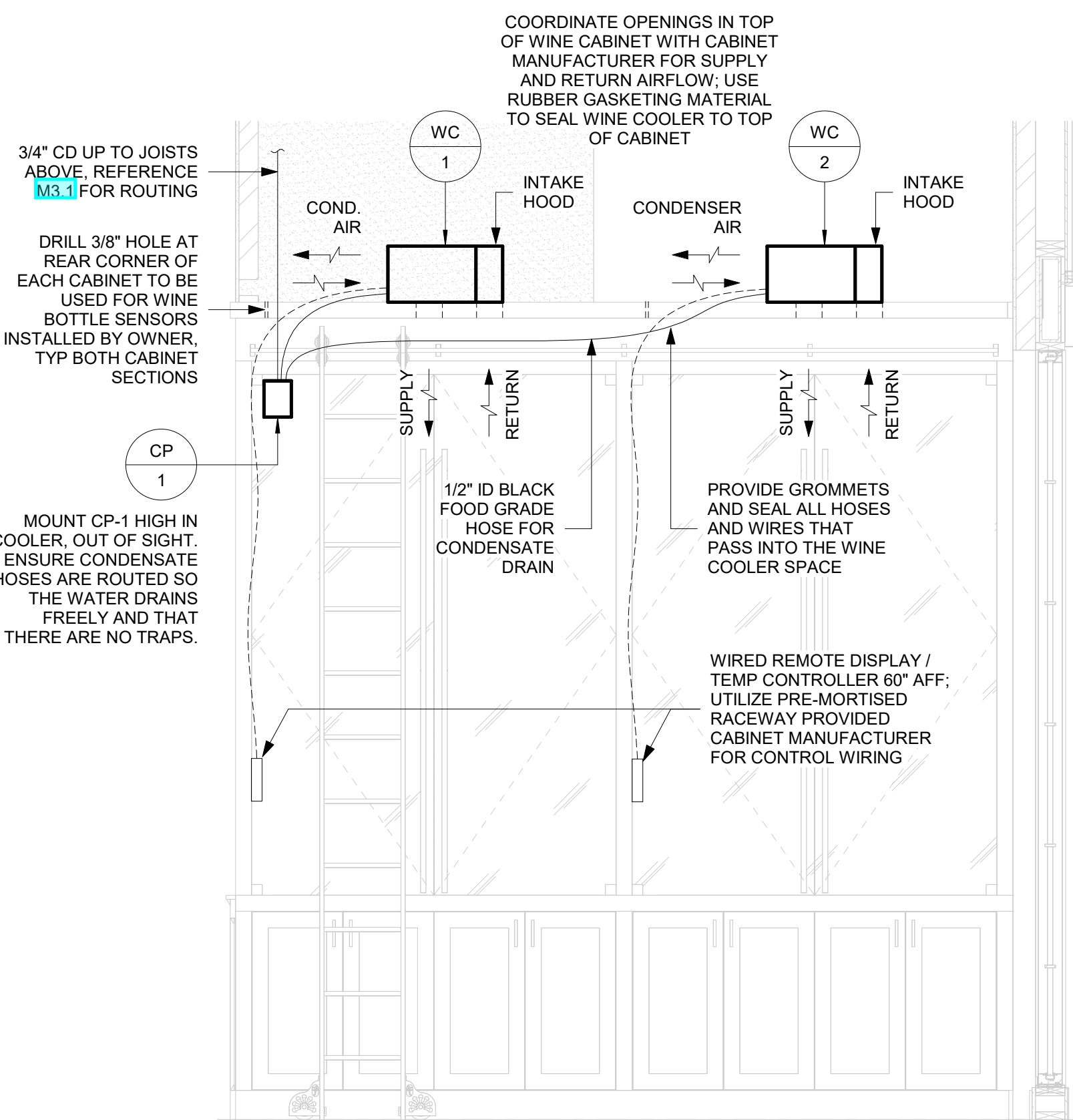
5 ROOFTOP UNIT INSTALLATION DETAIL

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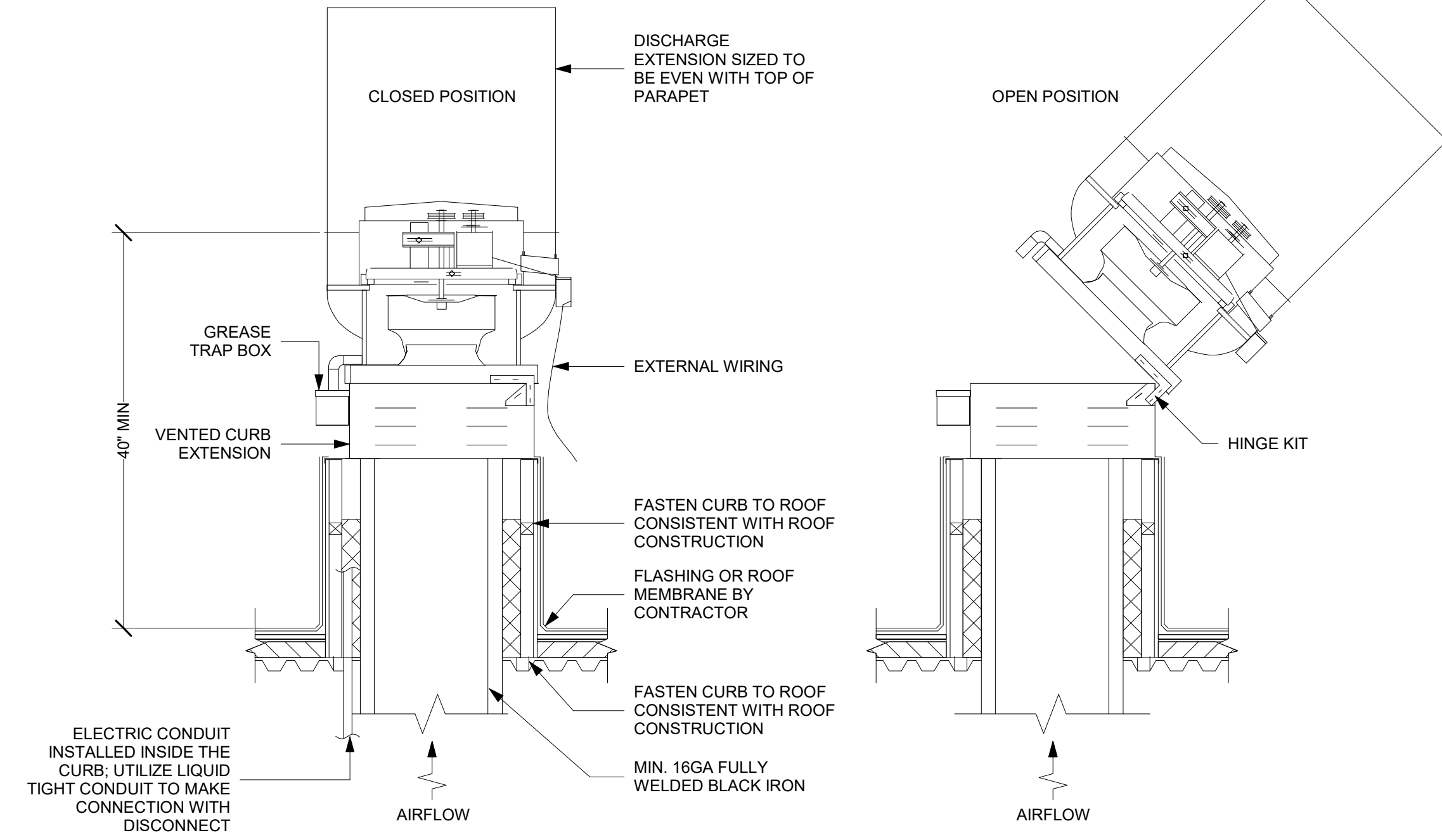
6 RTU 3 - DUCT WYE DETAIL

1/2" = 1'-0"



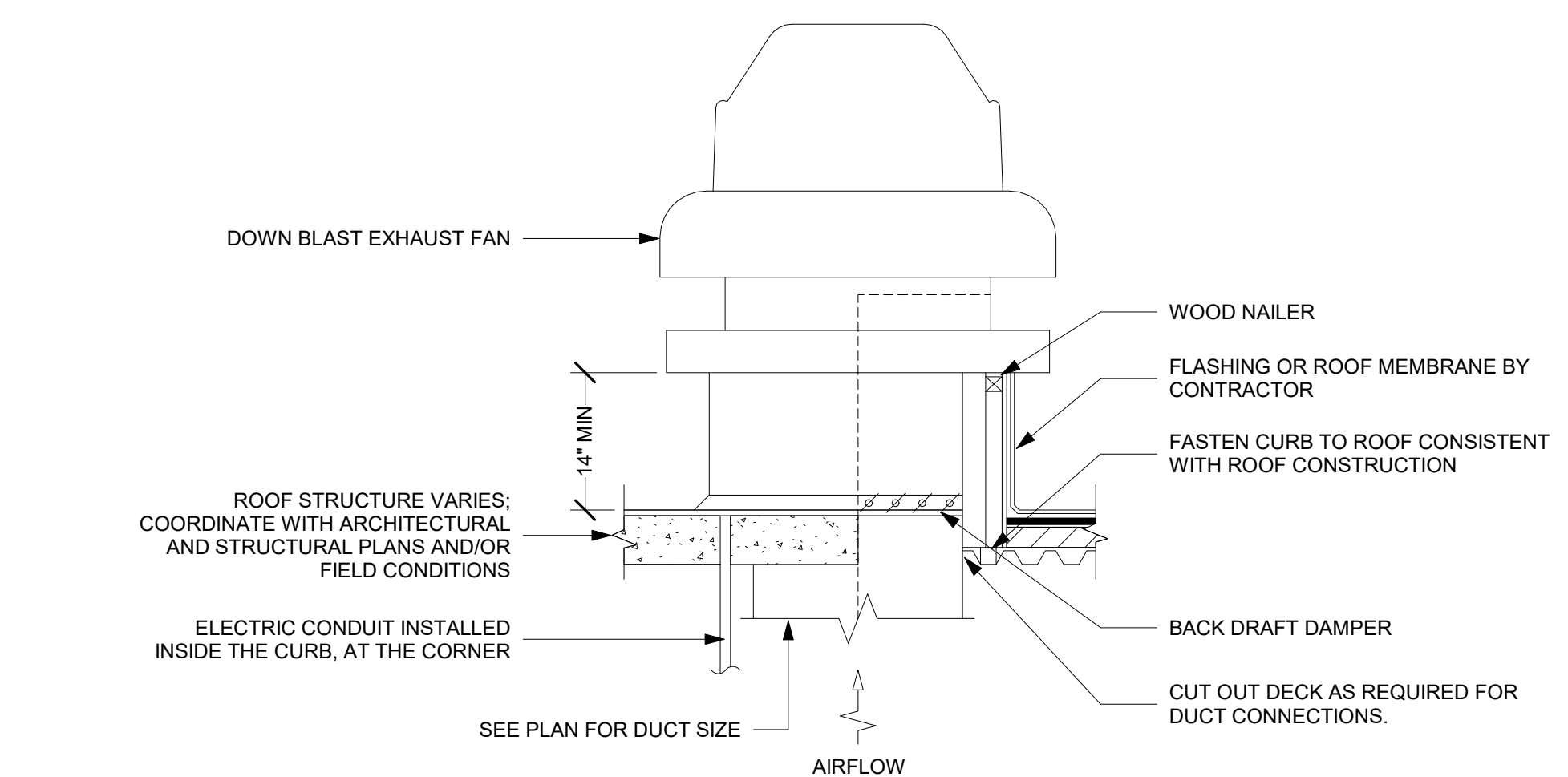
7 TYP. WINE COOLER INSTALLATION

1/2" = 1'-0"



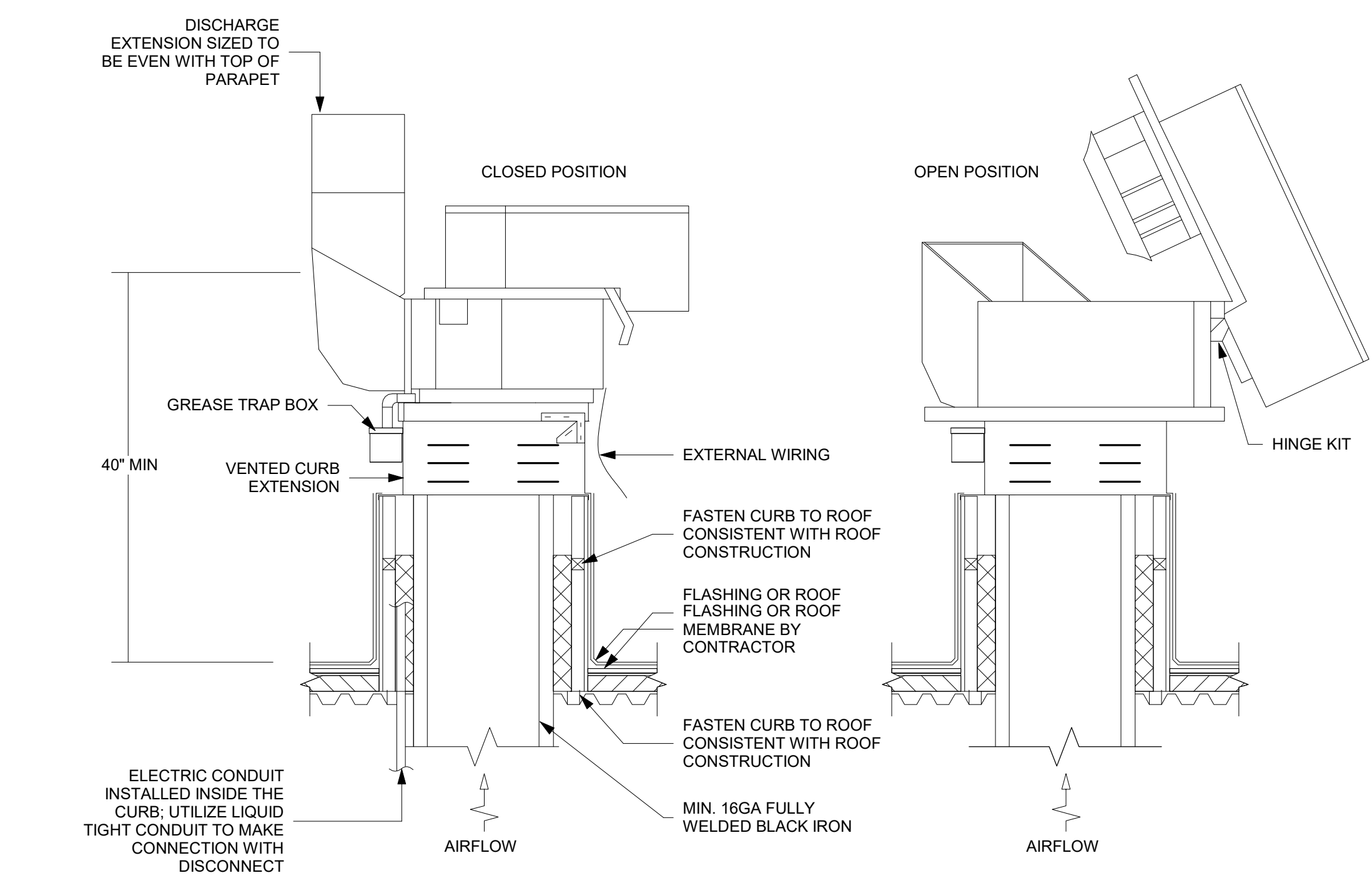
1 UPBLAST EXHAUST FAN WITH HINGE

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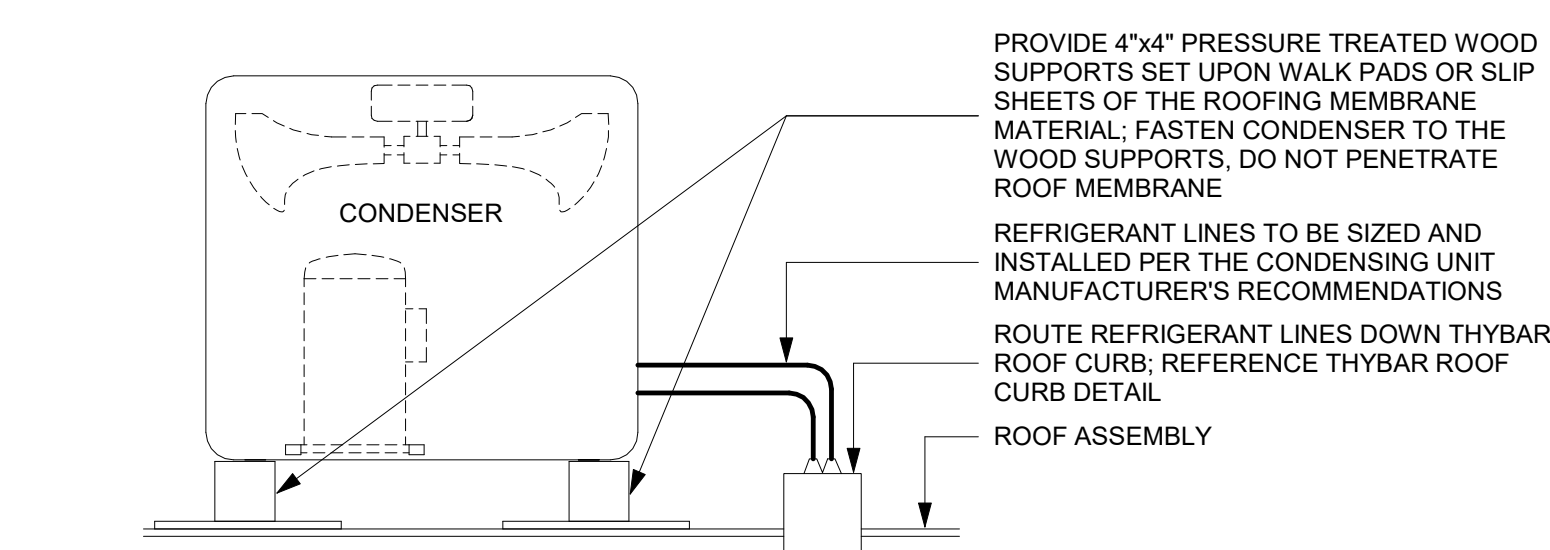
2 DOWNBLAST EXHAUST FAN

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3 KITCHEN UPBLAST CENTRIFUGAL EXHAUST FAN WITH HINGE

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4 ROOF MOUNTED CONDENSING UNIT

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INNOVATION & DESIGN
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 115 Pine Avenue, Suite 250
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Principal in Charge:	TUCKER MATTHEWS
Project Manager:	TUCKER MATTHEWS
Drawn By:	KYLE KAISER
Project:	NR-25757
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