



## Fire Service Mains, Fire Hydrants, and Fire Department Connections - Policy

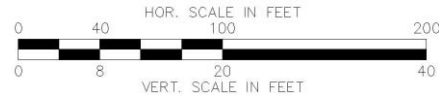
[Revised 10/16/2019 – Recent updates in Red]

**This policy is subject to revision - download the latest version at: [www.cor.net/fire/permits](http://www.cor.net/fire/permits)**

Fire Service Mains, Fire Hydrants, and Fire Department Connections shall comply with this policy. The list may not include all requirements. If you have questions, please contact the Fire Marshal's Office - (972) 744-5750 or email [fmo@cor.gov](mailto:fmo@cor.gov). **New items are in red.**

### **GENERAL:**

1. Submittals shall comply with this document and *Fire Protection System Permit Submittals* available at [www.cor.net/fire/permits](http://www.cor.net/fire/permits);
2. Submittals require a *Fire Protection System Permit Application*, available at [www.cor.net/fire/permits](http://www.cor.net/fire/permits);
3. Plans must clearly indicate all components affecting the system - unrelated items should not be shown:
  - a. North shall be indicated;
  - b. Plans shall be to scale – a graphic scale shall be indicated, e.g.:
  - c. Identify all applicable fire lane(s) on the plans;
  - d. Indicate building height(s) and outline(s) on the plans;
  - e. Show the following details, as applicable, on the plans [Water Standard and Domestic Vault Details at [www.cor.net/fire/permits](http://www.cor.net/fire/permits)]:
    - i. Thrust-block(s) and/or other stabilization methods;
    - ii. Embedment detail – **must comply with the detail on next page**;
    - iii. **Protection from Freezing shall comply with 2019 NFPA 24 10.4.2. [See Figure A.10.4.2(a) Recommended Depth of Cover (in feet) Above Top of Underground Yard Mains – Richardson's recommended depth is 3-feet.**
    - iv. Vault, and Backflow Prevention [if applicable];
    - v. Piping, including risers;
    - vi. Fire hydrants – existing and proposed;
    - vii. Fire department connection, related piping, and sign details – **indicate system demand pressure**;
    - viii. Other details affecting the design and operation of the system.
4. A licensed utility contractor must coordinate with City of Richardson, Development & Engineering Department [(972) 744-4240 / fax (972) 744-5804 / information line (972) 744-4241], for a permit to tap into the city's water supply;



### **FDCs [Fire Department Connections] – SUBMIT APPLICABLE DETAILS:**

1. Where a standpipe system is required, the FDC line will be a minimum of 6" diameter;
2. FDC location(s) shall be at least 1½ the building height away from the building served [OR minimum 50' away from the building served when specifically approved]. They should be off a corner of the building when practical, and out of collapse zone;
3. FDCs shall be accessible from a fire lane, not from a public street, unless specifically approved;
4. FDC distance to the fire lane should be minimum 3' and maximum 35', along an approved path;
  - a. A 3-foot (914 mm) clear space shall be maintained around the circumference of FDCs;
  - b. An unobstructed path to the FDC of at least 5' width must be provided and maintained.
5. FDC distance to the fire hydrant should be minimum 35' and maximum 135', along an approved path [measure along hose lay];
6. FDC shall be located relative to fire hydrant such that hose lay will not cross roadway or fire lane;
7. FDC shall be 5-inch Storz with a 30° elbow turned down;
8. FDC shall be min. 18 in. to bottom, max. 48 in. to top, above the adjoining ground, sidewalk, or grade surface;
9. FDCs shall be provided with locking Knox StorzGuard Caps – order from [www.knoxbox.com](http://www.knoxbox.com);
10. FDC Signs – SUBMIT DETAILS of design and installation:
  - a. Approved address/building number(s) sign shall be attached to ALL FDCs – Buildings served by each FDC shall have approved address/building number(s) sign(s) plainly visible from the FDC;
  - b. *A metal sign with raised letters at least 1 inch in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable;*
  - c. *Where the system demand pressure exceeds 150 psi, the sign [above] shall indicate the required design pressure – indicate the system demand in submittals;*
  - d. *Where the [FDC] does not serve the entire building, a sign shall be provided indicating the portions of the building served.*



Example

### **FIRE HYDRANTS – SUBMIT APPLICABLE DETAILS:**

1. Fire Hydrants shall be spaced no more than 300' in commercial areas;
2. Fire Hydrants should be located 2'-5' behind the curb of a fire lane or street;
3. A 5-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants.

**INSPECTIONS AND TESTING:**

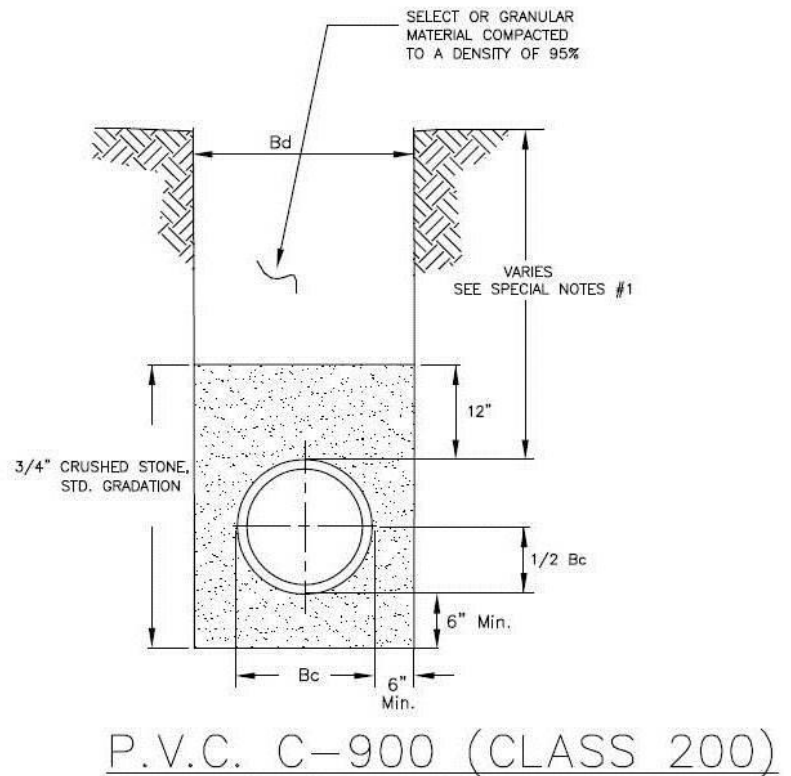
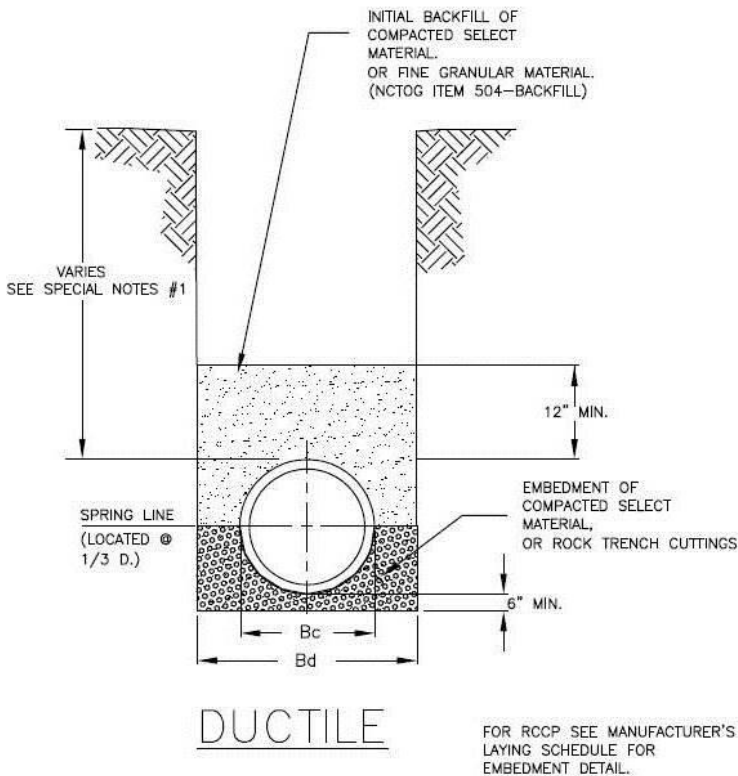
1. Work must be completed, inspected & pre-tested BEFORE requesting an inspection, unless otherwise approved;
2. **Close-Out Documents** - BEFORE requesting “final” insp. [email .PDFs to firepermits@cor.gov, with permit # in subject line]:
  - a. City of Richardson *Backflow Prevention Assembly Test and Maintenance Report* [www.cor.net/fire/permits], if applicable: **A copy must also be attached to the assembly in a watertight container.**
  - b. *Contractor's Material and Test Certification for Underground Piping* [www.tdi.texas.gov/forms/form18sprinkler.html];
3. As-built record drawings marked “AS-BUILTS” when changed from approved plans, or when otherwise requested.
4. Applicant shall request all inspections by email [[firepermits@cor.gov](mailto:firepermits@cor.gov)] or phone [(972) 744-5750] at least 1 full business day in advance;
5. **Visual inspections should coincide with the hydrostatic test, when possible. Proper embedment [type and depth] should center-load pipe lengths, but connections, stabilization, wrapping, and pipe identification must be accessible and visible; All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi or 50 psi in excess of the system working pressure, whichever is greater, and shall maintain that pressure at ±5 psi for 2 hours;**
6. **Photograph gauge(s) or make a written note of date, time and psi when pump was disconnected. Remove the pump from the area.**

**STANDPIPE SYSTEM FDC [NFPA 14]:**

1. Fire department connections shall be located not less than 18 in. (457 mm) nor more than 48 in. (1219 mm) above the level of the adjoining ground, sidewalk, or grade surface. [2019 NFPA 14 6.4.6];
  - a. *Fire Hydrants shall be spaced no more than 300' in commercial areas;*
  - b. *Fire Hydrants should be located 2'-5' behind the curb of a fire lane or street;*
  - c. *Distance from Fire Hydrant to the FDC should be minimum 35' and maximum 135' along an approved path;*
  - d. *Locate Fire Hydrant and FDC such that hose connections will not obstruct access – hose lay should not cross roadway or fire lane;*
  - e. *FDC distance from the Fire Lane should be minimum 3' and maximum 35' along an approved path;*
  - f. *An unobstructed path to the FDC of at least 5' width must be provided and maintained;*
  - g. *A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants and FDCs;*

**VARIANCES:**

1. A variance is required for systems that do not specifically comply with the requirements of the applicable Codes and standards. “Variance Application” form is available at [www.cor.net/fire/permits](http://www.cor.net/fire/permits).



**EMBEDMENT FOR WATER CONDUITS**