

PLUMBING SPECIFICATIONS

All plumbing items indicated on the drawings, described herein or otherwise required for a complete and proper installation, including:
 A. Plumbing fixtures, fittings and equipment.
 B. Hot and cold water systems.
 C. Drain waste and vent piping systems.
 D. Indirect waste piping, including oil valves, traps, piping and accessories for all equipment. Size per equipment requirements.
 Comply with all applicable codes, standards and ordinances, including requirements of the Georgia State Minimum Standard Plumbing Code (2018 International Plumbing Code with all Georgia State Amendments), Georgia State Minimum Standard Gas Code (2018 International Gas Code with all Georgia State Amendments), Georgia State Minimum Standard Energy Code (2015 International Energy Conservation Code with all Georgia State Amendments), and the DOJ 2010 ADA Standards for Accessible Design with Georgia Amendments of Rule 120-3-20.

The contractor shall not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearance. The contractor shall verify all dimensions and clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or to actual building construction, shall be made at no additional cost to the owner.

The submission of a bid or proposal will be construed as evidence that the contractor has familiarized himself with the plans and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized unless these difficulties could not have been foreseen, even though proper examination had been made.

Fabrication or ordering of any material or equipment prior to verification of site conditions shall be done at the contractor's risk. All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings.

Coordinate with all trades and verify all equipment rough-in items and locations with the equipment supplier or contractor. All re-work and corrections required due to lack of coordination shall be the contractor's responsibility, and done at no cost to the owner.

Submit shop drawings and material data submittals to the engineer for approval before installation. No substitutions shall be allowed without prior approval by the engineer. Product data for piping, insulation, valves, specialties and all fixtures and equipment scheduled and specified here. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

All equipment and fuel materials shall be U.L. listed.

Installation shall comply with manufacturer requirements including all clearances recommended for proper operation of service. All serviceable parts shall be readily accessible.

Below ground sanitary drain and vent piping shall be solid-wall ASTM D2665 schedule 40 PVC. Install underground, PVC plastic drainage piping according to ASTM D3231. Above ground sanitary drain and vent piping shall be cellular-core ASTM F881 schedule 40 PVC. Install aboveground PVC piping according to ASTM D 2665. All aboveground piping shall be adequately supported. Sanitary drain and vent piping shall have PVC Socket Fittings (ASTM D 2865, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe). Slope pipe sizes 6" and under at 1/8 inch per foot continuously toward public sewer. Slope pipe sizes 8" and larger at 1/16 inch per foot continuously toward public sewer.

Insulate aboveground floor drains, traps, and sanitary drain piping within 10 feet of drain receiving condensate and equipment drain water below 60" with 1" thick type I performed glass-fiber pipe insulation, 1-1/2" cellular glass, or 1" flexible elastomer.

All above ground domestic water distribution piping shall be ASTM D 2846, SDR11, schedule 40 CPVC with socket fittings. All piping shall be adequately supported. Disinfect all domestic water piping after installation. All underground domestic water distribution piping 1" and smaller shall be ASTM D 876 & ASTM F 877 PEV with no fittings underground. All underground domestic water distribution piping 1-1/4" and larger shall be ASTM D 1785 schedule 40 PVC with ASTM D 2466 PVC socket fittings. Wrap piping larger than 2" in return air plenums with fire barrier plenum rated wrap.

DOMESTIC WATER PIPING CLEANING

- A. Clean and disinfect potable domestic water piping as follows:
 1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
 2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:
 - a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
 - b. Fill and isolate system according to either of the following:
 - 1) Fill system or part thereof with water/chlorine solution with at least 50 ppm (50 mg/L) of chlorine. Isolate with valves and allow to stand for 24 hours.
 - 2) Fill system or part thereof with water/chlorine solution with at least 200 ppm (200 mg/L) of chlorine. Isolate and allow to stand for three hours.
 - c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
 - d. Repeat procedures if biological examination shows contamination.
 - e. Submit water samples in sterile bottles to authorities having jurisdiction.
- B. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.
- C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

Domestic water piping shall be insulated with Owens Corning type AS/SSL-II heavy density fiber glass with all service jacket. Insulation shall have a flame spread rating not to exceed 25 and a smoke density not to exceed 50 when tested in accordance with UL816 standard 42-1. Provide mastic on all joints and exposed ends of insulation. Insulate domestic cold water piping in unconditioned spaces such as exterior corridors, attic, basements, etc with 1/2" thick insulation for piping 1-1/4" & smaller and 1" thick insulation for piping 1-1/2" & larger. Insulate all domestic hot water supply and return piping with 1" thick insulation for piping 1-1/4" & smaller and 1-1/2" thick insulation for piping 1-1/2" & larger.

Above ground natural gas piping shall be ASTM A53, Type E or S, Grade B; Schedule 40; black steel with malleable iron threaded fitting per ASME 16.3 Class 150. Flexible connectors shall comply with ANSI Z21.24 of copper alloy. Gas stops shall have bronze body with AGA stamp and bronze plug with lever handle with AS-listed bronze body. Coordinate connection of gas service and installation of meter with gas utility company. All piping shall be adequately supported. Prime & paint oil exposed outdoor piping. Line gas pressure regulators shall comply with ANSI Z21.80. Appliance gas pressure regulators shall comply with ANSI Z21.18. Provide vent limiting device for regulators located indoors. Provide vent protector device for regulators located outdoors.

Underground natural gas piping shall be ASTM D2513 PE pipe and fittings joined by heat fusion; service-line risers with tracer wire terminated in an accessible location. PE fittings shall be ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe. PE transition fittings shall be factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11, and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B; install underground PE natural-gas piping according to ASTM D 2774. Use factory fabricated and leak tested service-line risers. Buried underground gas piping at least 36 inches below finished grade. Underground natural gas piping shall be installed with detectable warning tape on underground gas piping. Install tape directly above underground gas piping. Located tape 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

HW & CW Valves: Use pipe size valves, as shown below:
 A. Ball: Watts LF7BV-3C.
 B. Check: Watts #600 or #601S.

Ball-Valve-Type Hose-End Drain Valves shall comply with MSS SP-110 for standard-part, two-piece ball valves. Copper alloy body, 3/4", 400-psi pressure ratings, replaceable seats and seals, vinyl-covered steel handle, threaded short nipple outlet with garden-hose thread complying with ASME B1.20.7 and cap with brass chain.

Balancing valves shall conform to MSS SP-110 for two-piece, copper-alloy ball valves. Balancing valves shall be copper alloy, memory-stop type, chrome-plated brass ball, replaceable seats & seals, vinyl-covered steel handle with memory-setting device.

Fixture tailpieces, wall escutcheon, and traps for lavatories and sinks shall be brass tubing, semi-cast, or cast iron: All brass tubing shall be 17 gage, chrome plated. Exception: If the fixture tailpieces and traps are located in cabinets, the tailpiece & trap shall be PVC. Grid drains for public lavatories. Basket strainers for sinks.

Water Hammer Arresters shall comply with standard ASSE 1010, metal bellows type or copper piston type.

Urinal Supports shall be type I, urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture for wall-mounting, urinal-type fixture. Include steel uprights with feet. For accessible-fixture support include rectangular steel uprights. Lavatory Supports shall be type II, lavatory carrier with concealed arms and tie rod for wall-mounting, lavatory-type fixture. Include steel uprights with feet. For accessible-fixture support include rectangular steel uprights. Plate type wall hangers for water coolers.

Lavatory/ Sink supply fittings: NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water. Standard: ASME A112.18.1/CSA D125.1. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type valve with inlet connection matching supply piping. Wheel handle operation. Riser: Chrome-plated, soft-copper flexible tube for exposed applications and ASME A112.18.6, braided- or corrugated-stainless-steel, flexible hose for concealed behind cabinet applications.

Provide ADA Supply and Drain Protective Shielding Guards on ADA fixtures that piping is exposed. Supply and Drain Protective Shielding Guards shall comply with ICC A117.1 and Americans with Disabilities Act (ADA) requirements. Manufactured plastic wraps shall cover hot and cold water supplies, trap, and drain piping.

All pipe hangers, clamps and channels shall be adequately sized to carry pipe loads and prevent sagging.

All other materials not specifically described but required for a complete and proper installation of work of this section, shall be new, first quality of their respective kinds, and as selected by the contractor subject to acceptance by the engineer.

Lay out the plumbing system in careful coordination with the drawings, determining proper elevations for all components of the system and using only the minimum number of bends to produce a satisfactory functioning system. Follow the general layout shown on the drawings in all cases except where other work may interfere. Unless shown otherwise, lay out all pipes to fall within partition, wall floor, or roof cavities, and to not require furring other than as shown on the drawings.

Do not cut into or reduce the size of any load-carrying member without the prior approval of the architect. Install all pipes to clear all beams and obstructions.

Permanently close and make weatherproof any openings or penetrations of the building envelope made for plumbing systems. All wall and floor penetrations shall be sleeved. All exterior wall or foundation wall penetrations shall use a mechanical seal.

Coordinate all roof penetrations with architectural plans and building and roofing trades.

Provide shut-off balls valves and unions at all water connections to equipment and appliances.

Isolate all dissimilar metals with "EPDM" dielectric unions, except for brass or bronze valves with steel pipe.

Protect the potable water supply against backflow and siphonage from equipment, fixtures, etc., using approved backflow and anti-siphon devices.

Thoroughly clean all piping and equipment. Removing all dirt, rust, oil, and plaster.

Test Sanitary drainage piping by plugging all openings and filling with water to a height equal to a 10 foot head. Allow to stand one hour or longer as required. Repair leaking joints and then re-test.

No work shall be covered until it has been inspected and accepted by the local authority.

Domestic water piping tests: Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. Leave new, altered, extended, or replaced domestic water piping uncovered and unenclosed until it has been tested and approved. Eject water that was worked or concealed before it was tested. Cap and subject piping to static water pressure of 50 psig (345 kPa) above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.

The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. All labor and materials necessary to repair or replace the system, or portions thereof, during that time shall be warranted for a period of one (1) year from the repair or replacement.

Install piping in concealed locations, unless otherwise indicated and except in equipment rooms, and service areas. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal. Install piping to permit valve servicing. Install piping at indicated slopes. Install piping free of sags and bends. Install fittings for changes in direction and branch connections. Install piping to allow application of insulation. Select system components with pressure rating equal to or greater than system operating pressure. Install escutcheons for penetrations of walls, ceilings, and floors. Verify field equipment locations for roughing-in.

Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

Seal fixtures to wall and floor surfaces with sealant, color to match fixture.

All vents thru roof (VTR) shall be offset a minimum of 10'-0" from all outside air intakes.

Provide a complete through penetration fire stopping assembly for fire resistance rated wall assemblies. The through penetration assembly must be listed by an approved third-party test agency (UL), and include the entire listed assembly with all notations. Refer to architectural drawings for fire wall locations.

Provide Watts #F90 dual check valve with intermediate atmospheric vent at all ice maker machines.

Provide a backflow preventer at the water riser if backflow preventer is not shown on civil drawings.

Approved manufacturers: (Items submitted shall be approved by architect and engineer. Architect and engineer reserve the right to reject any item substituted for basis of design item for any reason.)

China Fixtures: American Standard, Kohler, Toto, Zurn, Sloan
 Faucets: Delta, T&S Brass, Chicago Faucets, Zurn, Kohler, Grohe, Moen, Speakman, Symmons
 Supplies & Traps: Engineered Brass CO., McGuire, Charlotte Pipe, Brasscraft, IPS, Watts, Zurn
 Flush Valves: Sloan, Delany, Zurn, American Standard
 Floor Drains & Cleanouts: Zurn, Joy R Smith, Proset, Watts, Milab, Wade, Josam, Sioux Chief, Oatey
 Tankless Gas Water Heaters: A.O. Smith, Rheem, Rinnai, Bradford, Whitehot
 Toilet Seats: Bemis, Centocox, Church Seats, Osonite, Beneka, Zurn, Mainline
 Stainless Steel Sinks: Dayton, Elkay, Just, Kohler, Moen, Sterling, Franke
 ADA Protective Shielding Pipe Covers: Engineered Brass, McGuire, Plumbers, TRUEBRO, Zurn, Oatey
 Fixture Supports: MIFAB, Joy R. Smith, Wade, Watts, Zurn
 Wall Hangers/ Hose Bibbs: MIFAB, Joy R. Smith, Wade, Watts, Woodford, Zurn
 Expansion Tanks: AMTRON, State, Watts, Wilkins
 Water Hammer Arresters: AMTRON, Josam, MIFAB, PPP, Sioux Chief, Joy R. Smith, Wade, Watts, Zurn
 Outlet Boxes: Acom, IPS, Oatey
 Brass Valves: American, Crane, Watts, Apollo
 Circulation Pumps: Armstrong, Bell & Gossett, Grundfos, TACO

| FIXTURE AND EQUIPMENT SCHEDULE | | | | | | | | |
|--------------------------------|--|-------------|---------------|--------------|------|------------------|------|---|
| # | FIXTURE TYPE | WASTE | | WATER SUPPLY | | WATER FIX. CONN. | | MANUFACTURE AND NOTES |
| | | BELOW FLOOR | FIXTURE CONN. | COLD | HOT | COLD | HOT | |
| WC1 | WATER CLOSET 1.28 GPF | 3" | 3" | 1" | | 1" | | KOHLER K-96053 WATER CLOSET, SLOAN REGAL 111-1-28 FLUSH VALVE, BEMIS 16555CST SEAT. |
| WC2 | ADA WATER CLOSET 1.28 GPF | 3" | 3" | 1" | | 1" | | KOHLER K-96057-B WATER CLOSET, SLOAN REGAL 111-1-28 FLUSH VALVE, BEMIS 16555CST SEAT. |
| WC3 | NURSERY WATER CLOSET 1.28 GPF | 3" | 3" | 1" | | 1" | | KOHLER K-96064 WATER CLOSET & SEAT, SLOAN REGAL 111-1-28 FLUSH VALVE. |
| UR1 | URINAL 0.125 GPF | 2" | 2" | 3/4" | | 3/4" | | KOHLER K-5452-ET URINAL, SLOAN REGAL 186-0.125 FLUSH VALVE. |
| UR2 | ADA URINAL 0.125 GPF | 2" | 2" | 3/4" | | 3/4" | | KOHLER K-5452-ET URINAL, SLOAN REGAL 186-0.125 FLUSH VALVE. |
| LAV1 | ADA UNDERMOUNT LAVATORY 0.5 GPM | 2" | 1-1/4" | 1/2" | 1/2" | 1/2" | 1/2" | KOHLER K-2210-0 LAVATORY, MOEN 9417705 FAUCET. |
| LAV2 | ADA WALL-HUNG LAVATORY 0.5 GPM | 2" | 1-1/4" | 1/2" | 1/2" | 1/2" | 1/2" | KOHLER K-2005 LAVATORY, MOEN 8413F05 FAUCET. |
| SNK1 | NURSERY SINK 1.5 GPM | 2" | 1-1/2" | 1/2" | 1/2" | 1/2" | 1/2" | ELKAY DAYTON D12521 SINK, MOEN 8289 FAUCET. |
| SNK2 | WARMING KITCHEN SINK 1.5 GPM | 2" | 1-1/2" | 1/2" | 1/2" | 1/2" | 1/2" | ELKAY DAYTON DPC1252210 SINK, MOEN 8289 FAUCET. |
| MOP | MOP SINK | 3" | 3" | 1/2" | 1/2" | 1/2" | 1/2" | FIAT MS82424, 830AA FAUCET, 832AA HOSE/BRACKET, 889CC HANGER, MS62424 PANELS. |
| HB1 | EXTERIOR HOSE BIBB | | | 3/4" | | 3/4" | | WOODFORD 27. |
| HB2 | INTERIOR HOSE BIBB | | | 3/4" | | 3/4" | | WOODFORD 84. |
| FD | FLOOR DRAIN WITH WATERLESS TRAP PRIMER | 3" | 3" | | | | | WATTS FD-190-PR-60 FLOOR DRAIN, RECTORSAL "SURESEAL PLUS" WATERLESS TRAP |
| FCO | FLOOR CLEANOUT | SEE DWG. | SEE DWG. | | | | | WATTS CO12, PROVIDE CARPET MARKER WHEN INSTALLED UNDER CARPET. |
| GCO | GRADE CLEANOUT | SEE DWG. | SEE DWG. | | | | | WATTS CO-200-RX-4-60. |
| HD | HUB DRAIN WITH WATERLESS TRAP PRIMER | 2" | 2" | | | | | PROSET 1024HD. |
| PRV | PRESSURE REDUCING VALVE (ASSE 1003) | | | 2" | | 2" | | WATTS LF25AUB-23. |
| FS | PVC FLOOR SINK | 3" | 3" | | | | | WATTS FS-500-150 |

GENERAL FIRE PROTECTION NOTES:

Fire protection sprinkler system design is delegated to the contractor. The fire protection subcontractor is responsible for code compliance, research, design, coordination, and installation of a complete and functional hydraulically calculated sprinkler system (and standpipe system, if required) that meets the approval of and is in accordance with all applicable regulations and requirements of the following and as further specified:
 Current edition of NFPA
 Applicable Codes
 Authorities having jurisdiction.

WATER HEATER & TANK SCHEDULE

| MARK | MANUFACTURER | MODEL NUMBER | TYPE | BTUH | ELECTRICAL | |
|------|--------------|--------------|----------------|---------|------------|-------|
| | | | | | VOLTS | PHASE |
| WH1 | A.O. SMITH | ACT-199H-N | GAS TANKLESS | 199,000 | 120 | 1 |
| WH2 | A.O. SMITH | ACT-199H-N | GAS TANKLESS | 199,000 | 120 | 1 |
| ET | WATTS | PLT-5 | EXPANSION TANK | - | - | - |

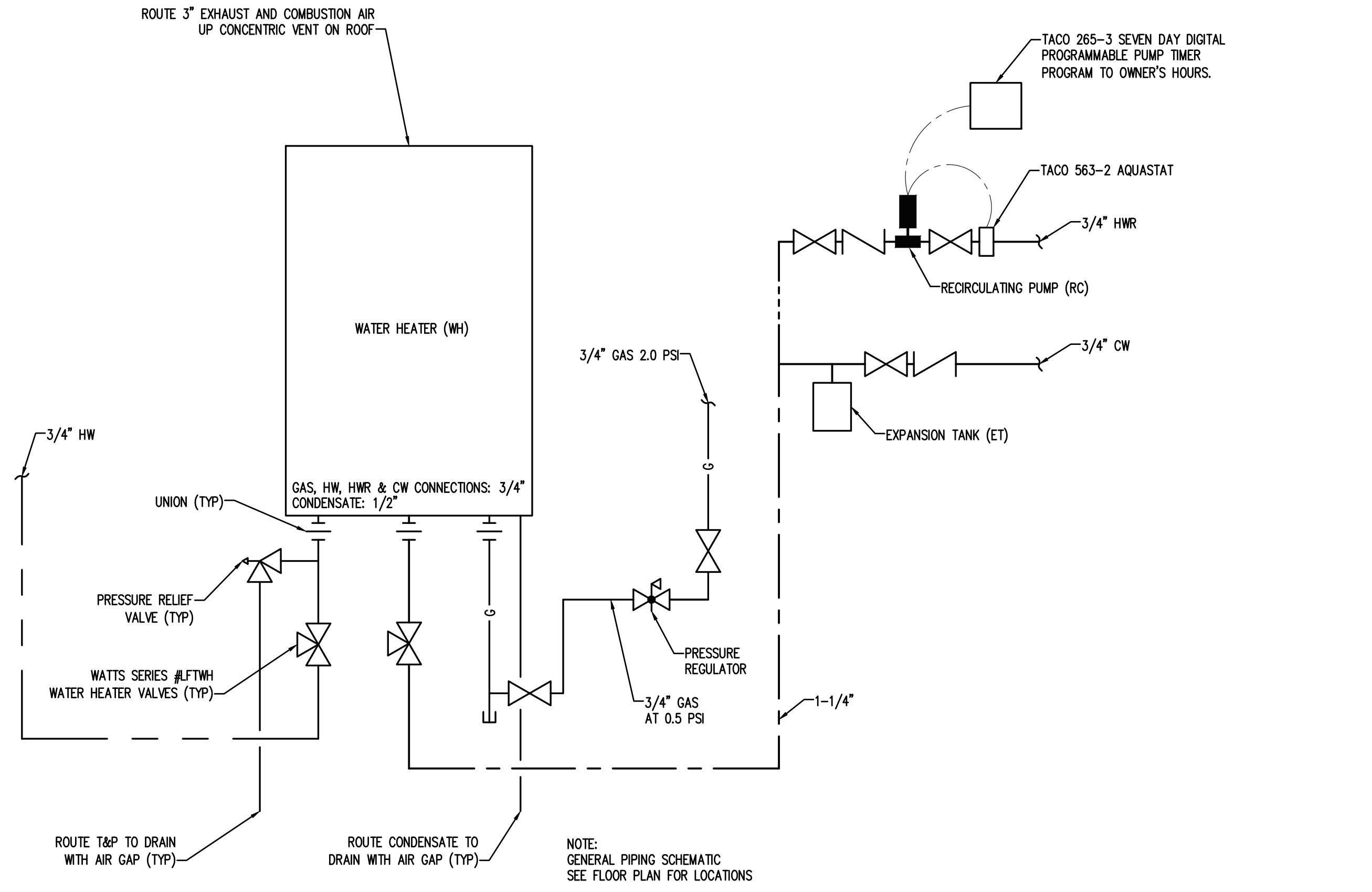
CONTRACTOR SHALL CONSULT THE ELECTRICAL DOCUMENTS FOR VOLTAGE AND PHASE.

PUMP SCHEDULE

| MARK | PUMP TYPE | BASIS OF DESIGN MANUFACTURER | MODEL NUMBER | RPM | HP/ WATTS | GPM | FEET HEAD | ELECTRICAL | |
|------|---------------|------------------------------|--------------|-----------|--------------|-----|-----------|------------|-------|
| | | | | | | | | VOLTS | PHASE |
| RC1 | RECIRCULATION | TACO | 006x3 | 1440-3720 | MAX 44 WATTS | 2 | 2.64 | 120 | 1 |
| RC2 | RECIRCULATION | TACO | 0015x3 | 1440-3720 | MAX 44 WATTS | 2 | 6.31 | 120 | 1 |

VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.

| LEGEND | | | | | | | |
|--------|--------------------------------|--|------------------|-------|--------------|--------|--------------------------|
| | SHUTOFF VALVE | | COLD WATER | (TYP) | TYPICAL | VTR | VENT THRU ROOF |
| | CHECK VALVE | | HOT WATER | C.T. | COUNTER-TOP | AFF | ABOVE FINISHED FLOOR |
| | PIPE UP | | HOT WATER RETURN | DN | DOWN | CW | COLD WATER |
| | PIPE DOWN | | SEWER VENT | CONN. | CONNECTION | HW | HOT WATER |
| | FIX UNIT WATER HAMMER ARRESTOR | | SEWER | NTS | NOT TO SCALE | B.F.F. | BELOW FINISH FLOOR |
| | DWGS. DRAWINGS | | FIRE SPRINKLER | VT | VENT | FLR | FLR |
| | | | GAS | | | FFE | FINISHED FLOOR ELEVATION |

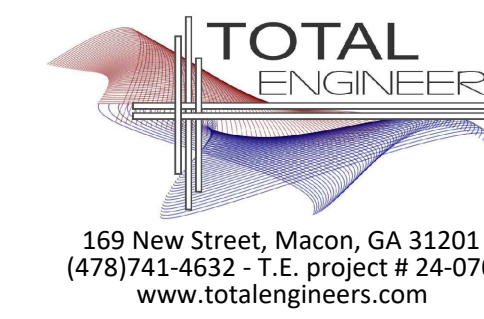


WATER HEATERS (WH1 & WH2) PIPING SCHEMATIC
 SCALE: N.T.S.



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 Madison Methodist Church**
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| JOB NO.: | 02405 |
| DRAWN BY: | JWK/KMP |
| CHECKED BY: | KMP |
| DATE: | 12-02-24 |
| DESCRIPTION: | CD-REVIEW-DOCS |
| DATE: | 12-02-24 |
| DESCRIPTION: | DD-REVIEW |
| DATE: | 00-00-24 |
| DESCRIPTION: | CD-REVIEW |
| DATE: | 12-02-24 |
| DESCRIPTION: | BID-CONSTRUCTION |
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