DocuSign Envelope ID: 5D14255A-0209-44DF-B5C3-9076B749EC88

DIVISION 15A – PLUMBING

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing, installing, and/or demo of the following:
   1. Plumbing fixtures, water heaters, and any other equipment necessary.
   2. Cold and hot water piping and insulation.
   3. DWV piping.
   4. Connection of all equipment; drain, vent, water.

B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply.
   1. The National Electrical Code.
   2. 2018 N.C. Building Code: Plumbing, and all applicable category codes.
   3. American Society of Sanitary Engineering Standard 1010.
   4. All local codes and ordinances.

C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.

D. The Plumbing Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.

E. Obtain all permits, licenses, inspections, etc., required for the work, and pay for the same.

1.2 INTENT

A. The intent of these specifications and accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Plumbing Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The Plumbing Contractor shall refer to the architectural drawings for placement of equipment, fixtures, etc. Where locations are not clear, the Contractor shall obtain the exact locations from the Architect.

C. Coordinate all exterior piping connections w/Architect, site contractor/plans. Verify manhole elevations and provide backwater valves as required if flood level rims are below next upstream manhole cover elevation. Fixtures with flood level rims above upstream manhole shall not discharge thru bw valve. Notify engineer of backwater valve requirement, any issue prior to bid.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for plumbing fixtures and for pipe. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS

2.1 FIXTURES

A. Each fixture shall be properly supported from the building structure as required to the end effect that all fixtures and accessories will be held rigidly in place. Water pipes supplying the fixtures must also be held rigidly in place.

B. Provide loose key angle stops and chrome plated supply pipe water supplies to fixtures.

C. All exposed piping traps and accessories for fixtures shall be chrome plated. Provide chrome plated escutcheon plates where pipes enter walls.

D. Provide shutoff valves for all sinks, water heaters, toilets, washing machines, refrigerator icemaker, exterior hose bibbs and all other plumbing fixtures.

E. Provide trap primers for all floor drains in areas not served by hose bibbs.

2.2 PIPING

A. Drain waste: All waste piping shall be Schedule 40 PVC–DWV with the following exceptions: Use cast iron piping in all return air plenums and penetrations of rated walls/floors/ceilings. Review Arch. and Mech. drawings. Use ABS or cast iron piping for drainage of fluid temperature greater than 140 deg. F for a minimum distance of 10'–0".

B. Hot and cold water piping above grade: Type "L" copper w/solder joints (ASTM–B88), hard drawn with wrought copper fittings (ANSI B16.22) PEX piping with copper fittings may be used with owner/tenant approval. and as allowed per code.

C. Cold water piping below grade: Type "K" copper (ASTM–88A) soft drawn.

D. Hangers: Use pipe hangers where required on 8–foot centers with saddles to avoid crushing insulation.

E. Solder: 95/5. Lead free.

F. Unions: Provide unions where indicated on drawings, in long runs of piping (except drainage) and at equipment to provide convenient disassembly. Provide dielectric unions when connecting copper tubing to equipment and piping made of ferrous materials.

2.3 CLEANOUTS

A. Hex plugs in rough areas: Recessed plugs with cover plates in exposed locations.

2.4 SHOCK ARRESTERS

A. Provide shock arresters as required by codes, manufacturer's recommendations and accepted industry standards for qualify construction. Provide for all quick closing valves.

PART 3 – EXECUTION

3.1 CONNECTIONS

A. This contract includes complete connection of cold water, hot water, drainage, and vent piping as required. All fittings, valves, accessories, cutoffs, drains, etc., required to complete such connections shall be included.

B. The connection to water closets shall be made watertight with gasket and wax ring. Floor flanges shall be caulked into position. Plastic caps shall be provided on the tie down bolts, and shall be secured in place by screwing down on threaded brass washers.

C. Where water pipes connect to exposed chrome plated trim, use proper chrome plated escutcheons.

3.2 SERVICE ACCESS

A. All valves and accessories shall be insulated so that they can be properly serviced. In no case shall the Plumbing Contractor install equipment or other components in situations that do not meet code requirements or manufacturer's requirements. Provide access doors as required to access valves, etc.

3.3 ROUTING OF PIPING

A. Coordinate routing of piping with others, line up work true to or at right angle to adjacent surfaces and in a workmanlike manner. Support all interior piping from building structure by means of hanger or inserts to maintain pitch of lines, to prevent vibration, and to secure piping place.

B. Space pipe hangers 8'–0" on center for one inch and smaller pipe, 4'–0" on center for 1–1/4 inch and larger pipe. Provide expansion loops as required.

C. Pipe hangers for insulated lines shall have suitable saddles to protect insulation.

3.4 INSULATION

A. All H/W and C/W piping shall be insulated with a min. of 1" inch elastomeric insulation (R–6.5 min.) in unconditioned areas. See NCSBC–Plumbing Sect. 305 for all protection requirements. All H/W piping of circulating systems shall be insulated with 1" insulation per Sect. C404.4 of the NCSBC 2018 Energy Conservation Code.

B. Provide pre–fabricated insulation kits for all sink and lavatory exposed drain and supply piping.

3.5 INSPECTIONS AND TESTS

A. Before being concealed, all water, soil and vent piping shall be tested to determine if they are water– and air–tight.

B. Prior to placing into service, entire system shall be tested for leaks in strict accordance with state and local codes.

3.6 STERILIZATION OF PIPING

A. Sterilize the new water piping thoroughly with a solution containing not less than 50 parts per million of available chlorine, using liquid chlorine, or sodium hydrochloride solution, introduced into the system in an approved manner. The sterilizing solution shall remain in the system in an approved manner. The sterilizing solution shall remain in the system for a period of 24 hours. After sterilization, flush the solution from the system with clean water until the residual chlorine content is not greater than 0.2 parts per million, unless otherwise directed.

3.7 SERVICE PRESSURE

A. Provide approved water–pressure reducing valve (PRV) if service pressure exceeds 80 psi to reduce pressure to 80 psi static or less and as required per NCSBC–Plumbing Sect. 604.8.

3.8 DRAINDOWN

A. Contractor to provide for complete plumbing system drain down.

3.9 CLEAN UP

A. During construction, keep the site clear of debris and upon completion, and before final inspection, clean up the premises to remove all evidence of his work. In addition, upon completion of construction, clean, wash, and/or polish all fixtures, equipment and exposed material and leave them bright and clean.

3.10 GUARANTEES

A. Guarantee all materials and labor included in the plumbing work for a period of one year from date of final acceptance by the Owner.

B. Any defects in the system which become evident during the guarantee period shall be corrected without cost to the Owner. This shall include the replacing of defective materials where required, and the repair of damage caused by leaking pipes, etc., and damage to building surfaces caused in making repairs.

PLUMBING FIXTURE SCHEDULE *

MARK	DESCRIPTION	ALTERNATE MANUFACTURER/MODEL	ALTERNATE MANUFACTURER/MODEL
LS	BRADLEY MODEL ELX–2 STATION WITH HYDROTEK 7000SLE SOLAR SENSOR FAUCET.	2– STATION LAVATORY (ACCESSIBLE) WITH FAUCETS SLOAN TWO STATION LAVATORY #ELRF–82000. ADA COMPLIANT. PROVIDE DRAIN W/GRID STRAINER, VERIFY COLOR WITH ARCHITECT. FURNISH WITH SLOAN EAF–275 SOLAR POWERED FAUCETS. CONNECT TO EXISTING DWV, HOT/COLD WATER LINES AS REQUIRED. VERIFY HOT WATER FROM LS FAUCET AT 110 DEG. F (MAX.). PROVIDE MIXING VALVE OPTION IF REQUIRED.	WILLOUGHBY MODEL WAW–232–DMF WITH TOTO TEL3GS10 SOLAR SENSOR FAUCETS.

*OR APPROVED EQUAL

GENERAL NOTES – PLUMBING

1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.

2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.

3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.

4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.

5. LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE–REQUIRED AND MANUFACTURER – REQUESTED SERVICE CLEARANCES.

6. COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.

7. ALL HANDICAP FIXTURES AND INSTALLATION OF HANDICAP FIXTURES SHALL CONFORM TO ADA REQUIREMENTS.

8. AT EXTERIOR WALL, INSTALL WATER PIPING ON HEATED SIDE OF WALL INSULATION.

9. PROVIDE WATER HAMMER ARRESTORS AT THE END OF EACH COLD AND HOT WATER BRANCH RISER. SIZE ARRESTOR APPROPRIATELY.

10. PROVIDE CONCRETE RING FOR ALL EXTERIOR CLEAN–OUTS.

11. REVIEW SITE PLAN FOR UTILITIES AND ORIENTATION PRIOR TO START OF WORK.

12. G.C. TO PROVIDE ROOF PENETRATIONS.

WEEKS TURNER ARCHITECTURE

WEEKS TURNER ARCHITECTURE, PA
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.779.9797 fax: 919.779.0826
www.weeksturner.com

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

DocuSigned by: Ben Burke C93761FB80F34D6...
2/27/2019

PROJECT TITLE
TYRRELL CTY. REST AREA & VISITOR'S CTR.
US 64
COLUMBIA, NORTH CAROLINA

PROJECT NO.
1804a

DRAWING TITLE
PLUMBING SPECIFICATIONS

P1

PLOT DATE 2/22/19

This original sheet is 22" x 34"; other dimensions indicate it has been altered.

All information on this sheet is the property of Weeks Turner Architecture and may not be duplicated in whole or in part without written authorization from Weeks Turner Architecture. 2018