

**DUCTWORK**

All duct dimensions on plans are clear inside dimensions. Add for insulation to each dimension to obtain outside dimensions.

The first number on all duct sizing is the width and the second is the height.

All ductwork is low pressure.

Materials within ducts or plenums shall have a flame spread rating less than 25 and a flame smoke development rating less than 50 per the IMC.

All duct supports per the IMC.

All duct gauges per the IMC.

Attach diffusers and grilles to the t-bar grid with caddy clips on 2 sides.

Seismic support all ductwork per code.

Balancing dampers are to be installed in all supply runs.

R-4.2 Insulated per the Washington State Energy Code along with the IMC.

Seal ductwork joints with UL 181 ductseal, attach flexible duct with Durodine Panduit straps with a 181 rating.

**COMPLETION**

- As-Built Record Drawings  
Provide Operating and Maintenance Manuals with minimum information specified in WSEC to Owner within 90 days of system acceptance.
- System Balancing  
Provide a written balancing report documenting testing and balancing of air systems as specified in WSEC to Owner.
- Systems Commissioning
  - All HVAC control systems shall be tested in accordance with WSEC.
  - For all HVAC units, verify that thermostat activates heating mode, cooling mode, for all available stages, and verify that fan is set to run during all occupied hours. Verify initial programming of thermostat. Verify unit operation per ASETI Start and Test Report.
  - For all HVAC units with economizers, verify that system controls activate economizer dampers when outdoor setpoint makes free cooling available, and that dampers modulate in conjunction with mechanical cooling staging per WSEC.
  - A Preliminary Commissioning Report shall be prepared, with minimum information specified in WSEC.
  - A Final Commissioning Report per WSEC shall be prepared and filed with the Owner.

**SEQUENCE OF OPERATION**

Temperature control sequence of operation:

- In the "OCCUPIED" position the outside air damper at the unit shall open when the fan starts. Fan shall run continuously in the occupied mode.
- Heating-occupied cycle:  
The room thermostat shall activate the gas valve to maintain space temperature.
- Cooling-occupied cycle, free cooling:  
Return air damper closes and fresh air damper opens, power exhaust fans on. If free cooling is unable to keep up with cooling requirements the mechanical cooling starts up.
- Cooling-occupied cycle:  
The room thermostat shall cycle the refrigeration system to maintain space temperature.
- Unoccupied cycle:  
The outside air damper at the unit shall remain closed. The thermostat shall cycle the unit fan and the compressor or gas valve to maintain the unoccupied temperature.

OCCUPIED COOLING SETPOINT: 75 DEGREES  
OCCUPIED HEATING SETPOINT: 68 DEGREES  
UNOCCUPIED COOLING SETPOINT: 82 DEGREES  
UNOCCUPIED HEATING SETPOINT: 62 DEGREES

OCCUPANCY TYPE	ROOM NUMBER	NAME	AREA	LOAD FACTOR	OCCUPANT LOAD
Level 1					
B	101	OPEN OFFICE	1,615 SF	150 SF	11
B	102	BREAK	245 SF	15 SF	17
B	103	TOILET	58 SF	150 SF	1
B	104	TOILET	58 SF	150 SF	1
B	105	WOMEN'S	142 SF	150 SF	1
B	106	MEN'S	116 SF	150 SF	1

**MECHANICAL GENERAL NOTES:**

- AN AIR BALANCE SHALL BE PERFORMED
- EXHAUST AND OUTSIDE AIR DEVICE WITHIN 10% OF THE REQUIREMENTS AND FURNISH A REPORT TO THE CONSTRUCTION MANAGER.
- ALL DUCT SIZES SHOWN ARE INSIDE SHEET METAL SIZES AND DO NOT ACCOUNT FOR INSULATION, MINIMUM R-8 INSULATION IN UNCONDITIONED SPACE. INSULATE ALL CONDITIONED SPACE DUCTS, EXTERNALLY TO R-6 WITH FIBERGLASS INSULATION WITH A VAPOR BARRIER, TAPE ALL JOINTS. DUCT SEAL ALL METAL JOINTS WITH UL 181A TYPE SEALANT.
- MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 8'-0"
- SUPPLY AIR DUCT AND RETURN AIR DUCT UP THRU ROOF TO PACKAGED ROOFTOP UNIT. TRANSITION DUCTWORK TO FULL SIZE OF UNIT OPENING AS REQUIRED.
- MOUNT DUCT MOUNTED SMOKE DETECTOR AT MAIN RETURN AIR DUCT PRIOR TO ANY RETURN BRANCH. SHUT DOWN ROOFTOP UNIT UPON DETECTION OF SMOKE. AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S APPROVED INSTALLATION INSTRUCTIONS.
- PROVIDE ORANGE TAGS ON ALL VOLUME AND BALANCING DAMPERS ABOVE THE CEILING. TAGS AND DAMPER HANDLES SHALL BE VISIBLE AND ACCESSIBLE FOR THE TEST & BALANCE AGENCY.
- ALL PIPING SHALL BE SUPPORTED WITH COMMERCIAL MANUFACTURED CLAMPS OR CABLES, PROVIDE ISOLATION SLEEVES TO PREVENT CONTACT TO DISSIMILAR METALS.
- GENERAL CONTRACTOR TO PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS.
- ALL INSULATION SHALL BE FIRE RATED IN ACCORDANCE WITH NFPA 90A 50/25 SMOKE DEVELOPMENT AND FLAME SPREAD REQUIREMENTS. INSULATION "R" VALUES SHALL COMPLY APPLICABLE ENERGY CODE.
- MOUNT ALL SPACE THERMOSTATS AND/OR SENSORS 4' ABOVE THE FLOOR, UNLESS OTHERWISE NOTED.
- THE WORK INDICATED ON THESE DRAWINGS IS GENERALLY DIAGRAMMATIC AND IS INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT OF DUCTWORK AND EQUIPMENT, ETC.
- PROVIDE BALANCING DAMPER IN EACH BRANCH CONNECTION.
- ALL DUCTWORK INSTALLED ON THIS PROJECT SHALL BE OF SHEET METAL CONSTRUCTION. DUCTWORK SHALL BE FABRICATED AND CONSTRUCTED IN ACCORDANCE WITH SMACNA REQUIREMENTS.

**ROOFTOP HVAC UNIT SCHEDULE**

MARK	MAKE	MODEL	AIR FLOW (CFM)	OA FLOW (CFM)	AMBIENT OAT (F)	EXT. S.P. (IN.W.C.)	COOLING ARI RATINGS			HEAT PUMP			ELECTRICAL				APPROX. WEIGHT (LBS)	SOUND RATINGS dB	AREA SERVED	REMARKS
							MBH	EER	IEER/SEER	STRIP HEAT	INPUT (MBH)	OUTPUT (MBH)	VOLTS / 0 / HZ	MOTOR HP	MCA (AMPS)	MOCP (AMPS)				
RTU-1	York	XP090	3000	560	85/17	.6	92.2	11.2	14.6	20 kW	87	80.4	460/3/60	1.5	54.9	60	1,185	83	Open office & break room	1 - 2 - 3 - 4 - 6 - 7 - 8

**NOTES:**

- PROVIDE ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL, CAPABLE OF 100% OUTSIDE AIR ECONOMIZER FAULT DETECTION & DIAGNOSTICS
- 14" FACTORY CURB
- PROVIDE BAROMETRIC RELIEF DAMPER
- RETURN AIR SMOKE DETECTOR
- NOT USED
- OPERATING HOURS 7 AM to 6 PM
- 2 STAGE COOLING
- EQUIPPED WITH VFD MULTI-STAGE AIR VOLUME MOTOR

**RTU AIR BALANCE SCHEDULE**

UNIT	OUTSIDE AIR FLOW (CFM)	RETURN AIR FLOW (CFM)	SUPPLY AIR FLOW (CFM)	EXHAUST AIR FLOW (CFM)	SPACE PRESSURE
RTU-1	550	2450	3000	450	100
TOTAL	550	2450	3000	450	100

**EXHAUST FAN SCHEDULE**

MARK	MAKE	MODEL	TYPE	DRIVE TYPE	PERFORMANCE			ELECTRICAL				WEIGHT (LBS.)	SONES	REMARKS	AREA SERVED
					AIR FLOW (CFM)	TOT STATIC IN.W.C.	FAN SPEED (RPM)	VOLTS / PH / HZ	FAN MOTOR HP	AMPS	WATTS				
EF-1 & 2	Greenheck	SPB-90	Ceiling	DD	75	0.25	700	120/1/60			5	8	1.5	1	Office restrooms
EF-3 & 4	Greenheck	SP-A190-QD	Ceiling	DD	156	3.75	1400	120/1/60			19.5	16	1.6	1	Warehouse restrooms

**NOTES:** 1. Energy Star Rated

**HONEYWELL ENERGY RECOVERY VENTILATOR SCHEDULE**

SOLER & PALAU	Model Number	Interlocked or Stand Alone	Core Type	Airflow (cfm)	MAX esp (INWG)	Normal Recovery Effectiveness (Extra High Fan Speed)			Voltage / Phase	MCA / MOCP
						Temperature Recovery	Enthalpy Cooling	Enthalpy Heating		
ERV-1	VNT5200E1000	Stand Alone	Cross flow fixed core	175	0.4	0.69	61%	72%	120/1	15

**VENTILATION UNITS**

Ventilation Unit Tag	Serving Ins	Zone Supply	Fan Speed Setting	Supply Airflow (cfm)	Zone Airflow (cfm)	Indoor Unit Airflow (cfm)	Operating Range (FDB)	Watts
ERV-1	No	Yes	High	175	175	175	34-175	126

Notes: Occupancy sensors, exhaust and intake dampers, power open/spring close.

**FRESH AIR BALANCE SCHEDULE**

RM	AREA	PEOPLE	CFM
100	Open Office	8	40
101	Break Room	12	60
102	Conference Room	6	30
103	Private Office	3	15
104	Private Office	3	15
105	Private Office	3	15

**RETURN AIR BALANCE SCHEDULE**

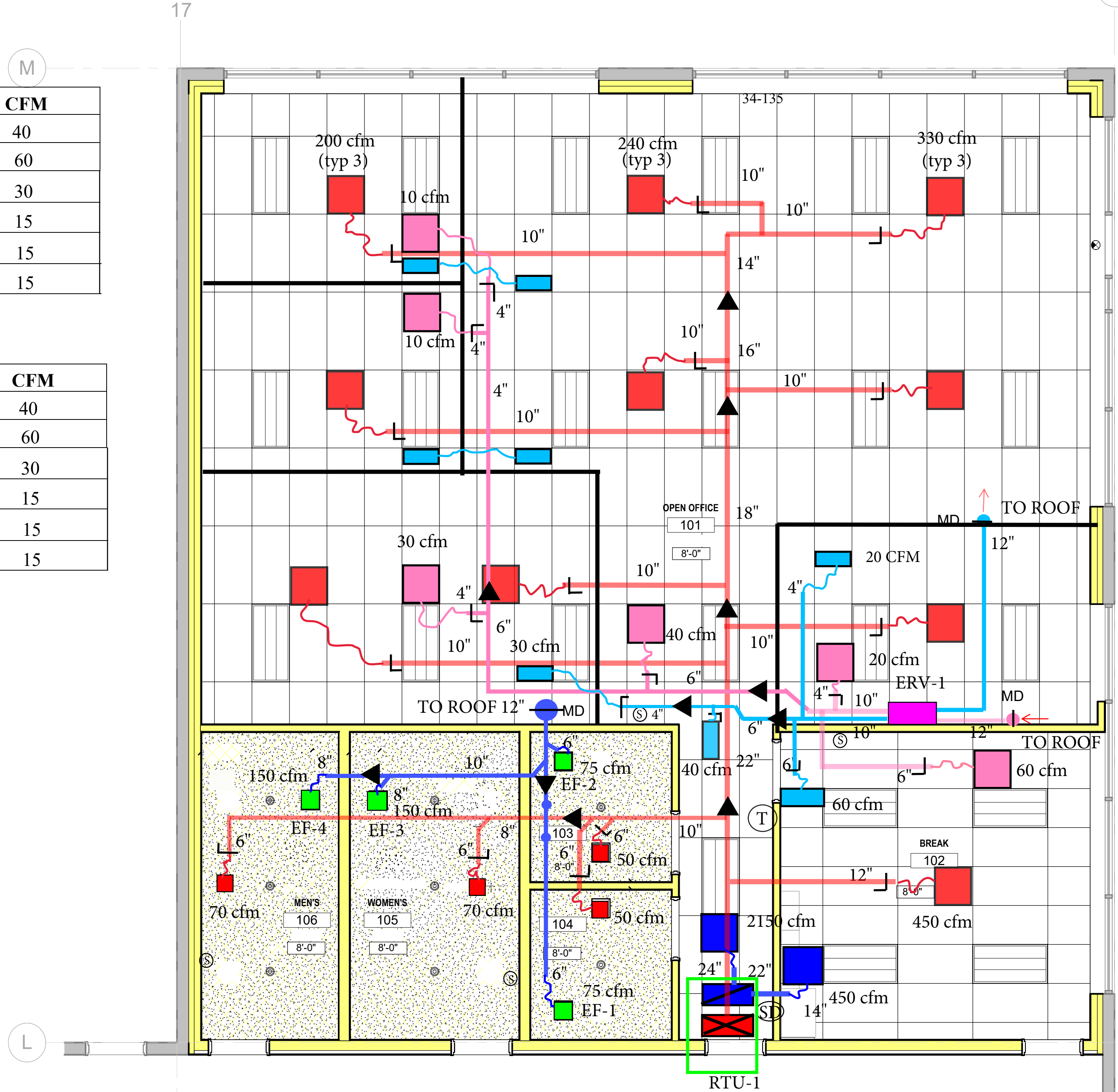
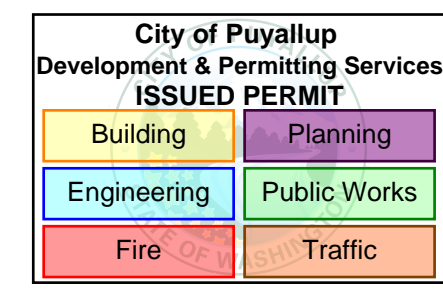
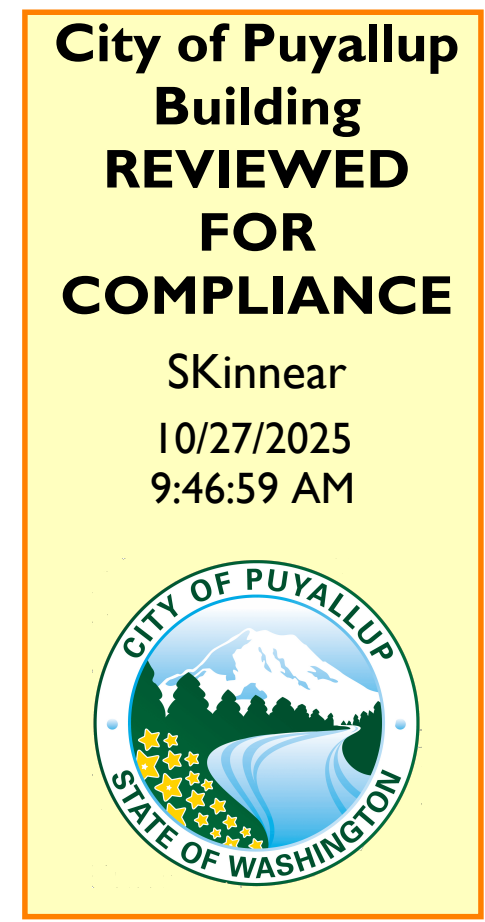
RM	AREA	PEOPLE	CFM
100	Open Office	8	40
101	Break Room	12	60
102	Conference Room	6	30
103	Private Office	3	15
104	Private Office	3	15
105	Private Office	3	15

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 permittee on site for inspection.

Separate Electrical Permit is required with the Washington State Department of Labor & Industries.  
<https://lni.wa.gov/licensing-permits/electrical/>  
 electrical-permits-fees-and-inspections or call for Licensing Information: 1-800-647-0982



- LEGEND**
- DIFFUSER - SUPPLY
  - DIFFUSER - RETURN
  - EXHAUST FAN
  - ERV
  - SMOKE DETECTOR IN RTU
  - AVERAGE SENSOR
  - THERMOSTAT
  - MOTORIZED DAMPER

**MECHANICAL PLAN**  
SCALE: 1/4" = 1'-0"

**DIAMOND CONSTRUCTION SERVICES LLC**  
35420 MILITARY RD. S  
AUBURN, WA 98001  
DIAMOC9566J2

**PROLOGIS**  
**RIVERFRONT INDUSTRIAL PARK - SPECULATIVE T.I.**  
1601 INDUSTRIAL PARKWAY, SUITE 101  
PUYALLUP, WA 98371  
ISSUED FOR REVIEW

REV	DATE
R-1	10/18/25

REMARKS:

STAMP:

PRCTI20250997

DATE: 6/25/25

M-1

**Diamond Construction Services LLC**  
 35420 Military Rd S - Auburn, WA 98001  
 253-797-3857 - dale-fite@comcast.net

Riverfront Industrial park 1601  
 Industrial Parkway, suite 101,  
 Puyallup, WA 98371

Sales Consultant: Dale Fite  
 Job#: Riverfront - Puyallup  
 Date: 6/26/2025

**RTU-1 (Average Load Procedure)**

**Design Conditions**

Location: Seattle-Tacoma AP, Washington      Elevation: 429 ft      Daily Range: Medium  
 Input Data: Outdoor Dry Bulb      Indoor Dry Bulb      Latitude: 47° N      Design Grains: 0  
 Summer: 85      70      Heated Area 2232 Sq.Ft.      Design Hour: 3:00 PM  
 Winter: 17      73      Cooled Area 2232 Sq.Ft.      Design Month: July

**Heat/Loss Summary**

	Loss	Sensible Gain	Latent Gain
Walls	12366	1263	0
Windows	11419	17131	0
Doors	609	403	0
Ceilings	3722	1459	0
Skylights	0	0	0
Floors	7788	0	0
Room Internal Loads	0	52831	11080
Blower Load	0	0	0
Hot Water Piping Load Winter	0	0	0
Humidification Load Infiltration	0	0	0
Ventilation	5946	950	0
Supply Duct EHLF=0 ESGF=0	1448	677	0
Return Duct EHLF=0 ESGF=0	0	0	n/a
Subtotal	0	0	0
	43298	74714	11080
<b>Total</b>	43298	Btuh	20 kw of electric heat
<b>Heating Total</b>	85794	Btuh	0 Linear ft. of Hydronic Baseboard
Cooling			

\*All computed calculations are estimates based on building use, weather data, and inputted values such as R-Values, window types, duct loss, etc. Equipment selection should meet both the latent and sensible gain as well as building heat loss. Calculations use the CLF/CLTD method and are intended for commercial buildings three stories or less.

AccuComm Commercial HVAC Load Calculations are based on ACCA Manual-N Principles.  
 Adtek AccuComm Report Version 17.3.5      Page 1

MECHANICAL COMPLIANCE SUMMARY						
2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1      Administered by: ©2023 NECA. All rights reserved.						
Project Title		Riverfront Industrial Park - Puyallup - 2021 WSEC		For Building Department Use:		
Project & Applicant Information	Project Address	1601 Industrial Parkway		Date: Jun 27, 2025		
	Applicant Name	Puyallup, WA 98371				
	Applicant Phone	253-797-3857				
	Applicant Email	dale.fite@comcast.net				
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at comtechsupport@wsecgov.com						
General Occupancy	All Commercial	General Building Use Type	Warehouse, General Storage Office, Other	Building Cond. Floor Area	2,232	
General Project Types	Alteration	New Building or Addition Mechanical Scope	Alteration Mechanical Scope	Project Cond. Floor Area	2,232	
Mechanical Project Description	The installation of an HVAC system in a new office, inside an existing warehouse.			Floors Above Grade	1	
				Compliance Method	General Prescriptive	
Mechanical Compliance Scope and Method	Project Type	Mechanical Scope	Economizer (Equipment) Applied?	DOAS Ventilation Provided?	Higher Equipment Efficiency Option Applied?	Equipment Efficiency Compliance Verification
	Alteration	Single Zone Systems & Equipment	No	Yes	NA	COMPLIES
Additional Energy Efficiency (AEC) Measures Included	No mechanical additional energy efficiency measures included in project		Load Management (LDM) Measures Included		No mechanical load management measures included in project	
Additional Efficiency Credits Included (AEC)						
Does building include occupancy classification requiring DOAS?	Yes		Does project include DOAS equipment?		Yes	
Based on project scope do TSPR requirements apply?	No		Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?		No	
Scope & Space Conditioning	ALTERATION - SINGLE ZONE SYSTEMS & EQUIPMENT		Compliance Verification	COMPLIES		

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**M-2**