

PLUMBING NOTES AND SPECIFICATIONS

GENERAL

1. CONTRACTOR SHALL PERFORM ALL WORK SO AS TO CONFORM TO LOCAL, STATE AND NATIONAL CODES AND THE REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.

2. CONTRACTOR SHALL EXAMINE SITE TO DETERMINE THE EXACT CONDITIONS EFFECTING THE PLUMBING WORK.

3. DRAWINGS INDICATE THE GENERAL SCHEME OF THE INSTALLATION AND ARE DIAGRAMMATIC IN SCOPE. THE ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION OF PIPING, FIXTURES, ETC. TO A REASONABLE EXTENT AS THE BUILDING CONDITIONS MAY DICTATE, PRIOR TO THEIR INSTALLATION, WITHOUT EXTRA COST TO THE OWNER. THE EXACT LOCATION AND ARRANGEMENT OF ALL EQUIPMENT AND PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES.

4. DETAILS OF CONSTRUCTION AND OF WORKMANSHIP WHERE NOT SPECIFICALLY DESCRIBED HEREIN OR INDICATED ON THE DRAWINGS SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS LEFT IN GOOD WORKING ORDER, READY FOR OPERATION.

5. SCRAP AND DEBRIS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING AND START-UP OF THE SYSTEM.

7. ALL WORK SHALL BE DONE WITH A MINIMUM OF DUST AND DIRT. PROVIDE SUFFICIENT FIREPROOF TARPULINGS AND COVER ALL EQUIPMENT IN WORK AREA WITH SAME DURING INSTALLATION.

8. CONTRACTOR SHALL FURNISH SHOP DRAWINGS AND EQUIPMENT CUTS TO ARCHITECT FOR APPROVAL (MINIMUM FIVE (5) COPIES).

10. CONTRACTOR SHALL FILE, SECURE AND PAY FOR ALL NECESSARY APPROVALS, PERMITS AND INSPECTIONS.

11. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM DEFECT FOR ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION BY OWNER.

12. ALL WORK SHALL BE IN ACCORDANCE WITH THE NEW JERSEY UNIFORM CONSTRUCTION CODE AND THE NATIONAL STANDARD PLUMBING CODE.

13. THE PLUMBING SYSTEM SHALL BE TESTED IN ACCORDANCE WITH THE NATIONAL STANDARD PLUMBING CODE. CONTRACTOR TO COORDINATE TESTS WITH LOCAL OFFICIALS.

14. WHERE DEVICES REQUIRING ACCESS (VALVES, CLEANOUTS, ETC.) WOULD OTHERWISE BE RENDERED INACCESSIBLE BY BUILDING CONSTRUCTION, PROVIDE FRAMED ACCESS DOOR. ACCESS DOORS FINISHED SHALL BE COORDINATED WITH ARCHITECT. IN GENERAL, ACCESS DOORS SHALL BE PRIMED, PAINTABLE STEEL WHEN LOCATED IN DRYWALL CONSTRUCTION. ACCESS DOORS IN TOILET ROOM TILE HANGERS SHALL BE STAINLESS STEEL. ACCESS DOORS IN EXTERIOR WALLS SHALL BE PROVIDED WITH INSULATED DOORS. ACCESS DOORS IN COLUMN ENCLOSURES OR FIRE RESISTIVE WALLS SHALL BE FIRE RATED IN ACCORDANCE WITH BOCA ARTICLE 401.

14. COORDINATE LOCATIONS OF ALL VALVES AND CONNECTIONS TO APPLIANCES WITH EQUIPMENT SUPPLIER.

SCOPE OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FURNISHING AND INSTALLATION OF ALL FIXTURES, MATERIALS, PIPING AND COMPONENTS AS REQUIRED FOR A COMPLETE AND OPERATIONALLY FUNCTIONAL SYSTEM. SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO:

1. INSTALLATION OF ABOVE GROUND SANITARY DRAIN WASTE AND VENT PIPING.

2. INSTALLATION OF CLEANOUTS IN SANITARY DRAINAGE SYSTEMS.

3. INSTALLATION OF FLOOR DRAINS AS INDICATED ON THE DRAWINGS.

10. INSTALLATION OF DOMESTIC HOT AND COLD WATER PIPING INCLUDING ANTI-WATER HAMMER SHOCK ABSORBERS, VALVES, STOP VALVES, FLEX SUPPLIES, ELECTRIC UNIONS BETWEEN DISSIMILAR PIPING MATERIALS, ETC.

11. INSTALLATION OF DOMESTIC WATER HEATERS INCLUDING ASME APPROVED, ASA RATED TEMPERATURE AND PRESSURE RELIEF VALVES, GATE VALVES, UNIONS, REGULATOR RINGS, CHECK VALVES, CONTROLS, ETC.

12. INSTALLATION OF BACKFLOW PREVENTORS, PRESSURE REDUCING AND RELIEF VALVES AS INDICATED ON THE DRAWINGS.

14. INSTALLATION OF FIXTURES INCLUDING WALL HANGERS, SUPPORTS, STOP VALVES, FLEX SUPPLIES, DRAINS, TRAPS, STRAINERS, FAUCETS, SOAP DISPENSERS, ESCUTCHEONS, SEATS AND OTHER DEVICES AS SHOWN ON THE DRAWINGS AND INDICATED IN THE SCHEDULE OF PLUMBING FIXTURES.

15. TESTING OF THE PLUMBING SYSTEM INCLUDING AIR OR WATER TEST OF DRAINAGE SYSTEM ROUGHINS, SMOKE TEST OF FINISHED DRAINAGE SYSTEM AND PRESSURE TEST OF DOMESTIC WATER SYSTEMS.

16. DISINFECTION OF THE DOMESTIC WATER SUPPLY SYSTEM.

18. PIPING SUPPORT INCLUDING SEISMIC RESTRAINT SHAK BRACING IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.

19. INSTALLATION OF FIBERGLASS INSULATION FITTING COVERS AND JACKETS ON ALL HOT AND COLD DOMESTIC WATER PIPING.

20. CUTTING AND PATCHING AS REQUIRED.

21. PERMITS, INSPECTIONS, APPROVALS AND CERTIFICATES, INCLUDING FEES.

22. GUARANTEE.

SANITARY DRAINAGE

1. ABOVE GROUND SANITARY WASTE AND VENT DRAIN PIPING SHALL BE CAST IRON, NO-HUB TYPE.

2. VERTICAL, NON-COMBUSTIBLE OCCUPYING AN AREA OF MORE THAN ONE SQUARE FOOT, PIPING ARRANGED IN GROUPS OF TWO OR MORE LINES, WHICH PENETRATE TWO OR MORE FLOORS, SHALL BE ENCLOSED IN SHAFT HAVING A FIRE RESISTANCE RATING IN ACCORDANCE WITH BOCA ARTICLE 401 (MINIMUM 1 HOUR).

4. CLEANOUTS FOR SANITARY DRAINAGE SYSTEMS SHALL BE LOCATED IN ACCORDANCE WITH ARTICLE 5.4 OF THE NATIONAL STANDARD PLUMBING CODE.

5. FLOORS DRAINS SHALL BE JAY R. SMITH MODEL NO. 2005, ROUND TOP WITH STAINLESS STEEL STRAINER. PROVIDE DEEP SEAL TRAP.

6. ALL VENT PENETRATIONS THROUGH BUILDING ROOF SHALL BE MADE WATER-TIGHT BY THE USE OF PROPER FLASHING MATERIALS. SUBMIT FLASHING DETAILS FOR APPROVAL BY THE ARCHITECT.

7. VENTS THRU ROOF SHALL NOT BE LESS THAN 3" TO PREVENT FROST CLOSURE. WHERE VENTS SMALLER THAN 3" ARE INDICATED ON THE DRAWINGS, INCREASE TO 3" SIZE AT LEAST 12" BELOW ROOF.

8. VENTS SHALL TERMINATE NOT LESS THAN 6" ABOVE ROOF. VENTS SHALL NOT TERMINATE BELOW OR WITHIN 10' HORIZONTALLY OF ANY DOOR, WINDOW, FRESH AIR INTAKE OR OTHER VENTILATION OPENING, WHERE 10' HORIZONTAL CLEARANCE CANNOT BE MAINTAINED, EXTEND VENT TO AT LEAST 2' ABOVE VENTILATION OPENING.

DOMESTIC WATER

1. DOMESTIC COLD AND HOT WATER PIPING SHALL BE COPPER TYPE 1, 1/2" FITTINGS SHALL BE WROUGHT COPPER, 1/8"-5/8" SOLDER SHALL BE USED.

2. ALL POTABLE WATER PIPING SHALL BE DISINFECTED AS PER ANHA STANDARD G601-54 AND AS REQUIRED BY THE LOCAL BUILDING AND HEALTH DEPARTMENT CODES.

3. ANTI WATER-HAMMER SHOCK ABSORBERS SHALL BE JAY R. SMITH "HYDROCONTROL" SIZED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

4. PROVIDE STOP VALVES FOR ALL DOMESTIC WATER CONNECTIONS TO FIXTURES EXCEPT WHERE GATE VALVES ARE INDICATED ON THE DRAWINGS.

5. ALL HOSE BIBS AND HYDRANTS SHALL BE PROVIDED WITH APPROVED VACUUM BREAKERS.

7. PROVIDE CHROME PLATED, BRASS ANGLED STOP VALVES FOR ALL WATER CLOSETS, LAVS, SINKS, ETC.

8. PROVIDE ASME TEMPERATURES AND PRESSURE RELIEF VALVES FOR ALL DOMESTIC WATER HEATERS.

4. DISCHARGE OF ALL RELIEF VALVES SHALL BE PIPED TO THE FLOOR TO PREVENT ACCIDENTAL SCALDING.

10. PROVIDE TWO (2) GATE VALVES AND TWO (2) UNIONS AND DRAIN VALVE WITH HOSE THREAD FOR EACH DOMESTIC WATER HEATER.

HANGERS AND SUPPORTS

1. ALL FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE PIPING SYSTEM. SEE "FIXTURES" SECTION OF NOTES FOR SPECIFICATIONS AND FIXTURE SCHEDULE TABLES.

2. MAXIMUM SPACING OF SUPPORTS FOR VERTICAL PIPING SHALL NOT EXCEED:

TYPE OF PIPING                      MAXIMUM SPACING

CAST IRON SOIL LINES                      AT BASE AND EACH STORY

THREADED STEEL PIPE                      AT EVERY OTHER STORY

COPPER TUBE                      AT 12'-0" INTERVALS

PROVIDE RISER CLAMPS, WALL BRACKET HANGER, ETC. AS REQUIRED. HANGERS FOR P.V.C. PIPING SHALL BE AS APPROVED BY THE MANUFACTURER.

3. MAXIMUM SPACING OF SUPPORTS FOR HORIZONTAL PIPING SHALL NOT EXCEED:

TYPE OF PIPING                      MAXIMUM SPACING

CAST IRON SOIL PIPE                      AT 8'-0" (10'-0" FOR 10" LINES)

THREADED STEEL PIPE (3/4" LESS                      AT 6'-0" INTERVALS

THREADED STEEL PIPE (1" & LARGER)                      AT 12'-0" INTERVALS

COPPER TUBE (1/4" & LESS)                      AT 6'-0" INTERVALS

COPPER TUBE (1/2" & LARGER)                      AT 12'-0" INTERVALS

4. ALL RISERS SHALL BE SUPPORTED AT THE BASE.

5. PROVIDE CAPABILITY FOR EXPANSION AND CONTRACTION IN ALL PIPING AS INDICATED BELOW:

TYPE OF PIPING                      TYPE OF PROVISIONING

DRAIN LINES IN UNHEATED AREAS                      EXPANSION FITTING @ 125'

DOMESTIC HOT WATER LINES                      EXPANSION LOOP @ 100'

INSULATION

1. THE FOLLOWING PIPING SHALL BE INSULATED:

A. DOMESTIC COLD WATER

B. DOMESTIC HOT WATER

2. INSULATION SHALL BE 1" RIGID FIBERGLASS AND SHALL BE MANVILLE "MICRO-LOK" OR APPROVED EQUAL. PROVIDE JACKETS AS SPECIFIED BELOW.

3. JACKETS FOR GENERAL PURPOSE, INDOOR USE SHALL BE MANVILLE "AP-T PLUS" PRESSURE SENSITIVE LAP SEALING SYSTEM OR APPROVED EQUAL.

4. JACKETS FOR OUTDOOR USE SHALL BE MANVILLE "ZESTON 2000" P.V.C. WITH "THERMA-HELD" ADHESIVE OR APPROVED EQUAL.

5. VALVES, FLANGES, ELBOWS, TEES, WBS AND OTHER FITTINGS SHALL BE INSULATED USING MANVILLE "H-LO" FIBERGLASS INSERTS WITH MANVILLE "ZESTON 2000" P.V.C. FITTING COVERS SECURED WITH MANVILLE "THERMA-HELD" ADHESIVE.

6. ALL INSULATION SYSTEMS, INCLUDING INSULATION ADHESIVES AND JACKETS SHALL BE CERTIFIED IN ACCORDANCE WITH ASTM E84 FOR FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS.

7. ALL BUT JOINTS OF INSULATION SECTIONS SHALL BE SEALED USING BUTT STRIPS AS RECOMMENDED BY THE MANUFACTURER FOR THE JACKET EMPLOYED.

FIXTURES

1. SEE FIXTURE SCHEDULE FOR FIXTURE TYPES AND CONNECTION SIZES.

2. COORDINATE EXACT FIXTURE LOCATIONS FOR ROUGHINS WITH THE ARCHITECTURAL DRAWINGS.

3. WHERE ARCHITECTURAL DRAWINGS INDICATE TOILET ROOMS TO BE HANDICAPPED ACCESSIBLE OR HANDICAPPED ADAPTABLE COORDINATE FIXTURE CLEARANCE WITH N.J.A.C. 5:23-7, "BARRIER - FREE SUBCODE".

4. UNLESS OTHERWISE INDICATED, ALL FIXTURES SHALL BE "WHITE". COORDINATE ALL FIXTURE COLORS WITH THE ARCHITECT.

5. PROVIDE POP-UP DRAIN AND OVERFLOW FOR ALL LAVS.

TESTING AND DISINFECTION

1. ALL NEW PLUMBING SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH THE NSPC.

2. SANITARY DRAINAGE SYSTEMS ROUGHING SHALL BE PRESSURE TESTED AT NOT LESS THAN 5 PSI FOR A PERIOD OF 15 MINUTES. PROVIDE TEST TEES, TEST PLUGS AND COMPRESSOR AS REQUIRED. THE FINAL SANITARY DRAINAGE SYSTEM SHALL BE SMOKE TESTED. WHERE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION, PEPPERMINT MAY BE USED IN LIEU OF SMOKE TESTS.

3. DOMESTIC WATER SYSTEMS SHALL BE HYDROSTATIC TESTED A 150 PSI FOR NOT LESS THAN ONE HOUR.

4. ALL NEW DOMESTIC WATER SYSTEMS SHALL BE DISINFECTED USING A WATER CHLORINE SOLUTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF NSPC ARTICLE 10.4.

PLUMBING SYMBOLS

PIPING

UNDERGROUND SANITARY DRAIN  
ABOVE GROUND SANITARY DRAIN  
VENT PIPING  
DOMESTIC COLD WATER  
DOMESTIC HOT WATER SUPPLY (140°F)  
DOMESTIC HOT WATER RETURN (140°F)  
DOMESTIC HOT WATER RETURN (180°F)  
PIPE TURNING DOWN  
PIPE TURNING UP

SANITARY SYSTEMS

DECK PLATE CLEANOUT  
HORIZONTAL CLEANOUT  
VENT THRU ROOF W/FLASHING & COUNTERFLASHING  
TRAP  
ACCESS DOOR  
FLOOR DRAIN W/TRAP  
FLOOR RECEPTION W/SPASH PROOF RIM  
FUNNEL FLOOR DRAIN  
F.D., F.R., ETC. W/BACKWATER VALVE

DOMESTIC WATER SYSTEMS

BALANCING VALVE  
CHECK VALVE  
STOP VALVE (CHROME PLATED)  
GATE VALVE (NORMALLY OPEN)  
GATE VALVE (NORMALLY CLOSED)  
INCHON  
FLANGED CONNECTION  
SOLENOID VALVE  
ANGLE VALVE  
ASME APPROVED T & P RELIEF VALVE  
GLOBE VALVE  
THREE-WAY VALVE  
PRESSURE GAUGE IN-COCK  
THERMOMETER  
TEMPERATURE SWITCH (AQUASTAT)  
FLOW SWITCH  
PRESSURE SWITCH  
STRAINER  
ANTI-WATER HAMMER DEVICE (FPI RATING AS NOTED)  
BASE MOUNTED PUMP  
AUTOMATIC TRAP PRIMER W/BACKFLOW PREVENTION  
WATER METER W/FLANGED CONNECTIONS  
FLANGED CIRCULATING PUMP W/BERNICE CASING & IMPELLER  
HOSE BIBB W/VACUUM BREAKER  
FREEZE PROOF WALL HYDRANT W/VACUUM BREAKER  
WATER METER ASSEMBLY W/GATE VALVES & UNIONS  
FLANGED WATER METER ASSEMBLY W/ GATE VALVES  
DOUBLE CHECK VALVE BACKFLOW PREVENTER W/DIP  
REDUCED PRESSURE ZONE BACKFLOW PREVENTER  
THERMOSTATIC MIXING VALVE  
SHOWER HEAD  
SHOWER VALVE (ANTI-SCALD PRESSURE BALANCED TYPE)

MISCELLANEOUS

CONNECT TO EXISTING

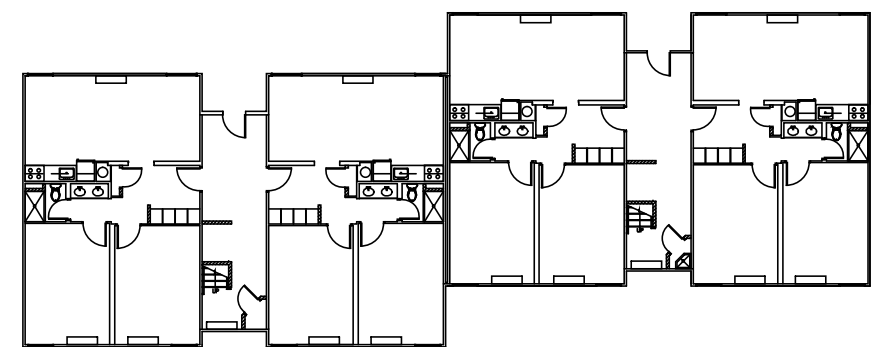
ABBREVIATIONS

AFB ABOVE FINISHED FLOOR  
BTU BRITISH THERMAL UNITS  
CAI COMBUSTION AIR INTAKE  
CJ CAST IRON  
CU CUBIC FEET  
CUFT CUBIC FEET  
D1 DUCTILE IRON  
ELEV ELEVATION  
FPS FEET PER SECOND  
GAL GALLONS  
GPD GALLONS PER DAY  
GPH GALLONS PER HOUR  
GPM GALLONS PER MINUTE  
HD HEAD  
HP HORSEPOWER  
HH HOT WATER  
ID INSIDE DIAMETER  
IPS INTERNATIONAL PIPE SIZE  
LF LINEAR FEET  
NTS NOT TO SCALE  
OD OUTSIDE DIAMETER  
PSI POUNDS PER SQUARE INCH  
PSIA PSI ABSOLUTE  
PSIG PSI GAUGE  
REG/REG REGULATION  
SNCI SERVICE HEIGHT CAST IRON  
VAC VACUUM  
WTR WATER  
XWC EXTRA HEAVY CAST IRON

Revisions

Date	Issue	Description
06-03-15	1	ISSUED FOR CONSTRUCTION
11-16-15	2	REVISED PER NJDEA ELECTRONIC STAMP

Key Plan



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Drawn By MD Checked By sg  
Dwg. Title  
PLUMBING NOTES, SYMBOLS &  
SCHEDULES

Work Order No. Dwg. No.

4698H P001

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