

- KEY NOTES:**
- 1 FACTORY INSTALLED SMOKE DETECTOR IN MAIN SUPPLY AND RETURN OF EACH ROOFTOP UNIT.
 - 2 INSTALL ROOF MOUNTED EXHAUST FAN PER DETAIL ON SHEET M3.0. COORDINATE EXACT LOCATION OF FAN PENETRATION WITH ARCHITECTURAL ROOF PLAN. TRANSITION GALVANIZED DUCTWORK AS NECESSARY FROM FAN INTO CEILING/JOIST SPACE. SEE SHEET M1.0 FOR CONTINUATION.
 - 3 PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL DUCTWORK AND MECHANICAL UNITS.
 - 4 ROUTE SCH. 40 PVC CONDENSATE DRAIN PIPING ALONG ROOF. SUPPORT PIPING PER DETAIL ON SHEET M3.0.
 - 5 MAINTAIN A MINIMUM 10' CLEARANCE BETWEEN OUTSIDE AIR INTAKES AND EXHAUST TERMINATIONS ON ROOF.
 - 6 FOOD SERVICE REFRIGERATION EQUIPMENT PROVIDED BY OTHERS.
 - 7 FOOD SERVICE REFRIGERATION EQUIPMENT MOUNTED ON PRE-ENGINEERED RACK. REFER TO "CONDENSING UNIT ROOFING SUPPORT DETAIL" ON ARCHITECTURAL SHEETS FOR FLORIDA PRODUCT APPROVAL INFORMATION.
 - 8 FOR SPECIFIC WIND LOADING REQUIREMENTS NOT TO EXCEED 140 MPH, SEE STRUCTURAL DRAWINGS.

SHEET GENERAL NOTE:
 CONTRACTOR RESPONSIBLE FOR USING CURBS PLUS CLIPS ON ALL RTUS. CLIPS ARE DELIVERED TO SITE AS SEPARATE PACKAGE.

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

CLIENT NAME
WAWA
 260 WEST BALTIMORE PIKE
 WAWA, PENNSYLVANIA 19063

PROJECT NAME
WAWA F85FF L v2021.3
STORE #5463
 CR 48 & SW 18TH TERRACE,
 BUSHNELL, FL

SHEET TITLE
HVAC ROOF PLAN

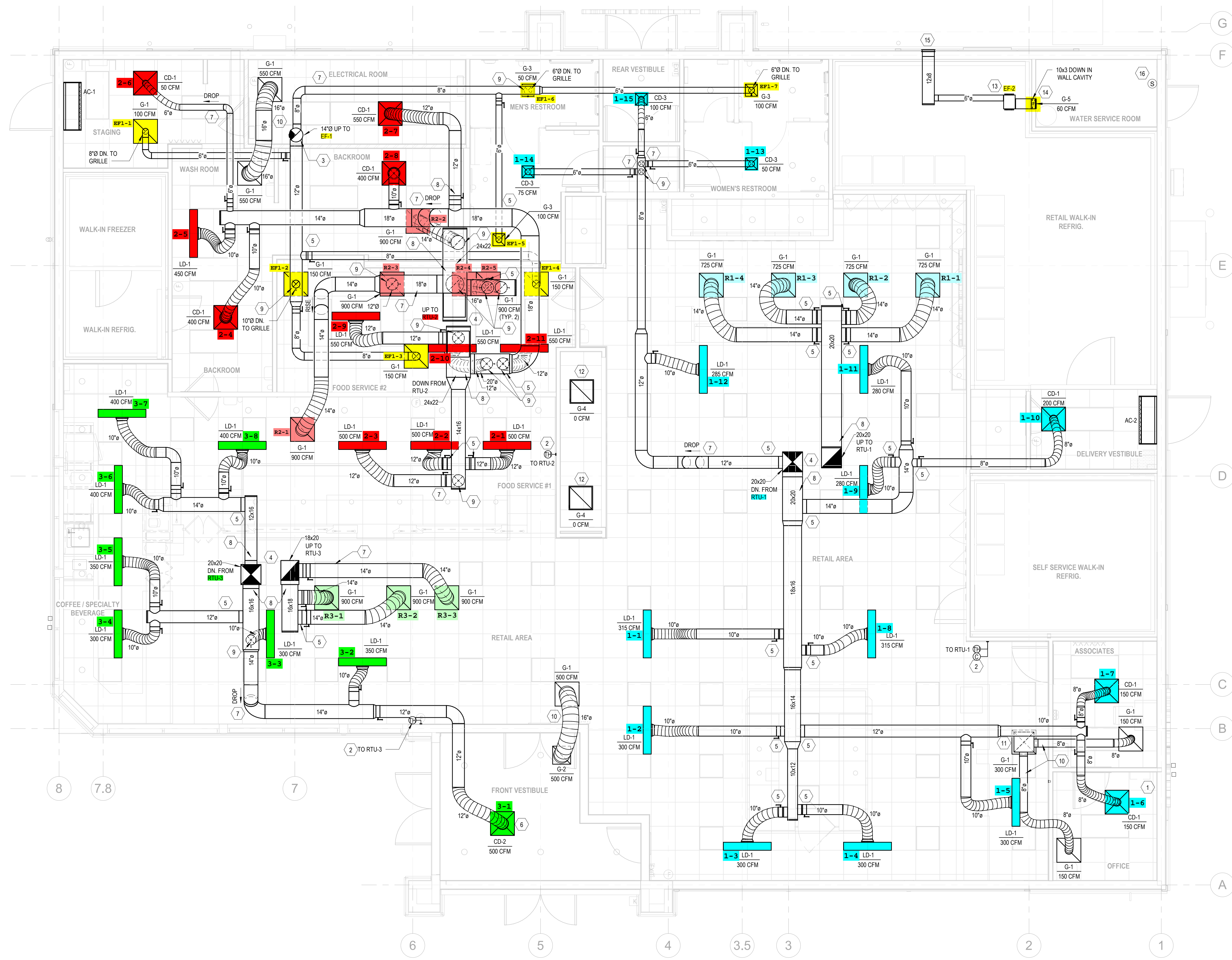
No.	Description	Date
1	PRE-BID SET	11/16/2023
2	BID SET	08/29/2024
3	PERMIT CODE UPDATE	07/21/2024
4	CONSTRUCTION SET	10/24/2024
5	OPERATION UPDATE	08/26/2025

PROJECT NO.
2023096

DATE
11-16-2023

DRAWN
PAK

CHECKED
JJD



1 HVAC FLOOR PLAN
M1.0 1/4" = 1'-0"

KEY NOTES:

- 1 REMOTE SMOKE DETECTOR TEST STATIONS FOR RTU-1, 2, & 3. TEST STATIONS TO BE MOUNTED ON THE MANAGER'S OFFICE WALL. SECURITY CONTRACTOR SHALL WIRE RTU FACTORY MOUNTED SMOKE DETECTORS TO SECURITY/FIRE ALARM PANEL. MECHANICAL CONTRACTOR SHALL PROVIDE TEST STATION AND WIRING BETWEEN COMPONENTS AS WELL AS WIRING TO SHUT DOWN THE A/C FAN UPON ACTIVATION OF THE SMOKE DETECTOR. G.C. TO TEST THE SMOKE DETECTOR FUNCTIONS WITH THE WAVA PROJECT MANAGER.
- 2 WALL MOUNTED SENSOR(S) FOR EACH MECHANICAL UNIT PER ROOFTOP UNIT SCHEDULE ON SHEET M3.0. G.C. SHALL INSTALL AND WIRE TO UNIT. BAS CONTRACTOR SHALL CONNECT TO MECHANICAL UNIT ONLY.
- 3 COORDINATE EXACT LOCATION OF EXHAUST FAN PENETRATION WITH ARCHITECTURAL ROOF PLAN. INSTALL GALVANIZED DUCT WORK DOWN FROM FAN INTO CEILING/JOIST SPACE, AND CONNECT TO CEILING GRILLES.
- 4 REFER TO TYPICAL DUCT PLENUM DETAIL ON SHEET M3.0.
- 5 COORDINATE DUCT WITH STRUCTURE IN THIS LOCATION. COORDINATE TAKEOFF LOCATIONS WITH ANGELED WEB MEMBERS.
- 6 PROVIDE SURFACE MOUNT ADAPTER FRAME TO ALLOW ACCESS TO CEILING ABOVE THROUGH DIFFUSER OPENING. SEE AIR DEVICE SCHEDULE.
- 7 ROUTE DUCT UNDER STRUCTURAL MEMBERS AT THIS LOCATION.
- 8 DUCTWORK TO RUN WITHIN JOIST SPACING. MECHANICAL CONTRACTOR TO COORDINATE MECHANICAL WORK WITH ALL TRADES PRIOR TO INSTALLATION.
- 9 DUCT TAKEOFF WITH DAMPER FROM BOTTOM OF MAIN DUCT.
- 10 TRANSFER DUCT ASSEMBLY.
- 11 PROVIDE SEALED 20"x20" PLENUM BOX ASSEMBLY ABOVE TRANSFER GRILLES TO ALLOW FLEX TRANSFER DUCT CONNECTIONS.
- 12 GRILLE OPEN TO ABOVE CEILING.
- 13 INSTALL EXHAUST FAN ABOVE CEILING PER DETAIL SHEET M3.0. FAN SHALL BE WIRED TO EMERGENCY SHUTOFF SWITCH PROVIDED BY OTHERS. REFERENCE ARCHITECTURAL AND ELECTRICAL DRAWINGS.
- 14 MOUNT CENTER OF EXHAUST GRILLE AT 12" ABOVE FINISHED FLOOR. ROUTE DUCT SIZED AS SHOWN FROM GRILLE, UP IN WALL CAVITY TO ABOVE CEILING, THEN TO EXHAUST FAN AND OUT TO EXTERIOR WALL LOUVER. COORDINATE DUCT ROUTING WITH ALL OTHER TRADES.
- 15 12"x12" EXTERIOR WALL LOUVER MODEL EHH-601D AS MANUFACTURED BY GREENHECK. INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. FLORIDA PRODUCT APPROVAL #10088.1. PROVIDE WITH BIRD SCREEN, 1-1/2" FLANGE, AND ALUMINUM MESH FINISH.
- 16 EMERGENCY SHUTOFF SWITCH AND WALL PLACARD INDICATING VENTILATION SYSTEM EMERGENCY SHUTOFF PROVIDED BY OTHERS. REFERENCE ELECTRICAL AND ARCHITECTURAL DRAWINGS.

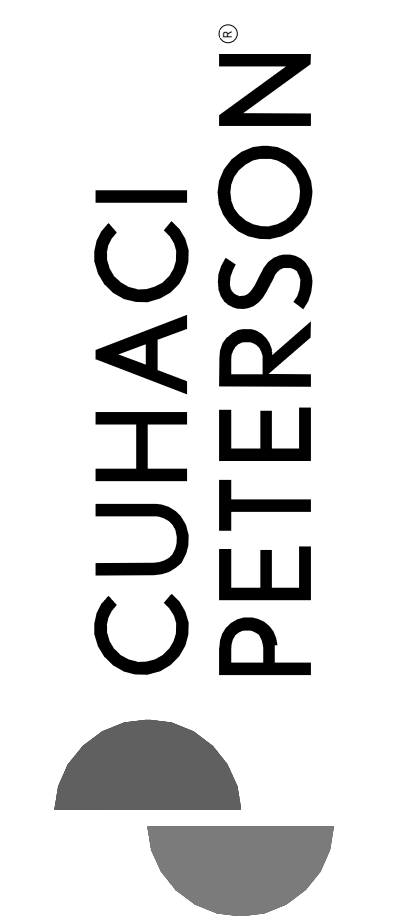
SHEET GENERAL NOTE:

- A. MECHANICAL CONTRACTOR SHALL ADJUST ALL LINEAR SLOT DIFFUSERS TO A GENERALLY VERTICAL FLOW. ADJUSTMENT SHALL BE MADE SO AS TO AVOID AIRFLOWS ON SENSORS, REFRIGERATION CASES, OR OPEN FOOD REFRIGERATION EQUIPMENT.

HVAC LEGEND

SYMBOL	DESCRIPTION
	NEW RECTANGULAR OR ROUND DUCT
	FLEXIBLE DUCT
	SUPPLY AIR DUCTWORK UP THROUGH PLAN
	RETURN AIR DUCTWORK UP THROUGH PLAN
	EXHAUST AIR DUCTWORK UP THROUGH PLAN
	90° ELBOW WITH TURNING VANES
	MANUAL AIR VOLUME CONTROL DAMPER
	4 WAY SUPPLY DIFFUSER
	3 WAY SUPPLY DIFFUSER
	2 WAY OPPOSED SUPPLY DIFFUSER
	2 WAY CORNER SUPPLY DIFFUSER
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE
	AIR CURTAIN
	LINEAR SLOT DIFFUSER WITH PLENUM
	COMBINATION TEMPERATURE/HUMIDITY SENSOR
	TEMPERATURE SENSOR
	CO2 SENSOR
	SWITCH
	TYPE MARK CFM
	MECHANICAL EQUIPMENT TAG
	CONDENSATE PIPING
	ROOF MOUNTED EXHAUST FAN
	INLINE EXHAUST FAN
	PACKAGED ROOFTOP AIR CONDITIONER

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CLIENT NAME
WAVA
260 WEST BALTIMORE PIKE
WAWA, PENNSYLVANIA 19063

PROJECT NAME
WAVA F85FB L v2021.3
STORE #5463
CR 48 & SW 18TH TERRACE,
BUSHNELL, FL

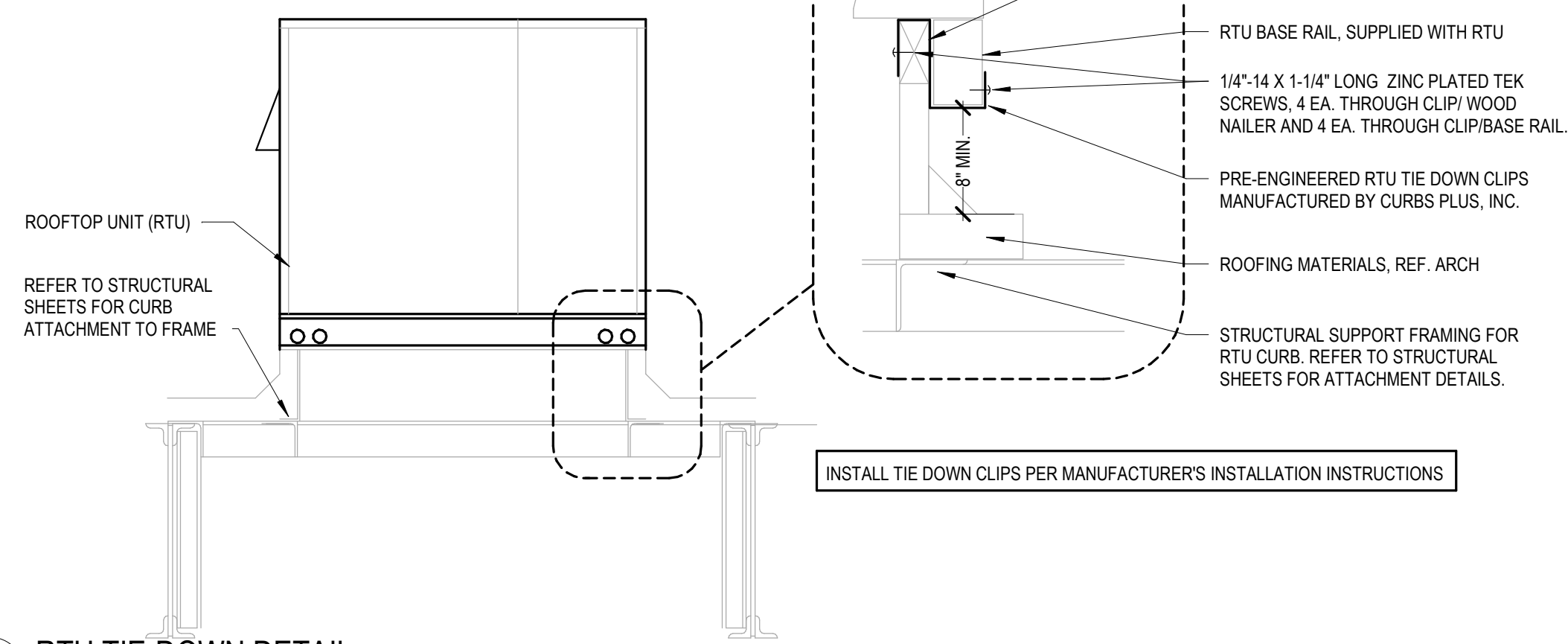
SHEET TITLE
HVAC FLOOR PLAN

No.	Description	Date
1	PRELIMINARY SET	08/28/2024
2	BID SET	07/21/2024
3	PERMIT CODE UPDATE	08/14/2024
4	CONSTRUCTION SET	10/24/2024

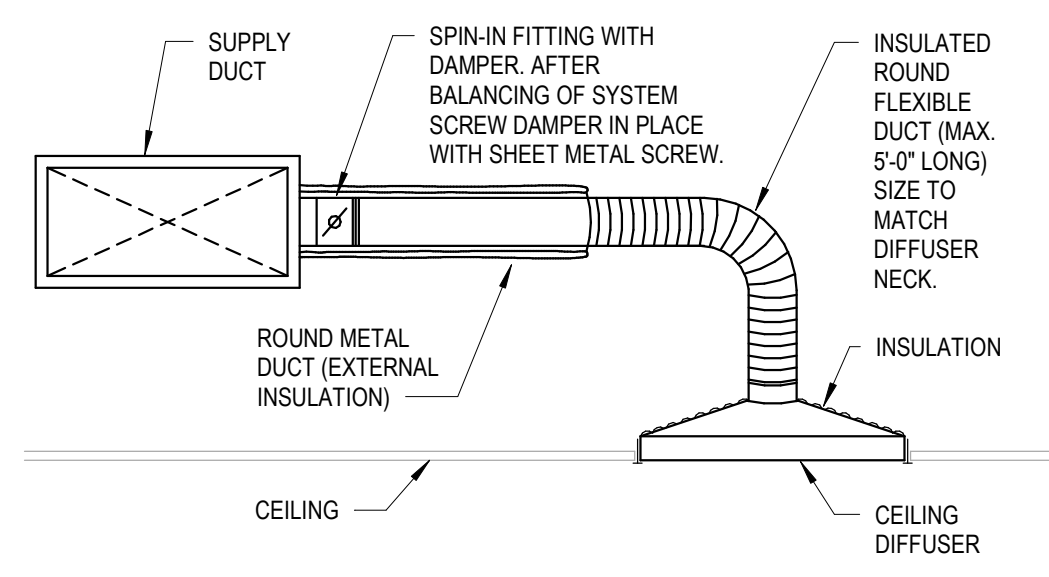
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2023086
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M1.0

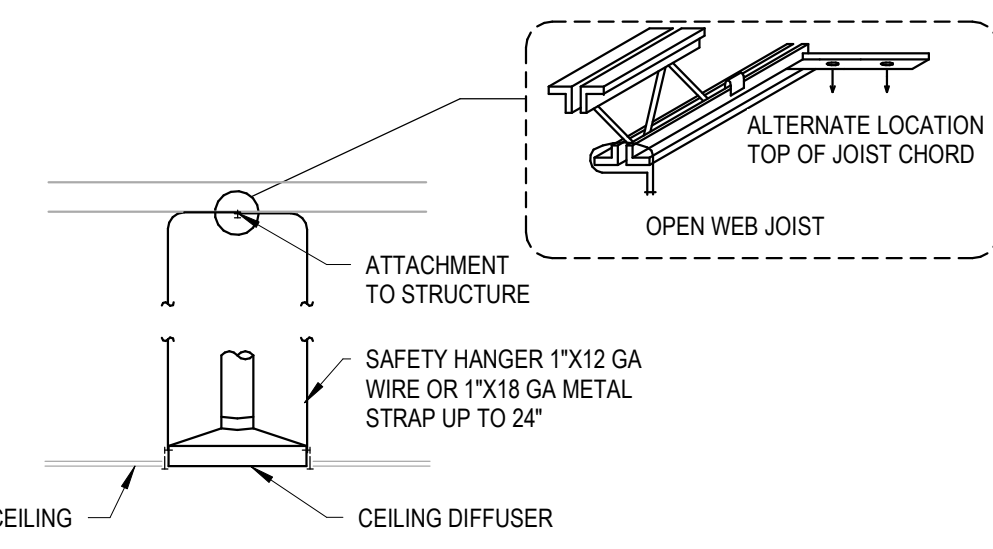
BUILDING LOCATION BUSHNELL, FL	WIND SPEED ZONE (IBC FIGURE 1609A) 140 MPH
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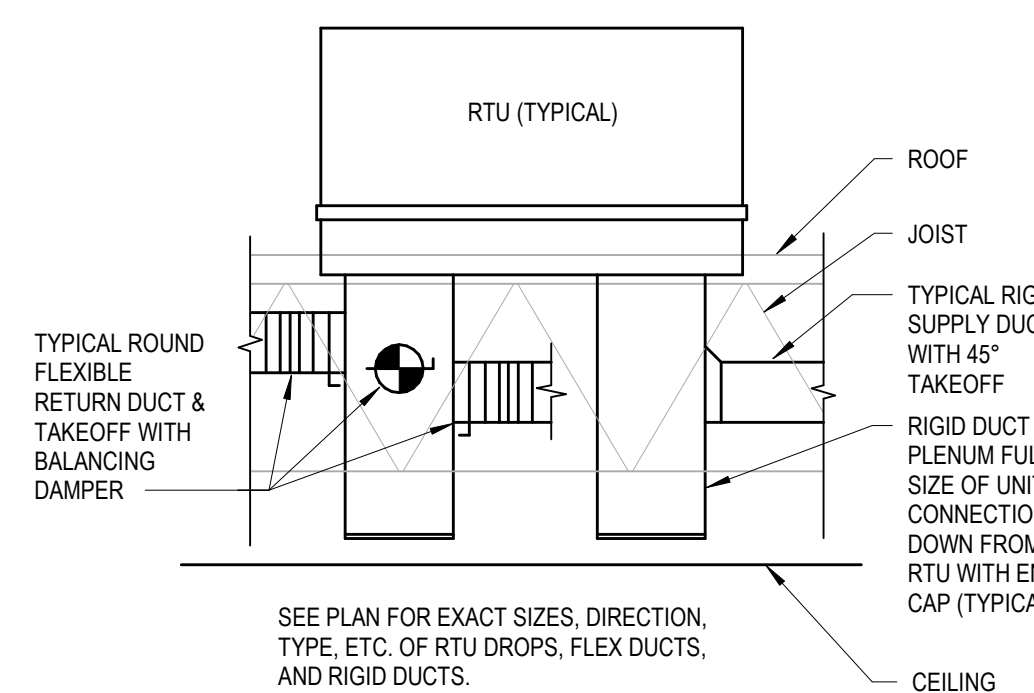
1 RTU TIE-DOWN DETAIL
M3.0 NOT TO SCALE



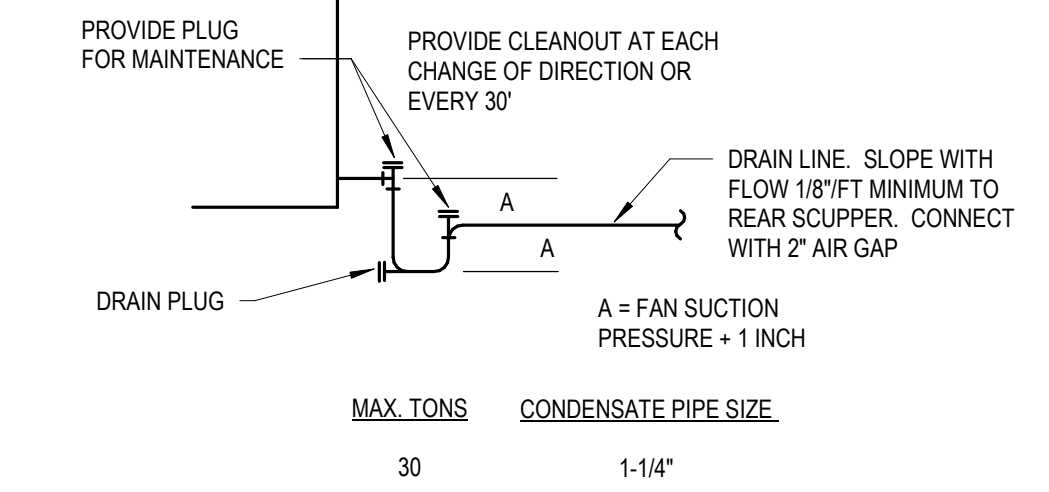
2 CEILING DIFFUSER RUNOUT DETAIL
M3.0 NOT TO SCALE



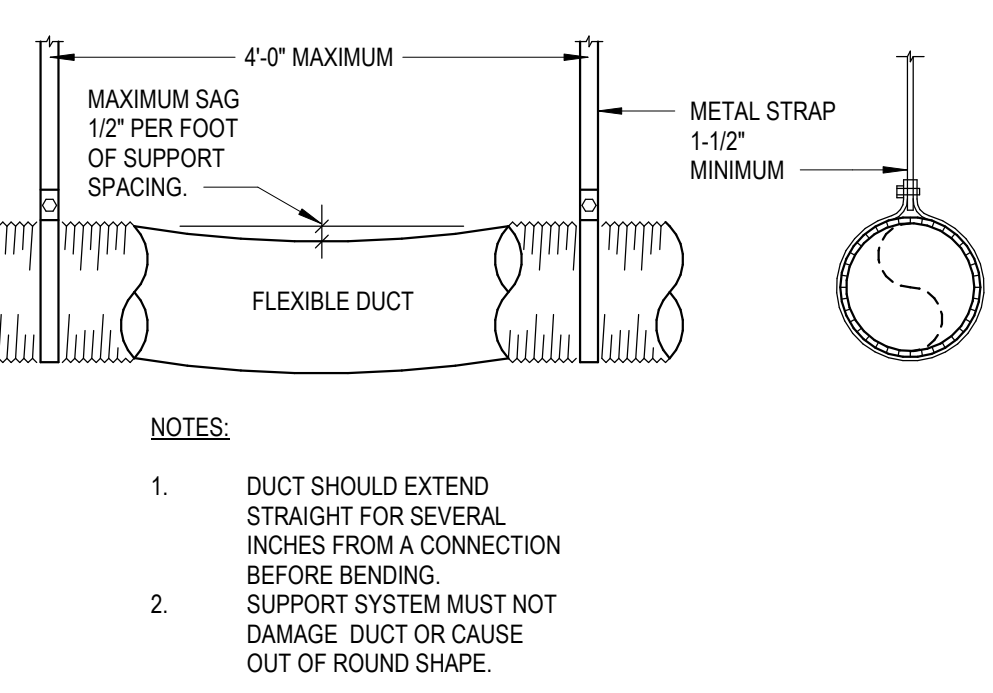
3 CEILING MOUNTED AIR DIFFUSER SUPPORT DETAIL
M3.0 NOT TO SCALE



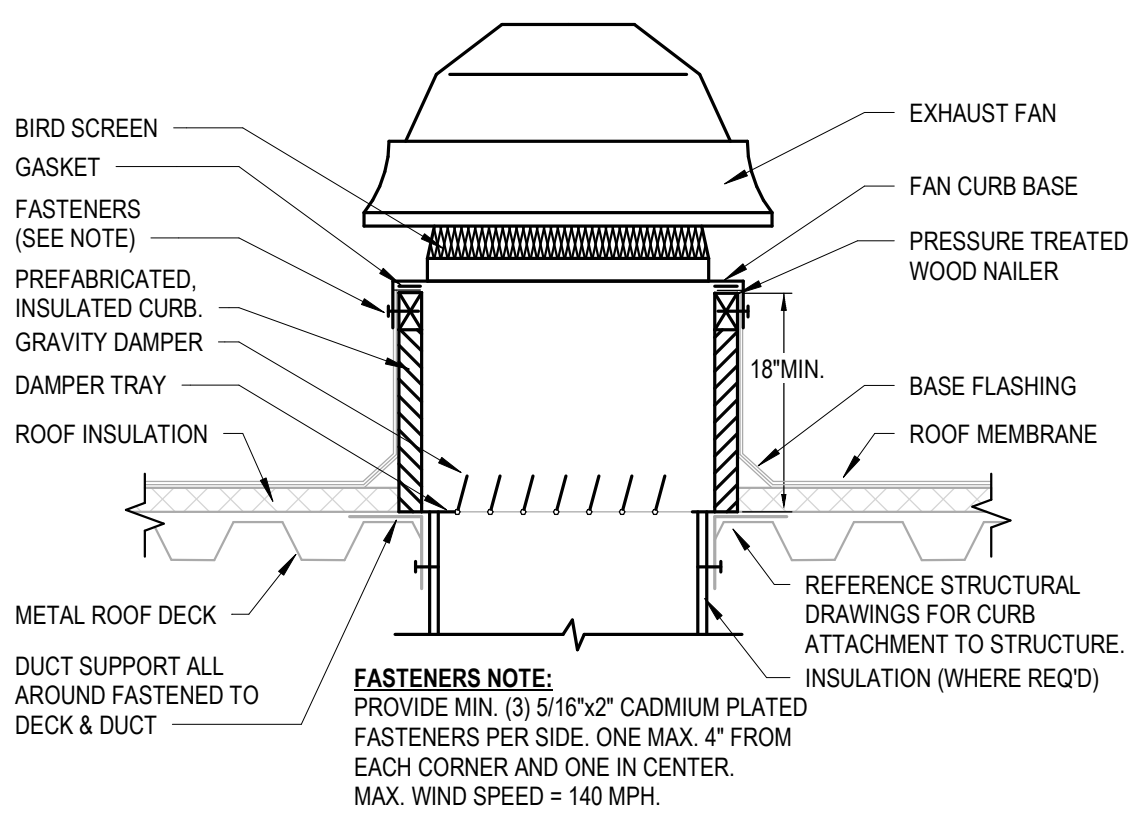
4 TYPICAL DUCT PLENUM DETAIL
M3.0 NOT TO SCALE



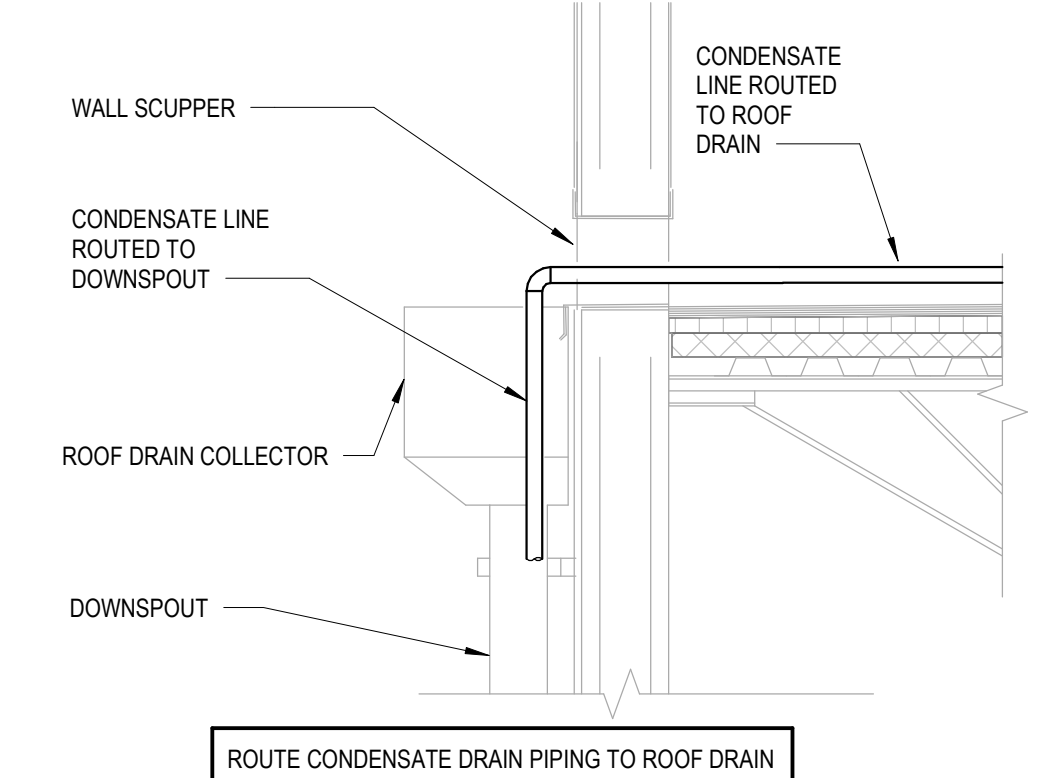
5 CONDENSATE DRAIN TRAP DETAIL
M3.0 NOT TO SCALE



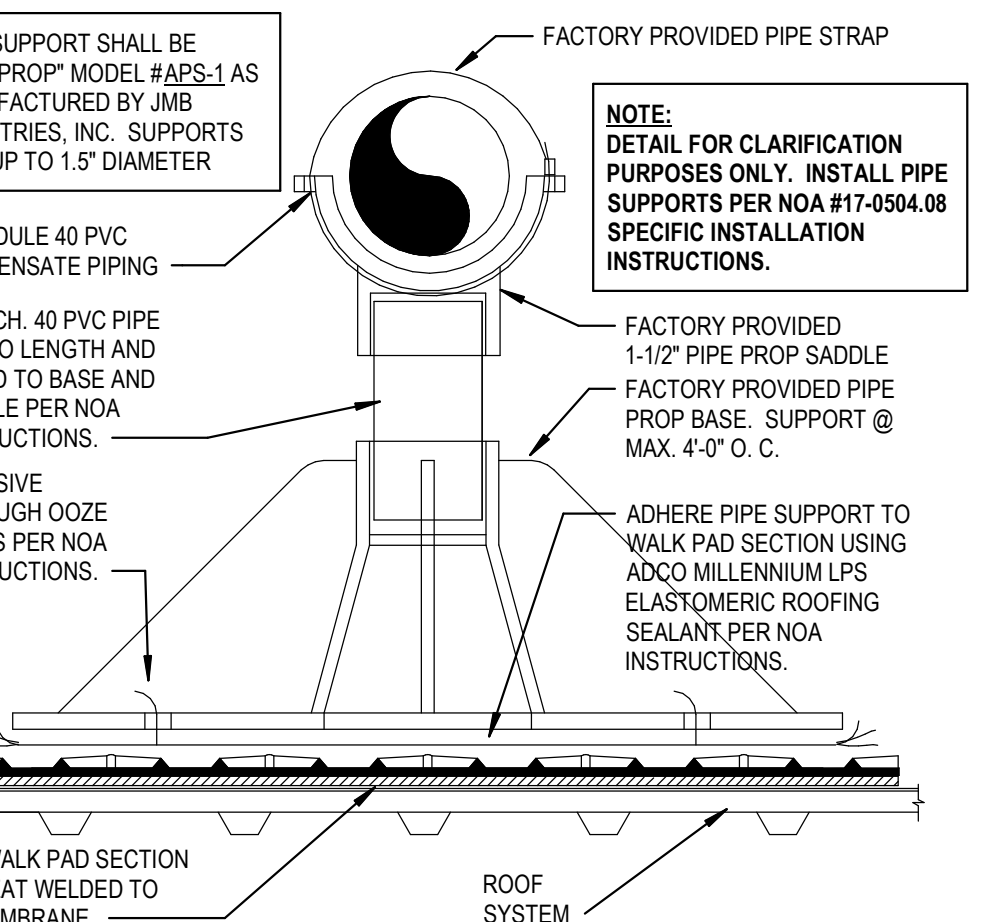
6 FLEX DUCT SUPPORT DETAIL
M3.0 NOT TO SCALE



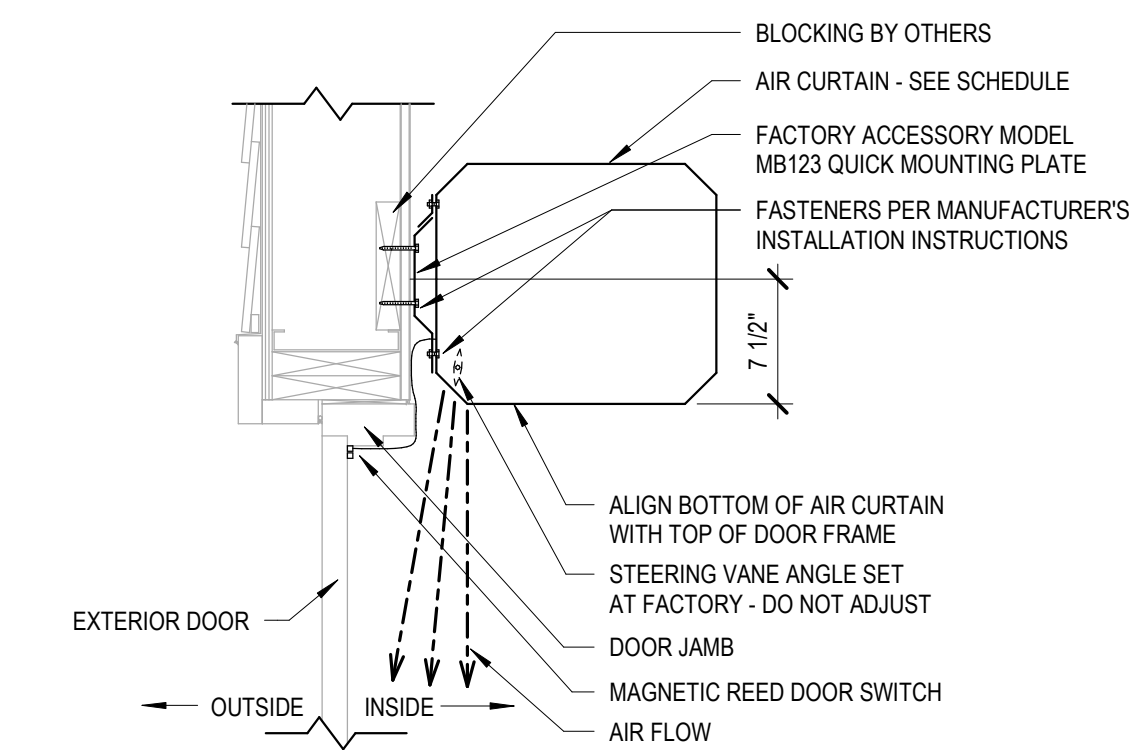
7 ROOF FAN MOUNTING DETAIL
M3.0 NOT TO SCALE



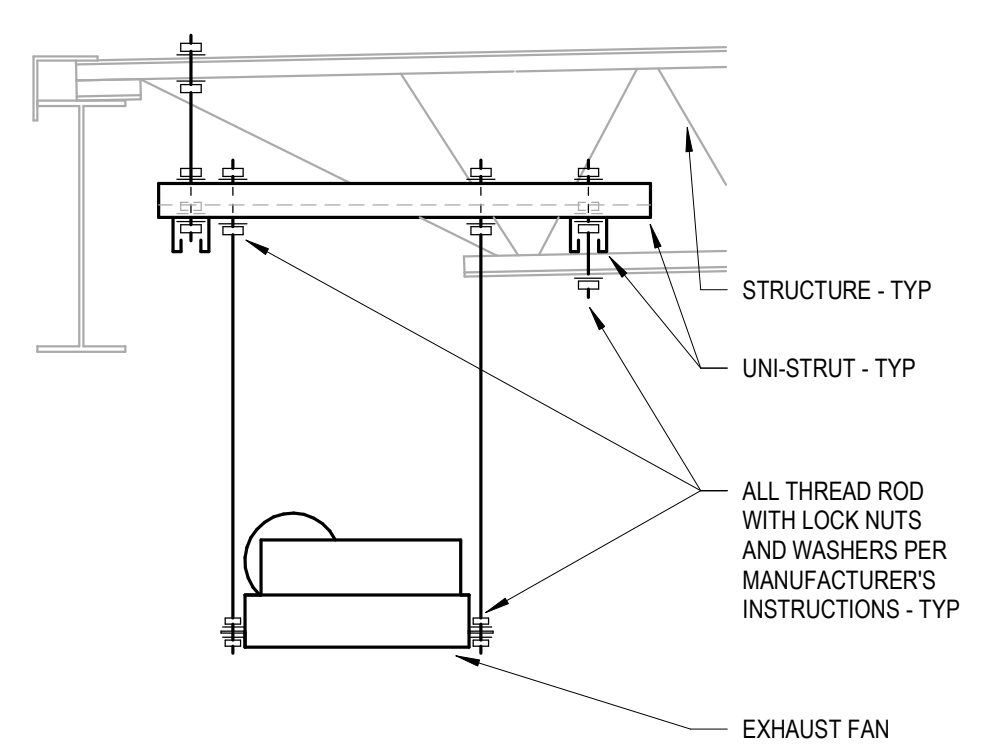
8 CONDENSATION TERMINATION DETAIL
M3.0 NOT TO SCALE



9 CONDENSATE PIPE ROOF SUPPORT DETAIL
M3.0 NOT TO SCALE



10 AIR CURTAIN INSTALLATION DETAIL
M3.0 NOT TO SCALE



11 INLINE FAN MOUNTING DETAIL
M3.0 NOT TO SCALE

HVAC GENERAL NOTES

- ALL MECHANICAL WORK SHALL BE IN STRICT ACCORDANCE WITH THE 2023 FLORIDA BUILDING CODE - MECHANICAL, SMACNA, UL LOCAL CODES, MANUFACTURER'S RECOMMENDATIONS, AND ALL AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL, PLUMBING AND FIRE PROTECTION SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- SUPPLY AIR, RETURN AIR, OUTSIDE AIR AND EXHAUST AIR DUCTWORK SHALL BE SHEET METAL CONSTRUCTION. DUCT SHALL BE INSTALLED SECURELY SUPPORTED, HUNG OR SUSPENDED FROM THE STRUCTURE. JOINTS SHALL BE SEALED WITH 3\"/>

HVAC ROOFTOP UNIT SCHEDULE

MARK	AREA SERVED	SUPPLY AIR FAN DATA				ELECTRIC HEAT		UNIT POWER		WEIGHT (LBS. RTU ONLY)	COOLING CAPACITY			BASIS OF DESIGN								
		SUPPLY AIR CFM	OUTSIDE AIR CFM	E.S.P. (IN.)	HP	KW	CONTROL STAGES	VOLTAGE	PHASE		MCA	MOCP	TOTAL COOLING MBH	SENSIBLE COOLING MBH	EDB (°F)	AMBIENT (°F)	MANUFACTURER	MODEL	NOTES			
RTU-1	CORE	8.5	3400	500	0.5	3.75	22.5	1	208 V	3	70	70	1357	98.1	75.4	76.5	63.9	92/75	12.3 (15.7)	LENNOX ENLIGHT	LCT102H4E	1-20
RTU-2	DELI	12.5	5000	500	0.5	3.75	N/A	N/A	208 V	3	64	80	1342	146.1	136	75.2	62.5	92/75	11.0 (14.6)	LENNOX ENLIGHT	LCT150H4E	2-20
RTU-3	RETAIL	7.5	3000	300	0.5	3.75	22.5	1	208 V	3	70	70	1350	91.8	68.7	76.1	63.5	92/75	12.5 (15.7)	LENNOX ENLIGHT	LCT092H4E	2-20

- PROVIDE CO2 SENSOR FOR INTERLINK WITH BUILDING AUTOMATION SYSTEM.
- PROVIDE LENNOX HUMIDITROL HOT GAS REHEAT OPTION.
- PROVIDE REMOTE WALL MOUNTED COMBINATION TEMPERATURE/HUMIDITY SENSOR MODEL 21W06
- REFER TO CONTROL SYSTEM NOTES FOR CONTROL COMPONENTS REQUIREMENTS.
- PROVIDE 5-MINUTE ANTI-SHORT CYCLE TIMER.
- PROVIDE THRU THE BASE ELECTRICAL AND SINGLE POINT CONNECTION.
- PROVIDE WITH FACTORY INSTALLED DISCONNECT.
- PROVIDE WITH 18\"/>

OUTSIDE AIR CALCULATION

AREA SERVED	AREA (SQFT)	PEOPLE / 1000 SQFT	# PEOPLE	CFM / PERSON	PEOPLE REQ'D (CFM)	SOFT OUTSIDE AIR (CFM)	TOTAL CFM CALCULATED	CFM SUPPLIED
OFFICE	70	5	2	5	10	0.06	5	15
ASSOCIATE	100	5	2	5	10	0.06	6	16
DELIVERY	78	2	1	10	10	0.12	10	20
RETAIL	1904	15	29	7.5	218	0.12	229	447
							RTU-1	498
							RTU-2	500

STAGING	116	2	1	10	10	0.12	14	24
WASHROOM	174	20	4	7.5	30	0.12	21	51
COFFEE	242	20	5	7.5	38	0.12	30	68
RETAIL	559	15	9	7.5	68	0.12	68	136
							RTU-3	279
								300

SYSTEM	CFM
RTU-1	+500
RTU-2	+500
RTU-3	+300
EF-1	-800
BUILDING POSITIVE PRESSURE	+500

RTU-1, 2, & 3 TEST AND BALANCE NOTES

- TEST AND BALANCE CONTRACTOR TO OBTAIN INITIAL BALANCE OF COOLING CFM FOR RTU USING FAN SHEAVE ADJUSTMENT TO WITHIN +/- 5% SCHEDULED COOLING CFM. PRODIGY CONTROLLER MAY BE USED FOR FINAL 5% TO OBTAIN SCHEDULED COOLING CFM.
- SET MINIMUM OUTSIDE AIR DAMPER POSITION FOR COOLING AND VERIFY OUTSIDE AIR CFM PER RTU SCHEDULE.
- NOT USED
- NOT USED
- USING PRODIGY CONTROLLER, VERIFY HEATING CFM EQUALS COOLING CFM.
- ALL PRODIGY CONTROLLER SETTINGS OTHER THAN THOSE MENTIONED ABOVE SHALL REMAIN AS THEIR DEFAULT VALUE AS SET FROM THE FACTORY.
- VERIFY POSITIVE BUILDING PRESSURE.

RTU-1, 2, & 3 SEQUENCE OF OPERATION

- SUPPLY AIR BLOWER SPEED UNIT HAS FOLLOWING SUPPLY AIR BLOWER SPEED SETTINGS THAT PERTAIN TO THIS INSTALLATION:
- COOLING AIR BLOWER SPEED
 - HEATING AIR BLOWER SPEED
- COOLING MODE
- Y1 DEMAND: COMPRESSOR 1 OPERATES AND SUPPLY AIR BLOWER OPERATES AT COOLING SPEED.
 - Y2 DEMAND: ALL COMPRESSORS OPERATE AND SUPPLY AIR BLOWER OPERATES AT COOLING SPEED.
- DEHUMIDIFICATION MODE
- IF THE UNIT RECEIVES A CALL FOR DEHUMIDIFICATION, ECONOMIZER FREE COOLING IS LOCKED OUT (ON UNITS EQUIPPED WITH ECONOMIZER).
 - CALL FOR DEHUMIDIFICATION, NO Y1, Y2 DEMAND: 1ST STAGE COMPRESSOR OPERATES, SUPPLY AIR BLOWER OPERATES AT COOLING SPEED, AND THE REHEAT VALVE IS ENERGIZED.
 - Y1 DEMAND WITH A CALL FOR DEHUMIDIFICATION: ALL COMPRESSORS OPERATE, SUPPLY AIR BLOWER OPERATES AT COOLING SPEED AND THE REHEAT VALVE IS ENERGIZED.
 - Y2 DEMAND WITH A CALL FOR DEHUMIDIFICATION: ALL COMPRESSORS OPERATE, SUPPLY AIR BLOWER OPERATES AT COOLING SPEED, AND THE REHEAT VALVE IS DE-ENERGIZED.
- HEATING MODE (ELECTRIC HEAT)
- W1 DEMAND: 1ST STAGE ELECTRIC HEAT IS ENERGIZED AND THE SUPPLY AIR BLOWER OPERATES AT HEATING SPEED.
 - W2 DEMAND: 2ND STAGE ELECTRIC HEAT IS ENERGIZED AND THE SUPPLY AIR BLOWER OPERATES AT HEATING SPEED.
- MODULATING OUTDOOR AIR DAMPER
- THE MINIMUM DAMPER POSITION FOR 'OCCUPIED HIGH BLOWER' IS ADJUSTED DURING UNIT SETUP TO PROVIDE MINIMUM FRESH AIR REQUIREMENTS PER RTU SCHEDULE.
 - WHEN SUPPLY AIR BLOWER IS OFF, THE OUTDOOR AIR DAMPER IS CLOSED.
 - WHEN UNIT IS IN OCCUPIED MODE AND SUPPLY AIR BLOWER IS OPERATING, THE OUTDOOR AIR DAMPER IS AT MINIMUM 'HIGH BLOWER' POSITION.

HVAC EXHAUST FAN SCHEDULE

MARK	CFM	EXT. STATIC PRESSURE	FAN TYPE	DRIVE TYPE	SONES	HP	FAN RPM	VOLTAGE	PHASE	BASIS OF DESIGN		NOTES
EF-1	800 CFM	0.250 in-wg	DOWNBLAST	DIRECT	5.3	1/4	863	120 V	1	MANUFACTURER	MODEL	NOTES
EF-2	60 CFM	0.125 in-wg	INLINE	DIRECT	0.3	21 WATTS	584	120 V	1	GREENHECK	G-10	1-2
										GREENHECK	CSP-B110	3

HVAC AIR DEVICE SCHEDULE

TYPE MARK	MANUFACTURER	MODEL	SERVICE	DESCRIPTION	MOUNTING TYPE	MATERIAL	NECK SIZE	FACE SIZE	NOTES
CD-1	PRICE	AMD	SUPPLY	LOUVERED FACE DIRECTIONAL DIFFUSER	LAY-IN	ALUMINUM	18\"/>		

HVAC AIR CURTAIN SCHEDULE

MARK	AREA SERVED	BASIS OF DESIGN		NOZZLE CFM	HP	VOLTAGE	PHASE	MOUNTING	HEIGHT	NOTES
AC-1	STAGING	MANUFACTURER	MODEL	BCE-148	2155 CFM	0.5	120 V	1	7'-2"	1-4
AC-2	DELIVERY VESTIBULE	POWERED AIR	BCE-148	2155 CFM	0.5	120 V	1	7'-2"	1-4	

LENNOX SETUP PARAMETERS - FLORIDA STORES (R2)

- UNIT ID CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):
- BACNET CONFIGURATION: GO TO SETTINGS-GENERAL-CONFIGURATION (D1) POSITION 5 SET TO "B".
 - NETWORK CONFIGURATION: GO TO SETUP-NETWORK INTEGRATION, SET TO BACNET.
 - CONTROL MODE: SET CONTROL MODE TO ROOM SENSOR: CO2 TEMP & HUMIDITY (PER UNIT, AS NEEDED).
- INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):
- PARAMETER 105 DEHUMID MODE: 7 NO CONDITIONS
 - PARAMETER 106 DEHUMID SETPOINT: 50. THIS IS A DEFINED SET POINT (+/-)
 - PARAMETER 107 DEHUMID DEADBAND: 3 (DEFAULT) THIS IS THE ACTUAL +/- VALUE
 - PARAMETER 117 CO2 DAMPER MAX OPEN %: 50
 - PARAMETER 118 CO2 START OPEN PPM: 1200
 - PARAMETER 119 CO2 START OPEN PPM: 1500
 - PARAMETER 137 OCCHEAT SET POINT: 68 (BACK UP)
 - PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)
 - PARAMETER 154 OCC BLOWER MODE: ON-CONTINUOUS 1
- CFM VALUES / MS&V FAN SPEEDS (AIR BALANCER TO DEFINE / IF APPLICABLE):
- HEAT CFM VALUE: PER THE HVAC SCHEDULE.
 - HIGH COOL CFM VALUE: PER THE HVAC SCHEDULE.
 - LOW COOL CFM VALUE: MATCH THE HIGH COOL CFM VALUE.
 - VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE.

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260 WEST BALTIMORE PIKE
WAWA, PENNSYLVANIA 19063

PROJECT NAME
WAWA F88FF L V2021.3
STORE #5463
CS 48 & SW 18TH TERRACE,
BUSHNELL, FL

SHEET TITLE
HVAC SCHEDULES, NOTES AND DETAILS

Revision Schedule

No.	Description	Date
1	PRELIM. SET	08/20/2024
2	BID SET	07/21/2024
3	PERMIT CODE UPDATE	08/14/2024
4	CONSTRUCTION SET	10/24/2024

PROJECT NO.
2023066

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M3.0