

PLUMBING PIPING LEGEND (NOTE: ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS)	
⌘	T&P VALVE
⊠SD	SHOWER DRAIN
⊠FD	FLOOR DRAIN
⊠AD	AREA DRAIN
⊠RD	ROOF DRAIN
⊠OR	OVERFLOW ROOF DRAIN
⊠	HOSE BIBB OR WALL HYDRANT
⊠VTR	VENT THRU ROOF
⊠	PRESSURE GAUGE
⊠FS	FLOW SWITCH
⊠	POINT OF CONNECTION
⊠	POINT OF DEMOLITION
—G—	GAS PIPING
—D—	DRAIN LINE
—CW—	DOMESTIC COLD WATER LINE
—HWS—	DOMESTIC HOT WATER LINE
—HWR—	DOMESTIC HOT WATER RETURN LINE
—SS—	SANITARY LINE
—GW—	GREASE WASTE LINE
—	VENT LINE
—RS/RL—	REFRIGERANT SUCTION / LIQUID LINE
—SD—	STORM DRAIN LINE
—SPD—	SUMP PUMP DISCHARGE
—SED—	SEWAGE EJECTOR DISCHARGE
—HHWR—	HEATING HOT WATER RETURN
—HHWS—	HEATING HOT WATER SUPPLY
—	PITCH DOWN IN DIRECTION OF ARROW
⊠	THERMOMETER
⊠	COMBINATION PRESSURE & TEMPERATURE TAP (PETE'S PLUG)
⊠ & ⌘	STRAINER WITH BLOW OFF
⊠	UNION OF FLANGED CONNECTION
⊠	BUCKET TRAP
⊠	CLEANOUT IN LINE
⊠	CLEANOUT IN FLOOR
⊠	WALL CLEANOUT
⊠	OS & Y VALVE
⊠	GATE VALVE
⊠	BUTTERFLY VALVE
⊠	BALL VALVE
⊠	CHECK VALVE
⊠	SOLENOID VALVE
⊠	PRESSURE RELIEF VALVE
⊠	AUTOMATIC, 2 WAY VALVE
⊠	AUTOMATIC, 3 WAY VALVE
⊠	CIRCULATION PUMP

GENERAL NOTES FOR ALL PLUMBING WORK

DEMOLITION

- VERIFY EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF UTILITIES AND PIPING BEFORE COMMENCEMENT OF WORK, AND IMMEDIATELY NOTIFY THE ARCHITECT OR ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK OR PURCHASING EQUIPMENT.
- DRAWINGS DO NOT SHOW EVERY EXISTING PIPE. CONTRACTOR SHALL TAKE CARE TO REMOVE ONLY ITEMS REQUIRED TO BE REMOVED AND VERIFY OPERATION/FUNCTION OF PIPES BEFORE REMOVAL.
- REMOVAL OF ITEMS SHALL INCLUDE ASSOCIATED HANGERS, ANCHOR BOLTS AND OTHER APPURTENANCES. WHERE SUCH REMOVAL RESULTS IN OPEN HOLES, VOIDS OR EXPOSURE OF DAMAGED SURFACES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND FINISHING THE SURFACE TO MATCH ADJACENT CONDITIONS. THIS WORK SHALL BE COORDINATED WITH ARCHITECTURAL FINISH SCHEDULES WHERE APPLICABLE.
- BUILDING IS TO REMAIN OCCUPIED DURING CONSTRUCTION.
- REMOVE EXISTING PIPING NOT TO BE REUSED.
- ALL MATERIALS REMOVED UNDER DEMOLITION, NOT TO BE RELOCATED OR DESIGNATED TO BE TURNED OVER TO THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED, AND SHALL BE REMOVED COMPLETELY FROM THE SITE.

GENERAL ITEMS

- GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH PLUMBING DRAWING OF THIS SET. SEE EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO SPECIFIC SCOPE AREAS.
- VERIFY ALL MEASUREMENTS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF DIFFERENCES BETWEEN WORK SHOWN ON THE DRAWINGS AND ACTUAL MEASUREMENTS AT THE SITE OF CONSTRUCTION. DO NOT SCALE THE DRAWINGS. DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION AND INTENDED TO CONVEY THE DESIGN OF THE SYSTEM.
- UPON COMPLETION OF THE WORK, THOROUGHLY CLEAN ALL EXPOSED PORTIONS OF EQUIPMENT PROVIDED AS WELL AS THE GENERAL SCOPE AREA. REMOVE ALL TRACES OF SOIL/DUST/LABELS/ GRADE, OIL, AND OTHER FOREIGN MATERIAL USING ONLY THE TYPE CLEANER RECOMMENDED BY THE MANUFACTURER OF ANY ITEM BEING CLEANED AND APPROVED BY OWNER FOR USE IN THE SCOPE AREA.
- CONTRACTOR SHALL DESIGNATE ONE PERSON TO SERVE AS PRIMARY POINT OF COMMUNICATION WITH PROJECT TEAM.
- WORK AMONG ALL TRADES SHALL BE FULLY COORDINATED AS REQUIRED IN THE FIELD TO AVOID SPACE CONFLICTS AND INTERRUPTION OF THE FLOW OF WORK. CONFLICTS SHALL BE IMMEDIATELY REPORTED IN WRITING TO THE ENGINEER AND OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO PROTECT ANY EXISTING CONSTRUCTION AND ADJACENT PROPERTY, WITH WHICH WORK COMES IN CONTACT, AND OVER WHICH HE MAY TRANSPORT, HOIST OR MOVE MATERIALS, EQUIPMENT, DEBRIS, ETC., AND SHALL REPAIR SATISFACTORILY ALL DAMAGES CAUSED BY HIM DURING CONSTRUCTION.
- ALL EQUIPMENT AND FIXTURES SHALL BE NEW, UNLESS NOTED OTHERWISE, AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS FOR THE SERVICE INTENDED. PROVIDE ONLY PRODUCTS BEARING UNDERWRITERS LABORATORIES (UL) LABEL, AS APPLICABLE.
- PROVIDE ALL EQUIPMENT MATERIALS, LABOR, SUPERVISION AND SERVICES NECESSARY FOR OR INCIDENTAL TO THE INSTALLATION OF A COMPLETE AND OPERATING HVAC OR PLUMBING SYSTEM AS SHOWN OR INDICATED ON THE DRAWING.
- PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETE WITH TRIM AND ALL OTHER APPURTENANCES REQUIRED TO CONNECT TO ROUGH-IN PIPING AT FLOORS AND WALLS UNLESS OTHERWISE SPECIFIED.
- ALL PLUMBING EQUIPMENT SHALL BE AS SCHEDULED OR APPROVED EQUAL.
- TERMINATE ALL VENT AND FLUE OUTLETS AT LEAST A MINIMUM OF 10 FEET FROM ANY FRESH AIR INTAKES.
- OVERHEAD PIPING IN SPACES WITHOUT HUNG CEILINGS SHALL BE RUN AS CLOSE TO ROOF DECK AS PRACTICAL, AS CLOSE TO PARALLEL JOISTS AS POSSIBLE, AND ABOVE LIGHTING FIXTURES TO CONCEAL PIPING.
- OVERHEAD PIPING IN SPACES WITH CEILINGS SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- PROVIDE PIPE SLEEVES LARGE ENOUGH TO ALLOW FOR REQUIRED LATERAL MOVEMENT OF PIPING.
- INSTALL ALL PLUMBING TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING. NO WATER OR DRAIN LINES PERMITTED OVER OR UNDER ELECTRICAL PANELS. INSURE THAT ALL WATER LINES INSIDE WALLS ARE ADEQUATELY SECURED.
- PROVIDE FAUCETS, TRAPS, STOPS, WALL CLEANOUTS, CLEANOUT COVERS, FLEX CONNECTIONS, AND SHUT-OFF VALVES FOR A COMPLETELY INSTALLED & CONNECTED PLUMBING SYSTEM.
- SOIL, WASTE, AND DRAIN PIPING, 2" AND LARGER SHALL BE DWV SCHEDULE 80 PVC WASTE PIPING BELOW THE SLAB SHALL HAVE HUB & SPIGOT FITTING WITH DWV SCHEDULE 80 PVC JOINTS. PVC PIPING ABOVE SLAB SHALL BE DWV SCHEDULE 40.
- VENT PIPING SHALL BE DWV SCHEDULE 40 PVC.
- DOMESTIC HOT AND COLD WATER PIPING SHALL BE TYPE 'L' HARD DRAWN WROUGHT COPPER.
- CONTRACTOR TO PROVIDE AND INSTALL CLAMPING RINGS / COLLARS FOR ALL FLOOR DRAINS, FLOOR SINKS, FLOOR CLEANOUTS AND ANY OTHER PLUMBING FLOOR PENETRATIONS. MAKE WATER CONNECTIONS WITH WATER PROOFING MEMBRANE.
- PROVIDE MEANS OF BACK FLOW PREVENTION FOR ALL WATER OUTLETS PER CODE.
- EXERCISE CAUTION IN INSTALLING RUNOUTS AND BRANCH PIPING FROM MAINS ALLOWING FOR EXPANSION MOVEMENT.
- MAINTAIN A MINIMUM CLEARANCE FOR LIGHTS OF 7" ABOVE FINISHED CEILING AND 1" MINIMUM BELOW ALL PIPES OR ANY OTHER EQUIPMENT IN THE CEILING SPACE. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE ACCESS CLEARANCE AT ALL EQUIPMENT.
- THE DIAMETER OF THE SUPPLY PIPE AT ANY GAS FIRED EQUIPMENT SHALL NOT BE OF A SMALLER SIZE THAN THE INLET CONNECTION TO THE EQUIPMENT.
- ALL VALVES SHALL BE RATED FOR 200 LB. WOG.
- ARRANGE PIPING AND DUCTWORK, PARTICULARLY ABOVE CEILING, AS REQUIRED TO CLEAR STRUCTURE, DUCTS, CONDUTS, ETC., ALLOWING SPACE FOR PIPE HANGERS, EXPANSION LOOPS AND ACCESS TO VALVES, FILTERS, AND MAINTENANCE OF EQUIPMENT.
- COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH OTHER TRADES. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF DOORS, WINDOWS, ETC.
- PIPING, DUCTWORK, VENTS, ETC., EXTENDING THROUGH EXTERIOR WALLS AND ROOF SHALL BE FLASHED AND COUNTER FLASHED IN A WEATHERPROOF MANNER.
- VALVES AND SPECIALTIES SHALL BE LINE SIZE EXCEPT FOR CONTROL VALVES OR UNLESS NOTED OTHERWISE.

- EXTEND DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED. ROUTING SHALL NOT INTERFERE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR CONDITIONING CONDENSATE DRAIN PANS SHALL BE TRAPPED. SLOPE CONDENSATE DRAIN PIPING AT 1/4" PER FOOT. VERIFY INVERT IS ESTABLISHED AFTER AIR HANDLING UNIT IS INSTALLED BUT PRIOR TO DUCTWORK INSTALLATION.
- HVAC EQUIPMENT CONTAINING AIR CONDITIONING COILS WHICH DO NOT HAVE A SECONDARY DRAIN OR AUXILIARY DRAIN PAN SHALL BE FITTED WITH A WATER LEVEL SENSOR IN THE PRIMARY DRAIN PAN. THE SENSOR SHALL BE WIRED TO DE-ENERGIZE THE EQUIPMENT IF WATER RISES ABOVE THE DRAIN OUTLET.
- INSULATE DOMESTIC HOT AND COLD WATER LINES 1/2" THICK WITH OWENS CORNING FIBERGLASS 25 ASJ, JOHNS-MANVILLE AP OR APPROVED EQUAL, SEALED TO PREVENT SWEATING AND CONTINUOUS THROUGH WALLS, FLOORS, CEILINGS, ETC.
- PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH NON-RATED FLOORS, WALLS, ROOF AND PARTITIONS, UNLESS OTHERWISE INDICATED.
- NO PIPING SHALL BE SMALLER THAN 1/2" UNLESS OTHERWISE NOTED.
- RUNOUTS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF 1" IN 3'-0".
- FOR PIPE SIZES NOT INDICATED ON PLANS, SEE EQUIPMENT CONNECTION DETAILS, FLOW DIAGRAMS, RISER DIAGRAMS AND PIPE SIZING SCHEDULE.
- PROVIDE UNION OR FLANGED CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON BOTH SIDES OF CONTROL VALVES AND PRESSURE REGULATING VALVES. PROVIDE SHUT-OFF VALVES ON BOTH SIDES OF AUTOMATIC VALVES.
- RELIEF VALVE PIPING SHALL BE EXTENDED TO THE NEAREST FLOOR DRAIN.
- PROPERLY SUPPORT ALL EQUIPMENT AND PIPING WITHIN THE BUILDING AND PROVIDE ADEQUATE PROVISIONS FOR SLOPE AND ANCHORAGE. PROVIDE ALL MATERIALS REQUIRED FOR THE SUPPORT OF SUCH ITEMS INCLUDING RODS, ANGLES, ETC., TO PROPERLY SUPPORT ALL ITEMS IN A PROPER AND SAFE MANNER. CONTRACTOR SHALL USE HANGERS, RODS, INSERTS ETC., LISTED BY UNDERWRITERS' LABORATORIES FOR THE SERVICE INTENDED. HANGERS FOR COPPER PIPING SHALL BE COPPER PLATED. SECURELY SUPPORT ALL EQUIPMENT FROM STRUCTURAL MEMBERS AS NEEDED, WHICH IN TURN ARE TO BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE. ALL HANGERS SHALL HAVE A MINIMUM FACTOR OF SAFETY OF 5. PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS. ADDITIONAL SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT.
- INSTALL ANCHORS AND EXPANSION LOOPS WHERE INDICATED AND WHERE REQUIRED TO ALLOW FOR EXPANSION.
- SUITABLE FLASHINGS FOR OPENINGS IN THE BUILDING WALLS, FLOOR OR ROOF SHALL BE FURNISHED BY THE CONTRACTOR PROVIDING THE PENETRATING ITEM. THE INSTALLATION OF THE FLASHING AND ITS WATERTIGHT INTEGRITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT PROVIDES THE SEALING AND FINISHING OF THE FLASHING. IN ALL CASES, THE FLASHING MATERIAL AND ITS INSTALLATION SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR FLASHINGS FOR PENETRATIONS MAY ALSO BE PROVIDED ENTIRELY BY THE GENERAL CONTRACTOR. ALSO, REFER TO THE ARCHITECT'S SPECIFICATIONS TO COORDINATE THE COMPLETENESS OF THIS ITEM.
- ACCESSIBILITY REQUIREMENTS. (REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION/REQUIREMENTS).
 - THE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF REGULATIONS, CODES AND ORDINANCES REGARDING HANDICAPPED PERSONS. IT IS ASSUMED THAT THE CONTRACTOR IS ALSO KNOWLEDGEABLE OF SAME AND THEIR APPLICATION WITH REGARD TO HIS WORK.
 - THE CONTRACTOR SHALL VERIFY AND COORDINATE THE TYPE OF EQUIPMENT BEING INSTALLED AND ITS LOCATION, MOUNTING HEIGHT AND CLEARANCES AS PRESCRIBED BY ALL APPLICABLE HANDICAP REGULATIONS, CODES AND ORDINANCES PRIOR TO PLACING EQUIPMENT ORDERS AND PRIOR TO INSTALLATION OF ALL WORK.
 - GENERAL LISTING OF MOUNTING HEIGHTS:

ITEM	HEIGHT TO CENTER LINE ABOVE FINISHED FLOOR
WATER COOLER	36" TO SPOUT
TOILETS	17"-19" TO RIM
URINALS	17" TO RIM
FLUSH VALVES	44"
THERMOSTATES, SWITCHES, ETC.	48" MAXIMUM
RECEPTACLES	15" MINIMUM
- CONTRACTOR SHALL PROVIDE ALL DIMENSIONS FOR BLOCK-OUTS, SLEEVES, ETC., AND THE DIMENSIONED LOCATIONS OF SAME.
- SEE ELECTRICAL DRAWINGS FOR LOCATION OF MOTOR STARTERS.

THROUGH-PENETRATION FIRESTOP ASSEMBLIES

- PROVIDE UL LISTED THROUGH-PENETRATION ASSEMBLIES FOR FIRE WALLS AND FLOORS. REVIEW ARCHITECTURAL DRAWINGS FOR FIRE PARTITION LOCATIONS AND UL LISTINGS.

MAINTENANCE

- EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.
- EQUIPMENT INSTALLED ABOVE CEILINGS SHALL BE MOUNTED APPROX. 12" ABOVE CEILING (UOI) FOR MAINTENANCE ACCESS. INSTALL PIPE RUNS AT LEAST 6" ABOVE CEILING TILES, WHERE PRACTICAL. INSTALL VALVES, AND OTHER MAINTAINABLE DEVICES LOW ENOUGH TO REACH WITH AN 8'-0" LADDER.
- PROVIDE ACCESS TO ANY INSPECTION OR MAINTAINABLE DEVICE, EQUIPMENT, ETC. - ACCESS OR ACCESS DOOR SHALL BE OF ADEQUATE SIZE TO WORK ON DEVICE.
- EXAMINE MANUFACTURER'S LITERATURE TO DETERMINE RECOMMENDED CLEARANCES. THESE CLEARANCES SHALL BE ESTABLISHED AND MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE REQUIREMENTS WITH ALL OTHER TRADES.

ABBREVIATIONS (NOTE: ALL ABBREVIATIONS MAY NOT APPEAR ON DRAWINGS)

A	AMPS, AMPERE	CLG	CEILING	DWG	DRAWING	FIXT	FIXTURE	IFGC	INTERNATIONAL FUEL GAS CODE	MTR	MOTOR	PCS	PROCESS CHILLED WATER SUPPLY	SEER	SEASONAL ENERGY EFFICIENCY RATIO	UNO	UNLESS NOTED OTHERWISE
ABC	ABOVE COUNTER	CO	CLEAN OUT	EA	EACH	FL	FLOW LINE	FL	INTERNATIONAL MECHANICAL CODE	MTRZD	MOTORIZED	PERF	PERFORATED	RATIO		V	VOLT
ABV	ABOVE	COL	COLUMN	EAH	ENTERING AIR TEMPERATURE	FPM	FEET PER MINUTE	IMC	INTERNATIONAL MECHANICAL CODE	MVD	MANUAL VOLUME DAMPER	PLBG	PLUMBING	SENS	SENSIBLE (BTU)	VA	VALVE
A/C	AIR CONDITIONER	CONC	CONCRETE	EDH	ELECTRIC DUCT HEATER	FPW	FAN POWERED VARIABLE VOLUME	IPC	INTERNATIONAL PLUMBING CODE	N2	NITROGEN GAS	PSI	POUNDS PER SQUARE INCH	SFU	SUPPLY FIXTURE UNITS	VAC	VACUUM
AC	ALTERNATING CURRENT	CONC	CONSTRUCTION	EER	ENERGY EFFICIENCY RATIO	FT	TERMINAL UNIT	IN	INCHES	NA	NOT APPLICABLE	PSIA	ABSOLUTE	SHT	SHEET	VAV	VARIABLE AIR VOLUME
ADJ	ADJACENT	CONT	CONTINUOUS	EL	ELEVATION	FT	FEET	IN WC	INCHES WATER COLUMN	NEC	NATIONAL ELECTRICAL CODE	PSIG	POUNDS PER SQUARE INCH	SHMTL	SHEET METAL	VENTL	VENTILATION
AFF	ABOVE FINISH FLOOR	CONP	CONTRACTOR	ELEC	ELECTRICAL	F/A	FROM ABOVE	IWW	INDUSTRIAL WASTE WATER	NEC	NATIONAL ELECTRICAL CODE	PSIG	POUNDS PER SQUARE INCH	SH4	SILANE	VERT	VERTICAL
AFG	ABOVE FINISH GRADE	COF	COEFFICIENT OF PERFORMANCE	ELEV	ELEVATOR	F/B	FROM BELOW	KW	KILOWATT	NEMA	NATIONAL ELECTRICAL CODE	PVC	POLYVINYL CHLORIDE PWR POWER	SMACNA	SHEET METAL & AIR GAUGE	VIF	VERIFY IN FIELD
AH	AIR HANDLER	CW	CONDENSER WATER RETURN	EMER	EMERGENCY	G	GROUND	KWH	KILOWATT - HOUR	G	GROUND	RA	RETURN AIR	SP	STATIC PRESSURE	VPO	VENT PLUGGED OPENING
AHU	AIR HANDLING UNIT	CVO	COLD WATER VALVED OPENING	EQ	EQUAL	L	LENGTH	L	LENGTH	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	QTY	QUANTITY	SMACNA	SHEET METAL & AIR GAUGE	VT	VENT
AMB	AMBIENT	CW	DOMESTIC COLD WATER	EQUIP	EQUIPMENT	GAL	GALLONS	LAT	LEAVING AIR TEMPERATURE	NIC	NOT IN CONTRACT	RA	RETURN AIR	SP	STATIC PRESSURE	VTR	VENT THRU THE ROOF
AUX	AUXILIARY, AUXILIARIES	CWR	CONDENSER WATER RETURN	ESP	EXISTING STATIC PRESSURE	GALV	GALVANIZED	LAT	LATEX (BTU)	NO	NORMALLY CLOSED	RCP	REFLECTED CEILING PLAN	SPECS	SPECIFICATIONS	VV	VARIABLE VOLUME TERMINAL UNIT
BLDG	BUILDING	D	DEPTH	ETR	EXISTING TO REMAIN	GC	GENERAL CONTRACTOR	LB	POUNDS (WEIGHT)	NO	NORMALLY OPEN	RCP	REFORCED CONCRETE PIPE	SO	SQUARE	W	WATTS
BOP	BO	D	DEPTH	EWT	ENTERING WATER TEMPERATURE	GPH	GALLONS PER HOUR	LN	FT LINEAR FOOT	NO	NUMBER	REF	REFERENCE	SOFT	SQUARE FEET	W	WIDTH
BTU	BRITISH THERMAL UNIT	DB	DRY BULB	EXH	EXHAUST	GPM	GALLONS PER MINUTE	LN2	LIQUID NITROGEN GAS	NTS	NOT TO SCALE	REFR	REFRIGERATOR	SS	SANITARY SEWER	WB	WET BULB
BTUH	BRITISH THERMAL UNIT PER HOUR	DFU	DRAINAGE FIXTURE UNITS	EXIST	EXISTING	H	HEIGHT	LWT	LEAVING WATER TEMPERATURE	OA	OUTSIDE AIR	REQD	REQUIRED	STD	STANDARD	WH	WATER HEATER
CAT	CATALOGUE	DI	DIAMETER	EXP	EXPANSION	HD	HEAD	MAX	MAXIMUM	ORB	OPPOSED BLADE DAMPER	RM	ROOM	SURF	SURFACE	WP	WEATHERPROOF
CD	CONDENSATE DRAIN	DI	DIAMETER	EXP	EXPANSION	HRIZ	HORIZONTAL	OC	ON CENTER	OD	OUTSIDE AIR	RPM	REVOLUTIONS PER MINUTE	SYM	SYMMETRICAL	WPO	WASTE PLUGGED OPENING
CDA	CLEAN DRY AIR	DWR	DEIONIZED WATER RETURN	FA	FIRE ALARM	HP	HORSEPOWER	MCB	MAIN CIRCUIT BREAKER	OD	OUTSIDE AIR	RPM	REVOLUTIONS PER MINUTE	T-STAT	THERMOSTAT	WT	WEIGHT
CFM	CUBIC FEET PER HOUR	DWMS	DEIONIZED WATER SUPPLY	FA	FIRE AREA	HTG	HEATING	MCC	MOTOR CONTROL CENTER	ODS	OVERFLOW DOWNSPOUT	RQMT	REQUIREMENT	TC	TIMECLOCK		
CFM	CUBIC FEET PER MINUTE	DIFF	DIFFUSER	FA	FAN COIL UNIT	HTG	HEATING	MCF	THOUSAND CUBIC FEET	OZ	OUNCE	RTU	ROOF TOP UNIT	TOT	TOTAL (BTU)		
CHWR	CHILLED WATER RETURN	DN	DOWN	EXIST	EXISTING	HM	HEAD	MECH	MECHANICAL	PD	PRESSURE DROP	SA	SUPPLY AIR	TYP	TYPICAL		
CHWS	CHILLED WATER SUPPLY	DS	DOWNSPOUT	EXP	EXPANSION	HW	HEATING HOT WATER RETURN	MIN	MINIMUM	PCR	PROCESS CHILLED WATER RETURN	SD	STORM DRAIN	UF	UNDERFLOOR		
CI	CAST IRON	DTL	DETAIL	FF	FINISH FLOOR	HHWS	HEATING HOT WATER SUPPLY	MISC	MISCELLANEOUS								



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FRITO-LAY
LIBERTY
PLANT

PLANT ADDITION
89 MILL ST
LIBERTY, NY 12754

Project Number: 2021-213
Drawing Date: 17 AUG 2022
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Revisions:

#	Revision Date	Revision Description
1	17 AUG 2022	ISSUE FOR PERMIT
2	02 SEPT 2022	OWNER REVIEW

Sheet Title:

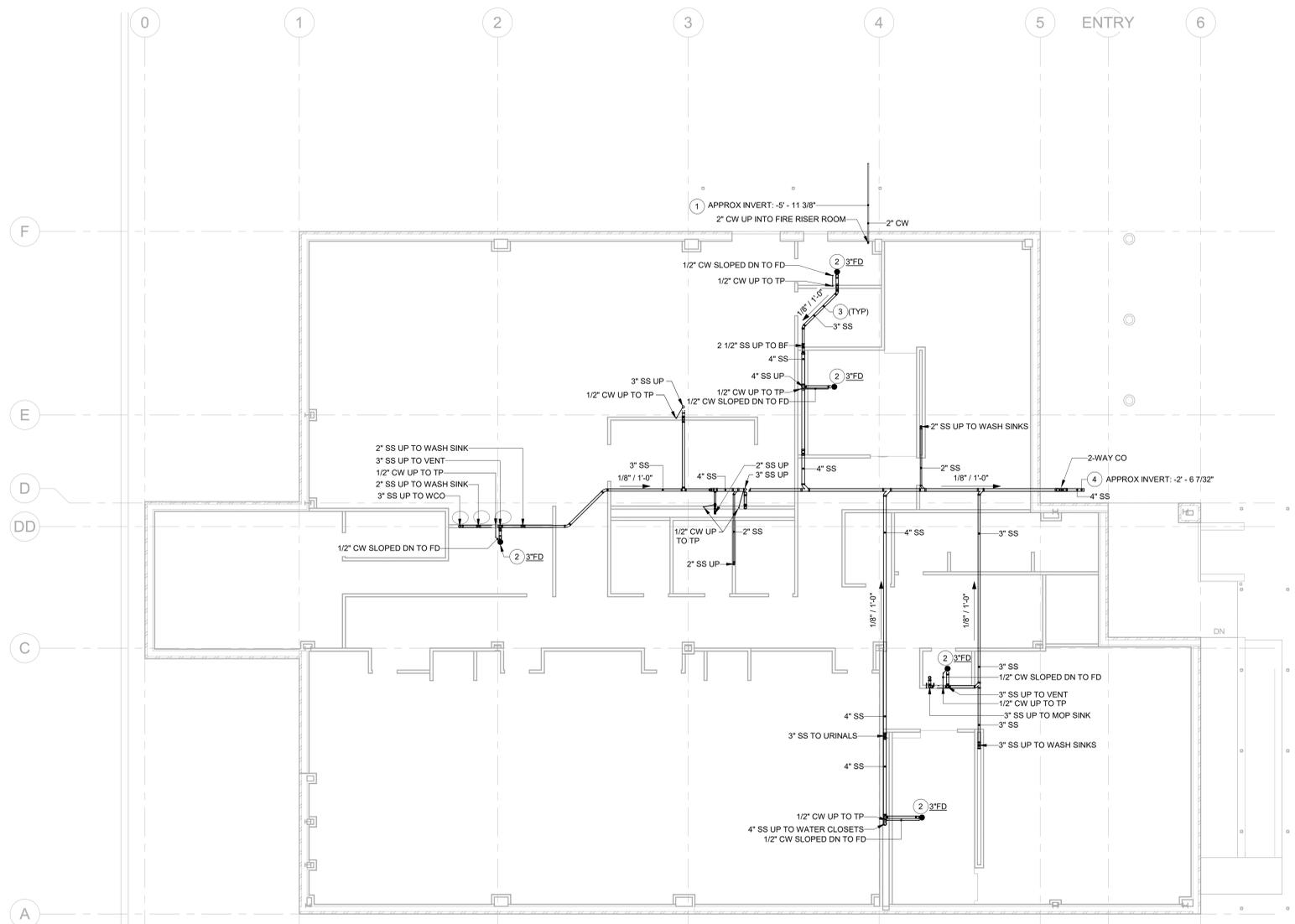
**GENERAL NOTES
AND LEGENDS**

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9/2/2022 10:35:04 AM

1 PLUMBING UNDERFLOOR PLAN
 1/8" = 1'-0"

KEYED NOTES	
MARK	COMMENT
1	PROVIDE AND INSTALL TYPE "K" COPPER WATER LINE BELOW GRADE. APPROXIMATE INVERT AS NOTED ON PLANS. REFERENCE CIVIL PLANS FOR CONNECTION/CONTINUATION.
2	PROVIDE AND INSTALL SCHEDULE 80 SANITARY LINE UP TO DRAIN. COMPLETE WITH P-TRAP AND TRAP PRIMER. SIZE DRAIN AS NOTED.
3	PROVIDE AND INSTALL SCHEDULE 80 PVC SANITARY LINE. ROUTE AS INDICATED WITH A MINIMUM 1/8" PER FOOT SLOPE.
4	PROVIDE AND INSTALL SCHEDULE 80 PVC SANITARY LINE BELOW GRADE. APPROXIMATE INVERT AS NOTED ON PLANS. REFERENCE CIVIL PLANS FOR CONNECTION/CONTINUATION.



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**PLUMBING
 UNDERFLOOR
 PLAN**

P2.00



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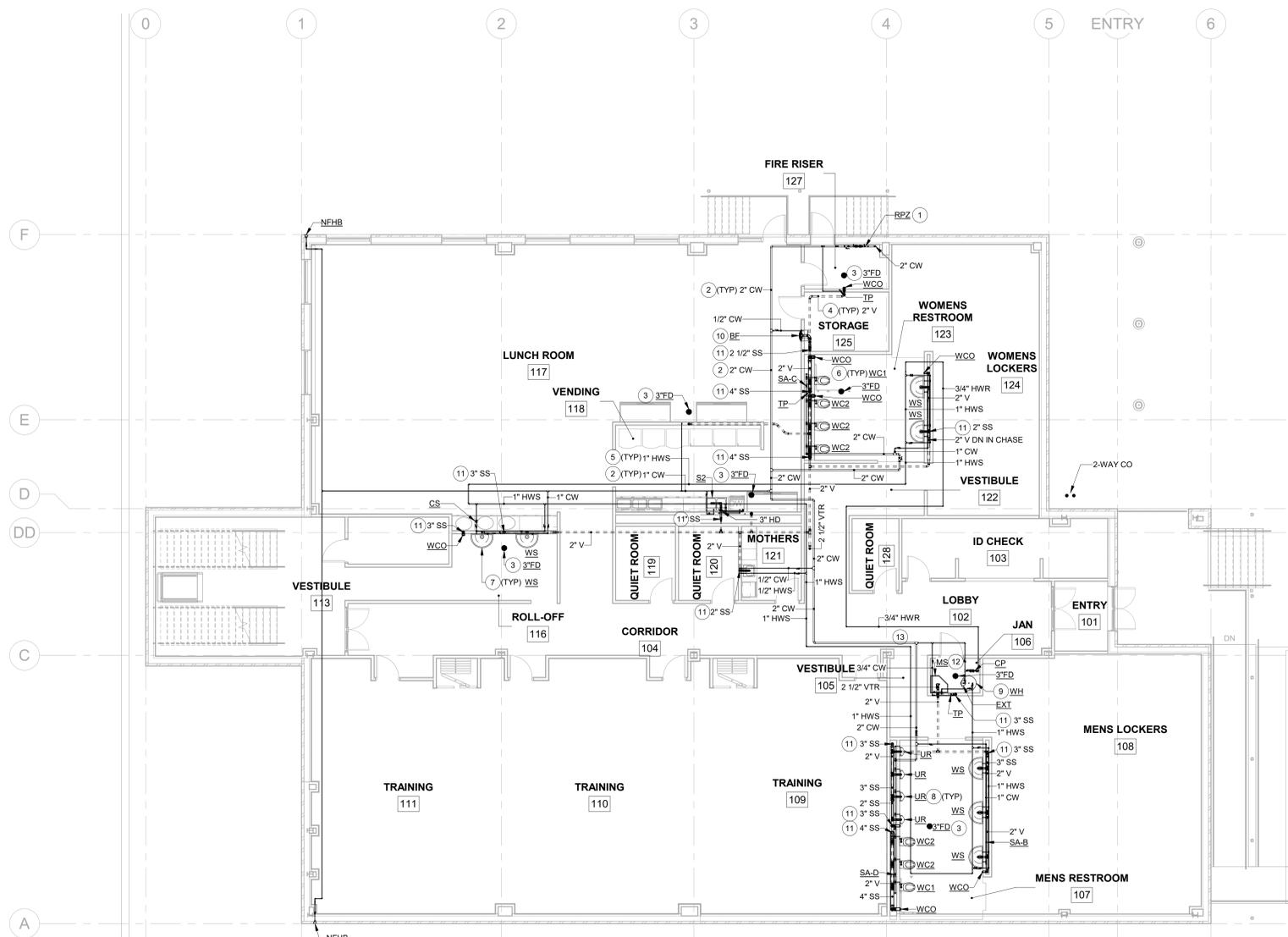
Sheet Title:

**PLUMBING FIRST
FLOOR PLAN**

P2.01

KEYED NOTES

MARK	COMMENT
1	PROVIDE AND INSTALL TYPE "L" COPPER COLD WATER LINE DOWN. SIZE AS NOTED.
2	PROVIDE AND INSTALL TYPE "L" COPPER COLD WATER LINE WITH LEAD FREE SHUT-OFF VALVES COMPLETE WITH INSULATION, HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. ROUTE AS INDICATED.
3	PROVIDE AND INSTALL SCHEDULE 80 SANITARY LINE UP TO DRAIN. COMPLETE WITH P-TRAP AND TRAP PRIMER. SIZE DRAIN AS NOTED.
4	PROVIDE AND INSTALL VENT LINE COMPLETE WITH HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. ROUTE AS INDICATED.
5	PROVIDE AND INSTALL TYPE "L" COPPER HOT WATER LINE COMPLETE WITH INSULATION, HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. ROUTE AS INDICATED.
6	PROVIDE AND INSTALL WALL-HUNG WATER CLOSET AND ASSOCIATED FLUSH VALVE. SEE PLUMBING SCHEDULE SHEET.
7	PROVIDE AND INSTALL WASH STATION AND ASSOCIATED FAUCET. SEE PLUMBING SCHEDULE SHEET.
8	PROVIDE AND INSTALL WALL-HUNG URINAL AND ASSOCIATED FLUSH VALVE. SEE PLUMBING SCHEDULE SHEET.
9	PROVIDE AND INSTALL ELECTRIC TANK TYPE WATER HEATER ON STAND. SEE PLUMBING SCHEDULE SHEET.
10	PROVIDE AND INSTALL ELECTRIC BOTTLE FILLER / COOLER AND ALL ASSOCIATED APPURTENANCES. SEE PLUMBING SCHEDULE SHEET.
11	PROVIDE AND INSTALL SCHEDULE 80 SANITARY LINE DOWN. SIZE AS NOTED.
12	PROVIDE AND INSTALL UTILITY SINK AND ASSOCIATED FAUCET. SEE PLUMBING SCHEDULE SHEET.
13	



1 PLUMBING FIRST FLOOR PLAN
1/8" = 1'-0"



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FRITO-LAY LIBERTY PLANT

PLANT ADDITION
89 MILL ST
LIBERTY, NY 12754

Project Number: 2021-213
Drawing Date: 17 AUG 2022
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Checked: CBC
Scale:

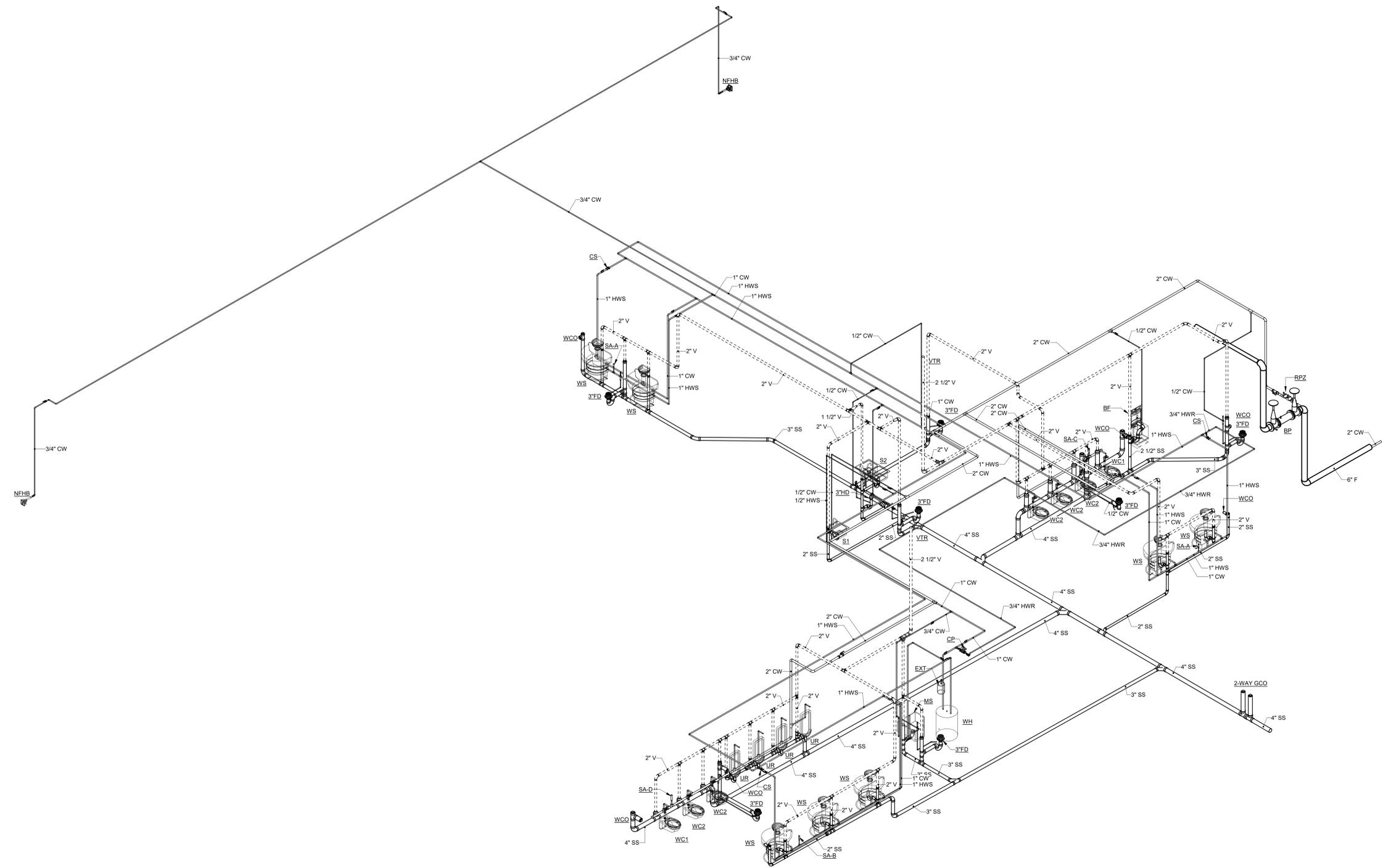
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Revisions:

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2	02 SEPT 2022	OWNER REVIEW

Sheet Title:
**PLUMBING
DIAGRAMS /
ENLARGED PLANS**

P3.00

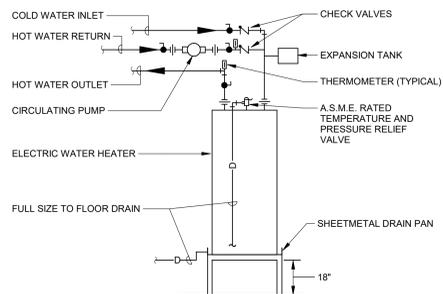


1 PLUMBING RISER DIAGRAM

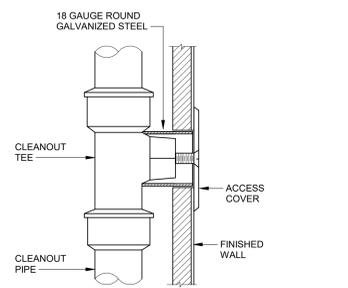
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PLUMBING FIXTURE & EQUIPMENT SCHEDULE

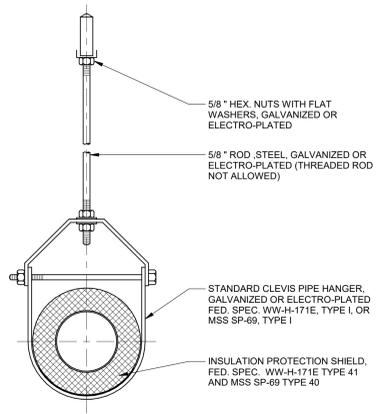
TAG	QTY	CONNECTION SIZE				MANUFACTURER	MODEL	DESCRIPTION
		SS (DIA)	VENT (DIA)	OW (DIA)	HW (DIA)			
3*FD	7	3"				JOSAM	30000	ADA COMPLIANT CAST IRON BODY FLOOR DRAIN WITH CAST IRON COLLAR WITH SATIN BRONZE STRAINER, VANDALPROOF SCREWS AND BOTTOM OUTLET.
BF	1		1/2"			ELKAY	LZWSGRN8K	ADA COMPLIANT IN-WALL, BOTTLE FILLING STATION, FILTERED REFRIGERATED STAINLESS, CHILLING CAPACITY OF 8.0 GPH OF 50°F DRINKING WATER, BASED ON 80°F INLET WATER AND 90°F AMBIENT, ANTIMICROBIAL, HANDS FREE, SENSOR ACTIVATION.
BF18	1		1/2"			PPP	MPB-500	TRAP PRIMER VALVE WITH BOX, ROUGH-IN DIMENSIONS 12"x12"x4" DEPTH, 24 VOLT, 6.3 WATTS, 1/2" SUPPLY FROM TOP OF MAIN TO VALVE, 1/2" SUPPLY TO FLOOR OR HUB DRAIN, DISTRIBUTION UNIT AS REQUIRED.
BF20	1		1/2"			PPP	MPB-500	TRAP PRIMER VALVE WITH BOX, ROUGH-IN DIMENSIONS 12"x12"x4" DEPTH, 24 VOLT, 6.3 WATTS, 1/2" SUPPLY FROM TOP OF MAIN TO VALVE, 1/2" SUPPLY TO FLOOR OR HUB DRAIN, DISTRIBUTION UNIT AS REQUIRED.
BF21	1		1/2"			PPP	MPB-500	TRAP PRIMER VALVE WITH BOX, ROUGH-IN DIMENSIONS 12"x12"x4" DEPTH, 24 VOLT, 6.3 WATTS, 1/2" SUPPLY FROM TOP OF MAIN TO VALVE, 1/2" SUPPLY TO FLOOR OR HUB DRAIN, DISTRIBUTION UNIT AS REQUIRED.
CP	1			3/4"		GRUNDFOS	ALPHA2-15-SF1LC	DOMESTIC HOT WATER IN-LINE RETURN PUMP, MAX FLOW 21 GPM, MAX HEAD 19 FT, 120V1, 45 WATTS, 230°F MAX LIQUID TEMP, VARIABLE SPEED PUMP, INTEGRATED CHECK VALVE, STAINLESS STEEL BODY.
EXT	1		3/4"			WATTS	PLT-5	POEABLE WATER EXPANSION TANK, 3/4" MALE CONNECTION, TANK VOLUME 2.1 GAL, DRWN STEEL TANK CONSTRUCTION, BUTYL DIAPHRAGM, STAINLESS STEEL INLET CONNECTOR.
MS	1							
NFHB	2			1"		JOSAM	71000-74-95	NON-FREEZE CAST BRONZE WALL HYDRANT, SATIN FINISH STAINLESS STEEL BOX AND HINGED LATCHING COVER, INTEGRAL VACUUM BREAKER BACKFLOW PREVENTER, PRESSURE RELIEF VALVE, BRONZE OPERATING PARTS, 1" MALE INLET CONNECTION, VANDALPROOF LOCK WITH 3/4" OUTLET, UNIVERSAL INLET CONNECTION OR EQUAL.
S1	1	2"	2"	1/2"	1/2"	ELKAY	LRAD171655	ADA COMPLIANT STAINLESS STEEL DROP IN SINK, SINGLE COMPARTMENT SINK, 5-1/2" DEEP, CENTER REAR DRAIN, ELKAY FAUCET, MODEL LK800GN04T4, CHROME 8" CENTERSET WITH CONCEALED DECK FAUCET WITH 4" GOOSENECK SPOUT, 4" WRISTBLADE HANDLES.
S2	1	2"	2"	1/2"	1/2"	ELKAY	LRAD372255	ADA COMPLIANT STAINLESS STEEL DROP IN SINK, DOUBLE BOWL SINK, 5-1/2" DEEP, CENTER REAR DRAIN, ELKAY FAUCET, MODEL LK800GN05T4, CHROME 8" CENTERSET WITH CONCEALED DECK FAUCET WITH 5" GOOSENECK SPOUT, 8" WRISTBLADE HANDLES.
TP	5		1/2"			PPP	MPB-500	TRAP PRIMER VALVE WITH BOX, ROUGH-IN DIMENSIONS 12"x12"x4" DEPTH, 24 VOLT, 6.3 WATTS, 1/2" SUPPLY FROM TOP OF MAIN TO VALVE, 1/2" SUPPLY TO FLOOR OR HUB DRAIN, DISTRIBUTION UNIT AS REQUIRED.
UR	4	2"	2"	3/4"		AMERICAN STANDARD	6581.001EC	ADA COMPLIANT WALL HUNG URINAL WITH 3/4" TOP SPUD, AMERICAN STANDARD EXPOSED, SENSOR-OPERATED FLUSH VALVE, MODEL 6030S1 002 FOR 1/2" TOP SPUD URINALS, 0.5 GPF, INLET: ANGLE STOP WITH BACK FLOW PROTECTION AND VANDAL-RESISTANT CAP, OUTLET: HIGH BACK PRESSURE VACUUM BREAKER WITH SPUD COUPLING AND FLANGE, JAY R. SMITH CARRIER OR WATTS CARRIER, MOUNTING HEIGHT AS DIRECTED BY ARCHITECT.
WC1	2	4"	2"	1"		AMERICAN STANDARD	3351.101	ADA COMPLIANT WALL MOUNTED WATER CLOSET, ELONGATED BOWL WITH 1-1/2" TOP SPUD, AMERICAN STANDARD MODEL 6065.121.002 EXPOSED, SENSOR-OPERATED FLUSH VALVE, 1.28 GPF, ES-S SENSOR ACTIVATED FLUSH VALVE, CR-P2 LITHIUM BATTERY POWERED, INLET: ANGLE STOP WITH BACKFLOW PROTECTION AND VANDAL-RESISTANT CAP, OUTLET: HIGH BACK PRESSURE VACUUM BREAKER WITH SPUD COUPLING AND FLANGE, 25 PSI FLOW RATE REQUIRED, CHURCH OPEN FRONT SEAT, LESS COVER, JAY R SMITH CARRIER OR WATTS CARRIER, MOUNTING HEIGHT AS DIRECTED BY ARCHITECT.
WC2	5	4"	2"	1"		AMERICAN STANDARD	3351.101	WALL MOUNTED WATER CLOSET, ELONGATED BOWL WITH 1-1/2" TOP SPUD, AMERICAN STANDARD MODEL 6065.121.002 EXPOSED, SENSOR-OPERATED FLUSH VALVE, 1.28 GPF, ES-S SENSOR ACTIVATED FLUSH VALVE, CR-P2 LITHIUM BATTERY POWERED, INLET: ANGLE STOP WITH BACKFLOW PROTECTION AND VANDAL-RESISTANT CAP, OUTLET: HIGH BACK PRESSURE VACUUM BREAKER WITH SPUD COUPLING AND FLANGE, 25 PSI FLOW RATE REQUIRED, CHURCH OPEN FRONT SEAT, LESS COVER, JAY R SMITH CARRIER OR WATTS CARRIER, MOUNTING HEIGHT AS DIRECTED BY ARCHITECT.
WH	1			1"	1"	AO SMITH	DEL-40	ELECTRIC TANK TYPE WATER HEATER, STORAGE WATER TEMP @ 160°F, 480/3, 9 KW SIMULTANEOUS DUAL ELEMENT (2 @ 4.5 KW), 40 GALLON CAPACITY, MINIMUM 100°F TEMP RISE WITH MINIMUM 36 GALLON RECOVERY RATE.
WS	7	2"	2"	1/2"	1/2"	ACORN	3423ADA-2-H	ADA COMPLIANT 38" WIDE, STAINLESS STEEL SEMI-CIRCULAR WASH STATION, INTEGRAL BACKSPASH AND SPRAYHEAD, 1/2" SUPPLY INLETS, 1 1/2" WASTE CONNECTION, HAND PUSHBUTTON OPERATED.



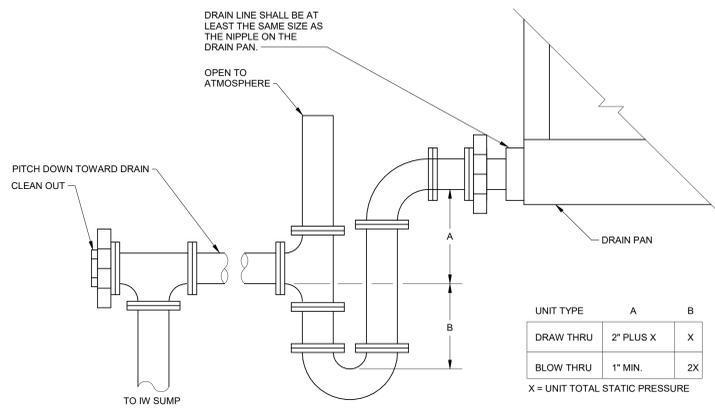
3 WATER HEATER DETAIL
NTS



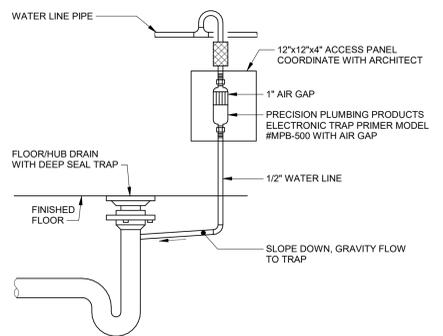
2 WALL CLEAN OUT DETAIL
NTS



5 CEILING HUNG CLEVIS HANGER FOR INSULATED PIPE DETAIL
NTS



4 CONDENSATE DRAIN TRAP TO SUMP DETAIL
NTS



1 TRAP PRIMER DETAIL
NTS



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LIBERTY, NY 12754

Project Number: 2021-213
Drawing Date: 17 AUG 2022
Drawn: RM
Checked: CBC
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Sheet Title:
**PLUMBING
DETAILS AND
SCHEDULES**

FIRE PROTECTION PERFORMANCE SPECIFICATIONS MASTER SPEC

PART 1 - GENERAL

SUMMARY

A. THIS SECTION SPECIFIES THE AUTOMATIC SPRINKLER SYSTEMS FOR BUILDINGS AND STRUCTURES. MATERIAL AND EQUIPMENT SPECIFIED IN THIS SECTION INCLUDE:

1. PIPE, FITTINGS, VALVES AND SPECIALTIES.

2. SPRINKLERS AND ACCESSORIES.

B. PRODUCTS FURNISHED BUT NOT INSTALLED INCLUDE SPRINKLER HEAD CABINET WITH SPARE SPRINKLER HEADS. FURNISH TO OWNERS MAINTENANCE PERSONNEL.

DEFINITIONS

A. PIPE SIZES USED IN THIS SPECIFICATION ARE NOMINAL PIPE SIZE (NPS).

B. OTHER DEFINITIONS FOR FIRE PROTECTION SYSTEMS ARE LISTED IN NFPA STANDARDS 13, 14 AND 24.

WORK INCLUDED

A. THE FULL EXTENT OF FIRE SPRINKLER PIPING WORK IS NOT INDICATED BY DRAWINGS AND SCHEDULES. THE SUCCESSFUL CONTRACTOR SHALL PREPARE AND SUBMIT DRAWINGS AND SCHEDULES FOR APPROVAL BY THE REQUIREMENTS OF THIS SECTION, AND IS HEREBY DEFINED TO INCLUDE (BUT IS NOT NECESSARILY LIMITED TO) PURCHASE AND COMPLETE INSTALLATION OF ALARM CHECK VALVES AND TRIM, FEED AND CROSS MAIN PIPING, BRANCH LINE PIPING, TEST VALVES, TEST CONDITIONS AND SPRINKLERS, DOUBLE CHECK BACKFLOW PREVENTORS AND INSIDE FIRE DEPARTMENT VALVE CONNECTIONS, AS REQUIRED BY LOCAL AUTHORITIES.

B. DESIGN A "WET PIPE" SYSTEM TO PROVIDE A COMPLETE FIRE PROTECTION SYSTEM TO PROVIDE 100 PERCENT FLOOR COVERAGE AND COORDINATED WITH THE INSTALLATION OF OTHER TRADES AS SHOWN ON THE DRAWINGS.

C. IT SHALL BE THE FIRE PROTECTION INSTALLER'S RESPONSIBILITY, PRIOR TO BID, VERIFY PRESSURE AT THE PROJECT SITE BY OBTAINING A SITE FLOW TEST PERFORMED WITHIN ONE CALENDAR YEAR OR PERFORMING A SITE FLOW TEST. DETERMINE IF THE AVAILABLE STATIC AND RESIDUAL PRESSURES ARE ADEQUATE. NOTIFY THE ARCHITECT AND ENGINEER IF LOW WATER FLOW / PRESSURE CONDITIONS EXIST PRIOR TO PROCEEDING.

SUBMITTALS

A. PRODUCT DATA FOR EACH TYPE OF SPRINKLER HEAD, VALVE, PIPING MATERIAL AND SPECIALTY FIRE PROTECTION SPECIALTY AND FIRE DEPARTMENT CONNECTION.

B. SHOP DRAWINGS PREPARED IN ACCORDANCE WITH NFPA 13, INCLUDING HYDRAULIC CALCULATIONS WHERE APPLICABLE, BOTH APPROVED BY A LICENSED FIRE PROTECTION ENGINEER, MAKE COMPLETE SHOP DRAWINGS AND WORKING DRAWINGS OF EQUIPMENT FURNISHED, INCLUDING DETAILED DRAWINGS OF PIPING AND SPRINKLER HEAD LOCATIONS.

C. SUBMIT THE SHOP DRAWINGS TO THE JURISDICTIONS WITH AUTHORITY FOR APPROVAL PRIOR TO SUBMITTING TO THE ARCHITECT AND ENGINEER. ALL SUBMITTALS SHALL INCLUDE THE APPROVALS NOTED ON THE DRAWING OR BY ACCOMPANYING LETTER.

QUALITY ASSURANCE

A. SPRINKLER EQUIPMENT AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS AND THE APPROVAL OF LOCAL, STATE AND FEDERAL AUTHORITIES.

B. EQUIPMENT AND INSTALLATION TO MEET THE REQUIREMENTS OF NFPA 13, 14 AND 24.

C. USE MATERIALS AND EQUIPMENT THAT ARE NEW AND APPROVED BY NFPA, LISTED BY THE UNDERWRITERS LABORATORY (UL) AND FACTORY MUTUAL APPROVED FOR THE PROPOSED APPLICATION.

D. IN ADDITION TO THE REQUIREMENTS OF THE GOVERNING AUTHORITIES, THE FOLLOWING DESIGN CRITERIA SHALL BE MET:

1. THE SPRINKLER SYSTEM SHALL BE DESIGNED TO MEET THE HYDRAULICALLY MOST REMOTE REQUIREMENTS. PROVIDE GPM DENSITY AND REMOTE AREA SQUARE FOOTAGE AS REQUIRED BY OWNERS INSURANCE CARRIER AND BY NFPA STANDARDS. (THE MOST STRINGENT SHALL BE USED).

2. A SAFETY FACTOR PER CITY REQUIREMENTS SHALL BE DESIGNED INTO ALL THE HYDRAULIC CALCULATIONS.

3. THE MAXIMUM VELOCITY IN THE PIPES SHALL NOT EXCEED 20 FT/SEC.

4. SPRINKLER SPACING SHALL NOT EXCEED 225 SQ. FT. FOR LIGHT HAZARD AREAS AND 130 SQ. FT. FOR ORDINARY HAZARD. SPRINKLER SPACING SHALL BE FURTHER RESTRICTED BY CEILING TYPE WHERE APPROPRIATE PER NFPA-13. EXTENDED COVERAGE SPRINKLERS ARE NOT ACCEPTABLE.

5. A MAIN DRAIN SHALL BE PROVIDED NEXT TO THE MAIN SPRINKLER/STANDPIPE RISER.

PART 2 - PRODUCTS

MATERIALS

A. MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA-13, I.S.O. COMMERCIAL RISK GROUP, UNDERWRITERS LABORATORIES AND FACTORY MUTUAL.

PIPE AND FITTINGS

A. ABOVE GRADE, INDOOR PIPING: ASTM A-53/135, SCHEDULE 40, BLACK STEEL PIPE. PROVIDE FITTINGS AS FOLLOWS:

1. CLASS 125 CAST IRON, THREADED FITTINGS, ANSI B16.1.

2. STEEL, WELDING FITTINGS, ASTM A 234, ASME B16.9 OR ASME B16.11.

3. STEEL, GROOVED-END FITTINGS: UL-LISTED AND FM APPROVED, ASTM A 47, MALLEABLE IRON OR ASTM A 538, DUCTILE IRON, WITH DIMENSIONS MATCHING STEEL PIPE AND ENDS FACTORY GROOVED ACCORDING TO AWWA C508.

B. PIPE SLEEVES

1. PIPE SLEEVES THROUGH GRADE BEAMS OR GROUND FLOOR SLAB SHALL RECEIVE "LINK SEAL" CLOSURES MADE OF INTERLOCKING SYNTHETIC RUBBER LINKS. SEALS SHALL PROVIDE FOR ABSOLUTE WATER TIGHTNESS. SEAL SHALL BE CONSTRUCTED TO INSULATE ELECTRICALLY PIPE FROM WALL. INSTALL AS RECOMMENDED BY MANUFACTURER. PROVIDE CENTURY LINE SLEEVES WITH WATER STOP AND ANCHOR COLLAR FOR PIPES PENETRATING GRADE BEAMS DESIGNATED TO BE ANCHORED.

VALVES

A. GENERAL: CONFORM TO THE REQUIREMENTS OF NFPA-13 AND NFPA-24. UL LISTED AND FM APPROVED AND SUITABLE FOR 175 WOG.

B. CHECK VALVES:

1. UP TO AND INCLUDING 2 INCHES: BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, INSIDE SCREW, SINGLE WEDGE OR DISC, THREADED ENDS, NIBCO #KT-403-W, OVER 2 INCHES: IRON BODY, BRONZE TRIM, SWING DISC, RENEWABLE DISC AND SEAT, FLANGED ENDS, NIBCO #F-508.

C. SECTIONAL VALVES:

1. INDICATING GATE CONTROL VALVE: OUTSIDE-SCREW-AND-YOKE (OS&Y), 175 LB RATED WORKING PRESSURE OF SIZE AND END TYPES INDICATED.

2. UP TO AND INCLUDING 2 INCHES: BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, INSIDE SCREW, SINGLE WEDGE OR DISC, THREADED ENDS, NIBCO #F-104-0.

3. OVER 2 INCHES: IRON BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, OS&Y, SINGLE WEDGE, FLANGED OR GROOVED ENDS, NIBCO #F-607-0.

4. BUTTERFLY VALVES: BUILT IN TAMPER RESISTANT SWITCH FOR SUPERVISION OF THE OPEN POSITION. THE SWITCH SHALL BE CONTAINED WITHIN A NEMA 1 GENERAL PURPOSE HOUSING. DUCTILE IRON BODY AND DISK AND STAINLESS STEEL STEM, GROOVED OR LUG BODY STYLE ENDS, NIBCO #GD-4765 OR #LD-3510.

D. ALARM VALVE ASSEMBLIES: PROVIDE APPROVED ALARM VALVES, 175 LB RATED PRESSURE. COMPLETE WITH ALL VARIABLE PRESSURE TRIM, VALVES, ETC., AS REQUIRED.

AUTOMATIC SPRINKLERS

A. FIRE SPRINKLERS: PROVIDE STANDARD BULB-TYPE, ("O-RING" WATER SEAL DESIGN NOT ACCEPTABLE) AUTOMATIC FIRE SPRINKLERS WITH 165 DEG.F. OR AS REQUIRED BY NFPA-13, OPERATING TEMPERATURE OF THE FOLLOWING STYLE AND FINISH: SPRINKLERS SHALL BE LIMITED TO 225 SQ. FT. COVERAGE FOR LIGHT HAZARD AND 130 SQ. FT. COVERAGE FOR ORDINARY HAZARD AREA. EXTENDED COVERAGE SPRINKLERS ARE NOT ALLOWED.

1. SPRINKLER STYLE: UPRIGHT, IN MECHANICAL SPACES WITHOUT CEILINGS OR CONCEALED PENDENT TYPE AS REQUIRED FOR CEILINGS TO MATCH HEADS USED FOR EXISTING SECOND LEVEL OFFICE AREA.

2. SPRINKLER FINISH: CAST BRASS (IN NON-EXPOSED AREAS) AND CHROME PLATED (IN OCCUPIED AREAS). COORDINATE FINISH FOR OCCUPIED AREA SPRINKLER HEADS WITH ARCHITECTURAL POP AND OWNER TO MATCH FINISH OF EXISTING HEADS SERVING SECOND LEVEL OFFICE AREA.

3. UPRIGHT PENDENT SHALL HAVE 1" LINE OUTLETS AND BUSHED DOWN TO SPRINKLER HEAD SIZE IN UNFINISHED FUTURE TENANT LEASE SPACE.

ACCESSORIES

A. TAMPER SWITCHES: PROVIDE TAMPER SWITCHES EQUAL TO POTTER TYPE PS10-1 ON ALL CONTROL VALVES FOR CONNECTION TO THE FIRE ALARM SYSTEM.

B. WATER FLOW DETECTORS: PROVIDE WATER FLOW DETECTORS EQUAL TO POTTER TYPE VRS-D. PROVIDE A WATER FLOW DETECTOR AT THE MAIN FIRE PROTECTION PIPING ENTRANCE TO THE BUILDING OR SYSTEM, IN ADDITION TO OTHER LOCATIONS SHOWN, SPECIFIED, OR REQUIRED, TO DETECT ANY FLOW IN THE SYSTEM FROM ANY CAUSE. IF FLOW IS DETECTED, SOUND A LOCAL ALARM. SEE FIRE ALARM SECTION FOR CONNECTION TO FIRE ALARM SYSTEM.

C. PRESSURE GAUGES: PROVIDE 3/16 INCH DIAMETER PRESSURE GAUGES EQUAL TO ALLENCO NO. 1700 WITH STAINLESS STEEL CASE AND WITH A RANGE OF 0-300 PSIG, INCLUDE GAUGE COCK, WATER-MOTOR GONG, PROVIDE 1" WEATHERPROOF, RED ENAMELED FINISHED, WATER-MOTOR GONG AS INDICATED.

D. BALL DRIPS: PROVIDE BALL DRIPS EQUAL TO ALLENCO NO. 2112, BALL DRIPS FOR PIPING BETWEEN CHECK VALVES AND FIRE DEPARTMENT CONNECTIONS. EXTEND DRAIN LINE FROM EACH BALL DRIP TO POINT OF DISPOSAL AS SHOWN ON THE DRAWINGS, OR AS DIRECTED.

E. HANGERS AND SUPPORTS: PROVIDE HANGERS AND SUPPORTS AS REQUIRED BY NFPA-13.

F. INSPECTOR'S TEST CONNECTION

1. PROVIDE INSPECTOR'S TEST CONNECTION AS REQUIRED BY NFPA 13 AND AUTHORITIES HAVING JURISDICTION.

2. DUCTILE IRON MODULE HOUSING WITH COMBINATION SIGHT GLASS, ORIFICE AND BONNET ASSEMBLY.

3. UL LISTED AND FM APPROVED.

PART 3 - EXECUTION

INSTALLATION

A. INSTALL AUTOMATIC SPRINKLER SYSTEM WHERE SHOWN ON THE DRAWINGS OR AS NOTED. INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF NFPA-13, THESE SPECIFICATIONS, AND THE GOVERNING AUTHORITIES, AND WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS. COORDINATE WITH OTHER WORK, INCLUDING PLUMBING PIPING, AS NECESSARY TO INTERFACE COMPONENTS OF FIRE SPRINKLER PIPING PROPERLY WITH OTHER WORK.

B. PROVIDE PIPE OFFSETS AS REQUIRED. MODIFY SHOP PRE-FABRICATED PIPING, PIPE HANGERS, AND OTHER COMPONENTS AS REQUIRED TO FIT THE JOB SITE CONDITIONS.

C. INSTALLATION OF HOODS AND SHIELDS FOR PROTECTION OF ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH APPROVED DETAILS, INCLUDED AS A PART OF THE COORDINATED SHOP DRAWINGS.

D. INSTALL SECTIONAL VALVES IN INLET PIPING AT THE BOTTOM OF EACH RISER AND IN LOOPS AS INDICATED OR REQUIRED.

E. INSTALL AIR VENTS AT THE HIGH POINTS OF THE SPRINKLER PIPING.

F. INSTALL A TAMPER SWITCH ON HOSE CONNECTION CABINET DOOR, EACH SECTIONAL VALVE AND ON EACH OTHER SHUT-OFF VALVE.

G. INSTALL DRAIN PIPING AT ALL LOW POINTS OF THE SPRINKLER PIPING.

H. THRUST BLOCKS SHALL COMPLY WITH NFPA #24 AND BE OF SIZE REQUIRED FOR THE SOIL BEARING STRENGTH AND AGAINST COMPACTED SOIL.

I. INSTALL WATER FLOW DETECTORS AT EACH TAKE-OFF FROM A SPRINKLER RISER OR FOR EACH ZONE.

J. INSTALL PRESSURE REDUCING VALVE AS REQUIRED BY NFPA 13.

K. INSTALL HEADS IN ALL LOCATIONS, PENDENT OR UPRIGHT, AS REQUIRED TO PROVIDE COMPLETE COVERAGE.

IDENTIFICATION

A. APPLY SIGNS TO IDENTIFY PURPOSES AND FUNCTIONS OF CONTROLS, AND TO IDENTIFY DRAIN, TEST, AND ALARM VALVES. PROVIDE LETTER SIZES AND STYLES AS SELECTED BY THE ARCHITECT FROM NFPA'S SUGGESTED STYLES.

CLEANING AND FLUSHING

A. PRIOR TO CONNECTING SPRINKLER PIPING FOR FLUSHING, FLUSH WATER FEED MAINS, LEAD-IN CONNECTIONS AND CONTROL PORTIONS OF SPRINKLER PIPING. AFTER SPRINKLER PIPING INSTALLATION HAS BEEN COMPLETED, AND BEFORE PIPING IS PLACED IN SERVICE, FLUSH EACH SPRINKLER SYSTEM UNDER PRESSURE TO REMOVE FOREIGN SUBSTANCES AS REQUIRED BY NFPA-13 AND NFPA-14. CONTINUE FLUSHING UNTIL WATER IS CLEAR, AND CHECK TO ENSURE THAT DEBRIS HAS NOT CLOGGED SPRINKLERS.

TESTS

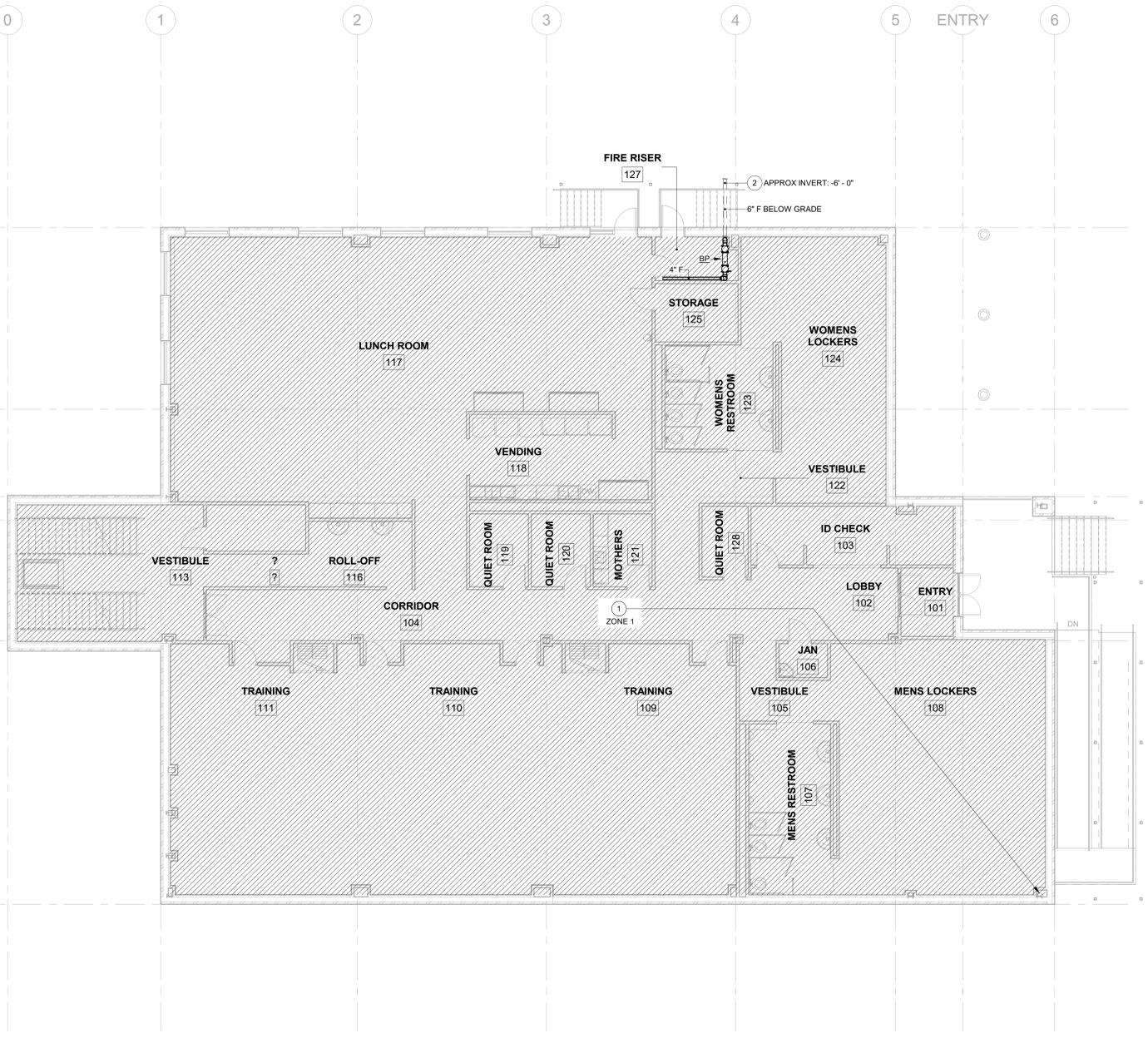
A. AFTER FLUSHING EACH SYSTEM, HYDROSTATICALLY TEST SPRINKLER PIPING IN ACCORDANCE WITH NFPA-13 AND NFPA-24. CHECK SYSTEM FOR LEAKAGE AT JOINTS. MEASURE HYDROSTATIC PRESSURE AT LOW POINT OF EACH SYSTEM OR ZONE BEING TESTED.

B. REPAIR OR REPLACE PIPING SYSTEM AS REQUIRED TO ELIMINATE LEAKAGE IN ACCORDANCE WITH NFPA STANDARDS, THEN RETEST AS SPECIFIED TO DEMONSTRATE COMPLIANCE.

CERTIFICATION

A. BEFORE FINAL APPROVAL OF THE FIRE PROTECTION SYSTEMS ARE REQUESTED, PROVIDE THE ARCHITECT A STATEMENT THAT ALL REQUIREMENTS OF THE STATE BOARD OF INSURANCE, CITY BUILDING INSPECTION AND FIRE DEPARTMENTS HAVE BEEN MET IN THE INSTALLATION OF THE FIRE PROTECTION SYSTEMS.

KEYED NOTES	
MARK	COMMENT
1	PROVIDE AND INSTALL COMPLETE SPRINKLER PIPING SYSTEM IN ACCORDANCE TO NFPA 13 AND THE 2021 INTERNATIONAL FIRE CODE. PROVIDE CALCULATIONS AS REQUIRED.
2	PROVIDE AND INSTALL BLACK IRON FIRE PROTECTION LINE BELOW GRADE. APPROXIMATE INVERT AS NOTED ON PLANS. REFERENCE CIVIL PLANS FOR CONNECTION/CONTINUATION.



1 FIRE PROTECTION FIRST FLOOR PLAN
1/8" = 1'-0"



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FRITO-LAY
LIBERTY
PLANT

PLANT ADDITION
89 MILL ST
LIBERTY, NY 12754

Project Number: 2021-213
Drawing Date: 17 AUG 2022
Drawn: RM
Checked: CBC
Scale: As indicated

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Revision	Revision Description
1	17 AUG 2022 ISSUE FOR PERMIT
2	02 SEPT 2022 OWNER REVIEW

Sheet Title:
FIRE PROTECTION
FLOOR PLAN

FP2.01