



# Placentia Fire & Life Safety

Community Risk Reduction  
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## Underground Piping for Private Hydrants & Sprinkler Supply Line Guideline

### PURPOSE

The provision of adequate water supplies and distribution systems for fire suppression is a fundamental component of risk reduction. The purpose of this guideline is to provide the basic information necessary to meet minimum requirements for the design and installation of private hydrant and/or sprinkler supply underground piping in accordance with the provisions of the 2025 California Fire Code (CFC), the 2025 California Building Code (CBC), and the 2025 editions of NFPA 24, NFPA 13, and NFPA 13R, including California State amendments, and locally adopted amendments to these codes.

### SCOPE

This guideline is applicable to all private underground piping for hydrants and/or sprinkler supply lines within the City of Placentia Fire and Life Safety Department's (PFLSD) jurisdiction. This guideline is **not** applicable to underground piping serving residential fire sprinkler systems designed in accordance with 2025 NFPA 13D and some multi-family residential fire sprinkler systems designed in accordance with 2025 NFPA 13R.

### SUBMITTAL REQUIREMENTS

#### 1. General

- A. Plans for all private underground piping for private hydrants and/or sprinkler supply line(s) shall be submitted to PFLSD for review and approval prior to installation.
- B. All new plan submittals shall be in an electronic copy. All electronic plans shall be in PDF format, flattened, with no security restrictions.

- C. Plans shall be legible, scaled to nationally recognized standards, and printed as a blue- or blackline drawing. The PFLSD does not accept either pen and ink plans or pen & ink changes to blue-line plans.
- D. A current (within **twelve months**), completed Water Availability form shall accompany plans.

## 2. Information to be provided on the title page

- A. All underground plans shall include a PFLSD Underground Title Sheet as page 1 of the plan submittal (see Attachment 1).  
**NOTE: Designers and installing contractors shall read and comply with the information on the Title Page.**
- B. The applicable information within Project Information, Project Directory, and Title Blocks **shall be completed** prior to submittal.
- C. Contractors must possess a valid A, C16, or C34 license or be registered as a Professional Engineer (PE). *Note: If the piping plan is designed by a PE, the plan shall contain the name, license number, and classification of the installing contractor, along with the PE wet stamp. If this information is not available at the time the plans are submitted, proof of compliance with this requirement must be provided to the PFLSD at time of inspection.*

## 3. Additional Required Information

- A. Location of public mains and all public hydrants within 300 feet of the site.
- B. Location of all valves. Specify the type for each (e.g., post indicator valve (PIV), key gate valve, system control valve, double detector check (DDC) assembly, outside stem and yoke (OS&Y), etc.).
- C. PIVs or other approved indicating valves, shall be located a minimum of 40 feet from the building served. Where it is *impractical* to locate control valve(s) 40 feet from the building served, they may be located closer by one of the following methods:
  - 1) Approved wall mount indicating valves: Located on exterior walls without openings within 15 feet of the valve/s.
  - 2) Valve room: When the valve is placed in a room separated from the building by a one-hour fire barrier and the room is accessible from outside.
  - 3) Exterior risers: The valve may be placed in locations adjacent to exterior walls without openings within 15 feet of the valve.
  - 4) An approved manner acceptable by PFLSD.
- D. Pipe size, class, and type; specify lined or unlined if applicable.

- E. Indicate that ferrous pipe and fittings (excluding stainless steel 316) shall be encased in loose-fitting polyethylene and that ferrous joints, pipe, and fittings shall be coated with asphaltic sealant or equivalent to inhibit corrosion. Exposed edges, cuts, and tears shall be tightly taped to inhibit water infiltration. Where joints are present, a minimum one-foot overlap shall be provided. Polyethylene shall extend three feet beyond transition between areas where ferrous pipe or fittings are used and where non-ferrous pipe begins.
- F. All bolts used for underground connections, including T bolts, shall be 316 stainless steel. Asphaltic sealants (and other opaque sealants) shall not be used to coat bolts (this is to ensure bolts can still be verified as 316 stainless steel during inspection).
- G. Thrust block locations, or specify the means of restraint as approved by 2025 NFPA 24.
- H. Location of the fire department connection (FDC). FDCs shall be on the address side of the building and located immediately adjacent to the approved fire department access road. The FDC shall be positioned to allow hose lines to be readily and conveniently connected to a fire engine pulling water from a public fire hydrant, and does not require hose lines to cross fire department access roads or a drive entry approach. The FDC shall contain a minimum of *two 2½"* inlets. When the sprinkler demand is 500 gpm or greater (including the interior hose stream demand) or a standpipe system is included, *four 2½"* inlets shall be provided. The FDC shall be a listed assembly, i.e. Potter-Roemer FDC Models 5761-5764, 5775, 5776, 5780, 5781, 5785, 5786, Guardian FDC Models 6224, 6226, 6242, 6244, or similar listed devices. (*Note: These are just examples of the models that would be accepted by PFLSD. PFLSD does not endorse any specific manufacturer.*)
- I. FDC's shall be no more than 100 feet from a public hydrant. When approved, the FDC may be located within 100 feet of a private hydrant if the FDC is connected to the fire sprinkler system by a dedicated pipe that connects on the system side (i.e., downstream) of the sprinkler system check valve or an above ground check valve is provided between the FDC and fire hydrant to prevent a looped condition.
- J. FDCs, PIVs, and backflow assemblies shall be readily visible and accessible from the fire lane. Vegetation may be used to screen backflow assemblies on the side that does not face the fire department access roadway.
- K. FDCs and PIVs, shall be painted OSHA Safety Red. Backflow assemblies are to be painted per City Planning Department requirements.

- L. FDCs, PIVs, and DDCs, shall have durable, legible signs clearly indicating the address of the facility they serve or, where appropriate, their function (e.g., “Sectional Valve 1 of 2”). Signs shall be securely attached to the device.
- M. Large private fire service mains shall have post indicating type sectional control valves at appropriate points in order to permit isolation of the system in the event of a break or during repair or extension. *Note: A large system is considered one with more than five connections including fire hydrants.*

#### Underground Service for NFPA 13R Systems

Underground service shall comply with one of the following designs based upon the parameters described:

- A. The system design shall comply with 2025 NFPA 13 and 2025 NFPA 24 (see Sections 1 through 3 above) when:
  - 1) Serving more than one R-1, R-2, or R-4 occupancy, *or*
  - 2) The FDC is located between the city supply and sprinkler riser check valve.
- B. The system design shall comply with 2025 NFPA 13R and the California Plumbing Code (CPC) when:
  - 1) Serving a single R-1, R-2, or R-4 occupancy, *and*
  - 2) The FDC is located downstream of (i.e., after) the sprinkler system riser check valve. The underground system may be interconnected with the building’s domestic water supply line or may be a dedicated fire line. The FDC shall also comply with relevant requirements listed in this guideline including, but not limited to, identification, painting, accessibility, and orientation.

