



# FLOWER MOUND FIRE DEPARTMENT

## FIRE MARSHAL'S OFFICE

3911 SOUTH BROADWAY AVENUE | FLOWER MOUND, TEXAS 75028

PHONE (972) 874.6270 | [www.flower-mound.com](http://www.flower-mound.com)

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## FIRE SERVICE WATER LINES SUBMITTAL REQUIREMENTS & DETAILS

These guidelines must be followed when a business, facility, or organization proposes to install or modify an underground water supply for a water-based fire suppression system within the Town of Flower Mound. This document shall assist in the preparation of the submittal for a permit. These guidelines should contain only some data required for proper design, installation, or approval.

### I) PERFORMANCE AND INSTALLATION REQUIREMENTS

- A) All underground lines shall begin at the point of connection to the underground circulating public/private water main. A valve shall be provided at the point of connection such that the fire sprinkler underground service line can be isolated from the public/private water distribution system.
- B) All underground water lines shall be dedicated to fire protection. Domestic irrigation or non-fire protection taps on the fire service underground water line are not permitted.
- C) All underground lines shall terminate at the top of the spigot piece at most five (5) feet inside the building.
- D) All ductile iron, retaining rods, and other non-plastic components shall be externally coated for corrosion and poly-wrapped.
- E) All underground piping shall be a minimum of Class 200 / DR14 200 PSI-rated pipe or equivalent.
- F) Installation street address must be provided for each separate, underground line being permitted and installed. Subdivision or development street corners will not be accepted.
- G) The designer and company of record the permit is issued to shall be responsible for the installation and inspection.
- H) Civil construction drawings approved by the Town of Flower Mound Engineering Department shall not constitute the underground line(s) approval.
- I) The Fire Marshal's Office may approve alternate methods and material and review minor scopes of work to determine required submittal and permitting.
- J) Please refer to the information below to expedite the plan review and inspection processes.

### II) STANDARD DETAILS

- A) Detailed drawings shall be provided on all drawing submittals and shall match the field installed conditions.
- B) Except for the Embedment Detail, all details provided are for guidance only. Actual site conditions and NFPA 24 will determine the necessary details to be provided to indicate the construction of the underground pipe.
- C) All standard details can be provided in PDF or JPG format for incorporation into your submittal drawings.

### III) BACKFLOW PREVENTION

- A) Backflow prevention devices shall be in accordance with the below when installed on the fire service underground water line in an underground vault.
- B) All fire sprinkler systems must be provided with an approved backflow prevention method.
- C) The Town of Flower Mound Fire Marshal's Office shall determine the final location of the backflow assembly.
- D) A reduced pressure zone (RPZ) backflow prevention device is required on antifreeze systems.
- E) Assemblies shall be listed for fire protection use and, in the orientation, installed.
- F) Assemblies must be capable of being electronically or mechanically monitored.
- G) Assemblies must be provided with a *metered* bypass.
- H) In accordance with NFPA 13, Section 8.16.4.6.1, a method to perform a forward flow test at the system demand shall be provided downstream of the backflow prevention assembly. The following are examples of acceptable methods.
  - 1) Install 2-½ in. standpipe outlets system side of the back-flow device. These will be considered acceptable if



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the building is provided with standpipe outlets.

- 2) Provide a test header similar to those on a fire pump. The fire pump test header is acceptable if the building has a fire pump.
  - 3) A single 2-½ in. outlet is considered to flow 250 GPM.
- I) All installations shall be inspected and tested.

#### IV) FREESTANDING FDC SIGNAGE REQUIREMENTS

- A) All fire protection signage shall conform to the 2021 International Fire Code adopted and amended by the Town of Flower Mound. Reference the signage guidelines for additional information regarding sign materials, size, and locations.
- B) Remote freestanding FDCs shall comply with the requirements noted in the FDC General Guidelines.
- C) Bollard protection shall be required where FDCs are subject to possible vehicular impact.
- D) Please refer to the information below to expedite the plan review and inspection processes.

#### V) PERMITTING REQUIREMENTS

- A) A "Wet" RME signature and stamp is required on all plan drawings.
- B) Provide a minimum of three (3) sets of plans.
- C) Project name.
- D) Project address.
- E) Provide a written description of the work to be performed.
- F) Fax submittals will not be accepted.
- G) A scaled copy of the approved Site Plan that indicates the location of all fire hydrants and fire lanes servicing the building or site. The size and type of building shall be clearly indicated on the plan.
- H) Size and location of all water supplies and/or water lines servicing the building or site.
- I) Plans shall be clear and legible, and all sheets shall be in a common and appropriate scale.
- J) Flow test data shown on the plans.
- K) Size and type of all installed piping identified on the plans.
- L) Occupancy classification.
- M) Construction type.
- N) Location of all valves.
- O) Location and size of all thrust blocks.
- P) Thrust block details.
- Q) Detail of the spigot piece and/or an in-building riser turn.
- R) Embedment detail. See Figure 1.
- S) Embedment material shall be No. 4 crushed stone.
- T) Depth of bury. The minimum is 48 inches/4 feet from the top of the pipe to the grade.
- U) Vault/valve arrangement.
- V) Type of fittings/joints, methods of connection, and rod size.
- W) Location of the Remote Fire Department Connection (FDC).
- X) Location and type of backflow prevention.
- Y) Provide information on the transition stability of different types of piping (e.g. transition from PVC to ductile iron, retainer glands).
- Z) Provide notes to indicate the following;
  - 1) Design standards.
    - (a) The title block shall contain the following;
    - (b) Location of the installation.
    - (c) Name and complete address of the business.
    - (d) Name and complete address of the installing company.



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- (e) Licensing information.
  - (f) Date.
  - (g) Drawn by.
  - (h) Authority Having Jurisdiction.
  - (i) Scale.
  - (j) See NFPA 24, 2022 Edition for additional information.
  - (k) A full equipment listing.
  - (l) Manufacturer documentation for all parts and materials used in the project.
- AA) Drawings shall be submitted for review and approval before installation.
- BB) Drawings shall be generated by the installing company specific to the installation. Drawings shall show the plan view and other pertinent information.
- CC) The submittal package must include and identify all the above requirements.
- DD) Installation of a fire service underground water lines shall be performed once a Permit has been issued. Any work performed before the issuance of this permit may result in a citation being issued for violation of Section 107.4 of the 2021 International Fire Code.

## VI) GENERAL SUBMITTAL REQUIREMENTS

- A) Each submittal shall have a completed Flower Mound Fire Marshal's Office Plan Review Permit Application.
- B) Plans approved by the Fire Marshal's Office give authorization for installation. Final approvals are subject to field verification. Any approval issued by the Fire Marshal's Office does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
- C) All fire department inspection forms and permits shall be kept on the job site until final inspection.
- D) All installations shall comply with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Marshal's Office.

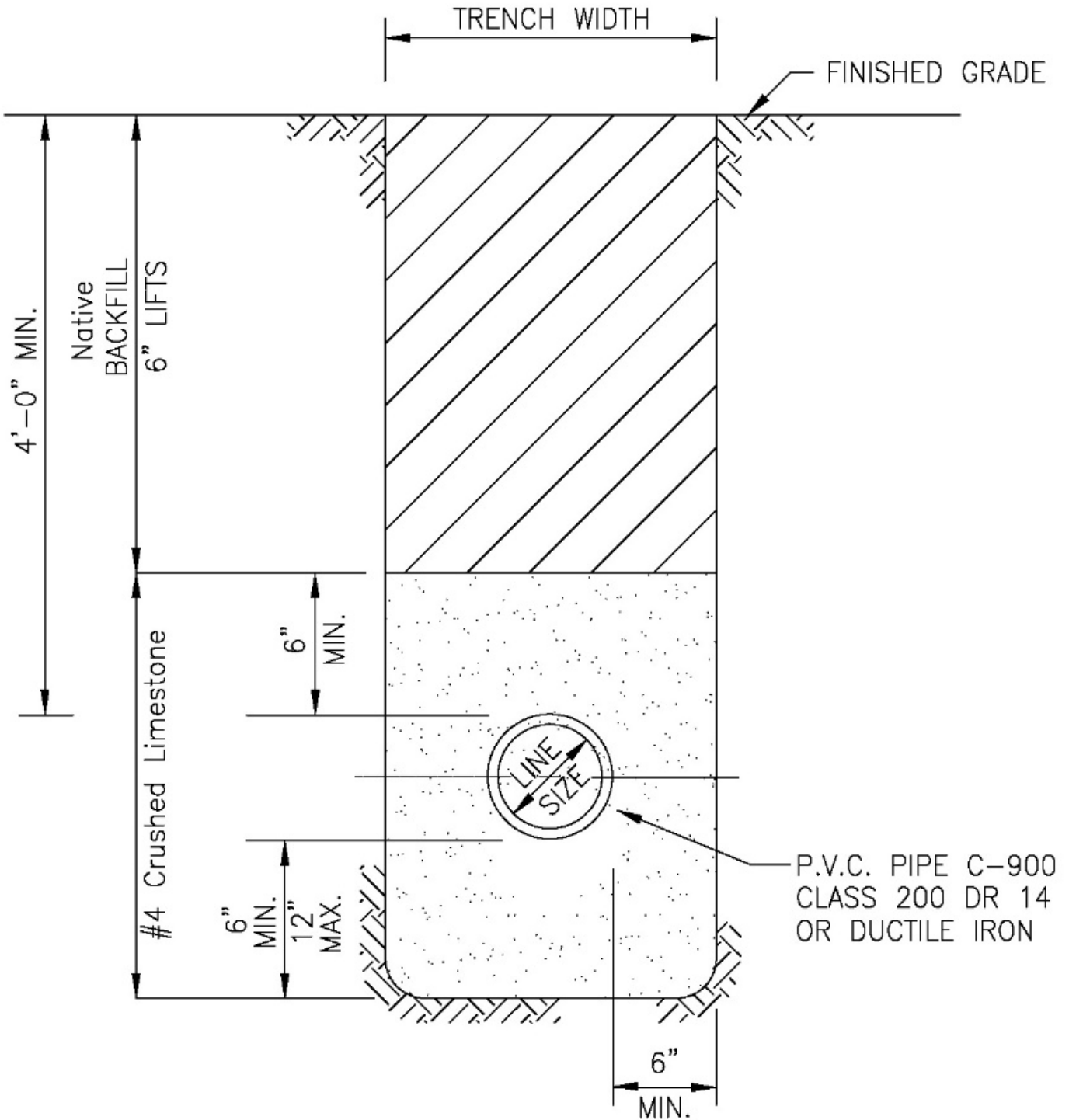


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## EMBEDMENT DETAIL & BACKFILL

N.T.S.



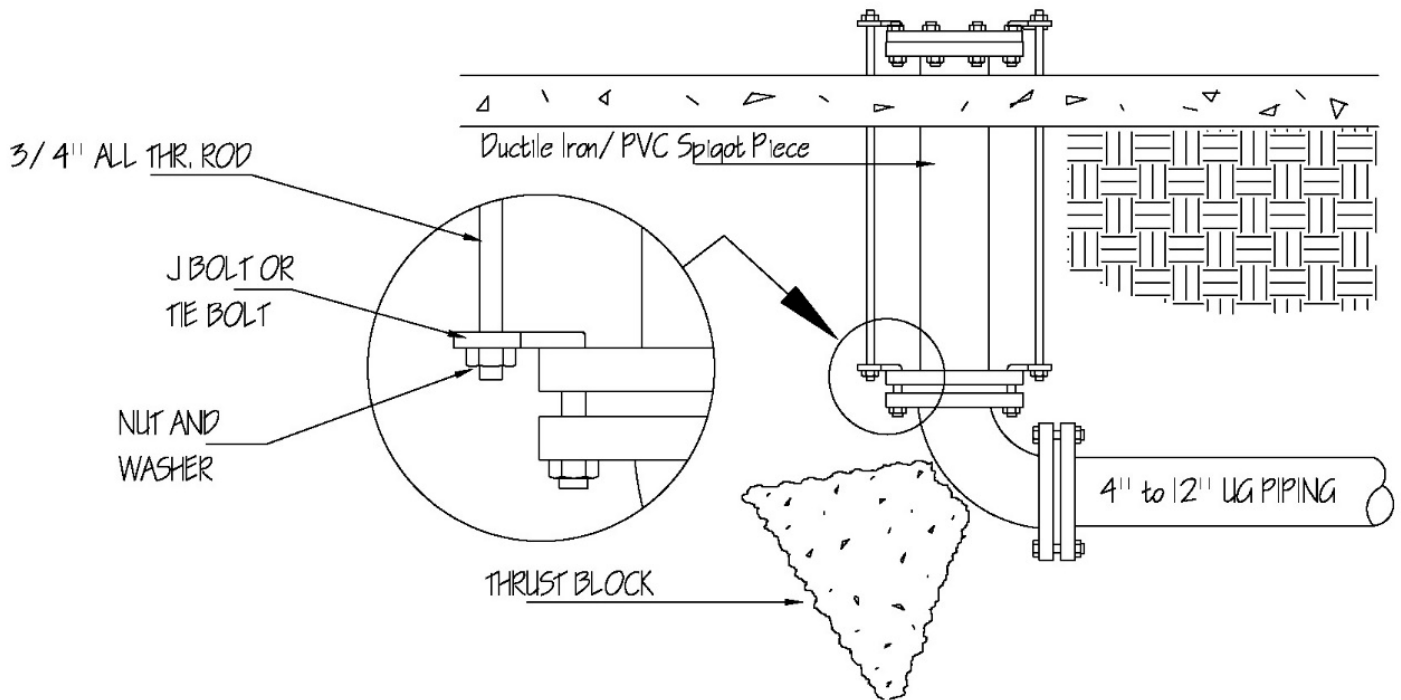
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Note: Set Face of Flange Spiqot a Min. of 0'-6" to Max of 1'-0" A.F.F.,  
and Center a Min. of 1'-6" to a Max. of 5'-0" Inside Finish Wall



Spiqot Detail



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