

PLUMBING SPECIFICATIONS:

PART 1:

GENERAL

- 1. MATERIALS AND INSTALLATION SHALL COMPLY WITH STATE PLUMBING AND LOCAL CODES.
- 2. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTION FEES, TAPPING FEES, CONNECTION CHARGES, AND UTILITY COMPANY SERVICE CHARGES.
- 3. INSTALLATION SHALL BE DONE IN A NEAT AND PROFESSIONAL MANNER. PART

PART 2:

PRODUCTS

- 1. ALL PIPING AND FITTINGS FOR THE DOMESTIC WATER SYSTEM SHALL BE CERTIFIED BY THE UNDERWRITERS LABORATORY TO MEET THE ANSI NSF 61 SECTION 9 STANDARD.
- 2. ALL DOMESTIC WATER PIPING INSIDE THE BUILDING ABOVE SLAB SHALL BE TYPE "L" HARD COPPER.
- 3. DOMESTIC WATER PIPING BELOW SLAB AND OUTSIDE SHALL BE TYPE "K" SOFT SEAMLESS. NO JOINTS SHALL BE ALLOWED BELOW SLAB.
- 4. COPPER PIPE FITTINGS SHALL BE SWEATED JOINT, WROUGHT COPPER, SWEEP PATTERN FITTINGS, SOLDERED USING 95-5 LEAD-FREE SOLDER.
- 5. ALL SANITARY WASTE AND VENT PIPING INSIDE AND UNDERSLAB TO 5'-0" OUTSIDE THE BUILDING SHALL BE SCHEDULE 40 PVC, DWV OR SERVICE WEIGHT CAST IRON WITH DRAINAGE FITTINGS. OUTSIDE PVC PIPING 5'-0" FROM BUILDING SHALL BE SDR-35 OR D-3034.
- 6. JOINT FOR PVC PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB TO 5'-0" OUTSIDE THE BUILDING AND NEOPRENE PUSH-ON TYPE JOINTS OUTSIDE 5'-0" FROM THE BUILDING. JOINTS FOR CAST IRON PIPE SHALL BE NO-HUB TYPE ABOVE, SLAB ON GRADE AS MANUFACTURED BY CLAMP-ALL OR ANACO HUSKY. CAST IRON SOIL PIPING INSTITUTE NO-HUB, DOUBLE BAND CONNECTORS SHALL NOT BE ALLOWED. JOINTS FOR CAST IRON PIPE BELOW SLAB OR GRADE SHALL BE NEOPRENE PUSH-ON TYPE.
- 7. HANGERS: PIPE SIZES 1/2" TO 1-1/2": ADJUSTABLE WROUGHT STEEL LOOP (COPPER, ELECTROPLATE IF APPLICABLE).
- 8. HANGERS: PIPE SIZES 2" AND UP: ADJUSTABLE WROUGHT STEEL CLEVIS (COPPER, ELECTROPLATE IF APPLICABLE).
- 9. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS.
- 10. PROVIDE STEEL HANGER RODS, THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUS THREADED AS REQUIRED.
- 11. INSULATE DOMESTIC COLD WATER AND HOT WATER PIPING WITH 1" THICK FIBERGLASS INSULATION WITH MOLDED FIBERGLASS PIPE COVERING AND CONTINUOUS VAPOR AS MANUFACTURED BY MANVILLE CORPORATION, OWENS-CORNING, KNAUF, OR CERTAINTeed. INSULATE DOMESTIC HOT AND COLD WATER PIPING IN WALLS AND CHASES BEHIND FIXTURES WITH 1/2" THICK FIBERGLASS INSULATION.
- 12. INSULATE ALL DOMESTIC WATER PIPING BELOW SLAB AND TO 5'-0" OUTSIDE THE BUILDING WITH 1/2" ARMAFLEX.
- 13. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NO GREATER THAN 25 FLAME SPREAD, NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUELCONTRIBUTED.
- 14. CONCRETE ANCHORS (WEDGE ANCHORS) SHALL BE ZINC-PLATED CARBON STEEL WEDGE ANCHORS AVAILABLE IN ANCHOR/DRILL SIZES 1/4" TO 3/4" AND LENGTHS OF 1-3/4" THROUGH 12", MEETING U.S. GOVERNMENT G.S.A. SPECIFICATIONS FF-S-325 GROUP II, TYPE 4, CLASS I, FOR FASTENING PLUMBING SYSTEMS TO CONCRETE AND PIPE HANGING. ITW RAMSET/RED HEAD BRAND OR APPROVED EQUAL.
- 15. ACCEPTABLE FIXTURE MANUFACTURERS
 - A. NO OTHER MANUFACTURER SUBSTITUTIONS SHALL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER FIVE (5) DAYS BEFORE BIDDING.
 - B. CONTRACTOR SHALL PROVIDE FAUCETS AND FITTINGS THAT ARE CERTIFIED BY UNDERWRITERS LABORATORY TO MEET THE ANSI NSF 61, SECTION 9 STANDARD.
 - C. FIXTURES SHALL BE MOUNTED RIGID TO WALLS AND FLOOR.
 - D. FIXTURES: ELJER, AMERICAN STANDARD OR KOHLER.
 - E. FITTINGS: SYMMONS, CHICAGO FAUCET CO.
 - F. FLUSH VALVES: SLOAN VALVE COMPANY, ZURN, OR DELANEY (IF MODIFIED TO BE NON-HOLD OPEN)
 - G. STAINLESS STEEL SINKS: JUST OR ELKAY.
 - H. SERVICE BASINS: STERN WILLIAMS, FIAT, OR CREATIVE INDUSTRIES.
 - I. WATER COOLER: SUNROC, HALSEY TAYLOR, OR OASIS.
 - J. WATER HEATERS: HESCO, EEMAX, RUUD, OR A. O. SMITH.
 - K. TOILET SEATS: CHURCH, OLSONITE, BENEKE OR BEMIS.
 - L. DRAIN, HYDRANTS, CARRIERS AND SHOCK ABSORBERS: J. R. SMITH, ZURN, WADE, OR JOSAM.
 - M. WATER HEATER PANS: SHAMROCK OR TREND MFG. OF AMERICA.
 - N. REDUCED PRESSURE BACKFLOW PREVENTION: FEBCO, HERSEY, WATTS, OR WILKINS.

PART 3:

EXECUTION

- 1. EXCAVATION, BACKFILLING AND TRENCH WORK SHALL BE DONE IN ACCORDANCE WITH O.S.H.A. AND EXISTING SAFETY STANDARDS.
 - A. PROVIDE SHORING AND CLEANING NECESSARY TO KEEP TRENCHES IN WORKING CONDITIONS, INCLUDING PUMPING OUT WATER.
 - B. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO AT LEAST 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE. GRAVEL SHALL BE SCOOPED OUT UNDER PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.
 - C. IN MOSTLY EARTH OR SAND MATERIAL, THE LAST 6" OF EXCAVATION SHALL BE DONE BY HAND. TRENCH BOTTOM SHALL BE SCOOPED OUT AT PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.
 - D. BACKFILLING AND TAMPING SHALL BE CAREFULLY DONE SIMULTANEOUSLY ALONG BOTH SIDES OF THE PIPE USING ROCK FREE EARTH, CRUSHED STONE OR SAND UNTIL THE PIPE IS COVERED TO A DEPTH OF AT LEAST 12". THE REST OF THE FILL UP TO THE TOPSOIL LAYER MAY BE GRAVEL OR ROCK FREE EARTH. ACCEPTABLE SOIL MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY, ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION. DEBRIS: WASTE, FROZEN MATERIALS AND OTHER DELETERIOUS MATTER HAVING A ELASTICITY INDEX LESS THAN 30. BACKFILL SHALL BE DONE IN LAYERS OF NOT MORE THAN 8" AND EACH LAYER SHALL BE COMPACTED. THE LAST 12" OF BACKFILL SHALL BE ROCK FREE TOPSOIL.
 - E. SURFACE SHALL BE RESTORED TO ITS ORIGINAL CONDITION.
- 2. EXPOSED HOT AND COLD WATER TRIM IN FINISHED AREAS SHALL BE CHROME FINISHED.
- 3. ALL HORIZONTAL AND VERTICAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODE RECOMMENDATIONS. SUPPORTS SHALL SECURELY HOLD PIPING, PREVENT VIBRATION, COMPENSATE FOR ALL STATIC AND OPERATIONAL CONDITIONS OF THE VARIOUS SYSTEMS AND SHALL NOT BE SUBJECT TO ELECTROLYTIC ACTION. THIS SHALL BE ACCOMPLISHED BY USING THE SUMMER SYSTEM, THE POSIFIX, STAKFIX, PIPEFIX OR CHANNEL.
- 4. SHOCK ABSORBERS SHALL BE INSTALLED ON ALL HOT AND COLD WATER BRANCH LINES CONTAINING SINGLE LEVER FAUCETS, FLUSH VALVES OR QUICK CLOSING VALVES SUCH AS DISHWASHERS, CLOTHES WASHERS, AND THEIR EQUIPMENT, BETWEEN THE LAST TWO FIXTURES. THIS SHALL BE ACCOMPLISHED BY USING THE SUMMER SYSTEM, THE POSIFIX, STAKFIX, PIPEFIX OR CHANNEL.
- 5. SANITARY WASTE AND VENT PIPING SHALL BE UNIFORMLY GRADED TO ELEVATIONS SHOWN. IF NO ELEVATIONS ARE GIVEN, SEWERS SHALL BE PITCHED NOT LESS THAN 1/4" PER FOOT FOR ALL PIPING 3" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR PIPE LARGER THAN 3" IN DIAMETER.
- 6. HANGERS FOR PIPING GREATER THAN 1" SHALL PASS OVER THE INSULATION. PROVIDE SADDLES FOR INSULATED PIPING.
- 7. HANGERS SHALL BE ATTACHED TO STRUCTURAL STEEL WORK BY CLAMPING OR OTHER APPROVED METHODS, EXCEPT THAT STRUCTURAL WORK SHALL NOT BE DRILLED AND PUNCHED.
- 8. INSULATION SHALL BE APPLIED WITH JOINTS TIGHTLY BUTTED. OPEN CRACKS, VOIDS AND DEPRESSIONS SHALL BE FILLED WITH HYDRAULIC SETTING CEMENT AND LAPPING MATCHING THE FINISH SHALL BE PASTED NEATLY OVER JOINTS.
- 9. FITTINGS AND VALVES SHALL BE INSULATED WITH THE SAME TYPE INSULATION AS THE PIPING OR WITH HYDRAULIC SETTING CEMENT, BUILT UP TO THE SAME THICKNESS AS LINES. COVER SHALL BE SAME AS ADJACENT PIPING OR PVC PREFORMED JACKET.
- 10. SEAL ALL PENETRATIONS OF RATED PARTITIONS WITH U.L. RATED FIRE BARRIER MATERIAL.
- 11. AIR ADMITTANCE VALVES SHALL NOT BE ALLOWED ON SANITARY WASTE AND VENT SYSTEMS.
- 12. THE SYSTEM TESTS DESCRIBED HEREIN ARE MINIMUM REQUIREMENTS. HOWEVER, ADDITIONAL TESTS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION SHALL ALSO BE PERFORMED.
- 13. DOMESTIC WATER PIPING SHALL BE TESTED AT 125 PSI. IN ADDITION, PIPING SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS.
- 14. THE DOMESTIC WATER SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY BY OPENING OUTLETS AND FLOWING WATER UNTIL RUNS CLEAR. AFTER PIPE CLEANING IS COMPLETED, THE STRAINERS SHALL BE REMOVED, CLEANED, AND REPLACED. THEN THE ENTIRE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.
- 15. THE SANITARY WASTE SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY WITH FLOWING WATER UNTIL IT RUNS CLEAR.
- 18. THE ENTIRE SANITARY WASTE SYSTEM SHALL BE TESTED AGAINST A HEAD PRESSURE OF 10' TSH, FOR A MINIMUM OF 8 HOURS WITHOUT LEAKAGE.



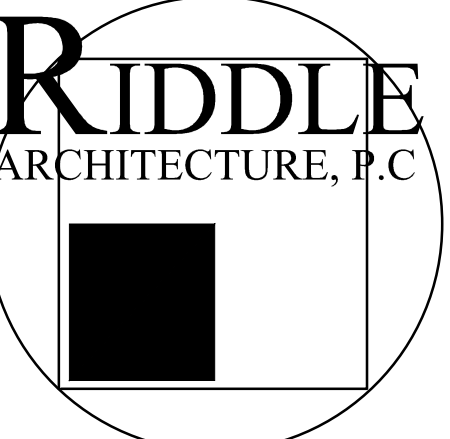
REVISIONS

#	DATE

A NEW
EMS
FACILITY
FOR:

OCONEE
COUNTY

WATKINSVILLE,
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TITLE: PLUMBING
SPECIFICATIONS

JOB #: 2502

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SHEET #

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