SECTION 22 45 00 - EMERGENCY PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following emergency plumbing fixtures:

1. Eye/face wash equipment.
2. Combination units.
3. Water-tempering equipment.

B. See Division 22 Section "Domestic Water Piping Specialties" for backflow preventers.

C. See Division 22 Section "Sanitary Waste and Vent Piping Specialties" for floor drains.

1.2 DEFINITIONS

A. Accessible Fixture: Emergency plumbing fixture that can be approached, entered, and used by people with disabilities.

B. Plumbed Emergency Plumbing Fixture: Fixture with fixed, potable-water supply.

C. Tepid: Moderately warm.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include flow rates and capacities, furnished specialties, and accessories.

B. Product Certificates: Submit certificates of performance testing specified in "Source Quality Control" Article.

C. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

D. Operation and maintenance data.

1.4 QUALITY ASSURANCE

A. ANSI Standard: Comply with ANSI Z358.1, "Emergency Eyewash and Shower Equipment."

B. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act"; and Public

Law 101-336, "Americans with Disabilities Act"; for plumbing fixtures for people with disabilities.

C. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.

1.5 COORDINATION

A. Coordinate roughing-in and final plumbing fixture locations, and verify that fixtures can be installed to comply with original design and referenced standards.

PART 2 - PRODUCTS

2.1 EYE/FACE WASH EQUIPMENT

A. Eye/Face Wash Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal to Haws 7610 or 7611 as the University standard. Type will be based on project requirements:

a. Bradley Corporation.
b. Encon Safety Products.
c. Guardian Equipment Co.
d. Haws Corporation.

2. Description: Plumbed, [**sink**] [**counter**] mounted swing-down eye/face wash equipment.

a. Capacity: Deliver potable water at rate not less than 2.5 gpm for at least 15 minutes.
b. Supply Piping: NPS 1/2 chrome-plated brass or stainless steel with flow regulator and stay-open control valve.
c. Control-Valve Actuator: Swing-down actuation.

2.2 COMBINATION UNITS

A. Freestanding Combination Units:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal:

a. Bradley Corporation.
b. Chicago Faucets.
c. Encon Safety Products.
d. Guardian Equipment Co.

e. Haws Corporation.
f. Speakman Company.

2. Description: Plumbed, [**accessible,**] freestanding, with emergency shower and eye/face wash equipment.

a. Piping: Galvanized steel.

1) Unit Supply: NPS 1-1/4 minimum from [**top**] [**side**].
2) Unit Drain: Outlet at side near bottom.
3) Shower Supply: NPS 1 with flow regulator and stay-open control valve.
4) Eye/Face Wash Supply: NPS 1/2 with flow regulator and stay-open control valve.

b. Shower Capacity: Deliver potable water at rate not less than 20 gpm for at least 15 minutes.

1) Control-Valve Actuator: [**Pull rod**] [**Pull chain**].
2) Shower Head: 8-inch minimum diameter, chrome-plated brass or stainless steel.

c. Eye/Face Wash Equipment: With capacity to deliver potable water at rate not less than 3.0 gpm for at least 15 minutes.

1) Control-Valve Actuator: [**Paddle**] [**Push bar**].
2) Receptor: Chrome-plated brass or stainless-steel bowl.

B. Booth Combination Units:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal to Haw 8605 WC as the University standard:

a. Bradley Corporation.
b. Chicago Faucets.
c. Encon Safety Products.
d. Guardian Equipment Co.
e. Haws Corporation.
f. Speakman Company.

2. Description: Plumbed, accessible, booth type with emergency shower and eye/face wash equipment.

a. Booth:

1) Material: Reinforced molded fiberglass covered with smooth white gel coat, alkali and acid-resistant.
2) Dimensions: 40-1/2 inches wide by 38 inches deep by 85 inches high.
3) Grating: Galvanized steel.

b. Shower Capacity: Deliver potable water at rate not less than 20 gpm for at least 15 minutes.

1) Control-Valve Actuator: Pull rod.
2) Shower Head: 10 inch minimum diameter, ABS plastic.
3) Shower Valve: Chrome plated brass ball valve with stainless steel stem.

c. Eye/Face Wash Equipment: With capacity to deliver potable water at rate not less than 3.0 gpm for at least 15 minutes.

1) Control-Valve Actuator: Push flag.
2) Eyewash Valve: Chrome plated-brass ball valve with stainless steel ball and stem.
3) Receptor: ABS plastic.

2.3 WATER-TEMPERING EQUIPMENT

A. Water-Tempering Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal:

a. Bradley Corporation.
b. Encon Safety Products.
c. Haws Corporation.
d. Guardian Equipment Co.

2. Description: Factory-fabricated, hot- and cold-water-tempering equipment with thermostatic mixing valve.

a. Thermostatic Mixing Valve: Designed to provide 70 deg F tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus 5 deg F throughout required 15-minute test period, and in case of unit failure to continue cold-water flow, with union connections, controls, metal piping, and corrosion-resistant enclosure.

2.4 SOURCE QUALITY CONTROL

A. Certify performance of plumbed emergency plumbing fixtures by independent testing agency acceptable to authorities having jurisdiction.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Assemble emergency plumbing fixture piping, fittings, control valves, and other components.

B. Install fixtures level and plumb.

C. Fasten fixtures to substrate.

D. Install shutoff valves in water-supply piping to fixtures. Use ball, gate, or globe valve if specific type valve is not indicated. Install valves chained or locked in open position if permitted. Install valves in locations where they can easily be reached for operation. Valves are specified in Division 23 Section "General-Duty Valves."

   1. Exception: Omit shutoff valve on supply to emergency equipment if prohibited by authorities having jurisdiction.

E. Install dielectric fitting in supply piping to fixture if piping and fixture connections are made of different metals. Dielectric fittings are specified in Division 23 Section "Common Work Results for Mechanical."

F. Install thermometers in supply and outlet piping connections to water-tempering equipment. Thermometers are specified in Division 23 Section "Meters and Gages for Piping."

G. Install trap and waste to wall on drain outlet of fixture receptors that are indicated to be directly connected to drainage system.

H. Install escutcheons on piping wall and ceiling penetrations in exposed, finished locations. Escutcheons are specified in Division 23 Section "Common Work Results for Mechanical."

I. Install equipment nameplates or equipment markers on fixtures and equipment signs on water-tempering equipment. Identification materials are specified in Division 23 Section "Identification for Mechanical Piping and Equipment."

J. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

K. Connect hot- and cold-water-supply piping to hot- and cold-water-tempering equipment. Connect output from water-tempering equipment to emergency plumbing fixtures.

L. Directly connect emergency plumbing fixture receptors with trapped drain outlet to sanitary drainage and vent piping.

M. Install eye/face wash equipment to drain completely into sink when activated.

N. Adjust or replace fixture flow regulators for proper flow.

O. Adjust equipment temperature settings.

3.2 FIELD QUALITY CONTROL

A. Mechanical-Component Testing: After plumbing connections have been made, test for compliance with requirements. Verify ability to achieve indicated capacities and temperatures.

B. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.

C. Report test results in writing.

END OF SECTION 22 45 00