

## CHAPTER 46

# WATERFRONT STRUCTURES FIRE PROTECTION

**Note:** Chapter 46 is entirely Seattle amendments to the *International Fire Code* and is not underlined.

### SECTION 4601 GENERAL

**4601.1 Scope.** Piers, wharves, floats and marinas shall be in accordance with this chapter and other requirements of this code.

**Exception:** Approved designated facilities and shipyards in accordance with Administrative Rule 26.02.07 *Designated Hot Work Facilities and Shipyards*.

**4601.1.1 Conflicts.** Where there is a conflict between this code and an ordinance or rule, this chapter governs unless the ordinance or rule establishes more stringent fire and life safety requirements.

**4601.2 Signage.** At the shore end of piers, wharves and floats conspicuous signage shall be located indicating the address and, for those structures that are designed to support vehicles, the weight limit. Numbers and letters shall be easily legible and have high contrast with the color of the sign background. Numbers and letters shall not be less than 5 inches (127 mm) in height.

**4601.2.1 Labeling electrical disconnects.** Electrical transformers, control panels and breaker panels shall be readily accessible, clearly labeled and indicate the areas they service. See also Section 605.

**4601.3 Fire extinguishers.** One portable fire extinguisher having a minimum rating of 2A 20-BC, shall be provided within 75 feet (22 860 mm) of all portions of piers, wharves and floats. Additional fire extinguishers, suitable for the hazards involved, shall be provided and maintained in accordance with Section 906 and NFPA Standard 10.

**4601.4 Emergency plan.** Owners of piers, wharves, floats and marinas shall prepare an emergency plan for the facility. The plan shall include procedures for fire department notification and fire evacuation, and shall include the location of portable fire extinguishers and hose cabinets, sprinkler and standpipe system control valves, fire department connections and electrical disconnects.

#### Point of Information

For examples of emergency plans, see information bulletins located at [www.seattle.gov/fire](http://www.seattle.gov/fire) titled Emergency Procedures for Public Occupancies and Fire Evacuation Planning.

### SECTION 4602 DEFINITIONS

**4602.1 Limited application.** For the purposes of this Chapter, certain terms are defined as follows:

**COVERED BOAT MOORAGE.** A pier or system of floating or fixed accessways to which vessels on water may be secured, 50 percent or more of which is covered by a roof.

**DESIGNATED HOT WORK FACILITY.** Those piers, designated by the fire code official, and by virtue of their construction, location, fire protection, emergency vehicle access and fire hydrant availability, that are suitable to permit certain repairs to vessels.

**FLOAT.** A floating structure normally used as a point of transfer for passengers and goods, or both, for mooring purposes.

**MARINA.** Any portion of the ocean or inland water, either naturally or artificially protected, for the mooring, servicing or safety of vessels and includes artificially protected works, the public or private lands ashore, and structures or facilities provided within the enclosed body of water and ashore for the mooring or servicing of vessels or the servicing of their crews or passengers.

**PIER.** A structure, usually of greater length than width, of timber, stone, concrete or other material, having a deck and projecting from the shore into waters so that vessels may be moored alongside for loading, unloading, storage, repairs or commercial uses.

**SHIPYARD.** A pier, wharf or series of piers and related onshore facilities, designated by the fire code official, which by virtue of the pier construction, location, emergency vehicle access, fire protection, hydrant availability and onsite safety personnel in accordance with Seattle Fire Department Administrative Rule 26.02.07, *Designated Hot Work Facilities and Shipyards* is suitable to permit repairs, including major conversions, on marine vessels of any length.

**SUBSTRUCTURE.** That portion of the construction below and including the deck immediately above the water.

**SUPERSTRUCTURE.** That portion of construction above the deck.

**Exception:** Covered boat moorage.

**VESSEL.** Watercraft of any type, other than a seaplane on the water, used or capable of being used as a means of transportation.

**WHARF OR QUAY.** A structure of timber, stone, concrete or other material having a platform built along and parallel to waters so that vessels may be moored alongside for loading, unloading, storage, repairs or commercial uses.

### SECTION 4603 PLANS AND APPROVALS

**4603.1 Plans.** Plans for pier, wharf, float and marina fire protection shall be approved prior to installation. The work shall be subject to final inspection and approval after installation.

## SECTION 4604 ACCESS AND WATER SUPPLY

**4604.1 Fire department access.** Fire department apparatus access lanes, not less than 20 feet wide (6096 mm) and capable of supporting a 50,000-pound (22 700 kg) vehicle or 24,000 pounds (10 896 kg) per axle (HS20 loading), shall be provided and so located as to provide fire department apparatus access to within 50 feet (15 240 mm) travel distance to the shore end of all piers, wharves and floats. The apparatus access lane shall meet the requirements of Appendix D.

**4604.2 Fire hydrants.** At least two fire hydrants shall be provided. One hydrant shall be located within 500 feet (152 400 mm) of the closest point of fire department apparatus access to the shore end of the marina piers, wharves or floats, or to the fire department connection (FDC) for those piers, wharves or floats that are equipped with standpipes. The second fire hydrant shall be located within 1000 feet (304 800 mm) of the closest point of fire department apparatus access to the shore end of the marina piers, wharves or floats, or to the FDC for those piers, wharves or floats that are equipped with standpipes.

All required hydrants shall be capable of delivering not less than 1000 gpm (63 L/s) at a minimum residual pressure of 20 psi (138 kPa) each.

**Exception:** The requirements for fire hydrants may be modified when alternate arrangements are approved by the fire code official.

## SECTION 4605 FIRE PROTECTION EQUIPMENT

**4605.1 Standpipe systems.** A manual Class I standpipe system in accordance with NFPA 14, or Class III standpipe system in accordance with NFPA 14, when approved by the fire code official, shall be provided for piers, wharves and floats where the hose lay distance from the fire apparatus to the most remote accessible portion of the pier, wharf or float exceeds 150 feet (45 720 mm). Approved plastic pipe may be used when installed underwater, or when another approved method of protection from fire is provided. The standpipe piping shall be a minimum of 4 inches (102 mm), sized to provide a minimum of 500 gpm (365 L/s) at 130 psi (896 kPa) at the most remote hose connection, with a simultaneous flow of 500 gpm (31.5 L/s) at the third most remote hose connection on the same pier while maintaining a maximum system pressure of 175 psi (1206 kPa).

**4605.1.1 Hose connections.** Hose connection stations on required standpipes shall be provided at the water end of the pier, wharf or float, and along the entire length of the pier, wharf or float at spacing not to exceed 150 feet (45 720 mm) and as close as practical to the land end.

**Exception:** The hose connection at the land end of the pier, wharf or float may be omitted when a hose connection is located within 150 feet (45 720 mm) of the fire apparatus access road.

Each hose connection shall consist of a valved 2½-inch (64 mm) fire department hose outlet. Outlet caps shall have a predrilled ⅛-inch (3.2 mm) hole for pressure relief and be

secured with a short length of chain or cable to prevent falling after removal. Listed equipment shall be used.

### 4605.2 Automatic sprinkler systems.

**4605.2.1 Covered boat moorage.** Automatic sprinklers shall be provided for covered boat moorage exceeding 500 square feet (46.5 m<sup>2</sup>) in projected roof area per pier, wharf or float. Ref: NFPA 303

The sprinkler system shall be designed and installed in accordance with NFPA 13 for Extra Hazard Group 2 occupancy.

If sprinklers are required by this chapter, they shall be extended to any structure on the pier, wharf or float exceeding 500 square feet (46.5 m<sup>2</sup>) in projected roof area.

**4605.2.2 Substructure.** Automatic sprinklers shall be installed under the substructure of every new waterfront structure in accordance with NFPA 307 and as specified in Chapter 9.

#### Exceptions:

1. Combustible substructures whose deck area does not exceed 8,000 square feet (743.2 m<sup>2</sup>) supporting no superstructures.
2. Combustible substructures whose deck area does not exceed 8,000 square feet (743.2 m<sup>2</sup>) supporting superstructures not required to be provided with an approved automatic sprinkler system as specified in Section 421.6.9.
3. Noncombustible substructures with or without superstructures.
4. Substructures, over other than tidal water, where sprinkler heads cannot be installed with a minimum clearance of 4 feet (1219 mm) above mean high water.
5. Substructures resulting from walkways or finger piers which do not exceed 10 feet (3048 mm) in width.

**4605.2.3 Superstructure.** Automatic sprinklers shall be provided in superstructures as specified in Chapter 9.

**4605.2.4 Monitoring.** Sprinkler systems shall be monitored by an approved Central Station Service.

**4605.3 Fire department connections.** Standpipe and sprinkler systems shall be equipped with not less than a two-way 2½-inch (64 mm) fire department connection (FDC), which shall be readily visible and located at the fire department apparatus access. See also Section 4604.2 Fire hydrants.

**4605.4 Marina fire protection confidence testing.** Standpipe and sprinkler systems shall be inspected and tested in accordance with Administrative Rule 9.02.07 *Confidence Test Requirements for Life Safety Systems*. Maintenance and periodic testing are the owner's responsibility, or the responsibility of such other person as may be designated, and are separate from fire department inspections. The person, firm or corporation performing such work shall have a certificate from the fire department. See Administrative Rule 9.01.07 *Certification for Installing, Maintaining and Testing Life Safety Systems and Equipment*.