

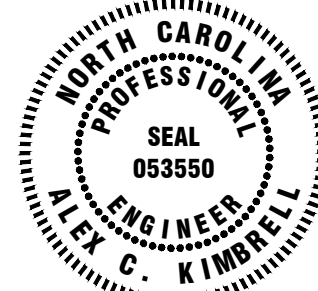
I hereby certify that this plan has been prepared in accordance with the latest New Hanover County Ordinances and Stormwater Design Manual.

Signature: Alex C. Kimbrell

Printed Name and Title: Alex Kimbrell, PE

Date: 9/25/2024

Registration Number: 053550



SITE CONSTRUCTION PLANS FOR WAWA - #6130 WAWA - CAROLINA BEACH & MYRTLE GROVE ROAD NEW HANOVER COUNTY, NORTH CAROLINA 28412

9/25/2024

UTILITY AND GOVERNING AGENCIES CONTACT LIST:

WATER COMPANY

CAPE FEAR PUBLIC UTILITY AUTHORITY
BERNICE JOHNSON
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
(910) 332-6738

SANITARY SEWER COMPANY

AQUA
CHARLES "RUFFIN" POOLE
202 MACKENAN COURT
CARY, NC 27511
(919) 653-6967

FIRE MARSHAL

DAVID STONE
230 GOVERNMENT CENTER DRIVE, SUITE 130
WILMINGTON, NC 28405
DSTONE@NHCGOV.COM
(910) 798-7458

EROSION CONTROL

NEW HANOVER COUNTY ENGINEERING
BETH WETHERILL
SUITE 110 230 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
(910) 798-7465

POWER COMPANY

DUKE ENERGY PROGRESS
EMAIL: CAROLINASNEWCONSTRUCTION@DUKE-ENERGY.COM
(800) 636-0581

COUNTY ENGINEER

NEW HANOVER COUNTY ENGINEERING
GALEN JAMISON
230 GOVERNMENT CENTER DRIVE, SUITE 110
WILMINGTON, NC 28403
(919) 798-7072

WAWA SITE DEVELOPMENT SUMMARY:

PROPERTY ADDRESS: 6800 CAROLINA BEACH RD
WILMINGTON NC 28412

WAWA STORE NUMBER: #6130
WAWA PROJECT APP: C-05851
WAWA DRAWING CODE: TBD
WAWA PROJECT ENGINEER: PAYMAN NADIMI
260 WEST BALTIMORE PIKE
WAWA, PA 19063
TEL: (919) 349-5615
EMAIL: PAYMAN.NADIMI@WAWA.COM

BUILDING TYPE: US9FB-L
CANOPY TYPE: SLOPED
CANOPY CONFIGURATION: STACKED
OF MPDS: 8
OF PARKING SPACES: 50
OF ADA SPACES: 2
OF TRACK/OVERSIZED PARKING: 0
SF OF ASPHALT INSIDE ROW: 34941 SF
SF OF LAWN AREA: 11635 SF
SF OF MULCH AREAS: 9450 SF

DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NICK DREES
5911 OLEANDER DRIVE SUITE 101
WILMINGTON, NC 28403
(910) 398-9100

PLANNING DEPARTMENT

NEW HANOVER COUNTY PLANNING & LAND USE
ROBERT FARRELL
230 GOVERNMENT CENTER DRIVE, SUITE 110
WILMINGTON, NC 28403
(910) 798-7465

ZONING DEPARTMENT

NEW HANOVER COUNTY ZONING COMPLIANCE
CHRISTINE BOUFFARD
230 GOVERNMENT CENTER DRIVE, SUITE 110
WILMINGTON, NC 28403
(910) 798-7074

GAS COMPANY

PIEDMONT NATURAL GAS
PO BOX 1246
CHARLOTTE, NC 28201
(800) 752-7504

TELECOMMUNICATIONS

SPECTRUM
115 HINTON AVE STE 6
WILMINGTON, NC 28403
(432) 219 2624

SITE DEVELOPMENT SUMMARY:

WAWA PARCEL SITE ACREAGE: 2.04 AC
NUMBER OF LOTS: 4 LOTS
PARCEL IDENTIFICATION NUMBER: R08200-001-026-000
SITE ZONING: (CZD) B-1, NEIGHBORHOOD BUSINESS
USE: CONVENIENCE STORE, FUEL STATION

BUILDING SETBACKS:
FRONT: 25 FT
SIDE: 25 FT
SIDE (R/W): 0 FT
REAR: 0 FT

ADJACENT SITES:
WEST: RMF-M - RESIDENTIAL MULTI-FAMILY MODERATE DENSITY
B-1, NEIGHBORHOOD BUSINESS
R-5, RESIDENTIAL MODERATE-HIGH DENSITY
B-1, NEIGHBORHOOD BUSINESS

MAXIMUM HEIGHT OF BUILDING: 35 FT

WATERSHED DISTRICT: LORD CREEK WATERSHED
DEVELOPMENT DENSITY: HIGH DENSITY
PROJECT DENSITY IS 74% BASED ON 15A
NCAC 2H.1003(1).A)

SITE IMPERVIOUS PERCENTAGES:
PRE-DEVELOPMENT: 9.6% (0.20 AC)
POST-DEVELOPMENT: 71.9% (1.49 AC)



SITE LOCATION MAP

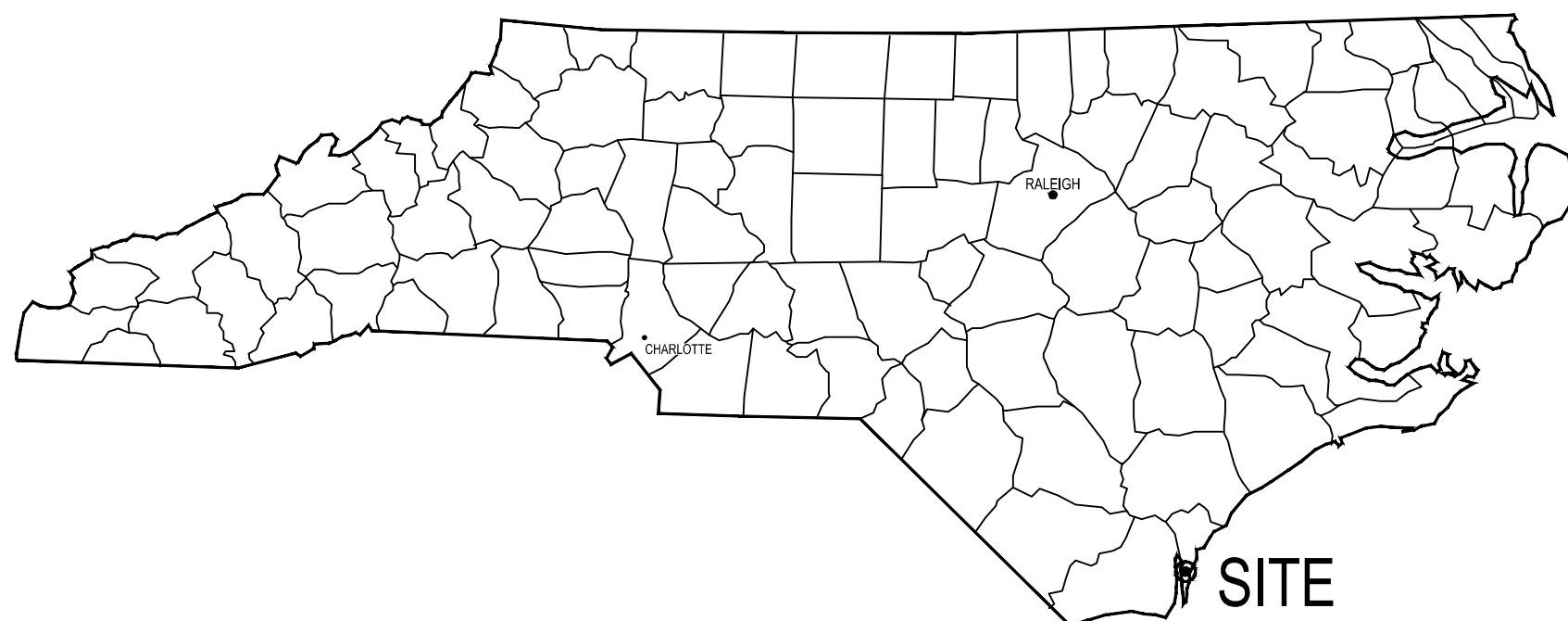
Scale 1" = 500'

KIMLEY-HORN SHALL HAVE NO LIABILITY WHATSOEVER FOR ANY COSTS ARISING OUT OF THE CLIENT'S DECISION TO OBTAIN BIDS OR PROCEED WITH CONSTRUCTION BEFORE KIMLEY-HORN HAS ISSUED FINAL, FULLY-APPROVED PLANS AND SPECIFICATIONS. THE CLIENT ACKNOWLEDGES THAT ALL PRELIMINARY PLANS ARE SUBJECT TO SUBSTANTIAL REVISION UNTIL PLANS ARE FULLY APPROVED AND ALL PERMITS OBTAINED.

THIS PLAN SET IS TO BE RELEASED FOR THE PURPOSE OF PERMIT UNDER THE AUTHORITY OF ALEX C. KIMBRELL, P.E. 053550 ON 9/25/2024. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

PROJECT OWNER AND CONSULTANT INFORMATION

DEVELOPER: IMPECCABLE DEVELOPMENT 621 NW 53RD STREET SUITE #320 BOCA RATON, FLORIDA 33487 PHONE (717) 891 5168 CONTACT: ROB TANNER DAN HERNANDEZ	CIVIL ENGINEER: KIMLEY-HORN AND ASSOCIATES, INC. 200 SOUTH TRYON STREET SUITE 200 CHARLOTTE, NORTH CAROLINA 28202 PHONE (980) 296 0813 CONTACT: ALEX KIMBRELL, P.E.	SURVEYOR: SPARTINA SURVEYING 802 MAIN STREET CONWAY, SOUTH CAROLINA 29526 PHONE (843) 340 0285 CONTACT: F. WILLIAM FAIREY, IV	ENVIRONMENTAL: ECS SOUTHEAST, LLP 1812 CENTER PARK DRIVE #D CHARLOTTE, NORTH CAROLINA 28217 PHONE (919) 861 9910 CONTACT: MICHELLE SAVAGE-MEASDAY, PWS
GEOTECHNICAL ENGINEER: ECS LIMITED 6714 NETHERLANDS DRIVE WILMINGTON, NORTH CAROLINA 28405 PHONE (910) 686 9114 CONTACT: WINSLOW GOINS, P.E.	LANDSCAPE ARCHITECT : KIMLEY-HORN AND ASSOCIATES, INC. 200 SOUTH TRYON STREET SUITE 200 CHARLOTTE, NORTH CAROLINA 28202 PHONE (980) 296 0813 CONTACT: LAURA HANDLETON, P.L.A.		



Sheet Number	Sheet Title
C001	COVER SHEET
C002	GENERAL NOTES
C003	UTILITY NOTES
C004	EROSION AND SEDIMENT CONTROL PLAN NOTES
C101	EXISTING CONDITIONS
C102	EXISTING CONDITIONS
C103	EXISTING CONDITIONS
C104	DEMOLITION PLAN
C201	EROSION CONTROL PLAN PHASE 1
C202	EROSION CONTROL PLAN PHASE 2
C301	SITE PLAN
C302	TRUCK TURN PLAN
C303	REFUSAL TRUCK TURN PLAN
C304	EASEMENT PLAN
C401	GRADING AND DRAINAGE PLAN
C402	ADA COMPLIANCE PLAN
C403	STORM PROFILES
C404	STORM PROFILES
C405	INLET AREA MAP
C501	UTILITY PLAN
C601	SEWER PROFILES
C901	NCG01 STANDARDS
C902	EROSION CONTROL DETAILS
C903	EROSION CONTROL DETAILS
C904	SITE CONSTRUCTION DETAILS
C905	SITE CONSTRUCTION DETAILS
C906	SITE CONSTRUCTION DETAILS
C907	STORM CONSTRUCTION DETAILS
C908	STORM CONSTRUCTION DETAILS
C909	UTILITY CONSTRUCTION DETAILS
C910	UTILITY CONSTRUCTION DETAILS
C911	GRINDER CONSTRUCTION DETAILS
C912	GRINDER CONSTRUCTION DETAILS
C913	GRINDER CONSTRUCTION DETAILS
C914	GRINDER CONSTRUCTION DETAILS
C915	GRINDER CONSTRUCTION DETAILS
C916	WAWA CONSTRUCTION DETAILS
C917	WAWA CONSTRUCTION DETAILS
C918	WAWA CONSTRUCTION DETAILS
C919	DIVISION OF WORK
C920	DIVISION OF WORK
L100	LANDSCAPE PLAN
L150	LANDSCAPE DETAILS
L151	LANDSCAPE NOTES
IR1.0	IRRIGATION PLAN
RL-9179-S1	LIGHTING PLAN

NOT FOR CONSTRUCTION

GEOMETRIC CONTROL
HORIZONTAL DATUM:
NAD 83 (2011)
VERTICAL DATUM:
NAVD 88
DRAWING UNITS:
U.S. SURVEY FEET



KH PROJECT	117152004
DATE	9/25/2024
SCALE	AS SHOWN
DESIGNED BY	TAC
DRAWN BY	AMR
CHECKED BY	ACK

COVER SHEET

WAWA - CAROLINA BEACH & MYRTLE GROVE ROAD
PREPARED FOR
IMPECCABLE DEVELOPMENT
NEW HANOVER COUNTY, NC

SHEET NUMBER
C001

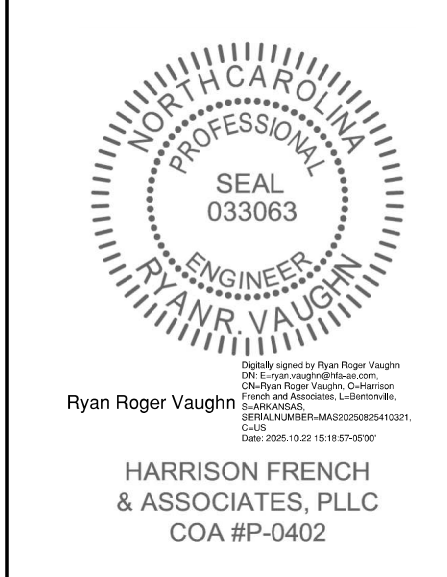
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WAWA
STORE NUMBER: 6130
1000 W. HIGHTCROFT ROAD
WILMINGTON, NC 28412
JOB NUMBER: 42-24-30011

ISSUE BLOCK

1	REV 1	05/08/25
2	REV 2	10/23/25

CHECKED BY: MJS
DRAWN BY: SGB
DOCUMENT DATE: 05/08/25
PROTO: U59FB-L
CYCLE: 2023.04.G3
PLAN ISSUE: CNST SET



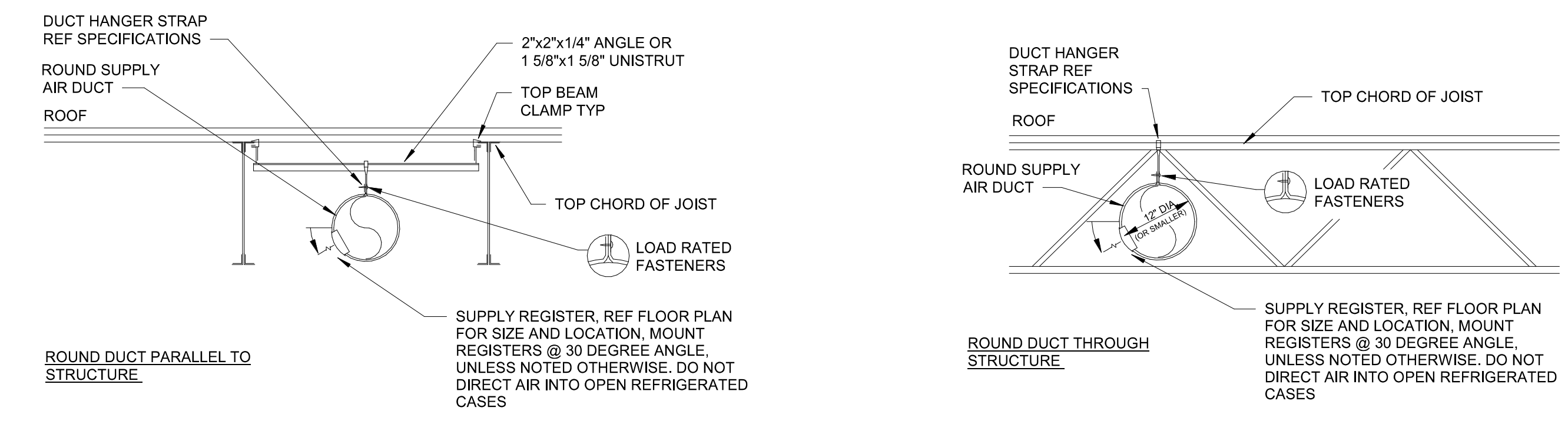
HARRISON FRENCH & ASSOCIATES, PLLC
COA #P-0462

HVAC FLOOR PLAN

SHEET: M1.0

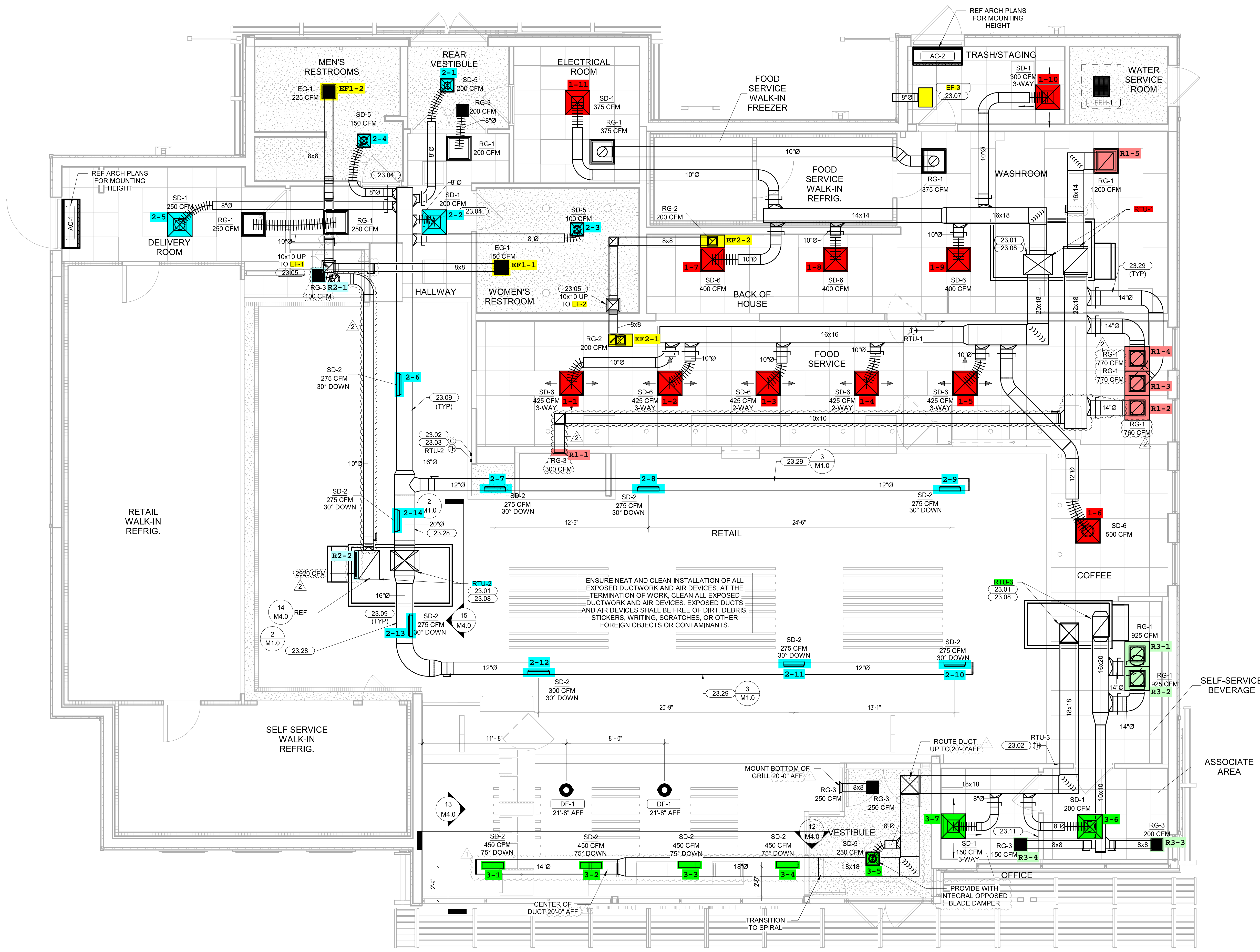
KEYNOTES

- # NOTE
- SUPPLY AND RETURN DUCT UP TO RTU ON ROOF. TRANSITION AS REQUIRED. FIELD VERIFY DUCT ROUTING PRIOR TO FABRICATION. PROVIDE FLEX CONNECTION FOR VIBRATION ISOLATION.
 - MOUNT REMOTE TEMPERATURE/HUMIDITY SENSOR IN AREA SHOWN AT 54" AFF. COORDINATE EXACT LOCATION WITH TENANT CONSTRUCTION MANAGER. THE ENTIRE CONTROL SYSTEM SHALL BE PROVIDED COMPLETE IN EVERY RESPECT BY THE MECHANICAL CONTRACTOR.
 - WALL MOUNTED CO2 SENSOR TO RTU-2. SENSOR TO MONITOR CO2 LEVELS THROUGH REMOTE BAS. SENSOR BY WAWA BAS VENDOR.
 - UNDERCUT DOOR 1" FOR AIR PASSAGE.
 - EXHAUST DUCT ROUTED TO FAN ON ROOF. COORDINATE ROUTING OF DUCT WITH ALL DISCIPLINES. PROVIDE TRANSITIONS AND FITTINGS AS REQUIRED.
 - EXHAUST DUCT SHALL BE GALVANIZED STEEL. PROVIDE SIDEWALL VENT WITH SCREEN AND FLAPPER DAMPER. CROWN MODEL 349 OR EQUAL. EXHAUST FAN SHALL MAINTAIN 1' CLEARANCE FOR ANY OUTSIDE AIR INTAKE. MUST MEET LOCAL CODE REQUIREMENTS. FIELD VERIFY ALL ROUTING AND REQUIREMENTS PRIOR TO BID. SEAL ALL PENETRATION WEATHER TIGHT. PRE-PAINT VENT COVER TO MATCH SIDING.
 - HVAC UNIT MANUFACTURER TO PROVIDE 120V SMOKE DETECTORS FOR SUPPLY AND RETURN WITH AUXILIARY CONTACTS AS SHOWN. UPON ACTIVATION, THE SMOKE DETECTORS SHALL SHUT DOWN THE AIR DISTRIBUTION SYSTEM TO WHICH IT IS CONNECTED AND ACTIVATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION VIA THE SPRINKLER FIRE ALARM PANEL. SMOKE DETECTORS SHALL ALSO BE FURNISHED WITH WALL MOUNTED REMOTE TEST STATION WITH KEYSER RESET. REMOTE SD TEST SUPERVISORY SIGNAL SHALL BE LED TYPE WITH AUDIBLE BEEPING ALERT.
 - PROVIDE MCGILL AIRFLOW'S DOUBLE-WALL INSULATED SPIRAL DUCT OR EQUAL (MCGILL 614/629-1200). REFERENCE DRAWINGS FOR MOUNTING HEIGHT. PROVIDE DUCT AND FITTINGS WITH SLIP JOINT CONNECTION TYPE. FLANGE-TO-FLANGE CONNECTION TYPES ARE NOT ALLOWED.
 - PROVIDE REMOTE TEST STATION FOR SMOKE DETECTORS WITH AUDIBLE AND VISUAL ALARM WITH KEYSER RESET. MOUNT TEST STATION 48 INCHES AFF. MOUNT AUDIBLE AND VISUAL ALARM IN CONSTANTLY ATTENDED LOCATION. CONSTANTLY ATTENDED LOCATION IS NOT REQUIRED WHERE DUCT SMOKE DETECTOR ACTIVATES THE BUILDING'S ALARM SYSTEM.
 - ROUTE DUCTWORK AS HIGH AS POSSIBLE PARALLEL TO STRUCTURE. REF 2-M1.0 TYP.
 - ROUTE DUCTWORK WITHIN THE JOIST SPACE. COORDINATE THRU WEBBING. REF 3-M1.0 TYP.



2 EXPOSED DUCT SUPPORT AND GRILLE
M1.0 NTS

3 EXPOSED DUCT SUPPORT AND GRILLE
M1.0 NTS



ENSURE NEAT AND CLEAN INSTALLATION OF ALL EXPOSED DUCTWORK AND AIR DEVICES. AT THE TERMINATION OF WORK, CLEAN ALL EXPOSED DUCTWORK AND AIR DEVICES. EXPOSED DUCTS AND AIR DEVICES SHALL BE FREE OF DIRT, DEBRIS, STICKERS, WRITING, SCRATCHES, OR OTHER FOREIGN OBJECTS OR CONTAMINANTS.

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

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KEYNOTES	
#	NOTE
23.20	CONTRACTOR SHALL REVIEW ELECTRICAL POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT THAT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS AND VERIFY THAT THEY MATCH PRIOR TO ORDERING EQUIPMENT. DO NOT PURCHASE MOTORS OR ELECTRICAL EQUIPMENT UNTIL POWER CHARACTERISTICS AVAILABLE AT BUILDING HAVE BEEN CONFIRMED BY CONTRACTOR.
23.21	CONTRACTOR TO INSTALL OWNER-SUPPLIED ROOFTOP UNIT WITH PRE-FABRICATED MINIMUM 18 INCH HIGH INSULATED ROOF CURB. MAINTAIN MINIMUM HEIGHT OF 8" FROM ROOF SURFACE. TIE DOWN TO CURB USING LENNOX ROOF CLIPS APPROVED FOR LOCAL WIND ZONE. FIELD COORDINATE SIZE WITH MANUFACTURER REQUIREMENTS PRIOR TO BID.
23.22	MECHANICAL CONTRACTOR TO ENSURE RTU HAS PAN SENSOR (OVERFLOW SWITCH) INSIDE ROOFTOP UNIT DRAIN PAN. THIS DEVICE SHALL BE INTERLOCKED WITH GAS SYSTEM TO PROVIDE ALARM WHEN ACTIVATED AND SHALL SHUT OFF THE EQUIPMENT SERVED IN THE EVENT THAT THE PRIMARY DRAIN BECOMES RESTRICTED.
23.23	COORDINATE ROOFTOP EQUIPMENT LOCATION AND OPENING IN THE ROOF WITH THE STRUCTURAL MEMBERS PRIOR TO CUTTING DECK.
23.24	INSTALLATION OF EQUIPMENT SHALL COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS TO ALLOW FOR INSPECTION, SERVICE, REPAIR OR REPLACEMENT.
23.25	CONDENSATE PIPING IS LOCATED ON ROOF. PROVIDED BY MECHANICAL CONTRACTOR. PROVIDE SUPPORTS EVERY 4'. ROUTE TO NEAREST ROOF DRAIN/SCUPPER.

HFA
HARRISON FRENCH
& ASSOCIATES, PLLC
t 479.273.7780
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
www.hfa-ac.com

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WAWA
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1000 N. MARKET STREET
WILMINGTON, NC 28412
JOB NUMBER: 42-24-50011

ISSUE BLOCK		
1	REV 1	05/08/25
2	REV 2	10/23/25

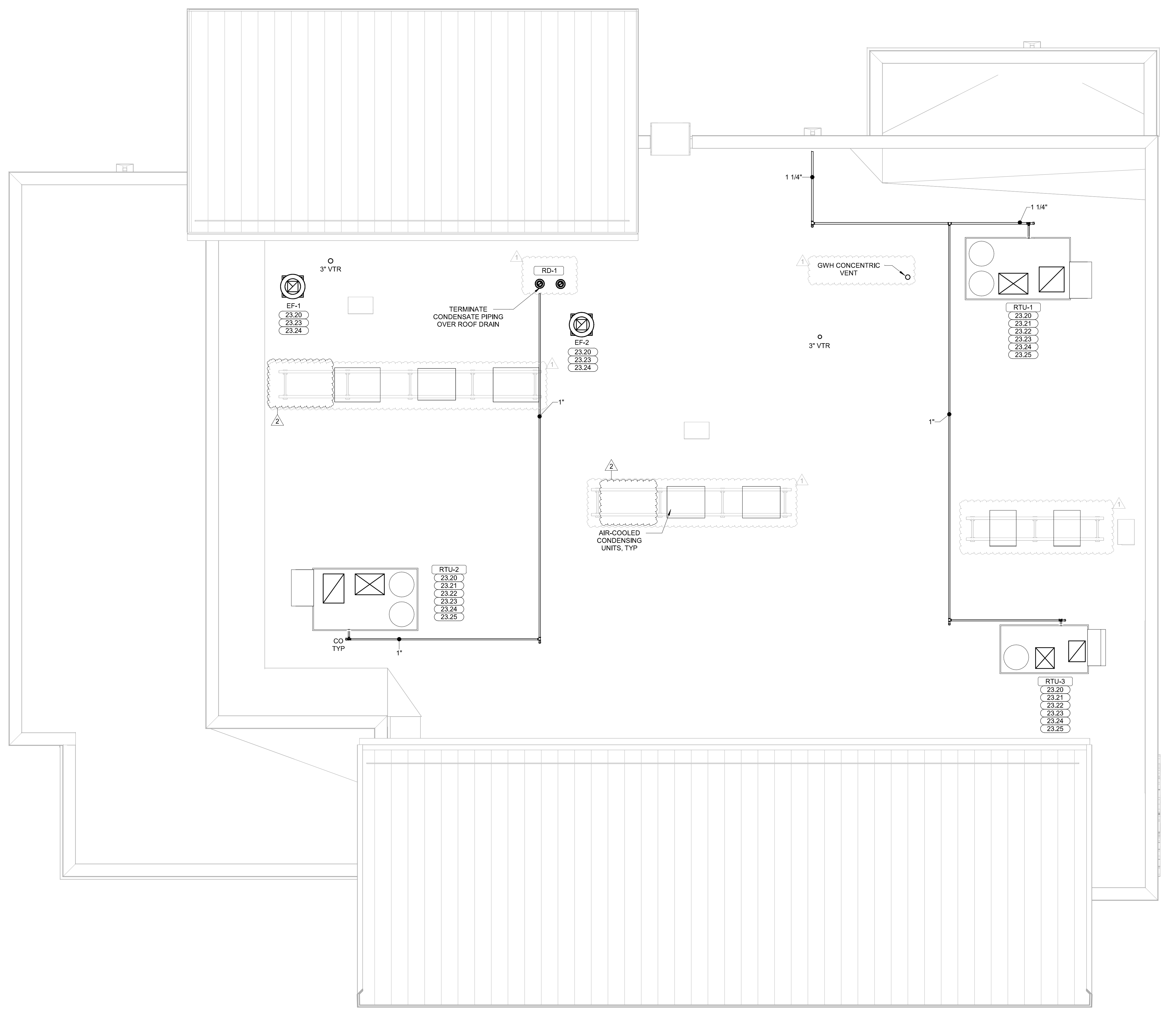
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CYCLE: 2023.Q4.G3
PLAN ISSUE: CNST SET



Ryan Roger Vaughn
Professional Engineer
HARRISON FRENCH
& ASSOCIATES, PLLC
COA #P-0462

HVAC ROOF
PLAN

SHEET:
M2.0



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

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MECH-ROOF PLAN-M2.0

PACKAGED ROOFTOP UNIT SCHEDULE																									
MARK	AREA SERVED	BASIS OF DESIGN				FAN				DIRECT EXPANSION COOLING				GAS HEATING				ELECTRICAL DATA							
		MANUFACTURER	MODEL	NOMINAL CAPACITY (TONS)	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	EXT. SP (IN. WG)	NOM. MOTOR HP	ENTERING AIR DB (°F)	WB (°F)	LEAVING AIR DB (°F)	WB (°F)	TOT. CAPACITY (Btu/h)	SENS. CAPACITY (Btu/h)	EER	ENT. AIR DB (°F)	LVG. AIR DB (°F)	INPUT (Btu/h)	OUTPUT (Btu/h)	VOLTS	PHASE	MCA (AMPS)	MCCP (AMPS)	WEIGHT (LBS)	NOTES
RTU-1	BACK OF HOUSE	LENNOX	LCT150HSE	12.5	4500	700	0.70	3.75	80.0	67.0	57.4	55.9	141100	96800	11	0.0	0.0	0	0	208	3	54	80	1644	1.3,14
RTU-2	SALES	LENNOX	LGT102HSE	8.5	3400	380	1.00	3.75	80.0	67.0	57.9	56.8	98900	72700	12.1	62.0	90.3	130000	104000	208	3	44	50	1495	1.14
RTU-3	FRONT OF HOUSE	LENNOX	LGT072HSE	6.0	2400	200	0.50	1.5	80.0	67.0	57.4	56.4	72800	53200	12.2	62.0	95.2	108000	87000	208	3	34	50	865	1.3,14

AIR CURTAIN SCHEDULE										
MARK	MANUFACTURER	MODEL	AREA SERVED	HP	V	PH	FLA	HEAT INPUT (KW)	WEIGHT (LB)	NOTES
AC-1	POWERED AIRE	BCE-1-48	DELIVERY ROOM	0.5 hp	120	1	7.3	0	99	1.2,3,4
AC-2	POWERED AIRE	BCE-1-48	TRASH STAGING	0.5 hp	120	1	7.3	0	99	1.2,3,4

EXHAUST FAN SCHEDULE										
MARK	AREA SERVED	MANUFACTURER	MODEL	DESIGN AIRFLOW (CFM)	EXT. S.P. (IN-WG)	VOLTS	PHASE	HP	WEIGHT	NOTES
EF-1	RESTROOMS	GREENHECK	GB-096-6	375	0.38	120	1	0.167	59	1.2,3,4,5
EF-2	BACK OF HOUSE	GREENHECK	GB-096-6	400	0.38	120	1	0.167	59	1.2,3,4,5
EF-3	TRASH ROOM	GREENHECK	SP-B200	200	0.50	120	1	0.167	14	1.2,4,5

AIR DEVICE SCHEDULE							
TYPE	SERVICE	MFG	MODEL	STYLE	MOUNTING	FACE SIZE	NOTES
EG-1	EXHAUST	PRICE	630FF	LOUVERED GRILLE	SURFACE	12x12	4
RG-1	RETURN	PRICE	630FF	LOUVERED GRILLE	LAY-IN	24x24	4
RG-2	RETURN	PRICE	630FF	LOUVERED GRILLE	LAY-IN	24x12	4
RG-3	RETURN	PRICE	630FF	LOUVERED GRILLE	REF. PLANS	24x12	4
SD-1	SUPPLY	PRICE	AMD	MODULAR LOUVERED FACE DIFFUSER	LAY-IN	24x24	1.6
SD-2	SUPPLY	PRICE	SDGE	SPIRAL DUCT MOUNTED GRILLE	DUCT	20x4	7.8
SD-3	SUPPLY	PRICE	AMD	MODULAR LOUVERED FACE DIFFUSER	SURFACE	12x12	5.6
SD-4	SUPPLY	PRICE	AMD	MODULAR LOUVERED FACE DIFFUSER	LAY-IN	24x24	1.6,10

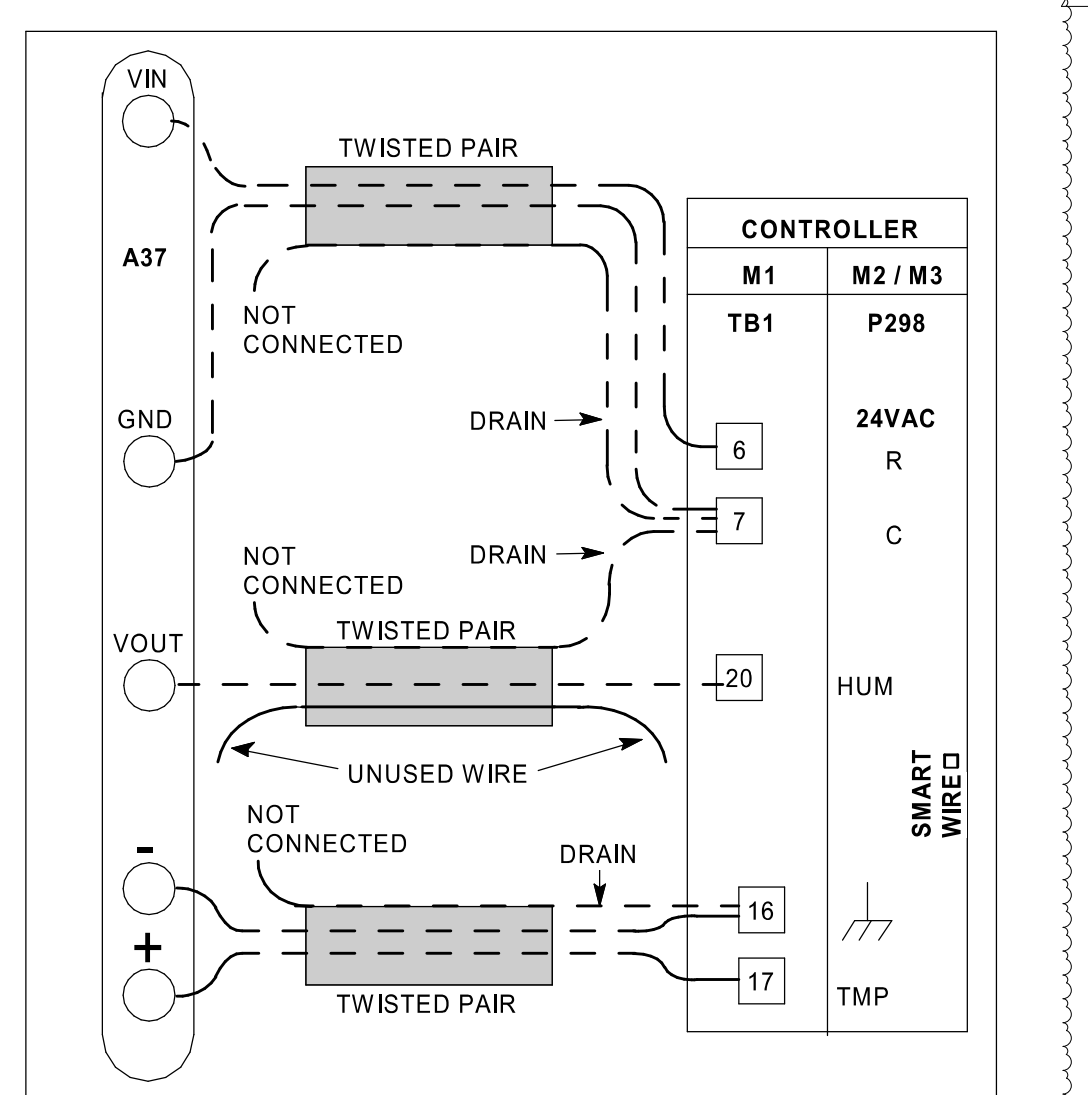
DESTRATIFICATION FAN SCHEDULE								
MARK	MANUFACTURER	MODEL	AREA SERVED	VOLTS (V)	PHASE	FLA (A)	WEIGHT (LBS)	NOTES
DF-1	AIRLUS	A-10-SP-SH-120-X	RETAIL	120	1	0.14	7	1.2,3,4

ELECTRICAL UNIT HEATER SCHEDULE								
MARK	MANUFACTURER	MODEL	AREA SERVED	FLA	V	PH	HEATING INPUT (KW)	NOTES
FFH-1	QMARK	EFF-1500	WATER SERVICE	12.5 A	120	1	1.5	1.2,3,4

CONTROL SEQUENCE OF OPERATIONS: RTU (GAS)	
RTU SEQUENCE OF OPERATION	<p>24 HOUR CYCLE - COOLING</p> <ol style="list-style-type: none"> SUPPLY AIR FAN SHALL RUN CONTINUOUSLY. OUTSIDE AIR DAMPER SHALL BE IN MINIMUM POSITION. RESTROOM EXHAUST FANS SHALL BE ENERGIZED (24/7). THERMOSTAT SHALL CYCLE COMPRESSOR(S) TO MAINTAIN ROOM SET TEMPERATURE. <p>24 HOUR CYCLE - HEATING</p> <ol style="list-style-type: none"> SUPPLY AIR FAN SHALL RUN CONTINUOUSLY. OUTSIDE AIR DAMPER SHALL BE IN MINIMUM POSITION. RESTROOM EXHAUST FANS SHALL BE ENERGIZED (24/7). THERMOSTAT SHALL MODULATE GAS HEATER TO ACHIEVE ROOM SET TEMPERATURE. <p>24 HOUR CYCLE - DEHUMIDIFICATION</p> <ol style="list-style-type: none"> SUPPLY AIR FANS SHALL RUN CONTINUOUSLY. MECHANICAL OUTSIDE AIR DAMPERS SHALL BE IN MINIMUM POSITION. RESTROOM EXHAUST FANS SHALL BE ENERGIZED (24/7). HUMIDISTAT SHALL CYCLE COOLING COIL STAGES TO MAINTAIN SET POINT HUMIDITY (SET AT 50%). <p>SMOKE DETECTOR</p> <ol style="list-style-type: none"> WHEN SMOKE DETECTOR IS ACTIVATED SUPPLY AIR FAN SHALL SHUTDOWN. FIRE ALARM SHALL BE SIGNALLED. SUPPLY AIR FAN SHALL BE MANUALLY RESET. KEYPAD SET IN MANAGER'S OFFICE.

LENNOX SETUP PARAMETERS

- UNIT ID CONFIGURATION (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):**
- BACKET CONFIGURATION:** GO TO SETTINGS>GENERAL>CONFIGURATION ID1 POSITION 5 SET TO "B"
 - NETWORK CONFIGURATION:** GO TO SETUP>NETWORK INTEGRATION. SET TO BACKET
 - CONTROL MODE:** SET CONTROL MODE TO ROOM SENSOR. CO2, TEMP, & HUMIDITY TO "NO-ZE
 - ENTHALPY CONFIGURATION:** CHANGE CONFIG ID1 POSITION 2 FROM D (DUAL ENTHALPY) TO S (SINGLE ENTHALPY)
 - FRESH AIR COOLING:** SET UP TEST & BALANCE>DAMPER. SCROLL TO FRESH AIR COOLING SET TO "NO"
 - FRESH AIR HEAT:** SET UP TEST & BALANCE>DAMPER. SCROLL TO FRESH AIR HEAT SET TO "NO"
- INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):**
- PARAMETER 105 DEHUMID MODE: NO CONDITIONS
 - PARAMETER 106 DEHUMID SETPOINT: 50. THIS IS A CENTERED 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 FULL OPEN PPM: 1500
 - PARAMETER 131 FREE COOL DAMPER: 100%
 - PARAMETER 137 OCC HEAT SET POINT: 68 (BACK UP)
 - PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)
 - PARAMETER 154 OCC BLOWER MODE: ON CONTINUOUS 1
 - PARAMETER 155 FREE COOL LOCK OUT SET POINT: 29 (DISABLED)
 - PARAMETER 159 FREE COOL SUPPLY SET POINT: 55 (DEFAULT)
 - PARAMETER 160 ECON FREE COOL SET POINT: 55 (DEFAULT)
 - PARAMETER 161 ECON FREE COOL OFFSET: 10 (DEFAULT)
 - PARAMETER 162 FREE COOL ENTHALPY SET POINT (SINGLE ENTHALPY): 19 MA (50% HUM + 60F)
 - PARAMETER 163 ECON FREE COOL ENTHALPY OFFSET: 1 (DEFAULT)
 - PARAMETER 164 ECONOMIZER PROFILE: 2 (DEFAULT)
- CFM VALUES / MSAY 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



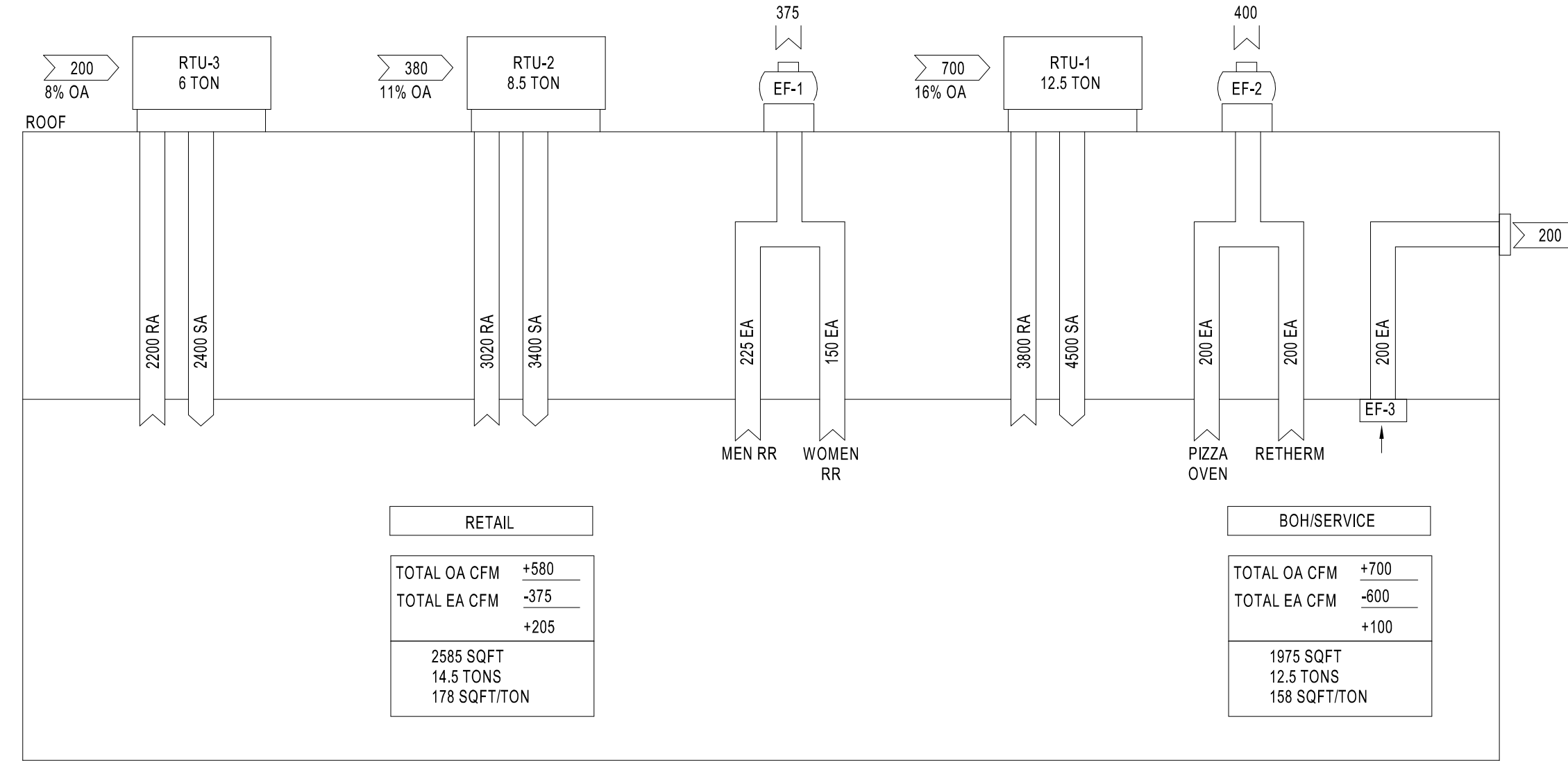
TYPICAL LENNOX SENSOR WIRING DIAGRAM. INSTALLER TO USE SEPARATE TWISTED-PAIR, SHIELDED CABLES AS NOTED.

WIRE RUNS OF 50' (15 m) OR LESS:
USE THREE SEPARATE SHIELDED CABLES CONTAINING 20AWG MINIMUM, TWISTED PAIR CONDUCTORS WITH OVERALL SHIELD (BELDEN TYPE 8762 OR 8870 (PLENUM) OR EQUIVALENT), CONNECT CABLE SHIELD DRAIN WIRES AS SHOWN IN DIAGRAM.

WIRE RUNS OF 150' (46 m) OR LESS:
USE THREE SEPARATE SHIELDED CABLES CONTAINING 18AWG MINIMUM, TWISTED PAIR CONDUCTORS WITH OVERALL SHIELD (BELDEN TYPE 8762 OR 8870 (PLENUM) OR EQUIVALENT), CONNECT CABLE SHIELD DRAIN WIRES AS SHOWN IN DIAGRAM.

TEMPERATURE/HUMIDITY SENSOR WIRING DIAGRAM

VENTILATION SCHEDULE									
NAME	OCCUPANCY CATEGORY	AREA (SF)	SF PER PERSON	# OF PEOPLE	OA PER AREA (CFM/SF)	OA PER PERSON (CFM/PERS)	Outdoor Airflow	ZONE EFF. (E _z)	TOTAL OA (CFM)
COFFEE	Food Preparation	115	54 SF	2.1	0.18	7.5	37 CFM	0.8	46
RETAIL	Merchandising Sales Area - Retail	2264	72 SF	31.6	0.12	7.5	508 CFM	0.8	635
VESTIBULE	Corridor/Transition	92	0 SF	0.0	0.06	0.0	0 CFM	0.8	7
OFFICE	Office - Enclosed	58	215 SF	0.3	0.06	5.0	5 CFM	0.8	6
ASSOCIATE AREA	Office - Enclosed	75	215 SF	0.3	0.06	5.0	6 CFM	0.8	8
SELF-SERVICE BEVERAGE	Personal Services Sales Area - Retail	46	72 SF	0.6	0.12	7.5	10 CFM	0.8	13
TRASHSTAGING	Active Storage	80	359 SF	0.2	0.12	0.0	0 CFM	0.8	12
WOMEN'S RESTROOM	Restrooms	134	108 SF	1.2	0.00	0.0	0 CFM	0.8	0
FOOD PREPARATION	Food Preparation	387	54 SF	7.2	0.18	7.5	124 CFM	0.8	155
ELECTRICAL ROOM	Equipment Room	114	0 SF	0.0	0.00	0.0	0 CFM	0.8	0
MEN'S RESTROOM	Restrooms	126	108 SF	1.2	0.00	0.0	0 CFM	0.8	0
REAR VESTIBULE	Corridor/Transition	55	0 SF	0.0	0.06	0.0	3 CFM	0.8	4
DELIVERY ROOM	Active Storage	136	359 SF	0.4	0.12	0.0	16 CFM	0.8	20
SPECIALTY BEVERAGE	Food Preparation	209	54 SF	3.9	0.18	7.5	67 CFM	0.8	83
HALLWAY	Corridor/Transition	135	0 SF	0.0	0.06	0.0	8 CFM	0.8	10
WATER SERVICE ROOM	Equipment Room	50	0 SF	0.0	0.00	0.0	0 CFM	0.8	0
BACK OF HOUSE	Food Preparation	138	54 SF	2.5	0.18	7.5	43 CFM	0.8	54
WASHROOM	Food Preparation	324	54 SF	6.0	0.18	7.5	104 CFM	0.8	129
TOTAL = 1183 CFM									
E _z = 0.8 (WARM AIR CEILING SUPPLY & CEILING RETURN)									
TOTAL OSA PROVIDED 1,280 CFM * TOTAL REQUIRED OSA 1,183 CFM									



AIR BALANCE			
MARK	OUTSIDE AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	TOTAL AIRFLOW
EF-1		375	-375 CFM
EF-2		400	-400 CFM
EF-3		200	-200 CFM
RTU-1	700		700 CFM
RTU-2	380		380 CFM
RTU-3	200		200 CFM
TOTAL POSITIVE =			305 CFM

AIR BALANCE SCHEMATIC NTS

- HVAC GENERAL NOTES:**
- REFER TO WRITTEN BOOK SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - THE WORK TO BE DONE UNDER THESE SPECIFICATIONS AND THE DRAWINGS CONSISTS OF FURNISHING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS TO COMPLETE THE MECHANICAL CONSTRUCTION WORK FOR THIS PROJECT. ANY WORK NOT SPECIFICALLY COVERED BY THESE SPECIFICATIONS OR INDICATED ON THE MECHANICAL/ELECTRICAL/PLUMBING PLANS, BUT NECESSARY TO COMPLETE OR PERFECT ANY PART OF THIS INSTALLATION IN A SUBSTANTIAL MANNER, SHALL BE PROVIDED WITHOUT EXTRA COST TO OWNER.
 - THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "MECHANICAL WORK" OR "WORK" SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES AND OTHER INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
 - THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS AND LABOR TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AS INDICATED ON THE DESIGN DOCUMENTS.
 - CONTRACTOR SHALL PROVIDE ALL ROOFING OPENINGS, FLASHINGS, AUXILIARY STEEL, THREADED RODS, VIBRATION ISOLATORS, TURNBUCKLES, ETC. TO SUPPORT HIS EQUIPMENT ON OR FROM THE STRUCTURE.
 - ANY CHANGES AND/OR MODIFICATIONS MUST BE REVIEWED AND APPROVED BY THE ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
 - REMOVE ALL TRASH, DEBRIS AND DEMOLITION MATERIAL FROM PREMISES AT THE END OF EACH WORK DAY.
 - SCHEDULE ALL WORK, CUTTING AND BUILDING SERVICE INTERRUPTIONS WITH BUILDING OWNER AND CONSTRUCTION MANAGER, PRIOR TO COMPLETING WORK.
 - FIELD ADJUST THE DIRECTION OF BLOW FOR ALL SUPPLY AIR DEVICES SO THAT THE DEVICES DO NOT BLOW DIRECTLY INTO SOFFITS, CURTAIN WALLS, REFRIGERATED PIPES OR EXHAUST HOODS.
 - ALL NEW AND EXISTING PIPES AND DUCTS SHALL HAVE UL FIRE RATED SLEEVES AND/OR FIRE RATED DAMPERS, WHEN PASSING THROUGH FIRE RATED CONSTRUCTION.
 - COORDINATE LOCATION OF NEW DUCTWORK, AIR DEVICES AND EQUIPMENT WITH LIGHT FIXTURES, SPRINKLER PIPING AND HYDRONIC PIPING.
 - ALL TEMPERATURE AND HUMIDITY SENSORS SHALL BE INSTALLED 5' ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON PLAN. COORDINATE FINAL LOCATIONS WITH EQUIPMENT, FURNITURE, TENANT AND ARCHITECT PRIOR TO INSTALLATION.
 - VERIFY ALL EQUIPMENT VOLTAGES, WIRING REQUIREMENTS, AND REQUIRED BREAKER SIZES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
 - THE MECHANICAL CONTRACTOR SHALL HAVE A QUALIFIED HVAC TECHNICIAN FROM THE UNIT MANUFACTURER PROVIDE AN EQUIPMENT OPERATION CHECK AFTER UNIT START-UP AND PRIOR TO CERTIFIED AIR BALANCING. THE CERTIFICATION, SIGNED BY THE TECHNICIAN, MUST BE INCLUDED IN THE GENERAL CONTRACTOR CLOSING DOCUMENTS FOR THE STORE.
 - MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE, NOT SHOWING EVERY ITEM IN EXACT LOCATION OR DETAIL. MEASUREMENTS AND LOCATIONS MUST BE FIELD VERIFIED AND COORDINATED WITH ARCHITECTURAL, HVAC, FIRE PROTECTION, STRUCTURAL, ELECTRICAL AND OTHER BUILDING DRAWINGS.
 - CONTRACTOR TO INCLUDE IN BID ALL COSTS TO MAKE FIELD COORDINATION AND ADJUSTMENT TO DUCTWORK FOR FIT INTO EXISTING STRUCTURE. CONTRACTOR SHALL VERIFY AND FIELD COORDINATE FINAL LOCATION OF MECHANICAL EQUIPMENT.
 - CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AND PERFORM ALL TESTS CALLED FOR OR REQUIRED AS A PART OF HIS WORK. FURNISH APPROVED CERTIFICATE OF FINAL INSPECTION, AND TURN OVER TO OWNER AT COMPLETION OF PROJECT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES, LANDLORD REQUIREMENTS, CEILING HEIGHTS AND EXISTING STRUCTURAL CONDITIONS PRIOR TO FABRICATION OF ANY DUCTWORK OR ORDERING OF EQUIPMENT.
 - ALL INSTALLATION OF THE MECHANICAL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND CLEARANCE REQUIREMENTS.
 - ALL HVAC WORK SHALL BE IN ACCORDANCE WITH NFPA 90A, 90B, 96, 54 AND NCF 101. LIFE SAFETY CODE.
 - INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES, AND WITH LATEST ASHRAE PUBLICATIONS. WORK SHALL BE NEAT AND WORKMANSHIP SHALL BE ACCEPTABLE TO BUILDING STANDARDS.
 - CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE TEMPERATURE CONTROL SYSTEM TO INCLUDE: PANELS, MODULES, RELAYS, WIRING, THERMOSTATS, SENSORS, DAMPERS, ACTUATORS AND ALL MISCELLANEOUS ITEMS AS REQUIRED TO FULFILL THE DESIGN INTENT AS INDICATED ON THE PLANS AND IN THE CODED NOTES. THERMOSTATS AND SENSORS SHALL BE LOCATED GENERALLY AS SHOWN BUT THEIR EXACT LOCATION SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL MOUNTED WORK.
 - DURING THE BIDDING PERIOD, EACH CONTRACTOR SHALL VISIT THE SITE TO DETERMINE CONDITIONS AFFECTING THE WORK. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY IN PERFORMANCE OF WORK REQUIRED CONDITIONS IN EVIDENCE THEREBY SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION.
 - THE EQUIPMENT SHALL BE LOCATED TO ALLOW FOR EASY ACCESS FOR SERVICING, ADJUSTING OR MAINTENANCE AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES. PROVIDE MINIMUM CLEARANCES FOR ALL EQUIPMENT PER THE MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE ALL CONTROL EQUIPMENT, MOTOR STARTERS, RELAYS, LINE VOLTAGE CONTROLS, TRANSFORMERS, LOW VOLTAGE CONTROLS, AND DEVICES NECESSARY FOR THE COMPLETE OPERATION OF THE HEATING AND AIR CONDITIONING AND VENTILATING SYSTEM.
 - ALL LOW VOLTAGE WIRING AND CONDUIT REQUIRED FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
 - PROVIDE ALL FANS AND ROOFTOP UNITS WITH RELAYS TO SHUT DOWN WHEN FIRE ALARM IS INITIATED. COORDINATE LOCATION WITH THE ELECTRICAL CONTRACTOR FOR THE FIRE ALARM WIRING.
 - IN THE EVENT OF FAN SHUT DOWN, ALL DUCT MOUNTED DETECTORS SHALL REMAIN IN OPERATION.
 - CONTRACTOR TO PROVIDE TENANT WITH AS-BUILT DRAWINGS OF ALL CHANGES OR MODIFICATIONS MADE IN THE FIELD, TO THE ORIGINAL SET OF CONSTRUCTION DOCUMENTS, FOR TURN-OVER TO THE ARCHITECT/ENGINEER UPON COMPLETION OF THE PROJECT. PROVIDE ALL EQUIPMENT SHOP DRAWINGS, INFORMATION ON CONTROL DEVICES, CONTROL WIRING DIAGRAMS AND OTHER PERTINENT INFORMATION AT COMPLETION OF PROJECT.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MECHANICAL EQUIPMENT COMPONENTS ARE INSTALLED AT LOCATIONS AND ELEVATIONS WHICH MAKE THEM READILY ACCESSIBLE FOR ROUTINE MAINTENANCE WITHOUT REQUIRING ANY EXTRAORDINARY MEASURES.
 - THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH HE INSTALLS. THIS INCLUDES ALL CONDENSERS, REFRIGERANT PIPES, AND OTHER ITEMS FURNISHED BY OTHERS AS WELL AS THOSE FURNISHED BY HIM.
 - FIELD VERIFY THE EXACT LOCATION OF ALL EQUIPMENT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION. INFORM OWNER OF ANY EQUIPMENT ITEMS THAT REQUIRE RELOCATION.
 - PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE CONNECTIONS TO ALL MOVING MACHINERY.
 - DUCT DIMENSIONS SHOWN ARE INSIDE NET DIMENSIONS. ADD TO SHEET METAL SIZE FOR INSULATION THICKNESS. HOLD DUCTWORK TIGHT TO UNDERLIES OF STRUCTURE UNLESS OTHERWISE NOTED OR REQUIRED BY FIELD CONDITIONS. IT IS REQUIRED TO COORDINATE EXACT MOUNTING HEIGHT IN FIELD WITH SITE INVESTIGATION. SUPPLY, RETURN, OUTSIDE AIR AND RELIEF AIR DUCTS SHALL BE SHEET METAL AND BE EXTERNALLY INSULATED WITH OWENS CORNING TYPE 150 2" THICK, FOIL FACED FIBROUS GLASS BLANKET INSULATION WITH A MIN R-4 VALUE. EQUAL IS APPROVED. SEAL ALL JOINTS AND SEAMS PRIOR TO ADDING DUCTWRAP. INSULATION WRAP SHALL BE SEALED WITH FAB AND MASTIC MEETING UL 181.
 - ALL DUCTWORK SHALL MAINTAIN SYSTEM PRESSURE. THE AIR DISTRIBUTION COMPONENTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA REQUIREMENTS. TWO INCH PRESSURE CLASS.
 - DUCT INSULATION CLOSURE SYSTEM SHALL CONSIST OF GLASS FABRIC AND NON MIGRATING MASTIC. SEAL AIR TIGHT.
 - ALL FLEXIBLE DUCTS SHALL BE SUPPORTED EVERY 4'-0" WITH 2" WIDE GALVANIZED STEEL BANDS. MINIMUM ONE PER EACH SECTION OF FLEXIBLE DUCT. MAXIMUM LENGTH OF FLEX DUCT SHALL BE 8'-0" LONG AND SHALL MEET INSTALLATION AND MATERIAL REQUIREMENTS OF LOCAL CODES.
 - ALL BRANCH TAKE-OFFS SHALL BE PROVIDED WITH MANUAL BALANCING DAMPERS LOCATED ABOVE ACCESSIBLE CEILING AS CLOSE TO MAIN TRUNK AS POSSIBLE. WHEN AIR DEVICE IS NOT ACCESSIBLE PROVIDE DAMPER AT AIR DEVICE.
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATING BOX-OUT LOCATIONS FOR ALL DRYWALL MOUNTED AIR DEVICES WITH GENERAL CONTRACTOR AND CEILING FRAMING. CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHTING LAYOUTS AS REQUIRED.
 - ALL SUPPLY DUCT BENDS FROM THE VERTICAL TO HORIZONTAL AND ANGLED TURNS OF DUCTWORK SHALL HAVE TURNING VANES INSTALLED.
 - PROVIDE SMOOTH TRANSITIONS AT EQUIPMENT AND AIR DEVICES TO MATCH CONNECTION SIZES. ALL DUCTWORK SHALL BE SHEET METAL FABRICATED IN ACCORDANCE WITH ASHRAE GUIDE AND SMACNA MANUAL, LATEST EDITIONS.
 - WAWA TO PROVIDE TAB VERIFICATION BY WORKING DIRECTLY WITH A TAB CONTRACTOR. GC/MC SHALL BALANCE TO DESIGNED CFM VALUES ON FLOOR PLAN. ANY CORRECTIONS FOUND IN 3RD PARTY TAB REPORT WILL BE THE RESPONSIBILITY OF THE GC TO CORRECT. GC SHALL FORMALLY SUBMIT CORRECTED REPORT TO DESIGN TEAM FOR REVIEW.
 - IT SHALL BE THE RESPONSIBILITY OF THIS TAB AGENCY TO PROVIDE THE LOCAL BUILDING DEPARTMENT AND OWNER WITH PROPER TEST & BALANCE DATA ON ABC OR NEBB FORMS.
 - BUILDING AIR SYSTEMS SHALL BE BALANCED PER DATA INCLUDED ON THE DRAWINGS TO ACHIEVE RELATIVE AIR VOLUMES AS INDICATED ON THE DRAWINGS AND SCHEDULED HEREIN. REFER TO AIR FLOW DIAGRAM DETAIL.
 - ALL NEW EXPOSED SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY INSULATED SPIRAL DOUBLE-WALL STEEL WITH MAXIMUM THERMAL CONDUCTANCE OF 0.27 BTU/HR/FT²/F. DUCT FITTINGS TO BE SLIP JOINT CONNECTION TYPE. FLANGE-TO-FLANGE CONNECTION TYPES ARE NOT ALLOWED. EXPOSED DUCTWORK TO BE PAINTED. REFER TO ARCHITECTURAL PLANS.
 - PROVIDE VOLUME BALANCING DAMPER AT ALL NINETY-DEGREE DUCT TAKE-OFFS. THIS ALSO APPLIES TO TAKE-OFFS TO DIFFUSERS OR REGISTERS LOCATED DIRECTLY UNDER DUCTS.
 - ALL RESTROOM MAKE-UP AIR SHALL BE GALVANIZED STEEL TRANSFER DUCTS WITH ZERO LEAKAGE BACKDRAFT DAMPERS AND DOOR UNDERCUTS.
 - MECHANICAL CONTRACTOR TO FIELD VERIFY WITH STRUCTURE ALL DUCT ROUTING PRIOR TO FABRICATION.
 - PROVIDE ACCESS TO ALL COMPONENTS REQUIRING PERIODIC INSPECTION AND SERVICE THAT ARE LOCATED WITHIN THE SPACE OR REQUIRE ACCESS THROUGH THE SPACE. LABEL ACCESS DOORS AND PANELS OR CEILING TILES UTILIZED FOR ACCESS WITH THE NAME OF THE HIDDEN COMPONENT(S). DEMONSTRATE ACCESS TO ALL HIDDEN COMPONENTS FOR THE FIELD REPRESENTATIVE PRIOR TO OCCUPANCY.
 - ALL ROOF TOP UNITS AND ROOF TOP EXHAUST FANS SHALL BE LABELED TO INDICATE MARK NUMBERS, PANEL OF CIRCUIT ORIGIN, AND CIRCUIT NUMBER. LABELS SHALL BE SUNLIGHT RESISTANT AND SHALL BE IN PLACE PRIOR TO INSPECTION.
 - PROVIDE ALL NECESSARY TRANSITIONS AND OFFSETS IN SUPPLY AND RETURN AIR DUCTWORK TO AVOID STRUCTURE, WATER, GAS, SPRINKLER PIPING, OTHER DUCTWORK, OTHER TRADES, ETC. DUCTWORK SHALL BE INSTALLED AS HIGH AS CONDITIONS WILL ALLOW.
 - ENSURE NEAT AND CLEAN INSTALLATION OF ALL EXPOSED DUCTWORK AND AIR DEVICES. AT THE TERMINATION OF WORK, CLEAN ALL EXPOSED DUCTWORK AND AIR DEVICES. EXPOSED DUCTS AND AIR DEVICES SHALL BE FREE OF DIRT, DEBRIS, STICKERS, WRITING, SCRATCHES, OR OTHER FOREIGN OBJECTS OR CONTAMINANTS.

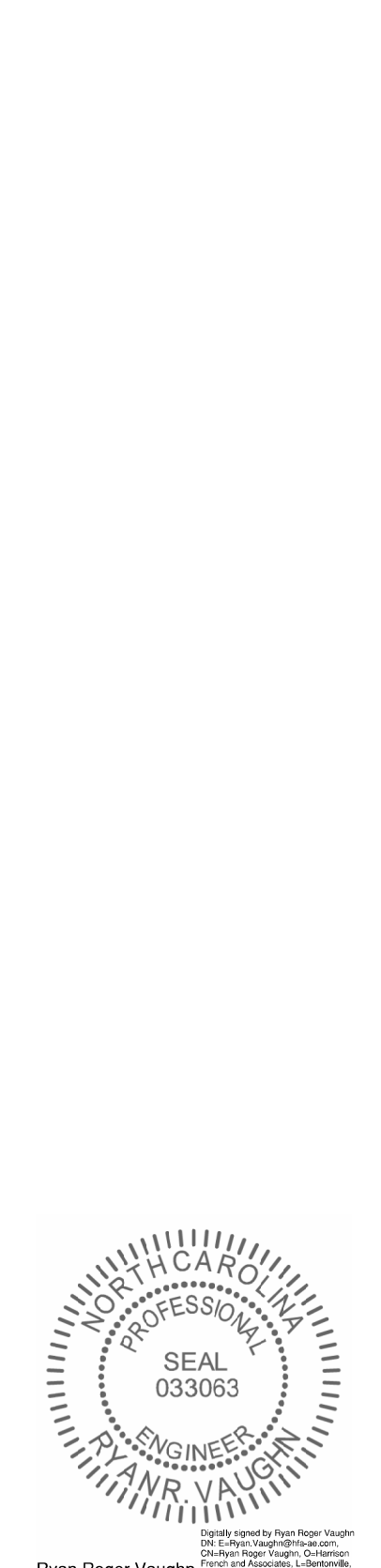


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STIPULATION FOR PREPARATION OF THE DRAWINGS AND SPECIFICATIONS: THE DRAWINGS AND SPECIFICATIONS SHALL BE PREPARED BY THE ARCHITECT OR ENGINEER AND SHALL BE THE BASIS FOR THE CONTRACTOR'S OBLIGATION TO FURNISH AND INSTALL THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION PROVIDED BY THE ARCHITECT OR ENGINEER AND FOR OBTAINING ALL NECESSARY PERMITS AND INSPECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSPECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSPECTIONS.

ISSUE BLOCK		
NO.	REV	DATE
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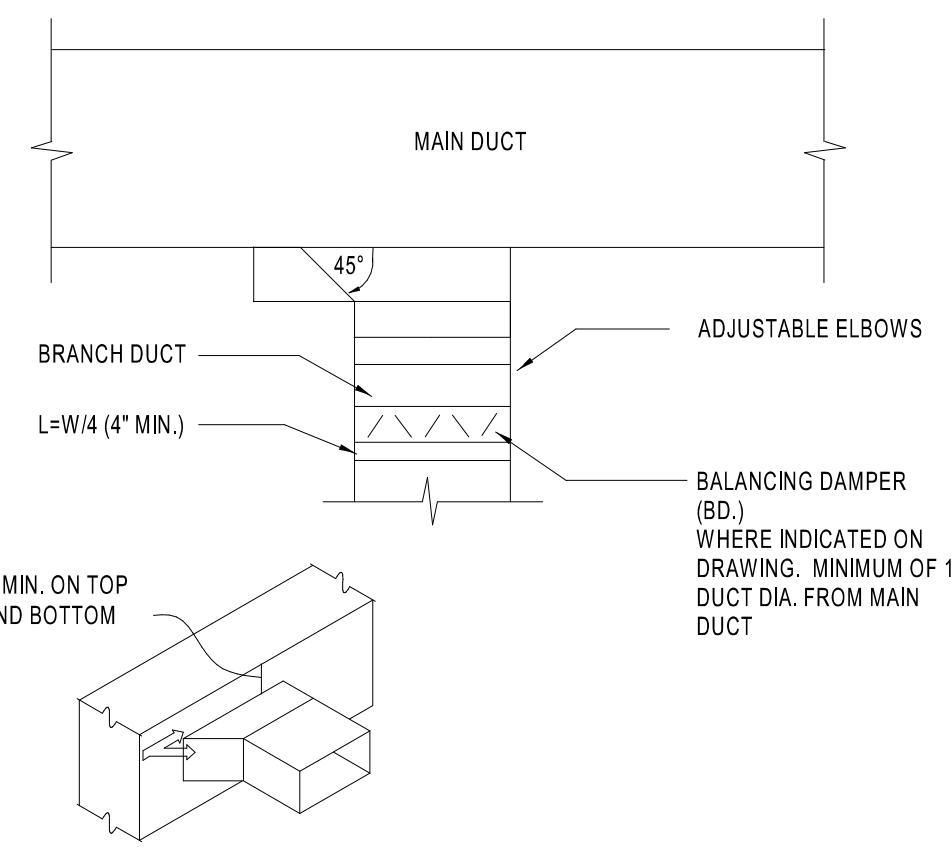
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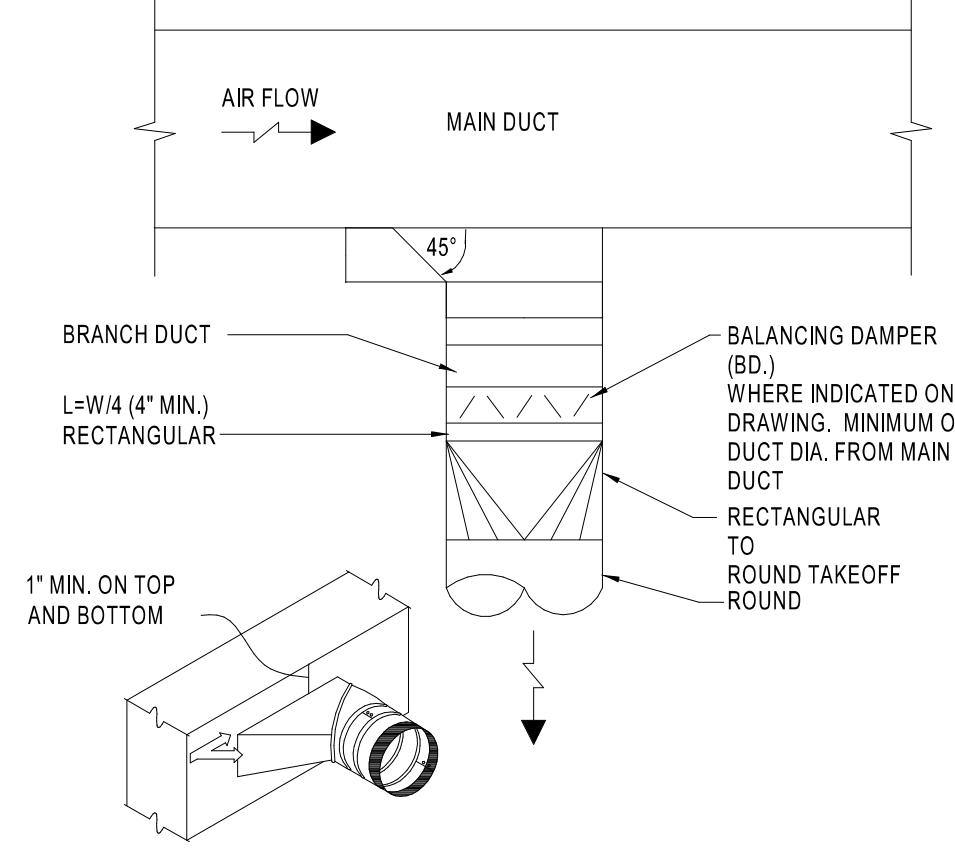
HARRISON FRENCH & ASSOCIATES, PLLC
CDA #P-0462

HVAC NOTES AND SCHEDULES

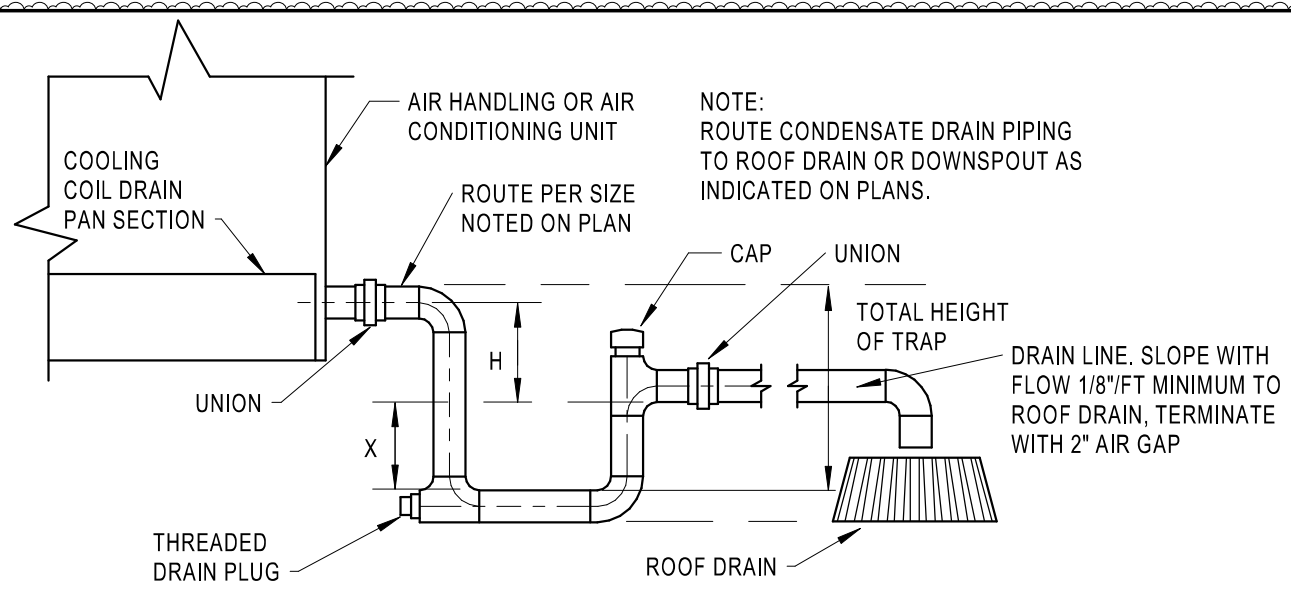
SHEET: M3.0



1 RECTANGULAR BRANCH CONNECTION
M4.0 NTS



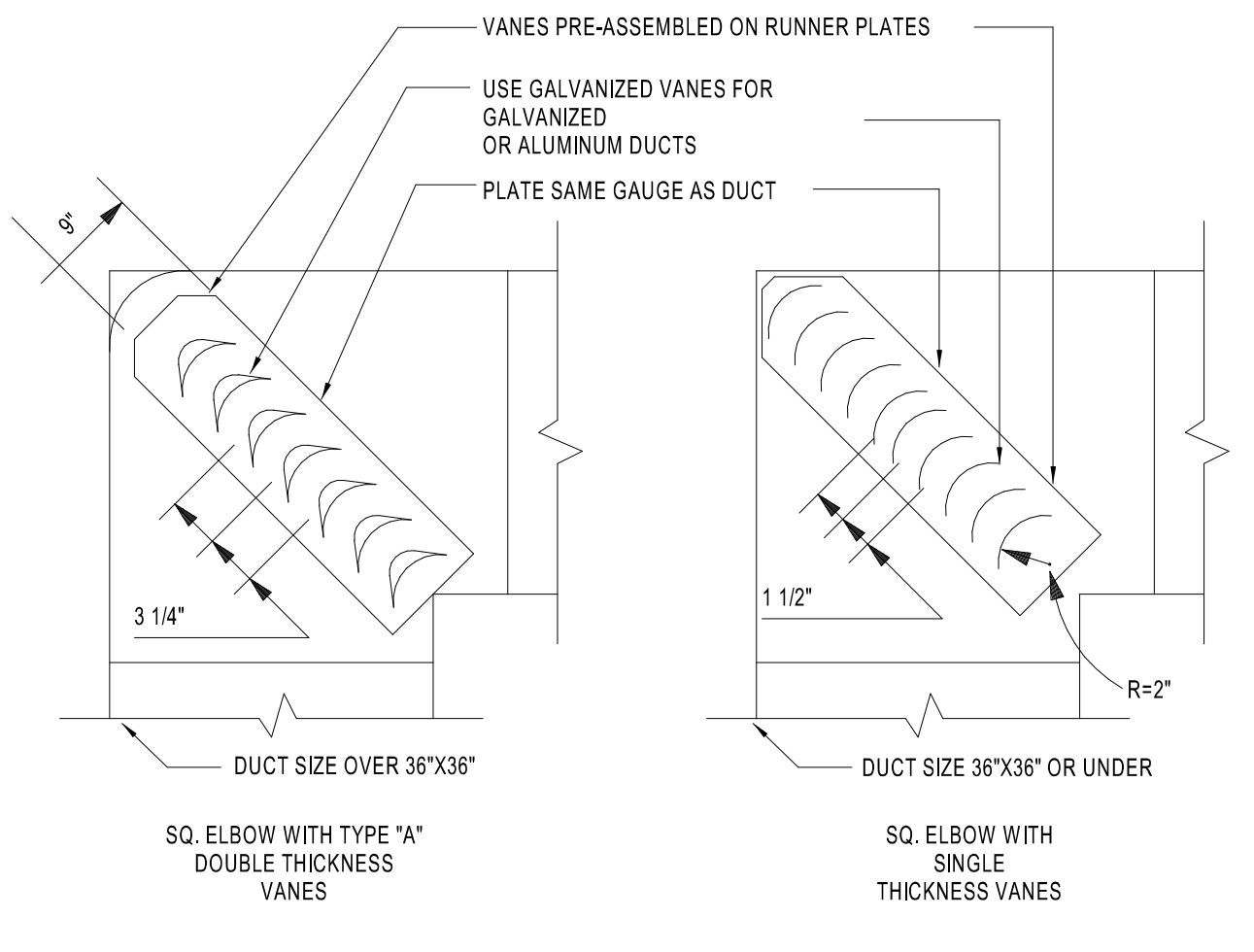
2 ROUND BRANCH CONNECTION
M4.0 NTS



DRAIN TRAPPING HEIGHT			
FAN ARRANGEMENT	H	X	A = MINIMUM 1'
BLOW-THRU (POSITIVE STATIC PRESSURE)	A	B	B = AT LEAST 1' PLUS CASING STATIC PRESSURE
DRAW-THRU (NEGATIVE STATIC PRESSURE)	D	C	C = 1/2 "D"
			D = AT LEAST 1' PLUS CASING STATIC PRESSURE

TOTAL HEIGHT OF TRAP = X + H + (1.5 x PIPE DIAMETER) (WITHOUT INSULATION)

3 HVAC CONDENSATE DRAIN DETAIL
M4.0 NOT TO SCALE



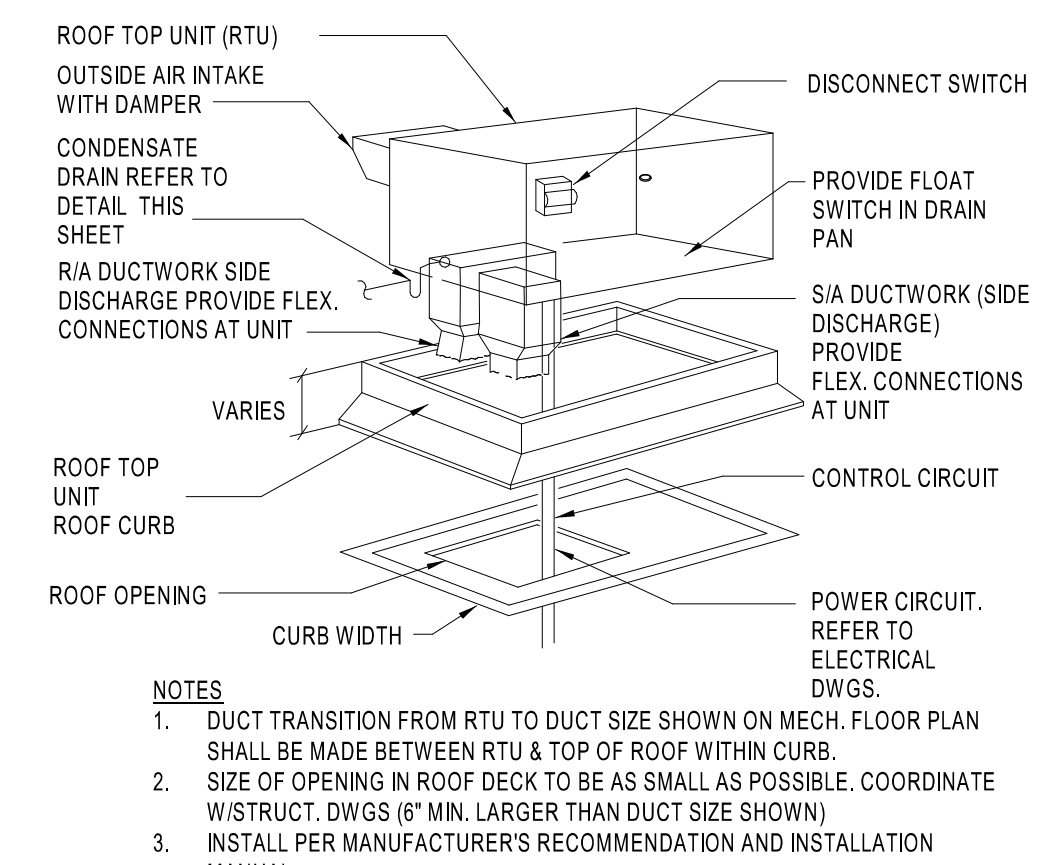
DUCT SHALL BE SECURELY FASTENED TO RUNNERS. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATION POSITION. IF NECESSARY AT CERTAIN VELOCITIES OR PRESSURES WELD VANES TO RUNNERS ON APPROPRIATE INTERVALS ALONG RUNNERS. TO PREVENT LINER DAMAGE CARE MUST BE EXERCISED WHEN INSTALLING VANES IN LINED OR FIBROUS GLASS DUCT.

SINGLE VANE SCHEDULE			
	R	SP	GA
SMALL	2"	1 1/2"	24
LARGE	4 1/2"	3 1/4"	22

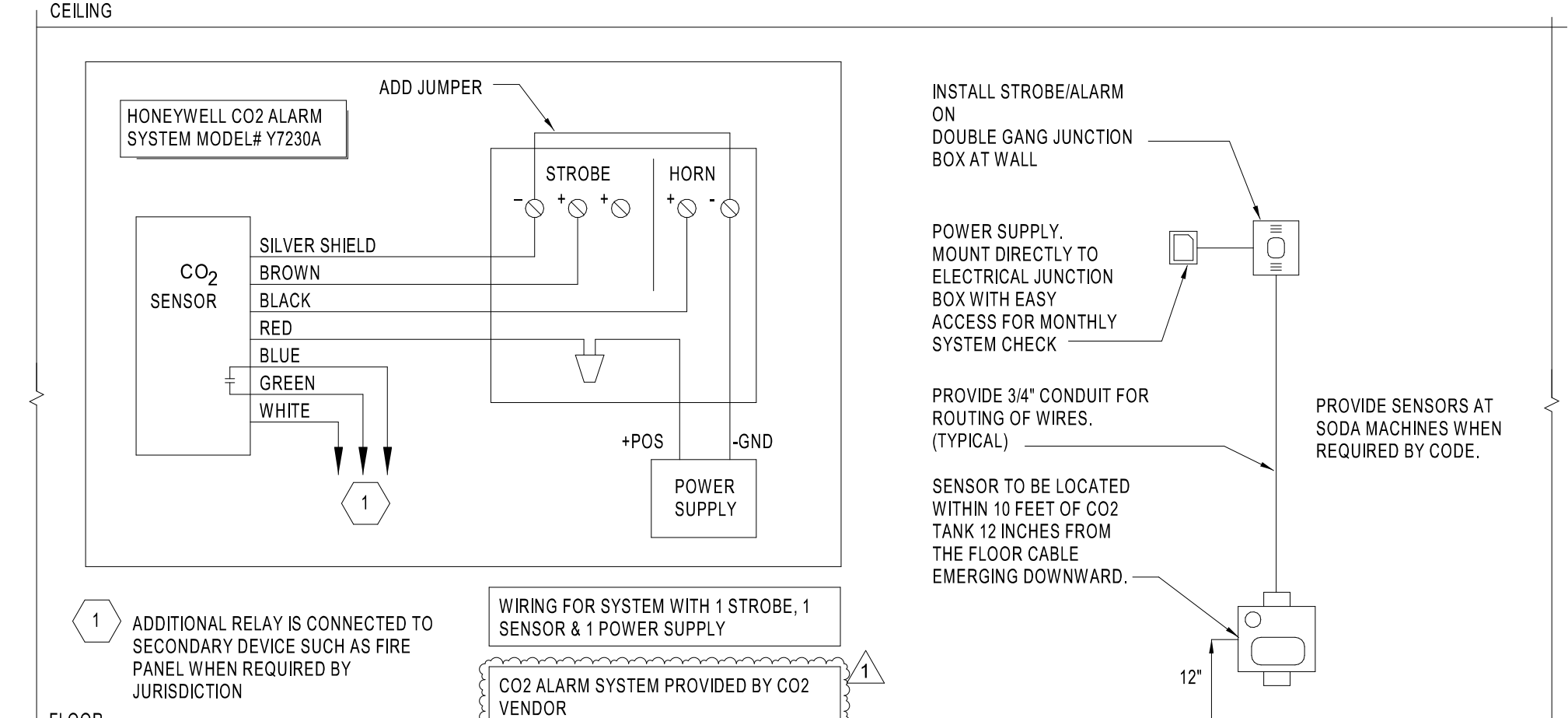
* MAXIMUM UNSUPPORTED VANE LENGTH
SMALL SINGLE VANE 36"
LARGE SINGLE VANE 36"
SMALL DOUBLE VANE 60"
LARGE DOUBLE VANE 72"

NOTE: FOLLOW PER SMACNA STANDARDS.

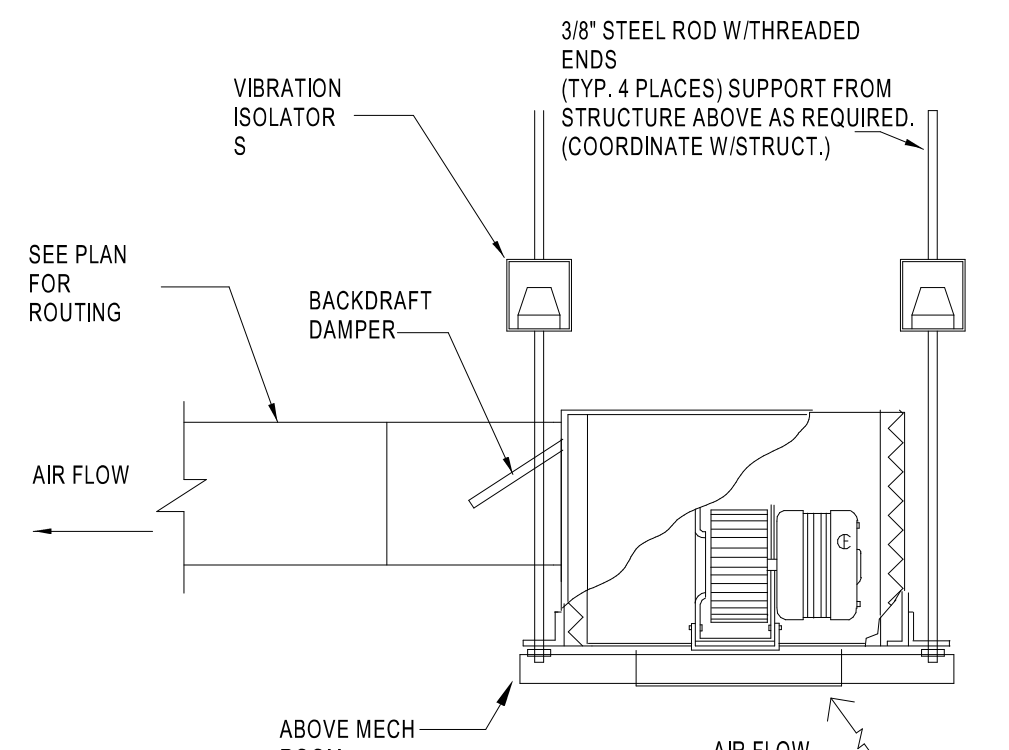
4 TURNING VANE DETAIL
M4.0 NTS



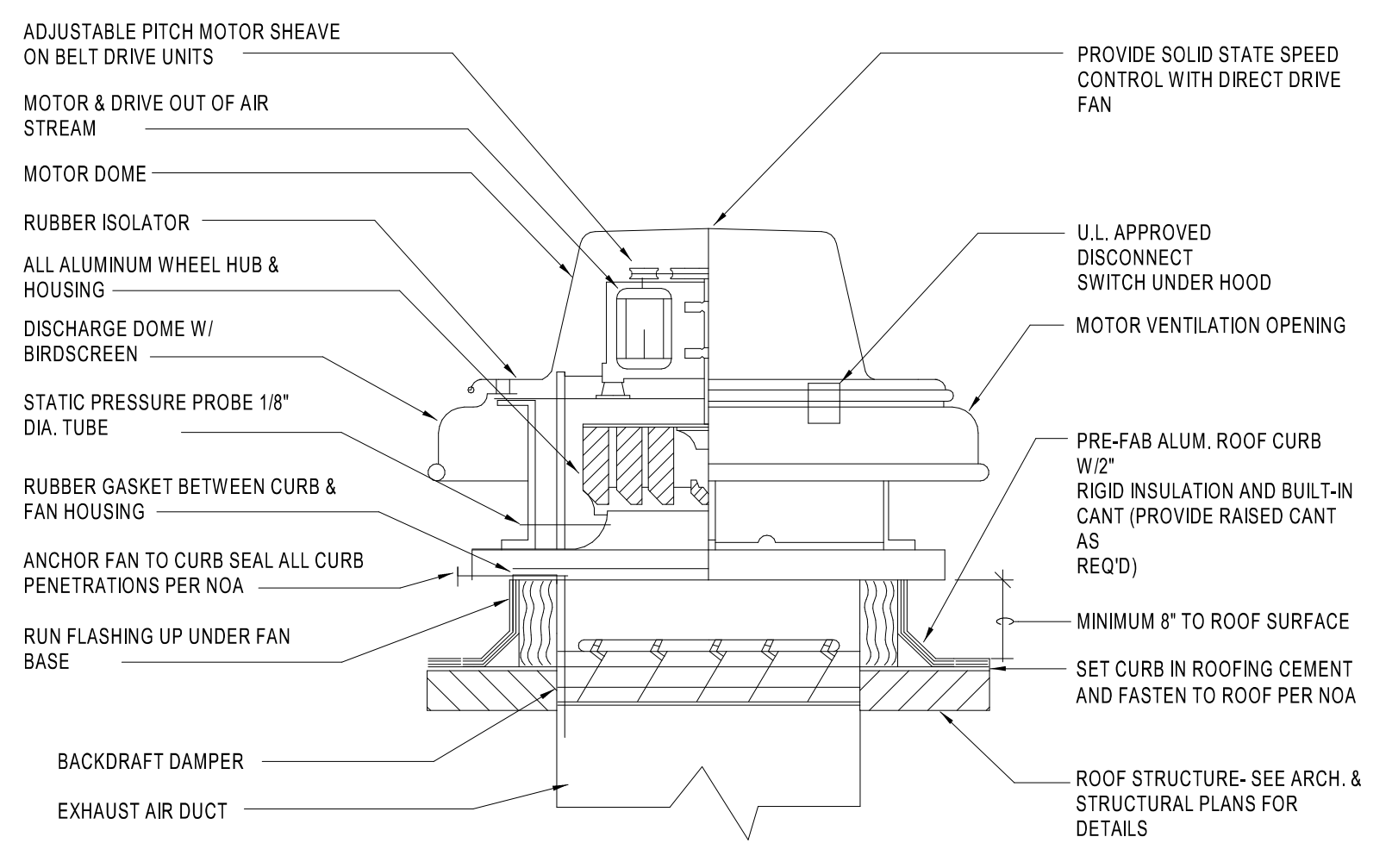
5 ROOF TOP UNIT MOUNTING DETAIL
M4.0 NTS



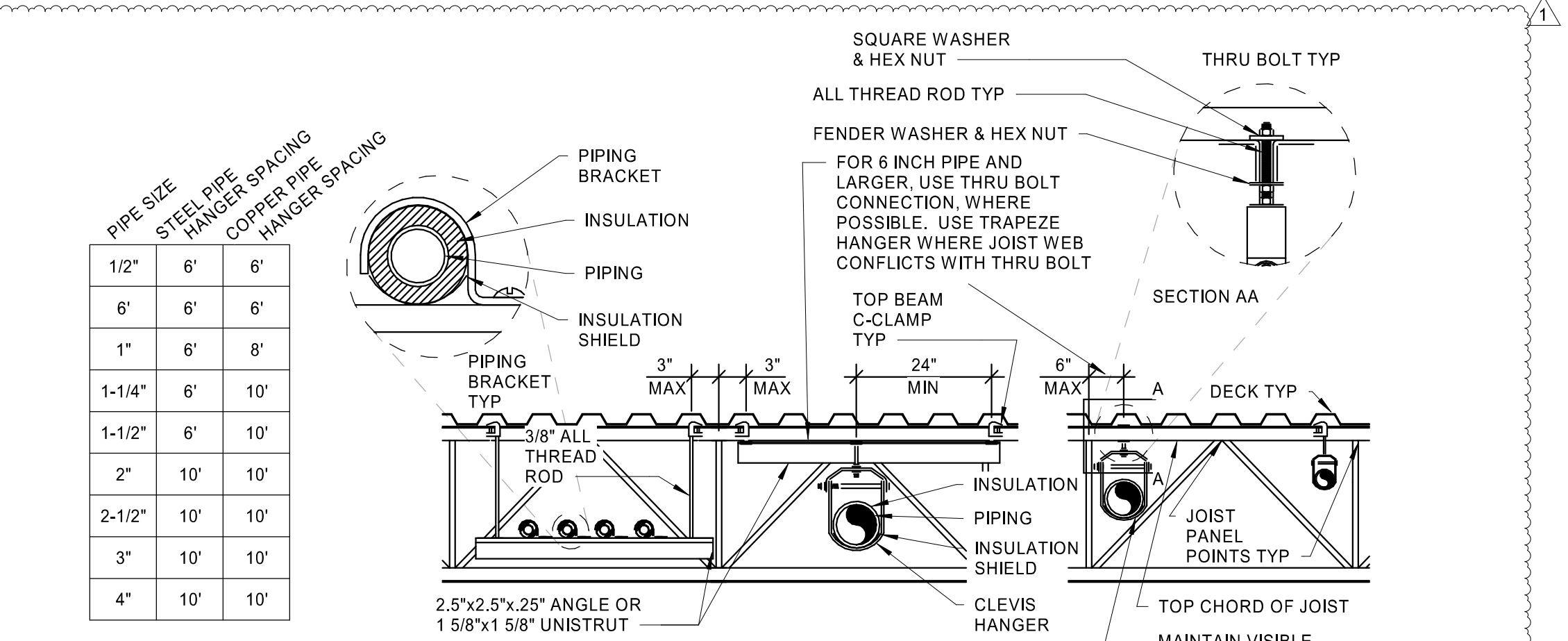
6 CO2 ALARM SYSTEM DETAIL
M4.0 NTS



7 CEILING EXHAUST FAN DETAIL
M4.0 NTS



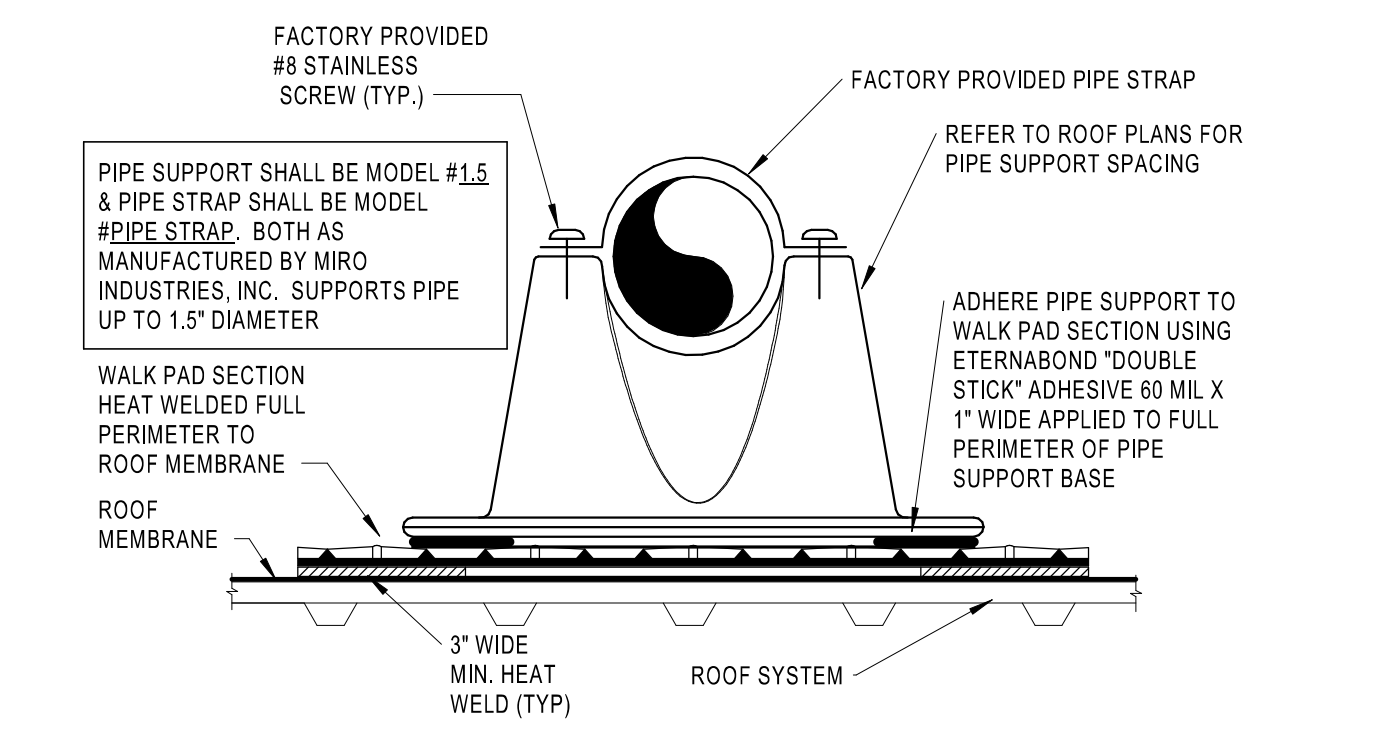
8 TYPICAL EXHAUST FAN DETAIL
M4.0 NTS



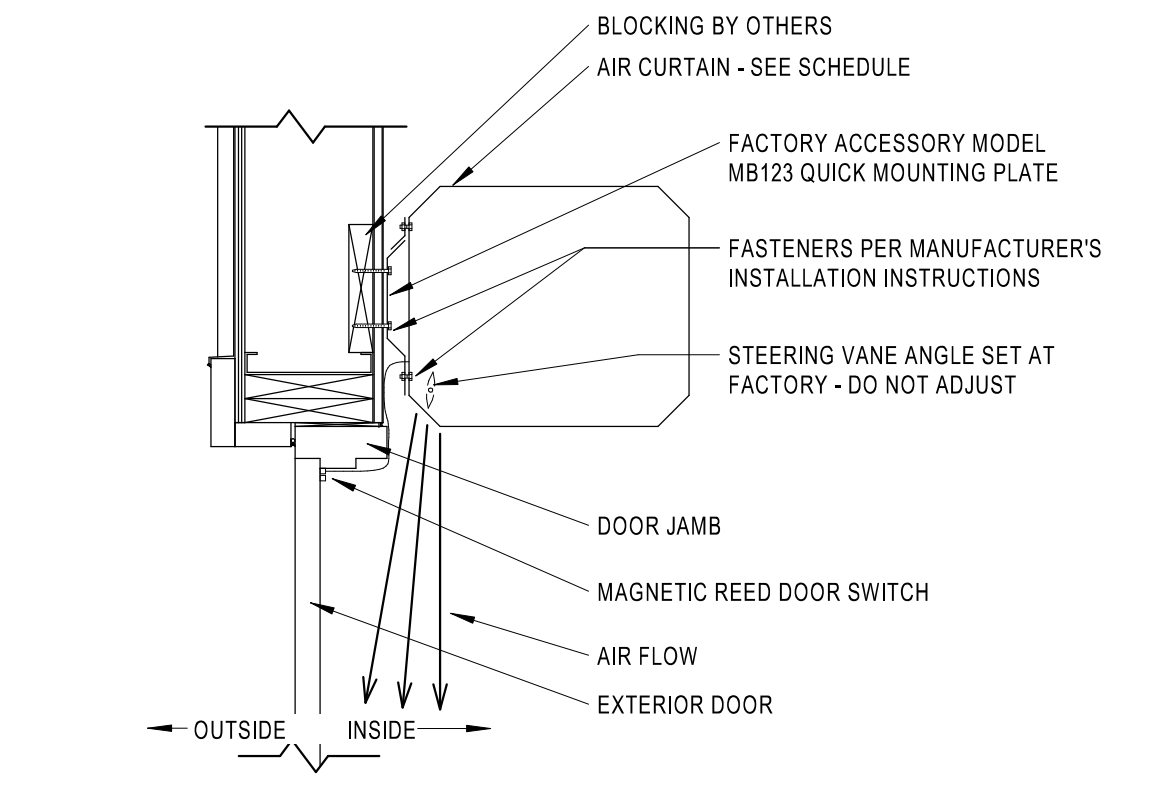
NOTES:

- COORDINATE EXACT HANGING REQUIREMENTS WITH TRUSS MANUFACTURER.
- INSTALL HANGERS INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. SLOPE ALL WATER PIPING SLIGHTLY TOWARD DRAINABLE LOCATIONS. HANGER SPACING FOR PIPE SIZES AS INDICATED IN TABLE AND IN ACCORDANCE WITH AHJ REQUIREMENTS.
- LOCATE HANGERS WITHIN 1'-0" OF ALL VALVES, FITTINGS, AND EQUIPMENT CONNECTIONS.
- ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. CHAINS AND PERFORATED STRAP IRON AND STEEL ARE NOT ACCEPTABLE. DO NOT SUSPEND PIPE FROM JOIST BRACING MEMBERS.
- PROVIDE SEISMIC BRACING IF AS REQUIRED BY LOCAL AUTHORITIES.
- REFER TO LOCAL CODES AND SPECIFICATIONS FOR FURTHER INFORMATION.
- LOCATE HANGERS WITHIN 3 INCHES OF JOIST PANEL POINTS U.N.D.
- INDIVIDUAL PIPES 3 INCH AND SMALLER NOT REQUIRED TO BE WITHIN 3 INCHES OF PANEL POINT.
- FOR PIPE RUNNING PARALLEL TO JOISTS, ATTACH TRAPEZE BEAM CLAMPS TO JOISTS ON EACH SIDE OF PIPE TYP.
- TRAPEZE HANGERS AND ALL THREAD RODS ARE SIZED TO CARRY (MAX) 8 - 3 INCH DIAMETER COPPER PIPES FULL OF WATER (37.62 LBS/FT) OR EQUIVALENT. IF LOAD EXCEEDS MAXIMUM, CONTACT THE EOR FOR PROPER SIZING.

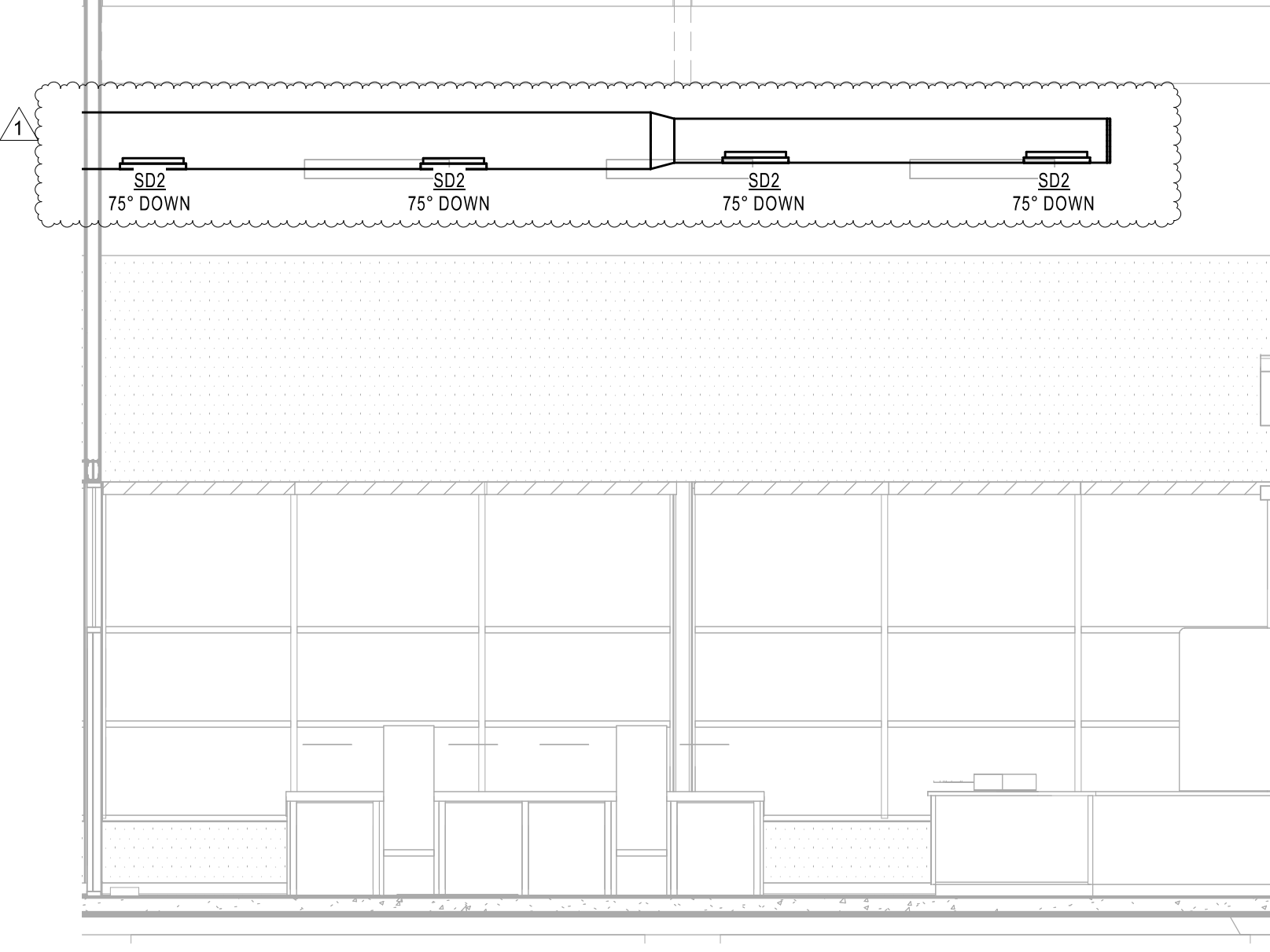
9 PIPE HANGER FOR STEEL JOIST DETAIL
M4.0 NOT TO SCALE



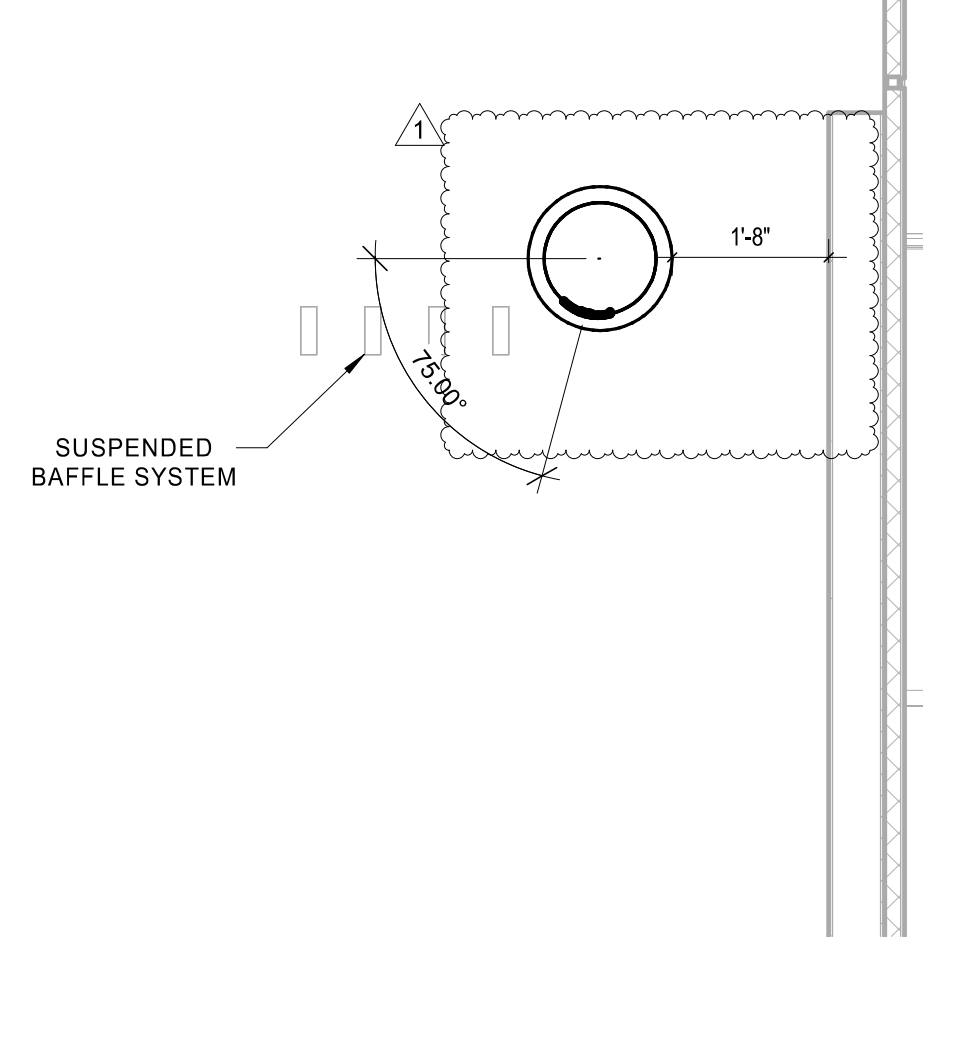
10 HVAC CONDENSATE PIPE ROOF SUPPORT DETAIL
M4.0 NTS



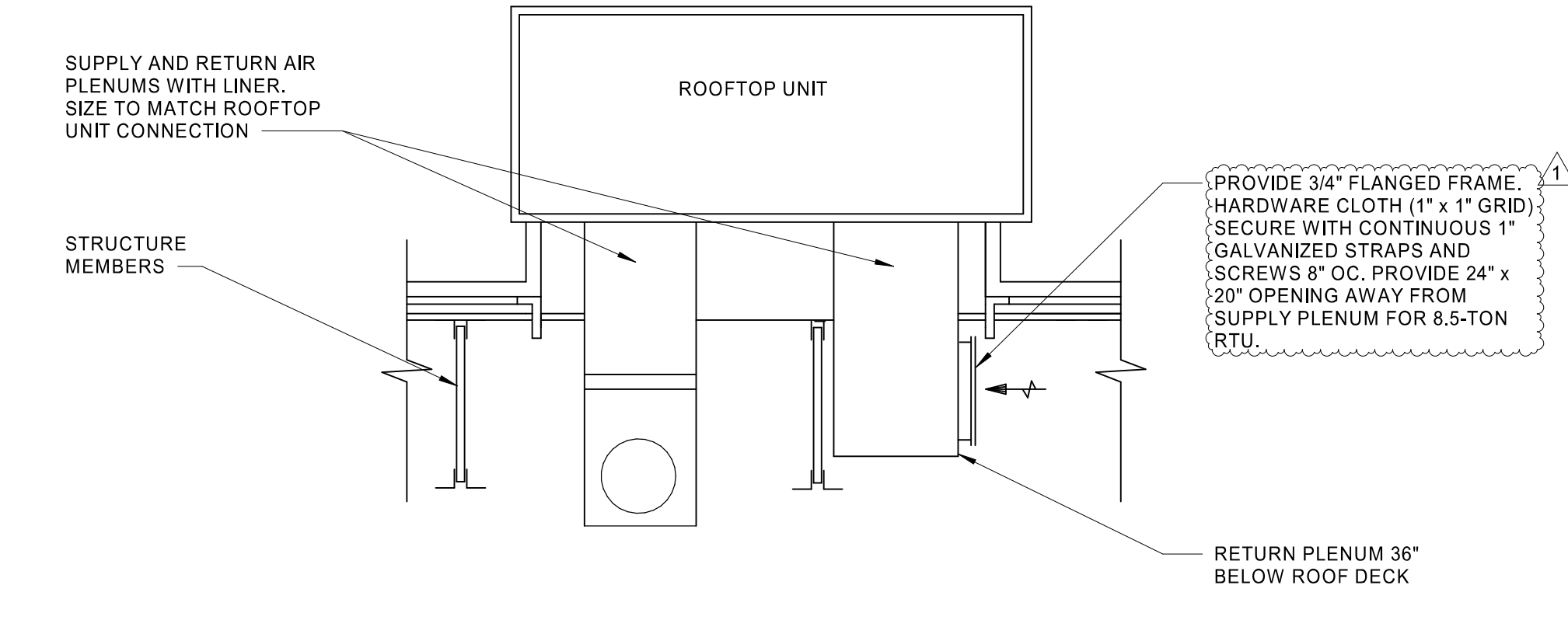
11 HVAC AIR CURTAIN INSTALLATION DETAIL
M4.0 NTS



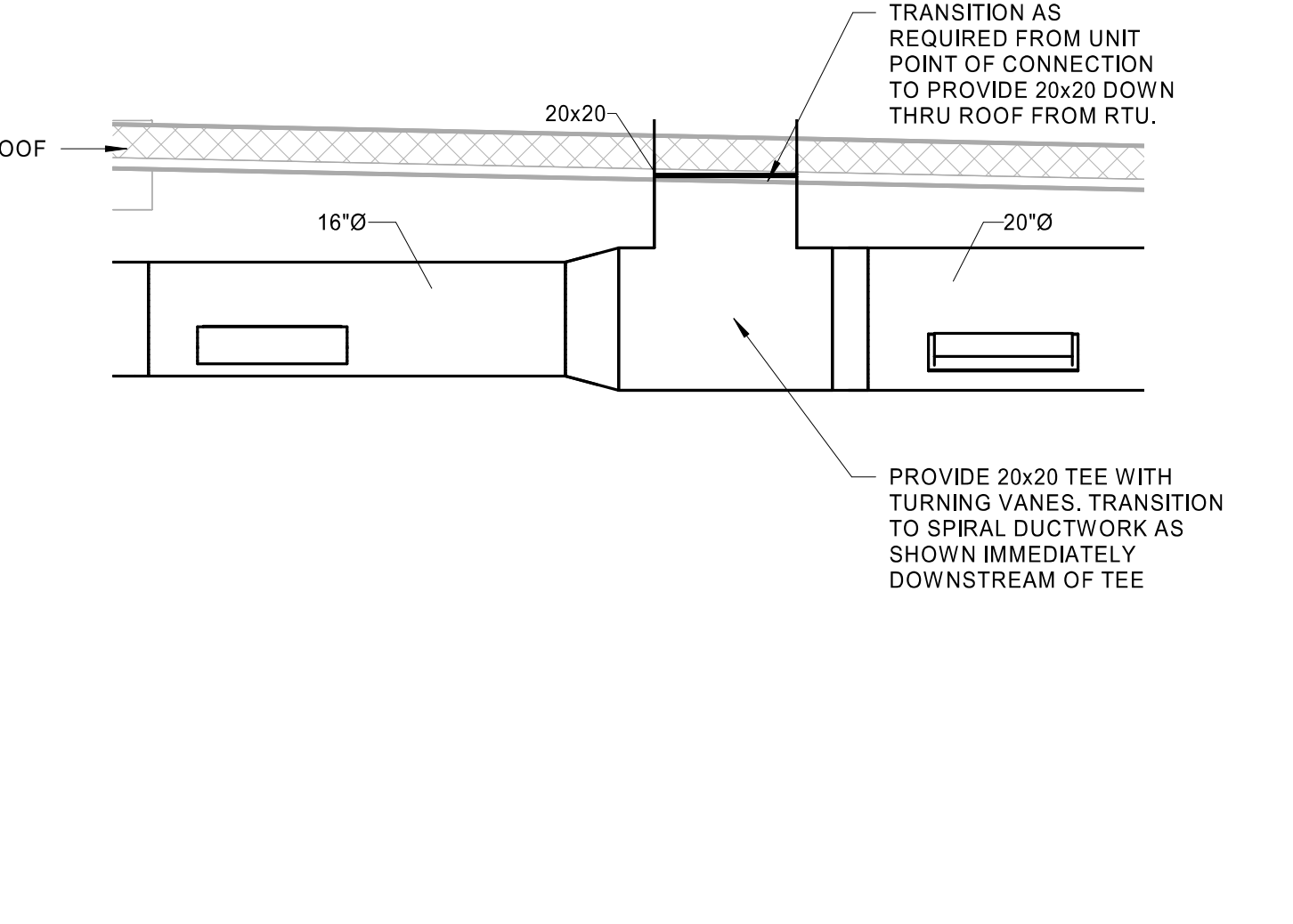
12 FRONT RETAIL DIFFUSER LAYOUT
M4.0 1/4\"/>



13 FRONT RETAIL DIFFUSER ANGLE DETAIL
M4.0 1/2\"/>



14 RTU DUCTWORK DROP DETAIL
M4.0 NOT TO SCALE



15 RTU-2 SUPPLY DUCTWORK DROP
M4.0 1/2\"/>

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