PLUMBING GENERAL NOTES:

1. DO NOT SCALE FROM THESE DRAWINGS.
2. CHANGES OR SUBSTITUTIONS OF EQUIPMENT WILL NOT BE ALLOWED WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER. ALL COSTS RESULTING FROM THE SELECTION OF OTHER THAN SPECIFIED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO WORK AFFECTING OTHER CONTRACTORS, THE OWNER, OR RE–DESIGN ISSUES.
3. ALL INDICATED WORK SHALL BE PERFORMED BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED.
4. ALL CONTRACT WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE WRITTEN SPECIFICATIONS FOR THIS PROJECT WHICH ARE CONSIDERED TO BE AN INTEGRAL PART OF THESE CONTRACT DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS SHALL MAINTAIN (AT THE JOB SITE) AND REFER TO COPIES OF THE WRITTEN SPECIFICATIONS AS A PART OF THESE DRAWINGS. REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE. IN ALL CASES OF DISCREPANCY BETWEEN PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN, AND WHERE IT IS UNCLEAR, WHICH CASES IT SHALL BE REFERRED TO THE ENGINEER FOR ADJUDICATION.
5. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTION OF DOMESTIC WATER, SANITARY WASTE AND VENT, NATURAL GAS PIPING, INCLUDING VALVES, TRIMS AND EQUIPMENT, TO PLUMBING FIXTURES AT LOCATIONS INDICATED ON THE PLANS, AS WELL AS THOSE SHOWN ON ARCHITECTURAL PLANS.
6. THE PLUMBING CONTRACTOR TO REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, THE PLUMBING CONTRACTOR SHALL WORK CLOSELY WITH ALL ACCOMPANYING CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
7. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, OR BETWEEN THESE BID DOCUMENTS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO BID SUBMISSION.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NEW JERSEY CODE AND ALL APPLICABLE REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL PLUMBING MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION, AND THE PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
9. THE PLUMBING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF RECORD "AS–BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPING, PIPING CONNECTIONS AND ACCESS DOORS. THESE DRAWINGS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.
10. RUN ALL DOMESTIC WATER AND SANITARY WASTE AT LOWEST LEVEL, AND SANITARY VENT AND GAS PIPING AS HIGH AS POSSIBLE THROUGHOUT ENTIRE BUILDING. INSTALL LONG RUNS OF PIPING WITHIN STEEL (JOIST) SPACE AND OTHER PIPING TIGHT TO BOTTOM OF STEEL. COORDINATE AND VERIFY WITH OTHER CONTRACTOR'S AS NOT TO INTERFERE WITH DUCTWORK, FIRE PROTECTION PIPING, LIGHTING SYSTEMS, ETC.
11. ALL PIPING, EXCEPT IN MECHANICAL ROOMS SHALL BE ORGANIZED NEATLY AND KEPT TIGHT TO WALLS AND CEILING WITH STANDARD CLEARANCE FOR FUTURE FURRING BY GENERAL CONTRACTOR.
12. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS, SOFFITS WITH OTHER MECHANICAL / ELECTRICAL FEEDS. ALL SUCH LOCATIONS ARE TO BE REVIEWED WITH ARCHITECT PRIOR TO INSTALLATION.
13. FINAL CONNECTIONS TO ALL GAS FIRED APPLIANCES SHALL BE BY THE PLUMBING CONTRACTOR, REGARDLESS OF WHO PROVIDES APPLIANCES. THIS SHALL INCLUDE BUT NOT BE LIMITED TO HVAC EQUIPMENT, COOKING EQUIPMENT, EMERGENCY GENERATORS AND DOMESTIC HOT WATER HEATERS. EACH PIECE OF EQUIPMENT SHALL BE PROVIDED WITH A DIRT LEG, LUBRICATED PLUG VALVE, UNION AND GAS SHUT–OFF VALVE. ALL PLUMBING FIXTURES / APPLIANCES SHALL HAVE THEIR OWN INDEPENDENT 14. SHUT–OFF VALVES, INSTALLED IN AN EASILY ACCESSIBLE AND CONVENIENT LOCATION.
15. DOMESTIC HOT WATER HEATER TEMPERATURE / PRESSURE RELIEF VALVES SHALL BE PIPED FULL SIZE TO THE NEAREST APPROVED STANDPIPE OR FLOOR DRAIN. THIS REQUIREMENT SHALL BE APPLICABLE TO ALL DOMESTIC WATER HEATERS EXCEPT INSTANTANEOUS WATER HEATERS.
16. DO NOT USE ANY PART OF THE OWNER'S BUILDING AS A SHOP, EXCEPT PARTS DESIGNATED FOR SUCH PURPOSES BY OWNER.
17. ALL PLUMBING VENT LINES NOTED AS "V. UP" OR "VENT UP" SHALL BE CONNECTED TO THE NEAREST APPROVED "V.T.R." OR "VENT THRU ROOF."
18. THE PLUMBING CONTRACTOR SHALL RUN OUT ALL BUILDING DRAINAGE AND WASTE LINES AND MAKE ALL CONNECTIONS TO SITE SYSTEMS AS INDICATED ON DRAWINGS.
19. FURNISH AND INSTALL PIPE SLEEVES PASSING THROUGH INTERIOR WALLS. SLEEVES SHALL BE STEEL PIPE: ASTM A 53, TYPE E, GRADE A, SCHEDULE 40, GALVANIZED, PLAIN ENDS, LENGTH EQUAL TO WIDTH OF WALL.
20. ALL PIPING SYSTEM PENETRATIONS OF FIRE–RATED WALLS AND FLOORS SHALL BE SEALED WITH U.L. APPROVED FIRE RESISTANT JOINT SEALER, SPECIFIED TECHNOLOGIES "PENSIL 200", OR EQUAL, TWO–PART FOAMED–IN–PLACE SILICONE SEALANT. FIRE RESISTANT SEALER SHALL BE TESTED IN ACCORDANCE WITH ASTME 814. INSTALL SEALANT, INCLUDING FORMING, PACKING AND OTHER ACCESSORY MATERIALS TO FILL OPENINGS WHERE FIRE–RATED WALL PENETRATIONS OCCUR. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTERS AND INSPECTION AGENCY.
21. INSULATE ALL HOT WATER, HOT WATER RETURN, AND COLD WATER PIPING SYSTEMS. INSULATION SHALL BE INSTALLED AS A COMPLETE SYSTEM INCLUDING VALVES, FITTINGS, ETC.
22. ALL PENETRATIONS IN FOUNDATION WALLS AND FLOORS INCLUDING SLAB PENETRATIONS SHALL BE SUBSTANTIALLY SEALED BY UTILIZING A NON–CRACKING POLYURETHANE OR SIMILAR CAULK, OR EQUIVALENT IN ORDER TO CLOSE OFF THE SOIL GAS (RADON) ENTRY ROUTES AS REQUIRED BY THE NYC CONSTRUCTION CODE.
23. THE CONTRACTOR SHALL GIVE AMPLE WRITTEN NOTICE IN ADVANCE TO THE OWNER OF ANY REQUIRED SHUTDOWNS OF BUILDING SERVICES.
24. ALL FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMERS. REFER TO PLUMBING DETAILS.
25. SUD PRESSURE ZONE: NO CONNECTION SHALL BE MADE INTO SUDS PRESSURE ZONES UNLESS SUDS RELIEF VENTS ARE PROVIDED AS PER NATIONAL STANDARD PLUMBING CODE. A SUDS PRESSURE ZONE SHALL BE CONSIDERED TO EXIST IN THE VERTICAL PORTION OF THE SANITARY OR WASTE STACK WITHIN FORTY (40) STACK DIAMETERS OF THE BASE FITTING AND IN THE HORIZONTAL OFFSET WITHIN TEN (10) STACK DIAMETER OF SUCH BASE FITTING.
26. PLUMBING CONTRACTOR SHALL SUBMIT HIS SHOP DRAWINGS, EQUIPMENT CUTS AND CATALOG TO THE ENGINEER OR ARCHITECT FOR APPROVAL PRIOR TO PERFORMING THE WORK.
27. PLUMBING CONTRACTOR SHALL OBTAIN PLUMBING PERMIT, FILE THE SHOP DRAWING WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PAY ALL NECESSARY FILLING FEES.

GAS PIPING TESTING PROCEDURE PER NEW JERSEY FUEL GAS CODE:

TEST MEDIUM

THE TEST MEDIUM SHALL BE AIR, NITROGEN, CARBON DIOXIDE OR AN INERT GAS. OXYGEN SHALL NOT BE USED. FRESH WATER MAY BE USED AS THE TEST MEDIUM ONLY WHERE THE REQUIRED TEST PRESSURE EXCEEDS 100–PSIG.

TEST PREPARATION

PIPE JOINTS, INCLUDING WELDS, SHALL BE LEFT EXPOSED FOR EXAMINATION DURING THE TEST.

TEST PRESSURE MEASUREMENT

UPON COMPLETION OF THE INSTALLATION OF A SECTION OF A GAS SYSTEM OR OF THE ENTIRE GAS SYSTEM, AND BEFORE APPLIANCES ARE CONNECTED THERETO, THE COMPLETED SECTION OR SYSTEM SHALL BE VERIFIED AS TO MATERIALS, AND TESTED AND PROVEN TIGHT AS FOLLOWS:

1. GAS DISTRIBUTION PIPING SHALL COMPLY WITH THE FOLLOWING:
   a. DISTRIBUTION PRESSURES UP TO 1/2" PSIG: THE COMPLETED PIPING IS TO BE TESTED WITH A NON–MERCURY GAUGE AT A PRESSURE OF 3–PSIG FOR A MINIMUM OF 30–MINUTES.
   b. DISTRIBUTION PRESSURES OVER 1/2 PSIG THROUGH 5–PSIG: THE COMPLETED PIPING IS TO BE TESTED AT 50–PSIG FOR A MINIMUM OF 30–MINUTES.
2. METER PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SERVING UTILITY. THESE REQUIREMENTS SHALL BE EITHER THE SAME AS THOSE FOR TESTING DISTRIBUTION PIPING IN NUMBERED PARAGRAPH 1 OF THIS SECTION OR, IF DIFFERENT, THE PIPING SHALL BE CERTIFIED BY THE LOCAL UTILITY AS BEING TESTED IN COMPLIANCE WITH THEIR REQUIREMENTS.
3. NOTWITHSTANDING THE ABOVE, ALL FACTORY APPLIED COATED AND WRAPPED PIPE SHALL BE PRESSURE TESTED AT A MINIMUM OF 90–PSIG. FOR TESTING, THE PIPING SHALL BE FILLED WITH AIR OR AN INERT GAS, AND THE SOURCE OF PRESSURE SHALL BE ISOLATED BEFORE THE PRESSURE READINGS ARE MADE. ALL TEST DURATION TIME PERIODS ARE TO BE MEASURED AFTER STABILIZATION OF TESTING MEDIUM. FRESH WATER MAY BE USED AS THE TEST MEDIUM ONLY WHERE THE REQUIRED TEST PRESSURE EXCEEDS 100–PSIG.

LEGENDS

Symbol	Description
SAN	SOIL OR WASTE PIPING
	VENT PIPING (SANITARY)
ST	STORM PIPING
	PIPING BURIED (SERVICE NOTED)
EJ DISC	EJECTOR DISCHARGE PIPING
IW	INDIRECT WASTE PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER CIRCULATION PIPING
G	NATURAL GAS PIPING
	EXISTING PIPING TO BE REMOVED
	EXISTING PIPING TO REMAIN
	NEW PIPING TO BE INSTALLED
	POINT OF NEW CONNECTION TO EXISTING WORK
	WATER HAMMER ARRESTER
	HOSE BIBB
	WALL HYDRANT
	CLEAN–OUT / PLUG OUTLET
	CLEAN–OUT DECK PLATE
	"P" TRAP
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	ELBOW TURNED DOWN
	ELBOW TURNED UP / CONN. TO VERTICAL LINE
	VALVE IN VERTICAL
	VALVE (SEE SCHEDULE & SPECIFICATION FOR TYPE)
	CHECK VALVE
	SOLENOID VALVE
	OS&Y (OUTSIDE SCREW & YOKE) VALVE
	PRESSURE REGULATING VALVE
DCV	DOUBLE CHECK VALVE ASSEMBLY
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	PLUG VALVE
	RELIEF VALVE
	MIXING VALVE
	UNION
	WATERPROOF PIPE SLEEVE
	FIRE–RATED PIPE SLEEVE WITH FIRE–STOP
	DRAIN
	PUMP
M	METER

ABBREVIATIONS

A.D.	AREA DRAIN
C.O.	CLEANOUT
C.O.D.P.	CLEANOUT DECK PLATE
C.V.	CHECK VALVE
C.W.	COLD WATER
CONN.	CONNECT
CONT.	CONTINUATION
DN.	DOWN (PENETRATES FLOOR SLAB)
D.D.	PARKING DECK DRAIN "JR SMITH" MODEL 2269
D.C.V.	DOUBLE CHECK VALVE
D.C.D.A.	DOUBLE CHECK DETECTOR ASSMBLY
EJ. DISC.	EJECTOR DISCHARGE
EL.	ELEVATION
F.A.I.	FRESH AIR INLET
F.D.	FLOOR DRAIN
FL.	FLOOR
FT.	FEET
G.	NATURAL GAS
G.P.M.	GALLONS PER MINUTE
GAL.	GALLONS
H.W.	HOT WATER
H.W.R.	HOT WATER RETURN
I.W.	INDIRECT WASTE
N.F.W.H.	NON–FREEZE WALL HYDRANT
O.F.D.	OVERFLOW DRAIN (EMERGENCY DRAIN)
P.R.V.	PRESSURE REGULATING VALVE
P.D.	PUMP DISCHARGE
P.S.I.	POUNDS PER SQUARE INCH (GAUGE)
R.D.	ROOF DRAIN
S., SAN.	SANITARY WASTE
S.C.	SCUPPER DRAIN
S.D.	STANDPIPE DRAIN
S.F., SQ. FT.	SQUARE FOOT
ST.	STORM WATER
ST. LDR.	STORM LEADER
T.D.	TRENCH DRAIN
UP	UP (PENETRATES FLOOR SLAB)
V.	VENY
V.I.F.	VERIFY IN FIELD
V.T.R.	VENT THROUGH ROOF
W.C.	WATER COLUMN (GAS PRESSURE)

DRAWING LIST

P–001	PLUMBING NOTES, LEGEND AND DETAILS
P–099	UNDERGROUND PLUMBING PLAN
P–100	GROUND FLOOR PLUMBING PLAN
P–101	2ND FLOOR PLUMBING PLAN
P–102	3RD–5TH FLOOR PLUMBING PLAN
P–103	6TH FLOOR PLUMBING PLAN
P–104	ROOF PLUMBING PLAN
P–200	PLUMBING STORM & GAS RISER DIAGRAM
P–201	PLUMBING SANITARY RISER DIAGRAM #1
P–202	PLUMBING SANITARY RISER DIAGRAM #2
P–203	PLUMBING WATER RISER DIAGRAM
P–300	PLUMBING SCHEDULES AND SPECIFICATIONS
P–400	PLUMBING DETAIL SHEET

THE MUNICIPAL UTILITIES AUTHORITY REQUIREMENTS FOR FIRE AND DOMESTIC WATER LINE AND METER INSTALLATIONS:

1) ALL FIRE SERVICE APPLICATIONS AND ALL DOMESTIC SERVICE APPLICATIONS TWO (2) INCHES AND LARGER MUST BE SUBMITTED TO THE MUA'S BUREAU OF WATER ENGINEERING FOR APPROVAL. FIVE (5) SETS OF PLANS SHALL BE SUBMITTED FOR APPROVAL. ALL PLANS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT LICENSED TO PRACTICE IN NEW JERSEY.

2) SUBMITTED PLANS SHALL BE STANDARD ENGINEERING DRAWINGS, SIZE 24 INCHES X 36 INCHES. INCLUDED SHALL BE A SITE PLAN SHOWING ADJACENT STREETS WITH WATER MAIN, SERVICE, AND DETAILS INDICATED. ALSO INCLUDED SHALL BE A KEY MAP SHOWING GENERAL LOCATION WITHIN THE CITY.

3) INDICATED ON THE SUBMITTED PLANS SHALL BE THE SIZE OF TAP, LOCATION OF TAPPING AND CURB GATE VALVES, DETAILED METER SET–UP, AND SIZE OF FACILITY'S METER. ALSO INDICATED ON THE PLANS SHALL BE THE TYPE OF OCCUPANCY OF THE FACILITY RECEIVING THE WATER SERVICE. (I.E. HOSPITAL, WAREHOUSE, APARTMENT BUILDING, ETC.)

4) ALL EXISTING WATER SERVICE LINES TO BE ABANDONED SHALL BE CUT AND CAPPED AT THE MAIN, IN ACCORDANCE WITH MUA STANDARDS, AND INSPECTED WITHIN 24 HOURS AFTER INSTALLATION OF NEW TAP. THE MAXIMUM OF ONE (1) TAP SHALL BE MADE FOR BOTH DOMESTIC AND FIRE SERVICE PER FACILITY. THE TAP SHALL BE THE MAXIMUM OF ONE (1) SIZE SMALLER THAN THE CITY'S WATER MAIN. NO TAPPING SHALL BE DONE BY ANYONE EXCEPT BY MUA UNLESS SPECIFICALLY APPROVED BY MUA.

5) ONLY ONE DOMESTIC/ FIRE SERVICE IS ALLOWED FOR EACH FACILITY. APPLICANT MAY INSTALL CHECK METERS ON INDIVIDUAL BRANCH CONNECTIONS DOWNSTREAM OF DOMESTIC METER SETUP WHERE THERE IS MORE THAN ONE OWNER/ TENANT FOR A FACILITY. HOWEVER, ONLY ONE WATER BILL WILL BE ISSUED FOR THE FACILITY.

6) A SOLID DUCTILE IRON TAPPING SLEEVE SUCH AS MUELLER H–615 TAPPING SLEEVE OR APPROVED EQUAL SHALL BE UTILIZED FOR ALL TAPS 2–INCHES AND LARGER. THE TAPPING SLEEVE SHALL PASS PRESSURE TESTING BASED ON AWWA STANDARDS BEFORE TAP IS MADE.

7) FOR ALL SERVICES INCLUDED HEREIN, TWO (2) GATE VALVES ARE REQUIRED THAT ARE TO BE INSTALLED BY THE APPLICANT; A TAPPING VALVE, LOCATED AT THE TAP AND CURB VALVE, LOCATED IN THE SIDEWALK BEFORE THE METER. TAPPING GATES SHALL BE FURNISHED OPENED RIGHT. ALL TAPPING AND CURB VALVES SHALL BE DOUBLE DISC GATE VALVES AND MEET AWWA STANDARDS. THE WET TAP UP TO 12 INCHES SHALL BE PERFORMED BY MUA.

8) FOR TAPS OFF MAINS SIXTEEN (16) INCHES AND LARGER, THE APPLICANT SHALL FURNISH AND INSTALL AN ADDITIONAL GATE VALVE ADJACENT TO THE TAPPING VALVE. NO TAPS SHALL BE PERMITTED ON MAINS LARGER THAN TWENTY (20) INCHES UNLESS THERE IS NO ALTERNATIVE WATER SOURCE, AND SPECIAL WRITTEN APPROVAL IS ISSUED BY THE MUA.

9) VALVE BOX PARTS FOR ALL VALVES SHALL BE PROVIDED BY THE APPLICANT. ALL TAPPING GATE VALVES LARGER THAN 2–INCHES AND ALL CURB VALVES / STOPS REGARDLESS OF SIZE REQUIRE A VALVE BOX WITH THE WORD "WATER" CAST IN THE COVER. BURIED CORPORATION VALVES/ STOPS SHALL BE USED AT THE TAP FOR CLASS K COPPER SERVICES 2–INCHES AND SMALLER.

10) ALL SERVICE PIPES, SIZES 2–INCHES THROUGH 12–INCHES, SHALL BE PRESSURE CLASS 350 PSI, CEMENT–LINED DUCTILE IRON PIPE WITH MECHANICAL JOINTS.

11) THE APPLICANT SHALL INSTALL THE METER INSIDE THE BUILDING. IF THE BUILDING LINE IS IN EXCESS OF 75 FT. FROM THE MAIN, THE APPLICANT SHALL PLACE THE METER IN A PIT NEAR THE SIDEWALK OR STREET IN CLOSE PROXIMITY TO THE TAP.

12) FOR A REGULAR FIRE SUPPRESSION SYSTEM (COMBINED SERVICE LINE LARGER THAN 2"), A COMBINED REDUCED PRESSURE DETECTOR ASSEMBLY (AMES 5000 SS, AMES 5000 RPDA OR WATTS 909 RPDA*) SHALL BE INSTALLED ON THE MAIN FIRE SERVICE LINE AND A REDUCED PRESSURE BACKFLOW PREVENTER ON THE BYPASS (AMES 4000 SS OR WATTS 909*) (REFER TO FIGURE 1). ON THE LIMITED FIRE SUPPRESSION SYSTEM (COMBINED SERVICE LINE 1.5" OR 2"), A FIRE LINE DETECTOR CHECK WITH A SINGLE CHECK VALVE (AMES 1000 DCV*) SHALL BE INSTALLED ON THE MAIN FIRE LINE AND A REDUCED PRESSURE BACKFLOW PREVENTER (AMES 4000SS OR WATTS 909*) SHALL BE INSTALLED DOWNSTREAM OF THE BYPASS (REFER TO FIGURE 2). ALL REGULAR FIRE SUPPRESSION SYSTEMS MUST HAVE OS&Y VALVES, HOWEVER, LIMITED FIRE SUPPRESSION SYSTEMS MAY USE BALL VALVES (VICTAULIC SERIES 728 FIRELOCK*) INSTEAD OF OS&Y VALVES. THE FIRE UNIT SHALL BE FURNISHED WITH A 5/8 INCH X 3/4 INCH METERED BYPASS. BYPASS METERS SHALL BE NEW JERSEY STANDARD SINGLE DISPLACEMENT SENSUS METERS WITH TOUCHPAD AND RADIO READ CAPABILITIES. THE SAME RADIO MXU UNIT SHALL BE USED FOR A COMBINED DOMESTIC AND FIRE SERVICE.

13) FOR DOMESTIC SERVICE, AN APPROVED REDUCED PRESSURE BACKFLOW PREVENTER (AMES 4000SS OR WATTS 909*) IS REQUIRED WHEN THE MUA DETERMINES THAT THERE IS A CROSS–CONNECTION HAZARD AND THE FACILITY PRESENTS A THREAT TO THE CITY'S DISTRIBUTION SYSTEM WATER QUALITY IN ACCORDANCE WITH THE PLUMBING SUBCODE OF THE NEW JERSEY STATE UNIFORM CONSTRUCTION CODE, NJAC 5:23–3.15 AND THE NEW JERSEY SAFE DRINKING WATER ACT NJAC 7:10–10 PHYSICAL CONNECTIONS AND CROSS CONNECTIONS CONTROL BY CONTAINMENT. SOME SERVICES WHICH REQUIRE SUCH DEVICES INCLUDE: A HOSPITAL, SCHOOL, CHEMICAL PLANT, FACTORY, AND A FACILITY WITH SEWAGE EJECTORS.

14) IF A REDUCED PRESSURE BACKFLOW PREVENTER IS NOT REQUIRED ON THE DOMESTIC SERVICE, A CHECK VALVE SHOULD BE INSTALLED DOWNSTREAM OF THE TEST TEE.

15) ALL METERS SIZES 2 INCHES THROUGH 6 INCHES SHALL BE SINGLE COMPOUND METERS AND ALL METERS 8 INCHES AND LARGER SHALL BE DUPLEX COMPOUND MANIFOLD METERS.

16) ALL METERS SHALL BE ADEQUATELY RESTRAINED WITH METAL BRACKETS FASTENED TO THE FLOOR OR WALL OR OTHER APPROVED MEANS SUCH AS UNIFLANGES WHERE INTERNAL PIPE PRESSURE AND FLOW WARRANT SUCH RESTRAINTS. METERS, DETECTOR CHECKS, AND VALVES MAY BE SEATED ON CONCRETE BLOCK AND TAPERED SHIMS TO PROVIDE ADEQUATE SUPPORT. METERS SHALL BE INSTALLED APPROXIMATELY 36" ABOVE FLOOR GRADE.

17) ALL METER INSTALLATIONS IN METER PIT OR VAULT SHALL BE PRE–APPROVED BY MUA AND HAVE PROPER ACCESS OPENINGS FOR METER READING AND REPLACEMENT.

18) EACH COMPOUND METER SHALL HAVE STRAINER INSTALLED ON THE INLET SIDE IMMEDIATELY BEFORE THE METER. ALL STRAINERS MUST BE PURCHASED FROM MUA OR ITS AUTHORIZED AGENT.

19) ALL METERS 2" AND LARGER SHALL BE FURNISHED WITH SENSUS ECR/WP REMOTE TOUCH PAD MODULES AND RADIO MXU UNITS FOR BOTH TYPES OF READING CAPABILITIES.

20) REMOTE TOUCH PAD MODULE WIRE SHALL BE CONNECTED TO THE METER REGISTER UTILIZING A GEL CAP FOR WATERTIGHT SEALING OF ALL TERMINAL CONNECTIONS. TOUCH PADS MAY BE WALL MOUNTED OR LID MOUNTED WHERE A METER PIT IS UTILIZED. TOUCH PADS ARE TO BE INSTALLED ON EXTERIOR BUILDING WALL FACING THE STREET AND LOCATED AS CLOSE AS POSSIBLE TO STREET. THE RADIO MXU UNIT MUST BE INSTALLED WITH MOUNTING BRACKET AND LIKEWISE IS TO BE INSTALLED IN PROXIMITY TO STREET.

21) ALL INSTALLATIONS OF EQUIPMENT AND COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

22) ALL METERS INCLUDING TOUCH PAD MODULES, AND RADIO MXU UNITS SHALL BE PURCHASED THROUGH THE PERMIT CLERK AT MUA OFFICE. APPROVED PLANS MUST BE SUBMITTED TO THE PERMIT CLERK FOR ISSUANCE OF REQUIRED PERMITS.

23) AFTER OBTAINING THE REQUIRED PERMITS (STREET OPENING, TAP, AND METER) THE APPLICANT SHALL CALL MUA AT (201) 239–1108 TO SCHEDULE THE TAP. THE EXCAVATION SHALL BE COMPLETED TWENTY–FOUR (24) HOURS PRIOR TO THE SCHEDULED TAP, AND VERIFIED BY MUA OR ITS AUTHORIZED AGENT BEFORE THE TAP WILL BE INSTALLED. EXCAVATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS FOR SHEETING AND SAFETY.

24) UPON COMPLETION OF THE INSTALLATION, THE APPLICANT SHALL SUBMIT THREE (3) SETS OF "AS BUILT" PLANS, TO THE MUA'S BUREAU OF WATER ENGINEERING. THE MUA WILL AUTHORIZE SUPPLY WATER UPON ACCEPTANCE OF THE "AS BUILT" DRAWINGS.

*SPECIFIED MODEL OR APPROVED EQUAL.

THE MUNICIPAL UTILITIES AUTHORITY WATER DISTRIBUTION SYSTEM STANDARDS:

1. WATER MAINS SHALL BE CLASS 53, CEMENT LINED, DUCTILE IRON PIPE WITH MECHANICAL JOINTS AND SHALL BE IN CONFORMANCE WITH A.N.S.I. STANDARD A21.5–1976 (A.W.W.A. C151–76). ALL WATER MAINS WILL BE AT LEAST 8" IN DIAMETER. TEN (10") AND 14" DIAMETER MAINS SHALL NOT BE USED.

2. GATE VALVES SHALL BE IN CONFORMANCE WITH A.N.S.I./A.W.W.A. STANDARD C500–80 AND SHALL BE NEW JERSEY STANDARD VALVES, M&H METROPOLITAN MECHANICAL JOINT VALVES AS MANUFACTURED BY DRESSER COMPANY OR APPROVED EQUAL. VALVES SHALL BE NON–RISING STEM, MECHANICAL JOINT SHALL BE FURNISHED WITH A (2") SQUARE OPERATING NUT SHALL OPEN BY TURNING TO THE RIGHT. GATE VALVES (16") AND OVER SHALL BE FURNISHED WITH BY–PASS. VALVE SHALL BE 100% SOLID HEAT CURED EPOXY COATED HOLIDAY–FREE IN THE WATERWAY.

3. BUTTERFLY VALVES SHALL BE IN CONFORMANCE WITH A.N.S.I./A.W.W.A. STANDARD C504–80. BUTTERFLY VALVES SHALL BE CLASS 1508, MECHANICAL JOINT, WITH RUBBER SEAT MOUNTED ON THE DISC, SHALL BE FURNISHED WITH A (2") INCH SQUARE OPERATING NUT AND SHALL OPEN BY TURNING TO THE RIGHT. THE VALVE SHALL BE 100% SOLID HEAT CURED EPOXY COATED HOLIDAY–FREE IN THE WATERWAY. THE USE OF BUTTERFLY VALVES WILL NOT BE PERMITTED IN MAINS (16") AND UNDER.

4. VALVES BOXES SHALL BE NEW JERSEY "STANDARD" AS MANUFACTURED BY BINGHAM AND TAYLOR, OR APPROVED EQUAL. BOXES SHALL HAVE A MINIMUM OF 8–1/4 INCH DIAMETER AND SHALL BE AN ADJUSTABLE SCREW TYPE WITH THE BOX EXTENDING FROM THE SURFACE TO (3") INCHES ABOVE THE VALVE BONNET BASE. VALVE BOX SHALL BE CAST IRON WITH A STANDARD COAL TAR FOUNDRY DIP WITH CAST IRON WATER DROP COVER AND THE WORK "WATER" CAST IN COVER. VALVE BOX COVER SHALL BE INSTALLED FLUSH WITH THE EXISTING GRADE ELEVATION.

5. CONCRETE FOR VALVE SEATS AND THRUST BLOCKS SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI.

6. SELECT GRANULAR BACKFILL MATERIAL SHALL BE SOIL AGGREGATE TYPE I–6 (POROUS FILL, CLEAN SAND, GRAVEL OR STONE) OBTAINED FROM DRY SOURCES AND SHALL BE FREE FROM STUMPS, BRUSH, WEEDS, ROOTS, RUBBISH, WOOD AND OTHER MATERIAL THAT MAY DECAY. GRADUATION SHALL CONFORM TO TABLE 901–2, FOR TYPE I–6 IN ARTICLE 901.09 OF THE (N.J.D.O.T.) NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 12" LIFTS.

7. TIE RODS SHALL BE THREE QUARTER (3/4) INCH DIAMETER THREADED STEEL BARS. RODS SHALL HAVE A MINIMUM YIELD STRESS OF 36,000 PSI. THRUST BLOCKS AND TIE RODS SHALL BE INSTALLED AT ALL BENDS AND FITTINGS.

8. COUPLINGS SHALL BE DRESSER STYLE NUMBER 153 FOR PIPE SIZES THROUGH (30") INCH DIAMETER. FOR LARGER DIAMETER PIPE, DRESSER STYLE NUMBER 38 STEEL COUPLINGS SHALL BE USED.

9. SHEETING, SHORING AND BRACING SHALL BE CLOSED VERTICAL SHEETING, TONGUE AND GROOVE THAT IS BRACED TO PREVENT THE CAVE–IN OF TRENCHES. ALL LABOR EQUIPMENT, MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. MATERIALS FOR SHEETING SHALL BE TONGUE AND GROOVE WOODEN PLANKS AND TIMBER OR STEEL CONFORMING TO THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION TIMBER SHALL BE A MINIMUM OF 3" THICK. SHEETING SHALL BE LEFT IN PLACE. SHORING AND BRACING SHALL BE REMOVED.

10. BROKEN STONE FOUNDATION CUSHION SHALL BE PLACED IN THOSE AREAS WHERE THE DIRECTOR, DEPARTMENT OF ENGINEERING HAS DEEMED THE SOIL CONDITIONS INFERIOR. BROKEN STONE SHALL CONFORM TO ARTICLE 901.03 OF THE STANDARD SPECIFICATIONS AS CURRENTLY AMENDED. THE SIZE OF BROKEN STONE SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER FOR SIZE NUMBER 2, 4, 5, OR 6 AS SHOWN IN TABLE 901–1. STANDARD SIZES OF COARSE AGGREGATES OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

11. FILTER CLOTH SHALL BE PLACED IN THOSE AREAS WHERE THE DIRECTOR, DEPARTMENT OF ENGINEERING HAS DEEMED THE SOIL CONDITIONS INFERIOR.

12. AFTER THE ENGINEER HAS INSPECTED THE COMPLETED INSTALLATION OF VALVES, AND WATER MAIN, AND BEFORE BACKFILLING THE EXCAVATIONS, THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO PRESSURE TEST THE PIPE. THE PIPE SHALL BE PRESSURIZED TO 1.5 X THE WORKING PRESSURE FOR A PERIOD OF TWO (2) HOURS. PRESSURE SHALL NOT VARY MORE THAN FIVE (5) PSI. THE VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER SLOWLY, AND THE TEST PRESSURE SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE IN A MANNER SATISFACTORY TO THE ENGINEER. BEFORE APPLYING THE TEST PRESSURE, AIR SHALL BE EXPELLED COMPLETELY FROM THE PIPE BY INSTALLING CORPORATION COCKS AT SUCH POINTS SO THAT THE AIR CAN BE EXPELLED AS THE LINE IS FILLED WITH WATER. IF THE JOINTS LEAK, REPAIRS OR REPLACEMENTS SHALL BE MADE. TESTING SHALL BE IN CONFORMANCE WITH A.W.W.A. STANDARD C600–77.

13. THE CONTRACTOR SHALL DISINFECT ALL WATER MAINS IN ACCORDANCE WITH A.W.W.A. STANDARD FOR "DISINFECTING WATER MAINS" DESIGNATION C–601. COMMERCIAL PRODUCTS SUCH AS "HTH", "PERCHLARON", AND "MAXOXHLOR" MAY BE USED IN FLAKE OR CRYSTAL FORM, BUT IN NO INSTANCE WILL TABLETS BE PERMITTED TO BE USED IN THE DISINFECTION OF WATER MAINS. THE CHLORINE DOSAGE SHALL INITIALLY PRODUCE 50 PPM RESIDUAL TO THE WATER AND MAINTAIN A MINIMUM RESIDUAL OF 25 PPM AFTER 24 HOURS. AFTER SATISFACTORY DISINFECTION OF THE TEST SECTION, THE LINE SHALL BE CONTINUOUSLY FLUSHED UNTIL THE RESULTANT CHLORINE RESIDUAL EQUALS ONE PPM OR THE RESIDUAL OF THE SYSTEM, WHICHEVER IS GREATER. AFTER FINAL FLUSHING AND BEFORE THE WATER MAIN IS PLACED IN SERVICE SAMPLES SHALL BE COLLECTED FROM EACH END OF THE MAIN AND TESTED FOR BACTERIOLOGIC QUALITY. IF THE INITIAL DISINFECTION FAILS TO PRODUCE SATISFACTORY SAMPLES, DISINFECTION SHALL BE REPEATED UNTIL SATISFACTORY SAMPLES HAVE BEEN OBTAINED.

14. AIR RELEASE VALVES SHALL BE INSTALLED AT THE HIGH POINTS OF THE WATER MAINS.

15. ALL WATER MAINS WILL BE AT LEAST 8" IN DIAMETER. TEN (10") AND 14" DIAMETER MAINS SHALL NOT BE USED.

16. THRUST BLOCKS AND TIE RODS SHALL BE INSTALLED AT ALL BENDS AND FITTINGS.

17. HYDRANTS SHALL BE TWO (2) PIECE "NEW JERSEY STANDARD" HYDRANTS AS MANUFACTURED BY A.P. SMITH OR APPROVED EQUAL. HYDRANT SPACING SHALL BE A MAXIMUM 300 FEET MEASURED CENTER TO CENTER.

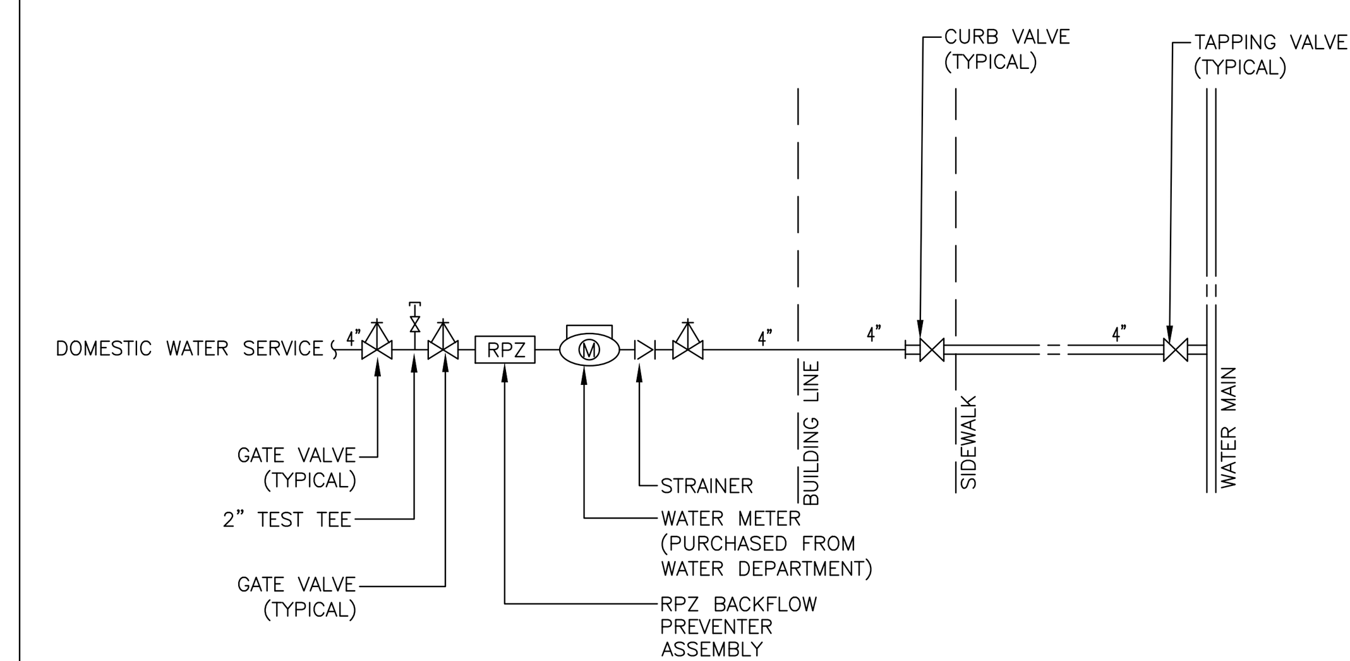
18. FOR EITHER NEW CONSTRUCTION OR RELOCATION OF THE FOLLOWING SHALL BE REQUIRED:
A. HYDRANTS SHALL BE LOCATED NO CLOSER THAN 20 FEET FROM THE POINT OF TANGENCY OR CURVATURE AT INTERSECTIONS.
B. ALL ONE PIECE OR HYDRANTS NOT MANUFACTURED BY A.P. SMITH THAT ARE TO BE RELOCATED SHALL BE REMOVED AND DELIVERED TO NEW JERSEY DIVISION OF WATER DISTRIBUTION. A NEW HYDRANT WILL BE SUPPLIED BY THE CITY FOR INSTALLATION.
C. HYDRANTS SHALL BE NO CLOSER THAN TEN (10") FEET FROM THE EDGE OF A RESIDENTIAL DRIVEWAY OR (20") FEET FROM THE EDGE OF COMMERCIAL DRIVEWAY. IN THE CASE WHERE DRIVEWAYS ARE EXPANDED OR NEWLY CONSTRUCTED, THE OWNER SHALL BE RESPONSIBLE FOR THE RELOCATION OF AN EXISTING HYDRANT IF ABOVE REQUIREMENTS ARE VIOLATED.
D. ALL SINGLE GATED HYDRANTS ON (16") INCH OR LARGER MAINS SHALL REQUIRE A NEW VALVE AT THE BASE OF THE RELOCATED HYDRANT.
E. NEW GATE VALVES AND BOXES ARE REQUIRED AT THE BASE OF RELOCATED HYDRANTS WHEN MORE THAN (10") FEET OF PIPE IS REQUIRED.

19. EXISTING WATER SERVICE LINES SHALL BE SHUT–OFF AND CAPPED AT THE MAIN PRIOR TO THE INSTALLATION OF NEW WATER SERVICES. PRIOR TO NEW SERVICE TAP THE JERSEY CITY WATER DEPARTMENT SHALL INSPECT AND CERTIFY THE ABANDONED SERVICES.

20. WATER MAINS TO ABANDON SHALL BE CUT AND PLUGGED WITH REQUIRED FITTINGS, RODS AND CONCRETE AS CLOSE TO THE EXISTING MAIN IN SERVICE AS POSSIBLE.

21. ALL VALVES SHALL BE OPERATED BY NEW JERSEY WATER DEPARTMENT PERSONNEL. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE ANY VALVES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, FIVE (5) DAYS IN ADVANCE OF VALVE OPERATING REQUIREMENTS.

22. FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS WILL RESULT IN THE IMMEDIATE SHUT–DOWN OF THE PROJECT.



WATER CONNECTION / METER DETAIL

NO SCALE

GENERAL SEALING NOTES:

1. INSTALL SILICONE CAULK (TREMCO OR EQUIVALENT) TO SEAL PERIMETER OF ALL ACCESS DOOR FRAMES AND DRYWALL CONSTRUCTION.
2. ALL ROOF PENETRATIONS SHALL BE SEALED WITH LOW VOC MASTIC TO SEAL PENETRATION THROUGH ROOF. APPLY MASTIC PRIOR TO INSTALLATION OF PIPING.
3. INSTALL MASTIC AS PER MANUFACTURER'S REQUIREMENTS AND SHALL ONLY BE USE LOW VOC MASTIC TYPE AS PER SPECIFICATIONS.
4. PROVIDE EXPANDED CLOSED CELL FOAM RATED FOR 220 DEG F AT GYPSUM BOARD PENETRATIONS OF COPPER HEATING PIPES. SEAL GAP BETWEEN CLOSED CELL FOAM INSULATION AND GYPSUM BOARD WITH SILICONE CAULK.
5. FOR CENTRAL SHAFTS, CONTRACTOR SHALL ENSURE TIGHT DUCT CONSTRUCTION THROUGH QUALITY CONTROL OF MANUAL SEALING AS PER PERFORMANCE BASED SPECIFICATIONS OR THROUGH THE USE OF THE CARRIER AEROSEAL SYSTEM FOR AUTOMATED SEALING.
6. CONTRACTOR SHALL SEAL ALL PENETRATIONS OF PIPES IN PARTITION/WALLS BETWEEN ADJACENT APARTMENTS AND BUILDING ROOMS.

NOTES:

1. PLUMBING CONTRACTOR TO SUPPLY AND INSTALL ALL ACCESS PANELS REQUIRED FOR PLUMBING SYSTEMS.
5. PLUMBING CONTRACTOR TO HOOK UP ALL APPLIANCES. THEY SHALL BE RESPONSIBLE FOR FINAL CONNECTION OF DOMESTIC WATER, SANITARY WASTE AND VENT, NATURAL GAS PIPING, INCLUDING VALVES, TRIMS AND EQUIPMENT TO PLUMBING FIXTURES AND APPLIANCES AT LOCATIONS INDICATED ON THE PLUMBING PLANS AND RISER DIAGRAMS, AS WELL AS THOSE SHOWN ON ARCHITECTURAL PLANS.
6. PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL UNDERGROUND EXCAVATIONS AND COORDINATION WITH OTHER TRADES INCLUDING CONCRETE AND MASONRY CONTRACTORS. (INCLUDE NOTE ON UNDERGROUND DRAWINGS AND PLUMBING DRAWINGS).
7. PLUMBING CONTRACTOR TO COORDINATE FINAL LOCATIONS OF VENT TERMINATION WITH SOLAR PANELS AND OTHER TRADES.
8. TRAP PRIMERS SHALL BE PROVIDED TO ALL FLOOR DRAIN TRAPS IN ACCORDANCE WITH THE NJ PLUMBING CODE.
9. PROVIDE 2" PIPE INSULATION ON ALL HORIZONTAL STORM PIPING IN THE ATTIC INCLUDING ROOF DRAIN BODIES.
10. PARKING GARAGE IS NOT HEATED; PROVIDE HEAT TRACING WHERE REQUIRED.
11. SANITARY PIPE IS PROHIBITED TO RUN INSIDE ELECTRICAL AND VAULT ROOM. PIPING SHALL BE OFFSET OR ROUTED AS REQUIRED OR PROVIDED WITH DRIP PAN THAT WILL DRAIN TO NEAREST ACCEPTABLE RECEPTACLE.

HEAT TRACE NOTES:

1. PROVIDE ELECTRIC HEAT TRACE WITH PIPE INSULATION ON ALL WET–PIPE PLUMBING PIPING IN THE PARKING GARAGE AND IN AREAS SUBJECT TO FREEZING.
2. THE SELF–REGULATING HEAT TRACE SHALL CONSIST OF TWO (2) 16 AWG TINNED–COPPER BUS WIRES EMBEDDED IN PARALLEL IN A SELF–REGULATING POLYMER CORE THAT VARIES ITS POWER OUTPUT TO RESPOND TO TEMPERATURE ALL ALONG ITS LENGTH, ALLOWING THE HEATER TO BE CROSSED OVER ITSELF WITHOUT OVERHEATING, TO BE USED DIRECTLY ON PLASTIC PIPE, AND TO BE CUT TO LENGTH IN THE FIELD. THE HEATER SHALL BE COVERED BY A RADIATION CROSS–LINKED MODIFIED POLYOLEFIN DIELECTRIC JACKET, AND HAVE AN OUTER GROUNDING BRAID OF TINNED_COPPER. FOR ENHANCED RUGGEDNESS THE CABLE SHALL HAVE AN OUTER JACKET OF MODIFIED POLYOLEFIN. HEATER CABLE SHALL BE "RAYCHEM" XL–TRACE MODEL NO. 8XL2–CT, 208V, 3–PHASE WITH "RAYCHEM" FTC HEAT SHRINKABLE CONNECTION KITS.
3. CONTROL AND MONITORING PANEL SHALL BE "DIGITRACE" NO. C910 CONTROL AND MONITORING PANEL, GROUND FAULT PROTECTION BUILT–IN WITH "DIGITRACE" NO. RTD TEMPERATURE SENSORS.
4. THE SYSTEM MUST BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION AND SHALL APPLY "ELECTRIC TRACED" SIGNS TO THE OUTSIDE OF THE THERMAL INSULATION.
5. ALL CONNECTIONS AND END TERMINATIONS ARE REQUIRED TO BE ACCESSIBLE AND MOUNTED ABOVE GROUND. COORDINATE LOCATIONS WITH BUILDING MANAGEMENT.

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04-13-26 PERMIT SET

PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING NOTES & LEGENDS

BLDG DEPT REF.#

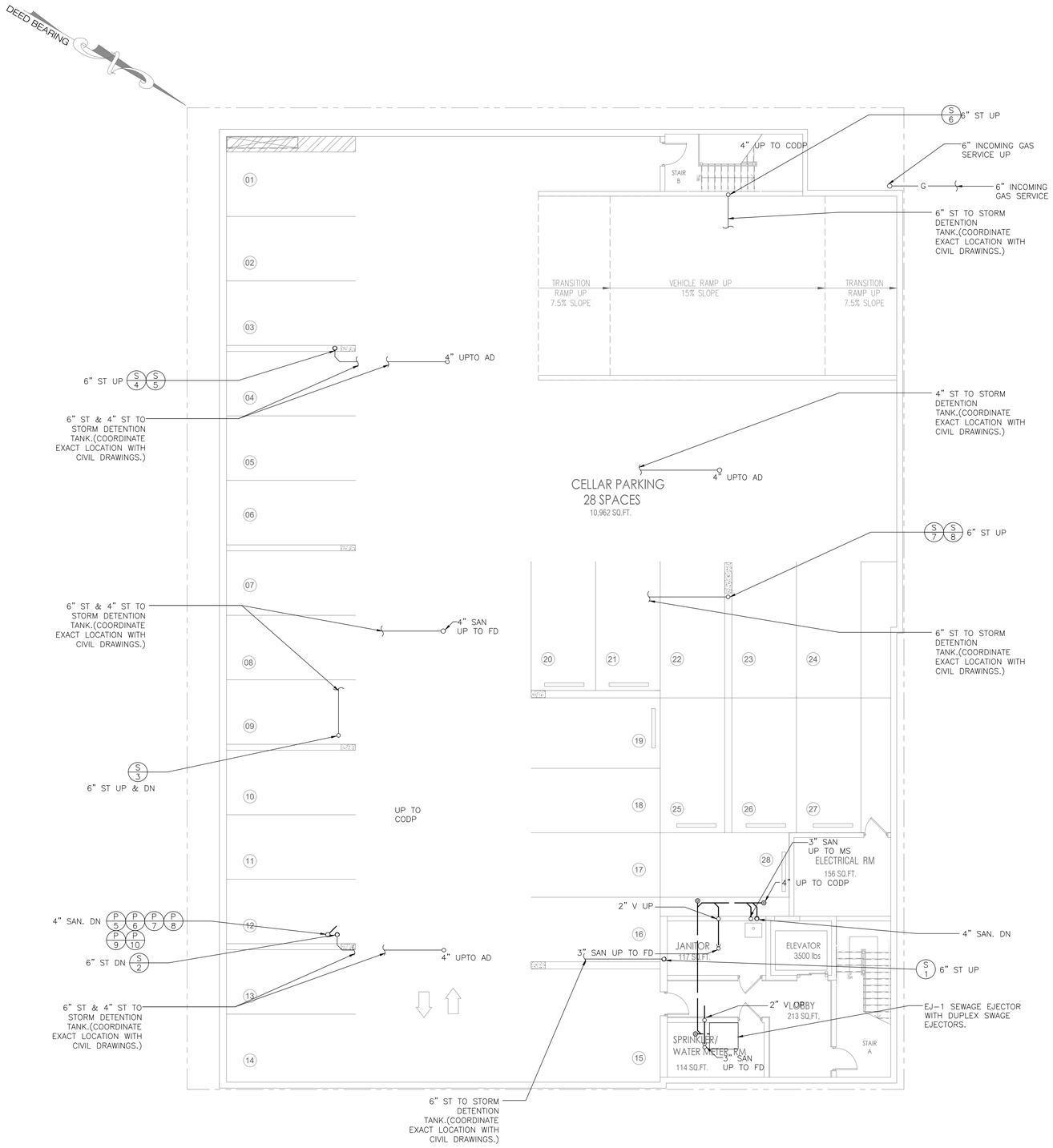
SCALE: AS NOTED

SIGNATURE & SEAL
ALEKSEY MAKHLIS
ENGINEER
NJ. LIC. No. GE56570

DATE: 12/10/2021

DRAWING #
P-001

PROJECT # : 2021.09.02



1 PLUMBING FLOOR PLAN - CELLAR UNDER GROUND FLOOR
1/8" = 1'-0"

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PROJECT ADDRESS:
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PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING CELLAR UNDER GROUND FLOOR PLAN

BLDG DEPT REF.#

SCALE:
AS NOTED

SIGNATURE & SEAL
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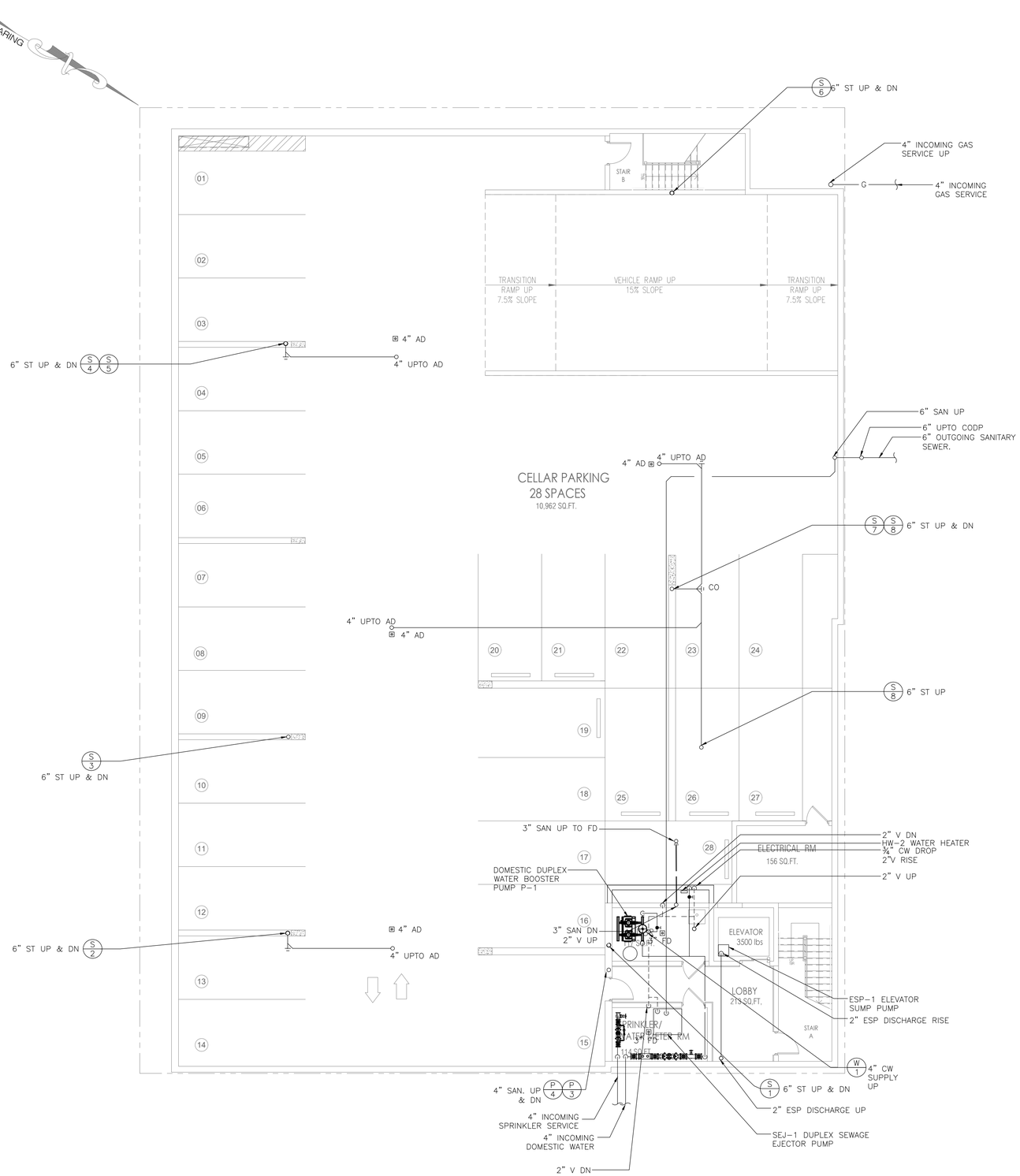
ENGINEER
NJ. LIC. No. GE56570

DATE:
12/10/2021

DRAWING #
P-099

PROJECT # : 2021.09.02



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

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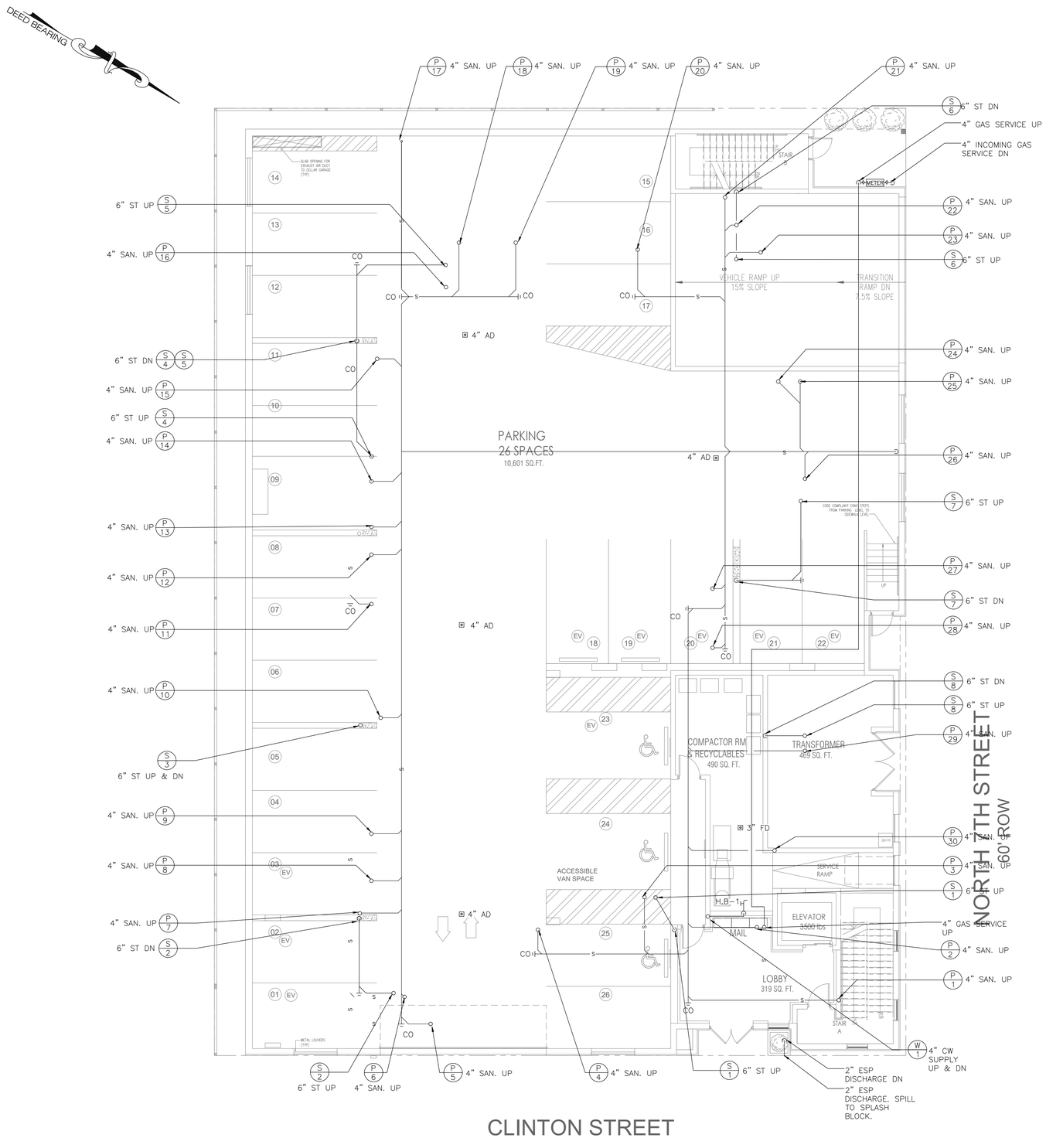
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING CELLAR PLAN

BLDG DEPT REF.#	SCALE: AS NOTED
SIGNATURE & SEAL ALEKSEY MAKHLIS ENGINEER NJ. LIC. No. GE56570	DATE: 12/10/2021
	DRAWING # P-100

PROJECT # : 2021.09.02



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

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PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING 1ST FLOOR PLAN

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NJ. LIC. No. GE56570

DATE:
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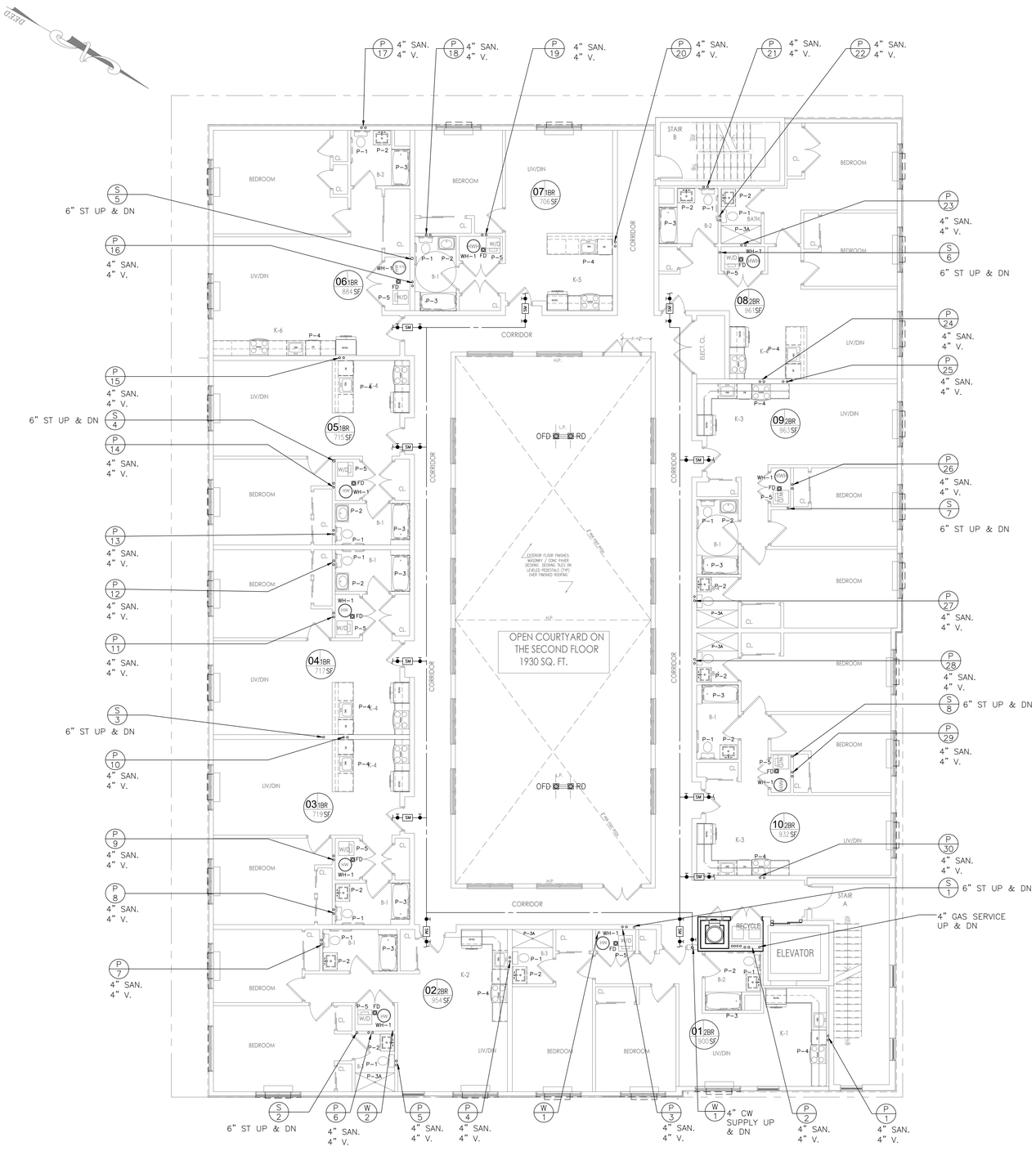
DRAWING #
P-101

PROJECT # : 2021.09.02



1 PLUMBING FLOOR PLAN - 2ND FLOOR
1/8" = 1'-0"

KEY PLAN:

P-1:	4" SAN., 2" V., ½" C.W
P-2:	2" SAN., 2" V., ½" C.W. & ½" H.W.
P-3:	2" SAN., 2" V., ½" C.W. & ½" H.W.
P-4:	2" SAN., 2" V., ½" C.W. & ½" H.W.
D/W:	1" SAN., ½" C.W. & ½" H.W.
P-5:	2" SAN., 2" V., ½" C.W. & ½" H.W.
WH-1:	40 GALLONS DOMESTIC WATER HEATER
WH-2:	50 GALLONS DOMESTIC WATER HEATER
FD:	3" FLOOR DRAIN
S#	STORM LEADER (RISER)
SM	DOMESTIC WATER SUB METER WITH REMOTE READEDR

NOTES:

1. REFER TO PLUMBING RISER DIAGRAMS FOR HORIZONTAL PIPE DISTRIBUTIONS, PIPE SIZES, SHUT-OFF VALVES, FIXTURE VALVE, ETC.
2. PROVIDE ACCESS PANEL FOR ALL SHUT-OFF AND BALANCING VALVES, COORDINATE SIZE AND LOCATIONS WITH ARCHITECT.
3. DOMESTIC WATER HEATERS TO BE PROVIDED WITH DRIP PAN AND LEAK DETECTION SYSTEM. EXTEND I.W. PIPING TO FLOOR DRAIN.

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BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING 2ND FLOOR PLAN

BLDG DEPT REF.#

SCALE:
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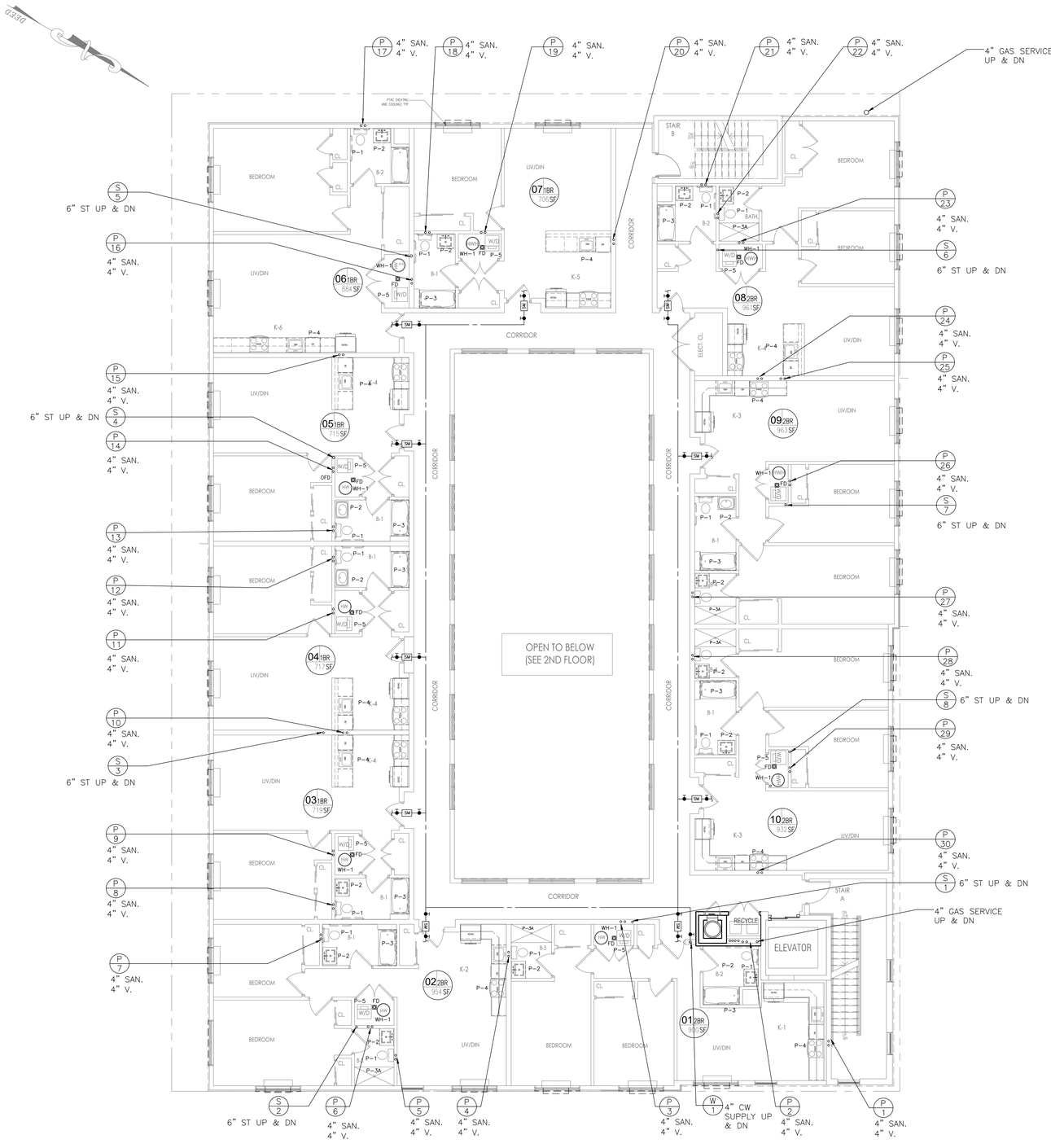
DATE:
12/10/2021

DRAWING #
P-102

PROJECT # : 2021.09.02



1 PLUMBING FLOOR PLAN - 3RD - 4TH TYPICAL FLOOR
1/8" = 1'-0"

KEY PLAN:

P-1:	4" SAN., 2" V., ½" C.W
P-2:	2" SAN., 2" V., ½" C.W. & ½" H.W.
P-3:	2" SAN., 2" V., ½" C.W. & ½" H.W.
P-4:	2" SAN., 2" V., ½" C.W. & ½" H.W.
D/W:	1" SAN., ½" C.W. & ½" H.W.
P-5:	2" SAN., 2" V., ½" C.W. & ½" H.W.
WH-1:	40 GALLONS DOMESTIC WATER HEATER
WH-2:	50 GALLONS DOMESTIC WATER HEATER
FD:	3" FLOOR DRAIN
S#	STORM LEADER (RISER)

NOTES:

1. REFER TO PLUMBING RISER DIAGRAMS FOR HORIZONTAL PIPE DISTRIBUTIONS, PIPE SIZES, SHUT-OFF VALVES, FIXTURE VALVE, ETC.
2. PROVIDE ACCESS PANEL FOR ALL SHUT-OFF AND BALANCING VALVES, COORDINATE SIZE AND LOCATIONS WITH ARCHITECT.
3. DOMESTIC WATER HEATERS TO BE PROVIDED WITH DRIP PAN AND LEAK DETECTION SYSTEM. EXTEND I.W. PIPING TO FLOOR DRAIN.

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PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING 3RD-4TH
TYPICAL FLOOR PLAN

BLDG DEPT REF.#

SCALE:
AS NOTED

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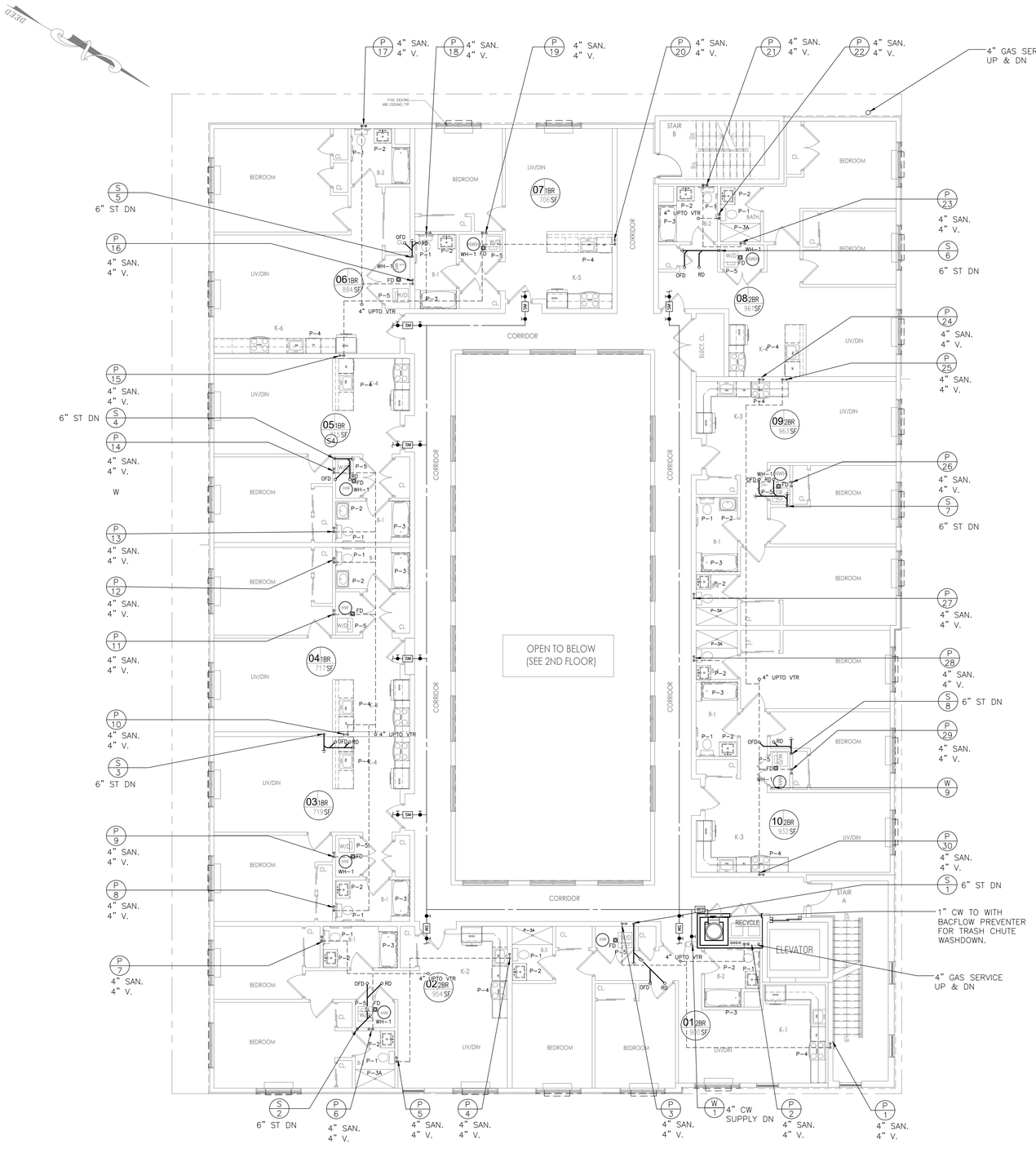
ENGINEER
NJ. LIC. No. GE56570

DATE:
12/10/2021

DRAWING #
P-102

PROJECT # : 2021.09.02



1 PLUMBING FLOOR PLAN - 3RD - 4TH TYPICAL FLOOR
1/8" = 1'-0"

KEY PLAN:

P-1:	4" SAN., 2" V., ½" C.W
P-2:	2" SAN., 2" V., ½" C.W. & ½" H.W.
P-3:	2" SAN., 2" V., ½" C.W. & ½" H.W.
P-4:	2" SAN., 2" V., ½" C.W. & ½" H.W.
D/W:	1" SAN., ½" C.W. & ½" H.W.
P-5:	2" SAN., 2" V., ½" C.W. & ½" H.W.
WH-1:	40 GALLONS DOMESTIC WATER HEATER
WH-2:	50 GALLONS DOMESTIC WATER HEATER
FD:	3" FLOOR DRAIN
S#	STORM LEADER (RISER)
BFP	BACKFLOW PREVENTER

NOTES:

1. REFER TO PLUMBING RISER DIAGRAMS FOR HORIZONTAL PIPE DISTRIBUTIONS, PIPE SIZES, SHUT-OFF VALVES, FIXTURE VALVE, ETC.
2. PROVIDE ACCESS PANEL FOR ALL SHUT-OFF AND BALANCING VALVES, COORDINATE SIZE AND LOCATIONS WITH ARCHITECT.
3. DOMESTIC WATER HEATERS TO BE PROVIDED WITH DRIP PAN AND LEAK DETECTION SYSTEM. EXTEND I.W. PIPING TO FLOOR DRAIN.

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PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING 3RD-4TH TYPICAL FLOOR PLAN

BLDG DEPT REF.#

SCALE: AS NOTED

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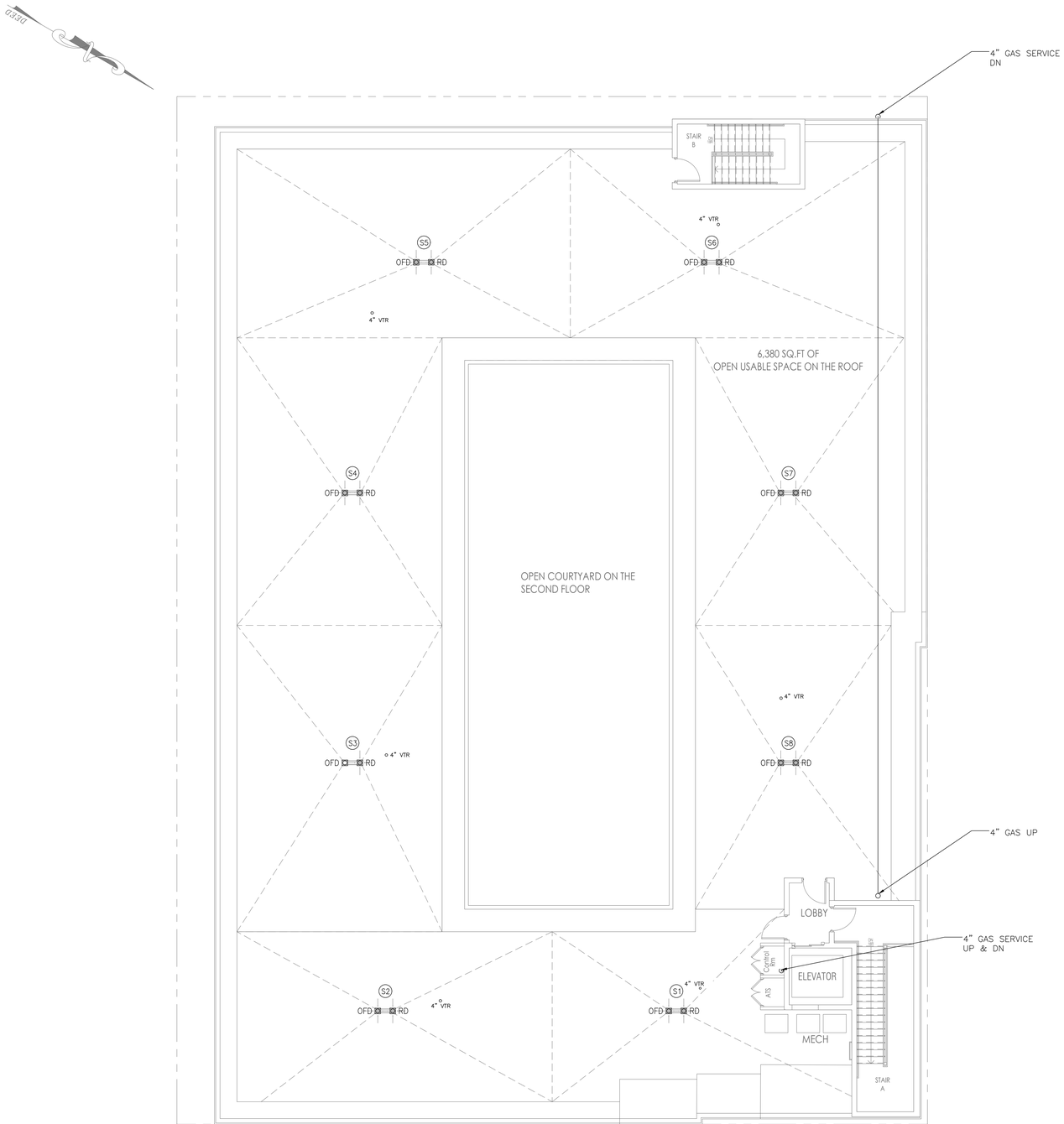
ALEKSEY MAKHLIS
ENGINEER
NJ. LIC. No. GE56570

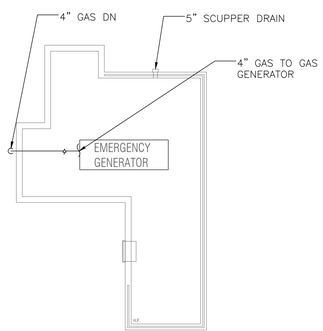
DATE: 12/10/2021

DRAWING # P-102

PROJECT # : 2021.09.02



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



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

ARCHITECTURE

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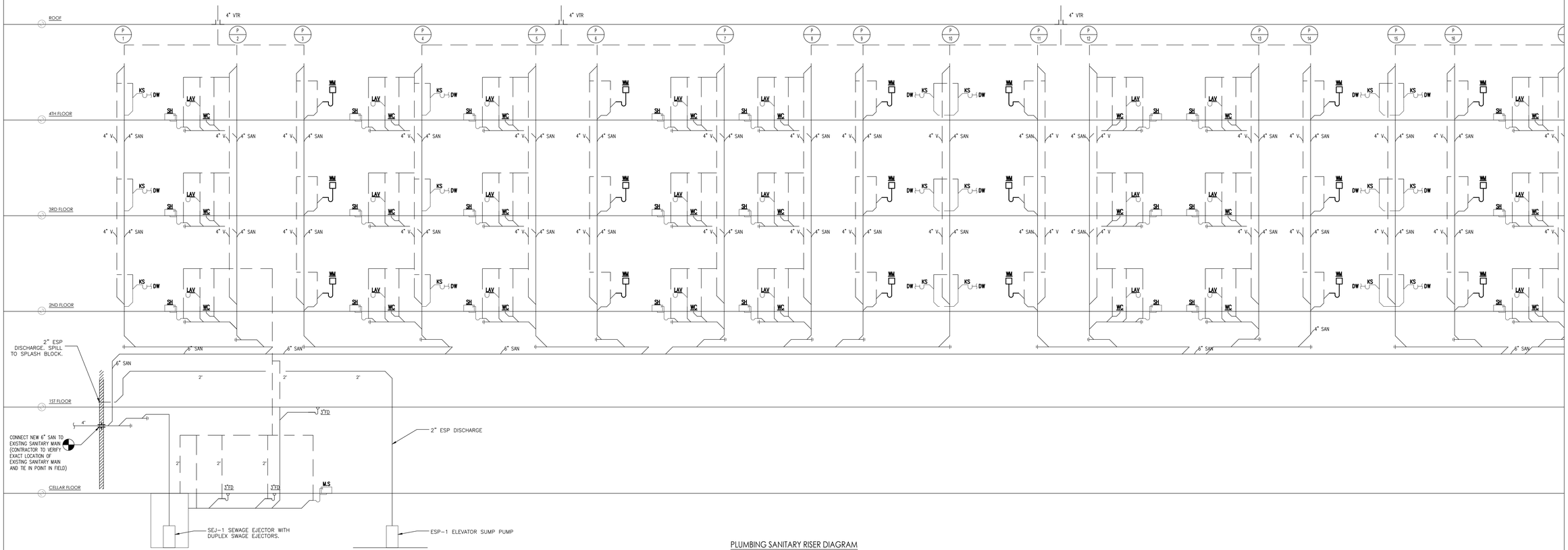
04-13-26	PERMIT SET

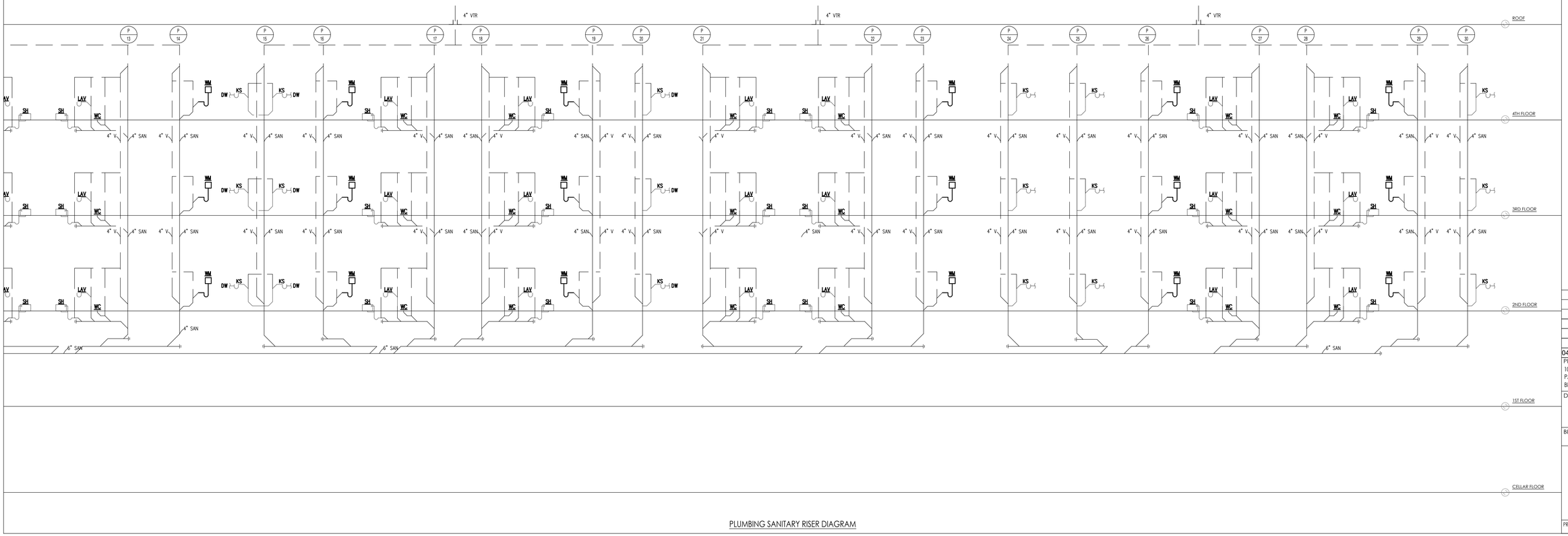
PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING ROOF PLAN

BLDG DEPT REF.#	SCALE: AS NOTED
SIGNATURE & SEAL ALEKSEY MAKHLIS ENGINEER NJ. LIC. No. GE56570	DATE: 12/10/2021
	DRAWING # P-103
PROJECT # : 2021.09.02	



PLUMBING SANITARY RISER DIAGRAM



PLUMBING SANITARY RISER DIAGRAM

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04-13-26 PERMIT SET

PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING SANITARY RISER

BLDG DEPT REF.#

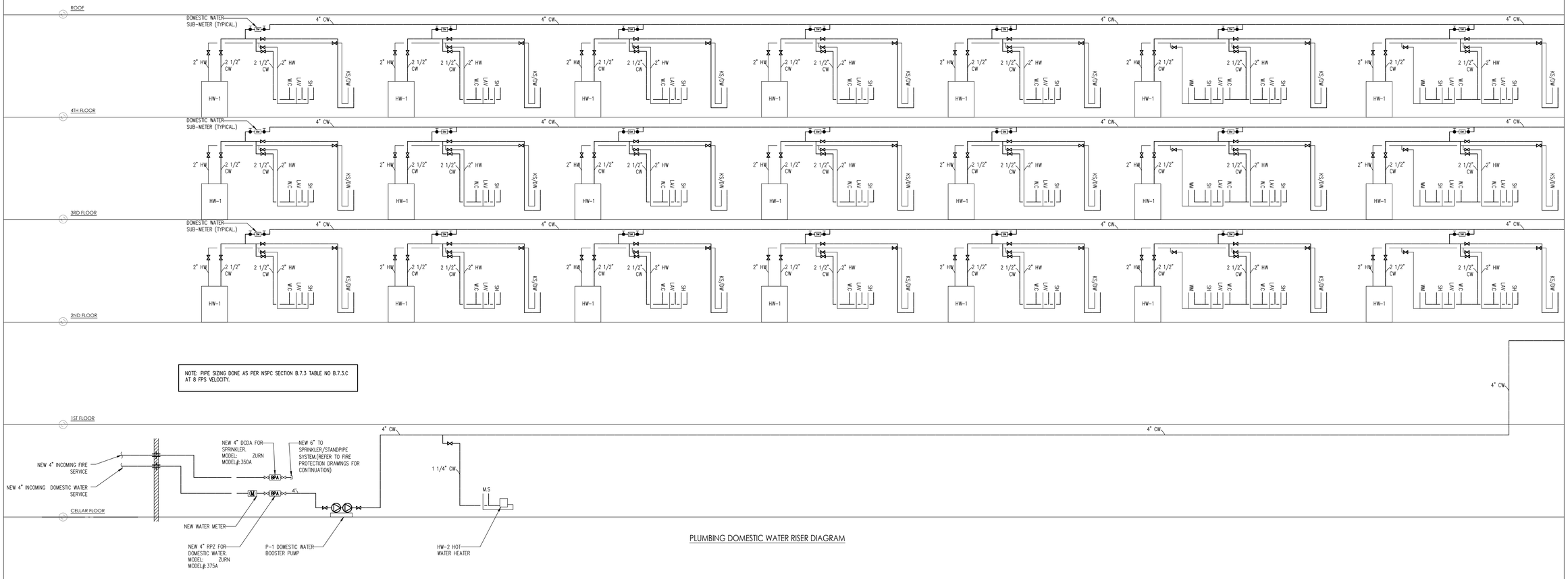
SCALE:
AS NOTED

SIGNATURE & SEAL
ALEKSEY MAKHUS
ENGINEER
NJ. LIC. No. GE56570

DATE:
12/10/2021

DRAWING #
P-200

PROJECT # : 2021.09.02



PLUMBING DOMESTIC WATER RISER DIAGRAM

PLUMBING DOMESTIC WATER RISER DIAGRAM

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BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING WATER RISER DIAGRAM

BLDG DEPT REF.#

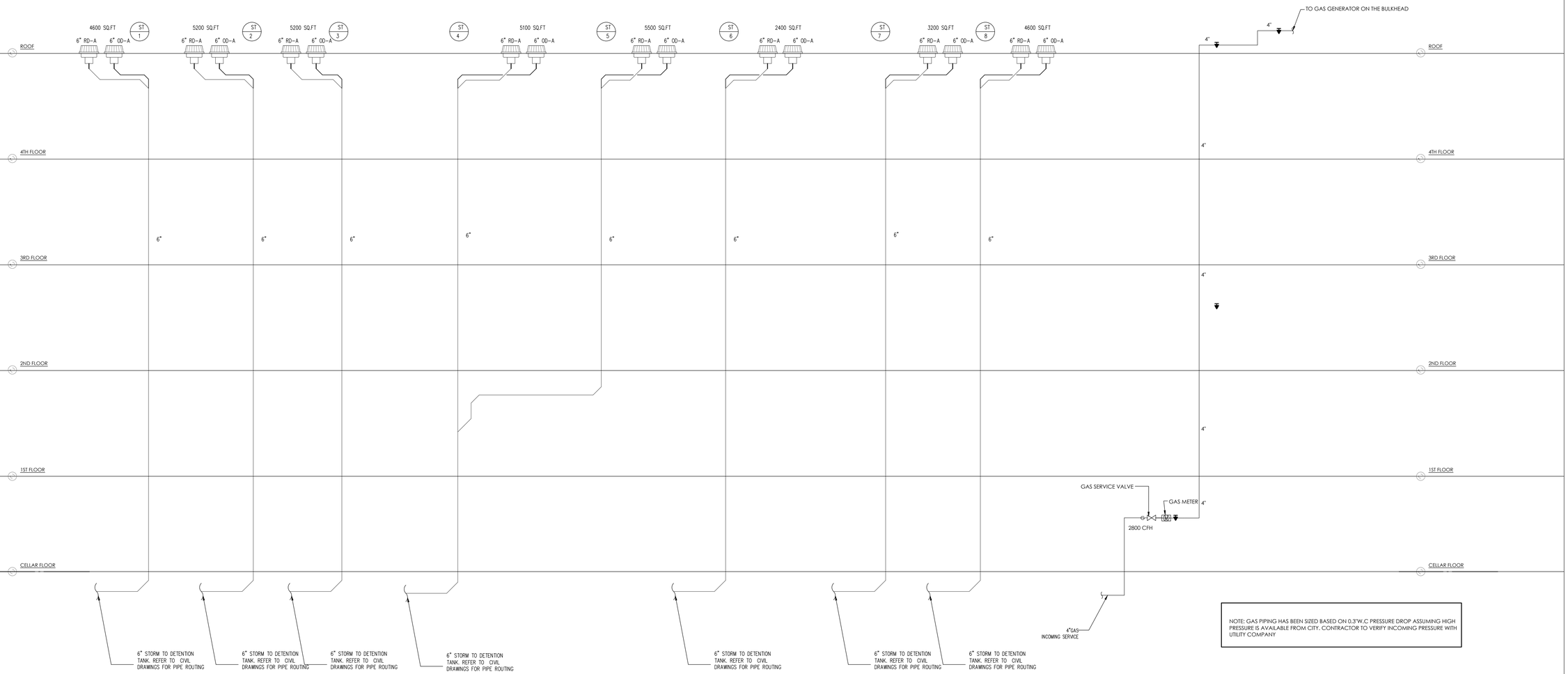
SCALE: AS NOTED

SIGNATURE & SEAL
ALEKSEY MAKHLIS
ENGINEER
NJ. LIC. No. GE56570

DATE: 12/10/2021

DRAWING #
P-201

PROJECT # : 2021.09.02



PLUMBING STORM RISER DIAGRAM

NOTE: GAS PIPING HAS BEEN SIZED BASED ON 0.3"W.C PRESSURE DROP ASSUMING HIGH PRESSURE IS AVAILABLE FROM CITY. CONTRACTOR TO VERIFY INCOMING PRESSURE WITH UTILITY COMPANY

PLUMBING GAS RISER DIAGRAM

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04-13-26 PERMIT SET

PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING STORM & GAS RISER DIAGRAM

BLDG DEPT REF.#

SCALE:
AS NOTED

SIGNATURE & SEAL
ALEKSEY MAKHLIS
ENGINEER
NJ. LIC. No. GE56570

DATE:
12/10/2021

DRAWING #
P-202

PROJECT # : 2021.09.02

PLUMBING SPECIFICATIONS

PART I – GENERAL

1.01 DESCRIPTION

A. THE PLUMBING CONTRACTOR SHALL BE A LICENSED INSTALLER OF PLUMBING SYSTEMS IN TOWN OF NORTH BERGEN, NEW JERSEY.

B. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE OF NEW JERSEY BUILDING CODE AND ALL LOCAL REQUIREMENTS.

C. THE ARCHITECT'S SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.

1.02 VERIFYING CONDITIONS

A. EXAMINE ALL DRAWINGS COVERING THE WORK OF THIS SECTION AND REFER TO HOME OTHER DRAWINGS, INCLUDING ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS, WHICH MAY AFFECT THE WORK OF THIS SECTION OR REQUIRE COORDINATION BY SAME.

B. BEFORE STARTING ANY WORK, EXAMINE AND THOROUGHLY CHECK DRAWINGS, DIMENSIONS, SPECIFICATIONS, AND ADJOINING OR UNDERLYING CONDITIONS IN WHICH THE WORK OF THIS SECTION IS TO BE PERFORMED.

C. REPORT, IN WRITING, TO THE ARCHITECT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK OF THIS SECTION. DO NOT COMMENCE WORK UNTIL ANY AND ALL SUCH CONDITIONS HAVE BEEN CORRECTED BY THE TRADE OR TRADES RESPONSIBLE.

D. FAILURE TO NOTIFY THE ARCHITECT OF UNSATISFACTORY CONDITIONS WILL BE CONSTRUED AS AN ACCEPTANCE OF ALL CONDITIONS.

E. THE EXECUTION OF THE WORK OF THIS SECTION CONSTITUTES ACCEPTANCE OF THE BASE OR ADJOINING WORK AND OTHER CONDITIONS AS BEING SATISFACTORY IN EVERY RESPECT AND LATER CLAIMS OF DEFECTS IN SUCH CASES WILL NOT BE ALLOWED.

F. THE DRAWINGS INDICATE AND THE SPECIFICATIONS DESCRIBE THE GENERAL ARRANGEMENT AND THE APPROXIMATE LOCATION OF EQUIPMENT, FIXTURES, PIPING, ETC. EXACT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO SUIT EXISTING CONDITIONS.

G. THE CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE OWNER, MAKE ALL REASONABLE MODIFICATIONS IN THE WORK AS MAY BE REQUIRED TO PREVENT CONFLICT WITH THE WORK OF OTHER TRADES, OR FOR THE PROPER INSTALLATION OF THE WORK.

1.03 SHOP DRAWINGS AND SAMPLES

A. SUBMIT SHOP DRAWINGS AND SAMPLES WITH ALL DETAILS AND INFORMATION, AS REQUIRED FOR THE WORK OF THIS SECTION AND IN ACCORDANCE WITH GENERAL CONDITIONS OR AS REQUESTED BY THE ARCHITECT OR ENGINEER.

B. SUBMIT FOR APPROVAL; SAMPLES OF MATERIALS, AFFIDAVITS, CERTIFICATES, ETC., AS REQUIRED BY THE GENERAL CONDITIONS OR AS REQUESTED BY THE ARCHITECT OR ENGINEER.

C. SUBMIT FOR APPROVAL SHOP DRAWINGS AND CATALOG CUTS OF THE FOLLOWING:

1. PLUMBING FIXTURES AND EQUIPMENT.
2. VALVES.
3. PIPE AND FITTINGS.
4. HANGERS.
5. INSULATION
6. WATERHEATER
7. VACUUM BREAKERS
8. PIPING LAYOUT
9. GREASE INTERCEPTORS
10. BACKFLOW PREVENTION DEVICES.

1.04 AS–BUILT DRAWINGS

A. PREPARE AND SUBMIT "AS–BUILT" DRAWINGS AT THE COMPLETION OF THE PROJECT.

1.05 TESTS

A. THE PLUMBING SYSTEMS SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH REQUIREMENTS OF THE BOCA NATIONAL BUILDING CODE 1996.

1.06 CLEANING

A. ALL PIPING, FIXTURES, EQUIPMENT, ETC., INSTALLED UNDER THIS CONTRACT SHALL BE THOROUGHLY CLEANED AND PROTECTED DURING CONSTRUCTION AND PUT INTO FIRST–CLASS OPERATING CONDITION BEFORE BEING OFFERED FOR ACCEPTANCE.

B. UPON COMPLETION OF ALL WORK, THE PLUMBING CONTRACTOR SHALL THOROUGHLY CLEAN ALL PLUMBING FIXTURES, SINKS AND TRIM AND LEAVE ALL ITEMS READY FOR USE BY THE OWNER. ALL FLOOR DRAINS SHALL BE CLEANED AND MANUFACTURERS PROTECTIVE COVERINGS SHALL BE REMOVED.

1.07 LAWS, ORDINANCES, ETC.

A. THE WORK OF THIS CONTRACTOR MUST COMPLY WITH ALL LOCAL LAWS, ORDINANCES AND RULES. THIS CONTRACTOR MUST HAVE THE NECESSARY INSPECTIONS MADE BY THESE AUTHORITIES, PAY ALL THE REQUIRED FEES, AND FURNISH THE OWNER WITH CERTIFICATES OF APPROVAL BEFORE FINAL PAYMENT ON THIS CONTRACT IS MADE. HE SHALL APPLY, PAY FOR, AND OBTAIN ALL PERMITS.

1.08 SUPERVISION

A. THIS CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE INSTALLATION OF THE MATERIAL FURNISHED UNDER THIS SPECIFICATION UNTIL SAME HAS BEEN PUT IN COMPLETE OPERATIVE CONDITION AND ACCEPTED BY THE OWNER.

1.09 CUTTING AND PATCHING

A. THIS CONTRACTOR SHALL DO ALL CUTTING AND PATCHING FOR PLUMBING WORK AND SHALL COORDINATE SAME WITH ALL OTHER TRADES. ALL CUTTING SHALL BE SUBJECT TO TRADE REGULATIONS. NO CUTTING OF STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE APPROVAL OF THE ARCHITECT.

PART 2 – MATERIAL

2.01 GENERAL

A. THE PLUMBING SYSTEMS SHALL BE COMPLETE WITH ALL PIPES, FITTINGS, TRAPS, SUPPLIES, VALVES, HANGERS AND SUPPORTS, INSULATION, ETC. AND ALL OTHER ITEMS NECESSARY FOR COMPLETE, SATISFACTORY OPERATING AND APPROVED TYPE SYSTEM.

B. ALL PIPE FITTINGS, VALVES, FIXTURES, HANGERS, SUPPORTS INSULATION, ETC. SHALL CONFORM TO THE REQUIREMENTS OF THE NEW JERSEY BUILDING CODE.

2.02 SANITARY WASTE AND VENT PIPE AND FITTINGS

A. ALL ABOVE GROUND SOIL, WASTE, AND VENT PIPING SHALL BE "NO–HUB" SERVICE WEIGHT CAST IRON PIPE AND FITTINGS EXCEPT AS NOTED OTHERWISE.

B. ALL JOINTS AND CONNECTIONS SHALL BE ASSEMBLED BY MEANS OF SEALING SLEEVES AND STAINLESS STEEL CLAMPS AND SHIELD ASSEMBLIES.

C. PIPE AND FITTINGS SHALL BE CENTRAL FOUNDRY COMPANY, TYLER PIPE COMPANY, EAST PENN FOUNDRY OR APPROVED EQUAL.

D. EXPOSED PIPE AT FIXTURES TO BE CHROME PLATED.

2.03 SANITARY WASTE, VENT & STORM PIPE & FITTINGS – UNDERGROUND AND WHERE INDICATED

A. ALL UNDERGROUND SOIL, WASTE, VENT AND LEADER PIPING SHALL BE APPROVED HUB AND SPIGOT EXTRA HEAVY CAST IRON SOIL PIPE AND FITTINGS.

B. ALL JOINTS AND CONNECTION SHALL BE MADE BY THE USE OF DOUBLE–SEAL NEOPRENE CAST IRON SOIL PIPE GASKETS, ALABAMA PIPE COMPANY "DUAL–TITE" OR APPROVED EQUAL.

C. PIPE AND FITTINGS SHALL BE CENTRAL FOUNDRY COMPANY, ALABAMA PIPE COMPANY, EAST PENN FOUNDRY, OR APPROVED OTHER.

2.04 COLD WATER AND HOT WATER PIPE AND FITTINGS

A. DOMESTIC COLD WATER, HOT WATER AND HOT WATER CIRCULATION PIPE SHALL BE:

1. PIPING WITH DIAMETER UP TO 4": TYPE "L", HARD DRAWN, COPPER TUBING WITH WROUGHT BRONZE FITTINGS FOR 150 POUND WATER WORKING PRESSURE AND WITH JOINTS OF 95–5 (TIN–ANTIMONY) SOLDER. NO SOLDER CONTAINING LEAD IS PERMITTED.
2. PIPING WITH DIAMETER 5" AND LARGER: GALVANIZED STEEL PIPE, SCHEDULE 40 WITH MAKER'S NAME TOILED INTO EACH LENGTH. FITTINGS – THREADED, GALVANIZED MALLEABLE IRON WITH FLAT BAND STEAM PATTERN.

B. ALL SUPPLIES THROUGH WALLS TO FIXTURES SHALL BE 85% RED BRASS WITH THREADED BRASS FITTINGS. ALL EXPOSED PIPING IN FINISHED SPACES SHALL BE CHROME PLATED 85% RED BRASS.

2.05 NATURAL GAS PIPE AND FITTINGS

A. GAS PIPING INSIDE THE BUILDING SHALL BE STANDARD WEIGHT (SCHEDULE 40) BLACK STEEL PIPE, OUTSIDE THE BUILDING SHALL BE EXTRA HEAVY, SCHEDULE 80 BLACK STEEL PIPE. GAS CONTROL, VENT AND RELIEF PIPING SHALL BE EXTRA HEAVY, SCHEDULE 80 BLACK STEEL PIPE. STEEL PIPE SHALL BE SEAMLESS TYPE S AND SHALL BE MADE IN ACCORDANCE WITH THE CURRENT EDITION OF THE ASTM A53, GRADE B SPECIFICATIONS.

1. IN NO CASE SHALL ANY GAS PIPE BE LESS THAN 3/4". THE SIZES OF PIPE INDICATE NOMINAL PIPE SIZE.
2. GAS DISTRIBUTION PIPING FOR SYSTEMS OPERATING AT 1/2 PSIG OR LESS SHALL BE IN ACCORDANCE WITH NEW JERSEY DEPARTMENT OF BUILDINGS REQUIREMENTS AND ANSI Z223.1–1974 (NFPA–54), NATIONAL FUEL CODE (AS MODIFIED BY THE NYC BUILDING CODE).
3. GAS DISTRIBUTION PIPING SYSTEMS HAVING A GAS PRESSURE ABOVE 1/2 PSIG SHALL CONFORM TO ANSI B31.2–1968, FUEL GAS PIPING AND REQUIREMENTS OF THE TOWN OF NEWBURGH DEPARTMENT OF BUILDINGS.
4. MATERIALS USED IN GAS SERVICE AND METER PIPING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS AS SPECIFIED BY THE GAS UTILITY COMPANY PROVIDING THE SERVICES, AND OF THE NEW YORK CITY DEPARTMENT OF BUILDINGS.
5. PIPING JOINTS FOR GAS DISTRIBUTION PIPING:
   - A. PIPING AT 1/2 PSIG (14" W.C.) AND LESS:
     - 1) 3" AND SMALLER......SCREWED
     - 2) OVER 4"............WELDED
   - B. PIPING OVER 1/2 PSIG (14" W.C.) TO AND INCLUDING 2 PSIG:
     - 1) UNDER 4" ....SCREWED
     - 2) 4" AND LARGER......WELDED
   - C. PIPING OVER 2 PSIG:
     - 1) ALL PIPING ....WELDED
6. ALL WELDED GAS DISTRIBUTION PIPING SHALL BE SUBJECT TO CONTROLLED INSPECTION.
7. ALL GAS DISTRIBUTION AND METER PIPING OVER 2 PSIG SHALL BE BUTT WELDED, SUBJECT TO CONTROLLED INSPECTION AND ALL WELDS SHALL BE RADIOGRAPHED.

B. FITTINGS

1. FITTINGS FOR SCREWED GAS PIPING SHALL BE 150 LBS. BLACK MALLEABLE IRON FITTINGS, CONFORMING TO ASTM SPECIFICATIONS A–197, LATEST EDITION.
2. COMPRESSION TYPE FITTINGS AND STEEL WELDING FITTINGS SHALL BE AS SPECIFIED AND APPROVED BY THE GAS COMPANY.
3. STEEL BUTT WELDING FITTINGS SHALL CONFORM TO ANSI B16.9 REQUIREMENTS.
4. FITTING FOR CONTROL, VENT AND RELIEF PIPING SHALL BE 300 LB. BLACK MALLEABLE IRON SCREWED FITTINGS CONFORMING TO ASTM SPECIFICATION A–197, LATEST EDITION.

C. FLANGES

1. ALL FLANGES SHALL BE STEEL AND COMPATIBLE IN TYPE AND PRESSURE RATINGS WITH MATING FLANGE AND SHALL COMPLY WITH ANSI B16.5.
2. FLANGES SHALL BE WELDING NECK OR THREADED END. SLIP ON FLANGES ARE NOT PERMITTED.
3. WHERE 150 POUND STEEL FLANGES ARE BOLTED TO CLASS 125 CAST IRON FLANGES, THE RAISED FACE ON THE STEEL FLANGE SHALL BE REMOVED.

D. GASKETS

1. GASKETS SHALL BE COMPATIBLE WITH THE GAS SERVICE ON WHICH THEY ARE USED, WITHOUT CHANGE TO THEIR CHEMICAL OR PHYSICAL PROPERTIES.
2. GASKET SHALL BE BLUE–GARD COMPRESSED ASBESTOS FREE GASKETS, STYLE 3000 OR GYLON GASKETING STYLE 3500, COLOR: FAWN WITH BLUE BRAND BOTH AS MANUFAC. BY GARLOCK INC.
3. GASKETS OF METAL OR METAL–JACKETED ASBESTOS, ALUMINUM O–RINGS AND SPIRAL WOUND METAL GASKETS, OR OTHER MATERIALS, IF APPROVED BY UTILITY COMPANY MAY BE USED.
4. FULL FACE GASKETS SHALL BE USED WITH ALL BRONZE AND CASTIRON FLANGES.

2.06 EXPANSION JOINTS AND ANCHORS

A. PROPER PROVISIONS SHALL BE MADE FOR EXPANSION AND CONTRACTION OF ALL PIPES AND THE PIPING SHALL BE ARRANGED WITH ALL NECESSARY PIPE EXPANSION LOOPS AND SWING JOINTS.

B. MAINS AND BRANCHES MUST BE SO INSTALLED WITH SWING CONNECTIONS SO AS TO PERMIT FREE EXPANSION OF PIPING.

2.07 HANGERS AND SUPPORTS

A. FURNISH ALL NECESSARY HANGERS, SUPPORTS, INSERTS, CLAMPS, ETC. AS REQUIRED. ALL HANGERS AND SUPPORTS SHALL BE OF HEAVY CONSTRUCTION AND SUITABLE FOR THE SIZE OF PIPE TO BE SUPPORTED. ALL INSERTS AND HANGERS SHALL BE INSTALLED TO CLEAR WORK OF OTHER TRADES.

B. ALL HORIZONTAL CAST IRON PIPING SHALL BE SUPPORTED ON FIVE (5) FOOT CENTERS AND AT ALL JOINTS. ALL HORIZONTAL SCREWED PIPING SHALL BE SUPPORTED BY HANGERS SPACED NOT OVER TEN (10) FEET APART. ALL BRANCHES SHALL HAVE SEPARATE HANGERS. HANGERS SHALL BE CLEVIS TYPE, CONSTRUCTED OF HEAVY BAR STEEL STOCK, WITH PROPER SIZE SUSPENSION ROD AND LOCKNUTS. WHERE PIPING IS SUPPORTED FROM THE FLOOR, PROVIDE ADJUSTABLE PIPE SADDLE SUPPORT WITH U–BOLT.

C. WHERE PIPES ARE TO BE INSULATED, THE HANGERS SHALL BE OF AMPLE SIZE TO PROVIDE FOR THE COVERING SPECIFIED AND BE PROVIDED WITH GALVANIZED STEEL INSULATION SHIELDS.

D. ALL HANGERS, RODS, BEAM CLAMPS, ETC. SHALL BE SHOP ZINC COATED.

E. ALL HORIZONTAL COPPER TUBING SHALL BE SUPPORTED BY HANGERS NOT OVER SIX (6) FEET APART FOR PIPING 1–1/4 INCH AND SMALLER AND NOT OVER TEN (10) FEET APART FOR PIPING 1–1/2 INCH AND LARGER. ALLO BRANCHES SHALL HAVE SEPARATE HANGERS. HANGERS SHALL BE CLEVIS TYPE WITH COPPER BOTTOM SUPPORT. IF CHANNEL OR ANGLE IRON TRAPEZE HANGERS ARE USED, THE SPACE ON HANGERS FOR THE COPPER TUBING SHALL BE WRAPPED WITH LEAD SHIELDS TO ISOLATE TUBING.

F. IN AREAS OF STEEL CONSTRUCTION, PIPE HANGERS SHALL BE SUPPORTED BY BEAM CLAMPS. COORDINATE WITH ENGINEER FOR MAXIMUM LOADING. BEAM CLAMPS SHALL BE STEEL WITH BOLT, NUT AND SOCKET THREADED FOR ROD CONNECTION AND SHALL BE F & S MANUFACTURING COMPANY FIG. #45, CENTRAL IRON, GRINNELL COMPANY, OR APPROVED EQUAL.

2.08 INSULATION

A. COVER ALL HOT WATER AND HOT WATER RECIRCULATION PIPE WITH 1 INCH THICK AND ALL COLD WATER PIPE WITH 1/2 INCH THICK MANVILLE MICRO–LOK AP–T PLUS FIBERGLASS INSULATION. FITTINGS AND VALVES SHALL BE INSULATED WITH MANVILLE ZESTON 2000 PVC INSULATED FITTING COVERS. INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL INSULATION MATERIAL SHALL COMPLY WITH THE LOCAL CODE REQUIREMENTS FOR OF A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DEVELOPED RATING NOT TO EXCEED 50.

2.09 VALVES

A. STOP VALVES, EXCEPT FIXTURE STOPS, ON HOT AND COLD WATER LINES 2 IN. AND SMALLER SHALL BE FULL PORT 400 LB. NON–SHOCK BRONZE BALL VALVES, NIBCO T–595–Y FOR THREADED CONNECTIONS, AND NIBCO S–595–Y FOR COPPER TO COPPER, OR APPROVED OTHER.

B. GLOBE VALVES UP TO AND INCLUDING 3 IN. SHALL BE SCREW–OVER BONNET, COMPOSITION DISC, BRASS, NIBCO T–211 FOR THREADED CONNECTIONS AND S–211 FO SOLDER CONNECTIONS, OR APPROVED OTHER.

C. CHECK VALVES SHALL BE OF THE SWING–TYPE, SIZES UP TO AND INCLUDING 3 IN. SHALL BE ALL BRASS, 125 LB. S.W.P., NIBCO T–413 FOR THREADED CONNECTIONS AND NIBCO S–413 FOR SOLDER CONNECTIONS, OR APPROVED EQUAL

2.10 VALVE TAGS AND CHART

A. EACH VALVE, EXCEPT VALVES AT FIXTURES, SHALL HAVE A 2 INCH DIAMETER BRASS TAG WITH 1 INCH HIGH NUMERAL STAMPED THEREON, SECURED TO THE VALVE BY MEANS OF BRASS'S HOOK OR BRASS CHAIN. EACH SYSTEM TO HAVE A LETTER DESIGNATION IDENTIFING SOURCE AS WELL.

B. THE CONTRACTOR SHALL FURNISH AN APPROVED, NEATLY DRAWN VALVE CHART, PROPERLY FRAMED, SHOWING THE USE AND LOCATION OF EACH VALVE THAT IS TAGGED.

2.11 SHOCK ARRESTORS

A. SHOCK ARRESTORS SHALL BE JONESPEC MODEL #55000 SERIES OR APPROVED EQUAL.

2.12 BACKFLOW PREVENTION DEVICES

A. VACUUM BREAKER (TYPE"A") – CAST BRASS C.P. IF EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 288A. (NOT SUBJECT TO CONSTANT PRESSURE.)

B. VACUUM BREAKER (TYPE"B") – CAST BRASS C.P. IF EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 909–S.

C. VACUUM BREAKER (TYPE"C") – CAST BRASS C.P. IF EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 800MCQT. (CONSTANT PRESSURE V.B.)

D. VACUUM BREAKER (TYPE"D") – CAST BRASS C.P. IF EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. N9C. (CONSTANT PRESSURE V.B.)

2.13 CONNECTION TO MISC. EQUIPMENT

A. PROVIDE ALL NECESSARY PIPE, FITTINGS, VALVES, ETC. EXCEPT AS OTHERWISE SPECIFIED AND MAKE ALL FINAL PLUMBING PIPING CONNECTIONS, INCLUDING WASTE, VENT, HOT AND COLD WATER, ETC., TO ALL EQUIPMENT REQUIRING SAME, FURNISHED "UNDER ANOTHER SECTION OF THE SPECIFICATIONS ".

B. KITCHEN EQUIPMENT CONTRACTOR WILL PROVIDE, FOR INSTALLATION BY THE PLUMBING CONTRACTOR, ALL FAUCETS, OVERFLOW AND DRAIN ASSEMBLIES, VACUUM BREAKERS EXCEPT AS HEREIN SPECIFIED, COFFEE STATION WATER FILTERS, BOOSTER HEATER.

2.14 DRAINS

A. IN GENERAL DRAINS SHALL BE JOSAM, ZURN, SMITH OR APPROVED EQUAL.

B. UNLESS OTHERWISE NOTED DRAINS SHALL BE DUCO COATED, CAST IRON, DOUBLE DRAINAGE PATTERNS, HUB AND SPIGOT, UNLESS OTHERWISE NOTED. DRAINS SHALL BE EQUIPMENT TO THE FIGURE NUMBERS SHOWN AND OF SIZE REQUIRED.

C. FLOOR DRAINS SHALL BE JAY R. SMITH FIG. NO. 2005–A WITH SEDIMENT BUCKET, UNDER DECK CLAMP AND 8" DIAMETER NICKEL BRONZE TOP, WITH NO–HUB OUTLET CONNECTION.

D. INDIRECT WASTE FLOOR DRAINS SHALL BE J.R. SMITH FIG. 33510–F11–B WITH 8" ROUND TOP, AND SEDIMENT BUCKET.

E. FLOOR SINK SHALL BE JAY R. SMITH FIG. 3430–13 PORCELAIN ENAMELED INDIRECT WASTE FLOOR DRAIN WITH 3/4 ACID RESISTANT PORCELAIN ENAMELED GRATING WITH FLASHING FLANGE AND BOTTOM DOME STRAINER. SET RIM 1" ABOVE FINISHED FLOOR.

F. FUNNEL FLOOR SHALL BE J.R. SMITH FIG. 3510–F11–B WITH F–37 7" ANTI SPLASH RIM AND SEDIMENT BUCKET. SET ANTI–SPLAS RIM FLUSH WITH THE FINISH FLOOR.

2.15 GUARANTEE

A. THIS CONTRACTOR SHALL GUARANTEE FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE BY THE OWNERS, ALL MATERIALS, APPARATUS AND WORKMANSHIP WHETHER FURNISHED BY HIMSELF OR BY HIS SUBCONTRACTORS AND HE SHALL REPLACE OR REPAIR IN A MANNER APPROVED BY THE ARCHITECTS, WITHOUT COST TO THE OWNER, ANY PARTS OR PARTS OF THE WORK WHICH MAY PROVE DEFECTIVE OR UNSATISFACTORY WITHIN THE PERIOD OF THE GUARANTEE.

B. WHERE SPECIAL GUARANTEES COVERING INSTALLATION, OPERATION OR PERFORMANCE OF ANY SYSTEMS OR APPLIANCES FURNISHED UNDER THIS CONTRACTOR ARE REQUIRED, THE FULL RESPONSIBILITY FOR THE FULFILLMENT OF SUCH GUARANTEES MUST BE ASSUMED BY THE CONTRACTOR, WHO SHALL OBTAIN WRITTEN GUARANTEES, IN TRIPLICATE, WHICH SHALL BE FILED WITH THE ARCHITECT BEFORE FINAL ACCEPTANCE.

C. CONTRACTOR WILL BE RESPONSIBLE FOR ALL LEAKS IN ALL PIPES FOR A PERIOD OF ONE YEAR FROM THE DATE OF COMPLETION OF WORK UNDER THIS CONTRACT. CONTRACTOR SHALL REPAIR AT NO COST TO THE OWNER, ALL SUCH LEAKS WHICH OCCUR AFTER COMPLETION OF THIS CONTRACT UPON 24 HOURS NOTICE THEREOF BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR. LEAKS WHICH OCCUR PRIOR TO THE COMPLETION OF THIS CONTRACT SHALL BE REPAIRED AT ONCE. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY SUCH LEAKS AND THE REPAIR THEREOF AND WILL REIMBURSE THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR FOR ALL EXPENSE INCURRED THEREBY.

D. DISINFECTION

THE POTABLE WATER SYSTEM SHALL BE DISINFECTED PRIOR TO USE BY A METHOD OF DISINFECTION IN ACCORDANCE WITH THE NATIONAL PLUMBING CODE CHAPTER 10 PARAGRAPH–10.9. THE POTABLE WATER PURITY TEST RESULT FROM A NEW JERSEY CERTIFIED TESTER SHALL BE SUBMITTED FOR ENGINEER'S REVIEW AND APPROVAL.

2.17 HOSE BIBBS

A. HOSE BIBBS SHALL BE CHICAGO FAUCET CO., NO. 952, POLISHED CHROME, OR APPROVED OTHER, WITH WATTS REGULATOR CO. NO BAC, 3/4" HOSE END VACUUM BREAKER.

2.18 HOT WATER CIRCULATOR

A. PROVIDE, WHERE INDICATED ON THE DRAWINGS, BELL AND GOSSETT, OR APPROVED OTHER, ALL BRONZE IN–THE–LINE CIRCULATOR, DIRECT CONNECTED TO 1/6HP, 100 V, SINGLE PHASE, 60 HERTZ MOTOR. PUMP SHALL BE SERIES PR CAPABLE OF CIRCULATING 5 GALLONS PER MINUTE AT 8 FOOT OF HEAD PRESSURE.

B. CIRCULATING PUMP SHALL BE CONTROLLED BY MEANS OF AN IMMERSION TYPE AQUASTAT WITH VISIBLE SCALE AND DETACHABLE WELL, WHICH SHALL BE INSTALLED IN THE CIRCULATING LINE NEAR THE SUCTION INLET OF THE PUMP. THE AQUASTAT SHALL OPERATE ON 110 VOLTS AND SHALL BE SO DESIGNATED AND CONNECTED THAT THE CIRCULATING MOTOR WILL START AND STOP WITHIN THE TEMPERATURE RANGES OF 135 DEGREES F. TO 140 DEGREES F. THE AQUASTAT SHALL BE GUARANTEED TO OPERATE WITHIN A MAXIMUM RANGE OF PLUS OR MINUS 2 DEGREE F OF THE SETTING.

C. PROVIDE SUITABLE "HAND–OFF–AUTOMATIC" SWITCH TO NEMA 1 ENCLOSURE MOUNTED ADJACENT TO CIRCULATOR.

2.19 PRESSURE REDUCING VALVE (DOMESTIC WATER)

A. SIZE 1/2" – 2–1/2" THREADED BRONZE BODY CONSTRUCTION RENEWABLE STAINLESS STEEL SEAT. HIGH TEMPERATURE RESISTING DIAPHRAGM, SPRING CAGE CONSTRUCTION AND STRAINER. WATTS NO. 223S OR APPROVED EQUAL. SEE DRAWINGS FOR PSI SETTINGS.

2.20 GUARANTIES

A. SOURCE OF WATER SUPPLY FOR SPRINKLER SYSTEM: PROVIDE AN AUTOMATIC WATER SUPPLY SERVICE FOR SPRINKLER SYSTEM AS INDICATED ON DRAWINGS.

1.) SINGLE (SEPARATE) FIRE WATER SERVICES: AT LEAST ONE AUTOMATIC SOURCE OF WATER SUPPLY SHALL BE PROVIDED FOR SPRINKLERS INSTALLED IN RESIDENTIAL OCCUPANCIES UP TO AND INCLUDING SIX STORIES OR SEVENTY FIVE FEET IN HEIGHT.

2.) THE DIRECT CONNECTION OF SPRINKLERS TO THE CITY WATER MAIN SHALL BE ACCEPTABLE AS AN AUTOMATIC WATER SUPPLY, PROVIDED THE MAIN IS CAPABLE OF MAINTAINING A PRESSURE OF AT LEAST FIFTEEN PSIG AT THE TOP OF THE HIGHEST SPRINKLER RISER, WITH FIVE HUNDRED GPM OF WATER FLOWING FROM A TWO AND ONE–HALF INCH HYDRANT OUTLET LOCATED AT THE STREET LEVEL WITHIN TWO HUNDRED FIFTY FEET OF THE BUILDING.

3.) PROVIDE A SEPARATE FIRE WATER SERVICE FOR SPRINKLER SYSTEM FROM THE STREET WITH CONTROL VALVE IN FLUSH MOUNTED SIDEWALK BOX, CHECK AND O.S & Y. VALVES, BACKFLOW PREVENTION DEVICE, ETC., AS INDICATED ON DRAWINGS INCLUDING EXCAVATION, BACKFILLING, REPAIRING SIDEWALK, METER, ETC.

2.15 PLUMBING FIXTURES AND EQUIPMENT

A. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL PLUMBING FIXTURES AND APPLIANCES, UNLESS OTHERWISE NOTED, AND MAKE ALL FINAL CONNECTIONS AS REQUIRED.

B. REFER TO ARCHITECTURAL PLANS AND/OR SPECIFICATIONS FOR EXACT PLUMBING FIXTURE TYPE, MAKE AND MOUNTING HEIGHTS.

FIXTURE CONNECTION SCHEDULE

FIXTURE TYPE	FIXTURE NO.	SERVICE CONNECTION				REMARKS
		S	V	CW	HW	
WATER CLOSET						
FLOOR MOUNT	P–1	3"	2"	1/2"		FLUSH TANK
BACK–OUTLET	P–1A	4"	2"	1/2"		FLUSH TANK
FLOOR MOUNT	P–1B	4"	2"	1–1/2"		ADA COMPLIANT, FLUSH VALVE
LAVATORY						
COUTER TOP	P–2	2"	2"	1/2"	1/2"	–
WALL MOUNT	P–2A	2"	2"	1/2"	1/2"	ADA COMPLIANT WITH SUPPORT CARRIER
TUB						
BATH TUB	P–3	2"	2"	1/2"	1/2"	WITH THERMOSTATIC VALVE AND HEAD
SHOWER	P–3A	2"	2"	1/2"	1/2"	WITH THERMOSTATIC VALVE
KITCHEN SINK						
COUNTERTOP	P–4	2"	2"	1/2"	1/2"	PROVIDE 1/2" H.W. & 1–1/2" IW
						TO DISHWASHER
CLOTHES						
WASHER/DRYER	P–5	3"	2"	3/4"	3/4"	
HOSE BIBBS						
WALL HUNG	P–6			1/2"		"CHICAGO FAUCET" NO. 952 WITH VB
WALL HUNG	P–6A			3/4"		"J.R. SMITH" NO. 5630.06 (NON–FREEZE)
						WITH VACUUM BREAKER
JANITOR SINK						
FLOOR MOUNT	P–7	3"	2"	3/4"	3/4"	

VALVE SCHEDULE

(Valve specification columns FLANGED through 500# WWP; location columns BURIED SERV. through D.W. D.W.C. Unlabeled blank columns omitted.)

TYPE	STOCKHAM FIG. NO.	SIZE	FLANGED	SCREWED	SOLDER	SOCKET	HUB	W/ ADAPTER	O.S.&Y.	N.R.S.	BRONZE	I.B.B.M.	ALL IRON	CAST STEEL	HOSE END	175# WWP	200# WWP	250# WWP	300# WWP	400# WWP	500# WWP	BURIED SERV.	REQ.AT EQUIP.	FIRE SERV.	SUMP DISCH.	EJECT.DISCH.	GAS	C.W.SERVICE	C.W. 4" & UP	C.W. 3" & DN	HW HWC 4" & UP	HW HWC 3" & DN	D.W. D.W.C.
GATE VALVES	B112	3/8"–3"			●					●	●						●													●		●	●
	B110	1/4"–3"		●						●	●						●																
	G620	2"–4"		●					●			●					●												●				
	G623	2"–36"	●						●			●					●						●		●	●			●		●		
	G608	2"–6"		●						●		●					●																
	G612	2"–30"	●							●		●					●																
	F667	2"–12"	●						●			●									●												
	B110SB	1/4"–3"				●				●	●						●																
	30–OFU	2"–12"	●						●					●																			
	G743	2"–16"						●		●		●					●					●		●				●	●				
	G634	2.5"–12"	●						●			●				●																	
	B133	3/4"–2"		●					●		●					●																	
	G633	2.5",3",4"		●					●		●					●																	
BALL VALVES	70–100	1/2"–3"		●							●										●									●		●	
	70–200	1/2"–3"			●						●										●									●		●	
CHECK VALVES	B319	1/4"–3"		●							●						●																
	G932B	2"–10"	●									●					●												●		●		
	F947	2"–10"	●									●									●												
	30SFU	2"–12"	●											●																			
	G927	2"–6"		●								●					●																
	G931LW	2"–30"	●									●					●								●	●							
	G939	2.5"–12"	●									●				●																	
	B322	1/8"–2"		●							●								●														
	B309	1/2"–3"			●						●						●													●		●	●
GLOBE & ANGLE VALVES	B16			●							●																			●		●	
	B24	3/8"–3"			●						●								●													●	●
	B22	1/8"–3"		●							●								●														
	B222	1/8"–3"		●							●								●														
	G512	2"–10"	●						●			●					●																
	24 *	3/4"–3"		●						●	●				●		●													●		●	●
	F–541	3'–8"	●									●									●		●										
PLUG VALVES	1700*	1/2"–6"		●									●				●										●						
	1796*	1"–4"		●									●			●											●						
	1700F*	1"–8"	●										●				●										●						

* WALWORTH FIGURE NUMBERS ** APOLLO VALVE CO.

•MATERIAL SCHEDULE

NOTES:

1. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORITIES.
2. PROVIDE SUPPORTS & RESTRAINTS AT BASE OF STACKS
3. PROVIDE W/RIGID COUPLINGS VICTAULIC ZERO FLEX.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SYSTEM	PIPE																			FITTINGS																	JOINTS										
	REQUIRED	CAST IRON SOIL PIPE	CAST IRON WTR PIPE	DUCTILE IRON	STEEL SCHED 10	STEEL SCHED 30	STEEL SCHED 40	STEEL SCHED 80	TYPE "L" COPPER TUBING	TYPE "K" COPPER TUBING	PEX PIPING	DWV COPPER DRAINAGE	BLACK	GALVANIZED	CEMENT LINED	COATED–BITUMINOUOS	MILL WRAPPED	STAINLESS STEEL TUBING	TP COPPER	CAST IRON NO–HUB	C.I.HUB & SPIGOT	C.I.DRAINAGE PATTERN	CAST IRON	MALLEABLE IRON	EX.H.MALLEABLE IRON	CAST BRONZE	WROUGHT COPPER	CLASS 350	LINED	BLACK	GALVANIZED	VICTAULIC	DUCTILE IRON	COATED–BITUMINUS	MILL WRAPPED	THREADLESS BRONZE	CAULKED	THREADED	SOLDERED	WELDED	BRAZED	MECH.JOINT–NO HUB	MG COUPLINGS	MECH.JOINT–FLANGED	VICTAULIC (AS PER SPEC)	MECH. OR RESTRAINING JOINTS	STAINLESS STEEL COMPRESSION
DRAINAGE BURIED	●	●																			●																●										
VENTS BURIED	●	●																			●																●										
HOUSE DRAINS		●																		●	●																						●				
SANITARY STACKS(SEE NOTE 2)		●																		●	●																					●	●				
SANITARY BRANCHES		●					●							●						●		●																●				●					
LEADERS & STORM DRAIN SYSTEM	●	●					●							●							●	●									●							●					●				
EJECTOR DISCHARGE(SEE NOTE 3)							●							●								●									●	●						●							●		
SUMP DISCHARGE(SEE NOTE 5)							●							●								●									●	●						●							●		
VENTS		●					●							●						●		●									●							●				●					
FIXTURE CONNECTIONS–WATER										●																																					
C.W. – 4" & SMALLER									●																	●	●												●		●						
C.W. – 5" & LARGER									●																	●	●												●		●					●	
WATER/FIRE – BURIED BUILDING SERVICE				●											●													●	●				●				●										
H.W.									●																	●	●												●		●						
GAS SERVICE							●						●				●							●						●					●			●		●							
GAS (14" W.C. OR LESS & 4"& SMALLER)							●						●											●														●									
GAS (OVER 14" W.C. & 5"& LARGER)							●						●																	●										●							

EXPANSION TANK SCHEDULE

EXP. NO.	SERVING	MIN PRESS. (PSIG)	MAX. PRESS. (PSIG)	REQUIRED VOL. (GAL)	REQUIRED TOTAL VOL. (GAL)	BASIS OF DESIGN
ET–1	WATER HEATER	12	125	2.0	2.0	EX–TROL EX–5C

PUMP SCHEDULE

DESIGNATION	NO. REQUIRED	SERVICE	LOCATION	FLOW RATE EA. PUMP (G.P.M/EACH.)	DYNAMIC HEAD (FT.)	MINIMUM TOTAL DYNAMIC HEAD (FT.)	CASING PRESSURE (PSIG)	SUCTION PRESSURE (FT.)	MANUFACTURER MODEL NUMBER	STAGES	VERTICAL SPLIT	HORIZONTAL SPLIT	END SUCTION	IN LINE	VERTICAL TURBINE	SUBMERSIBLE	MOTOR (EACH) MINIMUM H.P.	R.P.M.	VOLTS	PHASE	CYCLES (Hz)	MANUAL CONTROL	AUTOMATIC CONTROL	PILOT LIGHT	PRESSURE GAUGE RANGE	ALARMS REQUIRED	EMERGENCY POWER REQUIRED	REMARKS	
P-1	2	DOMESTIC DUPLEX WATER BOOSTER PUMP	CELLAR FLOOR	150	113.0		40	45	VC SYSTEMS & CONTROLS INC. 150DVMSF40BP-VCS-GAF	2				●			5	3500	208	3	60		●					DUPLEX PUMP.PACKAGED SYSTEM 1 ACTIVE + 1 STANDBY EX. TANK-WESSELS -FXA-300 - 79 GAL.	P-100
SEJ-1	2		CELLAR FLOOR	50	25				FLYGT MODEL NP3085-IMP453A	2						●	1.5	3450	115	1	60		●					DUPLEX GRINDER PUMP.	P-100
ESP-1	1	ELEVATOR SUMP PUMP	CELLAR FLOOR	50	25				STANORE SE-50	1						●	1.5	3450	115	1	60		●					SIMPLEX GRINDER PUMP.	P-100

PRESSURE VESSEL AND HEATER SCHEDULE

DESIGNATION	NO. REQUIRED	MANUFACTURER AND MODEL NUMBER	STORAGE WATER TEMPERATURE (DEG.F)	VOLUME/HEATER (GALS./ EACH)	RECOVERY/HEATER (GPH/ EACH)	TEMPERATURE RISE (DEG. F)	ELECTRIC LOAD (K.W.)	VOLTS	PHASE	HERTZ	A.S.M.E. CONSTRUCTION	MAXIMUM WATER FLOW (G.P.M.)	W.W.P. (PSIG.)	TEST PRESSURE (PSIG.)	DIAMETER (INCHES)	LENGHT/HEIGHT (INCHES)	GAS SERVICE (INCHES)	GAS LOAD (CFH / EACH)	GAS PRESSURE REQ. (IN W.C.)	SHELL THICKNESS (INCH.)	HEAD THICKNESS (INCH.)	STEAM LOAD (LBS./HR./HTR.)	MAX. ALLOWABLE PRESSURE DROP THROUGH VALVE	STEAM VALVE (INCH.)	STEAM PRESSURE IN LINE (PSI)	ALLOWABLE PRESSURE DROP IN COIL (PSI)	REMARKS	DRAWING NO.
HW-1	30	HUBBEL -SE 50	140	50	24.6	100	6	208	1	60		-	150	300	28	76	-	-	-	-	-	-	-	-	-	-	SINGLE ELEMENT EXPANSION TANK MODEL ST-447-C	P-1.1
HW-2	1	HUBBEL -ETX	-	-	24.6	100	8	208	1	60		-	150	300	28	76	-	-	-	-	-	-	-	-	-	-	SINGLE ELEMENT EXPANSION TANK MODEL ST-447-C	P-1.1

* PROVIDE HOLBY MIXING VALVE. SET TEMPERATURE TO 110°F.

ARCHITECTURE

ARCHITECT:
AK ARCHITECTURE
151 WEST PASSAIC STREET
ROCHELLE PARK NJ 07662
TEL:201-906-6359
AK@AKARCHUSA.COM

OWNER / APPLICANT :

MEP ENGINEER:
MAE Engineering, PLLC
81 Serrell Ave
Staten Island, NY 10312
917.855.5050 - 646.643.8104

04-13-26 PERMIT SET

PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING SCHEDULE & SPECIFICATION

BLDG DEPT REF.#

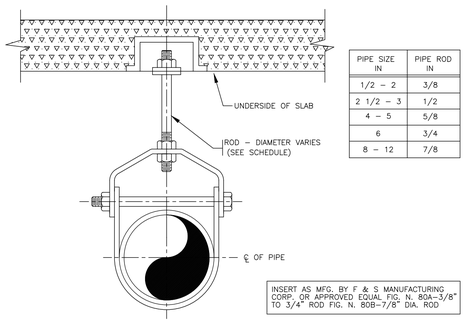
SCALE: AS NOTED

SIGNATURE & SEAL
ALEKSEY MAKHLIS
ENGINEER
NJ. LIC. No. GE56570

DATE: 12/10/2021

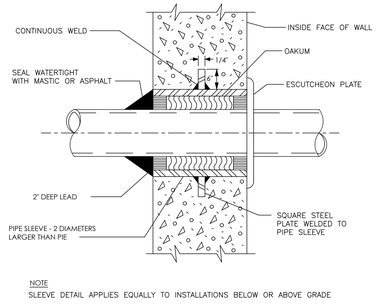
DRAWING #
P-300

PROJECT # : 2021.09.02



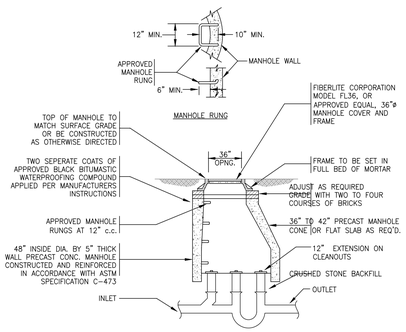
PIPE SIZE IN	PIPE ROD IN
1/2 – 2	3/8
2 1/2 – 3	1/2
4 – 5	5/8
6	3/4
8 – 12	7/8

CLEVIS HANGER DETAIL
NOT TO SCALE

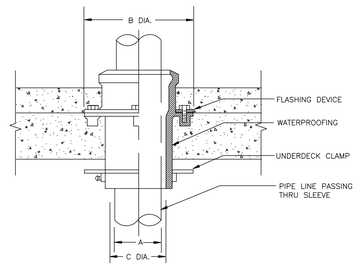


NOTE
SLEEVE DETAIL APPLIES EQUALLY TO INSTALLATIONS BELOW OR ABOVE GRADE

PIPE SLEEVE AT OUTSIDE WALL
NOT TO SCALE

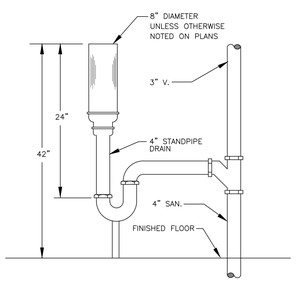


SANITARY HOUSE TRAP DETAIL
NOT TO SCALE

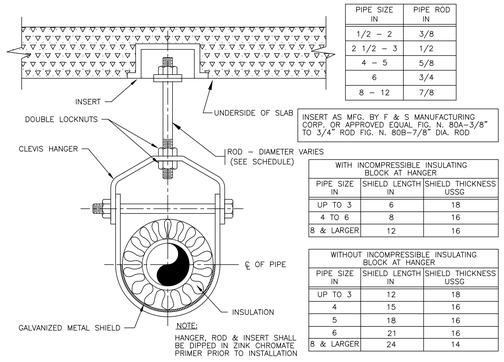


A	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
B	5	5	5	6 3/4	6 3/4	6 3/4	7 1/2	7 1/2	8 1/2	9 1/2	10 1/2	13 1/2	15 1/2	17 1/2
C	1 1/8	1 5/16	1 9/16	1 15/16	2 1/8	2 7/8	3 1/8	3 7/8	4 7/8	5 7/8	6 7/8	9	11 1/8	13 1/8

STACK OR WALL SLEEVE
NOT TO SCALE



STANDPIPE DRAIN
NOT TO SCALE



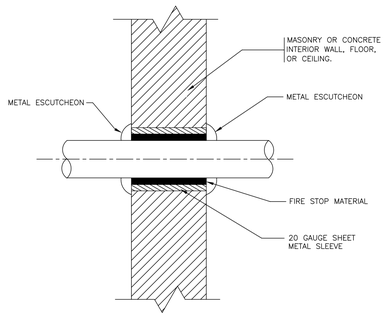
PIPE SIZE IN	PIPE ROD IN
1/2 – 2	3/8
2 1/2 – 3	1/2
4 – 5	5/8
6	3/4
8 – 12	7/8

INSERT AS MFG. BY F & S MANUFACTURING CORP. OR APPROVED EQUAL FIG. N. 80A–3/8" TO 3/4" ROD FIG. N. 80B–7/8" DIA. ROD

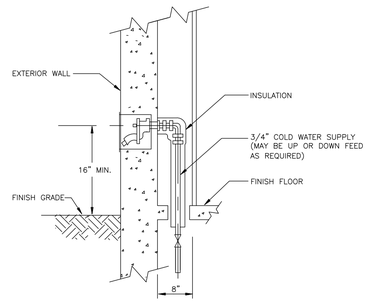
WITH INCOMPRESSIBLE INSULATING BLOCK AT HANGER		
PIPE SIZE IN	SHIELD LENGTH IN	SHIELD THICKNESS USSG
UP TO 3	6	18
4 TO 6	8	16
8 & LARGER	12	16

WITHOUT INCOMPRESSIBLE INSULATING BLOCK AT HANGER		
PIPE SIZE IN	SHIELD LENGTH IN	SHIELD THICKNESS USSG
UP TO 3	12	18
4	15	16
5	18	16
6	21	16
8 & LARGER	24	14

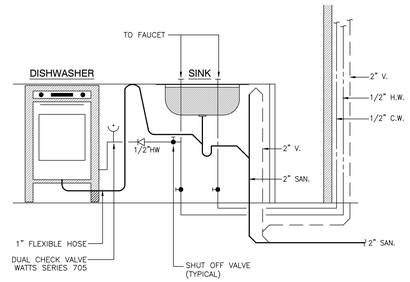
TYPICAL INSULATED PIPE SUPPORT
NOT TO SCALE



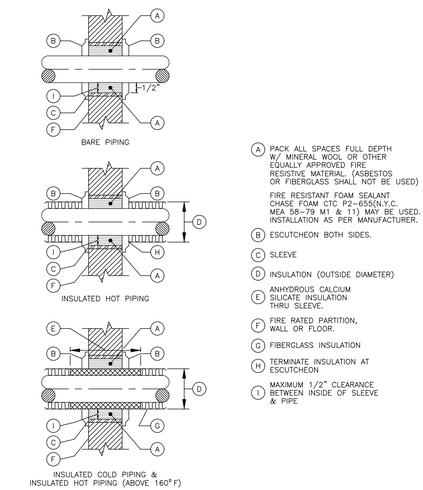
PIPE PENETRATION IN
INTERIOR WALL/FLOOR/CEILING
NOT TO SCALE



EXTRIOR WALL HYDRANT
WITH INTEGRAL VACUUM BREAKER
NOT TO SCALE

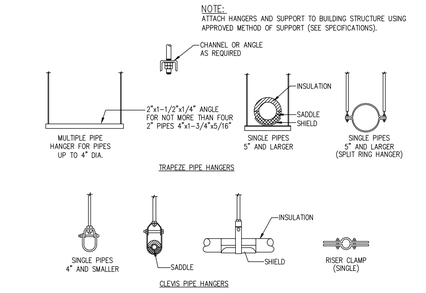


DISHWASHER & ISLAND SINK DETAIL
NOT TO SCALE

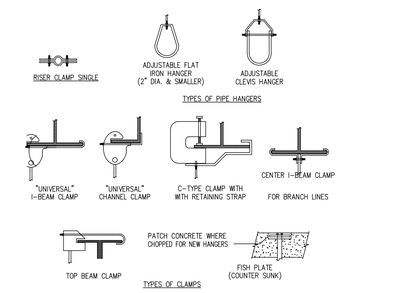


(A) PACK ALL SPACES FULL DEPTH W/ MINERAL WOOL OR OTHER EQUALLY APPROVED FIRE RESISTIVE MATERIAL. (ASBESTOS OR FIBERGLASS SHALL NOT BE USED)
FIRE RESISTANT FOAM SEALANT CHASE FOAM CTC P2-655(N.Y.C. MEA 58-79 M1 & 11) MAY BE USED. INSTALLATION AS PER MANUFACTURER.
(B) ESCUTCHEON BOTH SIDES.
(C) SLEEVE
(D) INSULATION (OUTSIDE DIAMETER)
(E) ANHYDROUS CALCIUM SILICATE INSULATION THRU SLEEVE.
(F) FIRE RATED PARTITION, WALL OR FLOOR.
(G) FIBERGLASS INSULATION
(H) TERMINATE INSULATION AT ESCUTCHEON
(I) MAXIMUM 1/2" CLEARANCE BETWEEN INSIDE OF SLEEVE & PIPE

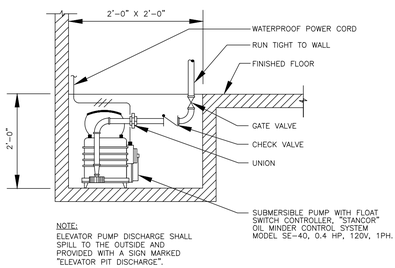
DETAIL OF PIPING PIERCING FIRE RATED PARTITIONS, WALLS & FLOORS.
NOT TO SCALE



METHOD OF PIPE SUPPORT
NOT TO SCALE

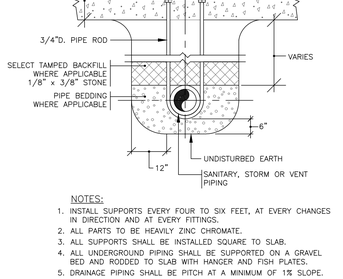


METHOD OF ACCEPTABLE PIPE SUPPORTS
NOT TO SCALE



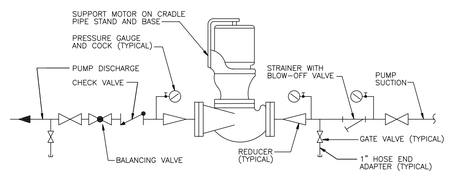
NOTE:
ELEVATOR PUMP DISCHARGE SHALL SPILL TO THE OUTSIDE AND PROVIDED WITH A SIGN MARKED "ELEVATOR PIT DISCHARGE".

SUMP PUMP IN ELEVATOR SHAFT
NOT TO SCALE

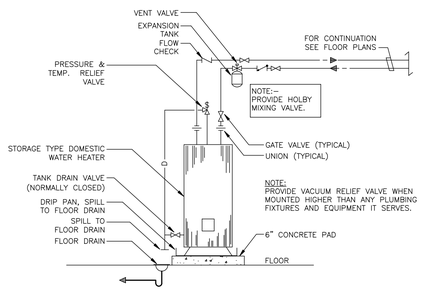


NOTES:
1. INSTALL SUPPORTS EVERY FOUR TO SIX FEET, AT EVERY CHANGES IN DIRECTION AND AT EVERY FITTINGS.
2. ALL PARTS TO BE HEAVILY ZINC CHROMATE.
3. ALL SUPPORTS SHALL BE INSTALLED SQUARE TO SLAB.
4. ALL UNDERGROUND PIPING SHALL BE SUPPORTED ON A GRAVEL BED AND RODDED TO SLAB WITH HANGER AND FISH PLATES.
5. DRAINAGE PIPING SHALL BE PITCH AT A MINIMUM OF 1% SLOPE.

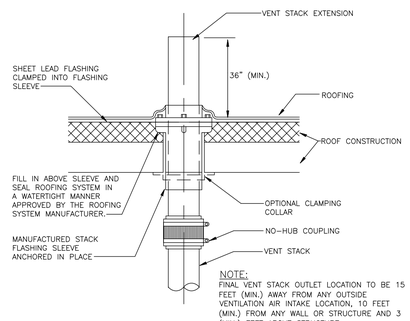
DETAIL OF BURIED PIPING SUPPORTS
NO TO SCALE



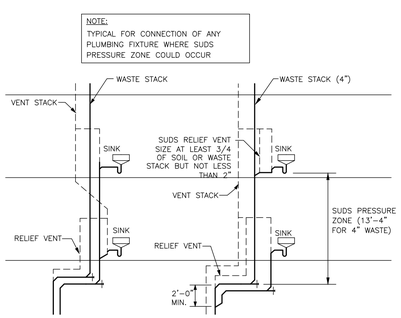
IN-LINE PUMP
NOT TO SCALE



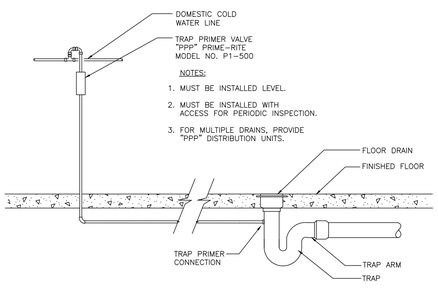
ELECTRIC–FIRED DOMESTIC WATER HEATER
NOT TO SCALE



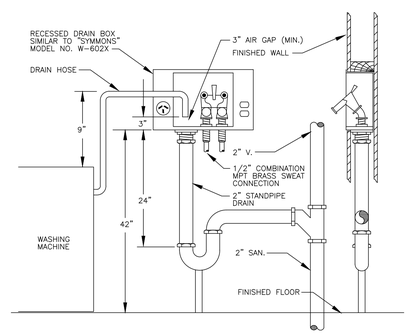
VENT THRU ROOF
NOT TO SCALE



SUDS PRESSURE ZONE
NOT TO SCALE



TYPICAL TRAP PRIMER
NOT TO SCALE



WASHING MACHINE SUPPLY & DRAIN UNIT
NOT TO SCALE

ARCHITECTURE

ARCHITECT:
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151 WEST PASSAIC STREET
ROCHELLE PARK, NJ
07662
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917.855.5050 - 646.643.8104

04-13-26 PERMIT SET

PROJECT ADDRESS:
108-114 NORTH 7TH STREET
PATERSON, NJ
BLOCK: 414 LOTS: 1 & 21

DRAWING NAME :
PLUMBING DETAILS

BLDG DEPT REF.#

SCALE: AS NOTED

SIGNATURE & SEAL
ALEKSEY MAKHLIS
ENGINEER
NJ. LIC. No. GE56570

DATE: 12/10/2021

DRAWING #
P-400

PROJECT #: 2021.09.02