


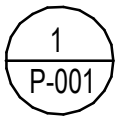







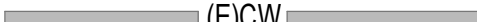


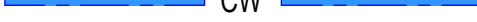


















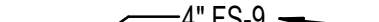



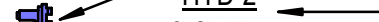





ABBREVIATIONS			
AC	AIR COMPRESSOR	HS	HOSE STATION
ACU	AIR CONDITIONING UNIT	HT	HEIGHT
AD	AREA DRAIN	HTG	HEATING
AFC	ABOVE FINISH CEILING	HVAC	HEATING, VENTILATION, AIR COND.
AFF	ABOVE FINISH FLOOR	HW	HOT WATER
AFG	ABOVE FINISHED GRADE	HWG	HOT WATER GENERATOR
AHJ	AUTHORITY HAVING JURISDICTION	HWR	HOT WATER RETURN
APPROX	APPROXIMATE	HWST	HOT WATER STORAGE TANK
ARCH	ARCHITECT/ARCHITECTURAL	ID	INSIDE DIAMETER/DIMENSION
ARD	AUXILIARY ROOF DRAIN	KW	KILOWATTS
BFF	BELOW FINISH FLOOR	LAV	LAVATORY
BLDG	BUILDING	LF	LINEAR FEET
BTU	BRITISH THERMAL UNITS	LPG	LIQUID PETROLEUM GAS
BTUH	BRITISH THERMAL UNITS/HOUR	LWT	LEAVING WATER TEMPERATURE
CAP	CAPACITY	MAX	MAXIMUM
CB	CATCH BASIN	MBH	THOUSAND BTU/PER HOUR
CD	CONDENSATE DRAIN	MDL	MODEL
CFH	CUBIC FEET/HOUR	MECH	MECHANICAL
CFM	CUBIC FEET/MINUTE	MFR	MANUFACTURER
CI	CAST IRON	MH	MANHOLE
CLG	CEILING	MIN	MINIMUM
CO	CLEAN OUT	MISC	MISCELLANEOUS
COL	COLUMN	MOUNTED	
CONC	CONCRETE	NA	NOT APPLICABLE
CONN	CONNECT	NFPA	NATIONAL FIRE PROTECTION ASSO.
CONST	CONSTRUCTION	NTS	NOT TO SCALE
CONT	CONTINUE	OA	OUTSIDE AIR
COTG	CLEAN OUT TO GRADE	OD	OUTSIDE DIAMETER/DIMENSION
CP	CIRCULATING PUMP	PD	PRESSURE DROP
CR	CONDENSATE RETURN	PLBG	PLUMBING
CW	COLD WATER	PRESS	PRESSURE
DCOTG	DOUBLE CLEANOUT TO GRADE	PRV	PRESSURE REDUCING VALVE
DD	DESICCANT DEHUMIDIFIER	PSI	POUNDS PER SQUARE INCH
DEG(°)	DEGREE	RA	RETURN AIR
DEMO	DEMOLITION	RD	ROOF DRAIN
DF	DRINKING FOUNTAIN	REF	REFERENCE
DIA	DIAMETER	REQD	REQUIRED
DS	DOWN SPOUT	REV	REVISION, REVISED
DTL	DETAIL	RM	ROOM
EFF	EFFICIENT	RPM	REVOLUTIONS PER MINUTE
ELEC	ELECTRICAL	SC	STEAM CONDENSATE
ELEV	ELEVATION	SCH	SCHEDULE
EQ	EQUAL	SECT	SECTION
EQUIP	EQUIPMENT	SK	SINK
EWH	ELECTRIC WATER HEATER	SP	STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE	SPEC	SPECIFICATION(S)
EX, EXT	EXISTING	SS	SANITARY SEWER
EXP	EXPANSION	ST	STEAM
FCO	FLOOR CLEANOUT	STL	STEEL
FD	FLOOR DRAIN	SUCT	SUCTION
FL	FLOW LINE	TDH	TOTAL DYNAMIC HEAD
FLEX	FLEXIBLE CONNECTION	TEMP	TEMPERATURE
FLR	FLOOR	TH	TOTAL HEAD
FPM	FEET PER MINUTE	TMV	THERMOSTATIC MIXING VALVE
FPRH	FREEZE PROOF ROOF HYDRANT	TWMV	THREE WAY MODULATING VALVE
FPWH	FREEZE PROOF WALL HYDRANT	TYP	TYPICAL
FS	FLOOR SINK	UL	UNDERWRITERS LABORATORY
G	GAS	UR	URINAL
GA	GAUGE	V	VENT
GAL	GALLON	VEL	VELOCITY
GALV	GALVANIZED	VERT	VERTICAL
GI	GREASE INTERCEPTOR	VLV	VALVE
GPH	GALLONS PER HOUR	VOL	VOLUME
GPM	GALLONS PER MINUTE	VTR	VENT THROUGH ROOF
GT	GREASE TRAP	WC	WATER CLOSET
GWH	GAS WATER HEATER	WCO	WALL CLEANOUT
HB	HOSE BIBB	WP	WORKING PRESSURE
HP	HORSE POWER	WT	WEIGHT
HRWH	HEAT RECLAIM WATER HEATER	WTR	WATER

GENERAL PLUMBING SYMBOLS	
	REVISION NUMBER SHOWN ON PLANS
	POINT WHERE NEW CONNECTS TO EXISTING
	DEMOLISH TO POINT INDICATED
	NUMBER OF DETAIL ON SHEET NUMBER OF SHEET WHERE DETAIL APPEARS
	KEYNOTE
	PIPE CONTINUATION
SPACE TAG:	
OFFICE 	SPACE NAME
 101	SPACE NUMBER
100 SF 	SPACE AREA
	ITEM TO BE DEMOLISHED
	AREA NOT IN CONTRACT

PIPING LEGEND	
	(E)CW EXISTING PIPE TAG
	(D)CW DEMOLISHED PIPE TAG
	CW DOMESTIC COLD WATER
	HW HOT WATER 120°F
	HWR HOT WATER 120°F CIRC.
	SS SANITARY SEWER
	V SANITARY VENT
PRESSURE PIPE SYMBOLS	
	PIPE TEE
	PIPE DROP
	PIPE ELBOW
	PIPE RISE
GRAVITY PIPE SYMBOLS	
	PIPE RISE
	PIPE CAP
	PIPE WYE 8TH TEE
	PIPE TEE
	PIPE DROP
	PIPE CROSS
	PIPE PLUG

PLUMBING TAGS	
PIPE TAG	
	INVERT: -3' - 5"
	APPROX. INVERT ELEVATION
	SIZE, SYSTEM, FU FLOW
	SYSTEM ABBREVIATION
FIXTURE TAG	
	4" FS-9
	FS-9
	IDENTITY
	IDENTITY AND FIXTURE UNIT
	IDENTITY AND WFU FIXTURE UNIT

PLUMBING PHASING	
	NEW CONSTRUCTION PLUMBING EQUIPMENT/ FIXTURES (TYPICAL TAG FOR ALL NEW CONSTRUCTION)
	EXISTING PLUMBING EQUIPMENT/ FIXTURES (TYPICAL TAG FOR ALL EXISTING)
	PLUMBING EQUIPMENT/FIXTURES FOR DEMOLITION (TYPICAL TAG FOR ALL DEMOLITION)

SEISMIC DESIGN CRITERIA	
1.	SEISMIC DESIGN DATA: A. SEISMIC DESIGN CATEGORY: C a. SEE SHEET S-001 FOR MORE INFO.
2.	SEISMIC BRACING IS NOT REQUIRED FOR THE PLUMBING COMPONENTS.
3.	REFER TO THE SPECIFICATIONS.

PLUMBING SHEET SET NOTE	
* NOTE *	
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.	

## PLUMBING GENERAL NOTES

- ALL PLUMBING SYSTEMS SHALL BE INSTALLED AS PER SPECIFICATIONS AND GOVERNING CODES.
- ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRIC RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, FITTING OR COMPONENT. CONTRACTOR SHALL NOT SCALE DRAWINGS. INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE-VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH. THE CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION (RFI) IF INFORMATION CONFLICTS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY CONTRACT DOCUMENTS. REFER TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND OTHER DRAWINGS FOR COMPLETE INFORMATION.
- BY NECESSITY, THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS, THE SELECTION OF WHICH HAS IMPACTED THE DESIGNS OF OTHER TRADES (HVAC, ELECTRICAL, STRUCTURAL, ETC.). IF ALTERNATE MANUFACTURERS, FUEL SOURCES, SIZES, OR MODEL NUMBERS ARE SUBMITTED OR BID, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES PRIOR TO BID. NO EXTRAS WILL BE ALLOWED FOR CHANGES REQUIRED TO OTHER TRADES IF ALTERNATE EQUIPMENT IS BID OR INSTALLED AT THE CONTRACTORS OPTION.
- EXCEPT WHERE MODIFIED BY SPECIFIC NOTATION TO THE CONTRARY, IT SHALL BE UNDERSTOOD THAT THE INDICATION AND/OR DESCRIPTION OF ANY ITEM, IN THE DRAWINGS OR SPECIFICATIONS OR BOTH, CARRIES WITH IT THE INSTRUCTION TO FURNISH AND INSTALL THE ITEM, REGARDLESS OF WHETHER OR NOT THIS INSTRUCTION IS EXPLICITLY STATED AS PART OF THE INDICATION OR DESCRIPTION.
- CONTRACTOR SHALL PAY ALL UTILITY FEES & CHARGES AS PART OF BASE BID IN THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES; i.e., ARCHITECTURAL, HVAC, ELECTRICAL, STRUCTURAL, FIRE PROTECTION AND CIVIL PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE UTILITY LOCATIONS, SIZES AND INVERT ELEVATIONS PRIOR TO CONSTRUCTION; i.e., SANITARY SEWER, FIRE PROTECTION, DOMESTIC WATER. ALL SERVICES SHALL TERMINATE 5 FEET OUTSIDE THE BUILDING, EXCEPT WHERE SHOWN OTHERWISE. SEE SITE UTILITY DRAWINGS FOR CONTINUATION OF ALL SERVICE LINES.
- PROVIDE ISOLATION VALVES AT EACH FIXTURE GROUP OR BATTERY OF FIXTURES IN THE DOMESTIC CW, HW, HWR PIPING. VALVES SHALL BE EASILY ACCESSIBLE. WHERE HARD CEILINGS ARE LOCATED, VALVES SHALL BE ACCESSED THROUGH ACCESS PANELS. ACCESS PANELS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO CONSTRUCTION.
- PROVIDE STOP VALVES AT ALL PLUMBING FIXTURES ON BOTH HOT AND COLD WATER SUPPLY LINES. VALVES, ESCUTCHEONS, FITTINGS, ETC., SHALL BE CHROME PLATED AND INSTALLED TIGHT TO WALL. WHERE PIPING IS EXPOSED, CHROME PLATED PIPE SHALL BE USED.
- ALL EXPOSED OR ACCESSIBLE P-TRAPS SHALL BE CHROME PLATED AND PROVIDED WITH BOTTOM CLEANOUT PLUGS.
- SLOPE 2-1/2" AND SMALLER DRAIN WASTE AND VENT (DWV) LINES AT MIN. (2%) 1/4" FALL PER FT., 3" TO 6" DWV LINES AT MIN. (1%) 1/8" FALL PER FT. SANITARY SEWER AND WATER SHALL BE A MINIMUM OF 10' APART OR THE DOMESTIC WATER SERVICE SHALL BE 12" ABOVE THE TOP OF THE SEWER LINE, AT ITS HIGHEST POINT, IF PLACED IN SAME TRENCH.
- PROVIDE ALL FITTINGS, TRANSITIONS, COUPLINGS, ADAPTERS, UNIONS, AND OTHER ACCESSORIES NEEDED TO COMPLETE CONNECTIONS AND PROPER OPERATIONS OF PLUMBING FIXTURES AND PLUMBING EQUIPMENT.
- REFER TO SPECIFICATIONS FOR ACCEPTABLE MANUFACTURERS OF PLUMBING FIXTURES AND EQUIPMENT, AND PROPER APPLICATIONS OF SAME.
- PROVIDE CLEANOUTS IN ALL SEWERS, WHETHER SHOWN OR NOT, AT INTERVALS NOT TO EXCEED 50 FEET, AT EACH CHANGE OF DIRECTION GREATER THAN 45°, AND ALL VERTICAL STACKS AT A HEIGHT OF 30' ABOVE FINISH FLOOR AT THE BASE OF EACH STACK.
- WHERE WATER PRESSURES EXCEED 80 PSI, PROVIDE WATER PRESSURE REDUCING VALVES (PRV) CONFORMING TO ASSE 1003 WITH STRAINER IN WATER SUPPLY LINES, SETTING AT 80 PSI. SEE CODE AND MANUFACTURER INFORMATION FOR ACCEPTABLE PRESSURE REQUIREMENTS.
- ALL PIPING PENETRATIONS OF THE RATED CEILING AND WALL MUST BE MADE WITH METAL PIPE OR UL LISTED APPROVED DEVICES. FIRE STOP ALL PIPE PENETRATIONS THRU RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS, RATINGS AND FIRE STOPPING DETAILS.
- DO NOT ROUTE ANY PIPING OVER ELEC. ROOMS, COMPUTER ROOMS, OR ELEC. PANELS.
- ALL DOMESTIC WATER PIPING ROUTED IN AREAS SUBJECT TO FREEZING TEMPERATURES SHALL BE ROUTED BELOW INSULATION AND WITHIN THE HEATED ENVELOPE OF THE BUILDING. WHERE PIPING CAN NOT BE ROUTED BELOW INSULATION, PIPING SHALL HAVE 5 WATT/FT HEAT TRACING ATTACHED. SEE ARCHITECTURAL DRAWINGS FOR INSULATION PLACEMENT AND DETAILS. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR AND ENGINEER.
- UNLESS OTHERWISE INDICATED, DO NOT ROUTE WATER PIPING IN EXTERIOR WALLS. WHEN ROUTED IN EXTERIOR WALLS, CAREFULLY POSITION WATER PIPING ON THE HEATED SIDE (INTERIOR SIDE) OF THE WALL INSULATION.
- MAINTAIN 10'-0" MINIMUM CLEARANCE BETWEEN FRESH AIR INTAKES, OPERABLE WINDOWS AND FLUES, AND PLUMBING VENTS.
- ALL SEWER & VENT PIPING SHALL BE RODDED AND CLEANED AT END OF CONSTRUCTION. ALL TRAPS SHALL BE CLEANED AND PRIMED AT END OF CONSTRUCTION.
- ALL PIPE DROPS FROM CEILING PLENUM TO FLOOR SHALL BE MADE IN FURROUTS AT COLUMNS, IN WEB OF BEAMS AT COLUMNS OR IN WALLS. PIPING SHALL BE CONCEALED UNLESS APPROVED BY ARCHITECT.
- PROVIDE WATER HAMMER ARRESTORS IN FIXTURE BRANCHES WHERE QUICK CLOSING VALVES ARE INSTALLED; i.e., FLUSH VALVES, ICE MAKERS, DISHWASHERS, ETC.
- BELOW SLAB WATER PIPE TO BE TYPE K SOFT DRAWN COPPER WITHOUT FITTINGS OR JOINTS. SLEEVE IN ENTIRETY WITH POLYETHYLENE SLEEVE. WRAP IN 1/2" FLEXIBLE CELLULAR INSULATION WHERE PIPING UNAVOIDABLY PASSES THROUGH CONCRETE FOUNDATIONS.
- PROVIDE APPROVED BACKFLOW PREVENTION OR ANTI-SIPHON DEVICES AT ALL FIXTURES THAT COULD CONTAMINATE THE POTABLE WATER SYSTEM.
- INSULATE ALL WATER PIPING (VERTICAL AND HORIZONTAL) ABOVE FINISH FLOOR. SEE SPECIFICATIONS FOR THICKNESS SCHEDULE.
- INSULATE ALL EXPOSED HOT WATER & DRAIN PIPING FOR ACCESSIBLE FIXTURES PER ANSI A117.1 AND ADA REQUIREMENTS.
- ALL EXPOSED MATERIALS WITHIN RETURN AIR PLENUMS (EXISTING AND NEW) SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 OR A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50, AS DETERMINED IN ACCORDANCE WITH ASTM E84 AND U.L. LISTINGS. IF ANY MATERIALS (EXISTING OR NEW) DO NOT MEET THESE STANDARDS, THE ITEMS SHALL BE ENCLOSED IN A GYPSUM-BOARD ENCLOSURE, BE REPLACED WITH PLENUM RATED MATERIALS (I.E. CAST IRON), OR BE WRAPPED WITH AN APPROVED FIRE RATING MATERIAL, SUCH AS 3M FYRE WRAP. PLASTIC PIPING (PVC, ABS, AND CPVC) IS NOT APPROVED TO BE INSTALLED WITHIN RETURN AIR PLENUMS. BY NECESSITY, WE HAVE NOTED AS MANY AREAS AS POSSIBLE ON THE PLANS WHERE THESE CONDITIONS OCCUR, BUT IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXISTING CONDITIONS (WHETHER SHOWN ON THE PLANS OR NOT) AND INCLUDE THE REPLACEMENT/WRAPPING OF THESE ITEMS IN THE BID PRICE (SEE NOTE 7 ABOVE). COORDINATE RETURN AIR PLENUM LOCATIONS AND ANY NOTED DISCREPANCIES FROM THE PLANS WITH MECHANICAL ENGINEER PRIOR TO BID.
- FLOOR DRAINS IN MECHANICAL ROOMS ARE SHOWN FOR GENERAL LOCATION ONLY. FLOOR DRAINS SHALL BE ACCESSIBLE AND SHALL BE VERIFIED WITH EQUIPMENT LAYOUT FOR INTERFERENCES.
- AN APPROVED TRAP SEAL DEVICE CONFORMING TO ASSE 1072 SHALL BE INSTALLED AT ALL FLOOR AND HUB DRAINS. ALL DRAINS SHALL HAVE DEEP SEAL TRAPS, 4" DEEP SEAL MINIMUM. INSTALL TRAP GUARD DEVICES PER MANUFACTURER'S INSTRUCTIONS.
- DOMESTIC WATER SERVICE PIPING AND FITTINGS; E.G., CHECK VALVES, RPZA, SHUT-OFF VALVES, STRAINERS, PRESSURE REGULATORS, ETC. SHALL COMPLY WITH NSF 61 CRITERIA. ALL CAST IRON EQUIPMENT IS TO BE INTERNALLY EPOXY COATED.

## ADA REQUIREMENTS

WATER CLOSETS: THE HEIGHT OF WATER CLOSETS SHALL BE 17"-19" MEASURED FROM THE TOP OF THE TOILET SEAT. SEATS SHALL NOT BE SPRUNG OR RETURN TO A LIFTED POSITION. THE WATER CLOSET SHALL BE LOCATED 18" FROM THE SIDE WALL TO THE CENTER OF THE BOWL. HAND OPERATED FLUSH CONTROLS SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS NO MORE THAN 29" ABOVE FINISHED FLOOR. SEE ARCHITECTURAL SHEETS FOR GRAB BAR LOCATIONS.

URINALS: THE URINALS SHALL BE WALL HUNG WITH AN ELONGATED RIM AT A MAXIMUM OF 17" ABOVE FINISHED FLOOR. HAND OPERATED FLUSH CONTROLS SHALL BE MOUNTED NO MORE THAN 44" ABOVE FINISHED FLOOR.

LAVATORIES: LAVATORIES SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO MORE THAN 34" ABOVE FINISHED FLOOR. PROVIDE A CLEARANCE OF AT LEAST 29" ABOVE FINISHED FLOOR TO THE BOTTOM OF THE APRON. KNEE SPACE SHALL BE 8" FROM THE BOTTOM EDGE OF APRON TO THE LEADING EDGE OF THE BOTTOM OF BOWL. THE BOTTOM OF THE BOWL SHALL BE A MINIMUM OF 27" ABOVE FINISHED FLOOR. ALL WATER AND DRAIN PIPING UNDER LAVATORIES SHALL BE INSULATED WITH FOAM INSERT, COVERED WITH A 1/8" VINYL OUTER SHELL. ANGLE STOPS SHALL HAVE A FLIP TOP ACCESS.

FAUCET CONTROLS: CONTROLS SHALL BE LEVER HANDLES OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 lbf.

SINKS: SINKS SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO MORE THAN 34" ABOVE FINISHED FLOOR. PROVIDE A CLEARANCE OF AT LEAST 27" HIGH, 30" WIDE, AND 19" DEEP. SINKS SHALL BE A MAXIMUM OF 6-1/2" DEEP. ALL WATER AND DRAIN PIPING UNDER SINKS SHALL BE PROVIDED WITH INSULATING FOAM INSERT, COVERED WITH A 1/8" VINYL OUTER SHELL. ANGLE STOPS SHALL HAVE A FLIP TOP ACCESS.



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AEROJET ROCKETDYNE

A17 CONTROL BUILDING

EAST CAMDEN,

ARKANSAS

Project

Design Phase

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION

CROMWELL ARCHITECTS/ENGINEERS

#5

ARKANSAS-ENGINEER

STATE OF ARKANSAS

REGISTERED PROFESSIONAL ENGINEER

No. 11828

JOEL FUNKHOUSER

02-20-2025

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Project Number

Issue Date

Sheet Title

PLUMBING LEGEND AND NOTES

Sheet Number

P-001

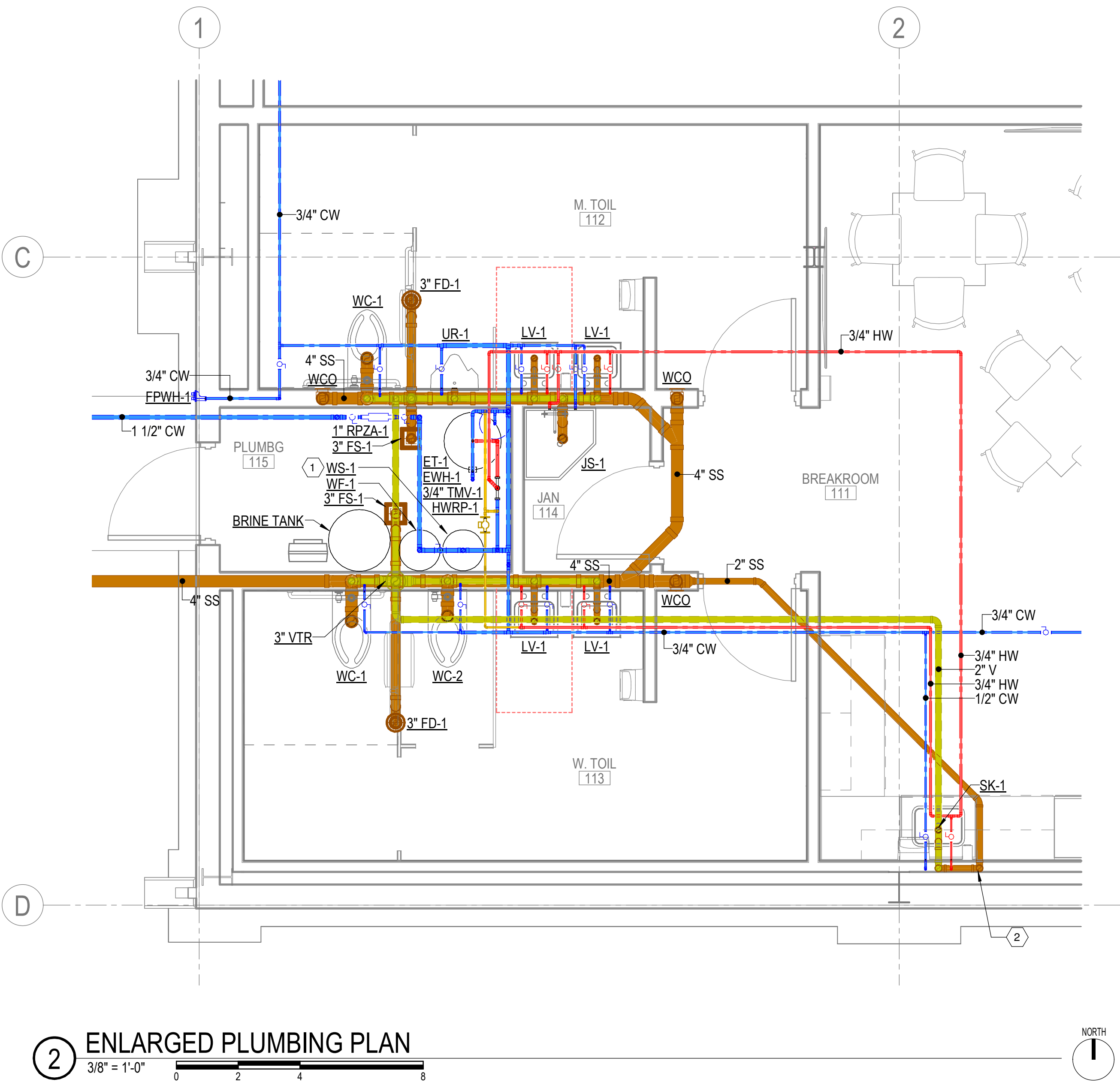
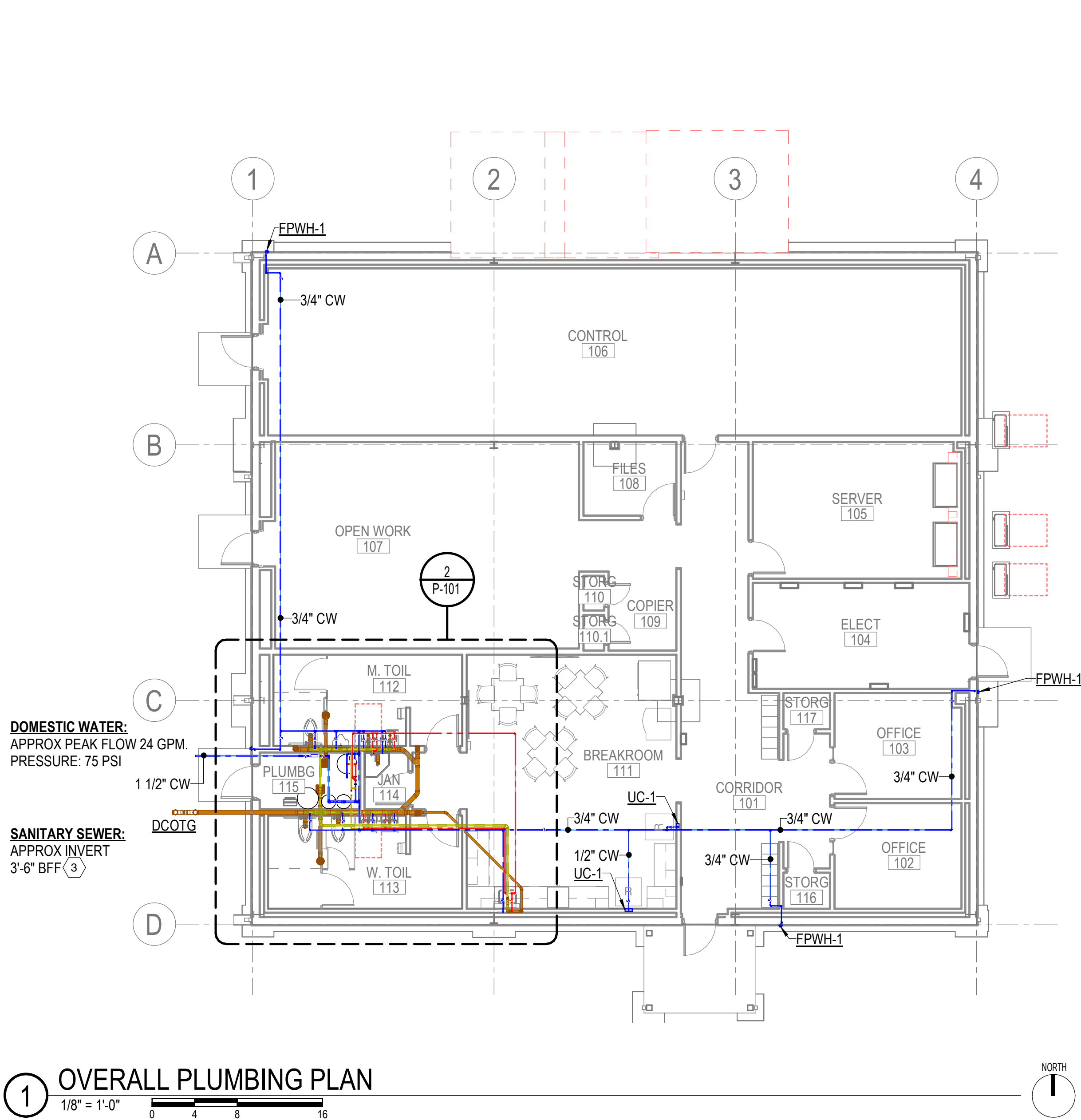


GENERAL NOTES

1 REFER TO SHEET P-001 FOR LEGEND AND NOTES.

KEYED NOTES

- 1 DOMESTIC WATER FILTER AND SOFTENER SYSTEM. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. CONNECT IMMEDIATELY DOWNSTREAM OF RPZA-1. SEE P-501 DETAIL 3.
- 2 ROUTE SANITARY PIPING TO SINK WHILE AVOIDING FOOTING IF POSSIBLE. IF NOT POSSIBLE, WRAP PIPE PIPE WITH 1/2" THICK FLEXIBLE UNICELLULAR INSULATION WHERE PIPE IS IN CONCRETE FOUNDATION.
- 3 COORDINATE SANITARY INVERT WITH ELEVATION OF EXISTING SEPTIC TANK TO PROVIDE 1/8 INCH PER FOOT MINIMUM SLOPE BETWEEN BUILDING AND TANK. VERIFY ELEVATION OF TANK PRIOR TO CONSTRUCTION AND INSTALL BUILDING DRAIN ACCORDINGLY.



AEROJET ROCKETDYNE  
A17 CONTROL BUILDING  
EAST CAMDEN,  
ARKANSAS

Design Phase

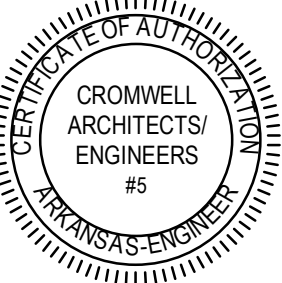
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Project Number

2024-210

Issue Date

02-20-2025

Sheet Title

OVERALL PLUMBING  
PLAN

Sheet Number

P-101

Project

AEROJET ROCKETDYNE  
A17 CONTROL BUILDING  
EAST CAMDEN,  
ARKANSAS

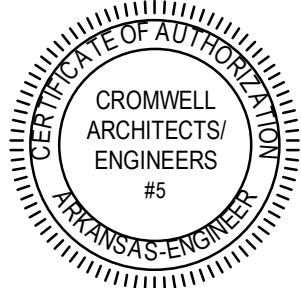
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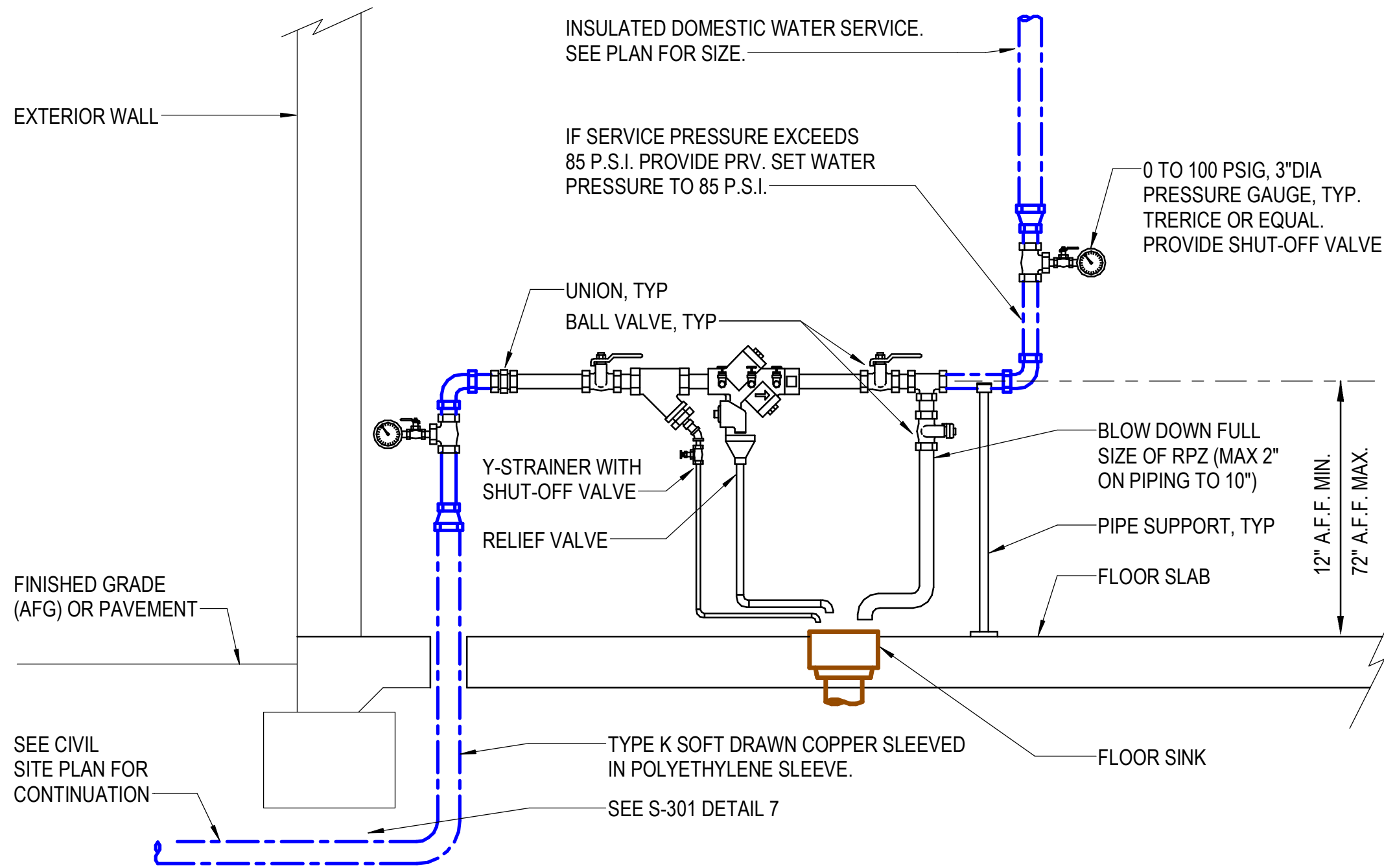
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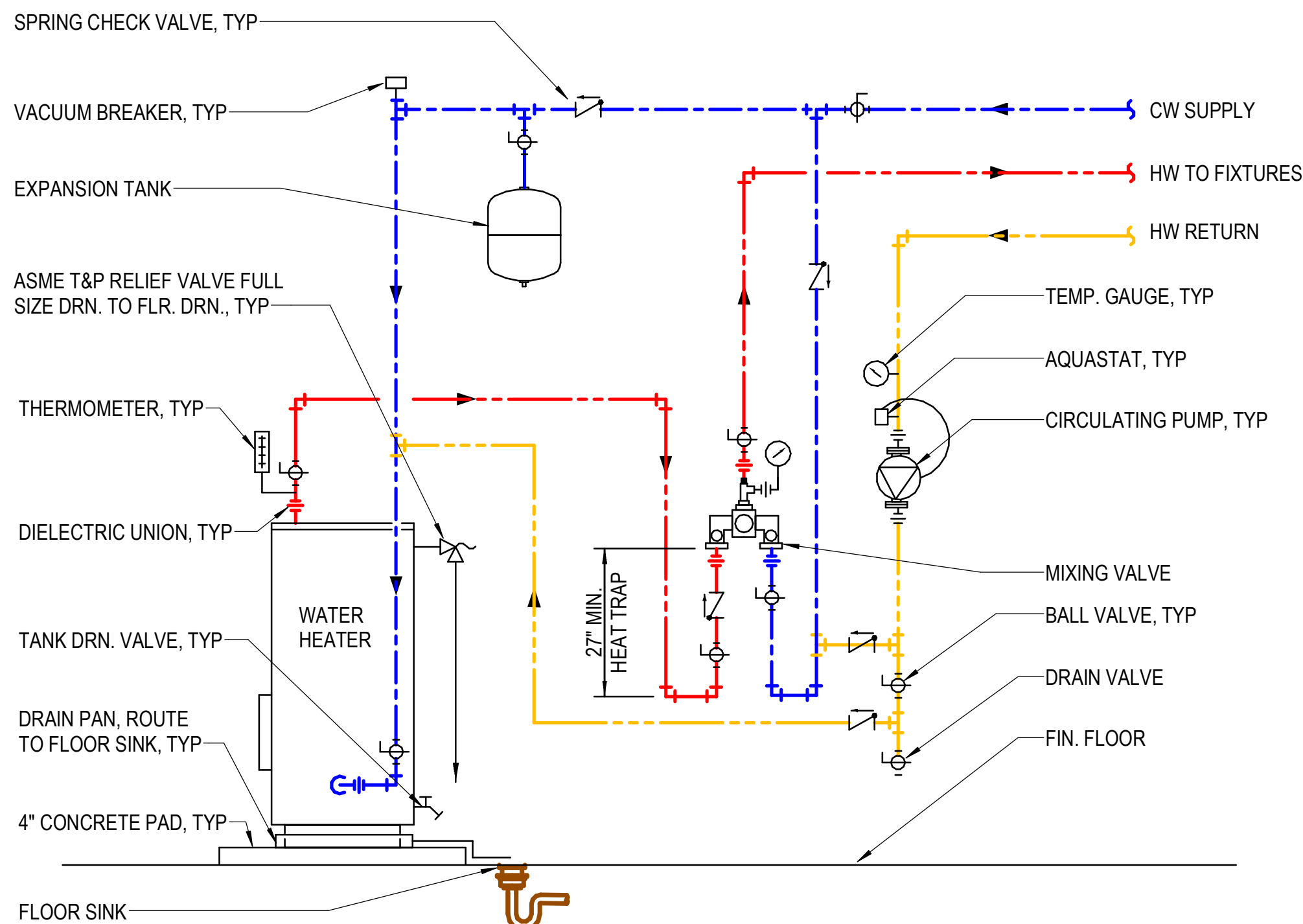
PLUMBING DETAILS

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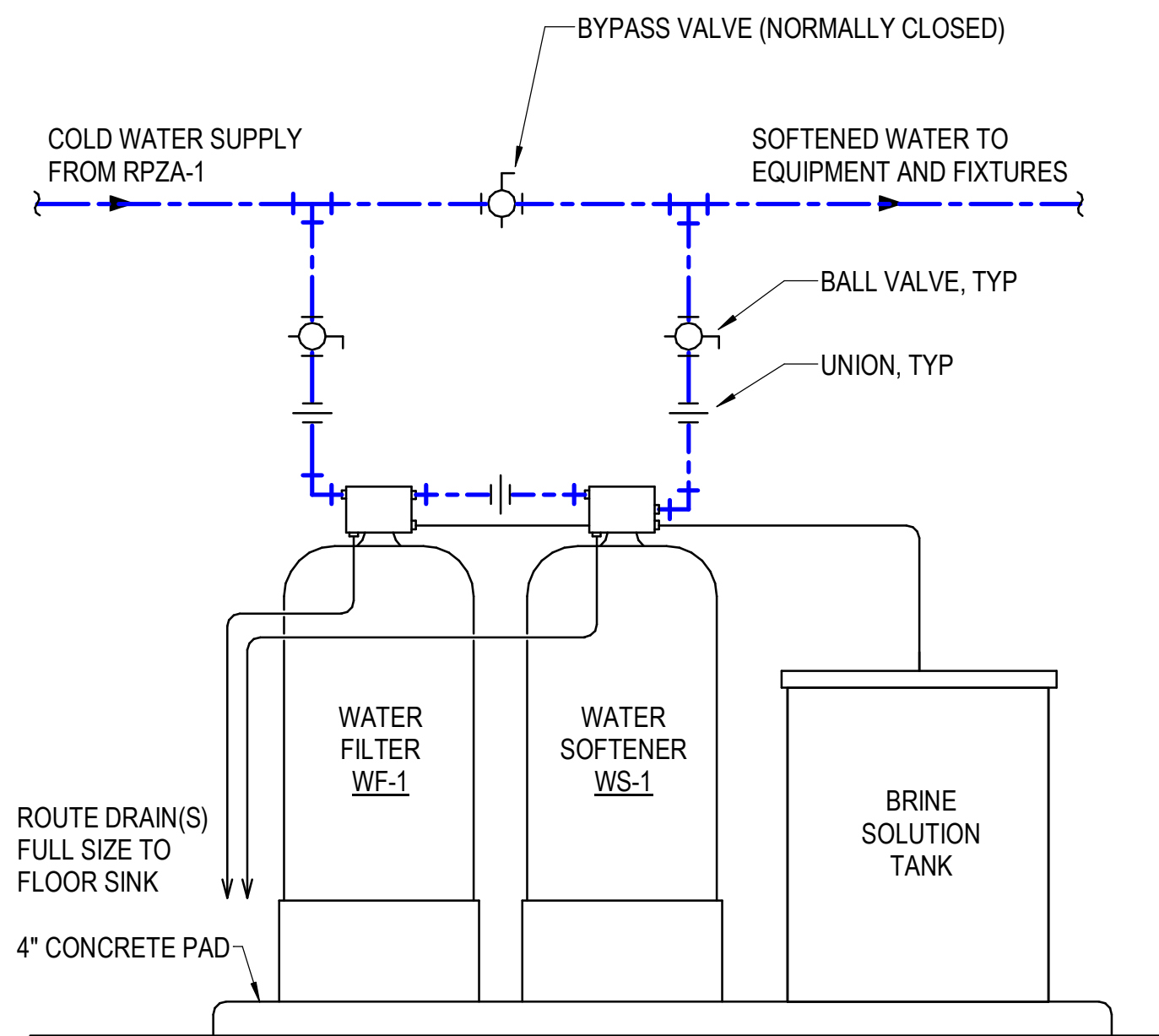
P-501



1 DOMESTIC WATER BUILDING SERVICE  
NOT TO SCALE



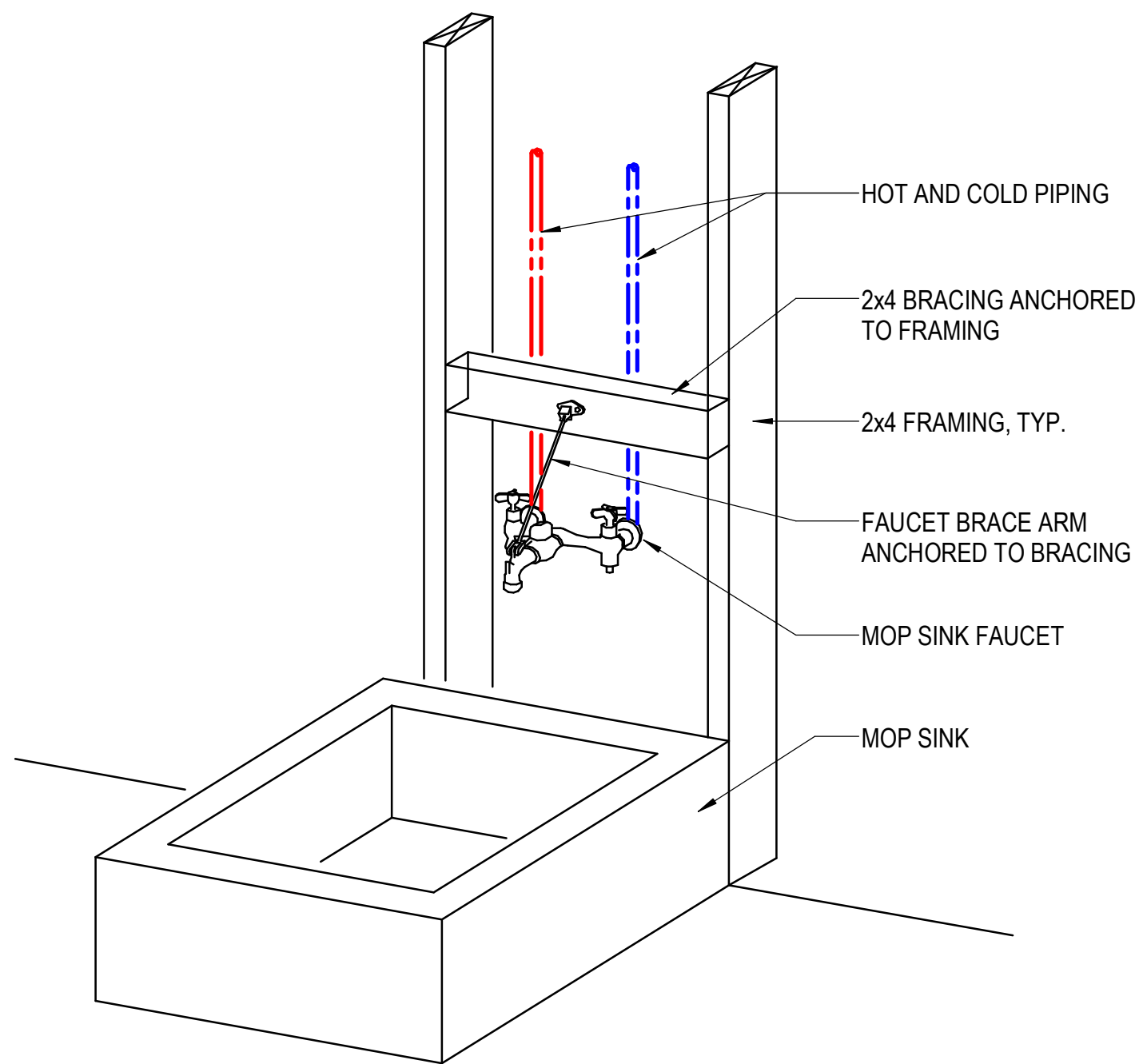
2 WATER HEATER INSTALLATION - EWH-1  
NOT TO SCALE



NOTES:

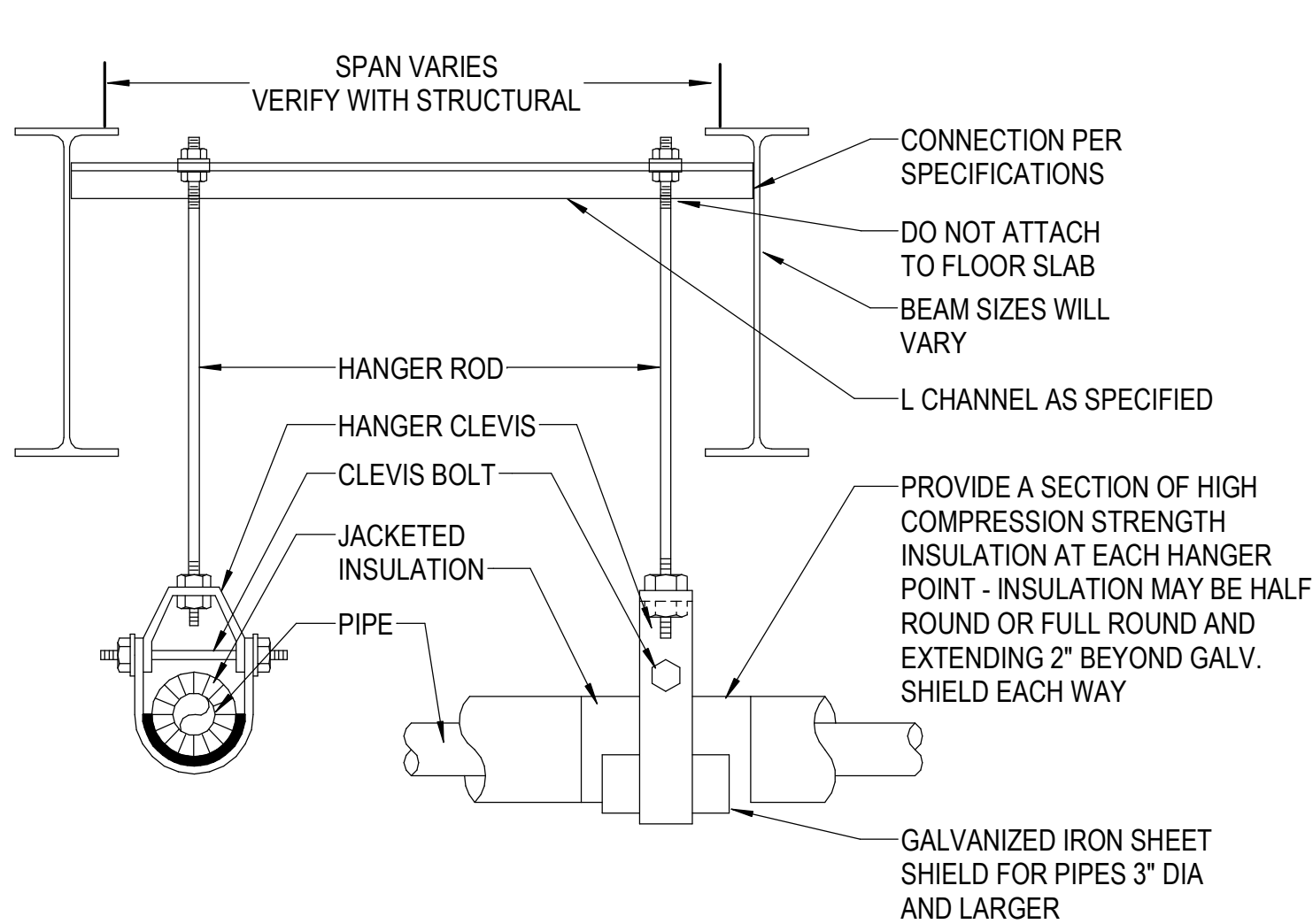
- INSTALLATION AND SIZING OF EQUIPMENT, PIPING, PUMPS AND ACCESSORIES SHALL BE IN STRICT ACCORDANCE WITH MFR'S RECOMMENDATIONS.
- PIPING ARRANGEMENT IS DIAGRAMMATIC AND IS SHOWN FOR CLARITY. PIPING SHALL BE INSTALLED NEATLY AND GROUPED FOR EASY ACCESS AND SERVICEABILITY.
- COLD WATER TO ENTER FILTER FIRST FOLLOWED BY SOFTENER.
- ALL ISOLATION BALL VALVES SHALL BE FULL PORT TYPE.
- ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.
- PROVIDE AIR GAP WHERE DRAIN LINE ROUTES TO FLOOR SINK.
- SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECTED TO VACUUM.

3 WATER SOFTENER SYSTEM  
NOT TO SCALE



4 JS-1 FAUCET BRACING  
NOT TO SCALE

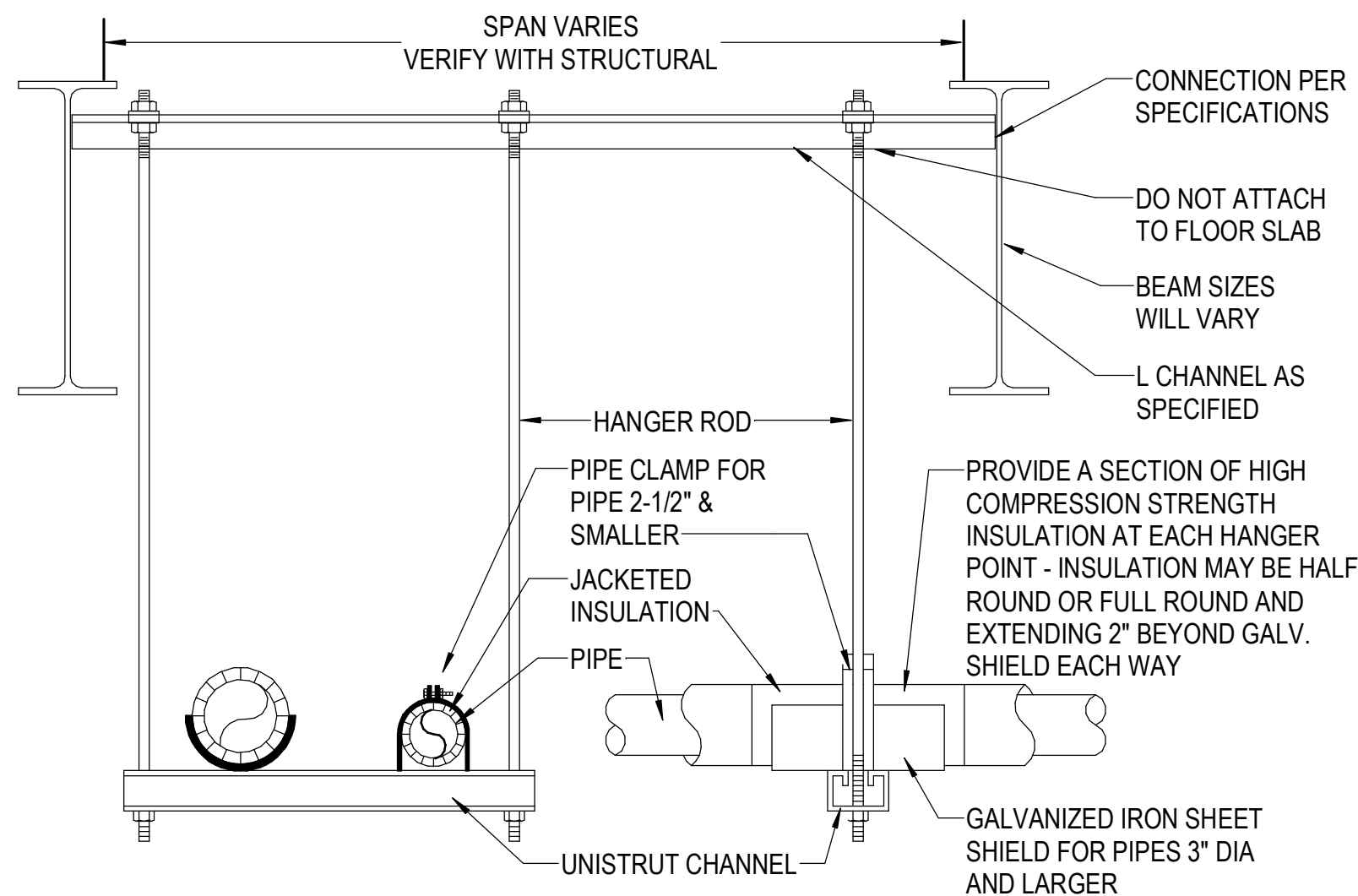




NOTES:

1. INSULATION TO BE CONTINUOUS THROUGH HANGERS. DO NOT BREAK INSULATION AT SUPPORTS, DO NOT INSULATE AROUND HANGERS.
2. INSULATION JACKET TO BE CONTINUOUS THROUGH PIPE SUPPORT COMPONENTS.
3. USE CLEVIS HANGERS FOR SINGLE PIPE RUNS, USE TRAPEZE HANGERS TO GROUP AS MUCH PIPING AS POSSIBLE PER HANGER.

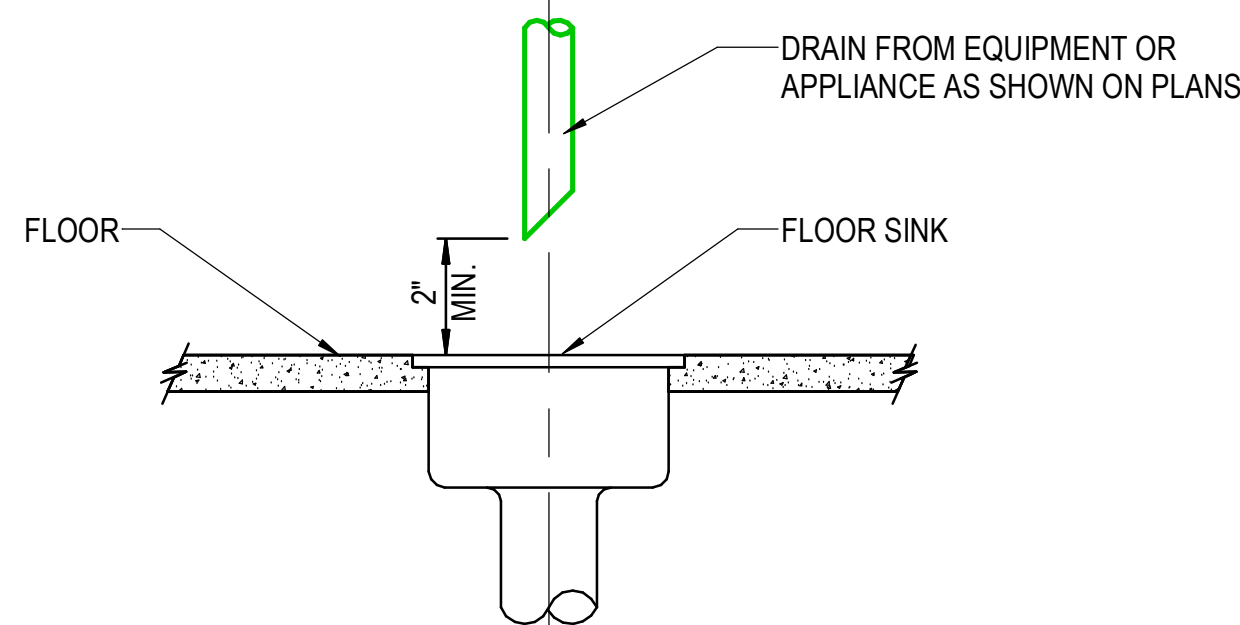
1 ADJUSTABLE CLEVIS HANGER  
NOT TO SCALE



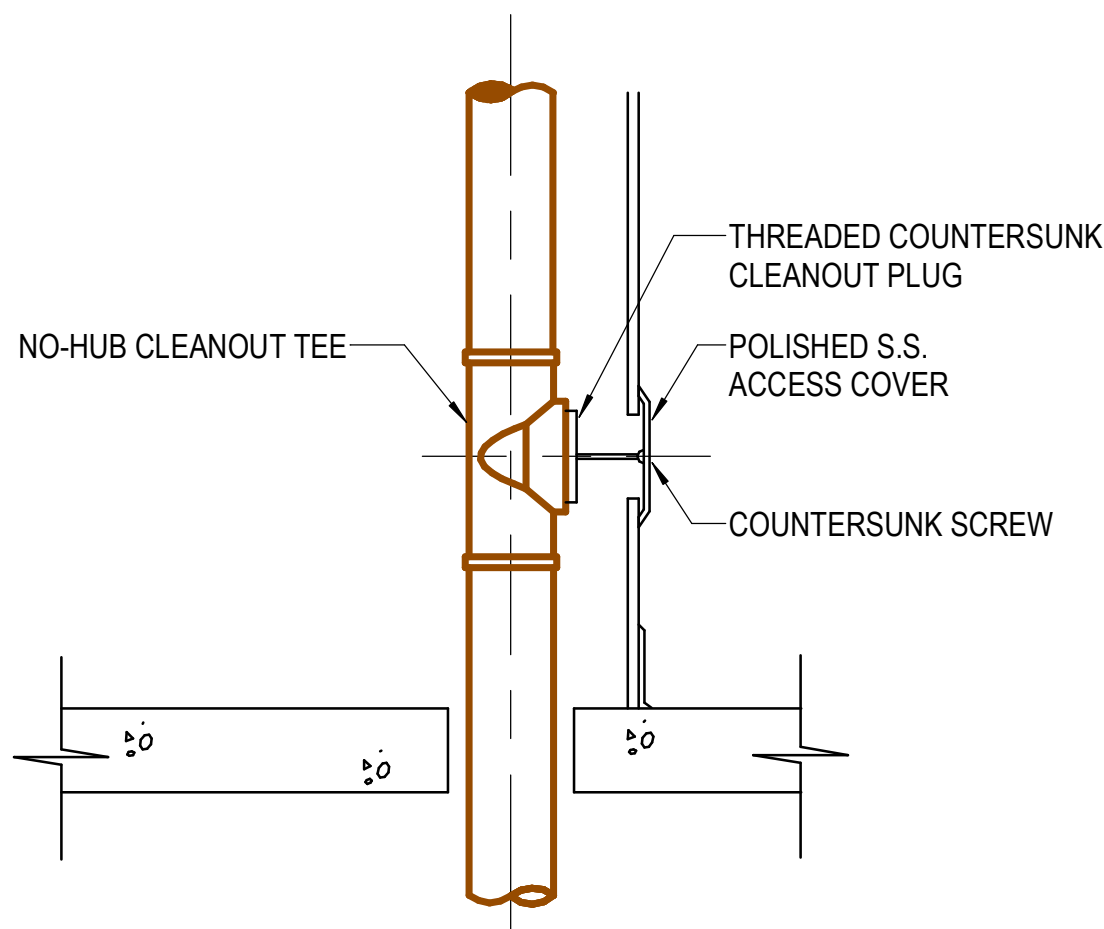
NOTES:

1. INSULATION TO BE CONTINUOUS THROUGH HANGERS. DO NOT BREAK INSULATION AT SUPPORTS, DO NOT INSULATE AROUND HANGERS.
2. INSULATION JACKET TO BE CONTINUOUS THROUGH PIPE SUPPORT COMPONENTS.
3. USE CLEVIS HANGERS FOR SINGLE PIPE RUNS, USE TRAPEZE HANGERS TO GROUP AS MUCH PIPING AS POSSIBLE PER HANGER.

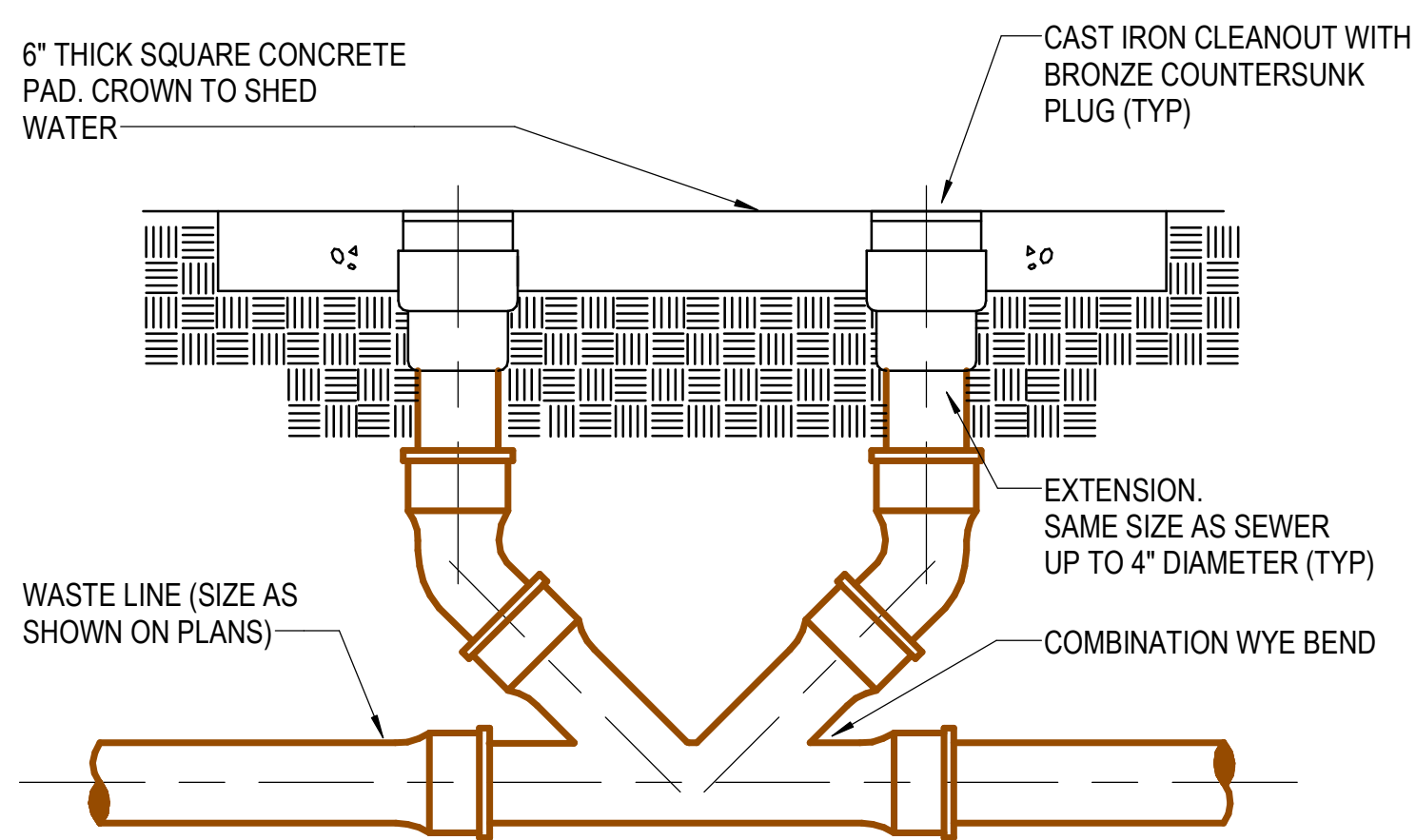
2 TRAPEZE PIPE HANGER  
NOT TO SCALE



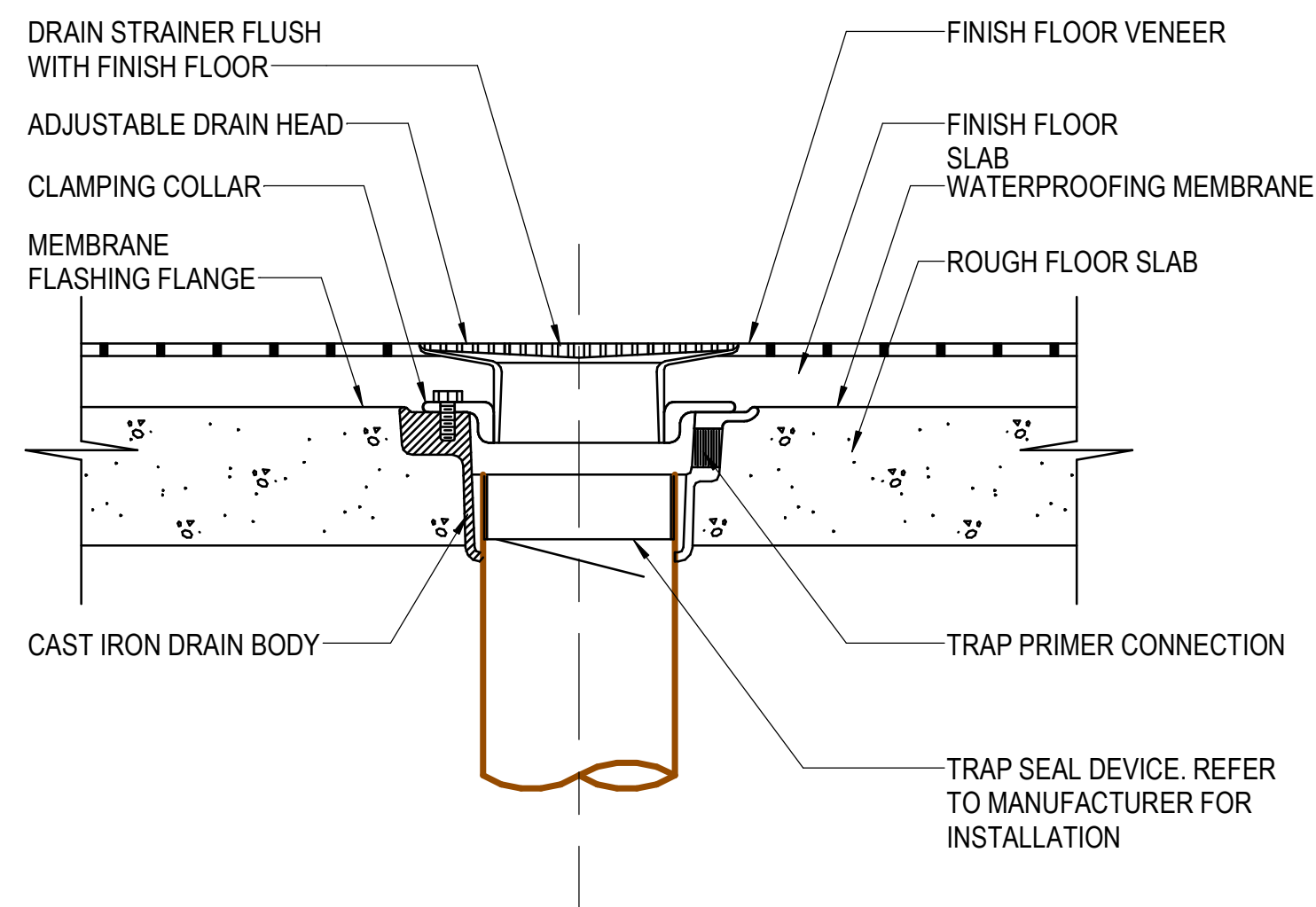
3 INDIRECT WASTE DRAIN  
NOT TO SCALE



A WALL CLEANOUT  
NOTE: SEE SPECIFICATIONS FOR MATERIALS



B DOUBLE CLEANOUT-TO-GRADE  
NOTE: SEE SPECIFICATIONS FOR MATERIALS



4 TRAP SEAL DEVICE INSTALLATION  
NOT TO SCALE

5 TYPICAL CLEANOUTS  
NOT TO SCALE

Project

AEROJET ROCKETDYNE  
A17 CONTROL BUILDING  
EAST CAMDEN,  
ARKANSAS

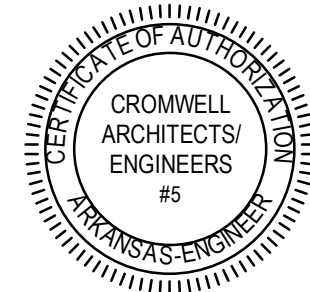
Design Phase

CONSTRUCTION  
DOCUMENTS

Revisions

No.	Date	Description

Stamp



02-20-2025

Notes

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Project Number

2024-210

Issue Date

02-20-2025

Sheet Title

PLUMBING DETAILS

Sheet Number

P-502

PLUMBING FIXTURE									
ID	BASIS OF DESIGN		SPECIFICATION						
	MANUFACTURER & MODEL	ACCESSORIES		COLD	HOT	WASTE	INDIRECT	VENT	TRAP
WC-1	AMERICAN STANDARD #211AA.104 "CHAMPION PRO",	MCGUIRE SUPPLY STOP VALVES #LFBV2, AMERICAN STANDARD SEAT #5901.110	WATER CLOSET - ADA COMPLIANT, 30-1/4"x19"x30-7/8"H, 1.28 GPF, FLOOR MOUNTED TANK TYPE, VITREOUS CHINA, PISTON-ACTION FLUSH VALVE, ANTI-BACTERIA INHIBITORS, ELONGATED BOWL, SEAT - OPEN FRONT SEAT, SELF SUSTAINING, LESS COVER	1/2"	---	4"	---	2"	INTEGRAL
WC-2	AMERICAN STANDARD #211CA.104 "CHAMPION PRO",	MCGUIRE SUPPLY STOP VALVES #LFBV2, AMERICAN STANDARD SEAT #5901.110	WATER CLOSET - 30-1/4"x19"x29-3/8"H, 1.28 GPF, FLOOR MOUNTED TANK TYPE, VITREOUS CHINA, ANTI-BACTERIA INHIBITORS, ELONGATED BOWL, SEAT - OPEN FRONT SEAT, SELF SUSTAINING, LESS COVER	1/2"	---	4"	---	2"	INTEGRAL
UR-1	AMERICAN STANDARD #6590.001 "WASHBROOK", SLOAN FLUSH VALVE #180-1.0 "ROYAL"	MCGUIRE SUPPLY STOP VALVES #LFBV2, WADE CARRIER #402 SERIES	URINAL - STANDARD HIEGHT, WALL MOUNTED, VITREOUS CHINA, 3/4" EXPOSED TOP SPUD, WASHOUT ACTION, INTEGRAL TRAP, FLUSH VALVE - 0.5 GPF, MASHAERATOR SELF-CLEANING BYPASS DIAPHRAGM, EXTERNALLY ADJUSTABLE FLOW RATE, REMOVABLE AND REPLACEABLE SEAT	3/4"	---	2"	---	2"	INTEGRAL
LV-1	AMERICAN STANDARD #0355.012 "LUCERNE", CHICAGO FAUCET #420-T45E2805ABCP	MCGUIRE OFFSET P-TRAP KIT PW2150, MCGUIRE SUPPLY STOP VALVES #LFBV2-02, WADE CARRIER #530 SERIES	LAVATORY - ADA COMPLIANT, 18-1/4"x20-1/2"x38"H, WALL HUNG, WHITE VITREOUS CHINA, FRONT OVERFLOW, TWO FAUCET HOLES ON 4" CENTERS, FAUCET - 0.5 GPM, MANUAL, SINGLE LEVER, LEAD FREE, 4" SPOUT, DUAL HOT/COLD SUPPLY ON 4" CENTERS, INTEGRAL THERMOSTATIC MIXING ABOVE DECK, CARRIER - CONCEALED ARM WALL CARRIER	1/2"	1/2"	2"	---	2"	1-1/4"
SK-1	JUST MFG #SL-1815-A-GR, CHICAGO FAUCET #434-FC1ABCP	MCGUIRE BASKET STRAINER #151SAN, MCGUIRE P-TRAP #8912, MCGUIRE SUPPLY STOP VALVES #LFBV2-04, PROVIDE SUPPLY STOP VALVES FOR ALL ADJACENT PLUMBING ACCESSORIES	SINK - ADA COMPLIANT, 18"x15"x7-1/2"D, 1 COMPARTMENT (12"x12"x7-1/2"D), COUNTER-TOP, SELF RIMMING, 18 GAUGE TYPE 302 STAINLESS STEEL, CENTER DRAIN OUTLET, THREE FAUCET HOLES ON 8" CENTERS, FAUCET - 1.0 GPM, CHROME PLATED LEAD FREE, 8-1/4" SWING SPOUT WITH DUAL-PATTERN PULL DOWN OUTLET, DECK MTD, SINGLE LEVER HANDLE, CONCEALED DUAL HOT/COLD SUPPLY, SINGLE HOLE	1/2"	1/2"	2"	---	2"	1-1/2"
JS-1	STERN WILLIAMS #SBC-1500, T&S BRASS #B-0658	STERN-WILLIAMS #T-35 RUBBER HOSE AND HANGER, STERN-WILLIAMS #T-40 MOP HANGER, (2) STERN-WILLIAMS #BP SPLASH PANELS	MOP SINK - 24" x 24" x 10", FLOOR MTD, CORNER, PRECAST TERAZZO, STAINLESS STEEL CAPS, FAUCET - CHROME PLATED LEAD FREE, VACUUM BREAKER, PAIL HOOK, 6" WRIST BLADE CONTROLS, 3/4" HOSE THREADED OUTLET, COMPRESSION CARTRIDGES WITH SPRING CHECK VALVES, UPPER SUPPORT ROD	3/4"	3/4"	3"	---	2"	3"
FPWH-1	WOODFORD #67,	PROVIDE FULL PORT ISOLATION BALL VALVE FOR FIXTURE	FREEZEPROOF WALL HYDRANT - SIZE FOR WALL THICKNESS-4", RED BRASS VALVE BODY, 3/8" SOLID BRASS OPERATING ROD, HARDENED STAINLESS STEEL STEM, ONE PIECE VALVE PLUNGER, COPPER CASTING TUBES, DRAIN PORT UNDER NOZZLE, 3/4" HOSE CONNECTION W/ HIGH FLOW DOUBLE CHECK BACKFLOW PREVENTER, ADJUSTABLE WALL CLAMP	3/4"	---	---	---	---	---
UC-1	GUY GRAY #MB1HAAB,	---	UTILITY CONNECTION BOX - 7"x7"x2-1/2", WHITE POWDER COATED 20 GAUGE STEEL WALL BOX, BOTTOM SUPPLY VALVE, LEAD FREE BRASS, QUARTER TURN, SWEAT INLET CONNECTION, INTEGRAL HAMMER ARESSTOR, MOUNT LOW ON WALL IN ACCESSIBLE LOCATION	1/2"	---	---	---	---	---
FD-1	MIFAB #F1100-6-1-MG,	(-MG) MIFAB "MI-GARD" TRAP SEAL DEVICE	FLOOR DRAIN - 6"DIA STRAINER, LACQUERED CAST IRON W/ ANCHOR FLANGE, OPTIONAL CLAMPING COLLAR FOR MEMBRANE FLOORS, SEEPAGE OPENINGS, 6"DIA SATIN NICKEL BRONZE FINISHED STRAINER, VANDAL RESISTANT STAINLESS STEEL ALLEN KEY SCREWS	---	---	SEE PLAN	---	2"	SEE PLAN
FS-1	MIFAB #FS1520-FL-150-MG,	(-MG) MIFAB "MI-GARD" TRAP SEAL DEVICE	FLOOR SINK - 8"x8"x6"D, ACID RESISTANT ENAMEL COATING ON DRAIN AND GRATE, (-150) LOOSE SET 1/2 GRATE, ANCHOR FLANGE, OPTIONAL CLAMPING COLLAR FOR MEMBRANE FLOORS, SEEPAGE OPENINGS, ANTI-SPLASH ALUMINUM DOME BOTTOM STRAINER	---	---	SEE PLAN	---	2"	SEE PLAN

PLUMBING ACCESSORY			
ID	BASIS OF DESIGN		SPECIFICATION
	MANUFACTURER & MODEL		UTILITY CONNECTION
RPZA-1	APOLLO VALVE #RPLF4A-218-A4F	REDUCED PRESSURE ZONE ASSEMBLY - 1 INCH, LEAD FREE CAST BRASS, EASILY REMOVABLE MODULAR CHECK VALVE ASSEMBLIES, CAPTURED STAINLESS STEEL SPRINGS, BALL VALVE SHUT-OFFS W/ STAINLESS STEEL HANDLES AND UNIONS, WYE STRAINER INCLUDED, MODULAR RELIEF VALVE, 175 PSI MAX WORKING PRESSURE, 33F-180F TEMP RANGE, ALL PARTS, COMPONENTS, AND ASSEMBLIES MADE IN USA	1"CW
TMV-1	LEONARD #TM-26-LF-BDT-IT	THERMOSTATIC MIXING VALVE - SOLID BI-METAL THERMOSTAT CONTROLS, 3/4" SWEAT CONNECTIONS, 1 GPM MINIMUM FLOW, INTEGRAL CHECK STOPS, LEAD FREE BRONZE, BRASS, AND STAINLESS STEEL CONSTRUCTION, 125 MAX PRESSURE, COLOR CODED DIAL, ADJUSTABLE HIGH LIMIT TEMPERATURE STOP SET FOR 125°F, BALL VALVE WITH DIAL THERMOMETER ON OUTLET, INLET THERMOMETERS, ASSE 1017 CERTIFIED	3/4"CW INLET, 3/4"HW INLET, 3/4"TW OUTLET
ET-1	AMTROL #ST-12-C "THERM-X-TROL"	EXPANSION TANK - 6.4 GAL TOTAL CAPACITY, 150 PSI WORKING PRESSURE, 12"DIA x 18" H, 3/4" NPT THREADED CONNECTION, 17 LBS, PROVIDE FULL PORT ISOLATION BALL VALVE AT CONNECTION TO CW	3/4" CW
WCO	WADE #8304-COF SERIES	WALL CLEANOUT - SAME SIZE AS LINE, MAX 4", CAST IRON FERRULE W/ ABS PLUG, ROUND STAINLESS STEEL SECURE ACCESS COVER, COUNTERSUNK CENTER SCREW	SAME SIZE AS LINE, MAX 4"
DCOTG	WADE #6000-12 SERIES	DOUBLE-CLEANOUT-TO-GRADE - SAME SIZE AS LINE, MAX. 4 INCH, HEAVY DUTY CAST IRON, FERRULE, THREADED ADJUSTABLE HOUSING, INTEGRAL CLAMPING COLLAR, ABS PLUG, 7-1/8 INCH SQUARE HEAVY DUTY DUCTILE IRON TOP	SAME SIZE AS LINE, MAX 4"
WF-1	CULLIGAN #HE DF-16	WATER FILTER TANK - 16"Dx54"H, CORROSION-RESISTANT FRP CONSTRUCTION, 14GPM CONTINUOUS FLOW @ 4PSI DROP, 21GPM PEAK FLOW @ 6PSI DROP, 20GPM BACKWASH DRAIN FLOW, 280LB MEDIA CAPACITY, 20-125PSI OPERATING PRESSURE RANGE, MEETS NSF 61	1-1/2"CW
WS-1	CULLIGAN #HE-090	WATER SOFTENER TANK - 16"Dx53"H, CORROSION-RESISTANT FRP CONSTRUCTION, 26.6GPM CONTINUOUS FLOW @ 15PSI DROP, 35.2GPM PEAK FLOW @ 25PSI DROP, 5.5GPM DRAIN FLOW, 3FT³ RESIN CAPACITY, 5 NTU MAX TURBIDITY, 20-125PSI OPERATING PRESSURE RANGE, MEETS NSF 61, INCLUDE 80 GALLON BRINE TANK AS RECOMMENDED BY MANUFACTURER	1-1/2"CW

PLUMBING EQUIPMENT								
ID	BASIS OF DESIGN	SPECIFICATION	ELECTRICAL					
	MANUFACTURER & MODEL		UTILITY CONNECTIONS	CONNECTION TYPE	VOLTAGE	PHASE	POWER	AMPS
EWH-1	RHEEM #EGSP30	ELECTRIC WATER HEATER - 30 GAL, 12 GPH @ 100°F RISE, 17"DIA 45"H, TANK TYPE, HIGH-TEMP PORCELAIN ENAMEL TANK LINING, MAGNESIUM ANODE ROD RIGIDLY SUPPORTED, 150 PSI WORKING PRESSURE RATING, COPPER RESISTORED SCREW-IN ELEMENTS, INSLUTED WITH 2-1/2" RIGID POLYURETHANE FOAM, SURFACE MOUNTED THERMOSTATS WITH INTEGRAL MANUAL RESET, HIGH LIMIT CONTROL, CSA/ASME RATED T&P RELIEVE VALVE, UL SEAL OF CERTIFICATION, COMPLETELY FACTORY ASSEMBLED. DESIGN TEMPERATURE SETPOINT: 140°F	3/4"CW, 3/4"HW TANK DRAIN	HARDWIRED WITH GFCI PROTECTION	208 V	1	3 kW	14.5 FLA
HWRP-1	TACO #007e-SF4	HOT WATER CIRCULATOR PUMP - VARIABLE FLOWRATE, 16 GPM MAX FLOWRATE, 10' MAX SHUTOFF HEAD, 7"x4-1/8"x6-3/8", STAINLESS STEEL CASING, COMPOSITE STATOR HOUSING, COMPOSITE CARTRIDGE, COMPOSITE IMPELLER, CERAMIC SHAFT, CARBON BEARINGS, EPDM O-RINGS/GASKETS, SELF LUBRICATING, DIRECT DRIVE, REPLACEABLE CARTRIDGE DESIGN, NO MECHANICAL SEAL. SET FLOW TO MAINTAIN >120°F RETURN TEMP	3/4" CW	HARDWIRED WITH GFCI PROTECTION	120 V	1	44 W	.54 FLA

WATER HAMMER ARRESTOR						
P.D.I. UNITS	A	B	C	D	E	F
FIXTURE UNITS	1-11	12-32	33-60	61-113	114-154	155-330
WADE "SHOKSTOP" #4481 SERIES WATER HAMMER ARRESTOR, SEAMLESS COPPER CONSTRUCTION, POLYPROPYLENE PISTON, (2) EPDM O-RINGS, MNPT CONNECTION, MAX. PRESS. 350 PSI, MAX. TEMP. 250°F, PROVIDE PROPERLY SIZED WATER HAMMER ARRESTORS AND LOCATE ON PIPING IMMEDIATELY UPSTREAM OF ALL QUICK CLOSING VALVES (E.G. FLUSH VALVES, DISHWASHER, ICE MAKERS, SOLENOID VALVES, ETC.)						

Project

Design Phase

Revisions

Stamp

Notes

AEROJET ROCKETDYNE  
A17 CONTROL BUILDING  
EAST CAMDEN,  
ARKANSAS

CERTIFICATE OF AUTHORITY  
CROMWELL  
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#5  
ARKANSAS-ENGINEER

STATE OF  
ARKANSAS  
REGISTERED  
PROFESSIONAL  
ENGINEER  
No. 11828  
JOEL HUNKHOUSER

02-20-2025

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Issue Date

Sheet Title

2024-210

02-20-2025

PLUMBING  
SCHEDULES

Sheet Number

P-601



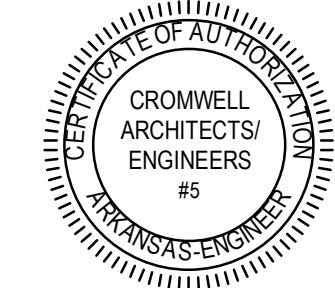
AEROJET ROCKETDYNE  
A17 CONTROL BUILDING  
EAST CAMDEN,  
ARKANSAS

Design Phase

CONSTRUCTION  
DOCUMENTS

Revisions		
No.	Date	Description

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Project Number

2024-210

Issue Date

02-20-2025

Sheet Title

PLUMBING RISER

Sheet Number

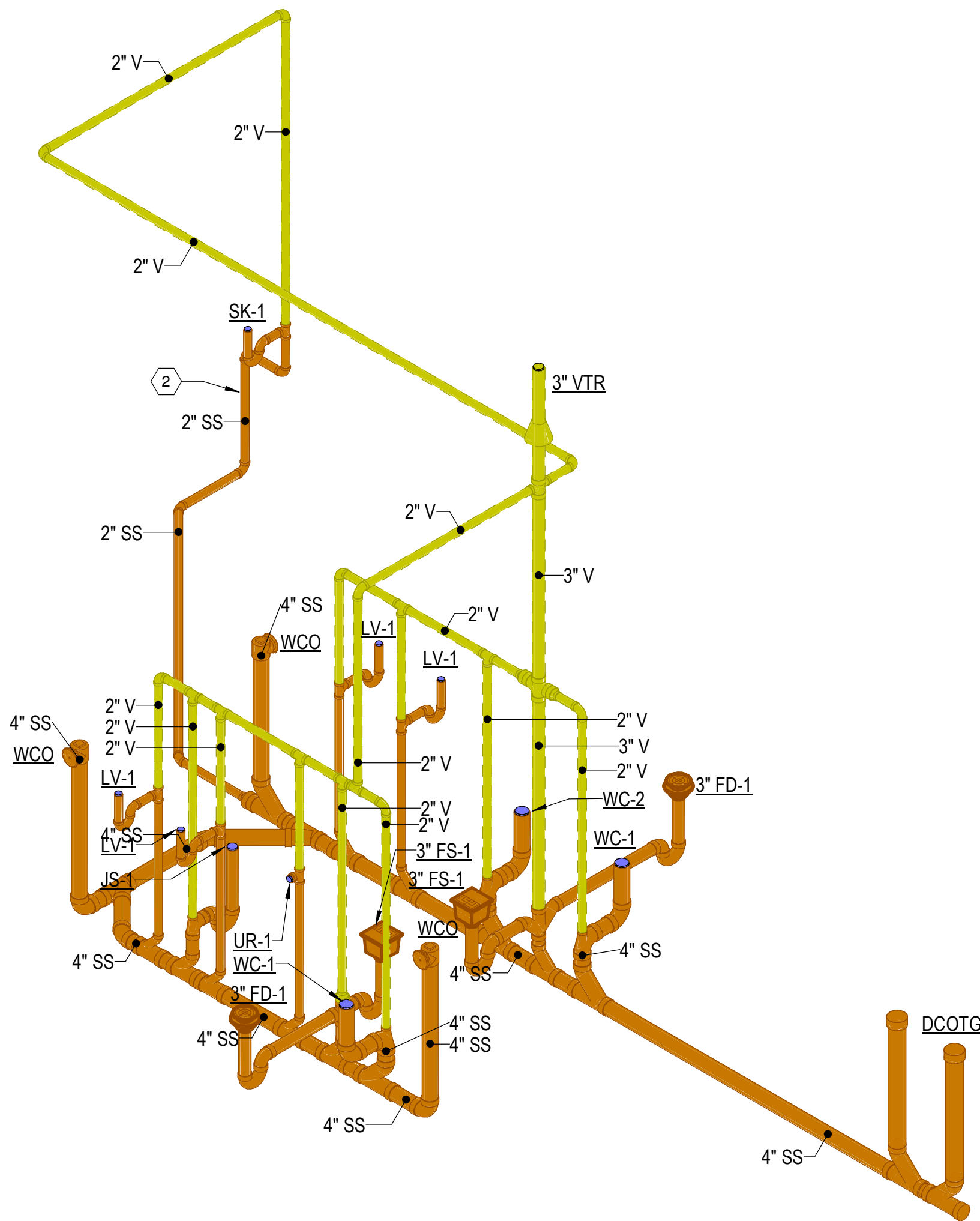
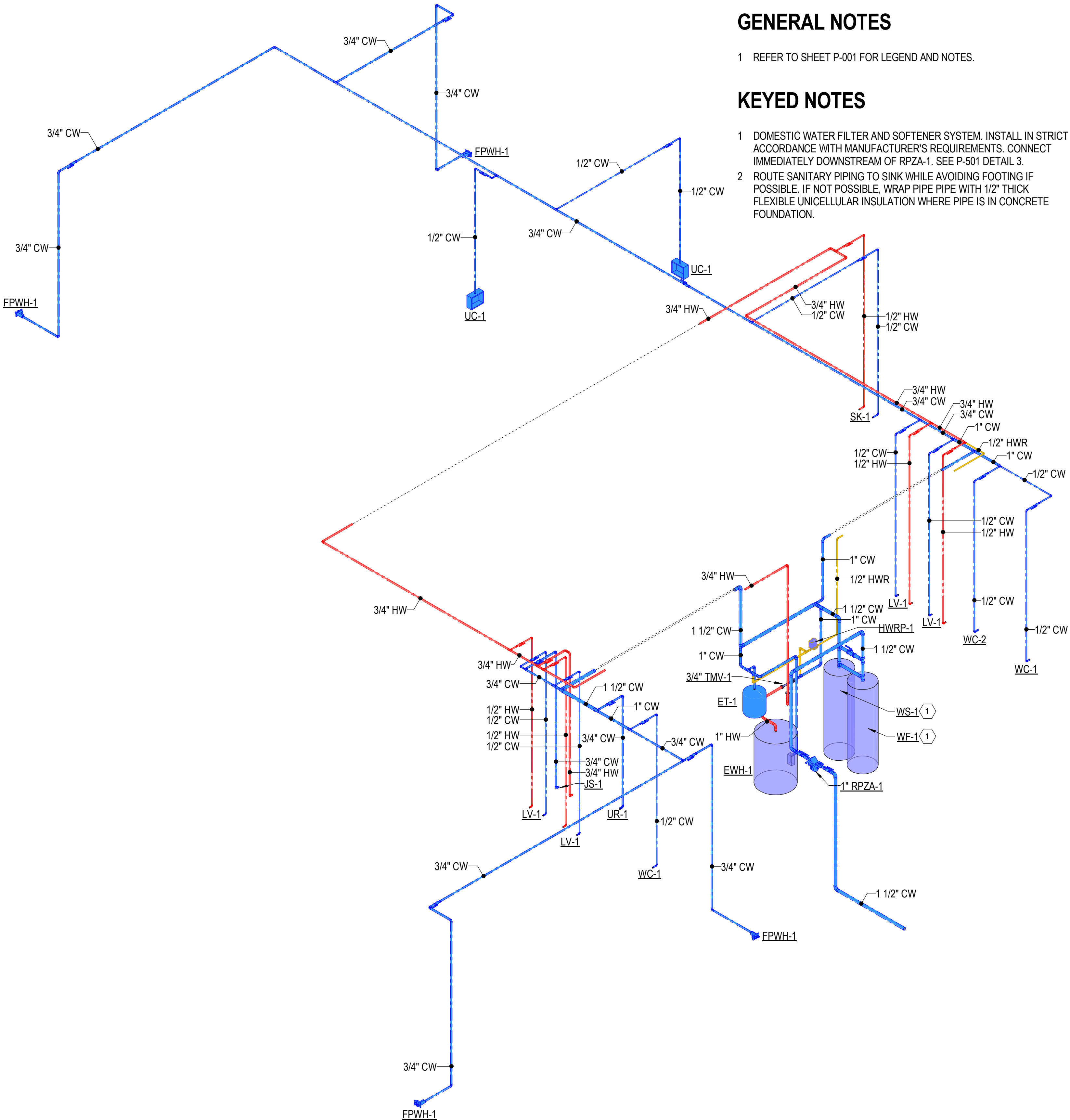
P-901

GENERAL NOTES

- REFER TO SHEET P-001 FOR LEGEND AND NOTES.

KEYED NOTES

- DOMESTIC WATER FILTER AND SOFTENER SYSTEM. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. CONNECT IMMEDIATELY DOWNSTREAM OF RPZA-1. SEE P-501 DETAIL 3.
- ROUTE SANITARY PIPING TO SINK WHILE AVOIDING FOOTING IF POSSIBLE. IF NOT POSSIBLE, WRAP PIPE PIPE WITH 1/2" THICK FLEXIBLE UNICELLULAR INSULATION WHERE PIPE IS IN CONCRETE FOUNDATION.



1 DRAIN, WASTE, VENT PLUMBING RISER  
NOT TO SCALE

2 DOMESTIC WATER RISER  
NOT TO SCALE