PLUMBING LEGEND

SYMBOL	DESCRIPTION
	SANITARY SEWER PIPING (UNDERGROUND)
	SANITARY SEWER PIPING (ABOVE GRADE)
	VENT PIPING
	EXISTING COLD WATER PIPING
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
G	GAS PIPING
	ISOLATION VALVE
	BALANCING VALVE
G	GAS SHUTOFF VALVE
	FLOOR DRAIN
	PIPE DOWN
	PIPE UP
CO	CLEANOUT PLUG
FCO	FLOOR CLEANOUT
	POINT OF NEW CONNECTION

PLUMBING ABBREVIATIONS

CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
FCO	FLOOR CLEANOUT
WH	WATER HEATER
ET-1	EXPANSION TANK
RCP-1	RECIRCULATION PUMP
TYP.	TYPICAL
DN	DOWN
VIF.	VERIFY IN FIELD
I.W	INDIRECT WASTE
BFP	BACKFLOW PREVENTER
VTR	VENT THROUGH ROOF
UNDG.	UNDERGROUND
TMV	THERMOSTATIC MIXING VALVE
EX.BT	EXISTING BATHTUB
EX.SH	EXISTING SHOWER
W/D	WASHER & DRYER
BT	BATHTUB
WC	WATER CLOSET
LAV	LAVATORY
WC	WATER CLOSET
SH	SHOWER
MOCV	METER OUTLET CONTROL VALVE
RPZA	REDUCED PRESSURE ZONE ASSEMBLY

PLUMBING DRAWING LIST

P-001.00	PLUMBING SYMBOLS, ABBREVIATIONS & SPECIFICATIONS
P-002.00	PLUMBING SPECIFICATIONS
P-101.00	PLUMBING DETAILS
P-201.00	CELLAR AND FIRST FLOOR SANITARY & VENT PLAN
P-202.00	SECOND FLOOR SANITARY & VENT PLAN
P-203.00	CELLAR AND FIRST FLOOR WATER & GAS PLAN
P-204.00	SECOND FLOOR WATER & GAS PLAN
P-205.00	PLUMBING SCHEDULES
P-206.00	PLUMBING RISERS

BUILDING DEPARTMENT PLUMBING NOTES

1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, STORM, WATER DISTRIBUTION AND GAS PIPING SYSTEMS) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2022 THE NEW YORK CITY PLUMBING CODE (NYC PC), 2022 OF THE BUILDING CODE (NYC BC), 2022 OF THE FUEL GAS CODE (NYC FGC) & 2020 NEW YORK CITY ENERGY CONSERVATION CODE (NYC ECC).
2. INSTALLATION OF UNDERGROUND SANITARY DRAINAGE AND VENT PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION NYC PC 702.2
3. PROTECTION OF PIPING AND PLSYSTEM COMPONENTS AS PER SECTION NYC PC 305.
4. TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION NYC PC 306.
5. RODENT PROOFING AS PER NYC PC 304
6. MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION NYC PC 303, 605, 702, 902, 1102.
7. EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTERS NYC PC 4, 5, 6, 7 AND 9.
8. DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER NYC PC 1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION NYC PC 708
9. BUILDING HOUSE TRAPS SHALL BE PROVIDED AS PER SECTION NYC PC 1002.
10. DRAINAGE PIPE CLEANOUTS AS PER SECTION NYC PC 708.
11. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION NYC PC 308
12. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION NYC PC 601-603, 604, 606, 607, 608, 610
13. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PC CHAPTER 7 SECTIONS 701 THROUGH 712.
14. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS NYC PC 901 THROUGH 912 THROUGH 917
15. INSPECTION AND TESTING OF PLUMBING & GAS PIPING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION NYC PC 107, 312.
16. GAS PIPING INSTALLATION SHALL IN IN ACCORDANCE WITH NYC FUEL GAS CODE CHAPTER 4.
17. THE STORM DRAINAGE PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 11 SECTION PC 1101 THROUGH 1113.

DEMOLITION NOTES

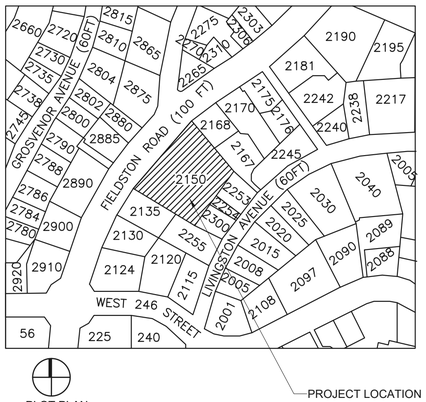
1. CONTRACTOR SHALL DEMOLISH ALL EXISTING PLUMBING EQUIPMENT AND APPURTENANCES AS SHOWN ON THIS DRAWING.
2. THE DEMOLITION SPECIFICATION SHALL BE CONSIDERED ONLY AS A GUIDE AND IS NOT INTENDED TO SHOW EVERY SINGLE ITEM OF WORK AS REQUIRED. ACTUAL FIELD CONDITIONS WILL DETERMINE THE PRECISE WORK TO BE DONE. SHOULD ANY QUESTION ARISE AS TO WHETHER OR NOT ANY PIPING, EQUIPMENT OR OTHER ITEM SHOULD BE REMOVED, OR REMAIN AS PRESENTLY INSTALLED, THIS CONTRACTOR SHALL REQUEST, IN WRITING, CLARIFICATION FROM THE ARCHITECT. BECAUSE THE PLUMBING DRAWINGS INDICATE THE INTENT OF THE SCOPE OF WORK, NO EXTRA CHARGES WILL BE ALLOWED FOR ANY REMOVALS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS PROJECT.
3. REMOVAL SHALL INCLUDE TAKING FROM THE PREMISES AND DISPOSAL OF REMOVED ITEMS UNLESS OTHERWISE NOTED.
4. NO DEAD ENDS SHALL BE LEFT ON ANY PIPING UPON COMPLETION OF THE PROJECT.
5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST, OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.
6. BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO THE TENANT FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS/HER WORK ONLY AT THE TIME OR TIMES DESIGNATED BY THE TENANT. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF-DAYS WITHOUT PRIOR WRITTEN APPROVAL.
7. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF ANY PLUMBING SYSTEM OR EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.
8. DEMOLITION AND OTHER WORK WHICH CREATES DIRT AND/OR DISTURBING NOISE, MUST BE PERFORMED ONLY DURING TIMES SPECIFICALLY APPROVED BY THE OWNER, AFTER 5 PM OR ON WEEKENDS. THE DELIVERY, HANDLING, AND INSTALLING OF MATERIALS, EQUIPMENT, AND DEBRIS MUST BE ARRANGED TO AVOID ANY INCONVENIENCE AND ANNOYANCE TO OTHER TENANTS. CLEANING MUST BE CONTROLLED TO PREVENT DIRT AND DUST FROM INFILTRATING INTO ADJACENT TENANT OR PLUMBING AREAS. WELDING OR BURNING MUST BE PERFORMED ONLY DURING TIMES SPECIFICALLY APPROVED BY THE OWNER.

SCOPE OF WORK:

1. FILING HEREWITH PLUMBING WORK (SANITARY, VENT, WATER & GAS) FOR BUILDING.
2. PLUMBING SYSTEMS COMPLIES WITH STANDARDS OF NYC BC 2022, NYC PC 2022 , NYC FGC 2022 & NYC ECC 2020.

TR-1 SPECIAL INSPECTION PLUMBING NOTE:

1. FIRE RESISTANT PENETRATION & JOINTS IN ACCORDANCE WITH NY CITY BUILDING CODE BC-1705.17.
2. POST INSTALLATION ANCHOR INSPECTION TO BE DONE IN ACCORDANCE WITH NY CITY BUILDING CODE BC-1705.37.
3. FINAL INSPECTION IN ACCORDANCE WITH NY CITY BUILDING CODE BC 110.5 DIRECTIVE FROM 14 OF 1975, AND 1 RCNY $ 101-10.



PLOT PLAN
SCALE: N.T.S.

4660 FIELDSTON ROAD, 10471

BLOCK	:	5819
LOT	:	2150
ZONE	:	R1-2
MAP	:	1c
BUILDING USE	:	ONE & TWO FAMILY BUILDING

PLUMBING SPECIFICATIONS

1. BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS

1.01 SCOPE

A. PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING AND NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.

C. OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.

D. THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.

E. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK, THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE SUCH THAT NO ADDITIONAL COMPENSATION SHALL BE FORTHCOMING FOR UNFORESEEN EXISTING CONDITIONS.

F. IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.

G. ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.

H. COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.

I. MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.

J. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.

K. THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

1.02 SUBMITTALS

A. SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.

1. PIPE AND FITTINGS
2. VALVES
3. HANGERS AND SUPPORTS
4. PLUMBING PIPING LAYOUT
5. TESTS
6. PLUMBING FIXTURES
7. WATER HEATERS & ACCESSORIES
8. FLOOR DRAINS
9. MIXING VALVES
10. BACKFLOW PREVENTER
11. ALL SCHEDULED PLUMBING EQUIPMENT

B. SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.

C. THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.

D. REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL BE LIMITED TO THE INITIAL REVIEW, AND A SECOND REVIEW OF ANY REQUIRED RESUBMITTED DATA. IF THE ENGINEER IS REQUIRED TO REVIEW SHOP DRAWINGS FOR A THIRD (OR MORE) SUBMISSION OF THE SAME ITEM, THE CONTRACTOR SHALL BE LIABLE FOR COMPENSATING THE ENGINEER FOR THESE SUBSEQUENT REVIEWS AS PER THE ENGINEER'S CURRENT HOURLY RATE SCHEDULE.

E. SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.

F. SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVICING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.

G. FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.

H. RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S) INSTALLED.

1.03 SUBSTITUTIONS

A. ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.

B. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS.

1.04 DEFINITIONS

A. FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.

B. INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.

C. PROVIDE: TO FURNISH AND INSTALL.

D. PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

E. REFER TO THE NATIONAL STANDARD PLUMBING CODE FOR ADDITIONAL DEFINITIONS.

1.05 DRAWINGS

A. THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.

B. PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.

C. REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.

D. REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.

E. VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.

F. LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.06 PRODUCTS

A. SANITARY AND VENT PIPING:

1. ABOVE GRADE PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM NO. OF BANDS PER COUPLING AS PER CISPI 310-12.
2. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" & OVER AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" AND SMALLER. VENT PIPING SHALL BE PITCHED TO DRAIN.
3. PVC OR OTHER COMBUSTIBLE PLASTIC PIPING SHALL NOT BE INSTALLED IN CEILING PLENUM SPACES.
4. 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.

B. DOMESTIC WATER PIPING:

1. ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
2. FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.
3. JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
4. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
5. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
6. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH NYC ENERGY CONSERVATION CODE 2020 SECTION R-403.4 & TABLE R403.4 REFER BELOW TABLE.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./ (H· FT2· °F)	MEAN RATING TEMPERATURE °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0

7. WATER DISTRIBUTION SYSTEM AS PER NYC ENERGY CONSERVATION CODE 2020 R403.5.2, HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
   a. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
   b. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).
8. AS PER NYC ENERGY CONSERVATION CODE 2020 R403.5.1.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER
9. HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER NYC ECC 2020, R403.5.5. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MIXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
½"	2'	43'
¾"	0.5'	21'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

10. SEAL ALL JOINTS BETWEEN SEGMENTS OF INSULATION.

11. PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

12. AS PER NYC ECC 2020 C404.3 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 VALVES,.

C. VALVES:

1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL VALVES. FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.

2. ALL FIXTURES WITH THE EXCEPTION O FLUSHOMETER-EQUIPPED WATER CLOSETS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.

3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.

4. ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.

5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.

6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

D. HANGERS AND SUPPORTS:

1. HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.

2. SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.

3. ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVE SUPPORTS.

4. PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

5. UNLESS OTHERWISE INDICATED OR REQUIRED BY AUTHORITIES HAVING JURISDICTION, THE FOLLOWING SHALL BE PROVIDED WITH SEISMIC RESTRAINTS AS REQUIRED BY THE BOCA NATIONAL BUILDING CODE, SECTION 1610.6.4: ALL EQUIPMENT AND MACHINERY, ALL NEW PIPING 2-1/2" AND LARGER (1-1/4" AND LARGER INBOILER/MECHANICAL ROOMS) WITH HANGERS GREATER THAN 12" IN LENGTH FROM THE TOP OF PIPE TO THE STRUCTURE.

6. SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

E. GAS STORAGE TYPE WATER HEATER

1. TANKS SHALL 48 GALLON CAPACITY AND SHALL HAVE 150 PSI WORKING PRESSURE AND BE EQUIPPED WITH GLASS LINING PERMANENTLY BONDED TO TANK INTERIOR SURFACE.

2. BURNER SHALL BE ALUMINIZED STEEL OR CAST IRON, ADJUSTABLE, OR SELF-ADJUSTING AIR-GAS MIXTURE CONTROL.

3. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH NFPA 54, NFPA 211, AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.

4. THE OUTER JACKET SHALL BE STEEL WITH BAKED ENAMEL/ACRYLIC FINISH AND SHALL BE PROVIDED WITH ACCESS DOOR FOR SERVICING CONTROLS AND BURNER.

5. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

F. MIXING VALVES

1. VALVE BODY SHALL BE MADE OF CAST BRASS. THE INTERNAL COMPONENTS SHALL BE MADE OF BRASS OR STAINLESS STEEL.

2. TYPES A, C & D VALVES: VALVE SHUTS OFF IN FULL COLD POSITION AND MUST PASS THROUGH COLD RANGE BEFORE DELIVERING WARM, AND/OR HOT WATER. TEMPERATURE LIMIT SET AT 105°F MAXIMUM DELIVERY TEMPERATURE. IF ONE SUPPLY SHOULD FAIL, THE OTHER WILL AUTOMATICALLY AND INSTANTLY SHUT DOWN. DELIVERY CAPACITY IS 5GPM @ 45 PSIG DIFFERENTIAL.

3. TYPES OF VALVES: TYPE A- THERMOSTATICALLY OPERATED BY MEANS OF BI-METALLIC STRIP, OR EXPANSION BELLOWS; TYPE B- SINGLE HANDLE MECHANICAL MIXER, OR INDIVIDUAL HOT AND COLD CONTROL VALVES; TYPE C- PRESSURE BALANCING SHOWER VALVE/PISTON OPERATED MIXING VALVE; TYPE D- BALANCED PRESSURE OPERATION, WITH INTEGRAL DIAL THERMOMETER INDICATING DELIVERED WATER TEMPERATURE.

4. EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH TEMPERATURE CUT-OFF SWITCH. ALL INTERNAL CIRCUITS SHALL BE FUSED. THE OUTER JACKET SHALL BE OF BAKED ENAMEL FINISH AND SHALL BE PROVIDED WITH FULL SIZE CONTROL COMPARTMENT FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANEL AND SHALL ENCLOSE THE TANK WITH FOAM INSULATION. ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCK SHALL BE PROVIDED. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

G. GAS PIPING:

1. GAS PIPING SHALL BE SIZED IN ACCORDANCE WITH PIPE SIZING TABLES OR SIZING EQUATIONS IN ACCORDANCE WITH SECTION 402.4.

2. METALLIC PIPE SHALL COMPLY WITH SECTIONS 403.4.1 THROUGH 403.4.4.

3. PIPING SYSTEM INSTALLATION SHALL COMPLY WITH REQUIREMENTS OF NYC FUEL GAS CODE SECTION 404.

4. AS PER NYC FUEL GAS CODE SECTION 404.4; UNDERGROUND PIPING, WHERE INSTALLED BELOW GRADE THROUGH THE OUTER FOUNDATION OR BASEMENT WALL OF A BUILDING, SHALL BE ENCASED IN A PROTECTIVE PIPE SLEEVE. THE ANNULAR SPACE BETWEEN THE GAS PIPING AND THE SLEEVE SHALL BE SEALED.

5. PIPING INSTALLED UNDERGROUND BENEATH BUILDINGS IS PROHIBITED EXCEPT WHERE THE PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON OR STEEL PIPE DESIGNED TO WITHSTAND THE SUPERIMPOSED LOADS. THE CONDUIT SHALL BE PROTECTED FROM CORROSION IN ACCORDANCE WITH SECTION 404.9 AND SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 404.12.1 OR 404.12.2 OF NYC FUEL GAS CODE.

6. AS PER NYC FUEL GAS CODE SECTION 404.4; UNDERGROUND PIPING SYSTEMS SHALL BE INSTALLED A MINIMUM DEPTH OF 24 INCHES BELOW GRADE.

7. THE GAS PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON OR STEEL PIPE TO WITH STAND THE SUPERIMPOSED LOADS.

H. SLEEVES AND ESCUTCHEONS:

1. SLEEVES THROUGH STRUCTURAL CONCRETE MEMBERS AND SLEEVES FOR WALLS BELOW GRADE AND FLOORS ON GRADE SHALL BE STANDARD WEIGHT GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH OTHER THAN STRUCTURAL COMPONENTS OF THE BUILDING SHALL BE 20 GAGE GALVANIZED SHEET METAL WITH LOCK SEAM JOINTS. USG THERMAFIBER SAFING INSULATION SHALL BE INSTALLED BETWEEN PIPE AND SLEEVE.

2. PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILINGS, AND FLOORS AND SHALL BE MINIMUM 20 GAGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.

I. INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.

J. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.

K. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.

L. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. REMOVE PROTECTIVE COATINGS PRIOR TO INSTALLATION.

M. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.

N. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.

O. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.

P. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.

Q. PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.

R. ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.

S. ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

T. WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM, REMOVING ALL STRAINERS, VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE FLUSHING.

U. ALL PIPING INSTALLED ON THE ROOF SHALL BE SUPPORTED BY "PILLOW BLOCK" PIPE STANDS AS MANUFACTURED BY MIRO INDUSTRIES OR APPROVED EQUAL. WOOD PIPE SUPPORTS SHALL NOT BE ACCEPTABLE. PROVIDE TRAFFIC/WALK PADS BELOW ALL PIPE STANDS.

V. INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS ON FINISHED SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

W. PROVIDE WATER HAMMER ARRESTERS ON SUPPLY PIPING TO ALL FLUSHOMETER VALVES AND QUICK-CLOSING VALVES.

X. UNLESS OTHERWISE INDICATED, TRAPS SEALS AT ALL FLOOR DRAINS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMING DEVICE.

Y. MAINTAIN ALL REQUIRED AND RECOMMENDED CLEARANCES FOR ALL PLUMBING SYSTEM COMPONENTS AND EQUIPMENT.

Z. AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.

AA. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL PLUMBING V.T.R.S AND ALL OUTDOOR AIR INTAKES. OFFSET VENT STACKS AND STACK VENTS IF AND AS REQUIRED BELOW ROOF TO MAINTAIN SUCH CLEARANCE WHETHER OR NOT SUCH OFFSET IS INDICATED ON THE DRAWINGS. PROVIDE ALL REQUIRED SEISMIC SUPPORTS.

AB. HOT WATER RE-CIRCULATING PUMP

1. IN-LINE PUMP: SINGLE STAGE VOLUTE TYPE PUMP SHALL BE MADE OF CAST IRON OR FORGED LEAD-FREE BRONZE IMPELLER.

2. THE PUMP SHALL HAVE A GROUND AND POLISHED STEEL SHAFT WITH A HARDENED INTEGRAL THRUST COLLAR. THE SHAFT SHALL BE SUPPORTED BY TWO HORIZONTAL SLEEVE BEARINGS DESIGNED TO CIRCULATE OIL. THE PUMPS ARE TO BE EQUIPPED WITH A MECHANICAL SEAL WITH CARBON SEAL FACE ROTATING AGAINST CERAMIC SEAT. THE MOTOR SHALL BE NON-OVERLOADING AT ANY POINT ON PUMP CURVE.

3. DIRECT CONNECT PUMP TO ELECTRIC MOTOR WITH FLEXIBLE COUPLING. THE MOTOR SHALL BE OF THE DRIP-PROOF, SLEEVE- BEARING, QUIET OPERATING, RUBBER-MOUNTED CONSTRUCTION. EQUIPMENT MOTOR WITH BUILT-IN THERMAL OVERLOAD PROTECTION.

4. INSTALL IN-LINE CIRCULATING PUMPS BETWEEN PIPE FLANGES IN PIPING SYSTEMS. INSTALL OVERHEAD PIPE SUPPORTS, BOTH SIDES OF IN-LINE PUMPS, INSTALLED IN HORIZONTAL PIPING RUNS.

2. INSTALLATION

2.01 GENERAL

A. COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.

B. REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE.

C. REMOVE SCALE AND FOREIGN MATERIAL, FROM INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

D. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.

E. COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.

F. NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.

G. PROVIDE HEAT TRACE FOR WATER PIPING, P-TRAPS & NON-FREEZE HOSE BIB IN NON HEATED AREAS.

2.02 ABOVE GRADE

A. INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.

B. ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES AND ALL LOW POINTS IN PIPING.

C. USE EXISTING CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME. ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

2.03 INSULATION (PIPE AND FITTINGS)

COVER ALL HOT WATER AND HOT WATER RECIRCULATION PIPE WITH 1" THICK FOR PIPE SIZE UP TO 1¼" AND 1½" THICK FOR PIPE SIZE 1½" AND GREATER WITH MANVILLE MICRO-LOK AP-T PLUS FIBERGLASS INSULATION. COVER ALL COLD WATER PIPE WITH ½" THICK FOR PIPE SIZE UP TO 1¼" AND 1" THICK FOR PIPE SIZE 1½" AND GREATER WITH 1" MANVILLE MICRO-LOK AP-T PLUS FIBERGLASS INSULATION. FITTINGS AND VALVES SHALL BE INSULATED WITH MANVILLE ZESTON 2000 PVC INSULAT-ED FITTING COVERS. INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL INSULATION MATERIAL SHALL COMPLY WITH THE NEW YORK CITY BUILDING CODE REQUIREMENT OF A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DEVELOPED RATING NOT TO EXCEED 50. ALL PIPE INSULATION SHALL COMPLY WITH 2020 NYC ENERGY CONSERVATION CODE APPENDIX CA (MODIFIED 90.1-2016).

2.04 PRESS JOINERY SYSTEM:

A. FITTINGS ½" - 4":

1. WHERE APPROVED BY THE LOCAL JURISDICTION, THE NIBCO® PRESS SYSTEM™ MAY BE USED AT THE CONTRACTOR'S OPTION FOR THE FOLLOWING BUILDING SERVICES PIPING: 20°F TO +250°F UP TO 200 PSI:
   a. HOT AND COLD DOMESTIC WATER: FITTINGS AND VALVES SHALL BE NSF-61 APPROVED.
   b. POTABLE WATER: FITTINGS AND VALVES SHALL BE NSF-61 APPROVED.
   c. HOT WATER HEATING SERVICE

   ALL LEAD FREE WROT COPPER PRESS FITTINGS SHALL BE MADE FROM COMMERCIALLY PURE COPPER MILL PRODUCTS PER ASTM B 75 ALLOY C12200. THESE FITTINGS SHALL BE THIRD-PARTY CERTIFIED TO NSF/ANSI 61 ANNEX G AND COMPLY WITH NEW YORK CITY HEALTH AND SAFETY CODE,NYC PC 2022 AND VERMONT ACT 193. NIBCO LEAD FREE CAST DEZINCIFICATION-RESISTANT (DZR) FITTINGS SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. THE PRESS FITTINGS CONNECTIONS SHALL BE COMPATIBLE WITH SEAMLESS K, L OR M COPPER TUBE MADE TO ASTM B 88. FITTINGS SHALL HAVE A MAXIMUM NON-SHOCK WORKING PRESSURE OF 200 PSI BETWEEN THE TEMPERATURES OF -20°F AND +250°F. ELASTOMERIC SEALS WITH LEAK DETECTION DESIGN SHALL BE MADE OF EPDM MATERIAL, AND THE FITTINGS SHALL BE MANUFACTURED WITH AN INBOARD BEAD DESIGN. NIBCO PRESS FITTINGS MEET ALL PERFORMANCE REQUIREMENTS OF ASME B16.22 AND B16.18ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ACCORDING TO LOCAL PLUMBING AND MECHANICAL CODES. THE PRESS-TO-CONNECT JOINT SHALL BE MADE WITH PRESSING TOOLS AND JAW SETS RECOMMENDED AND AUTHORIZED BY NIBCO. ALL FITTINGS, VALVES AND TOOLS SHALL BE PROVIDED BY SAME MANUFACTURER; NIBCO.

   b. VALVES 2" AND SMALLER: BALL VALVES: (ON/OFF, ISOLATION OR THROTTLING)

2. BALL VALVES (STAINLESS STEEL BALL AND STEM) WITH MALE OR FEMALE PRESS-TO-CONNECT ENDS SHALL BE RATED AT 200 PSI CWP TO +250°F MAXIMUM. NIBCO LEAD FREE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-110 AND CONSTRUCTED OF DEZINCIFICATION-RESISTANT (DZR) BRONZE BODIES AND END PIECES AND SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. NO BRASS CONTAINING MORE THAN 15% ZINC SHALL BE APPROVED. VALVE SHALL HAVE REINFORCED TEFLON SEATS, BLOW-OUT PROOF STEM, SOLID STAINLESS STEEL BALL AND STEM. NO HOLLOW CHROME PLATED BALLS ACCEPTED. ALL VALVES SHALL BE FULL PORT. ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.
   - WHERE PIPING IS TO BE INSULATED, BALL VALVES SHALL BE EQUIPPED WITH 2" EXTENDED HANDLES OF NON-THERMAL CONDUCTIVE MATERIAL. HANDLE TO HAVE EXTENDED SLEEVE INCORPORATING AN INSULATION PLUG TO PROVIDE A VAPOR BARRIER AND ALLOW VALVE OPERATION WITHOUT DISTURBING THE INSULATION, AND A MEMORY STOP, WHICH CAN BE SET AFTER INSTALLATION.
   - ACCEPTABLE VALVES: (NSF-61, NON-INSULATED LINES): NIBCO PC585-66-LF, -HC, -LL.

2. CHECK VALVES: (BACKFLOW PREVENTION)

VALVES WITH PRESS-TO-CONNECT ENDS SHALL BE RATED TO 200 PSI CWP AT +250°F MAXIMUM. NIBCO LEAD FREE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-80 AND CONSTRUCTED OF DEZINCIFICATION-RESISTANT (DZR) BRONZE BODY & CAP SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. DISC SHALL BE TFE TEFLON. ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.

a. ACCEPTABLE CHECK VALVES: NIBCO PS413-Y-LF: Y PATTERN, SWING TYPE CHECK VALVE; NIBCO PS480-Y-LF : IN-LINE SPRING LOADED SILENT CHECK VALVE

3. TESTING

A. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.

B. TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.

C. THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING.EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.

D. THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.

E. ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.

F. WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.

G. ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.

H. ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.

J. ALL EQUIPMENT WILL BE FACTORY TESTED.

I. CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.

K. REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

L. TESTING REQUIREMENTS

a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125 PSIG.

b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH NO VARIATION FOR 120 MINUTES.

c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.

d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.

M. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.

N. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

4. WARRANTY

A. EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.

ENERGY CONSERVATION CODE OF NEW YORK CITY COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2020

GAS SPECIAL INSPECTION AND TESTING

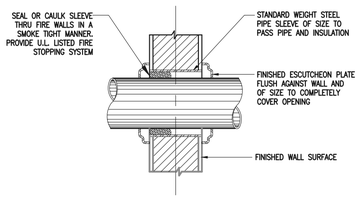
1. ALL GAS PIPING INSPECTIONS AND TESTING SHOULD BE AS PER NYC FGC 2022 SECTION 108.

2. PROGRESS INSPECTIONS FOR GAS PIPING SHOULD BE AS PER NYC FGC 2022 SECTION 108.2.1.

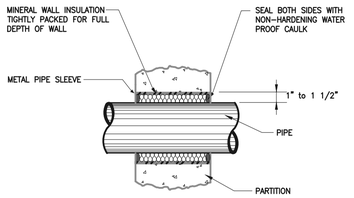
3. UNDERGROUND INSPECTION SHALL BE MADE AFTER TRENCHES OR DITCHES ARE EXCAVATED AND BEDDED, PIPING IS INSTALLED AND BEFORE BACKFILL IS PUT IN PLACE. WHEN EXCAVATED SOIL CONTAINS ROCKS, BROKEN CONCRETE, FROZEN CHUNKS AND OTHER RUBBLE THAT WOULD DAMAGE OR BREAK THE PIPING OR CAUSE CORROSIVE ACTION, CLEAN BACKFILL SHALL BE ON THE JOB SITE.

4. ALL GAS PIPING INSPECTIONS DONE ARE TO FOLLOW BUILDING BULLETIN 2017-001 & NYC FGC 2022 SECTION 406.

5. INSTALLATIONS SHALL BE TESTED AS REQUIRED IN THIS CODE AND IN ACCORDANCE WITH SECTIONS 108.3.1 OF NYC FUEL GAS CODE THROUGH TESTS SHALL BE MADE BY THE PERMIT HOLDER AND WITNESSED BY THE DEPARTMENT OR AN APPROVED AGENCY.

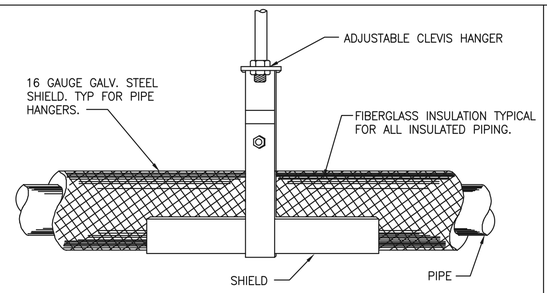


PIPE THRU FIRE RATED WALL OR FLOOR



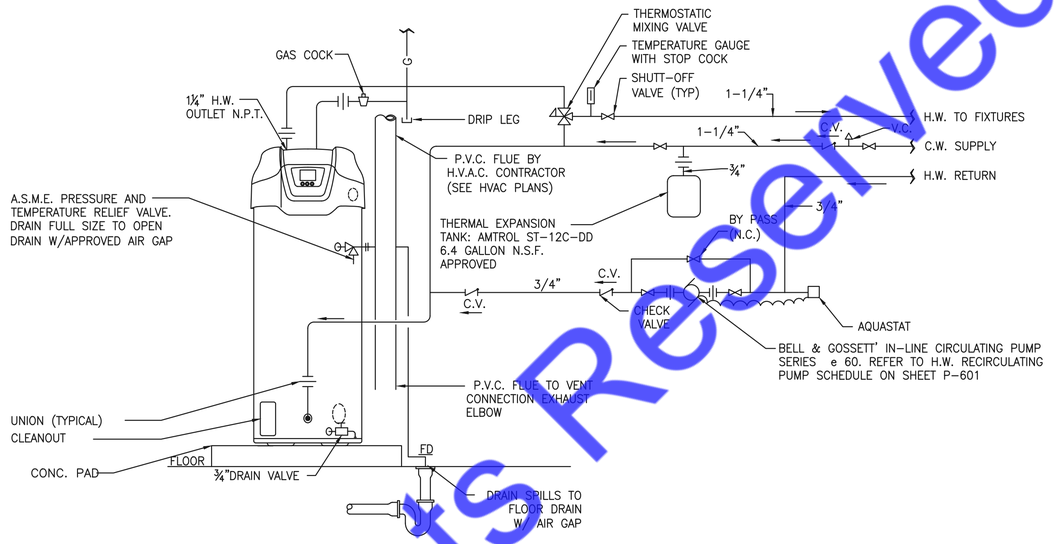
PIPE PENETRATION THRU NON FIRE RATED WALL

1 P-101 PIPE SLEEVE THRU WALL SECTION N.T.S

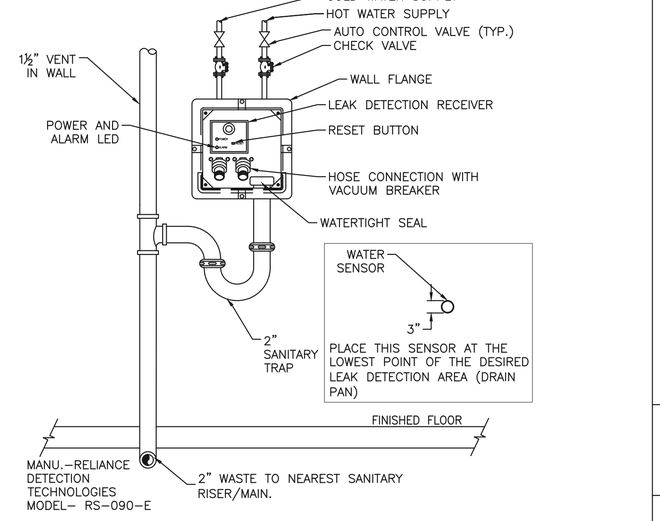


ROD SCHEDULE	
PIPE SIZE	ROD SIZE
1/2"	3/8"
3/4"	3/8"
1"	3/8"
1 1/4"	3/8"
1 1/2"	3/8"
2"	3/8"
2 1/2"	3/8"
3"	3/8"
4"	1/2"
5"	1/2"
6"	1/2"

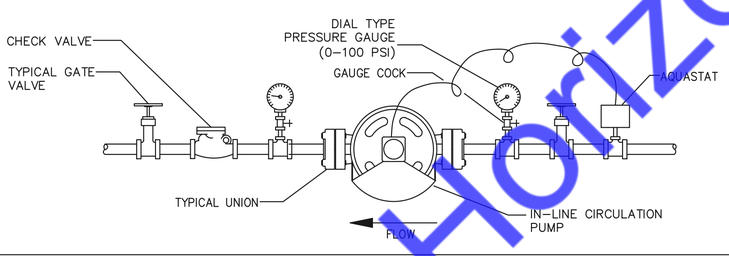
2 P-101 HANGER DETAIL N.T.S



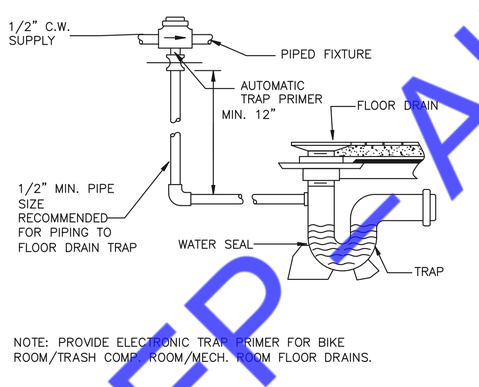
3 P-101 GAS STORAGE WATER HEATER N.T.S



4 P-101 WASHER SUPPLY/ DRAIN BOX DETAIL N.T.S

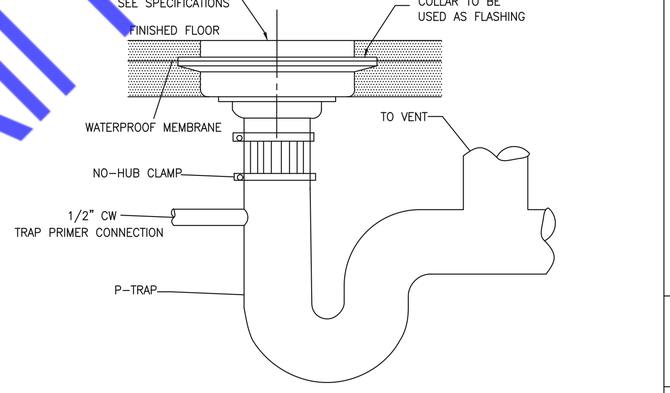


8 P-101 INLINE RECIRCULATING PUMP DETAIL N.T.S

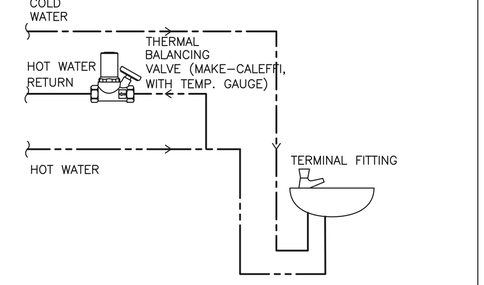


NOTE: PROVIDE ELECTRONIC TRAP PRIMER FOR BIKE ROOM/TRASH COMP. ROOM/MECH. ROOM FLOOR DRAINS.

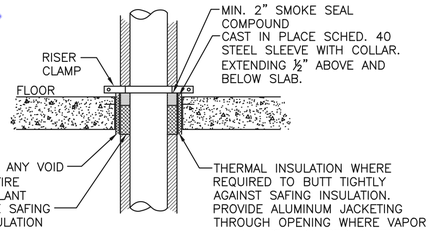
5 P-101 FLOW CONTROL TRAP PRIMER N.T.S



6 P-101 FLOOR DRAIN DETAIL N.T.S



7 P-101 BALANCING VALVE PIPING DETAIL. N.T.S



NOTES:
1. SLEEVES TO BE SIZED AS REQUIRED FOR OVERALL PIPE DIAMETER. (INCLUDING INSULATION, WHERE APPLICABLE)
2. PIPE CLAMPS FOR COPPER PIPING SHALL BE COPPER PLATED.

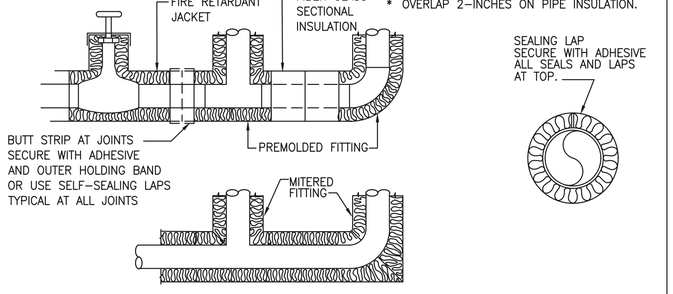
9 P-101 FLOOR PENETRATION DETAIL N.T.S

CONCEALED VALVES AND FITTINGS

* WRAP WITH 1-INCH THICK, 1-POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
* SECURE WITH WIRE OR TAPE.
* VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.

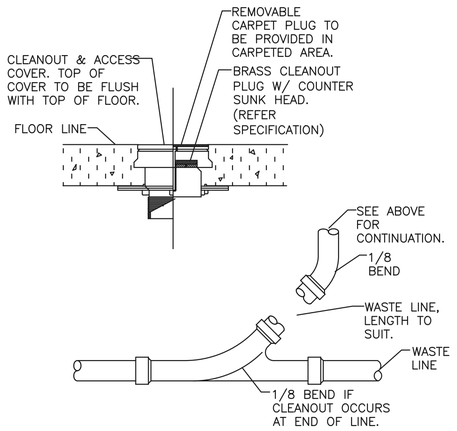
CONCEALED VALVES AND FITTINGS

* PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
* SKIM COAT OF INSULATION CEMENT
* COAT OF MASTIC
* WRAP WITH FIBER GLASS REINFORCING CLOTH.
* FINISH COAT OF MASTIC
* OVERLAP 2-INCHES ON PIPE INSULATION.

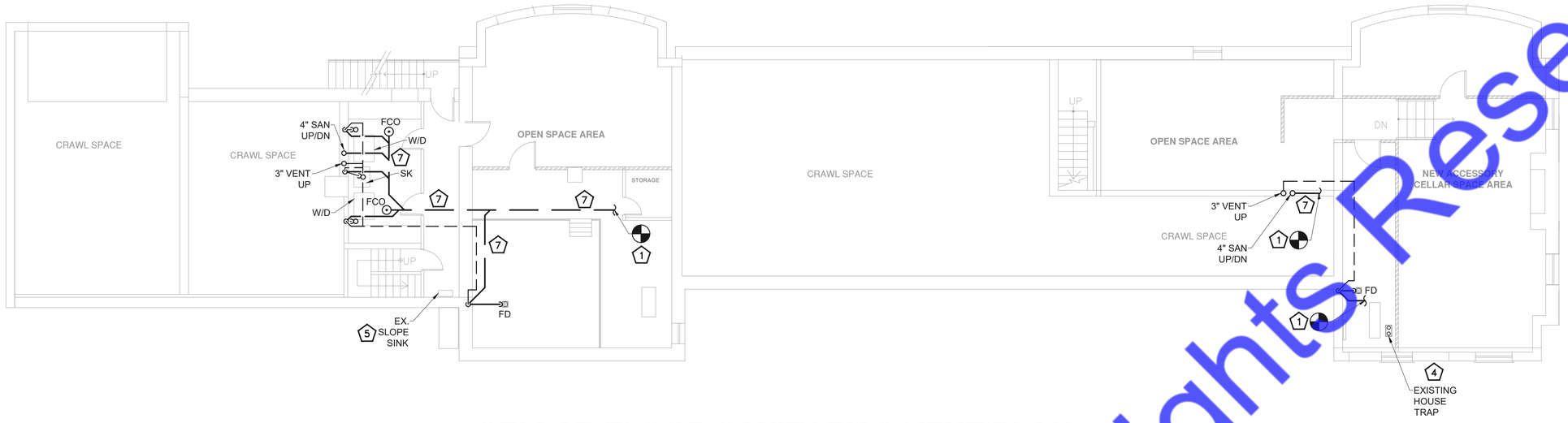


INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATIONS

10 P-101 N.T.S

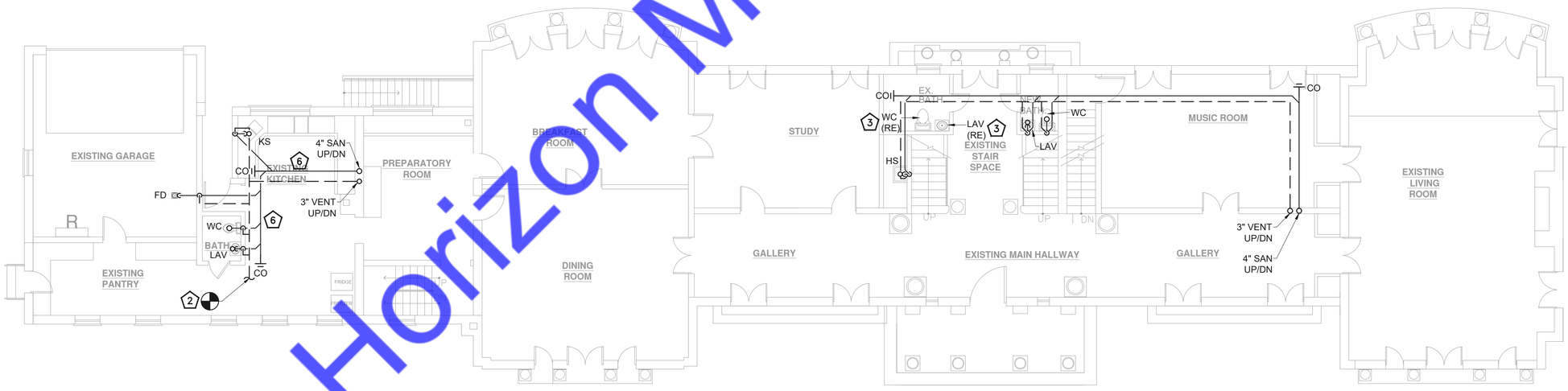


11 P-101 FLOOR CLEANOUT DETAIL N.T.S



CELLAR FLOOR SANITARY & VENT PLAN

SCALE: 1/8"=1'-0"



FIRST FLOOR SANITARY & VENT PLAN

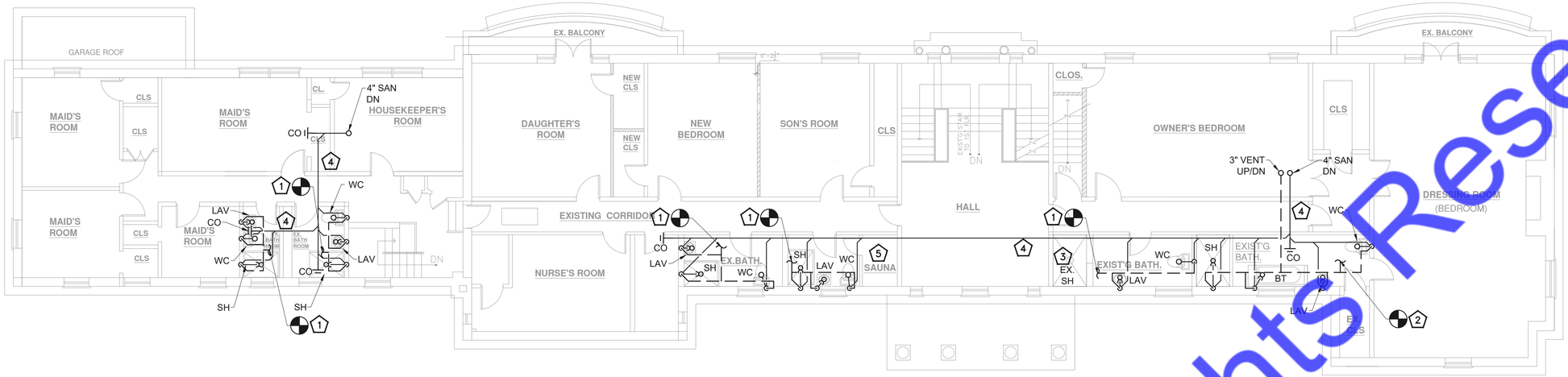
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
2. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
3. PROVIDE TRAP PRIMER TO ALL FLOOR DRAIN.
4. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" AND ABOVE. 1/4" PER FOOT OF RUN FOR PIPE LESS THAN 3". VENT PIPING SHALL BE PITCHED TO DRAIN.
5. PROVIDE ACCESS PANEL FOR CLEANOUTS AND ALL CONCEALED EQUIPMENTS THAT REQUIRE MAINTENANCE ACCESS. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR LOCATION.
6. PROVIDE WALL CLEANOUTS WHEREVER POSSIBLE FOR EACH CHANGE IN DIRECTION OF MORE THAN 45DEG.
7. FOR ALL PIPE SIZES, REFER TO RISER DIAGRAM.
8. PLUMBING CONTRACTOR TO CO-ORDINATE WITH MECHANICAL CONTRACTOR FOR ANY CONDENSATE DRAIN REQUIREMENT & CONNECT THE CONDENSATE DRAIN TO SANITARY SYSTEM WITH AIR GAP FITTING.
9. ALL PLUMBING SERVICES SHALL BE COORDINATED WITH MECHANICAL SERVICES ON SITE AND ADJUST THE ROUTINGS ACCORDINGLY.

PLUMBING SANITARY PLAN KEY NOTES:

1. CONNECT NEW 4" SANITARY PIPE TO EXISTING SANITARY PIPE OF ADEQUATE SIZE IN SPACE. CONTRACTOR TO FIELD VERIFY THE SIZE, LOCATION AND INVERT OF EXISTING SANITARY PIPE AND MAKE NECESSARY CHANGES IF REQUIRED.
2. CONNECT NEW 3" VENT LINE TO EXISTING VENT LINE IN SPACE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF EXISTING VENT PIPE AND MAKE NECESSARY CHANGES / UPGRADE IF REQUIRED.
3. EXISTING WATER CLOSET & LAVATORY TO BE REPLACED WITH NEW AS OF SAME KIND. ALL EXISTING SANITARY AND VENT PIPING TO REMAIN AS IT IS WITH RELATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING, FITTINGS AND ACCESSORIES AND REPLACE / REPAIR IF REQUIRED.
4. EXISTING HOUSE TRAP TO REMAIN AS IT IS. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF EXISTING HOUSE TRAP AND REPLACE / REPAIR IF REQUIRED.
5. EXISTING SLOPE SINK TO REMAIN WITH EXISTING SANITARY AND VENT PIPING WITH ITS RELATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING, FITTINGS AND ACCESSORIES AND REPLACE / REPAIR IF REQUIRED.
6. SANITARY PIPE RUNNING IN CELLAR FLOOR CEILING LEVEL.
7. SANITARY PIPE RUNNING IN UNDERGROUND CELLAR FLOOR.



SECOND FLOOR SANITARY & VENT PLAN

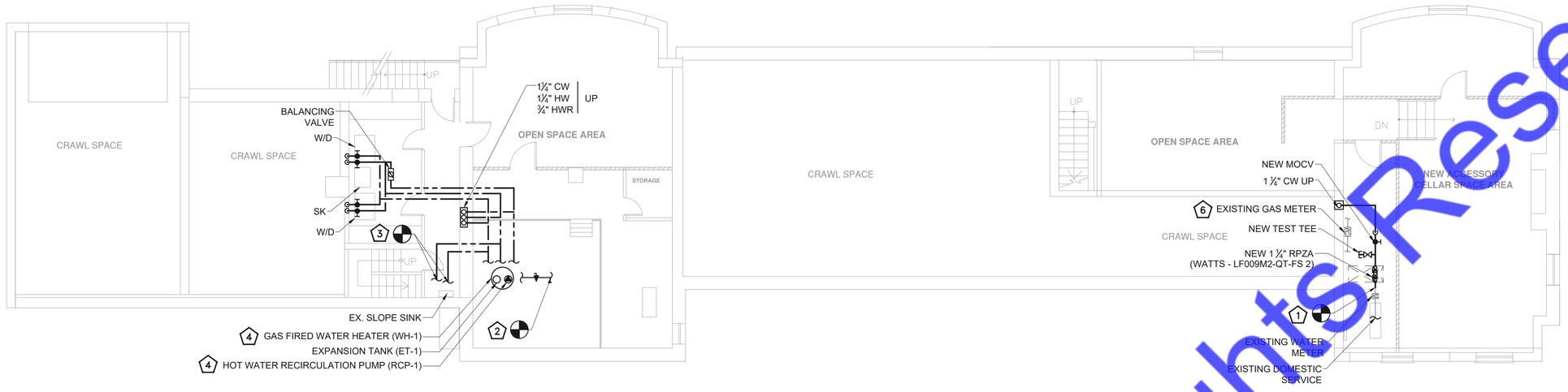
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
2. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
3. PROVIDE TRAP PRIMER TO ALL FLOOR DRAIN.
4. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" AND ABOVE. 1/4" PER FOOT OF RUN FOR PIPE LESS THAN 3". VENT PIPING SHALL BE PITCHED TO DRAIN.
5. PROVIDE ACCESS PANEL FOR CLEANOUTS AND ALL CONCEALED EQUIPMENTS THAT REQUIRE MAINTENANCE ACCESS. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR LOCATION.
6. PROVIDE WALL CLEANOUTS WHEREVER POSSIBLE FOR EACH CHANGE IN DIRECTION OF MORE THAN 45DEG.
7. FOR ALL PIPE SIZES, REFER TO RISER DIAGRAM.
8. PLUMBING CONTRACTOR TO CO-ORDINATE WITH MECHANICAL CONTRACTOR FOR ANY CONDENSATE DRAIN REQUIREMENT & CONNECT THE CONDENSATE DRAIN TO SANITARY SYSTEM WITH AIR GAP FITTING.
9. ALL PLUMBING SERVICES SHALL BE COORDINATED WITH MECHANICAL SERVICES ON SITE AND ADJUST THE ROUTINGS ACCORDINGLY.

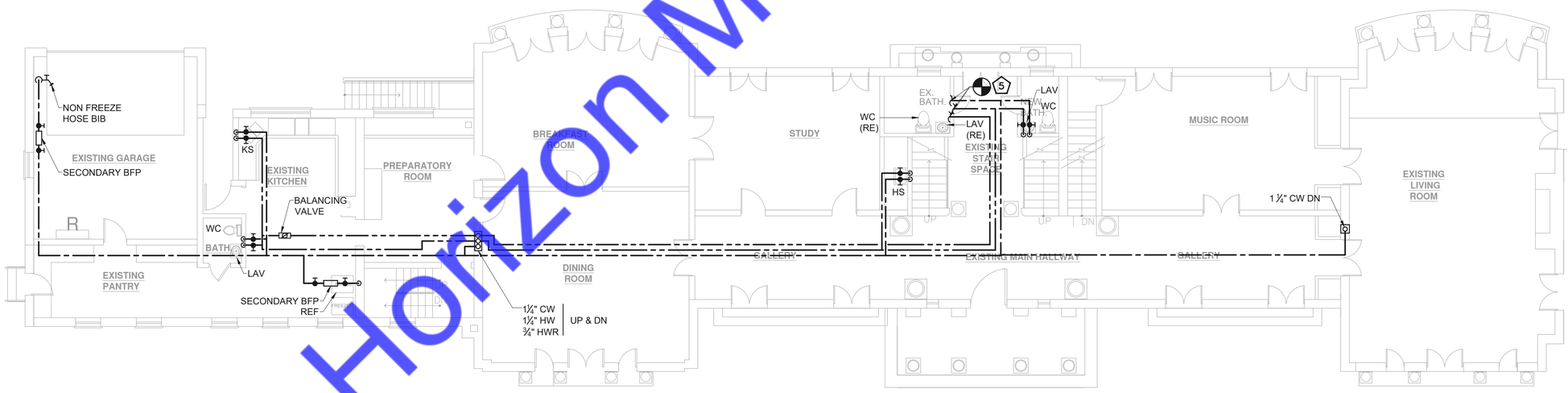
PLUMBING SANITARY PLAN KEY NOTES:

1. CONNECT NEW 2" VENT LINE TO EXISTING NEARBY VENT LINE IN SPACE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF EXISTING VENT PIPE AND MAKE NECESSARY CHANGES / UPGRADE IF REQUIRED.
2. CONNECT NEW 3" VENT LINE TO EXISTING VENT LINE IN SPACE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF EXISTING VENT PIPE AND MAKE NECESSARY CHANGES IF REQUIRED.
3. EXISTING SHOWER TO REMAIN WITH EXISTING SANITARY AND VENT PIPING WITH ITS RELATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING, FITTINGS AND ACCESSORIES AND REPLACE / REPAIR IF REQUIRED.
4. SANITARY PIPE RUNNING IN FIRST FLOOR CEILING LEVEL.
5. PLUMBING CONTRACTOR TO COORDINATE WITH SAUNA CONTRACTOR FOR THE PLUMBING REQUIREMENTS AND PROVIDE NECESSARY PLUMBING PROVISIONS IF REQUIRED.



CELLAR FLOOR WATER & GAS PLAN

SCALE: 1/8"=1'-0"



FIRST FLOOR WATER & GAS PLAN

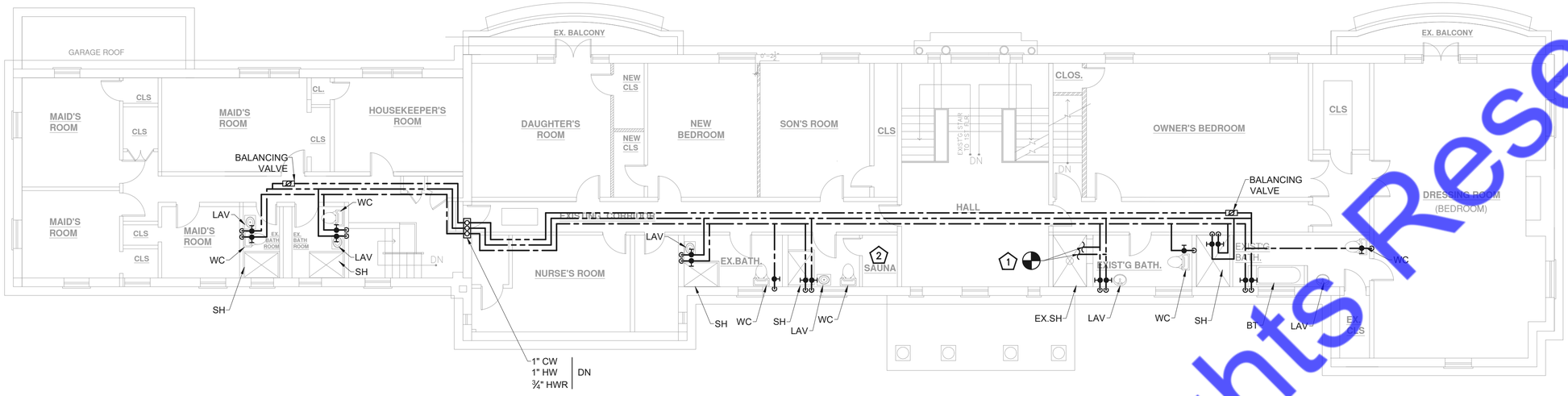
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. ALL WATER PIPING SHOULD BE PROVIDED WITH INSULATION ACCORDING TO POINT 1.06, B#6 ON P-001.
2. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.
3. FOR ALL PIPE SIZES, REFER TO RISER DIAGRAM.
4. FOR LAV PROVIDE HOT WATER AT 105°F AND FOR SINK PROVIDE HOT WATER AT 110°F. PROVIDE POINT OF USE MIXING VALVE IF REQUIRED.
5. PROVIDE MINIMUM PRESSURE REQUIRED FOR WATER LINES AT EXTREME FIXTURE AS PER TABLE NO 604.3 FROM NYC PLUMBING CODE. PROVIDE BRANCH PRV IF PRESSURE INCREASES 85 PSI.
6. ALL EXIST. PLUMBING SYSTEM TO REMAIN UNLESS SPECIFIED TO DEMOLISH OR TO REPLACE OR TO RELOCATE.
7. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
8. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
9. PROVIDE ELECTRONIC TRAP PRIMER TO ALL FLOOR DRAIN.
10. ALL PLUMBING SERVICES SHALL BE COORDINATED WITH MECHANICAL SERVICES ON SITE AND ADJUST THE ROUTINGS ACCORDINGLY.

PLUMBING WATER & GAS PLAN KEY NOTES:

1. CONNECT NEW 1¼ " COLD WATER PIPING WITH NEW RPZA TO THE EXISTING DOMESTIC SERVICE WITH EXISTING WATER METER IN SPACE. CONTRACTOR TO FIELD VERIFY LOCATION, SIZE AND PRESSURE OF EXISTING DOMESTIC WATER SERVICE AND UPGRADE IF REQUIRED.
2. CONNECT NEW 1" GAS PIPING TO EXISTING GAS PIPING IN SPACE. CONTRACTOR TO FILED VERIFY THE EXACT SIZE AND LOCATION OF EXISTING GAS PIPING AND REPLACE AS REQUIRED. CONTRACTOR TO MAKE SURE ADEQUATE INLET PRESSURE IS PROVIDED FOR ALL GAS FIRED EQUIPMENTS AS PER MANUFACTURER INSTRUCTIONS.
3. CONNECT NEW ½" HW AND CW PIPING TO EXISTING HW AND CW PIPING OF EXISTING SLOPE SINK. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND FIXTURE, REPLACE IF REQUIRED.
4. PROVIDE NEW GAS FIRED WATER HEATER (WH-1) , HOT WATER RECIRCULATION PUMP (RCP-1) AND EXPANSION TANK (ET-1) AS SHOWN ON PLANS.
5. CONTRACTOR TO REPLACE THE EXISTING WC AND LAVATORY TO NEW AS OF SAME KIND. CONNECT NEW ½" CW, HW, HWR PIPING TO EXISTING CW, HW, HWR PIPING OF THE REPLACED WC AND LAV.
6. EXISTING GAS METER TO REMAIN WITH EXISTING GAS PIPING AND ACCESSORIES. CONTRACTOR TO FIELD VERIFY EXACT LOCATION ON SITE.



SECOND FLOOR WATER & GAS PLAN

SCALE: 1/8"=1'-0"

GENERAL NOTE:

1. ALL WATER PIPING SHOULD BE PROVIDED WITH INSULATION ACCORDING TO POINT 1.06, B#6 ON P-001.
2. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.
3. FOR ALL PIPE SIZES, REFER TO RISER DIAGRAM.
4. FOR LAV PROVIDE HOT WATER AT 105°F AND FOR SINK PROVIDE HOT WATER AT 110°F. PROVIDE POINT OF USE MIXING VALVE IF REQUIRED.
5. PROVIDE MINIMUM PRESSURE REQUIRED FOR WATER LINES AT EXTREME FIXTURE AS PER TABLE NO 604.3 FROM NYC PLUMBING CODE. PROVIDE BRANCH PRV IF PRESSURE INCREASES 85 PSI.
6. ALL EXIST. PLUMBING SYSTEM TO REMAIN UNLESS SPECIFIED TO DEMOLISH OR TO REPLACE OR TO RELOCATE.
7. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
8. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
9. PROVIDE ELECTRONIC TRAP PRIMER TO ALL FLOOR DRAIN.
10. ALL PLUMBING SERVICES SHALL BE COORDINATED WITH MECHANICAL SERVICES ON SITE AND ADJUST THE ROUTINGS ACCORDINGLY.

PLUMBING WATER & GAS PLAN KEY NOTES:

1. EXTEND AND CONNECT NEW ¾" CW AND HW PIPING TO THE EXISTING CW AND HW PIPING OF EXISTING SHOWER. CONTRACTOR TO VERIFY IN FIELD THE CONDITION OF EXISTING PIPING AND SHOWER, REPLACE IF REQUIRED.
2. PLUMBING CONTRACTOR TO COORDINATE WITH SAUNA CONTRACTOR FOR THE PLUMBING REQUIREMENTS AND PROVIDE NECESSARY PLUMBING PROVISIONS IF REQUIRED.

PLUMBING FIXTURE SCHEDULE

LEGEND	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						REMARKS
		TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE	
WC	WATER CLOSET	–	4"	2"	½"	–	–	FLUSH TANK
LAV	LAVATORY	1½"	1½"	1½"	½"	½"	PROVIDE	P - TRAP
W/D	WASHER/DRYER	2"	2"	1½"	¾"	¾"	PROVIDE	I.W. FROM WM SPILLS INTO 2" STANDPIPE
BT/SH	BATHTUB / SHOWER	2"	2"	1½"	½"	½"	PROVIDE	P - TRAP
SK/HS	SINK / HAND SINK	1½"	1½"	1½"	½"	½"	PROVIDE	P - TRAP
KS	KITCHEN SINK	1½"	2"	1½"	½"	½"	PROVIDE	P - TRAP
EX.SH	EXISTING SHOWER	E	E	E	E	E	PROVIDE NEW IF EXISTING IS NOT AVAILABLE	EXISTING TO REMAIN
-	EXISTING SLOPE SINK	E	E	E	E	E	PROVIDE NEW IF EXISTING IS NOT AVAILABLE	EXISTING TO REMAIN
FD	FLOOR DRAIN	3"/4"	3"/4"	2"	–	–	–	PROVIDE TRAP PRIMER
NFHB	NON FREEZE HOSE BIB	–	–	–	¾"	–	–	PROVIDE SECONDARY BFP
REF	REFRIDGERATOR	–	–	–	½"	–	–	PROVIDE SECONDARY BFP

NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.

HOT WATER RECIRCULATION PUMP SCHEDULE

TAG	OTY	SERVICE	PERFORMANCE DATA			PUMP CONSTRUCTION DATA						MFGR MODEL	REMARKS
			GPM PER PUMP	TDH PER PUMP (FT)	WATER TEMP (°F)	PUMP TYPE	MHP PER PUMP	STARTER TYPE	V/PH/HZ	RPM	ROTATION		
RCP-1	1	HWR	2	15	120	INLINE, NORYL	39 WATTS	AQUASTAT	115/1/60	2800	PER MFG	BELL & GOSSETT NBF 8U/LW	- INLINE ON HW RETURN LINE AT WATER HEATER NEMA 1 RATED MOTOR - UL LISTED & NSF CERTIFIED

EXPANSION TANK SCHEDULE

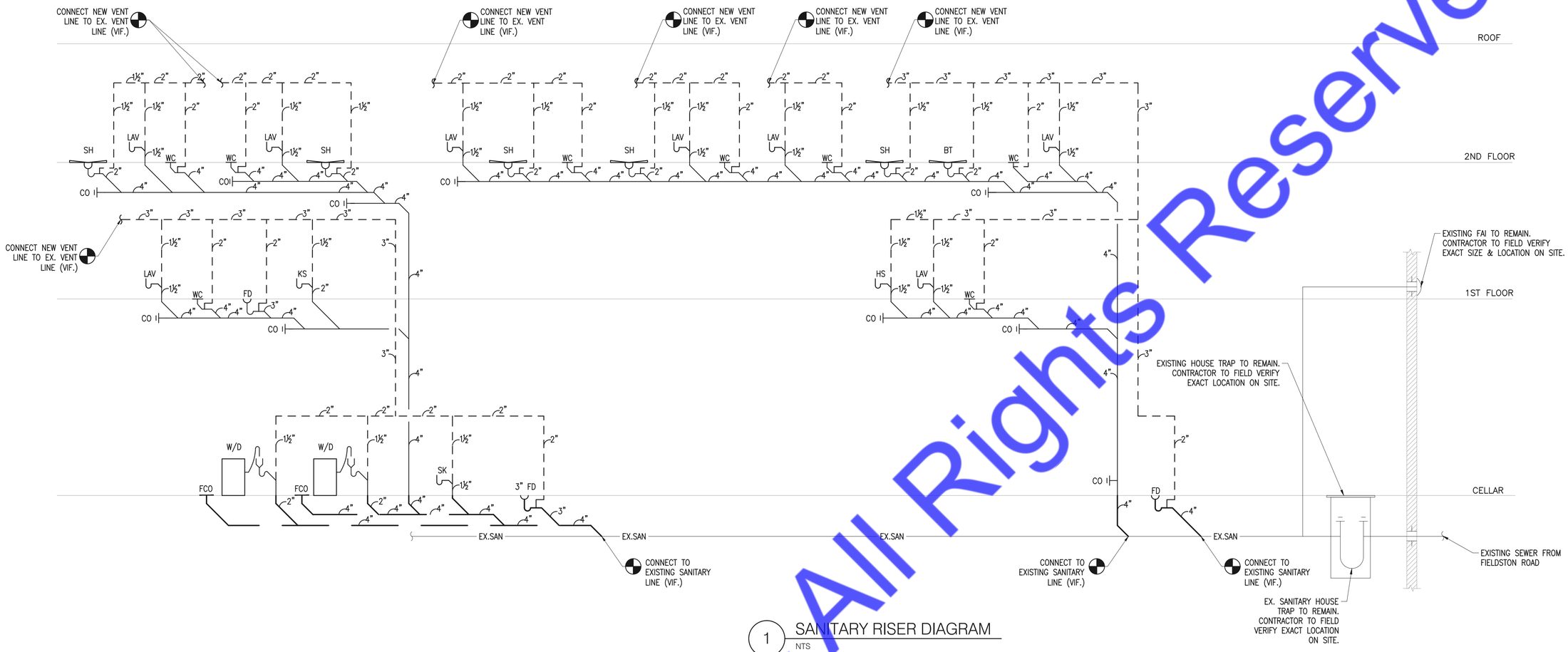
ITEM	QUANTITY	LOCATION	SERVICE	GALLONS	MAKE	REMARKS
EXPANSION TANK (ET-1)	01	REFER PLAN	HOT WATER	2	AMTROL ST-5C-DD	DIMENSIONS - 14"(H) X 8" (DIA)

MASTER THERMOSTATIC MIXING VALVE SCHEDULE

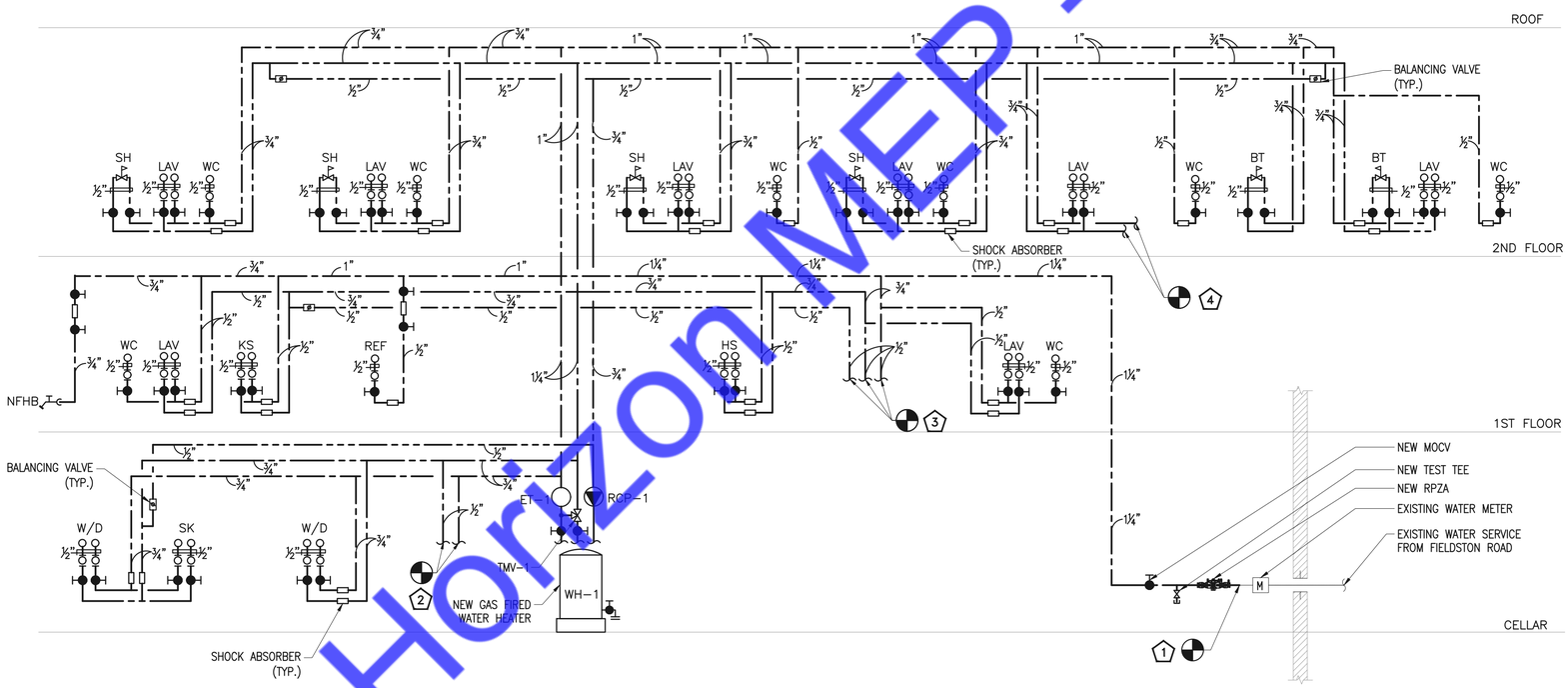
ITEM	QUANTITY	LOCATION	SERVICE	CAPACITY (GPM)	PRESSURE DROP (PSI)	MINIMUM FLOW (GPM)	MAKE	CW INLET	HIGH TEMP. INLET	LOW TEMP. OUTLET	REMARKS
TMV-1	01	REFER PLAN	HOT WATER	23	5	1	LAWLER 801	3/4"	3/4" (140° F)	1" (120° F)	-BRONZE BODY CONSTRUCTION AND LEAD FREE CONSTRUCTION -ASSE CERTIFIED

GAS STORAGE HOT WATER HEATER SCHEDULE

ITEM	QUANTITY	LOCATION	MAX. INPUT (MBH)	STORAGE CAPACITY	RECOVERY CAPACITY (GPH) @ 90° F	TYPE	UEF	MANUFACTURER & MODEL NO.	REMARKS
WH-1	1	AS PER PLAN	100	75 GAL.	129	GAS STORAGE TYPE WATER HEATER	0.96	A.O SMITH HDHE 75	-EXPANSION TANK (ET-1), THERMOSTATIC MIXING VALVE (TMV-1) & HOT WATER RECIRCULATION PUMP (RCP-1) -PROVIDE DRIP PAN



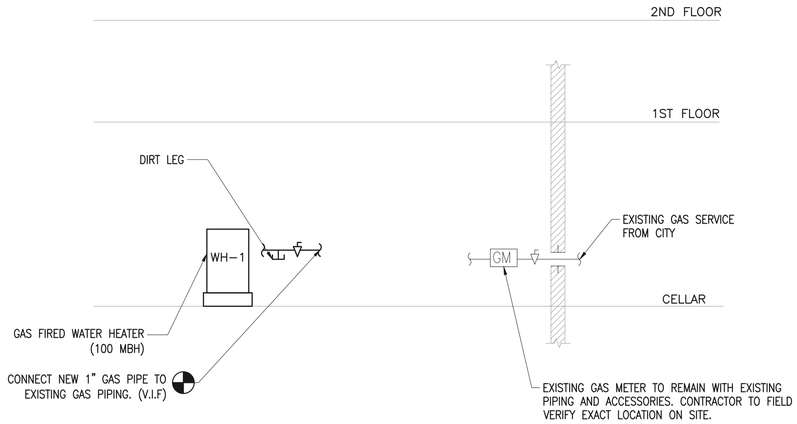
1 SANITARY RISER DIAGRAM
NTS



2 WATER RISER DIAGRAM
NTS

PLUMBING WATER RISER KEY NOTES:

1. CONNECT NEW 1½" COLD WATER PIPING WITH NEW RPZA TO THE EXISTING DOMESTIC SERVICE WITH EXISTING WATER METER IN SPACE. CONTRACTOR TO FIELD VERIFY LOCATION, SIZE AND PRESSURE OF EXISTING DOMESTIC WATER SERVICE AND UPGRADE IF REQUIRED.
2. CONNECT NEW ½" HW AND CW PIPING TO EXISTING HW AND CW PIPING OF EXISTING SLOPE SINK. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND FIXTURE, REPLACE IF REQUIRED.
3. CONTRACTOR TO REPLACE THE EXISTING WC AND LAVATORY TO NEW AS PER ARCHITECTURAL PLANS. CONNECT NEW ½ " CW, HW, HWR PIPING TO EXISTING CW, HW, HWR PIPING OF THE REPLACED WC AND LAV.
4. EXTEND AND CONNECT NEW ¾" CW AND HW PIPING TO THE EXISTING CW AND HW PIPING OF EXISTING SHOWER. CONTRACTOR TO VERIFY IN FIELD THE CONDITION OF EXISTING PIPING AND SHOWER, REPLACE IF REQUIRED.



3 GAS RISER DIAGRAM
NTS