GENERAL NOTES

1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
3. CODES: COMPLETE INSTALLATION OF THE PLUMBING SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL EQUIPMENT, PIPING, ETC.
   A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL.
   B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK.
   C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
   D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
5. PLUMBING CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL PLUMBING EQUIPMENT WITHIN THE STRUCTURE.
6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
7. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, OVERFLOW DRAINS AND VTR DETAILS.
8. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
9. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
10. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
11. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
12. CABLE TRAYS: PIPING INSTALLED ADJACENT TO ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" ABOVE AND TO THE SIDE OF CABLE TRAYS.
13. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.
14. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

1. IRRIGATION SYSTEM: COORDINATE IRRIGATION WATER DEMAND, MINIMUM WATER PRESSURE REQUIREMENTS & CONTROL CABINET LOCATIONS WITH IRRIGATION CONTRACTOR.
2. UTILITIES: COORDINATE WITH SITE UTILITY CONTRACTOR AND CIVIL DRAWINGS FOR UTILITY CONNECTIONS AND EXTENSIONS.
3. ROOF DRAINAGE: COORDINATE WITH GENERAL CONTRACTOR FOR ROOF DRAIN AND OVERFLOWS, SCUPPER DRAINS, AND CONDENSATE DRAINS.
4. PLUMBING FIXTURES & EQUIPMENT: COORDINATE EXACT LOCATION OF ALL PLUMBING FIXTURES & EQUIPMENT WITH ARCHITECTURAL AND OTHER TRADES DOCUMENTS.
5. PIPING: COORDINATE EXACT LOCATION OF ALL STRUCTURAL FRAMING & FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL ENGINEER AT THE SITE PRIOR TO AND DURING THE CONSTRUCTION. COORDINATE UNDER GRADE PIPING & FOUNDATION DRAINAGE PIPING WITH CIVIL ENGINEER.
6. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
7. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THE BID DOCUMENTS.
8. FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.
9. PRIOR TO PIPING INSTALLATION: PLUMBING CONTRACTOR TO COORDINATE PIPING LAYOUT WITH ALL OTHER TRADES.
10. ACCESS: COORDINATE ALL ACCESS LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT TO ENSURE ALL REQUIRED ACCESS HATCHES, ACCESS PANELS & ACCESS COVERS ARE PROVIDED.
11. PROVIDE WATER TIGHT SEALS FOR ANY PIPING PENETRATING THE EXTERIOR FOUNDATION WALLS OR SLABS.
12. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT IMMEDIATELY.
13. PROVIDE FIRE PROOFING FOR ALL PIPING PENETRATING FIRE BARRIER WALLS OR FLOOR SLABS.

DISINFECTION OF POTABLE WATER SYSTEM REQUIREMENTS – 2018 UPC

1. FLUSH AND CHLORINATE WATER SYSTEM IN ACCORDANCE WITH UPC/SPC SECTION 609.9 ITEMS #1 & #2 USING AN ADJUSTED CONCENTRATION OF 20 PPM. CHLORINE FILL PORT MUST BE LOCATED WHERE THE WATER SUPPLY ENTERS THE BUILDING. CHLORINE SOLUTION MUST BE ADMINISTERED THROUGH A FLOW METER TO MEASURE SOLUTION VOLUME. AFTER WATER–CHLORINE SOLUTION IS INCORPORATED INTO THE NEW OR REPAIRED WATER SUPPLY SYSTEM A MINIMUM 24–HOUR WAITING PERIOD MUST BE OBSERVED PRIOR TO FLUSHING.

NOTE: THE 3–HOUR HIGH–CONCENTRATION OPTION NOTED IN UPC/SPC SECTION 609.9 ITEM #2 IS NOT AN ALLOWABLE OPTION WITHIN THIS JURISDICTION.

2. AFTER THE 24–HOUR WAITING PERIOD, FLUSH SYSTEM WITH CLEAN POTABLE WATER IN ACCORDANCE WITH UPC/SPC SECTION 609.9 ITEM #3.
3. AFTER FLUSHING, CHLORINE RESIDUAL LEVELS IN THE NEW OR REPAIRED WATER SUPPLY SYSTEM SHALL BE NOT LESS THAN THE MEAN AVERAGE CHLORINE RESIDUAL OF THE WATER PURVEYOR'S SOURCE SUPPLY WITHIN THE PROJECT SERVICE AREA AND SHALL NOT EXCEED THE EPA LIMIT OF 4 MG/L. ALL CHLORINE RESIDUAL LEVELS SHALL BE MEASURED USING A CALIBRATED DIGITAL CHLORINE METER (NOT TEST STRIPS).
4. WAIT AT LEAST 36 HOURS BEFORE COLLECTING BACTERIOLOGICAL WATER QUALITY SAMPLES FROM FIXTURES. BACTERIOLOGICAL TESTING SHALL BE CONDUCTED BY A LABORATORY CERTIFIED FOR DRINKING WATER IN WASHINGTON STATE AFFIRMING WATER QUALITY CONTAINS NO COLIFORM BY SAMPLE TESTING THE FURTHEST FIXTURE FROM THE PUBLIC WATER SOURCE AND NOT LESS THAN TWO OTHER LOCATIONS IN DIFFERENT PARTS OF THE WATER SUPPLY SYSTEM.

ALTERNATE FLUSHING AND TESTING PROCEDURES (RE–PIPES / OCCUPIED BUILDINGS ONLY):

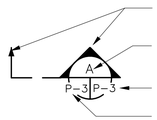
5. FLUSH WATER SYSTEM IN ACCORDANCE WITH UPC/SPC SECTION 609.9 ITEM #1.
6. AFTER FLUSHING, CHLORINE RESIDUAL LEVELS IN THE NEW OR REPAIRED WATER SUPPLY SYSTEM SHALL BE NOT LESS THAN THE MEAN AVERAGE CHLORINE RESIDUAL OF THE WATER PURVEYOR'S SOURCE SUPPLY WITHIN THE PROJECT SERVICE AREA AND SHALL NOT EXCEED THE EPA LIMIT OF 4 MG/L. A CALIBRATED DIGITAL CHLORINEMETER (NOT TEST STRIPS) SHALL BE USED TO MEASURE RESIDUAL CHLORINE LEVELS AT EACH FIXTURE OUTLET. TWO SEPARATE TESTS SHALL OCCUR AT FIXTURES SUPPLIED WITH BOTH HOT AND COLD WATER (ONE TEST FLOWING COLD WATER ONLY, THE OTHER TEST FLOWING HOT WATER ONLY).
7. PLUMBING PERMIT APPLICANT SHALL MAINTAIN RECORDS OF SYSTEM FLUSHING AND CHLORINE TEST RESULTS TO PRESENT TO PLUMBING FIELD INSPECTOR UPON REQUEST. RECORDS SHALL INCLUDE THE NAME OF THE PERSON(S) THAT CONDUCTED THE TEST AND FLUSH PROCEDURE AS WELL AS THE DATE AND TIME OF EACH STEP OF THE PROCESS.

SYMBOLS

GENERAL

- ARCHITECTURAL BACKGROUND (THIN LINE)
- NEW PIPING (HEAVY LINE)
- EXISTING PIPING (THIN LINE)
- EXISTING WORK TO BE REMOVED
- MATCHLINE OR PROPERTY LINE
- CONNECTION TO EXISTING

SECTION IDENTIFICATION



- INDICATES DIRECTION OF CUTTING PLANE
- LETTER INDICATES SECTION (NO. INDICATES DETAIL)
- SHEET NUMBER WHERE SECTION IS DRAWN
- SHEET NUMBER WHERE SECTION IS TAKEN

DETAIL IDENTIFICATION

- DETAIL NUMBER
- DRAWING/SHEET NUMBER

EQUIPMENT

- TYPICAL EQUIPMENT DESIGNATION

PIPING

- W — WASTE BELOW GRADE
- W — WASTE ABOVE GRADE
- PW — PUMPED WASTE
- IW — INDIRECT WASTE
- SS — SANITARY SEWER BELOW GRADE
- SS — SANITARY SEWER ABOVE GRADE
- PSS — PUMPED SANITARY SEWER
- V — VENT
- SD — STORM DRAIN
- OD — OVERFLOW STORM DRAIN
- PSD — PUMPED STORM DRAIN
- CD — CONDENSATE DRAIN
- PCD — PUMPED CONDENSATE DRAIN
- \- — COLD WATER (CW)
- \- - — HOT WATER (HW), POTABLE, 120°F
- \- - 140 — HOT WATER, POTABLE, TEMPERATURE OTHER THAN 120°F
- \- - - — HOT WATER CIRCULATING (HWC), POTABLE, 120°F
- \- - - 140 — HOT WATER CIRCULATING, POTABLE, TEMPERATURE OTHER THAN 120°F
- FOF — FUEL OIL FILL
- FOS — FUEL OIL SUPPLY
- FOR — FUEL OIL RETURN
- FOV — FUEL OIL VENT
- RV — RELIEF VENT
- G — LOW PRESSURE NATURAL GAS
- MPG — MEDIUM PRESSURE NATURAL GAS
- IRR — IRRIGATION (NON POTABLE)
- F — FIRE MAIN

PIPE SYMBOLS

- TOP PIPE CONNECTION
- BOTTOM PIPE CONNECTION
- PIPE TURNING UP
- PIPE TURNING DOWN/DROP
- PIPE CAP
- PIPE PLUG
- UNION
- FLANGE
- WYE STRAINER
- WYE STRAINER WITH CAPPED HOSE END BLOWDOWN VALVE
- BALL VALVE

VALVES & EQUIPMENT

- BALL VALVE
- GLOBE VALVE
- CHECK VALVE
- BALANCING OR PLUG VALVE
- BUTTERFLY VALVE
- FLEXIBLE CONNECTION IN PIPING
- PRV — PRESSURE REDUCING VALVE (PRV)
- AUTOMATIC CONTROL VALVE, 2–WAY
- AUTOMATIC CONTROL VALVE, 3–WAY
- ID — RELIEF VALVE
- BV — BALANCING/METERING VALVE
- REDUCER
- DIRECTION OF FLOW
- A — PIPE ANCHOR
- PIPE ALIGNMENT GUIDE
- PS — PIPE SUPPORT
- VALVE STATION OR ASSEMBLY
- ID — INDIRECT DRAIN, PIPE TO DRAIN
- POINT OF CONNECTION
- RD OD — ROOF DRAIN, OVERFLOW DRAIN
- FLOOR DRAIN
- HOSE BIBB
- BREAK IN PIPING OR DUCTWORK
- GM — GAS METER
- M — INLINE WATER METER
- PUMP
- PRESSURE GAUGE
- THERMOMETER
- P/T — PRESSURE/TEMPERATURE TEST PORT
- RPBP — REDUCED PRESSURE BACKFLOW PREVENTER
- DCVA — DOUBLE CHECK VALVE ASSEMBLY
- CATCH BASIN – SAND/OIL INTERCEPTOR
- TRENCH DRAIN
- EMERGENCY GAS SHUT–OFF VALVE
- SEISMIC GAS SHUT–OFF VALVE
- WASHER BOX
- GREASE INTERCEPTOR

ABBREVIATIONS

ABV	ABOVE	FLR	FLOOR	OPD	OVER PRESSURE DEVICE
AD	AREA DRAIN	FPM	FEET PER MINUTE	OPNG	OPENING
AFF	ABOVE FINISHED FLOOR	FPS	FEET PER SECOND	P	PUMP
AHJ	AUTHORITY HAVING JURISDICTION	FS	FLOOR SINK	PD	PRESSURE DROP, PLANTER DRAIN
BFF	BELOW FINISHED FLOOR	FT	FEET	POC	POINT OF CONNECTION
BFP	BACKFLOW PREVENTER	FU	FIXTURE UNITS	PRV	PRESSURE REDUCING VALVE
BOH	BACK OF HOUSE	G	GAS (LOW PRESSURE)		PRESSURE RELIEF VALVE
BP	BOOSTER PUMP	GAL	GALLONS	PS	PUMPED STORM DRAINAGE
BT	BATHTUB	GD	GARAGE DRAIN	PSIG	POUNDS PER SQUARE INCH GAUGE
BTUH	BRITISH THERMAL UNIT PER HOUR	GM	GAS METER	PSD	PUMPED STORM DRAINAGE
BV	BALANCING VALVE	GPG	GRAINS PER GALLON	PSS	PUMPED SANITARY SEWER
C	COMMON	GPM	GALLONS PER MINUTE	PSW	PUMPED SANITARY WASTE
CAP	CAPACITY	GV	GATE VALVE	PW	PUMPED WASTE
CB	CATCH BASIN	GWB	GYPSUM WALLBOARD	RD	ROOF DRAIN
CD	CONDENSATE DRAIN	GWH	GAS WATER HEATER	REF	REFERENCE
CFF	CAPPED FOR FUTURE	HB	HOSE BIBB	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
CFM	CUBIC FEET PER MINUTE	HD	HEAD		
CI	CAST IRON	HDR	HUB DRAIN	RPM	REVOLUTIONS PER MINUTE
CLG	CEILING, COOLING	HEDV	HOSE END DRAIN VALVE	S	SINK
CLW	CLOTHES WASHER	HORIZ	HORIZONTAL	SCH	SCHEDULE
CO	CLEANOUTS	HP	HORSEPOWER	SCW	SOFTENED COLD WATER
COMB	COMBUSTION	HPCW	HIGH PRESSURE COLD WATER	SD	STORM DRAIN
CONT	CONTINUE, CONTROL	HW	HOT WATER	SEP	SEWAGE EJECTOR PUMP
CONTR	CONTRACTOR	HWC	HOT WATER RE–CIRCULATION	SF	SQUARE FOOT
COTG	CLEANOUTS TO GRADE	HWCP	HOT WATER CIRCULATION PUMP	SGSV	SEISMIC GAS SHUT–OFF VALVE
CP	CIRCULATING PUMP	HWR	HOT WATER RETURN	SH	SHOWER
CV	CHECK VALVE	HWST	HOT WATER STORAGE TANK	SO	STORM OVERFLOW
CW	COLD WATER	HX	HEAT EXCHANGER	SP	STATIC PRESSURE/SUMP PUMP
D	DIAMETER	ICW	INDUSTRIAL COLD WATER	SR	SUDS RELIEF
DB	DRY BULB, DECIBEL	ID	INDIRECT DRAIN, INSIDE DIAMETER	SS	STAINLESS STEEL/SANITARY SEWER
DF	DRINKING FOUNTAIN	IE	INVERT ELEVATION	SSS	SIDE SANITARY SEWER
DFU	DRAIN FIXTURE UNITS	IHW	INDUSTRIAL HOT WATER	STD	STANDARD
DI	DUCTILE IRON	IN	INCH	SQ	SQUARE
DIM	DIMENSION	KS	KITCHEN SINK	TD	TRENCH DRAIN
DN	DOWN	KW	KILOWATT	TMV	THERMOSTATIC MIXING VALVE
DS	DOWN SPOUT	L	LONG, LENGTH	TP	TRAP PRIMER
DWG	DRAWING	LAV	LAVATORY	TYP	TYPICAL
(E)	EXISTING	LB	POUND	UH	UNIT HEATER
EFF	EFFICIENCY	M	WATER METER	UON	UNLESS OTHERWISE NOTED
ELEC	ELECTRIC	MBH	THOUSAND BTU PER HOUR	UR	URINAL
EQUIV	EQUIVALENT	MECH	MECHANICAL	V	VENT
EWC	ELECTRIC WATER COOLER	MCA	MIN. CIRCUIT AMPACITY	VTR	VENT THRU ROOF
EWH	ELECTRIC WATER HEATER	MOCP	MAX. OVER CURRENT PROTECTION	W	WASTE, WATT, WIDE
EXT	EXTERIOR, EXTERNAL	MPG	MEDIUM PRESSURE GAS	WC	WATER CLOSET
F	FAHRENHEIT	MTD	MOUNTED	WCO	WALL CLEANOUTS
FCO	FLOOR CLEANOUTS	(N)	NEW	WHD	WALL HYDRANT
FD	FLOOR DRAIN	NC	NORMALLY CLOSED	WM	WASHING MACHINE
FDC	FIRE DEPARTMENT CONNECTION	NO	NORMALLY OPEN	WSFU	WATER SUPPLY FIXTURE UNITS
FF	FINISHED FLOOR	OD	OUTSIDE DIMENSION/DIAMETER OVERFLOW DRAIN/DECK DRAIN		

SHEET INDEX

DWG	SHEET TITLE	PERMIT SET 3/14/2024	RESUBMITTAL SET 6/17/2024
P0.00	LEGEND, GENERAL NOTES, AND DRAWING INDEX	X	X
P0.01	PLUMBING NOTES, TABLES, AND CODES	X	X
P0.02	PLUMBING FIXTURE AND DRAIN SCHEDULES AND CALCULATIONS	X	X
P0.03	PLUMBING EQUIPMENT SCHEDULES AND CALCULATIONS	X	X
P0.04	PLUMBING EQUIPMENT SCHEDULES AND CALCULATIONS	X	X
P2.00	WASTE & VENT FLOOR PLAN – BASEMENT	X	X
P2.01	WASTE & VENT FLOOR PLAN – LEVEL 1	X	X
P2.02	WASTE & VENT FLOOR PLAN – LEVEL 2	X	X
P2.03	WASTE & VENT FLOOR PLAN – ROOF	X	X
P3.01	SUPPLY FLOOR PLAN – LEVEL 1	X	X
P3.02	SUPPLY FLOOR PLAN – LEVEL 2	X	X
P3.03	SUPPLY FLOOR PLAN – ROOF	X	X
P4.00	WASTE & VENT RISER DIAGRAM	X	X
P4.01	STORM SYSTEM RISER DIAGRAM	X	X
P5.00	SUPPLY RISER DIAGRAM	X	X
P6.00	ENLARGED RISER ROOM PLAN	X	X
P7.00	DETAILS	X	X
P7.01	DETAILS	X	X

A lead free State of Washington approved reduced pressure backflow assembly (RPBA) is required on the domestic water supply line to the building prior to any branch line connections. The premises RPBA may be installed at the Tacoma Water meter or at the point the water service first enters the building with minimal exposed piping (less than 5 feet). It may not be installed below grade and must have proper drainage to accommodate the relief valve full design discharge flow rate. An independent shut off valve is required to be installed between the Tacoma Water meter and the required premises RPBA.
A lead free State of Washington approved reduced pressure backflow assembly (RPBA) is required on the water supply line to the following:
- Commercial dishwashers, ware-washers, chemical mixing stations (approved air gap may be accepted. Flex gaps will not be accepted.)
- Water-treatment units, carbonated beverage units and water-cooled condensers.

Backflow prevention assemblies may not be installed in ceilings, walls or crawl spaces and must have proper drainage to prevent flooding/becoming submerged and to accommodate full RPBA relief valve design discharge rate. RPBA's may not be installed below grade. This includes below grade finished rooms unless there is a daylight walkout.
An approved DCVA must be installed on the water supply line to the irrigation system unless pumps, chemicals or auxiliary water are utilized in the system then an RPBA is required. If installed below ground, the DCVA can be no deeper than 12" below grade and must have a minimum of 6" air space clearance underneath it. Threaded plugs are required in each of the 4 test ports. An independent shut off valve is required to be installed between the Tacoma Water meter and the required irrigation system DCVA.
A State of Washington approved double check valve assembly (DCVA) is required to be installed on the water supply line to the fire sprinkler system. If there are any provisions for chemical additives or if there is a storage tank/reservoir as part of the fire system then an RPBA is required in place of the DCVA.
Any new water meters will be installed in the off position and water service will only be provided after inspection by the Tacoma Water Quality Section. Failure to arrange water service turn on with the Water Quality Section may result in a self-cut in fee of $500.
Please contact Scott Hallenberg at Tacoma Water for specific requirements or to arrange for water service turn on (including temp water for construction, system filling and/or testing). shallenb@cityoftacoma.org or 253-502-8215.

NO.	DATE	DESCRIPTION
1	6/17/2024	PERMIT RESUBMITTAL
–	5/22/2024	RELEASED FOR PERMIT

REVISIONS

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
CONTACT: D.H.BEAL

REED JACKSON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 06-17-24

DRAWN: DB | DESIGNED: DB | CHECKED: PR / RS | APPROVED: RJ

PROJECT:
ST. CHARLES BORROMEO PARISH OFFICES ADDITION
7112 S. 12TH STREET
TACOMA, WA 98465-1799

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE (206)364-3343

DATE: 06/17/2024
REI NO. 1145-008

SHEET TITLE:
LEGEND, GENERAL NOTES, AND DRAWING INDEX

SHEET NO.
P0.00

PLUMBING TABLES

PIPE INSULATION SCHEDULE

SERVICE	OPTION 1		OPTION 2		VAPOR RETARDER REQUIRED	NOTES
	MATERIAL	THICKNESS	MATERIAL	THICKNESS		
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, STORM DRAIN (IN CONDITIONED SPACE)	MINERAL–FIBER WITH JACKET	ALL SIZES: ½"	PVC/NBR	ALL SIZES: ⅜"	YES	12,13
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, WASTE (OUTSIDE THE CONDITIONED SPACE)	MINERAL–FIBER WITH JACKET	(R–3) ½" PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R–3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	YES	7,8,10
ROOF DRAIN BODIES	MINERAL–FIBER OR CELLULAR GLASS WITH JACKET	1"	PVC/NBR	1"	YES	12
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (RESIDENTIAL)	MINERAL–FIBER WITH JACKET	(R–3) ½" PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R–3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	NO	2,10
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (NONRESIDENTIAL)	MINERAL–FIBER WITH JACKET	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	PVC/NBR	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	NO	3,9
EXPOSED SANITARY DRAINS AND DOMESTIC WATER SUPPLIES AND STOPS FOR ADA FIXTURES.	TRUEBRO LAV–GUARD	N/A	N/A	N/A	NO	11

NOTES:

1. PIPING INSULATION EXPOSED TO THE WEATHER SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.
2. PER 2018 WSEC SECTION R403.5.3 (RESIDENTIAL) INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM R–VALUE OF R–3.
3. PIPING FROM WATER HEATER TO THE TERMINATION OF HEATED WATER SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.9.
4. ON BOTH THE INLET AND OUTLET PIPING OF A STORAGE HOT WATER HEATER, THE FIRST 8 FEET OF PIPING OR PIPING FROM WATER HEATER TO HEAT TRAP SHALL BE INSULATED.
5. HEAT TRACED PIPING SHALL BE INSULATED IN THE SAME MANNER AS NON HEAT TRACED PIPING OR PER THE HEAT TRACE MANUFACTURER'S INSTRUCTIONS.
6. TUBULAR PIPING INSULATION SHALL NOT BE REQUIRED FOR THE FOLLOWING:
   - 6.1. THE TUBING FROM THE CONNECTION AT THE TERMINATION OF THE FIXTURE SUPPLY PIPING TO A PLUMBING FIXTURE OR PLUMBING APPLIANCE.
   - 6.2. VALVES, PUMPS, STRAINERS, AND THREADED UNIONS IN PIPING THAT IS 1 INCH OR LESS IN NOMINAL DIAMETER.
   - 6.3. PIPING FROM USER–CONTROLLED SHOWER AND BATH MIXING VALVES TO THE WATER OUTLETS.
   - 6.4. COLD WATER PIPING OF A DEMAND RECIRCULATION WATER SYSTEM.
   - 6.5. TUBING FROM A HOT DRINKING–WATER HEATING UNIT TO THE WATER OUTLET.
   - 6.6. PIPING AT LOCATIONS WHERE A VERTICAL SUPPORT OF THE PIPING IS INSTALLED.
   - 6.7. PIPING SURROUNDED BY BUILDING INSULATION WITH A THERMAL RESISTANCE (R–VALUE) OF NOT LESS THAN R–3.
   - 6.8. HOT WATER PIPING THAT IS PART OF THE FINAL PIPE RUN TO THE PLUMBING FIXTURE AND IS NOT PART OF THE HEATED–WATER CIRCULATION SYSTEM CIRCULATION PATH IS NOT REQUIRED TO MEET THE MINIMUM INSULATION REQUIREMENTS OF C404.6.
7. PER 2018 UPC SECTION 312.6 NO WATER, SOIL, OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF A BUILDING, IN ATTICS OR CRAWL SPACES, OR IN AN EXTERIOR WALL UNLESS, WHERE NECESSARY, ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPE FROM FREEZING. ALL HOT AND COLD WATER PIPES OUTSIDE THE CONDITIONED SPACE SHALL BE PROVIDED WITH INSULATION WITH A MINIMUM R–VALUE OF R–3.
8. HEAT TRACING SHALL BE PROVIDED FOR COLD WATER AND IRRIGATION WATER IN UNCONDITIONED SPACES. CONTACT ENGINEERING IF NECESSARY. PER 2018 WSEC SECTION C403.12.3 FREEZE PROTECTION SYSTEMS, SUCH AS HEAT TRACING OF OUTDOOR PIPING, SHALL INCLUDE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEMS WHEN OUTDOOR AIR TEMPERATURES ARE ABOVE 40°F.
9. PER 2015 WSEC TABLE C403.2.9 INSULATION FOR HOT WATER AND HOT WATER RECIRCULATION SHALL HAVE A THERMAL CONDUCTIVITY OF 0.21–0.28 (BTU.IN/H.FT².°F) AT OPERATING TEMPERATURE.
10. INSULATION R–VALUE SHALL MEET THE MINIMUM REQUIREMENT. THICKNESS IS BASED ON GRAINGER SAMPLE DATA FOR K–FLEX(PVC/NBR) AND OWENS CORNING(FIBER GLASS).
11. ALL ADA P–TRAPS, HOT WATER SUPPLY TUBING, AND SHUT–OFF COCKS SHALL BE PROTECTED WITH APPROVED COVERS TO PREVENT SCALDING.
12. REQUIRED BY ENGINEERING BASED ON BEST PRACTICE.
13. INSULATION IS NOT REQUIRED ON PLASTIC COLD WATER PIPING.

HANGER SPACING FOR WATER PIPING

ALL SUSPENDED WATER SUPPLY PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:

	MAX. HORIZONTAL SPACING	MAX. VERTICAL SPACING
COPPER PIPE ≤1½"	6 FT.	10 FT.
COPPER PIPE >2"	10 FT.	10 FT.
COPPER TUBING ≤1½"	6 FT.	10 FT.
COPPER TUBING >2"	10 FT.	10 FT.
CPVC ≤ 1"	3 FT.	10 FT.
CPVC > 1¼"	4 FT.	10 FT.

HANGER SPACING FOR WASTE AND VENT PIPING

ALL SUSPENDED SANITARY AND VENT PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:

	MAX. HORIZ. SPACING	MAX. VERT. SPACING
ABS	4 FT.	10 FT.
PVC (TYPE DWV)	4 FT.	10 FT.
CAST–IRON HUBLESS*	EVERY OTHER JOINT	15 FT.
*CAST–IRON OVER 4' SHALL BE SUPPORTED AT EVERY JOINT		

PLUMBING FIXTURE FLOW RATES PER WAC 51-56-0400

FIXTURE TYPE	FLOW RATE	NOTES
SHOWERHEADS	1.8 GPM @ 80 PSI	
LAVATORY FAUCETS, RESIDENTIAL	1.2 GPM @ 60 PSI	1
LAVATORY FAUCETS, NON–RESIDENTIAL	0.5 GPM @ 60 PSI	2
KITCHEN FAUCETS	2.2 GPM @ 60 PSI	3
GRAVITY TANK–TYPE WATER CLOSETS	1.28 GALLONS/FLUSH	4
FLUSHOMETER TANK WATER CLOSETS	1.28 GALLONS/FLUSH	4
FLUSHOMETER VALVE WATER CLOSETS	1.28 GALLONS/FLUSH	4
ELECTROMECHANICAL HYDRAULIC WATER CLOSETS	1.28 GALLONS/FLUSH	4
WALL–MOUNTED URINALS	0.125 GALLONS/FLUSH	
OTHER URINALS	0.5 GALLONS/FLUSH	

NOTES:

1. LAVATORY FAUCETS SHALL NOT HAVE A FLOW RATE LESS THAN 0.8 GPM AT 20 PSI.
2. WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS RATED AT 0.35 GPM OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.
3. KITCHEN FAUCETS MAY TEMPORARILY INCREASE FLOW ABOVE THE MAXIMUM RATE, BUT NOT ABOVE 2.2 GPM @ 60 PSI AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GPM @ 60 PSI.

NOTE TO CONTRACTOR

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

CONTRACTOR SUBSTITUTIONS & REVISIONS

PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

PRE-CONSTRUCTION MEETING NOTES

CONTRACTORS SHALL ATTEND A PRE–CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS,AND ON–SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.

THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

MECHANICAL SHEET METAL	4 HOURS
PLUMBING/PIPING	4 HOURS
ELECTRICAL	4 HOURS
SPRINKLER	2 HOURS
GENERAL CONTRACTOR	ALL SESSIONS

PLUMBING NOTES

1. CONNECTIONS: PROVIDE PLUMBING FIXTURE CONNECTIONS TO BUILDING WASTE, VENT, COLD WATER, AND HOT WATER SYSTEM IN ACCORDANCE WITH DRAWINGS, MANUFACTURER'S RECOMMENDATIONS, AND LOCAL CODES. CONNECT TO EACH FIXTURE, EQUIPMENT, ETC. WITH ALL ACCESSORIES, VALVES, VACUUM BREAKERS, REGULATORS, UNIONS, ETC. AS REQUIRED AND AS RECOMMENDED BY THE MANUFACTURERS. REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE ON PLANS.
2. HOT AND COLD: WATER PIPING CONNECTION TO EACH FIXTURE SHALL BE COLD WATER ON THE RIGHT HAND SIDE AND HOT WATER ON THE LEFT HAND SIDE.
3. HOT WATER: NON–CIRCULATING HOT WATER PIPE SHALL NOT EXCEED 10' UNLESS OTHERWISE SHOWN ON DRAWINGS.
4. VENT STACKS: COORDINATE VENT STACK WITH HVAC EQUIPMENT TO MAINTAIN MINIMUM 10' CLEARANCE FROM OUTSIDE AIR INTAKES.
5. CLEANOUTS: PROVIDE CLEANOUTS PER CURRENT UPC AND AS REQUIRED BY LOCAL JURISDICTIONS. CLEANOUTS SHALL BE LOCATED IN WALLS/FLOORS WHERE THEY ARE NOT HIGHLY VISIBLE. FLOOR CLEANOUTS IN CARPETED AREAS TO BE FITTED WITH CARPET INSERTS. LOCATIONS SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL. NOTE: NOT ALL CLEANOUTS ARE SHOWN ON THE PLUMBING DRAWINGS.
6. SUDS RELIEF: PROVIDE SUDS RELIEF IN ACCORDANCE WITH 2018 UPC SECTION 711.0, STATE AND LOCAL CODES.
7. SHUT–OFFS: PROVIDE 1/4 TURN BALL VALVE ANGLE STOP SHUT–OFF VALVES AND BRAIDED STAINLESS STEEL FLEX CONNECTORS AT HOT AND COLD WATER SUPPLY TO EACH FIXTURE. EXCEPTION: PROVIDE SCREWDRIVER STOPS AT BATH/SHOWERS.
8. TUB SPOUTS SHALL BE THREADED (NO PUSH–ON FITTINGS).
9. TRAP ARMS: PROVIDE TRAP ARMS SUCH THAT THE MAXIMUM LENGTH WILL NOT EXCEED CODE REQUIREMENTS.
10. ADA INSULATION: AT PLUMBING PIPING EXPOSED UNDER LAVATORIES, INSULATE THE EXPOSED PIPING AND TRAPS WITH PRODUCT SPECIFICALLY DESIGNED FOR THIS APPLICATION MEETING ADA REQUIREMENTS. PROVIDE HANDI–LAV GUARD OR EQUIVALENT. OFFSET P–TRAPS TO CLEAR WHEELCHAIR ACCESS.
11. WATER HAMMER ARRESTORS: PROVIDE AT THE END OF HOT AND COLD WATER LINES SERVING TWO OR MORE FIXTURES; SIZE IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE (PDI) REQUIREMENTS. WATER HAMMER ARRESTORS ARE REQUIRED FOR QUICK CLOSING VALVES, SUCH AS LAUNDRY WASHERS, FLUSH VALVES (PUBLIC TOILETS), ETC.
12. TRAP PRIMERS AS SPECIFIED: PROVIDE TRAP PRIMERS AND PIPING FOR FLOOR DRAINS, FLOOR SINKS, AREA DRAINS & HUB DRAINS. ARRANGE PIPING TO ACHIEVE EQUAL FLOW TO EACH DRAIN AND FLOOR SINK FOR TRAP PRIMERS SERVING MULTIPLE DRAINS AND FLOOR SINKS. COORDINATE EXACT LOCATIONS WITH ARCHITECT & ELECTRICAL ENGINEER.
13. P–TRAPS: ALL EXPOSED P–TRAPS SHALL BE CHROME–PLATED BRASS. P–TRAPS SERVING HANDICAPPED COUNTER TOP LAVATORIES SHALL BE INSULATED.
14. THROUGHOUT THE PROJECT PROVIDE BALL VALVES. GATE VALVES SHALL NOT BE USED. NO EXCEPTIONS.
15. HOT WATER RECIRCULATING BALANCING VALVES SHOULD BE BELL & GOSSETT CIRCUIT SETTER (WATTS OR EQUAL) WITH INTEGRAL READOUT PORTS, ADJUSTMENT KNOB, DRAIN CONNECTION, AND POSITIVE SHUTOFF.
16. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
17. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
18. VALVE TAGS: PROVIDE VALVE TAGS PER SPECIFICATIONS TO IDENTIFY VALVE AND THE AREA IT SERVES.
19. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
20. ALL TEMPERATURE MIXING VALVES SHALL COMPLY WITH ASSE–1070 SAFETY STANDARDS.
21. PROVIDE PIPE MARKER WITH DIRECTION OF FLOW. LABEL "NON–POTABLE WATER DO NOT DRINK" CLEARLY ON NON–POTABLE WATER PIPING.
22. PROVIDE EXPANSION LOOPS/EXPANSION JOINTS IN PIPING PER 2018 UPC TABLE 313.3 AND MANUFACTURER INSTALLATION INSTRUCTIONS.
23. PROVIDE APPROVED PIPE HANGERS & PIPE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND 2018 UPC TABLES 313.3 & 313.6. SUBMIT FOR APPROVAL.
24. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.
25. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
26. CONDENSATE DRAIN: PROVIDE A P–TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.
27. PIPING & EQUIPMENT SUPPORTS/HANGERS & SEISMIC RESTRAINTS TO BE DESIGNED BY DESIGN BUILT CONTRACTOR.
28. IF NEEDED, PROVIDE VACUUM BREAKERS AT ALL HOSE BIBBS.
29. FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC MEANS OF MAINTAINING THEIR WATER SEALS IN ACCORDANCE WITH 2018 UPC 1007.0.
30. INSULATION MATERIAL SHALL MEET CITY OF TACOMA QUALITY STANDARDS.
31. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE 2018 WASHINGTON STATE ENERGY CODE.
32. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH 2018 UPC 701.0 AND 903.0.
33. ALL SANITARY SYSTEM MATERIAL SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
34. ALL STORAGE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED, LISTED EXPANSION TANK OR OTHER DEVICE DESIGNED FOR INTERMITTENT OPERATION FOR THERMAL EXPANSION CONTROL PER 2018 UPC 608.3.
35. WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENTS DUE TO SEISMIC MOTION PER 2018 UPC 507.2.
36. MATERIAL EXPOSED WITHIN A DUCT OR PLENUM SHALL COMPLY WITH 2018 IMC 602.2.1.
37. HVAC EQUIPMENT AND WATER HEATERS SHALL COMPLY WITH 2018 IMC CHAPTER 3.
38. BOILERS SHALL COMPLY WITH ALL THE REQUIREMENTS OF 2018 IMC CHAPTER 10.
39. PROVIDE EXPANSION TANKS FOR BOILERS PER 2018 IMC SECTION 1009.0.
40. SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER 2018 UPC 408.0.
41. PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH CITY OF TACOMA WATER CONSERVATION STANDARDS.
42. CONTRACTOR SHALL PROVIDE FIRESTOPPING AT PENETRATIONS AS NECESSARY TO RETAIN THE FIRE RATING OF ALL ASSEMBLIES. ALL WORK SHALL BE IN COMPLIANCE WITH CODE REQUIREMENTS FOR THE BUILDING CONSTRUCTION TYPE.
43. ALL GARAGE DRAINS, TRASH ROOMS DRAINS & GARAGE TRENCH DRAINS SHALL BE TAKEN TO SAND/OIL INTERCEPTOR(S) BEFORE CONNECTING TO THE SANITARY SEWER SYSTEM.
44. PLUMBING CONTRACTOR SHALL PROVIDE REDUCED PRESSURE BACKFLOW PREVENTERS OR OTHER APPROVED BACKFLOW PREVENTION DEVICE WHERE REQUIRED BY HEALTH AUTHORITIES, FOOD SERVICE DRAWINGS, APPLIANCE MANUFACTURER INSTRUCTIONS AND BY CODE.

    PROVIDE REQUIRED & PROPER BACK FLOW PREVENTERS AS SPECIFIED FOR THE APPLIANCES INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
    - a. ICE MACHINES AND ICE MAKERS
    - b. CARBONATED BEVERAGE DISPENSING SYSTEMS
    - c. COFFEE BREWERS
    - d. ESPRESSO MACHINES
    - e. WATER FILTERS
    - f. STEAM OR HOT WATER BOILERS
    - g. IRRIGATION SYSTEM
    - h. FIRE PROTECTION SYSTEM
    - i. CHEMICAL TREATMENT SYSTEM
    - j. SOAP/CHEMICAL DISPENSER SYSTEM
    - k. COMMERCIAL WASHER

APPLICABLE CODES

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:

–2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS
–2018 INTERNATIONAL MECHANICAL CODE (IMC) & WASHINGTON STATE AMENDMENTS
–2018 UNIFORM PLUMBING CODE (UPC) & WASHINGTON STATE AMENDMENTS
–2018 WASHINGTON STATE ENERGY CODE (WSEC)

NO.	DATE:	DESCRIPTION REVISIONS
1	6/17/2024	PERMIT RESUBMITTAL
–	5/22/2024	RELEASED FOR PERMIT

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
CONTACT: D.H.BEAL

REED JACKSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
06-17-24

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
DB	DB	PR / RS	RJ

PROJECT: ST. CHARLES BORROMEO PARISH OFFICES ADDITION
7112 S. 12TH STREET
TACOMA, WA 98465-1799

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 06/17/2024
REI NO. 1145–008

SHEET TITLE:
PLUMBING NOTES, TABLES, AND CODES

SHEET NO.
P0.01

PLUMBING FIXTURE / DRAIN SCHEDULES

PLUMBING FIXTURE

PLUMBING PLAN MARK	SERVICE	SERVICE SIZE				FLOW RATE	FIXTURE TYPE	FINISH	BASIS OF DESIGN	NOTES
		CW	HW	W	V					
LV-1	PUBLIC RESTROOM	1/2"	1/2"	2"	1-1/2"	0.5 GPM	LAVATORY	WHITE	AMERICAN STANDARD 0954004EC.020	1,2,3
							MIXING VALVE	N/A	CONTROLS STP7069-12S	1,2,3
							FAUCET	CHROME	AMERICAN STANDARD 5500145.002	1,2,3
WC-1	PUBLIC RESTROOM	1 1/4"	-	3	2"	1.6/1.1 GPF	WATER CLOSET	WHITE	SLOAN ST-2039-STG	1,2,3
							FLUSH VALVE	CHROME	SLOAN 143-1.28-5-3/4-LDIM	1,2,3
							SEAT	WHITE	BEMIS B1955SSCT	1,2,4
KS-1	KITCHENETTE SPACE	1/2"	1/2"	1-1/2"	1-1/2"	1.5 GPM	SINK	STAINLESS	ELKAY D23317	1,2,3
							FAUCET	CHROME	DELTA 101LF-HDF	1,2,3
KS-2	HALLWAY	1/2"	1/2"	2"	1-1/2"	1.8	SINK	STAINLESS	ELKAY BLRQ1560	1,2,3
							FAUCET	CHROME	DELTA 101LF-HDF	1,2,3
MS-1	JANITOR CLOSET	3/4"	3/4"	2"	1-1/2"	6.0	MOP SINK BASIN	TERAZZO	ACORN TNC-24	1,3
							FAUCET	CHROME	E.L. MUSTEE 63.600A	1,3
							HOSE & HOSE HOLDER	STAINLESS	E.L. MUSTEE 65.700	1,3
							MOP HANGER	STAINLESS	E.L. MUSTEE 65.600	1,3
							WALL GUARD	STAINLESS	E.L. MUSTEE 67.2424	1,3
DF-1	PER PLANS	1/2"	.-	1-1/2"	1-1/2"	8 GPH	DRINKING FOUNTAIN	STAINLESS	ELKAY EZS8WSSK	1,2,3
HB-1	PER PLANS	3/4"	-	-	-	--	WALL HYDRANT	BRASS	WOODFORD B67	1,2,3
RH-1	PER PLANS	3/4"	-	-	-	--	ROOF HYDRANT	TBD	WOODFORD RHY-2	1,2,3

NOTES:

1 CONTRACTOR SHALL CONFIRM MAKE, MODEL, AND FINISH OF ALL FIXTURES WITH OWNER, ARCHITECT, AND INTERIOR DESIGNER PRIOR TO ORDERING.

2 PROVIDE 1/4-TURN BALL VALVE ANGLE STOPS WITH BRAIDED STAINLESS STEEL FLEX CONNECTORS AT HOT AND COLD WATER SUPPLY TO EACH FIXTURE.

3 PROVIDE RED/HOT AND BLUE/COLD INDICATORS AT ALL FIXTURES.

DRAIN SCHEDULE

PLUMBING PLAN MARK	SERVICE	SERVICE SIZE				FLOW RATE	FIXTURE TYPE	FINISH	BASIS OF DESIGN	NOTES
		CW	HW	W	V					
FS-1	PER PLANS	-	-	PER PLANS		N/A	FLOOR SINK	NICKEL BRONZE	JAY R SMITH 3140Y	1,2
FCO	PER PLANS	-	-	PER PLANS		N/A	FLOOR CLEANOUT	TBD	JAY R SMITH 4020	1
WCO	PER PLANS	-	-	PER PLANS		N/A	WALL CLEANOUT	TBD	JAY R SMITH 4402	1
FD-1	PER PLANS	-	-	PER PLANS		N/A	FLOOR DRAIN	NICKEL BRONZE	JAY R SMITH 3140Y	1,2
HD-1	PER PLANS	-	-	PER PLANS		N/A	HUB DRAIN	STAINLESS STEEL	JAY R SMITH 9654	1,2
RD-1	STORM DRAINAGE	-	-	PER PLANS		N/A	ROOF DRAIN	NICKEL BRONZE	JAY R SMITH 1025	1
OD-1	STORM OVERFLOW	-	-	PER PLANS		N/A	SEE RD-1			

NOTES:

1 CONTRACTOR SHALL CONFIRM MAKE, MODEL, AND FINISH OF ALL FIXTURES WITH OWNER, ARCHITECT, AND INTERIOR DESIGNER PRIOR TO ORDERING.

2 ALL EXPOSED P-TRAPS SHALL BE CHROME-PLATED BRASS.

FIXTURE UNIT CALCULATIONS

CALCULATIONS ARE BASED ON 2021 UPC TABLES A 103.1 AND 702.1

PUBLIC SPACE FIXTURES													
FIXTURE	FIXTURE UNITS								TOTAL QTY OF FIXTIRES	TOTAL FIXTURE UNITS			
	TOTAL	CW	HW	W/V	B	1	2	R		SERVICE	CW ONLY	HW ONLY	W/V
WATER CLOSET (FLUSH VALVE)	5	5	0	4		4	4		8	40	40	0	32
PUBLIC LAVATORY	1	0.75	0.75	1		4	4		8	8	6	6	8
MOP SINK	3	2.25	2.25	3		1	1		2	6	4.5	4.5	6
KITCHEN SINK	1.5	1.125	1.125	2		2	2		4	6	4.5	4.5	8
DRINKING FOUNTAIN	0.5	0.5	0	1		1			1	0.5	0.5	0	1
FLOOR DRAIN/SINK (2")	0	0	0	2					0	0	0	0	0
FLOOR DRAIN/SINK (3")	0	0	0	6					0	0	0	0	0
FLOOR DRAIN/SINK (4")	0	0	0	8		1			1	0	0	0	8
HUB DRAIN	0	0	0	8					0	0	0	0	0
EJECTOR SUMP PUMP LOADS	0	0	0	92	1				1	0	0	0	92
HOSE BIBB	2.5/1	2.5/1	0	0		3		1	4	5.5	5.5	0	0
										66	61	15	155
	TOTAL	CW	HW	W/V									
TOTAL FIXTURE UNITS:	66	61	15	155									
PEAK FLOW:	57.0 GPM												
REQUIRED SERVICE SIZE IN BUILDING:	(1) 2" WATER LINE & (1) 4" SANITARY SEWER												

NO.	DATE	DESCRIPTION
1	6/17/2024	PERMIT RESUBMITTAL
–	5/22/2024	RELEASED FOR PERMIT

REVISIONS

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
CONTACT: D.H.BEAL

REED JACKSON
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TACOMA, WA 98465-1799

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 06/17/2024
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SHEET TITLE:
PLUMBING FIXTURE AND DRAIN SCHEDULES AND CALCULATIONS

SHEET NO.
P0.02

WATER SUPPLY PIPE SIZING CALCULATIONS

PIPE SIZING FOR CPVC PIPE AT 5 PSI/100' WITH HUNTER'S CURVE - FLUSH TANK SIZING								
Pipe Size	41° COLD WATER			120° HOT WATER			110° RECIRCULATED	
	WSFU	GPM	FT/S	WSFU	GPM	FT/S	GPM	FT/S
½"	1.4	2.4	3.2	1.7	2.7	3.7	2.2	3.0
¾"	6.4	5.4	4.0	7.1	6.1	4.6	4.0	3.0
1"	14.6	10.8	4.8	16.3	12.1	5.4	6.7	3.0
1 ¼"	37.0	23.5	5.9	43.1	26.2	6.6	12.0	3.0
1 ½"	70.5	36.2	6.6	84.5	40.1	7.3	16.5	3.0
2"	234.5	71.9	7.8	243.2	73.6	8.0	27.6	3.0
2 ½"	457.6	116.5	8.8	403.4	105.7	8.0	39.6	3.0
3"	974.2	205.9	10.0	720.6	164.7	8.0	61.8	3.0
4"	2303.1	358.3	10.0	1639.0	286.7	8.0	107.5	3.0
6"	> 10,000.0	812.5	10.0	5999.5	650.0	8.0	243.7	3.0
8"	> 10,000.0	1423.3	10.0	> 10,000.0	1138.6	8.0	427.0	3.0
10"	> 10,000.0	2239.2	10.0	> 10,000.0	1791.3	8.0	671.8	3.0
12"	> 10,000.0	3168.0	10.0	> 10,000.0	2534.4	8.0	950.4	3.0

PIPE SIZING FOR CPVC PIPE AT 5 PSI/100' WITH HUNTER'S CURVE - FLUSH VALVE SIZING								
Pipe Size	41° COLD WATER			120° HOT WATER			110° RECIRCULATED	
	WSFU	GPM	FT/S	WSFU	GPM	FT/S	GPM	FT/S
½"	0.0	2.4	3.2	0.0	2.7	3.7	2.2	3.0
¾"	0.0	5.4	4.0	0.0	6.1	4.6	4.0	3.0
1"	0.0	10.8	4.8	0.0	12.1	5.4	6.7	3.0
1 ¼"	6.5	23.5	5.9	9.2	26.2	6.6	12.0	3.0
1 ½"	21.9	36.2	6.6	28.6	40.1	7.3	16.5	3.0
2"	113.0	71.9	7.8	118.8	73.6	8.0	27.6	3.0
2 ½"	343.2	116.5	8.8	278.4	105.7	8.0	39.6	3.0
3"	970.5	205.9	10.0	676.4	164.7	8.0	61.8	3.0
4"	2303.1	358.3	10.0	1639.0	286.7	8.0	107.5	3.0
6"	> 10,000.0	812.5	10.0	5999.5	650.0	8.0	243.7	3.0
8"	> 10,000.0	1423.3	10.0	> 10,000.0	1138.6	8.0	427.0	3.0
10"	> 10,000.0	2239.2	10.0	> 10,000.0	1791.3	8.0	671.8	3.0
12"	> 10,000.0	3168.0	10.0	> 10,000.0	2534.4	8.0	950.4	3.0

PLUMBING EQUIPMENT SCHEDULES

DOMESTIC WATER HEATER

EQUIP NO.	SERVICE	HEAT EXCHANGER			STORAGE (GAL)	INLET/OUTLET CONNECTION	OPERATING WEIGHT (LBS)	ELECTRICAL	BASIS OF DESIGN	NOTES
		FUEL SOURCE	INPUT (KW)	GPH RECOVERY AT 80°F TR						
WH-1	DOMESTIC HOT WATER	ELECTRIC	9.0	46	28	¾"	336	208V/1P	BRADFORD WHITE LE230LN-3	1,2,3

NOTES:
1. FOR WATER HEATER PIPING, SEE PIPING DIAGRAM DETAIL 1 ON P700
2. WATER HEATER SHALL BE INSTALLED WITH TWO 4.5KW THAT CAN OPERATE SIMULTANEOUSLY USING THE CONVERSION KIT 415-46409-11.
3. SET THE WATER HEATER THERMOSTAT TO 140°F.

HOT WATER CIRCULATION PUMP

EQUIP NO.	SERVICE	TYPE	FLOW, GPM	HEAD, FT	PUMP RPM	PRESSURE RATING, PSI	ELECTRICAL		WEIGHT, LBS	BASIS OF DESIGN	NOTES
							VOLTAGE	HP			
HWCP-1	DOMESTIC HOT WATER	INLINE	1.0	6.1	2880	175	115V/1P	<0.5	10	BELL & GOSSETT ECOCIRC 20-18	1

NOTES:
1. ALL BRONZE, MAINTENANCE FREE, SUITABLE FOR POTABLE WATER APPLICATION.

EXPANSION TANK

EQUIP NO.	SERVICE	CAPACITY GAL.	PRE-CHARGE PRESSURE, PSI	TANK SIZE		OPERATING WEIGHT, LBS	BASIS OF DESIGN	NOTES
				DIAMETER	HEIGHT			
ET-1	DOMESTIC HOT WATER	3.5	73.1	10	14	520	BELL & GOSSET PTA-5	1

NOTES:
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS

REDUCED PRESSURE BACKFLOW ASSEMBLY

EQUIP NO.	SERVICE	INLET/OUTLET SIZE	BASIS OF DESIGN	NOTES
RPBP-1	ALL DOMESTIC WATER	2"	ZURN 375	1

NOTES:
1. MEETS AWWA C551-92 STANDARDS

TRAP PRIMER

EQUIP NO.	SERVICE	INLET/OUTLET CONNECTION	DIMENSIONS (D"x H")	ELECTRICAL	BASIS OF DESIGN	NOTES
TP-1	FLOOR DRAINS/SINKS	½"	4"X12"	115V/1P	PRECISION PLUMBING PRODUCTS SMP-500	1

NOTES:
1. OR APPROVED EQUIVALENT

MASTER THERMOSTATIC MIXING VALVE

EQUIP NO.	SERVICE	SETPOINT	DESIGN FLOW/MAX FLOW, GPM	PRESSURE DROP, PSI	WEIGHT. LBS	BASIS OF DESIGN	NOTES
TMV-1	DOMESTIC HOT WATER (120°F)	120°F	5.8 / 10	10	-	LEONARD TM-26-LF	1

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTALLATION REQUIREMENTS, INCLUDING ISOLATION VALVES AT BOTH INLETS AND AT OUTLET, AND STRAINERS AND CHECK VALVES AT BOTH INLETS.

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19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
CONTACT: D.H.BEAL

REED JACKSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
06-17-24

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7112 S. 12TH STREET
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19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

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REI NO. 1145-008

SHEET TITLE:
PLUMBING EQUIPMENT SCHEDULES AND CALCULATIONS

SHEET NO.
P0.03

WATER SUPPLY PRESSURE CALCULATIONS

WATER SUPPLY PRESSURE CALCULATIONS BASED ON 2018 UPC APPENDIX A		
FROM STREET TO MECHANICAL ROOM		
STREET STATIC PRESSURE, PSI		**50**
PER TACOMA WATER 3/4/2024		
EQUIPMENT LOSSES, PSI		
WATER METER LOSS		**4.0**
BACKFLOW PREVENTER LOSS		**12.0**
2"" RPBP AT 57 GPM		
SITE SERVICE LINE (ESTIMATE)		
PIPING SYSTEM LENGTH, FEET	100	
FITTING ALLOWANCE, FEET	25	
FROM STREET TO BOOSTER PUMP		
ZONE FRICTION LOSS FACTOR, PSI/100'	**1.0**	
TOTAL ZONE FRICTION LOSS, PSI		**1.3**
MINIMUM PRESSURE AT MECHANICAL ROOM, PSI		**32.8**
FROM MECHANICAL ROOM TO FURTHEST FIXTURE		
MINIMUM PRESSURE AT MECHANICAL ROOM, PSI		**32.8**
EQUIPMENT LOSSES, PSI		
BOOSTER PUMP (57 GPM FROM 32.8PSI TO 80PSI)		**47.3**
THERMOSTATIC MIXING VALVE		**10.0**
STATIC HEAD, PSI		
TOTAL ELEVATION GAIN, FT	16	**6.9**
PIPING UP TO LEVEL 2		
PIPING FRICTION LOSSES		
PIPING SYSTEM LENGTH, FEET	210	
FITTING ALLOWANCE, FEET	52.5	
FROM MECHANICAL ROOM TO FURTHEST FIXTURE		
ZONE FRICTION LOSS FACTOR, PSI/100'	**5.0**	
TOTAL ZONE FRICTION LOSS, PSI		**13.1**
MINIMUM PRESSURE AT FURTHEST FIXTURE, PSI		**49.9**

PLUMBING EQUIPMENT SCHEDULES

PACKAGED BOOSTER PUMP

EQUIP NO.	SERVICE	TYPE	FLOW PER PUMP, GPM	TOTAL FLOW, GPM	PRESSURE RISE INLET/OUTLET PSIG	MOTOR HP (EACH)	ELECTRICAL	WEIGHT, LBS	BASIS OF DESIGN	NOTES
BP-1	DOMESTIC WATER	DUPLEX	29	57	32.8 / 80.0	2	208V/1P	289	GRUNDFOS CMBE TWIN 10-54 I-U-C-B-D-H	1,2,3,4,5

NOTES:
1. SINGLE POINT POWER CONNECTION.
2. PROVIDE ALL REQUIRED VALVES, PIPING, CONTROLS, ETC. FOR A COMPLETE SYSTEM.
3. PROVIDE VFD'S FOR EACH PUMP.
4. ALL CLEAR WATER PUMPS OVER 2 HORSEPOWER SHALL COMPLY WITH US DEPARTMENT OF ENERGY(DOE) PUMP EFFICIENCTY REQUIREMENTS.
5. INSTALL PER MANUFACTURER'S RECOMMENDATION & STATE & LOCAL AHJ REQUIREMENTS.

EJECTOR PUMP STATION

EQUIP NO.	DESCRIPTION	SERVICE	NO. OF PUMPS	FLOW PER PUMP, GPM	HEAD PER PUMP, FT	ELECTRICAL		SUMP PIT		BASIS OF DESIGN	NOTES
						VOLTAGE	HP	SIZE	DEPTH		
SP-1	SUMP PUMP	ELEVATOR	1	50	34	115V/1P	0.75	24"	36"	WEIL 2442	1,2,3

NOTES:
1. SUMP SIZES ARE INSIDE CLEAR DIMENSIONS.
2. PROVIDE UL LISTED SIMPLEX AUTOMATIC PUMP CONTROL PANEL, MAGNETIC STARTER, LOW LEVEL AND HIGH LEVEL CONTROL SWITCHES, HAND-OFF-AUTO SWITCH, PUMP RUN LIGHT, TOP-MOUNTED FLASHING RED ALARM LIGHT, PROVIDE WITH OIL SENSOR AND OPEN GRATE SUMP LID.
3. SEE SUMP DETAIL 7/P701

PIPING MATERIALS

PIPE TYPE	MATERIAL	JOINT	NOTES
UNDERGROUND WATER SERVICE ENTRANCE PIPING	COPPER, TYPE K.	SOLDERED	2
ABOVE GROUND WATER PIPING - SERVICE ENTRANCE THRU RISER ROOM	COPPER, TYPE L.	SOLDERED OR PRESS FITTINGS	
WATER DISTRIBUTION PIPING - RISER ROOM TO FIXTURES	CPVC SCHD. 80 SOLID CORE	SOLVENT CEMENT OR PRESS FITTINGS	4
UNDERGROUND WASTE AND VENT PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	
ABOVE GROUND WASTE AND VENT PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	
UNDERGROUND STORM PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	
ABOVE GROUND STORM PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	
CONDENSATE DRAIN PIPING	COPPER, TYPE M.	SOLDERED	3

NOTES:
1. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
2. PLASTIC WRAP UNDERGROUND WATER SUPPLY PIPING TO PREVENT CORROSION.
3. CPVC IS ACCEPTABLE FOR CONDENSATE PIPING IN LIEU OF COPPER IF APPROVED BY AHJ.
4. PROVIDE THERMAL EXPANSION LOOPS FOR ALL CPVC PIPING PER MANUFACTURER REQUIREMENTS.

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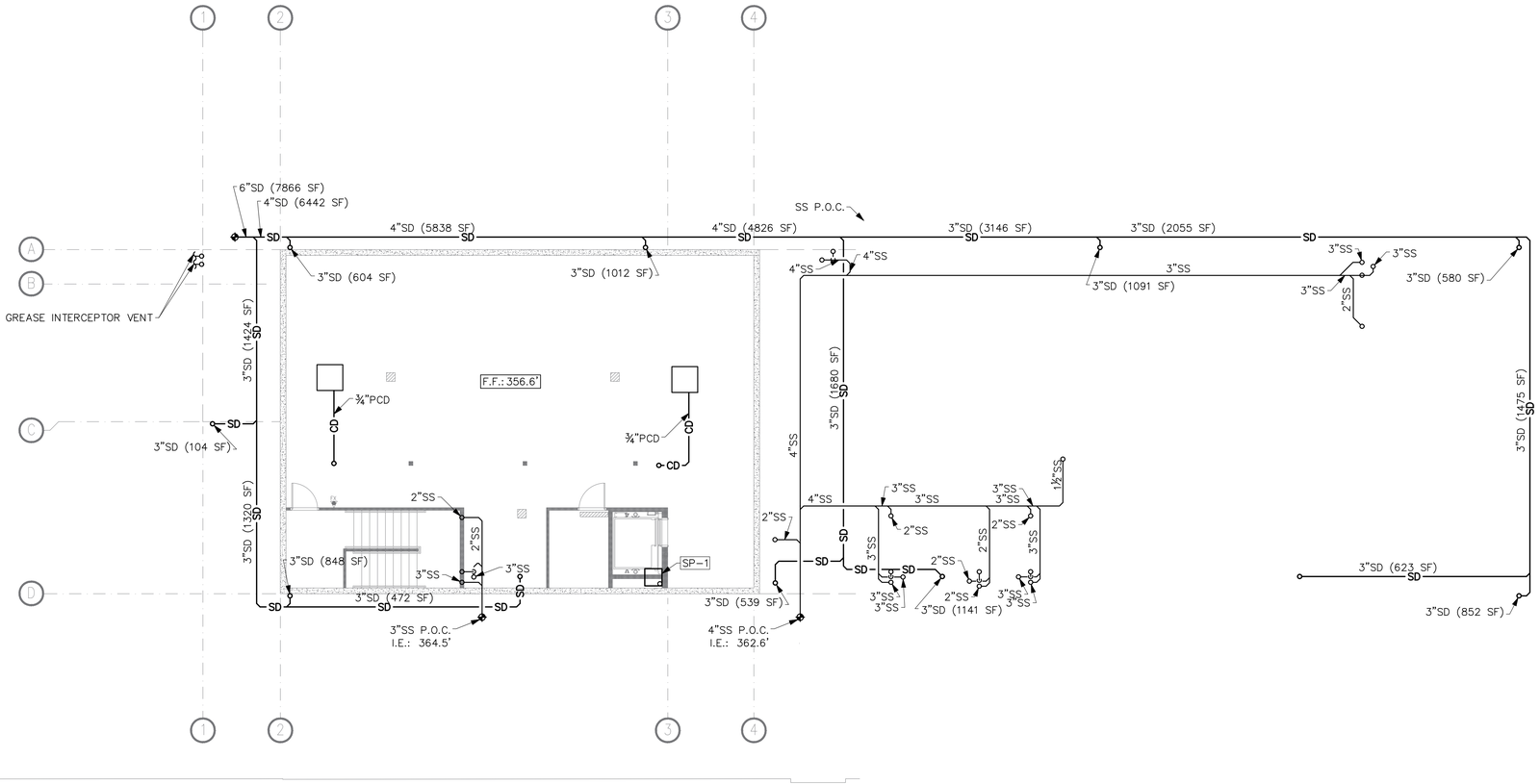
SHEET TITLE:
PLUMBING EQUIPMENT SCHEDULES AND CALCULATIONS

SHEET NO.
P0.04



WASTE & VENT FLOOR PLAN – BASEMENT

SCALE: 3/16" = 1'-0"

N

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DATE: 06/17/2024
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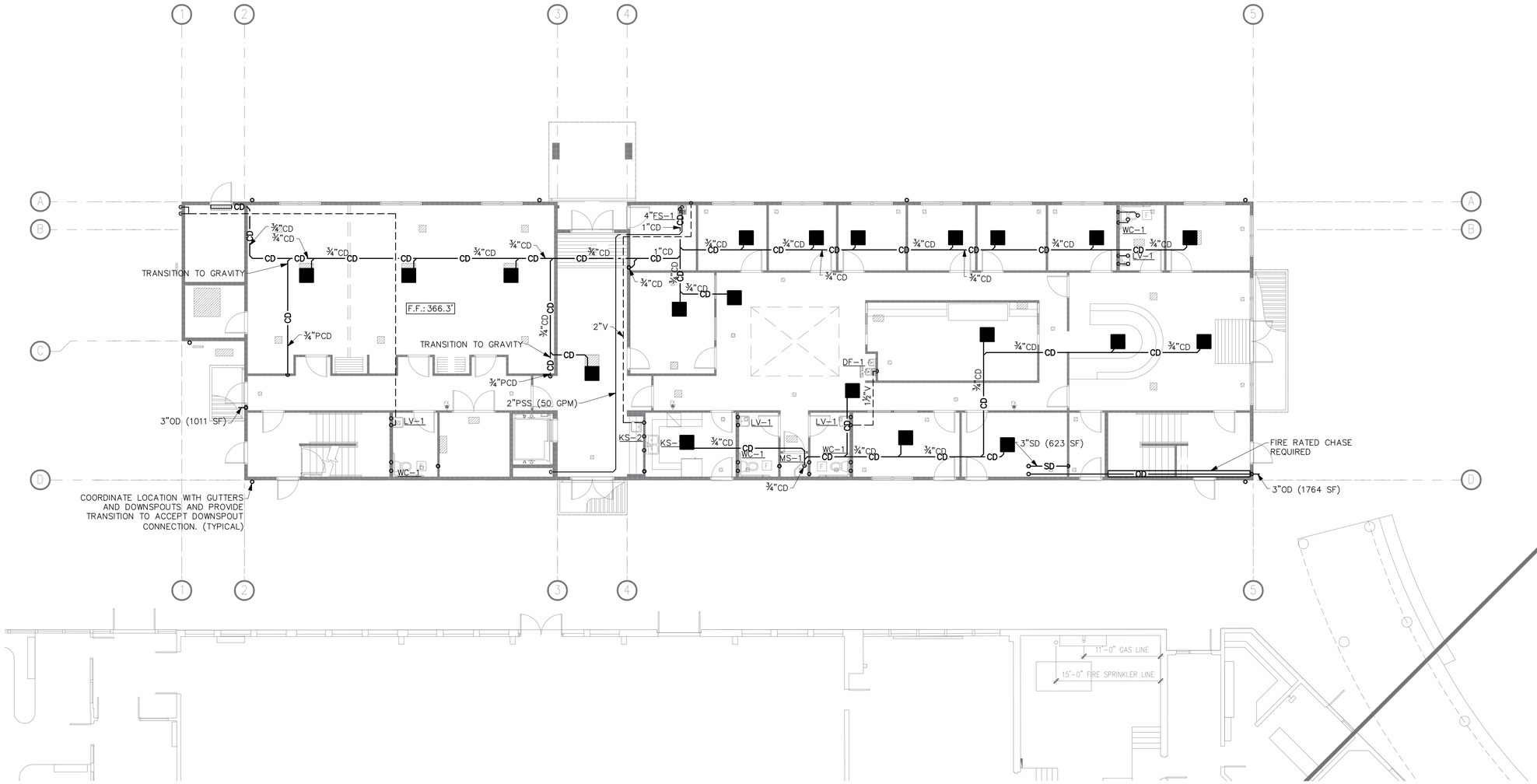
SHEET TITLE:
WASTE & VENT FLOOR PLAN – BASEMENT

SHEET NO.
P2.00



WASTE & VENT FLOOR PLAN – LEVEL 1

SCALE: 3/16" = 1'-0"

N

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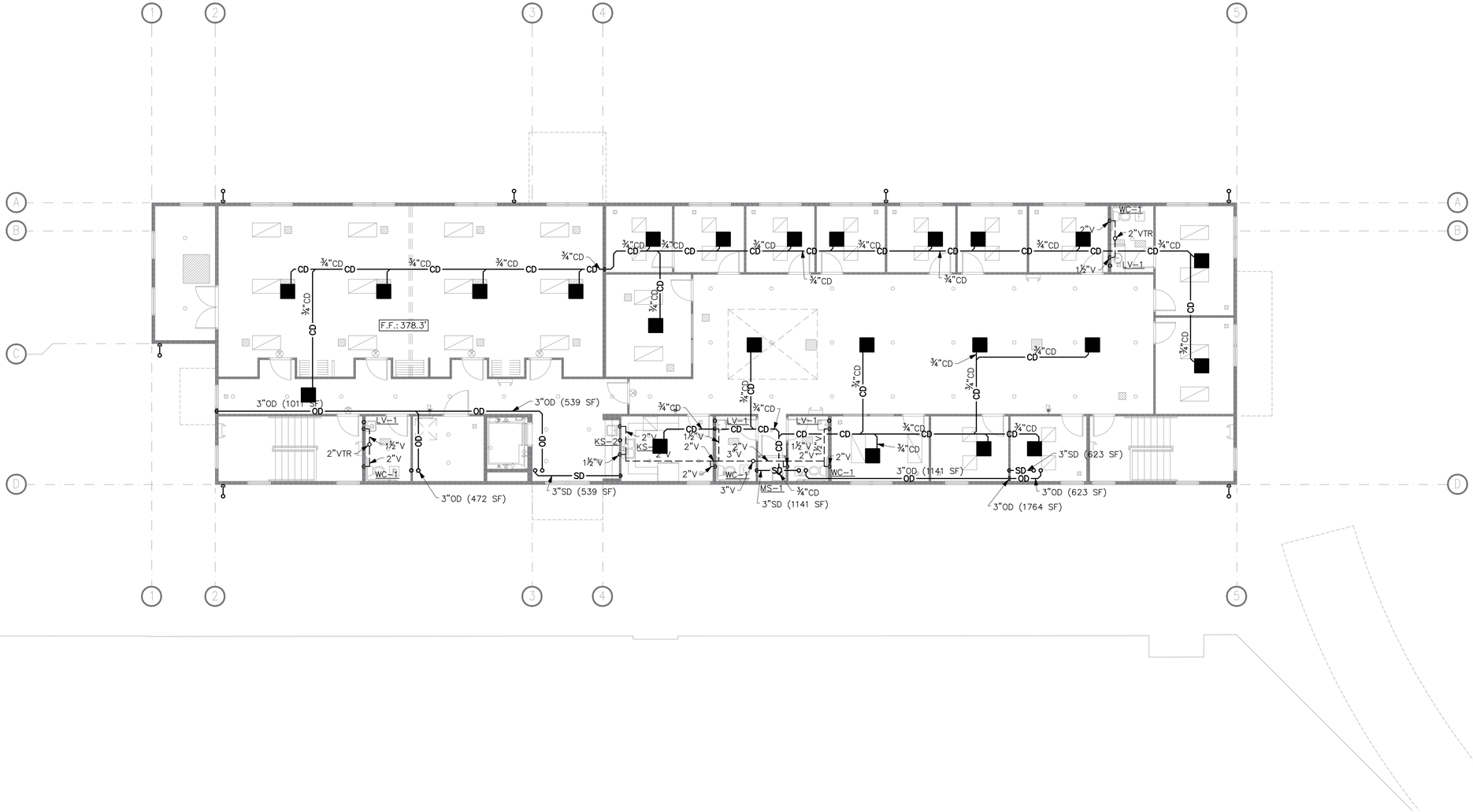
SHEET TITLE:
WASTE & VENT FLOOR PLAN – LEVEL 1

SHEET NO.
P2.01



WASTE & VENT FLOOR PLAN – LEVEL 2

SCALE: 3/16" = 1'-0"

N

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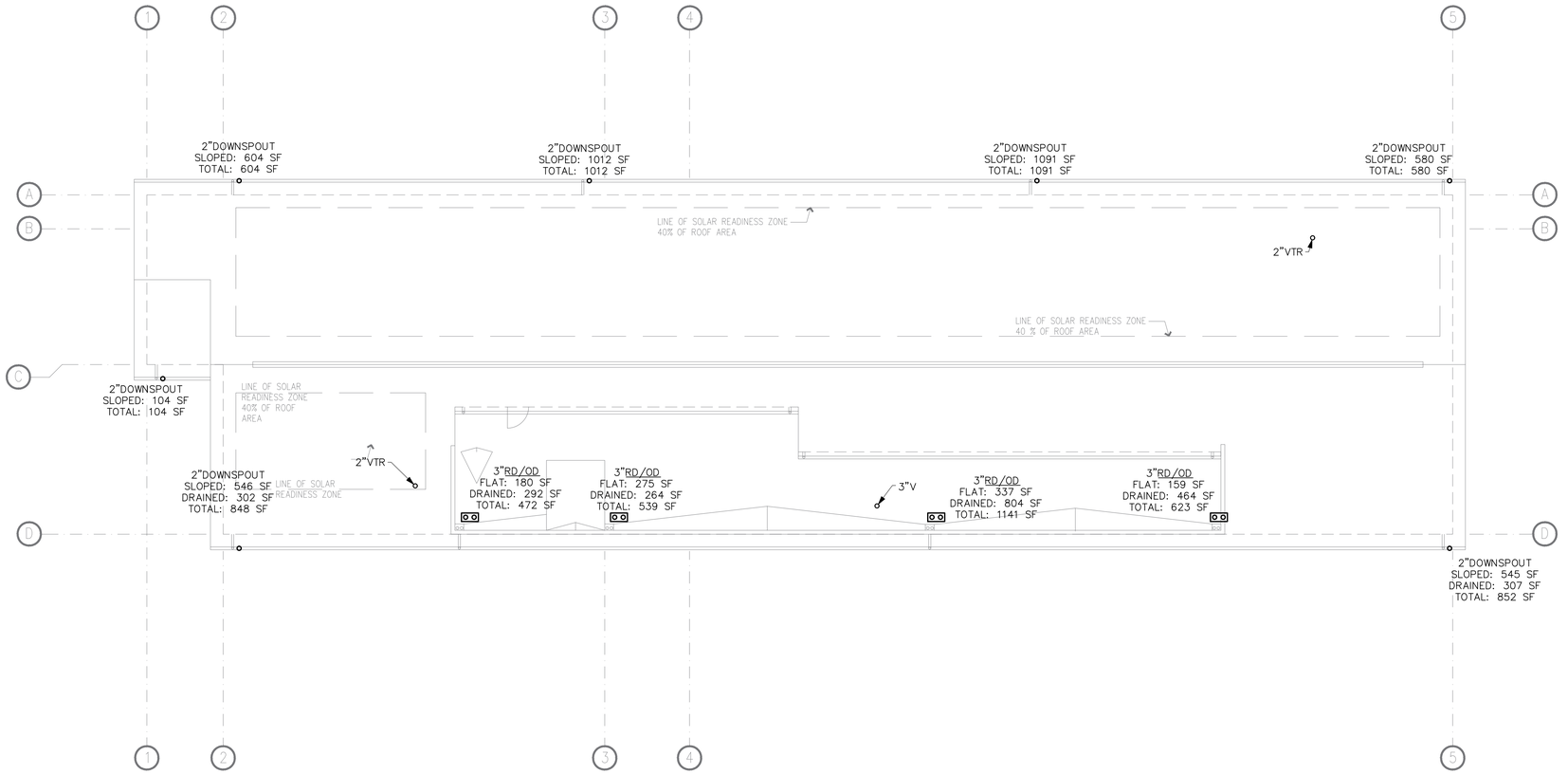
SHEET TITLE:
WASTE & VENT FLOOR PLAN – LEVEL 2

SHEET NO.
P2.02



WASTE & VENT FLOOR PLAN – ROOF

SCALE: 3/16" = 1'-0"

N

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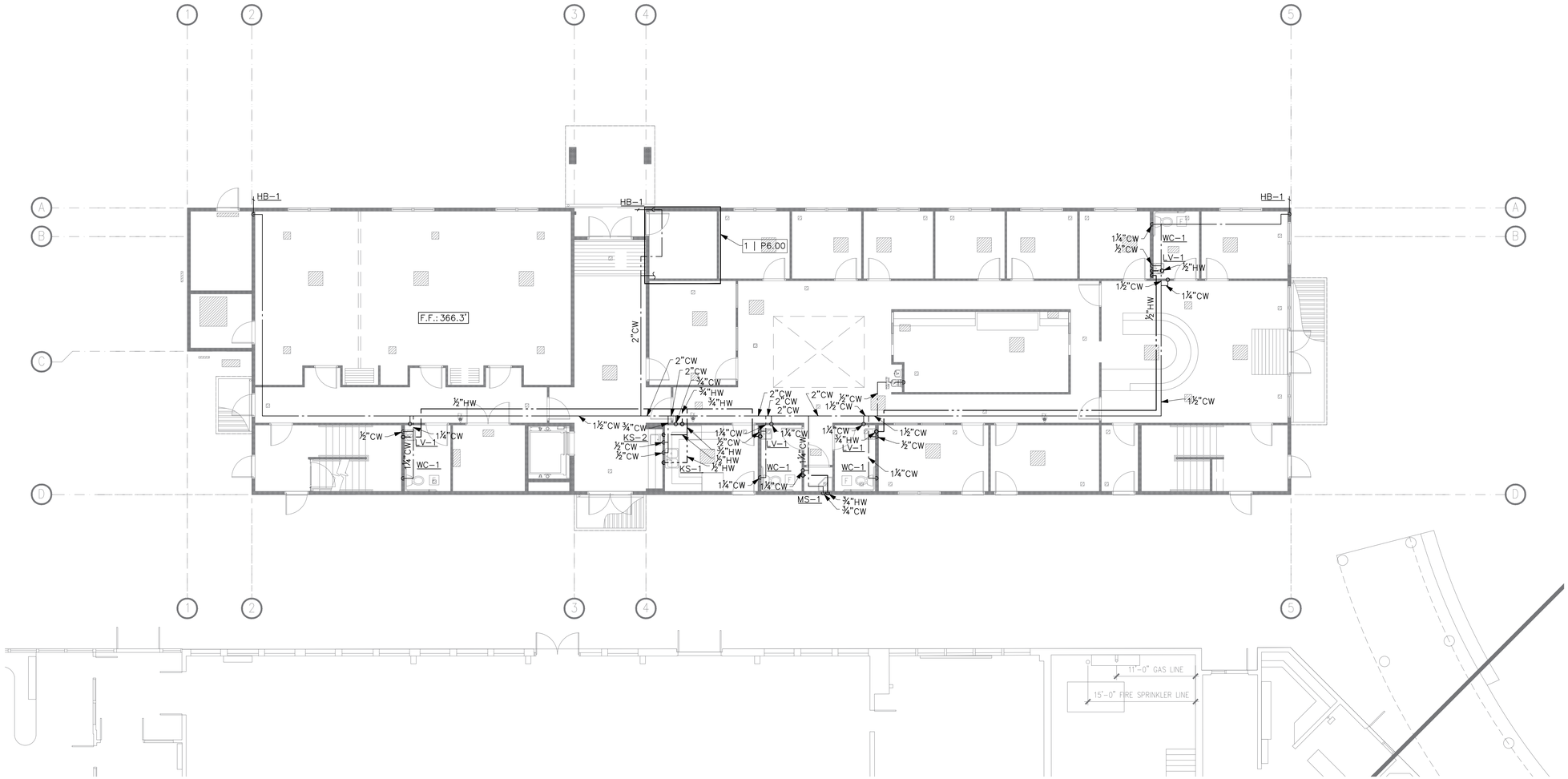
SHEET TITLE:
WASTE & VENT FLOOR PLAN – ROOF

SHEET NO.
P2.03



SUPPLY FLOOR PLAN – LEVEL 1

SCALE: 3/16" = 1'–0"

N

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SHEET TITLE:
SUPPLY FLOOR PLAN
– LEVEL 1

SHEET NO.
P3.01

SUPPLY FLOOR PLAN – LEVEL 2

SCALE: 3/16" = 1'–0"

N

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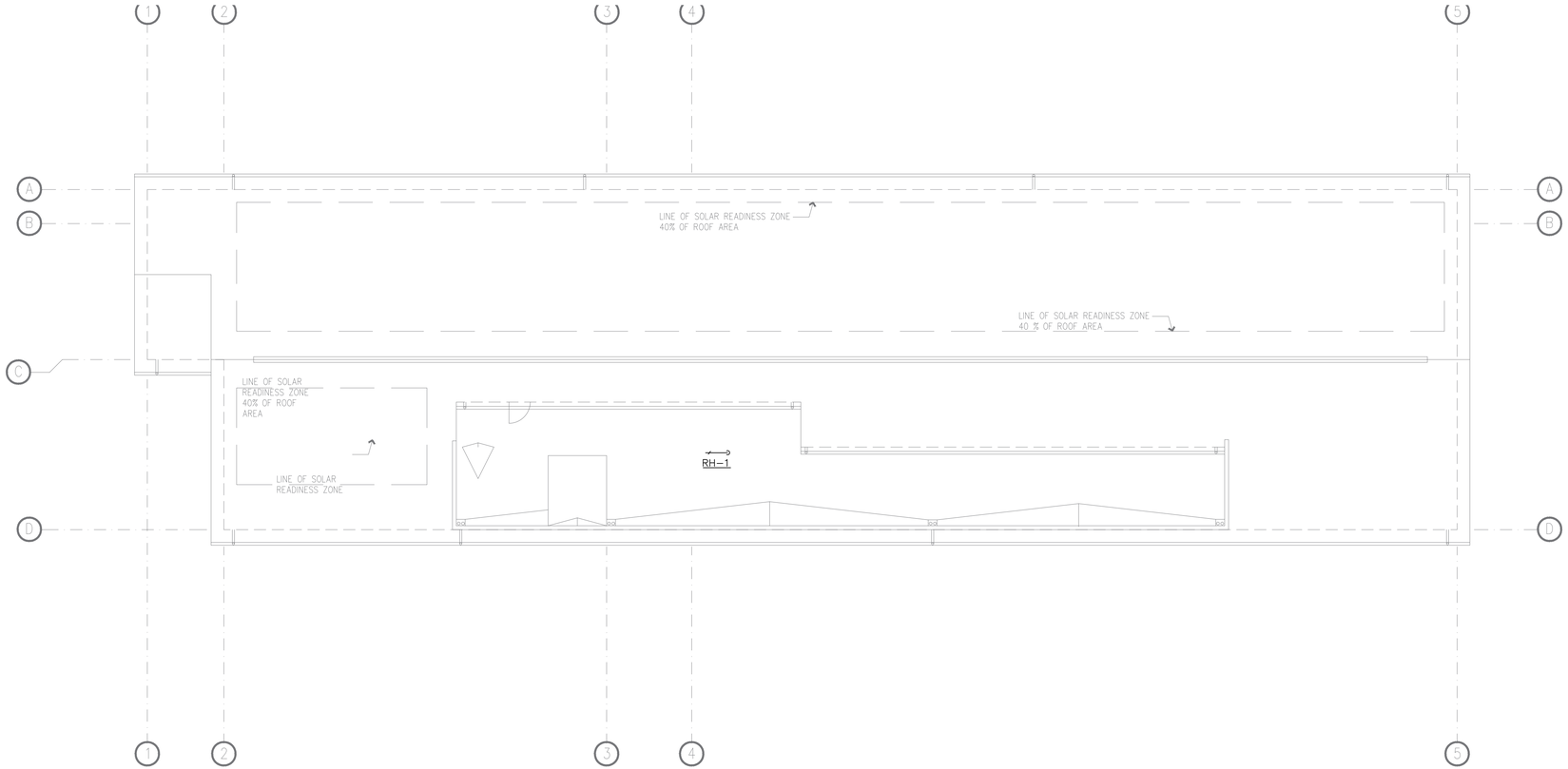
SHEET TITLE:
SUPPLY FLOOR PLAN
– LEVEL 2

SHEET NO.
P3.02



SUPPLY FLOOR PLAN – ROOF

SCALE: 3/16" = 1'-0"

N

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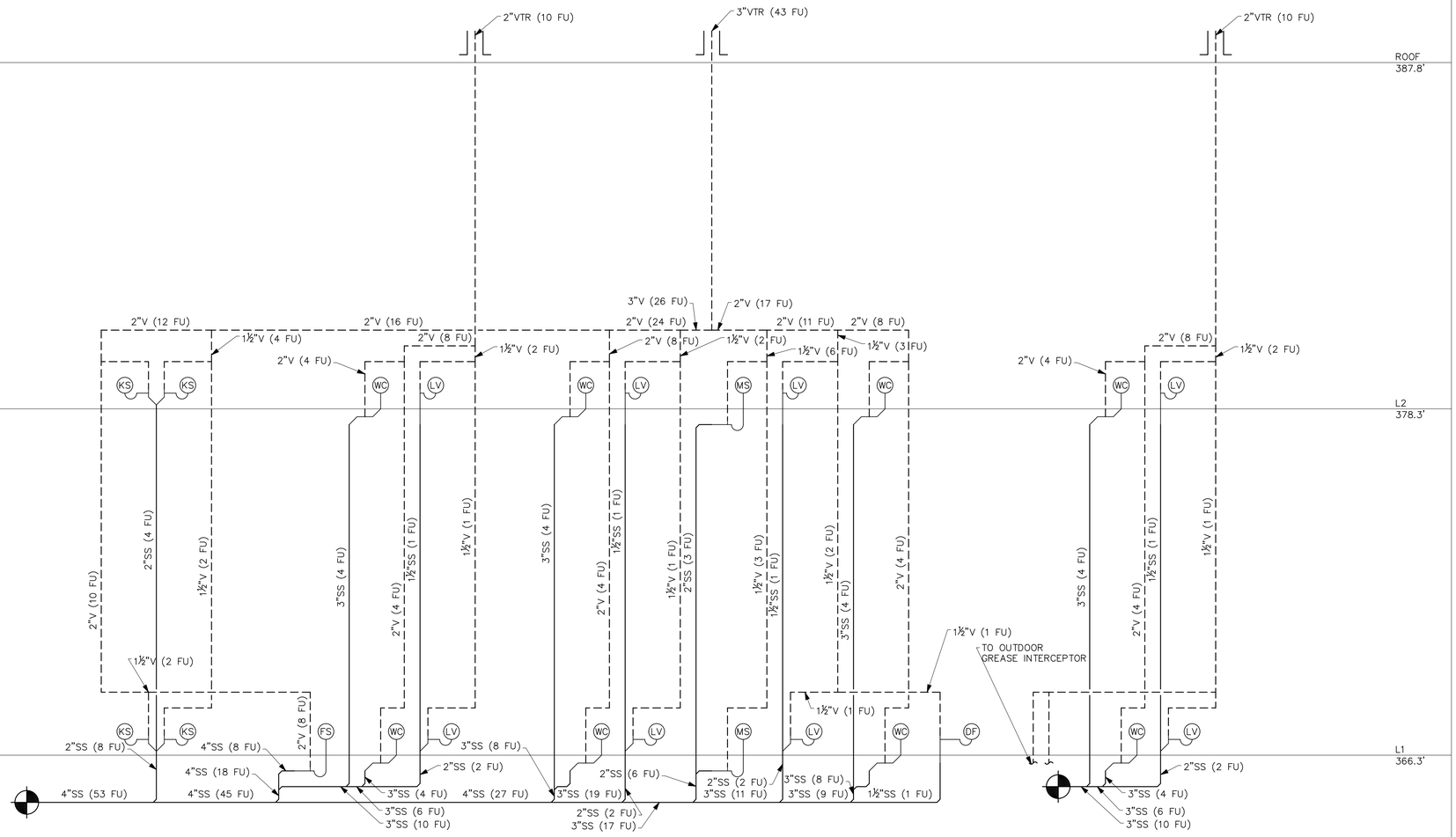

GENERAL NOTES:

1. WASTE PIPES SHALL BE SLOPED AT ¼" PER 1' UNLESS OTHERWISE STATED. WASTE & VENT PIPES SHALL BE SIZED PER 2018 UPC 703.2.

SIZE	HORIZONTAL	VERTICAL	VENT
1½"	1 DFU	2 DFU	8 DFU
2"	8 DFU	16 DFU	24 DFU
3"	35 DFU	48 DFU	84 DFU
4"	216 DFU	256 DFU	256 DFU
6"	720 DFU	1380 DFU	1380 DFU

SHEET NOTES:

1. NONE

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DATE: 06/17/2024
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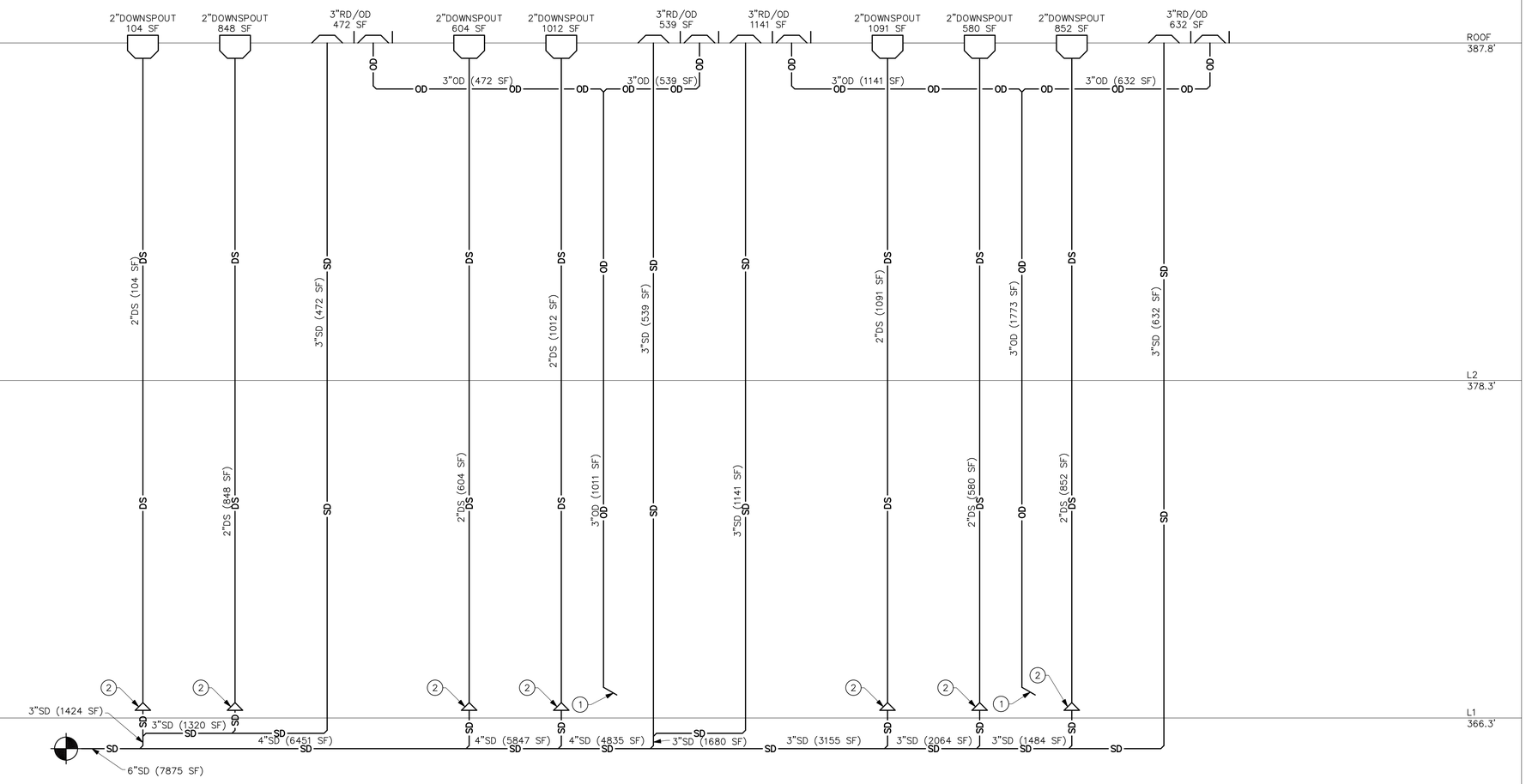
SHEET TITLE:
WASTE & VENT RISER DIAGRAM

SHEET NO.
P4.00



GENERAL NOTES:

1. STORM AND OVERFLOW PIPES SHALL BE SLOPED AT ⅛" PER 1' AND ASSUME A 1"/HR RAINFALL RATE. PIPE SIZING SHALL BE BASED ON 2018 UPC 1103.1 AND 1103.2.

SIZE	HORIZONTAL	VERTICAL
2"	–	2880 SF
3"	3288 SF	8800 SF
4"	7520 SF	18400 SF
6"	21400 SF	54000 SF

SHEET NOTES:

1. TERMINATE OVERFLOW DRAINS IN ACCORDANCE WITH 1101.12.2.2.1.
2. TRANSITITION FROM DOWNSPOUT TO STORM DRAIN.

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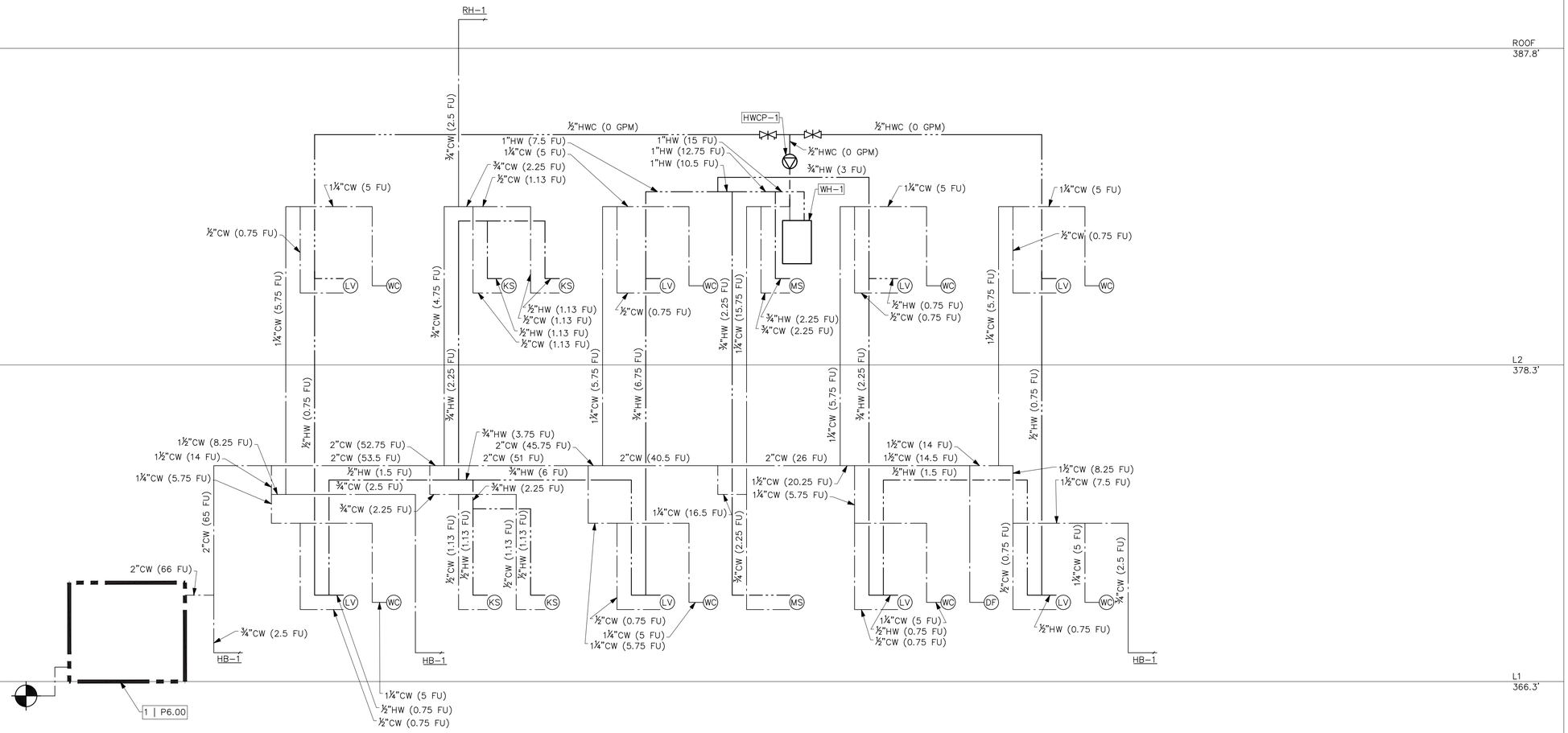
SHEET TITLE:
STORM SYSTEM RISER DIAGRAM

SHEET NO.
P4.01



GENERAL NOTES:

1. SUPPLY PIPES SHALL BE SIZED IN ACCORDANCE WITH THE SIZING TABLES ON P0.03.

SHEET NOTES:

1. NONE

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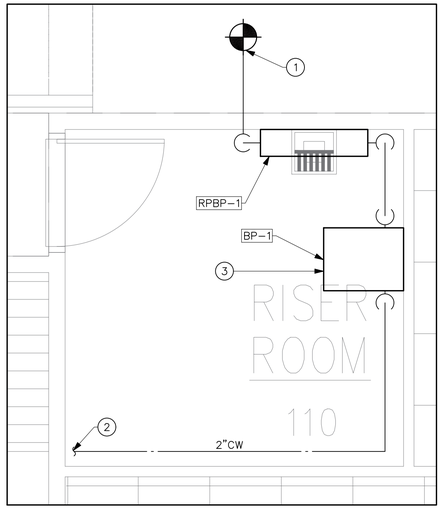
PROJECT:
ST. CHARLES BORROMEO PARISH OFFICES ADDITION
7112 S. 12TH STREET
TACOMA, WA 98465-1799

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)3643343

DATE: 06/17/2024
REI NO. 1145-008

SHEET TITLE:
SUPPLY RISER DIAGRAM

SHEET NO.
P5.00



RISER ROOM 1

SCALE: ½" : 1'

SHEET NOTES:

1. 2" COLD WATER PIPE EXIT THE BUILDING UNDERGROUND. SEE CIVIL DRAWINGS FOR CONTINUATION.
2. 2" COLD WATER PIPE TO BUILDING. SEE P3.01 FOR CONTINUATION.
3. MOUNT BOOSTER PUMP ON 4" CONCRETE HOUSEKEEPING PAD.

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REED JACKSON
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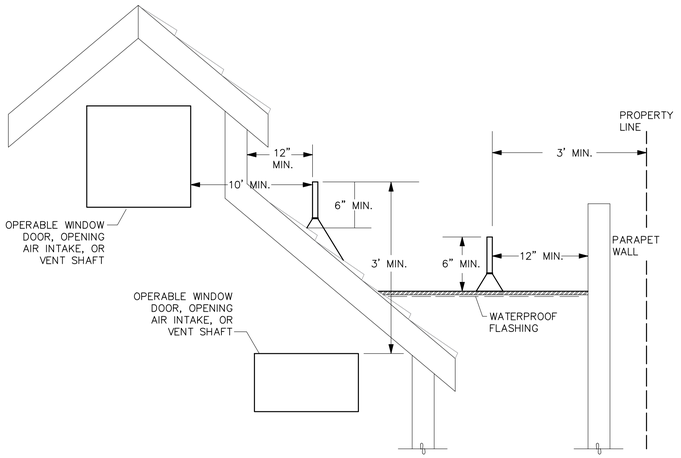
SHEET TITLE:
ENLARGED RISER ROOM PLAN

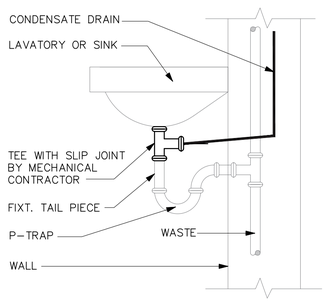
SHEET NO.
P6.00

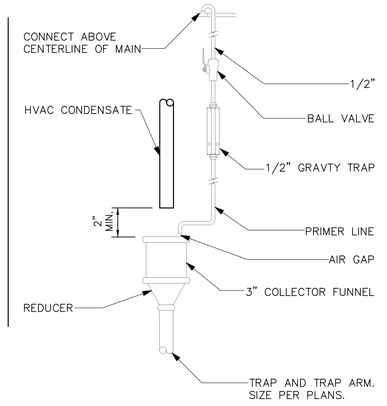


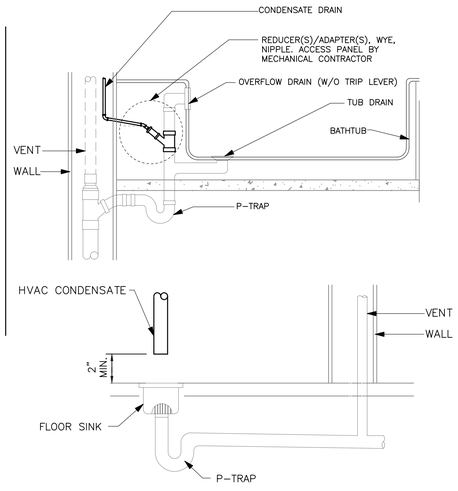
VENT TERMINATION

SCALE: NONE

7 / P7.00







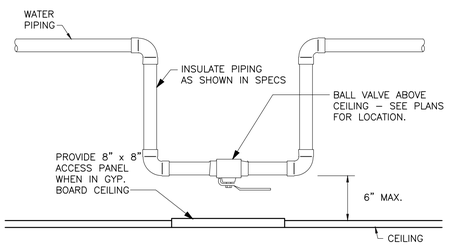
NOTE:

PER 2016 CPC SECTION 814.6 (AND 807.2 UPC) WHERE CONDENSATE WASTE FROM AIR CONDITIONING COILS DISCHARGE BY DIRECT CONNECTION TO A LAVATORY TAILPIECE OR TO AN APPROVED ACCESSIBLE INLET ON A BATHTUB OVERFLOW, THE CONNECTION SHALL BE LOCATED IN THE AREA CONTROLLED BY THE SAME PERSON CONTROLLING THE AIR CONDITIONING SPACE.

CONDENSATE TERMINATION

SCALE: NONE

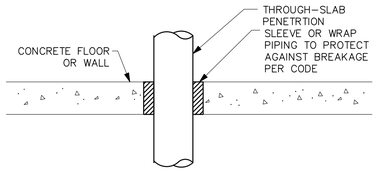
6 / P7.00



TYPICAL VALVE PLACEMENT

SCALE: NONE

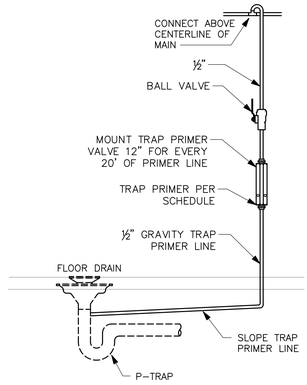
5 / P7.00



PIPE SLAB PENETRATION

SCALE: NONE

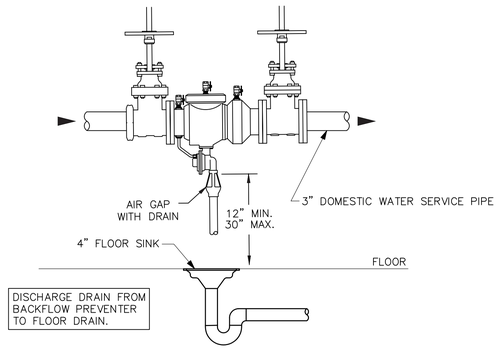
4 / P7.00



TRAP PRIMER

SCALE: NONE

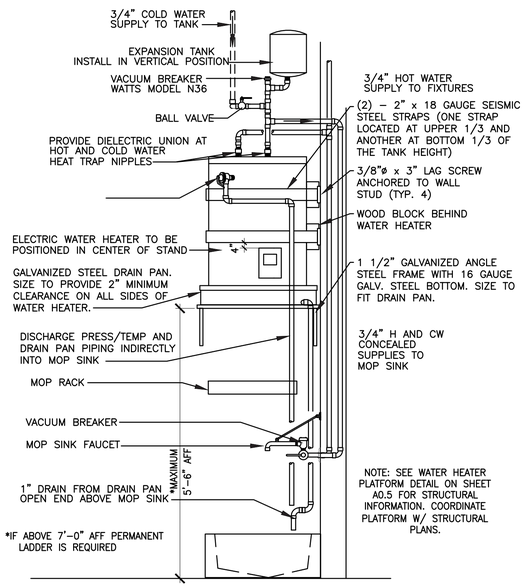
3 / P7.00



DOMESTIC BACKFLOW PREVENTER

SCALE: NONE

2 / P7.00



WATER HEATER OVER MOP SINK

SCALE: NONE

1 / P7.00

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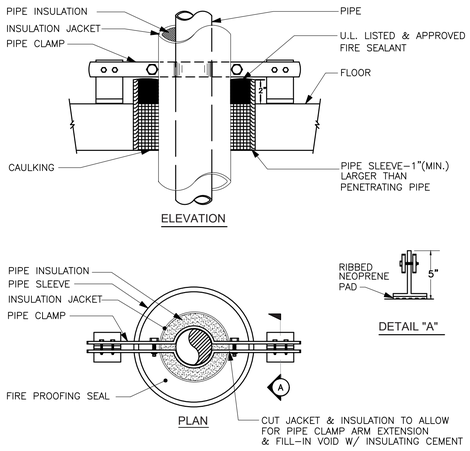
SHEET TITLE:
DETAILS

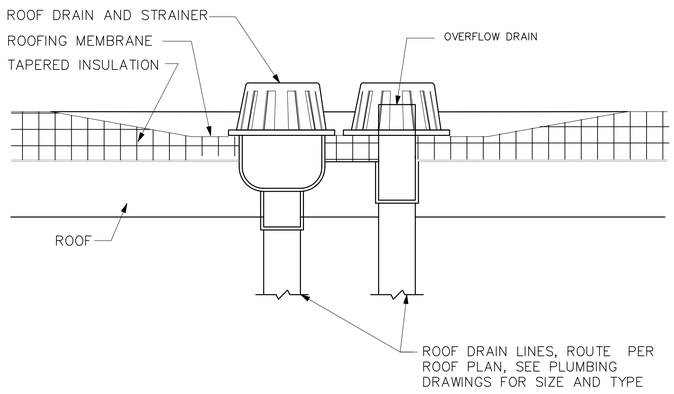
SHEET NO.
P7.00



RISER PIPE SUPPORT

SCALE: NONE

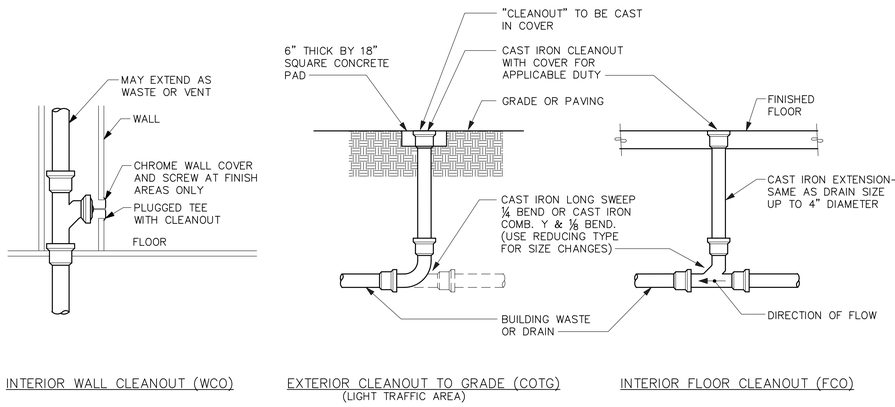
6 P7.01



ROOF AND OVERFLOW DRAIN

SCALE: NONE

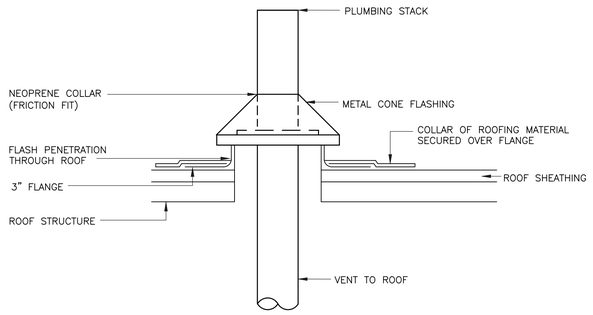
5 P7.01



CLEANOUTS

SCALE: NONE

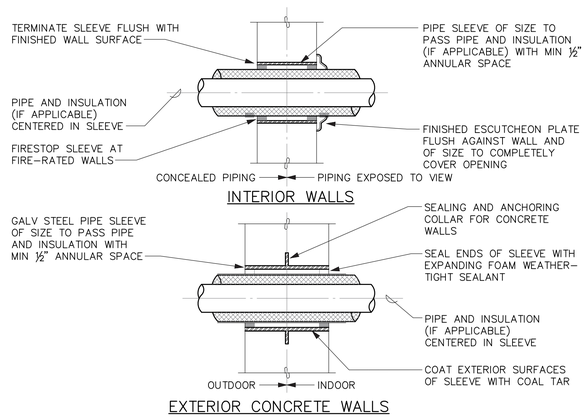
4 P7.01



VENT THROUGH ROOF

SCALE: NONE

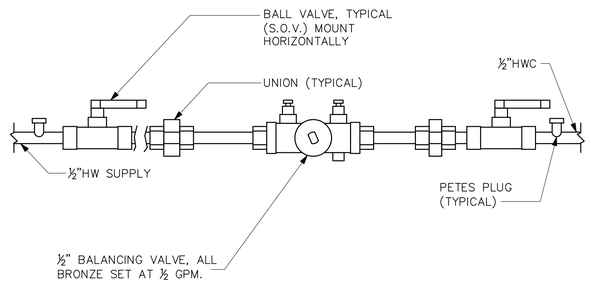
3 P7.01



PIPE SLEEVES THROUGH WALLS

SCALE: NONE

2 P7.01



BALANCING VALVE

SCALE: NONE

1 P7.01

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