GREEN DRAWING DESIGNS AND PERMITS

PRCTI20241365

18305 133rd Ave Puyallup 98734
Ph 206 225 5700 Email: greendrawing8@gmail.com

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.

Separate Electrical Permit is required with the Washington State Department of Labor & Industries.

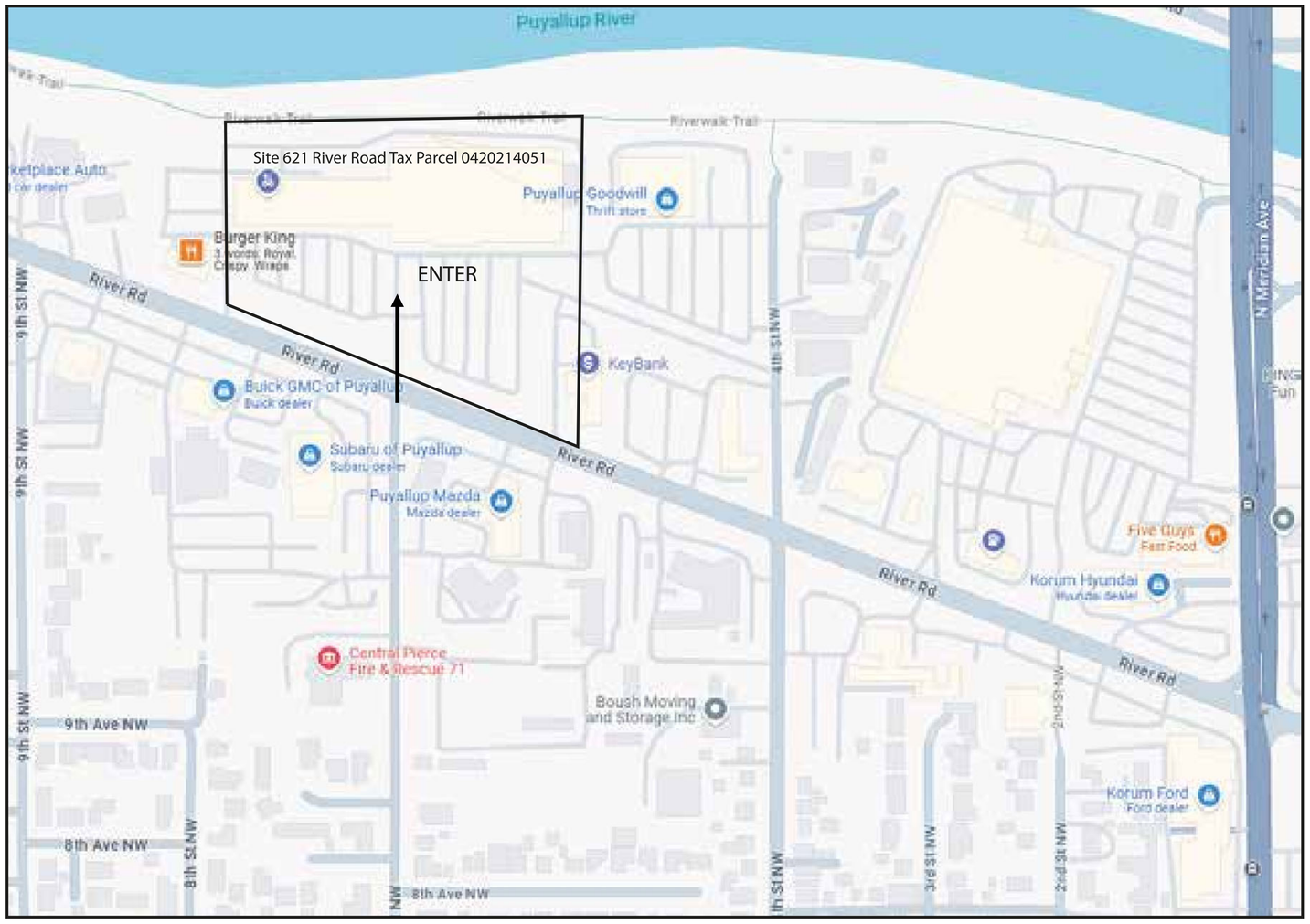
https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections

or call for Licensing Information: 1-800-647-0982

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.

PROJECT TENANT IMPROVEMENT
CITY OF PUYALLUP
K NAILS LLC RIVER ROAD SALON

NOTE: WORK SHALL BE IBC 2024 COMPLIANT



MAP N T TO SCALE

DIRECTIONS:
From City Hall Drive West to 7th then North on 7th past River Road into the Property Development As you approach the main building you turn left and drive to the West 200 feet between the Terriyaki Restruant and the employment agency

K NAILS LLC RIVER ROAD SALON

Entire Parcel

PROJECT STATISTICS

SITE ADDRESS:	621 RIVER ROAD PUYALLUP, WA
PARCEL:	0420214051
ZONING	RIVER ROAD MIXED USE
BUSII GROUB B	
ASSESSORS USE CODE	6231 - SALONS, SPAS. BARBER SHOPS
OWNERS	K NAILS LLC
MAILING ADDRESS	719 RIVER ROAD STE A
CITY, STATE, ZIP	PUYALLUP, WA 98371
CONTACT	KALYAN
PHONE	
EMAIL	KNailsLLC@gmail.com

Unit address

BUILDING OWNER	SOUND PROPERTIES, LLC
MAILING ADDRESS	PO BOX 997
CITY, STATE, ZIP	SNOQUALMIE, WA 98065-0997
CONTACT	LARA PHARMER
PHONE	425-818-4183
EMAIL	lara@mkps.net

SHEET INDEX

ARCHICTUAL

COVER	
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MECHANICAL

LEGEND AND SCHEDULES	M001
MECHANICAL SPECIFICATIONS	M002
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MECHANICAL SPECIFICATIONS	M004
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ELECTRICAL

MECHANICAL LOEGENDS	E001
LECTRICAL FLOOR PLAN	E002

City of Puyallup
Development Engineering
APPROVED
See permit conditions.
AHunt
11/19/2024
9:40:12 AM

City of Puyallup
Building
REVIEWED FOR COMPLIANCE
SKinnear
11/05/2024
9:43:08 AM

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

City of Puyallup
Planning Division
APPROVED
See permit conditions.
kbaker
11/08/2024
9:22:42 AM

PRCTI20241365

K NAILS LLC RIVER ROAD SALON	
SCALE 1/4"=1'	DRAWN BY: GDDP
DATE: 10-28-2024	REVISION

GREEN DRAWING DESIGNS AND PERMITS

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Ph 206 225 5700 Email: greendrawing8@gmail.com

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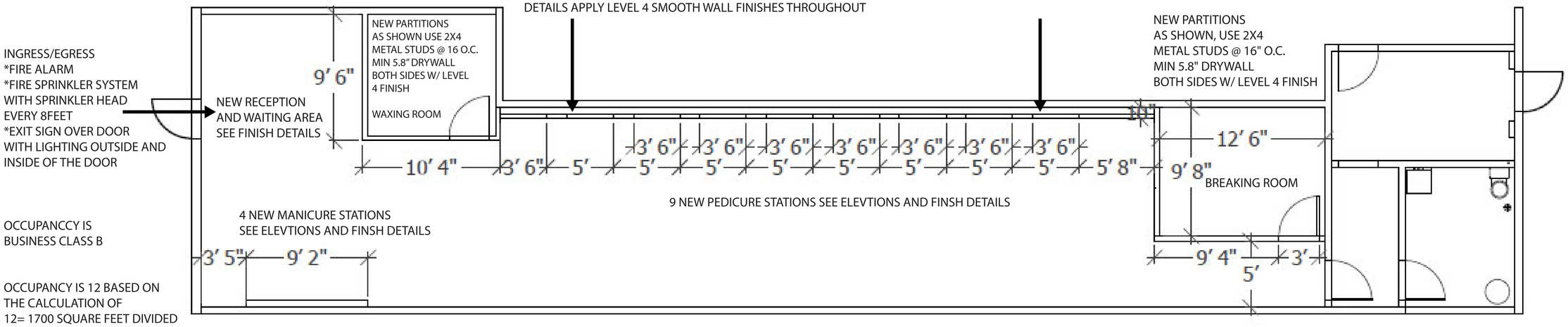
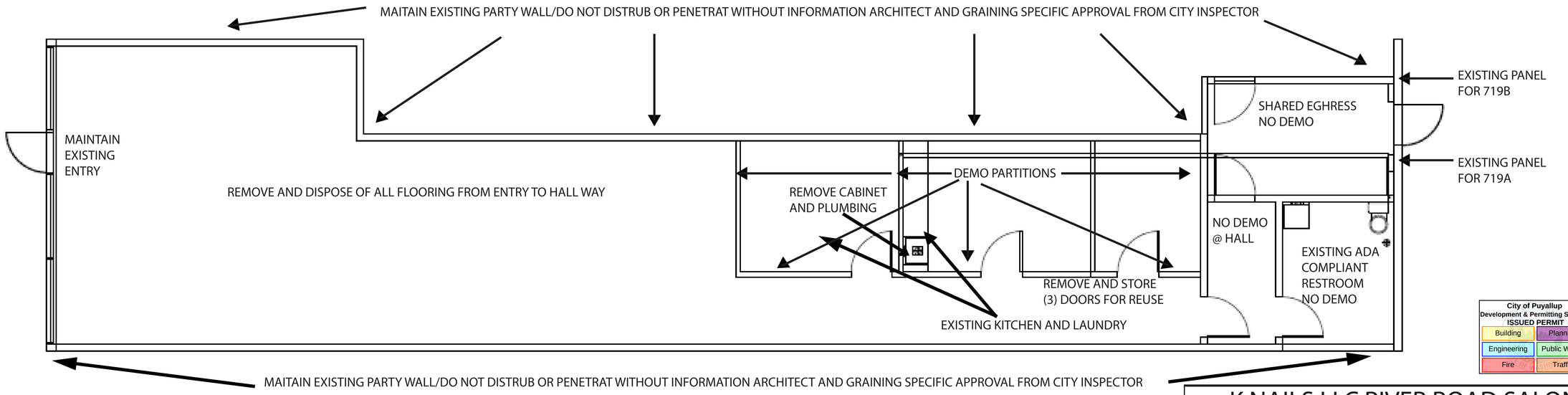
NOTE: WORK SHALL BE IBC 2024 COMPLIANT

MECHANICAL CHASE
FRAME NEW 2 X 4 PARTITION ALONG PARTY WALL. USE 2 X 4 METAL FRAMING AND 5/8 SHEET ROCK 1 SIDE APPLY MIN 5/8" GWB FIRE STOP AT LID AND EVERY 10' HORIZONTALLY.
USE VOID AS NEEDED FOR PLUMBING ANVENTING
AT PEDICURE STATIONS, SEE ELEVATION FOR SPECIFIC FRAMING DETAILS FOR CABINETS AND WALL BOXES BEHIND.
DETAILS APPLY LEVEL 4 SMOOTH WALL FINISHES THROUGHOUT



FRAME 2X4 METAL STUD WALL
APPLY MINIMUM 5/8" GWB FIRE STOP AT LID

FRAMING PLAN 1/4"=1'



AS BUILT AND DEMO PLANS 1/4"=1'

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

PRCTI20241365

K NAILS LLC RIVER ROAD SALON	
SCALE 1/4"=1'	DRAWN BY: GDDP
DATE: 10-28-2024	REVISION
AS BUILT, DEMO AND FRAMING DETAILS	
SHEET 2	

GREEN DRAWING DESIGNS AND PERMITS

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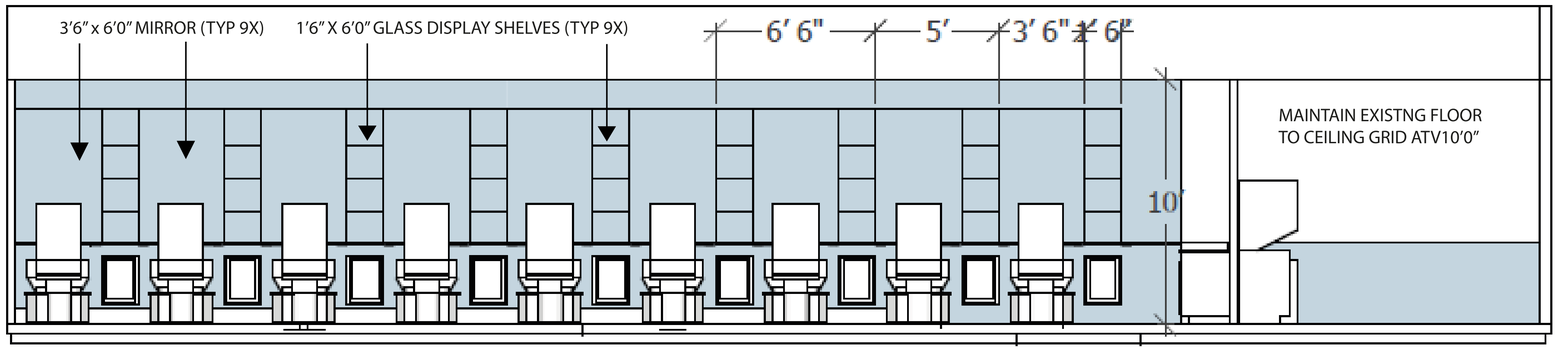
NOTE: WORK SHALL BE IBC 2024 COMPLIANT



FINISHES AT PEDICURE STATION ONLY 1/4″=1′

[2021 Washington State Building Code, section 1101.2.6 (ICC A117.1 Section 703.6.3.1)] International Symbol of Accessibility.
Where the International Symbol of Accessibility is required, it shall be proportioned complying with ICC A117.1 Figure 703.6.3.1. All interior and exterior signs depicting the International Symbol of Accessibility shall be white on a blue background.

[ICC A117.1-2017 section 603.3]
Mirrors.
Where mirrors are located above lavatories, a mirror shall be located over the accessible lavatory and shall be mounted with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the floor. Where mirrors are located above counters that do not contain lavatories, the mirror shall be mounted with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the floor.

GRAB BARS AT WATER CLOSET

ALL DIMINESIONS NOTED BELOW ARE TO THE OUTSIDE OF THE GRAB BARS AS DISCRIBED UNLESS NOTED OTHERWISE.

Horizontal grab bar 42 inches (1065 mm) minimum in length shall be located 12 inches (305 mm) maximum from the rear wall and extend 54 inches (1370 mm) minimum from the rear wall. [ICC A117.1-2017] Section 604.5.1.1

A vertical grab bar 18 inches (455 mm) minimum in length shall be mounted with the bottom of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum above the floor, and with the center line of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum from the rear wall. [ICC A117.1-2017] Section 604.5.1.2

Rear Grab Bar Shall Be:

1. 36 inches (915 mm) minimum in length,

2. Be located 6 inches maximum (150 mm) from the side wall, and

3. Extend 42 inches (1065 mm) minimum from the side wall.

Exceptions:

1. The rear grab bar shall be permitted to be 24 inches (610 mm) minimum in length, centered on the water closet, where wall space does not permit a grab bar 36 inches (915 mm) minimum in length due to the location of a recessed fixture adjacent to the water closet.

2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, that grab bar shall be permitted to be split or shifted to the open side of the toilet area.

[ICC A117.1-2017] Section 604.5.2

Grab Bar Position

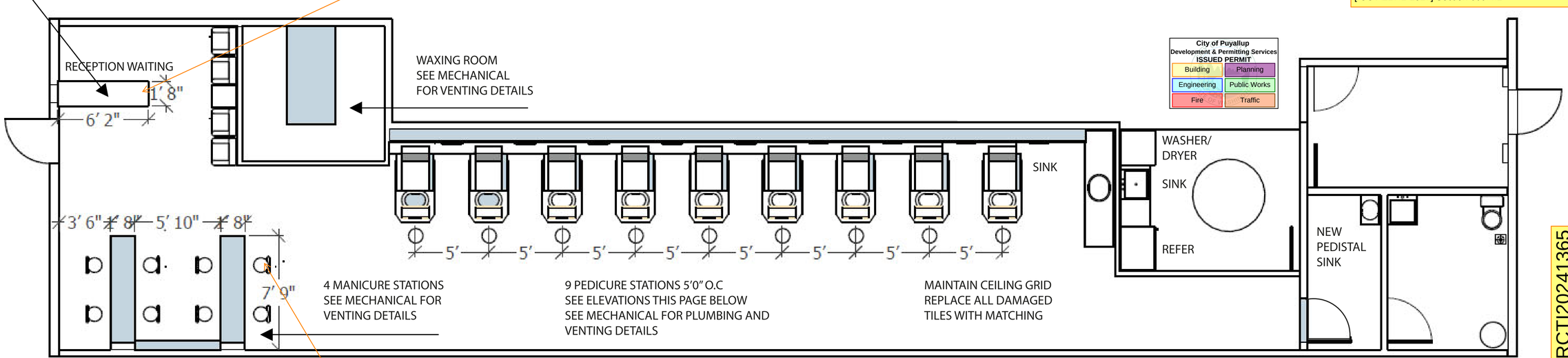
Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the floor measured to the top of the gripping surface

[ICC A117.1-2017] Section 609.4.1

INGRESS/EGRESS
*FIRE ALARM
*FIRE SPRINKLER SYSTEM WITH SPRINKLER HEAD EVERY 8FEET
*EXIT SIGN OVER DOOR WITH EXIT LIGHTING OUTSIDE AND OVER THE DOOR AND INSIDE OVER DOOR

At least a portion of the sales counter shall be 36 inches in length and 26 inches min. and 36 inches max. from the floor.

[ICC A117.1-2017,Section 904.3.2]



One location shall be provided with knee and toe clearance per ICC-A117.1-2017, section 306.

At least a portion of the service counter shall be 30 inches in length and 26 inches min. and 36 inches max. from the floor.

Area for manicure and pedicure station

[ICC A117.1-2017,Section 904.3.2]

FINISH AND AMENITY LOCATIONS 1/4″=1′

PRCTI20241365

K NAILS LLC RIVER ROAD SALON	
SCALE 1/4″=1′	DRAWN BY: GDDP
DATE: 10-28-2024	REVISION
FINISHES AND FINISH ELEVTIONS	
SHEET 3	

GENERAL NOTES

1. ALL WORK PERFORMED SHALL BE DONE IN STRICT ACCORDANCE TO ALL APPLICABLE MECHANICAL, BUILDING, ENERGY, FUEL GAS, AND LOCAL CODES, WITH AMENDMENTS.
2. COORDINATE MECHANICAL WORK WITH ELECTRICAL, ARCHITECTURAL, AND STRUCTURAL WORK SHOWN ON OTHER CONTRACT DOCUMENTS. PROVIDE ADDITIONAL OFFSETS FOR COORDINATED INSTALLATION WHERE REQUIRED.
3. COORDINATE HVAC, PLUMBING, AND FIRE PROTECTION WORK PRIOR TO INSTALLATION. DUCTWORK AND EQUIPMENT ACCESS TAKES PRECEDENCE OVER ALL PIPING EXCEPT GRAVITY SYSTEMS FOR AVAILABLE SPACE.
4. COORDINATE EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
5. LOCATIONS AND SIZES OF FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH OTHER TRADES INVOLVED. INCLUDE IN THE COST OF MECHANICAL WORK, CUTTING, CORING, PATCHING AND PAINTING OF EXISTING WALLS, CEILINGS, FLOORS AND ROOFS AS REQUIRED TO ACCOMMODATE WORK AS INDICATED IN THE MECHANICAL CONTRACT DOCUMENTS, UNLESS SPECIFICALLY SHOWN ON ARCHITECTURAL DRAWINGS.
6. MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723.
7. PROVIDE COMMISSIONING FOR MECHANICAL SYSTEMS PER C408 OF THE 2018 WSEC.
8. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 70 STANDARDS AND LOCAL REQUIREMENTS.
9. ALL FIELD WIRING SHALL REQUIRE AN ELECTRICAL PERMIT AND SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
10. LOCATE VALVES, DAMPERS, CONTROLS, AND SIMILAR COMPONENTS SO THAT THEY ARE ACCESSIBLE.

PLUMBING:

1. DOMESTIC WATER TUBE, PIPE, FITTINGS, JOINING MATERIALS, SPECIAL TIES, PLUMBING EQUIPMENT, PLUMBING FIXTURES, PLUMBING FITTINGS AND ALL OTHER APPURTENANCES IN CONTACT WITH DRINKING WATER SHALL BE LEAD-FREE EXCEPT THOSE EXPLICITLY EXEMPTED IN SECTION 3874 OF THE SAFE WATER DRINKING ACT. LEAD-FREE SHALL MEAN (A) NOT CONTAINING MORE THAN 0.2 PERCENT LEAD WHEN USED WITH RESPECT TO SOLDER AND FLUX; AND (B) NOT MORE THAN A WEIGHTED AVERAGE OF 0.25 PERCENT LEAD WHEN USED WITH RESPECT TO WETTED SURFACES OF DOMESTIC WATER TUBE, PIPE, FITTINGS, JOINING MATERIALS, SPECIALTIES, PLUMBING EQUIPMENT, PLUMBING FIXTURES, AND PLUMBING FITTINGS.
2. PROVIDE WATER HAMMER ARRESTORS IN DOMESTIC WATER PIPING IN ACCORDANCE WITH PDI-WH201.
3. VALVES, EXPANSION FITTINGS/LOOPS, AND PIPING SPECIALTIES SHALL BE FULL SIZE OF PIPE UNLESS NOTED OTHERWISE.
4. PROVIDE R-10 INSULATED SURFACE UNDER ELECTRIC WATER HEATERS.

PIPING:

1. PROVIDE INSULATION FOR PLUMBING SYSTEMS PER THE 2018 WSEC SECTION C403.
2. VALVES SHALL BE INSTALLED SO THAT SYSTEM REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
3. PROVIDE UNIONS AND/OR FLANGES AT EACH PIECE OF EQUIPMENT TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.

HVAC/SHEET METAL:

1. ALL DUCTWORK TO BE CONSTRUCTED AND SEALED PER IMC AND SMACNA PRESSURE CLASS 2" (LOW PRESSURE) REQUIREMENTS. ALL DUCTS TO BE SEALED TO SMACNA SEAL CLASS A.
2. CONSTRUCT DUCTWORK ACCORDING TO WASHINGTON STATE ENERGY CODE. ALL DUCTWORK SHALL BE PRIMED GALVANIZED SHEET STEEL, LOCK FORMING QUALITY, FABRICATED IN ACCORDANCE TO SMACNA STANDARDS.
3. PROVIDE TURNING VANES IN ALL MITERED RECTANGULAR DUCT ELBOWS & TEES.
4. ALL SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED PER WASHINGTON STATE ENERGY CODE SECTION C403. SEE INSULATION SCHEDULE ON THIS SHEET FOR MORE INFORMATION.
5. PROVIDE TEMPORARY COVERS OVER OPEN ENDS OF EQUIPMENT AND DUCTWORK DURING CONSTRUCTION.
6. PROVIDE MANUAL VOLUME DAMPER FOR EACH DIFFUSER, REGISTER, AND GRILLE.
7. PROVIDE DUCT ACCESS DOORS AT DUCT SMOKE DETECTORS, BACKDRAFT DAMPERS, MOTORIZED CONTROL DAMPERS, DUCT AIRFLOW STATIONS, AND LOUVER PLENUMS.

NON-STRUCTURAL MECHANICAL COMPONENTS:

1. HANGERS AND SEISMIC BRACING FOR THE MECHANICAL SYSTEMS SHALL BE DESIGNED AND PROVIDED BY THE MECHANICAL CONTRACTOR. REFER TO CONTRACTOR SHOP DRAWINGS FOR LOCATIONS OF EQUIPMENT AND HUNG MECHANICAL SYSTEMS. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE SUPPORT SYSTEMS AND DESIGN LOADS FOR HUNG MECHANICAL SYSTEMS WITH THE GENERAL CONTRACTOR AND OTHER TRADES THAT MAY BE IMPACTED.

DEMOLITION:

1. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS, EXCEPT WHERE INDICATED AS BEING RELOCATED.
2. CONTRACTOR SHALL REMOVE ALL PIPING, DUCTWORK, AND EQUIPMENT INCLUDING ALL ASSOCIATED INSULATION, HANGERS, VALVES, PLENUM WALLS, DAMPERS, WIREMOLD, WIRING, CONTROLS, AND APPURTENANCES ASSOCIATED WITH EACH PIECE OF EQUIPMENT, UNLESS OTHERWISE SHOWN TO ABANDON IN PLACE.
3. WHERE EXISTING ITEMS PENETRATE A WALL OR ROOF, CONTRACTOR SHALL PROVIDE INFILL AT (E) PENETRATIONS THROUGH WALL/ROOF WITH LIKE MATERIALS. PATCH & REPAIR TO MATCH SURROUNDING SURFACES INCLUDING PAINT.
4. MAINTAIN AND RESTORE (IF INTERRUPTED) ALL CONDUITS & CONDUCTORS, PIPING, & DUCTWORK PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.
5. REMOVE ALL ABANDONED DUCTWORK, PIPING, CONTROLS, WIRING, ETC., WHERE ACCESSIBLE IN RENOVATED AREAS.
6. WHERE CONTROLS ARE DEMOLISHED, REMOVE WIRING BACK TO NEAREST CONTROL PANEL OR JUNCTION BOX.
7. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT AND COMPONENTS REMOVED DURING CONSTRUCTION.

MECHANICAL LEGEND

HVAC

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY DUCT UP		FLEXIBLE DUCT
	SUPPLY DUCT DOWN		VOLUME DAMPER (VD)
	RETURN, RELIEF, TRANSFER, OSA DUCT UP		TURNING VANES (TV)
	RETURN, RELIEF, TRANSFER, OSA DUCT DOWN	XØ	ROUND DUCT
	EXHAUST DUCT UP	12 X 12 CD 300 CFM	AIR TERMINAL SIZE, TYPE & CFM
	EXHAUST DUCT DOWN	X/X	SQUARE DUCT
	RECTANGULAR DUCT SQUARE ELBOW UP		ROUND DUCT ELBOW UP
	RECTANGULAR DUCT, RADIUS ELBOW UP		ROUND DUCT ELBOW DOWN
	RECTANGULAR DUCT, SQUARE ELBOW DOWN		CEILING AIR TERMINAL - SQUARE
	RECTANGULAR DUCT, RADIUS ELBOW DOWN		

PLUMBING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BALL VALVE		DOMESTIC COLD WATER (CW)
	BALANCING COCK (BC)		DOMESTIC HOT WATER (HW)
	PIPE DOWN		DOMESTIC HOT WATER CIRCULATING (HWC)
	PIPE UP	W	SOIL, WASTE (S, W)
	BRANCH-TOP CONNECTION		VENT (V), OR HIDDEN BELOW WASTE
	BRANCH-BOTTOM CONNECTION	G	NATURAL GAS PIPING
	IN LINE WASTE CONNECTION		CROSSING LINES, NON CONNECTING
	P-TRAP		PIPE CONTINUATION
	BRANCH PIPE DOWN		FLOW DIRECTION
	BRANCH PIPE UP	POC	POINT OF CONNECTION
	TEE & UP		WASTE OR VENT UP
	TEE		WALL CLEANOUT
	ELBOWS, 90° & 45°		FLUSH CLEANOUT (FCO/SCO)
	CAP		CLEAN OUT (CO)
	FLOOR DRAIN		FLOOR SINK
	DRAIN W/ P-TRAP		POINT OF CONNECTION

DOMESTIC PIPING INSULATION SCHEDULE

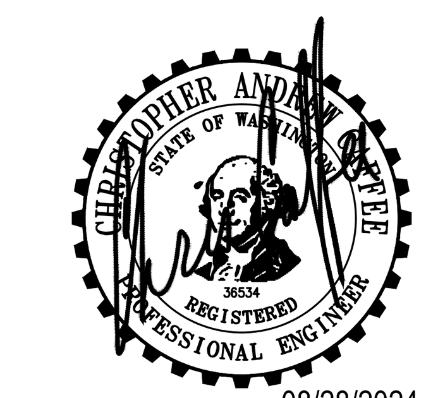
SYSTEM	PIPE SIZE (IN)	THICKNESS (IN)
GLASS FIBER INSULATION:		
DOMESTIC HOT WATER, ABOVE GROUND (100°-140°)	1/2" TO 1-1/4" 1-1/2" AND GREATER	1" 1-1/2"
COLD WATER	ALL SIZES	1"
PIPING EXPOSED TO FREEZING OR SEMI-HEATED SPACES	ALL SIZES	1-1/2"
ELASTOMERIC INSULATION (TYPE 1)		
PEX DOMESTIC HOT WATER	ALL SIZES	1"
PEX COLD WATER	ALL SIZES	NOT REQUIRED
RAIN LEADERS	ALL SIZES	1"

GENERAL NOTES FOR PIPING INSULATION SCHEDULE

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

A Division of TranSystems
6021 12th Street East, Suite 200
Fife, Washington 98424
T: 253.922.0446 | F: 253.922.0896



08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL LEGEND
AND SCHEDULES
PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

DRAWING No. of TOTAL

M001

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
G	DUPLEX RECEPTACLE (G INDICATES GROUND FAULT CIRCUIT INTERRUPTER)
C	DUPLEX RECEPTACLE (C INDICATES ABOVE COUNTER)
J	JUNCTION BOX - SIZE PER CODE
	FUSED DISCONNECT SWITCH
	120/208 VOLT PANELBOARD (OR AT RATED VOLTAGE AS NOTED)
	277/480 VOLT PANELBOARD
	ENCLOSED CIRCUIT BREAKER, AMPERES AS INDICATED
M	METER
1	CONSTRUCTION NOTES
W	WEATHERPROOF/NEMA 3R
$	ALL DEVICES WITH LIGHT LINE WEIGHT INDICATES EXISTING TO BE RETAINED. SEE GENERAL NOTES ON EACH SHEET.
$	ALL DEVICES WITH DASH LINE INDICATES EXISTING TO BE REMOVED
AH1 1	MECHANICAL EQUIPMENT CONNECTION

ABBREVIATIONS

G	GROUND FAULT CIRCUIT INTERRUPTER	UC	UNDERCOUNTER
C	MOUNT ABOVE COUNTER	UG	UNDERGROUND
DW	DISHWASHER	GR	GROUND
EC	ELECTRICAL CONTRACTOR	FACP	FIRE ALARM CONTROL PANEL
TTB	TELEPHONE TERMINAL BOARD	SER	SERVICE ENTRANCE RATED
MW	MICROWAVE	SUSE	SUITABLE FOR USE AS SERVICE ENTRANCE
REF	REFRIGERATOR	BCT	BONDING CONDUCTOR FOR TELECOMMUNICATIONS
MON	MONITOR	MON	MONITOR
ACP	ACCESS CONTROL PANEL	CP	COPIER
DAS	DIGITAL ANTENNA SYSTEM	P.B.	PUSH BUTTON
AES	ALARM EMERGENCY SIGNAL ANTENNA	VM	VENDING MACHINE
TV	TELEVISION, MOUNT @+84" AFF		

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (EXHAUST FANS, AIR HANDLING UNITS, ETC)

		LOAD			CIRCUIT								
EQUIP.	VOLT/PH	VA	MCA	HP	PANEL	BKR	CONDUIT/CU. WIRE SIZE	MANUAL STARTER (NOTE 1)	MAGNETIC STARTER (NOTE 1)	MOTOR RATED DISC. (NOTE 1)	FUSED DISC. (NOTE 1)	FUSE SIZE (NOTE 1)	REMARKS
WH 1	208/3	12200	42.4		719A1	1,3,5	1" C., (4)#8 & (1) #10 GR	---	---	---	---		
CP- 1	120/1	696	5.8		719A1	7	1/2" C., (2)#12 & (1) #12 GR.	---	---	EC	---		
RHP- 1	208/3	21942	61		719A	19,21,23	1-1/4"C., (4) #4 & (1) #8 GR.	---	MFR	---	EC	70A	NOTE 2
EF- 1	120/1	170	1.42		719A1	9	1/2" C., (2)#12 & (1) #12 GR.	EC	---	EC	---		
DOAU- 1	208/1	2350	11.3		719A1	11,13	1/2" C., (3)#12 & (1) #12 GR.	---	MFR	---	EC	15A	

NOTE: 1. CONTRACTOR LISTED SHALL FURNISH AND INSTALL THE LISTED DEVICE.
2. PROVIDE WEATHERPROOF DEVICES AND CONNECTIONS.

GENERAL NOTES (APPLY TO ALL SHEET)

1. THE CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS FOR BRACE FRAMED OR SHEAR WALLS. CONTRACTOR SHALL MOUNT DEVICES AND ROUTE CONDUIT SO AS NOT TO INTERFERE WITH THE STRUCTURAL INTEGRITY OF THE WALL.
2. ROOMS AND/OR AREAS WITHOUT CEILINGS SHALL HAVE ALL CABLES ROUTED IN CONDUIT. CONDUIT SHALL BE INSTALLED TIGHT TO STRUCTURE, ROUTED PARALLEL OR PERPENDICULAR TO STRUCTURE, AND SHALL BE PAINTED TO MATCH ADJACENT SURFACE.
3. PANEL DESIGNATIONS AND CIRCUIT NUMBERS ARE ONLY INDICATED ON THE DRAWINGS FOR REFERENCE BY THE ELECTRICAL CONTRACTOR. THE E.C. IS RESPONSIBLE TO PROVIDE ALL CONDUIT, WIRING, JUNCTION BOXES AND MISCELLANEOUS ACCESSORIES TO ACCOMMODATE INSTALLATION AND CONNECTION OF ALL DEVICES INDICATED ON THE CONTRACT DOCUMENTS. ALL WIRING SHALL BE IN HARD CONDUIT BACK TO THE DESIGNATED PANELBOARD. MC TYPE CABLE IS NOT AN ACCEPTABLE WIRING METHOD. ALL JUNCTION BOXES SHALL BE LABELED IDENTIFYING THE PANELBOARD AND CIRCUIT CONTAINED WITHIN. THERE SHALL BE NO MORE THAN (3) CIRCUITS PER HOMERUN. MULTI-WIRE CIRCUITS ARE NOT ALLOWED. EACH CIRCUIT SHALL CONTAIN A DEDICATED NEUTRAL UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER. ALL WIRING SHALL BE SIZED ACCORDING TO AMPACITY OF THE CIRCUIT BREAKER INDICATED ON THE PANEL SCHEDULES. ALL CONDUIT SHALL BE SIZED PER NEC CODE BASED ON THE CONDUCTOR SIZE, TYPE, QUANTITY AND MINIMUM FILL REQUIREMENTS. CIRCUITS OVER 120 FEET FOR 120V AND 250' FOR 277V SHALL BE UP SIZED ONE WIRE SIZE TO ACCOUNT FOR VOLTAGE DROP. E.C. IS RESPONSIBLE TO SHOW ALL JUNCTION BOX LOCATIONS, CONDUIT ROUTING AND HOMERUNS ON A SET OF AS-BUILT DRAWINGS.
4. THERE SHALL BE NO EXPOSED LOW VOLTAGE CABLING OF ANY TYPE IN EXPOSED FINISHED AREAS.
5. ALL SPARE CONDUITS (FOR FUTURE USE) SHALL BE LABELED "SPARE/FUTURE CONDUIT" AT EACH END OF THE CONDUIT WITH 1/2" TALL LETTERS, USING A PERMANENT MARKER.
6. FIRE CAULK ALL WALL PENETRATIONS AS REQUIRED. PROVIDE CONDUIT SLEEVES FOR ALL LOW VOLTAGE CABLES THROUGH NON-RATED WALLS.
7. ALL TYPICAL DEVICES SHALL BE MOUNTED AT CONSISTENT LOCATIONS AND HEIGHTS THROUGHOUT THIS PROJECT, UNLESS NOTED OTHERWISE.
8. SEE ALL DETAIL SHEETS AND RISER DIAGRAMS FOR ADDITIONAL WORK. ALL DETAILS AND RISERS ARE APPLICABLE TO THIS PROJECT WHETHER REFERENCED OR NOT.
9. ALL GROUNDING SHALL CONFORM TO NEC 250.
10. CIRCUITING SHALL BE PROVIDED AS REQUIRED TO MEET THE NEC. ALL SINGLE POLE CIRCUITS SHALL BE PROVIDED WITH DEDICATED NEUTRALS.
11. PROVIDE CUTTING AND PATCHING OF EXISTING WALLS TO ACCOMMODATE INSTALLATION OF NEW WORK. COORDINATE WITH G.C.

GENERAL DEMOLITION NOTES (APPLY TO ALL SHEETS)

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE IN HIS/HER BID ALL COSTS ASSOCIATED WITH NECESSARY DEMOLITION TO ALLOW NEW CONSTRUCTION SHOWN IN CONTRACT DOCUMENTS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, LIGHTING FIXTURES, DEVICES, ABANDONED RACEWAYS, CONDUCTORS, TOGETHER WITH ANY AUXILIARY ITEMS TO ALLOW NEW CONSTRUCTION AND FINISH TO OCCUR AS COMPLIMENTED BY THE CONTRACT DOCUMENTS. DASHED LINES INDICATE EXISTING DEVICES AND EQUIPMENT TO BE REMOVED.
2. THESE PLANS DELINEATE THE BASIC SCOPE OF WORK FOR THE REMOVAL OF EXISTING MATERIAL. THE DEMOLITION DRAWINGS AND NOTES ARE PROVIDED WITH THE INTENT TO GENERALLY DESCRIBE AREAS AND LIMITS OF WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SITE AND CONDITIONS THERE AND SHALL NOT RELY SOLELY ON REVIEW OF THE BIDDING DOCUMENTS IN DETERMINING THE EXTENT OF DEMOLITION WORK REQUIRED. COORDINATION OF THESE DRAWINGS WITH REQUIREMENTS FOR CONTRACT WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. DISCREPANCIES BETWEEN OR WITHIN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL PROVIDE CLARITY SKETCHES, DIAGRAMS, AND FIELD DIMENSIONS OF EXISTING CONDITIONS AT THE REQUEST OF THE ENGINEER IR/WHEN CONFLICTS ARE IDENTIFIED.
3. E.C. TO REMOVE ELECTRICAL CONNECTIONS TO ALL MECHANICAL EQUIPMENT TO BE DEMOLISHED. E.C. SHALL CHECK ALL DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS FOR UNIT LOCATIONS. COORDINATE WORK WITH MECHANICAL CONTRACTOR. ALL CONDUITS PENETRATING THROUGH THE ROOF AND ACCESSIBLE SHALL BE REMOVED.
4. THESE PLANS HAVE NO INTENT TO SHOW ALL ELECTRICAL DEVICES TO BE REMOVED. ELECTRICAL CONTRACTOR SHALL VERIFY DEMOLITION WORK INVOLVED PRIOR TO BID.
5. REMOVE ALL ELECTRICAL AND SIGNALING DEVICES (INCLUDING, BUT NOT LIMITED TO REMOVAL OF ALL ELECTRICAL PANELS, LIGHTING FIXTURES, RECEPTACLES, MOTOR DISCONNECTS, FIRE ALARM AND OTHER LOW VOLTAGE DEVICES). UNLESS NOTED OTHERWISE.
6. REMOVE ALL WIRES, CABLES AND SURFACE MOUNT RACEWAYS AND APPURTENANCES WHICH SERVE DEVICES BEING REMOVED, CUT CONDUIT FLUSH TO CEILING OR WALL WHEN CONCEALED, AND SEAL OFF WITH SPRAY FOAM. ABANDON FLUSH BOXES AND NON-ACCESSIBLE CONDUIT. PROVIDE COVER PLATES FOR ALL BOXES TO REMAIN.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR ALL CUTTING, PATCHING AND FINISH WORK.
8. CONTRACTOR TO REMOVE AND DELIVER TO OWNER ALL DEVICES THAT ARE IDENTIFIED BY OWNER TO BE RETAINED. CONTRACTOR SHALL COORDINATE WITH OWNER TO ASSURE THAT ALL ITEMS TO BE RETAINED ARE IDENTIFIED PRIOR TO THE START OF DEMOLITION. ALL ITEMS NOT SO IDENTIFIED SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSE OF OFF SITE.
9. FIELD VERIFY EXISTING CONDITIONS AND RACEWAYS CAST IN CONCRETE.
10. E.C. SHALL CONFIRM WITH THE G.C. THE EXTEND OF ANY ARCHITECTURAL DEMOLITION PRIOR TO ANY ELECTRICAL DEMOLITION. E.C. IS RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION AND MAINTAINING EXISTING EQUIPMENT AND CIRCUITING TO REMAIN.

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CHRISTOPHER ANDREW ... STATE OF WASHINGTON 36534 REGISTERED PROFESSIONAL ENGINEER
08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL LEGEND,
ABBREVIATIONS & NOTES

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TL
CHECKED BY: CT
PROJECT MANAGER: CT

DRAWING No. of TOTAL
E001

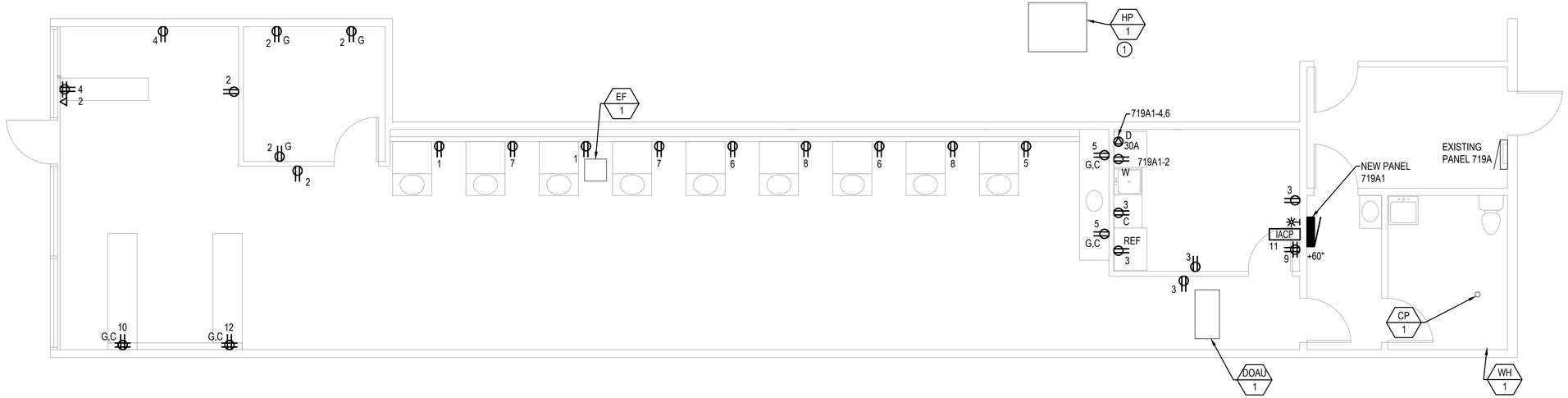
DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

GENERAL NOTES

1. ALL DEVICES TO BE CIRCUITED BACK TO PANEL 719A, UNLESS NOTED OTHERWISE.
2. ALL OUTLETS TO BE LOCATED @ +18" AFF, UNLESS NOTED OTHERWISE.
3. OUTLETS NOTED WITH A "C" SHALL BE MOUNTED @ +36" AFF OR + 4" ABOVE THE BACK SPLASH.

CONSTRUCTION NOTES

(1) DISCONNECT EXISTING ROOF-TOP UNIT. REMOVE EXISTING DISCONNECT SWITCH, CONDUIT/WIRE BACK TO THE PANEL. PROVIDE NEW CONDUIT/WIRE, DISCONNECT SWITCH FOR NEW UNIT.



1 POWER & SYSTEMS PLAN

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

City of Puyallup
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CHRISTOPHER ANDREW TERRELL — STATE OF WASHINGTON — 36324 — REGISTERED PROFESSIONAL ENGINEER

08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

ELECTRICAL FLOOR PLANS

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TL

CHECKED BY: CT

PROJECT MANAGER: CT

DRAWING No. of TOTAL

E200

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

SECTION 20 00 00 - GENERAL

NOTE TO CONTRACTOR: ALL SUBMITTALS INDICATED HEREIN SHALL BE MADE TO ENGINEER.

1.01 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING MECHANICAL WORK TO COMPLEMENT OTHER DIVISION 20 SPECIFICATIONS:
1. SECTION 20 00 00 - GENERAL
2. SECTION 23 05 29 - HANGERS AND SUPPORTS
3. SECTION 23 05 48 - VIBRATION AND SEISMIC CONTROL
4. SECTION 23 05 53 - MECHANICAL IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT
5. SECTION 23 05 93 - AIR SYSTEM TESTING AND BALANCING
6. SECTION 23 07 13 - DUCTWORK INSULATION
6. SECTION 23 09 00 - CONTROLS
6. SECTION 23 21 00 - SLEEVES AND SEALS
7. SECTION 23 31 13 - STEEL DUCTWORK
8. SECTION 23 33 00 - HVAC SPECIALTIES
9. SECTION 23 34 23 - EXHAUST FANS
10. SECTION 23 37 00 - AIR TERMINALS
11. SECTION 23 72 00 - DEDICATED OUTDOOR AIR UNIT
12. SECTION 23 90 00 - MECHANICAL DEMOLITION

1.02 GENERAL

A. ALL INSTALLATION MATERIALS, LABOR, DUCTWORK AND AIR DISTRIBUTION ENGINEERING, PIPING AND MISCELLANEOUS MATERIALS AND JOBSITE COORDINATION SHALL BE THE RESPONSIBILITY OF THIS MECHANICAL CONTRACTOR. THIS CONTRACTOR IS TO DESIGN AND COORDINATE ALL SYSTEMS DESCRIBED HEREIN WITH ALL OTHER DIVISIONS.
B. FURNISH EXACT LOCATION AND ELECTRICAL CHARACTERISTICS OF ALL ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENT REQUIRING CONNECTION TO THE ELECTRICAL CONTRACTOR.
C. THIS CONTRACTOR IS RESPONSIBLE FOR ALL MECHANICAL PERMITS AND FEES, INCLUDING ANY ENERGY CODE REQUIREMENTS, AND ANY OTHER DOCUMENTATION REQUIRED BY THE LOCAL BUILDING DEPARTMENT OR AUTHORITY HAVING JURISDICTION.
D. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE ENGINEER. DO NOT PROCEED WITH INSTALLATION IN SUCH AREAS UNTIL ALL DISCREPANCIES HAVE BEEN RESOLVED.

1.03 SYSTEM DESCRIPTION

A. EXAMINE PREMISES AND UNDERSTAND THE CONDITIONS WHICH MAY AFFECT PERFORMANCE OF WORK OF THIS DIVISION BEFORE SUBMITTING PROPOSALS FOR THIS WORK. NO SUBSEQUENT ALLOWANCE FOR TIME OR MONEY WILL BE CONSIDERED FOR ANY CONSEQUENCE RELATED TO FAILURE TO EXAMINE SITE CONDITIONS.
B. MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT OF DUCTWORK, EQUIPMENT, ETC. FOLLOW AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT.
C. CONSIDER ALL DRAWINGS (ARCHITECTURAL, ELECTRICAL, STRUCTURAL, ETC) AS PART OF THIS WORK IN SO FAR AS THESE DRAWINGS FURNISH INFORMATION RELATING TO DESIGN AND CONSTRUCTION OF BUILDING.
D. BECAUSE OF SMALL SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE STRUCTURAL AND FINISH CONDITIONS AFFECTING THIS WORK AND ARRANGE WORK ACCORDINGLY, PROVIDING SUCH OFFSETS, FITTINGS, AND ACCESSORIES REQUIRED TO MEET CONDITIONS.

1.04 OPERATION AND MAINTENANCE MANUAL FOR MECHANICAL SYSTEMS

A. SUBMIT (2) COPIES OF THE MECHANICAL O & M MANUALS TO THE OWNER FOR APPROVAL 14 DAYS PRIOR TO COMPLETION OF THE PROJECT.
B. BIND O & M MANUALS FOR MECHANICAL SYSTEMS IN THREE-RING, HARD-BACKED BINDER. PROVIDE MASTER INDEX TO THE BEGINNING OF THE MANUAL SHOWING ITEMS INCLUDED. USE PLASTIC TAB INDEXES FOR SECTIONS OF MANUAL.
C. FIRST SECTION SHALL CONSIST OF NAME, ADDRESS, AND PHONE NUMBER OF MECHANICAL, PLUMBING, SHEET METAL, REFRIGERATION, TEMPERATURE CONTROL, AND ELECTRICAL CONTRACTORS. ALSO INCLUDE COMPLETE LIST OF EQUIPMENT INSTALLED WITH NAME, ADDRESS AND PHONE NUMBER OF EACH VENDOR.
D. INCLUDE DESCRIPTIVE LITERATURE (MANUFACTURER'S CATALOG DATA) OF EACH MANUFACTURED ITEM. LITERATURE SHALL SHOW CAPACITIES AND SIZE OF EQUIPMENT USED AND MARKED INDICATING EACH SPECIFIC ITEM WITH APPLICABLE DATA UNDERLINED.
E. MAINTENANCE INSTRUCTIONS SHALL INCLUDE MANUFACTURER'S MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF MECHANICAL EQUIPMENT INSTALLED FOR PROJECT. INSTRUCTIONS SHALL INCLUDE NAME OF VENDOR, INSTALLATION INSTRUCTIONS, PARTS NUMBERS AND LISTS OPERATION INSTRUCTIONS OF EQUIPMENT, AND MAINTENANCE AND LUBRICATION INSTRUCTIONS.
F. PROVIDE ONE COMPLETE COPY OF ALL EQUIPMENT WARRANTY REGISTRATION FORMS IN EACH MANUAL.

1.05 QUALITY ASSURANCE

A. REQUIREMENTS OF REGULATORY AGENCIES:
1. PERFORM WORK IN ACCORDANCE WITH APPLICABLE CODES.
2. IN CASE OF DIFFERENCES BETWEEN BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, UTILITY COMPANY REGULATIONS, AND CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN.

B. MOTOR AND EQUIPMENT NAME PLATES AS WELL AS APPLICABLE UL AND AGA LABELS SHALL BE IN PLACE WHEN PROJECT IS TURNED OVER TO OWNER.

1.06 CODES AND STANDARDS

A. CODES AND AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER MECHANICAL INSTALLATION.
1. WASHINGTON STATE ENERGY CODE
2. INTERNATIONAL BUILDING CODE
3. INTERNATIONAL MECHANICAL CODE
4. UNIFORM PLUMBING CODE
5. LOCAL SEWER AND WATER DISTRICT REQUIREMENTS
6. STATE AND COUNTY DEPARTMENT OF HEALTH
7. LOCAL FIRE MARSHAL
8. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
9. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

1.07 PRODUCT HANDLING AND PROTECTION

A. PROTECT FLANGES, FITTINGS, AND DUCTWORK OR PIPING SPECIALTIES FROM MOISTURE AND DIRT.
B. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL MATERIAL, EQUIPMENT AND APPARATUS PROVIDED UNDER THIS SECTION FROM DAMAGE, WATER, CORROSION, FREEZING AND DUST, BOTH IN STORAGE AND WHEN INSTALLED, UNTIL FINAL PROJECT ACCEPTANCE.
C. COMPLETELY COVER MOTORS AND OTHER MOVING MACHINERY TO PROTECT FROM DIRT AND WATER DURING CONSTRUCTION.
D. HANDLE AND PROTECT EQUIPMENT AND/OR MATERIAL IN MANNER PRECLUDING UNNECESSARY FIRE HAZARD.
E. EQUIPMENT REQUIRING ROTATING AND/OR LUBRICATION DURING STORAGE SHALL HAVE RECORDS MAINTAINED AND WITNESSED ON A MONTHLY BASIS AND FORWARDED TO THE ARCHITECT/ENGINEER PRIOR TO ACCEPTANCE.

1.08 WARRANTIES

A. IN ADDITION TO GUARANTEE SPECIFIED IN GENERAL CONDITIONS, GUARANTEE HEATING, COOLING, EXHAUST, AND PLUMBING SYSTEMS TO BE FREE FROM NOISE IN OPERATION THAT MAY DEVELOP FROM FAILURE TO CONSTRUCT SYSTEM IN ACCORDANCE WITH CONTRACT DOCUMENTS.
B. IN ORDER TO BE PROTECTED, SECURE PROPER GUARANTEES FROM SUPPLIERS AND SUBCONTRACTORS.
C. PROVIDE CERTIFICATES OF WARRANTY FOR EACH PIECE OF EQUIPMENT. CLEARLY RECORD "START-UP" DATE OF EACH PIECE OF EQUIPMENT ON CERTIFICATE. PROVIDE START-UP CERTIFICATES AT SUBSTANTIAL COMPLETION TO THE OWNER.

1.09 SUBMITTALS

A. PROVIDE SUBMITTAL PACKAGE FOR ALL SECTIONS LISTED.

1.10 COMMISSIONING

A. MINIMUM STATE OF WASHINGTON COMMISSIONING REQUIREMENTS ARE TO BE MET PER WSEC C408.
B. A COMMISSIONING PLAN SHALL BE PREPARED, TO INCLUDE EXPLANATION OF DESIGN INTENT, EQUIPMENT AND FUNCTIONS TO BE TESTED, CONDITIONS UNDER WHICH TEST SHALL BE PERFORMED, AND MEASURABLE CRITERIA FOR ACCEPTABLE PERFORMANCE.
C. TESTING AND BALANCING SHALL BE PROVIDED.
D. CONTROLS FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE CORRECT INSTALLATION AND OPERATION OF EQUIPMENT.
E. COMMISSIONING REPORT SHALL BE PROVIDED TO OWNER, AND SHALL INCLUDE PROCEDURES AND RESULTS OF FUNCTIONAL PERFORMANCE TESTING.

PART 2 - EXECUTION

2.01 ACCESS DOOR

A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING FLUSH MOUNTED ACCESS DOORS IN WALL, CEILINGS, AND CHASES WHERE VALVES AND DAMPERS ARE CONCEALED AND IS NOT ACCESSIBLE.
B. DOORS SHALL BE UL LISTED 16 GA. COLD ROLLED STEEL WITH CONCEALED HINGE, SCREWDRIVER OPERATED LOCK AND PRIME COATED. FURNISH SUITABLE FOR AREA MOUNTED.

2.02 OPERATION AND MAINTENANCE TRAINING

A. AFTER COMPLETION OF WORK AND AFTER ALL TEST AND INSPECTIONS, THE CONTRACTOR SHALL DEMONSTRATE AND INSTRUCT THE OWNER IN OPERATION AND MAINTENANCE OF THE VARIOUS MECHANICAL SYSTEMS. INSTRUCTION SHALL INCLUDE HVAC CONTROLS, HVAC EQUIPMENT MAINTENANCE, AND PLUMBING EQUIPMENT.
B. INSTRUCTION PERIODS SHALL BE SCHEDULED WITH OWNER. LENGTH OF INSTRUCTION PERIOD SHALL BE TO OWNER SATISFACTION.
C. COST OF TIME INVOLVED BY CONTRACTOR SHALL BE INCLUDED IN THE BID.

2.03 PREPARATION

A. CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, AND OTHER SURFACES NECESSARY FOR MECHANICAL INSTALLATIONS. PERFORM CUTTING BY SKILLED MECHANICS OF TRADES INVOLVED. DO NOT CUT BEAMS, COLUMNS, OR TRUSSES.
B. PATCH AND REPAIR CUT SURFACES WITH MATERIALS OF SAME QUALITY APPEARANCE AS ADJACENT SURFACES UNLESS OTHERWISE SHOWN. SURFACE FINISHES BY GENERAL CONTRACTOR.
C. THIS WORK SHALL BE SCHEDULED SUCH THAT UTILITY SERVICES AND/OR EXISTING SYSTEMS FOR THE FACILITY ARE NOT INTERRUPTED DURING NORMAL OCCUPANCY HOURS, WITHOUT PRIOR WRITTEN PERMISSION OF THE OWNER'S REPRESENTATIVE.

2.04 INSTALLATION

A. PERFORM WORK IN ACCORDANCE TO ALL APPLICABLE LOCAL, STATE AND NATIONAL GOVERNMENT INSTALLATION CODES.
B. INSTALL MECHANICAL EQUIPMENT TO PERMIT EASY ACCESS FOR NORMAL MAINTENANCE, AND SO THAT PARTS REQUIRING PERIODIC REPLACEMENT OR MAINTENANCE, (E.G., COILS, SHEAVES, FILTERS, MOTORS, BEARINGS, ETC.) CAN BE REMOVED. RELOCATE ITEMS, WHICH INTERFERE WITH ACCESS.
C. PROVIDE ACCESS DOORS IN EQUIPMENT, DUCTS, AND WALL/CEILINGS AS REQUIRED TO ALLOW FOR INSPECTION AND PROPER MAINTENANCE.
D. VALVES, DAMPER OPERATORS, AND OTHER DEVICES WHICH ARE MANUALLY ADJUSTED OR OPERATED SHALL BE LOCATED SO AS TO BE EASILY ACCESSIBLE BY A PERSON STANDING ON THE FLOOR. ANY SUCH ITEMS WHICH ARE NOT IN THE OPEN SHALL BE MADE ACCESSIBLE THROUGH ACCESS OPENINGS IN THE BUILDING CONSTRUCTION.
E. BELTS, PULLEYS, COUPLINGS, PROJECTING SET SCREWS, KEYS AND OTHER ROTATING PARTS WHICH MAY POSE A DANGER TO PERSONNEL, SHALL BE FULLY ENCLOSED OR GUARDED IN ACCORDANCE WITH OSHA AND WISHA REGULATIONS.
F. DISSIMILAR METALS: PROVIDE SEPARATIONS BETWEEN ALL DISSIMILAR METALS. WHERE NOT SPECIFIED IN ANOTHER WAY, USE 10 MIL BLACK PLASTIC TAPE WRAPPED AT POINT OF CONTACT OR PLASTIC CENTERING INSERTS.
G. PROVIDE OFFSETS AROUND ALL ELECTRICAL PANELS (AND SIMILAR ELECTRICAL EQUIPMENT) TO MAINTAIN SPACE CLEAR ABOVE AND BELOW PANEL TO STRUCTURE AND CLEARANCE OF 3.5 FEET DIRECTLY IN FRONT OF PANEL, EXCEPT WHERE INDICATED OTHERWISE OR REQUIRED BY NEC TO BE MORE. SUCH OFFSETS ARE TYPICALLY NOT SHOWN ON THE DRAWINGS, BUT ARE REQUIRED PER THIS PARAGRAPH.

SECTION 23 05 29 - HANGERS AND SUPPORTS

A. MANUFACTURERS: IN ACCORDANCE WITH MSS SP 58, MSS SP 69, AND ANSI B31.1.
B. ANCHORS AND SUPPORTS FOR ALL DUCTWORK SHALL MEET ALL REQUIREMENTS SHOWN IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
C. ALL MECHANICAL EQUIPMENT AND CEILING DIFFUSERS/GRILLES SHALL BE ANCHORED AND SUPPORTED.
D. CONDENSATE COPPER PIPING: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.
E. CONCRETE ANCHORING: EXPANSION SHELLS MAY BE USED IN EXISTING CONSTRUCTION.
F. HANGER RODS SHALL BE THREADED HOT ROLLED STEEL, ELECTRO-GALVANIZED OR CADMIUM PLATED TYPE.
G. HANGER STRAPS SHALL BE GALVANIZED STEEL.
H. USE OF ZIP TIES OR PLASTIC STRAPS IS PROHIBITED.
I. ROOF MOUNTED EQUIPMENT SHALL BE INSTALLED ON ROOF CURBS PROVIDED WITH THE EQUIPMENT. SUCH EQUIPMENT SHALL BE ANCHORED TO THE CURB, WITH THE CURB ANCHORED TO THE BUILDING STRUCTURE.

SECTION 23 05 48 - VIBRATION AND SEISMIC CONTROL

A. INCLUDES SEISMIC RESTRAINING OF ALL DUCTWORK PIPING AND MECHANICAL EQUIPMENT. SEE ASCE 7-10 FOR REQUIREMENTS.
B. THE FOLLOWING ITEMS SHALL BE SEISMICALLY RESTRAINED OR ANCHORED:
1. ALL EQUIPMENT WEIGHING MORE THAN 400 LB. BRACE PER 13.1.4, ASCE 7-10.
2. ALL EQUIPMENT HAVING A CENTER OF MASS LOCATED MORE THAN 4FT ABOVE THE ADJACENT FLOOR OR ROOF LEVEL.
3. CEILING HUNG MECHANICAL COMPONENTS WEIGHING MORE THAN 20 POUNDS, OR DISTRIBUTION SYSTEMS WEIGHING MORE THAN 5 LB/FT. BRACE PER 13.1.4, ASCE 7-10.
4. DUCTWORK EQUAL TO OR GREATER THAN 6 SQ. FT. CROSS SECTIONAL AREA.

C. SEISMIC RESTRAINTS SHALL BE CONTRACTOR-DESIGNED. SEISMIC DESIGN CRITERIA ARE TO BE ESTABLISHED PER THE INTERNATIONAL BUILDING CODE AND ASCE 7-10 ALONG WITH PROJECT STRUCTURAL DRAWINGS.
D. ISOLATION PADS: OIL RESISTANT NEOPRENE PADS, MINIMUM ¼-INCH THICK, WITH CROSS-RIBBED OR WAFFLE DESIGN. SIZE PADS FOR NOT MORE THAN 50 PSI OR AS RECOMMENDED BY VIBRATION ISOLATOR MANUFACTURER.
E. SUSPENSION ISOLATORS SHALL BE DOUBLE DEFLECTION NEOPRENE TYPE, WITH ISOLATOR ENCASED IN OPEN STEEL BRACKET AND MINIMUM 3/8" DEFLECTION. HANGER ROD SHALL BE ISOLATED FROM STEEL BRACKET WITH NEOPRENE GROMMETS. MASON SERIES HD, AMBER BOOTH BRD, OR APPROVED EQUAL.
F. FLOOR MOUNTED ISOLATORS SHALL BE DOUBLE DEFLECTION NEOPRENE TYPE, WITH MINIMUM OF 0.35" DEFLECTION. ALL METAL SURFACES SHALL BE NEOPRENE COVERED, BASE PLATE SHALL HAVE MOUNTING HOLES, AND TOP SHALL HAVE THREADED STEEL PLATE OR THREADED STEEL INSERT. MASON SERIES ND, AMBER BOOTH RV, OR APPROVED EQUAL.
G. CURB-MOUNTED ROOFTOP UNITS SHALL BE PROVIDED WITH SUITABLE BRACING ON FOUR SIDES CONNECTING UNIT WITH CURB TO PREVENT EXCESSIVE MOVEMENT IN A SEISMIC EVENT. THE CONTRACTOR IS RESPONSIBLE FOR PROPER SEISMIC ATTACHMENT OF THE ROOFTOP CURB TO BUILDING STRUCTURE.

SECTION 22 05 23 - PLUMBING VALVES

A. THE CONTRACTOR IS TO PROVIDE AND INSTALL VALVES AS NECESSARY TO COMPLETELY CONTROL ENTIRE SYSTEM IN LOGICAL SECTIONS.
B. ALL VALVES TO COMPLY WITH ANSI REQUIREMENTS AND SHALL BE LEAD-FREE. INSTALL VALVES WITH STEMS POINTED UP, IN VERTICAL POSITION WHERE POSSIBLE, BUT IN NO CASE WITH STEMS POINTED DOWNWARD FOR HORIZONTAL PLANE UNLESS UNAVOIDABLE.
C. BALL VALVES
1. CONSTRUCTION, 2 INCHES AND SMALLER: MSS SP-110, CLASS 150, 400 PSI CWP, BRONZE, TWO PIECE BODY, CHROME PLATED BRASS BALL, REGULAR PORT, TEFLON SEATS AND STUFFING BOX RING, BLOW-OUT PROOF STEM, LEVER HANDLE WITH THREADED ENDS. STOCKHAM NO. S-216.

SECTION 22 05 29 - PLUMBING HANGERS AND SUPPORTS

A. MANUFACTURERS: IN ACCORDANCE WITH MSS SP 58, MSS SP 69, AND ANSI B31.1.
B. ANCHORS AND SUPPORTS FOR ALL DUCTWORK SHALL MEET ALL REQUIREMENTS SHOWN IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
C. ALL MECHANICAL EQUIPMENT AND CEILING DIFFUSERS/GRILLES SHALL BE ANCHORED AND SUPPORTED.
D. PLUMBING PIPING - DWV:
1. HANGERS FOR PIPE SIZES ½ TO 1-1/2": MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING FOR 2" AND OVER: CARBON STEEL, ADJUSTABLE CLEVIS.

E. PLUMBING PIPING - WATER:
1. HANGERS FOR PIPE SIZES ½ TO 1-1/2": CARBON STEEL, ADJUSTABLE SWIVEL, SPLIT RING.

F. CONCRETE ANCHORING:
1. USE CAST INSERTS IN NEW CONSTRUCTION; STAMPED METAL INSERTS ARE NOT ACCEPTABLE. EXPANSION SHELLS MAY BE USED IN EXISTING CONSTRUCTION.

G. PROVIDE INSERTS FOR SUSPENDING HANGERS FROM REINFORCED CONCRETE SLABS AND SIDES OF REINFORCED CONCRETE BEAMS.
H. SUPPORT HORIZONTAL PIPING AS SCHEDULED.
1. SPACING: DO NOT EXCEED THE FOLLOWING SPACING ON CENTERS:

TYPE OF PIPE	SPACING
CAST IRON (ALL SIZES)	5 FEET
COPPER UNDER 1-1/2"	6 FEET
COPPER 2" AND LARGER	10 FEET

I. INSTALL HANGERS TO PROVIDE MINIMUM ½" SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
J. PLACE HANGERS WITHIN 12" OF EACH HORIZONTAL ELBOW.
K. USE HANGERS WITH 1-1/2" MINIMUM VERTICAL ADJUSTMENT.
L. SUPPORT VERTICAL PIPING AT EVERY LEVEL.
M. INSULATED PIPE SUPPORTS: PROTECT INSULATED PIPE AT POINT OF SUPPORT WITH MOLDED EXPANDED PERLITE PIPE INSULATION. INSERT SHALL BE IN PLACE AT THE TIME OF INSTALLING PIPE.
N. PROVIDE ANCHORS AND SUPPORTS FOR ALL MECHANICAL EQUIPMENT.

SECTION 22 05 48 - SEISMIC CONTROL

A. INCLUDES SEISMIC RESTRAINING OF ALL PIPING AND EQUIPMENT. SEE ASCE 7-10 FOR REQUIREMENTS.

B. THE FOLLOWING ITEMS SHALL BE SEISMICALLY RESTRAINED OR ANCHORED:
1. ALL EQUIPMENT WEIGHING MORE THAN 400 LB. BRACE PER 13.1.4, ASCE 7-10.
2. ALL EQUIPMENT HAVING A CENTER OF MASS LOCATED MORE THAN 4FT ABOVE THE ADJACENT FLOOR OR ROOF LEVEL.
3. CEILING HUNG MECHANICAL COMPONENTS WEIGHING MORE THAN 20 POUNDS, OR DISTRIBUTION SYSTEMS WEIGHING MORE THAN 5 LB/FT. BRACE PER 13.1.4, ASCE 7-10.
4. PIPING 1 INCH OR GREATER.
5. SEISMIC RESTRAINTS SHALL BE BIDDER-DESIGNED. SEISMIC DESIGN CRITERIA ARE TO BE ESTABLISHED PER THE INTERNATIONAL BUILDING CODE AND ASCE 7-10 ALONG WITH PROJECT STRUCTURAL DRAWINGS.
6. ALL HOT WATER TANKS.

SECTION 22 05 53 - MECHANICAL IDENTIFICATION

A. COMPLY WITH ASME A13.1 FOR LETTERING SIZE, AND VIEWING ANGLES OF IDENTIFICATION DEVICES.
B. EQUIPMENT NAMEPLATES: BLACK BACKLITE, 1 1/2" X 3" WITH WHITE 1/2" LETTERING WITH EQUIPMENT SCHEDULE DESIGNATIONS. THESE SHALL BE PLACED ON ALL MECHANICAL UNITS.
C. PLASTIC TAGS: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR. TAG SIZE MINIMUM 1 1/2 INCHES DIAMETER.
D. VALVE TAGS: 3/32 INCH THICK PLASTIC, 1-1/2 INCH x 3 INCH, STAMPED TO INDICATE SERVICE AND VALVE NUMBER, 1/2 INCH LETTERING, CHAIN HANGER. POST VALVE LIST UNDER GLASS IN APPROPRIATE MECHANICAL ROOM AND INCLUDE IN MAINTENANCE. TAG SIZE MINIMUM 1-1/2 INCHES DIAMETER.
E. METAL TAGS:
1. BRASS WITH STAMPED LETTERS; TAG SIZE MINIMUM 1-1/2 INCHES WITH SMOOTH EDGES.

F. STENCILS WITH CLEAN CUT SYMBOLS AND LETTERS OF FOLLOWING SIZE:
1. DUCTWORK 1-3/4" HIGH LETTERS. INDICATE FLOW DIRECTION AND HOT OR COLD DUCT.

G. STENCIL PAINT: SEMI-GLOSS ENAMEL.
H. PIPE MARKERS:
1. MANUFACTURERS: WESLINE PRODUCTS, W.H. BRADY OR APPROVED EQUAL.
2. COLOR AND LETTERING: CONFORM TO ASME A13.1.

I. PLASTIC PIPE MARKERS:
1. FACTORY FABRICATED, FLEXIBLE, SEMI-RIGID PLASTIC, PERFORMED TO FIT AROUND PIPE OR PIPE-COVERING. LARGER SIZES MAY HAVE MAXIMUM SHEET SIZE WITH SPRING FASTENER.

J. PIPE BANDING: ALL EXPOSED PIPE SHALL BE BANDED PER THE BELOW.
1. DOMESTIC COLD & HOT WATER: COLOR = GREEN, STENCIL = WHITE
2. WASTE & VENT PIPING: COLOR = ORANGE, STENCIL = BLACK
3. GAS PIPING: COLOR = YELLOW, STENCIL = BLACK

K. DEGREASE AND CLEAN SURFACES TO RECEIVE ADHESIVE FOR IDENTIFICATION MATERIALS.
L. PREPARE SURFACES FOR STENCIL PAINTING.
M. APPLY ONE PRIMER COAT AND TWO FINISH COATS WITH UNDILUTED PAINT IN UNIFORM THICKNESS.
N. LABELING OF ALL METERS, EXHAUST MOTORS AND FANS SHALL READ NAME OF FUTURE TENANT AND NECESSARY NOTIFICATION RESPECTIVELY, METER, FAN OR TERMINAL UNIT DESIGNATION.
O. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR MECHANICAL IDENTIFICATION. THE COST SHALL BE CONSIDERED AS A PART OF THE LUMP SUMP PRICE FOR THE SYSTEM IT SUPPORTS.

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
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08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL SPECIFICATIONS

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
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DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

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M002

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

SECTION 22 07 13 - PIPING INSULATION

A. INSULATION AT HANGERS: INSULATION SHALL BE CONTINUOUS THROUGH HANGERS ON ALL INSULATED SYSTEMS.
B. MANUFACTURERS: ARMSTRONG, JOHNS-MANNVILLE OR OWENS-CORNING.
C. INSOFAR AS PRACTICABLE, THE PRODUCTS HEREINAFTER DESCRIBED SHALL BE OF ONE MANUFACTURER AND SHALL MEET THE FOLLOWING REQUIREMENTS LISTED AS TO THEIR FUNCTION.
D. GLASS FIBER
   1. DOMESTIC COLD WATER.
      a. INSULATION FOR SUCH EQUIPMENT SHALL BE PERFORMED GLASS FIBER, 1/2 INCH THICK, OF FOUR POUND DENSITY, WITH FACTORY-APPLIED JACKET AND PRESSURE-SENSITIVE TAPE CLOSURE SYSTEM; CONFORMING TO THE REQUIREMENTS OF ASTM C547.
      b. MANVILLE MICRO-LOK, OR APPROVED EQUAL.
   2. DOMESTIC HOT WATER, CIRCULATING HOT WATER, OR HEATING WATER PIPING: INSULATION FOR THESE PIPING TYPES SHALL BE PERFORMED GLASS FIBER, FOUR POUND DENSITY, WITH FACTORY-APPLIED JACKET AND PRESSURE-SENSITIVE TAPE CLOSURE SYSTEM; CONFORMING TO THE REQUIREMENTS OF ASTM C547. MANVILLE MICRO-LOK, OR APPROVED EQUAL. FOR 1/2 INCH THICK, AND FOR 2-1/2 INCH TO 4 INCH PIPE USE 2-1/2 INCH THICK.
   3. MOLDED EXPANDED PERLITE BLOCK AND PIPE INSULATION: ASTM C610, PIPE INSULATION.
E. ELASTOMERIC
   1. INSULATION SHALL MEET ASTM C534; FLEXIBLE, CLOSED CELL, CELLULAR ELASTOMERIC MOLDED OR SHEET.
   2. THERMAL CONDUCTIVITY: 0.25 BTU-IN/HR SQ FT °F.
   3. MAXIMUM FLAME SPREAD: 25 FT. MAXIMUM SMOKE DEVELOPED: 25/50 THROUGH 1" WALL.
   4. SHALL HAVE R-VALUE OF 4.2 AT 1" AND R=8 AT 2".
   5. SHALL BE FIBER FREE, FORMALDEHYDE-FREE, AND LOW VOC.
F. VERIFY THAT PIPING HAS BEEN TESTED BEFORE APPLYING INSULATION MATERIALS.
G. VERIFY THAT SURFACES ARE CLEAN AND DRY, WITH FOREIGN MATERIAL REMOVED.
H. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, BUILDING CODES AND INDUSTRY STANDARDS.
I. CONTINUE INSULATING VAPOR BARRIER THROUGH PENETRATIONS EXCEPT WHERE PROHIBITED BY CODE.
J. PROVIDE INSULATED DUAL TEMPERATURE PIPES OR COLD PIPES CONVEYING FLUIDS BELOW AMBIENT TEMPERATURE WITH VAPOR RETARDANT JACKET WITH SELF SEALING LAPS. INSULATE COMPLETE SYSTEM.
K. FOR INSULATED PIPES CONVEYING FLUIDS ABOVE AMBIENT TEMPERATURE, SECURE JACKETS WITH SELF SEALING LAP OR OUTWARD CLINCHED, EXPANDED STAPLES. BEVEL AND SEAL ENDS OF INSULATION AT EQUIPMENT, FLANGES, AND UNIONS.
L. FOR PIPE EXPOSED IN MECHANICAL EQUIPMENT ROOMS OR EXPOSED IN FINISHED SPACES UP TO 10 FEET ABOVE FINISHED FLOOR, FINISH WITH MANVILLE ZESTON 2000 PVC JACKET AND FITTING COVERS OR ALUMINUM JACKET.
M. PROVIDE INSULATION PER PIPING INSULATION SCHEDULE.
N. DO NOT ALLOW PIPES TO COME IN CONTACT WITH HANGERS.
O. RUNOUTS INDICATE PIPE INSULATION FROM MAIN SYSTEM TO FIXTURE FOR NOT MORE THAN 12'-0" IN LENGTH AND LESS THAN 2" PIPE.

SECTION 22 11 16 - PIPE AND FITTINGS

A. ABOVE GROUND DOMESTIC WATER PIPING TO BE TYPE "L" COPPER OR PEXa.
B. INSTALLATION SHALL MEET LOCAL INSPECTOR'S REQUIREMENTS AND WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY, SUBJECT TO OWNER'S APPROVAL.
C. THE CONTRACTOR IS TO PROVIDE AND INSTALL VALVING AS NECESSARY TO COMPLETELY CONTROL ENTIRE SYSTEM IN LOGICAL SECTIONS.
D. ARRANGE PIPING TO NOT INTERFERE WITH REMOVAL OF OTHER EQUIPMENT, DUCTS, DEVICES, OR BLOCK ACCESS TO DOORS, WINDOWS, OR ACCESS OPENINGS. PROVIDE ACCESSIBLE, GROUND JOINT UNIONS IN PIPING AT CONNECTIONS TO EQUIPMENT. MAKE CONNECTIONS OF DISSIMILAR METALS WITH INSULATING COUPLINGS.
E. T-DRILL PROCEDURE FOR CONNECTING PIPES IS PROHIBITED.
F. SOLDER FOR POTABLE WATER PIPES SHALL BE OF A LEAD FREE TYPE.
G. MAKE CONNECTIONS OF DISSIMILAR METALS WITH INSULATING COUPLINGS.
H. CAP OR PLUG ENDS OF PIPES AND EQUIPMENT TO KEEP DIRT AND OTHER FOREIGN MATERIALS OUT OF SYSTEM.
I. DO NOT USE REDUCING BUSHINGS, STREET ELBOWS. OR CLOSE NIPPLES.
J. WROUGHT TEES SHALL BE USED ON ALL BRANCH PIPING AND BRANCH TO MAIN CONNECTIONS.
K. SOLDER FOR POTABLE WATER PIPES SHALL BE OF LEAD FREE TYPE AND SHALL CONFORM TO CURRENT UPC STANDARDS FOR SOLDER AND ALL LOCAL CODE REQUIREMENTS.
L. PROVIDE ESCUTCHEONS WHERE PIPE PASSES THROUGH WALLS, FLOORS OR CEILINGS.
M. INSTALL ALL EXPOSED PIPING IN PARALLEL TO THE CLOSEST WALL AND IN A NEAT, WORKMANLIKE MANNER.
N. DOMESTIC WATER PIPING TESTS AND STERILIZATION
   1. TESTS: AS THE WORK PROGRESSES EACH SECTION OF THE WATER SYSTEM SHALL BE TESTED UNDER A 125# HYDROSTATIC TEST HELD FOR 24 HOURS WITHOUT LOSS OF PRESSURE. SUCH TEST SHALL BE MADE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. FLUSHING AND CHLORINATION: ALL PIPING SHALL BE FLUSHED TO REMOVE DIRT AND FOREIGN MATERIAL. AFTER FLUSHING, ALL PIPING SHALL BE CHLORINATED IN ACCORDANCE WITH REGULATIONS OF THE LOCAL JURISDICTION.

SECTION 22 11 19 - PIPING SPECIALTIES

A. THERMOMETERS
   1. ADJUSTABLE ANGLE TYPE, 304 STAINLESS STEEL STEM, 5" READING DIAL TYPE.
   2. DOMESTIC HOT WATER TO RANGE FROM 30-180 DEGREES F. INCREMENTED BY 2 DEGREES.
   3. INSTALL IN PIPING AT LOCATIONS INDICATED AND SO AS TO BE EASILY READ.
B. STRAINERS
   1. WATER STRAINER SHALL BE "Y" TYPE, SAME SIZE AS THE PIPE IN WHICH THEY ARE INSTALLED, WITH CAST IRON OR SEMI-STEEL BODIES RATED FOR 125 PSI WORKING PRESSURE AND WITH REMOVABLE COVER AND SEDIMENT BASKET.
   2. INSTALL STRAINERS AS INDICATED. PROVIDE PLUGGED GATE OR BALL VALVE IN BLOW-OFF CONNECTION ON STRAINERS.
C. UNIONS
   1. DIELECTRIC UNIONS: RATED AT 250 PSI AT 180 DEGREE F, CONFORMING TO ANSI B16.39.
D. TRAP PRIMERS
   1. PROVIDE A TRAP PRIMER TAILPIECE AT EACH LAVATORY TO SERVE ADJACENT FLOOR DRAIN TRAP. PROVIDE WITH STAINLESS STEEL BRAIDED PRIMER HOSE AND ESCUTCHEON. ELEVATE TRAP PRIMER PIPING AT INCREMENTS OF 12" PER 20 L.F. OF PIPE RUN TO TRAP.
E. AQUASTATS
   1. THE AQUASTAT SHALL BE UL APPROVED.
   2. THE AQUASTAT SHALL BE CONNECTED TO THE LEAD WIRES IN THE CONNECTION BOX OF THE PUMP.
   3. AQUASTAT TO BE SUITABLE FOR 115V, 60 HZ OPERATION.
   4. AQUASTAT SHALL PROVIDE THERMOSTAT CONTROL TO THE CIRCULATOR. IT WILL TURN OFF (OPEN) AT 120°F

SECTION 22 13 00 - SOIL, WASTE, & VENT PIPING

A. ALL ABOVE AND BELOW GROUND WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC AND SHALL CONFORM TO ASTM A888. EACH PIECE OF CAST IRON PIPE SHALL BEAR THE MANUFACTURER'S SERIAL NUMBER AND SHALL BE CERTIFIED BY THE MANUFACTURER TO HAVE MET THE REQUIREMENTS OF THE LATEST ASTM SPECIFICATIONS.
B. ALL SANITARY WASTE PIPING SHALL RUN AT 1/4" PER FOOT.
C. PROVIDE CLEANOUTS AS SHOWN ON PLANS, AT EVERY 90 DEGREE CHANGE OF DIRECTION, AND EVERY 100 FEET OF HORIZONTAL RUN.
D. EXTEND CLEANOUT TO ACCESSIBLE SURFACE. DO NOT PLACE CLEANOUTS IN CARPETED FLOORS. IN SUCH LOCATIONS, USE WALL TYPE CLEANOUTS.
E. EACH FIXTURE AND APPLIANCE DISCHARGING WATER INTO SANITARY SEWER OR BUILDING SEWER LINES SHALL HAVE SEAL TRAP IN CONNECTION WITH COMPLETE VENTING SYSTEM.
F. VENT ENTIRE WASTE SYSTEM TO ATMOSPHERE.
G. INSTALLATION SHALL COMPLY WITH ALL THE LATEST LOCAL PLUMBING, BUILDING, AND FIRE CODE REQUIREMENTS. SOLVENT CEMENT JOINTS SHALL BE MADE IN A TWO STEP PROCESS WITH PRIMER MANUFACTURED FOR THERMOPLASTIC PIPING SYSTEMS AND SOLVENT CEMENT CONFORMING TO ASTM D 2564, TEST INSTALLATION WITH WATER.
H. BEFORE PIPING IS COVERED, CONDUCT TESTS FOR LEAKAGE AND DEFECTIVE WORK. CORRECT LEAKS AND DEFECTIVE WORK.

SECTION 22 21 00 - MECHANICAL SLEEVES AND SEALS

A. PIPE SLEEVES SHALL BE PROVIDED AS INDICATED FOR STRUCTURAL AND NON-STRUCTURAL APPLICATIONS.
B. PIPE SLEEVES SHALL BE PROVIDED FOR ALL PIPING PASSING THROUGH WALLS, FLOORS, PARTITIONS, ROOFS, FOUNDATIONS, FOOTINGS, GRADE BEAMS, AND SIMILAR ELEMENTS, EXCEPT THAT SLEEVES ARE NOT REQUIRED FOR PENETRATIONS THROUGH EXISTING SINGLE SOLID ELEMENTS, HAVING NO VOIDS, AT THE LOCATION WHERE THE PIPING PASSES THROUGH THE SOLID ELEMENTS.
C. DO NOT PLACE SLEEVES AROUND SOIL, WASTE, OR VENT PIPE PASSING THROUGH CONCRETE FLOORS ON GRADE.
D. SET PIPE SLEEVES PLUMB OR LEVEL (OR SLOPED AS REQUIRED FOR DRAINAGE PIPE) IN PROPER POSITION, TIGHTLY FITTED INTO THE WORK.
E. FILL OPENINGS AROUND OUTSIDE OF PIPE SLEEVE WITH SAME MATERIAL AS SURROUNDING CONSTRUCTION, OR WITH MATERIAL OF EQUIVALENT FIRE AND SMOKE RATING.
F. SEAL AROUND ALL PIPES INSIDE OF PIPE SLEEVES.
G. INSULATION SHALL RUN CONTINUOUSLY THROUGH PIPE AND DUCT SLEEVES.
H. PROVIDE SEALS AROUND ALL PIPING PASSING THROUGH WALLS, FLOORS, ROOFS, FOUNDATIONS, FOOTINGS, GRADE BEAMS, PARTITIONS, AND SIMILAR ELEMENTS.
I. SEALS SHALL BE WATERTIGHT WHERE THE PENETRATION MAY BE EXPOSED TO WATER OR MOISTURE.
J. DUCT PENETRATIONS THROUGH ROOF OR EXTERIOR WALL ASSEMBLIES SHALL BE PROVIDED WITH FLASHING FOR A WEATHERTIGHT ASSEMBLY IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. SUCH OPENINGS SHALL BE SEALED TO BE WEATHERPROOF.
K. SEALS IN INTERIOR FIRE RATED ASSEMBLIES SHALL BE TESTED IN ACCORDANCE WITH ASTM E814 AND UL CLASSIFIED PER UL1479 AS A THROUGH-PENETRATION FIRESTOP DEVICE. SEALS SHALL BE OF MATERIAL AND WORKMANSHIP TO MAINTAIN THE FIRE AND/OR SMOKE RATING OF ELEMENT BEING PENETRATED. THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT ANY DATA REQUIRED BY LOCAL AGENCIES TO SATISFY THEM THAT THE CONTRACTOR'S PROPOSED FIRE SEALS ARE SATISFACTORY.

SECTION 22 30 00 - PLUMBING EQUIPMENT

A. WATER HEATER
   1. SEE SCHEDULE ON DRAWINGS.
   2. PROVIDE WITH MANUFACTURER'S APPROVED WARRANTY.
   3. PROVIDE UL LISTED UNIT.
B. PUMP
   1. SEE SCHEDULE ON DRAWINGS.
   2. PROVIDE BRONZE CASING, IMPELLER.
   3. PUMP MUST BE CAPABLE OF BEING SERVICED WITHOUT DISTURBING PIPING CONNECTIONS.
   4. PUMP SHALL BE WATER LUBRICATED TYPE FOR HORIZONTAL OR VERTICAL INSTALLATION.
   5. PUMP SHALL BE FACTORY TESTED AND BE NSF 372 CERTIFIED.

SECTION 22 40 00 - PLUMBING FIXTURES

A. FIXTURES
   1. SEE SCHEDULE ON DRAWINGS.
B. FLOOR DRAINS
   1. CAST IRON BODY FLOOR DRAIN, WITH TYPE 'N' 7" DIAMETER, NICKEL BRONZE GRATE, VANDAL PROOF SCREWS, AND TRAP PRIMER CONNECTIONS. SIZE OUTLET TO MATCH PIPE SIZE SHOWN ON DRAWINGS.
C. CLEANOUTS
   1. APPROVED MANUFACTURERS: ZURN, JR SMITH, WADE, AND JOSAM
D. INSTALL FIXTURES INCLUDING TRAPS AND ACCESSORIES WITH ACCESSIBLE STOP OR CONTROL VALVE IN EACH HOT AND COLD WATER BRANCH SUPPLY LINE.
E. MOUNTING HEIGHTS ARE TO BE PER ARCHITECTURAL ELEVATIONS AND PER CODE. CODE TAKES PRECEDENCE OVER DRAWINGS.
F. MAKE FIXTURE FLOOR CONNECTIONS WITH APPROVED BRAND OF CAST IRON FLOOR FLANGE, SOLDERED OR CAULKED SECURELY TO WASTE PIPE.
G. CAULK BETWEEN FIXTURES AND WALL AND FLOOR WITH WHITE BUTYL RUBBER NON-ABSORBENT CAULKING COMPOUND. POINT EDGES.
H. PROVIDE CONCEALED ARM SUPPORTS FOR WALL MOUNTED CHINA LAVATORIES.
I. WATER HAMMER ARRESTER SHALL BE PDI CERTIFIED; PISTON TYPE SIZED IN ACCORDANCE WITH PDI WH-201.
J. PROVIDE TRAP PRIMER AND CONNECTION TO WATER FOR FLOOR DRAINS AND FLOOR SINKS.
K. ON ADA WATER CLOSETS, PROVIDE FLUSH VALVE HANDLE ON SIDE FACING WHEELCHAIR TURN AROUND.
POLISH STAINLESS STEEL FINISH AT COMPLETION OF WORK. POLISH ALL FLOOR DRAINS. CLEAN ALL FIXTURES.

SECTION 23 05 53 - MECHANICAL IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

A. PROVIDE MANUFACTURERS STANDARD PREPRINTED, FLEXIBLE, OR SEMI-RIGID PERMANENT, COLOR-CODED, PLASTIC SHEET PIPE MARKERS.
B. PROVIDE FOR ALL ITEMS ON EQUIPMENT SCHEDULE.
   1. ENGRAVED PLASTIC LAMINATE SIGN ON OR NEAR EACH ITEM.

SECTION 23 05 93 - AIR SYSTEM TESTING AND BALANCING

GENERAL:

A. PERFORM TESTING AND BALANCING IN COMPLETE ACCORDANCE WITH THE ASSOCIATED AIR BALANCING COUNCIL (AABC), NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), OR NATIONAL BALANCING COUNCIL (NBC) STANDARDS AND PROCEDURES.
B. MECHANICAL CONTRACTOR SHALL PROCURE SERVICES OF AN INDEPENDENT AIR TESTING & BALANCE AGENCY, WHICH SPECIALIZES IN TESTING, AND BALANCING OF HEATING, VENTILATING, AND COOLING SYSTEMS TO BALANCE, ADJUST, TEST AIR-MOVING EQUIPMENT, AIR DISTRIBUTION, AND EXHAUST SYSTEMS.
C. INSTRUMENTS USED BY AGENCY SHALL BE ACCURATELY CALIBRATED AND MAINTAINED GOOD WORKING ORDER.
D. BEGIN AIR TESTING AND BALANCING UPON COMPLETION OF AIR COOLING, HEATING, AND EXHAUST SYSTEMS INCLUDING INSTALLATION OF ALL SPECIALTIES AND DEVICES.
E. MECHANICAL CONTRACTOR SHALL PUT HEATING, VENTILATING, AND COOLING SYSTEMS AND EQUIPMENT INTO FULL OPERATION AND CONTINUE THEIR OPERATION DURING EACH WORKING DAY OF TESTING AND BALANCING.
F. TESTING PROCEDURE: AIR TESTING & BALANCING AGENCY SHALL PERFORM FOLLOWING TESTS AND BALANCE SYSTEM IN ACCORDANCE WITH FOLLOWING REQUIREMENTS AT DESIGN CONDITIONS OF SUPPLY AND A MINIMUM OUTSIDE AIR CFM (NOT 100% RETURN OR 100% ECONOMIZER).
   1. TEST, ADJUST, AND RECORD FAN RPM TO DESIGN REQUIREMENTS.
   2. TEST AND RECORD MOTOR AMPERES AT DESIGN CONDITIONS.
   3. MAKE PITOT TUBE TRAVERSE OF MAIN SUPPLY DUCT AND OBTAIN DESIGN CFM AT FANS. (SYSTEMS OF 1000 CFM OR GREATER)
   4. TEST AND RECORD SYSTEM STATIC PRESSURES: SUCTION, DISCHARGE, AND CLEAN FILTERS (IF APPLICABLE; FOR SYSTEMS OF 2000 CFM OR GREATER)
   5. TEST, ADJUST, AND RECORD SYSTEM FOR DESIGN CFM AIR.
   6. TEST, ADJUST, AND RECORD SYSTEM FOR DESIGN CFM OUTSIDE AIR.
   7. TEST, ADJUST, AND RECORD EACH DIFFUSER, GRILLE, AND REGISTER TO WITHIN 10% OF DESIGN REQUIREMENTS.
   8. ON A FLOOR PLAN, IDENTIFY EACH DIFFUSER, GRILLE, AND REGISTER TO LOCATION AND AREA USING A DESIGNATION SYMBOL UNIQUE TO THAT PAGE.
   9. IDENTIFY AND LIST SIZE, TYPE, AND MANUFACTURER OF DIFFUSERS, GRILLES, REGISTERS, AND TESTING EQUIPMENT. USE MANUFACTURER'S RATING ON EQUIPMENT TO MAKE REQUIRED CALCULATIONS.
   10. IN READINGS AND TESTS OF DIFFUSERS, GRILLES, AND REGISTERS, INCLUDE REQUIRED CFM AND TEST CFM AFTER ADJUSTMENTS.
   11. IN COOPERATION WITH DIVISION 23, SET ADJUSTMENTS OF AUTOMATICALLY OPERATED DAMPERS TO OPERATE AS SPECIFIED, INDICATED, OR NOTED.
   12. ADJUST DIFFUSERS, GRILLES, AND REGISTERS TO MINIMIZE DRAFTS.
   13. IDENTIFY AT EACH VOLUME DAMPER WITH PERMANENT MARK, THE POSITION OF ACTUATOR HANDLE ONCE FINAL BALANCE HAS BEEN ACHIEVED.
   14. MEASURE AND RECORD ALL PRESSURE DIFFERENTIAL RELATIONSHIPS AS IDENTIFIED BY THE CONTROLS DIAGRAMS (I.E. BUILDING PRESSURE, ETC). THESE MEASUREMENTS ARE TO BE TAKEN WHEN ALL HVAC IS RUNNING AFTER FULL BALANCE HAS BEEN COMPLETED. NOTE THE MEASURED REFERENCE POINTS TO DETERMINE THE PRESSURE DIFFERENTIAL.
   15. FOR ANY SPACES WITH EXHAUST AND SUPPLY TO THEM WHERE DESIGN AIRFLOWS CANNOT BE OBTAINED, THE SYSTEMS SHALL BE ADJUSTED TO PRODUCE A NEGATIVE PRESSURE TO THE ADJACENT SPACE (I.E. WORKROOMS, RESTROOMS, ETC.)
   16. WHEN RECONCILING SUPPLY, RETURN, OUTSIDE, AND EXHAUST AIR QUANTITIES, PRIORITY SHALL BE PLACED ON OUTSIDE AIR QUANTITIES (TYPICALLY, RETURN AIR QUANTITIES NOTED ON PLANS ARE FOR DUCT SIZING ONLY).
   17. WHERE DUCT PRESSURE SENSORS ARE NOTED IN CONTROLS DIAGRAMS (I.E. VARIABLE VOLUME SYSTEMS) ADJUST SYSTEM TO ITS MINIMUM PRESSURE POINT THAT STILL ACHIEVES FULL AIRFLOW TO ALL TERMINALS. RECORD THIS SETPOINT IN TEST REPORT AND PROVIDE DATA TO CONTROLS CONTRACTOR.
   18. FOR VARIABLE VOLUME SYSTEMS, ADJUST SHEAVE PACKAGE TO PRODUCE MAXIMUM AIRFLOW AT 60 HZ WITH SIMULATED FILTER LOADING. IF MAXIMUM AIRFLOW CANNOT BE OBTAINED AT 60 HZ, INCREASE FREQUENCY UNTIL MAXIMUM AIRFLOW IS OBTAINED AS ALLOWED BY THE EQUIPMENT MANUFACTURER AND MAXIMUM MOTOR AMPERES. RECORD FINAL VALUES.
   19. VERIFY THAT ALL GRAVITY BACKDRAFT DAMPERS ARE MOVING FREELY, OPEN IN PROPER DIRECTION, AND ARE UNBOUND.
   20. AFTER BALANCING SYSTEM, MEASURE TERMINAL CFM WHEN SYSTEM IS IN 100% ECONOMIZER. IF SUPPLY IS GREATER THAN DESIGN, COORDINATE WITH CONTROLS CONTRACTOR OR MC TO PROVIDE DAMPER STOPS TO PROVIDE DESIGN CFM DURING 100% ECONOMIZER.
   21. ON ALL MOTORS WITH VARIABLE DRIVES: SET MAXIMUM AMPERAGE SAFETY TO PROTECT MOTOR FROM OVER LOADING.
G. FINAL INSPECTION & ADJUSTMENTS:
   1. BALANCING AGENCY SHALL BE REPRESENTED AT FINAL INSPECTION MEETING BY QUALIFIED TESTING PERSONNEL WITH BALANCING EQUIPMENT AND TWO COPIES OF AIR BALANCING TEST REPORT.
      a. ENGINEER MAY CHOOSE AND DIRECT SPOT BALANCING OF ONE ZONE. DIFFERENCES BETWEEN THE SPOT BALANCE AND TEST REPORT WILL BE JUSTIFICATION FOR REQUIRING REPEAT OF TESTING AND BALANCING FOR ENTIRE BUILDING.
      b. REBALANCING SHALL BE DONE IN PRESENCE OF ENGINEER AND SUBJECT TO HIS APPROVAL.
      c. SPOT BALANCE AND REBALANCE SHALL BE PERFORMED AT NO ADDITIONAL COST TO OWNER.
   2. SYSTEM SHALL BE COMPLETELY BALANCED AND ALL REPORTS SUBMITTED TO ARCHITECT PRIOR TO PREFINAL INSPECTION.
   3. WHERE EQUIPMENT SUPPLIED TO JOB SITE PROVIDES OVER 5% MORE AIR THAN SCHEDULE REQUIREMENTS, ROOMS SUPPLIED BY THAT EQUIPMENT SHALL HAVE THEIR SUPPLY AIR QUANTITIES INCREASED BY THE RATIO OF ACTUAL TOTAL AIR QUANTITY SUPPLIED TO MINIMUM AIR QUANTITY REQUIRED BY SCHEDULE.
H. BALANCING FIRMS (APPROVED)
   1. HARDIN AND SONS
   2. MTW DESIGN
   3. AIRTEST COMPANY, INC.
   4. AMERICAN AIR BALANCE COMPANY
   5. ADVANCED MECHANICAL SERVICES, INC.
   6. TESTING & COMMISSIONING SERVICES
   7. PRECISION TEST AND BALANCE, INC.

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CHRISTOPHER ANDREW ... STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL SPECIFICATIONS

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

DRAWING No. of TOTAL

M003

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

SECTION 23 07 13 - DUCTWORK INSULATION

A. INSULATION AT HANGERS: INSULATION SHALL BE CONTINUOUS THROUGH HANGERS ON ALL INSULATED SYSTEMS.

B. MANUFACTURERS: ARMSTRONG, JOHNS-MANVILLE, KNAUF INSULATION, OR OWENS-CORNING.

C. INSOFAR AS PRACTICABLE, THE PRODUCTS HEREINAFTER DESCRIBED SHALL BE OF ONE MANUFACTURER AND SHALL MEET THE FOLLOWING REQUIREMENTS LISTED AS TO THEIR FUNCTION.
   1. INSULATION SHALL HAVE A THERMAL RESISTANCE OF 4.0 TO 4.6 PER INCH OF THICKNESS AT A MEAN TEMPERATURE OF 75 DEGREES F.
   2. TAPE: PRESSURE SENSITIVE LAP OF FACING MATERIAL. NO DUCT TAPE WILL BE USED FOR JOINING OR HOLDING INSULATION SERVICE. USE INSULATION MANUFACTURER'S APPROVED TAPE OR JOINING METHODS.
   3. ADHESIVE: FOSTER, SEALFOS #30-36, ARABOL, OR ARMSTRONG 520.

D. MINERAL FIBER, FLEXIBLE INSULATION FOR THE EXTERIOR OF SHEET METAL DUCTS
   1. INSULATION: ASTM C553 FLEXIBLE GLASS FIBER BLANKET THERMAL INSULATION FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS, TYPE I. "K" VALUE: 0.27 @ 75°F. DENSITY: 0.75 LBS PER CUBIC FOOT - 1-½" THICK.
   2. VAPOR RETARDER JACKET: ALUMINUM FOIL REINFORCED WITH FIBERGLASS YARN AND LAMINATED TO FIRE-RESISTANT KRAFT PAPER, SECURED WITH UL LISTED PRESSURE SENSITIVE TAPE AND OUTWARD CLINCHED EXPANDED STAPLES AND VAPOR BARRIER MASTIC AS NEEDED. MAXIMUM VAPOR BARRIER PERM RATING SHALL NOT EXCEED 0.02 PERM.

E. PROVIDE INSULATED DUCTWORK CONVEYING AIR BELOW AMBIENT TEMPERATURE WITH VAPOR RETARDANT JACKET. SEAL ALL VAPOR RETARDANT JACKET SEAMS AND PENETRATIONS WITH UL LISTED TAPES OR VAPOR RETARDANT ADHESIVE.

F. PROVIDE INSULATED DUCTWORK CONVEYING AIR ABOVE AMBIENT TEMPERATURE WITH OR WITHOUT VAPOR RETARDANT JACKET.

G. WHERE SERVICE ACCESS IS REQUIRED, BEVEL AND SEAL ENDS OF INSULATION.

H. CONTINUE INSULATION THROUGH WALLS, SLEEVES, HANGERS, AND OTHER DUCT PENETRATIONS EXCEPT WHERE PROHIBITED BY CODE.

I. FOR DUCTWORK EXPOSED TO PHYSICAL ABUSE IN UNFINISHED AND EXPOSED SPACES, FINISH WITH DUCT INSULATION PROTECTION.

J. SEE DUCTWORK INSULATION SCHEDULE ON M0.1 FOR MORE INFORMATION.

SECTION 23 09 00 - CONTROLS

A. PROVIDE CONTROLS AS REQUIRED TO ACCOMMODATE THE SEQUENCES ON SHEETS M6.1 AND THE MECHANICAL EQUIPMENT SCHEDULES.

SECTION 23 21 00 - SLEEVES AND SEALS

A. DUCT AND PIPING SLEEVES SHALL BE PROVIDED AS INDICATED FOR STRUCTURAL AND NON-STRUCTURAL APPLICATIONS.

B. DUCT SLEEVES SHALL BE PROVIDED FOR ALL ROUND DUCTS LESS THAN 15 INCHES IN DIAMETER AND RECTANGULAR DUCTS HAVING THEIR LARGEST DIMENSION 14 INCHES OR LESS WHERE THE DUCT PASSES THROUGH FLOORS, WALLS, CEILINGS, PARTITIONS, OR OF AND OTHER SIMILAR ELEMENTS.

C. LARGER DUCTS SHALL HAVE FRAMED OPENINGS WHERE THE DUCT PASSES THROUGH ANY ELEMENT. FRAMED OPENINGS SHALL BE OF THE SAME TYPE AS STRUCTURAL MATERIALS FOR THE WALL. SLEEVES SHALL BE PROVIDED IN ADDITION TO THE FRAMED OPENING WHERE ANY VOID SPACE OCCURS THROUGH THE PENETRATION (AS THROUGH CMU WALLS, DOUBLE WALLS, ETC.).

D. DUCT SLEEVES ARE NOT REQUIRED FOR PENETRATIONS THROUGH EXISTING SINGLE SOLID ELEMENTS, HAVING NO VOIDS, AT THE LOCATION WHERE THE DUCT PASSES THROUGH THE SOLID ELEMENTS.

E. SET PIPE AND DUCT SLEEVES PLUMB OR LEVEL (OR SLOPED AS REQUIRED FOR DRAINAGE PIPE) IN PROPER POSITION, TIGHTLY FITTED INTO THE WORK.

F. FILL OPENINGS AROUND OUTSIDE OF DUCT SLEEVE WITH SAME MATERIAL AS SURROUNDING CONSTRUCTION, OR WITH MATERIAL OF EQUIVALENT FIRE AND SMOKE RATING.

G. SEAL AROUND ALL DUCTS INSIDE OF DUCT SLEEVES. PROVIDE SEALS AROUND ALL DUCTS PASSING THROUGH WALLS, FLOORS, ROOFS, AND SIMILAR ELEMENTS.

H. SEALS IN INTERIOR FIRE RATED ASSEMBLIES SHALL BE TESTED IN ACCORDANCE WITH ASTM E814 AND UL CLASSIFIED PER UL1479 AS A THROUGH-PENETRATION FIRESTOP DEVICE. SEALS SHALL BE OF MATERIAL AND WORKMANSHIP TO MAINTAIN THE FIRE AND/OR SMOKE RATING OF ELEMENT BEING PENETRATED. THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT ANY DATA REQUIRED BY LOCAL AGENCIES TO SATISFY THEM THAT THE CONTRACTOR'S PROPOSED FIRE SEALS ARE SATISFACTORY.

SECTION 23 31 13 - STEEL DUCTWORK

A. DUCT MATERIALS
   1. GALVANIZED STEEL DUCTS: ASTM A525 AND ASTM A527 GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, HAVING G90 ZINC COATING IN CONFORMANCE WITH ASTM A90.
   2. ALL DUCTS TO BE FABRICATED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

B. DUCT LINER
   1. DENSITIES AND R-VALUES ARE AS FOLLOWS:
      a. R-3.3: 1.0 INCH OF 1.5 TO 3.0 LB/CU. FT. DUCT LINER
      b. R-5.3: 1.5 INCHES OF 1.5 TO 3.0 LB/CU. FT. DUCT LINER
      c. R-7: 2.0 INCHES OF 1.5 TO 3.0 LB/CU. FT. DUCT LINER
   2. GLASS FIBER DUCT LINER
      a. INSULATION: ASTM C1071 THERMAL AND ACOUSTICAL INSULATION (GLASS FIBER, DUCT LINING MATERIAL), TYPE I.
      b. FIRE RESISTANCE: FLAME SPREAD (LT) 25, FUEL CONTRIBUTED (LT) 50, SMOKE DEVELOPED (LT) 50, PER ASTM E-84, AND UL 723.
      c. ADHESIVE: WATERPROOF TYPE. FOSTER, SEALFOS #30-36 OR ARABOL OR ARMSTRONG 520 INSULATION ADHESIVE SHALL BE USED
      d. LINER FASTENERS: GALVANIZED STEEL, SELF-ADHESIVE PAD WITH PRESS-ON HEAD.
      e. WHERE DUCT LINER IS REQUIRED, FOR INTERIOR DUCTWORK RIGID FIBERGLASS PLENUM LINER BOARD SHALL BE USED FOR INSIDE OF DUCT, 1" THICK, OF 1.5-POUND DENSITY, WITH AIR STREAM SURFACE COVERED WITH SMOOTH, BLACK, GLASS-FIBER MAT. MANVILLE LINACOUSTIC R, OR APPROVED EQUAL.
   3. SPIRAL DUCT LINER: MANVILLE SPIRALCOUSTIC
      a. METAL DUCT WITH INSIDE DIAMETER FROM 6" TO 18" SHALL BE LINED WITH 1" PERMACOTE SPIRALCOUSTIC PREFORMED ROUND LINER.
   4. GENERAL
      a. ADHERE INSULATION TO SHEET METAL WITH FULL COVERAGE OF A UL LISTED ADHESIVE.
      b. ALL DUCTWORK TO BE CONSTRUCTED AND SEALED PER IMC.
      c. SECURE INSULATION WITH MECHANICAL LINER FASTENERS AS INDICATED BY SMACNA OR MANUFACTURER. PIN LENGTH SHOULD BE AS RECOMMENDED BY THE LINER MANUFACTURER.
      d. REPAIR LINER SURFACE PENETRATIONS WITH UL LISTED ADHESIVE.
      e. DUCT DIMENSIONS INDICATED ARE NET INSIDE DIMENSIONS REQUIRED FOR AIR FLOW. INCREASED DUCT SIZE TO ALLOW FOR INSULATION THICKNESS.
      f. PROVIDE DUCT LINER FOR ALL RETURN, SUPPLY, RELIEF AND TRANSFER AIR DUCTS AND SHEET METAL PLENUMS.
      g. SEE DUCT INSULATION SCHEDULE ON M0.01 FOR MORE INFORMATION.

C. ACCESS DOORS IN DUCTS
   1. AT EACH BACKDRAFT DAMPER AND AT EACH MOTORIZED DAMPER, INSTALL FACTORY BUILT 1" INSULATED ACCESS DOOR WITH HINGES AND SASH LOCKS. LOCATE DOORS WITHIN 6 INCHES OF INSTALLED DAMPERS. CONSTRUCTION SHALL BE GALVANIZED SHEET METAL, 22 GA. MINIMUM FRAME AND 24 GA. MINIMUM DOOR. MINIMUM DOOR SHALL BE 12X12. IF DUCT IS TOO SMALL FOR 12" DOOR, THEN MAXIMUM DOOR SIZE SHALL BE INSTALLED IN DUCT.

D. VOLUME CONTROL DAMPERS
   1. SPLITTER, SINGLE-BLADE AND MULTI-BLADE VOLUME DAMPERS SHALL CONFORM TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
   2. DAMPERS SHALL BE SINGLE BLADE FOR DUCTS UP TO 12" HIGH OPPOSED FOR OVER 12" HIGH.
   3. QUADRANTS:
      a. PROVIDE LOCKING, INDICATING QUADRANT REGULATORS ON SINGLE BLADE DAMPERS.
      b. ON INSULATED DUCTS MOUNT QUADRANT REGULATORS ON STANDOFF MOUNTING BRACKETS, BASES, OR ADAPTERS.
   4. PROVIDE EACH TAKE-OFF WITH AN ADJUSTABLE VOLUME DAMPER.
   5. ANCHOR DAMPERS SECURELY TO DUCT.
   6. INSTALL DAMPERS IN MAIN DUCTS WITHIN INSULATION.
   7. DAMPERS IN BRANCH DUCTS SHALL FIT AGAINST SHEET METAL WALLS, BOTTOM AND TOP OF DUCT, AND BE SECURELY FASTENED. CUT DUCT LINER TO ALLOW DAMPER TO FIT AGAINST SHEET METAL.

E. MOTORIZED DAMPERS
   1. COORDINATE ACTUATOR TYPE WITH CONTROLS CONTRACTOR.
   2. PROVIDE WITH DOUBLE FLANGE DUCT CONNECTION.
   3. MOTORIZED DAMPERS SHALL BE CLASS IA. MAXIMUM LEAKAGE RATE SHALL BE 3 CFM/SQ. FT. OF DAMPER AREA PER 1.0-INCH W.G. IN ACCORDANCE WITH AMCA STANDARD 500D.
   4. PROVIDE PARALLEL BLADE AIRFOIL TYPE FOR OPEN/CLOSED CONTROL AND OPPOSED BLADE AIRFOIL TYPE FOR MODULATING/THROTTLING CONTROL.
   5. DAMPER BLADES:
      a. EXTRUDED ALUMINUM OR GALVANIZED STEEL AIR FOILS WITH REPLACEABLE RUBBER BLADE SEALS, 6-INCHES WIDE MAXIMUM.
      b. 304 STAINLESS STEEL WHEN INSTALLED IN DISHWASHER HOOD DUCTWORK.
      c. JAMB SEALS SHALL BE FLEXIBLE METAL COMPRESSION TYPE.

F. DUCT SEALANT AND ADHESIVES
   1. DUCT SEALANT SHALL BE WATER BASED, SOLVENT-FREE AND OF THE SYNTHETIC LATEX FAMILY. SEALANTS SHALL BE UL 181 LISTED, MEET ALL SMACNA PRESSURE AND SEAL CLASSES AND BE RATED TO +/- 15 INCHES WATER GAUGE. SEALANTS SHALL HAVE FLAME SPREAD OF 0 AND SMOKE DEVELOPMENT OF 0 WHEN LISTED IN ACCORDANCE TO ASTM E-84. THEY SHALL BE FORMULATED TO WITHSTAND WORKING TEMPERATURES OF -25°F TP +200°F. ALL SEALANTS SHALL EXCEED 500 HOURS UNDER ASTM C-732 AND PASS ASTM C-734 AS WELL AS MEET ALL FDA, USDA, EPA AND NFPA REQUIREMENTS.
   2. SOLVENT BASED DUCT SEALANT VOC SHALL BE LESS THAN OR EQUAL TO 50 G/L AND BE UL 723 CLASSIFIED WITH A FLAME SPREAD AND A SMOKE DEVELOPMENT OF 0. SEALANT SHALL HAVE PASSED 1000 HOURS OF QUV ACCELERATED OUTDOOR AGING TESTING.

G. TURNING VANES TO BE EITHER CONTRACTOR OR FACTORY FABRICATED OF MINIMUM 24 GAUGE GALVANIZED AND SHALL COMPLY WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

SECTION 23 33 00 - HVAC SPECIALTIES

A. FLEXIBLE DUCTWORK
   1. FORMABLE, FLEXIBLE, CIRCULAR DUCT SHALL HAVE A FIBERGLASS SCRIM AND RETAIN ITS CROSS-SECTION, SHAPE, RIGIDITY, AND SHALL NOT RESTRICT AIR FLOW AFTER BENDING.
   2. THE DUCTWORK SHALL HAVE A NORMAL 1 1/2" THICK, 3/4 LB/CU FT DENSITY FIBERGLASS INSULATION WITH AIRTIGHT, SEE-THROUGH POLYETHYLENE CORE, SHEATHED IN SEAMLESS VAPOR BARRIER JACKET FACTORY INSTALLED OVER FLEXIBLE ASSEMBLY.
   3. ASSEMBLY INCLUDING INSULATION AND VAPOR BARRIER SHALL MEET CLASS I REQUIREMENTS OF NFPA 90A AND BE UL 181 RATED, WITH FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR UNDER.
   4. INSTALL DUCT IN FULLY EXTENDED CONDITION FREE OF SAGS AND KINKS, USING TEN FOOT MAXIMUM LENGTHS.

B. BACKDRAFT DAMPERS
   1. 0.125 INCHES EXTRUDED ALUMINUM FRAME, 0.07 INCHES ALUMINUM BLADES WITH EXTRUDED VINYL EDGES, SYNTHETIC BEARINGS, COUNTER BALANCE, ADJUSTABLE ZINC PLATED BAR ON BLADES.
   2. MAXIMUM LEAKAGE RATE OF 20CFM/SF AT 1" W.C. OF STATIC PRESSURE. WITH A DIMENSION OF 24" OR GREATER AND 40 CFM/SF AT 1" W.C. WITH DIMENSION SMALLER THEN 24" PER AMCA STANDARD 500D.
   3. APPROVED MANUFACTURERS: RUSKIN, GREENHECK

C. AIR FILTER GAUGE
   1. AN AIR FILTER GAUGE FOR MEASURING THE RESISTANCE TO AIR FLOW THROUGH THE FILTERS. THE GAUGE SHALL BE DIAPHRAGM ACTUATED, SHALL HAVE 3-7/8" DIAMETER WHITE DIAL WITH BLACK FIGURES AND GRADUATIONS, SHALL HAVE POINTER ZERO ADJUSTMENT AND SHALL BE FURNISHED COMPLETE WITH TWO STATIC PRESSURE TIPS, FITTINGS FOR 1/4" METAL TUBING AND MEANS FOR MOUNTING THE GAUGE.
   2. GAUGE SHALL BE DWYER NO. 2001-ASF READING TO 3 TIMES NOMINAL OPERATING PRESSURE.

D. FLEXIBLE EQUIPMENT CONNECTIONS (INDOOR)
   1. GENERAL: 30 OZ. CLOSELY WOVEN UL APPROVED GLASS FABRIC, DOUBLE COATED WITH NEOPRENE. FIRE RETARDANT, WATERPROOF, AIRTIGHT, RESISTANT TO ACIDS AND GREASE, AND WITHSTAND CONSTANT TEMPERATURES OF 200°F.
   2. APPROVED MANUFACTURERS: VENTGLAS BY VENTFABRICS OR DURODYNE MFN.

E. AIRFLOW MEASUREMENT STATION
   1. PROVIDE AIRFLOW MEASUREMENT SYSTEMS FOR OUTSIDE AIR. AIRFLOW MEASURING STATIONS SHALL BE MANUFACTURED BY TRANE (TRAQ) OR RUSKIN (IAQ DAMPER). THE AIRFLOW MEASUREMENT STATIONS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED REQUIREMENTS TO ACHIEVE THE ACCURACY LISTED BELOW. THE AIRFLOW MEASUREMENT SYSTEMS SHALL OPERATE WITH A 24 VAC POWER SUPPLY AND BE CAPABLE OF FUNCTIONING ACCURATELY BETWEEN -20°F AND +158°F. THE AIRFLOW MEASUREMENT STATION SHALL TRANSMIT A 4-20 MA LINEAR SIGNAL REPRESENTATIVE OF VELOCITY AND BE FACTORY CALIBRATED TO PROVIDE ACCURACY OF ±5 PERCENT OF ACTUAL FLOW DOWN TO 15 PERCENT OF THE NORMAL FLOW.

F. AIRFLOW MEASUREMENT SENSORS
   1. DIFFERENTIAL PRESSURE AIRFLOW SENSOR SHALL TRAVERSE THE DUCT USING THE EQUAL CROSS-SECTIONAL AREA OR LOG-LINEAR TRAVERSE METHOD ALONG TWO PERPENDICULAR DIAMETERS. SINGLE AXIS SENSOR SHALL NOT BE ACCEPTABLE FOR DUCT DIAMETERS 6" OR LARGER. A MINIMUM OF 12 TOTAL PRESSURE SENSING POINTS SHALL BE UTILIZED. THE TOTAL PRESSURE INPUTS SHALL BE AVERAGED USING A PRESSURE CHAMBER LOCATED AT THE CENTER OF THE SENOR. A SENSOR THAT DELIVERS THE DIFFERENTIAL PRESSURE SIGNAL FROM ONE END OF THE SENSOR IS NOT ACCEPTABLE. THE SENSOR SHALL OUTPUT AN AMPLIFIED DIFFERENTIAL PRESSURE SIGNAL THAT IS AT LEAST 2.5 TIMES THE EQUIVALENT VELOCITY PRESSURE SIGNAL OBTAINED FROM A CONVENTIONAL PITOT TUBE. THE SENSOR SHALL DEVELOP A DIFFERENTIAL PRESSURE OF 0.03" W.G. AT AN AIR VELOCITY OF < 450 FPM.
   2. APPROVED MANUFACTURERS: ENVIRO-TEC, TITUS, KRUEGER

SECTION 23 34 23 - EXHAUST FANS

A. CEILING MOUNTED EXHAUST FANS:
   1. ACOUSTICALLY INSULATED HOUSINGS.
   2. INCLUDE INTEGRAL BACK-DRAFT DAMPER WITH NO METAL CONTACT.
   3. TRUE CENTRIFUGAL WHEELS.
   4. ENTIRE FAN, MOTOR, AND WHEEL ASSEMBLY SHALL BE EASILY REMOVABLE WITHOUT DISTURBING HOUSING.
   5. SUITABLE GROUND MOTORS AND MOUNT ON RUBBER-IN SHEAR VIBRATION ISOLATORS.
   6. PROVIDE ROOF CAP AS REQUIRED.

SECTION 23 37 00 - AIR TERMINALS

A. GRILLES, REGISTERS, AND DIFFUSERS
   1. MANUFACTURERS: TITUS, TUTTLE & BAILEY, PRICE, ANEMOSTAT, KEES, OR KRUEGER.
   2. MAXIMUM FLOW RATES AND SIZE FOR ALL PRODUCTS SHALL BE AS INDICATED IN THE SCHEDULES AND AS NOTED ON THE DRAWINGS.

B. THE INTERIOR OF DUCT CONNECTION INCLUDING OPPOSED BLADE DAMPER AND ALL VISIBLE DUCT INTERIORS SHALL BE PAINTED MATTE BLACK.

C. EACH AIR TERMINAL SHALL BE INSTALLED WITH A SPUN RUBBER GASKET BETWEEN THE FLANGE AND THE FRAME OR WALL.

D. EACH AIR TERMINAL WITH FLEXIBLE DUCT CONNECTION SHALL HAVE A SQUARE TO ROUND TRANSITION ADAPTER BOX.

E. ALL AIR TERMINALS THAT SUPPLY AIR, WHICH ARE NOT REQUIRED TO HAVE AN OBD, SHALL BE PROVIDED WITH A VOLUME DAMPER.

SECTION 23 72 00 - DEDICATED OUTDOOR AIR UNIT

A. UNIT SHALL ADHERE TO AMCA, AHRI CERTIFICATIONS AND SHALL BE UL RATED.

B. WARRANTY:
   1. THE EQUIPMENT IS TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 18 MONTHS FROM THE DATE OF SHIPMENT.
   2. THE ENERGY RECOVERY WHEEL IS TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 5 YEARS FROM THE DATE OF SHIPMENT.

C. CABINETS:
   1. CABINETS TO BE CONSTRUCTED OF 18-GAUGE STEEL WITH PROTECTIVE ENAMEL ON ZINC COATED FINISH OR GALVANIZED STEEL, ADEQUATELY BRACED AND REINFORCED.
   2. PANELS SHALL BE REMOVABLE FOR EASY ACCESS TO INTERIOR OF UNIT.
   3. WITH INTERIOR MOUNTED MOTORS, HINGED ACCESS DOORS WITH VENTLOCK STYLE HANDLE.
   4. CABINET PANELS SHALL BE INTERNALLY INSULATED WITH ONE INCH THICK, 1-1/2 LB DENSITY, MATTE-FACED GLASS FIBER INSULATION OR EQUIVALENT. CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING EXPOSED EDGES OR DAMAGED LINER WITH MASTIC SEALER TO PREVENT EROSION INTO AIRSTREAM. INSULATION, ADHESIVE, AND MASTIC SEALER (IF REQUIRED) SHALL CONFORM TO NFPA 90.

D. ROOF CURB: SHALL BE FACTORY FURNISH TO MATE WITH UNIT. CURB HEIGHT PER SCHEDULE.

E. FANS:
   1. FANS SHALL BE DOUBLE INLET, DOUBLE WIDTH, FORWARDLY CURVED CENTRIFUGAL TYPE DESIGNED FOR CLASS I OPERATION.
   2. BASE FAN RATINGS ON TEST CONDUCTED IN ACCORDANCE WITH AMCA CODE #210.
   3. CONSTRUCT FAN HOUSINGS WITH STREAMLINE INLET AND SIDE SHEETS.
   4. MOUNT MOTOR ON ADJUSTABLE SLIDE BASE TO ALLOW BELT TIGHTENING.
   5. FANS SHALL BE STATICALLY AND DYNAMICALLY BALANCED AND TESTED AS AN ASSEMBLY AT DESIGN RPM TO MEET DESIGN SPECIFICATIONS. MAXIMUM RATED FAN RPM SHALL BE BELOW FIRST CRITICAL FAN SHAFT SPEED.
   6. FLEXIBLE CONNECTION TO UNIT CABINET.
   7. FAN SHALL BE INTERNALLY ISOLATED.

F. BEARINGS, SHAFTS, DRIVES
   1. BEARINGS SHALL BE SELF-ALIGNING, GREASE LUBRICATED, BALL TYPE, AND SHALL PERFORM TO L50 200,000-HOUR AVERAGE LIFE.
   2. PROVIDE LUBRICATION FITTINGS. PERMANENTLY LUBRICATED BEARINGS ARE NOT ACCEPTABLE.
   3. RATE V-BELT DRIVES AT 150% OF MOTOR RATING.
   4. MOTOR SHEAVES SHALL BE OF ADJUSTABLE PITCH TYPE GIVING 30% SPEED VARIATION.
   5. SHAFTS SHALL BE SOLID HIGH CARBON STEEL.

G. DAMPERS
   1. PROVIDE INTERNALLY MOUNTED ULTRA LOW LEAK AIR CLASS 1A DAMPERS.
   2. LEAKAGE RATE SHALL NOT EXCEED 4 CFM/SQ. FT. AT 1" WATER GAUGE. ALL LEAKAGE TESTING AND PRESSURE RATINGS WILL BE BASED ON AMCA PUBLICATION 500.

H. FILTERS: FURNISH WITH FILTER SECTION. FILTER MEDIA SHALL BE UL LISTED.

I. ENERGY RECOVERY WHEEL: TOTAL ENERGY WHEEL, EFFICIENCY SHALL BE ARI CERTIFIED AND SHALL MEET SCHEDULED VALUE.

J. CONTROLS: UNIT SHALL BE FURNISHED WITH DEVICES COMPATIBLE WITH THE CONTROLS ON SHEET M6.1. UNIT SHALL HAVE ALL NECESSARY INTERCONNECTIONS.

SECTION 23 90 00 - MECHANICAL DEMOLITION

A. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING MECHANICAL EQUIPMENT, INCLUDING, BUT NOT LIMITED TO PIPING, FIXTURES, HVAC EQUIPMENT, DUCTWORK IN AREAS SHOWN ON THE DRAWINGS AND INDICATED THEREON.

B. THE MECHANICAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REMOVAL AND/OR RELOCATION OF ALL MECHANICAL EQUIPMENT THAT WILL INTERFERE WITH INSTALLATION AND OPERATION OF ANY NEW CONSTRUCTION INDICATED OR REQUIRED.

C. ANY EXISTING EQUIPMENT TO WHICH MODIFICATIONS ARE MADE UNDER THE CONTRACT SHALL BE PAINTED AND LABELED IN ACCORDANCE WITH SPECIFICATIONS FOR NEW MATERIALS.

D. ALL MECHANICAL EQUIPMENT (OTHER THAN PIPING) TO BE REMOVE SHALL REMAIN THE PROPERTY OF AND SHALL BE TRANSPORTED, STORED, OR DISPOSED AS DIRECTED BY THE OWNER. THIS WILL BE AT NO COST TO THE OWNER.

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08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL SPECIFICATIONS

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

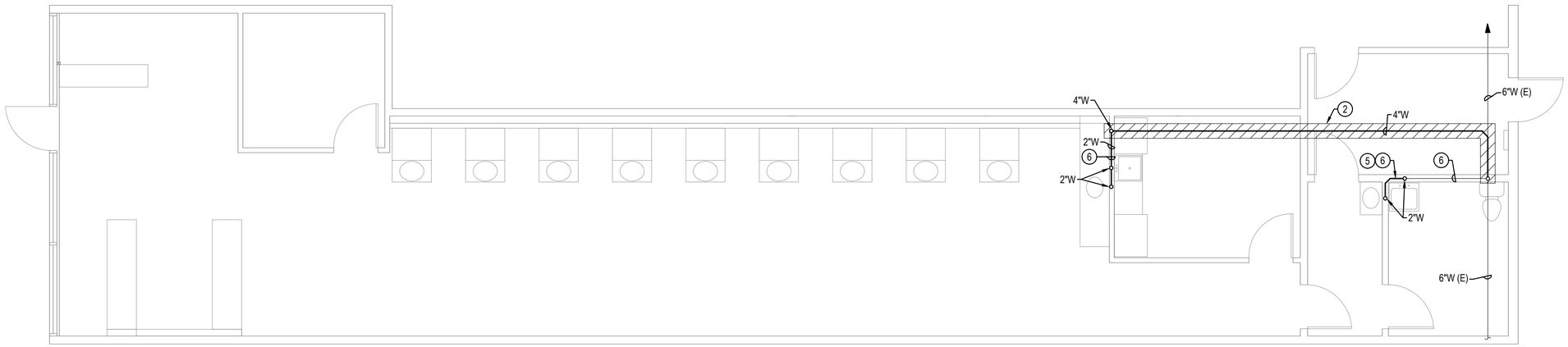
DRAWING No. of TOTAL

M004

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

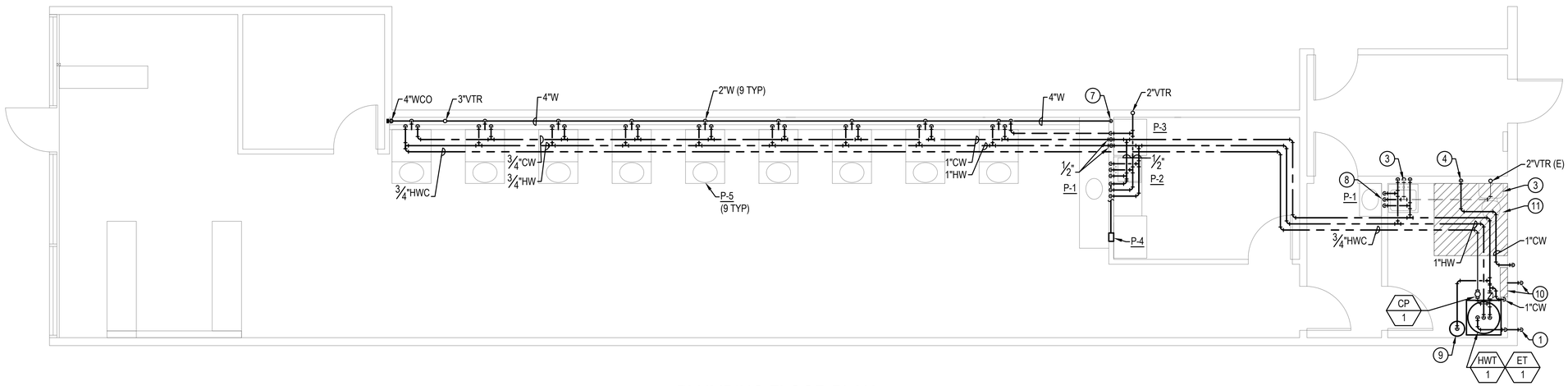
CONSTRUCTION NOTES

1. $\frac{3}{4}$" PIPE FROM HWT-1 RELIEF VALVE TO EXTERIOR. TERMINATE AT EXTERIOR WALL 6" AFF WITH DOWN TURNED ELBOW.
2. HATCHED AREA REPRESENTS SAWCUTTING OF CONCRETE. REMOVE & REPLACE 4" WASTE PIPE AS REQUIRED TO ACCOMMODATE WASTE PIPING INSTALLATION.
3. MAINTAIN DOMESTIC WATER, WASTE & VENT PIPING TO EXISTING WATER CLOSET & LAVATORY. FIELD VERIFY PIPING CONNECTION LOCATIONS.
4. CONNECT TO EXISTING $\frac{3}{4}$"CW SERVICE TO TENANT SPACE. ROUTE PIPING CONCEALED TO RPBP.
5. CONNECT TO EXISTING 2"W SERVING EXISTING LAVATORY.
6. WASTE PIPING ABOVE GRADE. SHOWN ON THIS PLAN FOR CLARITY.
7. 4"W DN. SEE CIRCUIT VENT DETAIL SHEET M300 PLUMBING FOUNDATION PLAN FOR CONTINUATION.
8. $1\frac{1}{2}$"V CONNECT TO EXISTING 2"VTR.
9. DIAPHRAGM PRESSURE TANK (WELL-X-TROL WX102).
10. REDUCE PRESSURE BACK FLOW PREVENTER. SEE DETAIL ON SHEET M300. ROUTE 3" DRAIN TO EXTERIOR AND TERMINATE WITH DOWN TURNED ELBOW.
11. MAINTAIN 60"X59" FLOOR SPACE FOR WATER CLOSET ACCESSIBILITY.



2 PLUMBING FOUNDATION PLAN

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



1 PLUMBING FLOOR PLAN

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

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CHRISTOPHER ANDREW BOEHLER — STATE OF WASHINGTON — 36324 — REGISTERED PROFESSIONAL ENGINEER

08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

PLUMBING PLANS

PRCT120241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

DRAWING No. M100 of TOTAL

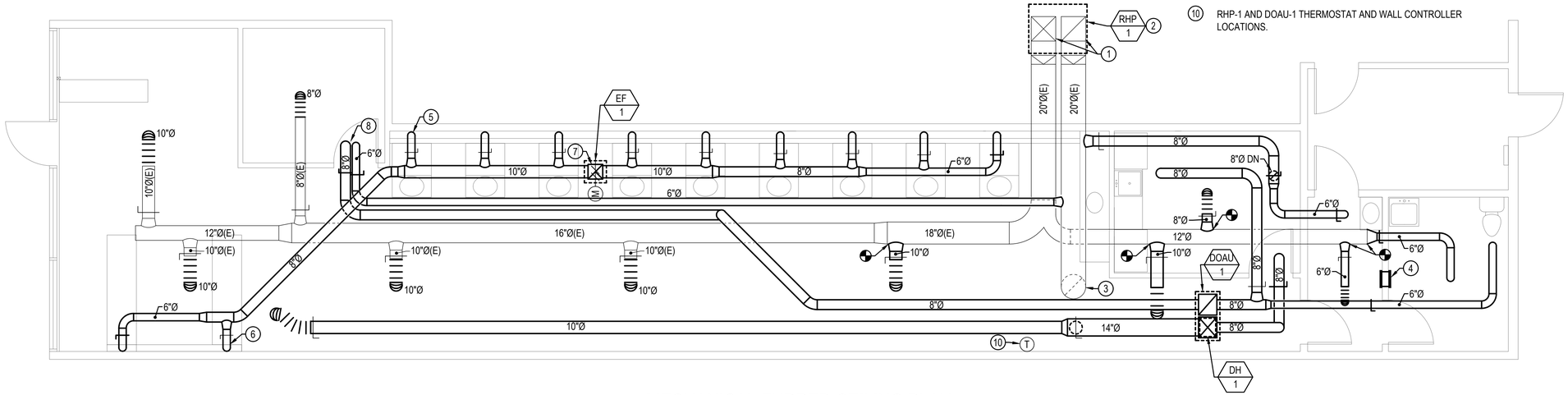
DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

CONSTRUCTION NOTES

1. 20/20 SUPPLY AND RETURN DUCT UP TO EXISTING ROOFTOP HEAT PUMP.
2. REMOVE EXISTING ROOFTOP HEAT PUMP AND RETAIN ROOF CURB FOR INSTALLATION ON NEW RHP-1. PROVIDE WITH NEW FLEXIBLE EQUIPMENT CONNECTION.
3. MODIFY EXISTING DUCTWORK TO ACCOMMODATE NEW RETURN GRILLE LOCATION.
4. 12/6 TRANSFER DUCT AND GRILLES. MOUNT TIGHT TO CEILING.
5. 6"Ø EXHAUST DOWN TO PEDICURE CHAIR DUCT CONNECTION. BALANCE TO 50 CFM (9 TYPICAL).
6. 6" EXHAUST DOWN TO MANICURE TABLE DUCT CONNECTION. BALANCE TO 100 CFM (2 TYPICAL).
7. 12/12 UP TO ROOF MOUNTED EXHAUST FAN.
8. SEE RETURN GRILLE PLENUM DETAIL.
9. DUCT HEATER INSTALLED ON SUPPLY DUCT FROM DOAU-1
10. RHP-1 AND DOAU-1 THERMOSTAT AND WALL CONTROLLER LOCATIONS.

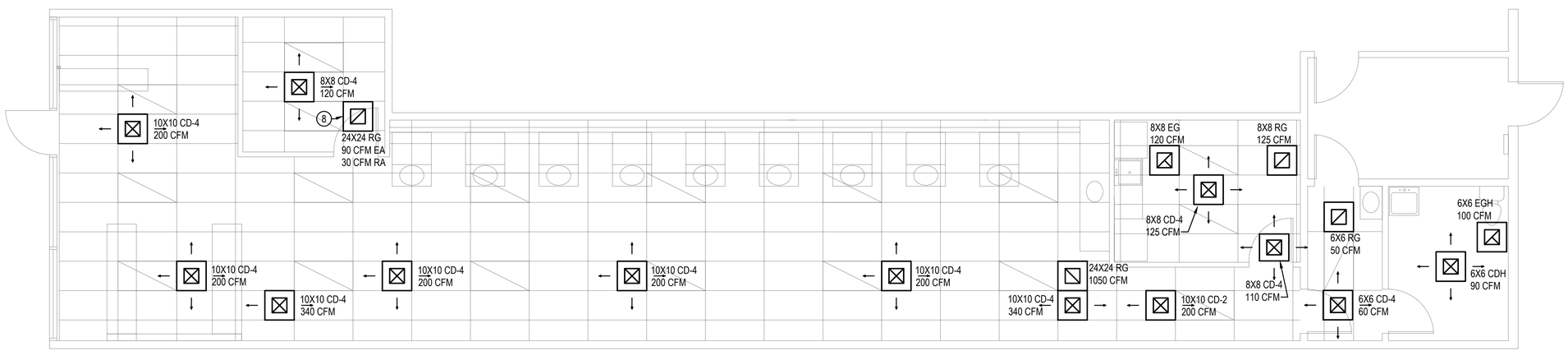
GENERAL NOTES

1. PROVIDE NEW FLEXIBLE DUCT CONNECTION TO ALL SUPPLY DIFFUSERS. MAXIMUM LENGTH TO BE 10'-0".
2. ITENS SHOWN LIGHT INDICATE EXISTING ITEMS TO REMAIN. ITEMS SHOWN DARK INDICATE NEW WORK.
3. CAP AND SEAL UNUSED DUCT AT MAINS.



2 MECHANICAL FURRED CEILING PLAN

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



1 MECHANICAL REFLECTED CEILING PLAN

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

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CHRISTOPHER ANDREW BEARD — STATE OF WASHINGTON — 36324 — REGISTERED PROFESSIONAL ENGINEER

08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL PLANS

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
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PROJECT MANAGER: CC

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M200

DATE: 08-22-24
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PROJECT No. 515240286

PLUMBING FIXTURE SCHEDULE

UNIT NO	FIXTURE	MOUNTING	MANUFACTURER AND MODEL NUMBERS		W	V	HW	CW	REMARKS
P-1	LAVATORY ADA	COUNTER	SINK: FITTINGS: SUPPLIES: TRAP:	ACORN SDADA-1518 SLOAN EBF-187-4-BAT-BDM-CP-0.5GPM-MLM-FCT MCGUIRE LFBV MCGUIRE MCT	2"	1-1/2"	1/2"	1/2"	ADA COMPLIANT, 0.5 GPM BATTERY SENSOR FAUCET. PROVIDE WITH EBC INSTITUTIONAL ADA INSULATOR KIT.
P-2	KITCHEN SINK DOUBLE COMP ADA	COUNTER MOUNT	SINK: FITTINGS: SUPPLIES: TRAP: WASTE:	JUST DLADA2133A55-J CHICAGO 786-G6AE36XK-317AB MCGUIRE LFBV2165CC MCGUIRE MCT150 SERIES JUST J-ADA-35	2	1 1/2"	1/2"	1/2"	PROVIDE WITH 4 HOLE FAUCET DRILLING. 1.5 GPM FAUCET. PROVIDE WITH INSTITUTIONAL ADA INSULATOR KIT.
P-3	WALL BOX LAUNDRY	WALL	UNIT:	GUY GRAY SSWB3	2"	1-1/2"	1/2"	1/2"	PROVIDE WITH INTEGRAL WATER HAMMER ARRESTORS
P-4	REFRIGERATOR BOX ICE MACHINE	WALL	UNIT:	GUY GRAY SSMIB6AB	-	-	-	1/2"	PROVIDE WITH INTEGRAL WATER HAMMER ARRESTOR
P-5	PEDICURE	FLOOR	UNIT:	OWNER PROVIDED	2"	-	1/2"	1/2"	CIRCUIT VENT WASTE

WATER HEATER SCHEDULE

UNIT NO	MANUFACTURER	MODEL	LOCATION	TYPE	TANK SIZE (GAL)	ELECTRICAL CAPACITY (KW)	RECOVERY (GPH) @ 90°F RISE	WET WEIGHT (LB)	ELECTRICAL				STARTER FURNISHED BY	DISCONNECT FURNISHED BY	REMARKS
									MCA (FLA)	MOP	VOLTS	PH			
HWT-1	AO SMITH	LTE 120D	RESTROOM	ELECTRIC	119	12.2	56	953	44	25	208	1	MFR	EC	1,2

NOTES FOR WATER HEATER SCHEDULE

1. SINGLE POINT POWER CONNECTION
2. SET TEMPERATURE AT 120F

PUMP SCHEDULE

UNIT NO	MANUFACTURER	MODEL	LOCATION	SYSTEM	MOTOR		HEAD (FT)	FLOW (GPM)	ELECTRICAL			STARTER/VFD FURNISHED BY	DISCONNECT FURNISHED BY	REMARKS
					HP (WATTS)	RPM			MCA (FLA)	VOLTS	PH			
CP-1	GRUNDFOS	UP15-10SU7P	RESTROOM	WATER HEATER CIRC	25	-	2.5	3	-	115	1	EC	EC	1,2

NOTES FOR PUMP SCHEDULE

1. EC TO PROVIDE A MANUAL STARTER (INCLUDING DISCONNECT).
2. PUMP SHALL BE STAINLESS STEEL LEAD FREE CONSTRUCTION, RATED FOR DOMESTIC USE.

EXPANSION TANK SCHEDULE

UNIT NO	MANUFACTURER	MODEL	LOCATION	VOLUME		CONNECTION SIZE (IN)	DIAMETER (IN)	HEIGHT (IN)	WEIGHT (LBS)	REMARKS
				TANK (GAL)	ACCEPTANCE (GAL)					
ET-1	AMTROL	ST-5	RESTROOM	2	0.9	3/4"	8	13	21.8	1

NOTES FOR EXPANSION TANK SCHEDULE

1. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS

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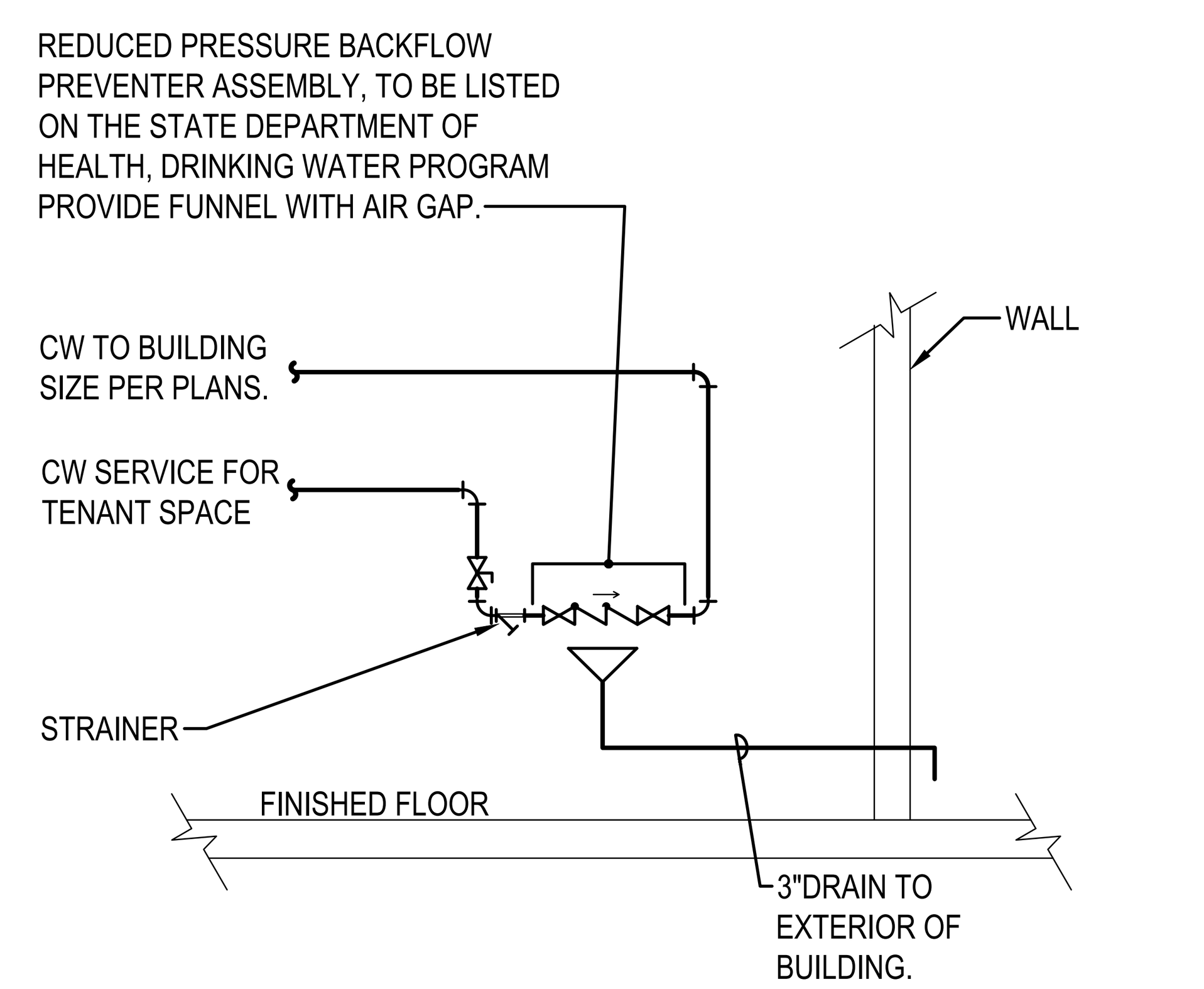
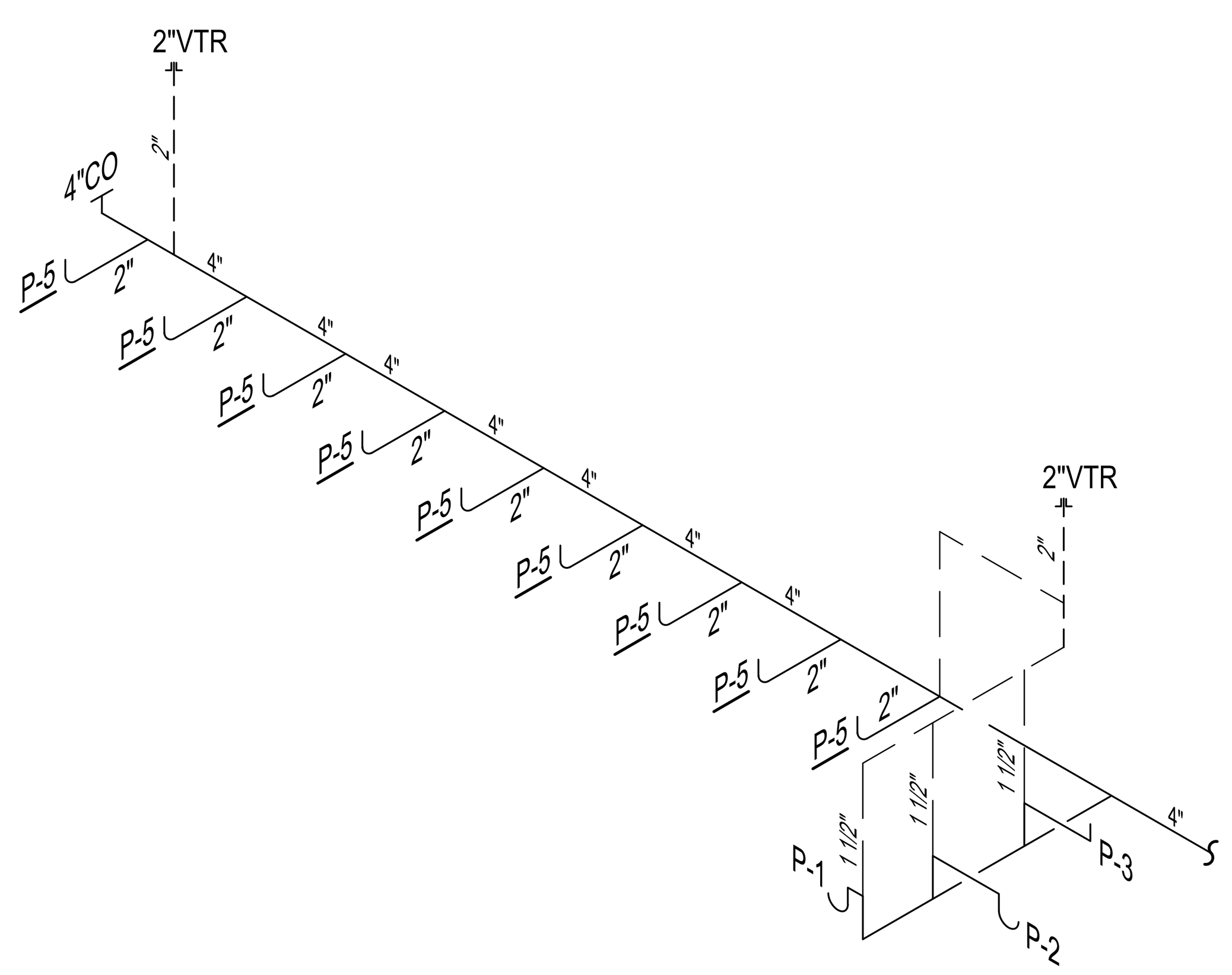
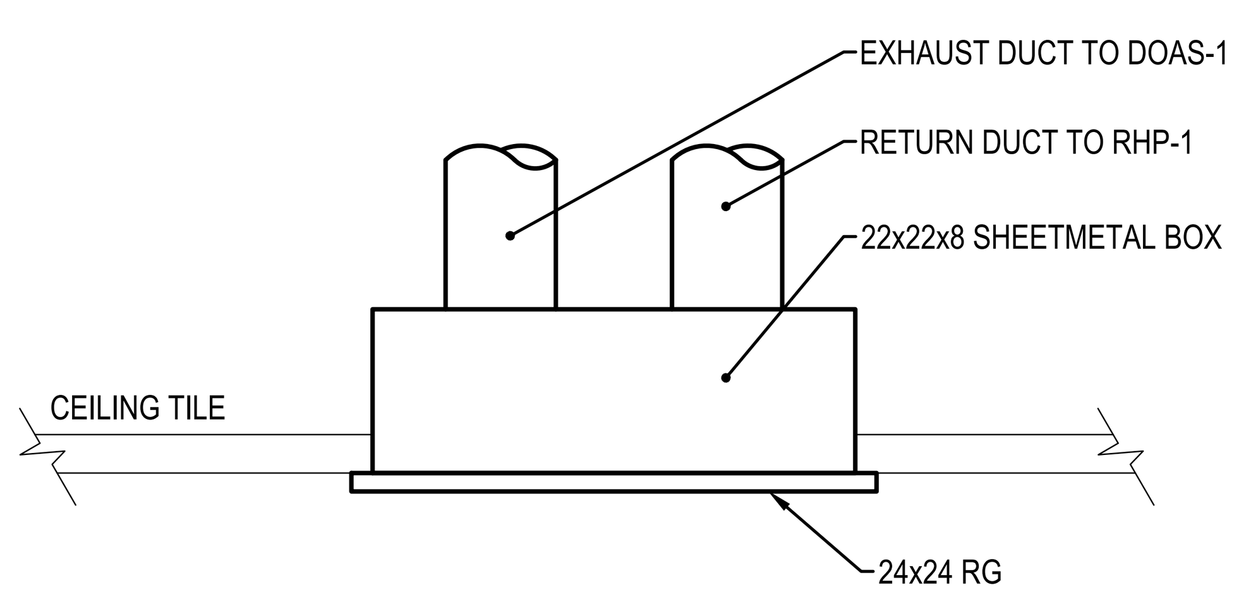


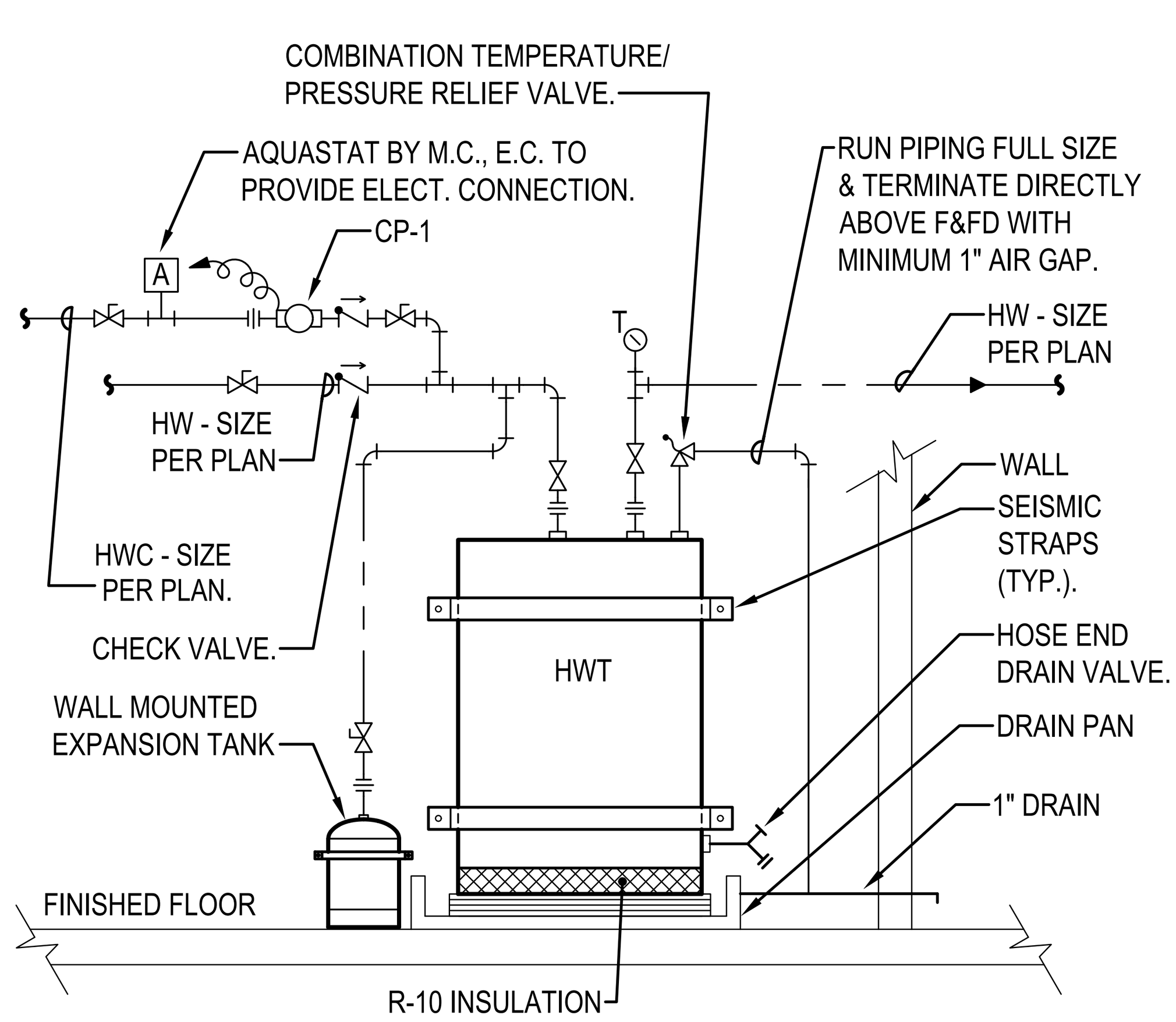
6 DOMESTIC WATER HEADER DETAIL
SCALE: DIAGRAMMATIC



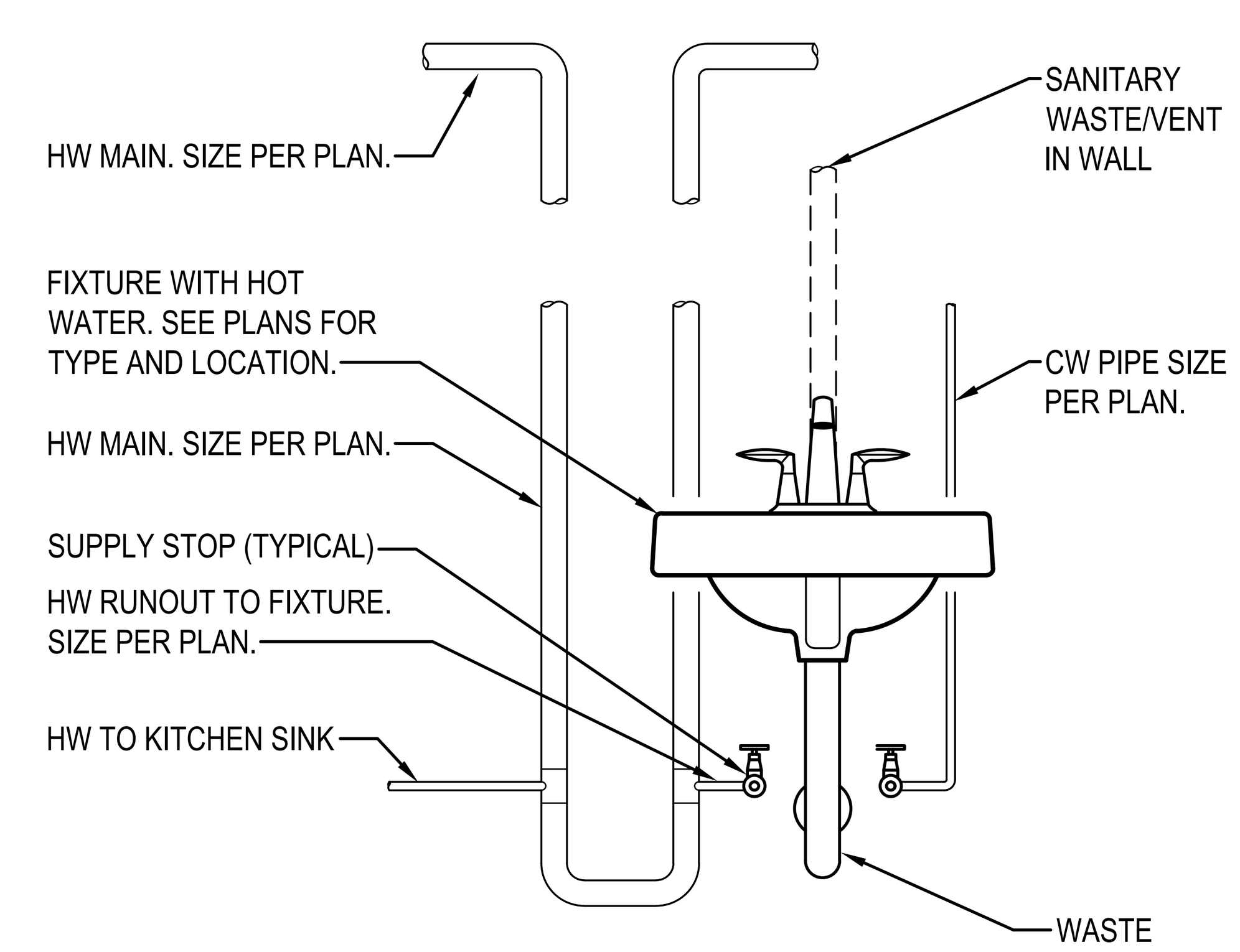
5 WASTE & VENT DIAGRAM
SCALE: NO SCALE



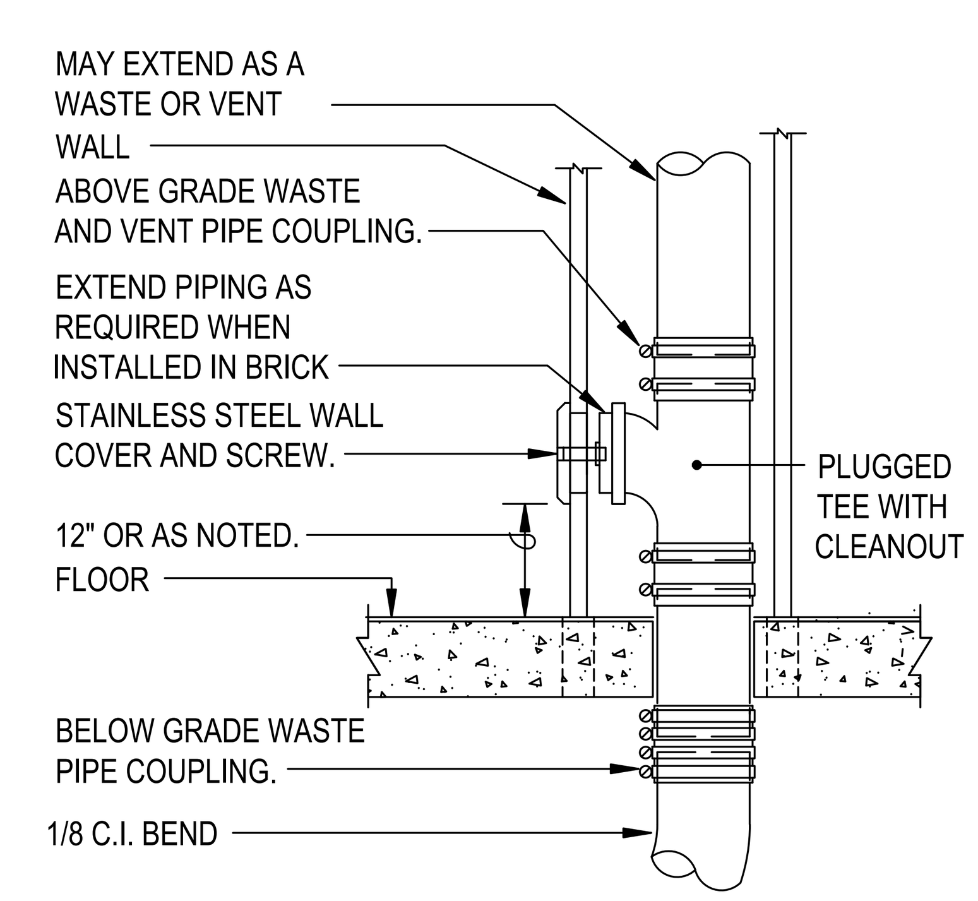
4 RETURN GRILLE PLENUM BOX DETAIL
SCALE: NO SCALE



3 HOT WATER TANK PIPING DIAGRAM
SCALE: DIAGRAMMATIC



2 HOT WATER PIPE TO PLUMBING FIXTURE
SCALE: DIAGRAMMATIC



1 WALL CLEANOUT DETAIL
SCALE: DIAGRAMMATIC

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08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL SCHEDULES AND DETAILS
PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

DRAWING No. of TOTAL

M300

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

REPLACEMENT ROOFTOP HEAT PUMP UNIT SCHEDULE

UNIT NO	MANUFACTURER	MODEL	COOLING		HEATING			FAN					FILTER	ELECTRICAL				STARTER FURNISHED BY	DISCONNECT FURNISHED BY	WEIGHT (LBS)	REMARKS
			EER	TOTAL MBH	COP	TOTAL MBH	AUX KW	CFM	HP	BHP	RPM	ESP		MCA	MOP	VOLTS	PH				
RHP-1	TRANE	WSK060A3S0E	12	58.4	3.5	53.3	12	1600	1	.77	1142	1.2	MERV 8	61	70	208	3	MFR	EC	830	1,2,3,4,5,6,7

NOTES FOR ROOFTOP HEAT PUMP UNIT SCHEDULE

1. PROVIDE WITH MANUFACTURER'S FACTORY INSTALLED ELECTRIC RESISTANCE HEATER.
2. PROVIDE WITH THROUGH-THE-BASE ELECTRICAL CONNECTION AND HINGED ACCESS PANELS.
3. PROVIDE WITH Cu/Cu INDOOR AND OUTDOOR COILS.
4. PROVIDE WITH MANUFACTURER'S ADAPTER ROOF CURB.
5. COOLING CAPACITY RATED AT AMBIENT CONDITIONS OF 95F DB/74F WB OUTDOOR AND 80F DB/67F WB INDOOR.
6. HEATING CAPACITY RATED AT AMBIENT CONDITIONS OF 47F DB OUTDOOR AND 70F DB INDOOR.
7. UNIT EER, AND COP RATED AT AHRI 210/240 TEST CONDITIONS

ELECTRIC DUCT HEATER SCHEDULE

UNIT NO	MANUFACTURER	MODEL	LOCATION	AREA SERVED	PERFORMANCE				ELECTRICAL			INTERLOCKED WITH	DISCONNECT FURNISHED BY	REMARKS
					AIRFLOW (CFM)	EAT	LAT	PRESSURE DROP (IN W.C.)	KW	VOLTS	PH			
DH-1	RENEWAIRE	EK-1614008SCAVL-23F1SVN	DOAU-1	SALON	860	44.0	55.0	0.05	8	208	3	DOAU-1	EC	

NOTES FOR ELECTRIC DUCT HEATER SCHEDULE

GRILLES, REGISTERS & DIFFUSERS SCHEDULE

UNIT NO	MANUFACTURER	MODEL	DESCRIPTION	CFM	AIR PATTERN	MOUNTING	FACE SIZE	NECK SIZE	COLOR	REMARKS
CD	TITUS	TMS	SUPPLY CEILING DIFFUSER	PER PLANS	4 WAY	T-BAR	23-3/4" X 23-3/4"	PER PLANS	WHITE	FRAME 3
CDH	TITUS	TMS	SUPPLY CEILING DIFFUSER	PER PLANS	4 WAY	SURFACE	CEILING MODULE +1-1/4" TOTAL	PER PLANS	WHITE	1, FRAME 1
RG	TITUS	50F-A	RETURN/RELIEF GRILLE	PER PLANS	-	T-BAR	NECK SIZE +1" TOTAL	PER PLANS	WHITE	
RGH	TITUS	50F-A	RETURN/RELIEF GRILLE	PER PLANS	-	SURFACE	NECK SIZE +1-3/4" TOTAL	PER PLANS	WHITE	1
EG	TITUS	50F-A	EXHAUST GRILLE	PER PLANS	-	T-BAR	NECK SIZE +1" TOTAL	PER PLANS	WHITE	
EGH	TITUS	50F-A	EXHAUST GRILLE	PER PLANS	-	SURFACE	NECK SIZE +1-3/4" TOTAL	PER PLANS	WHITE	1

NOTES FOR GRILLES, REGISTERS & DIFFUSERS SCHEDULE

1. FURNISH WITH OPPOSED BLADE DAMPER (OBD).

EXHAUST FAN SCHEDULE

UNIT NO	MANUFACTURER	MODEL	LOCATION	CONFIGURATION	AREA SERVED	PERFORMANCE			DAMPER	SPEED CONTROL	CONTROLLED BY OR INTERLOCKED WITH	HP (WATTS)	BHP	ELECTRICAL		STARTER FURNISHED BY	DISCONNECT FURNISHED BY	WEIGHT (LBS)	REMARKS
						CFM	ESP	RPM						VOLTS	PH				
EF-1	GREENHECK	G-095-VG	ROOF	UPBLAST	PEDICURE CHAIRS	650	0.63	1701	NOTE 5	ECM, NOTE 4	SCHEDULE	0.17	0.16	115	1	NOTE 3	NOTE 3	40	1,2,3,4,5

NOTES FOR EXHAUST FAN SCHEDULE

1. ALL EXHAUST FANS TO BE WIRED FROM MOTOR TO BOX ON EXTERIOR OF FAN ENCLOSURE
2. SPEED CONTROL TO BE FACTORY WIRED TO THE OUTSIDE CABINET OF INLINE FANS
3. EC TO PROVIDE A MANUAL STARTER (INCLUDING DISCONNECT), MC TO PROVIDE A MOTOR RATED RELAY FOR INTERLOCK
4. PROVIDE MOTOR MOUNTED POTENTIOMETER DIAL FOR SPEED CONTROL
5. PROVIDE WITH CLASS 1A LOW LEAKAGE AIRFOIL BLADE MOTORIZED DAMPER, PROVIDE WITH APPROPRIATE LINKAGE TO MOUNT DAMPER ACTUATOR IN THE AIRSTREAM, PROVIDE WITH HINGED BASE FOR ACCESS

DEDICATED OUTDOOR AIR UNIT SCHEDULE (DOAU)

UNIT NO	MFR	MODEL	LOCATION	SUPPLY FAN DATA					EXHAUST FAN DATA						TOTAL FAN POWER (W/CFM)	HEAT EXCHANGER DATA - HEATING							FILTERS	ELECTRICAL				WEIGHT (LBS)	STARTER / VFD FURNISHED BY	DISCONNECT FURNISHED BY	REMARKS
																EFFECTIVENESS	OSA		RETURN		SUPPLY										
				TOTAL CFM	QTY	WATTS	ESP	RPM	TOTAL CFM	QTY	HP	WATTS	ESP	RPM			DB EAT	WB EAT	DB EAT	WB EAT	DB EAT	WB EAT		MCA	MOP	VOLTS	PH				
DOAU-1	RENEWAIRE	HE10-JRTV-D15AA-DGF1-WL	ROOF	860	1	559.0	0.47	2601	310	1	0.5	430.00	0.43	1992	0.91	90.9%	21.3	18.9	70.0	51.4	43.7	35.6	MERV 8	11.3	15	208	1	415	MFR	EC	1,2,3,4

NOTES FOR DEDICATED OUTDOOR AIR UNIT SCHEDULE

1. PROVIDE WITH SINGLE POINT POWER CONNECTION.
2. PROVIDE UNIT WITH INSULATED DOUBLE WALL CONSTRUCTION.
3. PROVIDE WITH 2" MERV 8 FILTERS ON SUPPLY AIR AND OUTSIDE AIR.
4. PROVIDE WITH MANUFACTURER'S EQUIPMENT CURB.

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08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL SCHEDULES

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

DRAWING No. of TOTAL

M400

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

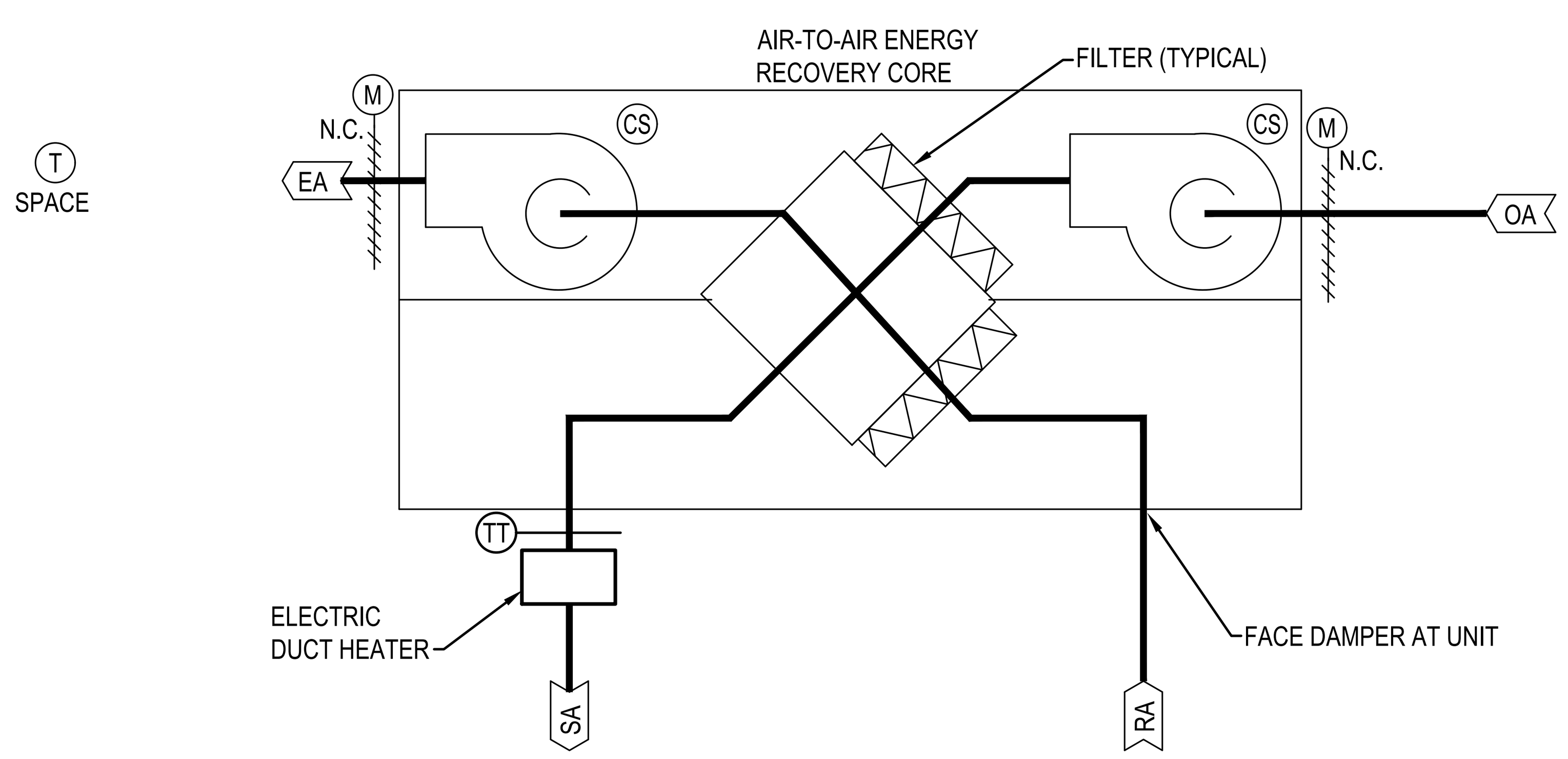
CONTROL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
T	THERMOSTAT (T'STAT)	M	MOTORIZED DAMPER
RA	RETURN AIR	GC	GENERAL CONTRACTOR
SA	SUPPLY AIR	MC	MECHANICAL CONTRACTOR
OA	OUTSIDE AIR	EC	ELECTRICAL CONTRACTOR
EA	EXHAUST AIR	CC	CONTROLS CONTRACTOR
ERV	ENERGY RECOVERY VENTILATOR	OCC	OCCUPANCY SENSOR
(VAR)	VARIABLE		

MISCELLANEOUS CONTROL ITEMS

A. GENERAL:
1. PROVIDE AND INSTALL ALL NECESSARY DEVICES, RELAYS, SWITCHES, SENSORS, DAMPERS, CONDUIT, AND WIRING TO PROVIDE A COMPLETE AND OPERATING DDC SYSTEM.

B. INTERLOCKS:
1. PROVIDE ALL NECESSARY EQUIPMENT, DEVICES, WIRING AND PROGRAMMING FOR INTERLOCK OF EQUIPMENT AS SHOWN ON THE EQUIPMENT SCHEDULES.



AIR-TO-AIR HEAT RECOVERY UNIT (DOAU-1)

A. HEAT RECOVERY UNIT SHALL BE PROGRAMMED TO START/STOP THROUGH THE STAND ALONE THERMOSTAT BASED ON DESIGNATED OCCUPIED AND UNOCCUPIED MODES, WITH WEEKDAY, WEEKEND, AND HOLIDAY SCHEDULES.

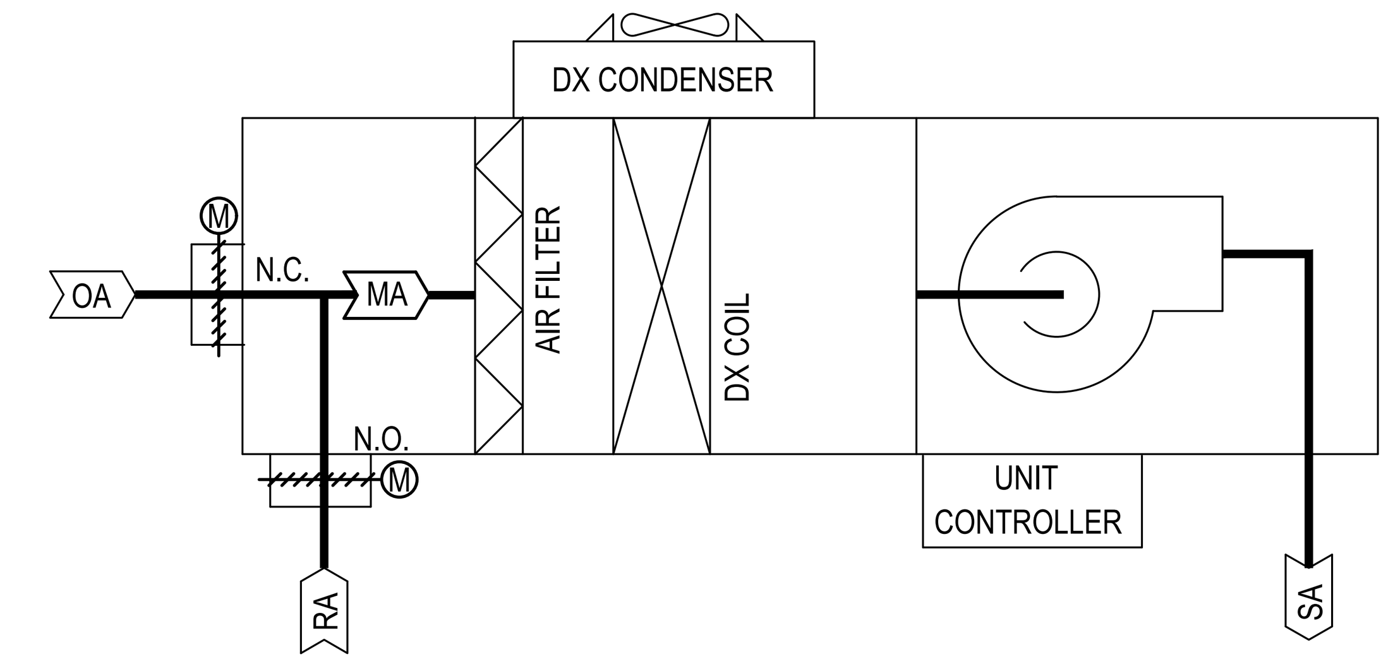
B. SPACE TEMPERATURE SENSORS SHALL BE EQUIPPED WITH PUSHBUTTONS TO PROVIDE UNOCCUPIED OVERRIDE REQUEST AND SPACE TEMPERATURE SETPOINT ADJUSTMENT AS REQUIRED. OVERRIDE RUNTIME SHALL BE 2 HOURS (VAR). NIGHT SETBACK TEMPERATURE SETPOINT SHALL BE 55°F HEATING (VAR).

C. OUTSIDE AIR AND EXHAUST AIR DAMPER TO BE INTERLOCKED (HARD WIRED) TO FAN START/STOP.

D. OCCUPIED MODE:
1. OPEN OSA AND EXHAUST DAMPERS AND START THE DOAU.
2. WHEN SUPPLY DISCHARGE AIR TEMPERATURE IS LESS THAN 65°F (VAR), ELECTRIC DUCT COIL TO BE IN HEATING MODE. ELECTRIC DUCT HEATER SHALL MODULATE TO MAINTAIN DISCHARGE TEMPERATURE SETPOINT OF 65°F.
3. AT ALL OTHER CONDITIONS DUCT COIL IS TO BE DISABLED.

E. UNOCCUPIED MODE: DOAU FANS ARE OFF, OSA AND EXHAUST DAMPERS ARE CLOSED.

F. STANDALONE CONTROLLER SHALL LOG:
- FAN ON/OFF AND POWER
- FAN RUNTIME
- FAN FAILURE ALARM (I.E. NO CURRENT WHEN COMMANDED ON)
- DAMPER POSITION (% COMMANDED OPEN)
- DAMPER END SWITCH STATUS



PACKAGED ROOFTOP HEAT PUMP (RHP-1)

A. GENERAL OPERATION
1. UNIT TO BE CONTROLLED VIA MANUFACTURER CONTROLS AND EXISTING MANUFACTURER THERMOSTAT.
2. DURING OCCUPIED HOURS, THE SUPPLY FAN RUNS CONTINUOUSLY, THE OUTSIDE AIR DAMPER IS CLOSED, AND THE HEATING AND COOLING SHALL OPERATE TO MAINTAIN SPACE SET POINTS.
3. DURING UNOCCUPIED HOURS FAN IS TO BE OFF UNLESS A CALL FOR HEATING OR COOLING TO NIGHT SET BACK TEMPERATURES.

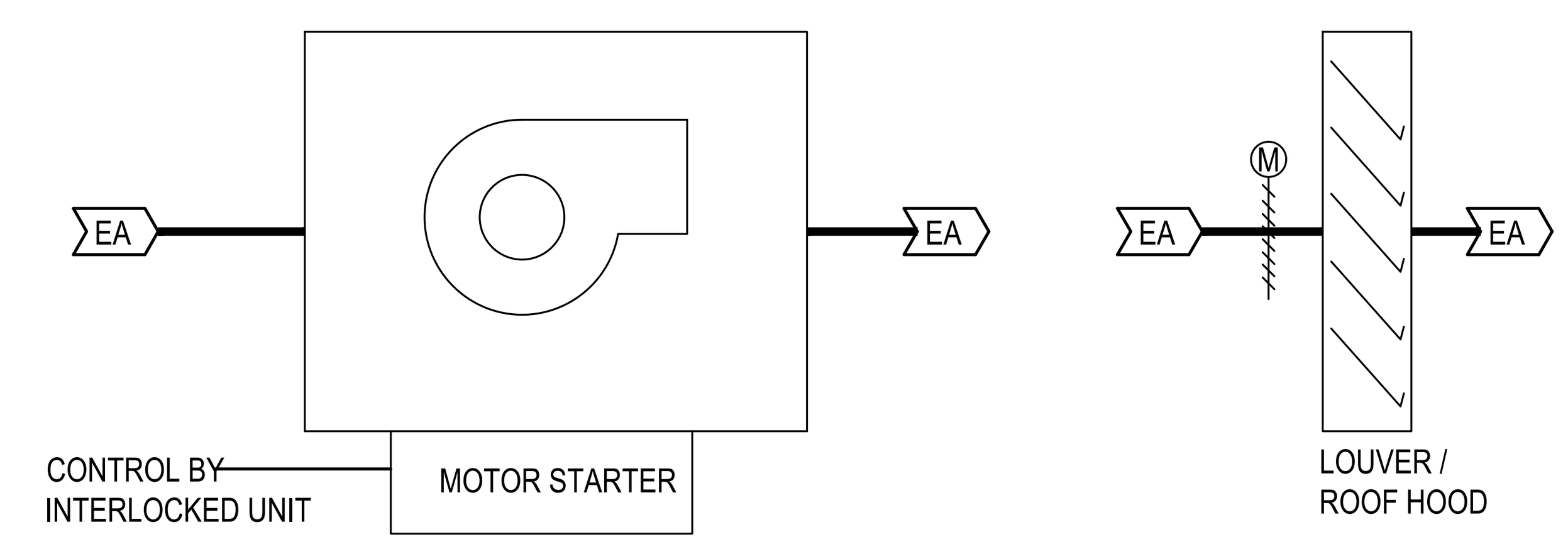
B. SUPPLY FAN
1. SUPPLY FAN SHALL START VIA A SCHEDULE (ADJ), WARM-UP MODE COMMAND (ADJ), OR OVERRIDE COMMAND (ADJ). WARM-UP MODE COMMAND IS GENERATED BY THE STAND ALONE CONTROL OPTIMIZATION ROUTINE.
2. OVERRIDE COMMAND IS TRIGGERED BY SPACE TEMPERATURE SENSOR UNOCCUPIED OVERRIDE REQUEST, SPACE TEMPERATURE SENSOR CALLING FOR NIGHT SETBACK CONDITIONING, OR BY STAND ALONE CONTROL USER INTERFACE.
3. OUTSIDE AIR DAMPER SHALL BE CLOSED DURING NORMAL OPERATION. OUTSIDE AIR DAMPER SHALL OPEN ONLY DURING THE ECONOMIZER SEQUENCE.

C. MECHANICAL HEATING
1. COMPRESSOR(S) ARE OFF WHEN FAN IS OFF.
2. USE REVERSING VALVE AND COMPRESSOR FOR FIRST STAGE HEATING TO MAINTAIN SPACE TEMPERATURE SETPOINT.
3. USE AUXILIARY ELECTRIC HEAT AS SECOND STAGE IF AVAILABLE.
4. USE DELAY TIMERS TO PREVENT SHORT CYCLING.

D. MECHANICAL COOLING
1. COMPRESSOR(S) ARE OFF WHEN FAN IS OFF.
2. ONBOARD MANUFACTURER ECONOMIZER CONTROLS TO BE FIRST STAGE OF COOLING.
3. MODULATE COMPRESSOR(S) FOR SECOND STAGE COOLING IF EITHER:
   a. ECONOMIZER IS FULLY OPEN AND OSA TEMPERATURE IS LESS THAN SPACE TEMPERATURE.
   b. ECONOMIZER IS AT MINIMUM POSITION AND OSA TEMPERATURE IS GREATER THAN SPACE TEMPERATURE.
4. USE MANUFACTURER DELAY TIMERS TO PREVENT SHORT CYCLING COMPRESSOR(S).

E. TEMPERATURE SETPOINT
1. SET HEATING MODE ACTIVATION TEMPERATURE AT 69°F. (VAR)
2. SET COOLING MODE ACTIVATION TEMPERATURE 4 DEGREES (VAR) ABOVE HEATING MODE ACTIVATION SETPOINT.
3. SUPPLY AIR TO REMAIN BETWEEN 55°F (VAR) AND 85°F (VAR). LOW LIMIT FOR SUPPLY TEMPERATURE IN HEATING OR DEADBAND MODE IS 70°F (VAR)

F. INFORMATION AT MANUFACTURER T-STAT:
- UNIT MODE (HEATING, COOLING, FAN)
- ROOM TEMPERATURE
- HEATING AND COOLING SET POINTS
- ECONOMIZER AVAILABLE
- OUTSIDE AIR TEMPERATURE
- OSA DAMPER POSITION
- ECONOMIZER STATUS



TYPICAL INTERLOCKED EXHAUST FAN

A. GENERAL
1. EXHAUST FAN SHALL BE INTERLOCKED WITH ITS ASSOCIATED UNIT VIA CONTROL RELAY.
2. DAMPER SHALL OPEN UPON ACTIVATION AND FAN SHALL START VIA DAMPER END SWITCH. DAMPER SHALL FAIL CLOSED.

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08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL CONTROLS

PRCTI20241365

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TT
CHECKED BY: BH
PROJECT MANAGER: CC

DRAWING No. of TOTAL

M500

DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
G	DUPLEX RECEPTACLE (G INDICATES GROUND FAULT CIRCUIT INTERRUPTER)
C	DUPLEX RECEPTACLE (C INDICATES ABOVE COUNTER)
J	JUNCTION BOX - SIZE PER CODE
	FUSED DISCONNECT SWITCH
	120/208 VOLT PANELBOARD (OR AT RATED VOLTAGE AS NOTED)
	277/480 VOLT PANELBOARD
	ENCLOSED CIRCUIT BREAKER, AMPERES AS INDICATED
M	METER
1	CONSTRUCTION NOTES
W	WEATHERPROOF/NEMA 3R
$	ALL DEVICES WITH LIGHT LINE WEIGHT INDICATES EXISTING TO BE RETAINED. SEE GENERAL NOTES ON EACH SHEET.
$	ALL DEVICES WITH DASH LINE INDICATES EXISTING TO BE REMOVED
AH1 1	MECHANICAL EQUIPMENT CONNECTION

ABBREVIATIONS

G	GROUND FAULT CIRCUIT INTERRUPTER	UC	UNDERCOUNTER
C	MOUNT ABOVE COUNTER	UG	UNDERGROUND
DW	DISHWASHER	GR	GROUND
EC	ELECTRICAL CONTRACTOR	FACP	FIRE ALARM CONTROL PANEL
TTB	TELEPHONE TERMINAL BOARD	SER	SERVICE ENTRANCE RATED
MW	MICROWAVE	SUSE	SUITABLE FOR USE AS SERVICE ENTRANCE
REF	REFRIGERATOR	BCT	BONDING CONDUCTOR FOR TELECOMMUNICATIONS
MON	MONITOR	MON	MONITOR
ACP	ACCESS CONTROL PANEL	CP	COPIER
DAS	DIGITAL ANTENNA SYSTEM	P.B.	PUSH BUTTON
AES	ALARM EMERGENCY SIGNAL ANTENNA	VM	VENDING MACHINE
TV	TELEVISION, MOUNT @+84" AFF		

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (EXHAUST FANS, AIR HANDLING UNITS, ETC)

		LOAD			CIRCUIT								
EQUIP.	VOLT/PH	VA	MCA	HP	PANEL	BKR	CONDUIT/CU. WIRE SIZE	MANUAL STARTER (NOTE 1)	MAGNETIC STARTER (NOTE 1)	MOTOR RATED DISC. (NOTE 1)	FUSED DISC. (NOTE 1)	FUSE SIZE (NOTE 1)	REMARKS
WH 1	208/3	12200	42.4		719A1	1,3,5	1" C., (4)#8 & (1) #10 GR	---	---	---	---		
CP- 1	120/1	696	5.8		719A1	7	1/2" C., (2)#12 & (1) #12 GR.	---	---	EC	---		
RHP- 1	208/3	21942	61		719A	19,21,23	1-1/4"C., (4) #4 & (1) #8 GR.	---	MFR	---	EC	70A	NOTE 2
EF- 1	120/1	170	1.42		719A1	9	1/2" C., (2)#12 & (1) #12 GR.	EC	---	EC	---		
DOAU- 1	208/1	2350	11.3		719A1	11,13	1/2" C., (3)#12 & (1) #12 GR.	---	MFR	---	EC	15A	

NOTE: 1. CONTRACTOR LISTED SHALL FURNISH AND INSTALL THE LISTED DEVICE.
2. PROVIDE WEATHERPROOF DEVICES AND CONNECTIONS.

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Engineering	Public Works
Fire	Traffic

GENERAL NOTES (APPLY TO ALL SHEET)

1. THE CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS FOR BRACE FRAMED OR SHEAR WALLS. CONTRACTOR SHALL MOUNT DEVICES AND ROUTE CONDUIT SO AS NOT TO INTERFERE WITH THE STRUCTURAL INTEGRITY OF THE WALL.
2. ROOMS AND/OR AREAS WITHOUT CEILINGS SHALL HAVE ALL CABLES ROUTED IN CONDUIT. CONDUIT SHALL BE INSTALLED TIGHT TO STRUCTURE, ROUTED PARALLEL OR PERPENDICULAR TO STRUCTURE, AND SHALL BE PAINTED TO MATCH ADJACENT SURFACE.
3. PANEL DESIGNATIONS AND CIRCUIT NUMBERS ARE ONLY INDICATED ON THE DRAWINGS FOR REFERENCE BY THE ELECTRICAL CONTRACTOR. THE E.C. IS RESPONSIBLE TO PROVIDE ALL CONDUIT, WIRING, JUNCTION BOXES AND MISCELLANEOUS ACCESSORIES TO ACCOMMODATE INSTALLATION AND CONNECTION OF ALL DEVICES INDICATED ON THE CONTRACT DOCUMENTS. ALL WIRING SHALL BE IN HARD CONDUIT BACK TO THE DESIGNATED PANELBOARD. MC TYPE CABLE IS NOT AN ACCEPTABLE WIRING METHOD. ALL JUNCTION BOXES SHALL BE LABELED IDENTIFYING THE PANELBOARD AND CIRCUIT CONTAINED WITHIN. THERE SHALL BE NO MORE THAN (3) CIRCUITS PER HOMERUN. MULTI-WIRE CIRCUITS ARE NOT ALLOWED. EACH CIRCUIT SHALL CONTAIN A DEDICATED NEUTRAL UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER. ALL WIRING SHALL BE SIZED ACCORDING TO AMPACITY OF THE CIRCUIT BREAKER INDICATED ON THE PANEL SCHEDULES. ALL CONDUIT SHALL BE SIZED PER NEC CODE BASED ON THE CONDUCTOR SIZE, TYPE, QUANTITY AND MINIMUM FILL REQUIREMENTS. CIRCUITS OVER 120 FEET FOR 120V AND 250' FOR 277V SHALL BE UP SIZED ONE WIRE SIZE TO ACCOUNT FOR VOLTAGE DROP. E.C. IS RESPONSIBLE TO SHOW ALL JUNCTION BOX LOCATIONS, CONDUIT ROUTING AND HOMERUNS ON A SET OF AS-BUILT DRAWINGS.
4. THERE SHALL BE NO EXPOSED LOW VOLTAGE CABLING OF ANY TYPE IN EXPOSED FINISHED AREAS.
5. ALL SPARE CONDUITS (FOR FUTURE USE) SHALL BE LABELED "SPARE/FUTURE CONDUIT" AT EACH END OF THE CONDUIT WITH 1/2" TALL LETTERS, USING A PERMANENT MARKER.
6. FIRE CAULK ALL WALL PENETRATIONS AS REQUIRED. PROVIDE CONDUIT SLEEVES FOR ALL LOW VOLTAGE CABLES THROUGH NON-RATED WALLS.
7. ALL TYPICAL DEVICES SHALL BE MOUNTED AT CONSISTENT LOCATIONS AND HEIGHTS THROUGHOUT THIS PROJECT, UNLESS NOTED OTHERWISE.
8. SEE ALL DETAIL SHEETS AND RISER DIAGRAMS FOR ADDITIONAL WORK. ALL DETAILS AND RISERS ARE APPLICABLE TO THIS PROJECT WHETHER REFERENCED OR NOT.
9. ALL GROUNDING SHALL CONFORM TO NEC 250.
10. CIRCUITING SHALL BE PROVIDED AS REQUIRED TO MEET THE NEC. ALL SINGLE POLE CIRCUITS SHALL BE PROVIDED WITH DEDICATED NEUTRALS.
11. PROVIDE CUTTING AND PATCHING OF EXISTING WALLS TO ACCOMMODATE INSTALLATION OF NEW WORK. COORDINATE WITH G.C.

GENERAL DEMOLITION NOTES (APPLY TO ALL SHEETS)

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE IN HIS/HER BID ALL COSTS ASSOCIATED WITH NECESSARY DEMOLITION TO ALLOW NEW CONSTRUCTION SHOWN IN CONTRACT DOCUMENTS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, LIGHTING FIXTURES, DEVICES, ABANDONED RACEWAYS, CONDUCTORS, TOGETHER WITH ANY AUXILIARY ITEMS TO ALLOW NEW CONSTRUCTION AND FINISH TO OCCUR AS COMPLIMENTED BY THE CONTRACT DOCUMENTS. DASHED LINES INDICATE EXISTING DEVICES AND EQUIPMENT TO BE REMOVED.
2. THESE PLANS DELINEATE THE BASIC SCOPE OF WORK FOR THE REMOVAL OF EXISTING MATERIAL. THE DEMOLITION DRAWINGS AND NOTES ARE PROVIDED WITH THE INTENT TO GENERALLY DESCRIBE AREAS AND LIMITS OF WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SITE AND CONDITIONS THERE AND SHALL NOT RELY SOLELY ON REVIEW OF THE BIDDING DOCUMENTS IN DETERMINING THE EXTENT OF DEMOLITION WORK REQUIRED. COORDINATION OF THESE DRAWINGS WITH REQUIREMENTS FOR CONTRACT WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. DISCREPANCIES BETWEEN OR WITHIN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL PROVIDE CLARITY SKETCHES, DIAGRAMS, AND FIELD DIMENSIONS OF EXISTING CONDITIONS AT THE REQUEST OF THE ENGINEER IR/WHEN CONFLICTS ARE IDENTIFIED.
3. E.C. TO REMOVE ELECTRICAL CONNECTIONS TO ALL MECHANICAL EQUIPMENT TO BE DEMOLISHED. E.C. SHALL CHECK ALL DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS FOR UNIT LOCATIONS. COORDINATE WORK WITH MECHANICAL CONTRACTOR. ALL CONDUITS PENETRATING THROUGH THE ROOF AND ACCESSIBLE SHALL BE REMOVED.
4. THESE PLANS HAVE NO INTENT TO SHOW ALL ELECTRICAL DEVICES TO BE REMOVED. ELECTRICAL CONTRACTOR SHALL VERIFY DEMOLITION WORK INVOLVED PRIOR TO BID.
5. REMOVE ALL ELECTRICAL AND SIGNALING DEVICES (INCLUDING, BUT NOT LIMITED TO REMOVAL OF ALL ELECTRICAL PANELS, LIGHTING FIXTURES, RECEPTACLES, MOTOR DISCONNECTS, FIRE ALARM AND OTHER LOW VOLTAGE DEVICES). UNLESS NOTED OTHERWISE.
6. REMOVE ALL WIRES, CABLES AND SURFACE MOUNT RACEWAYS AND APPURTENANCES WHICH SERVE DEVICES BEING REMOVED, CUT CONDUIT FLUSH TO CEILING OR WALL WHEN CONCEALED, AND SEAL OFF WITH SPRAY FOAM. ABANDON FLUSH BOXES AND NON-ACCESSIBLE CONDUIT. PROVIDE COVER PLATES FOR ALL BOXES TO REMAIN.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR ALL CUTTING, PATCHING AND FINISH WORK.
8. CONTRACTOR TO REMOVE AND DELIVER TO OWNER ALL DEVICES THAT ARE IDENTIFIED BY OWNER TO BE RETAINED. CONTRACTOR SHALL COORDINATE WITH OWNER TO ASSURE THAT ALL ITEMS TO BE RETAINED ARE IDENTIFIED PRIOR TO THE START OF DEMOLITION. ALL ITEMS NOT SO IDENTIFIED SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSE OF OFF SITE.
9. FIELD VERIFY EXISTING CONDITIONS AND RACEWAYS CAST IN CONCRETE.
10. E.C. SHALL CONFIRM WITH THE G.C. THE EXTEND OF ANY ARCHITECTURAL DEMOLITION PRIOR TO ANY ELECTRICAL DEMOLITION. E.C. IS RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION AND MAINTAINING EXISTING EQUIPMENT AND CIRCUITING TO REMAIN.

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08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

MECHANICAL LEGEND, ABBREVIATIONS & NOTES

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TL
CHECKED BY: CT
PROJECT MANAGER: CT

DRAWING No. of TOTAL

E001

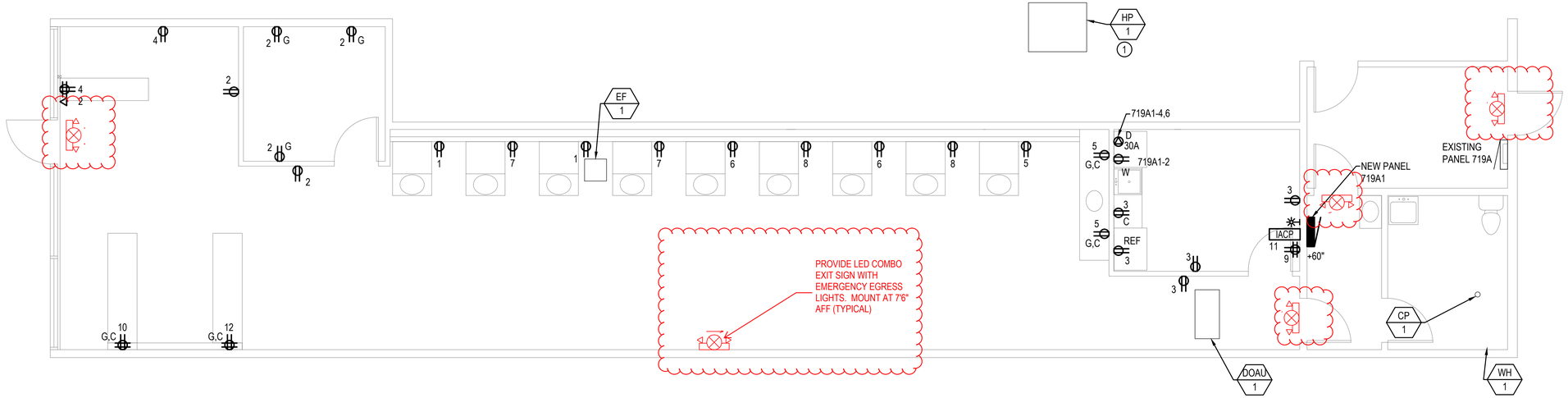
DATE: 08-22-24
SUBMITTAL: OWNER REVIEW
PROJECT No. 515240286

GENERAL NOTES

1. ALL DEVICES TO BE CIRCUITED BACK TO PANEL 719A, UNLESS NOTED OTHERWISE.
2. ALL OUTLETS TO BE LOCATED @ +18" AFF, UNLESS NOTED OTHERWISE.
3. OUTLETS NOTED WITH A "C" SHALL BE MOUNTED @ +36" AFF OR + 4" ABOVE THE BACK SPLASH.

CONSTRUCTION NOTES

(1) DISCONNECT EXISTING ROOF-TOP UNIT. REMOVE EXISTING DISCONNECT SWITCH, CONDUIT/WIRE BACK TO THE PANEL. PROVIDE NEW CONDUIT/WIRE, DISCONNECT SWITCH FOR NEW UNIT.



(1) POWER & SYSTEMS PLAN

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

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CHRISTOPHER ANDREW TERRELL — STATE OF WASHINGTON — 36324 — REGISTERED PROFESSIONAL ENGINEER

08/28/2024

RIVER ROAD NAIL SALON
719 A RIVER ROAD
PUYALLUP, WA

ELECTRICAL FLOOR PLANS

REVISIONS

NO.	DESCRIPTION	DATE
-	-	-

DRAWN BY: TL
CHECKED BY: CT
PROJECT MANAGER: CT

DRAWING No. E200 of TOTAL

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