

**SPECIFICATIONS**

**GENERAL**

1. ALL WORK, EQUIPMENT AND MATERIALS SHALL CONFORM TO THE LATEST APPLICABLE CODES OF THE AUTHORITY HAVING JURISDICTION, AND ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES OF FEDERAL AND LOCAL AUTHORITIES. THEY INCLUDE THE FOLLOWING:

LATEST ISSUE OF THE INTERNATIONAL PLUMBING CODE AND THE PLUMBING CODE

LATEST EDITION OF NFPA-13

OWNERS INSURANCE UNDERWRITER

2. THE SCOPE OF WORK INDICATED ON THESE DRAWINGS SHALL INCLUDE PLUMBING AND FIRE PROTECTION SYSTEMS, FULLY TESTED AND READY FOR USE. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY COMPONENTS, FITTINGS, HANGERS, SUPPORTS, AND ACCESSORIES NECESSARY FOR COMPLETE AND SAFE INSTALLATION AND USE OF ALL SYSTEMS INDICATED ON THE DRAWINGS.

3. EXISTING CONDITIONS AND SITE EXAMINATIONS:

PRIOR TO SUBMITTING A BID, CONTRACTOR SHALL VISIT THE SITE AND ACQUAINT HIMSELF WITH THE SITE CONDITIONS.

LAYOUT SHOWN ON THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT FOR WORK AND SYSTEMS. PRIOR TO THE INSTALLATION, FABRICATION, REMOVAL OR RELOCATION OF ANY WORK, THE CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND INVERTS IN THE FIELD AND COORDINATE WITH ALL OTHER TRADES, ARCHITECTURAL PLANS AND BUILDING STRUCTURE. WHERE CONFLICTS OCCUR, OR IF THE CONNECTIONS CANNOT BE MADE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO ANY INSTALLATION AND FABRICATION. COORDINATE ALL EQUIPMENT LOCATION WITH THE ARCHITECTURAL DRAWINGS. DO NOT SCALE THESE DRAWINGS.

WAIVER OF RESPONSIBILITY OR REQUESTS FOR ADDITIONAL PAYMENT BASED ON LACK OF KNOWLEDGE OF CONDITIONS AT THE SITE WILL NOT BE ACCEPTED.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND REPORT EACH DISCREPANCY BEFORE START OF WORK.

4. QUALITY OF MATERIALS: NEW, BEST OF THEIR KIND, FREE FROM DEFECTS.

5. SHOP DRAWINGS: SUBMIT FOUR (4) COPIES OF SHOP DRAWINGS TO ENGINEERS FOR ALL MECHANICAL EQUIPMENT, PRIOR TO ORDER, BUILT, OR INSTALLED.

6. CLEARANCES: CONTRACTOR SHALL COORDINATE EQUIPMENT LOCATION AS REQUIRED TO PROVIDE PROPER CLEARANCES FOR SERVICE AND OPERATION OF THE EQUIPMENT.

7. WIRING: CONTRACTOR SHALL VERIFY ALL VOLTAGE AND POWER REQUIREMENTS AND COORDINATE WITH ELECTRICAL CONTRACTOR AS REQUIRED. SEE ELECTRICAL DRAWINGS FOR EQUIPMENT POWER REQUIREMENTS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY WIRING TRANSFORMERS, CONTROLS, HARDWARE, SAFETY DEVICES, AND ACCESSORIES FOR PROPER INSTALLATION AND OPERATION OF ALL SYSTEMS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.

8. SLAB PENETRATIONS: ALL PENETRATIONS REQUIRED FOR NEW WORK: SLAB PENETRATIONS SHALL BE X-RAYED AND APPROVED BY MANAGEMENT. NO GROUND PENETRATING RADAR ALLOWED UNLESS APPROVED BY MANAGEMENT. X-RAY TO LOCATE REINFORCING BARS, POST TENSIONING CABLES, PIPING CONDUITS, ETC. ALL SUCH COMPONENTS SHALL BE CLEARLY MARKED ON SLAB SURFACE PRIOR TO DRILLING. CONTRACTOR SHALL NOT CUT BARS, CABLES, ETC. WITHOUT PRIOR WRITTEN AUTHORIZATION BY OWNER, AND SHALL REPAIR ANY DAMAGE CAUSED BY CORE DRILLING. NOTIFY THE OWNER PRIOR TO DRILLING TO ALLOW A FIELD INSPECTION OF CORE LOCATIONS. IN ADDITION ALL PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROPERLY FIRE STOPPED. COORDINATE WITH STRUCTURAL ENGINEER AND BUILDING MANAGEMENT.

9. PROVIDE ALL NECESSARY HANGERS FOR SUPPORT OF HORIZONTAL AND VERTICAL PIPING AND DUCTWORK IN ACCORDANCE WITH THE IMC SECTION 305 AND MANUFACTURERS' RECOMMENDATIONS. PROVIDE SLEEVES AND ESCUTCHEONS FOR ALL PIPING PASSING THROUGH WALLS OR FLOORS. PIPING AND DUCTWORK IS TO BE SUPPORTED INDEPENDENTLY SO NO WEIGHT IS SUPPORTED BY THE EQUIPMENT.

10. ACCESS PANELS: CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS AS REQUIRED PER FIELD CONDITIONS AND EQUIPMENT REQUIREMENTS. LOCATIONS SHALL BE APPROVED BY THE ARCHITECT.

11. CONTRACTOR SHALL COORDINATE LOCATION OF CONTROLS, GAGES, THERMOMETERS, VALVES, AND SYSTEM COMPONENTS WITH FIELD CONDITIONS TO PROVIDE PROPER CLEARANCES FOR SERVICE AND OPERATION OF EQUIPMENT.

12. PROVIDE DIELECTRIC FITTINGS, COUPLINGS, OR FLANGE UNIONS ISOLATING JOINTS ON ALL FERROUS TO NONFERROUS PIPE CONNECTIONS TO PREVENT AN ELECTROLYTIC ACTION BETWEEN DISSIMILAR METALS.

13. CONTRACTOR SHALL SEAL ALL UNUSED PENETRATIONS TO MATCH EXISTING FINISH. PROVIDE FIRE STOP WHERE REQUIRED. ALL LARGE PENETRATIONS THROUGH STRUCTURAL COMPONENTS SHALL BE SEALED PER THE ARCHITECTS AND STRUCTURAL ENGINEERS INSTRUCTIONS.

14. ENGINEER OR ARCHITECT HAS NOT CONSIDERED THE POTENTIAL PRESENCE OF HAZARDOUS MATERIALS IN THE DESIGN. SHOULD THE CONTRACTOR DISCOVER ANY POTENTIALLY HAZARDOUS MATERIAL DURING THE PROCESS OF THE WORK, DO NOT DISTURB IT AND IMMEDIATELY NOTIFY THE OWNER.

15. ALL MOTOR DRIVEN EQUIPMENT SHALL BE INSTALLED WITH VIBRATION ISOLATORS UNLESS OTHERWISE NOTED. FOLLOW MANUFACTURERS' RECOMMENDED INSTRUCTIONS. PIPING CONNECTED TO VIBRATING EQUIPMENT SHALL BE ISOLATED BY RESILIENT HANGERS OR FLEXIBLE CONNECTIONS. CONNECT MECHANICAL EQUIPMENT TO DUCTWORK USING RUBBERIZED CANVAS FLEXIBLE CONNECTIONS.

16. UPON THE COMPLETION OF THE INSTALLATION OF EACH SYSTEM, DEMONSTRATE THAT THE SYSTEM OPERATES PROPERLY IN EACH MODE OF OPERATION. PROVIDE MAINTENANCE AND INSTRUCTION MANUALS TO THE USER.

17. PIPING SYSTEM IDENTIFICATION: FOR ALL PIPING SYSTEMS WITHIN THE SCOPE OF WORK, IDENTIFY ALL NEW PIPING (CONCEALED OR EXPOSED) WITH PIPE MARKERS THAT LABEL THE DIRECTION OF FLOW AND SYSTEM TYPE. ON INSULATED PIPE, INSTALL LABELS OVER INSULATION. PROVIDE A LABEL @ A MINIMUM OF EVERY 20' AND AT EACH FITTING (BRANCH, VALVE, TEE, ETC).

18. UNLESS OTHERWISE NOTED, INSTALL ALL NEW PIPING AND DUCTWORK AS HIGH AS POSSIBLE (TIGHT TO THE STRUCTURE).

19. IN A PLENUM RETURN SYSTEM, CONTRACTOR TO VERIFY NO PVC PIPING IS LOCATED WITHIN THE PLENUM. IF PVC IS LOCATED, CONTRACTOR TO NOTIFY CLIENT PROJECT MANAGER AND REPLACE WITH PLENUM RATED MATERIAL.

20. PROVIDE COMPLETE AND PROPERLY FUNCTIONING MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS AS INTENDED IN THESE DESIGN DOCUMENTS. ALL COMPONENTS AND EQUIPMENT MUST BE FULLY TESTED, POWERED, INTERLOCKED, ADJUSTED, AND BALANCED BY THE CONTRACTOR TO ENSURE ALL EQUIPMENT FUNCTIONS THROUGH THEIR FULL OPERATING RANGE IN COMPLIANCE WITH THE MANUFACTURERS' RECOMMENDATIONS AND CONSTRUCTION DOCUMENTS.

21. MAINTAIN ALL ARCHITECTURAL PARAMETERS INCLUDING CEILING HEIGHT, CHASE WALLS, EQUIPMENT SCREENS, ROOM SIZES, PARTITION TYPES, INSULATION, ETC. UNLESS PRIOR WRITTEN AUTHORIZATION IS PROVIDED BY THE ARCHITECT.

22. COORDINATE THE INSTALLATION OF ALL EQUIPMENT AND TRADES TO MAINTAIN ALL MANUFACTURER REQUIRED SERVICE CLEARANCES AND CLEARANCES REQUIRED BY THE NEC (NATIONAL ELECTRIC CODE).

23. MANUFACTURERS AND MODEL NUMBERS INDICATED ON THE CONTRACT DRAWINGS SHALL BE FOR REFERENCE AND BASIS OF DESIGN ONLY. VERIFY ALL EQUIPMENT REQUIREMENTS, PERFORMANCE, AND ACCESSORIES PRIOR TO ORDERING OF EQUIPMENT. ENGINEER SHALL TAKE NO RESPONSIBILITY FOR EQUIPMENT THAT IS IMPROPERLY ORDERED OR INSTALLED OR FOR SUBSTITUTED EQUIPMENT WITHOUT REVIEWING SUBMITTED SHOP DRAWINGS.

24. FOR ALL NEW AND RELOCATED EQUIPMENT COORDINATE THE INSTALLATION, MOUNTING REQUIREMENTS, AND STRUCTURAL MODIFICATIONS REQUIRED WITH A STRUCTURAL ENGINEER LICENSED IN THE LOCAL JURISDICTION.

25. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE EQUIPMENT AS NOTED ON THE DRAWINGS. WHEN REQUIRED, CONTRACTOR MUST RELOCATE ANY EXISTING EQUIPMENT, WIRING, DUCTWORK, CONTROLS, CIRCUITS, PIPING, COMPONENTS, ETC AS NEEDED TO INSTALL NEW EQUIPMENT AND COMPONENTS. THE DESIGN INTENT OF THE DRAWINGS MUST BE FOLLOWED.

**PLUMBING**

1. PROVIDE ALL NECESSARY OPTIONS, ACCESSORIES, AND TRANSITIONS IN PIPING FOR CONNECTIONS TO EQUIPMENT.

2. DOMESTIC WATER PIPING ENTERING A BUILDING SHALL BE PROPERLY GROUNDED TO MEET ALL NEC REQUIREMENTS.

3. HYDROSTATICALLY TEST ALL WATER PIPING @ WORKING PRESSURES.

4. CLEAN AND FLUSH ALL PIPING SYSTEMS PRIOR TO STARTING SYSTEM OPERATION.

5. STORM WATER PIPING SHALL BE CAST IRON NO-HUB SOIL PIPE AND/OR SCHEDULE 40 GALVANIZED STEEL PIPE AND/OR DWV COPPER. FITTINGS SHALL BE CAST IRON NO-HUB SOIL PIPE FITTINGS AND/OR GALVANIZED DRAINAGE FITTINGS AND/OR COPPER SOLDER JOINT CAST DRAINAGE FITTINGS. JOINTS SHALL BE NO-HUB STAINLESS STEEL GASKETED FITTINGS AND/OR SOLVENT SEALER AND/OR SOLDER TYPE WROUGHT COPPER.

6. WATER DISTRIBUTION PIPING: TYPE L HARD COPPER TUBING WITH CAST BRONZE OR WROUGHT COPPER FITTINGS: USE 95-5 (LEAD FREE) SOLDER.

7. DRAINAGE AND VENT PIPING: SCHEDULE 40 GALVANIZED WITH THREADED FITTINGS, COPPER DWV WITH SOLDERED FITTINGS OR HUBLESS CAST IRON WITH COMPATIBLE FITTINGS. PVC IS PERMITTED IN DUCTED RETURN AREAS ONLY UNDER NO CIRCUMSTANCES SHOULD PVC BE USED FOR DRAINAGE PIPING WHERE THE PIPING WILL EXPERIENCE 140F OR GREATER EFFLUENT TEMPERATURE.

ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

ALL COUPLINGS FOR HUBLESS STANDARD CAST IRON SOIL PIPE AND FITTINGS SHALL CONFORM TO CISPI 310 AND BE CERTIFIED BY NSF INTERNATIONAL.

8. HORIZONTAL DRAINAGE PIPING SHALL BE INSTALLED AT MIN. UNIFORM SLOPE AS FOLLOWING:  
-2 1/2" AND SMALLER AT 1/2" PER FT.  
-3" AND LARGER AT 1/4" PER FT.  
-ALL GREASE SANITARY PIPING AT 1/2" PER FT.

9. VALVES: PROVIDE SHUT OFF AND CONTROL VALVES WHERE INDICATED OR REQUIRED AND ON ALL BRANCHES. PROVIDE CEILING MARKERS FOR SHUT OFF VALVES. COORDINATE WITH BUILDING MANAGEMENT AND TENANT. MATCH ANY EXISTING BUILDING STANDARDS.

10. FIXTURES AND TRIM SHALL BE SPECIFIED BY THE ARCHITECT OR KITCHEN CONSULTANT UNLESS OTHERWISE NOTED.

11. PROVIDE TYPE AND DIRECTION OF FLOW LABELS ON ALL PIPING INCLUDING DOMESTIC WATER, SANITARY AND VENT.

12. CONTRACTOR SHALL CONFIRM LOCATION, SIZE, AND ELEVATION OF SANITARY INVERTS AND OTHER UTILITIES BEFORE COMMENCING WITH INSTALLATION.

13. ALL NEW AND EXISTING PIPING SHALL BE FLUSHED AND CLEANED PRIOR TO OCCUPANCY AS REQUIRED BY THE LOCAL AUTHORITY AND SECTION 610 OF THE INTERNATIONAL PLUMBING CODE.

14. PROVIDE VACUUM BREAKERS AND BACKFLOW PREVENTERS WHERE REQUIRED PER THE AUTHORITY OF LOCAL JURISDICTION. BACKFLOW PREVENTERS SHALL INSTALLED UP-STREAM OF FILTER (IF APPLICABLE).

15. CONTRACTOR SHALL COORDINATE LOCATION, REQUIREMENTS, AND QUANTITY OF WATER SUPPLY AND WASTE LINES FOR TENANT PROVIDED COFFEE MAKERS, REFRIGERATORS, ICE-MAKERS, ETC WITH USER. PROVIDE SHUT-OFF VALVES IN ACCESSIBLE LOCATIONS FOR EACH. COORDINATE FINAL PLACEMENT OF LINES WITH USER'S PROJECT MANAGER.

16. ALL SPECIFIED FIXTURES, EQUIPMENT AND ACCESSORIES TO BE REVIEWED AND APPROVED BY USER PRIOR TO ORDERING.

17. WHERE NOTED ON DRAWINGS, REQUIRED FOR ACCESS AND BY AUTHORITY OF LOCAL JURISDICTION, PROVIDE PLUMBING CLEAN-OUTS. PROVIDE MODEL SUITABLE FOR MOUNTING SURFACE. PROVIDE ADJUSTABLE, HEAVY-DUTY, POLISHED, NICKEL-BRONZE TOP FOR FLOOR MOUNTED UNITS. PROVIDE CHROME-PLATED, SEALED, SECURED COVER FOR WALL MOUNTED CLEAN-OUTS IN PARTITIONS.

18. FOR ALL SINKS: ALL CW SHALL BE ON THE RIGHT AND HW SHALL BE ON THE LEFT.

19. PROVIDE SHUT-OFF VALVES FOR ALL FIXTURES. PROVIDE ACCESSIBLE ACCESS PANELS WHERE REQUIRED.

20. ALL EXISTING SANITARY PIPING LOCATED IN A SLAB SHALL BE SCOPED AND/OR TESTED BY A LICENSED PLUMBER TO VERIFY PIPE INTEGRITY. ALL NEW LINES TO BE TESTED BEFORE BEING CONCEALED.

21. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS AND IN-DIRECT WASTE RECEIVERS UNLESS OTHERWISE NOTED.

22. ALL PLUMBING EQUIPMENT INCLUDING WATER HEATERS THAT HAVE T&P RELIEF VALVES SHALL HAVE AN INDIRECT WASTE RECEIVER WITH AIR GAP.

23. IF THE SCOPE OF WORK IS ABOVE ANOTHER TENANT'S SPACE, THE CONTRACTOR SHALL VERIFY IF IT IS A FOOD SERVICE ESTABLISHMENT. ALL PIPING ABOVE THE FOOD SERVICE / PREP AREA IS REQUIRED TO HAVE A DRAIN PAN UNDERNEATH. THESE DRAIN PANS ARE TO BE TIED INTO A WASTE LINE TO PROVIDE PROPER DRAINAGE IN THE CASE A PIPE BURSTS OR IS LEAKING.

24. STORAGE TANK-TYPE WATER HEATERS AND HOT WATER STORAGE TANKS THAT HAVE VERTICAL WATER PIPES CONNECTING TO THE INLET AND OUTLET OF THE TANK SHALL BE PROVIDED WITH INTEGRAL HEAT TRAPS AT THOSE INLETS AND OUTLETS OR SHALL HAVE PIPE-CONFIGURED HEAT TRAPS IN THE PIPING CONNECTED TO THOSE INLETS AND OUTLETS.

**INSULATION:**

1. TEST RATINGS: SHALL BE IN ACCORDANCE WITH ASTM E84, NFPA # 225 OR UL 723.

2. PLUMBING INSULATION:  
ALL SERVICE JACKET ON PIPE INSULATION.  
CW VALVES AND ALL FITTINGS: PRE MOLDED FIBERGLASS FITTINGS, VAPOR SEAL ON CW.

COLD WATER PIPING: 1/2" THICK (UP TO 1 1/2" PIPE), 1" THICK (1 1/2" PIPE AND LARGER) FIBERGLASS SECTIONAL PIPE COVERING WITH VAPOR SEAL ON CW.  
HOT WATER PIPING (UP TO 140F): 1" THICK (UP TO 1 1/2" PIPE), 1 1/2" THICK (1 1/2" PIPE AND LARGER) FIBERGLASS SECTIONAL PIPE COVERING.

HOT WATER PIPING (UP TO 200F): 1 1/2" THICK (UP TO 1 1/2" PIPE), 2" THICK (1 1/2" PIPE AND LARGER) FIBERGLASS SECTIONAL PIPE COVERING.

STORM WATER: 1" THICK FIBERGLASS SECTIONAL PIPE COVERING WITH VAPOR SEAL OR 1/2" FOAM RUBBER ROOF DRAIN BODIES TO BE 2" THICK FIBERGLASS.

3. ALL PIPING EXPOSED TO THE OUTSIDE SHALL BE PROVIDED WITH AN ALUMINUM JACKET SEALED WATER TIGHT INSTALLED OVER THE INSULATION.

4. HANGERS FOR INSULATED PIPING SHALL BE PROVIDED WITH INSULATION PROTECTIVE SHEET METAL SHIELD.

**FIRE PROTECTION / SPRINKLER**

1. THIS BUILDING HAS AN EXISTING WET PIPE SPRINKLER SYSTEM. EXISTING SYSTEM SHALL BE MODIFIED TO ACCOMMODATE THE NEW PARTITION AND LIGHTING LAYOUT, AS WELL AS BRINGING THE EXISTING SYSTEM INTO COMPLIANCE WITH CURRENT CODES AND REGULATIONS.

2. THE SPRINKLER PIPING ENTERING A BUILDING SHALL BE PROPERLY GROUNDED TO MEET ALL NEC REQUIREMENTS.

3. THE ENTIRE SPACE MUST BE PROTECTED WITH AN AUTOMATIC WET PIPE, SPRINKLER SYSTEM. MODIFICATIONS TO THE SPRINKLER SYSTEM SHALL BE DESIGNED, INSTALLED, AND TESTED IN ACCORDANCE WITH THE LATEST APPLICABLE NFPA 13 STANDARDS, AND IN ACCORDANCE WITH ALL APPLICABLE CODES OF THE AUTHORITY HAVING JURISDICTION.

4. THE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL DESIGN OF THE NEW SPRINKLER WORK. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS AND QUANTITIES OF SPRINKLER HEADS IN THE FIELD AND RELOCATE AND/OR ADD SPRINKLER HEADS WHERE REQUIRED TO PROVIDE ADEQUATE COVERAGE.

5. THE SPRINKLER CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPING, FITTINGS, SPRINKLER HEADS, VALVES, CONTROLS, HARDWARE, AND ACCESSORIES REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE SPRINKLER SYSTEM.

6. THE SPRINKLER CONTRACTOR SHALL SUBMIT HYDRAULIC CALCULATIONS AND SHOP DRAWINGS SHOWING THE INTENDED MODIFICATION TO THE OWNER AND TO THE LOCAL FIRE MARSHAL FOR APPROVAL BEFORE PROCEEDING WITH THE WORK.

7. PROVISIONS FOR DRAINAGE AND TESTING THE SYSTEM SHALL BE MADE IN ACCORDANCE WITH NFPA 13 AND THE LOCAL FIRE MARSHAL'S REGULATIONS.

8. PIPING AND FITTINGS: SHALL MATCH BUILDING STANDARDS. ALL FITTINGS AND PIPING SHALL CONFORM TO THE LATEST NFPA REGULATIONS AND CONFORM TO UL REQUIREMENTS.

9. VALVES: DRAIN AND TEST VALVES SHALL BE BRONZE BODY, SCREW END, GLOBE VALVES.

10. CONTRACTOR SHALL COORDINATE AND MODIFY SPRINKLER SYSTEM (PIPING AND HEADS) TO ALLOW INSTALLATION OF NEW AND RELOCATED MECHANICAL, ELECTRICAL, AND ARCHITECTURAL COMPONENTS AND SYSTEMS. PIPING SHALL BE RELOCATED AND INSTALLED TO ALLOW REQUIRED NEC CLEARANCES AND MAINTENANCE ACCESS TO ALL EQUIPMENT. THE COST OF THE RESOLUTION OF CONFLICTS SHALL BE RESOLVED AT NO COST TO THE OWNER.

11. IN TILED CEILINGS, SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF THE CEILING TILE. IF THE CEILING TILE IS 24" SCORED TO LOOK LIKE 2x2, SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF 2x2 PORTION OF CEILING TILE. SPRINKLER HEADS IN CORRIDOR AND LARGE OPEN AREAS SHALL ALIGN. IN EXPOSED CEILINGS, SPRINKLER HEADS SHALL BE TURNED UP. WHERE CEILINGS ARE REMOVED AND EXPOSED, RAISE SPRINKLER PIPING AS REQUIRED.

12. ALL SPRINKLER PIPING MUST BE A MINIMUM OF 6" ABOVE THE FINISHED CEILING TO ALLOW FOR LIGHT FIXTURE INSTALLATIONS.

13. SPRINKLER HEADS SHALL MATCH EXISTING BUILDING STANDARDS.

**SYMBOLS LIST**

NOTE: SYMBOLS ARE FOR REFERENCE ONLY. NOT ALL ARE USED IN THIS PROJECT.

⊕	NOTE DESIGNATION	∅	DIAMETER
—CD—	CONDENSATE DRAIN (CD)	FD	FLOOR DRAIN
—PCD—	PUMPED COND. DRAIN (PCD)	— — —	EXISTING TO REMAIN ITEM
—S—	SANITARY DRAIN PIPE (SAN)	▨	DEMOLISH OR RELOCATE ITEM
—ST—	STORM DRAIN (ST)	— — —	NEW ITEM
—V—	VENT PIPE (V)	⊕	NEW TO EXISTING CONNECTION
—CW—	COLD WATER PIPE (CW)		
—FW—	FILTER WATER (FW)		
—HW—	HOT WATER PIPE (HW)		
—HWR—	HOT WATER RECIRC (HWR)		
—G—	GAS PIPE (G)		
—GS—	GLYCOL SUPPLY (GS) / GREASE SANITARY (GS)		
—GR—	GLYCOL RETURN (GR)		
—	BACKFLOW PREVENTER		
—	BALL VALVE		
—	PIPE TURNING UP		
—	PIPE TURNING DOWN		
—C.O.—	CLEAN OUT (C.O.)		
—	BALANCING VALVE		
—	REGULATOR OR PRESSURE REDUCING VALVE		
—	UNION		
—	GAS COCK		
—	TEMPERATURE AND PRESSURE GAUGES		

**ABBREVIATIONS LIST**

NOTE: ABBREVIATIONS ARE FOR REFERENCE ONLY. NOT ALL ARE USED IN THIS PROJECT.

ABV	- ABOVE	GD	- GARBAGE DISPOSAL	RPM	- REVOLUTIONS PER MINUTE
AD	- ACCESS DOOR	GPM	- GALLONS PER MINUTE	SH	- SANITARY PIPE
AFF	- ABOVE FINISHED FLOOR	GT	- GREASE TRAP	S	- SHOWER
AHU	- AUTHORITY HAVING JURISDICTION	HP	- HEAT PUMP/HORSEPOWER	SFU	- SUPPLY FIXTURE UNITS
AHU	- AIR HANDLING UNIT	HS	- HAND SINK	SS	- SERVICE SINK
ATPV	- AUTOMATIC TRAP PRIMER VALVE	HW	- HOT WATER	TBV	- TEMPERATURE BLENDING VALVE
BF	- BOTTLE FILLER	HWS	- HOT WATER SUPPLY	TD	- TRENCH DRAIN
BFP	- BACKFLOW PREVENTER	HWR	- HOT WATER RETURN	TYP	- TYPICAL
BHP	- BRAKE HORSEPOWER	HZ	- HERTZ (CYCLES PER SECOND)	UB	- UTILITY BOX
BMS	- BUILDING MANAGEMENT SYSTEM	KW	- KILOWATTS	UR	- URINAL
BWV	- BACK WATER VALVE	LAV	- LAVATORY	V	- VENT PIPE/VOLT
CLG	- CEILING	LBS	- POUNDS	VB	- VACUUM BREAKER
CD	- CEILING DIFFUSER/CONDENSATE DRAIN	LRA	- LOCKED ROTOR AMPS	VL	- VOLTAGE
CHWR	- CHILLED WATER RETURN	LT	- LAUNDRY TUB	VTR	- VENT THROUGH ROOF
CHWS	- CHILLED WATER SUPPLY	MAX.	- MAXIMUM	WD	- WASHER/DRYER
CO	- CLEAN OUT	MHP	- MOTOR HORSEPOWER	WC	- WATER CLOSET
CU	- CONDENSING UNIT	MIN.	- MINIMUM	WHA	- WATER HAMMER ARRESTOR
CW	- COLD WATER	N	- NEW		
D	- DOWN	OPD	- OVERLOAD PROTECTION DEVICE		
DF	- DRINKING FOUNTAIN	OWS	- OPERATOR WORKSTATION		
DFU	- DRAINAGE FIXTURE UNIT	PH	- PHASE		
DI	- INDIRECT WASTE RECEPTOR	PS	- PREP. SINK		
EA	- EACH	PSK	- PANTRY SINK		
EX	- EXISTING	REF	- REFRIGERATOR		
FCO	- FLOOR CLEAN OUT	R	- RELOCATED		
FLD	- FLOOR DRAIN	RD	- ROOF DRAIN		
FS	- FLOOR SINK				

**DRAWING INDEX**

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P5	DETAILS & SCHEDULES - PLUMBING

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Date: 2021.03.03 22:09:02 -05'00'

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REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

CONTRACTOR: \_\_\_\_\_ PROJECT MANAGER: \_\_\_\_\_ ARCHITECT/MEP ENGINEER: \_\_\_\_\_

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PROJECT: LITTLE LEAVES BEHAVIORAL SERVICES  
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COLUMBIA, MD 21046

TITLE: COVER SHEET - PLUMBING  
PROJECT FILE NAME: CS04-LLBS  
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ISSUE DATE: \_\_\_\_\_  
BY: EMT  
CHK: SHW  
APP: SHW

DWG NO. **P1**

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: 31532 EXP. DATE: 3/14/2023

**RECEIVED**  
APR 09 2021  
LICENSES & PERMITS DIVISION

REVIEWED FOR CODE COMPLIANCE  
Department of Inspections, Licenses and Permits  
Howard County  
Date: 03/16/21  
By: Adule Hufaux