

Symbol	Description
(M)	AIR PRESSURE GAUGE
(S)	AIR SAMPLING POINT
(C)	CARBON DIOXIDE SENSOR
(CO)	CARBON MONOXIDE SENSOR
(G)	COMBUSTIBLE GAS SENSOR
(C)	CURRENT SENSOR
(C)	CURRENT TRANSMITTER WITH LEAD
(D)	DEWPOINT SENSOR
(D)	DIFFERENTIAL PRESSURE SENSOR
(DP)	DIFFERENTIAL PRESSURE TRANSMITTER
(M)	FLOW METER
(S)	FLOW SWITCH
(T)	FLOW TRANSMITTER
(F)	FREEZE STAT
(S)	HAND SWITCH
(H)	HUMIDITY SENSOR
(L)	LEVEL CONTROL
(S)	LIMIT SWITCH
(L)	LOOP POWER INDICATOR
(N)	NITROGEN OXIDE SENSOR
(O)	OCCUPANCY SENSOR
(O)	OXYGEN SENSOR
(P)	POSITION INDICATOR
(P)	PRESSURE SENSOR
(R)	REFRIGERANT SENSOR
(RH)	RELATIVE HUMIDITY SENSOR
(R)	RELAY
(R)	ROOM HUMIDITY SENSOR
(S)	STATIC PRESSURE SENSOR
(S)	TEMPERATURE SENSOR
(T)	THERMOSTAT
(T)	THERMOSTAT WITH GUARD
(V)	TOTAL VOLATILE ORGANIC COMPOUND SENSOR
(V)	VIBRATION SENSOR
(S)	AIR FLOW SWITCH
(P)	CURRENT TO PRESSURE
(E)	ELECTRIC / PNEUMATIC
(S)	SILICON CONTROLLED RECTIFIER
(P)	TEMPERATURE CONTROL PANEL
(T)	TERMINAL EQUIPMENT CONTROLLER
(S)	SENSOR WELL
(A)	ALARM HORN
(B)	ALARM BEACON
(A)	ANALOG INPUT
(A)	ANALOG OUTPUT
(D)	DIRECT INPUT
(D)	DIRECT OUTPUT
(S)	STARTER
(V)	VARIABLE FREQUENCY DRIVE
(M)	NON MOTORIZED VALVE
(M)	TWO WAY MOTORIZED VALVE
(M)	THREE WAY MOTORIZED VALVE
(M)	TWO WAY SOLENOID VALVE
(M)	THREE WAY SOLENOID VALVE
(M)	TWO WAY PNEUMATIC VALVE
(M)	THREE WAY PNEUMATIC VALVE
(P)	PUMP
(S)	DUCT SMOKE DETECTOR
(S)	DUCT SMOKE DETECTOR
(V)	AIR VALVE

Symbol	Description
(U)	UNITARY HEATING COIL
(U)	UNITARY COOLING COIL
(U)	UNITARY HEAT RECOVERY COIL
(F)	FILTER
(B)	AIR BLENDER
(W)	ENERGY WHEEL
(P)	PLATE ENERGY RECOVERY COIL
(S)	AIR FLOW MEASURING STATION
(P)	AIR FLOW PROBE
(D)	BACKDRAFT DAMPER
(G)	REFRIGERANT HOT GAS
(S)	REFRIGERANT SUCTION
(E)	DAMPER ACTUATOR - ELECTRIC
(E)	DAMPER ACTUATOR - ELECTRIC
(F)	CENTRIFUGAL FAN
(P)	PROP FAN
(P)	PLENUM FAN
(H)	HUMIDIFIER
(E)	ENERGY CORE
(C)	CONTACT
(P)	DDC PANEL
(C)	COMPUTER

Symbol	Description
(F)	FIRE - ANTI-FREEZE
(C)	FIRE - CLEAN AGENT
(D)	FIRE - DELUGE
(D)	FIRE - DRAIN
(D)	FIRE - DRY
(A)	FIRE - PRE-ACTION
(W)	FIRE - WET
(G)	SPRINKLER GUARD FOR UPTIGHT, PENDANT OR SIDEWALL SPRINKLER
(A)	ABBREVIATION FOR ANTI-CORROSION
(H)	ABBREVIATION FOR HIGH TEMPERATURE
(C)	SPARE CABINET FOR 12 SPRINKLERS
(S)	DRAINAGE PIPING
(E)	FIRE EXTINGUISHER
(C)	SIAMSESE FIRE DEPARTMENT CONNECTION
(H)	PRIVATE HYDRANT - ONE HOSE OUTLET
(H)	PUBLIC HYDRANT - TWO HOSE OUTLETS
(H)	PUBLIC HYDRANT - TWO HOSE OUTLETS AND PUMPER CONNECTION
(A)	FIRE VALVE CABINET
(C)	SPRINKLER CABINET
(A)	FIRE HOSE VALVE ASSEMBLY
(D)	FIRE DAMPER
(S)	SMOKE DAMPER
(D)	FIRE SMOKE DAMPER
(S)	DUCT MOUNTED SMOKE SENSOR
(S)	WET ALARM CHECK VALVE WITH TRIMMING
(S)	DELUGE ALARM CHECK WITH TRIMMING
(S)	AIR MAINTENANCE DEVICE
(S)	FLOOR AIR COMPRESSOR TANK
(S)	MOUNTED AIR COMPRESSOR ASSEMBLY
(S)	DRY ALARM CHECK VALVE WITH TRIMMING
(S)	PREACTION ALARM CHECK VALVE WITH TRIMMING
(S)	BOOSTER PUMP (ALBANY PUMP)
(S)	TEST AND DRAIN VALVE
(S)	PRESSURE REDUCING VALVE
(S)	1-1/2 FIRE CONNECTION ANGLE VALVE
(S)	2-1/2 FIRE CONNECTION ANGLE VALVE
(S)	FLOOR CONTROL VALVE ASSEMBLY
(S)	CHECK VALVE
(S)	TREADED BALL VALVE
(S)	GROOVED BALL VALVE
(S)	HYDRAULIC GONG
(S)	ELECTRIC BELL
(S)	ELBOW WITH DRAIN 1 IN.
(S)	GROOVE ELBOW
(S)	GROOVE TEE
(S)	FIRE DEPARTMENT CONNECTION AND BACKFLOW PREVENTER
(S)	SIAMSESE PROJECTING CONNECTION +Y+
(S)	SIAMSESE CONNECTION +Y+ FREE STANDING
(S)	BODY FOR FIRE DEPARTMENT CONNECTION AND BACKFLOW PREVENTER
(S)	CONCENTRIC GROOVED MECHANICAL REDUCER
(S)	GROOVED MECHANICAL TEE OR CAP
(S)	REDUCING COUPLING
(S)	THREADED MECHANICAL TEE OR CAP
(S)	THREADED MECHANICAL CROSS
(S)	THREADED MECHANICAL TEE
(S)	HORIZONTAL SPLIT CASE FIRE PUMP
(S)	END SUCTION FIRE PUMP
(S)	VERTICAL IN-LINE FIRE PUMP
(S)	FIRE PUMP ANGLE BODY 4 WAY
(S)	JOCKEY PUMP
(S)	PREACTION CABINET
(S)	FIRE HOSE RACK
(S)	SEISMIC EXPANSION LOOP
(S)	WALL POST INDICATOR VALVE (PIV)
(S)	HYDRANT VALVE CONTROL
(S)	WALL HYDRANT
(S)	WALL MOUNTED PORTABLE FIRE EXTINGUISHER
(S)	SEMI RECESSED CABINET FOR PORTABLE EXTINGUISHER

Symbol	Description
(S)	PIPE SIZE
(S)	PIPING ROUTED BELOW SLAB OR GRADE
(S)	ACID VENT
(S)	ACID WASTE
(S)	BOILER BLOWDOWN
(S)	COMPRESSED AIR (NOMINAL PRESSURE)
(S)	CONDENSATE DISCHARGE PUMPE
(S)	CONDENSATE DRAIN
(S)	DIONIZED WATER
(S)	DIONIZED WATER RECIRCULATING
(S)	DISTILLED WATER
(S)	DOMESTIC COLD WATER
(S)	DOMESTIC COLD WATER SOFTENED
(S)	DOMESTIC HOT WATER
(S)	DOMESTIC HOT WATER RECIRCULATION
(S)	DRAIN
(S)	GREASE WASTE
(S)	HUMIDIFICATION
(S)	LABORATORY VENT
(S)	LABORATORY WASTE
(S)	NATURAL GAS (LOW PRESSURE)
(S)	GARAGE DRAINAGE
(S)	NATURAL GAS VENT
(S)	MEDIUM PRESSURE GAS
(S)	NON-POTABLE COLD WATER
(S)	NON-POTABLE COLD WATER SOFTENED
(S)	NON-POTABLE HOT WATER
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(S)	PNEUMATIC TRANSPORT
(S)	PROPANE GAS
(S)	REVERSE OSMOSIS
(S)	REVERSE OSMOSIS RECIRCULATION
(S)	SAMPLING LINE
(S)	SANITARY DRAIN
(S)	SANITARY DRAIN (OIL)
(S)	SANITARY PUMPE
(S)	SANITARY RADIOACTIVE
(S)	STORM DRAIN
(S)	STORM DRAIN OVERFLOW
(S)	STORM DRAIN PUMPE
(S)	VACUUM (AIR)
(S)	VACUUM PUMP EXHAUST
(S)	VENT
(S)	VENT (OIL)
(S)	VENT (SEWAGE EJECTOR)
(S)	PIPE INSULATION
(S)	FIXTURE TRAP
(S)	CATCH BASIN
(S)	MAN HOLE
(S)	ROOF DRAIN
(S)	FLOOR DRAIN
(S)	FUNNEL FLOOR DRAIN
(S)	TREAD BALL VALVE
(S)	HOSE BIBB
(S)	PLUMBING FIXTURES
(S)	ANESTHETIC EVACUATION
(S)	CARBON DIOXIDE
(S)	DENTAL COMPRESSED AIR
(S)	DENTAL VACUUM
(S)	HELIUM
(S)	HYDROGEN
(S)	INSTRUMENT AIR
(S)	LABORATORY COMPRESSED AIR
(S)	LABORATORY VACUUM
(S)	MEDICAL AIR
(S)	MEDICAL VACUUM
(S)	NITROGEN
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720 3rd Avenue Suite 1500  
Seattle Washington 98104-1878  
(206) 667-0555

**MECHANICAL DRAWINGS**

CENTERS  
VOLTAGE PARK UPS  
1019 39th AVENUE SE  
PUYALLUP, WA 98374



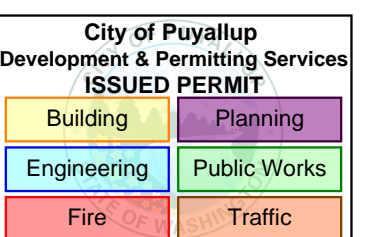
04/17/2026

Revision No. Description Date

Drawn By: RM  
Checked By: JL

**MECHANICAL GENERAL NOTES**

Sheet **M.FT2.002**



**DEMO NOTES**

1. NOT ALL EXISTING CONDITIONS HAVE BEEN SHOWN, CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMO.
2. CONTRACTOR SHALL PROTECT ALL WORK AND EXISTING CONDITIONS ASSOCIATED WITH THIS CONTRACT FROM DAMAGE, COVER ENDS OF PIPING AND DUCTWORK NOT ACTIVELY BEING WORKED ON, IT IS THE CONTRACTOR RESPONSIBILITY TO REPAIR OR REPLACE ANY DAMAGED ITEMS THAT OCCURS DURING THIS CONSTRUCTION PROJECT AT NO COST TO THE OWNER.
3. DEMOLISH ALL REQUIRED EQUIPMENT, DUCTWORK, PIPING, HANGERS, CONTROLS AND ALL ASSOCIATED EXISTING SYSTEMS AS REQUIRED, TO REPLACE EACH SYSTEM, CONTRACTOR SHALL COORDINATE DEMOLITION WITH EXISTING SYSTEMS AND COMPONENTS TO REMAIN PRIOR TO WORK COMMENCING.
4. IT IS THE CONTRACTOR RESPONSIBILITY TO CLEAN UP ALL DEBRIS FROM SITE AT THE END OF EACH WORK DAY AND DISPOSE OFF EITHER IN LAY DOWN RECYCLE BINS PROVIDED BY THE CONTRACTOR OR OFFSITE ALL TOGETHER.
5. ALL DEMOLISHED EQUIPMENT SHALL BE TURNED OVER TO THE OWNER UNLESS DIRECTED OTHERWISE. IF NOT REQUIRED BY OWNER, DISPOSE AS REQUIRED.

**SCOPE OF WORK**

1. ONE ROW OF IT CABINETS IS TO BE ADDED TO THE L2 DDC SPACE. A NEW ROOM IS PROVIDED FOR THIS ROW OF CABINETS.
2. MECHANICAL SCOPE INCLUDES THE ADDITION OF ONE CHILLED WATER AIR HANDLER, SERVED BY EXISTING AIR-COOLED CHILLERS.
3. THE ROW OF IT CABINETS IS TO BE SERVED BY EXISTING CHILLER SYSTEM SERVING EXISTING THREE ROWS OF L2 DDC IT CABINETS.
4. PIPING IS TO BE EXTENDED FROM EXISTING CHILLER DISTRIBUTION SYSTEM TO SERVE NEW ROW OF IT CABINETS.

**GENERAL NOTES**

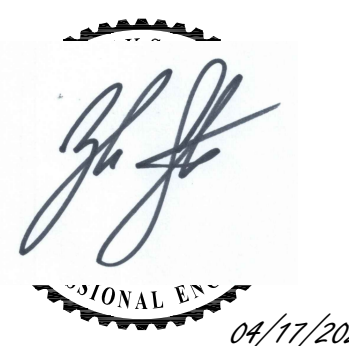
1. THE MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE AND ARE BASED ON ONE MANUFACTURERS EQUIPMENT, THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL OF THE DETAILS FOR THE EQUIPMENT, THE MECHANICAL CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT AND ENSURE THAT IT WILL FIT IN THE AVAILABLE SPACE.
2. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLATION OF COMPLETED OPERATIONAL SYSTEMS WITH DUE RESPECT TO ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.
3. IT IS THE CONTRACTOR RESPONSIBILITY TO FIELD VERIFY ALL CONNECTION POINTS PRIOR TO INSTALL, NOT ALL CONNECTION SIZES ARE SHOWN, BUT THOSE THAT ARE APPROXIMATE AND TAKEN FROM EXISTING AS-BUILTS AND FIELD OBSERVATIONS.
4. COORDINATE PIPE ROUTING WITH DUCTWORK, SPRINKLER PIPING AND ELECTRICAL, POWERLIGHTING CIRCUITING AND STRUCTURAL MEMBERS PRIOR TO INSTALLATION.
5. CONTRACTORS TO VERIFY ALL GRADES, DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH WORK, NOTIFY PRIME CONSULTANT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS BEFORE INSTALLATION.
6. EQUIPMENT AND SYSTEMS SHALL COMPLY WITH 2021 WASHINGTON STATE ENERGY AND MECHANICAL CODES.
7. COORDINATE INSTALLATION OF PIPING AND DUCTWORK WITH ELECTRICAL CONTRACTOR AND OTHER TRADES.
8. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS NEEDED TO CONSTRUCT WORK SHOULD IN THE CONSTRUCTION DOCUMENTS AND ACCOMPANYING SPECIFICATIONS.
9. IF THERE IS A CONFLICT BETWEEN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, THE MOST STRINGENT WILL APPLY.
10. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS, CONTRACTOR TO PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
11. SYSTEMS ADHERE TO 2021 WSEC SECTION C403.2.4 VARIABLE FLOW CAPACITY, FOR FAN AND PUMP MOTORS 5 HP AND GREATER, INCLUDING MOTORS IN OR SERVING CUSTOM AND PACKAGED AIR HANDLERS SERVING VARIABLE AIR VOLUME SYSTEMS, CONSTANT VOLUME FANS, HEATING AND COOLING HYDRONIC PUMPING SYSTEMS, AND OTHER PUMP OR FAN MOTORS WHERE VARIABLE FLOWS ARE REQUIRED SHALL BE EQUIPPED WITH VARIABLE SPEED DRIVES.
12. SYSTEMS ADHERE TO SECTION C403.3.2 HVAC EQUIPMENT PERFORMANCE REQUIREMENTS: EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C403.3.2(1) THROUGH C403.3.2(2) WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICABLE TEST PROCEDURE.
13. SYSTEMS ADHERE TO C405.8 ELECTRIC MOTOR EFFICIENCY:
  - A. ALL ELECTRIC MOTORS, FRACTIONAL OR OTHERWISE, SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C405.8(1) THROUGH C405.8(4) WHEN TESTED IN ACCORDANCE WITH DOE 10 CFR UNLESS OTHER EXCEPTIONS ARE QUALIFIED AND MET BY THIS SECTION.
  - B. FRACTIONAL HP FAN MOTORS THAT ARE 1/12 HP OR GREATER AND LESS THAN 1 HP (BASED ON THE OUTPUT POWER) WHICH ARE NOT COVERED IN TABLES C405.8(3) AND C405.8(4) SHALL BE ELECTRONICALLY COMMUTATED MOTORS OR SHALL HAVE A MINIMUM MOTOR EFFICIENCY OF 70 PERCENT WHEN RATED IN ACCORDANCE WITH DOE 10 CFR 431.
14. PENETRATIONS OF DUCTS, PIPES, CONDUITS, ETC IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED, FIRE STOP MATERIAL SHALL BE A UL/ULC-LISTED ASSEMBLY APPROPRIATE FOR FIRE OR SMOKE PENETRATIONS AS APPLICABLE AND AS APPROVED BY THE FIRE MARSHAL.
15. THE MECHANICAL CONTRACTOR SHALL PROVIDE FIRE RATED PENETRATIONS FOR PIPING TO COMMENSURATE WITH THE RATINGS OF THE WALL, IN ALL PENETRATIONS OF FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITION IN ALL PIPING THAT PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON THE DRAWINGS.
16. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER, THE USE OF WIRE OR METAL STRAPS TO SUPPORT PIPES WILL NOT BE PERMITTED. REFER TO SPECIFICATIONS FOR MINIMUM SPACING OF PIPE SUPPORTS.
17. ALL EQUIPMENT TO BE INSTALLED ON MIN 6" THICK CONCRETE HOUSEKEEPING PADS.
18. ALL EQUIPMENT, DUCTS PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
19. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
20. ALL EXPOSED PIPING IN OCCUPIED SPACES SUBJECT TO ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.
21. THE HVAC SYSTEMS SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER PRIOR TO COMMISSIONING, A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER.
22. A BUILDING COMMISSIONING PROCESS AND FUNCTIONAL TESTING OF MECHANICAL SYSTEMS SHALL BE CARRIED OUT BY A CERTIFIED COMMISSIONING PROFESSIONAL, IN ACCORDANCE WITH 2018 WSEC SECTION C408, THE MECHANICAL, ELECTRICAL, PLUMBING, AND CONTROL CONTRACTORS ARE REQUIRED TO PERFORM FUNCTIONAL PERFORMANCE TESTING OF ALL EQUIPMENT PRIOR TO TESTING BY THE COMMISSIONING AGENT, CONTRACTORS SHALL PROVIDE THE NECESSARY ASSISTANCE TO THE COMMISSIONING AGENT TO PERFORM COMMISSIONING DUTIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING CORRECTIVE ACTION IF ANY DEFICIENCIES ARE FOUND DURING COMMISSIONING.
23. SYSTEMS ADHERE TO 2021 WSEC SECTION C408 SYSTEM COMMISSIONING:
  - A. A CERTIFIED COMMISSIONING PROFESSIONAL (COP) SHALL LEAD THE COMMISSIONING PROCESS. A COP IS AN INDIVIDUAL WHO IS CERTIFIED BY AN ANSISO/IEC 17024:2012 ACCREDITED ORGANIZATION TO LEAD, PLAN, COORDINATE, AND MANAGE COMMISSIONING TEAMS AND IMPLEMENT THE COMMISSIONING PROCESS.
  - B. A CERTIFIED COMMISSIONING PROFESSIONAL SHALL PERFORM THE FOLLOWING:
    - a. DEVELOP A COMMISSIONING PLAN.
    - b. REVIEW BUILDING DOCUMENTATION AND CLOSE-OUT SUBMITTALS.
    - c. PROVIDE A COMMISSIONING REPORT.
    - d. LIST SPECIFIC EQUIPMENT, APPLIANCES AND SYSTEMS COMMISSIONED.
  - C. FUNCTIONAL TESTING SHALL BE COMPLETED FOR THE FOLLOWING SYSTEMS AND THEIR ASSOCIATED CONTROL SYSTEMS:
    - a. MECHANICAL SYSTEMS
    - b. SERVICE WATER HEATING SYSTEMS
    - c. CONTROLLED RECEPTACLE AND LIGHTING SYSTEMS
    - d. EQUIPMENT APPLIANCE AND SYSTEMS
    - e. ENERGY METERING
    - f. REFRIGERATION SYSTEMS
  - D. A COMMISSIONING REPORT SHALL BE DELIVERED TO THE BUILDING OWNER AND INCLUDE:
    - a. RESULTS OF THE FUNCTIONAL PERFORMANCE TESTS
    - b. LIST OF DEFICIENCIES AND CORRECTIVE MEASURES IMPLEMENTED OR PROPOSED.
    - c. FUNCTIONAL PERFORMANCE TEST PROCEDURES.
    - d. COMMISSIONING PLAN.
    - e. TAB REPORT.
24. TESTING AND BALANCING: ALL HVAC SYSTEMS SHALL BE BALANCED BY A LICENSED CONTRACTOR IN ACCORDANCE WITH ACCEPTED ENGINEERING STANDARDS AND SPECIFICATIONS PRIOR TO COMMISSIONING.
25. OWNER TRAINING BY CONTRACTORS FOR EACH PIECE OF EQUIPMENT OR SYSTEM SHALL INCLUDE: SYSTEM/EQUIPMENT OVERVIEW (WHAT IT IS, WHAT IT DOES, AND WHICH OTHER SYSTEMS OR EQUIPMENT DOES IT INTERFACE WITH), REVIEW OF THE AVAILABLE O&M MATERIALS, REVIEW OF THE RECORD DRAWINGS ON THE SUBJECT SYSTEM/EQUIPMENT, HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES, AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES.
26. MECHANICAL DESIGN IS IN COMPLIANCE WITH WASHINGTON STATE ENERGY CODE FOR THE GENERAL PRESCRIPTIVE COMPLIANCE PATH. BUILDING SYSTEMS FOR THIS PROJECT SERVE A DATA CENTER. PRESCRIPTIVE ENERGY CODE COMPLIANCE IS DEMONSTRATED WITH MECHANICAL LOAD COEFFICIENT (MLC) CALCULATION SEE SHEET ON M.FT.012 PER C403.1.3 COMPLYING WITH SECTION 6 AND 8 OF ASHRAE STANDARD 90.4, AND ARE EXEMPT FROM SECTIONS C403.4 AND C403.5 PER EXCEPTION 2 TO C403.1. MINIMUM COMPLIANCE IS 0.14 FOR ZONE 4C, WHICH IS THE COMPLIANCE TARGET FOR THE MAXIMUM ANNUALIZED MLC. THIS PROJECT ATTAINS AN ANNUALIZED MLC OF 0.1354 WHICH USES LESS ENERGY AND THEREFORE COMPLIES.



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### MECHANICAL DRAWINGS

CENTERS  
VOLTAGE PARK UPS  
1019 39th AVENUE SE  
PUYALLUP, WA 98374



04/17/2026

Revision No. Description Date

UNIT IDENTIFICATION				HVAC CIRCULATION PUMP SCHEDULE																	
MARK	NUMBER	SYSTEM SERVED	REDUNDANT	PUMP TYPE	COUPLING TYPE	CONTROL	PERFORMANCE					PUMP MOTOR			ELECTRICAL		OPERATING WEIGHT (LBS.)	MANUFACTURER	MODEL NUMBER	NOTES	
							FLUID TYPE	FLUID TEMP (F)	FLOW (GPM)	PUMP HEAD (FT)	MIN EFFICIENCY (%)	PUMP MIN FLOW (GPM)	BHP	HP	SPEED (RPM)	VOLTS					PHASE
CHWP-FT	1	SECONDARY CHILLED WATER LOOP	N+1	END SUCTION	CLOSE	VFD	WATER	60	1,490.0	151	80	34	68.2	75	1,760	460	3	1520	TACO	FI 6013D	1.2,3
CHWP-FT	2	SECONDARY CHILLED WATER LOOP	N+1	END SUCTION	CLOSE	VFD	WATER	60	1,490.0	151	80	34	68.2	75	1,760	460	3	1520	TACO	FI 6013D	1.2,3
CHWP-FT	3	SECONDARY CHILLED WATER LOOP	N+1	END SUCTION	CLOSE	VFD	WATER	60	1,490.0	151	80	34	68.2	75	1,760	460	3	1520	TACO	FI 6013D	1.2,3
CHWP-FT	4	SECONDARY CHILLED WATER LOOP	N+1	END SUCTION	CLOSE	VFD	WATER	60	1,490.0	151	80	34	68.2	75	1,760	460	3	1520	TACO	FI 6013D	1.2,3
CHWP-FT	5	PRIMARY CHILLED WATER-CHILLER	N+1	IN-LINE	SPLIT	VFD	WATER	60	1,050.0	45	75	6.9	17.0	20	1,760	460	3	796	TACO	KV 6011D	2
CHWP-FT	6	PRIMARY CHILLED WATER-CHILLER	N+1	IN-LINE	SPLIT	VFD	WATER	60	1,050.0	45	75	6.9	17.0	20	1,760	460	3	796	TACO	KV 6011D	2
CHWP-FT	7	PRIMARY CHILLED WATER-CHILLER	N+1	IN-LINE	SPLIT	VFD	WATER	60	1,050.0	45	75	6.9	17.0	20	1,760	460	3	796	TACO	KV 6011D	2
CHWP-FT	8	PRIMARY CHILLED WATER-CHILLER	N+1	IN-LINE	SPLIT	VFD	WATER	60	1,050.0	45	75	6.9	17.0	20	1,760	460	3	796	TACO	KV 6011D	2
CHWP-FT	9	PRIMARY CHILLED WATER-CHILLER	N+1	IN-LINE	SPLIT	VFD	WATER	60	1,050.0	45	75	6.9	17.0	20	1,760	460	3	796	TACO	KV 6011D	2
CHWP-FT	10	PRIMARY CHILLED WATER-FLUID COOLER	PER (2) FLUID COOLERS	IN-LINE	SPLIT	VFD	WATER	60	1,340.0	45	80	6.9	19.1	20	1,160	460	3	1520	TACO	KS 8013D	2
CHWP-FT	11	PRIMARY CHILLED WATER-FLUID COOLER	PER (2) FLUID COOLERS	IN-LINE	SPLIT	VFD	WATER	60	1,340.0	45	80	6.9	19.1	20	1,160	460	3	1520	TACO	KS 8013D	2
CHWP-FT	12	PRIMARY CHILLED WATER-FLUID COOLER	PER FLUID COOLER	IN-LINE	SPLIT	VFD	WATER	60	870.0	45	83	3.4	8.7	10	1,760	460	3	905	TACO	KS 6011D	2
CHWP-FT	13	PRIMARY CHILLED WATER-FLUID COOLER	PER FLUID COOLER	IN-LINE	SPLIT	VFD	WATER	60	870.0	45	83	3.4	8.7	10	1,760	460	3	905	TACO	KS 6011D	2
PF-FT	1	FLUID COOLER FILTER PUMP	NA	SKD	CLOSE	VFD	WATER	60	220.0	10								PIRORLUX	PF-64-030-AP	1,2	

NOTES:  
1. PROVIDE WITH INERTIA BASE.  
2. PROVIDE WITH TEC MOTOR.  
3. PROVIDE WITH SHAFT GROUNDING RING.

UNIT IDENTIFICATION				CAPACITY AND PERFORMANCE					EVAPORATOR					CONDENSER					ELECTRICAL				PHYSICAL CHARACTERISTICS				MANUFACTURER	MODEL NUMBER	NOTES						
MARK	NUMBER	AREA/UNIT SERVED	UNIT CAPACITY (TONS)	EER	2018 WSCEC REQUIRED EER	IPLV	2018 WSCEC REQUIRED IPLV	REFRIG TYPE	REFRIG CHARGE (LBS)	FLUID TYPE	FLUID (GPM)	EWT (F)	LWT (F)	MAX WPD (FT)	FOULING FACTOR	TYPE	NO OF COMP	NO OF CIRCUITS	NO OF STAGES	NO OF FANS	AIRFLOW PER FAN (CFM)	HP PER FAN	AMBIENT DESIGN TEMP (F)	MIN AMBIENT TEMP (F)	VOLTS	PHASE				MCA	MOP	OPERATING WEIGHT (LBS)	DIMENSIONS		
																											HEIGHT (IN)	WIDTH (IN)	LENGTH (IN)						
ACC-FT	1	CHILLED WATER	523.0	12.2	10.1	19.86	14	R-513A	836	WATER	1,048	72.0	60.0	15.2	0.0001	SCREW	2	2	YSD	26	12,866	4	95	4	460	3	872.0	1,200	31,665	94	90	600	YORK	YVAA023JK46BHVTXX	1,2,3,4,5,6
ACC-FT	2	CHILLED WATER	523.0	12.2	10.1	19.86	14	R-513A	837	WATER	1,048	72.0	60.0	15.2	0.0001	SCREW	2	2	YSD	26	12,866	5	95	4	460	3	872.0	1,200	31,665	94	90	600	YORK	YVAA023JK46BHVTXX	1,2,3,4,5,6
ACC-FT	3	CHILLED WATER	523.0	12.2	10.1	19.86	14	R-513A	838	WATER	1,048	72.0	60.0	15.2	0.0001	SCREW	2	2	YSD	26	12,866	6	95	4	460	3	872.0	1,200	31,665	94	90	600	YORK	YVAA023JK46BHVTXX	1,2,3,4,5,6
ACC-FT	4	CHILLED WATER	523.0	12.2	10.1	19.86	14	R-513A	839	WATER	1,048	72.0	60.0	15.2	0.0001	SCREW	2	2	YSD	26	12,866	7	95	4	460	3	872.0	1,200	31,665	94	90	600	YORK	YVAA023JK46BHVTXX	1,2,3,4,5,6
ACC-FT	5	CHILLED WATER	523.0	12.2	10.1	19.86	14	R-513A	840	WATER	1,048	72.0	60.0	15.2	0.0001	SCREW	2	2	YSD	26	12,866	8	95	4	460	3	872.0	1,200	32,308	94	90	600	YORK	YVAA023JK46BHVTXX	2,3,4,5,6

NOTES:  
1. OFC.  
2. PERFORMANCE BASED ON WATER.  
3. PROVIDE SINGLE POINT ELECTRICAL CONNECTION, AND 65 KA SHORT CIRCUIT RATING.  
4. PROVIDE WITH BACNET MSTP CONNECTION, OPTVIEW CONTROL PANEL AND DISPLAY, AND CONDENSER FAN MONITORING PACKAGE.  
5. PROVIDE WITH FLOW SWITCH.  
6. PROVIDE WITH NEOPRENE PADS AS REQUIRED FOR INSTALLATION BY CONTRACTOR, NOTE OFCI CHILLERS ARE FURNISHED WITH PADS.

CLOSED CIRCUIT FLUID COOLERS SCHEDULE																								
TAG	MANUFACTURER	MODEL NUMBER	NOMINAL CAPACITY (TONS)	CONDENSER WATER			AMBIENT AIR		PUMP			HEATERS		UNIT SIZE			SPRAY PRESS. (PSI)	EVAP. RATE (GPM)	OPER. WEIGHT (LBS)	NOTES				
				FLOW (GPM)	EWT (F)	LWT (F)	FLOW (CFM)	WB (°F)	QTY	HP	V/0/HZ	QTY	HP	FLOW (GPM)	V/0/HZ	QTY					KW	HEIGHT	WIDTH	LENGTH
FC-FT-1	EVAPCO	ESWA 12-44018-SF	536	670	72	60	155,600	53	1	50	460/360	2	5	506	460/360	2	9	242 IN	131 IN	216 IN	27	4.04	44,310	1,2,3,4
FC-FT-2	EVAPCO	ESWA 12-44018-SF	536	670	72	60	155,600	53	1	50	460/360	2	5	506	460/360	2	9	242 IN	131 IN	216 IN	27	4.04	44,310	1,2,3,4
FC-FT-3	EVAPCO	ESWA 12-44018-SF	536	670	72	60	155,600	53	1	50	460/360	2	5	506	460/360	2	9	242 IN	131 IN	216 IN	27	4.04	44,310	1,2,3,4
FC-FT-4	EVAPCO	ESWA 12-44018-SF	536	670	72	60	155,600	53	1	50	460/360	2	5	506	460/360	2	9	242 IN	131 IN	216 IN	27	4.04	44,310	1,2,3,4
FC-FT-5	EVAPCO	ESWA 12-44018-SF	536	670	72	60	155,600	53	1	50	460/360	2	5	506	460/360	2	9	242 IN	131 IN	216 IN	27	4.04	44,310	1,2,3,4
FC-FT-6	EVAPCO	ESWA 12-44018-SF	536	670	72	60	155,600	53	1	50	460/360	2	5	506	460/360	2	9	242 IN	131 IN	216 IN	27	4.04	44,310	1,2,3,4

NOTES:  
1. PROVIDE FLUID COOLER WITH STAINLESS STEEL, SLUMP SWEEPER PIPING, AND S-PROBE WATER LEVEL CONTROL. FANS SHALL BE PROVIDED WITH VFD AND A NEMA 3R ENCLOSURE.  
2. MANUFACTURER SHALL FURNISH THE FOLLOWING ACCESSORIES: BASIN IMMERSION HEATER COMPONENTS & CONTROLS, BASIN WATER LEVEL COMPONENTS & CONTROLS, VIBRATION CUT-OFF SWITCH, VFDs; MAKE-UP WATER SOLENOID VALVES.  
3. INSTALLATION OF CONDUIT & WIRING OF THE FOLLOWING ACCESSORIES FROM THE CONTROL ENCLOSURE SHALL BE PROVIDED BY THE EC. (2) BASIN IMMERSION HEATERS, (2) PUMPS, (1) FAN.  
4. FLUID COOLERS SHALL COMPLY WITH 2021 WSEC TABLE C403.3.2(7) FOR REQUIRED COOLING TOWER INSTITUTE (CTI ATC-1055 AND CTI STD-201 RS) RATING CONDITIONS.

AIR HANDLING UNIT CHILLED WATER COOLING COIL SCHEDULE																							
UNIT IDENTIFICATION			COIL				AIR						FLUID				OPERATING WEIGHT (LBS.)	NOTES					
MARK	NUMBER	UNIT SERVED	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	NUMBER OF ROWS	FPI	FIN TYPE	TOTAL AIRFLOW (CFM)	EDB (F)	EWB (F)	LDB (F)	LWB (F)	FACE VELOCITY (FPM)	MAX APD (IN-WG)	FLUID TYPE	FLUID FLOW (GPM)			EWT (F)	LWT (F)	TUBE VELOCITY (FPS)	FOULING FACTOR	MAX WPD (FT)
CW	1	AHU-19	421.6	313.1	6	8	WAFFLE	10,000	81.4	66.5	52.3	52.0	414	0.48	CHW	84.0	45	55	4.2	0.0001	12.4	801.0	1
CW	2	AHU-19	421.6	313.1	6	8	WAFFLE	10,000	81.4	66.5	52.3	52.0	414	0.48	CHW	84.0	45	55	4.2	0.0001	12.4	801.0	1
CW	3	AHU-FT-2	427.3	316.2	6	9	SINE	10,000	81.4	66.5	52.6	52.3	404	0.63	CHW	85.1	45	55	3.6	0.0001	8.4	314.0	1,2
CW	4	AHU-FT-2	427.3	316.2	6	9	SINE	10,000	81.4	66.5	52.6	52.5	404	0.63	CHW	85.1	45	55	3.6	0.0001	8.4	314.0	1,2

NOTES:  
1. PROVIDE MODULATING PRESSURE INDEPENDENT CONTROL VALVE PER COIL.  
2. COILS ARE N+1 REDUNDANT.

AIR AND DIRT SEPARATOR SCHEDULE													
UNIT IDENTIFICATION			TYPE	CONNECTION SIZE (IN)	DIAMETER (IN)	HEIGHT (IN)	WEIGHT (LBS)	FLOW (GPM)	MAX WPD (FT)	MANUFACTURER	MODEL NUMBER	NOTES	
MARK	NUMBER	SYSTEM SERVED											
AS-FT	1	CHILLED WATER	IN-LINE	14	28	140	1,890	4,470.0	9.0	SPROTHERM	VHDT1400FA		

NOTES:

AIR HANDLING UNIT FAN SCHEDULE																				
UNIT IDENTIFICATION			SYSTEM				FAN WHEEL (EACH)			FAN MOTOR (EACH)			ELECTRICAL				NOTES			
MARK	NUMBER	UNIT SERVED	MAX AIRFLOW (CFM)	TSP (IN-WG)	ESP (IN-WG)	CONTROL	TOTAL NO OF FANS	MAX AIRFLOW (CFM)	FAN CLASS	FAN SPEED (RPM)	BHP	HP	SPEED (RPM)	DRIVE TYPE	FEI	TOTAL SYSTEM HP		VOLTS	PHASE	FLA PER FANWALL
FWT	1	AHU-19	10,000	5.6	3.8	VFD PER FAN	4	10,000	III	2,955	4.8	5	3,372	DIRECT	1.32	20	460	3	23.2	1.2
FWT	2	AHU-19	10,000	5.6	3.6	VFD PER FAN	4	10,000	III	2,955	4.6	5	3,372	DIRECT	1.32	20	460	3	23.2	1.2
FWT	3	AHU-FT-2	10,000	5.9	1.6	ECM	3	10,000	-	2,353	-	7.5	-	DIRECT	-	22.5	460	3	21.3	1.2

NOTES:  
1. FAN SHALL HAVE INLET AIRFLOW PROBE.  
2. FAN ARRAY APPLICATIONS SHALL HAVE FANS WIRED TO A FACTORY INSTALLED CONTROL PANEL. EACH FAN SHALL HAVE MANUAL MOTOR PROTECTION AND FUSING.

HVAC EXPANSION TANK SCHEDULE																		
UNIT IDENTIFICATION			TYPE	ASME CONSTRUCTION	TANK				SYSTEM				MANUFACTURER	MODEL NUMBER	NOTES			
MARK	NUMBER	SYSTEM SERVED			TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	DIAMETER (IN)	HEIGHT (IN)	WEIGHT (LBS)	ESTIMATED SYSTEM VOLUME (GAL)	FLUID TYPE	OPERATING TEMPERATURE				OPERATING PRESSURE		
ET-FT	1	CHILLED WATER	BLADDER	STEEL	160.0	61.0	30	68	515	15,000	WATER	40	85	5.0	125.0	TACO	CBX600-125	1
ET-FT	2	CHILLED WATER	BLADDER	STEEL	160.0	61.0	30	68	515	15,000	WATER	40	85	5.0	125.0	TACO	CBX600-125	1

NOTES:  
1. PROVIDE ASME RATED TANK.

AIR HANDLING UNIT COMPONENT SCHEDULE															
UNIT IDENTIFICATION			AIRFLOW	GENERAL					COMPONENTS					MANUFACTURER	NOTES
MARK	NUMBER	LOCATION		MAX SUPPLY AIR (CFM)	UNIT OPERATING WEIGHT (LBS)	HEIGHT (IN)	WIDTH (IN)	LENGTH (IN)	POSITION NUMBER 1	POSITION NUMBER 2	POSITION NUMBER 3	POSITION NUMBER 4	POSITION NUMBER 5		
AHU	19	L3	FUTURE TENANT SPACE	20,000	14,627	96	120	273	PLENUM	FILTERS	CHW COIL	ELECTRIC HEAT	FANS	NORTEK	1,2,3
AHU	20	L3	FUTURE TENANT SPACE 2	10,000	-	72	80	200	PLENUM	FILTERS	CHW COIL	ELECTRIC HEAT	FANS	CMS	1,2,3

NOTES:  
1. UNIT SHALL BE MOUNTED ON A LEVEL PAD.  
2. PROVIDE WASHINGTON STATE STAMPED SEISMIC TIEDOWN CALCULATIONS PER 2021 INTERNATIONAL BUILDING AND MECHANICAL CODES WITH WASHINGTON STATE AMENDMENTS. ALL EQUIPMENT, PIPING, AND DUCTWORK TO BE ATTACHED PER ASCE 7 AS REFERENCED BY IBC.  
3. PROVIDE UNIT WITH 100% OUTSIDE AIR ECONOMIZER.

AIR HANDLING UNIT ELECTRIC HEATING COIL SCHEDULE											
UNIT IDENTIFICATION			AIR				ELEMENT		ELECTRICAL		NOTES
MARK	NUMBER	UNIT SERVED	TOTAL AIRFLOW (CFM)	HEATING AIRFLOW (CFM)	EDB (F)	LDB (F)	FACE VELOCITY (FPM)	MAX APD (IN-WG)	KW	VOLTS	
HC	1	AHU-19	10,000	10,000	52.0	56.8	498	0.01	10.0	460	3
HC	2	AHU-19	10,000	10,000	52.0	56.8	498	0.01	10.0	460	3

NOTES:

PIPING SYSTEM APPLICATION SCHEDULE																			
SYSTEM	PIPE SIZE (IN)	DESIGN			CONSTRUCTION														



MECHANICAL  
DRAWINGS

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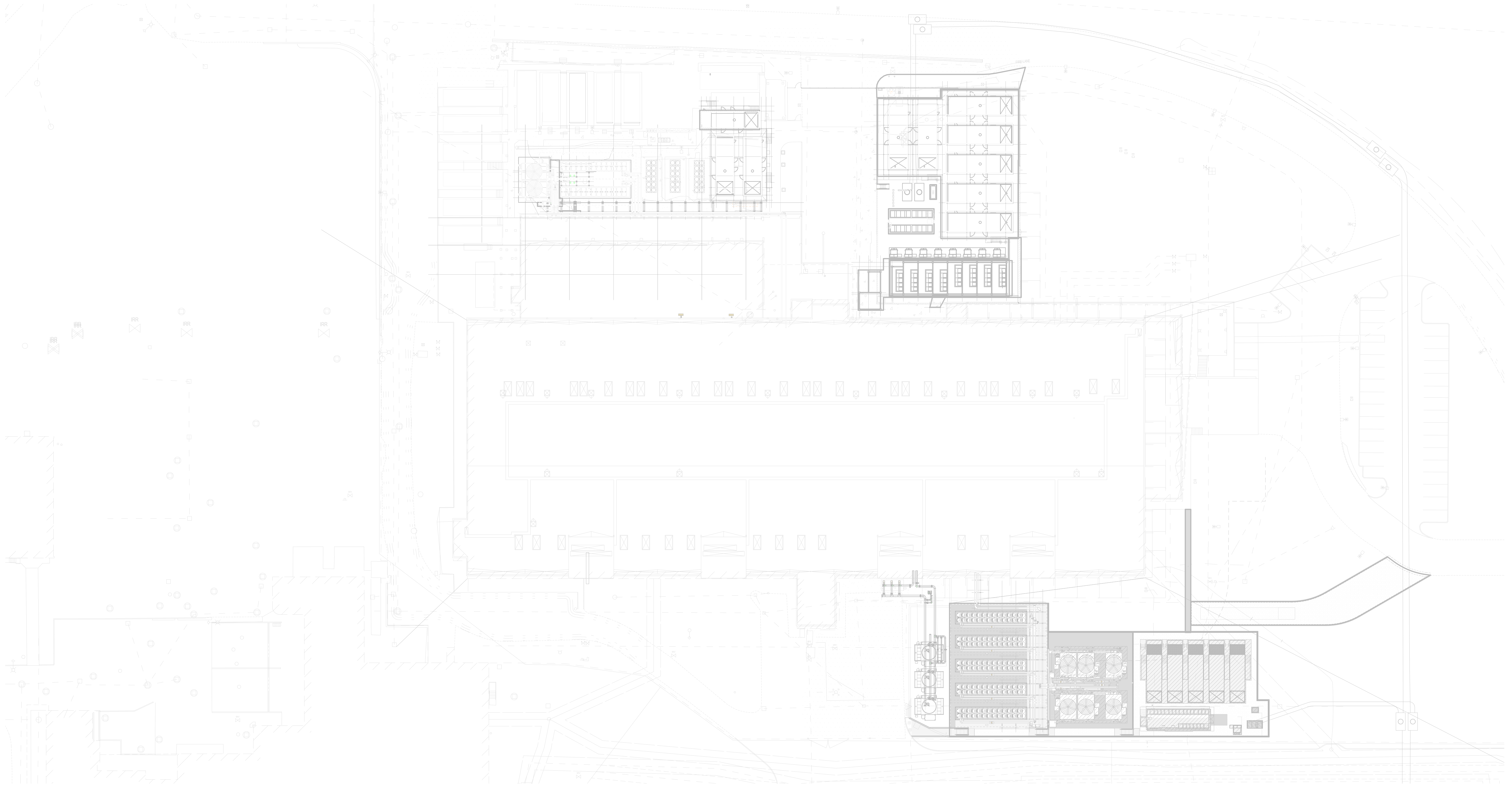


Revision No. Description Date

Drawn By: RM Checked By: JL

MECHANICAL SITE  
PLAN

Sheet **M.FT2.101**



**1 MECHANICAL SITE PLAN**  
M.FT2.101 1" = 30'-0"

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Fire	Traffic

**MECHANICAL  
 DRAWINGS**

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*[Signature]*  
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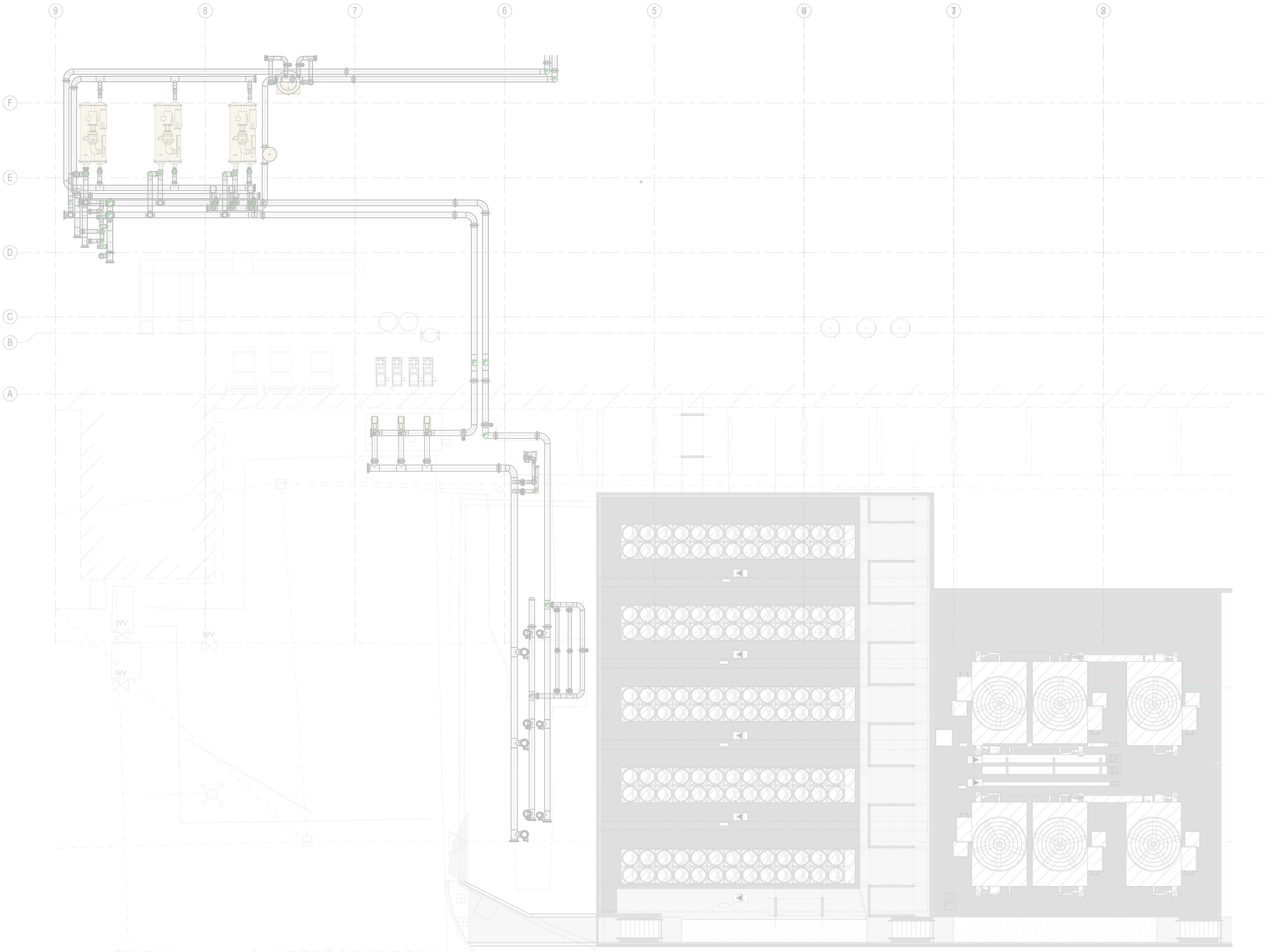
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MECHANICAL LEVEL 1  
 PLAN

**M.FT2.102**

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Fire	Traffic

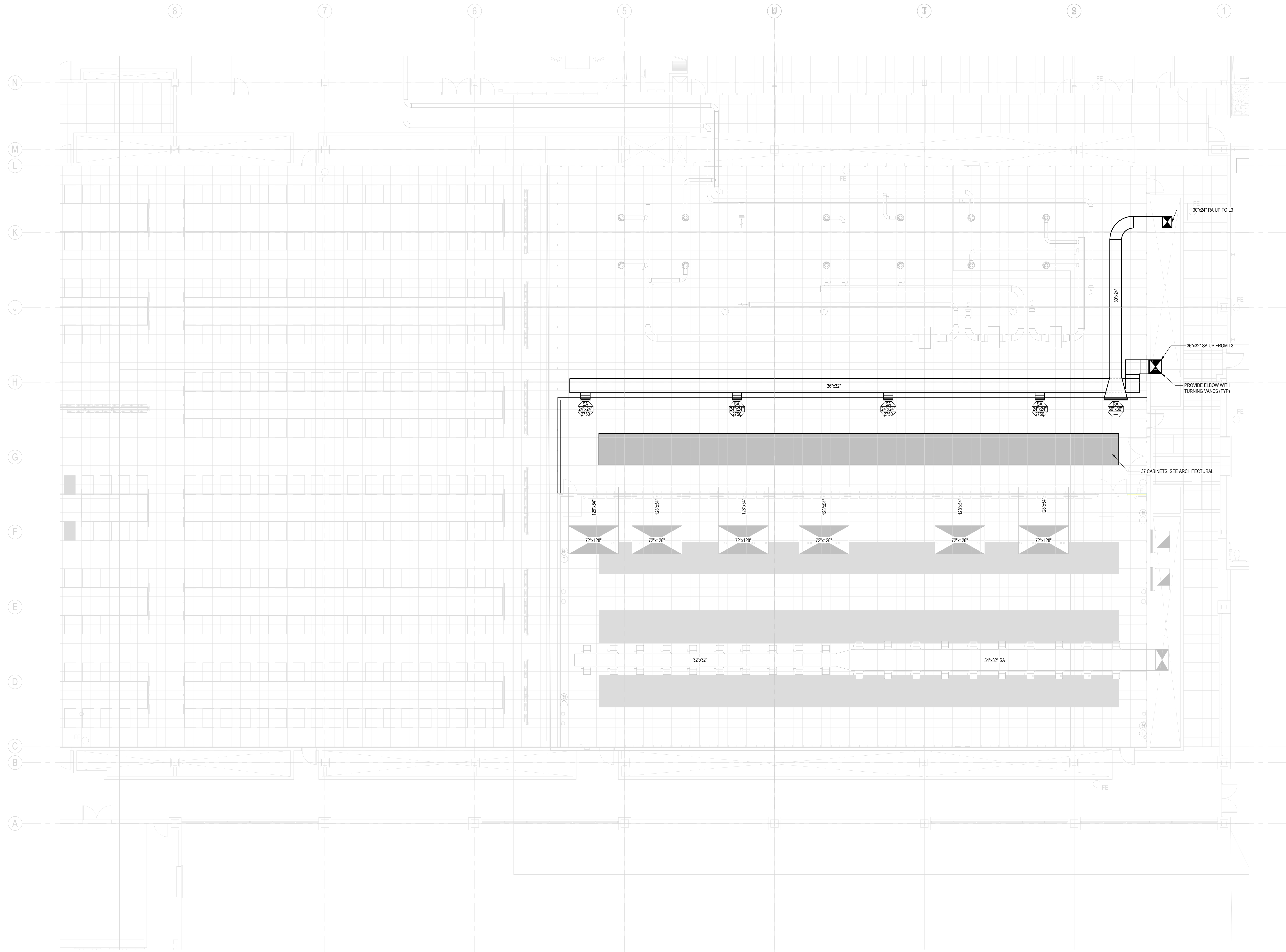


**1 MECHANICAL LEVEL 1 PLAN**  
 M.FT2.102 1/8" = 1'-0"

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Revision No.	Description	Date
1	FUTURE TENANT REVISIONS 3	01/24/2025
2	FUTURE TENANT REVISIONS 4	02/03/2025

**1 MECHANICAL LEVEL 2 PLAN**  
M.FT2.103 1/8" = 1'-0"

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MECHANICAL LEVEL 2  
PLAN

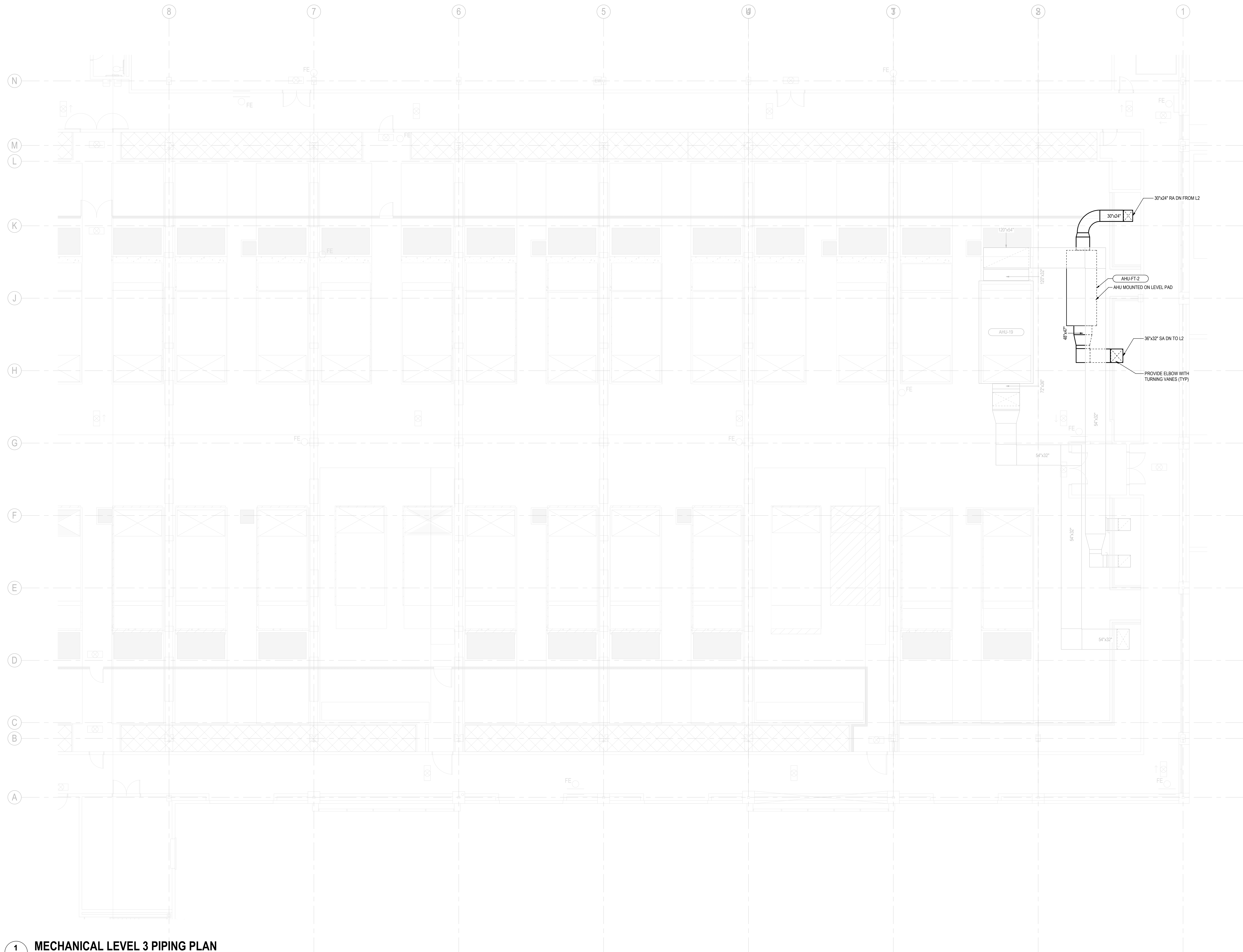
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Fire	Traffic

Sheet **M.FT2.103**

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1	FUTURE TENANT REVISIONS 3	01/24/2025

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MECHANICAL LEVEL 3  
PLAN

**1 MECHANICAL LEVEL 3 PIPING PLAN**  
M.FT2.104 1/8" = 1'-0"

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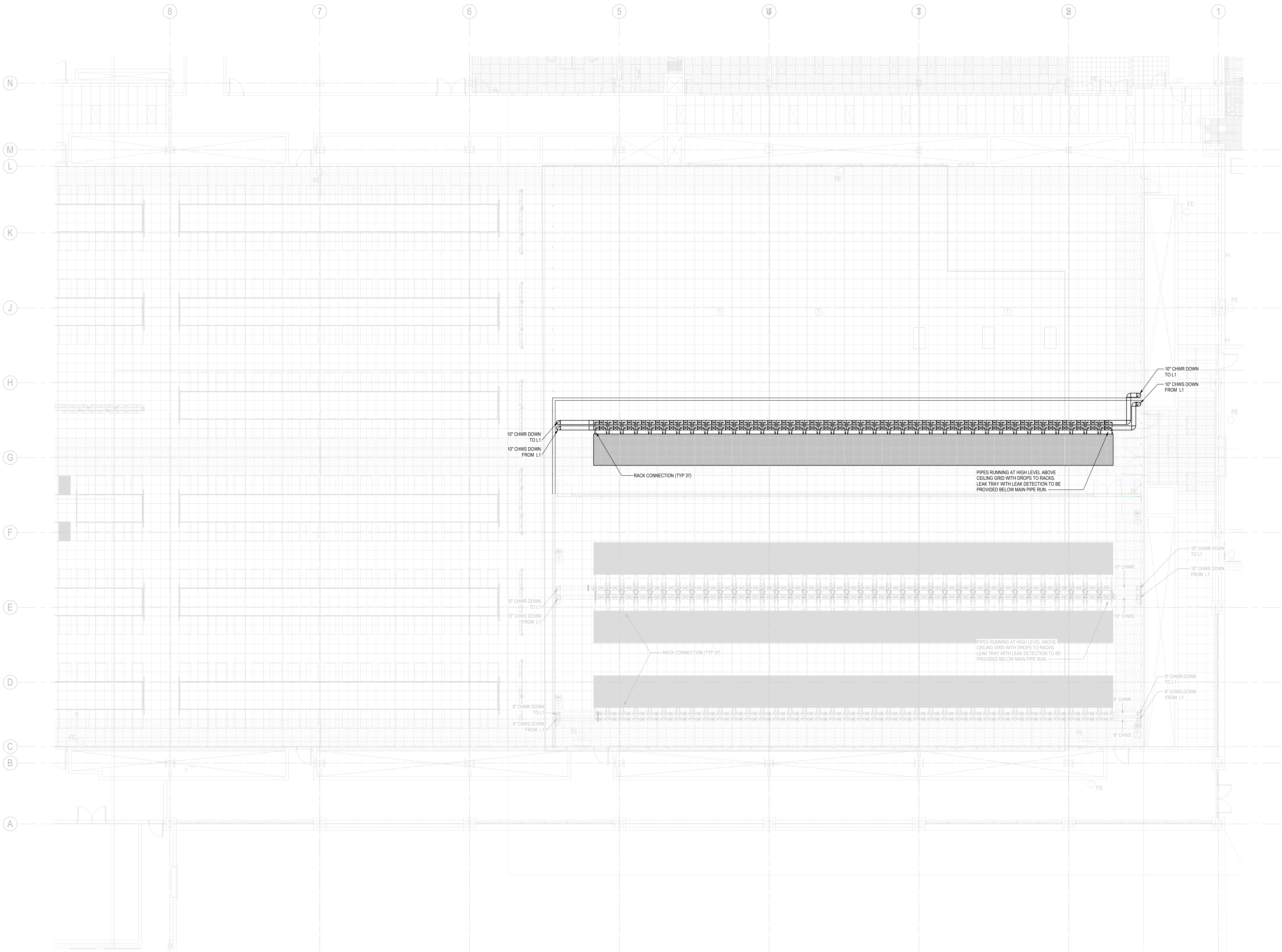
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Engineering	Public Works
Fire	Traffic

Sheet **M.FT2.104**



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Revision No.	Description	Date
1	FUTURE TENANT PERMIT REVISIONS	12/27/2024

Drawn By: RM Checked By: JL

**1 MECHANICAL LEVEL 2 PIPING PLAN**  
M\_FT2.203 1/8" = 1'-0"

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Engineering	Public Works
Fire	Traffic

MECHANICAL LEVEL 2  
PIPING PLAN

Sheet **M\_FT2.203**





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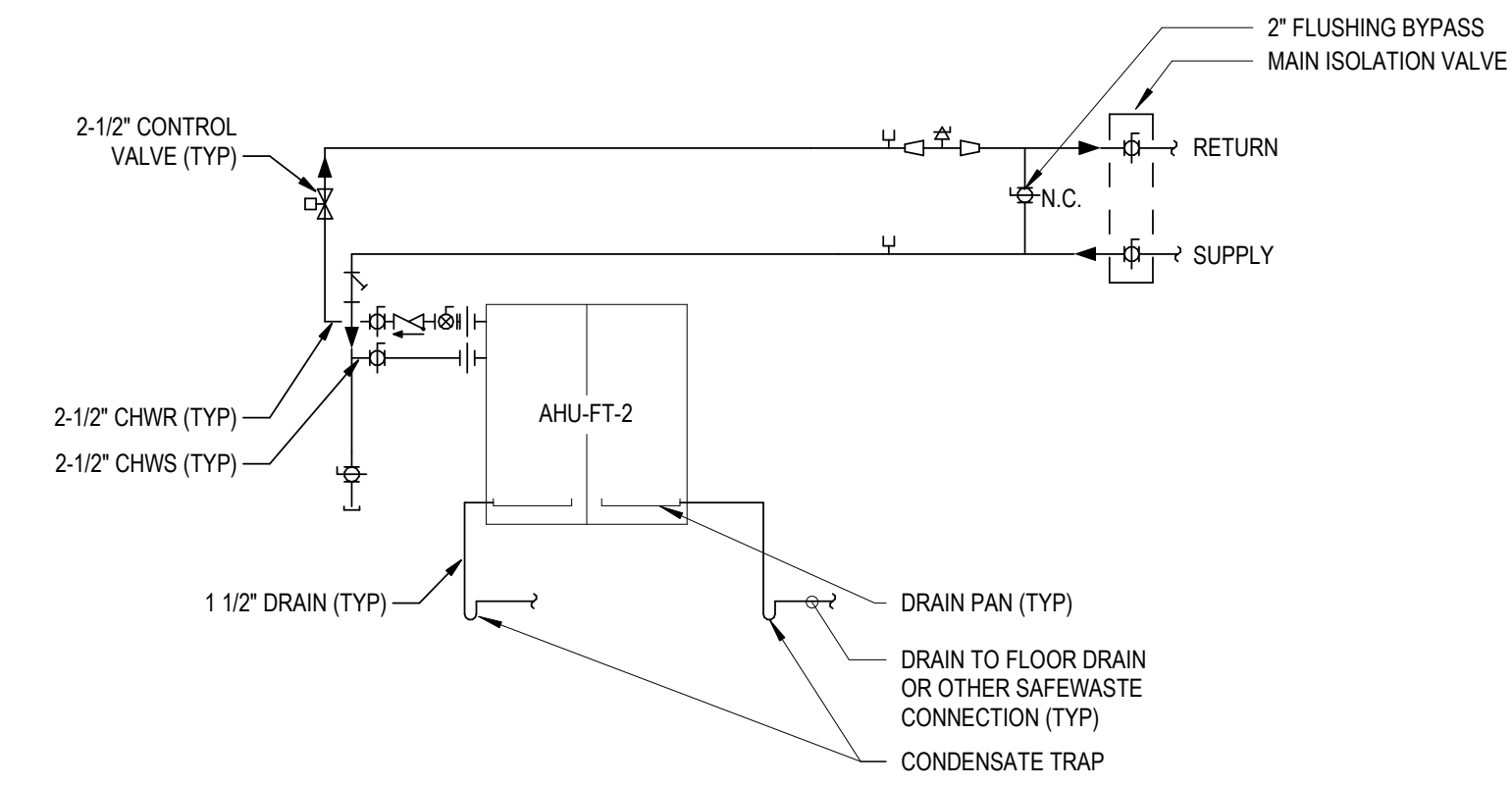
Revision No. Description Date

Drawn By: RM Checked By: JL

Title: MECHANICAL DETAILS

Sheet: M.FT2.501

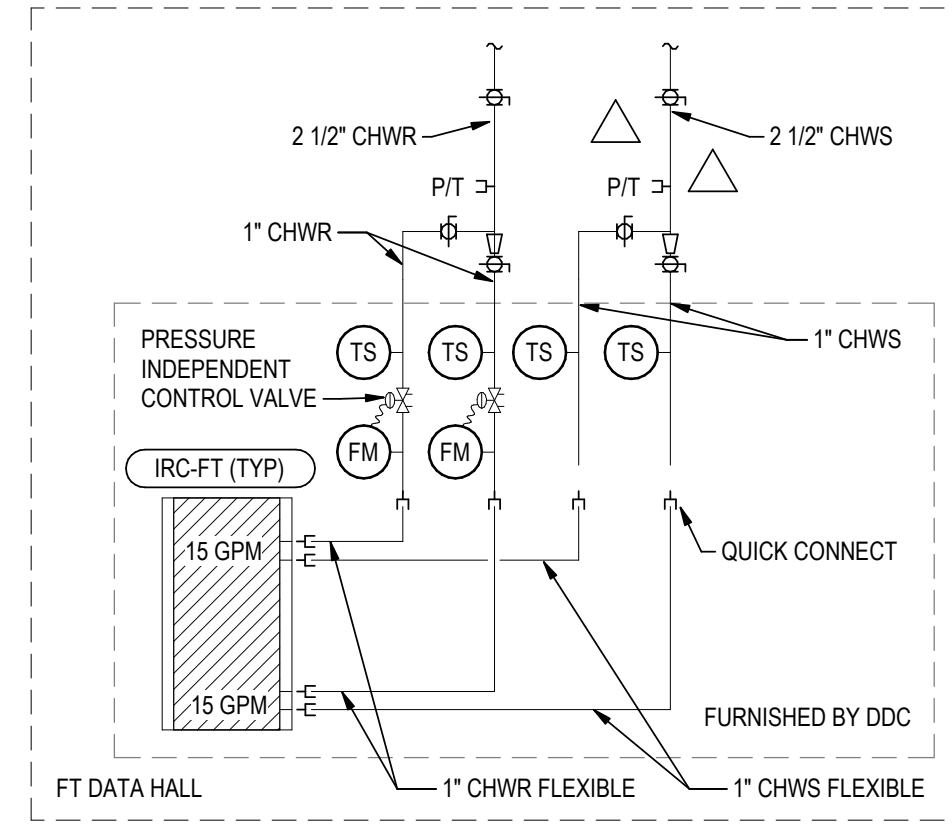
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Fire	Traffic



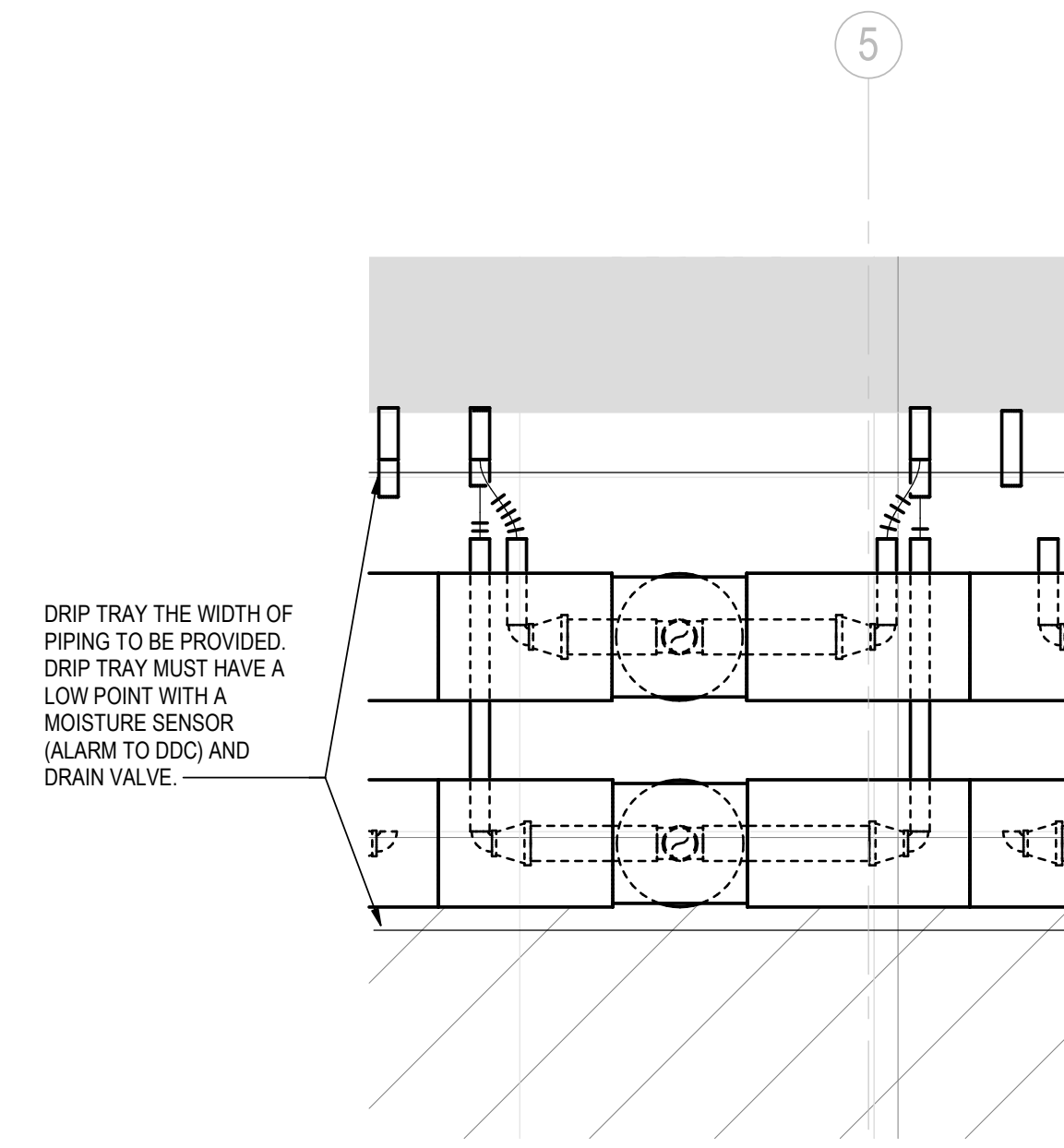
NOTES:

1. THE EQUIPMENT ISOLATION VALVES SHALL BE CLOSED WHEN INSTALLED AND THE FLUSHING BYPASS VALVE SHALL BE OPEN. AFTER THE INITIAL FLUSHING, THE FLUSHING BYPASS VALVE SHALL BE CLOSED AND THE HANDLE REMOVED. THE EQUIPMENT ISOLATION VALVES SHALL BE OPENED.
2. ALL CONTROL VALVES SHALL BE 2-WAY VALVES EXCEPT THOSE NOTED IN THE CONTRACT DOCUMENTS TO BE 3-WAY VALVES.
3. IF THE MECHANICAL CONTRACTOR USES QUICK CONNECT KITS, WHERE THE EQUIPMENT ISOLATION VALVE IS PART OF ANOTHER COMPONENT, THEN PROVIDE THE MAIN ISOLATION VALVES (OTHERWISE THEY ARE NOT REQUIRED).
4. ISOLATION VALVES ARE SHOWN AS BALL VALVES. REFER TO THE CONTRACT DOCUMENTS FOR THE SPECIFIC VALVE TYPE BASED ON THE PIPE SIZE AND APPLICATION.
5. SHUT OFF VALVES AND ACCESSORIES SHALL BE THE SAME SIZE AS THE SYSTEM PIPING. TRANSITION TO THE COIL CONNECTION SIZE AT THE COIL.
6. ALL STRAINERS SHALL BE BLOW DOWN TYPE WITH AN ISOLATION VALVE AND CAP.
7. PROVIDE A HIGH LIMIT DRAIN PAN SENSOR AND HARD WIRE TO THE FAN / CONTROLLER TO SHUT OFF THE UNIT BASED ON A HIGH LEVEL LIMIT.

1 M.FT2.501 NTS  
**AHU-FT-2 PIPING DETAIL**



2 M.FT2.501 NTS  
**FT DDC ROW D CABINET CONNECTION PIPING DIAGRAM**



3 M.FT2.501 1" = 1'-0"  
**MECHANICAL LEVEL 2 ENLARGED RACK CONNECTION - SINGLE SIDED**

MECHANICAL  
DRAWINGS

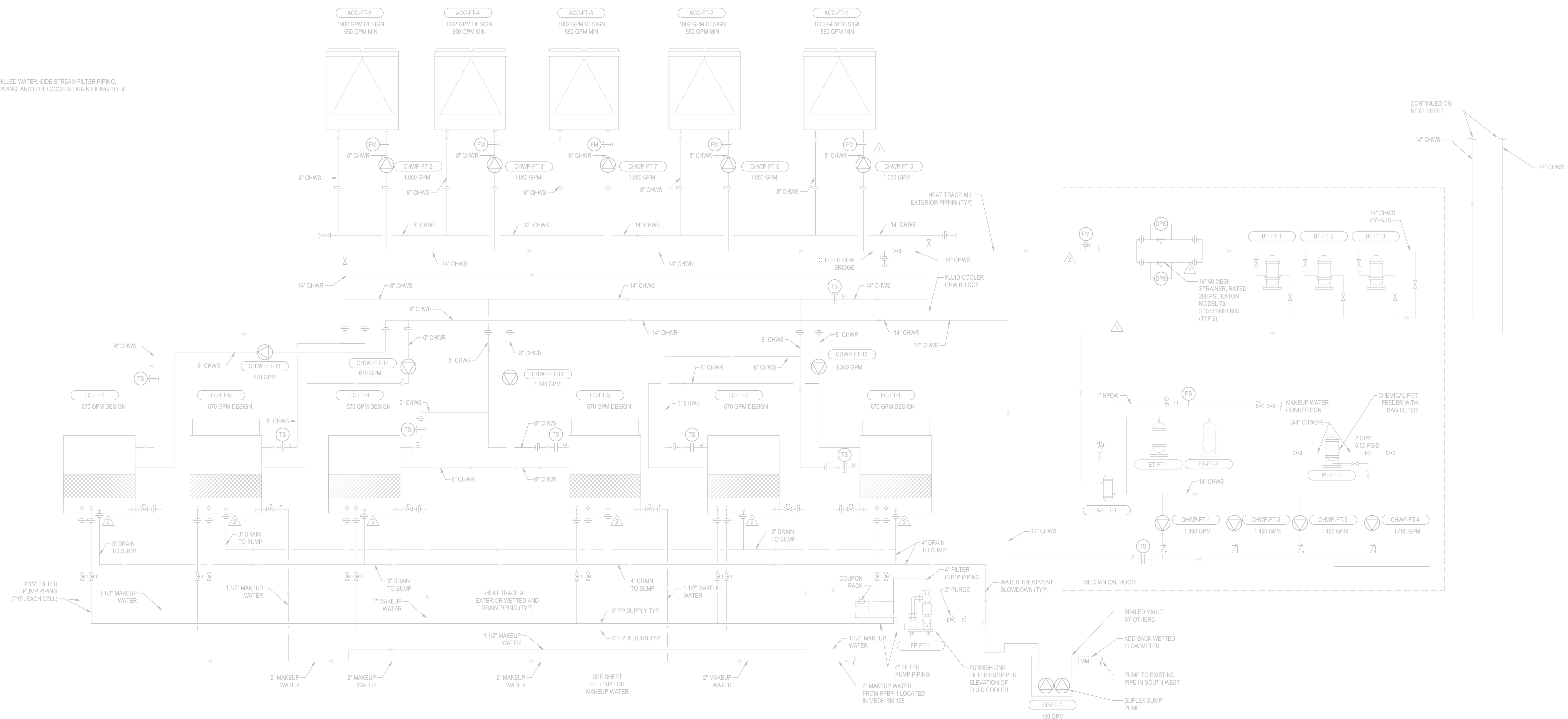
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FOR REFERENCE ONLY

GENERAL NOTES:

1. ALL EXTERIOR CHILLED WATER, SIDE STREAM FILTER PIPING, MAKEUP WATER PIPING, AND FLUID COOLER DRAIN PIPING TO BE HEAT TRACED.



Revision No.	Description	Date
1	FUTURE TENANT REVISIONS	12/03/2024
2	FUTURE TENANT REVISIONS 4	02/03/2025

Drawn By: RM  
Checked By: JL

MECHANICAL  
DIAGRAMS

M.FT2.601

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