PIPING GENERAL NOTES

PIPING MATERIAL SCHEDULE

PIPING	SIZE	MATERIAL	JOINT
INDIRECT DRAIN	1/2" - 2-1/2"	COPPER TYPE L	LEAD FREE SOLDER, PRESSED MECH JOINT
REFRIGERATION	1/8" - 4-1/8"	COPPER TUBE, ACR	BRAZED

PIPING INSULATION SCHEDULE

PIPING TYPE	PIPE SIZE	INSULATION TYPE	INSULATION THICKNESS	CONDUCTIVITY RANGE
COIL CONDENSATE PIPING	1/2" - 1-1/4"	FIBERGLASS, ELASTOMERIC FOAM	1/2"	0.21 - 0.27
REFRIGERATION SUCTION	1/8" - 1"	ELASTOMERIC FOAM	1/2" (1" IF LOCATED OUTSIDE BLDG...	0.21 - 0.27
REFRIGERATION MIXED (DOWNSTREAM...	1/8" - 7/8"	ELASTOMERIC FOAM	1"	0.21 - 0.27

- ALL PIPING INSULATION AND COVERINGS SHALL HAVE AN ASTM FLAME SPREAD RATING OF 25 OR LESS AND AN ASTM SMOKE DEVELOPED RATING OF 50...
- ELASTOMERIC INSULATIONS SHALL BE CLOSED CELL.
- ELASTOMERIC INSULATIONS WHICH MEET THESE RATINGS MAY BE USED AS A SUBSTITUTE FOR FIBERGLASS.
- PROVIDE A VAPOR BARRIER COVERING ON ALL CHILLED WATER PIPING AND COIL CONDENSATE PIPING INSULATION.
- PROVIDE A COVERING FOR ALL FIBERGLASS INSULATION WITHIN THE BUILDING.
- PROVIDE A VINYL JACKET FOR ALL INSULATION EXPOSED TO SIGHT WITHIN THE BUILDING EXCEPT MECHANICAL ROOMS.
- PROVIDE REMOVABLE LACED INSULATION PAD OVER ALL CONTROL VALVES, WHERE NOT LOCATED WITHIN A MECHANICAL ROOM.
- PROVIDE ALUMINUM JACKET ON ALL INSULATED PIPING OUTSIDE BUILDING.
- AT PIPE HANGERS PROVIDE RIGID INSULATION BETWEEN PIPE AND HANGER.

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET WHICH MAY BE REQUIRED. THE MECHANICAL CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS, AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE 2021 INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), INTERNATIONAL ENERGY CODE (IEC) AND UNIFORM PLUMBING CODE (UPC) AS AMENDED BY THE STATE OF WASHINGTON AND...
3. ALL PIPE SIZES NOTED ON DRAWINGS ARE MINIMUMS.
4. SLOPE ALL INDIRECT DRAINS AT 2% UNLESS OTHERWISE NOTED ON DRAWINGS. OBTAIN APPROVAL FROM THE CODE AUTHORITY BEFORE INSTALLING PIPING AT LESS THAN 2% (EVEN IF LESSER SLOPE IS INDICATED ON DRAWINGS).
5. HANGERS AND SUPPORTS FOR PIPING SHALL BE IN ACCORDANCE WITH THE 2021 IMC AND IBC AS AMENDED BY THE STATE OF WASHINGTON AND LOCAL...
6. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOORS SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
7. PROVIDE CHROME PLATE ESCUTCHEON PLATES AT ALL EXPOSED WALL AND CEILING PENETRATIONS.
8. PROVIDE SHUT-OFF VALVES AT ALL EQUIPMENT CONNECTIONS.
9. PROVIDE UNION, GROOVED OR FLANGED CONNECTION AT EQUIPMENT FOR FUTURE REMOVAL AND SERVICING.
10. FOR CONDENSATE PIPING PROVIDE TRAPS WITH A MINIMUM SEAL 2" GREATER THAN THE FAN OPERATING STATIC PRESSURE AT ALL COOLING COIL...
11. PROVIDE MINIMUM 1" AIR BREAK FOR ALL CONDENSATE PIPE TERMINATIONS AT DRAINS.
12. PROVIDE DIELECTRIC CONNECTIONS BETWEEN DISSIMILAR METALS.

PIPING SYMBOL LEGEND

SYMBOL	DESCRIPTION	ABBV	SYMBOL	DESCRIPTION	ABBV
	VALVE TWO-WAY CONTROL	2WAY		METER BTU	BTU MTR
	VALVE THREE-WAY CONTROL	3WAY		SUB-METER WATER FLOW	MTR
AF	VALVE AUTOMATIC FLOW CONTROL	AF	BTU	PRESSURE / TEMPERATURE PORT	P&T
	VALVE BALANCING	BALV	M	SENSOR PRESSURE DIFFERENTIAL	DP
	VALVE BALANCING AUTOMATIC	ABALV		STRAINER	STRN
	VALVE BALL - FULL PORTED	BV	DP	SUCTION DIFFUSER	SUC DIFF
	VALVE BALL - W/ 3/4" HOSE ADAPTOR	BV W/ HA		UNION	UNION
	VALVE BUTTERFLY	BFV		HOSE BIBB	HB
	VALVE BUTTERFLY - W/ MEMORY STOP	BFVM		PIPE BREAK - PIG TAIL	
	VALVE CHECK	CV		POINT OF CONNECTION	P.O.C.
	VALVE CIRCUIT SETTER	CS		CONCENTRIC REDUCER	CR
	VALVE GAS COCK	GC		ECCENTRIC REDUCER	ER
	VALVE GATE	GV		PIPE - EXISTING	
	VALVE GLOBE	GLV		PIPE - DEMO	
	VALVE PRESSURE REDUCING	PRV	6" CHW'S	PIPE - NEW	
	VALVE PRESSURE RELIEF	RV	6" CHW'S	PIPE - FUTURE	
	VALVE SOLENOID	SV		PIPE - SIZE & ABBREVIATION	
	AUTOMATIC AIR VENT	AV		PIPE - SIZE & ABBREVIATION WITH INSULATION	
	MANUAL AIR VENT	MAV		THERMAL EXPANSION DEVICE	EXP
	WATER HAMMER ARRESTOR	WHA		FLEXIBLE CONNECTION	
	BACKFLOW PREVENTER	BFP		FLEX PIPE	
	REDUCED PRESS. BACKFLOW PREVENTER	RPBP		PIPE - HEAT TRACE	
	BULB WELL	BW		PUMP	
	FLOW DIRECTION ARROW			AIR SEPARATOR	AIR SEP
P	PRESSURE INDICATOR	PRESS		CHEMICAL POT FEEDER	CPOT
	SENSOR	SNSR		HEAT EXCHANGER	HTX
	TEMPERATURE INDICATOR	THERM		EXPANSION TANK	ET

AIR TERMINAL SCHEDULE

TAG	MANUFACTURER & MODEL NUMBER	SIZE	TYPE	NOTES
A SIZE / CFM	SHOEMAKER RS34-O	AS NOTED	DOUBLE DEFLECTION RADIUS SPIRAL PIPE SUPPLY GRILLE	WITH OBD, GRILLE HEIGHT MUST BE 4" SMALLER THAN DUCT HEIGHT. NOTE DUCT HEIGHT WHEN ORDERING.
B SIZE / CFM	SHOEMAKER 700MA	AS NOTED	T-BAR LAY-IN MODULAR CORE DIFFUSER	
C SIZE / CFM	SHOEMAKER 904	AS NOTED	DOUBLE DEFLECTION SIDEWALL DIFFUSER	SURFACE MOUNT
D SIZE / CFM	SHOEMAKER 905	AS NOTED	45° FIXED BLADE RETURN/RELIEF AIR GRILLE	SURFACE MOUNT
E SIZE / CFM	SHOEMAKER RS34-O	AS NOTED	DOUBLE DEFLECTION RADIUS SPIRAL PIPE RETURN/EXHAUST GRILLE	WITH OBD, GRILLE HEIGHT MUST BE 4" SMALLER THAN DUCT HEIGHT. NOTE DUCT HEIGHT WHEN ORDERING.
	SHOEMAKER AL	12/24	T-BAR LAY-IN METAL EGGCRATE (RETURN/EXH)	
	SHOEMAKER AL	24/24	T-BAR LAY-IN METAL EGGCRATE (RETURN/EXH)	

HVAC GENERAL NOTES - 2021 WASHINGTON STATE

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS, AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE CURRENT EDITIONS OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, WASHINGTON STATE ENERGY CODE, AS AMENDED BY LOCAL CODES AND ORDINANCES,
3. ALL DUCT SIZE ANNOTATIONS REPRESENT ACTUAL OUTSIDE DIMENSIONS OF THE SHEET METAL (UNO).
4. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT, DUCTWORK AND PIPING IN ACCORDANCE WITH CHAPTER 16 OF THE 2021 IBC. REFER TO THE EQUIPMENT ANCHORAGE CALCULATION AND DETAILS PACKAGE FOR INSTALLATION AS NEEDED.
5. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOORS SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
6. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS. UNLESS SHOWN ON ARCHITECTURAL DRAWINGS, REQUIRED ACCESS PANELS SHALL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. MINIMUM ACCESS DOOR SIZE FOR VALVES AND...
7. MOTORS STARTERS NOT LISTED AS BEING PROVIDED IN THE HVAC EQUIPMENT SCHEDULES ARE TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
8. WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION TO BE PROVIDED TO THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM, INCLUDING SIZES, AND THE TERMINAL AIR AND WATER DESIGN FLOW RATES.
9. OPERATING AND MAINTENANCE MANUALS TO BE PROVIDED TO THE BUILDING OWNER THAT INCLUDE: SUBMITTAL DATA, NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY, HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION AND A COMPLETE OPERATIONAL NARRATIVE FO...
10. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER
11. MOUNT ALL OCCUPANT OPERATED THERMOSTATS AND SWITCHES FOR HEATING, COOLING AND VENTILATION EQUIPMENT AT A MAX HEIGHT OF 48" AFF (IN ACCORDANCE WITH ADA). FINAL LOCATIONS AND HEIGHT TO BE COORDINATED WITH ARCHITECT.
12. ALL MECHANICAL WORK SHOWN ON DRAWINGS INTENDED TO BE INSTALLED SOLELY BY MACDONALD -MILLER FACILITY SOLUTIONS. MACDONALD-MILLER FACILITY SOLUTIONS SHALL NOT BE HELD ACCOUNTABLE FOR ANY DESIGN OR CONSTRUCTION DEFICIENCIES IF WORK IS PERFORMED BY AN OUTSIDE...

LEGAL DESCRIPTION

PARCEL NUMBER: 0420211030

LEGAL DESCRIPTION: THAT PORTION OF THE WILLIAM BENSTON DONATION LAND CLAIM NO. 47 IN SECTIONS 16 AND 21, TOWNSHIP 20 NORTH, RANGE 4 EAST OF THE W.M., IN PIERCE COUNTY, WASHINGTON, LYING SOUTHERNLY OF CHICAGO, MILWAUKEE & ST. PAUL RAILROAD RIGHT OF WAY AND LYING WESTERLY OF NORTH MERIDIAN (AKA SR 161) AND LYING NORTHERLY OF TODD ROAD NORTHWEST (AKA 23RD VENUE NORTHWEST) AND LYING EASTERLY OF THAT 15 FOOT STRIP CONVEYED TO PIERCE COUNTY FOR ROAD PURPOSES (4TH STREET NORTHWEST, AKA DESHAUX LANE) NY DEED RECORDED UNDER RECORDING NO. 1783507

CONTACT LIST

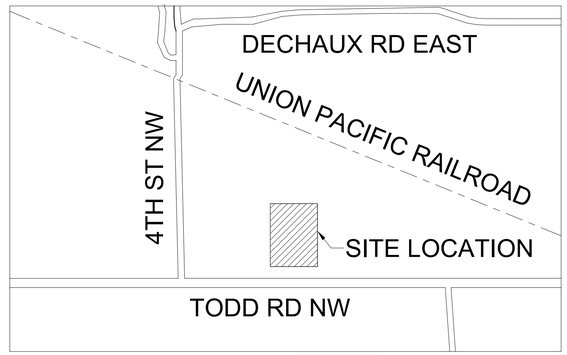
TITLE	NAME	COMPANY	PHONE NUMBER	EMAIL
DESIGN ENGINEER	GARRETT TOWNSEND	MACDONALD-MILLER	206-905-3766	GARRETT.TOWNSEND@MACMILLER.COM
PRINCIPAL ENGINEER	GEORGE GRAHAM	MACDONALD-MILLER	206-768-4288	GEORGE.GRAHAM@MACMILLER.COM
PROJECT EXECUTIVE	BROCK LEE	MACDONALD-MILLER	206-768-3838	BROCK.LEE@MACMILLER.COM
PROJECT MANAGER	RYAN RONGCAL	MACDONALD-MILLER	206-468-3766	RYAN.RONGCAL@MACMILLER.COM
PROJECT ENGINEER	TAYLOR CROOK	MACDONALD-MILLER	206-573-3321	TAYLOR.CROOK@MACMILLER.COM
CSP PRODUCTION MANAGER	TEAGIN HULEEN	MACDONALD-MILLER	206-601-8452	TEAGIN.HULEEN@MACMILLER.COM
REFRIGERATION SUPERINTENDENT	TIM ANDERSON	MACDONALD-MILLER	206-768-4168	TIM.ANDERSON@MACMILLER.COM
FIELD ENGINEERING FOREMAN	BRIAN GRIMSLEY	MACDONALD-MILLER	206-620-4302	BRIAN.GRIMSLEY@MACMILLER.COM
PIPING SUPERINTENDENT	RYAN MARTIN	MACDONALD-MILLER	206-423-5233	RYAN.MARTIN@MACMILLER.COM

SCOPE OF WORK

INSTALL (1) NEW WALL MOUNTED DUCTLESS INDOOR FAN COIL UNIT AND ASSOCIATED PIPING. PROVIDE NEW THERMOSTAT. AIR BALANCE (1) NEW INDOOR UNIT AND (2) EXISTING OUTSIDE AIR DIFFUSER.

DRAWING SHEET INDEX - HVAC

VICINITY MAP



City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

City of Puyallup
Building
REVIEWED FOR COMPLIANCE
BSnowden
01/13/2026
1:30:30 PM

Approval of submitted plans is not an approval of omissions or oversights by this office or non compliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

The approved construction plans, documents, and all engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permitee on site for inspection.

PRMH20260004

MacDonald-Miller
FACILITY SOLUTIONS
17330 Intl. Blvd. Suite.120 SeaTac, WA 98188
Phone: 206-763-9400 www.macmiller.com

GEORGE M. GRAHAM — 55332 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

12/30/2025

REVISIONS:		DATE:
1	PERMIT / CD SET	12/30/25

REVIT CLOUD DESCRIPTION:

PSE - OPERATIONAL TRAINING CENTER
325 TODD ROAD NW
PUYALLUP, WA 98371

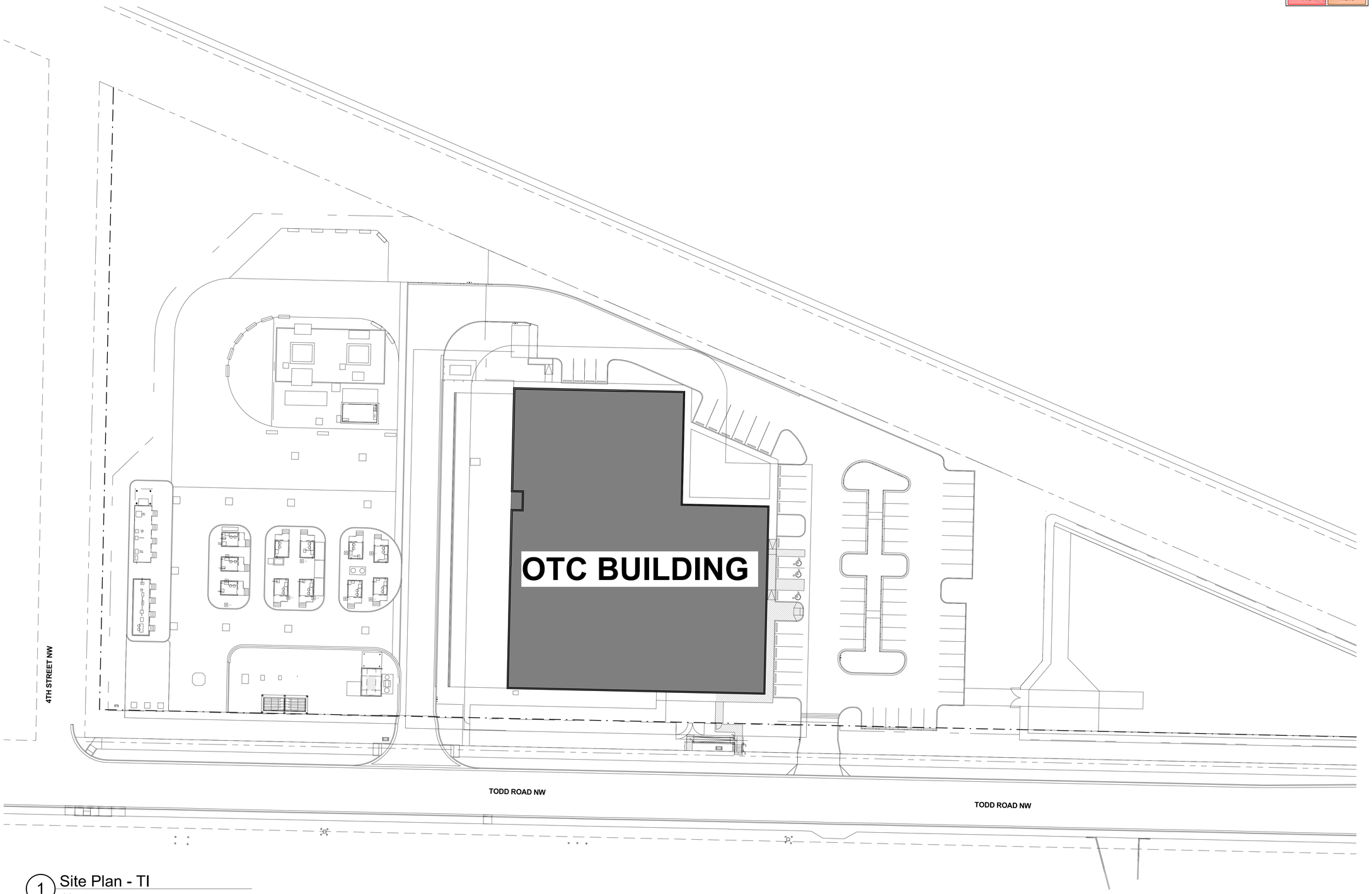
HVAC SCHEDULES
MECHANICAL

ISSUED FOR CONSTRUCTION

ENGINEER: G. Townsend — LAST REVISED: 12/30/25
CHECKED BY: G. Graham — DATE PLOTTED: 12/30/25
BIM: A. Galkin — ISSUE DATE: 12/30/25
PROJECT NUMBER: 72247070-01
SHEET NUMBER: TM0.01

DRC STAMP

MacDonald-Miller
FACILITY SOLUTIONS
17330 Intl. Blvd. Suite.120 SeaTac, WA 98188
Phone: 206-763-9400 www.macmiller.com



1 Site Plan - TI
SCALE: 1/32" = 1'-0"

GEORGE M. GRAHAM
STATE OF WASHINGTON
53332
REGISTERED
PROFESSIONAL ENGINEER

12/30/2025

REVISIONS:		DATE:
1	PERMIT / CD SET	12/30/25

REVIT CLOUD DESCRIPTION:

PSE - OPERATIONAL TRAINING CENTER
325 TODD ROAD NW
PUYALLUP, WA 98371

SITE PLAN - MECHANICAL
MECHANICAL
ISSUED FOR CONSTRUCTION

ENGINEER: G. Townsend	LAST REVISED: 12/30/25
CHECKED BY: G. Graham	DATE PLOTTED: 12/30/25
BIM: A. Galkin	ISSUE DATE: 12/30/25
PROJECT NUMBER: 72247070-01	
SHEET NUMBER:	

TM0.01S

VRF HEAT PUMP - FAN COIL UNIT SCHEDULE

UNIT NO.	AREA SERVED	MITSUBISHI MODEL NO.	CONNECTED BC UNIT	COOLING MBH TOTAL	COOLING MBH SENS	HEAT MBH	BLOWER CFM	BLOWER ESP	BLOWER HP (KW)	ELECTRICAL VOLT/PH	ELECTRICAL MCA	ELECTRICAL CONTROL	WT LBS	NOTES
FCU-01-01	ZONE 1	PEFY-P96NMHSU-E	BC-01-01	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1-4
FCU-01-02	ZONE 2	PEFY-P24NMAU-E4	BC-01-01	22.3	19.0	15.2	880	0.6	0.12	208/1	2.88	24V	67	EXIST, 1-4
FCU-01-03	ZONE 3	PEFY-P24NMAU-E4	BC-01-01	22.3	19.0	15.2	880	0.6	0.12	208/1	2.88	24V	67	EXIST, 1-4
FCU-01-04	ZONE 4	PEFY-P30NMAU-E4	BC-01-01	27.9	21.4	20.1	880	0.6	0.08	208/1	2.88	24V	47	EXIST, 1-4
FCU-01-05	ZONE 13	PEFY-P06NMAU-E4	BC-01-01	5.5	5.5	3.7	300	0.6	0.08	208/1	8.2	24V	47	EXIST, 1-4
FCU-01-06	**ROOM 139**	**PKFY-P12NLMU-ER1.TH**	**BC-01-01**	**12.0**	**9.0**	**13.5**	**250**	**0.6**	**0.04**	**208/1**	**0.24**	**24V**	**25**	**NEW, 1-4**
FCU-02-01	ZONE 5	PEFY-P48NMAU-E4	BC-01-02	44.6	33.5	46.9	1305	0.6	0.3	208/1	4.38	24V	86	EXIST, 1-4
FCU-02-02	ZONE 6	PEFY-P15NMAU-E4	BC-01-02	13.9	11.2	10.0	490	0.6	0.12	208/1	2.88	24V	58	EXIST, 1-4
FCU-02-03	ZONE 7	PEFY-P72NMHSU-E	BC-01-02	66.9	56.3	45.0	2540	1.0	-	208/1	7.7	24V	214	EXIST, 1-4
FCU-02-04	ZONE 15	PEFY-P24NMAU-E4	BC-01-02	22.3	19.0	15.2	630	0.6	0.12	208/1	2.88	24V	67	EXIST, 1-4
FCU-02-05	ZONE 16	PEFY-P18NMAU-E4	BC-01-02	16.8	13.6	17.3	500	0.6	0.12	208/1	2.94	24V	58	EXIST, 1-4
FCU-03-01	ZONE 8	PEFY-P96NMHSU-E	BC-01-03	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1-4
FCU-03-02	ZONE 8	PEFY-P96NMHSU-E	BC-01-03	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1-4
FCU-03-03	ZONE 8	PEFY-P96NMHSU-E	BC-01-03	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1-4
FCU-03-04	ZONE 8	PEFY-P96NMHSU-E	BC-01-03	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1-4
FCU-04-01	ZONE 9	PEFY-P36NMAU-E4	BC-01-04	33.4	28.1	31.4	1270	0.6	0.3	208/1	4.25	24V	84	EXIST, 1-4
FCU-04-02	ZONE 10	PEFY-P96NMHSU-E	BC-01-04	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1-4
FCU-04-03	ZONE 11	PEFY-P48NMAU-E4	BC-01-04	44.6	33.5	46.9	1305	0.6	0.3	208/1	4.38	24V	86	EXIST, 1-4
FCU-04-04	ZONE 12	PEFY-P72NMHSU-E	BC-01-04	89.3	56.3	45.0	2540	1.0	-	208/1	7.7	24V	214	EXIST, 1-4
FCU-04-05	ZONE 12	PEFY-P72NMHSU-E	BC-01-04	66.9	56.3	45.0	2540	1.0	-	208/1	7.7	24V	214	EXIST, 1-4
FCU-04-06	ZONE 14	PEFY-P54NMAU-E4	BC-01-04	50.2	37.9	47.1	1410	0.6	0.3	208/1	4.38	24V	91	EXIST, 1-4
FCU-05-01	ELECTRICAL	PEFY-P96NMHSU-E	-	89.3	70.9	55.4	2965	1.0	-	208/1	8.2	24V	221	EXIST, 1,3-5
FCU-06-01	CONTROL HOUSE	PEFY-P96NMHSU-E	-	89.3	70.9	55.4	2965	1.0	-	230/1	8.2	24V	221	EXIST, 1-4

NOTES:
1. PROVIDE WITH BUILT-IN CONDENSATE LIFT AND CONDENSATE OVERFLOW SENSOR.
2. NO ECONOMIZER PER WSEC C403.5 EXCEPTION 9, DOAS UNIT WITH ENERGY RECOVERY PROVIDED.
3. FIELD ROUTE CONDENSATE TO NEAREST DRAIN. PROVIDE CONDENSATE PUMP AS NECESSARY. POWER BY E.C.
4. INSTALLATION OF REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS.
5. NO ECONOMIZER PER WSEC C403.5 EXCEPTION 11 OPTION A, EQUIPMENT TO COOL DEDICATED ELECTRONIC EQUIPMENT ROOM WITH +15% EFFICIENCY PREMIUM.

CONSTANT AIR REGULATOR SCHEDULE

UNIT NO.	AREA SERVED	SYSTEM TYPE	NAILOR MODEL NO.	SIZE	CFM	CFM RANGE	PRESSURE DROP RANGE MAX (IN)	PRESSURE DROP RANGE MIN (IN)	WT LBS	NOTES
CAR-01-01	TOILET 131 & 132	EXHAUST AIR	CVR-SP	10"	240	175-295	0.8	0.2	10	EXIST, 1
CAR-01-02	WAREHOUSE 138	OUTSIDE AIR	CVR-SP	6"	80	60-105	0.8	0.2	10	EXIST, 1
CAR-01-03	WOMENS 119 / SHOWER 120	EXHAUST AIR	CVR-HP	10"	750	500-765	2.4	0.4	15	EXIST, 1
CAR-01-04	MENS 117 / SHOWER 118	EXHAUST AIR	CVR-HP	10"	750	500-765	2.4	0.4	15	EXIST, 1
CAR-01-05	JANITOR 116	EXHAUST AIR	CVR-SP	8"	100	60-105	0.8	0.2	10	EXIST, 1
CAR-01-06	WORKROOM 110	EXHAUST AIR	CVR-SP	10"	250	175-295	0.8	0.2	10	EXIST, 1
CAR-01-07	HALL 101A	OUTSIDE AIR	CVR-SP	8"	100	60-105	0.8	0.2	10	EXIST, 1
CAR-01-08	WORKROOM 110	OUTSIDE AIR	CVR-SP	6"	100	60-105	0.8	0.2	10	EXIST, 1
CAR-01-09	MOTHER'S ROOM 115	OUTSIDE AIR	CVR-SP	6"	50	30-60	0.8	0.2	10	EXIST, 1
CAR-01-10	HUDDLE 113	OUTSIDE AIR	CVR-SP	6"	30	30-60	0.8	0.2	10	EXIST, 1
CAR-01-11	CONFERENCE 112	OUTSIDE AIR	CVR-SP	6"	100	60-105	0.8	0.2	10	EXIST, 1
CAR-01-12	FACILITIES 109	EXHAUST AIR	CVR-SP	8"	100	60-105	0.8	0.2	10	EXIST, 1
CAR-01-13	BREAK ROOM 102	EXHAUST AIR	CVR-HP	10"	515	500-765	2.4	0.4	15	EXIST, 1
CAR-01-14	WAREHOUSE 124	OUTSIDE AIR	CVR-SP	8"	120	105-175	0.8	0.2	10	EXIST, 1
CAR-01-15	**C&P STOR 139 / STOR 141**	**OUTSIDE AIR**	**CVR-SP**	**8"**	**90**	**60-105**	**0.8**	**0.2**	**10**	**EXIST, 1,2**

NOTES:
1. FLOW RANGE SET ON SITE BY MECHANICAL CONTRACTOR.
2. AIR BALANCE DAMPER

VRF HEAT PUMP CONDENSING UNIT SCHEDULE

UNIT NO.	AREA SERVED	MITSUBISHI MODEL NO.	CONNECTED BC UNIT	COOL TONS	HEAT MBH	COP	EER/ IEER	ELEC MODULE 1 VOLT/PH	ELEC MODULE 1 MCA	ELEC MODULE 2 VOLT/PH	ELEC MODULE 2 MCA	WT LBS	NOTES
CU-R-01	OTC NORTH	PURY-EP192YNU-A	BC-01-01	16	215	3.75	13.0/25.3	460/3	14	460/3	14	1314	EXIST, 1,2,4
CU-R-02	OTC EAST	PURY-EP192YNU-A	BC-01-02	16	215	3.75	13.0/25.3	460/3	14	460/3	14	1314	EXIST, 1,2,4
CU-R-03	OTC SOUTH	PURY-EP432YSNU-A	BC-01-03	36	480	3.2	9.95/15	460/3	33	460/3	33	1836	EXIST, 1,3,4
CU-R-04	OTC WEST	PURY-EP432YSNU-A	BC-01-04	36	480	3.2	9.95/15	460/3	33	460/3	33	1836	EXIST, 1,3,4
CU-R-05	MAIN ELEC	PUHY-EP96YNU-A	-	8	-	-	14.1/26.7	460/3	14	-	-	657	EXIST, 1,5
CU-06-01	CNTRL HOUSE	PUHY-EP96YNU-A	-	8	-	-	14.1/26.7	460/3	14	-	-	657	EXIST, 1

NOTES:
1. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL ELECTRICAL DISCONNECT.
2. UNIT IS TWO MODULES TWINNED TOGETHER WITH TWINNING KIT CMY-R200NCBK.
3. UNIT IS TWO MODULES TWINNED TOGETHER WITH TWINNING KIT CMY-R300NCBK.
4. TWO POINTS OF ELECTRICAL CONNECTION REQUIRED, ONE FOR EACH MODULE.
5. LOCK OUT UNIT HEATING.

VRF BRANCH CONTROLLER UNIT SCHEDULE

UNIT NO.	AREA SERVED	MITSUBISHI MODEL NO.	CONNECTED VRF CU	NUMBER OF PORTS	ELECTRICAL VOLT/PH	ELECTRICAL MCA	WT LBS	NOTES
BC-01-01	OTC NORTH	CMB-P108NU-JA1-BV	CU-R-01	8	208/1	0.8	106	EXISTING, 1-2
BC-01-02	OTC EAST	CMB-P108NU-JA1-BV	CU-R-02	8	208/1	0.8	106	EXISTING, 1-2
BC-01-03	OTC SOUTH	CMB-P1016NU-KA1-BV	CU-R-03	16	208/1	1.6	153	EXISTING, 1-2
BC-01-04	OTC WEST	CMB-P1016NU-KA1-BV	CU-R-04	16	208/1	1.6	153	EXISTING, 1-2

NOTES:
1. PROVIDE WITH BALL VALVES ON ALL PORTS
2. FIELD ROUTE CONDENSATE TO NEAREST DRAIN. PROVIDE CONDENSATE PUMP AS NECESSARY. POWER BY E.C.

VENTILATION CALCULATIONS

ROOM NO.	ROOM NAME	TYPE	AREA	OCCUPANCY DEFAULT # / 1000 FT2	OCCUPANCY DEFAULT	OCCUPANCY ACTUAL	ASHRAE 62.1 VENTILATION CFM/ PERSON	ASHRAE 62.1 VENTILATION CFM / FT2	ASHRAE 62.1 VENTILATION EZ	ASHRAE 62.1 VENTILATION VOZ	DESIGN CFM
139	C&P STOR.	Conference rooms	163	50	9	5	6.5	0.078	0.8	57	60
141	STOR.	Warehouse	288	0	0	0	0	0.078	0.8	28	30

DESCRIPTION OF OPERATIONS

TYPICAL VRF HEAT PUMP WITH ENERGY RECOVERY AND INDOOR FAN COIL UNITS
SERVES: OTC BUILDING
CONTROL TYPE: DDC SYSTEM
SPACE TEMPERATURE SETPOINTS: 74°F (COOLING), 70°F (HEATING) USER ADJUSTABLE
DDC SYSTEM INTERFACE: YES
NOTES: MITSUBISHI VRF HEAT PUMP SYSTEM CONTROLLED BY STANDALONE CONTROL SYSTEM THAT INTERFACES WITH BUILDING DDC SYSTEM.
SUMMARY: PROVIDES SPACE TEMPERATURE CONTROL. OUTDOOR UNITS WILL ENERGIZE THE REFRIGERATION LINES THAT WILL BE DISTRIBUTED TO THE INDOOR FAN COIL UNITS VIA BRANCH CONTROLLERS PER SYSTEM. THE FAN COIL WILL TRANSLATE THE ENERGY IN THE REFRIGERATION LINES TO PROVIDE SPACE...

DOAS-R-01: DEDICATED OUTSIDE AIR UNIT WITH ENERGY RECOVERY
SERVES: OTC BUILDING
CONTROL TYPE: DDC SYSTEM
LEAVING AIR TEMPERATURE SETPOINT: 63°F (USER ADJUSTABLE)
SUMMARY: DEDICATED OUTSIDE AIR UNIT TO PROVIDE VENTILATION REQUIREMENTS TO THE OTC BUILDING UTILIZING ENERGY RECOVERY. SUPPLEMENTAL ELECTRIC HEAT PROVIDED TO ACHIEVE A 55°F LAT DURING WHEN NECESSARY. OUTDOOR AIRFLOWS WILL BE MEASURED AT A SPACE-BY-SPACE LEVEL VIA A SING...

City of Puyallup
Development & Permitting Services
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PRMH20260004

MacDonald-Miller
FACILITY SOLUTIONS
17330 Intl. Blvd. Suite. 120 SeaTac, WA 98188
Phone: 206-763-9400 www.macmiller.com

GEORGE M. TOWNSEND — STATE OF WASHINGTON — 53332 — REGISTERED PROFESSIONAL ENGINEER

1/12/2026

REVISIONS:	PERMIT / CD SET	REVIT CLOUD DESCRIPTION:	DATE:
1			12/30/25

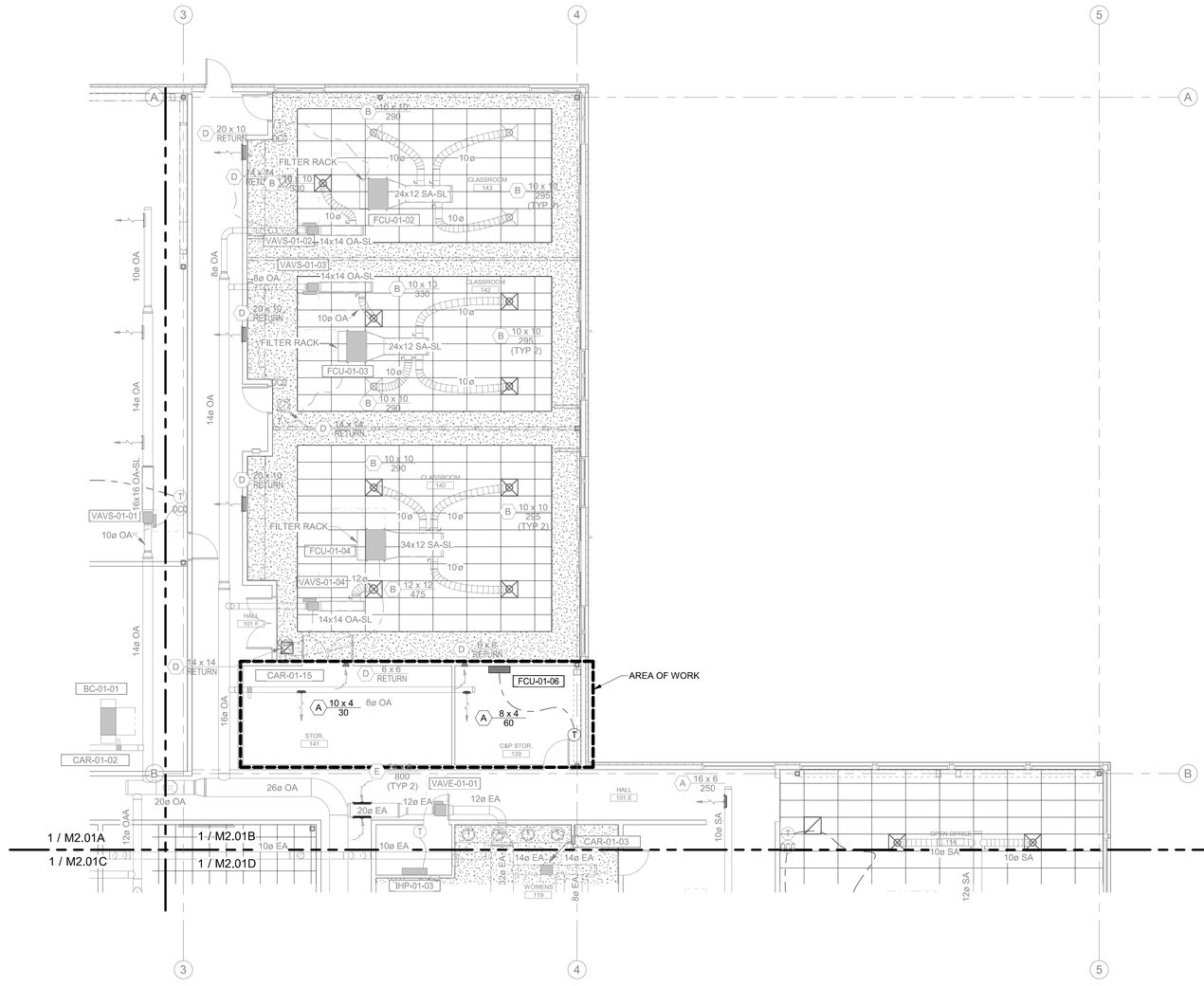
PSE - OPERATIONAL TRAINING CENTER
325 TODD ROAD NW
PUYALLUP, WA 98371

HVAC SCHEDULES
MECHANICAL

ISSUED FOR CONSTRUCTION

ENGINEER: G. Townsend
CHECKED BY: G. Graham
BIM: A. Galkin
PROJECT NUMBER: 72247070-01
SHEET NUMBER: TM0.02
LAST REVISED: 12/30/25
DATE PLOTTED: 12/30/25
ISSUE DATE: 12/30/25

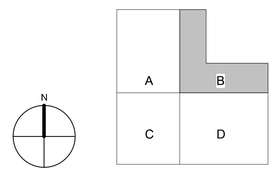
DRC STAMP



2 Level 01 - SHEETMETAL TI - SECTOR B

SCALE: 1/8" = 1'-0"

KEYPLAN



City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

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Phone: 206-763-9400 www.macmiller.com

GEORGE M. GRAHAM — STATE OF WASHINGTON — 53332 — REGISTERED — PROFESSIONAL ENGINEER

12/30/2025

REVISIONS:		DATE:
1	PERMIT / CD SET	12/30/25

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325 TODD ROAD NW
PUYALLUP, WA 98371

1ST FLOOR SECTOR MECHANICAL
MECHANICAL
ISSUED FOR CONSTRUCTION

ENGINEER: G. Townsend	LAST REVISED: 12/30/25
CHECKED BY: G. Graham	DATE PLOTTED: 12/30/25
BIM: A. Galkin	ISSUE DATE: 12/30/25

PROJECT NUMBER: 72247070-01

SHEET NUMBER:

TM2.01B

DRC STAMP

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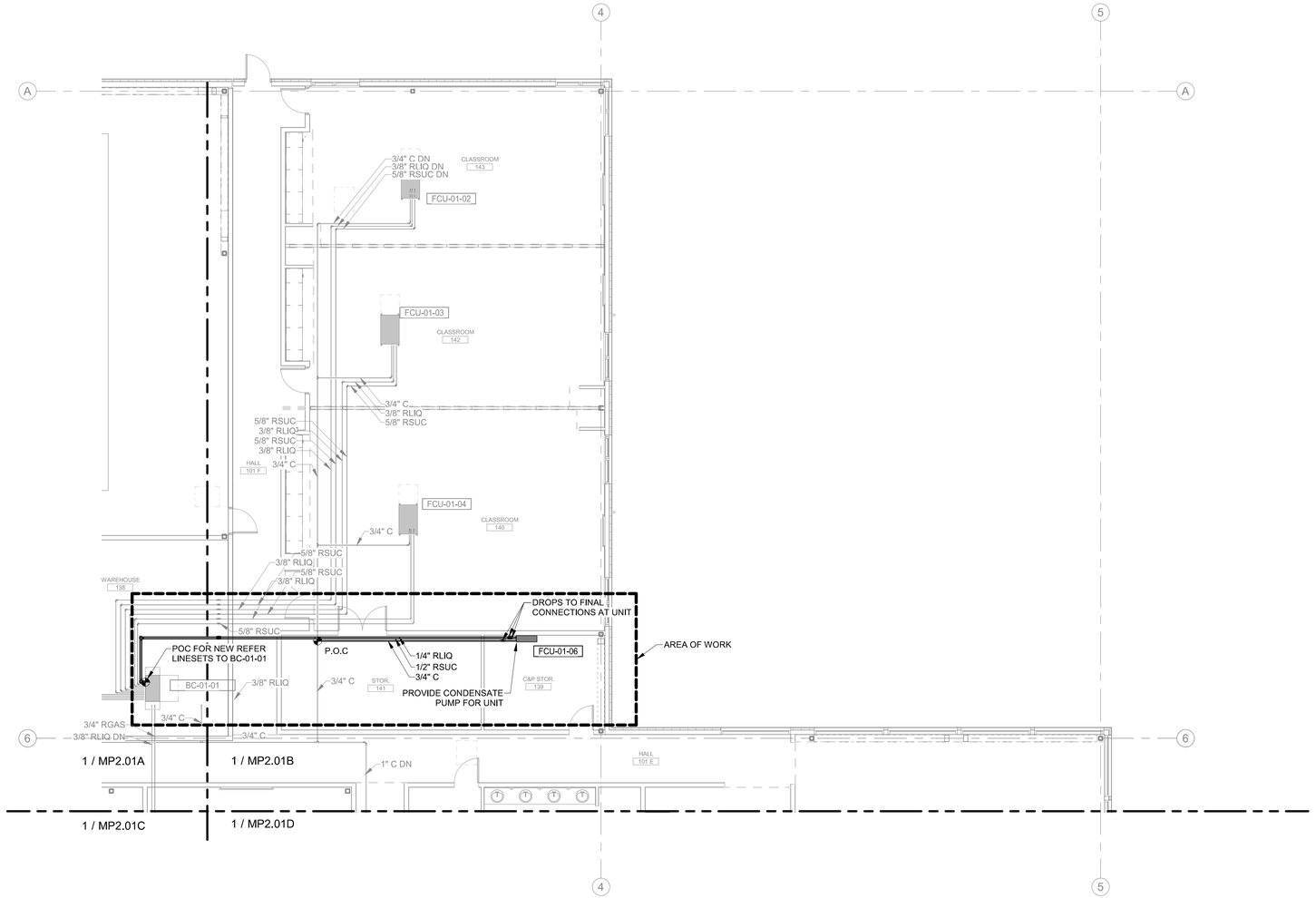
12/30/2025

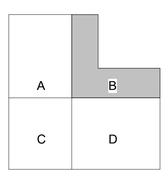
REVISIONS:		DATE:
1	PERMIT / CD SET	12/30/25



1 Level 01 - FITTING TI - SECTOR - B

SCALE: 1/8" = 1'-0"

KEYPLAN



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1ST FLOOR - FITTING

FITTING

ISSUED FOR CONSTRUCTION

ENGINEER: G. Townsend	LAST REVISED: 12/30/25
CHECKED BY: G. Graham	DATE PLOTTED: 12/30/25
BIM: A. Galkin	ISSUE DATE: 12/30/25
PROJECT NUMBER: 72247070-01	
SHEET NUMBER: TMP2.01B