

HVAC GENERAL NOTES
1. VERIFY LOCATIONS OF ITEMS WITH ARCHITECTURAL PLANS PRIOR TO BEGINNING WORK. NOTIFY ARCHITECT/OWNER OF DISCREPANCIES.
2. CONTRACTOR SHALL CAREFULLY COORDINATE WORK W/ ALL OTHER TRADES, ESPECIALLY IN CEILING SPACES WHERE SPACE IS TIGHT. SHEET METAL CONTRACTOR SHALL HAVE PRIORITY OVER OTHER MECHANICAL TRADES IN CEILING SPACE WHERE CONFLICTS OCCUR.
3. ALL DUCTWORK SHOWN IS SCHEMATIC, CONTRACTOR SHALL PROVIDE ALL OFFSETS/ELBOWS AS REQ'D TO ALLOW ROUTING AROUND STRUCTURE, ELECTRICAL, & OTHER INTERFERENCES.
4. ALL DUCT WALL PENETRATIONS THROUGH WALLS AND FLOORS SHALL BE PROVIDED WITH CLOSURE COLLARS AND BE TIGHTLY SEALED TO PREVENT THE TRANSMISSION OF NOISE.
5. SHIFT AIR INLETS/OUTLETS FROM LOCATIONS SHOWN AS REQ'D TO AVOID CONFLICTS W/STRUCTURE & OTHER ITEMS. SUCH SHIFTS SHALL MAINTAIN SYMMETRY OF AIR TERMINALS & SHALL HAVE PRIOR APPROVAL OF ARCHITECT/ENGINEER.
6. PROVIDE PRIMARY CONDENSATE DRAINS FOR AIR CONDITIONING COIL IN ACCORDANCE WITH IMC REQUIREMENTS & AS SHOWN ON PLANS.
7. REFRIGERANT PIPING SIZES SHOWN ON DRAWINGS ARE FOR REFERENCE. SIZE PER FACTORY RECOMMENDATIONS.

ENERGY CODE REQUIREMENTS
A. MATERIALS, METHODS, AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE 2021 EDITION OF THE WASHINGTON STATE COMMERCIAL ENERGY CODE.
B. HVAC EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCIES (EER) LISTED IN THE WASHINGTON STATE ENERGY CODE TABLES C403.3.2.
C. THERMOSTATIC CONTROLS FOR HEATING OR COOLING SYSTEMS SHALL BE PROVIDED WITH DEMAND RESPONSIVE CONTROLS CAPABLE OF INCREASING THE COOLING SETPOINT AND DECREASING THE HEATING SETPOINT BY AT LEAST 4°F PER SECTION C403.4.1.7. CONTROLS SHALL BE ABLE TO PERFORM NORMALLY WHEN DEMAND–RESPONSIVE CONTROLS ARE NOT AVAILABLE.
D. HEAT PUMP CONTROLS TO INCLUDE 7 DAY PROGRAMMING CAPABILITY, 5° DEADBAND, OPTIMUM START AND STOP CONTROL, UNOCCUPIED SETBACK, PART LOAD COOLING, AND 45°F OUTDOOR AIR LOCKOUT. CONTROLS SHALL NOT ALLOW SIMULTANEOUS HEATING AND COOLING.
E. INSULATE REFRIGERANT GAS PIPING WITH 1” U=0.26 INSULATION.
F. TEST AND BALANCE EACH HVAC SYSTEM. ADJUST REGISTERS AND DAMPERS FOR AIR FLOW INDICATED ON DRAWINGS. ADJUST FAN SPEED FOR TOTAL AIR FLOW.
G. COMMISSIONING NOT REQUIRED PER WSEC SECTION 408.1. SYSTEMS ARE LESS THAN 180,000 BTU/HR COOLING AND 240,000 BTU/HR HEATING, AND WITH LESS THAN 300 CFM ENERGY–RECOVERY VENTILATION.
H. PROVIDE RECORD DRAWING, OWNERS MANUALS, BALANCING REPORT AND COMMISSIONING REPORT TO OWNER AT COMPLETION OF PROJECT. SEE C103.6 OF THE WSEC
I. PROVIDE SYSTEMS OPERATIONS TRAINING TO THE BUILDING OWNER PER WSEC PARAGRAPH C103.6.4.

VENTILATION							
AREA NAME	OCCUPANCY CLASSIFICATION	AREA (SF)	IMC CODE REQUIREMENT	REQ'D VOLUME OUTSIDE AIR	OUTSIDE AIR PROVIDED	EXHAUST PROVIDED	
CONTROL ROOM (LEFT)	OFFICE	237	5 CFM/PERSON OA & 0.06 CFM/SF OA	30	–	30	30
CONTROL ROOM (RIGHT)	OFFICE	237	5 CFM/PERSON OA & 0.06 CFM/SF OA	30	–	30	30

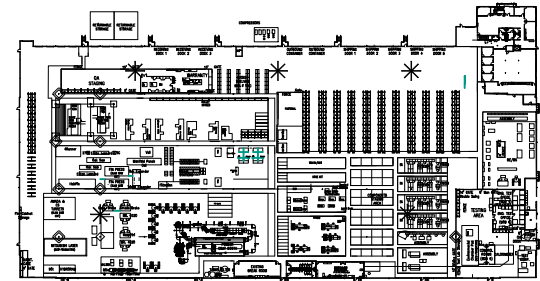
AIR TERMINAL SCHEDULE			
SYMBOL	TYPE	SPECIFIED MFR. & MODEL NO.	DESCRIPTION
CD	CEILING DIFFUSER	TITUS TDC	LOUVER FACE, SQUARE NECK W/ EQUALIZING GRID
CRG	CEILING RETURN GRILLE	TITUS 50F	1/2"x1/2"x1/2" CUBE CORE

HEAT PUMP UNIT - SPLIT SYSTEM TYPE																	
SYMBOL	SPECIFIED MFR. AND MODEL NO.	AREA SERVED	COOLING CAP. *			HEATING CAP.			INDOOR UNIT ***		OUTDOOR UNIT ***		REFRIGERATION PIPE SIZES		MAX. UNIT WEIGHT		REMARKS
						47°DB/43°WB	17°DB/15°WB										
			TOTAL MBH	EER2	SEER2	TOTAL MBH	TOTAL MBH	HSPF2	ELECTRICAL		ELECTRICAL						
									MCA	VOLT/PH	MCA	VOLT/PH	RG	RL	INDOOR	OUTDOOR	
HP-1A HP-1B HP-1C	DAIKIN RXTQ36TBVJUA DAIKIN FZQ18TAVJU DAIKIN FZQ18TAVJU	CONTROL ROOMS	34.2	12.0	23.0	37.0	23.6	9.6	0.6	208/1	16.5	208/1	3/4	3/8	45	175	TWO INDOOR CASSETTES ON A SINGLE OUTDOOR UNIT.①
* COOLING CAPACITY IS ARI RATING: AT 80°F DB; 67°F WB*** ON PLANS "A" DESIGNATES OUTDOOR UNIT, "B" AND "C" INDOOR COIL EAT AND 95°F OUTDOOR COIL EAT.① PROVIDE W/CONDENSATE PUMP DESIGNATE NDOOR UNIT.																	

HEAT RECOVERY VENTILATOR SCHEDULE															
SYMBOL	MANUFACTURER AND MODEL NO.	AREA SERVED	TYPE	SUPPLY FAN		EXHAUST FAN		RECOVERY EFFICIENCY	W/CFM	FILTERS		APPROX. UNIT WEIGHT	UNITS CONNECTION		REMARKS .
				CFM	ESP	CFM	ESP			TYPE	EFF.		MCA	V/PH	
HRV—1	PANASONIC FV—15ESC1	CONTROL ROOMS	CAPILLARY CORE	110	1.0	110	1.0	77	1.8	DISP.	MERV 13	60	61W	115/1	①
① USE SPEED SELECTOR TO BALANCE THE AIRFLOW TO 60 CFM SUPPLY AND 60 CFM EXHAUST.															

HVAC LEGEND					
SYMBOL	DESCRIPTION	ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
— C —	CONDENSATE LINE	AAV	AUTOMATIC AIR VENT ABOVE FINISHED FLOOR	MAX	MAXIMUM THOUSAND BTUH
—RG—	REFRIGERANT GAS	AFF	APPROXIMATELY ARCHITECTURAL	MBH	MINIMUM CIRCUIT AMPS
—RL—	REFRIGERANT LIQUID	ARCH	AUTOMATIC BUILDING	MCA	MECHANICAL MANUFACTURER
20/12L	DUCT (FIRST FIGURE, SIDE SHOWN)	AUTO	BOTTOM OF DUCT	MECH	MINIMUM
20/12 20/12L	LINED DUCT – DIM. FOR NET FREE AREA EOL = END OF LINING	BLDG	BRITISH THERMAL UNIT	MIN	NORMALLY OPEN
R (D)	RISE: R OR DROP: D ARROW IN DIRECTION OF FLOW	B.O.D	BRITISH THERMAL UNIT/HOUR	NO	NUMBER
	DUCT SECTION (SUPPLY)	BTU	CAPACITY	NO.	NOT TO SCALE
	DUCT SECTION (EXHAUST OR RETURN)	BTUH	CUBIC FEET PER MINUTE CEILING	NTS	OUTSIDE AIR
	ROUND DUCT	CAP	COMPRESSOR CONNECTION	OBD	OPOSED BLADE DAMPER
	VOLUME DAMPER (MANUAL)	CLG	CONTINUE, CONTINUATION	PD	PRESSURE DROP
	MOTORIZED DAMPER	COMP	COEFFICIENT OF PERFORMANCE	PH	PHASE
	FLEXIBLE CONNECTION	CONN	DRY BULB	P.O.C.	POINT OF CONNECTION
	FIRE DAMPER COMBINATION FIRE/SMOKE DAMPER	CONT	DEGREE FAHRENHEIT	RA	RETURN AIR
	FLEXIBLE DUCT	COP	DIA, Ø	REF	REFERENCE
	TURNING VANES	DB	DOOR LOUVER	REQ'D	REQUIRED
SIZE SYMBOL CFM	CEILING OUTLET: WHERE 2 CFM'S SHOWN, LARGER=HIGH SPEED SMALLER = LOW SPEED CFM	DEG F°	DOWN	RLA	RATED LOAD AMPS
SIZE SYMBOL CFM	CEILING INLET	DIA, Ø	DRAWING	RM	ROOM
SIZE SYMBOL CFM	WALL OUTLET (OR INLET)	DL	EXISTING	RPM	REVOLUTIONS PER MINUTE
① ①G ①A	THERMOSTAT G = WITH GUARD, A = AVERAGED WITH OTHER	DN	EACH	SA	SUPPLY AIR
⑤	SWITCH	DWG	ENTERING AIR TEMPERATURE	S.O.	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
BP	TIME CLOCK BYPASS	(E)	ENTERING DRY BULB	TD	SCREENED OPENING
①T	INTERVAL TIMER	EA	ENERGY EFFICIENCY RATING	TEMP	TRANSFER DUCT
	THERMAL WELL	EAT	EFFICIENCY	TG	TEMPERATURE
	PRESSURE TEMPERATURE TEST PORT "PETE'S PLUG"	EDB	ELECTRICAL, ELECTRIC	TYP	TRANSFER GRILLE
1 M3	DETAIL IDENTIFICATION NUMBER SHEET ON WHICH DETAIL IS SHOWN	EOL	END OF LINING	U.C.	TYPICAL
A M3	SECTION IDENTIFICATION LETTER SHEET ON WHICH SECTION IS SHOWN	ESP	EXTERNAL STATIC PRESSURE	UNO	UNDERCUT DOOR
		EWB	ENTERING WET BULB	V	UNLESS NOTED OTHERWISE
		EXH	EXHAUST	VTR	VOLTS, VOLTAGE
		EXIST	EXISTING	W	VENT THROUGH ROOF
		FL	FLOOR	W/	WATT
		FLA	FULL LOAD AMPS	WB	WITH WET BULB
		FLEX	FLEXIBLE	WCO	WALL CLEAN OUT
		FPM	FEET PER MINUTE		
		FV	FACE VELOCITY		
		GAL	GALLON		
		GALV.	GALVANIZED		
		HP	HORSE POWER		
		I.E.	INVERT ELEVATION		
		IN	INCH		
		INTEGR.	INTEGRAL		
		KW	KILOWATT		
		LAT	LEAVING AIR TEMPERATURE		
		LDB	LEAVING DRY BULB		
		LWB	LEAVING WET BULB		
		LWT	LEAVING WATER TEMPERATURE		

SHEET INDEX
M–001 – LEGEND, NOTES & SCHEDULES
M–101 – HVAC PLAN & DETAILS



KEY PLAN

DATE: 11 NOVEMBER 2025

LEGEND, NOTES & SCHEDULES

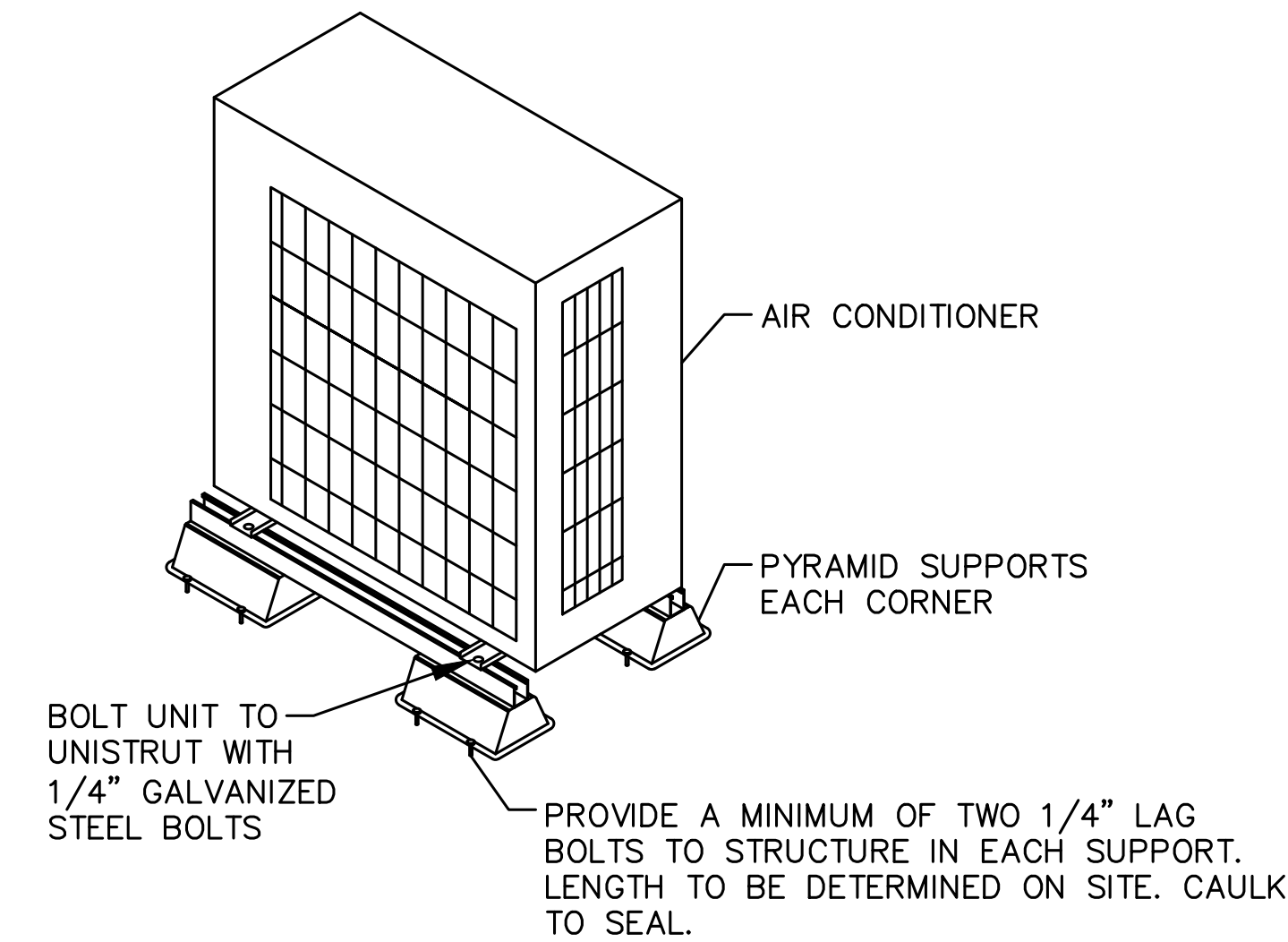
M-001

PERMIT

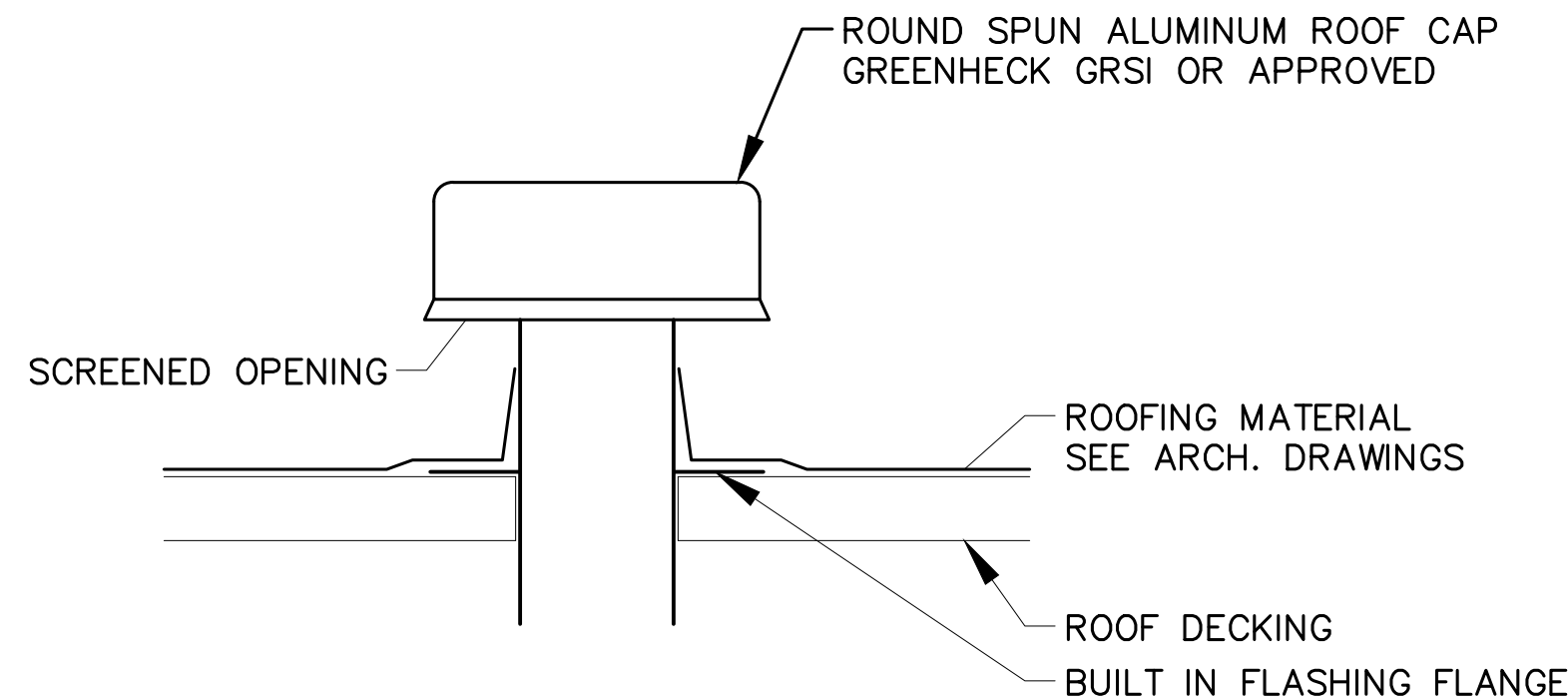
DRAWN BY: AJH

DRAWING NOTES:

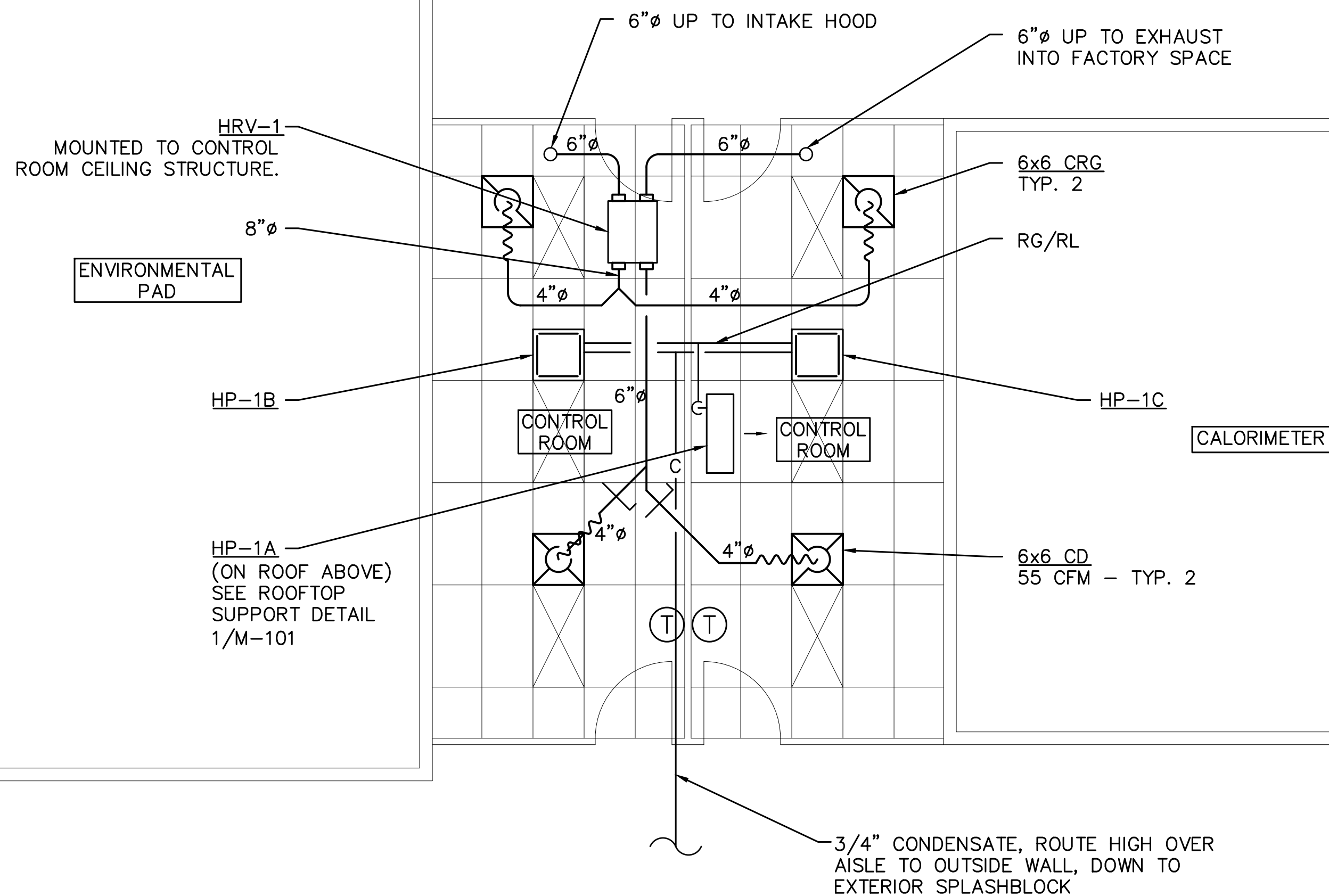
- 1. CONTRACTOR SHALL COORDINATE DUCT INSTALLATION AND OFFSET DUCTS AROUND BUILDING FEATURES, INCLUDING LIGHTS, PLUMBING, CONDUIT, FIRE SPRINKLER PIPING, AND OTHERS.
- 2. CONTRACTOR SHALL INVESTIGATE ALL EXISTING CONDITIONS AND REPORT ALL VARIATIONS FROM PLANS TO ENGINEER.
- 3. PROVIDE THERMOSTATS WHERE SHOWN AND WHERE REQUIRED FOR OPERATION OF HVAC EQUIPMENT. LOCATE THERMOSTATS AT ACCESSIBLE LOCATIONS A MAXIMUM OF 48" ABOVE FLOOR FOR ADA ACCESS.
- 4. LOCATE HVAC EQUIPMENT NO MORE THAN 2' ABOVE THE CEILING FOR ACCESS.
- 5. SEE ENERGY CODE NOTES ON M-001 FOR CONTROL REQUIREMENTS.



ROOFTOP SUPPORT DETAIL 1
NOT TO SCALE M-101

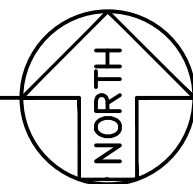


ROOF INTAKE CAP 2
NOT TO SCALE M-101



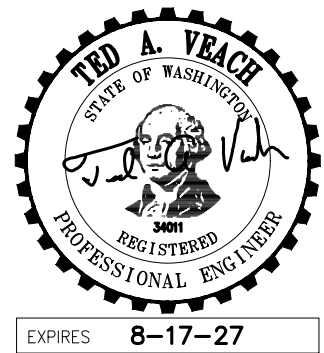
HVAC PLAN

SCALE: 1/4" = 1' - 0"



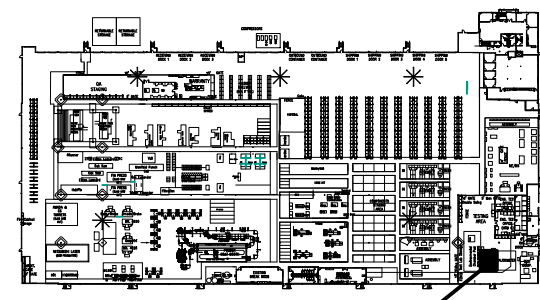
PERMIT

VEACH Consulting Engineers
12181 C Street S. Tacoma, WA 98444
Ph: 253-274-5701 Proj# 2536



REDDOT
2504 E. MAIN AVE.
PUYALLUP, WA 98372

DRAWN BY: AJH



KEY PLAN

DATE: 11 NOVEMBER 2025

HVAC PLAN
DETAILS

M-101