PLUMBING LEGEND

AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
B.G.	BELOW GRADE
BTU	BRITISH THERMAL UNIT
CAP.	CAPACITY
C.I.	CAST IRON
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
F.F.	FINISH FLOOR
FT	FOOT / FEET
GPM	GALLONS PER MINUTE
G.V.	GATE VALVE
HP	HORSEPOWER
HR.	INVERT ELEVATION
LAV	LAVATORY
MAX.	MAXIMUM
MBH	THOUSANDS OF BTUs PER HOUR
MIN	MINIMUM
OS&Y	OUTSIDE STEM & YOKE
PRV	PRESSURE REDUCING VALVE
PSI, PSIG	POUNDS PER SQUARE INCH
P/T	PRESSURE / TEMPERATURE
REQ'D	REQUIRED
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET

- (CW) COLD WATER
- (HW) HOT WATER
- (TW) TEMPERED HOT WATER (105°)
- (W) BELOW GRADE WASTE
- (W) ABOVE GRADE WASTE
- (V) VENT
- (RD) RAIN DRAIN
- FDC (FDC) FIRE DEPARTMENT CONNECTION
- A (A) COMPRESSED AIR
- P (P) PROPANE
- F (F) FIRE WATER

- X / XX — EQUIPMENT MARK NUMBER
- XXX — FIXTURE MARK
- (E) — EXISTING
- (#) — NOTE
- CONNECT TO EXISTING
- CAP
- TEE
- ELBOW
- CLEANOUT

- PRESSURE/TEMP RELIEF VALVE
- BUTTERFLY VALVE
- GAS PRESSURE REGULATING VALVE
- OR — TOP CONNECTION
- BOTTOM CONNECTION
- PIPE TURNED UP, PIPE TURNED DOWN
- GATE VALVE
- BALL VALVE
- BALANCING VALVE
- CHECK VALVE
- UNION
- DOUBLE CHECK ASSEMBLY
- POINT OF USE MIXING VALVE

SHEET LEGEND:

BLDG 6 PLUMBING CALCULATIONS

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE: WATER FIXTURE UNITS	DOMESTIC WATER SERVICE: TOTAL WSFU	DOMESTIC WATER SERVICE: TOTAL CW FIXTURE UNITS	DOMESTIC WATER SERVICE: TOTAL HW FIXTURE UNITS	SANITARY WASTE SERVICE: DRAINAGE FIXTURE UNITS	SANITARY WASTE SERVICE: TOTAL DFU
BATHTUB or COMBO BATH/SHOWER	4	4	16	12	12	2	8
CLOTHES WASHER	17	4	68	51	51	3	51
KITCHEN SINK (DISHWASHER)	17	3	51	38.25	38.25	2	34
LAVATORY (SINGLE)	23	1	23	17.25	17.25	1	23
RECEPTOR (ELEVATOR WASTE)	1	0	0	0	0	100	100
SHOWERS, (STALL)	16	2	32	24	24	2	32
WATER CLOSET (1.6 GPF TANK-PRIVATE)	23	2.5	57.5	57.5	0	3	69
HOSE BIBB (FIRST ONE)	1	2.5	2.5	2.5	0	---	
HOSE BIBB (EACH ADDITIONAL)	3	1	3	3	0	---	
TOTAL	105		253	205.5	142.5		317
	GPM		76	66	54	**WASTE SIZE**	6"
	SIZE		2-1/2"	2-1/2"	2"		
	METER SIZE		1-1/2"				

1 BATH UNIT PLUMBING CALCULATIONS

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE: WATER FIXTURE UNITS	DOMESTIC WATER SERVICE: TOTAL WSFU	DOMESTIC WATER SERVICE: TOTAL CW FIXTURE UNITS	DOMESTIC WATER SERVICE: TOTAL HW FIXTURE UNITS	SANITARY WASTE SERVICE: DRAINAGE FIXTURE UNITS	SANITARY WASTE SERVICE: TOTAL DFU
CLOTHES WASHER	1	4	4	3	3	3	3
KITCHEN SINK (DISHWASHER)	1	3	3	2.25	2.25	2	2
LAVATORY (SINGLE)	1	1	1	0.75	0.75	1	1
SHOWERS, (STALL)	1	2	2	1.5	1.5	2	2
WATER CLOSET (1.6 GPF TANK-PRIVATE)	1	2.5	2.5	2.5	0	3	3
TOTAL	5		12.5	10	7.5		11
	GPM		9	8	7	**WASTE SIZE**	3"
	SIZE		3/4"	3/4"	3/4"		

2 BATH UNIT PLUMBING CALCULATIONS

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE: WATER FIXTURE UNITS	DOMESTIC WATER SERVICE: TOTAL WSFU	DOMESTIC WATER SERVICE: TOTAL CW FIXTURE UNITS	DOMESTIC WATER SERVICE: TOTAL HW FIXTURE UNITS	SANITARY WASTE SERVICE: DRAINAGE FIXTURE UNITS	SANITARY WASTE SERVICE: TOTAL DFU
BATHTUB or COMBO BATH/SHOWER	1	4	4	3	3	2	2
CLOTHES WASHER	1	4	4	3	3	3	3
KITCHEN SINK (DISHWASHER)	1	3	3	2.25	2.25	2	2
LAVATORY (SINGLE)	2	1	2	1.5	1.5	1	2
SHOWERS, (STALL)	1	2	2	1.5	1.5	2	2
WATER CLOSET (1.6 GPF TANK-PRIVATE)	2	2.5	5	5	0	3	6
TOTAL	8		20	16.25	11.25		17
	GPM		14	12	9	**WASTE SIZE**	3"
	SIZE		1"	1"	3/4"		

PLUMBING CONNECTION SCHEDULE

MARK	FIXTURE	W	V	CW	HW	REMARKS
WC–1	WATER CLOSET	3"	2"	3/4"	–	FLOOR MOUNT, FLUSH TANK
LV–1	LAVATORY	1–1/2"	1–1/2"	1/2"	1/2"	COUNTER MOUNT * ⟨1⟩
TS–1	TUB/SHOWER	2"	1–1/2"	1/2"	1/2"	** ⟨2⟩
SH–2	SHOWER, STALL	2"	1–1/2"	1/2"	1/2"	** ⟨2⟩
KS–1	KITCHEN SINK	1–1/2"	1–1/2"	1/2"	1/2"	SINGLE BOWL W/DISHWASHER
DW–1	DISHWASHER	IW			1/2"	**** ⟨4⟩
CW–1	CLOTHES WASHER	2"	1–1/2"	1/2"	1/2"	*** ⟨3⟩
RC–1	REFRIGERATOR CONNECTION			1/2"		
HB–1	HOSE BIB			3/4"		
FD–1	FLOOR DRAIN	VL				SIOUX CHIEF 861 SERIES, PRIME ⟨5⟩

V.L. – VENTED LINE

⟨1⟩ PROVIDE WITH ASSE 1070 APPROVED POINT OF USE MIXING VALVE OR LAV FAUCET WITH APPROVED TEMPERATURE LIMIT STOP.

⟨2⟩ PROVIDE WITH ASSE 1016 APPROVED TEMPERATURE AND PRESSURE SHOWER MIXING VALVE.

⟨3⟩ PROVIDE ACCESSIBLE VALVE BOX (SINGLE THROW DUAL BALL VALVE) WITH STAND PIPE FITTING LOCATED TO THE SIDE OF THE WASHER.

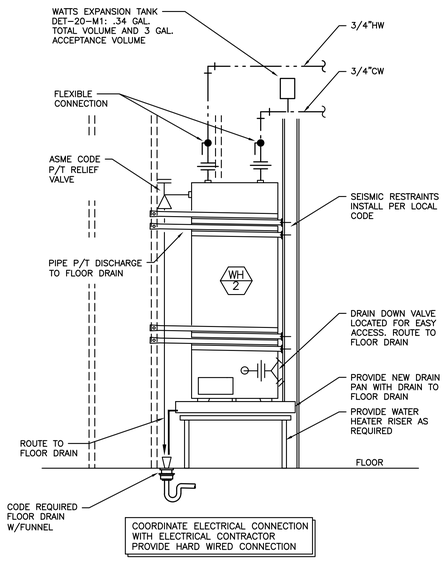
⟨4⟩ PROVIDE ALL PIPES, FITTINGS AND ACCESSORIES FOR A COMPLETE DISHWASHER INSTALLATION.

⟨5⟩ PROVIDE TRAP PRIMER AND LINE SIZE CLEAN OUT,

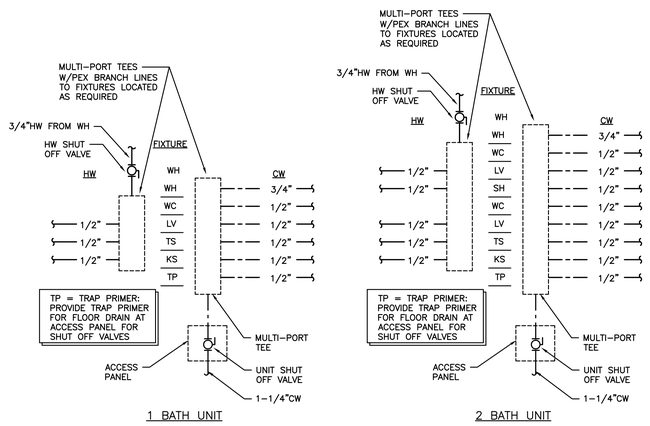
1 P0.01 COLD WATER RISER
SCALE: DIAGRAMATIC

2 P0.01 FIRE WATER RISER
SCALE: DETAIL

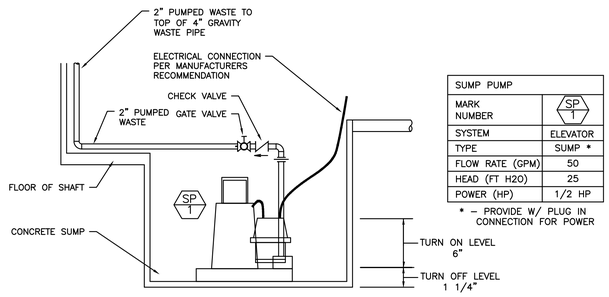
WATER HEATER	
MARK NUMBER	WH 1
TYPE	ELECTRIC
CAPACITY (GAL)	50
KW	4.5
ELEC REQ	4.5KW
RECOVERY CAP. (GPH)	21
DESIGN WEIGHT (LBS)	561
BASIS OF DESIGN – AO SMITH	ENT–50



4 P0.01 ELECTRIC WATER HEATER
SCALE: DIAGRAMATIC



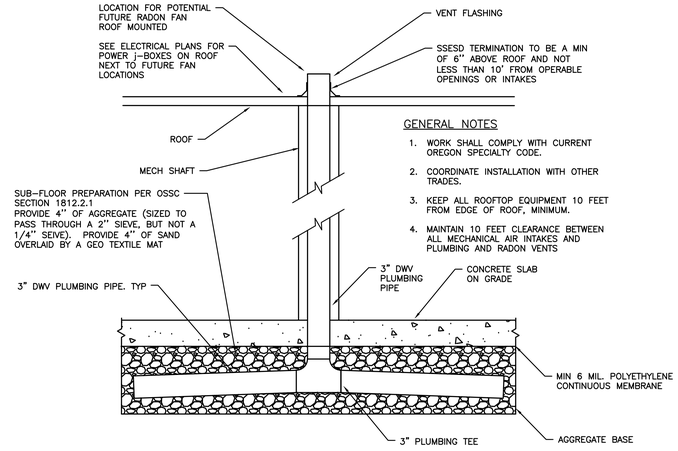
3 P6.01 UNIT DISTRIBUTION
SCALE: DIAGRAMATIC



SUMP PUMP	
MARK NUMBER	SP 1
SYSTEM	ELEVATOR
TYPE	SUMP *
FLOW RATE (GPM)	50
HEAD (FT H2O)	25
POWER (HP)	1/2 HP

* – PROVIDE W/ PLUG IN CONNECTION FOR POWER

5 P0.01 ELEVATOR SUMP PUMP
SCALE: DIAGRAMATIC



NOTE: PROVIDE ONE VENT PER 2000 SF OF CONTINUOUS BUILDING SUB–SLAB AREA.

6 P0.01 RADON VENTING
SCALE: DIAGRAMATIC

3-16-22

REGISTERED PROFESSIONAL ENGINEER — 54,607 — OREGON — JULY 15, 2005 — MARK R. BEATTIE
EXPIRES: 31DEC23

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Project Title: NORTHBOUND 30 COLLABO
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 - LEGEND SCHEDULES AND DETAILS

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-0.01

PERMIT SET, BUILDING 6 (06-01-2022)

PLUMBING LEGEND

AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
B.G.	BELOW GRADE
BTU	BRITISH THERMAL UNIT
CAP.	CAPACITY
C.I.	CAST IRON
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
F.F.	FINISH FLOOR
FT	FOOT / FEET
GPM	GALLONS PER MINUTE
G.V.	GATE VALVE
HP	HORSEPOWER
HR.	INVERT ELEVATION
LAV	LAVATORY
MAX.	MAXIMUM
MBH	THOUSANDS OF BTUs PER HOUR
MIN	MINIMUM
OS&Y	OUTSIDE STEM & YOKE
PRV	PRESSURE REDUCING VALVE
PSI, PSIG	POUNDS PER SQUARE INCH
P/T	PRESSURE / TEMPERATURE
REQ'D	REQUIRED
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET

- (CW) COLD WATER
- (HW) HOT WATER
- (TW) TEMPERED HOT WATER (105°)
- (W) BELOW GRADE WASTE
- (W) ABOVE GRADE WASTE
- (V) VENT
- (RD) RAIN DRAIN
- FDC (FDC) FIRE DEPARTMENT CONNECTION
- A (A) COMPRESSED AIR
- P (P) PROPANE
- F (F) FIRE WATER

- EQUIPMENT MARK NUMBER (XX / XX)
- XXX FIXTURE MARK
- (E) EXISTING
- (#) NOTE
- CONNECT TO EXISTING
- CAP
- TEE
- ELBOW
- CLEANOUT

- PRESSURE/TEMP RELIEF VALVE
- BUTTERFLY VALVE
- GAS PRESSURE REGULATING VALVE
- OR TOP CONNECTION
- BOTTOM CONNECTION
- PIPE TURNED UP, PIPE TURNED DOWN
- GATE VALVE
- BALL VALVE
- BALANCING VALVE
- CHECK VALVE
- UNION
- DOUBLE CHECK ASSEMBLY
- POINT OF USE MIXING VALVE

SHEET LEGEND:

BLDG 6 PLUMBING CALCULATIONS

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE: WATER FIXTURE UNITS	TOTAL WSFU	TOTAL CW FIXTURE UNITS	TOTAL HW FIXTURE UNITS	SANITARY WASTE SERVICE: DRAINAGE FIXTURE UNITS	TOTAL DFU
BATHTUB or COMBO BATH/SHOWER	4	4	16	12	12	2	8
CLOTHES WASHER	17	4	68	51	51	3	51
KITCHEN SINK (DISHWASHER)	17	3	51	38.25	38.25	2	34
LAVATORY (SINGLE)	23	1	23	17.25	17.25	1	23
RECEPTOR (ELEVATOR WASTE)	1	0	0	0	0	100	100
SHOWERS, (STALL)	16	2	32	24	24	2	32
WATER CLOSET (1.6 GPF TANK-PRIVATE)	23	2.5	57.5	57.5	0	3	69
HOSE BIBB (FIRST ONE)	1	2.5	2.5	2.5	0	---	
HOSE BIBB (EACH ADDITIONAL)	3	1	3	3	0	---	
TOTAL	105		253	205.5	142.5		317
GPM			76	66	54	**WASTE SIZE**	6"
SIZE			2-1/2"	2-1/2"	2"		
METER SIZE			1-1/2"				

1 BATH UNIT PLUMBING CALCULATIONS

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE: WATER FIXTURE UNITS	TOTAL WSFU	TOTAL CW FIXTURE UNITS	TOTAL HW FIXTURE UNITS	SANITARY WASTE SERVICE: DRAINAGE FIXTURE UNITS	TOTAL DFU
CLOTHES WASHER	1	4	4	3	3	3	3
KITCHEN SINK (DISHWASHER)	1	3	3	2.25	2.25	2	2
LAVATORY (SINGLE)	1	1	1	0.75	0.75	1	1
SHOWERS, (STALL)	1	2	2	1.5	1.5	2	2
WATER CLOSET (1.6 GPF TANK-PRIVATE)	1	2.5	2.5	2.5	0	3	3
TOTAL	5		12.5	10	7.5		11
GPM			9	8	7	**WASTE SIZE**	3"
SIZE			3/4"	3/4"	3/4"		

2 BATH UNIT PLUMBING CALCULATIONS

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE: WATER FIXTURE UNITS	TOTAL WSFU	TOTAL CW FIXTURE UNITS	TOTAL HW FIXTURE UNITS	SANITARY WASTE SERVICE: DRAINAGE FIXTURE UNITS	TOTAL DFU
BATHTUB or COMBO BATH/SHOWER	1	4	4	3	3	2	2
CLOTHES WASHER	1	4	4	3	3	3	3
KITCHEN SINK (DISHWASHER)	1	3	3	2.25	2.25	2	2
LAVATORY (SINGLE)	2	1	2	1.5	1.5	1	2
SHOWERS, (STALL)	1	2	2	1.5	1.5	2	2
WATER CLOSET (1.6 GPF TANK-PRIVATE)	2	2.5	5	5	0	3	6
TOTAL	8		20	16.25	11.25		17
GPM			14	12	9	**WASTE SIZE**	3"
SIZE			1"	1"	3/4"		

PLUMBING CONNECTION SCHEDULE

MARK	FIXTURE	W	V	CW	HW	REMARKS
WC–1	WATER CLOSET	3"	2"	3/4"	–	FLOOR MOUNT, FLUSH TANK
LV–1	LAVATORY	1–1/2"	1–1/2"	1/2"	1/2"	COUNTER MOUNT * (1)
TS–1	TUB/SHOWER	2"	1–1/2"	1/2"	1/2"	** (2)
SH–2	SHOWER, STALL	2"	1–1/2"	1/2"	1/2"	** (2)
KS–1	KITCHEN SINK	1–1/2"	1–1/2"	1/2"	1/2"	SINGLE BOWL W/DISHWASHER
DW–1	DISHWASHER	IW			1/2"	**** (4)
CW–1	CLOTHES WASHER	2"	1–1/2"	1/2"	1/2"	*** (3)
RC–1	REFRIGERATOR CONNECTION			1/2"		
HB–1	HOSE BIB			3/4"		
FD–1	FLOOR DRAIN	VL				SIOUX CHIEF 861 SERIES, PRIME (5)

V.L. – VENTED LINE

(1) PROVIDE WITH ASSE 1070 APPROVED POINT OF USE MIXING VALVE OR LAV FAUCET WITH APPROVED TEMPERATURE LIMIT STOP.

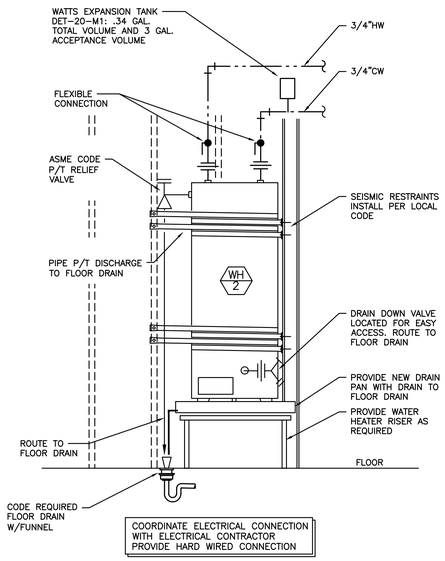
(2) PROVIDE WITH ASSE 1016 APPROVED TEMPERATURE AND PRESSURE SHOWER MIXING VALVE.

(3) PROVIDE ACCESSIBLE VALVE BOX (SINGLE THROW DUAL BALL VALVE) WITH STAND PIPE FITTING LOCATED TO THE SIDE OF THE WASHER.

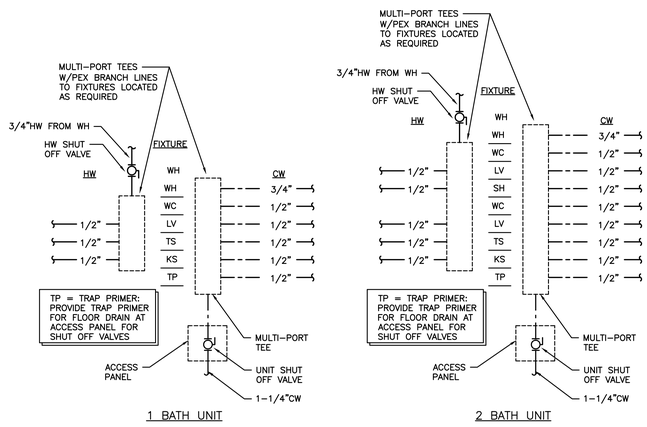
(4) PROVIDE ALL PIPES, FITTINGS AND ACCESSORIES FOR A COMPLETE DISHWASHER INSTALLATION.

(5) PROVIDE TRAP PRIMER AND LINE SIZE CLEAN OUT,

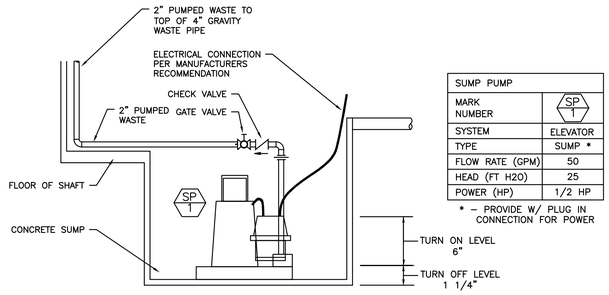
WATER HEATER	
MARK NUMBER	WH 1
TYPE	ELECTRIC
CAPACITY (GAL)	50
KW	4.5
ELEC REQ	4.5KW
RECOVERY CAP. (GPH)	21
DESIGN WEIGHT (LBS)	561
BASIS OF DESIGN – AO SMITH	ENT–50



4 P0.01 ELECTRIC WATER HEATER
SCALE: DIAGRAMATIC



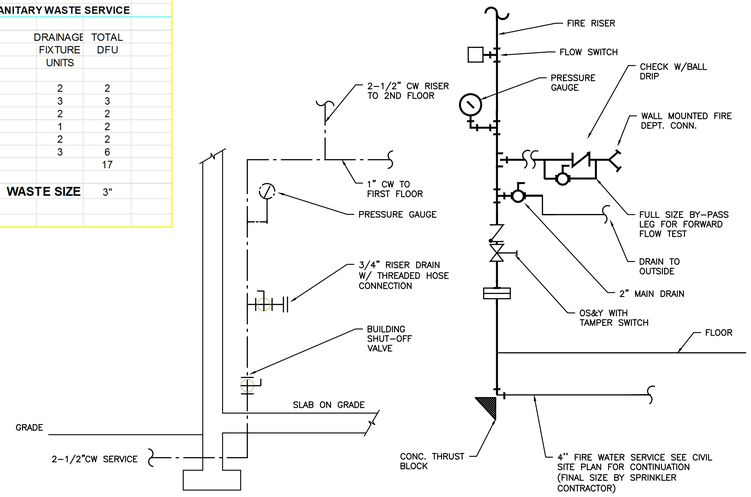
3 P6.01 UNIT DISTRIBUTION
SCALE: DIAGRAMATIC



SUMP PUMP	
MARK NUMBER	SP 1
SYSTEM	ELEVATOR
TYPE	SUMP *
FLOW RATE (GPM)	50
HEAD (FT H2O)	25
POWER (HP)	1/2 HP

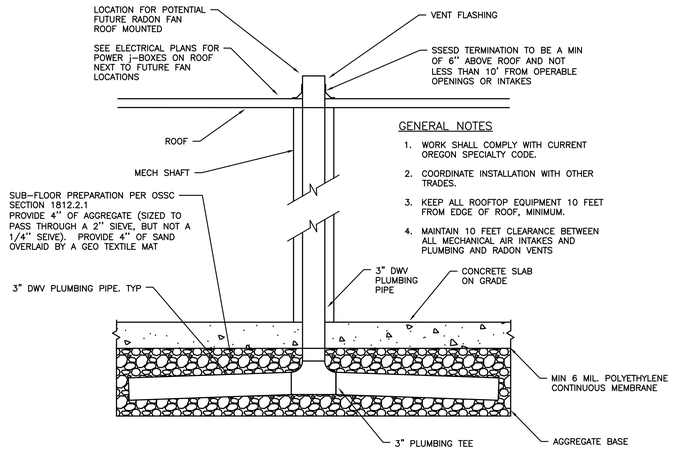
* – PROVIDE W/ PLUG IN CONNECTION FOR POWER

5 P0.01 ELEVATOR SUMP PUMP
SCALE: DIAGRAMATIC



1 P0.01 COLD WATER RISER
SCALE: DIAGRAMATIC

2 P0.01 FIRE WATER RISER
SCALE: DETAIL



NOTE: PROVIDE ONE VENT PER 2000 SF OF CONTINUOUS BUILDING SUB–SLAB AREA.

6 P0.01 RADON VENTING
SCALE: DIAGRAMATIC

3-16-22

REGISTERED PROFESSIONAL ENGINEER — 54,607 — OREGON — JULY 15, 2005 — MARK R. DENYER — EXPIRES: 31DEC23

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Project Title: NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

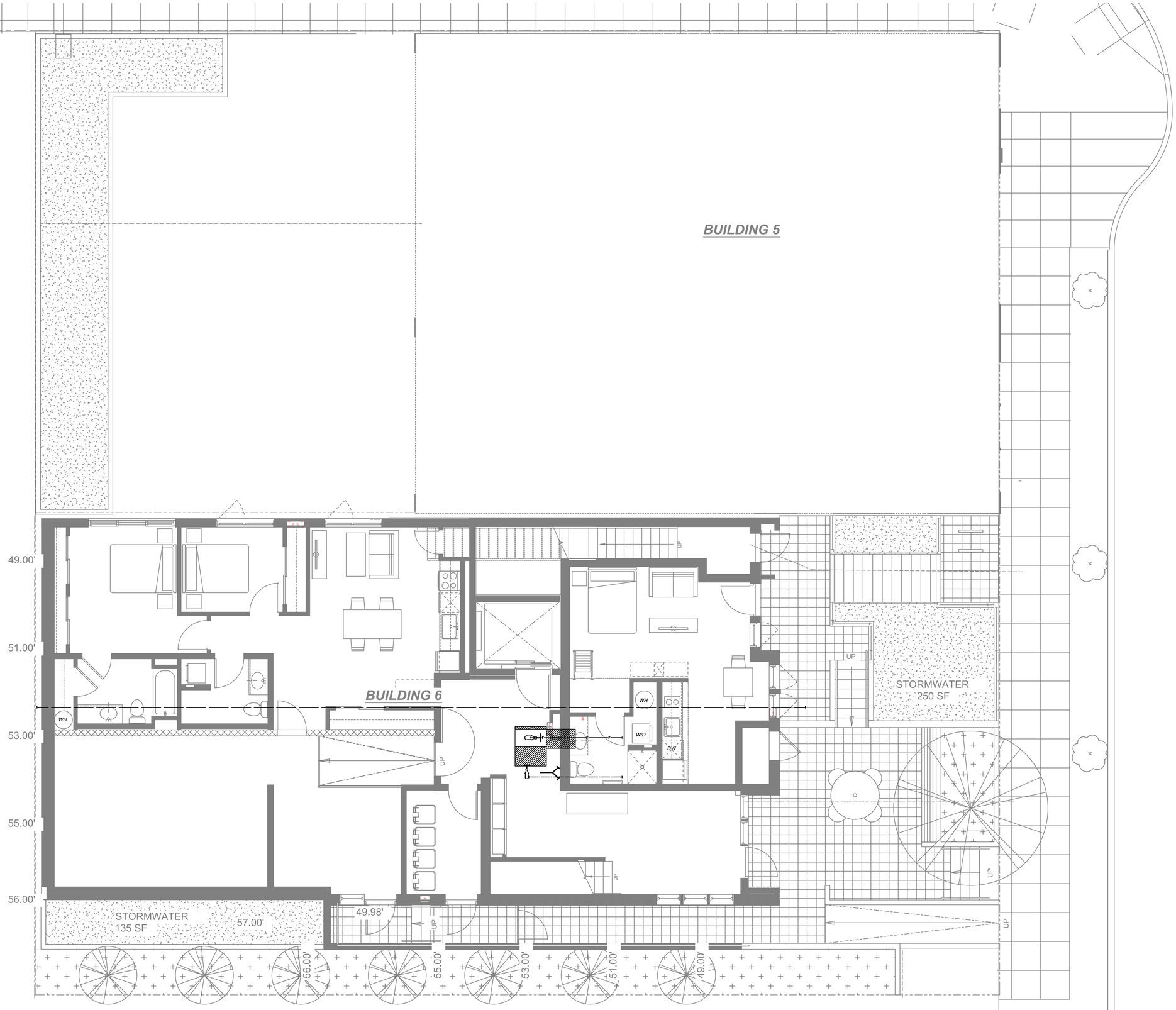
Drawing Title: BUILDING 6 - LEGEND SCHEDULES AND DETAILS

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-0.01

PERMIT SET, BUILDING 6 (06-01-2022)



1 P1.01 BUILDING 6 PLUMBING SITE PLAN
SCALE: 1/4" = 1'-0"

3-16-22

REGISTERED PROFESSIONAL ENGINEER
54,607
OREGON
JULY 11, 2005
MARK R. DENYER
EXPIRES: 31DEC23

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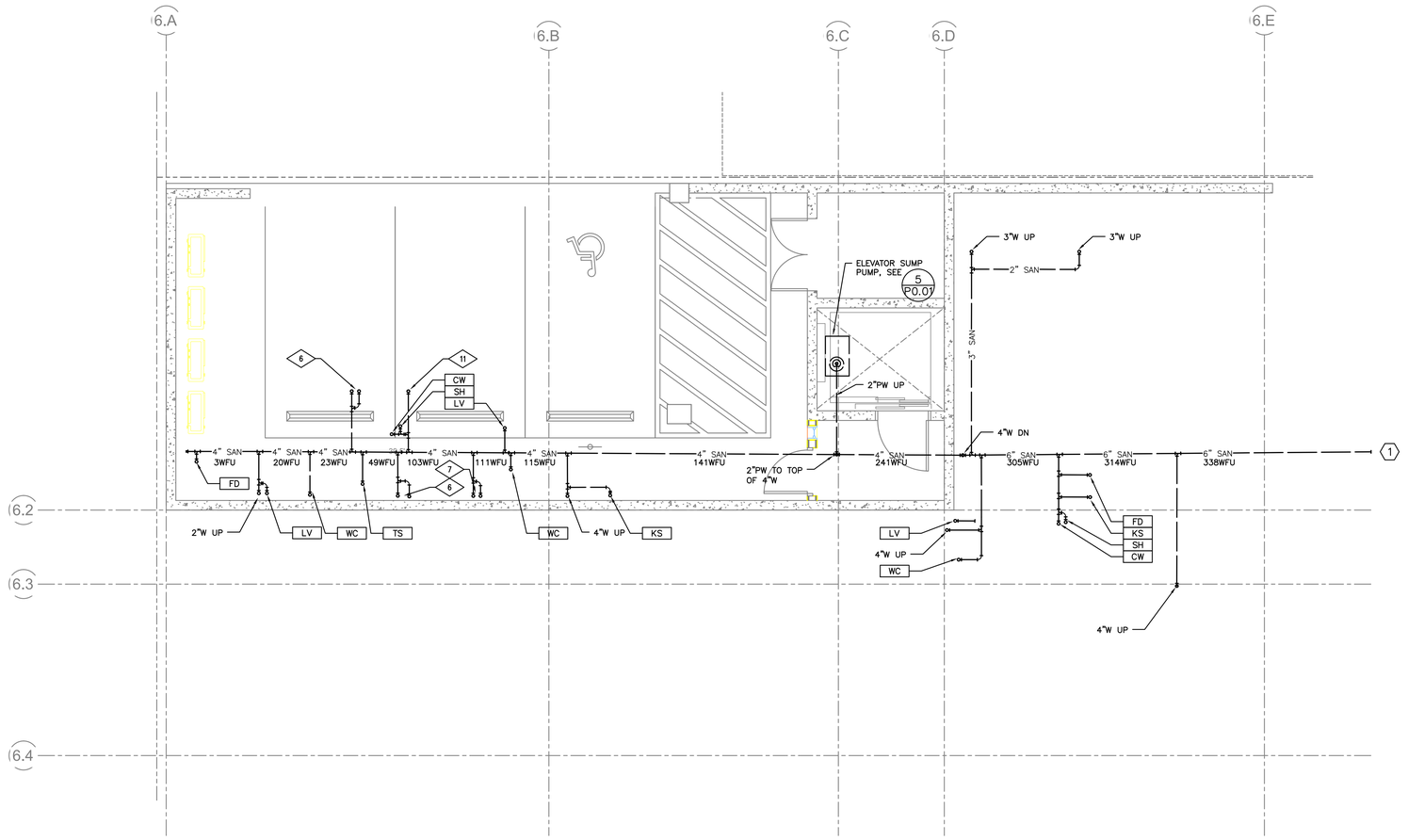
Project Title:
NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title:
BUILDING 6 - PLUMBING SITE PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-1.01



1 P3.00 BLDG 6 BASEMENT PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS– PRODUCING FIXTURE.
EXCEPTION: STACKS RECEIVING THE DISCHARGE FROM LESS THEN 3 STORIES OF PLUMBING FIXTURES

HEAT TRACE (FREEZE PROTECTION) ALL PIPING SUBJECTED TO FREEZING CONDITIONS. ALL HEAT TRACED PIPE TO BE INSULATED.

HEAT TRACE WASTE TRAPS, INSULATE WASTE PIPING EXPOSED TO FREEZING CONDITIONS

ROUTE ALL HVAC UNIT CONDENSATE DRAINS TO AN APPROVED LOCATION (OPTIONS LISTED BELOW)

- ROUTE ALL CONDENSATES DOWN IN WALLS IN COMMON DRAIN SYSTEM AND ROUTE TO HUB DRAINS OR MOP SINKS – CONTRACTOR TO SIZE DRAIN SYSTEM BASED ON NUMBER OF CONNECTED UNITS.
- PROVIDE CONDENSATE PUMPS ON ALL UNITS THAT ARE NOT GRAVITY DRAINED.

ROUTE VENTS FROM FLOOR DRAINS/SINKS BELOW SLAB AND UP ON/IN A WALL TO VENT STACKS ABOVE. (ROUTE INDIVIDUAL VENTS UNTIL ABOVE FLOOD LINE OF FIXTURE).

RISER DETAILS:

SEE SHEET X P401 FOR RISER DIAGRAMS

<-> = RISER NUMBER

KEYED NOTES:

1. — SEE CIVIL FOR CONTINUATION
2. — SEE TYPICAL DOMESTIC SUPPLY RISER DIAGRAM 1/P0.01. PROVIDE ACCESS PANEL W/ UNIT SHUT-OFFS, TO BE LOCATED IN CLOSET OR BATHROOM CEILING.
3. — WET VENT BATHROOM FIXTURE GROUP.
4. — SEE UNIT DISTRIBUTION DETAIL 3/P0.01. PROVIDE ACCESS PANEL AS REQ'D.
5. — ROUTE RADON PIPING UP TO ABOVE ROOF. SEE RADON PIPING DETAIL 6/P0.01.
6. — ROUTE 3/4" CONDENSATE DRAINS TO FLOOR DRAINS IN WATER HEATER ROOMS. SEE MECHANICAL PLANS FOR EQUIPMENT LOCATIONS.
7. — ROUTE VENT UP AND CONNECT TO 2" VENT RISER AT 1ST FLOOR.
8. — PENETRATION THRU CLT TO BE 1/2" LARGER THAN PENETRATING PIPE. COORDINATE CLT PENETRATIONS WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.

3-16-22

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JULY 11, 2005
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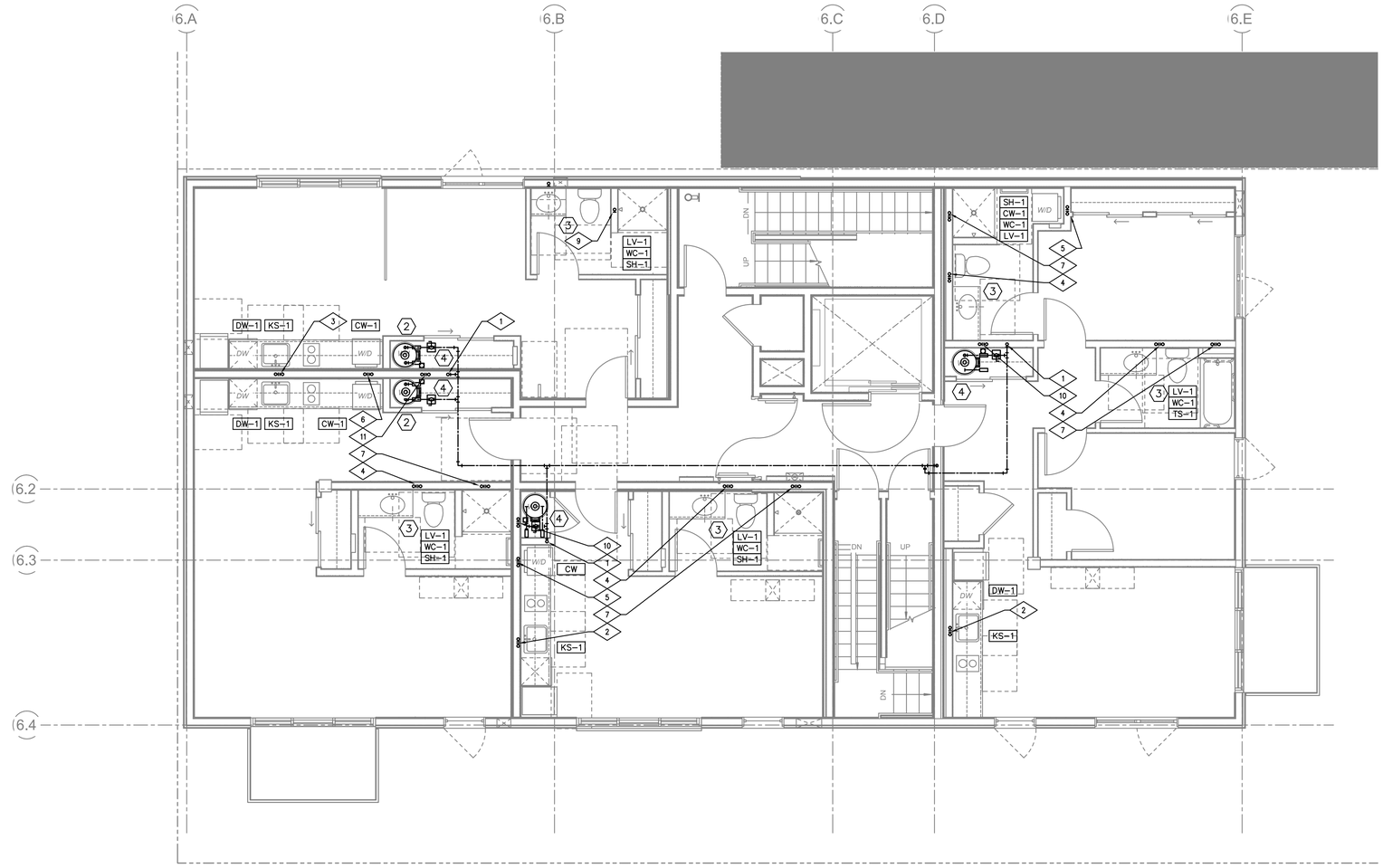
Project Title: NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 LEVEL 1 PLUMBING PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-3.01



1 P3.02 BLDG 6 LVL 2 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS– PRODUCING FIXTURE.
EXCEPTION: STACKS RECEIVING THE DISCHARGE FROM LESS THEN 3 STORIES OF PLUMBING FIXTURES

HEAT TRACE (FREEZE PROTECTION) ALL PIPING SUBJECTED TO FREEZING CONDITIONS. ALL HEAT TRACED PIPE TO BE INSULATED.

HEAT TRACE WASTE TRAPS, INSULATE WASTE PIPING EXPOSED TO FREEZING CONDITIONS

ROUTE ALL HVAC UNIT CONDENSATE DRAINS TO AN APPROVED LOCATION (OPTIONS LISTED BELOW)

- ROUTE ALL CONDENSATES DOWN IN WALLS IN COMMON DRAIN SYSTEM AND ROUTE TO HUB DRAINS OR MOP SINKS – CONTRACTOR TO SIZE DRAIN SYSTEM BASED ON NUMBER OF CONNECTED UNITS.
- PROVIDE CONDENSATE PUMPS ON ALL UNITS THAT ARE NOT GRAVITY DRAINED.

ROUTE VENTS FROM FLOOR DRAINS/SINKS BELOW SLAB AND UP ON/IN A WALL TO VENT STACKS ABOVE. (ROUTE INDIVIDUAL VENTS UNTIL ABOVE FLOOD LINE OF FIXTURE).

RISER DETAILS:

SEE SHEET X P401 FOR RISER DIAGRAMS

– = RISER NUMBER

KEYED NOTES:

1. — SEE CIVIL FOR CONTINUATION
2. — SEE TYPICAL DOMESTIC SUPPLY RISER DIAGRAM 1/P0.01. PROVIDE ACCESS PANEL W/ UNIT SHUT–OFFS, TO BE LOCATED IN CLOSET OR BATHROOM CEILING.
3. — WET VENT BATHROOM FIXTURE GROUP.
4. — SEE UNIT DISTRIBUTION DETAIL 3/P0.01. PROVIDE ACCESS PANEL AS REQ'D.
5. — ROUTE RADON PIPING UP TO ABOVE ROOF. SEE RADON PIPING DETAIL 6/P0.01.
6. — ROUTE 3/4" CONDENSATE DRAINS TO FLOOR DRAINS IN WATER HEATER ROOMS. SEE MECHANICAL PLANS FOR EQUIPMENT LOCATIONS.
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8. — PENETRATION THRU CLT TO BE 1/2" LARGER THAN PENETRATING PIPE. COORDINATE CLT PENETRATIONS WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.

3-16-22

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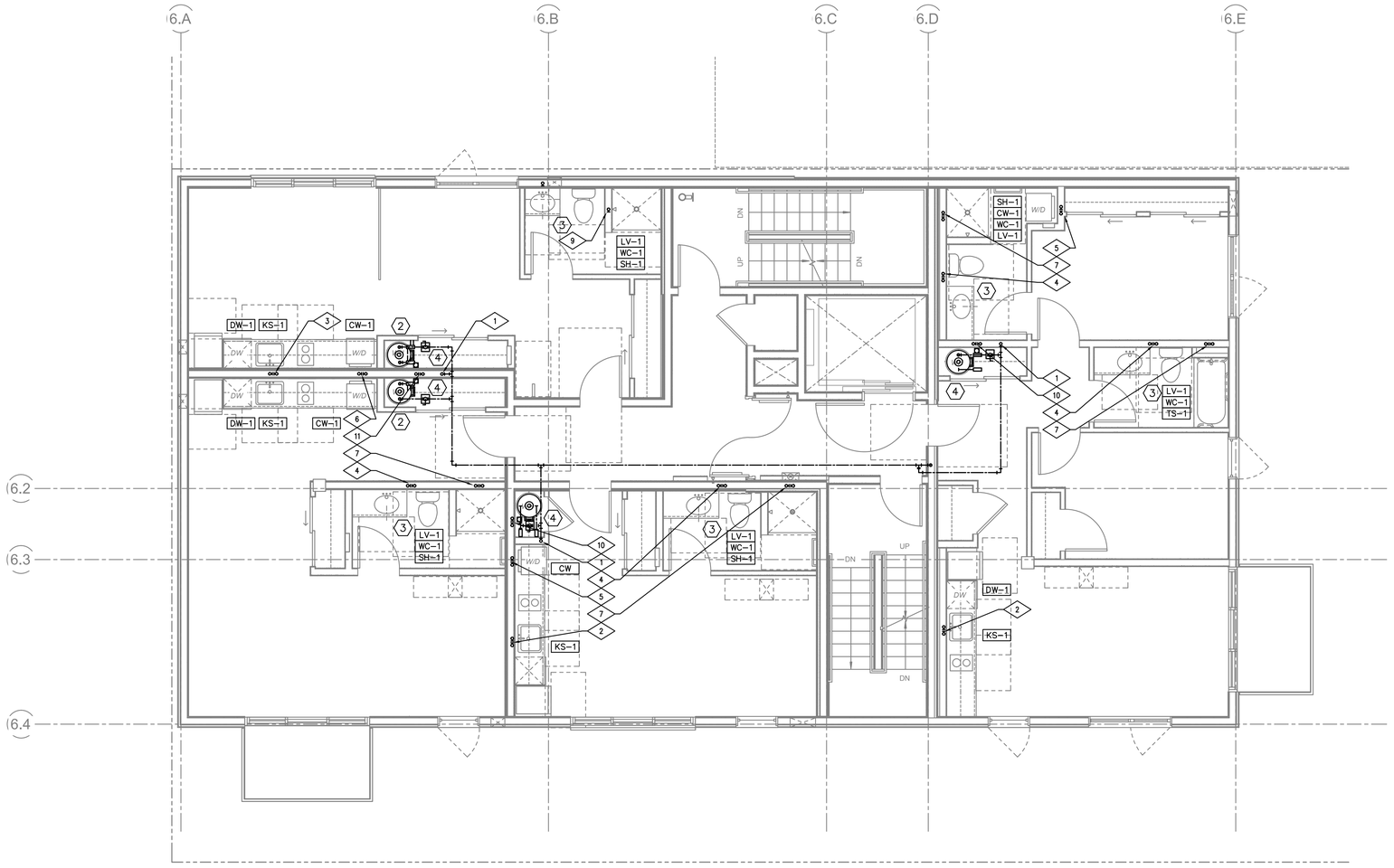
Project Title: NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 LEVEL 2 PLUMBING PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-3.02



1 P3.03 BLDG 6 LVL 3 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS– PRODUCING FIXTURE.
EXCEPTION: STACKS RECEIVING THE DISCHARGE FROM LESS THEN 3 STORIES OF PLUMBING FIXTURES

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HEAT TRACE WASTE TRAPS, INSULATE WASTE PIPING EXPOSED TO FREEZING CONDITIONS

ROUTE ALL HVAC UNIT CONDENSATE DRAINS TO AN APPROVED LOCATION (OPTIONS LISTED BELOW)

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ROUTE VENTS FROM FLOOR DRAINS/SINKS BELOW SLAB AND UP ON/IN A WALL TO VENT STACKS ABOVE. (ROUTE INDIVIDUAL VENTS UNTIL ABOVE FLOOD LINE OF FIXTURE).

RISER DETAILS:

SEE SHEET X P401 FOR RISER DIAGRAMS

– = RISER NUMBER

KEYED NOTES:

1. — SEE CIVIL FOR CONTINUATION
2. — SEE TYPICAL DOMESTIC SUPPLY RISER DIAGRAM 1/P0.01. PROVIDE ACCESS PANEL W/ UNIT SHUT–OFFS, TO BE LOCATED IN CLOSET OR BATHROOM CEILING.
3. — WET VENT BATHROOM FIXTURE GROUP.
4. — SEE UNIT DISTRIBUTION DETAIL 3/P0.01. PROVIDE ACCESS PANEL AS REQ'D.
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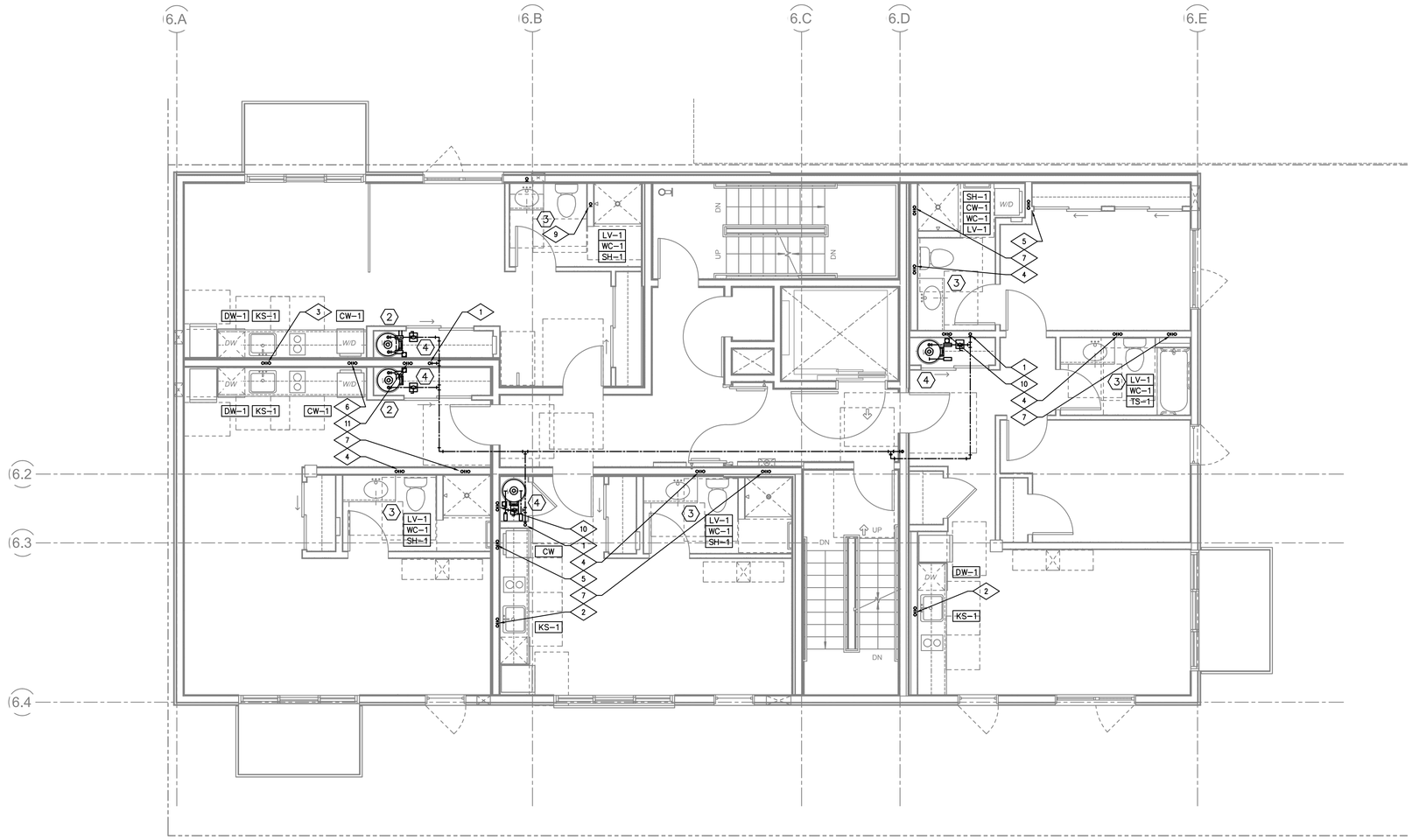
Project Title: NORTHBOUND 30 COLLABORATIVE
NW 23RD AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 LEVEL 3 PLUMBING PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-3.03



1 P3.04 BLDG 6 LVL 4 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS– PRODUCING FIXTURE.
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RISER DETAILS:

SEE SHEET X P401 FOR RISER DIAGRAMS

– = RISER NUMBER

KEYED NOTES:

1 — SEE CIVIL FOR CONTINUATION

2 — SEE TYPICAL DOMESTIC SUPPLY RISER DIAGRAM 1/P0.01. PROVIDE ACCESS PANEL W/ UNIT SHUT-OFFS, TO BE LOCATED IN CLOSET OR BATHROOM CEILING.

3 — WET VENT BATHROOM FIXTURE GROUP.

4 — SEE UNIT DISTRIBUTION DETAIL 3/P0.01. PROVIDE ACCESS PANEL AS REQ'D.

5 — ROUTE RADON PIPING UP TO ABOVE ROOF. SEE RADON PIPING DETAIL 6/P0.01.

6 — ROUTE 3/4" CONDENSATE DRAINS TO FLOOR DRAINS IN WATER HEATER ROOMS. SEE MECHANICAL PLANS FOR EQUIPMENT LOCATIONS.

7 — ROUTE VENT UP AND CONNECT TO 2" VENT RISER AT 1ST FLOOR.

8 — PENETRATION THRU CLT TO BE 1/2" LARGER THAN PENETRATING PIPE. COORDINATE CLT PENETRATIONS WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.

3-16-22

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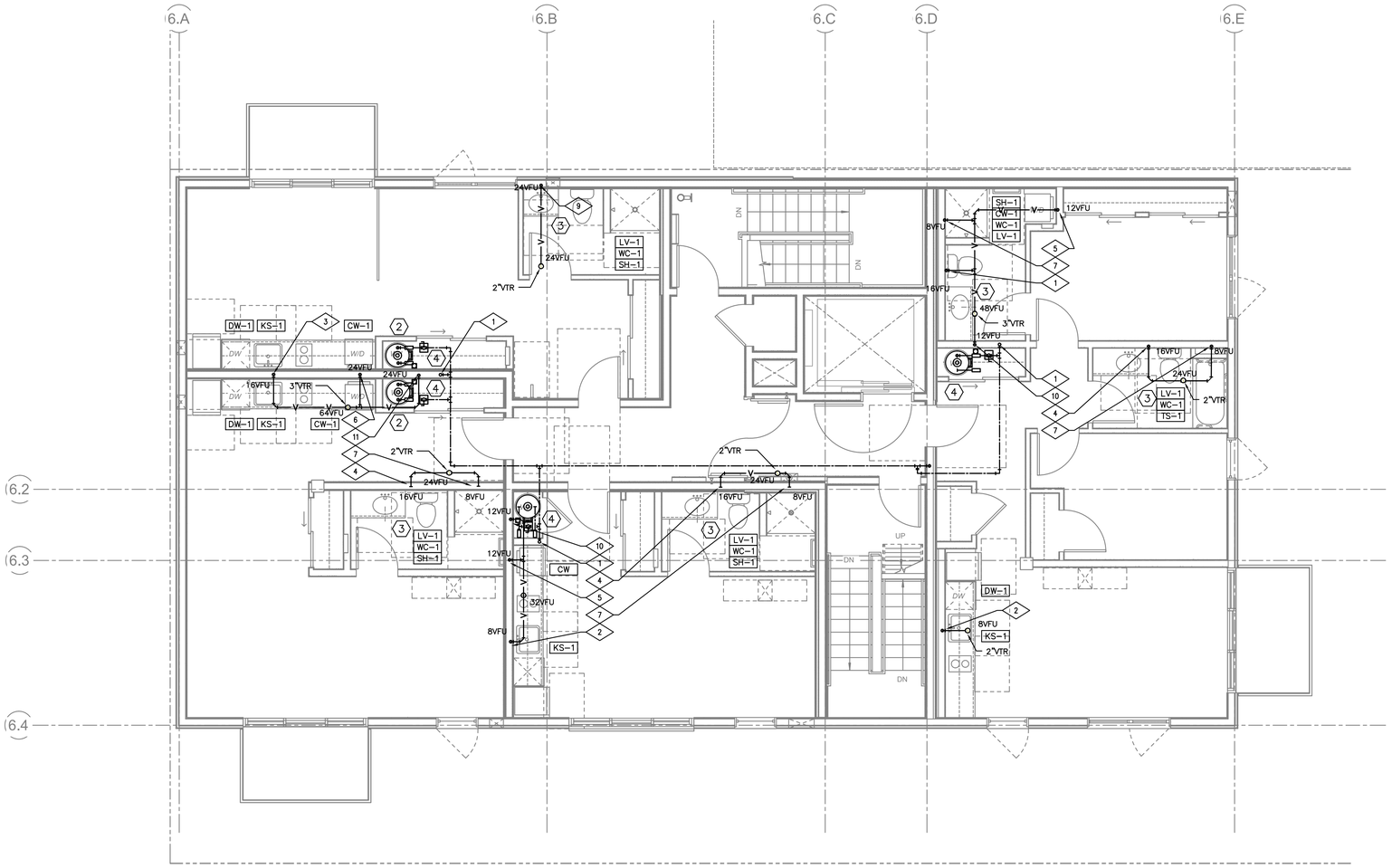
Project Title:
NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title:
BUILDING 6 LEVEL 4 PLUMBING PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-3.04



1 P3.05 BLDG 6 LVL 5 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS– PRODUCING FIXTURE.
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RISER DETAILS:

SEE SHEET X P401 FOR RISER DIAGRAMS

<-> = RISER NUMBER

KEYED NOTES:

1. — SEE CIVIL FOR CONTINUATION
2. — SEE TYPICAL DOMESTIC SUPPLY RISER DIAGRAM 1/P0.01. PROVIDE ACCESS PANEL W/ UNIT SHUT-OFFS, TO BE LOCATED IN CLOSET OR BATHROOM CEILING.
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3-16-22

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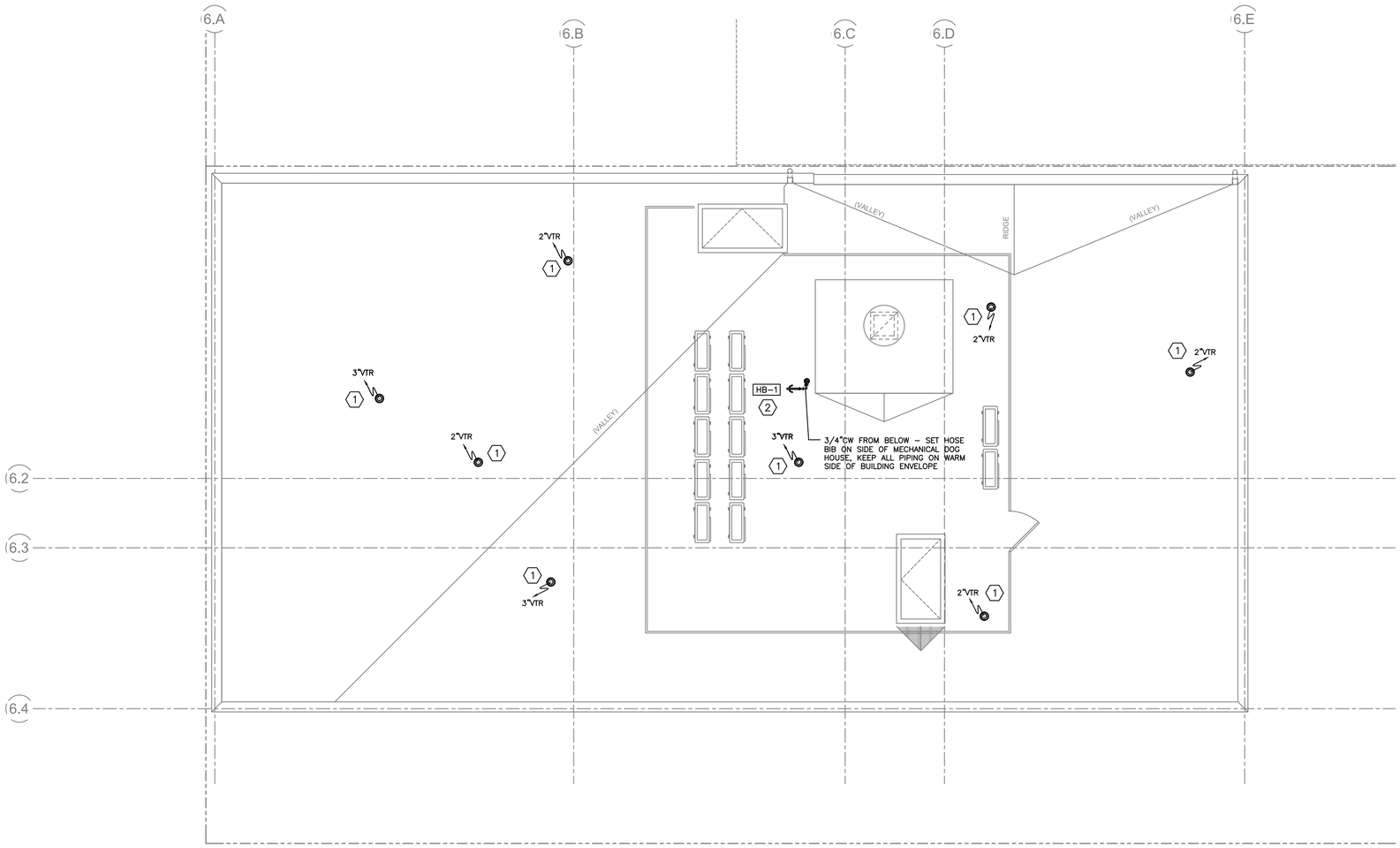
Project Title: NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 LEVEL 5 PLUMBING PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-3.05



1 P3.06 BLDG 6 ROOF PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. WORK SHALL COMPLY WITH CURRENT OREGON SPECIALTY CODE.
2. COORDINATE INSTALLATION WITH OTHER TRADES.
3. KEEP ALL ROOFTOP EQUIPMENT 10 FEET FROM EDGE OF ROOF, MINIMUM.
4. MAINTAIN 10 FEET CLEARANCE BETWEEN ALL MECHANICAL AIR INTAKES AND PLUMBING AND RADON VENTS

KEYED NOTES:

(1) — COMBINE VENT RISERS BELOW ROOF AND VENT THROUGH ROOF.

(2) — COORDINATE ROOF TOP HOSE BIB WITH MECHANICAL DOG HOUSE.

3-16-22

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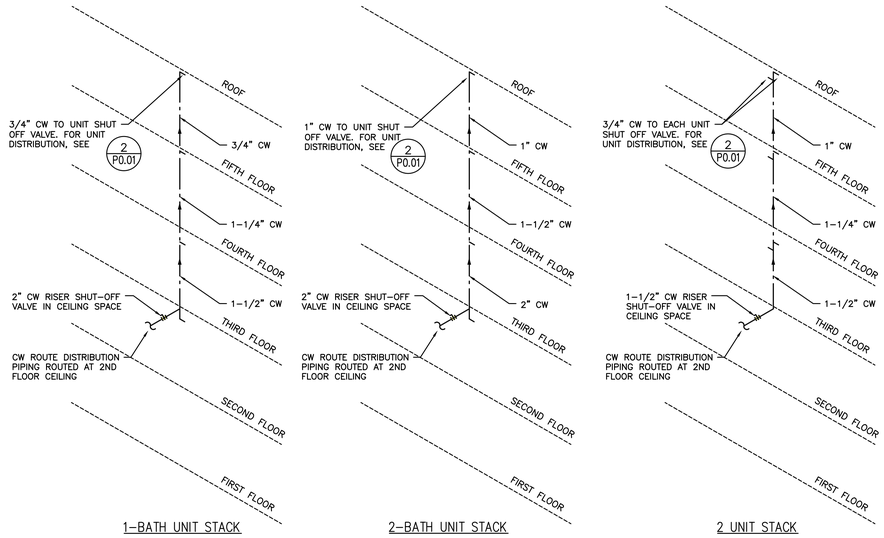
Project Title:
NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title:
BUILDING 6 ROOF PLUMBING PLAN

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-3.06

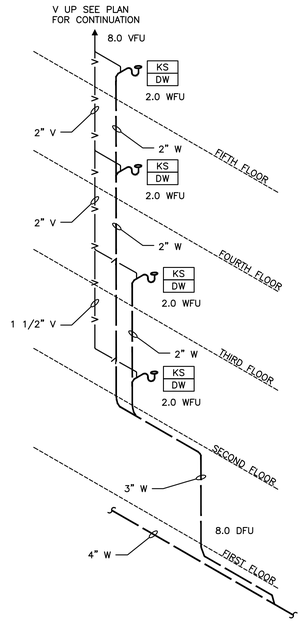


1-BATH UNIT STACK

2-BATH UNIT STACK

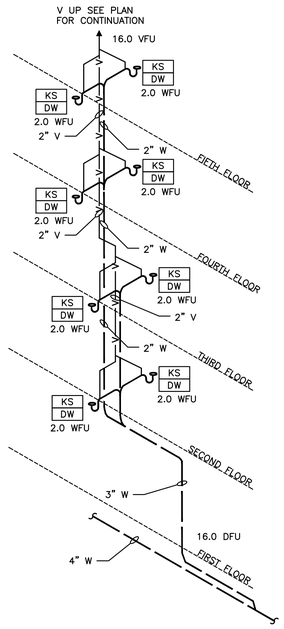
2 UNIT STACK

1 P4.01 TYPICAL DOMESTIC WATER RISER "1"
SCALE: DIAGRAMATIC



NOTE: DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS- PRODUCING FIXTURE.
EXCEPTION: STACKS RECEIVING THE DISCHARGE FROM LESS THEN 3 STORIES OF PLUMBING FIXTURES.

2 P4.01 RISER "2" TYPICAL
NO SCALE
KS/DW = 2.0DFU



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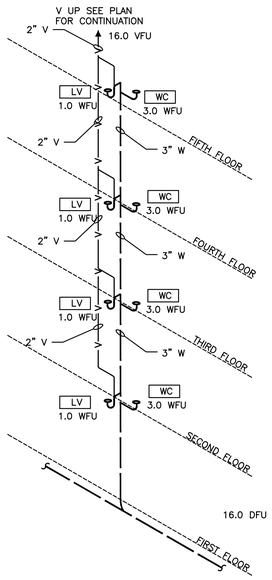
3 P4.01 RISER "3" TYPICAL
NO SCALE
KS/DW = 2.0DFU



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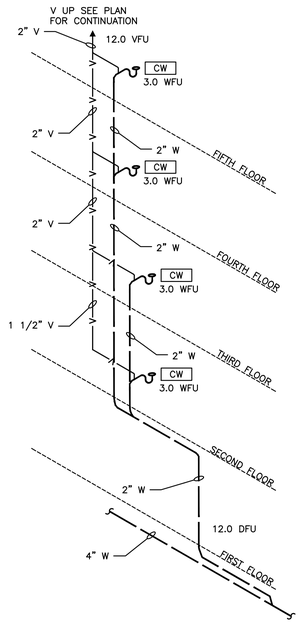
4 P4.01 RISER "4" TYPICAL
NO SCALE
WC/LV = 4.0DFU



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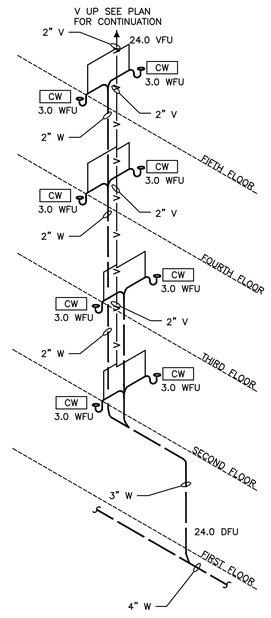
5 P4.01 RISER "5" TYPICAL
NO SCALE
CW = 3.0DFU



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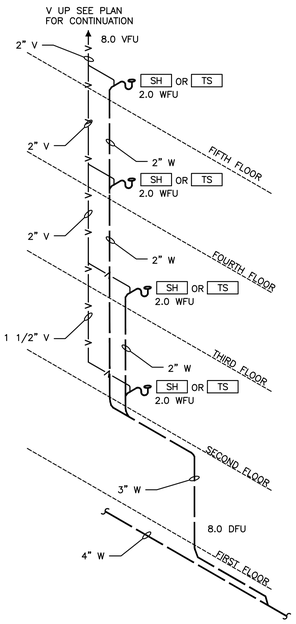
6 P4.01 RISER "6" TYPICAL
NO SCALE
CW = 3.0DFU



NOTE: DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN 8 FT OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING A SUDS- PRODUCING FIXTURE.
EXCEPTION: STACKS RECEIVING THE DISCHARGE FROM LESS THEN 3 STORIES OF PLUMBING FIXTURES.

7 P4.01 RISER "7" TYPICAL
NO SCALE
SH OR TS = 2.0DFU

3-16-22
REGISTERED PROFESSIONAL ENGINEER
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JULY 15, 2005
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Project Title: NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

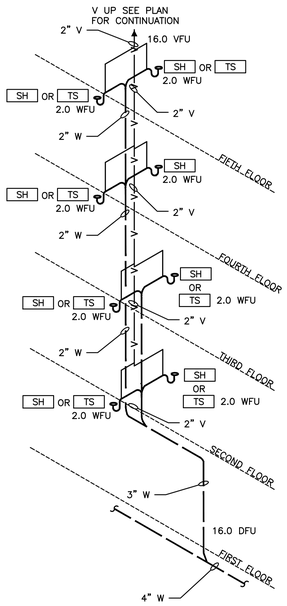
Drawing Title: BUILDING 6 PLUMBING RISER DIAGRAMS

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-4.01

PERMIT SET, BUILDING 6 (06-01-2022)



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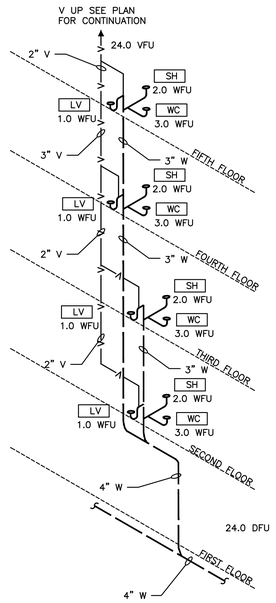
8 P4.02 RISER "8" TYPICAL
NO SCALE
SH OR TS = 2.0DFU



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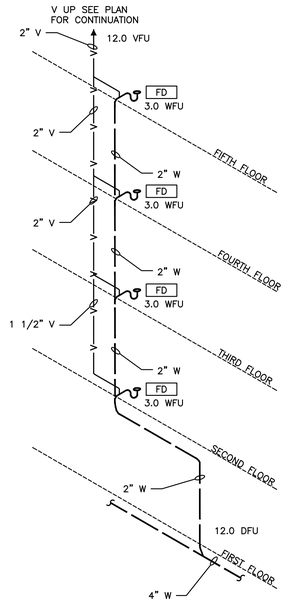
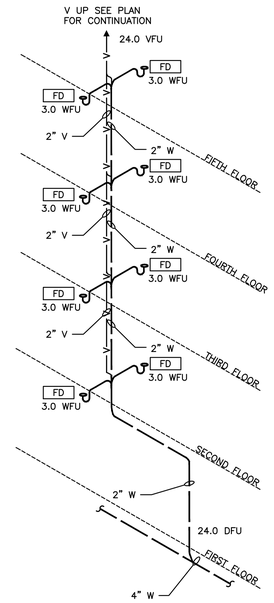
9 P4.02 RISER "9" TYPICAL
NO SCALE
WC/LV/SH = 6.0DFU



10 P4.02 RISER "10" TYPICAL
NO SCALE
FD = 3.0DFU



11 P4.02 RISER "11" TYPICAL
NO SCALE
FD = 3.0DFU

PERMIT SET, BUILDING 6 (06-01-2022)

3-16-22

REGISTERED PROFESSIONAL ENGINEER
54,607
OREGON
JULY 11, 2006
MARK R. DENYER
EXPIRES: 31DEC23

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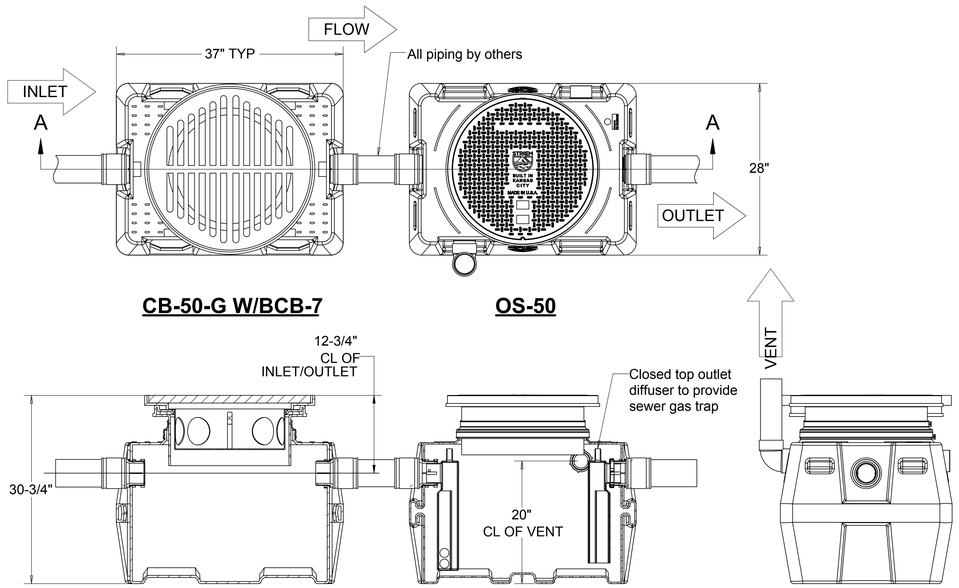
Project Title: NORTHBOUND 30 COLLABORATIVE
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 PLUMBING RISER DIAGRAMS

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-4.02



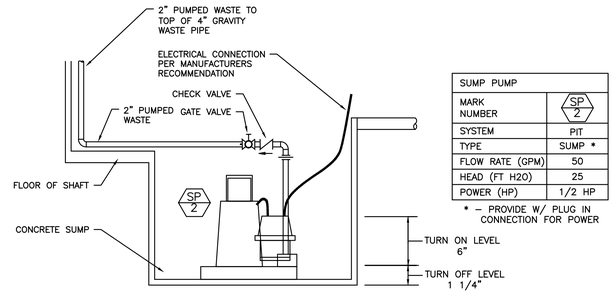
SECTION A-A

SYSTEM SPECIFICATIONS
1. Max flow rate: 50 GPM
2. Liquid capacity: 104 Gallons (13.9 cu ft)
3. Max oil capacity: 34.1 gallons
4. Unit weight w/std. covers: 178 lbs.
5. Sand/Solids capacity : 64.5 gallons
6. H20 rated, cast iron grate/cover.
7. Maximum operating temperature 140 F continuous.

OPTIONS:
- ☐ Teleglide field adjustable risers for extending covers to grade
- ☐ Male pipe thread connections
- ☐ High water anchor kit (set of 2 per tank)
- ☐ Highway rated bolted or pickable cast iron cover
- ☐ SLICK STICK™ Oil Level Monitoring System

NOTES
1. Factory installed Built-in Flow control within OS-50.
2. For gravity drainage applications only. Do not use for pressure applications.
3. 3/8" thick seamless high density polyethylene walls.
4. Unit supplied with built-in adapter(s) for up to 6" of adjustability. Additional riser(s) available for deeper burial depth.
5. Cover placement allows full access to tank for proper maintenance.
6. Narrow footprint allows clearance through doorways and down stairwells.
7. Engineered inlet and outlet diffusers are removable to inspect/clean piping.
8. For on the-floor or buried applications.

1 / P6.01 OIL SEPARATOR DETAIL
SCALE: DETAIL



SUMP PUMP	
MARK NUMBER	SP 2
SYSTEM	PIT
TYPE	SUMP *
FLOW RATE (GPM)	50
HEAD (FT H2O)	25
POWER (HP)	1/2 HP

* – PROVIDE W/ PLUG IN CONNECTION FOR POWER

2 / P6.01 PIT SUMP PUMP
SCALE: DIAGRAMATIC

WH-1 40 GAL ELECT WTR HTR

A.O. Smith | Commercial Electric Water Heaters

DURA-POWER™

Designed for use as a recovery heater having its own storage tank. Available in upright standard models (DEN) and lowboy models (DEL).

GLASSLINED TANK
- Thirteen sizes; 6 thru 119 gallon capacity. Tank interior is coated with glass specially designed by A. O. Smith for water heater use.

ELEMENTS
- Zinc-plated copper sheaths for longer life. Medium watt density means lower surface temperature to minimize scale build-up and more surface to heat water. Element sizes from 1.5 to 6.1 KW. Maximum input KW (see chart).

STANDARD VOLTAGES
- 120, 277 single-phase and 208, 240 and 480V unbalanced three-phase delta; easily converted to single-phase at terminal block (except 208V with 5500 watt elements). Single element heaters, single-phase only.

TERMINAL BLOCK
- Factory-installed. Just bring the service to heater and connect to block. Terminal block not supplied on 120V & 277 volt models. (No junction box on DEL6-20)

CONTROLS
- Temperature control (adjustable through a range of 130° to 170°F on single element and 120° to 181°F on dual element) and manual reset high temperature cutoff per element

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

SIMPLIFIED CIRCUITRY, COLOR CODED FOR EASE OF SERVICE

ANODE ROD FOR MAXIMUM CORROSION PROTECTION

CABINET HAS BONDERIZED UNDERCOAT WITH BAKED ENAMEL FINISH

TOP INLET AND OUTLET OPENINGS

DRAIN VALVE (EXCLUDES DEL 6-20)

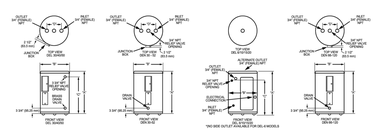
UL APPROVED FIELD CONVERSION PROGRAM

COMPLIANCE
- Meets the standby loss Requirements of the U.S. Department of Energy and current edition of ASHRAE/IES 90.1

LIMITED WARRANTY OUTLINE
- If the tank should leak any time during the first three years, under the terms of the warranty, A. O. Smith will furnish a replacement heater; installation, labor, handling and local delivery extra. THIS OUTLINE IS NOT A WARRANTY. For complete information consult the written warranty or A. O. Smith Water Products Company.

www.hotwater.com | 800-527-1953 Toll-Free USA | A. O. Smith Corporation | 500 Tennessee Waltz Parkway | Ashland City, TN 37015

A.O. Smith | Commercial Electric Water Heaters



ROUGH-IN DIMENSIONS

Models	UEF	No. of Elements	Nominal Capacity	Rated Storage Volume	A		B		C		D		Shipping Weight	
					Inches	mm	Inches	mm	Inches	mm	Inches	mm	lbs.	Kg.
DEL-6	N/A	1	6	6	15-1/2	394	14-1/4	362	11	279	N/A	N/A	35	15.9
DEL-10	N/A	1	10	10	18-1/4	464	18	457	13-1/2	318	N/A	N/A	54	24.5
DEL-15	N/A	1	15	15	26	660	18	457	20-1/2	521	N/A	N/A	58	26.3
DEL-20	N/A	1	20	19	22-1/4	565	21-3/4	552	15-3/8	391	N/A	N/A	73	33.1
DEL-30	0.92	2	30	33	33-1/2	851	26	660	24	610	8	203	118	53.5
DEL-40**	0.92	2	40	35	32	813	23	584	24	610	8	203	118	53.5
DEL-50	0.92	2	50	48	36	914	26-1/2	673	25	635	8	203	172	78
DEN-30	0.92	2	30	37	49-3/4	1264	20-1/2	521	13-1/4	1353	8	203	118	53.5
DEN-40	0.92	2	40	45	59	1499	20-1/2	521	13-1/4	1302	8	203	125	56.7
DEN-52	0.92	2	52	55	56-1/2	1435	24	610	48-1/2	1232	8	203	145	65.8
DEN-66	N/A	2	66	60	60-3/4	1543	21-3/4	552	N/A	N/A	8	203	176	79.8
DEN-80	N/A	2	80	76	59-3/8	1508	24	610	N/A	N/A	8	203	211	95.7
DEN-120	N/A	2	120	108	62-7/16	1586	29-3/8	746	N/A	N/A	8	203	326	147.9

*No side outlet available on DEL-6 Model
**"Blanket model
Note: All 66, 80 and 120 models will be manufactured with two 6.1kW elements - 12.2kW

		U.S Gallons/HR and Litres/HR at Temperature Rise Indicated										
Element Wattage (Upper/Lower)	Input KW	F°	36 F°	40 F°	54 F°	60 F°	72 F°	80 F°	90 F°	100 F°	108 F°	120 F°	126 F°
		C°	20 C°	22.2 C°	30 C°	33.3 C°	40 C°	44.4 C°	50 C°	55.5 C°	60 C°	66.6 C°	70 C°
6100/6100	12.2	GPH	138	124	92	82	69	62	55	49	46	41	39
		LPH	522	469	348	310	261	235	208	184	174	153	146

Recovery capacities at 100° F request for simultaneous element operation - 4.1 gal. x 2.5 KW of both elements.
For other rises multiply element KW as previously explained by 4.1 and divide by temperature rise.
Full load current for single phase = total watts.

WH / 1 WATER HEATER
SCALE: DETAIL

Portland Water Bureau Development Services 1120 SW 5th Ave Portland, OR 97204

PORTLAND WATER BUREAU — FROM FOREST TO FAUCET

Large Meter Sizing Worksheet (1.5" and larger) W-4

Email: devrev@portlandoregon.gov Phone: 503-823-7368, ext 4

Applicant/Contact Name _____

Site Address, Portland Maps Property ID (R#) Building #8

Building Permit/LU# /PW# _____

Important worksheet information

1. The meter sizing worksheet is an inventory of all plumbing fixtures served by one meter. All fixtures served by the meter need to be listed.
2. Fixture units for flushometers are approximate values. Values will be reviewed and may be adjusted by the Portland Water Bureau staff based on 2017 Oregon Plumbing Specialty Code Table 610.10

Fixture type	Number of existing fixtures	Number of proposed fixtures	Existing & Proposed Fixture Total	Fixture Unit Multiplier	Fixture Units
Bar Sink				X 2.0	
Clinic Sink				X 3.0	
Lavatory Sink		21	21	X 1.0	21
Kitchen Sink		17	17	X 1.5	25.5
Laundry Sink				X 1.5	
Mop/Service Sink		1	1	X 3.0	3
Drinking Fountain				X 0.5	
Dishwasher				X 1.5	
Clothes Washer		17	17	X 4.0	68
Bathtub or Tub/Shower		4	4	X 4.0	16
Shower		17	17	X 2.0	34
Toilet - Gravity		21	21	X 2.5	52.5
Toilet - Flushometer 1st one				X 40.0	
Toilet - Flushometer additional				X 25.0	
Urinal – 1st one				X 20.0	
Urinal – additional				X 15.0	
Hose Bib – 1st one		1	1	X 2.5	2.5
Hose Bibb – additional		3	3	X 1.0	3

Total Fixture Units: 225.5

Small meters	Total fixture units	Large meters	Total fixture units
5/8"	0 – 22	1.5"	89.5 – 286
¾"	22.5 – 37	2"	286.5 – 532
1"	37.5 – 89	3"	532.5 – 1300
		4"	1300.5 – 3600
		6"	3600.5 – 8200
		8"	8200.5 – 13,800

3-16-22

REGISTERED PROFESSIONAL ENGINEER — 54,607 — OREGON — JULY 15, 2005 — MARK R. DENYER
EXPIRES: 31DEC23

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Project Title: NORTHBOUND 30
NW 29TH AVE PORTLAND, OREGON 97210

Drawing Title: BUILDING 6 PLUMBING DETAILS

Revision:

Date: 06-01-22
Drawn by: MD
Project No.: A2112

P6-6.01

PERMIT SET, BUILDING 6 (06-01-2022)