MECHANICAL ABBREVIATIONS

AMPS INTERNATIONAL BUILDING CODE AIR CONDITIONING INTERNATIONAL FUEL GAS CODE AIR CHANGES PER HOUR INDUSTRIAL COLD WATER ACOUSTICAL CEILING TILE INSIDE DIAMETER/DIMENSION ACCESS DOOR INVERT ELEVATION ADDITIONAL INTEGRATED ENERGY EFFICIENCY RATIO INTERNATIONAL MECHANICAL CODE ABOVE FINISHED FLOOR ABOVE FINISHED GRADE INCHES WATER GAUGE AUTHORITY HAVING JURISDICTION AIR HANDLING UNIT IPLV INTEGRATED PART LOAD VALUE AL/ALUM ALUMINUM KILOWATTS AMP/AMPS AMPERAGE LEAVING AIR TEMPERATURE POUND/POUNDS ACCESS PANEL LF/LIN FT ARCHITECT LINEAL FOOT/FEET BEADED COLLAR LOW PRESSURE BACKDRAFT DAMPER LIQUID PROPANE GAS BELOW FLOOR LOW PRESSURE STEAM BRAKE HORSEPOWER LEAVING BUILDING SOUND POWER RATING LEVEL (IN DB) BOTTOM OF DUCT LOW WALL GRILLE BOTTOM OF PIPE LEAVING WATER TEMPERATURE MAKE-UP AIR BIRD SCREEN / BLACK STEEL MAXIMUM BRITISH THERMAL UNIT MAKE UP AIR UNIT 1000 BRITISH THERMAL UNITS/HOUR BRITISH THERMAL UNITS PER HOUR CAPACITY MINIMUM CIRCUIT AMPACITY CALIBRATED BALANCING DAMPER MOTORIZED DAMPER CONTROLS CONTRACTOR MANUFACTURER CEILING DIFFUSER/CONDENSATE DRAIN **MISCELLANEOUS** CONDENSER WATER RETURN MIN MINIMUM/MINUTE CONDENSER WATER SUPPLY MEDIUM PRESSURE STEAM MOUNT CFM CUBIC FEET PER MINUTE MOUNTED CHILLED WATER RETURN CHILLED WATER SUPPLY MAKE-UP AIR CEILING MAKE-UP WATER COLUMN NOT APPLICABLE CONC CONCRETE NORMALLY CLOSED/NOISE CRITERIA COND CONDENSATE NG/NGAS NATURAL GAS NOT IN CONTRACT CONNECT/CONNECTED/CONNECTION CONT CONTINUOUS/CONTINUATION NORMALLY OPEN/NUMBER CONTR CONTRACTOR NON-POTABLE WATER COORDINATE NON-RESIDENTIAL N-RCOEFFICIENT OF PERFORMANCE OUTSIDE AIR COOLING TOWER OPPOSED BLADE DAMPER CUBIC/CONDENSER UNIT OUTSIDE DIAMETER/DIMENSION DOMESTIC COLD WATER/CONDENSER WATER POUNDS PER CUBIC FOOT DUCTBOARD/DRY BULB/DECIBEL PRESSURE DROP DIRECT DIGITAL CONTROL PHASE DEFLECTION POINT OF CONNECTION DEGREE/DEGREES PRESSURE POUNDS PER SQUARE INCH DIA DIAMETER POUNDS PER SQUARE INCH GAUGE DMPR DAMPER DOWN QUANTITY RETURN GRILLE/RELOCATED/RETURN DEDICATED OUTSIDE AIR SYSTEM RETURN AIR **EXHAUST** RD/RND ROUND EACH/EXHAUST AIR REFERENCE ENTERING AIR TEMPERATURE REQUIRED EGGCRATE GRILLE/END CAP/ELEC CONTRACTOR RESIDENTIAL RELIEF ENERGY EFFICIENT RATING EXHAUST FAN REFRIGERANT DISCHARGE GAS **EFFICIENCY** REFRIGERANT LIQUID REVOLUTIONS PER MINUTE ELEVATION ELEC/ELECT ELECTRICAL/ELECTRIC REFRIGERANT SUCTION SUPPLY ENERGY MANAGEMENT CONTROL SYSTEM SUPPLY AIR ENTERING EQUIPMENT SATURATION/SUPPLY AIR TEMPERATURE EXTERNAL STATIC PRESSURE SMOKE DETECTOR ENTERING WATER TEMPERATURE SLIP & DRIVE CONNECTION EXISTING SEATTLE ___ CODE EXHAUST SEASONAL ENERGY EFFICIENCY RATING FAHRENHEIT SENS SENSIBLE SOUND LINED FIRE ALARM CONTRACTOR SHEETMETAL FIRE DAMPER SPECIFICATION FIRE DEPARTMENT CONNECTION SCREENED OPENING FINISHED FLOOR SLAB ON GRADE FURNISHED AND INSTALLED BY CONTRACTOR FURNISHED AND INSTALLED BY OWNER STATIC PRESSURE FULL LOAD AMPS SQUARE FEET FLFX STAINLESS STEEL FLEXIBLE **FLOOR** STRUCTURAL TRANSFER AIR FLAT ON BOTTOM TEMPERATURE/TEMPORARY FURNISHED BY OTHERS, TBD INSTALLED BY CONTRACTOR TO BE DETERMINED FLAT ON SIDE TOP OF DUCT FLAT ON TOP TOP OF STEEL/TOP OF SLAB FIRE PROTECTION TOTAL FEET PER MINUTE TOTAL STATIC PRESSURE FIRE SERVICE ACCESS ELEVATOR THERMOSTAT TYPICAL FIRE/SMOKE DAMPER FOOT/FEET UNIT HEATER **FUTURE** UNLESS NOTED OTHERWISE FACE VELOCITY VENTILATION AIR GAUGE/GALLON **VOLUME DAMPER** VELOCITY GALVANIZED VERTICAL GENERAL CONTRACTOR VARIABLE FREQUENCY DRIVE GALLONS PER MINUTE VOLUME GRILLE/REGISTER/DIFFUSER WRAPPED DUCT GYPSUM WALL BOARD WET BULB WATER GAUGE HORIZONTAL HORSEPOWER/HIGH PRESSURE WITH WITHOUT HEATING SEASONAL PERFORMANCE FACTOR WATTS PER SQUARE FOOT HEIGHT WASHINGTON ADMINISTRATIVE CODE HIGH WALL TRANSFER GRILLE WASHINGTON STATE ENERGY CODE

HOT WATER RETURN

HOT WATER SUPPLY

HEAT EXCHANGER

HERTZ

ME	<u>CHA</u>	NICAL	LEGEND
10"X10" X	RECT SUPF	PLY AIR DUCT	
10"X10"	RECT SUPF	PLY AIR DUCT	
10"X10"	RECT RETU UP/TOWARI		
10"X10"	RECT RETU DN/AWAY	RN DUCT	
10"X10" 10"X10"	RECT EXHA		
10"X10" 10"X10"	RECT EXHA	JUST	
	ROUND DU	CT — UP/TOW	ARD
₹ 10"ø () 10"ø ()	ROUND DU	CT - DN/ AW	AY
₹12"X10"ø	FLATOVAL I	DUCT - UP/	TOWARD
√ 12"X10"ø ()	FLATOVAL I	DUCT - DN/	AWAY
10"0 0	DUCT OVER	RLAP	
10"ø	BOOT TAP		
= 10"ø =	45° TAP		
10"ø	VOLUME D	AMPER	
10"ø •	CALIBRATE) BALANCING [)AMPER
<u>K/U</u>	RISE(R) &	DROP(D)	
↓	TRANSITION		
		ANES/SPLITTER	
	BACK DRAF	NTED SMOKE [T DAMPER	JETECTOR
		(DRAWN AIR)	
<i>→</i> →	AIR FLOW	(FORCED AIR)	
	COI	MBINATION FS	N
	√ FIR	E DAMPER OKE DAMPER	U
	MO	TOR OPERATE	D DAMPER
	_	CESS DOORS	
	_	JND TRAP X CONNECTIC	N
216"X16"ODSL 3	OD = OUTS	LY LINED DUC SIDE DIMENSIOI ND LINING (THI	NS
-XXXXXXXX	FABRIC DU		
	SUPPLY AIF	R DIFFUSER	07.77)
	·	E BLANKOFF/R HAUST AIR GR	·
		TURN OR TRAN	
		IFFUSER (PLAN	•
\(\frac{\frac}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fin}}}}}}}{\frac{\frac{\frac{\fir}{\finition}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	ROUND DU		IGLE
##X## * ## *	DEGREES S		
⊕ <u>CD1−100</u> 8"ø		CONNECTION DENTIFIER =	TYPE-CFM SIZE
T'STAT/TEMP SENS	SOR	CO2 CARBON	DIOXIDE SENSOR
(H) HUMIDITY SENSOR SD SMOKE DETECTOR		© CARBON	MONOXIDE SENSOR
SP STATIC PRESSURE		(NO2) NITROGFN	I DIOXIDE SENSOR
OCO OCCUPANCY SENSO	JI N		

EXISTING DUCTWORK

WALL-MOUNTED GRILLE

DEMO DUCTWORK

≥————o PIPE ELBOW UP ≥ PIPE ELBOW DN ≥ DIRECTION OF FLOW

PLUG OR CAP

≥ SOLENOID VALVE

NG —— NATURAL GAS

← COND → CONDENSATE

FOV—— FUEL OIL VENT

→ IPG → LIQUID PROPANE GAS

₽UMP PUMP

≥ DIRECTION OF SLOPE DOWN

≥ PRESS REDUCING ASSEMBLY

←CHWS/CHWR4 CHILLED WATER SUPPLY/RETURN

←CDWS/CDWR+ CONDENSER WATER SUPPLY/RETURN

──HWS/HWR→ HEATING WATER SUPPLY/RETURN

FOS/FOR→ FUEL OIL SUPPLY/RETURN

₹ REFRIGERANT DISCHARGE GAS

→ RL/RS→ REFRIGERANT LIQUID/SUCTION

MECHANICAL GENERAL NOTES

- WORK SHALL CONFORM TO APPLICABLE CODES AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO THE 2018 IBC, 2018 WSEC, 2018 IMC AND SIMILAR YEAR WAC 296-104 BOILER RULES INCLUDING ALL WASHINGTON STATE OR AHJ SPECIFIC AMENDMENTS.
- DO NOT SCALE DRAWINGS, DIMENSIONS GOVERN. DIMENSIONS ARE TO FACE OF STUD, CONCRETE, OR MASONRY UNO.
- LOCATION AND DETAILS OF EQUIPMENT, DUCT ROUTING, AND CONNECTIONS ARE APPROXIMATE. COORDINATE FINAL LOCATIONS WITH OTHER
- TRADES. INSTALL IN ACCORDANCE WITH APPROVED SUBMITTALS AND DETAIL DRAWINGS WHEN APPLICABLE
- 4. VERIFY EXISTING CONDITIONS, DIMENSIONS, DETAILS, ETC. NOTIFY PROJECT ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
- WHEN CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK. IF ADDITIONAL QUESTIONS REMAIN, CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING.
- 6. ALL STRUCTURAL OPENINGS AND PLATFORMS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR UNO.
- DUCT SEALING AND CONSTRUCTION TO MEET SMACNA AND ENERGY CODE REQUIREMENTS, UNO. REFER TO DUCT PRESSURE CLASS SCHEDULE
- 8. ALL CEILING DIFFUSERS ARE 4-WAY THROW UNLESS NOTED OTHERWISE.
- 9. ALL DUCT DIMENSIONS ARE OUTSIDE DIMENSIONS BEFORE SOUND LINING HAS BEEN ACCOUNTED FOR (ODSL, WITH SOUND LINING @ 1", UNO)
- 10. OUTSIDE AIR INTAKES ON ALL AIR HANDLING UNITS SHALL BE 10 FEET AWAY FROM ANY VENTS, STREETS, LOADING DOCK, NEIGHBORING LOT LINES & FUEL BURNING EQUIPMENT OR 3 FEET BELOW / 25' ABOVE ANY CONTAMINANT SOURCE WITHIN 10 FEET.
- 11. ALL AIR ECONOMIZERS SHALL BE CAPABLE OF THE FOLLOWING PER C403.5.1 & C403.5.5: -0% TO 100% OF THE DESIGN SUPPLY AIR WITH FAULT DETECTION & DIAGNOSTIC REPORTING.
 -CONTROLLED BY A CONTROL SYSTEM DETERMINING IF THE OUTSIDE AIR CAN MEET PART OR ALL OF THE BUILDING COOLING LOADS.
- -INTEGRATED TO PROVIDE PARTIAL COOLING EVEN WHEN MECHANICAL COOLING IS REQUIRED. 12. OUTSIDE AIR INTAKE, RELIEF, AND EXHAUST OPENINGS SHALL BE EQUIPPED WITH MOTORIZED CLASS 1 LOW LEAK (<4 CFM/SF @ 1"WG) DAMPERS (OR GRAVÍTY PER EXCEPTIONS IN C403.7.8) DAMPERS WHÍCH CLOSE AUTOMATICALLY WHEN SYSTEM IS OFF OR ÚPON POWER FAILURE, UNO FOR SMOKE CONTROL SYSTEM OPERATION
- THE CONTROL SYSTEM SHALL MEET C403 AND BE PROGRAMMABLE, CAPABLE OF BEING SET FOR DIFFERENT DAY TYPES PER WEEK, DEADBAND SETTING OF AT LEAST 5°F, BETWEEN THE HEATING AND COOLING SETPOINTS AND SETBACK TEMPERATURES WITH OPTIMAL START CONTROL. CONTROL SYSTEM SHALL INCLUDE A MICROPROCESSOR AND BE CAPABLE OF VARYING FLOWS AND RESETTING SUPPLY AIR & WATER TEMPERATURES BY REPRESENTATIVE BUILDING LOADS WHERE REQUIRED IN C403.4.
- 14. WHERE REQUIRED BY C103 OR C408, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS OF THE DATE OF SYSTEM ACCEPTANCE PER THE ENERGY CODE. AN OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER. ALL HVAC SYSTEMS SHALL BE BALANCED AND A WRITTEN BALANCING REPORT SHALL BE PROVIDED TO THE OWNER. HVAC CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT THEY OPERATE IN ACCORDANCE WITH APPROVED PLANS. A PRELIMINARY COMMISSIONING REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PROVIDED TO THE OWNER.
- 15. MECHANICAL SYSTEMS SHALL COMPLY WITH SEISMIC RESTRAINT REQUIREMENTS OF THE BUILDING CODE, SMACNA AND ASCE 7. ALL LIFE SAFETY OR HAZARDOUS MATERIAL RELATED SYSTEMS SHALL BE DEEMED AN Ip=1.5 FOR RESTRAINT METHODS OR AS NOTED ON THE DRAWINGS. REFER TO CODES FOR INSTALLATION REQUIREMENTS AND EXCEPTIONS BASED ON SIZING, WEIGHTS AND MOUNTING HEIGHTS.
- 16. PROVIDE EARTHQUAKE RESTRAINTS FOR HVAC EQUIPMENT AS REQUIRED BY SMACNA SEISMIC RESTRAINT MANUAL, SEISMIC HAZARD B. WIRES FOR CEILING SYSTEM ETC. SHALL NOT BE HUNG OFF HVAC EQUIPMENT OR HVAC EQUIPMENT SUPPORTS.
- 17. PROVIDE FIRE AND COMBINATION FIRE/SMOKE DAMPERS WHERE SHOWN ON PLANS AND WHERE REQUIRED PER CODE, AT 1-1/2 HR RATING
- 18. ALL PIPING PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE SEALED WITH AN UL APPROVED FIRE CAULKING. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NON-COMBUSTIBLE OR SHALL BE UL LISTED AND LABELED FOR INSTALLATION IN PLENUMS OR AS HAVING A FLAME SPREAD INDEX ≤ 25 AND A SMOKE-DEVELOPED INDEX OF ≤ 50.
- 19. SMOKE DETECTORS PROVIDING AUTOMATIC SHUTDOWN SHALL BE PROVIDED IN THE RETURN AIR. PER MECH CODE. SUCH AS HVAC EQUIPMENT DELIVERING (NOT EXHAUST) >2000 CFM (INCLUDING MULTIPLE UNITS DUCTED INTO COMMON DISTRIBUTION OR RETURN, WITH A TOTAL SUPPLY >2000 CFM) OR EACH STORY OF RETURN SYSTEMS OVER 15,000 CFM IN A MULTI-STORY INSTALLATION, NOT IN SYSTEMS SERVING SINGLE ROOMS/SPACES. SMOKE DETECTORS SHALL BE PROVIDED BY EC, INSTALLED BY MC (WHEN IN DUCTWORK). POWER-WIRING AND INTERLOCK TO FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR AS APPLICABLE. VAV BOX (WITH FAN) SHUTDOWN CAN BE THROUGH CONTROLS SYSTEM.
- 20. ARCHITECTURAL ACCESS PANELS SHALL BE PROVIDED AND INSTALLED BY GC AT ALL CONCEALED EQUIPMENT AND DEVICE LOCATIONS, UNO. 21. ALL MOTOR STARTERS NOT SHOWN IN EQUIPMENT SCHEDULES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. MOTOR

EFFICIENCIES TO MEET OR EXCEED ENERGY CODE C405.8 MINIMUM.

- 22. FOR ALL "SEALED AIR TIGHT" OR PRESSURIZED SHAFTS/ROOMS AND PRESSURE/TEMPERATURE/HUMIDITY CONTROLLED ROOMS, THE FOLLOWING -USE CHAPTER 909 OF THE LATEST IBC FOR MAX ALLOWABLE LEAKAGE AREA, FOLLOWING THE GUIDELINES FOR TIGHT STAIR SHAFT CONSTRUCTION. -ALL VERTICAL JOINTS, CORNERS AND WALL TRACKS (TOP AND BOTTOM) SHALL BE PROVIDED WITH A CONTINUOUS SEAL FOR THE LENGTH OF -ANY FLOOR DECKING PERPENDICULAR TO THE CONSTRUCTION SHALL BE CAULKED (BY GC). FILLING WITH ROCK WOOL IS NOT ACCEPTABLE -ANY PENETRATIONS OF THE CONSTRUCTION (DUCTWORK, CONDUIT, PIPING, ...) SHALL BE ŚEALED ON BOTH SIDES
 -ALL DOORS SHALL BE PROVIDED WITH TIGHT FITTING GASKETS AND THRESHOLD SWEEPS, AND OPEN AGAINST THE DIRECTION OF PRESSURE. -IN ADDITION TO ABOVE, ROOM ENVELOPE TO HAVE VAPOR BARRIER FOR HUMIDITY CONTROLLED ROOMS
- 23. ALL ADHESIVES, SEALANTS, PAINTS AND COATINGS USED DURING THE INSTALLATION/FINISH WORK SHALL MEET THE LEED REQUIREMENTS FOR IEQ.
- 24. MAXIMUM STANDARD LENGTH OF FLEXIBLE DUCT SHALL BE PER BUILDING STANDARDS OR 12' MAX; UP TO 25' MAXIMUM LENGTH IS ACCEPTABLE IF; FLEX DUCT (UL-181 TESTED & NOT "CONNECTOR") IS USED, DUCT Ø IS INCREASED BY 1 NOMINAL SIZE & BENDS DO NOT EXCEED 235° TOTAL. REFER TO INSTALLATION DETAILS FOR SUPPORT REQUIREMENTS. FLEXIBLE DUCT FLAME SPREAD RATING SHALL BE < 25 AND SMOKE DEVELOPED RATING SHALL BE < 50. USE THERMAFLEX MODEL G-KM FOR LOW AND MEDIUM PRESSURE APPLICATIONS OR APPROVED EQUAL.

-ROOM ENVELOPE TO BE INSULATED (R-11 MIN) IF TEMPERATURE DIFFERENCE EXCEEDS 10°F TO ADJACENT AREAS

- 25. ELECTRICAL METERING OF SYSTEMS AS REQUIRED BY ENERGY CODE SECTION C409 IS BY ELECTRICAL. THE ELECTRICAL DESIGN & CONTRACTOR TEAM WILL FURNISH THE NECESSARY ELECTRICAL DISTRIBUTION AND METERING COMPONENTS SEE ELECTRICAL DRAWINGS. THE MECHANICAL CONTRACTOR WILL FURNISH A BUILDING MANAGEMENT SYSTEM CAPABLE OF COLLECTING AND STORING THE INFORMATION WITH A VISIBLE DISPLAY/NOTIFICATION READILY ACCESSIBLE TO OPERATION AND MANAGEMENT PERSONNEL AS REQUIRED.
- 26. THE PROJECT TEAM IS COLLECTIVELY RESPONSIBLE FOR COMPLIANCE WITH ENERGY CODE REQUIRED "RENEWABLE ENERGY SYSTEMS" AS WELL AS C406 "EFFICIENCY PACKAGES" AS APPLICABLE TO THE PROJECT AND AS COORDINATED DURING DESIGN WITH ENTIRE DESIGN/CONSTRUCTION

DRAWING INDEX SHEET TITLE REVISION COVER SHEET - HVAC SCHEDULES SHEET - HVAC CONSTRUCTION STANDARDS - HVAC M0.03 CONSTRUCTION STANDARDS – HVAC M2.R1 PARTIAL ROOF PLANS – HVAC



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Hermanson Company LLP

APN NUMBER

6021590090

RTU 29

SOUTH HILL MALL, ROOF 3500 S MERIDIAN PUYALLUP, WA 98373

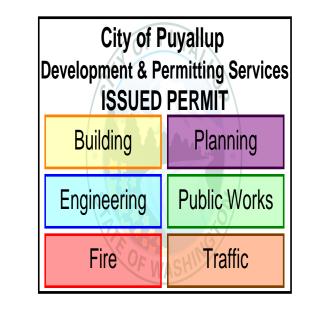
LEGAL DESCRIPTION

Section 04 Township 19 Range 04 Quarter 43 SOUTH HILL MALL PH II BSP LOT 9 EASE OF RECORD (20.83 ACS) OUT OF 8-030 & 4-114 ETAL SEG H-0152 JU 8/16/95JU



ISSUE FOR PERMIT

Kev Plan



39th Ave SE



AREA OF WORK (ROOF)

SITE MAP NO SCALE

PRMH20240184

FOR CITY USE

Revisions

01/30/24 ADD ISSUE FOR PERMIT

Design Team Design KDE DTN Checked Pre Construction Number 14-24-25267

No. Date By Description

COVER

01/30/24

Construction Number

Issue Date

SHEET - HVAC

M0.00

REVIEWED FOR COMPLIANCE BSnowden 02/07/2024 Approval of submitted plans is not an approval of omissions or 12:21:14 PM

City of Puyallup

Building

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.

					5-	F	PACK	AGE	D AC	UNIT	SCHE	DULE	- DEN														LAST UPDATED:	1/29/24
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UNIT		AREA	BASIS OF	SUPPLY	OSA	RETURN	ESP		OSA °F		UNIT/DUCT	COOLING	CAPACITY		INPUT	OUTPUT	NG			SUPPLY FAN			IEER/ [ELL		SOUND	WEIGHT	
TAG	LOCATION	SERVED	DESIGN	CFM	CFM	CFM	IN WG	DB	WB	COND DB	SAT DB °F	TOTAL MBH	SENS. MBH	STAGES	MBH	MBH	CONN	TYPE	QTY	RPM	BHP	HP	EER	MCA	V/PH	dBA	(INC. CURB/ACC.) LBS	REMARKS
RTU-29	ROOF	RETAIL	YORK DCG0120	4,000	800	3200	0.6	85	67.00	95	55	126	87	2	204	161	-	FC	1	-	-	2	-	29	460/3		1452	1,2

GENERAL

1 DISCONNECT FROM ELECTRICAL AND DEMO EXISTING UNIT

2 FIELD TO CONDUCT PRE-TAB FOR EACH SPACE BEING SERVED BY UNIT BEFORE DEMO

							PA	CKA	GED	AC U	INIT S	CHEDI	JLE														LAST UPDATED:	1/29/24
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UNIT		AREA	BASIS OF	SUPPLY	OSA	RETURN	ESP		OSA °F		UNIT/DUCT	COOLING	CAPACITY		INPUT	OUTPUT	NG			SUPPLY FAN		2g-1	IEER/	El	EC	SOUND	WEIGHT	
TAG	LOCATION	SERVED	DESIGN	CFM	CFM	CFM	IN WG	DB	WB	COND DB	SAT DB °F	TOTAL MBH	SENS. MBH	H STAGES	MBH	MBH	CONN	TYPE	QTY	RPM	BHP	HP	EER	MCA	V/PH	dBA	(INC. CURB/ACC.) LBS	REMARKS
RTU-29	ROOF	RETAIL	YORK ZYG12E4B3AA2B111A3	4,000	800	3200	0.60	85	67	95	55.0	126.0	87.0	2	220	176	-	FC	1	1001	3.0	3.7	14.6/ 12	23.6	460/3	87	1,350	1-10
_																												

GENERAL ALL TRADES TO CONFIRM EQUIPMENT REQUIREMENTS (ELECTRICAL, WEIGHT, SIZE, ETC...) WITH APPROVED SUBMITTALS PRIOR TO INSTALLATION; FIELD COORDINATE FINAL LOCATION & INSTALL PER MANUFACTURERS REQUIREMENTS

GENERAL UNIT CAPACITY RATED AT 85/67 OUTSIDE AIR DESIGN TEMPERATURES

- 1 ELECTRICAL CONTRACTOR TO PROVIDE SCCR PROTECTION DIRECTION FOR EQUIPMENT AS REQUIRED BY LATEST APPROVED VERSION OF THE NATIONAL ELECTRICAL CODE, PRIOR TO ORDER.
 MANUFACTURER TO PROVIDE SCCR LISTING (65 KAIC MINIMUM OR PER ELECTRICAL CONTRACTOR CALCULATION) INSIDE CONTROL PANEL AS REQUIRED BY NATIONAL ELECTRICAL CODE.
- 2 PROVIDE FULL ECONOMIZER (ENTHALPY) CYCLE. WITH (BAROMETRIC) RELIEF SYSTEM
- 3 ECONOMIZER SHALL BE CAPABLE OF PROVIDING PARTIAL COOLING IN ADDITION TO MECHANICAL COOLING AS REQUIRED TO MEET THE REMAINDER OF THE LOAD PER SECTION C403.5.1
- MINIMUM UNIT EFFICIENCY TO MEET THE ENERGY CODE TABLE C403.3.2(2)
 OUTSIDE AIR INDICATES MINIMUM CFM PER ASHRAE/MECH CODE (UP TO 150%), TAB WORK MUST MEET OR EXCEED INDICATED QUANTITY. FOR REPLACEMENTS WITHOUT OSA NOTED, TAB TO MEASURE OSA CFM
- OF OLD UNIT PRIOR TO DEMO AND USE SAME CFM FOR THE REPLACEMENT UNIT (UNO)
- 6 RETURN AIR SMOKE DETECTOR PROVIDED WITH UNIT
 7 PROVIDE WITH (MERV 8) MINIMUM FILTRATION
- 8 PROVIDE WITH (MERV 8) MINIMUM FILT 8 PROVIDE WITH ROOF CURB ADAPTER
- 9 REUSE EXISTING DDC / T-STAT CONTROLS
- 10 PROVIDE SEISMIC BRACING PER ACSE 7, UNLESS: UNIT IS WALL MOUNTED OR <20 LBS OR IS RIGID MOUNTED INLINE WITH DUCT (NO FLEX) AND <75 LBS



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Contractor Reg #: HERMACL005BJ

RTU 29

SOUTH HILL MALL, ROOF 3500 S MERIDIAN PUYALLUP, WA 98373



ISSUE FOR PERMIT

Key Plan

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building Planning

Engineering Public Works

Revisions

- 	

Design	Team
Design	ADD
Drawn	KDE
Checked	DTN
Pre Construction Numbe	r 14–24–252
Construction Number	
Issue Date	01/30/24

No. Date By Description

SCHEDULE SHEET - HVAC

FOR CITY USE
PRMH20240184

M0.01

RECTANGULAR DUCT CONSTRUCTION STANDARDS

Longitudinal Seam Types

Slip-On Flange "Fig 2-1: Slip On Flange"

70

RECTANGULAR DUCT CONSTRUCTION

GALVANIZED STEEL: 4" STATIC PRESSURE

5 Snap-Lock within 2 Inches of Connectors. Refer to SMACNA Fig. 2-2 (Detail L-2

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Hermanson

Building Today, Defining Tomorrow

SOUTH HILL MALL, ROOF 3500 S MERIDIAN PUYALLUP, WA 98373



ISSUE FOR PERMIT

Key Plan

City of Puyallup Development & Permitting Services

ISSUED PERMIT Planning Public Works Engineering

Revisions

_____ _____

01/30/24 ADD ISSUE FOR PERMIT No. Date By Description

Design Team

KDE DTN Checked Pre Construction Number 14-24-25267

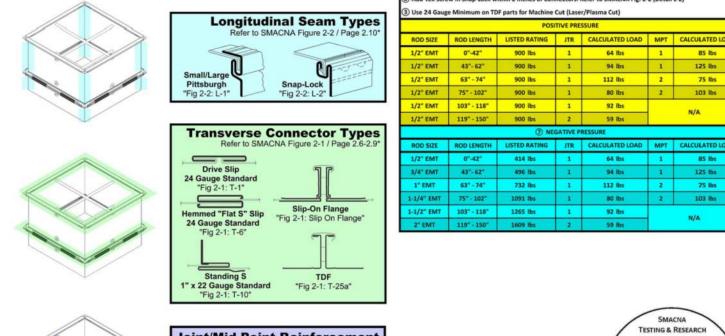
Construction Number

01/30/24 Issue Date

> CONSTRUCTION STANDARDS - HVAC

M0.02

WG	REC	TANGULAR DU	JCT CON	STRUCT	ON STA	NDARD	S			Class C		SEAL Joints
el Width	DUCT C	ONSTRUCTION	JOI	NTS	JOINT	JOINT REINFORCEMENTS			MID-POINT REINFORCEMENTS			
mension PWD)	Panel Gauge	Long Seam Type (No Sealant Required)	Joint Type	Joint Length	Quantity Required	(+) Press. Size/Type	(-) Press. Size/Type	Quantity Required			(-) Press. Size/Type	Dimension (PWD)
- 12 "	24	Snap-Lock	Flat S & D	59							***	0 - 12 "
18 "	24	Snap-Lock	Stnd S & D	59	***	***		***			***	13 - 18 "
23 "	24①③	Snap-Lock	TDF	56	***							19 - 23 "
26 "	24 ①	Snap-Lock	TDF	56								24 - 26 "
30 "	24 ①	Snap-Lock	TDF	56								27 - 30 "
42 "	24 ①	Snap-Lock	TDF	56				1	1/2"	EMT	7	31 - 42 "
54 "	22 ①	Snap-Lock	TDF	56				1	1/2"	EMT	7	43 - 54 "
60 "	20 ①	Snap-Lock	TDF	56	1	½" EMT	7					55 - 60 "
72 "	20 ①	Snap-Lock	TDF	56	1	1/2" EMT	7	1	1/2"	EMT	7	61 - 72 "
96 "	20 ①	Snap-Lock	TDF	56	1	½" EMT	7	2	1/2"	EMT	7	73 - 96 "
120 "	18 ①	Lg Pittsburg	TDF	28.875	1	1/2" EMT	7					97 - 120 "
180 "	18 ①	Lg Pittsburg	TDF	28.875	2	½" EMT	7					121 - 180 "
						e SMACNA Fig. 2		uirements	OTES	to SMACNA Ein	a 2.2 (Dotall I	-21
						se 24 Gauge Mini				-enumerican	g. 2-2 (Detail t	-4)
		Longitu	dinal Se	am Type	es	re are duage mini	main on rot parc		PRESSUR			
		Refer to	SMACNA Figu	re 2-2 / Page 2		OD SIZE ROD	LENGTH LIST	ED RATING	TR CA	LCULATED LOA	D MPT	CALCULATED LOAD
				1	1/	2" EMT C)"-42"	000 lbs	1	64 lbs	1	85 lbs
			}	Q n	1/	2" EMT 43	3"- 62"	900 lbs	1	94 lbs	1	125 lbs
		Small/Large Pittsburgh	Snap-Lo	Ck ======	1/	2" EMT 63	1" - 74"	900 lbs	1	112 lbs	2	75 lbs



oint/Mid-Point Reinforcemen

"EMT": Electrical Metallic Tubing

RECTANGULAR DUCT CONSTRUCTION

H-1-01

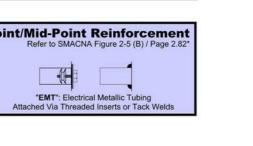
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RECTANGULAR DUCT CONSTRUCTION **GALVANIZED STEEL: 3" STATIC PRESSURE**

3"WG	REC	TANGULAR DI	JCT CON	STRUCTI	ON STA	NDAR	DS	Ref		eal Class ACNA Table 1-		SEAL Joints Seams
Panel Width	DUCT CO	INSTRUCTION	JOI	NTS	JOIN'	REINFOR	CEMENTS		VIID-POI	NT REINFOR	CEMENTS	Panel Width
Dimension (PWD)	Panel Gauge	Long Seam Type (Sealant Required)	Joint Type	Joint Length	Quantity Required	(+) Pres Size/Typ			antity quired	(+) Press. Size/Type	(-) Press. Size/Type	Dimension (PWD)
0 - 16 "	24	Snap-Lock	Stnd S & D	59			-	-				0 - 16
17 - 23 "	24	Snap-Lock	TDF	56			-	-0		***		17 - 23
24 - 26 "	24 ①	Snap-Lock	TDF	56						***		24 - 26
27 - 30 "	22 ①	Snap-Lock	TDF	56	***		-	-		***		27 - 30
31 - 42 "	22 ①	Snap-Lock	TDF	56			-	-	1	½" EMT	7	31 - 42
43 - 47 "	22 ①	Snap-Lock	TDF	56	1	½" EM	T (1	½" EMT	7	43 - 47
48 - 54 "	22 ①	Snap-Lock ②	TDF	56	1	1/2" EM	T C		1	½" EMT	7	48 - 54
55 - 60 "	20 ①	Snap-Lock ②	TDF	56	1	1/2" EM	т (1	½" EMT	7	55 - 60
61 - 84 "	20 ①	Snap-Lock ②	TDF	56	1	1/2" EM	T C		2	1/2" EMT	7	61 - 84
85 - 96 "	18 ①	Lg Pittsburg	TDF	56	1	1/2" EM	т (2	½" EMT	7	85 - 96
97 - 120 "	18 ①	Lg Pittsburg	TDF	28.875	1	1/2" EM	T C					97 - 120
21 - 180 "	18 ①	Lg Pittsburg	TDF	28.875	2	½" EM	Т					121 - 180
		Longitu	dinal Se	am Type	② A	dd Tek-Screw	in Snap-Lock w	F parts for Mac	Connector	s. Refer to SMACN iser/Plasma Cut)	IA Fig. 2-2 (Detail	L-2)
		Refer to	SMACNA Figu	re 2-2 / Page 2	.10*	-			POSITIVE P			
						OD SIZE	ROD LENGTH 0"-42"	900 lbs	IG JTR	CALCULATED 96 lbs	CONTRACTOR OF THE PARTY OF	127 lbs
W				0	4	2" EMT	43"- 62"	900 lbs	1	141 lbs	_	188 lbs
		Small/Large U	ξ	U	7 -	2" EMT	63" - 74"	900 lbs	1	168 lbs		112 lbs
		Pittsburgh "Fig 2-2: L-1"	Snap-Lo "Fig 2-2: I		1	2" EMT	75" - 102"	900 lbs	1	120 lbs	2	155 lbs
					1	/2" EMT	103" - 118"	900 lbs	1	138 lbs		N/A
						/2" EMT	119" - 150"	900 lbs	2	88 lbs		H/H
		Transverse								PRESSURE		
		Refer to Si	MACNA Figure	2-1 / Page 2.6-			ROD LENGTH	LISTED RATIN	_			CALCULATED LOA
				50		2" EMT /4" EMT	0"-42" 43"- 62"	414 lbs 496 lbs	1	96 lbs		127 lbs 188 lbs
				H		L" EMT	63" - 74"	732 lbs	1	168 lbs	_	112 lbs
			to a	7		/4" EMT	75" - 102"	1091 lbs	1	120 lbs		155 lbs
	3//	Drive Slip		On Flange		/2" EMT	103" - 118"	1265 lbs	1	138 lbs		
		24 Gauge Standard "Fig 2-1: T-1"	"Fig 2-1: S	Slip On Flange"	3	EMT	119" - 150"	1609 lbs	2	88 lbs	6	N/A
		Standing S 1" x 22 Gauge Stand "Fig 2-1: T-10"	ard "Fig	TDF 2-1: T-25a"								
		Joint/Mid-Po		forceme -5 (B) / Page 2.							TESTING & INSTI	RESEARCH TTUTE y, Virginia

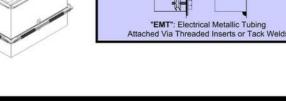
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H-1-03



k-Screw in Snap-Lock within 2 Inches of Connectors. Refer to SMACNA Fig. 2-2 (Detail L-2)





RECTANGULAR DUCT CONSTRUCTION

GALVANIZED STEEL: 6" STATIC PRESSURE

RECTANGULAR DUCT CONSTRUCTION STANDARDS

Longitudinal Seam Types Refer to SMACNA Figure 2-2 / Page 2.10*

Slip-On Flange
"Fig 2-1: Slip On Flange"

7

oint/Mid-Point Reinforcemer Refer to SMACNA Figure 2-5 (B) / Page 2.



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H-1-02

DI	UCT PRESSURE CLASS	LAST UPDATED:	12/29/23
		PRESSURE	
DUCT TYPE	DUCT LOCATION	RATING	REMARKS
SUPPLY AIR	LOW PRESSURE SUPPLY DUCTWORK DOWNSTREAM OF VAV	POSITIVE ≤2	
DUCTWORK	UNIT OR CONSTANT VOLUME UNIT	INCHES W.G.	2,3
RETURN /			8
OUTSIDE /			
EXHAUST AIR	LOW PRESSURE DUCTWORK FROM A GRILLE TO A QUICK	NEGATIVE ≤2	
DUCTWORK	ACTING DAMPER FD, SD, FSD, OR MD	INCHES W.G.	2,3
NOTES:			

- PRESSURE CLASS TO MEET OR EXCEED FAN CURVE (1.25 TIMES FAN ESP PRESSURE).
- PRESSURE CLASS TO MEET PRESSURE RATING INDICATED ≤2" PRESSURE WITH SEAL CLASS C (TRANSVERSE JOINT)
- 3" PRESSURE WITH SEAL CLASS B (TRANSVERSE, LONGITUDINAL JOINT) ≥2" PRESSURE WITH SEAL CLASS A (TRANSVERSE, LONGITUDINAL & DUCT WALL PENE'S) CONTINUOUSLY WELDED CONSTRUCTION OR APPROVED EQUAL
- DUCTS TO BE LEAK TESTED ACCORDING TO SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL FOR AT LEAST 25% OF THE INSTALLED DUCT SYSTEM AREA
- TESTING NOT REQ'D FOR PRESSUIZATION SYSTEM DUCTS FOR SEATTLE ONLY

TESTING OF EXTERIOR DUCTS REQUIRED FOR SEATTLE ONLY, UNLESS ≥3" W.G.

TESTING NOT REQ'D FOR DUCTS OPERATING AT <3" W.G. (SEE EQUIPMENT SCHEDULE)

DUCT CONSTRUCTION STANDARDS

1. Shop fabricated fitting construction set to a minimum of 24 gauge for constructibility.

2. Mitered Elbows constructed per SMACNA Table 3-1 on Page 3.1

GALVANIZED ROUND DUCT CONSTRUCTION MATRIX

Hermanson

INSTITUTE
Chantilly, Virginia

SMACNA

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FOR CITY USE

PRMH20240184

	ALL	POSITIVE (UP TO 10"	WG)	1	2 INCH WG NEGATIVE		3.8	& 4 INCH WG NEGATI	VE		6 INCH WG NEGATIVE		1	O INCH WG NEGATIV	E	
GALVANIZED DIAMETER	LONG. SEAM ONE PIECE FITTINGS AND PIPE (TBL 3-5 PG 3.8)	LONG. SEAM MULTI-PIECE GORED FITTINGS (TBL 3-5 PG 3.8)	SPIRAL SEAM PIPE (TBL 3-5 PG 3.8)	LONG. SEAM ONE PIECE FITTINGS AND PIPE (TBL 3-6 PG 3.10)	LONG. SEAM MULTI-PIECE GORED FITTINGS (TBL 3-6 PG 3.10)	SPIRAL SEAM PIPE (TBL 3-10 PG 3.18)	LONG. SEAM ONE PIECE FITTINGS AND PIPE (TBL 3-7 PG 3.12)	LONG. SEAM MULTI-PIECE GORED FITTINGS (TBL 3-7 PG 3.12)	SPIRAL SEAM PIPE (TBL 3-11 PG 3.20)	LONG. SEAM ONE PIECE FITTINGS AND PIPE (TBL 3-8 PG 3.14)	LONG. SEAM MULTI-PIECE GORED FITTINGS (TBL 3-8 PG 3.14)	SPIRAL SEAM PIPE (TBL 3-12 PG 3.22)	LONG. SEAM ONE PIECE FITTINGS AND PIPE (TBL 3-9 PG 3.16)	LONG. SEAM MULTI-PIECE GORED FITTINGS (TBL 3-9 PG 3.16)	SPIRAL SEAM PIPE (TBL 3-13 PG 3.24)	GALVANIZED DIAMETER
0-4 Ø	24 GA ①	24 GA ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	0-4 Ø
5-6 Ø	24 GA ①	24 GA ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	5-6 Ø
7-8 Ø	24 GA ①	24 GA ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR)	24 GA (NR)	26 GA (10 FT)	7-8 Ø
9-10 Ø	24 GA ①	24 GA ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR) ①	24 GA (NR) ①	28 GA (10 FT)	24 GA (NR)	24 GA (NR)	26 GA (10 FT)	24 GA (NR)	24 GA (NR)	26 GA (10 FT)	9-10 Ø
12 Ø	24 GA ①	24 GA ①	26 GA (10 FT) ①	24 GA (NR) ①	24 GA (NR) ①	26 GA (10 FT) ①	24 GA (NR)	24 GA (NR)	26 GA (10 FT)	24 GA (NR)	24 GA (NR)	24 GA (10 FT)	22 GA (NR)	22 GA (NR)	24 GA (10 FT)	12 Ø
14 Ø	24 GA ①	24 GA ①	26 GA (10 FT) ①	24 GA (NR)	24 GA (NR)	26 GA (10 FT) ①	22 GA (NR)	22 GA (NR)	24 GA (10 FT)	22 GA (NR)	22 GA (NR)	24 GA (10 FT)	20 GA (NR)	20 GA (NR)	22 GA (10 FT)	14 Ø
16 Ø	24 GA ①	24 GA ①	26 GA (10 FT)	24 GA (NR)	24 GA (NR)	26 GA (10 FT)	22 GA (NR)	22 GA (NR)	24 GA (10 FT)	20 GA (NR)	20 GA (NR)	22 GA (10 FT)	24 GA (5 FT) ①	24 GA (5 FT) ①	26 GA (10 FT)	16 Ø
18 Ø	24 GA ①	24 GA ①	26 GA (10 FT)	22 GA (NR)	22 GA (NR)	24 GA (10 FT)	20 GA (NR)	20 GA (NR)	22 GA (10 FT)	20 GA (NR)	20 GA (NR)	22 GA (10 FT)	24 GA (5 FT)	24 GA (5 FT)	24 GA (10 FT)	18 Ø
20 Ø	24 GA	24 GA	26 GA (10 FT)	22 GA (NR)	22 GA (NR)	24 GA (10 FT)	20 GA (NR)	20 GA (NR)	22 GA (10 FT)	24 GA (5 FT) ①	24 GA (5 FT) ①	26 GA (10 FT)	24 GA (5 FT)	24 GA (5 FT)	24 GA (10 FT)	20 Ø
22 Ø	24 GA	24 GA	26 GA (10 FT)	22 GA (NR)	22 GA (NR)	22 GA (10 FT)	24 GA (5 FT) ①	24 GA (5 FT) ①	26 GA (10 FT) ①	24 GA (5 FT) ①	24 GA (5 FT) ①	26 GA (10 FT)	24 GA (5 FT)	24 GA (5 FT)	24 GA (10 FT)	22 Ø
24 Ø	24 GA	24 GA	26 GA (10 FT)	20 GA (NR)	20 GA (NR)	22 GA (10 FT)	24 GA (5 FT) ①	24 GA (5 FT) ①	26 GA (10 FT)	24 GA (5 FT)	24 GA (5 FT)	24 GA (10 FT)	24 GA (5 FT)	24 GA (5 FT)	24 GA (10 FT)	24 Ø
26-30 Ø	22 GA	22 GA	24 GA (10 FT)	24 GA (5 FT) ①	22 GA (5 FT) ①	24 GA (10 FT) ①	24 GA (5 FT) ①	22 GA (5 FT) ①	24 GA (10 FT) ①	24 GA (5 FT)	22 GA (5 FT) ①	24 GA (10 FT)	22 GA (5 FT)	22 GA (5 FT)	22 GA (10 FT)	26-30 Ø
32-36 Ø	22 GA	22 GA	24 GA (10 FT)	24 GA (5 FT) ①	22 GA (5 FT) ①	24 GA (10 FT) ①	24 GA (5 FT)	22 GA (5 FT) ①	24 GA (10 FT)	22 GA (5 FT)	22 GA (5 FT)	22 GA (10 FT)	22 GA (5 FT)	22 GA (5 FT)	22 GA (10 FT)	32-36 Ø
38-42 Ø	22 GA	22 GA	22 GA (10 FT) ①	24 GA (5 FT) ①	22 GA (5 FT) ①	22 GA (10 FT) ①	24 GA (5 FT)	22 GA (5 FT) ①	22 GA (10 FT) ①	22 GA (5 FT)	22 GA (5 FT)	22 GA (10 FT)	20 GA (5 FT)	20 GA (5 FT)	20 GA (10 FT)	38-42 Ø
44-48 Ø	20 GA	20 GA	22 GA (10 FT)	24 GA (5 FT) ①	20 GA (5 FT) ①	22 GA (10 FT) ①	22 GA (5 FT)	20 GA (5 FT) ①	22 GA (10 FT)	22 GA (5 FT)	20 GA (5 FT) ①	22 GA (10 FT)	20 GA (5 FT)	20 GA (5 FT)	20 GA (10 FT)	44-48 Ø
50 Ø	20 GA	20 GA	22 GA (10 FT)	24 GA (5 FT)	20 GA (5 FT) ①	22 GA (10 FT) ①	22 GA (5 FT)	20 GA (5 FT) ①	22 GA (10 FT)	20 GA (5 FT)	20 GA (5 FT)	20 GA (10 FT)	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	50 Ø
52-54 Ø	20 GA	20 GA	20 GA (10 FT) ①	24 GA (5 FT)	20 GA (5 FT) ①	20 GA (10 FT) ①	22 GA (5 FT)	20 GA (5 FT) ①	20 GA (10 FT) ①	20 GA (5 FT)	20 GA (5 FT)	20 GA (10 FT)	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	52-54 Ø
56-60 Ø	20 GA	20 GA	20 GA (10 FT) ①	24 GA (5 FT)	20 GA (5 FT) ①	20 GA (10 FT) ①	22 GA (5 FT)	20 GA (5 FT) ①	20 GA (10 FT) ①	20 GA (5 FT)	20 GA (5 FT)	20 GA (10 FT)	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	56-60 Ø
62-66 Ø	18 GA	18 GA	18 GA (10 FT) ①	24 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	22 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	20 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	62-66 Ø
68-72 Ø	18 GA	18 GA	18 GA (10 FT) ①	24 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	20 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	20 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT)	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	68-72 ع
74-78 Ø	18 GA	18 GA	18 GA (10 FT) ①	22 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	20 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	18 GA (5 FT)	18 GA (5 FT)	18 GA (5 FT)	74-78 Ø
80-84 Ø	18 GA	18 GA	18 GA (10 FT) ①	22 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	20 GA (5 FT)	18 GA (5 FT) ①	18 GA (5 FT) ①	18 GA (5 FT)	18 GA (5 FT)	18 GA (10 FT)	16 GA (5 FT)	16 GA (5 FT)	18 GA (5 FT)	80-84 Ø
		10.54	18 GA (10 FT) ①	22 GA (5 FT)	18 GA (5 FT) ①	18 GA (10 FT) ①	20 GA (5 FT)	18 GA (5 FT) ①	18 GA (5 FT) ①	18 GA (5 FT)	18 GA (5 FT)	18 GA (5 FT) ①	16 GA (5 FT)	16 GA (5 FT)	18 GA (5 FT)	86-90 Ø
86-90 Ø	18 GA	18 GA														

1 Gauges and/or Connectors Listed are Heavier than SMACNA requirements for constructibility.

COLOR CODING: SMACNA REINFORCEMENT CLASS See SMACNA Table 3-2 on Page 3.6 SMACNA Class "NR" Slip-Bead Connections (No Reinforcent Required) SMACNA Class "D" Round Duct Reinforcement

H-3-01

SMACNA Class "E" Round Duct Reinforcement

SMACNA Class "F" Round Duct Reinforcement



	VIBRATION ISOLATION / SE	ISMIC SCH	HEDUL	E	LAST UPDATED:	12/29/23
UNIT		BASIS OF	DEFL	BASE	SEISMIC	%-
TAG	SERVES	DESIGN 1	INCH	TYPE	RESTRAINT	REMARKS
NA	ROOFTOP UNITS (SMALL, MFG CURB)		-	-	SCREW TO CURB	1,2,3

GENERAL ALL TRADES TO CONFIRM EQUIPMENT REQUIREMENTS (ELECTRICAL, WEIGHT, SIZE, ETC...) WITH APPROVED SUBMITTALS
PRIOR TO INSTALLATION; FIELD COORDINATE FINAL LOCATION &INSTALL PER MANUFACTURERS REQUIREMENTS

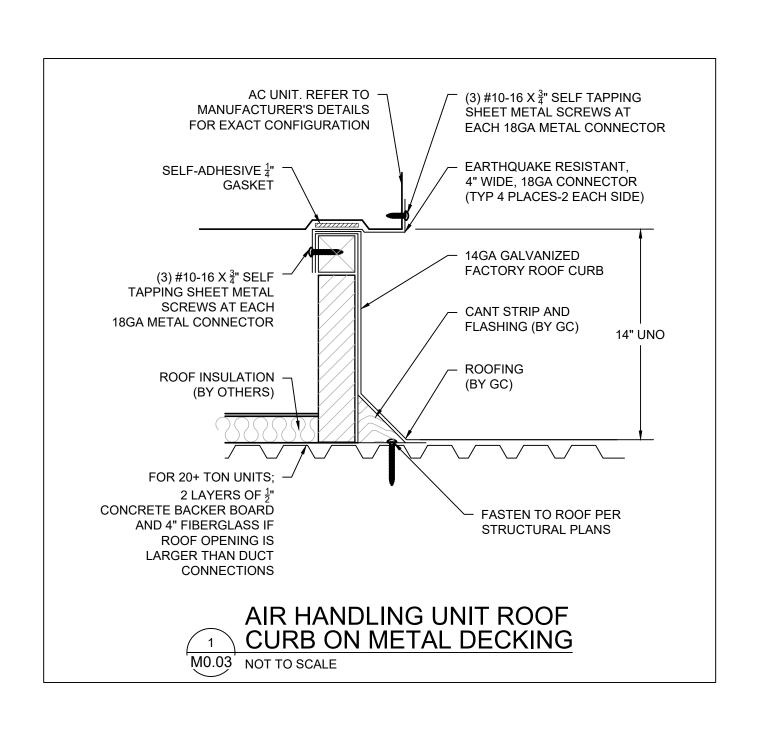
NOTE: CTB = COOLING TOWER BASE, CIB = CONCRETE INERTIA BASE SEISMIC RATED CURB / ISOLATOR

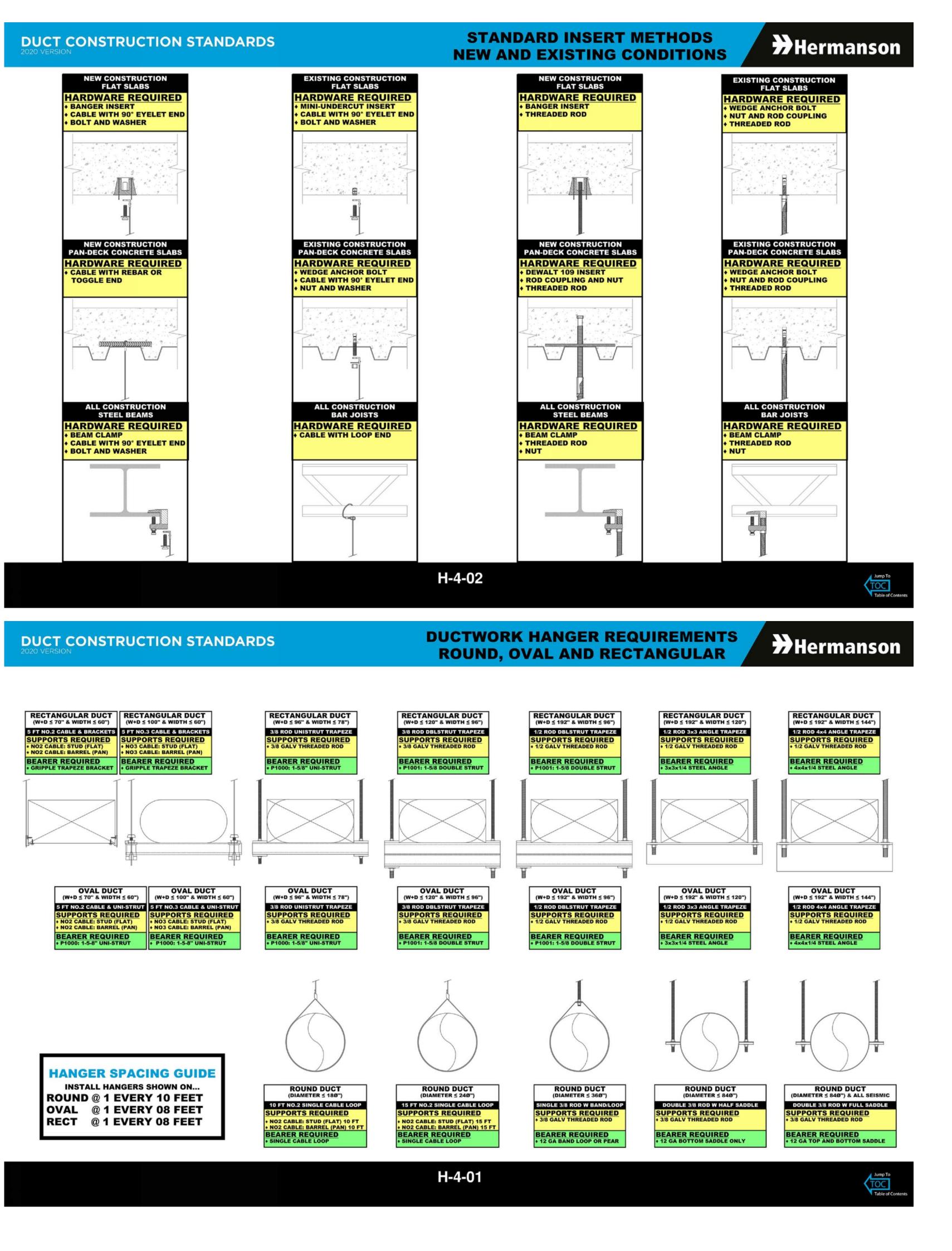
INTERNAL ISOLATION PROVIDED INTEGRAL WITH UNIT

SEISMIC RESTRAINT AS REQUIRED BY CODE AND/OR LOCAL AUTHORITY HAVING JURISDICTION

	MINIMUM DUCT INSULATION		LAST UPDATED	05/02/21
	MINIMON DOCT INSOLATION		L T	05/03/21
			INSULATION	
DUCT SYSTEM	DUCT LOCATION AND USE		R-VALUE	REMARKS
CLIMATE ZONE 4C	T.			
SUPPLY AIR OR	OUTSIDE THE BUIDING (OUTDOORS AND EXPOSED TO WEAT	THER)	R-8	1
RETURN AIR			1, 0	
SUPPLY AIR OR	UNCONDITIONED SPACE (ENCLOSED BUT NOT IN THE BUILDING CO	NDITIONED	R-6	1
RETURN AIR	ENVELOPE)		10	
SUPPLY AIR OR	UNCONDITIONED SPACE (DUCT CONVEYS AIR THAT IS WITHIN 15°F	OF THE AIR	R-3.3	2
RETURN AIR	TEMPERATURE OF THE SURROUNDING UNCONDITIONED S	PACE)	K-3.3	2
SUPPLY AIR OR	IN A BUILDING ENVELOPE ASSEMBLY	·*//	2.46	
RETURN AIR			R-16	3
	WITHIN CONDITIONED SPACE (SUPPLY DUCT CONVEYS AIR THAT IS L	ESS THAN 55°F	222	:2:
SUPPLY AIR	OR GREATER THAN 105°F)		R-3.3	1
SUPPLY AIR	WITHIN CONDITIONED SPACE THAT THE DUCT DIRECTLY SERVES (S	SUPPLY DUCT	NONE	1
	WITHIN CONDITIONED SPACE (SUPPLY DUCT CONVEYS AIR THAT		NONE	160es
SUPPLY AIR	GREATER AND 105°F OR LESS)		NONE	-
RETURN OR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECO	VERY MEDIA,	2.0	
EXHAUST AIR	UPSTREAM OF AN AUTOMATIC SHUT OFF DAMPER		R-8	=
RELIEF OR	WITHIN CONDITIONED SPACE AND DOWNSTREAM OF AN AUTOMAT	IC SHUT OFF	D.16	1000
EXHAUST AIR	DAMPER		R-16	=
OUTCIDE AID	INSIDE CONDITIONED SPACE AND UPSTREAM OF AN AUTOMATIC	≥ 2800 CFM	R-16	4
OUTSIDE AIR	SHUT OFF DAMPER	≥ 2800 CFIVI	K-10	4
OUTSIDE AIR	INSIDE CONDITIONED SPACE AND DOWNSTREAM OF AN AUTOMATIC	≥ 2800 CFM	R-8	
OUTSIDE AIR	SHUT OFF DAMPER TO HVAC UNIT OR ROOM	2 2000 CI M	K-0	Y#8
OUTSIDE AIR	INSIDE CONDITIONED SPACE	< 2800 CFM	R-7	5
NOTES:				

- SEE ENERGY CODE SECTION C403.10.1.2 FOR DETAILS
- SEE IMC SECTION 603.12 FOR ADDITIONAL REQUIREMENTS FOR CONDENSATION CONTROL AT DUCTWORK
- DUCT OR PLENUM IS SEPARATED FROM BUILDING ENVELOPE ASSEMBLY WITH THE MINIMUM INSULATION VALUE SEE ENERGY CODE SECTION C403.10.1.1 FOR ADDITIONAL REQUIREMENTS
- 4 SEE ENERGY CODE SECTION C403.10.1.1 FOR ADDITIONAL REQUIREMENT
 5 SEE EXCEPTION 1 TO SECTION C403.10.1.1 FOR ADDITIONAL DETAILS





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SOUTH HILL MALL, ROOF 3500 S MERIDIAN PUYALLUP, WA 98373



ISSUE FOR PERMIT

Key Plan

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

No. Date By Description

Design Team

Design ADD

Drawn KDE

Checked DTN

Pre Construction Number 14-24-25267

Construction Number

Issue Date

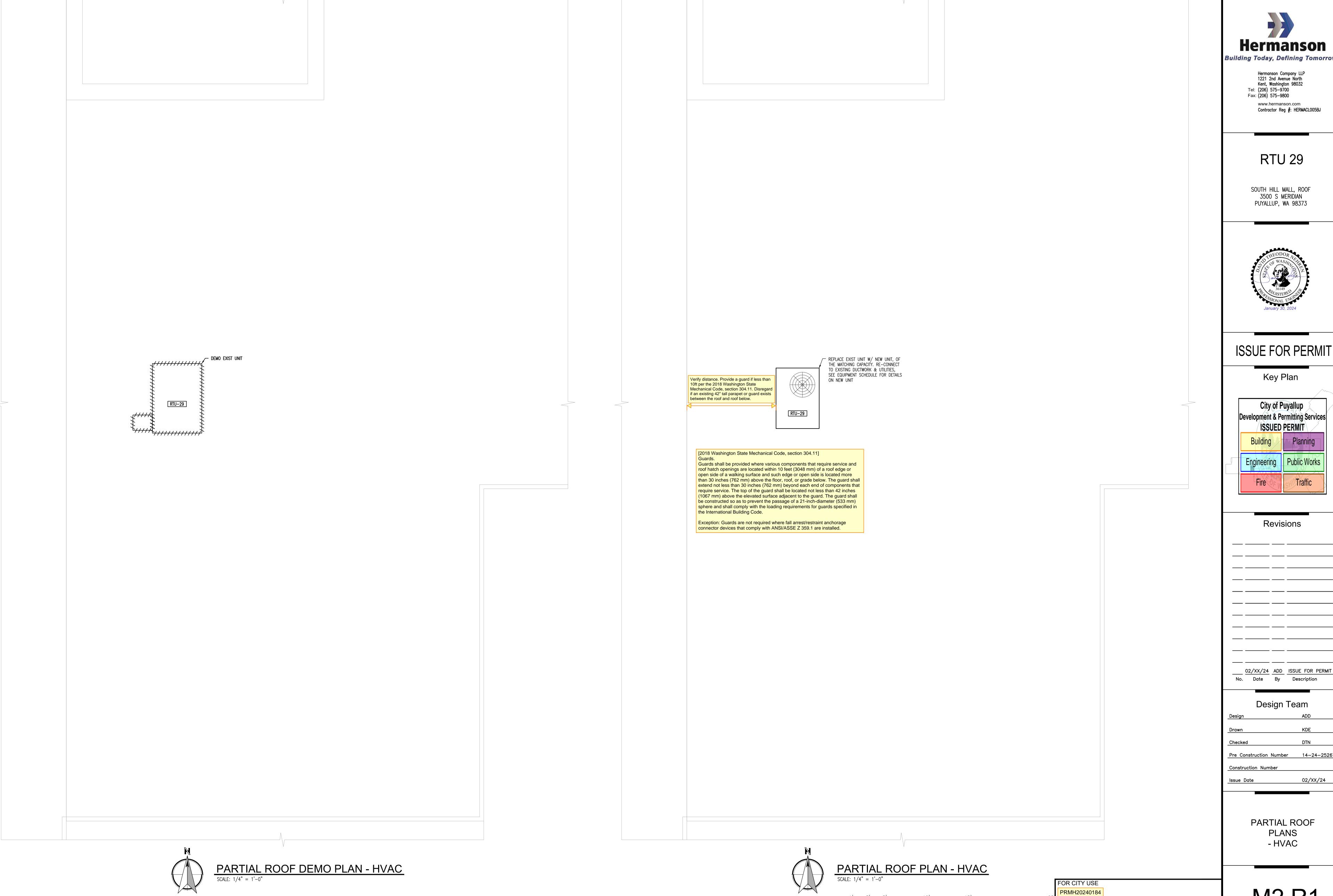
01/30/24

CONSTRUCTION STANDARDS - HVAC

M0.03

FOR CITY USE

PRMH20240184



Building Today, Defining Tomorrow



Development & Permitting Services

Public Works

02/XX/24 ADD ISSUE FOR PERMIT

Design Team KDE

Pre Construction Number 14-24-25267

02/XX/24

M2.R1