# GENERAL

## SECTION INCLUDES

### Steam traps.

### Condensate return pumps.

### Pressure reducing valves.

### Drip pan elbow.

### Steam safety valves.

## REFERENCE SECTION 23 05 00 FOR THE FOLLOWING:

### References.

#### ASME Boiler and Pressure Vessel Codes, SEC 8 D Rules for Construction of Pressure Vessels.

#### ASME B31.9 Building Services Piping.

#### ASTM A105 Forgings, Carbon Steel, for Piping Components.

#### ASTM A126 Grey Iron Castings for Valves, Flanges, and Pipe Fittings.

#### ASTM A216 Steel Casings, Carbon, Suitable for Fusion Welding, for High Temperature Service.

#### ASTM A395 Ferric Ductile Iron Pressure Retaining Castings for Use at Elevated Temperatures.

### Submittals.

#### Product Data:

##### Provide for manufactured products and assemblies required for this project.

##### Include product description, model, dimensions, component sizes, rough in requirements, service sizes, and finishes.

##### Submit schedule indicating manufacturer, model number, size, location, rated capacity, load served, and features for each specialty.

##### Manufacturer's Installation Instructions: Indicate application, selection, and hookup configuration. Include pipe and accessory elevations.

### Operation and maintenance data.

#### Operation and Maintenance Data: Include installation instructions, servicing requirements, and recommended spare parts lists.

### Quality assurance.

#### Perform Work in accordance with State of South Dakota standard for installation of boilers and pressure vessels.

### Qualifications.

#### Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

### Regulatory requirements.

#### Conform to ASME B31.9 code for installation of steam and steam condensate piping and specialties.

### Delivery, storage, and handling.

#### Deliver, store, protect and handle products to site under provisions of Section 23 05 00.

# PRODUCTS

## STEAM TRAPS

### FLOAT AND THERMOSTATIC TRAPS

#### Manufacturers: TLV series JX or approved equivalent.

#### Construction: ASTM A-278 class 30, cast iron body with bolted cover, balanced pressure thermostatic air vent, stainless steel float, stainless steel lever and valve assembly.

#### Features: Access to internal parts without disturbing piping, bottom drain plugs.

### THERMOSTATIC TRAPS

#### Construction: ASTM A105, forged carbon steel body, self-draining configuration, internalstainless steel Y-strainer, blowoff valve, replaceable seat with integral check valve, three-year warranty, 464 psig and 250 Deg. F maximum pressure and temperature. Trap shall be Gestra MK 45/2 or equivalent.

## CONDENSATE RETURN PUMPS

### Refer to Mechanical Equipment Schedule for performance and operating information.

## PRESSURE REDUCING VALVES

### Acceptable Manufacturers:

#### TLV

#### Spence

#### Fisher

### Class 250 flange steel body, external pilot operated pressure reducing valve.

### Refer to Mechanical Equipment Schedule for performance and operating information.

## SAFETY RELIEF VALVES

### Valve: Cast Iron body, bronze trim, direct pressure actuated, capacities ASME certified and labeled.

### Accessories: Cast iron drip pan elbow.

## STRAINERS

### Y-pattern with stainless steel screen having 0.045” openings, screwed ends, 600 lb., cast steel ASTM A216 Grade WCB, with blowdown ball valve and associated piping of size matching blowdown connection. Provide nipple and cap on blowdown valve outlet. Orient all strainers in horizontal position to prevent gravity buildup.

# EXECUTION

## INSTALLATION

### Install specialties in accordance with manufacturer's instructions.

### Condensate Pumps:

#### Install with pipe accessories as shown on the Steam and Condensate System Piping Schematic. Provide drain from condensate receiver/inlet pipe to allow condensate by-pass condensate receiver and drain to a floor drain when condensate pumps are being repaired. Install temperature sensor well in flooded portion of condensate receiver and connect to EMCS. Vent receiver to outside.

### Steam Traps:

#### Install as shown on the Steam and Condensate System Piping Schematics and/or Schedules.

### Provide pressure reducing stations with pressure reducing valve, valved bypass, strainer and pressure gauge on upstream side, relief valve and pressure gauge on downstream side of pressure reducing valve.

### Terminate relief valves to outdoors 30 inches minimum above roof. Provide drip pan elbow with drain connection to nearest floor drain

### Provide vacuum breaker at inlets to all steam coils and heat exchangers.

### Orient all strainers in horizontal position to prevent gravity buildup.

### Steam pipe feeding pressure reducing stations or automatic control valves shall be reduced with eccentric reducers, rotated up to prevent condensation from carrying through control devices.

### Steam drip traps shall be installed immediately upstream of all control devices, such as pressure reducing stations and automatic control valves.

### Vent condensate tanks to a safe location outside of the building.

END OF SECTION 23 22 14