

ALTERATION REPAIR

4015 WOODLEA AVE

BALTIMORE, 21206 MD

GENERAL WORK REQUIREMENTS

- GENERAL**
- THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" AND DOCUMENT A201, AND THIS SPECIFICATION AS APPLICABLE ARE PART OF THIS CONTRACT.
 - THE FOLLOWING NOTES ARE GENERAL IN NATURE AND PERTAIN TO THE ENTIRE PROJECT. WHERE THERE ARE EXCEPTIONS, ADDITIONS, OR REVISIONS TO THESE NOTES, SUCH EXCEPTIONS, ADDITIONS, OR REVISIONS ARE SO NOTED ON THE PARTICULAR DRAWING WHERE THEY OCCUR.
 - ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATIONS SHALL BE CORRECTED BY THE CONTRACTOR.
 - ALL PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS, AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING TO AVOID OBSTRUCTIONS.
 - FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES.
 - FURNISH AND INSTALL COMPLETE SYSTEMS OF HOT AND COLD WATER, SOIL, WASTE, AND VENT PIPING FOR ALL PLUMBING FIXTURES AND/OR EQUIPMENT, AS REQUIRED.
 - CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS AT EACH CHANGE IN DIRECTION. CLEANOUT SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS WHERE CLEANOUTS ARE ABOVE INACCESSIBLE CEILING OR IN WALLS.
 - ALL WATER, SOIL, WASTE, AND VENT LINES SHALL BE CONCEALED IN THE BUILDING CONSTRUCTION, UNLESS NOTED OTHERWISE.
 - CONTRACTOR SHALL CLOSELY EXAMINE THE SITE AND THE ELECTRICAL, MECHANICAL AND ARCHITECTURAL DRAWINGS TO AVOID PIPING INTERFERENCE WITH STRUCTURAL BEAMS, DUCTS, RAIN LEADERS, ETC.
 - PLUMBING CONTRACTORS SHALL FIELD INVESTIGATE AND VERIFY ALL INVERTS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT OF CONFLICTS.
 - CONTRACTOR SHALL CONNECT ALL FIXTURES FURNISHED UNDER OTHER SECTIONS OF THE SPECIFICATIONS, AND SHALL PROVIDE ALL ITEMS NECESSARY TO COMPLETE THE PLUMBING HOOK-UP. ALL WATER LINES ARE TO BE VALUED AT EACH FIXTURE.
 - WHERE REQUIRED, OFFSETS SHALL BE MADE TO AVOID BEAMS, DUCTS, LIGHTS, ETC.
 - PLUMBING CONTRACTOR SHALL EXTEND AND CONNECT SANITARY, STORM AND WATER LINES TO EXISTING SYSTEMS AS REQUIRED. SEE CIVIL ENGINEERS DRAWINGS.
 - SUPPORT NEW PIPING FROM BUILDING STRUCTURE AND OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING.
 - INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
 - SEAL ALL OPENINGS AROUND PIPES THROUGH PARTITIONS AND WALLS WITH APPROVED FIRESTOPPING MATERIAL. MEETING ASTM E814 AND NFPA-101.
 - PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, CONDUIT AND EQUIPMENT.
 - ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES AND EQUIPMENT. ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED.
 - COMPLY WITH ALL LOCAL AND STATE CODES FOR SEISMIC ISOLATION. THE DRAWINGS DO NOT SHOW ALL SEISMIC ISOLATION POINTS, THEREFORE ALLOW FOR SEISMIC ISOLATION IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.
 - PLUG OR CAP ALL PIPING. DO NOT LEAVE PIPING OPEN ENDED.
 - FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. WHERE DEFECTS OCCUR, ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF THE OTHER TRADES AFFECTED BY DEFECTS.
 - THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS, AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLATION AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER. INCLUDE ALL COSTS FOR PERMITS, LICENSES AND CERTIFICATE FILING AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
 - COORDINATE ALL PIPING TO BE INSTALLED WITH ALL OTHER TRADES, I.E., MECHANICAL, FIRE PROTECTION AND ELECTRICAL TO ASSURE THAT ALL PIPING OR SYSTEMS ARE INSTALLED ABOVE FINISHED CEILING OR IN A CONCEALED SPACE. ALL CEILING HEIGHTS INDICATED ON ARCHITECTURAL AND/OR INTERIOR DESIGN DRAWINGS AND MINIMUM CLEARANCES REQUIRED BY LOCAL CODES SHALL BE MAINTAINED THROUGHOUT BUILDING.
 - ALL CUTTING AND PATCHING OF POURED WALLS, FLOORS AND/OR STRUCTURAL MEMBERS FOR THE INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE PROVIDED. STRUCTURAL COMPONENTS SHALL NOT BE CUT, DRILLED OR MODIFIED IN ANY WAY WITHOUT THE STRUCTURAL ENGINEER'S REVIEW AND PRIOR APPROVAL.
 - PIPING OR EQUIPMENT SHALL NOT BE SUPPORTED FROM STRUCTURAL MEMBERS WITHOUT PRIOR REVIEW AND APPROVAL FROM THE STRUCTURAL ENGINEER.
 - SEE DRAWINGS FOR LOCATIONS OF TRAP PRIMER VALVES AT LOCATIONS WHERE SANITARY P-TRAPS FROM FLOOR DRAINS HAVE INFREQUENT USE.
 - ALL PLUMBING EQUIPMENT SHALL CONFORM TO ALL REQUIREMENTS OF THE LOCAL ENERGY CONSERVATION AND PLUMBING CODES.
 - ANY INFORMATIONAL CONFLICTS WITHIN THE SPECIFICATIONS AND/OR SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL ALL CONFLICTS ARE RESOLVED AND THE CLARIFYING INFORMATION IS ISSUED TO THE CONTRACTOR BY THE ARCHITECT.

PLUMBING SPECIFICATIONS

- PLUMBING GENERAL NOTES**
- DRAINAGE PIPING 2" SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/4" PER FOOT, AND PIPING 3" SIZE AND LARGER SHALL BE RUN AT A GRADE OF NO LESS THAN 1/8" PER FOOT. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
 - PROVIDE TRAP PRIMER VALVE FOR EACH FLOOR DRAIN WITHOUT A CONSTANT SOURCE OF WATER SUPPLY TO MAINTAIN TRAP SEAL. PRIMER VALVE SHALL BE LOCATED IN AN ACCESSIBLE AREA, SEE DRAWINGS FOR LOCATIONS.
 - ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - PROVIDE AND INSTALL PRESSURE REDUCING VALVES ON THE INCOMING WATER SERVICE, LOCATED IN METER ROOM FOR THE RETAIL & AMENITIES, LEAVING PRESSURE TO BE MAXIMUM TO P.S.I.G.
 - FURNISH AND INSTALL ALL VACUUM BREAKERS AND BACKFLOW PREVENTERS AS REQUIRED BY LOCAL CODE. ALSO ADD WATER HAMMER ARRESTORS AT WASHING MACHINES AND AMENITIES PUBLIC BATH AND SHOWER ROOMS.
 - IN ALL ACCESSIBLE UNITS A TEMPERING VALVE SHALL BE PROVIDED FOR ALL LAVATORIES. VALVE SHALL BE ASSE STANDARD 1070 TESTED.
 - ALL (VTR'S) VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
 - PLUMBING CONTRACTORS SHALL FIELD INVESTIGATE AND VERIFY ALL INVERTS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT OF CONFLICTS. CONTRACTOR SHALL INSPECT SITE PRIOR TO TO BID AND VERIFY EXISTING CONDITIONS AND CONNECTIONS FOR NEW PIPING. CONTRACTOR IS RESPONSIBLE FOR CONNECTION OF ALL PLUMBING WORK WITHIN 5'-0" OF THE EXTERIOR BUILDING WALL.
 - PROVIDE FLOOD TESTING OF ALL FLOOR PENETRATIONS TO INCLUDE ALL PLUMBING FLOOR DRAINS, FLOOR SINKS, ETC. LANDLORD TO WITNESS THE FLOOD TEST.
 - PROVIDE BRACED SUPPORT FOR TRAPS TO AVOID BREAKING SEAL JOINT @ FLOORING.
 - ALL EXPOSED PIPING IS TO BE COORDINATED WITH THE OWNER IN THE FIELD PRIOR TO INSTALLATION.
 - CONTRACTOR TO COORDINATE ROUGH-IN LAYOUT WITH OWNER IN FIELD PRIOR TO INSTALLATION.
 - ALL PIPING, VALVES AND ACCESSORIES SERVING EQUIPMENT SHALL BE INSTALLED TO ALLOW SERVICING AND/OR REMOVAL WITHOUT DISCONNECTING ALL PIPING AND ACCESSORIES.
 - CONNECTIONS TO SITE EXISTING PIPING & STRUCTURES FOR ALL WET UTILITIES AT POINT OF OUTFALL FROM BUILDING TO SITE ARE BY THE PLUMBER.
 - INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH ENERGY CODE.
 - PLUMBING CONTRACTOR SHALL VERIFY WATER PRESSURE. 35 PSI IS AVAILABLE AT MOST REMOTE PLUMBING FIXTURE.
 - PROVIDE INSECT SCREEN FOR ALL VENT STACKS.
 - INSULATE AND HEAT TRACE ALL DOMESTIC WATER PIPING AND SANITARY P-TRAPS WHERE PIPES ARE EXPOSED TO UNHEATED SPACES.
 - ALL VERTICAL SANITARY SEWER AND STORM WATER PIPING WHICH TURN 90° AFTER PASSING THROUGH A FLOOR, SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURE. ALL VOID OPENINGS AROUND PIPE SHALL BE FIRE STOPPED AS REQUIRED AND APPROVED BY LOCAL CODES.
 - PROVIDE AND INSTALL PRESSURE REDUCING VALVES ON ALL INCOMING WATER SERVICES, LOCATED IN METER ROOM, LEAVING PRESSURE TO BE 75 P.S.I.G.
 - FURNISH AND INSTALL ALL VACUUM BREAKERS AND BACKFLOW PREVENTERS AS REQUIRED BY LOCAL CODE.
 - WHERE CPVC PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE PVC TO PROTECT AGAINST CONTACT AND PROPERLY SEALED AND FIRE STOPPED.
- DOMESTIC COLD WATER INCLUDING TRAP PRIMER, HOT WATER AND HOT WATER RE-CIRCULATING**
- PIPE: HARD DRAWN SEAMLESS COPPER TUBING, TYPE "L", ASTM B88.
 - JOINTS: SOLDERED USING 95-5 TIN-ANTIMONY, 0.20% MAXIMUM LEAD CONTENT, ASTM B32, ALLOY GRADE S65.
 - FLUX: NON AGGRESSIVE, NON CORROSIVE TYPE, MEETING FEDERAL SPEC. OF 506C, TYPE 1 AND CONTAINING NO MORE THAN 0.20% LEAD.
 - FITTINGS: WROUGHT COPPER SOLDER JOINT, ANSI B16.22.
 - VALVES - COLD AND HOT WATER, HOT WATER RE-CIRCULATING, GAS: BALL VALVES, 3 INCHES AND SMALLER, 600 PSI WOG, SERVICEABLE IN LINE. SOLDER ENDS, NIBCO S-995-1466, EXTERIOR VALVES SHALL BE APPROVED AND RATED FOR EXTERIOR USE.
 - UNDERGROUND: PROVIDE TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
 - ABOVE GROUND: PROVIDE TYPE "L" HARD DRAWN TUBING WITH 125 PSI SOLDER JOINTS, COPPER OR BRASS FITTINGS.
- SANITARY WASTE AND VENT**
- PIPE: SERVICE WEIGHT CAST IRON AND/OR SCHEDULE 40 PVC (WHERE LOCAL CODE JURISDICTION AND BUILDING RULES ALLOW), CAST IRON: BELL AND SPIGOT, PIPE AND FITTINGS ANSI A 1125, AS MANUFACTURED BY TYLER PIPE AND FOUNDRY CO., US PIPE AND FOUNDRY CO. AND CENTRAL FOUNDRY OR APPROVED EQUAL.
 - JOINTS: TYLER "TY-SEAL" NEOPRENE SEAL COMPRESSION TYPE GASKETS OR CAULKED JOINTS, JUTE YARNED AND CAULKED WITH LEAD OR APPROVED EQUAL.
 - FITTINGS: PVC OR CAST IRON DRAINAGE PATTERN, DWV, SOCKET TYPE.
 - FURNISH AND INSTALL DRUM TRAP OF SAME MATERIAL AS PIPING FOR EACH SINK.
 - ABOVE GROUND:
 - 2" AND BELOW: SERVICE WEIGHT CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS; OR SCH. 40 PVC WITH SOLVENT JOINTS. NOTE: PVC PIPING SHALL NOT BE USED IN AIR PLENUM SPACES AND SHALL NOT CROSS FIRE RATED WALLS, CEILING OR FLOORS.
 - 3" AND LARGER: SERVICE WEIGHT CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS, OR SCH. 40 PVC WITH SOLVENT JOINTS. NOTE: PVC PIPING SHALL NOT BE USED IN AIR PLENUM SPACES AND SHALL NOT CROSS FIRE RATED WALLS, CEILING OR FLOORS.
 - BELOW GRADE: SERVICE WT. CAST IRON WITH BELL OR SPIGOT JOINTS OR SCH. 40 PVC WITH SOLVENT JOINTS. PVC PIPING SHALL NOT BE USED IN AIR PLENUM SPACES AND SHALL NOT CROSS FIRE RATED WALLS, CEILING, OR FLOORS.
- GAS**
- PIPE: SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS OR CORRUGATED STAINLESS-STEEL TUBING (CSST), WHERE GAS PIPING CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE SUPPLY PIPE. A 100% SHUT-OFF GAS COCK AND A UNION, DIELECTRIC IF REQUIRED.
 - ALL OUTSIDE GAS PIPING SHALL BE BLACK STEEL PIPE PAINTED YELLOW.
 - WITH APPROVED EXTERIOR PAINT FOR BLACK STEEL PIPING.
 - GAS SUPPLY PRESSURE AT EQUIPMENT: SEE FLOOR PLAN/RISER DIAGRAM.
- PORTIONS OF A GAS PIPING SYSTEM INSTALLED IN CONCEALED LOCATIONS SHALL NOT HAVE UNIONS, TUBE FITTINGS OR RUNNING THREADS. SAME PIPING INSTALLED IN CONCEALED WALLS SHALL HAVE KICK PLATES.**
- PIPING AND EQUIPMENT SUPPORT**
- PIPING AND EQUIPMENT SUPPORT SHALL COMPLY WITH REQUIREMENTS INTERNATIONAL BUILDING CODE, INTERNATIONAL PLUMBING CODE AND NFPA 13 UNLESS NOTED OTHERWISE.
- INSULATION**
- FIRE RETARDANT JACKET ON PIPE INSULATION.
 - VALVES AND FITTINGS: PREMOLDED FIBERGLASS FITTINGS OR RADIAL MITERED SEGMENTS OF PIPE INSULATION, INSULATING CEMENT, FIBERGLASS REINFORCING CLOTH, AND MASTIC, VAPOR SEAL INSULATION ON CW AND HW PIPING.
 - CW PIPING INCLUDING TRAP PRIMER PIPING: 1/2 INCH THICK FIBERGLASS SECTIONAL PIPE COVERING WITH VAPOR BARRIER JACKET, NO STAPLES PERMITTED.
 - HW AND HWR PIPING: 1 INCH FIBERGLASS SECTIONAL PIPE COVERING, CONDUCTIVITY ≤ 0.27 BTU/IN/Hr/Ft²°F.
- TESTING**
- TEST COLD & HOT WATER SYSTEMS AT OPERATING PRESSURE FOR ONE (1) HOUR.
- SHOP DRAWINGS**
- FURNISH SHOP DRAWINGS OF ALL EQUIPMENT BEING PROVIDED, SUBMIT TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION.

SPRINKLER NOTES

- 1. SCOPE OF WORK**
- NEW BUILDING SPRINKLER SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13D OR 13R AS APPLICABLE AND ALL APPLICABLE CODES TO ACCOMMODATE THE NEW SPACE REQUIREMENTS.
 - THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR REQUIRED TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
 - THE WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH NFPA 13 (APPLICABLE EDITION), ALL CODES AND OTHER NFPA REGULATIONS GOVERNING WORK OF THIS NATURE.
 - THE CONTRACTOR SHALL BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
 - ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.
 - SPRINKLER EQUIPMENT & PIPING TO BE UL LISTED/FM APPROVED. SUBMIT SHOP DRAWINGS TO LANDLORD FOR REVIEW/APPROVAL PRIOR TO START OF WORK.
- 2. PERMITS**
- THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.
- 3. SHOP DRAWINGS**
- SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT THREE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
- 4. SPRINKLER PIPING**
- PIPE SHALL BE STEEL OR CPVC, MADE TO ANY OF THE THREE SPECIFICATIONS LISTED. WELDING WILL NOT BE PERMITTED IF THERE ARE ANY SPRINKLERS CONNECTED THERETO.
 - * ASTM A53
 - * ASTM A120
 - * ASTM A135
 - * ASTM F 442/F 442M
 - PIPING MATERIAL MAY BE SCHEDULE 10 (THINWALL), PROVIDED THE JOINTS ARE MADE BY ROLL-GROOVE COUPLING. THREADING WILL NOT BE PERMITTED. PIPING MATERIAL MAY BE SCHEDULE 40 WITH FLANGED, ROLL C. GROOVED COUPLINGS, OR THREADED JOINTS. PIPING MATERIAL MAY BE CPVC, PROVIDED THE JOINTS ARE SCHEDULE 40 FOR PIPE SIZES 1-1/2" OR LESS AND SCHEDULE 80 FOR LARGER PIPE SIZES.
- 5. PIPE SUPPORTS**
- ALL HANGERS MUST BE AN APPROVED TYPE BY NFPA 13. NO A. SPRINKLER PIPING IS TO BE SUPPORTED FROM ANY MECHANICAL OR ELECTRICAL DEVICES.
 - ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR LEVEL WITH STEEL PIPE CLAMPS. THE USE OF WIRE OR STRAP METAL HANGER TO SUPPORT PIPES WILL NOT BE PERMITTED. HANGING PIPES FROM OTHER PIPES WILL NOT BE PERMITTED. PIPING SHALL BE CAREFULLY COORDINATED BEFORE INSTALLATION WITH OTHER SYSTEMS AND EQUIPMENT IN CHASES AND OTHER CONGESTED AREAS.
 - MAXIMUM DISTANCE BETWEEN PIPE SUPPORTS AS PER NFPA 13:
 - * 12'-0" FOR 1 1/4" DIAMETER PIPE AND SMALLER
 - * 15'-0" FOR 1 1/2" DIAMETER PIPE AND LARGER
- 6. WORKING PLANS**
- THE DRAWINGS INCLUDED AS PART OF THIS SET OF CONSTRUCTION DOCUMENTS ARE DEFINED AS PRELIMINARY SPRINKLER PLANS AS SPECIFIED IN SECTION 8.1 OF NFPA 13. FINAL WORKING DRAWINGS SHALL BE PREPARED BY THE SPRINKLER CONTRACTOR AND REVIEWED AND APPROVED BY THE ENGINEER.
- 7. TESTS**
- ACCEPTANCE AND HYDROSTATIC TESTS TO BE PERFORMED IN ACCORDANCE WITH CHAPTER 10 OF NFPA 13.
- 8. MISCELLANEOUS**
- DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
 - THE SPRINKLER PLANS ARE INTENDED TO BE DIAGRAMATIC. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION.
- 9. GUARANTEE**
- MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THE SPRINKLER CONTRACTOR'S EXPENSE.

PLUMBING SYMBOL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
---	CW	COLD WATER PIPING
---	HW	HOT WATER PIPING
---	HWR	HOT WATER RE-CIRCULATING PIPING
---	V	VENT PIPING
---	S	SOIL/WASTE BELOW FLOOR
---	S	SOIL/WASTE ABOVE FLOOR
---	ST	STORM BELOW FLOOR
---	F	FIRE PIPING
---	G	GAS PIPING
---	KB	BALL VALVE
---	Z	CHECK VALVE
---	X	GATE VALVE
---	PRV	PRESSURE REDUCING VALVE
---	TEE	TEE UP
---	DN	TEE DN
---	TP	TRAP PRIMER
---	G	PIPING TURNING DOWN
---	G	PIPE TURNING UP
---	BT	BUTTERFLY VALVE
---	CO	CLEANOUT WALL/ABOVE CEILING
---	CO	CLEANOUT ABOVE CEILING WITH ACCESS PANEL
---	FCO	FLOOR CLEANOUT
---	DS	DOWN SPOUT
---	CT	DRAIN WITH TRAP
---	HD, OSD	HUB DRAIN, OPEN SITE DRAIN
---	M	METER
---	WH, HB	WALL HYDRANT, HOSE BIBB
---	NFWH	NON FREEZE WALL HYDRANT
---	S	STRAINER
---	Th	THERMOMETER
---	BFP	BACKFLOW PREVENTER
---	AV	AIR ADMITTANCE VALVE
---	G	GAS COCK
---	Th	THERMOMETER
---	RV	RELIEF VALVE
---	FS	FLOW SWITCH
---	REV	REVISION NOTE
---	C	CAPPED CONNECTION
---	O,S & Y	O,S & Y VALVE
---	S	SANITARY OR VENT RISER DESIGNATION
---	MV	MIXING VALVE
---	GR	GAS REGULATOR
---	VB	VACUUM BREAKER

NOTE: FOR ALL OTHER SYMBOLS NOT INCLUDED IN THIS LIST, REFER TO ASPE / ASHRAE SYMBOLS

PLUMBING FIXTURE SCHEDULE

FIXTURE NO.	DESCRIPTION	PIPING CONNECTIONS				REMARKS
		S	V	CW	HW	
P-1	WATER CLOSET - FLOOR MOUNTED, TANK TYPE, LOW CONSUMPTION 1.28 gpf	3"	1 1/2"	1/2"	N/A	1,2,6,8
P-2	LAVATORY (0.5 GPM)	1 1/2"	1 1/2"	1/2"	1/2"	4,5,6,8
P-3	BATH TUB	1 1/2"	1 1/2"	1/2"	1/2"	5,6
P-4	KITCHEN SINK-SINGLE COMPARTMENT (1.5 GPM)	1 1/2"	N/A	1/2"	1/2"	4,5,6
P-5	CLOTHES WASHER & WASHER BOX	2"	N/A	1/2"	1/2"	6,7,9
P-6	SHOWER (1.75 GPM)	1 1/2"	N/A	1/2"	1/2"	6,8
DW	DISHWASHER	N/A	N/A	N/A	1/2"	6,9
HB	HOSE BIB	N/A	N/A	1/2"	N/A	6
NFWH	NON FREEZE WALL HYDRANT	N/A	N/A	1/2"	N/A	6

- REMARKS:**
- PROVIDE 4"x3" REDUCER AT WASTE CONNECTION.
 - PROVIDE TWO BOLT CAPS
 - ADA COMPLIANT.
 - PROVIDE TURBO "LAV GUARD" PIPE INSULATION ON HOT/COLD WATER SUPPLIES AND DRAIN PIPES.
 - PROVIDE SUPPLIES, STOPS AND CHROME PLATED BRASS P-TRAP WITH INTEGRAL P-TRAP & DRAIN.
 - GENERAL NOTE: ALL FIXTURES SHALL HAVE FINISHES IN ACCORDANCE WITH ARCHITECTURAL, COORDINATE WITH ARCHITECTURAL.
 - WASHER MACHINES SHALL HAVE A WATER FACTOR (WF) NOT EXCEEDING 6.0 AND A MODIFIED ENERGY FACTOR (MEF) OF NOT LESS THAN 2.0
 - WATER SENSE LABELED
 - ENERGY STAR RATED
 - PROVIDE WITH THERMOSTATIC MIXING VALVE, SET AT 105°F.
 - FIXTURE UNITS AS PER OWNERS DESCRIPTION.

ABBREVIATIONS

ABV	ABOVE
AFB	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
CD	CONDENSATE DRAIN
CLG	CEILING
CO	CLEANOUT
CM	COFFEE MAKER
CW	COLD WATER
TF	DEGREE FAHRENHEIT
DD	DECK DRAIN
DIA	DIAMETER
DN	DOWN
DW	DOMESTIC WTR/DISHWASHER
EA	EACH
FD	FLOOR DRAIN
FF & E	FURNITURE, FIXTURES AND EQUIPMENT
FS	FLOOR SINK
FLR	FLOOR
NATGAS	NATURAL GAS
HW	HOT WATER
HWR	HOT WATER RE-CIRCULATION
IW	INDIRECT WASTE
MAX	MAXIMUM
MBH	MILLIONS BRITISH THERMAL UNITS PER HOUR
MIN	MINIMUM
NSF	NATIONAL SANITATION FOUNDATION
O.C.	ON CENTER
OSD	OPEN SITE DRAIN
PRV	PRESSURE REDUCING VALVE
RD	ROOF DRAIN
RTU	ROOFTOP UNIT
RSF	ROUND STRAINER W/ FUNNEL
SAN	SANITARY
TYP	TYPICAL
V	VENT
VTR	VENT THRU ROOF
WC	WATER COLUMN
WH	WATER HEATER
WV	WITH

PLUMBING DRAWING INDEX

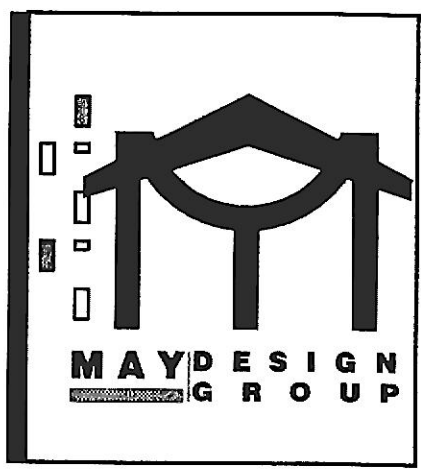
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P1.00	PLUMBING FLOOR PLAN
P1.00	PLUMBING FLOOR PLAN
P1.01	PLUMBING FLOOR PLAN
P2.00	PLUMBING RISER DIAGRAM
P3.00	PLUMBING DETAILS

NATURAL GAS HEATING DOMESTIC WATER HEATER SCHEDULE

UNIT NO.	SERVES	MOUNTING	GALLONS	RECOVERY 90°F RISE	NATURAL GAS DATA		FLUE / INTAKE SIZE IN	UNIT WEIGHT POUNDS.	MANUFACTURER AND MODEL NO.	REMARKS
					INPUT	OUTPUT				
WH-1	HOUSE	FLOOR	50	55.9 GALLONS	50 CFH	35 CFH	(1) 4"	200	AO SMITH CPVT-50	SEE NOTES

NOTES:

- HEATER VENTING SHALL BE FACTORY APPROVED.



4015 WOODLEA AVE
BALTIMORE, 21206 MD
SQ: 6,996 LOT: 0.16

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED AND APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MARYLAND.
LICENSE NO: 45019 EXPIRATION DATE: 12-31-2020



SCALE: AS NOTED

DATE:

PROJECT NUMBER:

COVER SHEET

P000