SECTION 23 11 23 - FACILITY NATURAL-GAS PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Pipe, pipe fittings, valves, and connections for natural gas piping systems.

1.02 RELATED REQUIREMENTS
   A. Section 23 05 53 - Identification for HVAC Piping and Equipment.
   B. Section 33 52 16 - Gas Hydrocarbon Piping.

1.03 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.
   C. Project Record Documents: Record actual locations of valves.

PART 2 PRODUCTS

2.01 NATURAL GAS PIPING, BURIED BEYOND 5 FEET (1500 MM) OF BUILDING
   A. Steel Pipe: ASTM A53/A53M, Schedule 40 black.
      1. Fittings: ASTM A234/A234M, wrought steel welding type, with AWWA C105/A21.5 polyethylene jacket or double layer, half-lapped 10 mil (0.25 mm) polyethylene tape.
   B. Polyethylene Pipe: ASTM D2513, SDR 11.
      1. Fittings: ASTM D2683 or ASTM D2513 socket type.

2.02 NATURAL GAS PIPING, BURIED WITHIN 5 FEET (1500 MM) OF BUILDING
   A. Steel Pipe: ASTM A53/A53M, Schedule 40 black.
      3. Jacket: AWWA C105/A21.5 polyethylene jacket or double layer, half-lapped 10 mil (0.25 mm) polyethylene tape.
2.03 NATURAL GAS PIPING, ABOVE GRADE
   A. Steel Pipe: ASTM A53/A53M, Schedule 40 black.
      2. Joints: Threaded or welded to ASME B31.1.

2.04 FLANGES, UNIONS, AND COUPLINGS
   A. Unions for Pipe Sizes 3 Inches (80 mm) and Under:
      1. Ferrous pipe: Class 150 malleable iron threaded unions.

2.05 PIPE HANGERS AND SUPPORTS
   A. Provide hangers and supports that comply with MSS SP-58.
      1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
      2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
      3. Trapeze Hangers: Welded steel channel frames attached to structure.

2.06 BALL VALVES
   A. Construction, 4 Inches (100 mm) and Smaller: MSS SP-110, Class 150, 400 psi (2760 kPa) CWP, bronze or ductile iron body, 304 stainless steel or chrome plated brass ball, regular port, Teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, threaded or grooved ends with union.

PART 3 EXECUTION

3.01 INSTALLATION
   A. Install in accordance with manufacturer's instructions.
   B. Pipe Hangers and Supports:
      1. Install in accordance with ASME B31.9.

3.02 SERVICE CONNECTIONS
A. Provide new gas service complete with gas meter and regulators in accordance with Section 33 52 16. Gas service distribution piping to have initial minimum pressure of 7 inch wc (1.75 kPa). Provide regulators on each line serving gravity type appliances, sized in accordance with equipment.

END OF SECTION 23 11 23