

MECHANICAL ABBREVIATIONS

AB	ABOVE	LF	LINEAR FEET
AFF	ABOVE FINISHED FLOOR	LB, #	POUNDS
AFG	ABOVE FINISHED GRADE	LDB	LEAVING DRY BULB TEMP.
AHU	AUTHORITY HAVING JURISDICTION	LWB	LEAVING WET BULB TEMP.
ARCH	ARCHITECTURAL	LWT	LEAVING WATER TEMP.
BDD	BACK DRAFT DAMPER	MAX	MAXIMUM
BEL	BELOW	MBH	THOUSAND BTU PER HOUR
BF	BELOW FLOOR	MC	MECHANICAL CONTRACTOR
BJ	BETWEEN JOISTS	MCA	MINIMUM CIRCUIT AMPACITY
BOD	BOTTOM OF DUCT	MOD	MOTOR OPERATED DAMPER
BTM	BOTTOM	MFR	MANUFACTURER
BTU	BRITISH THERMAL UNIT	MIN	MINIMUM
CD	CEILING DIFFUSER	MTD, MTG	MOUNTED, MOUNTING
CFM	CUBIC FEET PER MINUTE	NC	NOISE CRITERIA
CLG	CEILING	NIC	NOT IN CONTRACT
CO	CLEANOUT	OA	OUTSIDE AIR
CONN	CONNECT/CONNECTION	OAC	OPEN ABOVE CEILING
CONT	CONTINUED/CONTINUATION	OAI	OUTSIDE AIR INTAKE
COORD	COORDINATE	OC	ON CENTER
CW	DOMESTIC COLD WATER	ORD	OVERFLOW ROOF DRAIN
DB	DRY BULB	PC	PLUMBING CONTRACTOR
DEG, °	DEGREE	PH	PHASE
DIA, ∅	DIAMETER	PRV	PRESSURE REDUCING VALVE/
DISC	DISCONNECT		PRESSURE RELIEF VENT
DN	DOWN	PSI	POUNDS PER SQUARE INCH
DWG	DRAWING	RA	RETURN AIR
EA	EXHAUST AIR	RD	ROOF DRAIN
EAT	ENTERING AIR TEMP.	RG	RETURN GRILLE
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
EDB	ENTERING DRY BULB TEMP.	RWC	RAINWATER CONDUCTOR
EF	EXHAUST FAN	S	STORMWATER
ER	EXHAUST REGISTER	S&C	STUB AND CAP
ESP	EXTERNAL STATIC PRESSURE	SA	SUPPLY AIR
EWB	ENTERING WET BULB TEMP.	SAN	SANITARY
EWT	ENTERING WATER TEMP.	SF	SQUARE FEET
EX, (E)	EXISTING	SPEC	SPECIFICATIONS
FD	FIRE DAMPER/FLOOR DRAIN	SR	SUPPLY REGISTER
FLA	FULL LOAD AMPERES	TD	TRANSFER DUCT
FLEX	FLEXIBLE	TEMP	TEMPERATURE
FPM	FEET PER MINUTE	TG	TRANSFER GRILLE
FT	FOOT/FEET/FIN TUBE	THRU	THROUGH
FT HD	FEET OF HEAD	TJ	THROUGH JOISTS
GA	GAUGE/GAGE	TSP	TOTAL STATIC PRESSURE
GAL	GALLON	TSTAT	THERMOSTAT
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GPH	GALLONS PER HOUR	UNO	UNLESS NOTED OTHERWISE
GPM	GALLONS PER MINUTE	VAV	VARIABLE AIR VOLUME
HC	HVAC CONTRACTOR	VD	VOLUME DAMPER (MANUAL)
HD	HUB DRAIN	VFD	VARIABLE FREQUENCY DRIVE
HORZ	HORIZONTAL	VTR	VENT THROUGH ROOF
HP	HORSE POWER	W	WATTS/WASTE
HSTAT	HUMIDISTAT	W/	WITH
ID	INSIDE DIAMETER	W/O	WITHOUT
IN "	INCH	WB	WET BULB
INS	INSULATION	WL	WEATHER LOUVER
INV	INVERT	WPD	WATER PRESSURE DROP
ISP	INTERNAL STATIC PRESSURE	WTD	WATER TEMP. DROP
IWG	INCHES WATER GAUGE	WTR	WATER TEMP. RISE
LAT	LEAVING AIR TEMP.	XFMR	TRANSFORMER

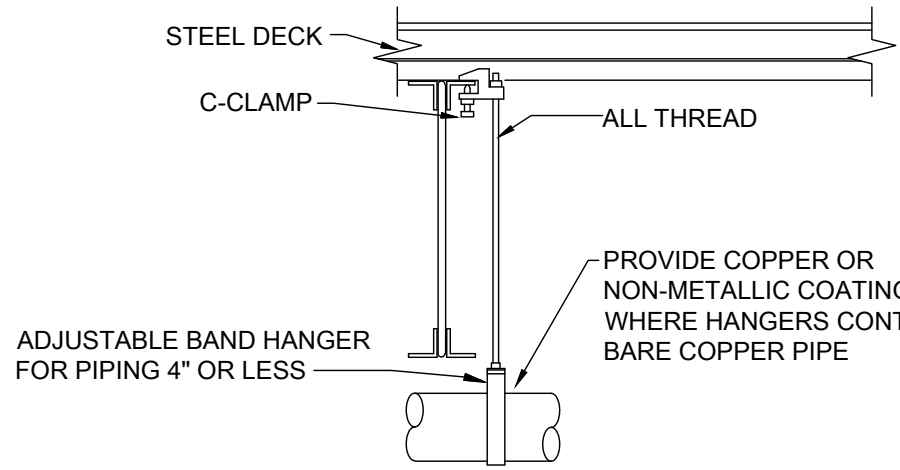
PIPING SYMBOL LEGEND

—	COLD WATER (CW)
—	HOT WATER (HW)
—	HOT WATER RECIRCULATION (HWR)
—	SOIL / WASTE (SAN)
—S—	STORM WATER (S)
—	VENT (V)
—RS—	REFRIGERANT SUCTION (RS)
—RL—	REFRIGERANT LIQUID (RL)
—○—	FLOOR CLEANOUT (CO)
— ○—	WALL CLEANOUT (CO)
— —	OVERHEAD CLEANOUT (CO)
— +—	HOSE BIBB (HB)
— + —	WALL HYDRANT (WH)
— + ○—	ROOF DRAIN (RD)
— + ○—	FLOOR DRAIN (FD)
— ○—	PIPE DROP
— ○—	BRANCH (TOP CONNECTION)
— ○—	PIPE RISE
— ○—	BRANCH (BOTTOM CONNECTION)
— —	CONTINUATION
— + —	STUB AND CAP
— + +—	AUTOMATIC AIR VENT
— ○—	PUMP
— + +—	BALANCING VALVE
— + +—	BALL VALVE
— + +—	CHECK VALVE
— + +—	STRAINER
— + +—	PRESSURE REDUCING VALVE
— + +—	RELIEF VALVE
— + +—	THERMOMETER
— + +—	UNION
— + +—	PRESSURE GAUGE
— + +—	WATER HAMMER ARRESTER (SIZE A-F, SEE SCHEDULE)

MECHANICAL GENERAL NOTES

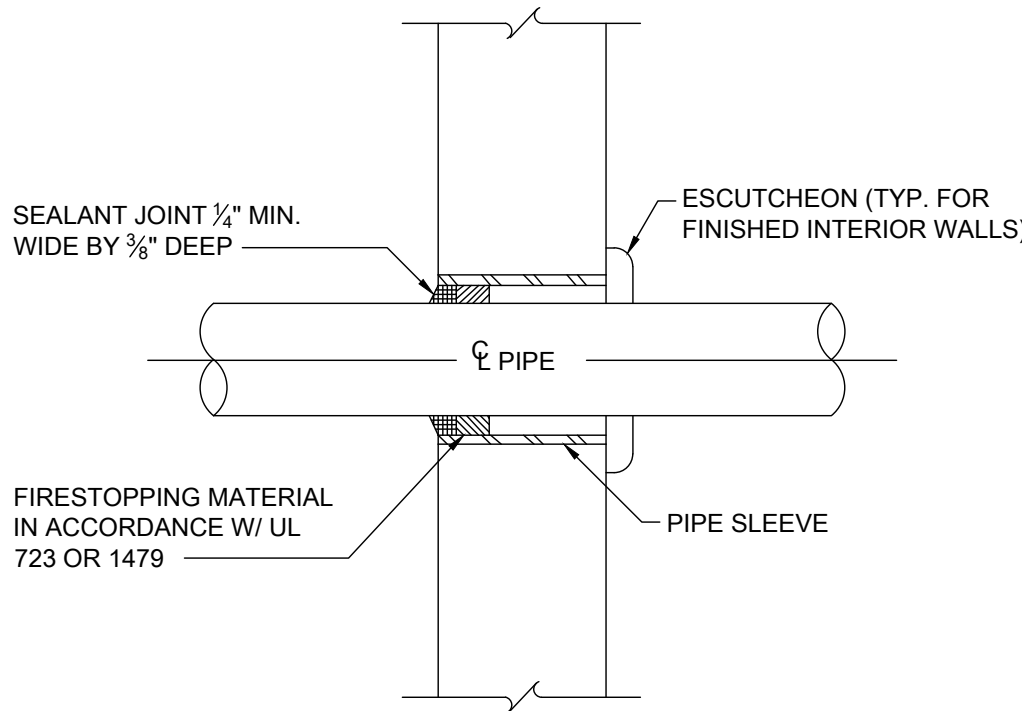
- ALL WORK SHOWN IS TO BE CONSIDERED NEW AND PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY INDICATED AS EXISTING.
- INSTALL PIPING CONCEALED IN CHASES OR ABOVE CEILINGS WHERE CEILINGS ARE INDICATED, UNLESS NOTED OTHERWISE. WHERE PIPING IS INDICATED TO BE EXPOSED, INSTALL AS HIGH AS POSSIBLE. ELEVATIONS SHOWN ARE TO THE LOWEST POINT, UNLESS NOTED OTHERWISE.
- ANY PIPING SHOWN TO BE INSTALLED WITHIN AN EXTERIOR WALL MUST BE INSTALLED ON THE INTERIOR SIDE OF THE WALL INSULATION.
- SEAL OR CAP OPENINGS IN PIPES UNTIL FINAL CONNECTIONS ARE MADE.
- INSTALL SUFFICIENT UNIONS IN PIPING SYSTEMS TO ALLOW SERVICE OF ANY CONNECTED EQUIPMENT WITHOUT BREAKING FITTINGS OR CUTTING PIPING CONNECTIONS.
- DIMENSIONS AND PIPE SIZES ARE IN INCHES UNLESS NOTED OTHERWISE.
- RUNOUTS TO EQUIPMENT SHALL BE RUN IN SIZES INDICATED ON PLANS OR SCHEDULES AND INCREASED OR REDUCED AT POINT OF FINAL CONNECTION.
- DO NOT RUN PIPING OVER ELECTRICAL EQUIPMENT.
- PROVIDE SUFFICIENT CLEARANCE FOR OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE SERVICE CLEARANCE FOR ELECTRICAL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC).
- CONNECT HW, CW, VENT & SAN LINES TO FIXTURES IN ACCORDANCE WITH SIZES INDICATED ON THE PLUMBING FIXTURE SCHEDULE WITH A 2" MINIMUM SIZE FOR SANITARY PIPING BELOW FLOOR.
- PIPING INSTALLED ABOVE CEILINGS SHALL BE BELOW THE ROOF INSULATION.
- SLOPE SANITARY PIPING SIZES 3" AND LARGER 1/8" PER FOOT, AND SMALLER PIPES 1/4" PER FOOT, UNLESS NOTED OTHERWISE.
- ALL EXPOSED PLUMBING PIPING AND ACCESSORIES (VALVES, TRAPS, STRAINERS, ETC) SHALL BE CHROME PLATED.
- PROVIDE BACKFLOW PREVENTER OR AIR GAP FOR ALL DOMESTIC HOT AND COLD WATER CONNECTIONS TO FIXTURES AND EQUIPMENT THAT DO NOT HAVE INTEGRAL AIR GAPS.
- PROVIDE SHUTOFF VALVES FOR ALL DOMESTIC WATER CONNECTIONS TO FIXTURES AND EQUIPMENT.
- COORDINATE LOCATIONS OF ALL PIPING BEFORE INSTALLATION, WITH THE WORK OF OTHER TRADES. WHERE A CONFLICT IN CLEARANCES OCCURS, OBTAIN CLARIFICATION FROM THE ENGINEER, ARCHITECT, OR OWNER. INSTALL ALL NECESSARY PIPING AND FITTINGS, ETC. THAT ARE REQUIRED FOR A COMPLETE SYSTEM WITHOUT ADDITIONAL COST TO THE CONTRACT.
- TEST INSTALLATIONS IN ACCORDANCE WITH THE APPROPRIATE CODE REQUIREMENTS AS EACH PORTION IS INSTALLED. FLUSH NEW DOMESTIC WATER PIPING UNTIL IT RUNS CLEAR, THEN FILL WITH 50PPM CHLORINE FOR 24 HOURS, THEN PURGE WITH FRESH WATER AND TEST FOR BACTERIAL CONTENT AND REPEAT IF NECESSARY.
- PROVIDE P-TRAPS FOR ALL SANITARY FIXTURE CONNECTIONS TO FIXTURES WITHOUT INTEGRAL P-TRAPS.
- VERIFY MOUNTING HEIGHTS OF EQUIPMENT AND FIXTURES WITH ARCHITECTURAL DRAWINGS, AUTHORITY HAVING JURISDICTION, AND THE OWNER.
- PROVIDE ACCESS PANELS FOR ALL CONCEALED DAMPERS, VALVES, CONTROLS, AND EQUIPMENT OF SUFFICIENT SIZE FOR SERVICE AND ADJUSTMENT.
- PROVIDE DRAIN VALVES AT ALL LOW POINTS IN COLD AND HOT WATER PIPING SERVING BUILDING SECTION TO BE SHUT DOWN IN WINTER.

WATER HAMMER ARRESTER SCHEDULE					
SIZE	WSFU	JR SMITH MODEL	SIZE	WSFU	JR SMITH MODEL
A	1-11	5005	D	61-113	5030
B	12-32	5010	E	114-154	5040
C	33-60	5020	F	155-330	5050

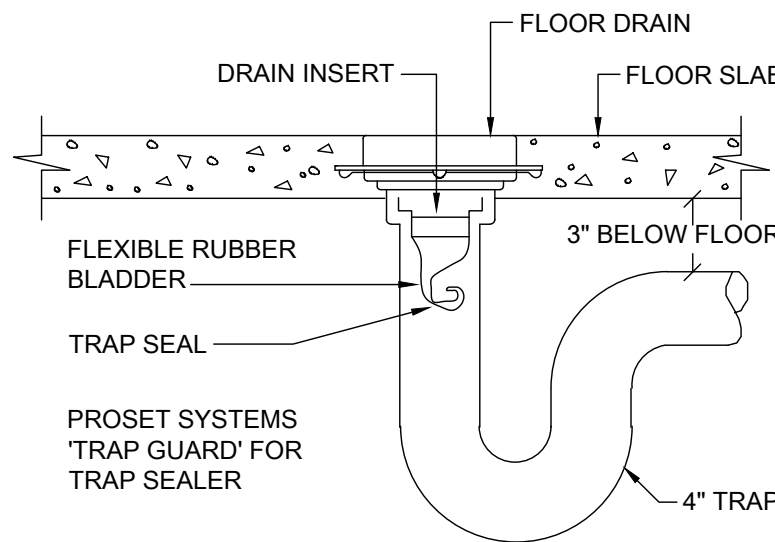


- NOTES:
- DO NOT HANG PIPING FROM BOTTOM CHORD OF JOISTS
 - PROVIDE GALVANIZED STEEL SADDLE FOR ALL INSULATED PIPE LARGER THAN 3/4". VERIFY INSULATION THICKNESS WHEN SIZING HANGERS.

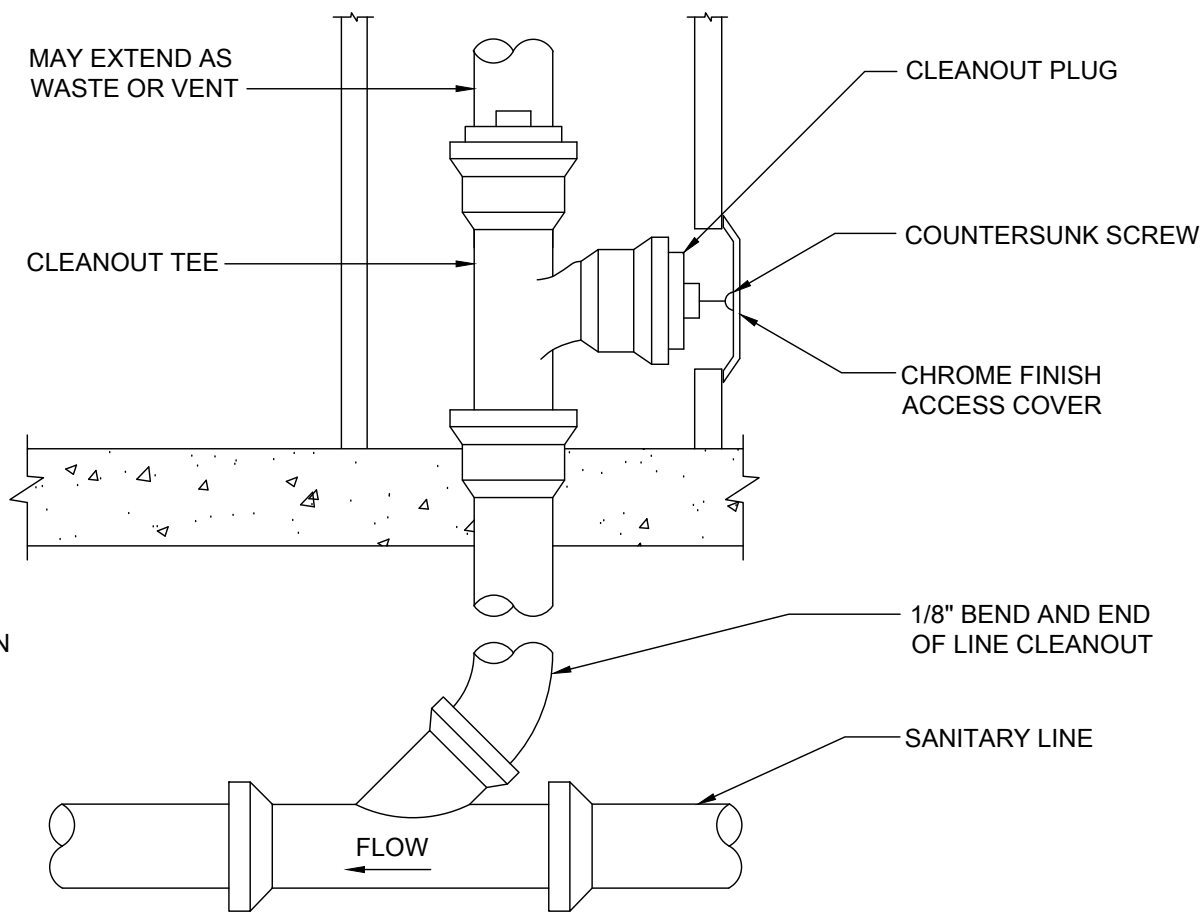
PIPE SUPPORT DETAIL - TYPICAL
NO SCALE



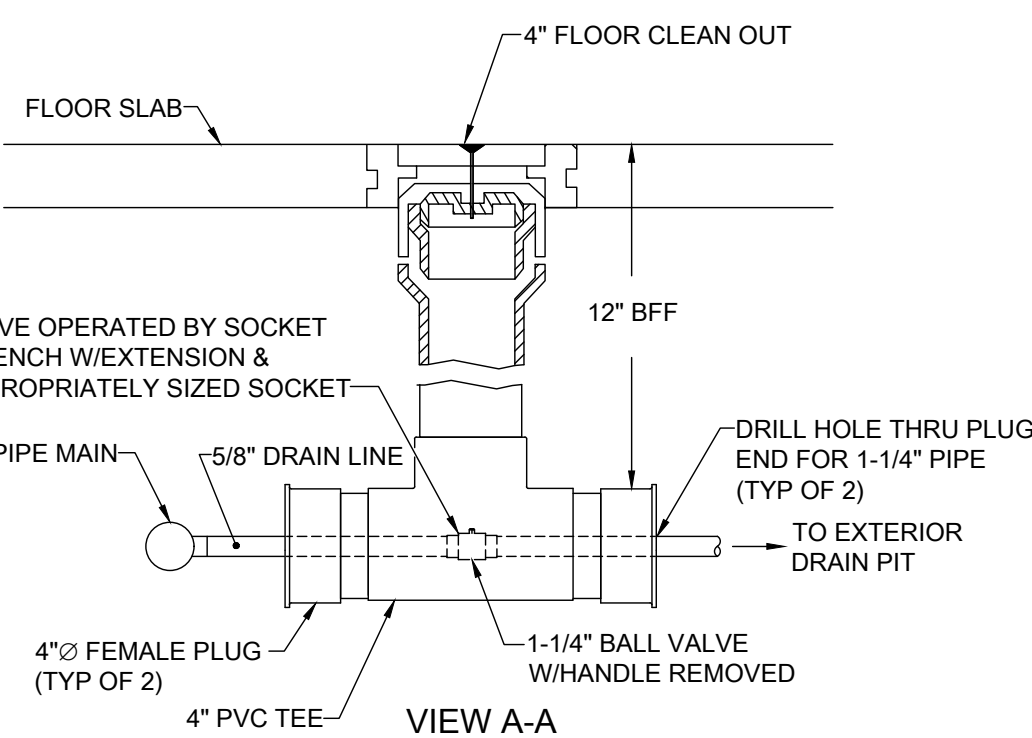
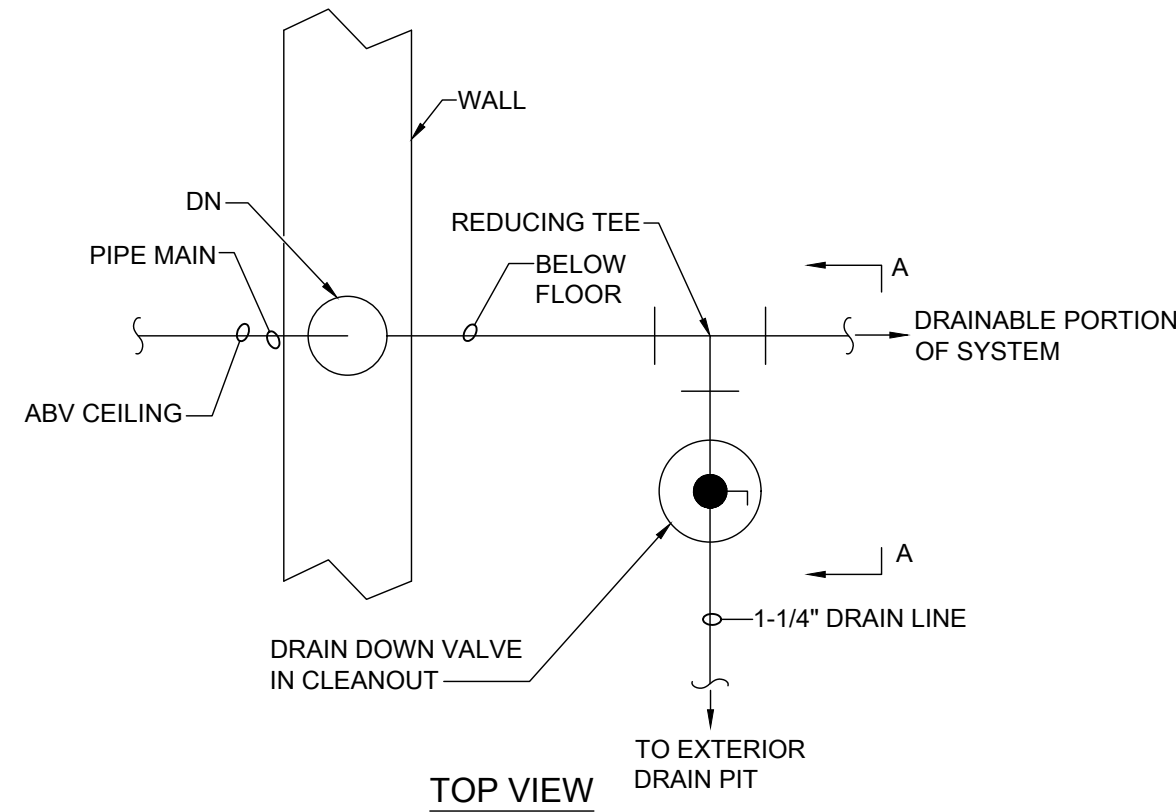
WALL OR FLOOR PENETRATION
DETAIL - TYPICAL
NO SCALE



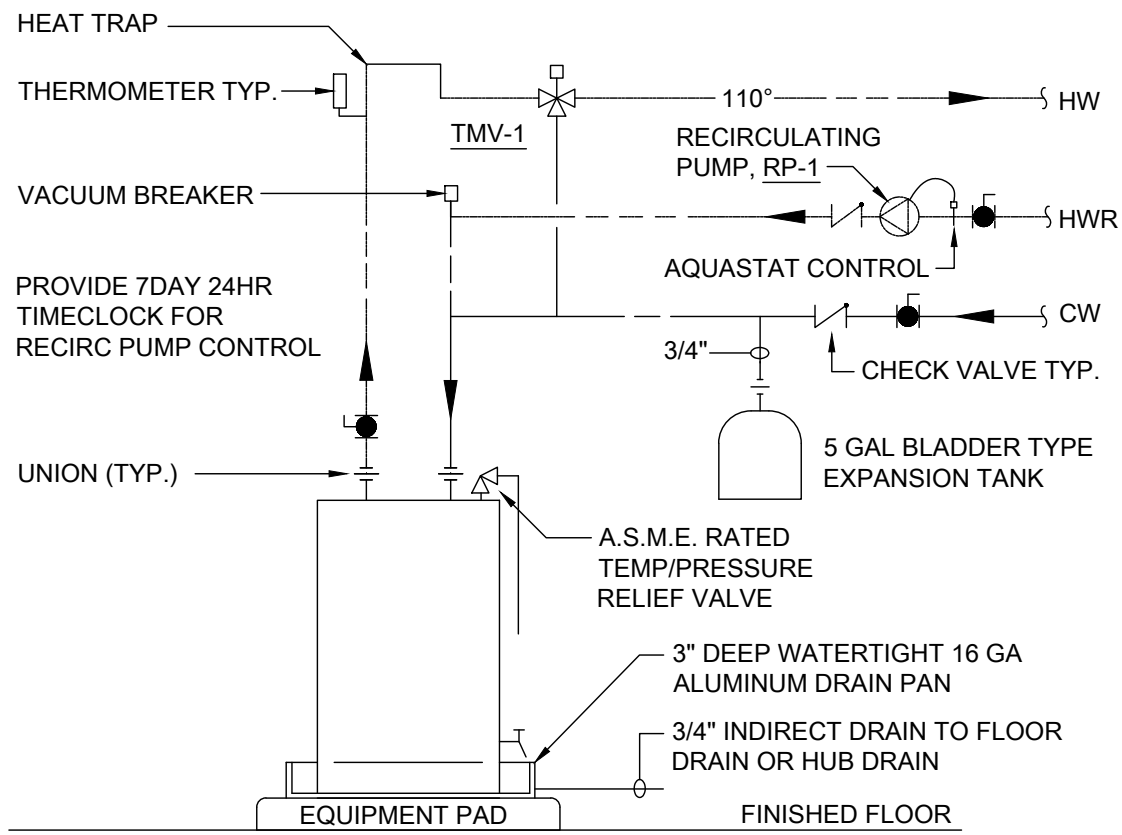
FLOOR DRAIN & TRAP SEALER
DETAIL - TYPICAL
NO SCALE



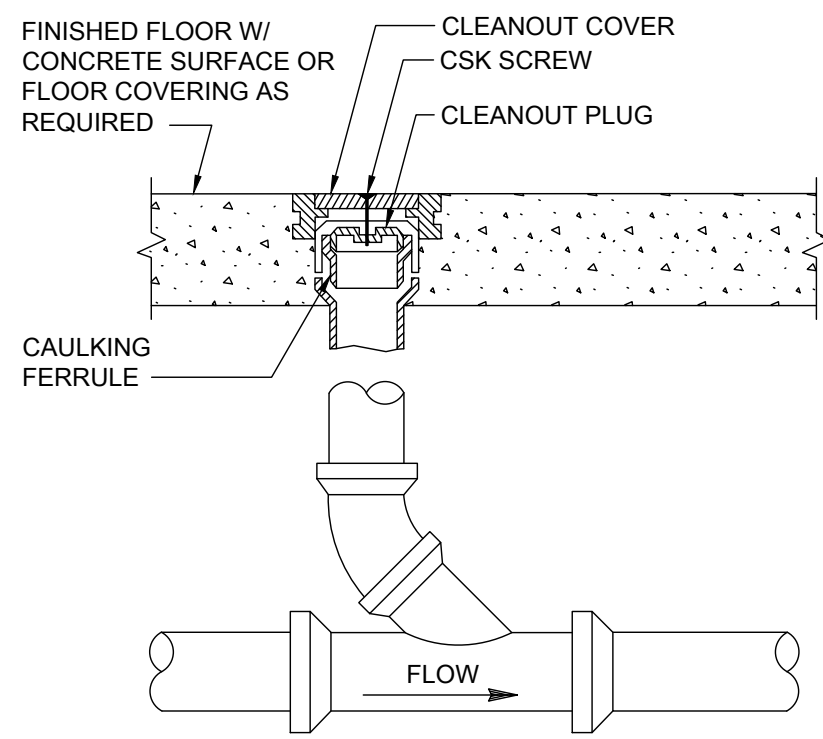
WALL CLEANOUT DETAIL- TYPICAL
NO SCALE



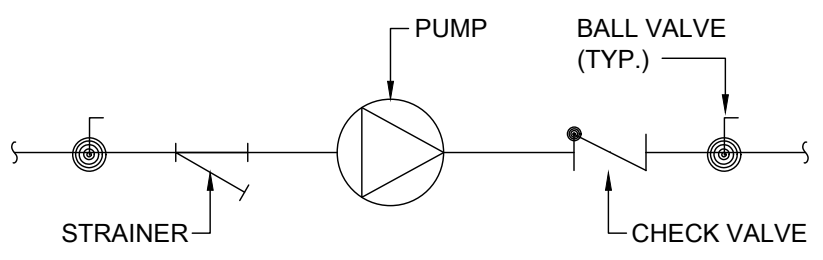
DRAIN DOWN PIPING DETAIL - TYPICAL
NO SCALE



ELECTRIC WATER HEATER DETAIL- TYPICAL
NO SCALE



FLOOR CLEANOUT - TYPICAL
NO SCALE



INLINE PUMP - TYPICAL
NO SCALE

PLUMBING EQUIPMENT SCHEDULE								
TAG	DESCRIPTION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	CAPACITY	ELECTRICAL (60 HZ)			
					WATTS	HP	VOLTS/ PHASE	FLA
SWH-1	STORAGE WATER HEATER	BRADFORD WHITE	CEHD120	119 GAL, 266 GPH RECOVERY @ 70°F RISE, (9) 5KW ELEMENTS, 45KW TOTAL	45000	-	480/3	54.1
RP-1	RECIRCULATING PUMP	ARMSTRONG	ARMFLO E9.2B	6 GPM @ 30 FT. HD.	-	1/6	120/1	-
TMV-1	DOMESTIC WATER THERMAL MIXING VALVE	WATTS	LFN170-M3	SHALL COMPLY WITH ASSE 1017 STANDARD	-	-	-	-
TMV-2	DOMESTIC WATER THERMAL MIXING VALVE	WATTS	LFUSG-B	SHALL COMPLY WITH ASSE 1070 STANDARD	-	-	-	-

PLUMBING FIXTURE SCHEDULE									
TAG	DESCRIPTION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	MOUNTING HEIGHT AFF (INCHED)	PIPE SIZES (INCHES)				REMARKS/ACCESSORIES
					CW	HW	VENT	WASTE	
WC-1A	WATER CLOSET (ADA) FLUSH VALVE TYPE	AMERICAN STANDARD	3351.001	FLOOR 17"-19" TO TOP OF SEAT	1	-	2	4	SLOAN ROYAL FLUSH VALVE MODEL: 111 (1.6 GPF)
WC-1	WATER CLOSET FLUSH VALVE TYPE		3351.001	FLOOR 14"-16" TO TOP OF SEAT	1	-	2	4	SLOAN ROYAL FLUSH VALVE MODEL: 111 (1.6 GPF)
UR-1A	URINAL (ADA) FLUSH VALVE TYPE		6561.017	WALL MTD - 14"	3/4	-	1-1/2	1-1/2	SLOAN ROYAL FLUSH VALVE MODEL: 186-1.0 (1.0 GPF)
UR-1	URINAL FLUSH VALVE TYPE		6561.017	WALL MTD - 17"	3/4	-	1-1/2	1-1/2	SLOAN ROYAL FLUSH VALVE MODEL: 186-1.0 (1.0 GPF)
L-1	LAVATORY (ADA)	BRADLEY	0355.012	WALL MTD - 34"	1/2	1/2	1-1/4	1-1/4	SLOAN ELECTRONIC SENSOR FAUCET MODEL: ETF-80 (120V) W/TMV-2
L-2	LAVATORY (ADA)		S93-709	WALL MTD - 34" TO TOP OF BASIN	3/4	3/4	1-1/2	1-1/2	HARDWIRED SENSOR FAUCETS W/TMV-2
S-1	SINK (SINGLE BOWL ADA)	AMERICAN STANDARD	20SB.8252264S.075	COUNTERTOP	1/2	1/2	1-1/4	1-1/2	AMERICAN STANDARD FAUCET MODEL: 4433.001
S-2	SINK (SINGLE BOWL)	ELKAY	LRAD151750	COUNTERTOP	1/2	1/2	1-1/4	1-1/2	ELKAY FAUCET MODEL: LK406GN04L2
SH-1A	36x36 BARRIER FREE ADA SHOWER ENCLOSURE	AKER	OPS-3636	FLOOR	1/2	1/2	2	3	WACCESSIBLE PACKAGE
EW-1	SPLIT LEVEL WATER COOLER (ADA)	OASIS	PG8EBFSL	32"/36"	1/2	-	1-1/4	1-1/4	1/4 HP, 115/120, PLUG IN, UNIVERSAL MOUNT, BOTTLE FILLER, WATER FILTER
EW-2	SINGLE LEVEL WATER COOLER	OASIS	PGVD8AC-506960	32"/36" SEE ARCH	1/2	-	1-1/4	1-1/4	115/120, 5.0 FLA, PLUG IN, OUTDOOR, VANDAL RESISTANT, WALL MOUNT
MSB-1	MOP SERVICE BASIN	FIAT PRODUCTS	TSB3000	FLOOR	3/4	3/4	2	3	FIAT PRODUCTS FAUCET MODEL: 830-AA
WH-1	NON-FREEZE HOSE BIBB	ZURN	Z1345	-	1/2	-	-	-	-

NOTE: COORDINATE MOUNTING HEIGHTS OF WALL MOUNTED FIXTURES WITH ARCHITECTURAL DRAWINGS. PROVIDE ADA WRISTBLADE HANDLES FOR ADA FAUCETS. PROVIDE PREFORMED FIBERGLASS INSULATION AND PVC JACKET FOR EXPOSED DRAINS ON ADA LAVATORIES.



NEW FIELDHOUSE FOR THE
MIDD-WEST SCHOOL DISTRICT
MIDDLEBURG, PA

REVISIONS
NO. DATE DESCRIPTION
4-9-24 ISSUED FOR BIDDING

LEGENDS, &
SCHEDULES &
DETAILS

DRAWING NO.
P-1

PROJECT NO. SCALE: AS NOTED
1757-24-001

DATE: 04/09/24

DRAWN BY: XXX
CHECKED BY: XXX
APPROVED BY: XXX

