ABBREVIATIONS

AC	AIR COMPRESSOR	HVAC	HEATING, VENTILATION, AIR COND.
ACU	AIR CONDITIONING UNIT	HP	HORSE POWER
AD	AREA DRAIN	HRWH	HEAT RECLAIM WATER HEATER
AFC	ABOVE FINISH CEILING	HS	HOSE STATION
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	LV	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	MECH	MECHANICAL
CFH	CUBIC FEET/HOUR	MDL	MODEL
CFM	CUBIC FEET/MINUTE	MFR	MANUFACTURER
CI	CAST IRON	MH	MANHOLE
CLG	CEILING	MIN	MINIMUM
CO	CLEAN OUT	MISC	MISCELLANEOUS
COL	COLUMN	MTD	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
DS	DOWN SPOUT	REQD	REQUIRED
DIA	DIAMETER	REV	REVISION, REVISED
DTL	DETAIL	RM	ROOM
	DOMESTIC WATER HEATER (G) GAS	RPM	REVOLUTIONS PER MINUTE
(G/E)WH	(E) ELECTRIC	RPZ	REDUCED PRESSURE ZONE
EFF	EFFICIENT	SCH	SCHEDULE
ELEV	ELEVATION	SECT	SECTION
ELEC	ELECTRICAL	SK	SINK
EQ	EQUAL	SP	STATIC PRESSURE
EQUIP	EQUIPMENT	SPEC	SPECIFICATION(S)
EWT	ENTERING WATER TEMPERATURE	SS	SANITARY SEWER
EX, EXT	EXISTING	ST	STEAM
EXP	EXPANSION	SUCT	SUCTION
FCO	FLOOR CLEANOUT	TEMP	TEMPERATURE
FD	FLOOR DRAIN	TDH	TOTAL DYNAMIC HEAD
FL	FLOW LINE	TH	TOTAL HEAD
FLEX	FLEXIBLE CONNECTION	TWMV	THREE WAY MODULATING VALVE
FLR	FLOOR SINK	TMV	THERMOSTATIC MIXING VALVE
FPM	FLOOR	TYP	TYPICAL
FS	FEET PER MINUTE	UL	UNDERWRITERS LABORATORY
FPWH	FREEZE PROOF WALL HYDRANT	UR	URINAL
FPRH	FREEZE PROOF ROOF HYDRANT	V	VENT
G	GAS	VLV	VALVE
GA	GAUGE	VERT	VERTICAL
GAL	GALLON	VTR	VENT THROUGH ROOF
GALV	GALVANIZED	VOL	VOLUME
GI	GREASE INTERCEPTOR	WC	WATER CLOSET
GPH	GALLONS PER HOUR	WCO	WALL CLEANOUT
GPM	GALLONS PER MINUTE	WF	WATER FILTER
GT	GREASE TRAP	WH	WATER HEATER
HB	HOSE BIBB	WM	WATER METER
HT	HEIGHT	WTR	WATER
HTG	HEATING	WP	WORKING PRESSURE
		WT	WEIGHT

GENERAL PLUMBING SYMBOLS

- REVISION NUMBER SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- DEMOLISH TO POINT INDICATED
- 1 / P-001 — NUMBER OF DETAIL ON SHEET NUMBER OF SHEET WHERE DETAIL APPEARS
- 1 — KEYNOTE
- PIPE CONTINUATION

SPACE TAG:

- OFFICE — SPACE NAME
- 101 — SPACE NUMBER
- 100 SF — SPACE AREA

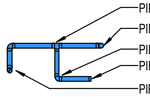
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

PIPING LEGEND

- (E) — EXISTING PIPE TAG
- (D) — DEMOLISHED PIPE TAG

NEW CONSTRUCTION	EXISTING	
CW		DOMESTIC COLD WATER
HW		HOT WATER 120°F
HWR		HOT WATER 120°F RECIRC.
G		NATURAL GAS
CD		CONDENSATE DRAIN
SPD		PUMP DISCHARGE
SS		SANITARY SEWER
V		SANITARY VENT
SD		STORM DRAIN
ASD		STORM DRAIN OVERFLOW / AUX

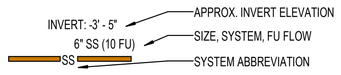
PRESSURE PIPE SYMBOLS



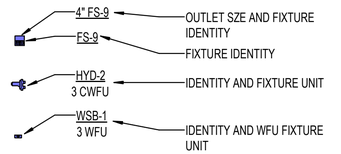
GRAVITY PIPE SYMBOLS

PLUMBING TAGS

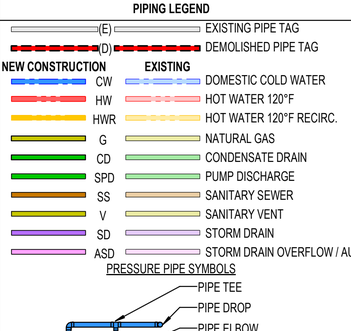
PIPE TAG



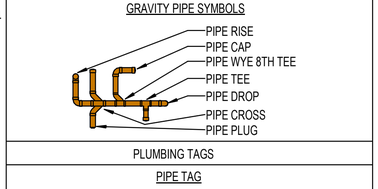
FIXTURE TAG



PIPE ACCESSORIES



PLUMBING PHASING



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.

SEISMIC DESIGN CRITERIA

1. SEISMIC DESIGN DATA:
   A. SEISMIC DESIGN CATEGORY: C
      a. SEE SHEET S-001 FOR MORE INFO.
2. THE FOLLOWING COMPONENT IMPORTANCE FACTORS ARE USED:
   A. WATER HEATERS (STORAGE WATER 140°F): 1.0
   B. WATER PIPING (GREATER THAN 120°F): 1.0
   C. SEWER PIPING: 1.0
3. SEISMIC BRACING IS NOT REQUIRED FOR THE PLUMBING COMPONENTS.
4. REFER TO THE SPECIFICATIONS.

PLUMBING GENERAL NOTES

1 ALL PLUMBING SYSTEMS SHALL BE INSTALLED AS PER SPECIFICATIONS AND GOVERNING CODES.

2 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.

3 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.

4 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.

5 CONTRACTOR SHALL PAY ALL UTILITY FEES & CHARGES AS PART OF BASE BID IN THE CONTRACT.

6 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.

7 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.

8 PROVIDE ISOLATION VALVES AT EACH FIXTURE GROUP OR BATTERY OF FIXTURES IN THE DOMESTIC CW, HW, HWR AND GAS 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.

9 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.

10 ALL EXPOSED OR ACCESSIBLE P-TRAPS SHALL BE CHROME PLATED AND PROVIDED WITH BOTTOM CLEANOUT PLUGS.

11 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.

12 PROVIDE ALL FITTINGS, TRANSITIONS, COUPLINGS, ADAPTERS, UNIONS, AND OTHER ACCESSORIES NEEDED TO COMPLETE CONNECTIONS AND PROPER OPERATIONS OF PLUMBING FIXTURES AND PLUMBING EQUIPMENT.

13 REFER TO SPECIFICATIONS FOR ACCEPTABLE MANUFACTURERS OF PLUMBING FIXTURES AND EQUIPMENT, AND PROPER APPLICATIONS OF SAME.

14 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.

15 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.

16 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.

17 DO NOT ROUTE ANY PIPING OVER ELEC. ROOMS, COMPUTER ROOMS, OR ELEC. PANELS.

18 INSTALL AN AGA LISTED NATURAL GAS COCK, DIRT LEG AND UNION IMMEDIATELY UPSTREAM OF EQUIPMENT CONNECTIONS. AS NOTED ON DRAWINGS PROVIDE AN AGA LISTED VENT LIMITING GAS REGULATOR. GAS REGULATORS SHALL NOT BE INSTALLED IN AIR PLENUMS (SEE HVAC PLANS FOR AIR PLENUM LOCATIONS). PAINT ALL NATURAL GAS PIPING WITH TWO COATS OF OIL BASED YELLOW PAINT IN ALL LOCATIONS NOT SPECIFIED BY ARCHITECT.

19 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.

20 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.

21 MAINTAIN 10'-0" MINIMUM CLEARANCE BETWEEN FRESH AIR INTAKES, OPERABLE WINDOWS AND FLUES, PLUMBING VENTS AND GAS REGULATORS.

22 ALL SEWER & VENT PIPING SHALL BE RODDED AND CLEANED AT END OF CONSTRUCTION. ALL TRAPS SHALL BE CLEANED AND PRIMED AT END OF CONSTRUCTION.

23 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.

24 PROVIDE WATER HAMMER ARRESTORS IN FIXTURE BRANCHES WHERE QUICK CLOSING VALVES ARE INSTALLED; i.e., FLUSH VALVES, ICE MAKERS, DISHWASHERS, ETC.

25 BELOW SLAB WATER PIPE TO BE TYPE K SOFT DRAWN COPPER WITHOUT FITTINGS OR JOINTS. SLEEVE IN ENTIRETY WITH ARMAFLEX OR APPROPRIATE POLYETHYLENE SLEEVE MATERIAL.

26 PROVIDE APPROVED BACKFLOW PREVENTION OR ANTI-SIPHON DEVICES AT ALL FIXTURES THAT COULD CONTAMINATE THE POTABLE WATER SYSTEM.

27 INSULATE ALL WATER PIPING ABOVE FINISH FLOOR. SEE SPECIFICATIONS FOR THICKNESS SCHEDULE.

28 INSULATE ALL EXPOSED HOT WATER & DRAIN PIPING FOR ACCESSIBLE FIXTURES PER ANSI A117.1 AND ADA REQUIREMENTS.

29 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.

30 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.

31 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.

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.

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Project

AEROJET
New Guard
Post - 2

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12375
JAMIE L. QUIDRY

07-17-2024

Notes

1. **CROMWELL ARCHITECTS ENGINEERS, INC. ALL RIGHTS RESERVED**
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Sheet Title

PLUMBING LEGEND AND NOTES

Sheet Number

P-001