# SAM HOUSTON STATE UNIVERSITY DIVISION 23 HEATING VENTILATING AND AIR CONDITIONING DESIGN AND CONSTRUCTION STANDARDS

2301000 FACILITY FUEL SYSTEMS February 2016

**PART 1: GENERAL** 

1.01 <u>Purpose</u>:

This standard is intended to provide useful information to the Professional Service Provider

- K. The gas regulator bypass globe valve shall be sized to provide a pressure drop equal to the regulator when fully open. It shall include provision for locking shut with a large padlock.
- L. Provide a wrench operated plug cock valve at the inlet and discharge side of the gas meter and pressure regulators and at building entrance.
- M. Provide zone valves on each floor easily accessible for maintenance personnel for isolation and testing.
- N. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- O. Route piping in orderly manner to conserve building space and not to interfere with use of space. Maintain gradient and group piping wherever practical at common elevations.
- P. Design piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- Q. Route piping parallel to other piping. Maintain a minimum of 12" clearance between gas piping and steam or hydronic piping above 200 degrees F.
- R. Provide shutoff gas cock and drip leg at each gas-fired equipment connection. Comply with equipment manufacturer's instructions.
- S. Provide gas shutoff outside building, upstream of meter, at pipe entry to building in adjustable gas service valve box with cover set flush to finish grade.
- T. Provide access where valves and fittings are not exposed. Coordinate access door location with architectural features.
- U. Establish elevations of buried piping outside the building to ensure a minimum of cover. All buried piping shall be installed with tracer wire.
- V. Provide protective bollards for gas meter installations, horizontally spaced no more than four feet apart and 36" high. Bollards should be constructed of galvanized steel, 6" diameter, with a minimum 0.25" wall thickness, or 4" diameter concrete-filled, schedule 40 galvanized steel pipe. Bollards should be permanent-type, and anchored to 18" X 42" concrete foundation with ASTM 3/4" x 12" ASTM A36 galvanized L hook anchor bolts.
- W. ERW pipe shall not be used on SHSU campuses.

### **PART 2 PRODUCTS**

### 2.01 Pipe and pipe fittings:

- A. All pipe used for the fabrication of gas piping systems shall be Schedule 40 black steel pipe ASTM A-53.
- B. Unless otherwise specifically required, all steel pipe provided for gas piping systems shall be provided with plain ends and assembled with weld fittings on all pipe larger than 2". All pipe 2"

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### 2.05 COCKS:

A. Near the point at which each outgoing line leaves the gas header, the Contractor shall install an AGA gas stop valve or gas cock. These wrench operated valves shall each be provided with an appropriate wrench. Cocks of the same type shall, moreover, be installed at each point indicated on the Drawings.

### 2.06 UNDERGROUND PIPING

A. All underground piping shall be fusion welded HDPE.

### **PART 3 EXECUTION**

### 3.01 TESTING:

A. Natural gas piping shall be tested in accordance with International Fuel Gas Code requirements. Refer to Appendix 6.01.06 for further information.

**END OF STANDARD**