



CITY OF NEWPORT BEACH
COMMUNITY DEVELOPMENT DEPARTMENT
LIFE SAFETY SERVICES
GUIDELINES AND STANDARDS

GUIDELINE F.01 – Fire Protection for Marinas, Wharves and Piers

F.01.1 PURPOSE

The purpose of this guideline is to provide information and requirements for fire protection at marinas, wharves, and piers in accordance with NFPA Standards 14 and 303, and Appendix II-C, of the California Fire Code.

F.01.2 SCOPE

This guideline shall apply to all marinas, wharves and piers within the city, both public and private.

Exception: This guideline shall not apply to private single piers only accessible through a private parcel with no shared access.

F.01.3 DEFINITIONS

STANDPIPE SYSTEM – A wet or dry system of piping, valves, outlets, and related equipment designed to provide water at specified pressures and installed exclusively for the fighting of fires including the following:

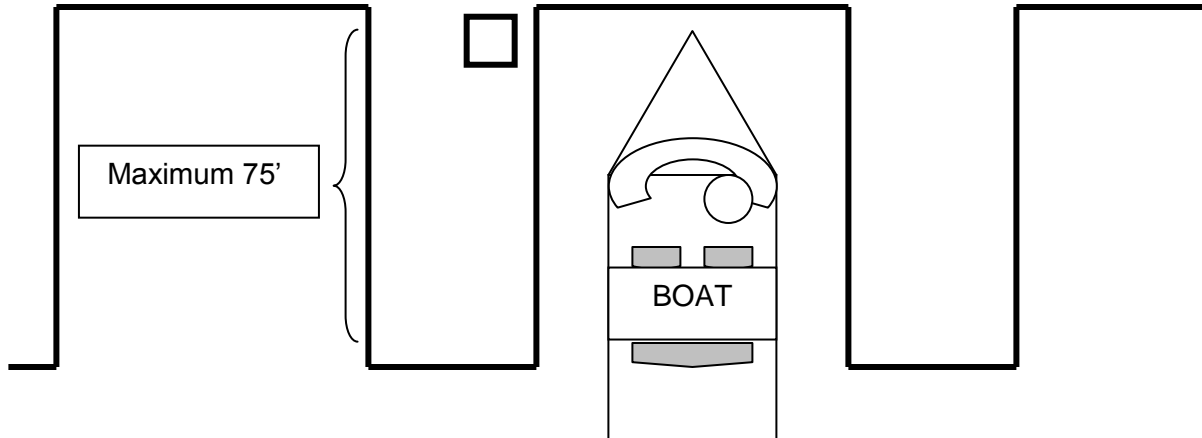
1. Class I – A standpipe system equipped with 2 ½ inch outlets.
2. Class II – A standpipe system directly connected to a water supply and equipped with 1 ½ inch outlets and hose.
3. Class III – A standpipe system equipped with both 2 ½ inch outlets and 1 ½ inch outlets and hose.

F.01.4 PROCEDURE

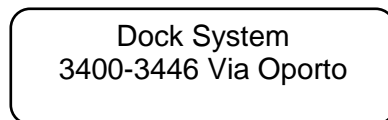
1. Standpipes: Class III standpipe systems shall be provided where hose lay distance from fire apparatus exceeds 150 feet from an access road provided with a water supply (hydrants), to the end of all dock fingers or pier. The supply shall not be interconnected with a docks domestic water system. An existing Class I or II may remain. Any work performed on the dock that would require a permit, relocation of

berths, replacement of dock, or add additional boat storage will require the installation of a Class III system.

- Standpipe systems shall be located so that hose provided can reach the end of each dock "finger" with 25 feet of hose remaining. Remaining hose allows access onto vessel to extinguish on-board fires. (See Diagram)



- 2 ½ inch outlets shall not be located less than 3' or more than 4' above the dock.
- An approved and listed fire department connection with a minimum of two 2½ inch inlets shall be provided at the point of fire department access at the street. If a fire pump is provided the FDC shall be installed on the discharge side of the pump.
- Provide sign for FDC. Sign shall be of a durable material, minimum 4 inches high by 8 inches wide, with minimum 1 inch high lettering on clearly contrasting background. Sign shall state address and type of system served.



- Portable Fire Extinguishers: One fire extinguisher having a minimum rating of 3A:40BC shall be provided at every hose cabinet.
- Aboveground supply pipe shall be copper or stainless steel. Copper tube shall have a wall thickness of type K, L, or M. Underground pipe shall be listed for fire protection service and designed to withstand a system working pressure of not less than 150 psi.

8. Method of attachment (hangers, bolts, etc.) shall be copper or stainless steel.
9. Flexible connections shall be listed with a minimum rating of 250 psi.
10. System Design and Flow Rate: Standpipe systems shall be designed so that the system demand for the 1½ inch outlet can be supplied by the municipal water supply. The 2½ inch outlet shall be designed so that the system demand can be achieved with a maximum of 150 psi at the fire department connection. **A separate set of calculations shall be provided to illustrate each of the demand requirements.**

- Provide local fire hydrant flow test data and incorporate the data into the dock system calculations. Contact the City of Newport Beach Municipal Operations Department for fire flow data and assistance. (949) 644-3011.
- Standpipes systems shall be hydraulically designed to provide the following required water flow. Systems may also be designed in accordance with the pipe schedule in table 5-7 of CBC standard 9-2

<u>Outlet Diameter</u>	<u>Waterflow Rate</u>	<u>Min. Residual Pressure</u>
2 ½ in.	500 gpm	100 psi
1 ½ in.	100 gpm	65 psi

- Low municipal water pressure may require the addition of a fire pump. Fire pumps shall be installed in accordance with NFPA 20, “Stationary Fire Pumps”.

Note: Existing fire protection systems on docks undergoing repair or replacement with no additional berths or boat storage may be exempt from the current pressure and flow requirements based on the following:

- Provide a letter to the Newport Beach Fire Code Official requesting an exemption based on the flow requirements at the time the original system was installed and proof of the original installation date. A flow test shall be witnessed by the Fire Department to determine if an effective hose stream is available.
- If the existing dock system is not provided with both 1 ½ and 2 ½ inch gated discharge valves, the missing feature (either the 1 ½ or 2 ½ inch discharge) shall be added.

11. Acceptance Testing:

- All new systems shall be hydrostatically tested at not less than 200 psi for 2 hours. Piping shall show no sign of leakage. Flow test shall be required to demonstrate from the most remote standpipe station that the required flow and pressure is provided.
- Life Safety Services shall witness an effective hose stream from a 1½ inch connection supplied from the municipal water system. The most remote 1½ inch hose connection shall flow at least 100 gpm with a residual pressure of 65 psi.

- Life Safety Services shall also witness a hose stream from a 2 ½ inch connection. The most remote 2 ½ inch outlet shall discharge 250 gpm from a 1 1/8 inch smooth bore tip. The required flow must be reached by supplying the standpipe with no more than 150 psi at the fire department connection. Testing shall be performed with a pumper or portable pump with a capacity to provide the required flow and pressure. Life Safety Services can perform this test if owner agrees to sign a NBFD “Hold Harmless” agreement.
- The contractor shall supply a pitot gauge, a residual pressure gauge and any other equipment necessary for the test.