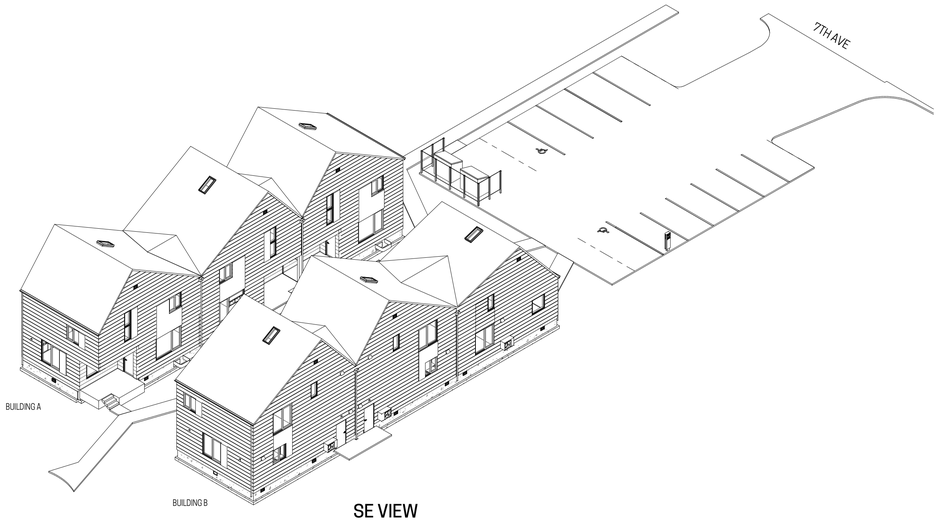
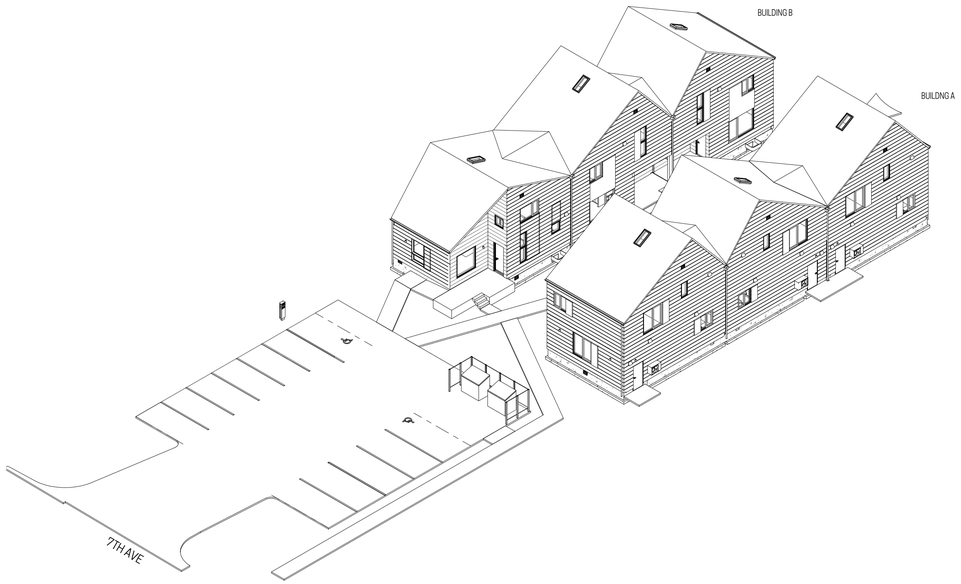


SE VIEW



NW VIEW

LAND USE CODE INFORMATION

APPLICABLE CODE	PUYALLUP MUNICIPAL CODE, TITLE 20
ZONING	RM1.0 (RESIDENTAL MULTIFAMILY)
LOT AREA	20,799 SF (0.47 ACRES)
DENSITY	MINIMUM 8 UNITS/ACRE MAXIMUM 10 UNITS/ACRE
MAX. BUILDING COVERAGE	60%
MAX. BUILDING HEIGHT	28' (GRADE PLANE TO MIDPOINT OF PITCHED ROOF)
REQUIRED SETBACKS	SEE A1.0

***REFER TO A0.2 AND A1.0 FOR CALCULATIONS & DIAGRAMS

BUILDING CODE INFORMATION

JURISDICTION	CITY OF PUYALLUP
APPLICABLE CODES	2021 INTERNATIONAL BUILDING CODE W/ WASHINGTON STATE AMENDMENTS
OCCUPANCY TYPES	R3 - RESIDENTIAL (TOWNHOUSE)
IBC CONSTRUCTION TYPE	V-B / NO SPRINKLERS
# OF ABOVE-GRADE STORIES	2
# OF DWELLING UNITS	6 TOTAL (3 UNITS IN EACH STRUCTURE)
TOTAL FLOOR AREA	BLDG A = 4,392 SF BLDG B = 3,624 SF

ARCHITECTURAL DRAWING INDEX

BUILDING B

PROJECT INFORMATION

SITE ADDRESS
1200 7TH AVE SE
PUYALLUP, WA 98372

PARCEL NUMBERS
7845001330

LEGAL DESCRIPTION
(PER STATUTORY WARRANTY DEED FILED UNDER RECORDING NUMBER 201910110806).

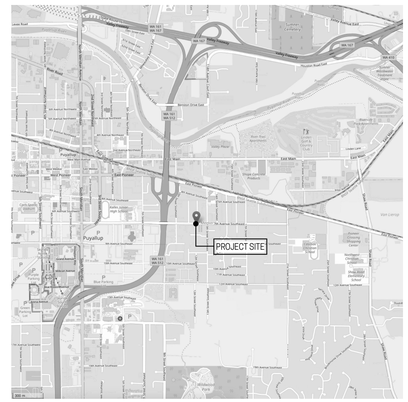
THE WEST 33 FEET OF BLOCK 77, AND THE EAST 50 FEET OF BLOCK 78, FRANK R. SPINNING'S FIRST ADDITION TO THE TOWN OF PUYALLUP, ACCORDING TO THE PLAT THEREOF RECORDED IN BOOK 4 OF PLATS, PAGE 86, IN PIERCE COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF PIERCE, STATE OF WASHINGTON.

PROJECT DESCRIPTION

CONSTRUCT SIX TOWNHOUSE DWELLING UNITS, COMPRISED OF TWO THREE-UNIT BUILDINGS WITH SURFACE PARKING FOR 12 VEHICLES. DWELLING UNIT TYPES INCLUDE FIVE 2-STORY UNITS OF APPROX. 1,463 SF EACH AND ONE SINGLE-STORY TYPE 'A' ACCESSIBLE UNIT, OF APPROXIMATELY 696 SF.

VICINITY MAP



PROJECT TEAM

OWNER
VITALY KRAVCHISHIN / SEATAC ENTERPRISE LLC
10019 SE 226TH PLACE
KENT, WA 98031
PHONE: 253-332-7303

ARCHITECT
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TACOMA, WA 98405
PHONE: 734-834-5509

STRUCTURAL ENGINEER
PB STRUCTURES
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MAPLE VALLEY, WA 98038
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ELECTRICAL ENGINEER
CROSS ENGINEERS
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GEOTECHNICAL ENGINEER
EARTH SOLUTIONS NS
15365 NE 90TH STREET, SUITE 100
REDMOND, WA 98052
PHONE: 425-449-4704

LANDSCAPE PROFESSIONAL
THE CREATIVE GARDENER
TACOMA, WA
PHONE: 253-225-5187

MECHANICAL & PLUMBING ENGINEER
HV ENGINEERING, INC.
6912 220TH STREET SW, SUITE 103
MOUNTLAKE TERRACE, WA 98043
PHONE: 206-706-9669

PRRNTH20250333

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

FOR AGENCY REVIEW

City of Puyallup
Building
REVIEWED FOR COMPLIANCE
BSnowden
05/06/2025
12:36:14 PM

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.

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.

11106 REGISTERED ARCHITECT
CADY E. CHINTIS
STATE OF WASHINGTON

WC STUDIO architects
1522 6th Avenue #1
Tacoma, WA 98405
206-971-6152

7TH AVE TOWNHOMES BUILDING B

1200 7TH AVE SE
PUYALLUP, WA 98371

ISSUE	DATE
BLDG PERMIT APPLICATION	03/06/2025
PERMIT COMMENTS	04/29/2025

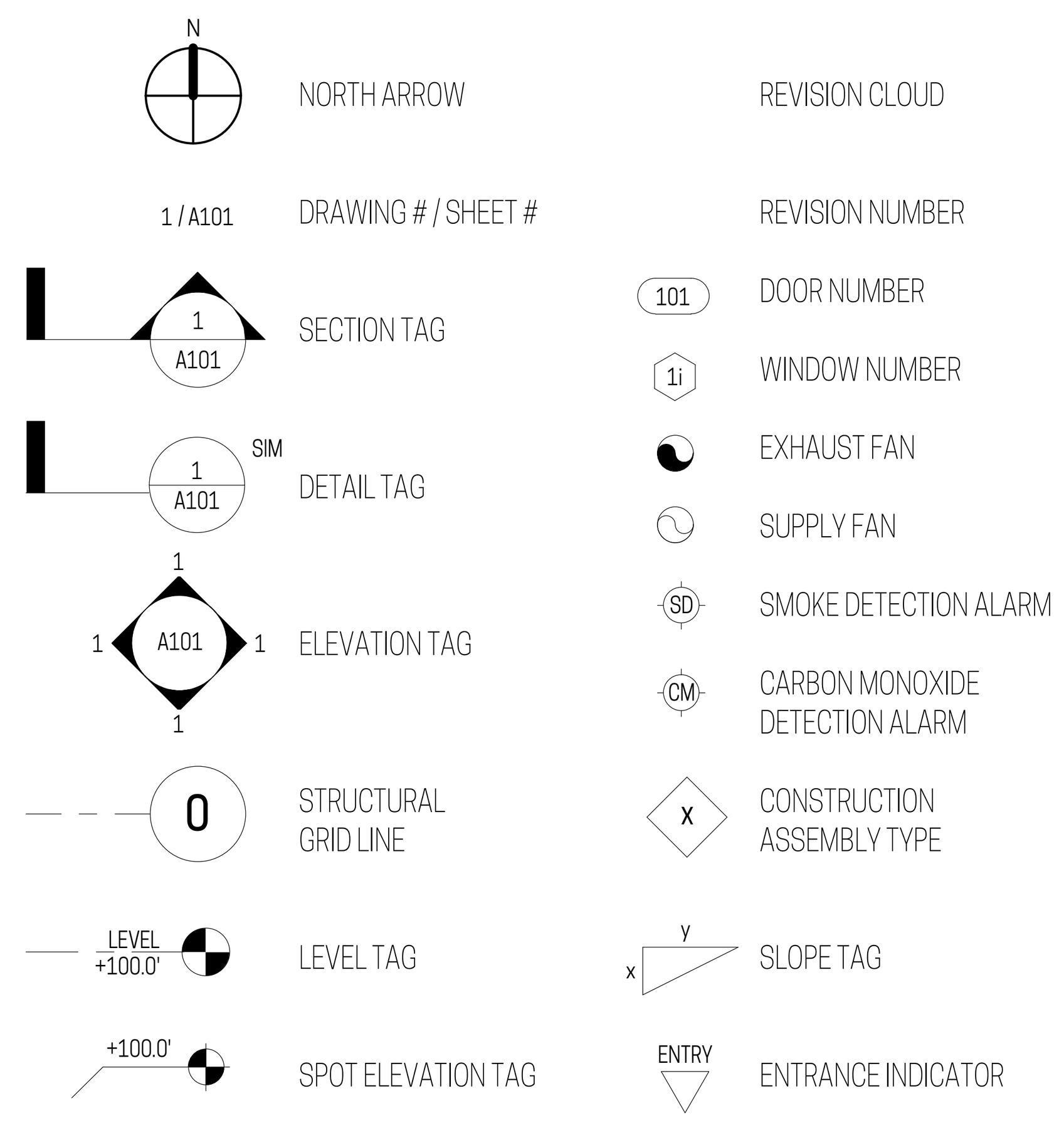
COVER SHEET

A0.0

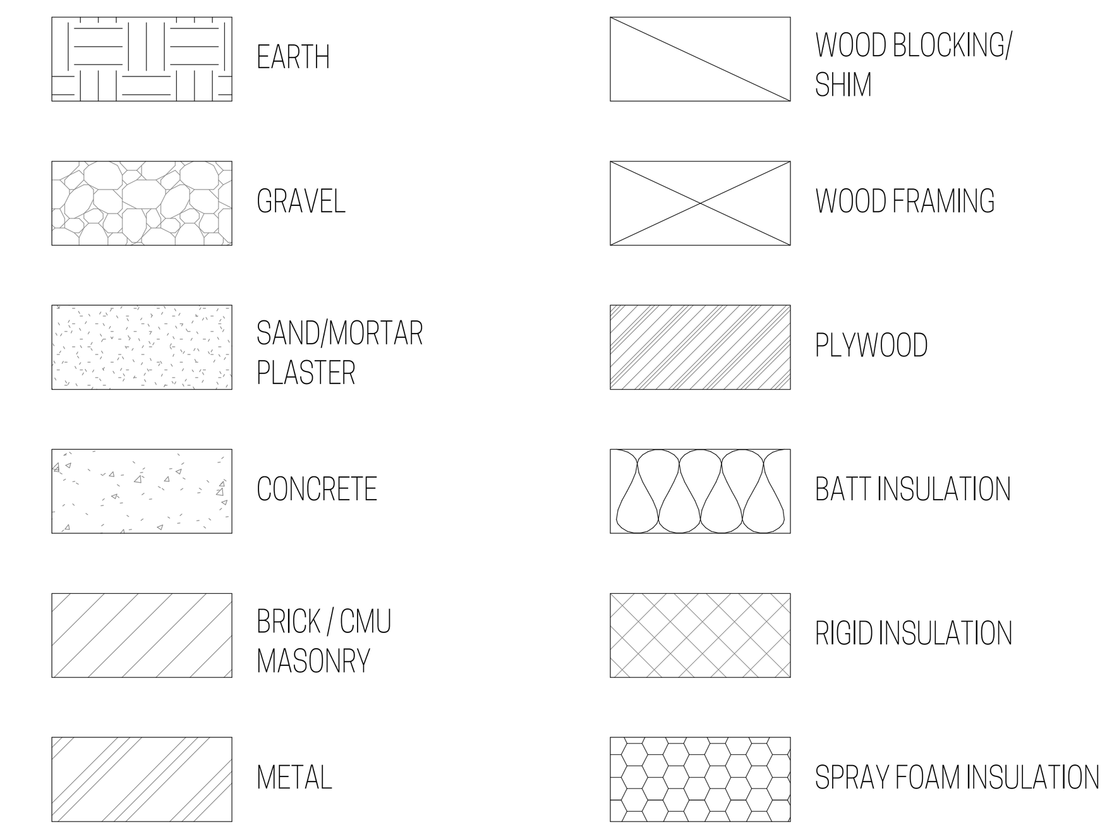
ABBREVIATIONS

AB	ANCHOR BOLT	N/A	NOT APPLICABLE
ADJ	ADJUSTABLE	NOM	NOMINAL
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
ALT	ALTERNATE	NTS	NOT TO SCALE
AVG	AVERAGE		
		O/	OVER
BD	BOARD	OC	ON CENTER
BSMT	BASEMENT	OH	OVERHANG
BLDG	BUILDING	OD	OUTSIDE DIAMETER
		O.A.	OVERALL
CAB	CABINET		
CB	CATCH BASIN	PNL	PANEL
CLG	CEILING	PERF	PERFORATED
CTRD	CENTERED	P-LAM	PLASTIC LAMINATE
CLR	CLEAR	PWD	PLYWOOD
CLO	CLOSET	PT	PRESSURE TREATED
CMU	CONCRETE MASONRY UNIT	PTD	PAINTED
COL	COLUMN	PL	PLACES, PLATE
CONST	CONSTRUCTION		
CONC	CONCRETE	QTR	QUARTER
CONT	CONTINUOUS		
CPT	CARPET	R	RISER
		RAD	RADIUS
DET,DTL	DETAIL	RECT	RECTANGLE
DIA	DIAMETER	REFR	REFRIGERATOR
DIM	DIMENSION	REINF	REINFORCEMENT
DBL	DOUBLE	REPL	REPLACE
DH	DOUBLE HUNG	REQD	REQUIRED
DN	DOWN	RH	RIGHT HAND
DS	DOWNSPOUT	RM	ROOM
DW	DISHWASHER	RO	ROUGH OPENING
		R/R	RISE OVER RUN (STAIR)
EA	EACH	R&S	ROD & SHELF
ELEC	ELECTRICAL		
EL,ELEV	ELEVATION	SC	SOLID CORE
EQ	EQUAL	SF	SQUARE FEET
EX, EXIST	EXISTING	SG	SAFETY GLAZING
EXP	EXPOSURE	SEP	SEPARATE
EXT	EXTERIOR	SEW	SEWER
		SDG	SIDING
FFL	FINISH FLOOR LEVEL	SHT	SHEET
FD	FLOOR DRAIN	SIM	SIMILAR
FDN	FOUNDATION	SK	SINK
FIN	FINISH	SOG	SLAB ON GRADE
FLR	FLOOR	SPEC	SPECIFICATION
FOB	FACE OF BRICK	STD	STANDARD
FOC	FACE OF CONCRETE	SQ	SQUARE
FOCMU	FACE OF CMU	SS	STAINLESS STEEL
FOF	FACE OF FRAMING	STL	STEEL
FOIC	FURNISHED BY OWNER & INSTALLED BY CONTRACTOR	STRUCT	STRUCTURAL
		SUBFLR	SUBFLOOR
FB	FLUSH BEAM	SW	SHEAR WALL
FP	FIREPLACE	S4S	SURFACED 4 SIDES
FTG	FOOTING	S1S	SURFACED 1 SIDE
		S1S1E	SURFACED 1 SIDE 1 EDGE
GA	GAUGE		
GALV	GALVANIZED	T	TREAD
GFI	GROUND FAULT INTERRUPTER	TEL	TELEPHONE
GL	GLASS	TEMP	TEMPERED
GLB	GLUE-LAM BEAM	T&B	TOP AND BOTTOM
GWB	GYPSUM WALL BOARD	T&G	TONGUE AND GROOVE
		TOW	TOP OF WALL
H	HIGH	TOS	TOP OF SLAB
HB	HOSE BIB	TPH	TOILET PAPER HOLDER
HC	HOLLOW CORE	TYP	TYPICAL
HD	HOLDDOWN		
HDW	HARDWARE	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER		
HORIZ	HORIZONTAL	VB	VAPOR BARRIER
HR	HOUR	VERT	VERTICAL
HT	HEIGHT	VG	VERTICAL GRAIN
HTR	HEATER	VIF	VERIFY IN FIELD
HWT	HOT WATER TANK	VOL	VOLUME
ID	INSIDE DIAMETER	WC	WATER CLOSET
INSUL	INSULATION	WD	WOOD
INT	INTERIOR	WDW	WINDOW
		W/	WITH
JST	JOIST	W/O	WITHOUT
		W/D	WASHER & DRYER
LAV	LAVATORY	WP	WATERPROOF
LH	LEFT HAND	WHF	WHOLE HOUSE FAN
LL	LIVE LOAD	WRB	WEATHER-RESISTIVE BARRIER
		WWF	WELDED WIRE FABRIC
MBR	MASTER BEDROOM		
MAX	MAXIMUM	#	NUMBER
MECH	MECHANICAL	@	AT
MEMB	MEMBRANE		
MFR	MANUFACTURER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MLDG	MOULDING		
MLT	METAL		

TYPICAL DRAWING SYMBOLS



TYPICAL MATERIAL SYMBOLS



RESIDENTIAL ENERGY EFFICIENCY OPTIONS

APPLICABLE CODE: WSEC 2021

CLIMATE ZONE: 4C PIERCE

BUILDNG THERMAL ENVELOPE MINIUMUM REQUIREMENTS (PER TABLE R402.1.3)

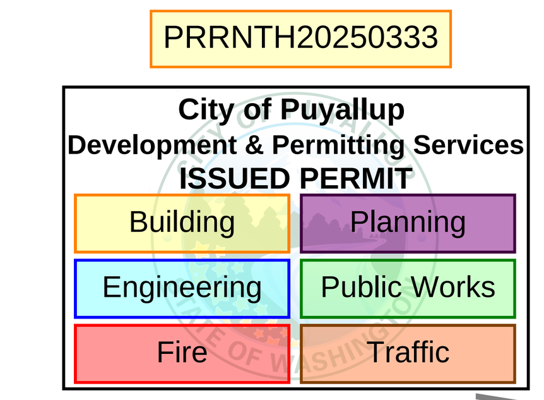
MAX. U-VALUE VERTICAL GLAZING: (NFRC Rating)	0.30
MAX. U-VALUE SKYLIGHTS: (NFRC Rating)	0.50
MIN. R- VALUE ABOVE GRADE WALLS	20 CAVITY + 5 CONTINUOUS
MIN. R- VALUE CEILINGS W/ ATTIC	60
MIN. R- VALUE FLOORS OVER UNHEATED SPACE	30
MIN. R- VALUE SLAB ON GRADE	10, 4' DEPTH

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (WSEC R406.3)
EACH DWELLING UNIT IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 SO AS TO ACHIEVE THE FOLLOWING MINIMUM NUMBER OF CREDITS:

R-3 SMALL DWELLING UNITS < 1500 SF CONDITIONED FLOOR AREA AND < 300 SF FENESTRATION AREA REQUIRE 5.0 CREDITS

TO BE ACHIEVED USING THE FOLLOWING OPTIONS:

ENERGY EQUALIZATION CREDIT, SYSTEM TYPE 5 INVERTER-DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP SYSTEM IN LARGEST ZONE	2.0 CREDITS
OPTION 3.5, HIGH EFFICIENCY HVAC EQUIPMENT DUCTLESS SPLIT-SYSTEM HEAT PUMP, MIN. HSPF OF 10.0 PROVIDES HEATING TO LARGEST ZONE	1.5 CREDITS
OPTION 5.6, EFFICIENT WATER HEATING NEEA TIER III HEAT PUMP WATER HEATER	2.0 CREDITS



FOR AGENCY REVIEW

RESIDENTIAL BUILDING CODE NOTES

EXTERIOR LIGHTING
EXTERIOR LIGHTING SHALL BE SHIELDED AND DIRECTED AWAY FROM ADJACENT PROPERTIES

SMOKE ALARMS
· SMOKE DETECTORS ARE REQUIRED WHEN A PERMIT IS REQUIRED, OR WHEN ONE OR MORE BEDROOMS ADDED.
· MUST BE POWERED BY 110 V INTERCONNECTED BUILDING WIRING, AND HAVE BATTERY BACK-UP IN NEW CONSTRUCTION AND ADDITIONS.
· MAY BE BATTERY-POWERED IN ALTERATIONS OR REPAIRS EXCEPT WHEN WIRING CAN BE INSTALLED WITHOUT REMOVAL OF INTERIOR FINISHES.
· REQUIRED IN SLEEPING ROOMS, OUTSIDE SLEEPING AREAS, AND ON OTHER FLOORS (INCLUDING BASEMENTS).
· ANY ALARM MUST BE CLEARLY AUDIBLE IN ALL BEDROOMS. LOCATE ON PLANS PER CODE.

FOUNDATION DRAINS
· PROVIDE DRAINS AROUND ALL CONCRETE OR MASONRY FOUNDATIONS THAT RETAIN EARTH AND ENCLOSE HABITABLE OR USABLE SPACES LOCATED BELOW GRADE.
· DRAINAGE TILES, GRAVEL OR CRUSHED STONE DRAINS, PERFORATED PIPE OR OTHER APPROVED SYSTEMS OR MATERIALS SHALL BE INSTALLED AT OR BELOW THE AREA TO BE PROTECTED.
· DISCHARGE SYSTEM BY GRAVITY OR MECHANICAL MEANS INTO AN APPROVED DRAINAGE SYSTEM.
· GRAVEL OR CRUSHED STONE DRAINS SHALL EXTEND AT LEAST 1 FOOT (305 MM) BEYOND THE OUTSIDE EDGE OF THE FOOTING AND 6 INCHES (152 MM) ABOVE THE TOP OF THE FOOTING AND BE COVERED WITH AN APPROVED FILTER MEMBRANE MATERIAL. PROTECT THE TOP OF OPEN JOINTS OF DRAIN TILES WITH STRIPS OF BUILDING PAPER.
· PERFORATED DRAINS SHALL BE SURROUNDED WITH MEMBRANE OR THE FILTER MEMBRANE SHALL COVER THE WASHED GRAVEL OR CRUSHED ROCK COVERING THE DRAIN.
· PLACE DRAINAGE TILES OR PERFORATED PIPE ON 2 INCHES OF WASHED GRAVEL OR CRUSHED ROCK AT LEAST ONE SIEVE SIZE LARGER THAN THE TILE JOINT OPENING OR PERFORATION AND COVER WITH NOT LESS THAN 6 INCHES OF THE SAME MATERIAL.

SOUND TRANSMISSION
· AIRBORNE SOUND INSULATION: SEPARATING WALLS & CLGS SHALL BE INSULATED TO STC 45 (SOUND TRANSMISSION CLASS).
· IMPACT SOUND INSULATION: ALL SEPARATING FLOOR-CLG ASSEMBLIES SHALL BE INSULATED TO IIC 50 (IMPACT INSULATION CLASS).
· JOINTS IN THE PERIMETER OF SEPARATING WALLS AND FLOOR-CEILING ASSEMBLIES SHALL BE ACOUSTICALLY SEALED WITH A PERMANENT RESILIENT MATERIAL APPROVED FOR SUCH PURPOSE.
· CONDUITS, PIPES, AND VENTS IN SUCH WALL OR FLOOR-CEILING ASSEMBLIES CAUSING VIBRATIONS SHALL BE REASONABLY ISOLATED FROM THE BUILDING CONSTRUCTION AT POINTS OF SUPPORT BY MEANS OF RESILIENT SLEEVES AND MOUNTS. ALL OTHER OPENINGS THROUGH WHICH SUCH ITEMS PASS SHALL HAVE THE EXCESS OPENING FULLY SEALED WITH INSULATING AND PERMANENTLY RESILIENT MATERIALS APPROVED FOR BOTH SOUND AND REQUIRED FIRE-RESISTANCE.
· ELECTRICAL BOXES SHALL NOT BE PLACED BACK TO BACK AND SHALL BE OFFSET BY NOT LESS THAN 12" FROM OUTLETS ON OPPOSITE WALL SURFACE. BACK AND SIDES OF BOXES SHALL BE SEALED WITH ONE-EIGHTH INCH RESILIENT SEALANT AND BACKED BY A MINIMUM OF 2" THICK MATERIAL FIBER INSULATION OR APPROVED EQUIVALENT.

GUARDS + HANDRAILS
· GUARDS OR HANDRAILS SHALL BE PROVIDED ON ALL OPEN SIDES OF STAIRS OR ELEVATED PLATFORMS. GUARDS SHALL NOT BE LESS THAN 36" HIGH UNO.
· HANDRAILS SHALL BE BETWEEN 34" AND 38" ABOVE STAIR NOSING.
· OPENINGS SHALL RESTRICT A 4" DIAMETER SPHERE FROM PASSING THROUGH.
· HANDGRIP SHALL BE NOT LESS THAN 1 1/4" NOR MORE THAN 2" IN CROSS-SECTIONAL DIMENSION WITH 1-1/2" CLEARANCE FROM WALL. RETURN HANDRAILS AT ENDS.

WATER HEATER
PROVIDE SEISMIC STRAPPING AT WATER HEATER PER UPC 510.

INSULATION
ALL THERMAL AND ACOUSTIC BATT INSULATION SHALL HAVE A MAX. FLAME-SPREAD RATING OF 25 AND SMOKE DENSITY TEST OF 450 PER UBC 707. FOAM PLASTIC INSULATION SHALL HAVE A MAX. FLAME-SPREAD RATING OF 75 AND SMOKE DENSITY TEST OF 450.

FLASHING
PROVIDE ALL NECESSARY FLASHING OF MIN. 26 GA (0.019 IN.) CORROSION-RESISTANT METAL. VALLEY FLASHING SHALL EXTEND 8" FROM C.L. EACH WAY AND LAP A MINIMUM OF 4" OVER AN UNDERLAYMENT OF 36" WIDE #15 BLDG. FELT.

EXHAUST OPENINGS
AIR EXHAUST OPENINGS SHALL TERMINATE AS FOLLOWS:
· NOT LESS THAN 3' FROM PROPERTY LINES, GRAVITY AIR INTAKE OPENINGS, AND OPERABLE WINDOWS/DOORS
· NOT LESS THAN 10' FROM MECHANICAL AIR INTAKE OPENINGS EXCEPT WHERE PART OF A FACTORY BUILT INTAKE/EXHAUST COMBINATION TERMINATION FITTING

BALANCED WHOLE HOUSE VENTILATION
· SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS & CONTROLS.
· ERV/HRV SYSTEMS SHALL MEET THE REQUIREMENTS OF HVI 920.
· SYSTEM SHALL BE TESTED AND VERIFIED TO PROVIDE A TOTAL MECHANICAL SUPPLY AND EXHAUST AIRFLOW RATES SHALL BE WITHIN 10% OR 5 CFM OF EACH OTHER AND MINIMUM FLOW RATE AS FOLLOWS:

DWELLING UNITS 501 - 1000 SF SF WITH 0-1 BEDROOMS: 30 CFM CONTINUOUS
DWELLING UNITS 1,501-2,000 SF WITH 3 BEDROOMS: 50 CFM CONTINUOUS

MINIMUM LOCAL EXHAUST RATES
KITCHENS: ~~100~~ CFM INTERMITTENT / 30 CFM CONTINUOUS (160 CFM)
BATH/TOILET ROOMS: 50 CFM INTERMITTENT / 20 CFM CONTINUOUS

DUCTS
EXHAUST DUCTS: EXHAUST DUCTS SHALL BE EQUIPPED WITH BACK-DRAFT DAMPERS. ALL EXHAUST DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED TO A MINIMUM OF R-4.

UNDER-FLOOR VENTILATION
THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE ESS THAN 1 SF FOR EACH 300 SF OF UNDER FLOOR AREA. REQUIRED OPENINGS SHALL BE EVENLY PLACED TO PROVIDE CROSS-VENTILATION AND COVERED BY AN APPROVED MATERIAL.

UNDERFLOOR AREA PER DWELLING UNIT: 624 SF
REQUIRED VENTILATION AREA PER DWELLING UNIT: 624 / 300 = 2.08 SF = 300 SQ. IN.

ROOF VENTILATION
ENCLOSED ATTICS WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE. VENTILATING OPENINGS SHALL:
· OPEN DIRECTLY TO THE OUTSIDE
· BE PROTECTED AGAINST THE ENTRANCE OF RAIN, SNOW, BIRDS, RODENTS, AND OTHER PESTS
· HAVE A MINIMUM DIMENSION OF 1/16 INCH. OPENINGS WITH A MINIMUM DIMENSION LARGER THAN 1/4 INCH SHALL BE COVERED BY AN APPROVED MATERIAL.

THE TOTAL MINIMUM NET FREE VENTILATING AREA SHALL BE 1/150 OF THE VENTED SPACE.

ENCLOSED ATTIC AREA PER DWELLING UNIT: 708 SF
REQUIRED VENITLATION AREA PER DWELLING UNIT: 708/150 = 4.72 SF

RESIDENTIAL ENERGY CODE NOTES

CERTIFICATE (R401.3)
· A PERMANENT CERTIFICATE SHALL BE COMPLETED AND POSTED ON OR WITHIN THREE FEET OF THE ELECTRICAL DISTRIBUTION PANEL BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL.
· THE CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL AND SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL OR OTHER REQUIRED LABELS.
· THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, BELOW-GRADE WALL, AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING.
· WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA.
· THE CERTIFICATE SHALL LIST THE TYPES AND EFFICIENCIES OF HEATING, COOLING AND SERVICE WATER HEATING EQUIPMENT.

SLAB ON GRADE FLOORS (WSEC R402.2.9)
· THE MINIMUM THERMAL RESISTANCE (R-VALUE) OF THE INSULATION AROUND THE PERIMETER OF SLAB-ON-GRADE FLOORS SHALL BE AS SPECIFIED IN TABLE R402.1.1.
· THE INSULATION SHALL BE PLACED ON THE OUTSIDE OF THE FOUNDATION OR ON THE INSIDE OF THE FOUNDATION WALL. EXTEND INSULATION DOWNWARD FROM THE TOP OF THE SLAB FOR A MINIMUM DISTANCE AS SHOWN IN THE TABLE OR TO THE TOP OF THE FOOTING, WHICHEVER IS LESS, OR DOWNWARD TO AT LEAST THE BOTTOM OF THE SLAB AND THEN HORIZONTALLY TO THE INTERIOR OR EXTERIOR FOR THE TOTAL DISTANCE SHOWN IN THE TABLE.
· A TWO-INCH BY TWO-INCH (MAXIMUM) PRESSURE TREATED NAILER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS.
· INSULATION EXTENDING AWAY FROM THE BUILDING SHALL BE PROTECTED BY PAVEMENT OR BY A MINIMUM OF 10 INCHES (254 MM) OF SOIL.
THE ENTIRE AREA OF HEATED SLAB-ON-GRADE FLOORS SHALLE BE THERMALLY ISOLATED FROM THE SOIL WITH A MINIMUM OF R-10 INSULATION.

AIR LEAKAGE TESTING (WSEC R402.4)
· THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 4.0 AIR CHANGES PER HOUR.
· TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS).
· WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL.
· TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE; DURING TESTING, FOLLOW PROCEDURES AS OUTLINED IN R402.4.1.2.

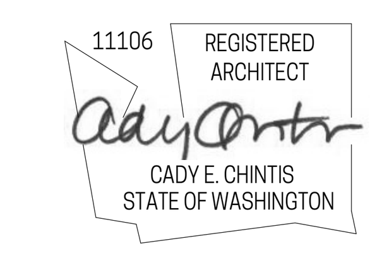
CONTROLS (WSEC R403.1)
· AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM.

PROGRAMMABLE THERMOSTAT (WSEC R403.1.1)
· WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE ENERGY STAR CERTIFIED AND CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY.
· THE THERMOSTAT SHALL ALLOW FOR, AT A MINIMUM, A 5-2 PROGRAMMABLE SCHEDULE (WEEKDAYS/WEEKENDS) AND BE CAPABLE OF PROVIDING AT LEAST TWO PROGRAMMABLE SETBACK PERIODS PER DAY. SEE WSEC 2018 FOR SPECIFICS AND EXCEPTIONS.

ELECTRIC WATER HEATER INSULATION (WSEC R403.4.3)
· ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10.

LIGHTING EQUIPMENT (WSEC R404.1)
· A MINIMUM OF 90 PERCENT OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.
· FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS.

RECESSED LIGHTING (WSEC R402.4.5)
RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED, CERTIFIED UNDER ASTM E283 AS HAVING AN AIR LEAKAGE RATE NOT MORE THAN 2.0 CFM WHEN TESTED AT 75 PA PRESSURE DIFFERENTIAL, AND BEAR A LABEL SHOWING COMPLIANCE WITH THIS TEST METHOD.
ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.



WC STUDIO architects
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206-371-5152

7TH AVE TOWNHOMES
BUILDING B

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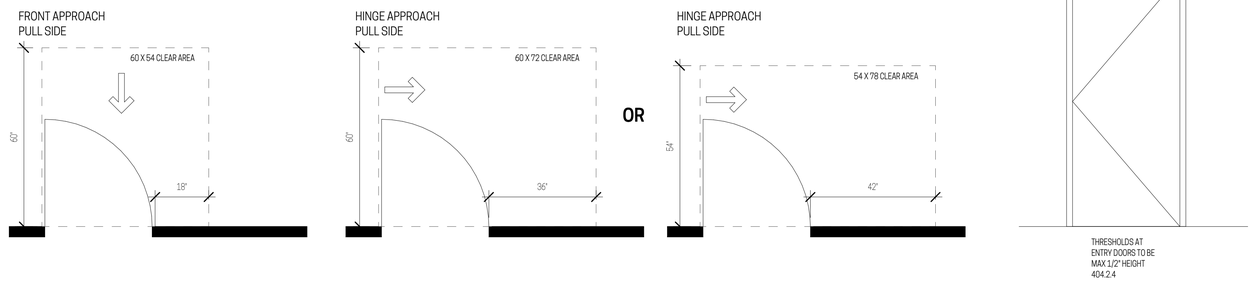
ISSUE	DATE
BLDG PERMIT APPLICATION	03/06/2025
PERMIT COMMENTS	04/29/2025

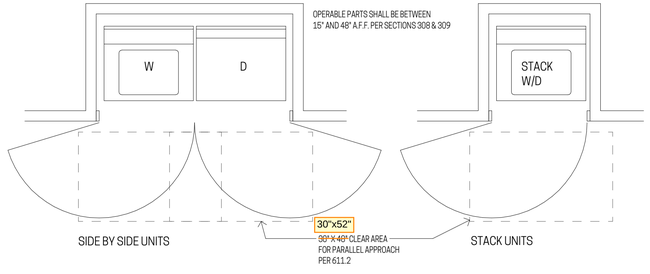
GENERAL NOTES + SYMBOLS, ENERGY CODE COMPLIANCE

A0.1



2 MANEUVERING CLEARANCES

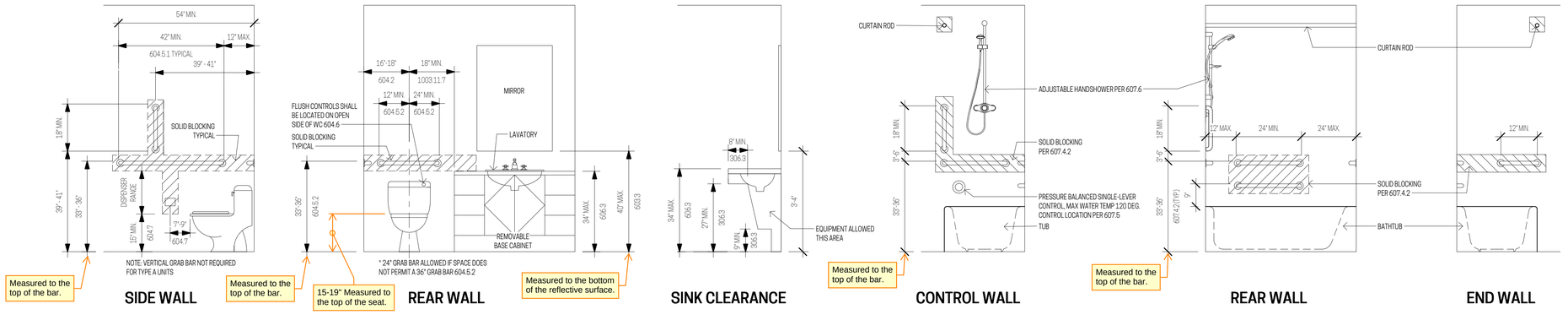
SCALE: 1/2" = 1'-0"



3 LAUNDRY FACILITIES

SCALE: 1/2" = 1'-0"

Note: red-lines approved by project design professional.



1 TYP. REINFORCING & MOUNTING HEIGHTS

SCALE: 1/2" = 1'-0"

DWELLING UNIT ACCESSIBILITY NOTES - APPLIES TO UNIT B1 ONLY

1. THE ACCESSIBLE PRIMARY ENTRANCE SHALL BE ON AN ACCESSIBLE ROUTE FROM PUBLIC AND COMMON AREAS. WITHIN THE UNIT, AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ALL SPACES AND ELEMENTS. AN ACCESSIBLE ROUTE IS NOT REQUIRED TO UNFINISHED ATTICS.
2. THE MINIMUM CLEAR WIDTH OF AN INTERIOR ACCESSIBLE ROUTE SHALL BE 36 INCHES.
3. THE MINIMUM CLEAR WIDTH OF AN EXTERIOR ACCESSIBLE ROUTE SHALL BE 48 INCHES, EXCEPT THE MINIMUM CLEAR WIDTH OF AN EXTERIOR RAMP SHALL BE 36" PER 405.5.
4. RAMPS SHALL HAVE LANDINGS AT THE BOTTOM AND TOP OF EACH RAMP RUN. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 AND MINIMUM CLEAR LENGTH OF 60". LANDINGS BETWEEN A RAMP DIRECTION CHANGE SHALL HAVE A MINIMUM DIMENSION OF 60" X 60".
5. IN TYPE A UNITS, TURNING SPACES SHALL BE REQUIRED IN ALL ROOMS, WITH THE EXCEPTION OF BATHROOMS IN A UNIT THAT ALREADY HAS AT LEAST ONE BATHROOM MEETING ALL THE REQUIREMENTS OF A117.1-2017 SECTION 1103.11.
6. TURNING SPACE SHALL BE EITHER CIRCULAR OR T-SHAPED SPACE. CIRCULAR SPACE SHALL BE 67" IN DIAMETER, T-SHAPED SPACE SHALL BE 64" WIDE X 60" DEEP, WITH TWO ARMS AND ONE BASE 40" MINIMUM IN WIDTH. EACH ARM SHALL EXTEND 12" MINIMUM FROM EACH SIDE OF THE BASE AND THE BASE SHALL EXTEND 20" MINIMUM FROM EACH ARM.
7. 'CLEAR FLOOR SPACE' IS 30" X 52" PER A117.1-2017 SECTION 305.3.
8. BOTH SIDES OF PRIMARY ENTRANCE DOORS TO ALL UNITS SHALL HAVE MANEUVERING CLEARANCES COMPLYING WITH A117.1-2017 SECTION 404.
9. IN TYPE A UNITS, ALL DOORWAYS INTENDED FOR PASSAGE SHALL HAVE MANEUVERING CLEARANCES COMPLYING WITH A117.1-2017 SECTION 404
10. IN TYPE A UNITS, LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLE OUTLETS, ENVIRONMENTAL CONTROLS, APPLIANCE CONTROLS, OPERATING HARDWARE FOR OPERABLE WINDOWS, PLUMBING FIXTURE CONTROLS, AND USER CONTROLS FOR SECURITY OR INTERCOM SYSTEMS SHALL BE PROVIDED WITH A CLEAR FLOOR SPACE AND BE PLACED WITHIN ONE OF THE REACH RANGES SPECIFIED IN A117.1-2017 SECTION 308. THEY SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE MAXIMUM FORCE REQUIRED TO ACTIVATE THE PARTS SHALL BE 5 POUNDS.
11. IN TYPE A UNITS OPERABLE PARTS SHALL BE PLACED BETWEEN 15" AND 48" ABOVE THE FLOOR IN AN AREA WITH UNOBSTRUCTED FORWARD OR SIDE REACH, INCLUDING APPLIANCES. WHEN THERE IS AN OBSTRUCTION OF 24" MAX WIDTH AND 34" MAX HEIGHT, OPERABLE PARTS SHALL BE NO HIGHER THAN 46" ABOVE THE FLOOR. WHEN THERE IS AN OBSTRUCTION OF 25" MAX WIDTH IN A SPACE ALLOWING A FORWARD APPROACH, THE OPERABLE PARTS SHALL BE NO HIGHER THAN 44" ABOVE THE FLOOR. OUTLETS OVER COUNTERS SHALL BE 46" MAXIMUM AFF TO THE TOP OF BOX.
12. BATHROOMS REQUIRE CLEAR FLOOR SPACES, CLEARANCES AROUND, BETWEEN, AND ADJACENT TO FIXTURES, REINFORCING FOR GRAB BARS, AND OTHER ITEMS SHOWN IN THE DRAWINGS.THE CONTRACTOR OR OWNER SHALL NOT MAKE DIMENSIONAL CHANGES TO ANY BATHROOM WITHOUT THE APPROVAL OF THE ARCHITECT.
13. BATHTUB ENCLOSURES SHALL NOT HAVE TRACKS INSTALLED ON THE RIM OF THE BATHTUB.
14. KITCHENS REQUIRE CLEAR FLOOR SPACES, CLEARANCES AROUND, BETWEEN , AND ADJACENT TO FIXTURES, APPLIANCES, CABINETS, COUNTERS AND WALLS, AND OTHER ITEMS SHOWN IN THE DRAWINGS. THE CONTRACTOR OR OWNER SHALL NOT MAKE DIMENSIONAL CHANGES TO ANY KITCHEN WITHOUT THE APPROVAL OF THE ARCHITECT.
15. IN TYPE A UNITS, WASHING MACHINES AND CLOTHES DRYER REQUIRE A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL APPROACH, CENTERED ON EACH APPLIANCE. ALL OPERABLE PARTS SHALL COMPLY WITH A117.1-2017 SECTION 309, INCLUDING THE REACH RANGES SPECIFIED IN A117.1-2017 SECTION 308. TOP LOADING MACHINES SHALL HAVE THE BOTTOM OF THE OPENING TO THE LAUNDRY COMPARTMENT BETWEEN 15" AND 34" ABOVE THE FLOOR.
16. PROVIDE BLOCKING IN ALL TYPE A & B UNITS AS INDICATED IN PLANS AND DETAILS PER A117.1-2017 SECTION 1103.11.1
17. TYPE A UNITS WITH OPERABLE WINDOWS MUST HAVE AT LEAST ONE WINDOW IN EACH LIVING, DINING AND SLEEPING SPACE WITH CONTROLS WITHIN REACH RANGE, CLEAR FLOOR SPACE TO APPROACH THE CONTROLS AND EASILY OPERABLE WITH ONE HAND AND WITH 5 POUNDS OF FORCE OR LESS.
18. TYPE A UNIT STORAGE, SUCH AS SHELVING OR RODS IN CLOSETS, SHALL HAVE CLEAR FLOOR SPACE FOR APPROACH AT EACH FACILITY, HEIGHT AND CONTROLS SHALL BE WITHIN THE REACH RANGE AND UNDER THE REQUIRED FORCE.

PRRNTH20250333

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Fire	Traffic

FOR AGENCY REVIEW

11106 REGISTERED ARCHITECT
CADY E. CHINTIS
STATE OF WASHINGTON

WC STUDIO
architects

1522 6th Avenue #1
Tacoma, WA 98405
206-371-5152

7TH AVE TOWNHOMES
BUILDING B

1200 7TH AVE SE
PUYALLUP, WA 98371

ISSUE	DATE
BLDG PERMIT APPLICATION	03/06/2025
PERMIT COMMENTS	04/29/2025

ACCESSIBILITY NOTES

A0.2

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City of Puyallup
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Building	Planning
Engineering	Public Works
Fire	Traffic

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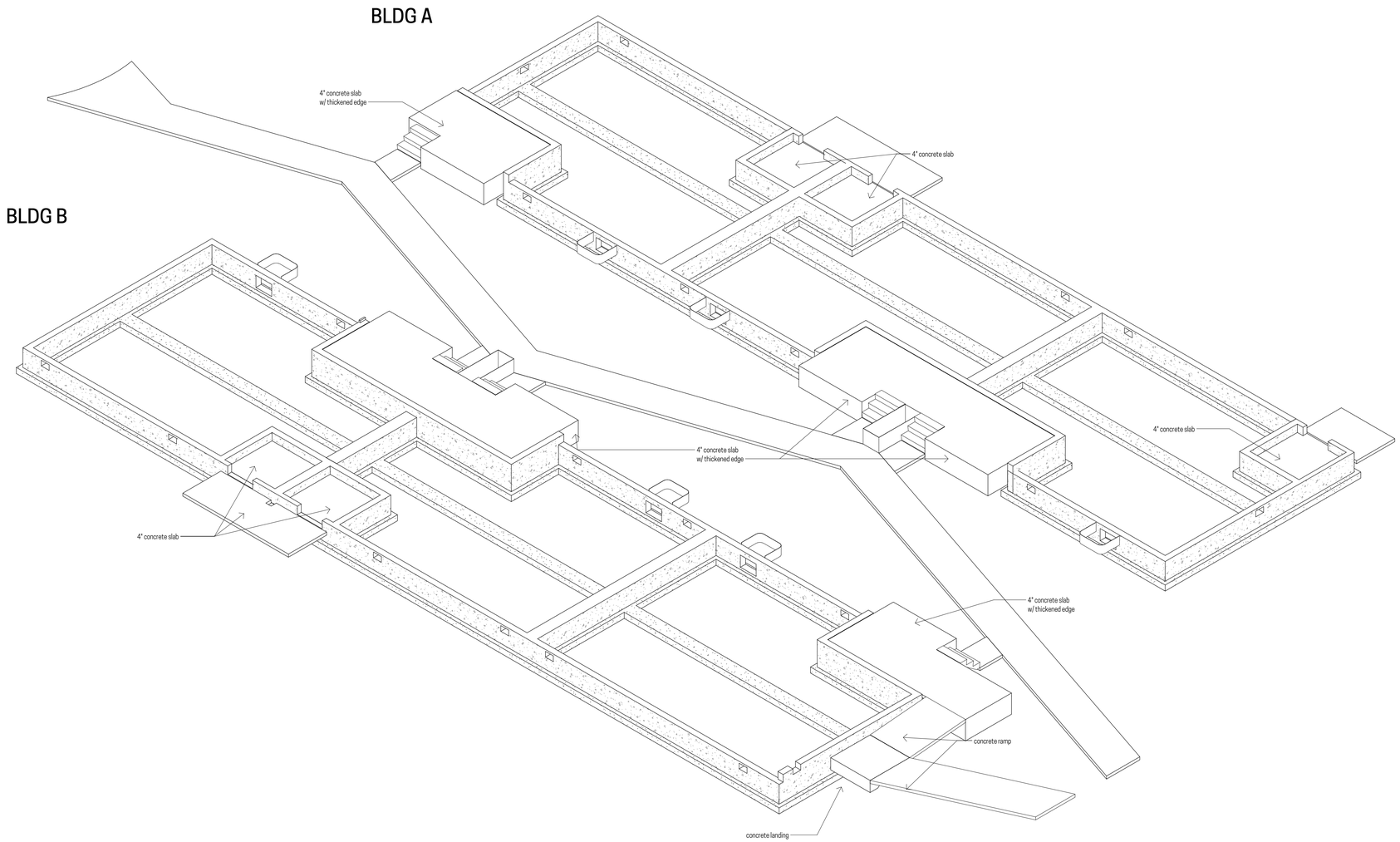

1 FOUNDATION DIAGRAM
SCALE:

11106 REGISTERED ARCHITECT
CADY E. CHINTIS
STATE OF WASHINGTON

WC STUDIO
architects

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FOUNDATION DIAGRAM

A0.3

PRRNTH20250333

CITY OF PUYALLUP
Planning Division Approved Site Plan
(253) 864-4165
MINIMUM SETBACK REQUIREMENTS

Front Yard: 15ft Rear Yard: 15ft
Interior Side Yard: Left: 3ft Right: 3ft
Street Side Yard: N.A
Zoning District: RM-10
Permit #: PRRNTH20250333

Additional Conditions/Comments
N.A

Staff: NComstock
Date: 05/08/2025
Front, rear, and side yard property lines shall be marked with string from surveying pins prior to footing inspection.

City of Puyallup
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Fire | Traffic

FOR AGENCY REVIEW

City of Puyallup
Development Engineering
APPROVED
See permit conditions.
AHunt
05/07/2025
9:14:57 AM

TOTAL LANDSCAPED AREA: 8300 SF

ACTIVE PLAY BERMS
ACTIVE PLAY BOULDERS
COMMON OPEN SPACE
TOTAL: 1660 SF
ACTIVE PLAY: 830 SF
ACTIVE PLAY BERMS

UNIT A3 | UNIT A2 | UNIT A1
SLATTED WOOD SCREEN
PORCH
UNIT A3 PRIVATE OPEN SPACE 295 SF
UNIT A2 PRIVATE OPEN SPACE 295 SF
UNIT A1 PRIVATE OPEN SPACE 275 SF
PLANTER
SCREENED BY VEGETATION
UNIT B3 PRIVATE OPEN SPACE 295 SF
UNIT B2 PRIVATE OPEN SPACE 295 SF
UNIT B1 PRIVATE OPEN SPACE 330 SF
UNIT B3 | UNIT B2 | UNIT B1

7TH AVE SE

2 OPEN SPACE DIAGRAM
SCALE: 1" = 10'-0"

No proposed footings, posts, or supports shall be constructed on or above any existing public utility connections without first relocating the utility services or protecting it in place.

Refer to the City standard details 02.03.02 & 05.02.01 for typical erosion and sedimentation control methods.

Prior to starting site work, request an erosion and sediment inspection through the CityView portal.

Roof downspout control is required. Steps shall be taken to prevent drainage onto adjacent lots. Refer to City standard details 02.05.01 & 02.05.03 for typical control methods. Stormwater runoff shall not concentrate to neighbors.

50'-0" REAR SETBACK | 96'-0" | 15'-7 1/2" | 104'-0" FRONT SETBACK

trunk and dripline of existing cherry tree to be protected
trunk and dripline of existing off-site tree to be protected
heat pump outdoor unit (HP)
downspout (DS)
see Landscape Plan, submitted with Application Number: PRCCP20241694
sewer CO per civil, typ.
on-site stormwater system Access Riser per civil, typ.
paved walkway
stormdrain manhole per civil
Water Meters, connections to water main in 7th Ave per civil, typ.
to Storm Water CB in 7th Ave per civil
2-yd trash
2-yd recy.
green screen trash enclosure
parking area, see civil drawings
catch basin per civil, typ.
stormwater detention tank, per civil
to Sewer Main in 7th Ave per civil

1200 7th AVE SE BLDG A UNIT 3 | 1200 7th AVE SE BLDG A UNIT 2 | 1200 7th AVE SE BLDG A UNIT 1
BUILDING A
(3 TOWNHOUSES)
20" X 30" AREA WELL
raised planter
4' paved walkway

BUILDING B
(3 TOWNHOUSES)
1200 7th AVE SE BLDG B UNIT 3 | 1200 7th AVE SE BLDG B UNIT 2 | 1200 7th AVE SE BLDG B UNIT 1
Type-A Unit
1:12 ramp
landing
EV charging station | EV charging station | EV ready | EV ready | EV ready | EV capable | EV capable
2-port ground mounted EV charging station
infrastructure for installation of future 2-port EV charging stations to extend to this point
EV conduit to extend to this point

P.L. 83.0' (+/-)
P.L. 250.0' (+/-)

Exterior paths and walkways serving the egress door cannot have a slope greater than 1 unit vertical in 12 units horizontal (8.3% slope), or 1 unit vertical in 8 units horizontal (12.5% slope) if it is technically infeasible to comply to the 8.3% slope due to site constraints.

1 SITE PLAN
SCALE: 1" = 10'-0"

11106 REGISTERED ARCHITECT
CADY E. CHINTIS
STATE OF WASHINGTON

WC STUDIO architects
1522 6th Avenue #1
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7TH AVE TOWNHOMES BUILDING B

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SITE PLAN

A1.0

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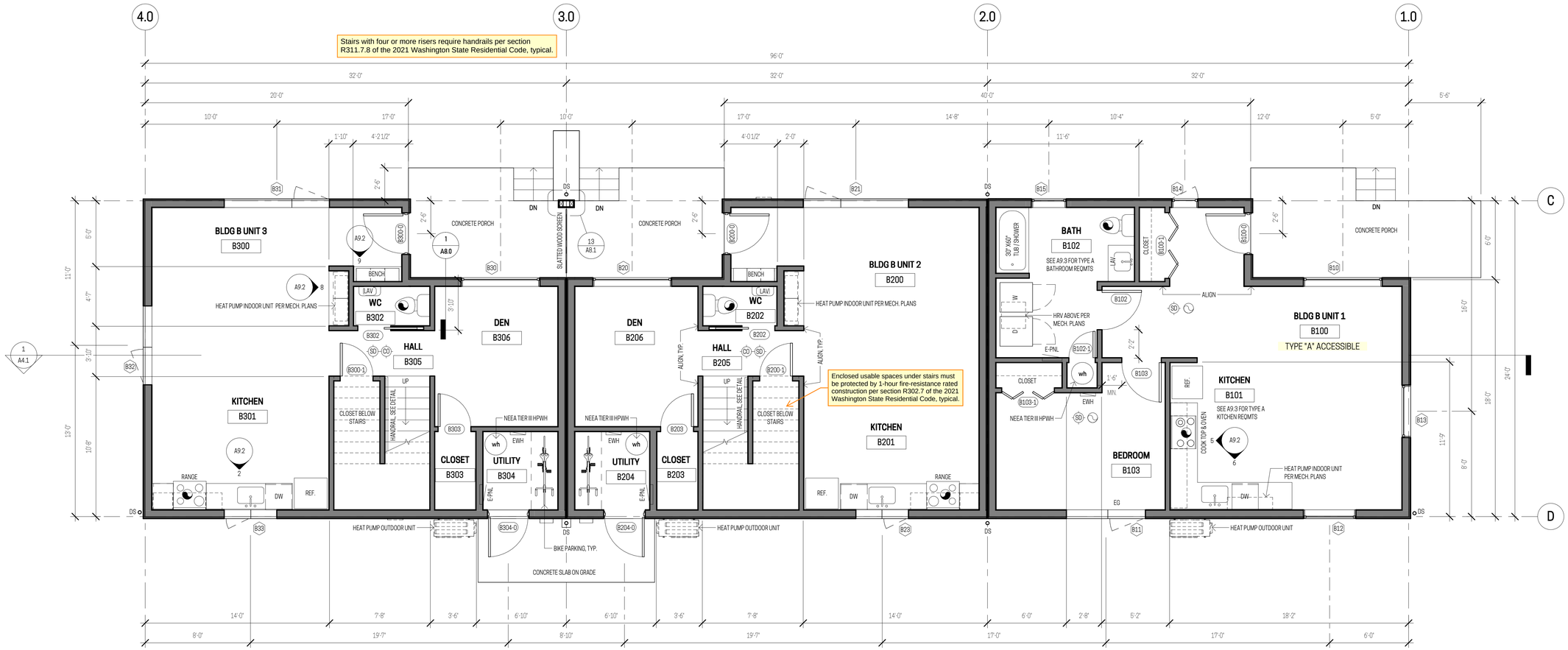
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW



1 BLDG B - MAIN LEVEL

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

11106 REGISTERED ARCHITECT
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BUILDING B - MAIN LEVEL PLAN

A2.3

 WC-STUDIO.COM

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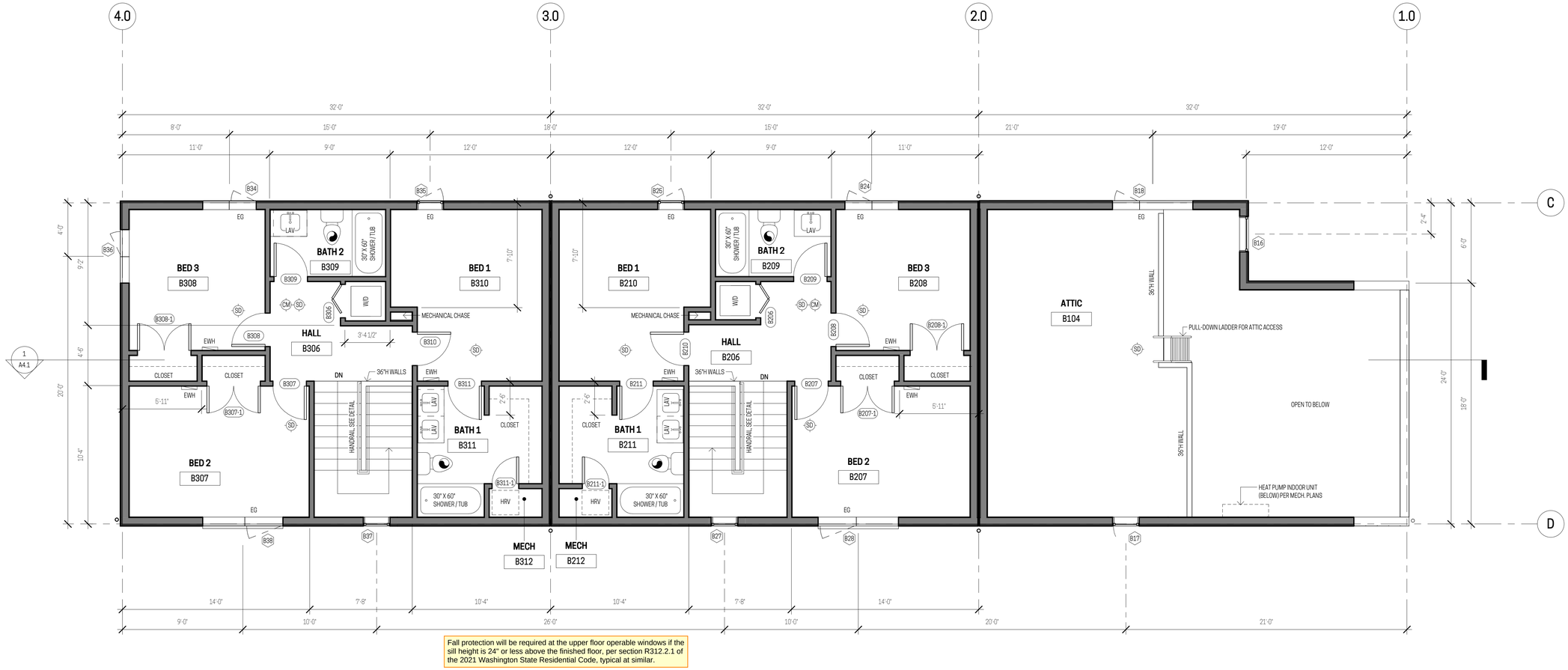
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW



Fall protection will be required at the upper floor operable windows if the sill height is 24" or less above the finished floor, per section R312.2.1 of the 2021 Washington State Residential Code, typical at similar.

1 BLDG B - UPPER LEVEL

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

11106 REGISTERED ARCHITECT
CADY E. CHINTIS
STATE OF WASHINGTON

WC STUDIO architects
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BUILDING B - UPPER LEVEL PLAN

A2.4

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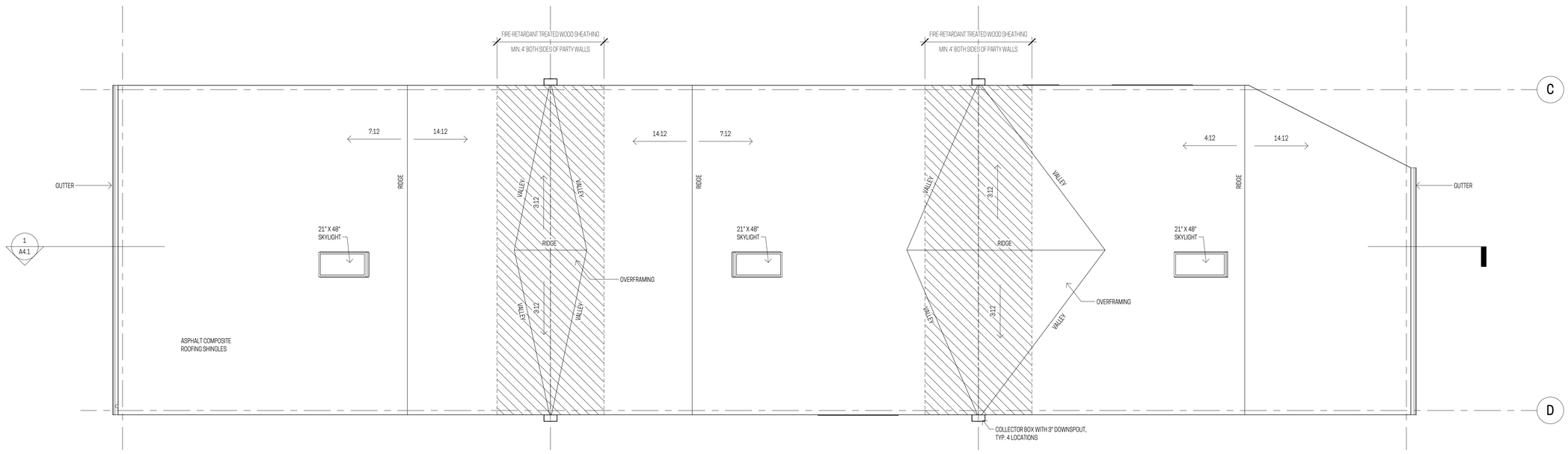
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW

4.0 3.0 2.0 1.0



1 BLDG B - ROOF PLAN

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

N

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BUILDING B - ROOF PLAN

A2.5

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Building	Planning
Engineering	Public Works
Fire	Traffic

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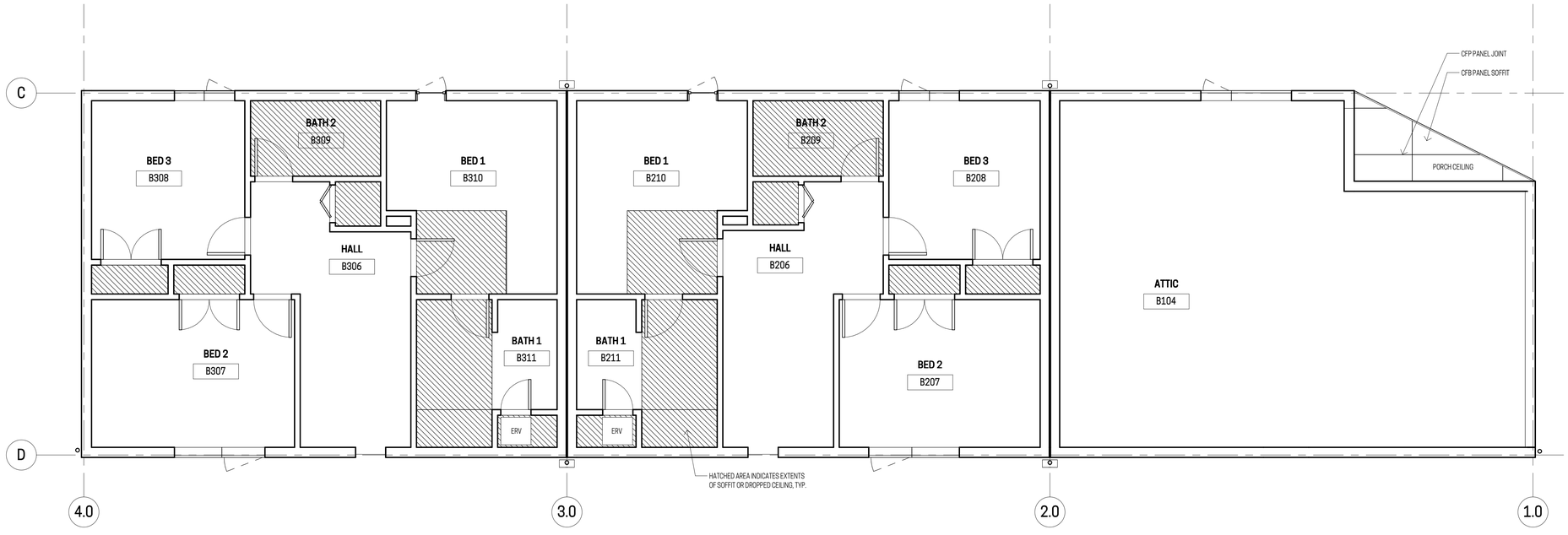
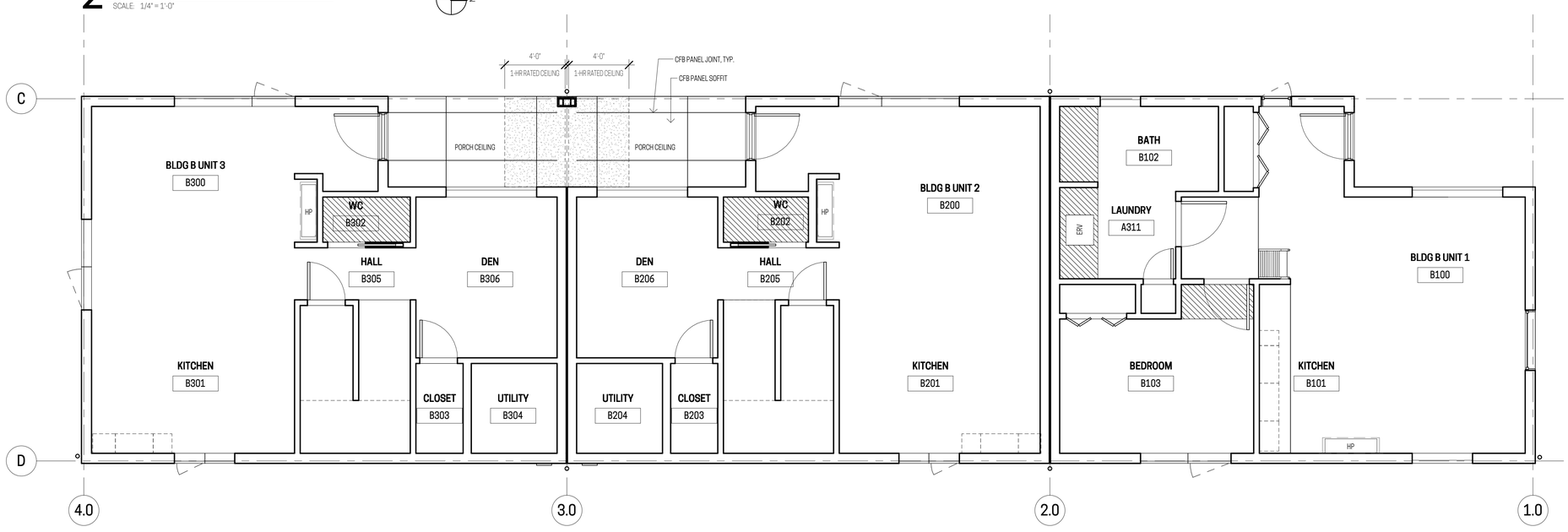


2 BLDG B - UPPER LEVEL

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



1 BLDG B - MAIN LEVEL

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

SOFFIT LEGEND

SOFFIT

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STATE OF WASHINGTON

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BUILDNG B - REFLECTED CEILING PLANS

A2.11

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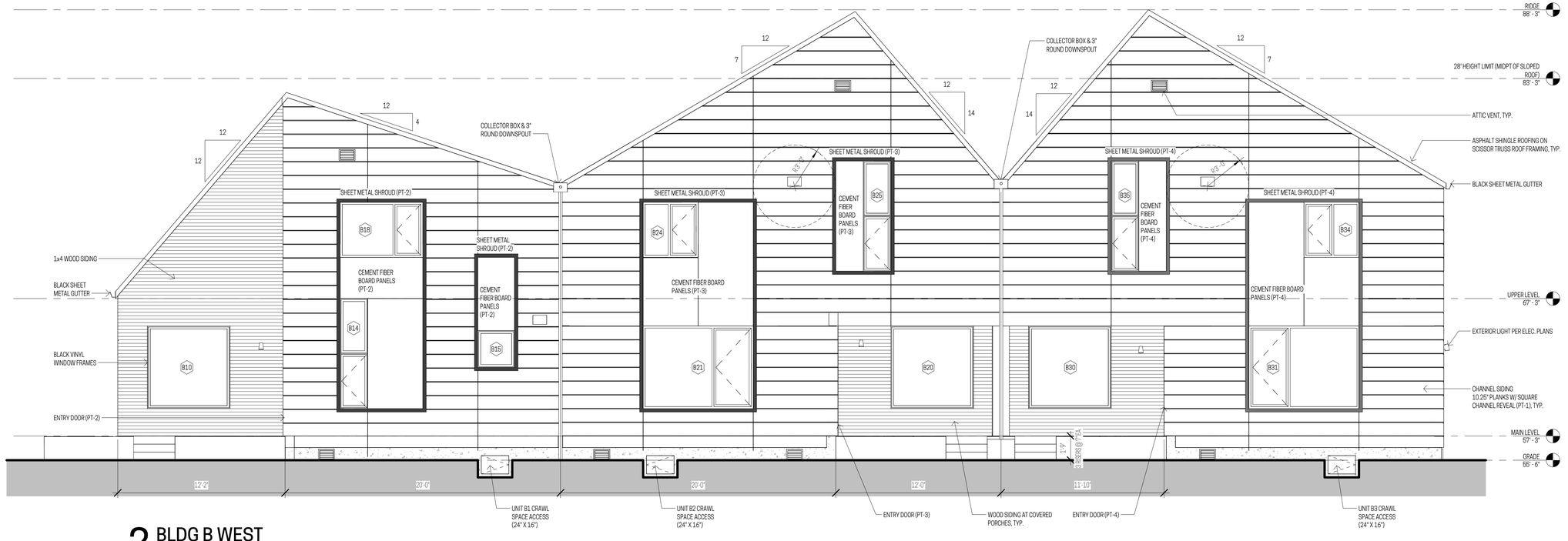
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW

1 BLDG B EAST

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



2 BLDG B WEST

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

EXT. FINISH SCHEDULE

PT-1	BENJAMIN MOORE 2146-70 "BAVARIAN CREAM" EXTERIOR
PT-2	BENJAMIN MOORE CC-968 "BASIC BLUE" EXTERIOR
PT-3	BENJAMIN MOORE 2077-20 "GYPSY PINK" EXTERIOR
PT-4	BENJAMIN MOORE 2010-10 "TOMATO RED" EXTERIOR
PT-5	BENJAMIN MOORE 2023-30 "SUN PORCH" EXTERIOR
PT-6	BENJAMIN MOORE 2026-30 "SNOW CONE GREEN" EXT.
PT-7	BENJAMIN MOORE 2056-30 "SURF BLUE" EXTERIOR

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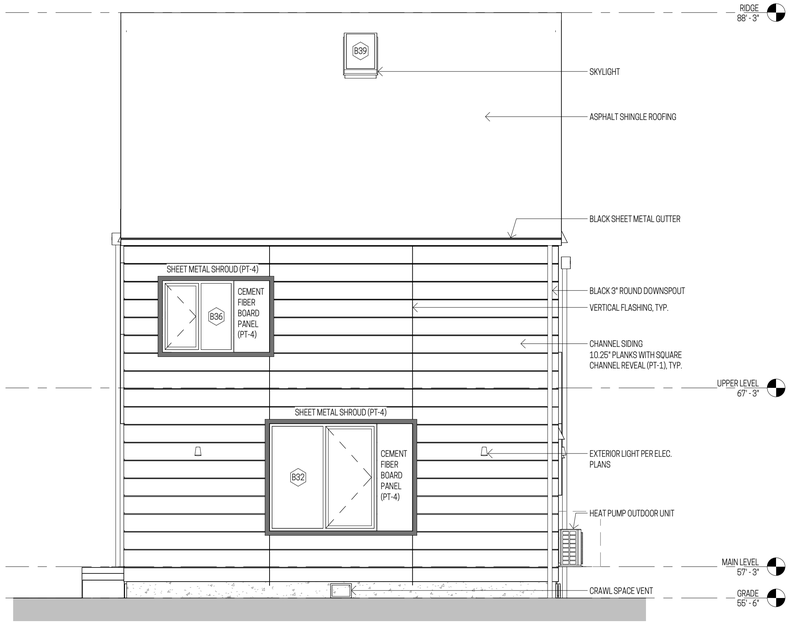
BUILDING B - EXTERIOR ELEVATIONS

A3.2

1 NORTH

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



2 SOUTH

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

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City of Puyallup
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Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW

EXT. FINISH SCHEDULE

PT-1	BENJAMIN MOORE 2146-70 "BAVARIAN CREAM" EXTERIOR
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BUILDING B - EXTERIOR ELEVATIONS

A3.3

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SECTION KEYNOTES

A: TYPICAL SLAB ON GRADE
- SLAB ON GRADE PER STRUCTURAL PLANS
- R-10 INSULATION UNDER ENTIRE SLAB

B: TYPICAL FLOOR CONSTRUCTION
- SHEATHING PER STRUCTURAL PLANS
- FLOOR JOISTS PER STRUCTURAL PLANS
- 5/8" GYPSUM WALL BOARD AT CEILINGS
- R-38 BATT FIBERGLASS INSULATION OVER UNHEATED SPACE

C: NOT USED

D: TYPICAL UNRATED EXTERIOR WALL
- SIDING PER ELEVATIONS
- WEATHER RESISTIVE BARRIER
- R-5 INSULATED SHEATHING, TAPED SEAMS
- 2X6 ADVANCED FRAMING PER STRUCTURAL PLANS
- R-21 BATT INSULATION, R-10 AT HEADERS
- (1) LAYER 1/2" GYPSUM WALL BOARD

E: TYPICAL INTERIOR WALL
- 1/2" GYPSUM WALL BOARD
- 2X4 OR 2X6 STUDS @ 16" O.C.

F: TYPICAL DOUBLE 1-HOUR PARTY WALL (STC 55) PER GA FILE NO. WP 3820
- 2X4 STUDS @ 24" O.C. EACH SIDE PER STRUCTURAL PLANS
- 2X4 SILL AND (2) 2X4 TOP PLATE EACH SIDE
- (1) LAYER 5/8" TYPE X GWB EACH SIDE. (4) LAYERS TOTAL APPLIED VERTICALLY OR HORIZONTALLY

G: TYPICAL ROOF CONSTRUCTION
- ROOFING PER BUILDING ELEVATIONS
- ROOF UNDERLAYMENT
- PLYWOOD PER STRUCTURAL PLANS
- RAISED HEEL SCISSOR TRUSSES PER STRUCTURAL PLANS
- MIN. R-49 BLOWN-IN CELLULOSE INSULATION
- AIR BARRIER SHEATHING ATTACHED TO BOTTOM CHORD, ALL SEAMS TAPED
- 2X FURRING (UTILITY RACEWAY)
- (1) LAYER 5/8" GWB TO BE TYPE 'X' FOR 4 FT ON EITHER SIDE OF PARTY WALLS
- PRIMER & PAINT

H: ROOF CRICKET CONSTRUCTION
- ROOFING PER BUILDING ELEVATIONS
- ROOF UNDERLAYMENT
- PLYWOOD PER STRUCTURAL PLANS
- OVERFRAMING PER STRUCTURAL

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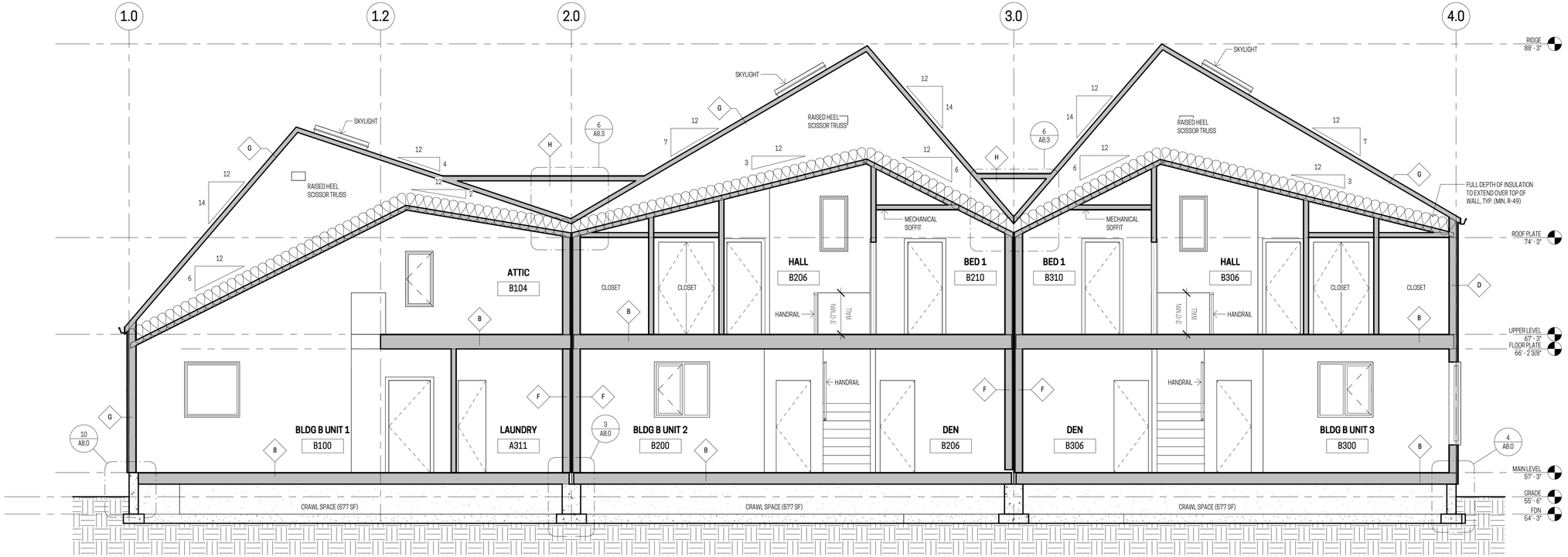

1 BUILDING B - SECTION
SCALE: 1/4" = 1'-0"

11106 REGISTERED ARCHITECT
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BUILDING B - SECTION

A4.1

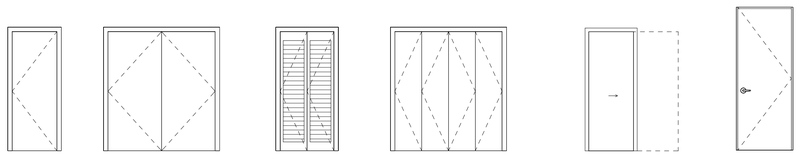
EXTERIOR DOOR SCHEDULE - BUILDING B

DOOR NUMBER	WIDTH	HEIGHT	TYPE	OPERATION	MATERIAL	FINISH	GLAZING AREA	COMMENTS
B100-0	3' - 0"	8' - 0"	F	SWING	FIBERGLASS	PT-2	0 SF	
B200-0	3' - 0"	8' - 0"	F	SWING	FIBERGLASS	PT-3	0 SF	
B204-0	3' - 0"	6' - 8"	F	SWING	FIBERGLASS	PT-3	0 SF	
B300-0	3' - 0"	8' - 0"	F	SWING	FIBERGLASS	PT-4	0 SF	
B304-0	3' - 0"	6' - 8"	F	SWING	FIBERGLASS	PT-4	0 SF	
							0 SF	

INTERIOR DOOR SCHEDULE - BUILDING B

DOOR NUMBER	WIDTH	HEIGHT	TYPE	COMMENTS
B100-1	5' - 0"	6' - 8"	D	
B102	3' - 0"	6' - 8"	A	
B102-1	2' - 0"	6' - 8"	A	
B103	3' - 0"	6' - 8"	A	
B103-1	4' - 0"	6' - 8"	B	
B200-1	2' - 6"	6' - 8"	A	
B202	2' - 6"	6' - 8"	E	
B203	2' - 6"	6' - 8"	A	
B206	2' - 6"	6' - 8"	C	
B207	2' - 6"	6' - 8"	A	
B207-1	4' - 0"	6' - 8"	B	
B208	2' - 6"	6' - 8"	A	
B208-1	4' - 0"	6' - 8"	B	
B209	2' - 6"	6' - 8"	A	
B210	2' - 6"	6' - 8"	A	
B211	2' - 6"	6' - 8"	A	
B211-1	2' - 0"	6' - 8"	A	
B300-1	2' - 6"	6' - 8"	A	
B302	2' - 6"	6' - 8"	E	
B303	2' - 6"	6' - 8"	A	
B306	2' - 6"	6' - 8"	C	
B307	2' - 6"	6' - 8"	A	
B307-1	4' - 0"	6' - 8"	B	
B308	2' - 6"	6' - 8"	A	
B308-1	4' - 0"	6' - 8"	B	
B309	2' - 6"	6' - 8"	A	
B310	2' - 6"	6' - 8"	A	
B311	2' - 6"	6' - 8"	A	
B311-1	2' - 0"	6' - 8"	A	

BLDG B DOOR TYPES



A SINGLE FLUSH

B DOUBLE FLUSH

C LOUVERED BI-FOLD 2-PANEL

D BI-FOLD 4-PANEL

E POCKET

F FLUSH EXTERIOR INSULATED

DOOR NOTES

1. ALL DOOR GLAZING TO BE TEMPERED LOW-E W/ARGON GAS.
2. VERIFY ALL DIMENSIONS IN FIELD.
3. PROVIDE ALL EXTERIOR DOORS WITHIN 10' OF GRADE WITH DEAD BOLTS OR OTHER APPROVED LOCKING DEVICES.
4. ENTRY DOORS SHALL HAVE MIN. 1/2" THROW OR DEAD BOLT AND VIEWPORT. ALL LOCKS, INCLUDING DOOR LOCKS, MUST BE ABLE TO BE OPENED WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
5. ALL EXT DOORS TO BE 1-3/4" THICK UNO
6. ALL INT DOORS TO BE 1-3/8" THICK UNO
7. POCKET DOORS TO HAVE JOHNSON HEAVY DUTY TRACK
8. ALL GLAZING UNITS TO BEAR FACTORY LABELS AND CERTIFICATIONS PER WSEC R303.1.3

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1200 7TH AVE SE
PUYALLUP, WA 98371

ISSUE	DATE
BLDG PERMIT APPLICATION	03/06/2025

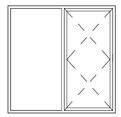
BUILDING B - DOOR SCHEDULE

A7.2

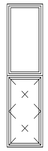
WINDOW NOTES

1. PROVIDE SAFETY GLAZING AT THE FOLLOWING LOCATIONS:
   - ALL DOORS
   - ALL BATHTUB AND SHOWER ENCLOSURES WHICH SHALL BE OUTSWING AND LABELLED CATEGORY II.
   - IN WINDOWS LOCATED IN STAIRWELLS
   - IN WINDOWS LOCATED IN SHOWER OR TUB AREAS
   - IN WINDOWS WITH GLAZING SURFACE WITHIN A 24" ARC OF A DOOR AND LESS THAN 60" ABOVE THE FLOOR.
   - IN WINDOWS LESS THAN 18" ABOVE THE FLOOR OR GROUND.
   - EACH LIGHT SHALL BE PERMANENTLY MARKED AS TEMPERED.
2. CONTRACTOR TO VERIFY ALL ROUGH OPENINGS AFTER FRAMING IS COMPLETE AND PRIOR TO ORDERING WINDOWS.
3. WINDOWS ARE REFERENCED ON EXTERIOR ELEVATIONS.
4. WINDOWS MARKED EGRESS SHALL FULFILL THE FOLLOWING REQUIREMENTS:
   - 5.7 SF MIN. NET OPEN AREA
   - 20" MIN. CLEAR OPEN WIDTH
   - 24" MIN. CLEAR OPEN HEIGHT
   - 44" MAX. SILL HEIGHT
   - OPERATIONAL FROM THE INSIDE WITHOUT ANY SPECIAL KNOWLEDGE, KEYS, OR TOOLS
5. ALL GLAZING TO BE 3/4" INSULATED LOW-E/ARGON FILLED WITH SIMULATED DIVIDED LIGHTS WHERE SHOWN, UNO.
6.
7. PROVIDE OBSCURE GLASS AT ALL BATHROOM LOCATIONS.
8. ALL GLAZING OPENINGS PROVIDED SHALL BE NFRC CERTIFIED. REFER TO NFRC CPD# LISTED IN THE WINDOW SCHEDULE.
9. AIR LEAKAGE FOR SWINGING ENTRANCE DOORS SHALL NOT EXCEED 1.0 CFM PER SQUARE FOOT.
   AIR LEAKAGE FOR STOREFRONT FENESTRATION SHALL NOT EXCEED 0.04 CFM PER SQUARE FOOT.
   AIR LEAKAGE FOR ALL OTHER PRODUCTS INCLUDING VINYL WINDOWS SHALL NOT EXCEED 0.2 CFM PER SQUARE FOOT.

WINDOW TYPES



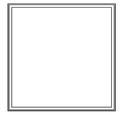
FIXED W SIDE CASEMENT
see elevations for window operation



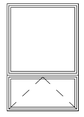
FIXED W BOTTOM CASEMENT
see elevations for window operation

CASEMENT
see elevations for window operation

Prior to Construction:
Verify clear opening widths of egress windows are equal to or greater than 20".



FIXED



FIXED W BOTTOM AWNING

AWNING

WINDOW SCHEDULE - BLDG B UNIT 1

Mark	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	OPERATION	GLAZING AREA	U-VALUE	EGRESS	HEAD HEIGHT	COMMENTS
B10	6' - 0"	6' - 0"	Fixed	36 SF	0.28		8' - 0"	
B11	6' - 0"	6' - 0"	Fixed w Side Casement	36 SF	0.28	Yes	8' - 0"	
B12	4' - 0"	4' - 0"	Fixed	16 SF	0.28		8' - 0"	
B13	4' - 0"	6' - 0"	Fixed with Bottom Awning	24 SF			8' - 0"	
B14	2' - 0"	8' - 0"	Fixed w Bottom Casement	16 SF	0.28	No	10' - 0"	
B15	2' - 8"	2' - 8"	Fixed	7 SF	0.28		7' - 8"	
B16	2' - 8"	2' - 8"	Fixed	7 SF	0.28		5' - 8"	
B17	2' - 0"	4' - 0"	Casement	8 SF			6' - 0"	
B18	6' - 0"	4' - 0"	Fixed w Side Casement	24 SF	0.28	Yes	7' - 0"	
B19	1' - 9"	4' - 0"	Skylight	7 SF				U-VALUE 0.50
Grand total: 10				181 SF				

WINDOW SCHEDULE - BLDG B UNIT 2

Mark	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	OPERATION	GLAZING AREA	U-VALUE	EGRESS	HEAD HEIGHT	COMMENTS
B20	6' - 0"	6' - 0"	Fixed	36 SF	0.28		8' - 0"	
B21	8' - 0"	6' - 0"	Fixed w Side Casement	48 SF	0.28	No	8' - 0"	
B23	4' - 0"	4' - 0"	Fixed w Side Casement	16 SF	0.28	No	8' - 0"	
B24	4' - 0"	4' - 0"	Fixed w Side Casement	16 SF	0.28	Yes	7' - 0"	
B25	2' - 0"	8' - 0"	Fixed w Bottom Casement	16 SF	0.28	Yes	10' - 0"	
B27	2' - 0"	4' - 0"	Fixed	8 SF	0.28		10' - 0"	
B28	6' - 0"	6' - 0"	Fixed w Side Casement	36 SF	0.28	Yes	8' - 0"	
B29	1' - 9"	4' - 0"	Skylight	7 SF				U-VALUE 0.50
Grand total: 8				183 SF				

WINDOW SCHEDULE - BLDG B UNIT 3

Mark	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	OPERATION	GLAZING AREA	U-VALUE	EGRESS	HEAD HEIGHT	COMMENTS
B30	6' - 0"	6' - 0"	Fixed	36 SF	0.28		8' - 0"	
B31	8' - 0"	6' - 0"	Fixed w Side Casement	48 SF	0.28	No	8' - 0"	
B32	6' - 0"	6' - 0"	Fixed w Side Casement	36 SF	0.28	No	8' - 0"	
B33	4' - 0"	4' - 0"	Fixed w Side Casement	16 SF	0.28	No	8' - 0"	
B34	4' - 0"	4' - 0"	Fixed w Side Casement	16 SF	0.28	Yes	7' - 0"	
B35	2' - 0"	8' - 0"	Fixed w Bottom Casement	16 SF	0.28	Yes	10' - 0"	
B36	4' - 0"	4' - 0"	Fixed w Side Casement	16 SF	0.28	No	6' - 0"	
B37	2' - 0"	4' - 0"	Fixed	8 SF	0.28		10' - 0"	
B38	6' - 0"	6' - 0"	Fixed w Side Casement	36 SF	0.28	Yes	8' - 0"	
B39	1' - 9"	4' - 0"	Skylight	7 SF				U-VALUE 0.50
Grand total: 10				235 SF				

PRRNTH20250333

City of Puyallup
Development & Permitting Services
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FOR AGENCY REVIEW

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BUILDING B - WINDOW SCHEDULE

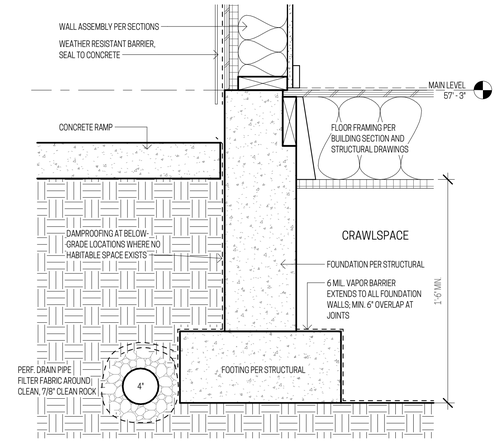
A7.3

PRRNTH20250333

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

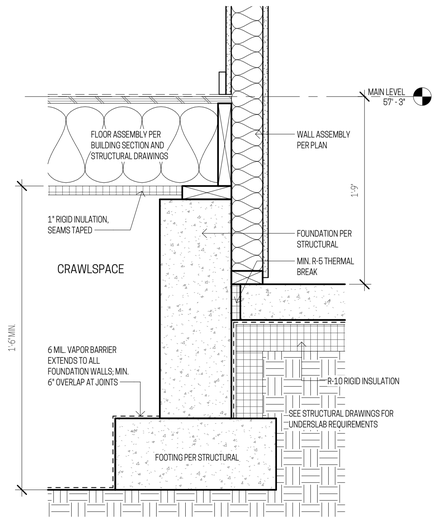
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW



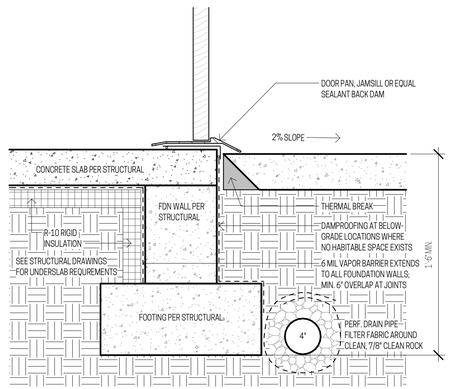
10 FOUNDATION @ ACCESSIBLE RAMP

SCALE: 1 1/2" = 1'-0"



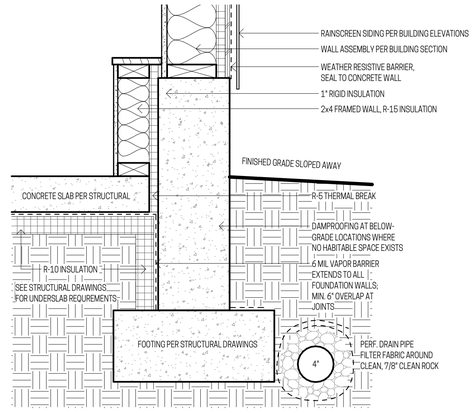
9 FOUNDATION @ UNIT/UTILITY ROOM

SCALE: 1 1/2" = 1'-0"



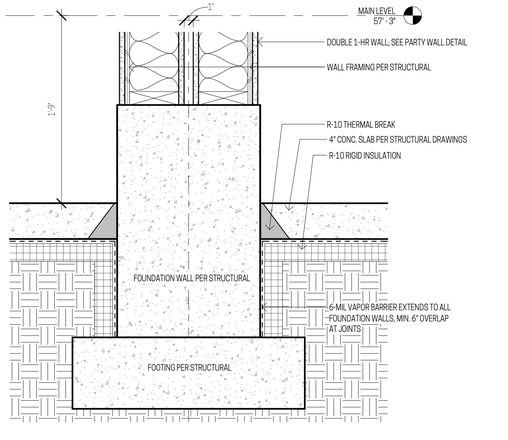
8 FOUNDATION @ UTILITY ROOM DOOR

SCALE: 1 1/2" = 1'-0"



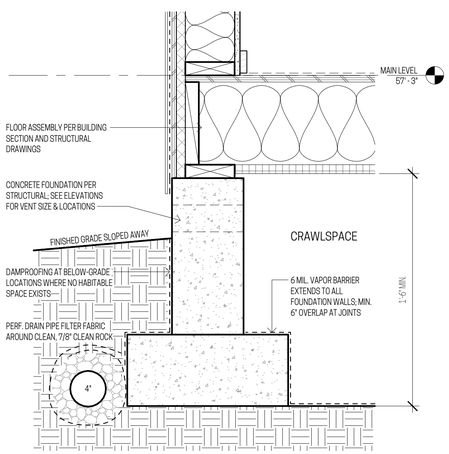
6 FOUNDATION @ UTILITY ROOM

SCALE: 1 1/2" = 1'-0"



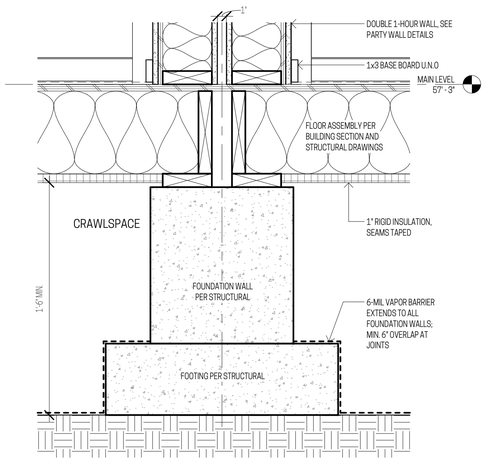
5 PARTY WALL @ UTILITY ROOMS

SCALE: 1 1/2" = 1'-0"



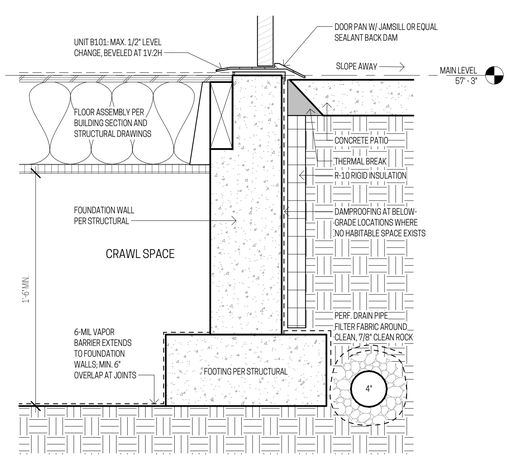
4 TYPICAL FOUNDATION @ CRAWL SPACE

SCALE: 1 1/2" = 1'-0"



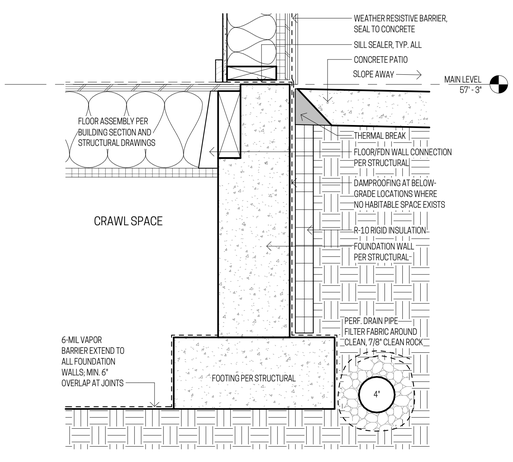
3 PARTY WALL @ TYPICAL GROUND FLOOR

SCALE: 1 1/2" = 1'-0"



2 FOUNDATION @ ENTRY DOOR

SCALE: 1 1/2" = 1'-0"



1 FOUNDATION @ PORCH

SCALE: 1 1/2" = 1'-0"

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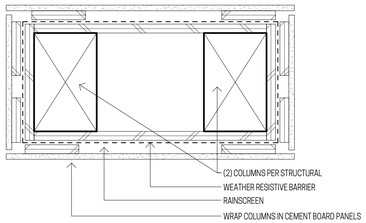
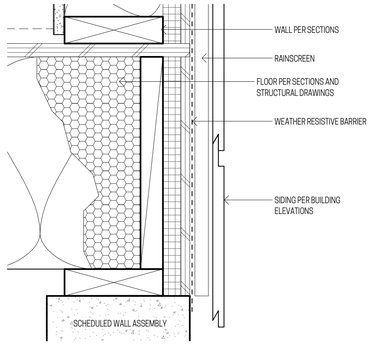
DETAILS FOUNDATION

A8.0



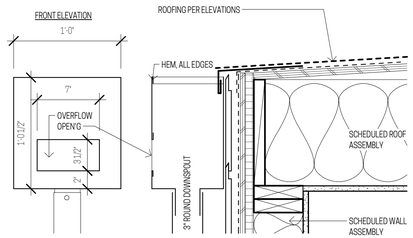
13 SIDING AT COLUMNS

SCALE: 3" = 1'-0"



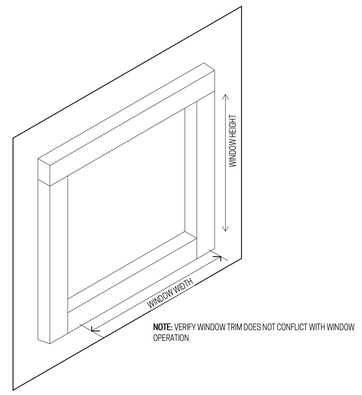
12 BASE DETAIL @ CHANNEL SIDING

SCALE: 3" = 1'-0"



11 LEADER BOX

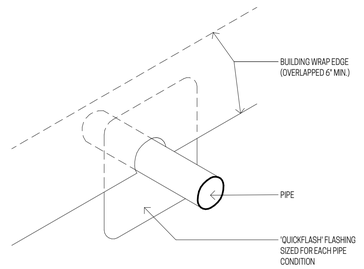
SCALE: 1 1/2" = 1'-0"



NOTE: VERIFY WINDOW TRIM DOES NOT CONFLICT WITH WINDOW OPERATION

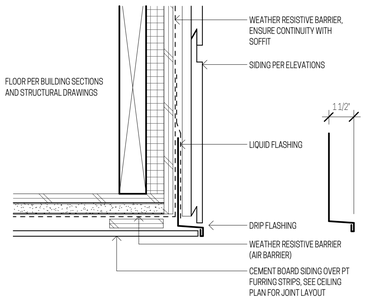
10 WINDOW SHROUD 3D

SCALE: 1" = 1'-0"



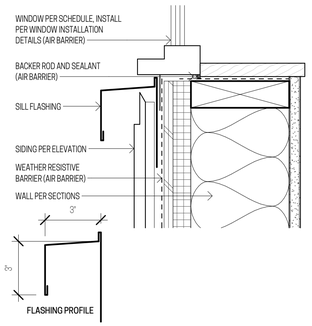
9 PIPE PENETRATION

SCALE: 3" = 1'-0"



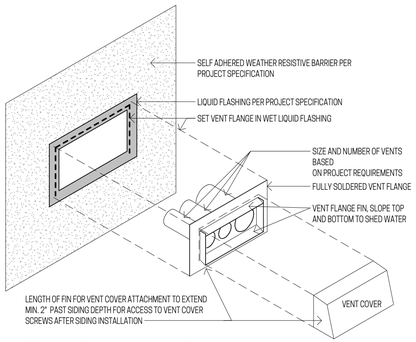
8 SOFFIT FLASHING

SCALE: 3" = 1'-0"

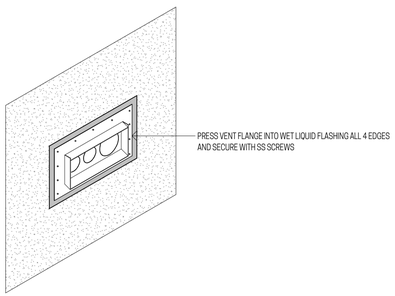


7 WINDOW SILL

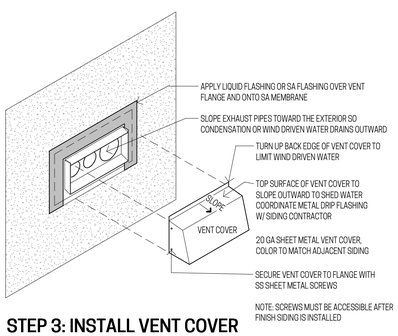
SCALE: 3" = 1'-0"



STEP 1: APPLY LIQUID FLASHING



STEP 2: SET VENT FLANGE



STEP 3: INSTALL VENT COVER

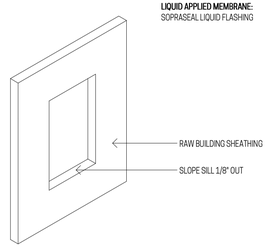
2 EXHAUST TERMINATION

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

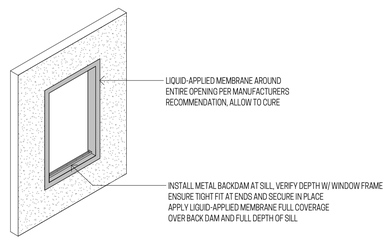
PROJECT SPECIFICATIONS

WEATHER RESISTIVE BARRIER:
SOPRASEAL STICK VP

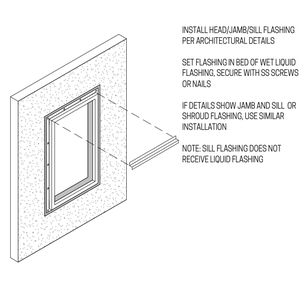
LIQUID APPLIED MEMBRANE:
SOPRASEAL LIQUID FLASHING



STEP 1: PREPARE OPENING



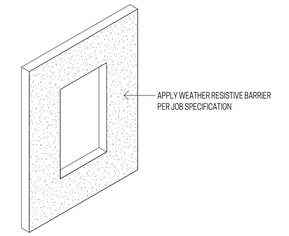
STEP 3: APPLY LIQUID FLASHING



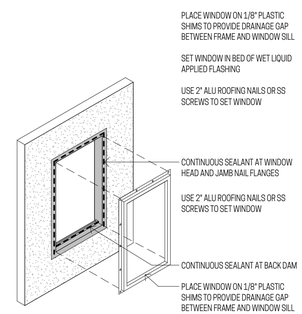
STEP 5: INSTALL WINDOW FLASHING

1 WINDOW INSTALLATION

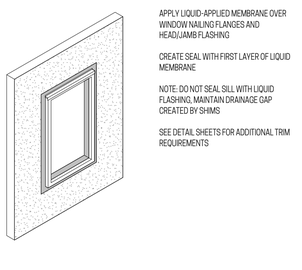
SCALE: 1/4" = 1'-0"



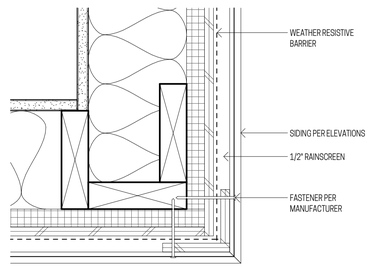
STEP 2: INSTALL BUILDING PAPER



STEP 4: INSTALL WINDOW

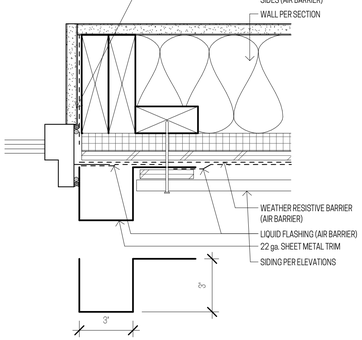


STEP 6: APPLY LIQUID FLASHING



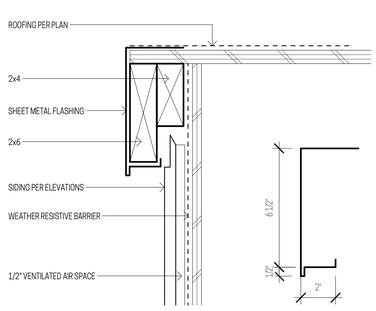
6 CHANNEL SIDING CORNER

SCALE: 3" = 1'-0"



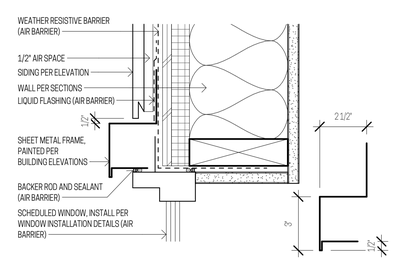
5 WINDOW JAMB

SCALE: 3" = 1'-0"



4 CHANNEL SIDING @ EAVE

SCALE: 3" = 1'-0"



3 WINDOW HEAD

SCALE: 3" = 1'-0"

PRRNTH20250333

City of Puyallup
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ISSUED PERMIT

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DETAILS SIDING & WINDOWS

A8.1

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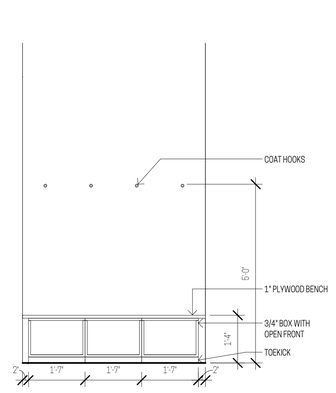
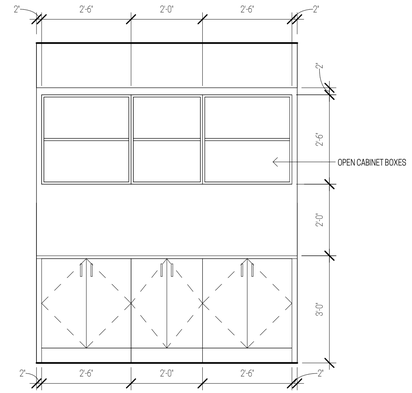
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW



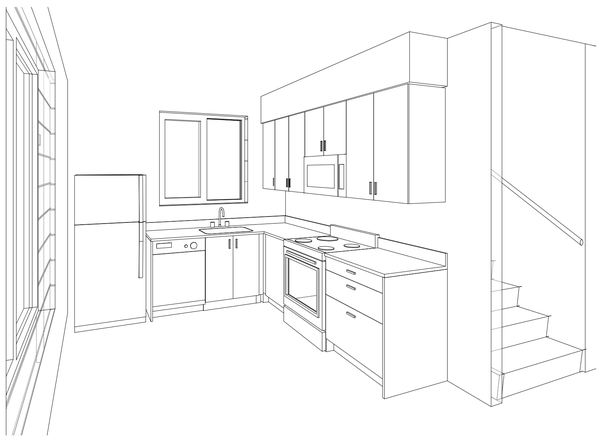
6 A101, A102, A103 ENTRY BENCH

SCALE: 1/2" = 1'-0"



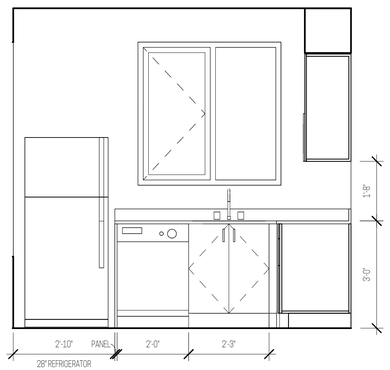
5 A101, A102, A103 HALL CABINETS

SCALE: 1/2" = 1'-0"



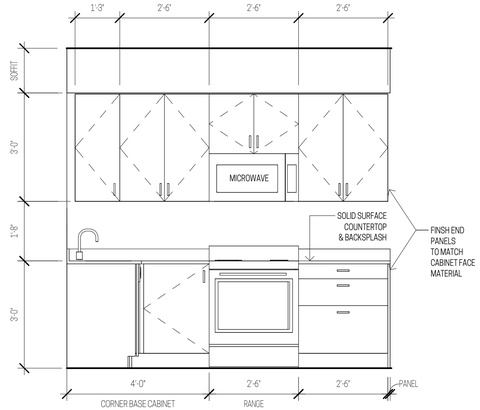
4 KITCHEN A101, A201, A301 VIEW

SCALE:



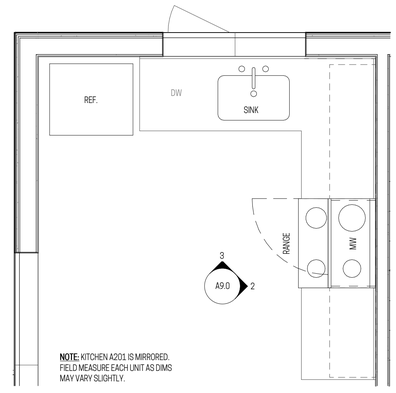
3 KITCHEN A101/A201/A301

SCALE: 1/2" = 1'-0"



2 KITCHEN A101/A201/A301

SCALE: 1/2" = 1'-0"



1 KITCHEN A101/A201/A301

SCALE: 1/2" = 1'-0"

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WC STUDIO architects

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7TH AVE TOWNHOMES BUILDING B

1200 7TH AVE SE
PUYALLUP, WA 98371

ISSUE	DATE
BLDG PERMIT APPLICATION	03/06/2025
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BUILDING A - ENLARGED PLANS + INTERIOR ELEVATIONS

A9.0

This sheet for reference only. See permit application PRRNTH20250328 for Building A

PRRNTH20250333

City of Puyallup
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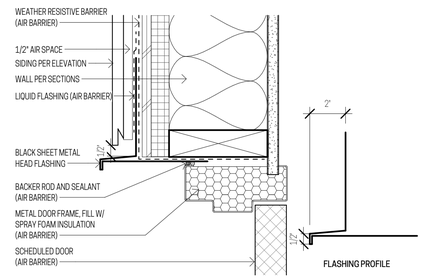
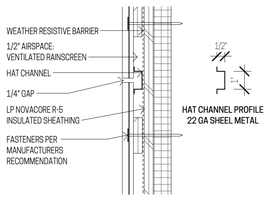
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW



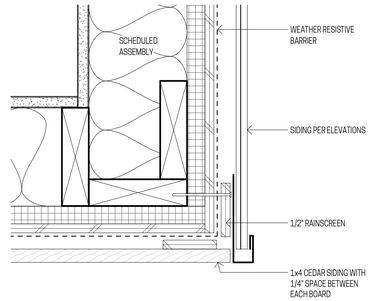
3 DOOR HEAD

SCALE: 3" = 1'-0"



2 CHANNEL VERTICAL PANEL JOINT

SCALE: 3" = 1'-0"



1 CHANNEL AND 1x4 WOOD CORNER

SCALE: 3" = 1'-0"

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DETAILS SIDING & DOORS

A8.2

PRRNTH20250333

City of Puyallup
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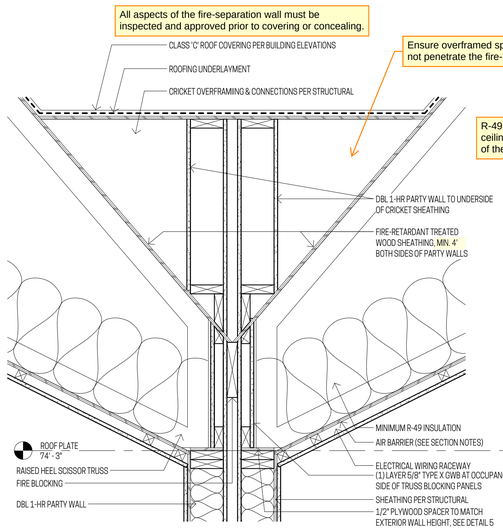
Building	Planning
Engineering	Public Works
Fire	Traffic

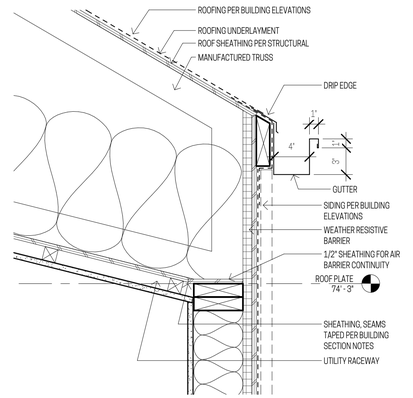
FOR AGENCY REVIEW



6 DBL 1-HR PARTY WALL ROOF

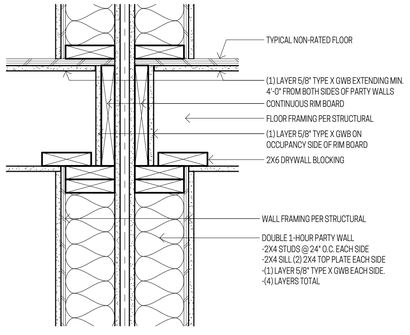
SCALE: 1" = 1'-0"

R-49 ceiling insulation must run uncompressed over 100% of the ceiling area, including over the top plates - per section R402.2.1 of the 2021 Washington State Energy Code - Residential.



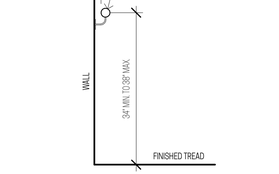
5 EAVE SECTION

SCALE: 1 1/2" = 1'-0"



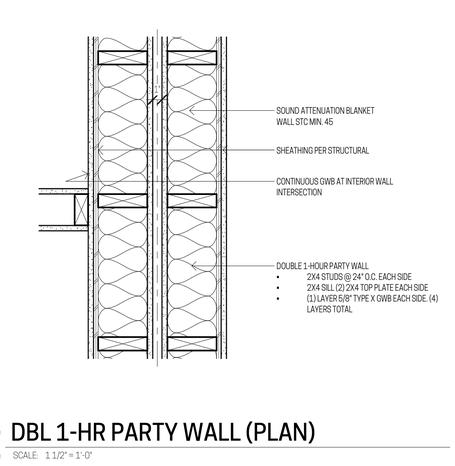
4 DBL 1-HR PARTY WALL INT. FLOOR

SCALE: 1 1/2" = 1'-0"



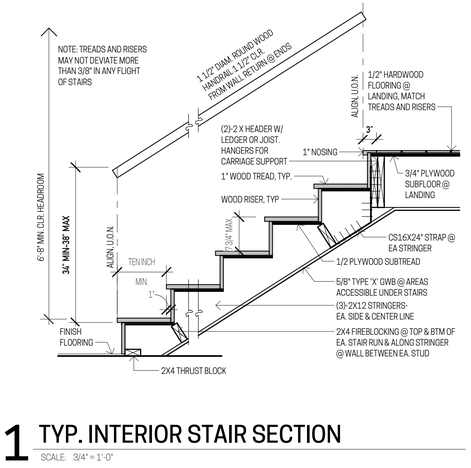
3 HANDRAIL

SCALE: 3/4" = 1'-0"



2 DBL 1-HR PARTY WALL (PLAN)

SCALE: 1 1/2" = 1'-0"



1 TYP. INTERIOR STAIR SECTION

SCALE: 3/4" = 1'-0"

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DETAILS FRAMING

A8.3

PRRNTH20250333

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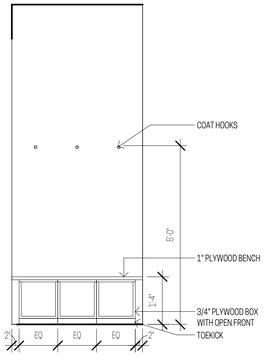
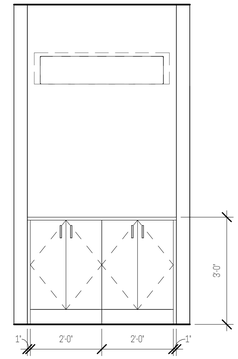
Building	Planning
Engineering	Public Works
Fire	Traffic

FOR AGENCY REVIEW



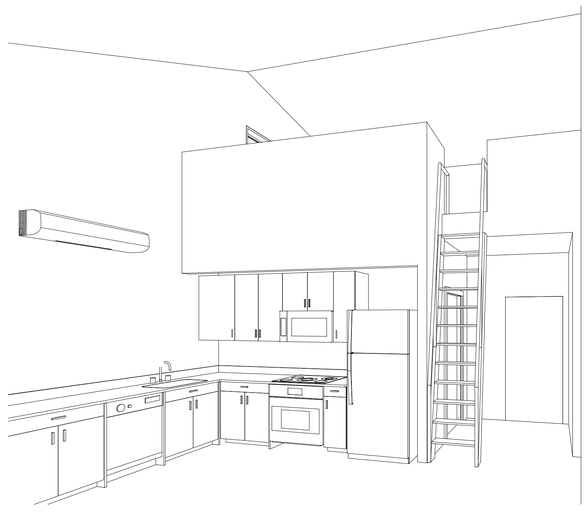
9 B201/301 ENTRY BENCH

SCALE: 1/2" = 1'-0"



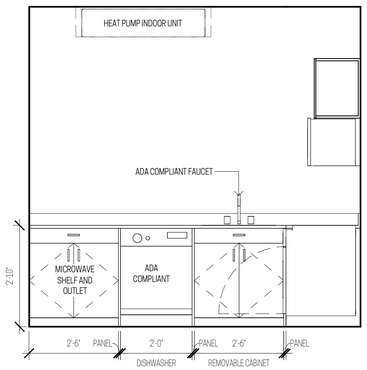
8 B201/B301 HALL CABINETS

SCALE: 1/2" = 1'-0"



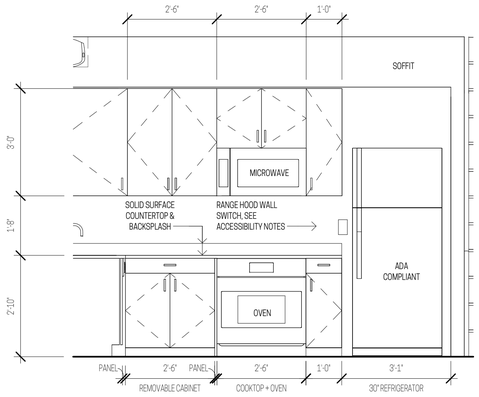
7 KITCHEN B101

SCALE:



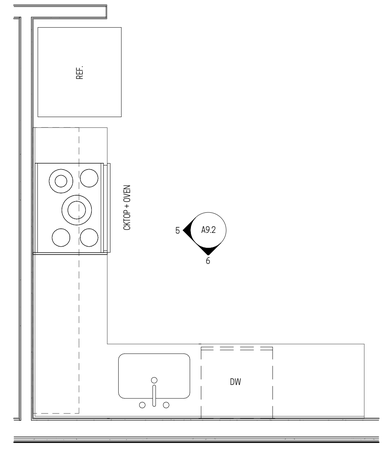
6 KITCHEN B101 EAST

SCALE: 1/2" = 1'-0"



5 KITCHEN B101 SOUTH

SCALE: 1/2" = 1'-0"

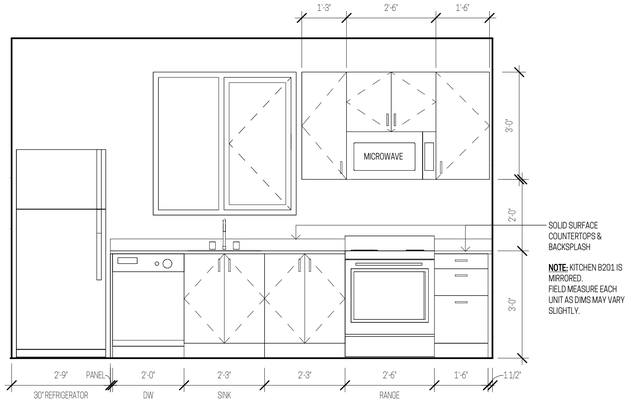


4 KITCHEN B101

SCALE: 1/2" = 1'-0"

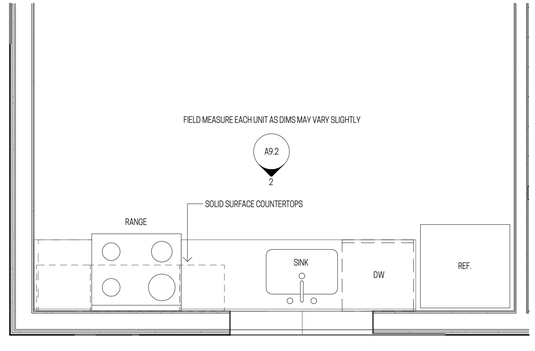
3 KITCHEN B201, B301 VIEW

SCALE:



2 KITCHEN B201/B301

SCALE: 1/2" = 1'-0"



1 KITCHEN B201/B301

SCALE: 1/2" = 1'-0"

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BUILDING B - ENLARGED PLANS + INTERIOR ELEVATIONS

A9.2

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Engineering	Public Works
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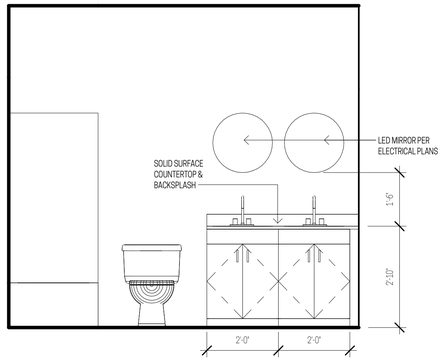
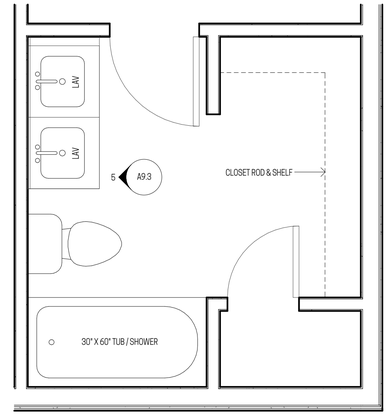


5 BATH 1 ELEVATION

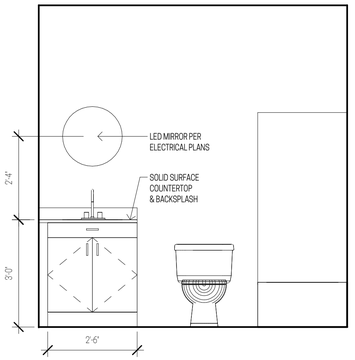
SCALE: 1/2" = 1'-0"

NOTE: PLAN ORIENTATION FOR BATH A111 & A311 SHOWN. BATH A211, B211 & B311 SIMILAR (MIRRORED) DIMENSIONS MAY VARY SLIGHTLY BETWEEN UNITS



6 BATHROOM B - UPPER LEVELPLAN

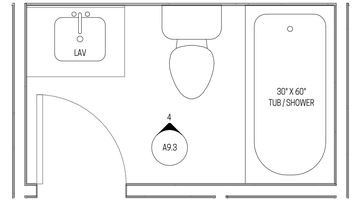
SCALE: 1/2" = 1'-0"



4 BATH 2 ELEVATION

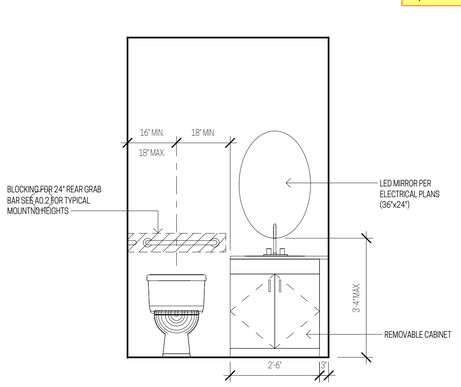
SCALE: 1/2" = 1'-0"

NOTE: PLAN ORIENTATION FOR BATH 2 B309 SHOWN. BATH B209 SIMILAR (MIRRORED) DIMENSIONS MAY VARY SLIGHTLY BETWEEN UNITS



3 BATH 2 PLAN - BLDG B

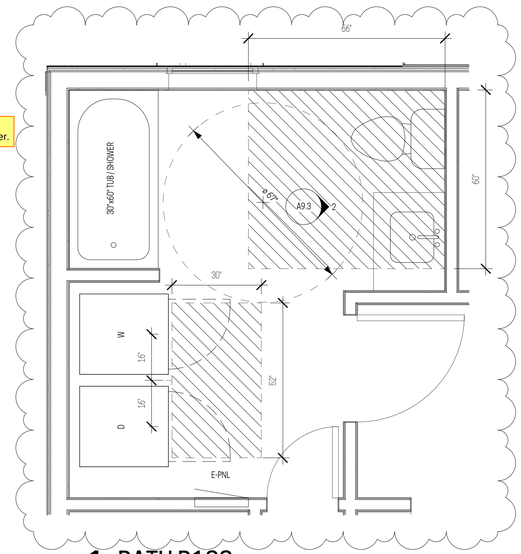
SCALE: 1/2" = 1'-0"



2 BATH B102 NORTH

SCALE: 1/2" = 1'-0"

See sheet A0.2 for requirements at tub/shower.



1 BATH B102

SCALE: 1/2" = 1'-0"

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BUILDING B - ENLARGED PLANS + INTERIOR ELEVATIONS

A9.3

GENERAL STRUCTURAL NOTES

DESIGN LOADS

ALL DESIGN SHALL CONFORM TO THE REQUIREMENTS OF THE 2021 WA STATE BUILDING CODE (2021 INTERNATIONAL BUILDING CODE WITH STATE OF WASHINGTON AMENDMENTS) AS ADOPTED BY THE PROJECT JURISDICTION AS OF PROJECT SUBMITTAL DATE. DESIGN BY ASD UNO.

VERTICAL LOADS: IN ADDITION TO THE STRUCTURE DEAD LOADS (15 PSF ROOF, 12 PSF FLOORS), THE FOLLOWING LIVE LOADS WERE USED FOR DESIGN.

GROUND SNOW	25 PSF
ROOF SNOW LOAD	25 POUNDS PER SQUARE FOOT (PSF)*
FLOOR LIVE LOAD	40 PSF
STAIRS AND EXIT CORRIDORS	100 PSF
DECKS AND BALCONIES	60 PSF LIVE LOAD

ROOF SNOW LOADS: ROOF SNOW LOAD IS CALCULATED IN ACCORDANCE WITH CHAPTER 7 OF ASCE 7 AND PER IBC SECTION 1808. MINIMUM DESIGN ROOF SNOW LOAD IS 25 PSF. PG = 25 PSF, IS = 1.0, PF = 25 PSF, CE = 0.9,CT = 1.0.

FOUNDATION DESIGN: FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH REQUIREMENTS OF IBC, CHAPTER 18, TABLE 1806.2 MINIMUMS. FOUNDATION SYSTEM COMPOSED OF CONVENTIONAL CONCRETE SPREAD AND STRIP FOOTINGS. ALLOWABLE BEARING = 1,500 PSF, LATERAL BEARING = 100 PSF/FT, COF = 0.25. FPASSIVE = 150 PCF, FACTIVE = 35 PCF, FAT REST = 50 PCF.

WIND LOADS: WIND LOADS ARE CALCULATED ACCORDING TO CHAPTER 28 PART 2 OF ASCE 7. RISK CATEGORY = II, EXPOSURE CATEGORY = B, V = 98 MPH, KZT = 1.0, 16 PSF USD, 10 PSF ASD MIN.

SEISMIC DESIGN CRITERIA:
SITE CLASS D1

IE = 1.0	SDS =1.011
R = 6.5 SHEAR WALL	OMEGA = 3

GENERAL NOTES
STRUCTURAL DRAWINGS INDICATE THE BUILDING IN ITS FINAL, CONSTRUCTED CONDITION. TEMPORARY SHORING AND ERECTION METHODS PRIOR TO FINAL COMPLETION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL DRAWINGS INDICATE A PORTION OF THE COMPLETED PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR INCORPORATING AND COORDINATING THE REQUIREMENTS OF THE OTHER TRADES.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY BETWEEN THE STRUCTURAL DRAWINGS AND THE EXISTING CONDITIONS FOR RESOLUTION PRIOR TO PROCEEDING.

STRUCTURAL DRAWINGS SHOW TYPICAL CONDITIONS. WHERE NO DETAIL IS SPECIFICALLY INDICATED, CONSTRUCTION SHALL BE IN ACCORDANCE WITH SIMILAR CONSTRUCTION ON THE PROJECT.

SPECIAL INSPECTION: NONE REQUIRED
STRUCTURAL OBSERVATION: NONE REQUIRED

CONCRETE: CONCRETE CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 19 OF THE IBC AND WITH ACI 318. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONCRETE SHALL BE 3,000 PSI, 5 $\frac{1}{2}$ MIN SACK, 4" MAXIMUM SLUMP, 0.50 W/C RATIO, $\frac{3}{4}$" MAXIMUM AGGREGATE SIZE WITH UNIFORM GRADATION. EXTERIOR CONCRETE SHALL BE AIR ENTRAINED, 5% PLUS OR MINUS 1% AIR.

REINFORCING STEEL: ALL REINFORCING STALL SHALL COMPLY WITH ASTM A615, GRADE 60 FOR DEFORMED BARS AND ASTM A185 FOR SMOOTH WELDED WIRE FABRIC (WWF) UNO.

REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315). LAP ALL REINFORCING BARS AS DETAILED ON THE DRAWINGS. MINIMUM LAP LENGTH SHALL BE 40D UNO.

REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM COVER:
BARS EXPOSED TO EARTH OR WEATHER – 3"
MAIN REINFORCING BARS – 1 $\frac{1}{2}$"
TIES AND STIRRUPS – 1"

EPOXY ADHESIVE SHALL CONFORM TO ASTM C881 AND SHALL BE A TWO COMPONENT LIQUID EPOXY WITH NON–SAG CONSISTENCY AND A LONG POT LIFE. EPOXY SHALL BE SUITABLE FOR USE ON DRY OR DAMP SURFACES WITH MINIMUM SHEAR STRENGTH 5000 PSI AND MINIMUM TENSILE STRENGTH OF 4000 PSI. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

STRUCTURAL STEEL CONSTRUCTION SHALL BE IN CONFORMANCE WITH AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE CODE OF STANDARD PRACTICE.

STRUCTURAL STEEL SHAPES AND PLATES SHALL COMPLY WITH ASTM A572 GRADE 50 OR ASTM A992 GRADE 50. HOLLOW STRUCTURAL SECTIONS (HSS) SECTIONS SHALL COMPLY WITH ASTM A500, GRADE B.

TYPICAL BOLTS SHALL CONFORM TO ASTM A307. HIGH STRENGTH BOLTS (HSB) SHALL CONFORM TO ASTM A325–N UNO.

WELDING SHALL CONFORM TO AWS CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. WELDS SHALL BE MADE WITH E70XX ELECTRODES AND SHALL BE $\frac{1}{4}$" MINIMUM FILLET WELDS UNO.

TIMBER CONSTRUCTION REQUIREMENTS
SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU OR WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES. LUMBER SHALL BE 16% MAXIMUM MOISTURE CONTENT AT THE TIME OF INSTALLATION AND SHALL CONFORM TO THE SPECIES AND GRADES NOTED BELOW.

DESCRIPTION	USE	GRADE
2" AND 4" DIM LUMBER	JOISTS, RAFTERS, STUDS	HEM FIR #2 OR BETTER
2" AND 4" DIM LUMBER	BEAMS AND HEADERS	DOUG FIR #1 OR BETTER
4" AND 6" DIM LUMBER	POSTS, BEAMS, GIRDERS	DOUG FIR #1 OR BETTER
PRESSURE TREATED MATERIAL		DOUG FIR #1 OR BETTER

ALL LUMBER IN CONTACT WITH CONCRETE OR CMU SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA U1 (SHOP OR PLANT TREATMENT) AND M4 (FIELD TREATMENT) STANDARDS.

FRAMING ACCESSORIES AND STRUCTURAL FASTENERS SHALL BE MANUFACTURED BY SIMPSON STRONG–TIE OR APPROVED EQUAL AND OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. FRAMING ACCESSORIES AND STRUCTURAL FASTENERS WHICH WILL BE IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE G90 GALVANIZED OR STAINLESS STEEL. ALL NAIL HOLES SHALL BE FILLED WITH STRUCTURAL FASTENERS UNO ON THE DRAWINGS AND FASTENERS SHALL BE INSTALLED FOLLOWING ALL MANUFACTURER'S REQUIREMENTS. IF MANUFACTURER PROVIDES MULTIPLE FASTENER POSSIBILITIES, THE FASTENERS WHICH ACHIEVE THE HIGHEST LOAD RATING SHALL BE UTILIZED UNO.

ALL FRAMING NAILS SHALL BE OF THE SIZE AND NUMBER INDICATED ON THE DRAWINGS AND SHALL CONFORM TO ASTM F1667 "STANDARD SPECIFICATION OF DRIVEN FASTENERS: NAILS, SPIKES AND STAPLES" AND NER–272 "POWER DRIVEN STAPLES AND NAILS FOR USE IN ALL TYPES OF BUILDING CONSTRUCTION." NAILS SHALL BE IDENTIFIED BY LABELS ATTACHED TO THEIR CONTAINERS THAT SHOW THE MANUFACTURER'S NAME AND NES REPORT NUMBER, NAIL SHANK DIAMETER AND LENGTH. NAILING NOT SHOWN SHALL BE AS INDICATED IN IRC TABLE R602.3(1) AND/OR IBC TABLE 2304.10.1 OR NER–272. THE FOLLOWING NAIL SIZES SHALL BE USED:

NAIL TYPE	SHANK DIAMETER	MINIMUM PENETRATION
6D	0.113"	1.25"
8D	0.131"	1.50"
10D	0.148"	1.625"
12D	0.148	1.625
16D	0.148	1.625"

BOLTS AND LAG SCREWS SHALL CONFORM TO ANSI/ASTM STANDARD B18.2.1–1981. ALL BOLTS AND LAG SCREWS SHALL HAVE CUT THREADS.

CUTTING AND NOTCHING OF JOISTS AND STUDS SHALL CONFORM TO IBC SECTIONS 2320.8.2, 2308.9.1 AND 2308.10.4.

WOOD STRUCTURAL PANELS
WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS OF "US PRODUCT STANDARD PS.1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD", "US PRODUCT STANDARD PS2 PERFORMANCE STANDARDS FOR WOOD–BASED STRUCTURAL USE PANELS", OR "APA PRP–108 PERFORMANCE STANDARDS" UNO. UNO, PANELS SHALL BE APA RATED SHEATHING, EXPOSURE 1, OF THE THICKNESS AND SPAN RATING SHOWN ON THE DRAWINGS. APA 24/0TYP ROOF AND WALLS UNO, APA $\frac{48}{24}$ TYP FLOOR UNO.

WOOD STRUCTURAL PANEL INSTALLATION SHALL BE IN CONFORMANCE WITH APA RECOMMENDATIONS. ALLOW $\frac{1}{8}$" SPACING AT PANEL ENDS AND EDGES UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER.

ALL ROOF AND FLOOR SHEATHING SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS UNO ON DRAWINGS. ROOF SHEATHING SHALL BE BLOCKED, TONGUE AND GROOVE OR SHALL HAVE PLY–CLIPS. FLOOR SHEATHING SHALL BE TONGUE AND GROOVE AND SHALL BE GLUED AND NAILED UNO. T&G JOINTS SHALL ALSO BE GLUED.

SHEAR WALL SHEATHING SHALL BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY AND ALL PANELS EDGES SHALL BE BLOCKED WITH 2X FRAMING.

MINIMUM NAILING FOR ALL STRUCTURAL SHEATHING SHALL BE 10D AT 6" OC AT PANEL EDGES AND 10D AT 12" OC IN THE FIELD. NAILS SHALL BE "COMMON" EXCEPT ROOF SHEATHING SHALL BE NAILED WITH RING SHANK NAILS.

GLUED LAMINATED MEMBERS
GLUED LAMINATED MEMBER (GLB) SHALL BE FABRICATED IN CONFORMANCE WITH ANSI STANDARD A190.1, AMERICAN NATIONAL STANDARD FOR GLUED LAMINATED TIMBER OR OTHER CODE APPROVED DESIGN, MANUFACTURING AND/OR QUALITY ASSURANCE PROCEDURES. EACH MEMBER SHALL BEAR AND AITC OR APA–EWS IDENTIFICATION MARK. ENDS SHALL BE SEALED IMMEDIATELY IN THE SHOP OR IMMEDIATELY UPON FIELD TRIMMING. BEAMS SHALL BE WESTERN SPECIES INDUSTRIAL (HIDDEN) OR ARCHITECTURAL (EXPOSED) APPEARANCE CLASSIFICATION AND SHALL BE 24F–V4 FOR SIMPLE SPANS AND 24F–V8 FOR MULTIPLE SPAN OR CONTINUOUS MEMBERS. FB SHALL BE 2,400 PSI, E SHALL BE 1,800,000 PSI AND FV SHALL BE 300 PSI.

GLB HANGERS SHALL BE SIMPSON GLT UNO. ADHESIVE SHALL BE WET USE EXTERIOR WATERPROOF GLUE. FLIED NOTCHING OR BORING OF GLB IS NOT ALLOWED UNLESS APPROVED IN WRITING BY STRUCTURAL ENGINEER OF RECORD (SER).

ENGINEERED COMPOSITE LUMBER
ENGINEERED COMPOSITE LUMBER SHALL BE AS MANUFACTURED BY WEYERHAUSER TRUS JOIST ENGINEERED WOOD PRODUCTS OR APPROVED EQUAL. TIMBERSTRAND LSL LUMBER SHALL BE 1.55E FOR BEAMS AND HEADERS, AND 1.3E FOR POSTS AND COLUMNS. MICROLAM LVL LUMBER SHALL BE 2.0E. PARALLAM PSL LUMBER SHALL BE 2.2E FOR BEAMS AND HEADERS, 1.8E FOR POSTS AND COLUMNS.

CONCRETE MASONRY
CONCRETE MASONRY UNITS (CMU) SHALL COMPLY WITH ASTM C90. LINEAL SHRINKAGE FOR UNITS SHALL NOT EXCEED 0.065%. ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI. ALL CMU CONSTRUCTION SHALL BE REINFORCED AS SHOWN ON PLANS OR AS NOTED BELOW.

MORTAR
ALL MORTAR SHALL BE TYPE S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI AND SHALL CONFORM TO IBC CHAPTER 21 REQUIREMENTS.

MASONRY GROUT
GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI AND SHALL CONFORM TO IBC CHAPTER 21 REQUIREMENTS. GROUT SHALL CONSIST OF A MIXTURE OF CEMENTITOUS MATERIALS, AGGREGATE AND WATER. WATER SHALL BE SUFFICIENT TO ALLOW THE GROUT TO FLOW WITHOUT SEGREGATION. ALL CUM SHALL BE FULLY GROUTED.

MASONRY REINFORCING STEEL
REINFORCING FOR CMU SHALL CONFORM TO IBC CHAPTER 21. DEFORMED BARS SHALL BE GRADE 60 AND SHALL BE FIRMLY TIED INTO POSITION PRIOR TO PLACEMENT OF GROUT IN ACCORDANCE WITH ACI 530. MINIMUM CMU WALL REINFORCEMENT FOR 8" CMU SHALL BE #5 BARS AT 24" OC EACH WAY. MINIMUM CMU WALL REINFORCEMENT FOR 12" CMU SHALL BE #5 EACH FACE, EACH WAY AT 32" OC. ALL MASONRY WALLS SHALL HAVE (2) #5 CONTINUOUS HORIZONTAL ALL ROOF LINES, FLOOR LINES AND TOP OF WALLS. IN ADDITION, PROVIDE (2) #5 TRIM BARS EACH SIDE, TOP AND BOTTOM OF ALL OPENINGS. VERTICAL TRIM BARS SHALL EXTEND FULL HEIGHT OF THE WALL, HORIZONTAL TRIM BARS SHALL EXTEND 24" MINIMUM BEYOND OPENING. AT CORNERS AND INTERSECTIONS, PROVIDE CORNER BARS THAT LAP 24" MINIMUM EACH WAY WITH TYPICAL HORIZONTAL REINFORCEMENT. IN ADDITION, PROVIDE ADDITIONAL (2) #5 VERTICAL TRIM BARS. PROVIDE FOOTING DOWELS TO MATCH ALL VERTICAL WALL REINFORCEMENT. FOOTING DOWELS SHALL BE HOOKED INTO FOUNDATION WITH A STANDARD 90 DEGREE HOOK 3" CLEAR OF BOTTOM AND SHALL LAP 40 DIAMETERS MINIMUM WITH WALL REINFORCEMENT.

CONCRETE PENETRATIONS
WHERE PIPES OR CONDUITS PENETRATE CONCRETE WALLS OR FOOTINGS, PROVIDE OVERSIZE SLEEVE. ALL PENETRATIONS SHALL BE WITHIN THE MIDDLE $\frac{1}{3}$ OF FOOTING OR WALL DEPTH. DO NOT CORE OPENINGS WITHOUT WRITTEN PERMISSION FROM ENGINEER. WHERE PIPES OR CONDUITS OCCUR WITHIN 12" OF BOTTOM OF FOOTING, THICKEN FOOTING TO EXTEND 6" MINIMUM BELOW TO PROVIDE 3" MINIMUM COVER BELOW PIPE OR CONDUIT
WHERE PIPES AND FOOTINGS ARE PARALLEL TO FOOTINGS, LOCATE FOOTINGS TO FALL ABOVE 2H : 1V LINE EXTENDING FROM BOTTOM OF FOOTING

ROOF TRUSS NOTES AND DESIGN CRITERIA

1. MANUFACTURED WOOD ROOF TRUSSES SHALL BE DESIGNED BY THE TRUSS MANUFACTURER AND DRAWINGS AND CALCULATIONS SHALL BE STAMPED AND SIGNED BY A WASHINGTON LICENSED CIVIL ENGINEER.
2. TRUSSES SHALL BE DESIGNED FOR CONFORMANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AND THE FOLLOWING MINIMUM DESIGN LOADS
   DEAD LOAD = 13 PSF + SELF WEIGHT
   ROOF LIVE LOAD = 20 PSF
   ROOF SNOW LOAD = 25 PSF
   WIND UPLIFT = 7 PSF NET UPLIFT FIELD
   =10 PSF NET UPLIFT WITHIN 6 FEET OF EDGES OR DISCONTINUITIES.
3. PROVIDE VENTED BLOCKING AS REQUIRED AT TRUSS OR RAFTER BEARINGS
4. TRUSSES SHALL NOT BE FIELD ALTERED WITHOUT ENGINEER'S AND TRUSS MANUFACTURER'S WRITTEN APPROVAL.
5. TRUSS LAYOUT, SPECIFICATIONS, DESIGN DETAILS AND DRAWINGS SHALL BE ON SITE FOR INSPECTION DURING CONSTRUCTION
6. TRUSSES SHALL BE INSTALLED AND BRACED PER MANUFACTURER'S REQUIREMENTS.
7. EACH TRUSS SHALL CARRY MANUFACTURER'S STAMP.
8. IF ENGINEERED TRUSS LAYOUT PROVIDED BY MANUFACTURER VARIES FROM TRUSS LAYOUT SHOWN ON THESE DOCUMENTS, MANUFACTURER'S LAYOUT SHALL GOVERN PROVIDED THAT EOR REVIEWS AND APPROVES REVISED LAYOUT.
9. IN ADDITION TO LOADS INDICATED ABOVE, ALL TRUSSES SHALL BE DESIGNED TO SUPPORT LIVE LOADS AS SPECIFIED IN IRC TABLE R301.5, IN PARTICULAR, BOTTOM CHORDS WITH CLEAR HEIGHT LESS THAN 42" VERTICAL CLEARANCE SHALL BE DESIGNED FOR 10 PSF LIVE LOAD AND BOTTOM CHORDS WITH 42" OR MORE VERTICAL CLEARANCE SHALL BE DESIGNED FOR 20 PSF LIVE LOAD.
10. IN ADDITION TO ALL OTHER TRUSS DESIGN REQUIREMENTS, TRUSS DESIGN SHALL CONFORM TO IRC SECTIONS 502.11.1 AND 802.10.2, ESPECIALLY INDICATING THE TRUSS DESIGN AND MANUFACTURER SHALL BE PER ANSI/TPI 1.
11. TRUSS TEMPORARY AND PERMANENT BRACING SHALL BE PER IRC SECTIONS 2002.11.2 AND 802.10.3 AS WELL AS THE TRUSS PLATE INSTITUTES BUILDING COMPONENT SAFETY INFORMATION.

ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
AESS	ARCHITECTURLLY EXPOSED STRUCTURAL STEEL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE OR ALTERNATING
ALUM	ALUMINUM
ARCH'L	ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BLDG	BUILDING
BOC	BOTTOM OF CONCRETE
BOF	BOTTOM OF FRAMING
BOP	BOTTOM OF PLYWOOD / SHEATHING
BOT	BOTTOM
BO	BLOCK OUT
CG	CENTER OF GRAVITY
CIP	CAST IN PLACE
C.J.	CONTROL JOINT
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CP	COMPLETE PENETRATION
DBL	DOUBLE
DET	DETAIL
DIA	DIAMETER
DL	DEAD LOAD
DWG	DRAWI NG
EA	EACH
EE	EACH END
EF	EACH FACE
EL	ELEVATION
EMBED	EMBEDMENT
EQ	EQUAL
EX OR (E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FDN	FOUNDATION
FF	FINISHED FLOOR
FIG	FIGURE
FLR	FLOOR
FP	FULL PENETRATION
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GLB	GLU–LAM BEAM
HDR	HEADER
HOR	HORIZONTAL
HSB	HIGH STRENGTH BOLT
HSS	HOLLOW STRUCTURAL STEEL
IBC (LATEST EDITION UNO)	INTERN'L BUILDING CODE
ICBO OF	INTERNATIONAL CONFERENCE BUILDING OFFICIALS
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
INT	INTERIOR
JT	JOINT
KIPS	KILO (1000) POUNDS
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LB	POUND
LBS	POUNDS
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDE OR LONGITUDINAL
LVF	LOW VELOCITY FASTENER
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NF	NEAR FACE
NIC	NOT IN CONTRACT
NIP	NOT A PART
NOM	NOMINAL
NO OR #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OWL	OPEN WEB JOIST
PART	PARTITION
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
PERIM	PERIMETER
PERP	PERPENDICULAR
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
P.T.	POST–TENSIONED
PT	PRESSURE TREATED
RET	RETURN
REINF	REINFORCEMENT
REQ'D	REQUIRED
SCHED	SCHEDULE
SC	SLIP CRITICAL
SEC	SECTION
SHT	SHEET
SIM	SIMILAR
SOG	SLAB ON GRADE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STRUCT	STRUCTURAL
SYM	SYMMETRICA
THRU	THROUGH
TO	TOP OF
TOC	TOP OF CONCRETE
TOD	TOP OF DECK
TOF	TOP OF FRAMING
TOP	TOP OF PLYWOOD
TOS	TOP OF STEEL
T&G	TONGUE AND GROOVE
TJ	TRUS JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
WF	WIDE FLANGE
W/O	WITHOUT
WP	WORK POINT
WWF	WELDED WIRE FABIRC

MARK	SHEATHING	EDGE NAILING	SHEAR TRANS NAILING	ANCHOR BOLTS
MK1	$\frac{15}{32}$"" STRUCT 1	8D @ 6" OC	16D AT 6" OC OR A35 AT 16" OC	$\frac{5}{8}$"ø @ 32" OC
MK2	$\frac{15}{32}$" STRUCT 1	8D @ 4" OC	16D AT 4" OC OR A35 AT 12" OC	$\frac{5}{8}$" ø @ 24" OC
MK3	0.5" STRUCT 1	8D @ 3" OC	16D @ 3" OC OR A35 @ 8" OC	$\frac{3}{4}$" ø @ 32" OC
MK4	$\frac{15}{32}$" STRUCT 1	8D @ 2" OC	(2) ROWS 16D @ 4" OC OR A35 @ 6" OC	$\frac{3}{4}$" ø @ 24" OC
MK5	0.5" STRUCT 1 EACH SIDE	8D @ 3" OC STAGGERED	(2) ROWS 16D @ 4" OC OR A35 @ 4" OC	1" AT 24" OC
MK6	0.5" STRUCT 1 EA SIDE	8D @ 2" OC STAGGERED	(2) ROWS 16D AT 2" OC OR A35 @ 4" OC	1" AT 16" OC

NOTES:
1. PANELS MAY BE INSTALLED HORIZONTALLY OR VERTICALLY. MINIMUM PANEL DIMENSION SHALL BE 32". ALL PANEL EDGES SHALL BE BLOCKED.
2. ALL SHEAR PANELS REQUIRE NAILS SPACED AT 12" MAX OC AT ALL INTERMEDIATE SUPPORTS.
3. SHEAR WALL MK1 & MK2 REQUIRE 2X MIN FRAMING AT 24" MAX OC AND PT 2X SILL PLATES.
4. SHEAR WALL MK3 & MK4 REQUIRE 2X MIN FRAMING IN FIELD AT 24" MAX OC WITH 3X MEMBERS AT ABUTTING PANEL JOINTS AND PT 2X SILL PLATES.
5. SHEAR WALL MK5 & MK6 SHALL HAVE PANEL JOINTS STAGGERED ON OPPOSITE SIDES OF THE WALL AND 3X MIN FRAMING AT ALL PANEL JOINTS AND PT 3X SILL PLATES.
6. ANCHOR BOLTS SHALL BE ASTM A307 WITH 8" MIN EMBEDMENT. ALL ANCHOR BOLTS SHALL HAVE $\frac{1}{4}$" X 3" X3" PLATE WASHERS AND SHALL BE CENTERED 2" MAX FROM SHEATHED SIDE OF WALL. AT MK5 & MK6, STAGGER ABS.
7. ALL NAILS TO BE HOT DIP GALVANIZED 8D COMMON OR 10D COMMON AS NOTED.
8. PROVIDE DBL KING STUD CONNECTED WITH 16D @ 4" OC OR 4X AT EA END EA SHEAR WALL UNO

1 / S1.0 SHEAR WALL SCHEDULE
SCALE: NOT APPLICABLE

NOTES:
1. MK3 INDICATES PLYWOOD SHEAR WALL. SEE 1/S1.0 FOR INFORMATION. REQUIREMENTS FOR SHEAR WALLS SHOWN APPLY TO WALLS ABOVE LEVEL INDICATED. FOR REQUIREMENTS BELOW LEVEL INDICATED, SEE PLAN BELOW. SHEAR WALL REQ'TS APLY FULL LENGTH OF WALLS. EXT WALLS TO MEET MARK 3 REQUIREMENTS IN ALL LOCATIONS UNLESS HEAVIER SHEAR WALL REQUIREMENTS ARE INDICATED.
2. FTG4 INDICATES PAD FOOTING. SEE 4/S5.1 FOR DETAILS
3. ☒ INDICATES 4X4 POST TYP UNO. POSTS SHALL HAVE BC BASES AND AC OR LCE CAPS AS APPROPRIATE UNO. POSTS IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
4. ☒ INDICATES 4X6 POST TYP UNO. POSTS SHALL HAVE BC BASES AND AC OR LCE CAPS AS APPROPRIATE UNO. POSTS IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
5. ☒ INDICATES 6X6 DF#1 POST TYP UNO. POSTS SHALL HAVE BC BASES AND AC OR LCE CAPS AS APPROPRIATE UNO. POSTS IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
6. SEE 5/S5.1 FOR WALL FRAMING DETAILS, TYP HEADER SIZES AND OTHER STANDARD FRAMING REQUIREMENTS

2 / S1.0 TYPICAL FRAMING PLAN NOTES
SCALE: NOT APPLICABLE

SPECIAL INSPECTION REQUIREMENTS

SPECIAL INSPECTION ITEM	CONTINUOUS	PERIODIC	NOT APPLICABLE	COMMENTS
SOILS				
GRADING EXCAVATION AND BACKFILL			X	BY SOILS ENGINEER
FINAL GRADING			X	
MICRO–PILE INSTALLATION			X	
AUGER PILE INSTALLATION			X	
CONCRETE				
MIX DESIGNS				SUBMIT TO STRUCTURAL ENGINEER
REINFORCEMENT PLACEMENT			X	
REINFORCEMENT WELDING			X	
REINFORCEMENT COUPLERS			X	
ANCHOR BOLTS AND INSERTS			X	
MATERIAL VERIFICATION			X	
PREPARATION OF TEST SPECIMENS			X	
CONCRETE PLACEMENT			X	
EPOXY ANCHOR INSTALLATION		X		
EXPANSION ANCHOR INSTALLATION		X		
STRUCTURAL STEEL				
HIGH STRENGTH BOLTING			X	
FIELD WELDING			X	
WELDING OF STUDS AND ANCHORS			X	
METAL DECK WELDING			X	
MASONRY				PER IBC SECTION 1704, LEVEL 1
REINFORCEMENT PLACEMENT			X	
GROUTING			X	
PREPARATION OF TEST SPECIMENS			X	
ANCHOR BOLT AND EMBED PLACEMENT			X	
TIMBER				
DIAPHRAGM NAILING			X	
SHEAR WALL NAILING			X	
MATERIAL AND GRADE VERIFICATION			X	

NOTES
1. SPECIAL INSPECTION SHALL BE PERFORMED IN ACCORDANCE IN INTERNATIONA BUILDING CODE (IBC) CHAPTER 17 REQUIREMENTS.
2. ITEMS MARKED WITH AND "X" SHALL BE INSPECTED BY A CERTIFIED INSPECTOR IN ACCORDANCE WITH IBC CHAPTER 17 REQUIREMENTS.
3. CONTINUOUS INSPECTION MEANS THAT THE CERTIFIED INSPECTOR IS ON SITE AT ALL TIMES WHEN THE PARTICULAR ACTIVITY IS OCCURRING.
4. PERIODIC INSPECTION MEANS THA THE INSPECTOR IS ON SITE AT INTERVALS AS NEEDED TO VERIFY THAT THE WORK CONFORMS WITH PROJECT REQUIREMENTS.

PRRNTH20250333

EXP 03/17/27

01/22/25 FOR JURISDICTION REVIEW

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

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MAPLE VALLEY, WA 98038
425.691.0443

ARCHITECT:
WC STUDIO PLLC
1522 6TH AVE #1
TACOMA, WA 98405

PROJECT NAME / ADDRESS:
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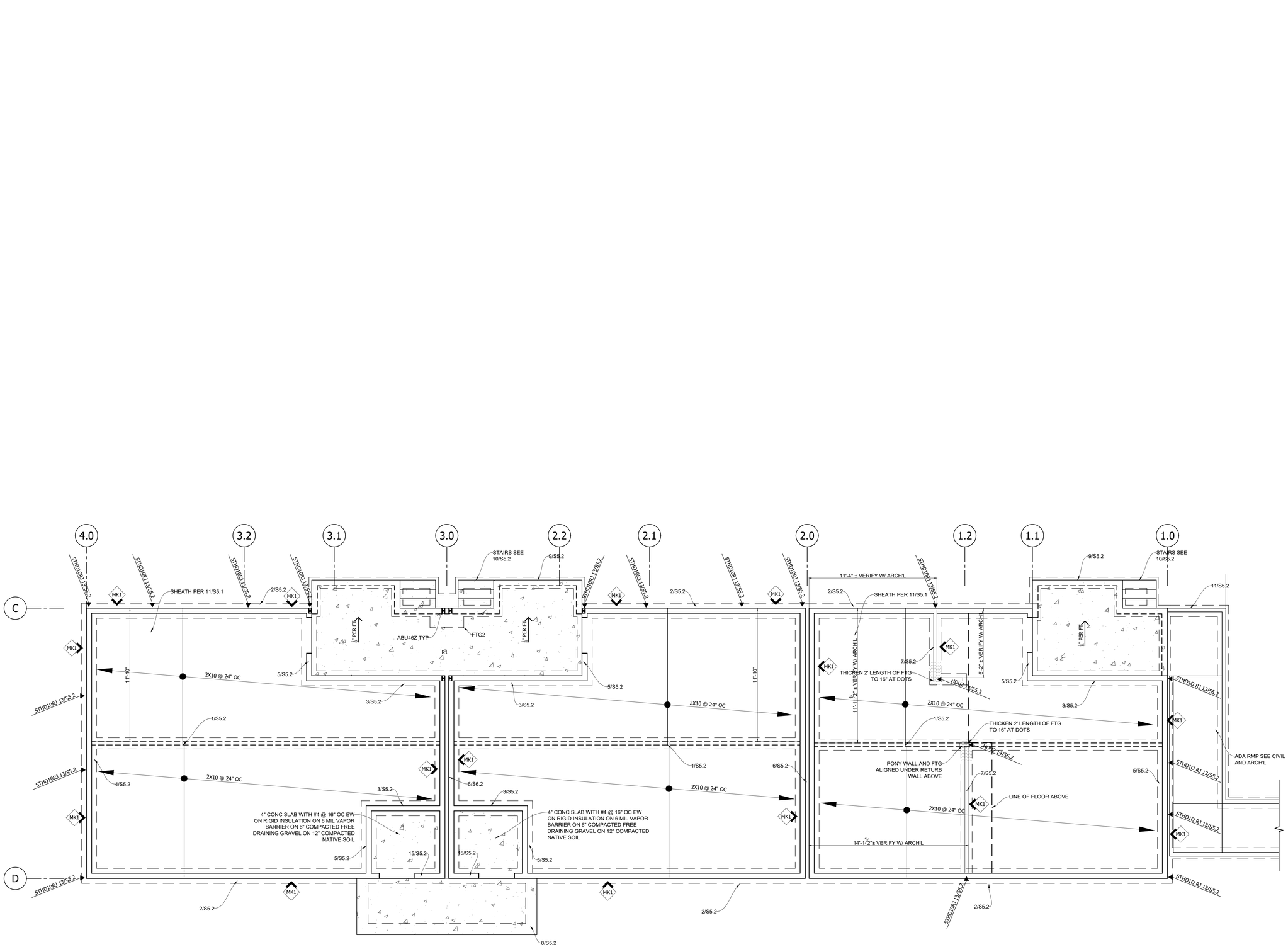
1200 7TH AVE SE
PUYALLUP, WA 98371

Project Number: 24146
Date: JAN 2025
Scale: AS NOTED
Sheet: S1.0

PRRNTH20250333

PETER M. BLAKELY
STATE OF WASHINGTON
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER
EXP 03/17/27
01/22/25

01/22/25 Permit Revision REVIEW
City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic



BLDG B - FOUNDATION & FIRST FLOOR FRAMING

SEE 2/S1.0 FOR TYP FRAMING NOTES

0 1' 2' 3' 4'
SCALE 1/4" = 1'

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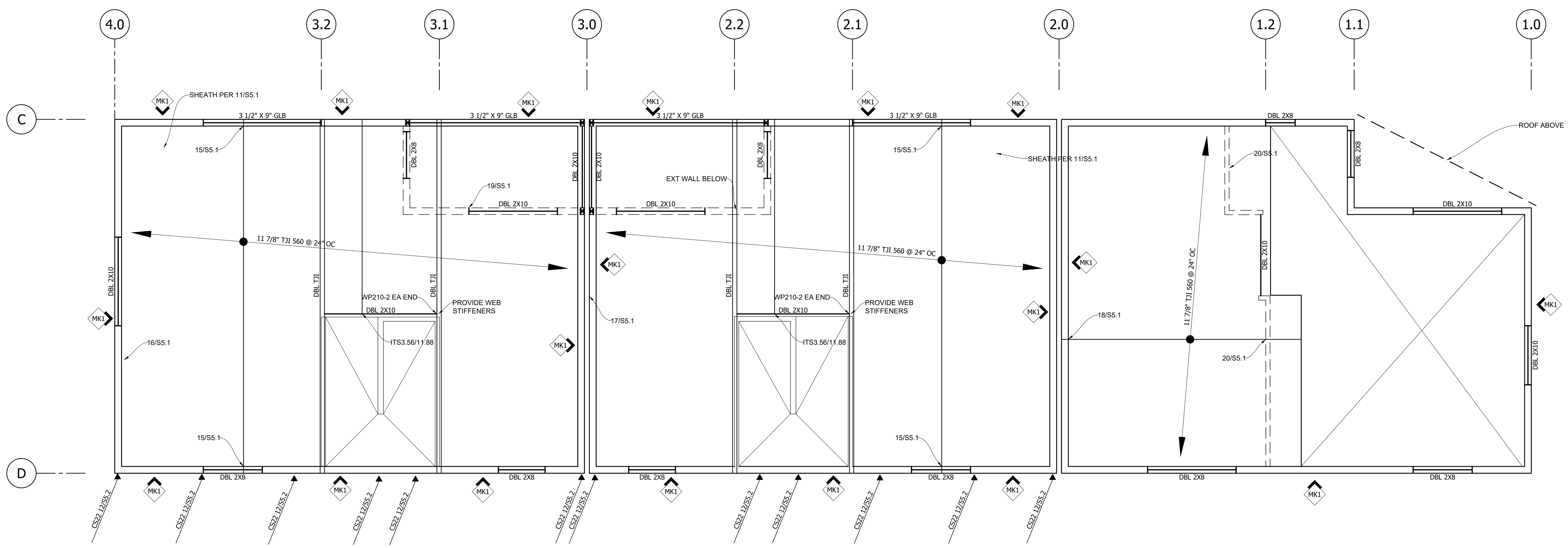
Scale: AS NOTED
Sheet: S2.1



BLDG B - SECOND FLOOR FRAMING

SEE 2/S1.0 FOR TYP FRAMING NOTES

SCALE 1/4" = 1'

PRRNTH20250333

PETER M. BLAKELY — STATE OF WASHINGTON — STRUCTURAL — PROFESSIONAL ENGINEER

EXP 03/17/23

01/22/25 FOR PERMIT REVIEW

City of Puyallup Development & Permitting Services ISSUED PERMIT

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Project Number: 24146

Date: JAN 2025

Scale: AS NOTED

Sheet: S2.2

PRRNTH20250333

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EXP 03/17/27

01/22/25 FOR CITY OF PUYALLUP REVIEW

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

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Project Number: 24146
Date: JAN 2025
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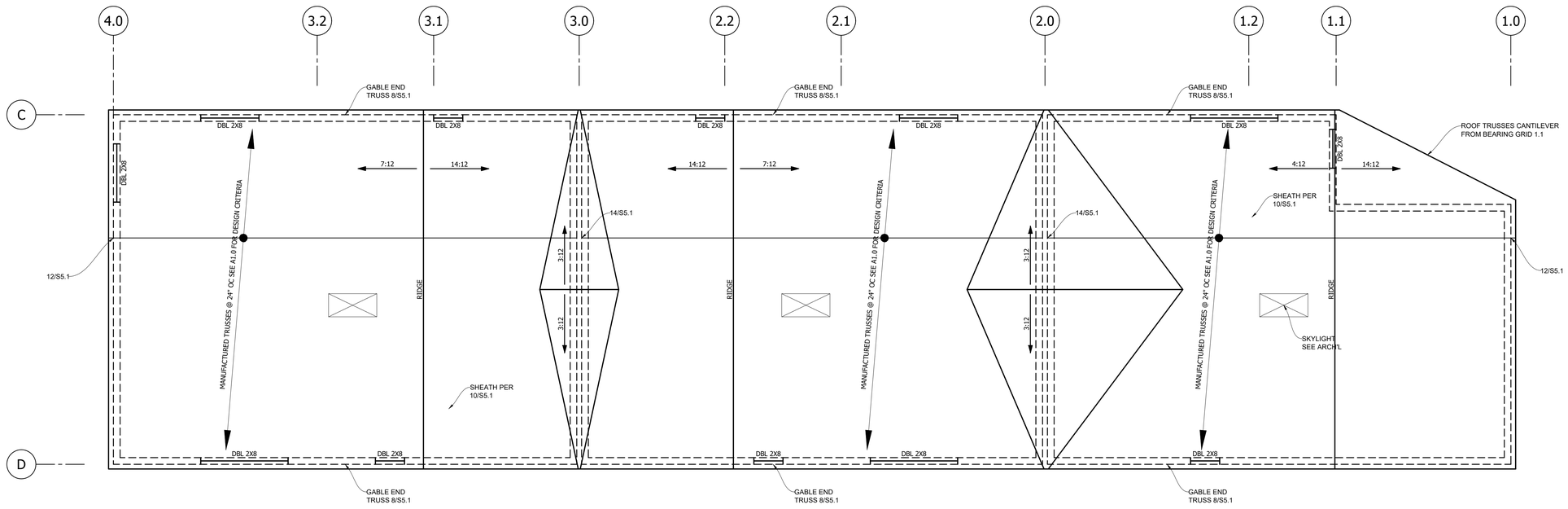
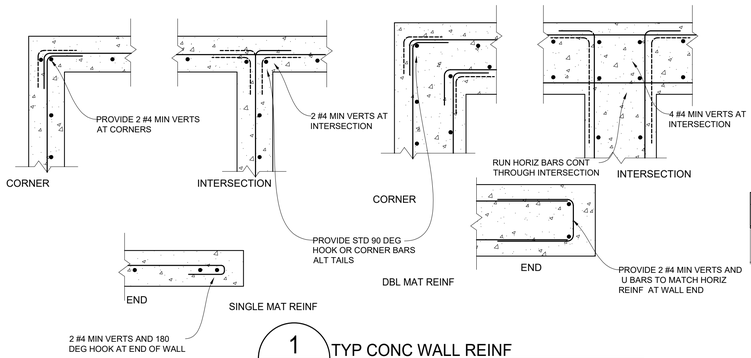


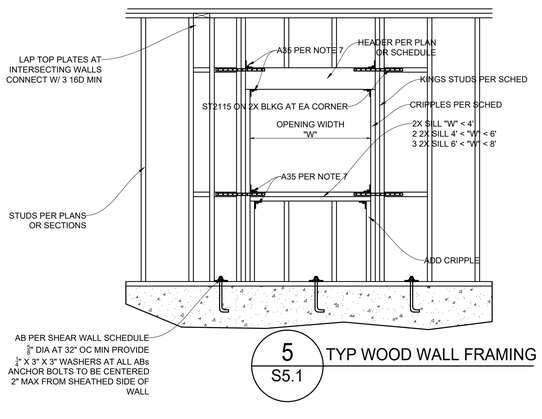
BLDG B - ROOF FRAMING

SEE 2/S1.0 FOR TYP FRAMING NOTES

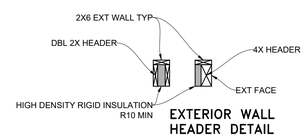
SCALE 1/4" = 1'



1 S5.1 TYP CONC WALL REINF
SCALE: 3/4" = 1'-0"



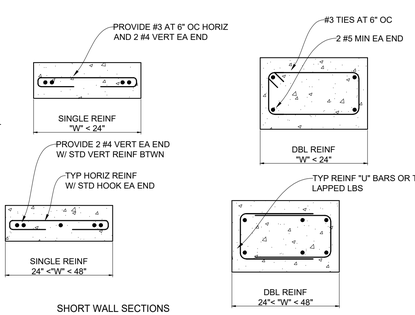
5 S5.1 TYP WOOD WALL FRAMING

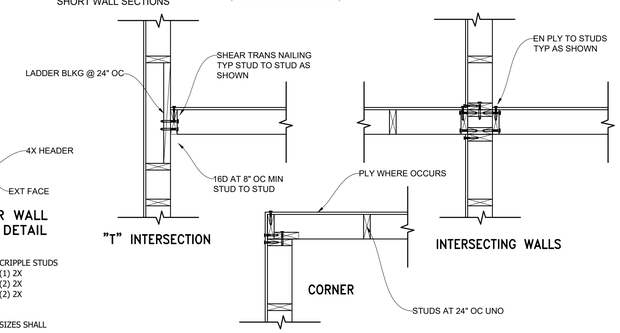


EXTERIOR WALL HEADER DETAIL

OPENING WIDTH "W"	HEADER	KING STUDS	CRIPPLE STUDS
"W" < 4'	(2) 2X6 OR 4X6	(1) 2X	(1) 2X
4' ≤ "W"< 6'	(2) 2X8 OR 4X8	(2) 2X	(2) 2X
6' ≤ "W" < 8'	(2) 2X10 OR 4X10	(2) 2X	(2) 2X

NOTES
1. WHERE FRAMING IS CALLED OUT ON PLANS, PLAN SIZES SHALL GOVERN
2. HEADERS SHALL BE ON DOUG FIR LARCH #1 OR BTR
3. STAGGER AND BLOCK ALL SHEATHING EDGES
4. PROVIDE AB AT 7" FROM ALL SPLICES IN SILL PLATE
5. ALIGN STUDS WITH SPLICES IN TOP PLATES
6. PROVIDE 8 16D MIN EA SIDE EA TOP PLATE SPLICE SEE 7/S5.1
7. PROVIDE A35 KING TO TOP OF HEADER, CRIPPLE TO BOT HEADER AND BOT OF SILL AND CRIPPLE TO SILL





6 S5.1 TYP WOOD WALL FRAMING
SCALE: 3/4" = 1'-0"

BAR SIZE	LDB	LDT	LSB	LST	LDH
#3	17"	25"	26"	38"	9"
#4	22"	33"	34"	50"	11"
#5	28"	35"	36"	42"	14"
#6	33"	43"	43"	56"	17"
#7	48"	63"	63"	81"	20"
#8	55"	72"	72"	93"	22"
#9	62"	81"	81"	105"	25"

NOTES:
1. LDB = BOTTOM BAR DEVELOPMENT LENGTH
2. LDT = TOP BAR DEVELOPMENT LENGTH
3. LSB = BOT BAR SPLICE LENGTH
4. LST = TOP BAR SPLICE LENGTH
5. LDH = HOOKED BAR DEVELOPMENT LENGTH
6. BARS LARGER THAN #9 SHALL USE MECHANICAL COUPLERS
7. TOP BARS HAVE MORE THAN 12" CONC BELOW
8. INCREASE LENGTHS BY 50% WHERE BAR COVER IS LESS THAN BAR DIAM
9. WHEN SPLICING DIFFERENT BAR SIZES USE LARGER BAR LENGTHS

2 S5.1 REBAR LAP AND DEV'L
SCALE: NOT APPLICABLE

UNLESS OTHERWISE NOTED, ALL CONCRETE WALLS SHALL BE REINFORCED PER THE FOLLOWING TABLE

WALL THICKNESS	HORIZ BARS	VERT BARS	LOCATION
UP TO 6"	#4 @ 12" OC	#4 @ 12" 0C	CENTERLINE
OVER 6" TO 8"	#5 @ 16" OC	#5 @ 16" OC	CENTERLINE
OVER 8" TO 10"	#5 @ 12" OC	#5 @ 12" OC	CENTERLINE
OVER 10" TO 12"	#4 @ 12" OC	#4 @ 12" OC	EACH FACE
OVER 12" TO 14"	#5 @ 16" OC	#5 @ 16" OC	EACH FACE
OVER 14" TO 18"	#5 @ 12" OC	#5 @ 12" OC	EACH FACE

1. ALL WALL BARS SHALL BE LAPPED PER LSB
2. VERT BARS SHALL BE CONTINUOUS FROM FOUNDATION TO FLOOR ABOVE. BARS SHALL LAP ABOVE FLOOR LEVEL
3. ALL BARS SHALL BE 1 ½" CLEAR OF OPENINGS OR ENDS OF WALLS.
4. STAGGER SPLICES OF ADJACENT BARS

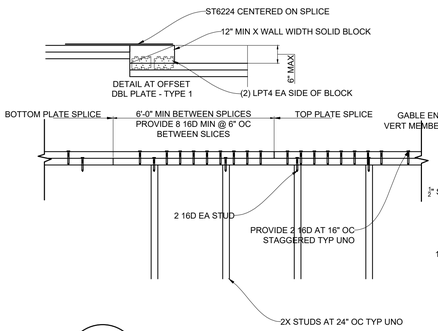
3 S5.1 MIN CONC WALL REINF
SCALE: NOT APPLICABLE

FOOTING SCHEDULE

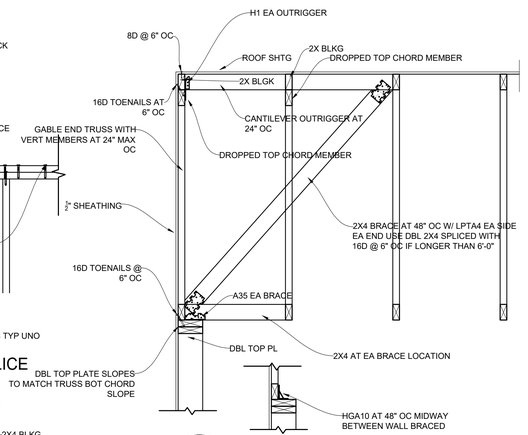
MARK	SIZE	REINFORCEMENT
FTG1	2' X 2' X 10"	(3) #4 BARS EACH WAY
FTG2	3' X 3' X 10"	(4) #4 BARS EACH WAY
FTG3	4' X 4' X 12"	(5) #4 BARS EACH WAY
FTG4	4' X 4' X 24"	(5) #5 BARS EACH WAY TOP AND BOTTOM
FTG5	5' X 5' X 12"	(6) #5 BARS EACH WAY
FTG6	6' X 6' X 24"	(7) #6 BARS EACH WAY TOP AND BOTTOM
FTG7	16" DIA X 18" EMBED	W/ (4) #3 VERT AND #3 TIES AT 6" OC

NOTES:
1. SPREAD FOOTINGS SHALL BE CENTERED UNDER WALL OR POST AS APPLICABLE.
EXTERIOR FOOTINGS SHALL BE BASED 18" MINIMUM BELOW LOWEST ADJACENT GRADE.
2. FOUNDATION CONCRETE SHALL BE 3000 PSI, ¾" MAX AGGREGATE, NORMAL WEIGHT, 4" MAX SLUMP, 0.5 MAX W/C RATIO.
3. BOTTOM REINFORCEMENT SHALL BE 3" CLEAR OF BOTTOM OF FOOTING. TOP REINFORCEMENT SHALL BE 2" CLEAR OF TOP.
4. BOTTOM OF PAD FTGS SHALL BE FLUSH WITH BOTTOM OF ADJACENT WALL FTGS

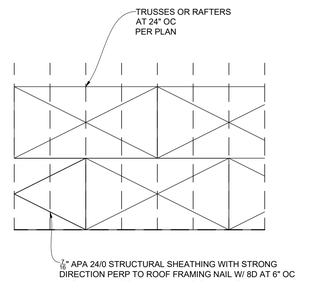
4 S5.1 FOOTING SCHEDULE
SCALE: NOT APPLICABLE



7 S5.1 TYP DOUBLE TOP PLATE SPLICE
SCALE: 3/4" = 1'-0"



8 S5.1 GABLE END TRUSS
SCALE: 3/4" = 1'-0"



10 S5.1 TYP ROOF SHEATHING
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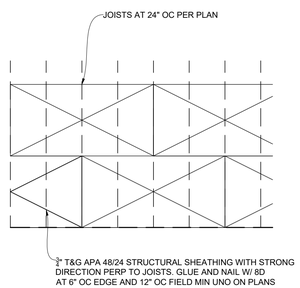

11 S5.1 TYP FLOOR SHEATHING
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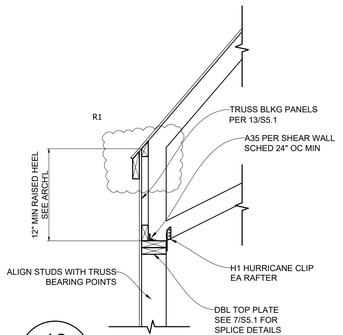
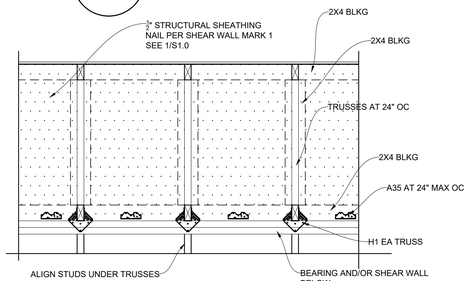
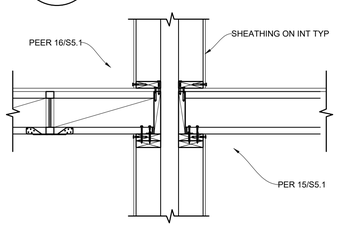


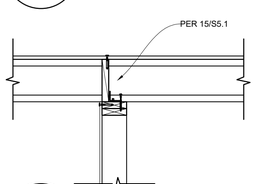
12 S5.1 DETAIL
SCALE: 3/4" = 1'-0"



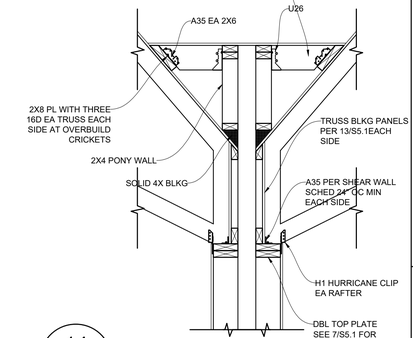
13 S5.1 TRUSS BLKG PANELS
SCALE: 3/4" = 1'-0"



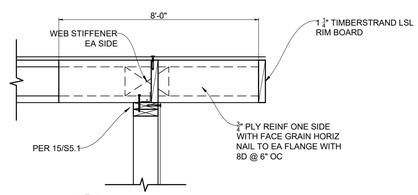
18 S5.1 DETAIL
SCALE: 3/4" = 1'-0"



19 S5.1 FLOOR JOIST BEARING
SCALE: 3/4" = 1'-0"



14 S5.1 DETAIL
SCALE: 3/4" = 1'-0"



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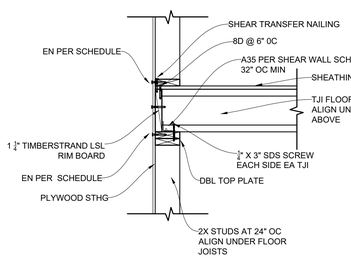

15 S5.1 FLOOR JOIST BEARING
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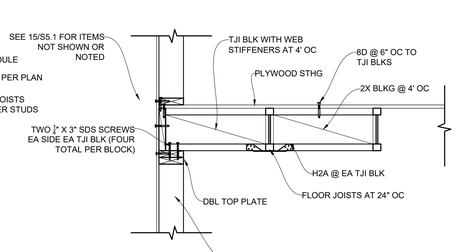

16 S5.1 FLOOR JOIST PARALLEL
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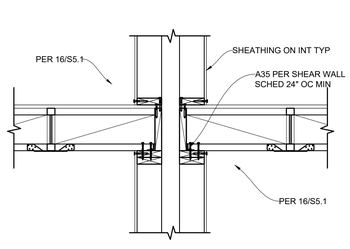

17 S5.1 DETAIL
SCALE: 3/4" = 1'-0"

PRRNTH20250333
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01/22/25 PDR: Ready for Review
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Development & Permitting Services
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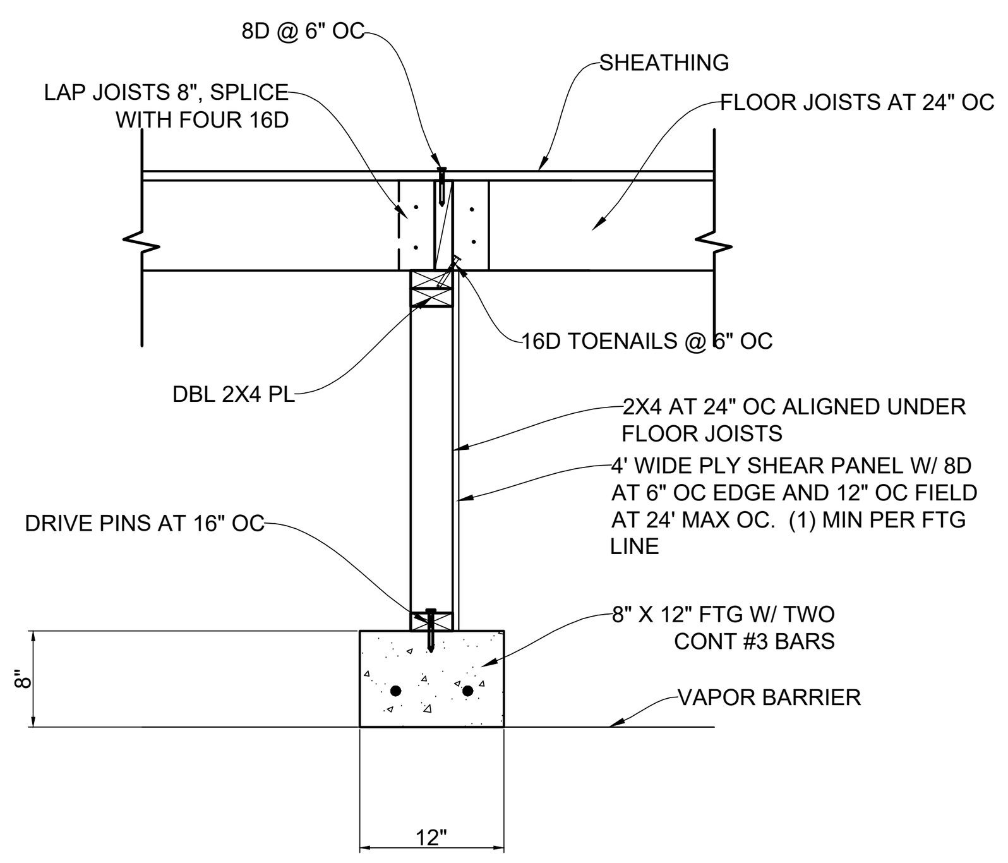
Project Number: 24146
Date: JAN 2025
Scale: AS NOTED
Sheet: S5.1



1 INT FOOTING
S5.2
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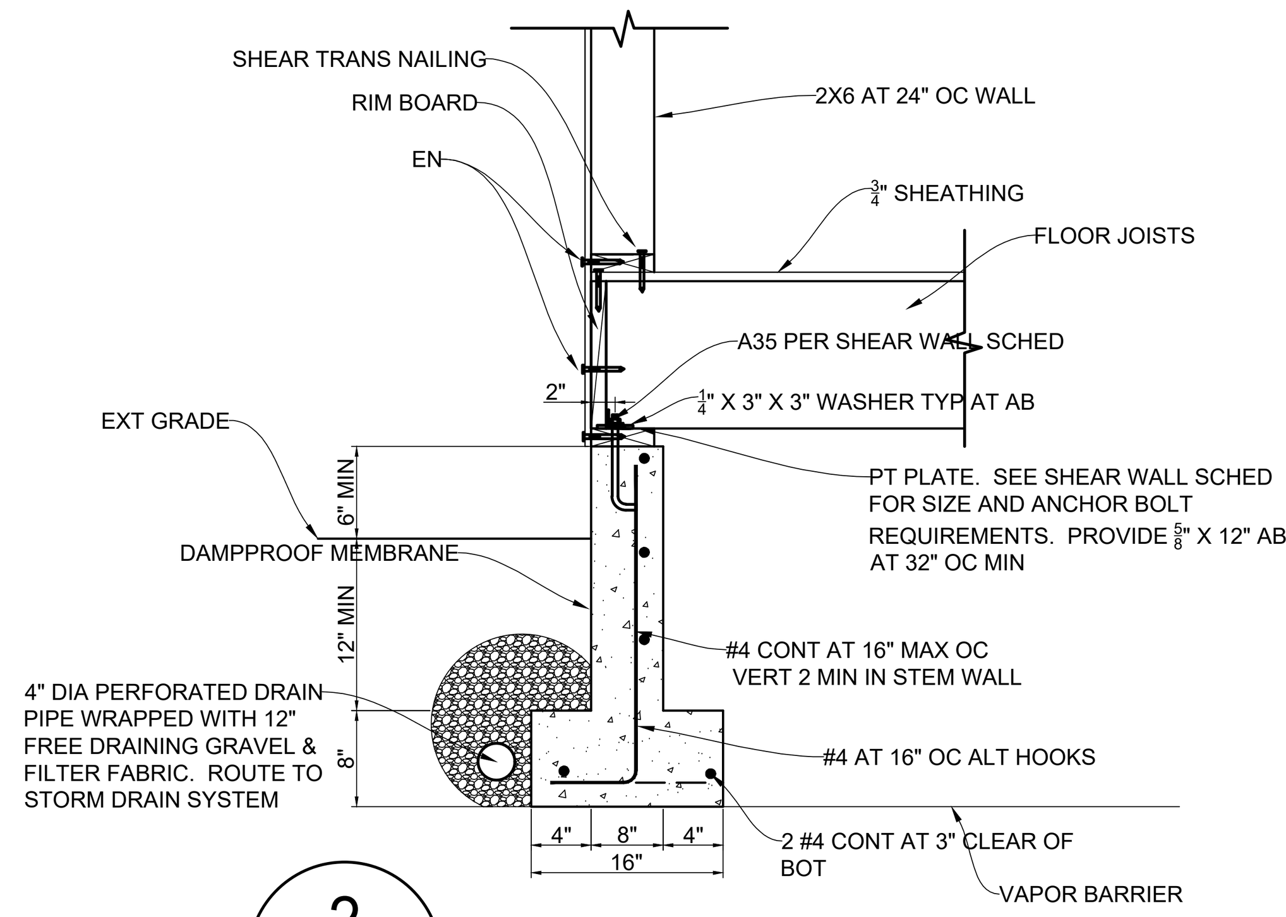

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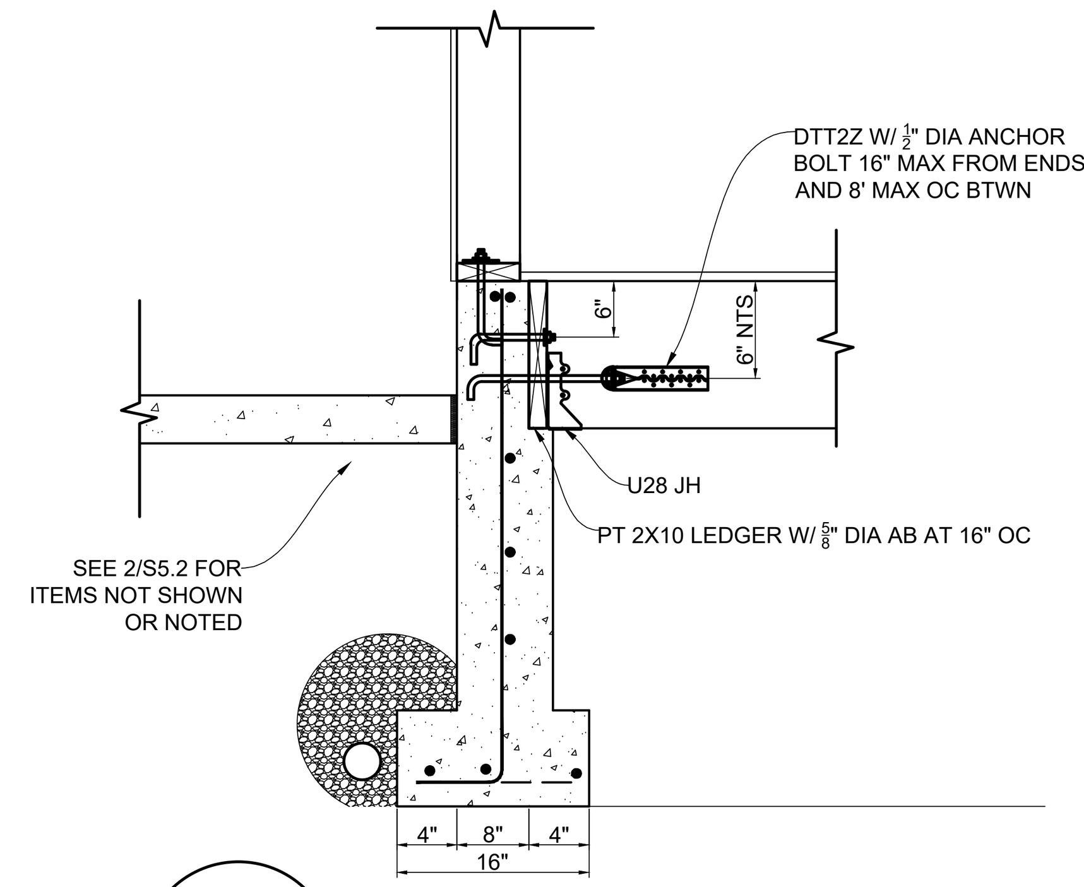

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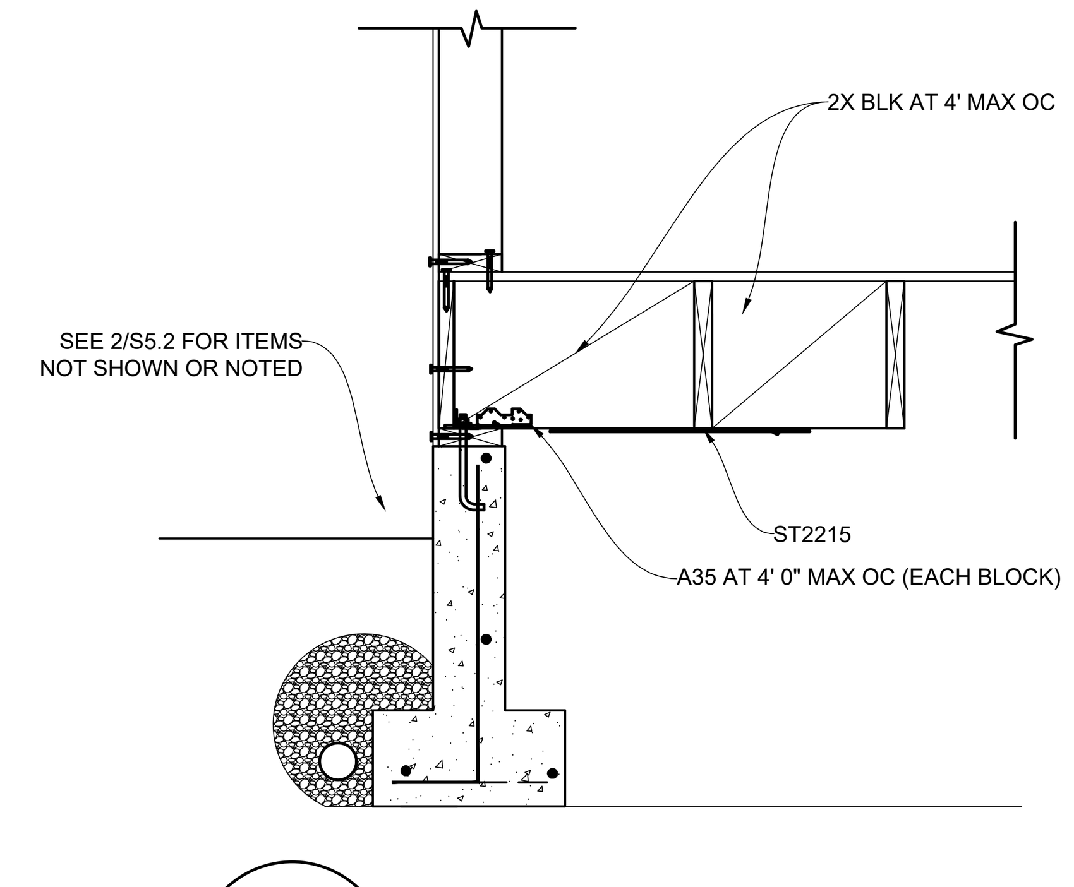

4 EXT FOOTING
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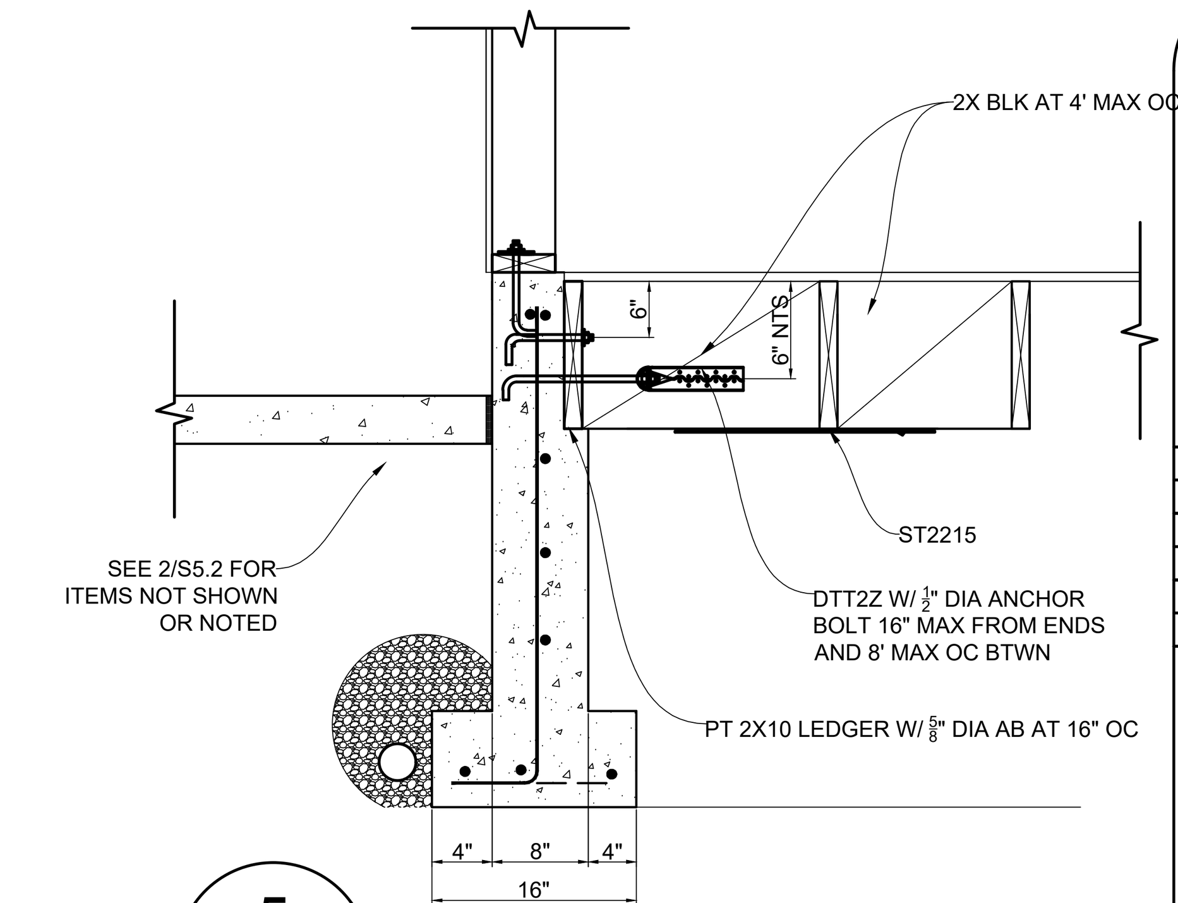

5 EXT FOOTING
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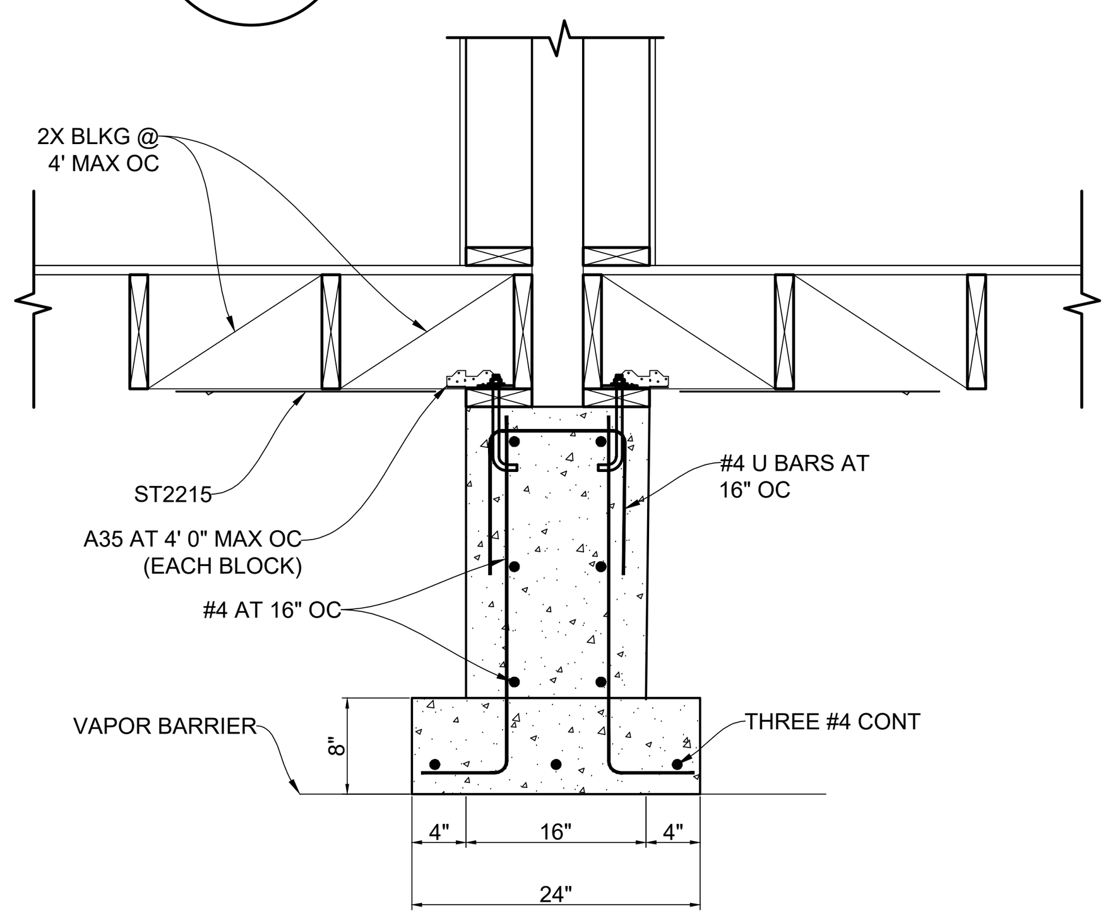

6 INT FOOTING
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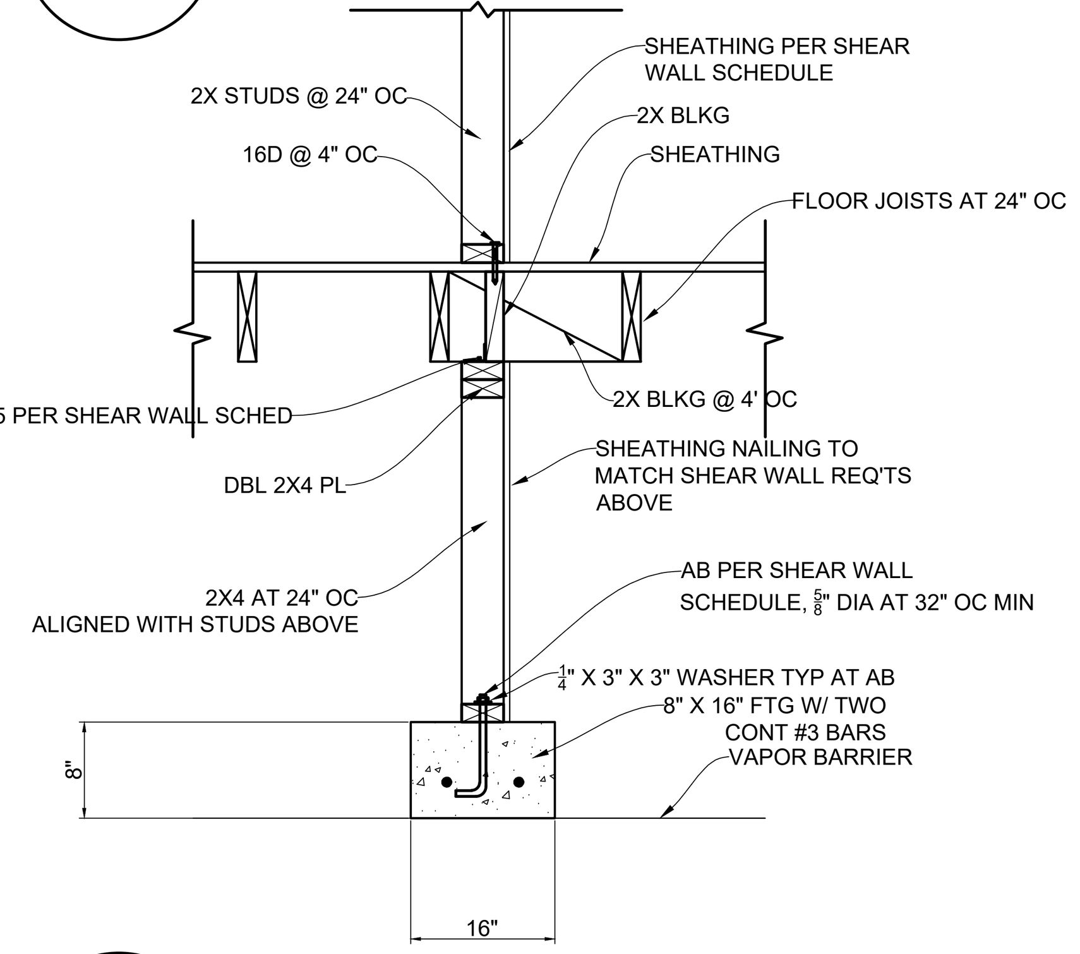

7 INTERIOR FOOTING
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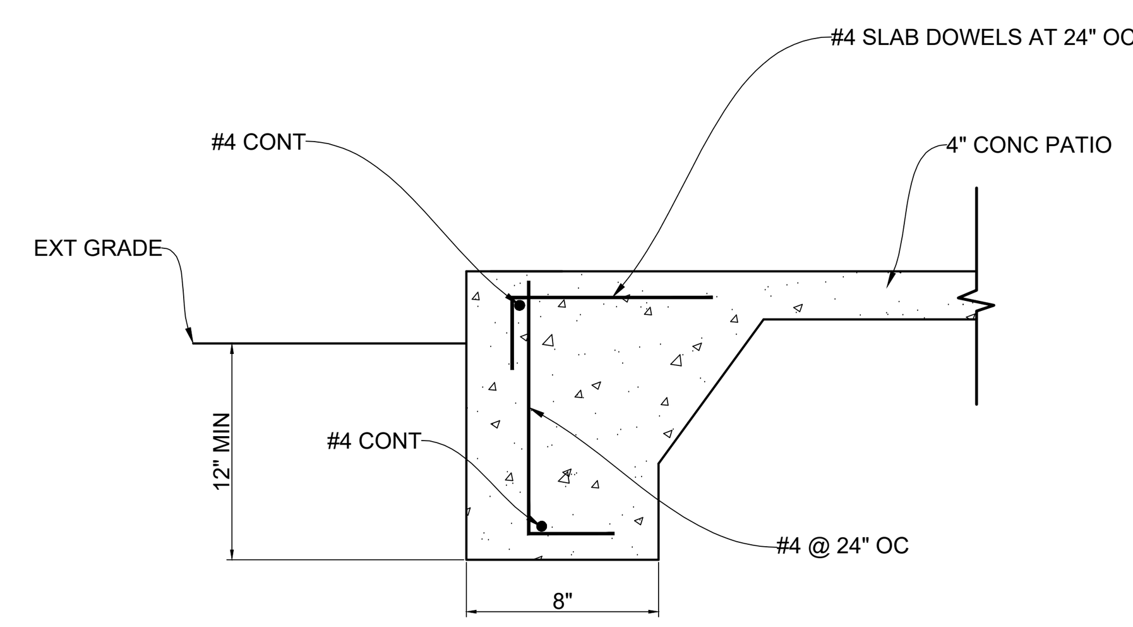
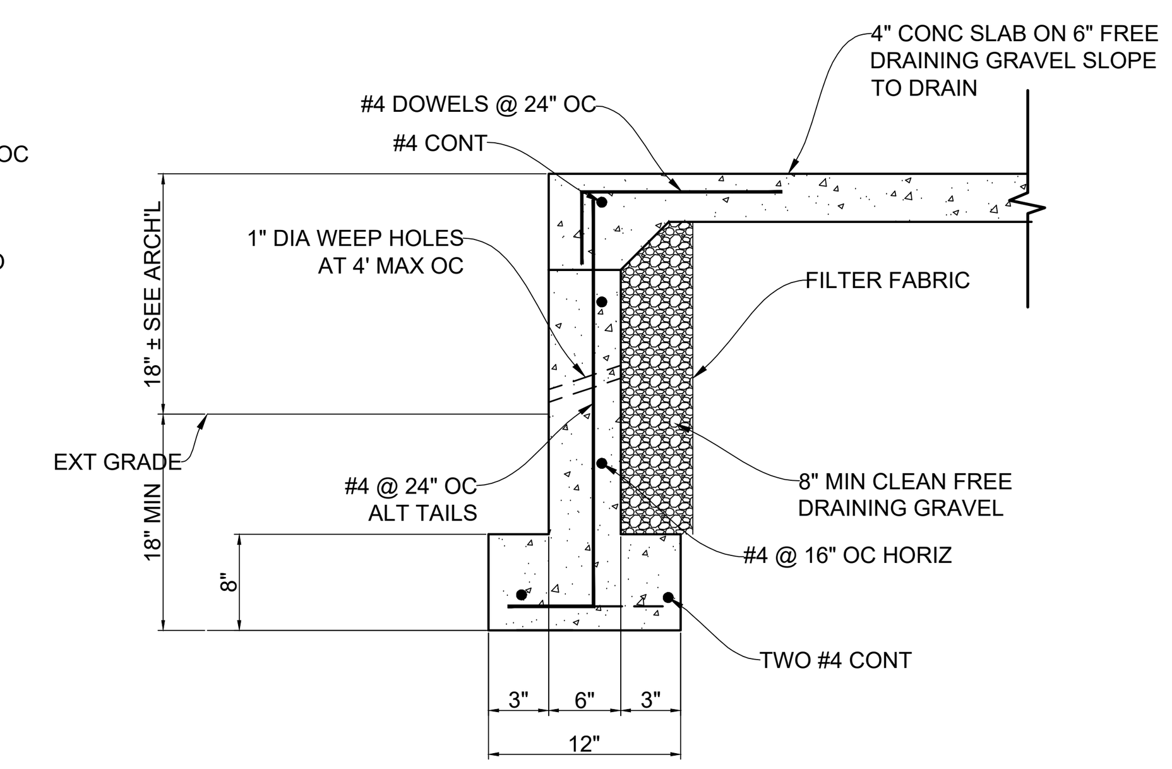
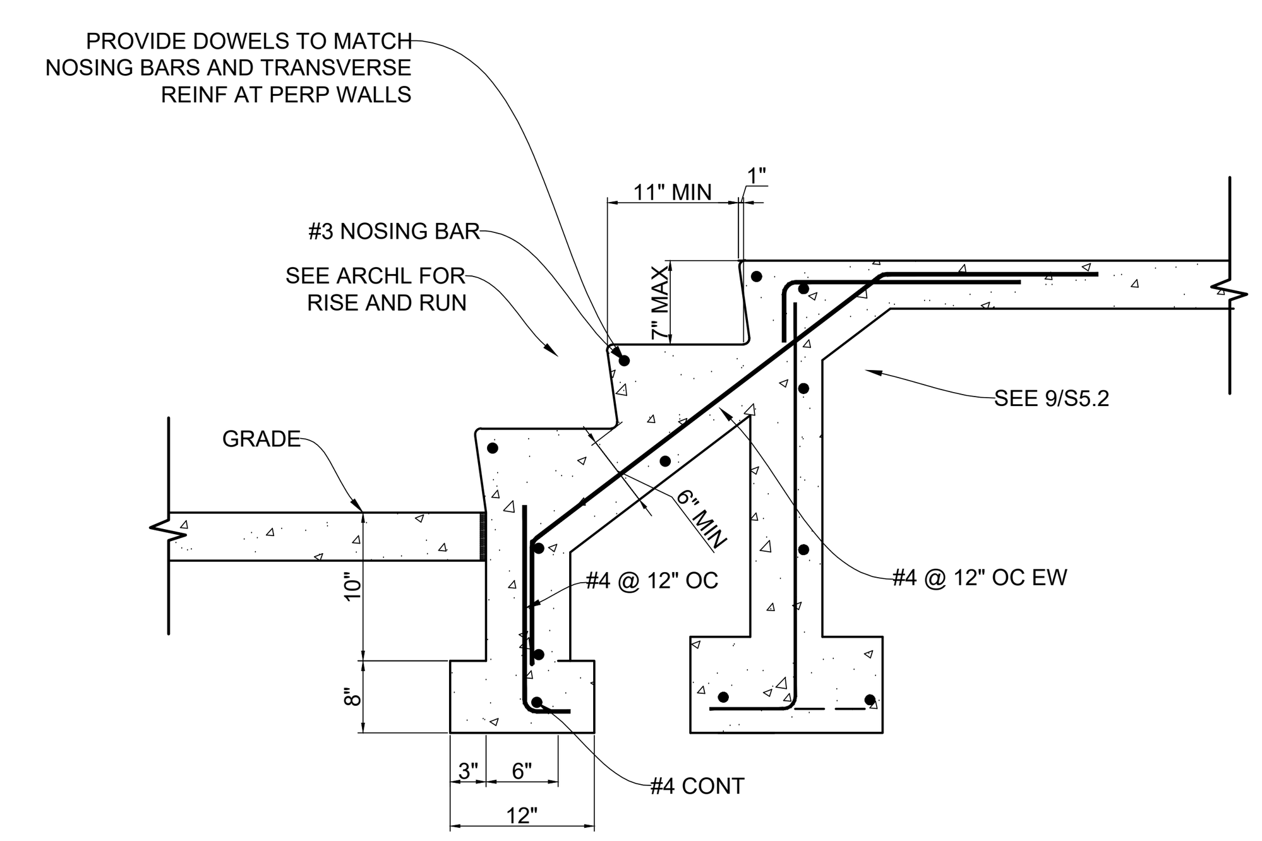


8 THICKENED SLAB EDGE
S5.2
SCALE: 3/4" = 1'-0"



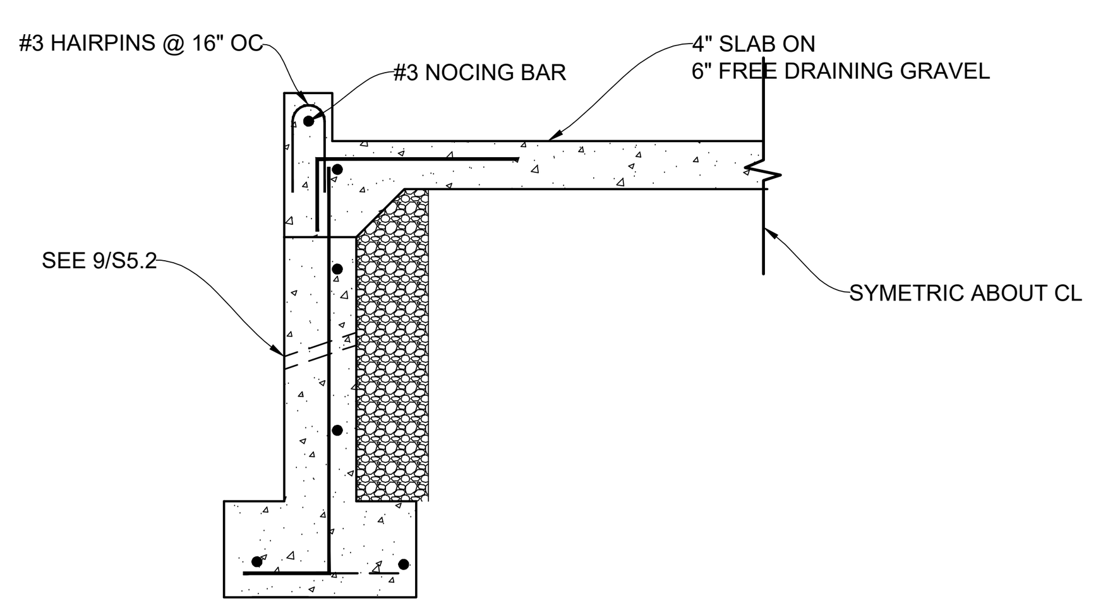
9 DETAIL
S5.2
SCALE: 3/4" = 1'-0"



10 DETAIL
S5.2
SCALE: 3/4" = 1'-0"

MARK	SIMPSON MODEL	POST	POST CONN. NOTE 4	ALLTHREAD DIAMETER
HDU2	HDU2–SDS2.5	(2) 2X	(6)	0.625"
HDU4	HDU4–SDS2.5	(2) 2X	(10)	0.625"
HDU5	HDU5–SDS2.5	(2) 2X	(14)	0.625"
HDU8	HDU8–SDS2.5	4X DF#1	(20)	0.875"
HDU11	HDU11–SDS2.5	6X DF#1	(30)	1" DIA
HDU14	HDU14–SDS2.5	6X DF#1	(36)	1" DIA

NOTES:
1. ALL THREAD EMBEDMENT SHALL BE 12" FOR ⅝" DIA, 16" FOR ⅞" DIA AND 20" FOR 1" DIA.
2. ALL HOLD DOWNS TO BE MANUFACTURED BY SIMPSON STRONG TIE OR EQUAL.
3. ALL THREAD SHALL BE ASTM A307
4. INDICATES NUMBER OF ¼"X2.5"SDS SCREWS REQD



11 DETAIL
S5.2
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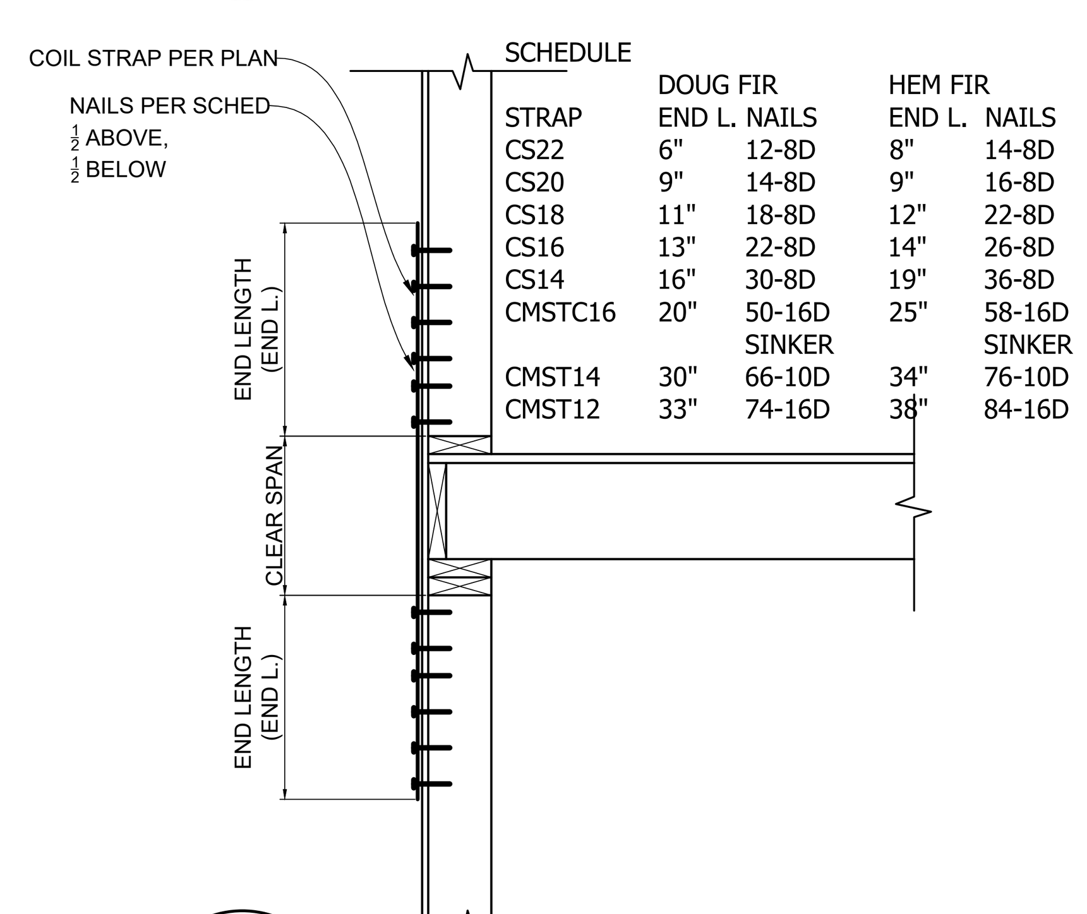

12 COIL STRAP DETAIL
S5.2
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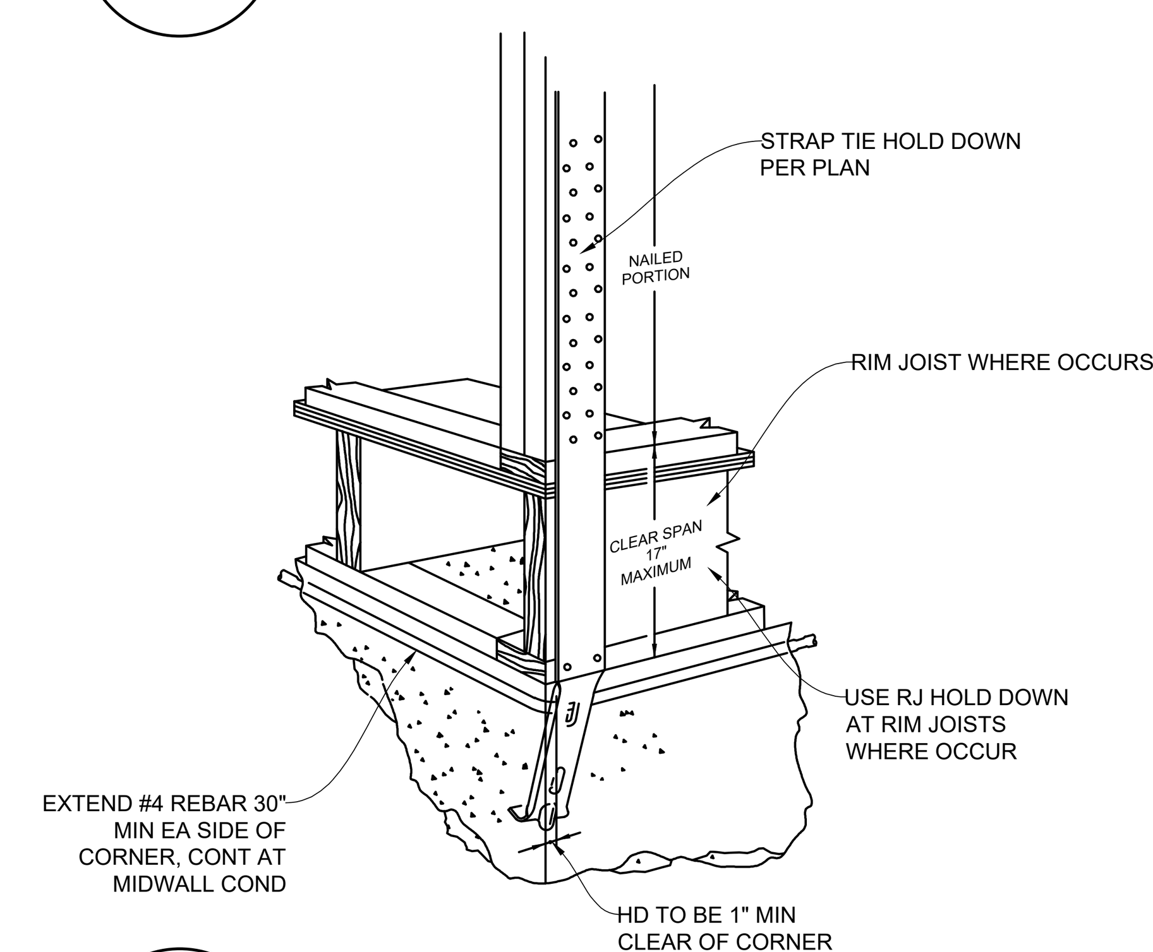

13 FOUNDATION HOLD DOWN
S5.2
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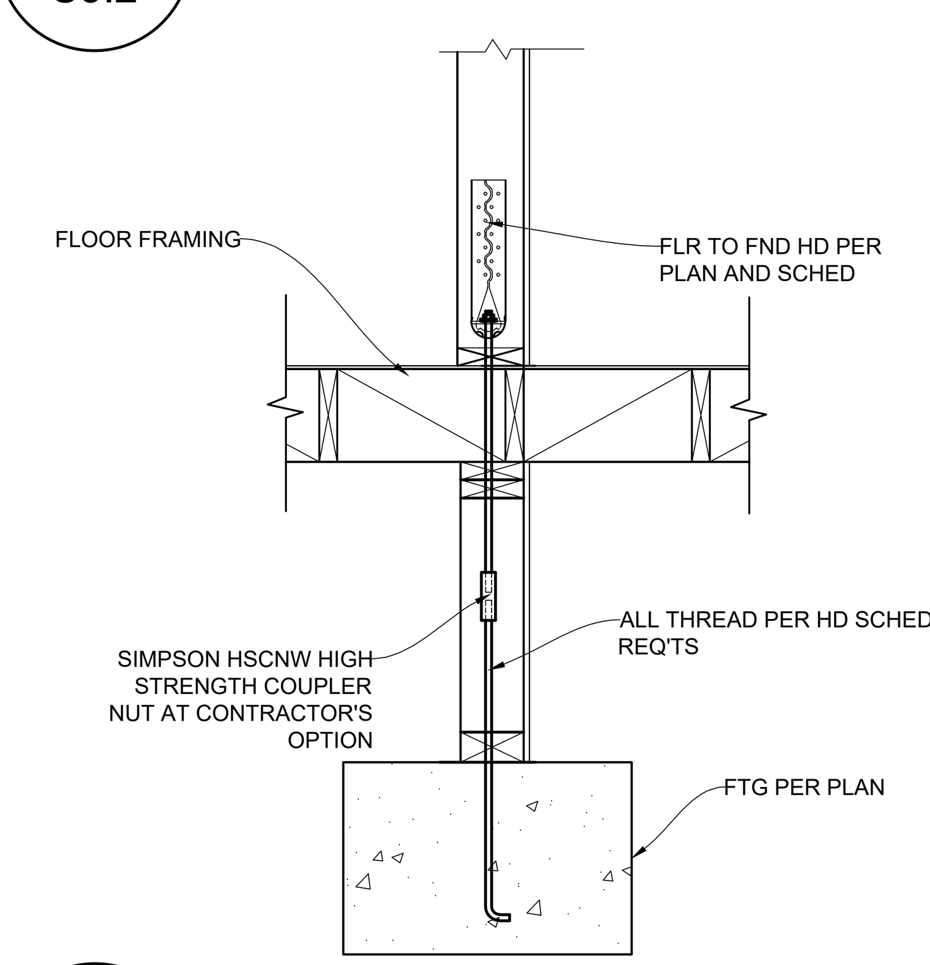

14 HD DETAIL & SCHEDULE
S5.2
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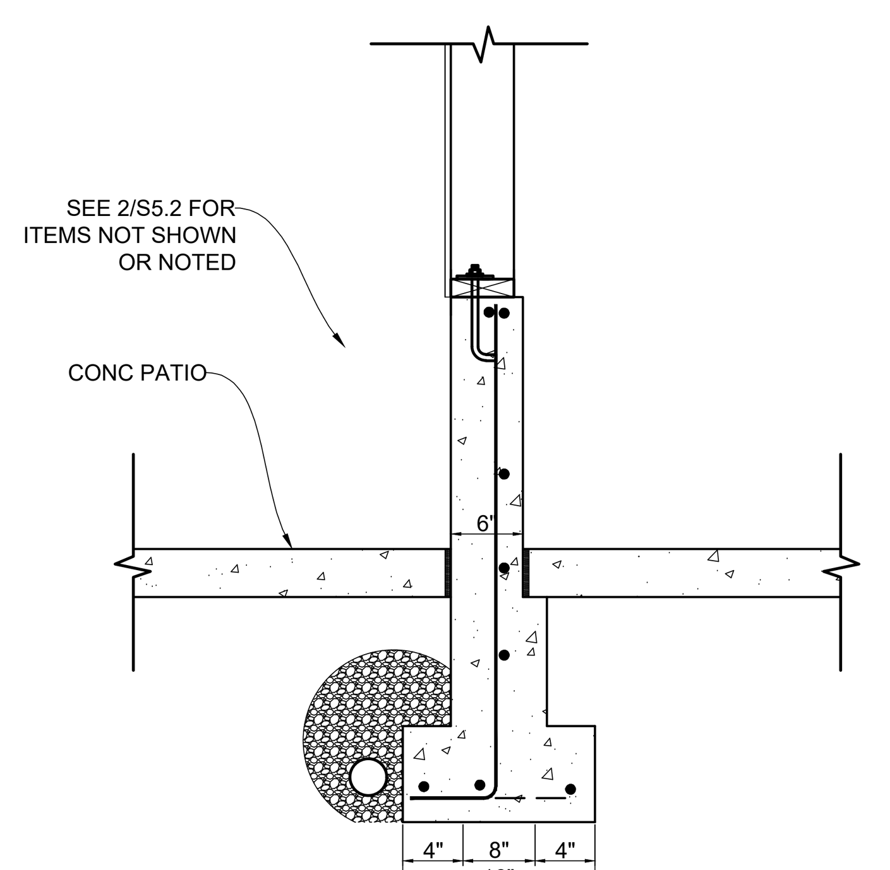

15 EXT FOOTING
S5.2
SCALE: 3/4" = 1'-0"

PRRNTH20250333

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EXP 03/17/27

01/22/25 FOR BUILDING PLAN REVIEW
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Engineering | Public Works
Fire | Traffic

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Project Number: 24146
Date: JAN 2025
Scale: AS NOTED
Sheet: S5.2

GENERAL PLUMBING NOTES

1 THE FOLLOWING NOTES APPLY TO ALL PLUMBING DRAWINGS. ADDITIONAL PLUMBING NOTES MAY BE INDICATED ON EACH PLUMBING DRAWING. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2 INSTALLATION SHALL COMPLY WITH ALL GOVERNING CODES AND REGULATIONS (LOCAL AND STATE). NOTHING ON THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED AS ALLOWING DEVIATION FROM THIS REQUIREMENT. IF A CONFLICT SHOULD OCCUR BETWEEN DRAWINGS AND REGULATIONS, THE REGULATIONS SHALL TAKE PRECEDENT AND CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING OF SUCH CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION.

3 INSTALL ALL WASTE LINE CLEANOUTS IN ACCORDANCE WITH CHAPTER SEVEN OF THE UNIFORM PLUMBING CODE:
- A. 3" WASTE PIPE – 3" CLEANOUT WITH 2.5" PLUG
- B. 4" WASTE PIPE – 4" CLEANOUT WITH 3.5" PLUG
- C. 6" WASTE PIPE – 4" CLEANOUT WITH 3.5" PLUG

4 WASTE, VENT AND SUPPLY PIPING SIZES TO INDIVIDUAL PLUMBING FIXTURES SHALL BE AS SHOWN ON PLUMBING FIXTURE SCHEDULES. BELOW GRADE SANITARY WASTE PIPING SIZES SHALL BE AS SHOWN ON PLANS AND FIXTURE SCHEDULES AND SHALL NOT BE LESS THAN 2" DIAMETER.

5 ALL SANITARY SEWER PIPING BELOW SLAB SHALL BE INSTALLED AT A MINIMUM OF 1/4" PER FT SLOPE UNLESS APPROVAL IS PROVIDED BY THE "ADMINISTRATIVE AUTHORITY" IN WRITING FOR A SHALLOWER SLOPE. IN NO CASES SHALL SEWER PIPING BE INSTALLED AT LESS THAN 1/8" PER FT SLOPE. IN NO CASES WILL PIPING SMALLER THAN 4" BE INSTALLED AT SLOPES SHALLOWER THAN 1/4" PER FOOT. PIPING INSTALLED AT 1/8"/FT SHALL BE RESIZED PER CHAPTER 7 OF THE UNIFORM PLUMBING CODE AND SUPPORTING CALCULATION SUBMITTED TO ENGINEER FOR REVIEW.

6 PROVIDE STOPS PRIOR TO ALL PLUMBING EQUIPMENT. THIS SHALL ALSO INCLUDE PROVIDING INTEGRAL STOPS ON ALL SHOWER AND TUB/SHOWER VALVES (WHETHER SPECIFIED OR NOT). PROVIDE WASTE TRAPS AT ALL DIRECT CONNECTED EQUIPMENT IN ACCORDANCE WITH CODE AND THE SPECIFICATIONS.

7 PROVIDE TRAP PRIMERS AT ALL FLOOR DRAINS UNLESS NOTED OTHERWISE. PROVIDE UNION ON UPSTREAM AND DOWNSTREAM SIDE OF ALL TRAP PRIMERS. TRAP PRIMER BRANCH TAKEOFF SHALL BE FROM TOP OF MAIN DISTRIBUTION PIPE.

8 INSULATE P-TRAPS EXPOSED IN UNHEATED SPACES.

9 SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE ROUGH-IN DIMENSIONS AND OTHER DETAILS. ALSO SEE ARCHITECTURAL DRAWINGS FOR FINISH REQUIREMENTS OF ALL PLUMBING FIXTURES INCLUDING REQUIREMENTS FOR FLUSH LEVER LOCATION AT ADA COMPLIANT TOILETS AND VALVE LOCATIONS OF ADA SHOWERS. REPORT ALL DISCREPANCIES TO ENGINEER PRIOR TO ANY WORK.

10 REFER TO ARCHITECTURAL DRAWING FOR ROOM ELEVATIONS. LOCATE PLUMBING FIXTURES AT HEIGHTS SHOWN ON ARCHITECTURAL ROOM ELEVATIONS.

11 PLUMBING DRAWINGS SHOW APPROXIMATE LOCATIONS OF PLUMBING FIXTURES. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS. COORDINATE FLOOR DRAINS FOR MECHANICAL SPACES WITH MECHANICAL EQUIPMENT BEING SERVED.

12 REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR GENERAL CONSTRUCTION INCLUDING CONCRETE EQUIPMENT PADS, FLASHING DETAILS, ETC.

13 REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL ELECTRICAL CHARACTERISTICS OF PLUMBING EQUIPMENT (VOLTAGES, ETC.).

14 ELECTRICAL CHARACTERISTICS OF LISTED EQUIPMENT SHALL BE VERIFIED BY CONTRACTOR DURING SUBMITTAL PROCESS. ANY ELECTRICAL CHARACTERISTICS THAT DEVIATE FROM THOSE LISTED SHALL BE IDENTIFIED BY THE CONTRACTOR, SUBMITTED TO THE ENGINEER FOR APPROVAL AND COORDINATED WITH DIVISION 26 ELECTRICAL PRIOR TO INSTALLATION OF EQUIPMENT AS REQUIRED TO PROPERLY SERVE EQUIPMENT.

15 SECURE WATER HEATERS AND STORAGE TANKS AND PLUMBING EQUIPMENT TO STRUCTURE AS REQUIRED BY CODE. REFER TO THE STRUCTURAL DRAWINGS FOR ADDITIONAL SPECIAL REQUIREMENTS RELATED TO THE PLUMBING INSTALLATION.

16 PROVIDE PLUMBING ANCHORAGE AND EXPANSION EVERY 100' PIPE LENGTH PER CODE.

17 ACCESS PANELS ARE REQUIRED AT ALL CONCEALED VALVES AND EQUIPMENT. COORDINATE LOCATION AND SIZE WITH ARCHITECT.

18 STUB OUT TO SITE SERVICES 5' OUTSIDE BUILDING FOUNDATION. PIPE SIZE, FIXTURE UNITS, AREA DRAINED, INVERT ELEVATION, SIZES, AND SQUARE FOOTAGES AS INDICATED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

19 INSULATE HORIZONTAL RAIN WATER LEADER PIPING FROM ROOF DRAIN TO VERTICAL RISER.

20 INSULATE PIPING PER WSEC C404.6 AND PER DIVISION 22 SPECIFICATIONS (WHICHEVER IS GREATER).

21 GENERALLY DUCTWORK PLANNED TO BE TIGHT TO STRUCTURE WITH PIPING BELOW DUCTWORK AND BETWEEN LIGHT FIXTURES. ADJUST AS NECESSARY.

22 PIPING INSTALLED ADJACENT TO ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" IF RUNNING PARALLEL AND ABOVE CABLE TRAYS, ALLOW 18" TO THE SIDE OF CABLE TRAYS.

23 COORDINATE LOCATIONS OF PLUMBING EQUIPMENT TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND SERVICE ACCESS DUE TO EQUIPMENT MAINTENANCE.

24 REFER TO PIPING DIAGRAMS AND DETAILS FOR REQUIRED FITTINGS, VALVES, ETC. FLOOR PLANS AND SECTIONS INDICATE EQUIPMENT LOCATIONS AND GENERAL PIPE ROUTING ONLY.

25 PROVIDE FABRICATED STEEL MEMBER SUPPORTS AS REQUIRED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS, AS INDICATED ON DRAWINGS, OR IN SPECIFICATIONS FOR INSTALLATION OF EQUIPMENT. REQUIRED STRUCTURAL MEMBERS, BOLTS, AND WELDS SHALL BE IN ACCORDANCE WITH AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL.

26 IF REQUIRED FOR INSTALLATION OF PIPES AND EQUIPMENT, PROVIDE ADDITIONAL STRUCTURAL MEMBERS BETWEEN COLUMNS, JOISTS, AND STRUCTURAL FRAME TO MEET SUPPORT REACTIONS (FORCES, MOMENTS, DEFLECTIONS). STRUCTURAL MEMBERS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.

27 DO NOT CORE DRILL OR DRILL THROUGH BEAMS, COLUMNS, AND SHEAR WALLS, UNLESS INDICATED ON STRUCTURAL DRAWINGS OR AS APPROVED BY THE STRUCTURAL ENGINEER.

28 PIPES INDICATED WITHOUT DIMENSIONS SHALL BE SIZED PER PRECEDING UPSTREAM PIPE SECTIONS.

29 DRAWINGS ARE SCHEMATIC IN SOME AREAS AND MAY NOT SHOW PIPING OFFSETS WHICH MAY BE REQUIRED.

30 COORDINATE ALL PLUMBING WORK WITH ARCHITECTURAL PHASING DRAWINGS.

31 COORDINATE DEMOLITION WORK WITH ARCHITECTURAL DEMOLITION AND PHASING DRAWINGS.

32 PATCH ALL FLOOR, WALL, CEILING AND ROOF OPENINGS CREATED/CAUSED BY THE DEMOLITION OF EXISTING PIPES, FIXTURES, ETC. IN ACCORDANCE WITH DIVISION 1 OF THE SPECIFICATIONS 3.3 ALL WATER, SOIL, AND WASTE PIPING IN AREAS SUBJECT TO FREEZING SHALL BE PROTECTED FROM FREEZING PER THE REQUIREMENTS OF THE UPC 312.6.

34 WHERE PIPE SIZES ARE NOT SHOWN ON DRAWINGS, SIZE PIPING PER THE UNIFORM PLUMBING CODE.

35 PRIOR TO SUBMITTING ALL PLUMBING FIXTURES THE CONTRACTOR SHALL VERIFY COMPATIBILITY OF THE SPECIFIED FIXTURE WITH THE SIZES OF FINISH CABINETRY AS IDENTIFIED IN GENERAL CONTRACTOR'S SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN THE SIZE OF THE FIXTURES SPECIFIED AND THE FINISH CABINETRY SIZES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE SUBMITTAL.

36 PLUMBING VENTS SHALL TERMINATE MINIMUM 10' FROM FRESH AIR INTAKES PER CODE.

37 LABEL ALL PIPING SYSTEMS PER THE IMC AND UPC.

38 SUPPORT AND BRACE PIPING SYSTEMS IN ACCORDANCE WITH UPC AND AS REQUIRED IN THE SPECIFICATIONS.

39 ALL MATERIALS IN CONTACT WITH PIPING SYSTEMS SHALL BE COMPATIBLE FOR USE WITH AND FOR CONTACT WITH THE PIPING MATERIAL. CONTRACTORS AND TRADES SHALL VERIFY COMPATIBILITY OF THEIR PRODUCTS WITH THE PIPING SYSTEMS. THIS INCLUDES, BUT IS NOT LIMITED TO, FIRE STOPPING SEALANTS, FIRE STOPPING COLLARS, VIBRATION ISOLATION ELEMENTS, THERMAL INSULATION, EXPANSION JOINTS AND ANY MATERIAL IN CONTACT WITH PIPES.

40 ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

41 PIPE BURIAL METHODS FOR BELOW GRADE PIPING SHALL COMPLY WITH MFR INSTALLATION INSTRUCTIONS, ASTM D 2321 AND ASTM F1668. FAILURE TO FOLLOW THESE REQUIREMENTS CAN LEAD TO PIPE FAILURE.

42 ROOF MOUNTED PIPING SHALL BE INSTALLED ON FREE FLOATING, PREFABRICATED SUPPORTS SIMILAR TO MIRO MODEL 24-R OR ROOF TOP BLOX ON WALKWAY TREAD PADS. THE USE OF WOOD FOR SUPPORTS IS PROHIBITED.

43 ALL ITEMS IN CONTACT WITH POTABLE WATER SHALL COMPLY WITH THE NATIONAL "REDUCTION OF LEAD IN DRINKING WATER ACT" S.3874.

44 WHERE MANUFACTURERS HAVE RECOMMENDED OR REQUIRED TRAINING PROGRAMS FOR THE INSTALLATION OF THEIR PRODUCT, THEN ALL CONTRACTOR EMPLOYEES INSTALLING THAT PRODUCT SHALL BE TRAINED AND HAVE WRITTEN DOCUMENTATION CONFIRMING THAT TRAINING, AND SHALL FURNISH A COPY OF THE TRAINING DOCUMENTATION WITHIN THE PROJECT SUBMITTAL FOR EACH INSTALLING INDIVIDUAL SHOWING CURRENT INSTALLATION TRAINING WITHIN TWO (2) YEARS OF START OF THIS PROJECT.

45. PROVIDE PIPING PROTECTION PER IRC M1308.2

PLUMBING CALCULATIONS - BUILDING B

2021 UPC PLUMBING CODE — PER TABLE 702.1 AND TABLE A-103.1

BUILDING SUMMARY / FIXTURE TYPE	MIN. SIZE TRAP/ARM IN.	QTY	DOMESTIC WATER WSFU: PER FIXTURE	PER TOTAL	HW PER FIXTURE	TOTAL HW	SEWER DFU: PER FIXTURE	TOTAL
BATHTUB, BATH/SHOWER, PRIVATE/PUBLIC .5" SUPPLY	1.5	5	4	20	3	15	2	10
CLOTHES WASHER, DOMESTIC	2	3	4	12	3	9	3	9
HOSE BIBB	--	3	2.5	7.5	--	--	--	--
FLOOR DRAIN	2	3	--	--	--	--	2	6
LAVATORY, SINGLE	1.25	9	1	9	0.75	6.75	1	9
SINKS	--	--	--	--	--	--	--	--
KITCHEN, DOMESTIC (2" DRAIN)	1.5	3	1.5	4.5	1.125	3.375	2	6
WATER CLOSETS	--	--	--	--	--	--	--	--
1.6 GPF GRAVITY & FLUSHOMETER TANK, PRIVATE	3	7	2.5	17.5	--	--	3	21
1/28/2025	TOTALS	33		70.5		34.125		61
TOTAL BUILDING FIXTURE CALCULATIONS				70.5		34.125		61

PLUMBING CALCULATIONS - 2.5 BATH UNIT

2021 UPC PLUMBING CODE — PER TABLE 702.1 AND TABLE A-103.1

BUILDING SUMMARY / FIXTURE TYPE	MIN. SIZE TRAP/ARM IN.	QTY	DOMESTIC WATER WSFU: PER FIXTURE	PER TOTAL	HW PER FIXTURE	TOTAL HW	SEWER DFU: PER FIXTURE	TOTAL
BATHTUB, BATH/SHOWER, PRIVATE/PUBLIC .5" SUPPLY	1.5	2	4	8	3	6	2	4
CLOTHES WASHER, DOMESTIC	2	1	4	4	3	3	3	3
HOSE BIBB	--	1	2.5	2.5	--	--	--	--
FLOOR DRAIN	2	1	--	--	--	--	2	2
LAVATORY, SINGLE	1.25	4	1	4	0.75	3	1	4
SINKS	--	--	--	--	--	--	--	--
KITCHEN, DOMESTIC (2" DRAIN)	1.5	1	1.5	1.5	1.125	1.125	2	2
WATER CLOSETS	--	--	--	--	--	--	--	--
1.6 GPF GRAVITY & FLUSHOMETER TANK, PRIVATE	3	3	2.5	7.5	--	--	3	9
1/28/2025	TOTALS	13		27.5		13.125		24
TOTAL BUILDING FIXTURE CALCULATIONS				27.5		13.125		24

PLUMBING CALCULATIONS - 1 BATH UNIT

2021 UPC PLUMBING CODE — PER TABLE 702.1 AND TABLE A-103.1

BUILDING SUMMARY / FIXTURE TYPE	MIN. SIZE TRAP/ARM IN.	QTY	DOMESTIC WATER WSFU: PER FIXTURE	PER TOTAL	HW PER FIXTURE	TOTAL HW	SEWER DFU: PER FIXTURE	TOTAL
BATHTUB, BATH/SHOWER, PRIVATE/PUBLIC .5" SUPPLY	1.5	1	4	4	3	3	2	2
CLOTHES WASHER, DOMESTIC	2	1	4	4	3	3	3	3
HOSE BIBB	--	1	2.5	2.5	--	--	--	--
FLOOR DRAIN	2	1	--	--	--	--	2	2
LAVATORY, SINGLE	1.25	1	1	1	0.75	0.75	1	1
SINKS	--	--	--	--	--	--	--	--
KITCHEN, DOMESTIC (2" DRAIN)	1.5	1	1.5	1.5	1.125	1.125	2	2
WATER CLOSETS	--	--	--	--	--	--	--	--
1.6 GPF GRAVITY & FLUSHOMETER TANK, PRIVATE	3	1	2.5	2.5	--	--	3	3
1/28/2025	TOTALS	7		15.5		7.875		13
TOTAL BUILDING FIXTURE CALCULATIONS				15.5		7.875		13

2021 UPC APPENDIX A WATER SERVICE CALCULATIONS - 2.5 BATH UNIT

Cold Water Piping to be Sized Based on a **FT** System (FV=Flush Valve, FT = Flush Tank)
Hot Water Piping to be Sized Based on a **FT** System (FV =Flush Valve, FT = Flush Tank)

PIPE MAINS	FIX UNIT	GPM	SIZE
BUILDING SUPPLY	28	18	1-1/4"
COLD WATER	28	18	1-1/4"
HOT WATER	13	9	1"

STATIC WATER PRESSURE (PSI)	54.0	(PER PUBLIC WORKS DEPT)			
PIPE LOSS BETWEEN MAIN AND METER (PSI)	2.3	20.00 FT OF	1.0 IN DIA. PIPE I.D.	11.7	PSI/100' LOSS
WATER PRESSURE AT METER (PSI)	51.7				
METER LOSS (PSI)	0.9	1.00 DIAMETER METER			
PIPE LOSS BETWEEN METER AND BLDG (PSI)	9.9	250.00 FT OF	1.3 IN DIA. PIPE	4.0	PSI/100' LOSS
WATER PRESSURE AT BUILDING (PSI)	40.8	If meter pressure less BFP loss exceeds 80PSI, PRV required			
PRV FALL OFF AT PEAK FLOW (PSI)		PRV not required			
BOOSTER PUMP BOOST AMOUNT (PSI)		BOOSTER PUMP not required			
BLDG SUPPLY PRESSURE FOR PIPE SIZING:	40.8				

COLD WATER PRESSURE LOSS:

ELEVATION CHANGE (PSI)	7.4	17	FEET AT 0.433 PSI/FT	
MIN. RESIDUAL PRESS. AT REMOTE FIXT. (PSI)	25.0			
TOTAL PRESSURE LOSS:	32.4			
	40.8			
-	32.4			
AVAILABLE PRESSURE (PSI)	8.5			
LONGEST PIPE RUN (FT)	50.0	8.46	X 100 FT	
X 1.25 (FITTINGS) 1.25	62.5	63 FT		
Friction Loss Not to Exceed	13.5	PSI/100FT LOSS		
Size All Piping Based on a Friction loss of:	8	PSI/100FT LOSS		
and max velocity based on installation standard.				

2021 UPC APPENDIX A WATER SERVICE CALCULATIONS - 1 BATH UNIT

Cold Water Piping to be Sized Based on a **FT** System (FV=Flush Valve, FT = Flush Tank)
Hot Water Piping to be Sized Based on a **FT** System (FV =Flush Valve, FT = Flush Tank)

PIPE MAINS	FIX UNIT	GPM	SIZE
BUILDING SUPPLY	16	11	1"
COLD WATER	16	11	1"
HOT WATER	8	6	3/4"

STATIC WATER PRESSURE (PSI)	54.0	(PER PUBLIC WORKS DEPT)			
PIPE LOSS BETWEEN MAIN AND METER (PSI)	0.9	20.00 FT OF	1.0 IN DIA. PIPE I.D.	4.7	PSI/100' LOSS
WATER PRESSURE AT METER (PSI)	53.1				
METER LOSS (PSI)	0.4	1.00 DIAMETER METER			
PIPE LOSS BETWEEN METER AND BLDG (PSI)	6.1	130.00 FT OF	1.0 IN DIA. PIPE	4.7	PSI/100' LOSS
WATER PRESSURE AT BUILDING (PSI)	46.6	If meter pressure less BFP loss exceeds 80PSI, PRV required			
PRV FALL OFF AT PEAK FLOW (PSI)		PRV not required			
BOOSTER PUMP BOOST AMOUNT (PSI)		BOOSTER PUMP not required			
BLDG SUPPLY PRESSURE FOR PIPE SIZING:	46.6				

COLD WATER PRESSURE LOSS:

ELEVATION CHANGE (PSI)	7.4	17	FEET AT 0.433 PSI/FT	
MIN. RESIDUAL PRESS. AT REMOTE FIXT. (PSI)	25.0			
TOTAL PRESSURE LOSS:	32.4			
	46.6			
-	32.4			
AVAILABLE PRESSURE (PSI)	14.2			
LONGEST PIPE RUN (FT)	50.0	14.23	X 100 FT	
X 1.25 (FITTINGS) 1.25	62.5	63 FT		
Friction Loss Not to Exceed	22.8	PSI/100FT LOSS		
Size All Piping Based on a Friction loss of:	8	PSI/100FT LOSS		
and max velocity based on installation standard.				

PLUMBING LEGEND
SYMBOL DESCRIPTION

VALVES
- BALANCING VALVE
- PRESSURE REGULATING VALVE
- PRESSURE REDUCING VALVE (PRV)
- M — AUTOMATIC CONTROL VALVE – TWO WAY (ELECTRIC OPERATOR SHOWN)
- M — AUTOMATIC CONTROL VALVE – THREE WAY (ELECTRIC OPERATOR SHOWN)
- BALL VALVE
- GATE VALVE
- GAS COCK
- RELIEF VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- REDUCED PRESSURE BACKFLOW ASSEMBLY
- BALANCING/MEASURING VALVE

DRAIN WASTE & VENT PIPING
- WASTE (ABOVE FLOOR) PIPING
- WASTE (BELOW FLOOR) PIPING
- VENT
- AW — ACID WASTE
- GW — GREASE WASTE
- GD — GARAGE DRAIN
- C — CONDENSATE DRAIN
- P — PUMPED PIPING
- FCO — FLOOR CLEANOUT (FCO)
- WCO — WALL CLEANOUT (WCO)
- VTR — VENT THRU ROOF
- FLOOR DRAIN
- FLOOR SINK

PLUMBING RISER DIAGRAMS
- 1 — DOMESTIC WATER RISER DIAGRAM
- 1 — WASTE & VENT RISER DIAGRAM
- X20 — TYPICAL UNIT AND OR RISER DESIGNATION

REFERENCE CODES

IRC	INTERNATIONAL RESIDENTIAL CODE – 2021
IMC	INTERNATIONAL MECHANICAL CODE – 2021
UPC	UNIFORM PLUMBING CODE – 2021
IFGC	INTERNATIONAL FUEL GAS CODE – 2021
IFC	INTERNATIONAL FIRE CODE – 2021
NEC	NATIONAL ELECTRICAL CODE – 2017
WSECR	WASHINGTON STATE ENERGY CODE RESIDENTIAL – 2021
ADA	AMERICAN DISABILITY ACT STANDARDS – 2010
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS – A17.1 – 2007 W/ 2008 ADDENDA SAFETY CODE FOR ELEVATORS AND ESCALATORS
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS 13D, 13R, OR 13 (AS APPLICABLE) – 2016

BUILDING B PLUMBING SHEET INDEX

PLUMBING LEGEND
SYMBOL DESCRIPTION

STORM PIPING SYSTEMS
- ST — STORM WASTE (BELOW FLOOR)
- RL — RAIN LEADER
- OL — OVERFLOW LEADER
- ROOF DRAIN
- OVERFLOW DRAIN
- OVERFLOW SCUPPER

GAS PIPING SYSTEMS
- G — LOW PRESSURE GAS
- MPG — MEDIUM PRESSURE GAS
- LPG — PROPANE

PIPING
- FLOW ARROW
- CAP OR CLEANOUT
- PIPE UP OR TEE UP AND DOWN
- PIPE DOWN
- PIPE TEE UP
- PIPE TEE DOWN
- 45° DEGREE ELBOW
- 90° DEGREE ELBOW
- 4 WAY TEE
- TEE
- PIPE BREAK

PIPING SPECIALTIES
- PRESSURE GAGE
- THERMOMETER
- SIGHT GLASS
- VENTURI FLOW METER
- FLOW METER
- MANUAL AIR VENT (MAV)
- GAS PRESSURE REGULATOR
- M — WATER METER
- WYE STAINER
- WYE STAINER WITH CAPPED HOSE END BLOWDOWN VALVE
- FLANGE
- UNION
- ECCENTRIC REDUCER
- STEAM TRAP
- HOSE BIBBS
- HOSE BIBB/WALL HYDRANT
- PIPE ANCHOR
- ALLIGNMENT GUIDE
- TS — TEMPERATURE/PRESSURE TEST PORT/PETE'S PLUG
- FLEXIBLE CONNECTION IN PIPING
- FUNNEL

PLUMBING LEGEND
SYMBOL DESCRIPTION

GENERAL
- NORTH — NORTH ARROW
- A / M201 — SECTION IDENTIFICATION
- SHEET IDENTIFICATION
- 1 — SHEET NOTES
- 1 — RISER CALLOUT (RISER-1)
- WC-1 — PLUMBING FIXTURE TAG (WC-1)
- 1 — REVISION CALLOUT (REV-1)
- REVISION BUBBLE
- 1 / P2.05 — DETAIL CALLOUT (1/P2.05)
- A / 6 — COLUMN GRID SYMBOLS
- 1 — GENERAL MECHANICAL NOTES NUMBER IDENTIFICATION
- 1 — FLAG MECHANICAL NOTES NUMBER IDENTIFICATION
- EXISTING WORK OR BACKGROUND
- INFORMATION (LIGHT LINE) NEW WORK (HEAVY LINE)
- R — RELOCATE EXISTING EQUIPMENT ITEM OR DEVICE INDICATED
- EXISTING EQUIPMENT OR PIPING TO BE SELECTIVELY DEMOLISHED
- PMP-1 — TYPICAL EQUIPMENT DESIGNATION (PUMP)
- POINT OF CONNECTION TO EXISTING

WATER PIPING SYSTEMS
- WS — WATER SERVICE
- CWF — COLD WATER FILTERED
- COLD WATER (ABOVE FLOOR/GRADE)
- HOT WATER (ABOVE FLOOR/GRADE) (120° F TEMPERED WATER IF NOT INDICATED OTHERWISE)
- 140 — HIGH TEMP HOT WATER 140° OR AS INDICATED
- 160 — HIGH TEMP HOT WATER 160° OR AS INDICATED
- T — TEMPERED WATER
- TWC — TEMPERED WATER CIRCULATING
- HOT WATER CIRCULATING
- NP — NON POTABLE WATER
- M — WATER METER
- HEAT TRACE FOR COLD WATER PIPE

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING

0" — 1"

IF NOT ONE INCH ON THIS DRAWING, ADJUST SCALES ACCORDINGLY.

01/28/2025 PERMIT RESUBMITTAL

PRRNTH20250333

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

HV Engineering, Inc.
Consulting Engineers
Hall Creek Office Park
6912 220th St. SW, Suite 303
Mountlake Terrace, WA 98043
Phone: (206) 706-9669
www.hvengineering. biz

Project
7TH AVE TOWNHOMES
Location
1200 7th Ave. SE
Puyallup, WA 98371

Prepared For
WC STUDIO
1522 6th Avenue #1
Tacoma, WA 98405
206-371-5152

NO.	DATE	REVISION

PARTNER IN CHARGE: BWR
PROJECT MANAGER: BWR
PROJECT ENGINEER: BWR
PROJECT TEAM MEMBERS: BWR
CHECK: BWR

ENGINEERS SEAL
BRIAN W. ROETCISOENDER — STATE OF WASHINGTON — 30321 — REGISTERED PROFESSIONAL ENGINEER
4/18/2025

TITLE
BLDG B PLUMBING NOTES & LEGENDS

PROJECT NO. 2021-007
DATE APRIL 18, 2025
PROJECT NETWORK PATH

SHEET NUMBER
P0.01

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE	EA	EACH	HWS	HOT WATER HEATING SUPPLY	OC	ON CENTER	SHT	SHEET
AC	AIR CONDITIONING	EAT	ENTERING AIR TEMPERATURE	HWR	HOT WATER HEATING RETURN	OSA	OUTSIDE AIR	SP	STATIC PRESSURE
ABV	ABOVE	ECC	ECCENTRIC	IA	INSTRUMENT AIR	OAT	OUTSIDE AIR TEMPERATURE	SPEC	SPECIFICATION
AD	ACCESS DOOR	ECON	ECONOMIZER	ID	INSIDE DIMENSION	OA	OUTSIDE AIR	SQ	SQUARE
AFC	ABOVE FINISHED CEILING	EER	ENERGY EFFICIENCY RATIO	IE	INVERT ELEVATION	OD	OUTSIDE DIMENSION	SR	SUPPLY REGISTER
AFF	ABOVE FINISHED FLOOR	EF	EXHAUST FAN	IH	INSULATION HOT	OPP	OPPOSITE	SS	STAINLESS STEEL
AFG	ABOVE FINISHED GRADE	EFF	EFFICIENT, EFFICIENCY	IN	INCH, INCHES	OV	OUTLET VELOCITY	SYS	SYSTEM
AFUE	ANNUALIZED FUEL EFFICIENCY	EG	EXHAUST GRILLE	INFO	INFORMATION	OCP	OVER CURRENT PROTECTION	STAT	THERMOSTAT
AHU	AIR HANDLING UNIT	EL	ELEVATION	INST	INSTRUMENT	OU	OUTDOOR UNIT		
AL	ALUMINUM	ELEC	ELECTRICAL	INSUL	INSULATE, INSULATION			TEMP	TEMPERATURE
APPROX	APPROXIMATELY	EQUIP	EQUIPMENT	INV	INVERT	P	PUMP	TD	TEMPERATURE DIFFERENTIAL
ARCH	ARCHITECTURAL	ET	ELECTRIC TRACED	IRR	IRRIGATION (NON POTABLE)	PD	PRESSURE DROP	TDH	TOTAL DYNAMIC HEAD
ATMOS	ATMOSPHERE	EXIST,(E)	EXISTING	IU	INDOOR UNIT	PERF	PERFORATED	TEMP	TEMPORARY
		EXH	EXHAUST			PF	PRE FILTER	THRU	THROUGH
BATT	BATTERY	EXT	EXTERIOR	JAN	JANITOR	PH	PHASE	TI	TENANT IMPROVEMENT
BDD	BACK DRAFT DAMPER					PJ	PUSH ON JOINTS	TSTAT	THERMOSTAT
BF	BLIND FLANGE	F	FAHRENHEIT	KW	KILOWATT	PLCS	PLACES	TYP	TYPICAL
BFC	BELOW FINISHED CEILING	FD	FIRE DAMPER OR FLOOR DRAIN	KWH	KILOWATT HOUR	PNL	PANEL	TRU	TERMINAL REHEAT UNIT
BHP	BRAKE HORSE POWER	FF	FINISHED FLOOR	LAT	LEAVING AIR TEMPERATURE	POC	POINT OF CONNECTION		
BI	BACKWARD INCLINED	FLGD	FLANGED			PRV	PRESSURE REDUCING VALVE	UL	UNDERWRITER'S LABORATORY
BLDG	BUILDING	FLR	FLOOR	LBS	POUND	PS	PIPE SUPPORT	UNO	UNLESS NOTED OTHERWISE
BOD	BOTTOM OF DUCT	FCO	FLOOR CLEAN OUT	LC	LOCKED CLOSED	PSV	PRESSURE SAFETY (RELIEF) VALVE	UV	UNIT VENTILATOR
BTU	BRITISH THERMAL UNIT	FPM	FEET PER MINUTE	LF	LINEAL FEET			UMC	UNIFORM MECHANICAL CODE
BTUH	BRITISH THERMAL UNIT PER HOUR	FLTR	FILTER	LOC	LOCATION			UP	UNIFORM PLUMBING CODE
		FOF	FACE OF FLANGE	LL	LANDLORD	QTY	QUANTITY	UBC	UNIFORM BUILDING CODE
CFM	CUBIC FEET PER MINUTE	FPI	FINS PER INCH	LVG	LEAVING			UPC	UNIFORM PLUMBING CODE
CHAR	CHARACTERISTICS	FSK	FOIL SKRIM KRAFT LINED DUCT (SPUNSTRAND)			R	RELIEF	UG	UNDERGROUND
CHEM	CHEMICAL INJECTION	FT	FEET, FOOT	MATL	MATERIAL	RA	RETURN AIR		
CHWS	CHILLED WATER SUPPLY	FU	FIXTURE UNITS	MA	MED GAS	RED	REDUCER	V	VOLT
CHWR	CHILLED WATER RETURN	FV	FACE VELOCITY	MAX	MAXIMUM	REQD	REQUIRED	VAC	VOLTS AC
CLG	CEILING	FW	FEED WATER	MPG	MEDIUM PRESSURE GAS	RR	REMOVE AND RELOCATE	VDC	VOLTS DC
CO	CLEAN OUT	FPTU	FAN POWERED TERMINAL UNIT	MA	MIXED AIR	RJ	RESTRAINED JOINTS	VD	VOLUME DAMPER
CONC	CONCRETE			MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR	RET	RETURN	VAC	VACUUM
CONN	CONNECT OR CONNECTION	G	GAS	MCC	MOTOR CONTROL CENTER	RG	RETURN GRILLE	VAV	VARIABLE AIR VOLUME
CPLG	COUPLING	GALV	GALVANIZED	MCA	MAXIMUM CIRCUIT AMPS	RPM	REVOLUTIONS PER MINUTE	VEL	VELOCITY
CS	CARBON STEEL	GEN	GENERATOR	MAT	MIXED AIR TEMPERATURE	RWL	RAINWATER LEADER	VF	VENTILATION FAN
CSC	CARSEALED CLOSED	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MAX	MAXIMUM			VFD	VARIABLE FREQUENCY DRIVE
CSO	CARSEALED OPEN			MECH	MECHANICAL	SS	SANITARY SEWER	VTR	VENT THROUGH ROOF
CV	CONSTANT VOLUME	GR	GRILLE	MFR	MANUFACTURER		STAINLESS STEEL	VOL	VOLUME
CW	COLD WATER	GPM	GALLONS PER MINUTE	MED	MEDIUM	SA	SUPPLY AIR	V/PH/HZ	VOLTS/PHASE/HERTZ
CRD	CEILING RADIATION DAMPER	GV	GATE VALVE	MH	MANHOLE	SCHED	SCHEDULE		
CRL	COMBINED RAIN LEADER	GW	GRAY WATER (NON POTABLE)	MIN	MINIMUM, MINUTE	SECT	SECTION	W/	WITH
		GWR	GLYCOL WATER RETURN	MISC	MISCELLANEOUS	SEER	SEASONAL ENERGY EFF. RATIO	W/O	WITHOUT
DET	DETAIL	GWS	GLYCOL WATER SUPPLY	MV	MED VACUM	SVC	SERVICE	W	WASTE
DFU	DRAINAGE FIXTURE UNITS					SHT	SHEET	WB	WET BULB
DIA	DIAMETER	HP	HORSE POWER	N	NORTH, NEUTRAL	SD	SMOKE DETECTOR	WC	WATER CLOSET
DIM	DIMENSION	HPFS	HIGH POINT FINISHED SURFACE	NA	NOT APPLICABLE	SL	SOUND LINING	WCO	WALL CLEAN OUT
DISCH	DISCHARGE	HR	HOUR	NC	NORMALLY CLOSED	SV	SOLENOID VALVE	WG	WATER GAUGE
DI	DUCTILE IRON	HTG	HEATING	NIC	NOT IN CONTRACT	SW	SOCKET WELD	WHA	WATER HAMMER ARRESTER
DMPR	DAMPER	HT	HEIGHT	NO	NUMBER OR NORMALLY OPEN	STA	STATION	WT	WATER TANK
DN	DOWN	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	NG	NATURAL GAS	STD	STANDARD	WT	WEIGHT
DP	DIFFERENTIAL PRESSURE			NTS	NOT TO SCALE	SF	SUPPLY FAN	WTR, W	WATER
DR	DRAIN	HW	HOT WATER			SFD	SMOKE/FIRE DAMPER		
DWG	DRAWING	HWC	HOT WATER CIRCULATING	O2	OXYGEN	S.I.O.	SUPPLIED AND INSTALLED BY OWNER/OTHER		

PLUMBING EQUIPMENT CONNECTION SCHEDULE

SYMBOL	ITEM	WASTE	IW	VENT	CW	HW	SPECIFICATION	REMARKS
WC-1	WATER CLOSET	3	–	2	1	–	MANSFIELD MODEL 135-3173 SEAT BEMIS MODEL 1500EC	ELONGATED FRONT, VITREOUS CHINA, TWO-PIECE, 1.28GPF RESIDENTIAL ENAMELED WOOD TOILET SEAT
L-1	LAVATORY UNDERMOUNT	1-1/2	–	1-1/2	1/2	1/2	PROFLO PF1812U MOEN FAUCET 6145	OVAL, VITREOUS CHINA, SELF RIMMING SINGLE HANDLE LAVATORY FAUCET, 1.2GPM AERATOR
BT-1	BATHTUB	2	–	1-1/2	1/2	1/2	FIBER CARE TUB/SHOWER COMBO WT60-30HC AFP VALVE MOEN MODEL 62385, TRIM MODEL T2903	3 WALLSMOOTH, LOW SOAP DISH, HANDICAP ADAPTABLE PRESSURE BALANCED, 1.75GPM AERATOR
DW-1	DISHWASHER	2	–	1-1/2		1/2		PROVIDE AIR GAP FITTING
KS-1	KITCHEN SINK	2	–	1-1/2	1/2	1/2	DAYTON MODEL DCFU2115. MOEN FAUCET 7864 W/DISPOSAL	20 GA. STAINLESS STEEL, SINGLE BOWL, UNDERMOUNT HIGH ARC PULLDOWN FAUCET, 1.5GPM
WB-1	WASHER BOX	2	–	1-1/2	1/2	1/2	SIOUX CHIEF OXBOX 696	W/ARRESTOR

7/29/2021

PIPING SYSTEM SCHEDULE AND SPECIFICATION

SYSTEM	ABOVE GROUND	BELOW GROUND	JOINT METHOD	REMARKS/PIPE INSULATION
SOIL WASTE	SCH. 40 PVC CAST IRON	SCH. 40 PVC (SOLID CORE) CAST IRON	SOLVENT WELD NO HUB	CAST IRON IN ALL LIVING AREAS
SOIL VENT	SCH. 40 PVC	SCH. 40 PVC (SOLID CORE)	SOLVENT WELD	
COLD & HOT WATER	COPPER TYPE L PEX	COPPER TYPE K PEX	SOLDER ABOVE, BRAZE BELOW GRADE COLD EXPANSION	NOTE 1, 2
CONDENSATE	COPPER TUBE DWV SCH. 40 PVC	N/A	95-5 SOLDER JOINTS SOLVENT WELD	INSULATE WITH 1/2" ARMAFLEX

NOTES:

1 1" INSULATION AT COLD WATER IN UNHEATED AREAS WITH HEAT TRACE
2 PER 2021 UPC WITH WASHINGTON AMENDMENTS, PEX TUBING SHALL NOT BE INSTALLED WITHIN THE FIRST 18 INCHES OF PIPING CONNECTED TO A WATER HEATER.
3 ISOLATE ALL WATER SUPPLY PIPES RUNNING INSIDE APARTMENT BUILDING USING HOLDRITE SILENCER SYSTEM CLAMPS.
4 ALL WASTE PIPES ARE TO BE ISOLATED FROM BUILDING STRUCTURE USING A CLOSED-CELL NEOPRENE SLEEVE.
5 CEILING CAVITIES SURROUNDING WASTE PIPES OR ROOF DRAIN LINES ARE TO BE FILLED WITH ROCK WOOL INSULATION.
6 FLOOR PENETRATIONS ARE TO BE PACKED WITH ROCK WOOL OR FIBERGLASS INSULATION AND SEALED WITH A RESILIENT FIRE CAULK. PIPING SHALL BE PREVENTED FROM MAKING RIGID CONTACT WITH THE STRUCTURE AT THESE PENETRATIONS.
7 INSULATE ALL METALLIC COLD WATER LINES WITH 1/2" FIBERGLASS WRAP OR EQUIVALENT.
8 PIPE SHALL BE INSULATED PER WASHINGTON STATE ENERGY CODE 2021 REQUIREMENTS EXCEPT WHERE NOTED OTHERWISE.
9 ALL PLASTIC WASTE PIPING (INCLUDING P-TRAPS) LOCATED ABOVE RESIDENTIAL KITCHENS/ LIVING ROOMS, BATHROOMS, AND PUBLIC AMENITY SPACES SHALL BE WRAPPED WITH PLUMBING LAGGING MATERIAL SUCH AS SOUNDSEAL 810 QFA-3,
10 ALL BURIED PLASTIC PIPING INCLUDING PVC AND CPVC SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND ASTM F 1668 STANDARDS.

9/3/2021

HYDRANT, DRAIN, AND BFP SCHEDULE

SYMBOL	ITEM	MAKE/MODEL	REMARKS
FFD-1	FUNNEL FLOOR DRAIN	ZURN Z415E	7" DIAMETER TOP GRATE, 4" DIAMETER FUNNEL, MEDIUM DUTY DRAIN
HB-1	HOSE BIB	WOODFORD MODEL 19	FREEZELESS, 24" AFF

HEAT PUMP WATER HEATER SCHEDULE

EQUIPMENT NUMBER		**WH-X**	**WH-B1**
UNIT LOCATION		UTILITY	LOWER LEVEL CLOSET
SYSTEM SERVED		ALL BUT UNIT B1	UNIT B1
TYPE		TANK HEATER HYBRID HEAT PUMP	TANK HEATER HYBRID HEAT PUMP
CAPACITY-GALLONS		80	50
	RECOVERY (GPH @ 90 DEG RISE)	27	27
SERVICE CONDITIONS			
	LVG WATER TEMP-DEG F	120	120
	UNIFORM ENERGY FACTOR	4.07	4.07
ELECTRICAL			
	COMPRESSOR MBH	4.2	4.2
	VOLTS-PHASE-HERTZ	240/1/60	240/1/60
	BREAKER/MAX AMPS	30/21	30/21
NOTES		[1], [2], [3]	[1], [2], [3]
MANUFACTURER-DESIGN BASIS			
	MAKE	RHEEM	RHEEM
	MODEL	PROPH80 T2 RH400-SO	PROPH50 T2 RH400-SO
	SIZE (WEIGHT FULL/DIAMETER/HEIGHT	950#/24-1/4"/74"	605#/24-1/4"/61"
REMARKS			
[1] MOUNT ON R-10 INSULATED PAD.			
[2] PROVIDE SEISMIC STRAPS.			
[3] WEIGHT = OPERATING WEIGHT			
[4] CONTROLS TO LIMIT SUPPLEMENTARY HEATING PER WSEC R403.5.7			

STORAGE & EXPANSION TANKS

EQUIPMENT NUMBER		ET-XX
SERVICE		
	LOCATION	UNITS
	SYSTEM	DOMESTIC
TYPE		
	ORIENTATION	VERTICAL
	LINING	YES
	ASME	YES
SERVICE CONDITIONS		
	CAPACITY – GALLONS	2.0
	ACCEPTANCE – GALLONS (EXP TANKS)	1.0
	INSULATION	N/A
	FLUID	WATER
	PRESSURE – PSI	150
	TEMPERATURE – DEG F	140
UNIT CONDITIONS		
	BOILER CONNECTION SIZE	N/A
	INLET & OUTLET TAP SIZE	3/4"
	WEIGHT (FULL)	28.00
	DIAMETER AND HEIGHT	8"X14"
MANUFACTURER-DESIGN BASIS		AMTROL ST-5C-DD
REMARKS		

DOMESTIC WATER PIPE SIZING TABLE

WSFU BASED ON 2021 UPC CHART A103.1(1)

PIPE MATERIAL
PEX
FLUSH TANK
VELOCITY <= 8 FPS

PSI/100 FT		**12**	
MIN/MAX RANGE		MIN	MAX
PIPE SIZE (")	**UNITS**		
1/2	WSFU	0	4
	GPM	0	3
3/4	WSFU	4	9
	GPM	3	7
1	WSFU	10	20
	GPM	7	14
1 1/4	WSFU	21	32
	GPM	15	21
1 1/2	WSFU	33	52
	GPM	21	30
2	WSFU	53	130
	GPM	30	51
3	WSFU	131	440
	GPM	51	112

COMMERCIAL ENERGY EFFICIENCY
TABLE C403.10.3
MINIMUM PIPE INSULATION THICKNESS (in.) [a]

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in.)				
	CONDUCTIVITY Btu*in/(h*ft^2^*F) [b]	MEAN RATING TEMPERATURE, °F	< 1	1 TO < 1 ½	1½ TO < 4	4 TO < 8	>=8
> 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	50	0.5	1.0	1.0	1.0	1.5

[a] FOR PIPING SMALLER THAN 1-1/2 INCHES AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE [b] BUT NOT TO A THICKNESS LESS THAN 1 INCH.

[b] FOR INSULATION OUTSIDE THE SLATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:

T = r{(1 +t/r)^(K/k)-1}

WHERE:
T = MINIMUM INSULATION THICKNESS
r = ACTUAL OUTSIDE RADIUS OF PIPE
t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE
K = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID TEMPERATURE (Btu*in/h*ft^2^*F)
k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE.

[c] FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2 INCHES (38mm) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE [b] BUT NOT TO THICKNESSES LESS THAN 1 INCH (25mm)).

NOTE: PER WSEC 404.7.3.1, PIPE INSULATION FOR HEATED WATER CIRCULATION SYSTEMS, BOTH SUPPLY AND RETURN PIPE INSULATION SHALL BE AT MINIMUM 1.0 INCHES THICKER THAN THAT REQUIRED BY TABLE C403.10.3

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206-371-5152

NO.	DATE	REVISION

PARTNER IN CHARGE
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PROJECT MANAGER
BWR
PROJECT ENGINEER
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PROJECT TEAM MEMBERS
BWR
CHECK
BWR

ENGINEERS SEAL
BRIAN W. ROETCISOENDER
STATE OF WASHINGTON
30321
REGISTERED
PROFESSIONAL ENGINEER
4/18/2025

TITLE
BLDG B PLUMBING ABBREVIATIONS, CALCS, & SCHEDULES

PROJECT NO.
2021-007
DATE
APRIL 18, 2025
PROJECT NETWORK PATH

SHEET NUMBER
P0.02

01/28/2025
PERMIT RESUBMITTAL

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING
0" 1"
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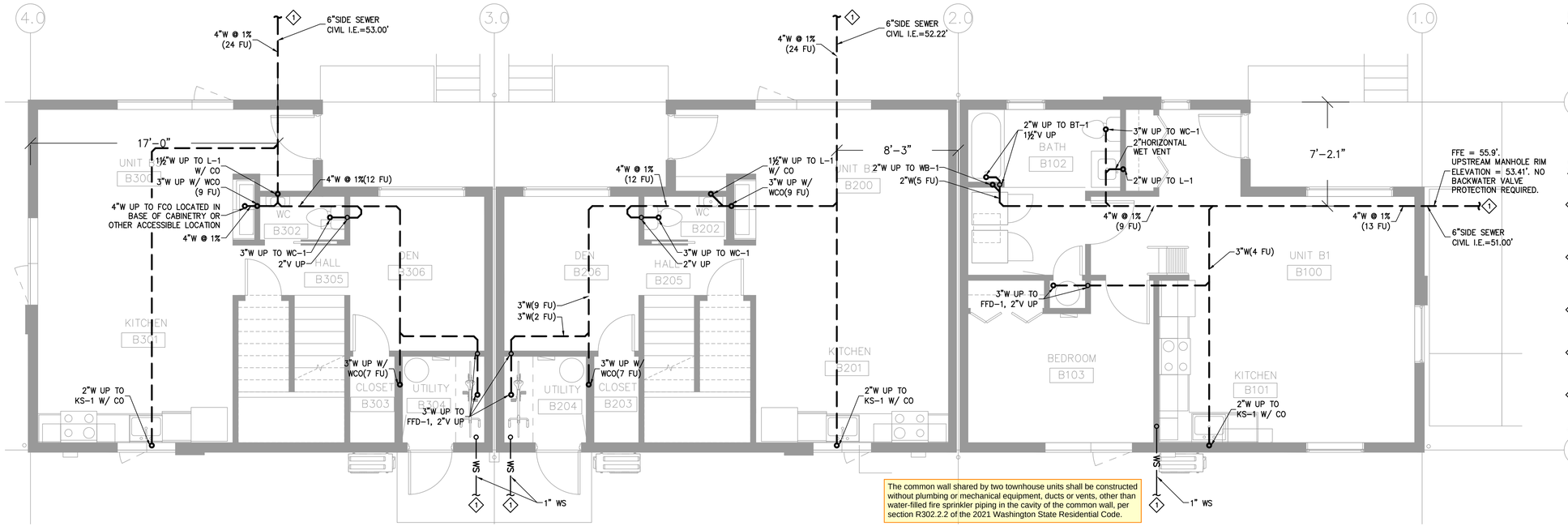


The common wall shared by two townhouse units shall be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall, per section R302.2.2 of the 2021 Washington State Residential Code.

NORTH

UNDERGROUND PLUMBING PLAN

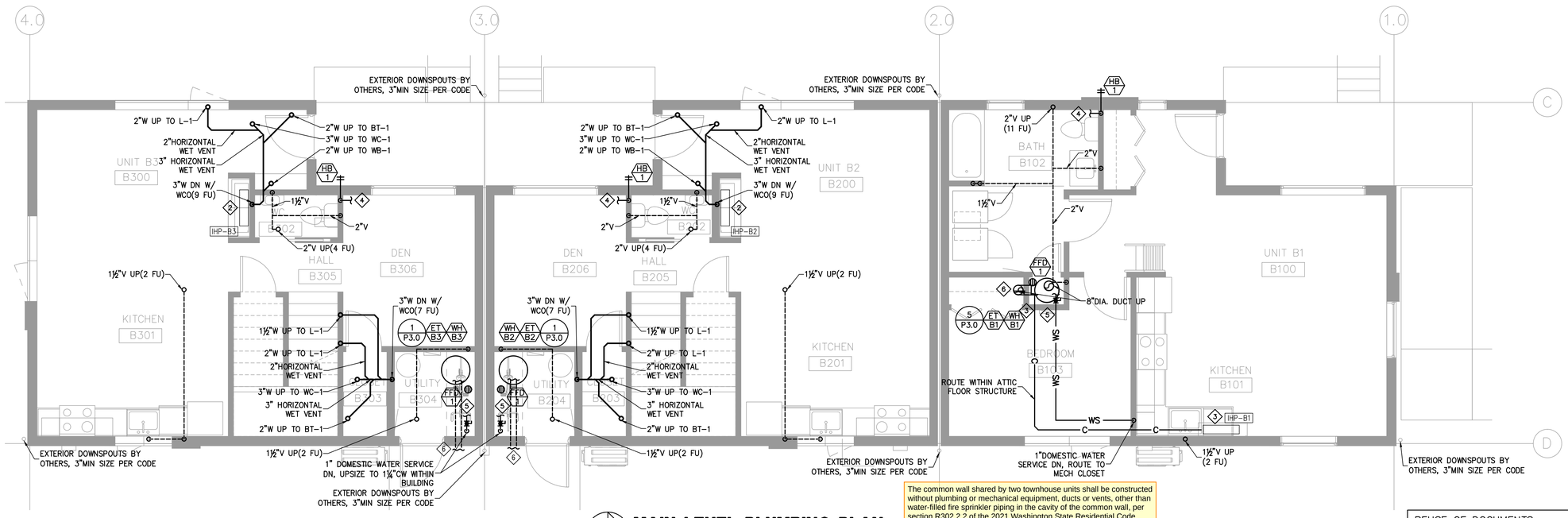
SCALE: ¼" = 1'-0"

GENERAL NOTES:

1. AT TRANSITIONS FROM VERTICAL TO HORIZONTAL AT THE BASE OF A WASTE STACK PROVIDE 10 PIPE DIAMETERS OF LENGTH BETWEEN ELBOW AND NEXT FIXTURE CONNECTION TO ABATE HYDRAULIC JUMP.
2. UPSTREAM MH RIM ELEVATION = 53.41'. NO PLUMBING FIXTURES REQUIRE BACKWATER VALVE PROTECTION.

SHEET NOTES:

1. COORDINATE FINAL CONNECTIONS WITH CIVIL DRAWINGS FIVE FEET OUTSIDE THE BUILDING FOUNDATION. PIPE SIZE, INVERT DEPTH, FIXTURE UNITS, AND DRAINED AREA AS NOTED. IDENTIFY ANY DISCREPANCIES TO ENGINEER BEFORE COMMENCING WORK.
2. GRAVITY DRAIN ¾" CONDENSATE LINE FROM INDOOR HEAT PUMP (SHOWN FOR REFERENCE) TO ADJACENT LAV TAILPIECE. DISCHARGE VIA DIRECT CONNECTION TO LAV TAILPIECE PER UPC 814.6.
3. GRAVITY DRAIN ¾" CONDENSATE LINE FROM INDOOR HEAT PUMP (SHOWN FOR REFERENCE) TO FFD-1 IN UTILITY ROOM & DISCHARGE VIA 2" AIR GAP PER UPC SECTION 814.
4. ¾"CW SUPPLY FOR HB-1, TEE OFF CW SUPPLY UPSTREAM OF PEX MANIFOLD.
5. SEE DETAIL 1-P3.00 FOR DOMESTIC WATER DIAGRAM (5-P3.00 FOR ONE BATH UNIT). FIELD ROUTE ½" HW & CW HOMERUNS TO FIXTURE CONNECTIONS. MINIMIZE HW RUNNOUT LENGTHS.
6. ROUTE INTAKE AND DISCHARGE DUCT TO EXTERIOR. THIS PROCESS AIRFLOW HEAT TRANSFER DUCT DOES NOT REQUIRE CLEARANCE TO OPERABLE OPENINGS. PROVIDE R7 INSULATION



The common wall shared by two townhouse units shall be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall, per section R302.2.2 of the 2021 Washington State Residential Code.

NORTH

MAIN LEVEL PLUMBING PLAN

SCALE: ¼" = 1'-0"

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PROJECT TEAM MEMBERS
BWR
CHECK
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ENGINEERS SEAL

BRIAN W. ROETCISOENDER
STATE OF WASHINGTON
30321
REGISTERED
PROFESSIONAL ENGINEER

4/18/2025

TITLE
BLDG B
UNDERGROUND & MAIN LEVEL PLUMBING

PROJECT NO.
2021-007
DATE
APRIL 18, 2025
PROJECT NETWORK PATH

SHEET NUMBER
P2.00

01/28/2025
PERMIT RESUBMITTAL

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING
0" 1"
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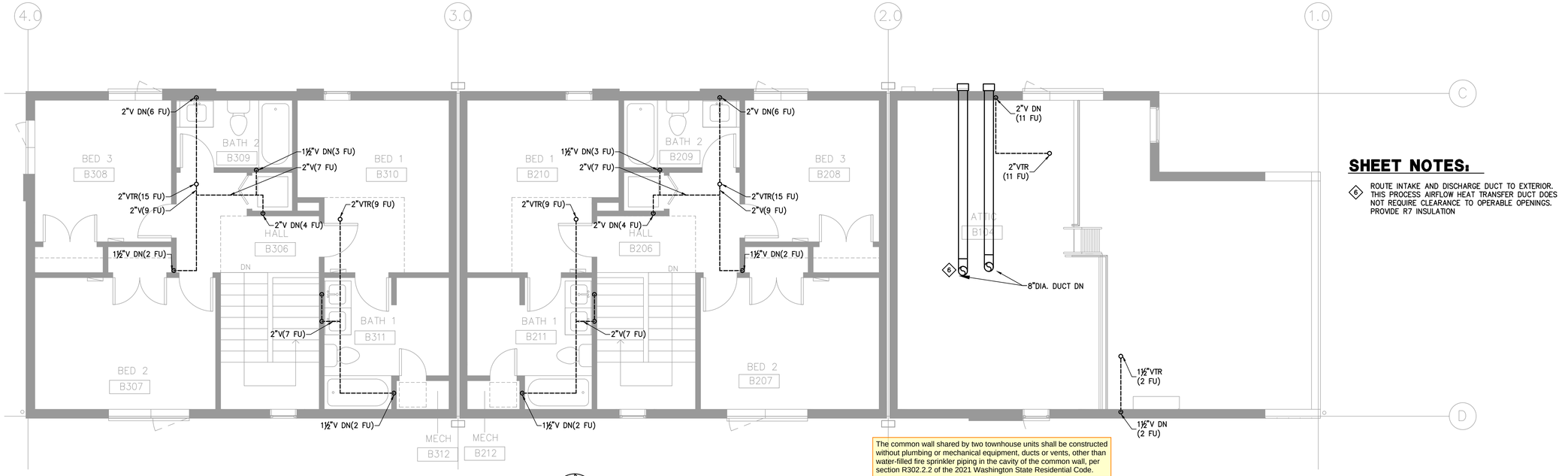


SHEET NOTES:

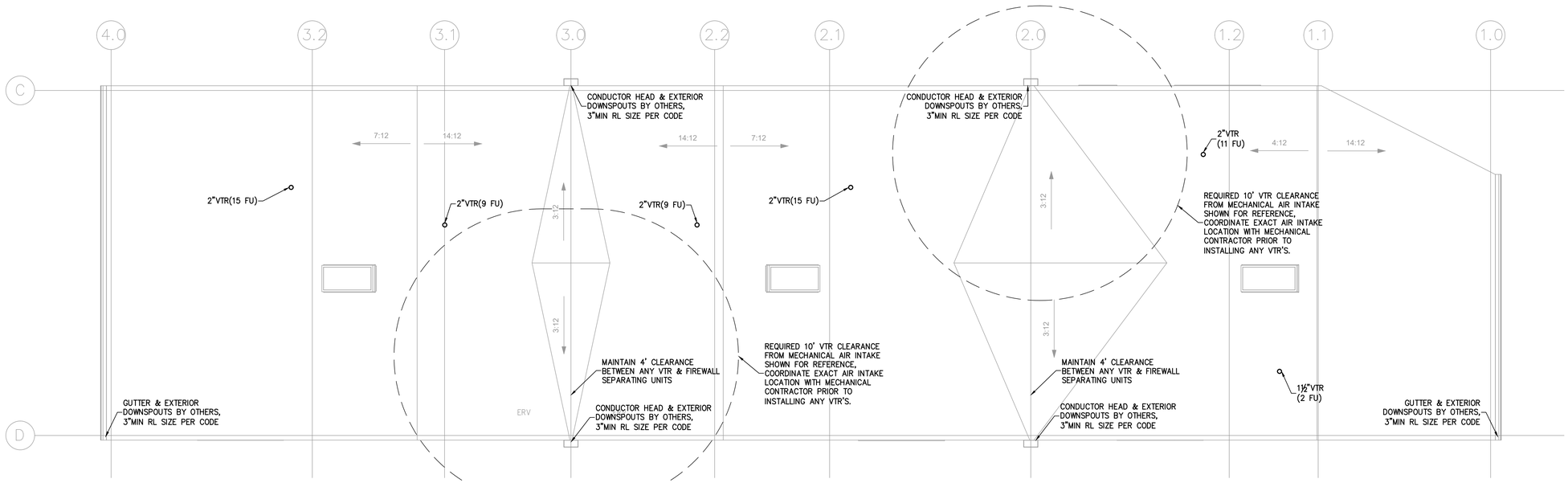
6 ROUTE INTAKE AND DISCHARGE DUCT TO EXTERIOR. THIS PROCESS AIRFLOW HEAT TRANSFER DUCT DOES NOT REQUIRE CLEARANCE TO OPERABLE OPENINGS. PROVIDE R7 INSULATION

The common wall shared by two townhouse units shall be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall, per section R302.2.2 of the 2021 Washington State Residential Code.

NORTH

UPPER LEVEL PLUMBING PLAN

SCALE: ¼" = 1'-0"



NORTH

ROOF PLUMBING PLAN

SCALE: ¼" = 1'-0"

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING

0" 1"

IF NOT ONE INCH ON THIS DRAWING, ADJUST SCALES ACCORDINGLY.

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ENGINEERS SEAL

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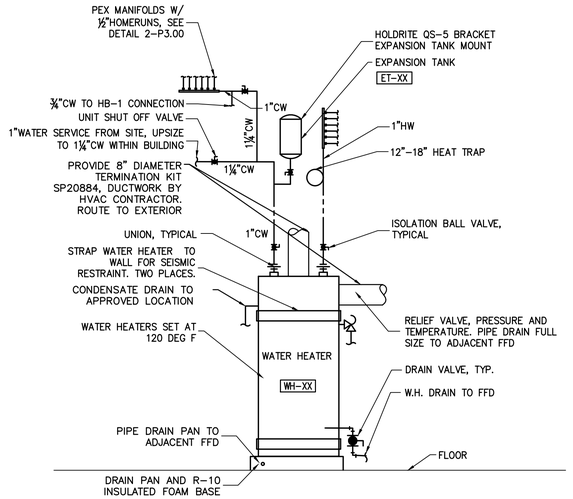
4/18/2025

TITLE
BLDG B UPPER LEVEL & ROOF PLUMBING PLANS

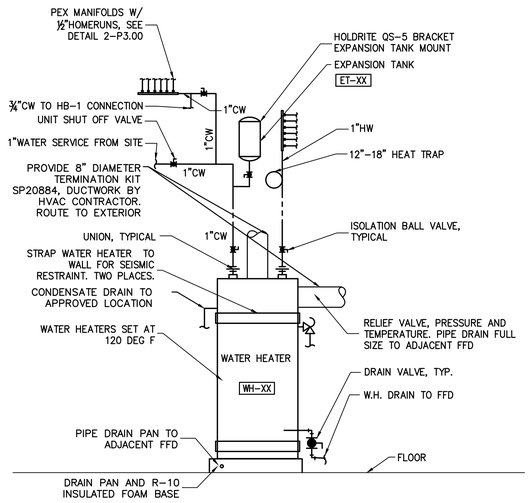
PROJECT NO.
2021-007
DATE
APRIL 18, 2025
PROJECT NETWORK PATH

SHEET NUMBER
P2.01



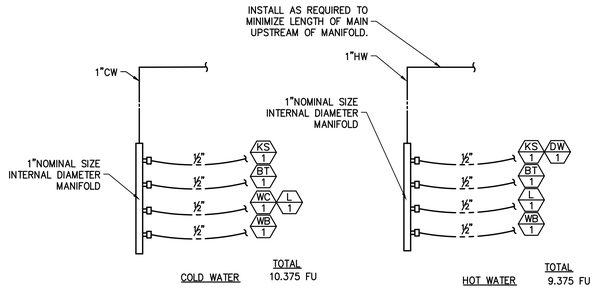
2.5 BATH HYBRID ELECTRIC WATER HEATER DIAGRAM

1 / P3.00 SCALE: NONE

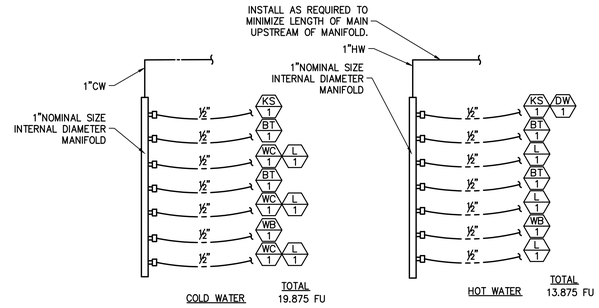


1 BATH HYBRID ELECTRIC WATER HEATER DIAGRAM

1 / P3.00 SCALE: NONE



1 1 BATH UNIT (UNIT B1)



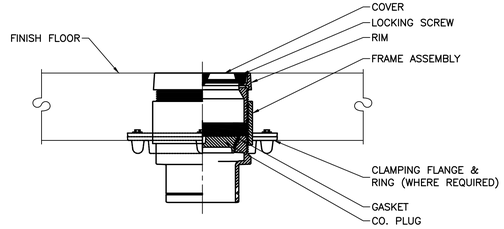
2.5 2 BATH UNIT (UNIT A1, A2, A3, B2, B3)

NOTES:

1. SIZE PIPE PER DOMESTIC WATER SIZING CALCS ON DWG. P0.01.
2. HW PIPING MAXIMUM LENGTH SHALL COMPLY WITH WSEC C404.3/R503.4.2

2 PEX MANIFOLD DETAIL

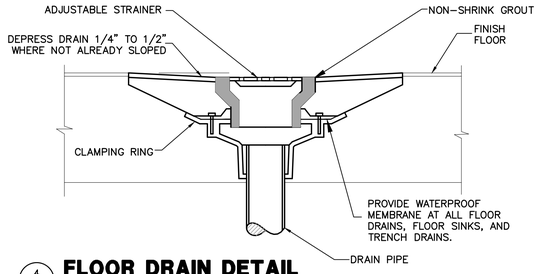
2 / P3.00 SCALE: NONE



ALL INSIDE FLUSH CLEANOUTS SHALL BE INSTALLED IN SUCH A MANNER THAT THE TOP COVER SHALL BE FLUSH WITH THE SURFACE OF THE FINISHED FLOOR.

3 INTERIOR CLEANOUT DETAIL

3 / P3.00 SCALE: NTS



4 FLOOR DRAIN DETAIL

4 / P3.00 SCALE: NTS

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BRIAN W. ROETCISOENDER
STATE OF WASHINGTON
30321
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PROFESSIONAL ENGINEER

4/18/2025

TITLE
BLDG B PLUMBING DETAILS & DIAGRAMS

PROJECT NO. 2021-007
DATE APRIL 18, 2025
PROJECT NETWORK PATH

SHEET NUMBER
P3.00

01/28/2025 PERMIT RESUBMITTAL

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GENERAL HVAC NOTES

1 THE FOLLOWING NOTES APPLY TO ALL MECHANICAL DRAWINGS. ADDITIONAL MECHANICAL NOTES MAY BE INDICATED ON EACH MECHANICAL DRAWING. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2 INSTALLATION SHALL COMPLY WITH ALL GOVERNING CODES AND REGULATIONS (LOCAL AND STATE). NOTHING ON THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED AS ALLOWING DEVIATION FROM THIS REQUIREMENT. IF A CONFLICT SHOULD OCCUR BETWEEN DRAWINGS AND REGULATIONS, THE REGULATIONS SHALL TAKE PRECEDENT AND CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING OF SUCH CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION.

3 REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR GENERAL CONSTRUCTION INCLUDING LOUVERS, CONCRETE EQUIPMENT PADS, FLASHING DETAILS, ETC.

4 REFER TO ARCHITECTURAL DRAWING FOR ROOM ELEVATIONS. LOCATE MECHANICAL DEVICES SUCH AS TEMPERATURE SENSORS, HUMIDISTATS, PANELS, ETC. SO THAT THEY DO NOT CONFLICT WITH GENERAL CONSTRUCTION (WAINSCOT, DOOR HARDWARE, ETC.) NOR WITH ELECTRICAL SYSTEM (LIGHT SWITCHES, SPEAKERS, OUTLETS, ETC.). MOUNT THERMOSTATS 48" AFF UNO.

5 MECHANICAL DRAWINGS SHOW APPROXIMATE LOCATIONS FOR GRILLES AND DIFFUSERS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF GRILLES, REGISTERS, DIFFUSERS, AND OTHER CEILING OR SURFACE MOUNTED DEVICES. INSTALL EQUIPMENT IN CONFORMANCE WITH ARCHITECTURAL FEATURES IN THE CENTER OF CEILING TILES, IN THE CENTER OF ROOMS, OR WHERE INDICATED ON ARCHITECTURAL DRAWINGS. WHERE EQUIPMENT IS NOT INDICATED ON ARCHITECTURAL DRAWINGS, OBTAIN DIRECTION FROM ARCHITECT PRIOR TO INSTALLATION.

6 SEE ARCH. DRAWINGS FOR EXACT SIZE AND LOCATION OF LOUVERS. COORDINATE EXACT SIZE OF ATTACHED DUCTWORK/PLENUM AND/OR MOTORIZED DAMPERS WITH ARCH. DRAWINGS.

7 GENERALLY DUCTWORK PLANNED TO BE TIGHT TO STRUCTURE WITH PIPING BELOW DUCTWORK AND BETWEEN LIGHT FIXTURES. ADJUST AS NECESSARY.

8 COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND SERVICE ACCESS DUE TO EQUIPMENT MAINTENANCE.

9 ARRANGE HVAC EQUIPMENT SO THAT ACCESS CLEARANCES INDICATED BY DRAWINGS, REQUIRED BY CODES AND RECOMMENDED BY MANUFACTURER ARE PROVIDED. PROVIDE 42" CLEAR AT DISCONNECT SWITCH ON TERMINAL UNITS WITH ELECTRIC HEATING COIL.

10 PROVIDE ACCESS PANELS/DOORS IN DUCTWORK AS INDICATED IN DIVISION 23 FOR INSPECTION AND MAINTENANCE FOR ALL SMOKE/FIRE DAMPERS.

11 GENERAL CONTRACTOR TO PROVIDE ACCESS TO FIRE AND/OR COMBINATION FIRE/SMOKE DAMPERS THROUGH ACCESS DOORS IN HARD CEILINGS AND WALLS. WHERE ACCESS DOORS PENETRATE FIRE RATED SYSTEMS THEY SHALL BE RATED IN ACCORDANCE WITH IBC REQUIREMENTS.

12 REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT (VOLTAGES, ETC.).

13 DUCTWORK AND PIPING INSTALLED ADJACENT TO ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" IF RUNNING PARALLEL AND ABOVE CABLE TRAYS, ALLOW 18" TO THE SIDE OF CABLE TRAYS.

14 ELECTRICAL CHARACTERISTICS OF LISTED EQUIPMENT SHALL BE VERIFIED BY CONTRACTOR DURING SUBMITTAL PROCESS. ANY ELECTRICAL CHARACTERISTICS THAT DEVIATE FROM THOSE LISTED SHALL BE IDENTIFIED BY THE CONTRACTOR, SUBMITTED TO THE ENGINEER FOR APPROVAL AND COORDINATED WITH DIVISION 26 ELECTRICAL PRIOR TO INSTALLATION OF EQUIPMENT AS REQUIRED TO PROPERLY SERVE EQUIPMENT.

15 DRAWINGS ARE SCHEMATIC IN SOME AREAS AND MAY NOT SHOW OFFSETS WHICH MAY BE REQUIRED. PROVIDE OFFSETS AS REQUIRED AT NO ADDITIONAL COST.

16 REFER TO PIPING DIAGRAMS AND DETAILS FOR REQUIRED FITTINGS, VALVES, ETC. FLOOR PLANS AND SECTIONS INDICATE EQUIPMENT LOCATIONS AND GENERAL PIPE ROUTING ONLY.

17 DUCTS AND PIPES INDICATED WITHOUT DIMENSIONS SHALL BE SIZED PER PRECEDING UPSTREAM DUCT AND PIPE SECTIONS.

18 DUCTWORK SIZES SHOWN ARE CLEAR INSIDE DIMENSION.

19 PROVIDE FABRICATED STEEL MEMBER SUPPORTS AS REQUIRED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS, AS INDICATED ON DRAWINGS, OR IN SPECIFICATIONS FOR INSTALLATION OF EQUIPMENT. REQUIRED STRUCTURAL MEMBERS, BOLTS, AND WELDS SHALL BE IN ACCORDANCE WITH AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL.

20 IF REQUIRED FOR INSTALLATION OF PIPES, DUCTS, AND EQUIPMENT, PROVIDE ADDITIONAL STRUCTURAL MEMBERS BETWEEN COLUMNS, JOISTS, AND STRUCTURAL FRAME TO MEET SUPPORT REACTIONS (FORCES, MOMENTS, DEFLECTIONS). STRUCTURAL MEMBERS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.

21 DO NOT CORE DRILL OR DRILL THROUGH BEAMS, COLUMNS, AND SHEAR WALLS, UNLESS INDICATED ON STRUCTURAL DRAWINGS OR AS APPROVED BY THE STRUCTURAL ENGINEER.

22 PROVIDE DUCT LINING FOR THE FOLLOWING DUCTWORK:
- A. EXHAUST DUCTWORK FROM EACH EXHAUST GRILLE TO A POINT 10 FT UPSTREAM OF THE GRILLE (EXCEPT FOR KITCHEN AND SHOWER EXHAUST DUCTWORK).
- B. ALL AIR TRANSFER DUCTS AND CEILING RELIEF GRILLES.
- C. ALL EXHAUST DUCTWORK WITHIN 15' OF A FAN (EXCEPT KITCHEN AND SHOWER EXHAUST).
- D. ALL SUPPLY AND RETURN DUCTWORK WITHIN 15' OF A FAN.
- E. ALL MIXED AIR AND EXHAUST AIR PLENUMS. DO NOT LINE OUTDOOR AIR PLENUMS.
- F. PLENUMS UPSTREAM OF RETURN FANS.
- G. OTHER LOCATIONS WHERE NOTED ON DRAWINGS OR SPECIFIED.

23 PROVIDE A VOLUME DAMPER FOR EACH SUPPLY BRANCH, RETURN BRANCH (DUCTED ONLY), & EXHAUST BRANCH WHERE THREE OR MORE OPENINGS ARE ASSOCIATED WITH THE BRANCH, AND ELSEWHERE AS NOTED ON DRAWINGS OR IN SPECIFICATIONS.

24 PROVIDE CONICAL SPIN-IN FITTINGS FOR ALL 90 DEGREE ROUND DUCT BRANCHES FROM RECTANGULAR SUPPLY DUCTWORK. DO NOT USE STRAIGHT TEE FITTINGS.

25 DUCTWORK STATIC PRESSURE AND SEAL CLASS, BASED UPON SMACNA:

26 SEAL AND LEAK TEST DUCTWORK PER WSECR AND PER DIVISION 23 SPECIFICATIONS.

27 BALANCE HVAC SYSTEM PER WSECR AND PER DIVISION 23 SPECIFICATIONS.

28 COMMISSION HVAC SYSTEM PER WSECR AND PER DIVISION 23 SPECIFICATIONS.

29 PROVIDE COMPLETION/RECORD DRAWINGS PER WSEC AND PER DIVISION 23 SPECIFICATIONS

30 THERMOSTATS SHALL BE INTERLOCKED TO PREVENT SIMULTANEOUS HEATING AND COOLING PER WSEC.

31 INSULATE DUCTWORK PER WSECR AND PER DIVISION 23 SPECIFICATIONS (WHICHEVER IS GREATER).

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE	FH	FAHRENHEIT	MCC	MOTOR CONTROL CENTER	S.I.O.	SUPPLIED AND INSTALLED BY OWNER/ (OTHER)
AC	AIR CONDITIONING	FD	FIRE DAMPER OR FLOOR DRAIN	MCA	MAXIMUM CIRCUIT AMPS		
ABV	ABOVE	FF	FINISHED FLOOR	MAT	MIXED AIR TEMPERATURE	SHT	SHEET
AD	ACCESS DOOR	FLGD	FLANGED	MAX	MAXIMUM	SP	STATIC PRESSURE
AV	ACID VENT	FLR	FLOOR	MECH	MECHANICAL	SPEC	SPECIFICATION
AW	ACID WASTE	FCO	FLOOR CLEAN OUT	MFR	MANUFACTURER	SR	SUPPLY REGISTER
AFC	ABOVE FINISHED CEILING	FPM	FEET PER MINUTE	MED	MEDIUM	SS	STAINLESS STEEL
AFF	ABOVE FINISHED FLOOR	FLTR	FILTER	MH	MANHOLE	SYS	SYSTEM
AFG	ABOVE FINISHED GRADE	FOF	FACE OF FLANGE	MIN	MINIMUM, MINUTE	STAT	THERMOSTAT
AFUE	ANNUALIZED FUEL EFFICIENCY	FPI	FINS PER INCH	MISC	MISCELLANEOUS		
AHU	AIR HANDLING UNIT	FSK	FOIL SKRIM KRAFT LINED	MV	MED VACUM	TEMP	TEMPERATURE
AL	ALUMINUM		DUCT (SPUNSTRAND)			TD	TEMPERATURE DIFFERENTIAL
APPROX	APPROXIMATELY	FT	FEET, FOOT	N	NORTH, NEUTRAL	TDH	TOTAL DYNAMIC HEAD
ARCH	ARCHITECTURAL	FU	FIXTURE UNITS	NA	NOT APPLICABLE	TEMP	TEMPORARY
ATMOS	ATMOSPHERE	FV	FACE VELOCITY	NC	NORMALLY CLOSED	THRU	THROUGH
		FW	FEED WATER	NIC	NOT IN CONTRACT	TI	TENANT IMPROVEMENT
BATT	BATTERY	FPTU	FAN POWERED TERMINAL UNIT	NO	NUMBER OR NORMALLY OPEN	TSTAT	THERMOSTAT
BDD	BACK DRAFT DAMPER			NG	NATURAL GAS	TYP	TYPICAL
BF	BLIND FLANGE	G	GAS	NTS	NOT TO SCALE	TRU	TERMINAL REHEAT UNIT
BFC	BELOW FINISHED CEILING	GALV	GALVANIZED				
BHP	BRAKE HORSE POWER	GEN	GENERATOR	O2	OXYGEN	UL	UNDERWRITER'S LABORATORY
BI	BACKWARD INCLINED	GFI	GROUND FAULT CIRCUIT INTERRUPTER	OC	ON CENTER	UNO	UNLESS NOTED OTHERWISE
BLDG	BUILDING	GR	GRILLE	OSA	OUTSIDE AIR	UV	UNIT VENTILATOR
BOD	BOTTOM OF DUCT	GPM	GALLONS PER MINUTE	OAT	OUTSIDE AIR TEMPERATURE	UMC	UNIFORM MECHANICAL CODE
BTU	BRITISH THERMAL UNIT	GV	GATE VALVE	OA	OUTSIDE AIR	UP	UNIFORM PLUMBING CODE
BTUH	BRITISH THERMAL UNIT PER HOUR	GW	GRAY WATER (NON POTABLE)	OD	OUTSIDE DIMENSION	UBC	UNIFORM BUILDING CODE
		GWR	GLYCOL WATER RETURN	OPP	OPPOSITE	UPC	UNIFORM PLUMBING CODE
CFM	CUBIC FEET PER MINUTE	GWS	GLYCOL WATER SUPPLY	OV	OUTLET VELOCITY	UG	UNDERGROUND
CHAR	CHARACTERISTICS			OCP	OVER CURRENT PROTECTION		
CHEM	CHEMICAL INJECTION	HP	HORSE POWER			V	VOLT
CHWS	CHILLED WATER SUPPLY	HPFS	HIGH POINT FINISHED SURFACE	P	PUMP	VAC	VOLTS AC
CHWR	CHILLED WATER RETURN	HR	HOUR	PD	PRESSURE DROP	VDC	VOLTS DC
CLG	CEILING	HTG	HEATING	PERF	PERFORATED	VD	VOLUME DAMPER
CO	CLEAN OUT	HT	HEIGHT	PF	PRE FILTER	VAC	VACUUM
CONC	CONCRETE	HVAC	HEATING, VENTILATION AND	PH	PHASE	VAV	VARIABLE AIR VOLUME
CONN	CONNECT OR CONNECTION		AIR CONDITIONING	PJ	PUSH ON JOINTS	VEL	VELOCITY
CPLG	COUPLING	HW	HOT WATER	PLCS	PLACES	VF	VENTILATION FAN
CS	CARBON STEEL	HWC	HOT WATER CIRCULATING	PNL	PANEL	VTR	VENT THROUGH ROOF
CSC	CARSEALED CLOSED	HWS	HOT WATER HEATING SUPPLY	POC	POINT OF CONNECTION	VOL	VOLUME
CSO	CARSEALED OPEN	HWR	HOT WATER HEATING RETURN	PRV	PRESSURE REDUCING VALVE	V/PH/HZ	VOLTS/PHASE/HERTZ
CV	CONSTANT VOLUME			PS	PIPE SUPPORT		
CW	COLD WATER	IA	INSTRUMENT AIR	PSV	PRESSURE SAFETY (RELIEF) VALVE	W/	WITH
CRD	CEILING RADIATION DAMPER	ID	INSIDE DIMENSION			W/O	WITHOUT
		IE	INVERT ELEVATION	QTY	QUANTITY	W	WASTE
DET	DETAIL	IH	INSULATION HOT			WB	WET BULB
DFU	DRAINAGE FIXTURE UNITS	IN	INCH, INCHES	R	RELIEF	WC	WATER CLOSET
DIA	DIAMETER	INFO	INFORMATION	RA	RETURN AIR	WCO	WALL CLEAN OUT
DIM	DIMENSION	INST	INSTRUMENT	RED	REDUCER	WG	WATER GAUGE
DISCH	DISCHARGE	INSUL	INSULATE, INSULATION	REQD	REQUIRED	WHA	WATER HAMMER ARRESTOR
DI	DUCTILE IRON	INV	INVERT	RR	REMOVE AND RELOCATE	WT	WATER TANK
DMPR	DAMPER	IRR	IRRIGATION (NON POTABLE)	RJ	RESTRAINED JOINTS	WT	WEIGHT
DN	DOWN	IW	INDIRECT WASTE	RET	RETURN	WTR, W	WATER
DP	DIFFERENTIAL PRESSURE			RG	RETURN GRILLE		
DR	DRAIN	JAN	JANITOR	RPM	REVOLUTIONS PER MINUTE		
DWG	DRAWING			RWL	RAINWATER LEADER		
		KW	KILOWATT				
EA	EACH	KWH	KILOWATT HOUR	SS	SANITARY SEWER OR STAINLESS STEEL		
EAT	ENTERING AIR TEMPERATURE			SA	SUPPLY AIR		
ECC	ECCENTRIC	LAT	LEAVING AIR TEMPERATURE	SCHED	SCHEDULE		
ECON	ECONOMIZER	LB	POUND	SECT	SECTION		
EER	ENERGY EFFICIENCY RATIO	LC	LOCKED CLOSED	SEER	SEASONAL ENERGY EFF. RATIO		
EF	EXHAUST FAN	LF	LINEAL FEET	SVC	SERVICE		
EFF	EFFICIENT, EFFICIENCY	LL	LANDLORD	SHT	SHEET		
EG	EXHAUST GRILLE	LOC	LOCATION	SD	SMOKE DETECTOR		
EL	ELEVATION	LVG	LEAVING	SL	SOUND LINING		
ELEC	ELECTRICAL			SV	SOLENOID VALVE		
EQUIP	EQUIPMENT	MA	MED GAS	SW	SOCKET WELD		
ET	ELECTRIC TRACED	MATL	MATERIAL	STA	STATION		
EXIST, (E)	EXISTING	MAX	MAXIMUM	STD	STANDARD		
EXH	EXHAUST	MPG	MEDIUM PRESSURE GAS	SF	SUPPLY FAN		
EXT	EXTERIOR	MA	MIXED AIR	SFD	SMOKE/FIRE DAMPER		
		MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR				

HVAC SYSTEM CONTROLS AND SEQUENCE OF OPERATION

GENERAL: SEQUENCES OF OPERATION SHALL IN GENERAL BE ACCOMPLISHED USING MANUFACTURER'S STANDARD CONTROLS AND USING SCHEDULED CONTROL COMPONENTS. ALL TEMPERATURE SET POINTS SHALL BE ADJUSTABLE.

EXHAUST/TRANSFER/SUPPLY FAN SEQUENCE OF OPERATION

BF-XX SHALL BE ENERGIZED BY A DIVISION 26 WALL SWITCH.
TF-XXX SHALL BE ENERGIZED BY A DIVISION 26 WALL SWITCH.

ENERGY RECOVERY VENTILATOR SEQUENCE OF OPERATION

ERV-XX SHALL RUN CONTINUOUSLY, CONTROLLED BY DIVISION 26. MOTORIZED DAMPERS (WHERE APPLICABLE) SHALL OPEN WHENEVER UNIT IS ENERGIZED. PROVIDE VBATHW 20-40-60 MIN. BOOST CONTROLLER FOR TEMPORARY INCREASED AIRFLOW.

HEAT PUMP SEQUENCE OF OPERATION

OCCUPIED OPERATION:
TYPICAL: IHP-XX FAN COILS SHALL OPERATE USING STANDARD MFR CONTROLS AND HARD WIRED CONTROLLER. FAN SPEED SHALL ADJUST/MODULATE BASED ON LOAD REQUIREMENTS.

FANS SHALL ONLY OPERATE WHEN COOLING OR HEATING IS CALLED FOR. CORRESPONDING OUTDOOR HEAT PUMP UNIT (OHP-XX) SHALL BE ENERGIZED WHEN HEATING OR COOLING IS CALLED FOR.

UNOCCUPIED OPERATION:SAME AS ABOVE EXCEPT FOR TEMPERATURE SETBACK PER WSEC.

TERMINALS

TERMINALS:

- CO-1 — 8ø NECK — 350 — CEILING DIFFUSER, TYPE 1, 8ø NECK, BALANCE TO 350 CFM, FLOW ARROWS SHOWN ONLY IF AIR FLOW IS NOT SYMMETRICAL
- RG-1 — 24X12 NECK — 350 — RETURN GRILLE, TYPE 1, 24x12 NECK, BALANCE TO 350 CFM
- EG-1 — 24X12 NECK — 350 — TYP 2 — EXHAUST GRILL, TYPE 1, 24x12 NECK, BALANCE TO 350 CFM, TYPICAL OF 2

HVAC EQUIPMENT

- UNIT VENTILATOR
- UNIT HEATER

DRAWING SYMBOLS

- NORTH — NORTH ARROW
- A / M201 — SECTION IDENTIFICATION; SHEET IDENTIFICATION
- A — COLUMN GRID SYMBOLS
- 6 — 1 — GENERAL MECHANICAL NOTES NUMBER IDENTIFICATION
- 1 — FLAG MECHANICAL NOTES NUMBER IDENTIFICATION

CONTROLS

- CO — CARBON MONOXIDE (CO) SENSOR
- CO2 — CO2 SENSOR
- OS — OCCUPANCY (CO2) SENSOR
- T — ROOM THERMOSTAT (T)
- ISD — IONIZATION TYPE SMOKE DETECTOR

REFERENCE CODES

IRC	INTERNATIONAL RESIDENTIAL CODE – 2021
IMC	INTERNATIONAL MECHANICAL CODE – 2021
UPC	UNIFORM PLUMBING CODE – 2021
IFGC	INTERNATIONAL FUEL GAS CODE – 2021
IFC	INTERNATIONAL FIRE CODE – 2021
NEC	NATIONAL ELECTRICAL CODE – 2017
WSECR	WASHINGTON STATE ENERGY CODE RESIDENTIAL – 2021
ADA	AMERICAN DISABILITY ACT STANDARDS – 2010
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS – A17.1 – 2007 W/ 2008 ADDENDA SAFETY CODE FOR ELEVATORS AND ESCALATORS
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS 13D, 13R, OR 13 (AS APPLICABLE) – 2016

BUILDING B HVAC SHEET INDEX

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	EXISTING WORK OR BACKGROUND INFORMATION (LIGHT LINE) NEW WORK (HEAVY LINE)
R	RELOCATE EXISTING EQUIPMENT ITEM OR DEVICE INDICATED
	EXISTING EQUIPMENT OR DUCTWORK TO BE SELECTIVELY DEMOLISHED
EF-9	TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN)
U	UNDER CUT DOOR 3/4"

DUCTWORK

12x8	DUCT (1ST FIGURE = SIDE SHOWN, 2ND FIGURE = SIDE NOT SHOWN)
	FLEXIBLE CONNECTION
	ACOUSTIC DUCT
	VOLUME DAMPER
	45° TAKE-OFF
	90° RECTANGULAR TAKE-OFF WITH 45° TAPER
	FLEXIBLE DUCT
	SUPPLY AIR DUCT TURNING UP OR TOWARD
	SUPPLY AIR DUCT TURNING DOWN OR AWAY
	RETURN OR EXHAUST AIR DUCT TURNING UP OR TOWARDS
	RETURN OR EXHAUST AIR DUCT TURNING DOWN OR AWAY
	ROUND DUCT TURNING UP OR TOWARD
	ROUND DUCT TURNING DOWN OR AWAY
R	INCLINE RISE (R) OR DROP (D) IN DIRECTION OF ARROW
AP	ACCESS DOOR (AD) OR ACCESS PANEL (AP)
ø	ROUND DUCT OR PHASE INDICATOR
BDD	BACKDRAFT DAMPER
M	MOTORIZED DAMPER
SFD	COMBINATION SMOKE/FIRE DAMPER
CRD	CEILING DIFFUSER OR GRILLE RADIATION DAMPER
FD SD	FIRE DAMPER (FD) SMOKE DAMPER (SD)
	90° ELBOW, R/W OR R/D = 1.5
	SQUARE CORNER ELBOW WITH TURNING VANES
	90° CONICAL SPIN-IN
	TRANSITION OR REDUCER – NOTED FOT (FLAT TOP) OR FOB (FLAT ON BOTTOM) IF REQUIRED
	WYE FITTING
	90° DIVERGING RECTANGULAR TEE, EITHER RADIUS OR TURNING VANES

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING
0" — 1"
IF NOT ONE INCH ON THIS DRAWING, ADJUST SCALES ACCORDINGLY.

01/28/2025 PERMIT RESUBMITTAL

PRRNTH20250333

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

HV Engineering, Inc.
Consulting Engineers
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6912 220th St. SW, Suite 303
Mountlake Terrace, WA 98043

Phone: (206) 706-9669
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Project
7TH AVE TOWNHOMES

Location
1200 7th Ave. SE
Puyallup, WA 98371

Prepared For
WC STUDIO

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206-371-5152

NO.	DATE	REVISION

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PROJECT MANAGER: BWR
PROJECT ENGINEER: BWR
PROJECT TEAM MEMBERS: BWR
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ENGINEERS SEAL
BRIAN W. ROETCISOENDER — STATE OF WASHINGTON — 30321 — REGISTERED PROFESSIONAL ENGINEER

01/28/2025

TITLE
BLDG B HVAC NOTES & LEGENDS

PROJECT NO.: 2021-007
DATE: JANUARY 28, 2025
PROJECT NETWORK PATH:

SHEET NUMBER
M0.01

TRANE MITSUBISHI SPLIT SYSTEM SCHEDULE - OUTDOOR UNITS

MARK	MFR.	MODEL	NOM. COOLING CAPACITY BTUH	NOM. HEAT CAPACITY (47°F) BTUH	NOM. HEAT CAPACITY (5°F) BTUH	EER	SEER 2	COP 47°F	COP 17°F	HSPF	REFRIGERANT	LIQ. CONN.	GAS CONN.	VOLTAGE	MCA	MOCP	WEIGHT (LBS.)	dBA	NOTES
OHP-A1	TRANE MITSUBISHI	MUZ-GX24NL	22,400	27,600	24,600	–	>14.3	–	–	>7.5	R-454B	3/8"	3/4"	208-230/1ø/60	23	40	119	55	[1], [2], [3]
OHP-A2	TRANE MITSUBISHI	MUZ-GX18NL	18,000	21,600	15,200	–	>14.3	–	–	>7.5	R-454B	3/8"	1/4"	208-230/1ø/60	23	40	121	55	[1], [2], [3]
OHP-A3	TRANE MITSUBISHI	MUZ-GX24NL	22,400	27,600	24,600	–	>14.3	–	–	>7.5	R-454B	3/8"	3/4"	208-230/1ø/60	23	40	119	55	[1], [2], [3]
OHP-B1	TRANE MITSUBISHI	MUZ-GX18NL	18,000	21,600	15,200	–	>14.3	–	–	>7.5	R-454B	3/8"	1/4"	208-230/1ø/60	23	40	121	55	[1], [2], [3]
OHP-B2	TRANE MITSUBISHI	MUZ-GX18NL	18,000	21,600	15,200	–	>14.3	–	–	>7.5	R-454B	3/8"	1/4"	208-230/1ø/60	23	40	121	55	[1], [2], [3]
OHP-B3	TRANE MITSUBISHI	MUZ-GX24NL	22,400	27,600	24,600	–	>14.3	–	–	>7.5	R-454B	3/8"	3/4"	208-230/1ø/60	23	40	119	55	[1], [2], [3]

NOTES:
[1] OUTDOOR UNITS MOUNTED ON ROOF ON MANUFACTURER WALL MOUNT SYSTEM.
[2] DRAIN CONDENSATE TO APPROVED LOCATION.
[3] FIELD-ROUTE REFRIGERANT PIPING TO CORRESPONDING INDOOR UNIT(S). MAX 60 FT TOTAL LENGTH.

TRANE MITSUBISHI SPLIT SYSTEM SCHEDULE - INDOOR UNITS

MARK	MFR.	MODEL	OUTDOOR UNIT	CFM	NOM. COOLING CAPACITY BTUH	SENSIBLE COOLING CAPACITY BTUH	NOM. HEATING CAPACITY BTUH 47F(5F)	VOLTAGE	FLA	WEIGHT (LBS.)	dBA	NOTES
IHP-A1	TRANE MITSUBISHI	MSZ-GX24NL	OHP-01	738	22,400	16,800	27,600	208-230/1ø/60	0.76	37	53	[1], [2], [3], [4]
IHP-A2	TRANE MITSUBISHI	MSZ-GX18NL	OHP-02	646	18,000	15,660	21,600(15,200)	208-230/1ø/60	0.67	28	49	[1], [2], [3], [4]
IHP-A3	TRANE MITSUBISHI	MSZ-GX24NL	OHP-01	738	22,400	16,800	27,600	208-230/1ø/60	0.76	37	53	[1], [2], [3], [4]
IHP-B1	TRANE MITSUBISHI	MSZ-GX18NL	OHP-02	646	18,000	15,660	21,600(15,200)	208-230/1ø/60	0.67	28	49	[1], [2], [3], [4]
IHP-B2	TRANE MITSUBISHI	MSZ-GX18NL	OHP-02	646	18,000	15,660	21,600(15,200)	208-230/1ø/60	0.67	28	49	[1], [2], [3], [4]
IHP-B3	TRANE MITSUBISHI	MSZ-GX24NL	OHP-01	738	22,400	16,800	27,600	208-230/1ø/60	0.76	37	53	[1], [2], [3], [4]

NOTES:
[1] PROVIDE 7-DAY PROGRAMMABLE, WIRED THERMOSTAT LOCATED WHERE SHOWN ON PLANS
[2] COORDINATE POWER REQUIREMENTS WITH MFR. INDOOR UNIT IS TYPICALLY POWERED OFF OUTDOOR UNIT CIRCUIT.
[3] STANDARD FILTER (BEST AVAILABLE)
[4] DRAIN CONDENSATE TO APPROVED LOCATION. SEE PLUMBING PLANS.

ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE/MODEL	SYSTEM	TYPE	CFM NORMAL (BOOST)	ESP (in. W.C.)	ADJUSTED SENSIBLE RECOVERY EFFICIENCY (67 CFM)	CFM/WATT (NORMAL)	ELECTRICAL		WEIGHT (LBS.)
								V/ø/Hz	WATTS	
ERV-XX	BROAN B130E65RT	UNIT VENTILATION	CROSSFLOW	60 (110)	1.0	67%	2.2	120/1ø/60	110	44

NOTES:
[1] BASIS OF DESIGN MODELS CAN BE SUBSTITUTED WITH APPROVED EQUIVALENT MODELS.
[2] WASHABLE FACTORY STANDARD MERV-8 FILTER. PROVIDE VBATHW 20-40-60 BOOST CONTROLLER

CONTROLS SCHEDULE

MARK	MAKE/MODEL	DESCRIPTION	NOTES
T	MITSUBISHI	7-DAY PROGRAMMABLE THERMOSTAT, REMOTE CONTROLLER	MOUNT 48" A.F.F.
M	POTTORFF CD-42 OR CD-21R	2-POSITION, 120V DAMPER ACTUATOR, LOW LEAKAGE SEALS	

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MAKE/MODEL	DESCRIPTION	NOTES
FRG-1	SHOEMAKER 1600	HEAVY DUTY FLOOR RETURN GRILLE, ½" SPACING, 0 DEG DEFLECTION	
EG-1	SHOEMAKER 905	EXHAUST GRILLE, ⅜" SPACING, SINGLE-DEFLECTION 45 DEG AIRFOIL BLADE	
RG-1	SHOEMAKER 905	EXHAUST GRILLE, ⅜" SPACING, SINGLE-DEFLECTION 45 DEG AIRFOIL BLADE	
TG-1	SHOEMAKER 905	EXHAUST GRILLE, ⅜" SPACING, SINGLE-DEFLECTION 45 DEG AIRFOIL BLADE	
SG-1	SHOEMAKER 904	SUPPLY GRILLE, ⅜" SPACING, DOUBLE-DEFLECTION ADJUSTABLE BLADES	

NOTES: REFER TO ARCHITECTURAL PLANS FOR CEILING FINISH REQUIREMENTS. CONFIRM FINISH COLOR WITH ARCH AND OWNER.

FAN SCHEDULE

EQUIPMENT NUMBER	BF-XX	TF-XXX	KH-XX
SERVICE			
AREA	BATHROOM	CLOSET	COMMON
SYSTEM	EXHAUST	TRANSFER	RANGE HOOD
FAN			
FAN TYPE	CEILING	INLINE	
BLADE TYPE	FC, CENT.		
DISCHARGE	INLINE	INLINE	
DRIVE TYPE	DIRECT	DIRECT (ECM)	
SERVICE CONDITIONS			
CAPACITY-CFM	50	80	>=160
E.S.P. - in. W.C.	0.30	0.2	0.25
SPEED-RPM	N/A		N/A
INLET TEMP-°F	70	70	70
CONTROL	[1]	[2]	
NOISE REQUIREMENTS (MAX. dBA)	61		
SONES	0.3 [3]	1 MAX [4]	
MOTOR			
ENCLOSURE TYPE	ODP		
HORSEPOWER (WATTS)	(16.1W)	(12.8W)	
BHP	–	–	
CFM/W	2.8	6.25	2.8
SPEED-RPM	1131		
ELECTRICAL			
V/ø/Hz	115/1ø/60	120/1ø/60	
MANUFACTURER-DESIGN BASIS	PANASONIC	AIR KING	BY OTHERS
MODEL	FV-05-11VK1	QFAMD	
UNIT WEIGHT	11.8	18	
NOTES			

REMARKS

[1] MANUAL SWITCH BY DIV. 26

[2] UNIT MOUNTED SPEED CONTROLLER. MANUAL SWITCH BY DIV. 26.

[3] CEILING FAN SONE RATINGS BASED UPON 0.1" E.S.P. PER HVI CERTIFIED TESTING

[4] 2100 HVI CERTIFIED FOR INLINE FAN

ELECTRIC HEATER SCHEDULE

EQUIPMENT NUMBER	WH-XXX	WH-XXX	WH-XXX
SERVES	BEDROOM	KITCHEN	UTILITY
CONFIGURATION	WALL	TOE KICK	WALL
SERVICE CONDITIONS			
CFM			
HEATING CAPACITY-W	500	500	500
ELECTRICAL			
V/ø/Hz	240/1ø/60	240/1ø/60	240/1ø/60
MANUFACTURER DESIGN BASIS	KING PAW2422	KING KT2415-MW	KING PAW2422
REMARKS	[1], [2], [3]	[1], [2], [3]	[2], [3], [4]

NOTES:
[1] REMOTE THERMOSTAT
[2] HEATERS AND THERMOSTATS BY DIVISION 26 (PROVIDED AND INSTALLED). NOTED kW AND MODEL ARE FOR REFERENCE.
[3] ZONAL HEATERS IN COMPLIANCE WITH FOOTNOTE A OF TABLE 406.3 OF THE RESIDENTIAL STATE ENERGY CODE.
[4] WITH INTEGRAL THERMOSTAT.

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS DRAWING, ADJUST SCALES ACCORDINGLY.

01/28/2025 PERMIT RESUBMITTAL

PRRNTH20250333

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Development & Permitting Services
ISSUED PERMIT
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Engineering | Public Works
Fire | Traffic

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7TH AVE
TOWNHOMES

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Prepared For
WC STUDIO

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NO.	DATE	REVISION

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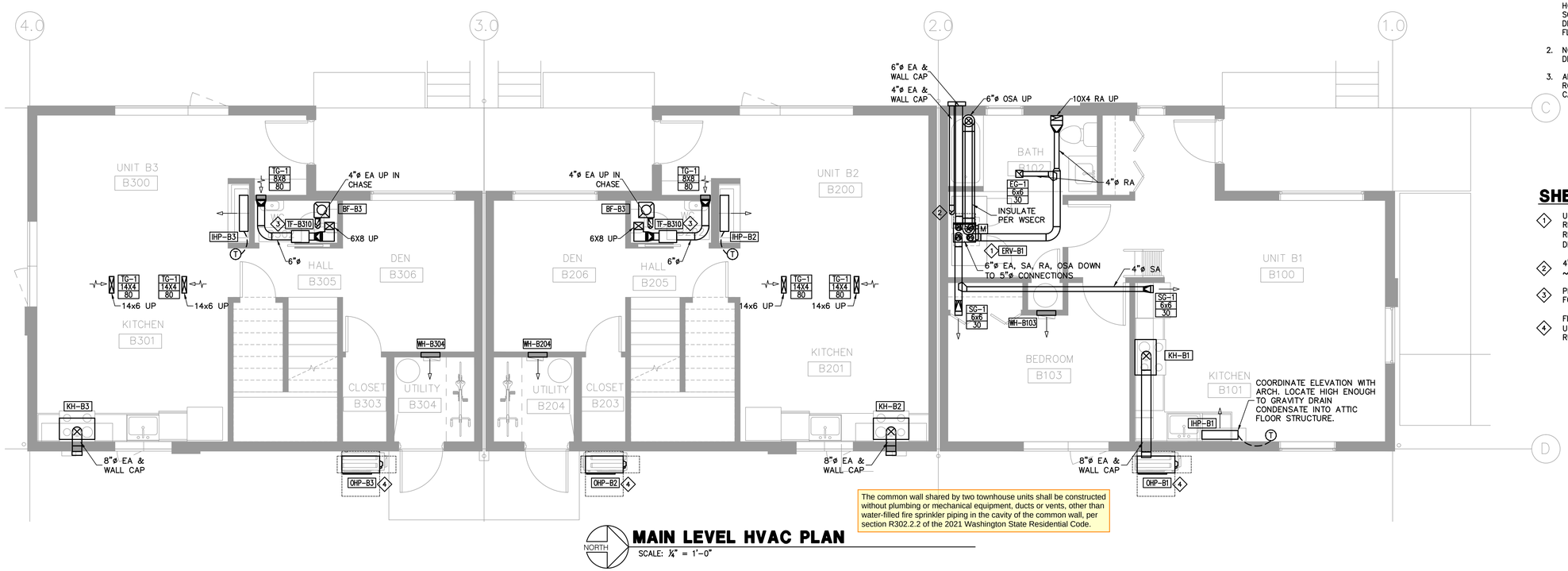
STATE OF WASHINGTON
30321
REGISTERED
PROFESSIONAL ENGINEER
01/28/2025

TITLE
BLDG B HVAC
ABBREVIATIONS,
CALCS, & SCHEDULES

PROJECT NO.
2021-007
DATE
JANUARY 28, 2025
PROJECT NETWORK PATH

SHEET NUMBER
M0.02

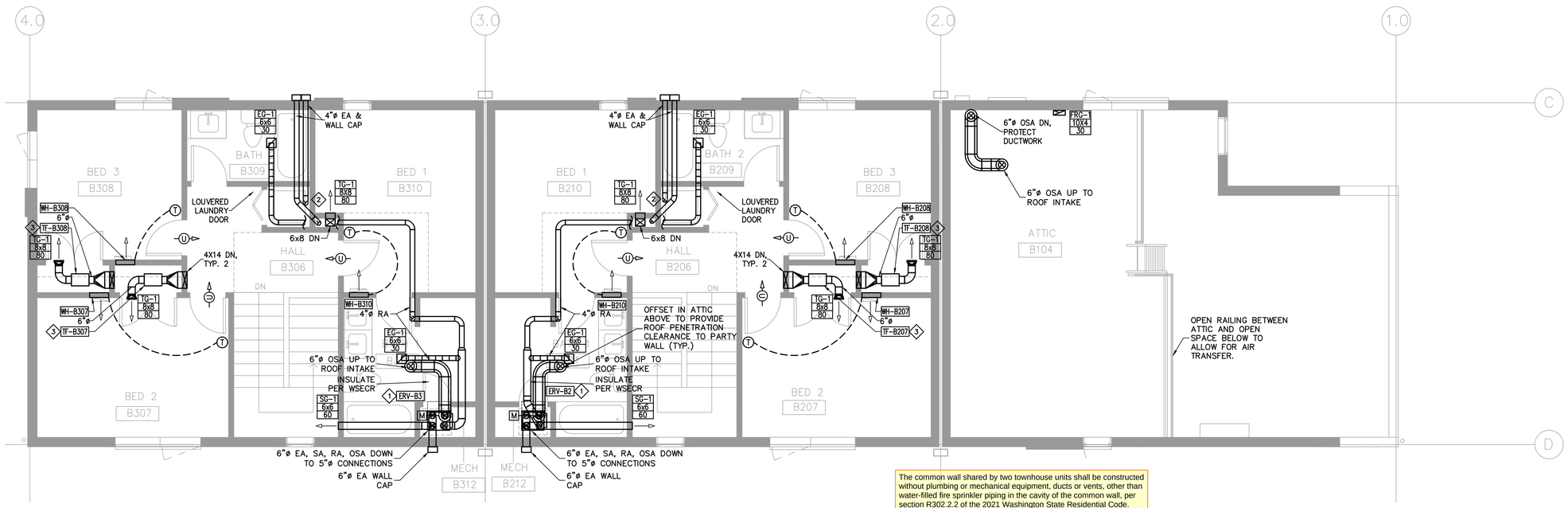


MAIN LEVEL HVAC PLAN

NORTH

SCALE: ¼" = 1'-0"

The common wall shared by two townhouse units shall be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall, per section R302.2.2 of the 2021 Washington State Residential Code.



UPPER LEVEL HVAC PLAN

NORTH

SCALE: ¼" = 1'-0"

The common wall shared by two townhouse units shall be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall, per section R302.2.2 of the 2021 Washington State Residential Code.

GENERAL NOTES:

1. VENT TERMINATIONS INTO A COMMON SHEET METAL PLENUM AND DECORATIVE SHEET METAL HOOD PER ARCHITECT DETAILS. PROVIDE BIRD SCREEN AT ALL DISCHARGE EXCEPT THE CLOTHES DRYER VENT. EACH DISCHARGE PROVIDED WITH FLAPPER TERMINAL AT DISCHARGE PLENUM.
2. NO PIPING OR DUCTWORK TO BE PLACED WITHIN DEMISING, FIRE WALLS.
3. ALL REFRIGERANT AND CONDENSATE PIPING TO ROUTE CONCEALED WITHIN WALL AND CEILING CAVITY.

SHEET NOTES:

1. UNIT VENTILATION PROVIDED BY BALANCED HEAT RECOVERY VENTILATOR OVERSIZED BY 25% PER THE REQUIREMENTS OF M1505.4.3 FOR A "NOT DISTRIBUTED" SYSTEM.
2. 4"ø DOWN TO DRYER VENT CONNECTOR TERMINATE ~72"AFF.
3. PROVIDE ACCESS PANEL TO REMOVE TF FROM SOFFIT FOR MAINTENANCE.
4. FLASH RL/RS PIPING THROUGH WALL. SECURE OHP UNITS TO 4" CONCRETE HOUSEKEEPING PAD WITH RUBBER SHEAR ISOLATION PAD.

PRRNTH20250333

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

HV Engineering, Inc.
Consulting Engineers
Hall Creek Office Park
6912 220th St. SW, Suite 303
Mountlake Terrace, WA 98043
Phone: (206) 706-9669
www.hvengineering. biz

Project
7TH AVE TOWNHOMES

Location
1200 7th Ave. SE
Puyallup, WA 98371

Prepared For
WC STUDIO

1522 6th Avenue #1
Tacoma, WA 98405
206-371-5152

NO.	DATE	REVISION

PARTNER IN CHARGE: BWR
PROJECT MANAGER: BWR
PROJECT ENGINEER: BWR
PROJECT TEAM MEMBERS: BWR
CHECK: BWR

ENGINEERS SEAL
BRIAN W. ROETCISOENDER
STATE OF WASHINGTON
30321
REGISTERED PROFESSIONAL ENGINEER
01/28/2025

TITLE
BLDG B MAIN & UPPER LEVEL HVAC PLANS

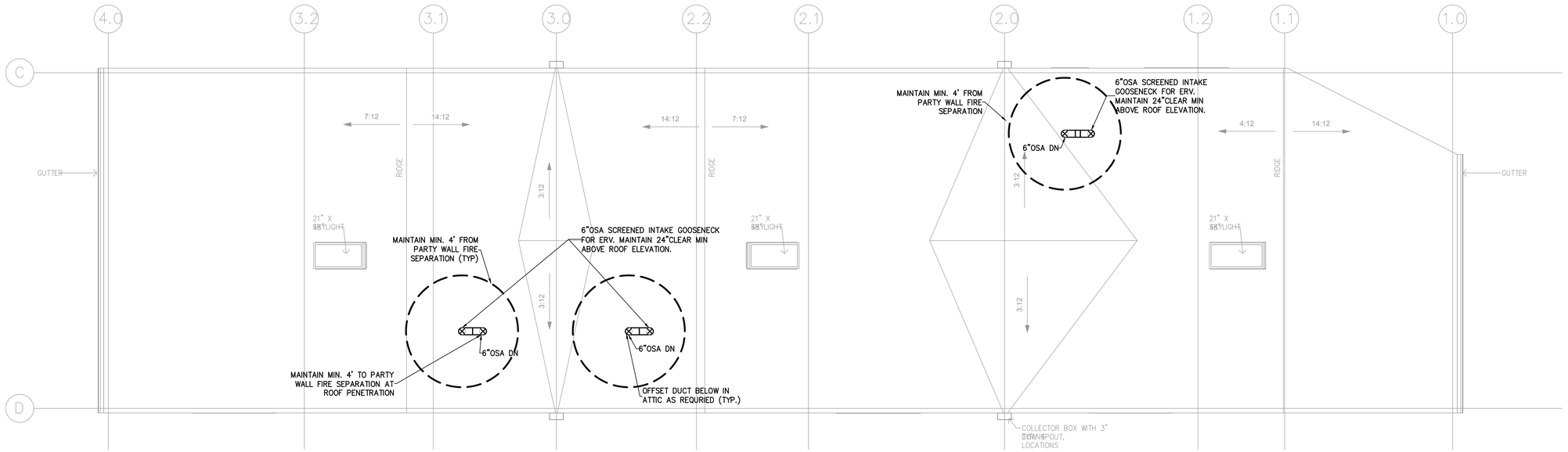
PROJECT NO. 2021-007
DATE JANUARY 28, 2025
PROJECT NETWORK PATH

SHEET NUMBER
M2.00

01/28/2025
PERMIT RESUBMITTAL

VERIFY SCALE

BAR MEASURES ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS DRAWING, ADJUST SCALES ACCORDINGLY.



NORTH

ROOF HVAC PLAN

SCALE: ¼" = 1'-0"

PRRNTH20250333

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

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BRIAN W. ROETCISOENDER
STATE OF WASHINGTON
30321
REGISTERED
PROFESSIONAL ENGINEER

01/28/2025

TITLE
BLDG B ROOF HVAC PLAN

PROJECT NO.
2021-007
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PROJECT NETWORK PATH

SHEET NUMBER
M2.01

01/28/2025 PERMIT RESUBMITTAL

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0" 1"

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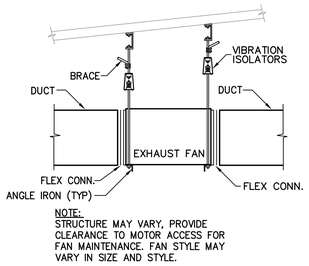
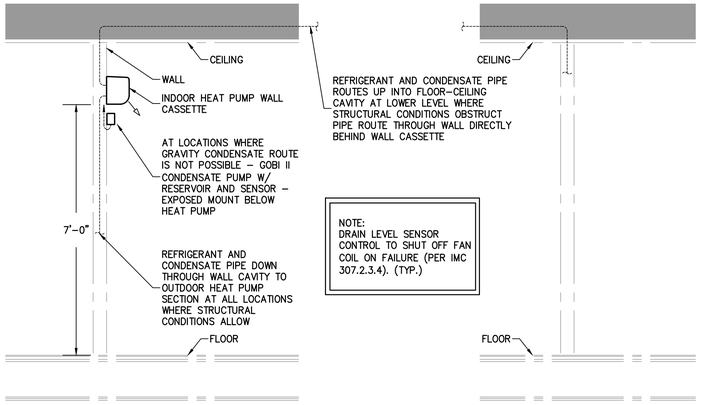


NOTE:
STRUCTURE MAY VARY, PROVIDE CLEARANCE TO MOTOR ACCESS FOR FAN MAINTENANCE. FAN STYLE MAY VARY IN SIZE AND STYLE.

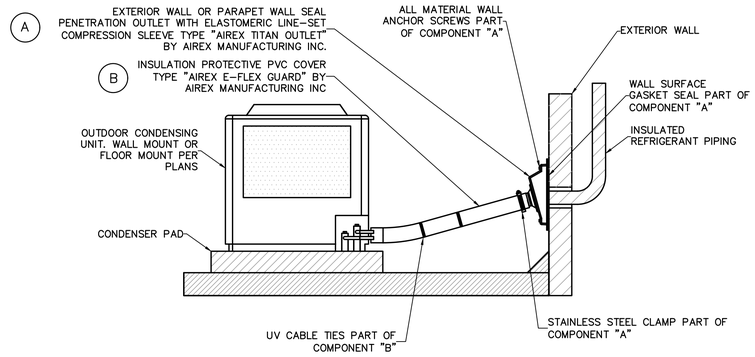
1 IN-LINE FAN MOUNTING DETAIL

M3.00 SCALE: NOT TO SCALE



2 IHP WALL MOUNT CASSETTE

M3.00 SCALE: NOT TO SCALE



3 REFRIGERANT PIPING THRU EXTERIOR WALL DETAIL

M3.00 SCALE: NOT TO SCALE

ALLOWABLE HOLES

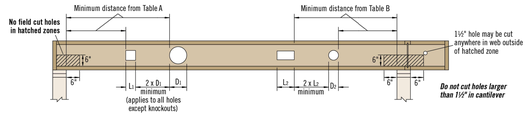


Table A—End Support

Minimum distance from edge of hole to inside face of nearest end support

Depth	TJI®	Round Hole Size 2"	3"	4"	5"	6½"	7"	8⅛"	11"	13"	Square or Rectangular Hole Size 2"	3"	4"	5"	6½"	7"	8⅛"	11"	13"
9½"	110	1'-0"	1'-6"	2'-0"	2'-5"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
11⅞"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	2'-6"	5'-0"			1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	4'-6"	6'-0"		
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"			1'-0"	1'-0"	2'-0"	3'-0"	5'-0"	5'-6"	6'-6"		
	360	1'-0"	1'-0"	1'-6"	2'-5"	4'-6"	5'-0"	7'-0"			1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	6'-6"	7'-6"		
	560	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	5'-6"	8'-0"			1'-0"	2'-0"	3'-6"	5'-0"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"		1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-0"	6'-0"		1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	4'-6"	6'-6"	8'-6"	
	360	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	5'-6"	8'-0"		1'-0"	1'-0"	1'-0"	2'-6"	5'-6"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	6'-0"	9'-0"		1'-0"	1'-0"	1'-6"	3'-6"	6'-6"	7'-0"	9'-0"	10'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	6'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	6'-6"	8'-0"	10'-6"
	360	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-0"	9'-0"	1'-0"	1'-0"	1'-0"	1'-0"	4'-0"	5'-0"	9'-0"	10'-0"	11'-6"
	560	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-6"	10'-0"	1'-0"	1'-0"	1'-0"	1'-6"	5'-0"	6'-0"	10'-0"	11'-0"	12'-0"

Table B—Intermediate or Cantilever Support

Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

Depth	TJI®	Round Hole Size 2"	3"	4"	5"	6½"	7"	8⅛"	11"	13"	Square or Rectangular Hole Size 2"	3"	4"	5"	6½"	7"	8⅛"	11"	13"
9½"	110	1'-6"	2'-6"	3'-0"	4'-0"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					2'-0"	3'-0"	4'-0"	6'-0"	7'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-0"	8'-0"			1'-0"	1'-6"	2'-6"	4'-0"	6'-6"	7'-0"	9'-0"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	7'-6"	8'-0"	10'-0"		
	360	2'-0"	3'-0"	4'-0"	5'-6"	7'-0"	7'-6"	11'-0"			2'-0"	3'-6"	5'-0"	7'-0"	9'-6"	9'-6"	11'-0"		
	560	1'-6"	3'-0"	4'-6"	5'-6"	8'-0"	8'-6"	12'-0"			3'-0"	4'-6"	6'-0"	8'-0"	10'-6"	11'-0"	12'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	4'-6"	8'-0"		1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	9'-0"	12'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-0"	9'-0"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	12'-6"	
	360	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	6'-0"	8'-6"	12'-6"		1'-0"	2'-0"	4'-0"	5'-6"	9'-0"	10'-0"	12'-0"	14'-0"	
	560	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	6'-6"	9'-6"	13'-6"		1'-0"	3'-0"	5'-0"	7'-0"	10'-0"	11'-0"	13'-6"	15'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	5'-6"	9'-6"	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	5'-6"	9'-6"	12'-6"	15'-6"
	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	4'-0"	6'-6"	10'-0"	13'-6"	1'-0"	1'-0"	2'-0"	4'-0"	7'-6"	8'-6"	13'-0"	14'-6"	17'-0"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	7'-0"	11'-0"	15'-0"	1'-0"	1'-0"	3'-6"	5'-6"	9'-0"	10'-0"	14'-6"	16'-0"	18'-0"

• Rectangular holes based on measurement of longest side.

How to Use These Tables

1. Using **Table A, Table B,** or both if required, determine the hole shape/size and select the TJI® joist and depth.
2. Scan horizontally until you intersect the correct hole size column.
3. Measurement shown is minimum distance from edge of hole to support.
4. Maintain the required minimum distance from the end **and** the intermediate or cantilever support.

General Notes

- Holes may be located vertically anywhere within the web. Leave ¼" of web (minimum) at top and bottom of hole.
- Knockouts are located in web at approximately 12" on-center; they do not affect hole placement.
- For simple span (5' minimum) uniformly loaded joists meeting the requirements of this guide, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**
- Distances are based on the maximum uniform loads shown in this guide. For other load conditions or hole configurations, use TJ-Beam® software or contact your iLevel representative.

4 TJI ALLOWABLE HOLE CHART

M3.00 SCALE: NOT TO SCALE

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CHECK
BWR

ENGINEERS SEAL

01/28/2025

TITLE
BLDG B HVAC DETAILS & DIAGRAMS

PROJECT NO.
2021-007
DATE
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PROJECT NETWORK PATH

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