



Fire Marshal's Office

1500 Highway 66
Garland, TX 75040
(972) 781-7148
(972) 781-7142 – fax

Underground Fire Protection Systems Plan Submittal

Revised 11/06/18

1) Plan Submittal Requirements:

- A) Prior to submittal and review of Underground for Fire Protection Plan, a Site Plan/ Utility Plan showing the tap on City's Water Main must be approved by the Engineering Department's Drainage and Development section. Call 972-205-2170 for requirements.
- B) Plans must be designed by a Responsible Managing Employee (RME) or Professional Engineer (PE-WET): Include name, state license number, and original signature on all plans.
- C) Civil drawings must match underground plans submitted to the FMO.
- D) Building Permit information included in submittal (i.e. Occupancy classification, construction type, etc.).
- E) 6 sets of plans: 1 set of calculations. The location of fire protection appliances on submitted plans must match location on site plans. **2) Provide scope of work on plans.**

3) All occupancy/owner information provided (i.e. Names, addresses, phone #)

4) All graphical information provided (i.e. Scale, points of compass or north arrow, etc.)

5) All pipes must be listed/approved for fire protection service.

6) Minimum coverage depth clearly indicated on plans.

7) FDC Requirements:

- A) FDC connection must be 5" Storz connection.
- B) Minimum pipe size of 6 inches (Exception: Hydraulic calculations must be supplied to prove adequacy of pipe smaller than 6 inches, 4 inch minimum for Fire Department Connection [FDC]). Flows over 750 GPM require 6" FDC
- C) Details drawing of FDC provided on plans
- D) Remote FDC must be within 3-8 feet of an approved fire lane or public street. Wall mounted FDC must be within 50 feet of fire lane. (See Fire Department policy on FDC for additional requirements)
- E) Building mounted FDC: Allowed when building is 1-Story and less than 35' in height and other buildings at the discretion of the Fire Marshal.
- F) **All** FDCs must be within 100' of a fire hydrant.
- G) ½" Ball drip valve is required on the FDC underground line and detailed on plans for both remote FDC and FDC located on the building. (See Underground Detail).

8) Details drawing of fire hydrants must be provided on plans (including control valves for each hydrant).

9) All water supply information and hydraulic calculations must be provided (Water flow test must be conducted and submitted within 12 months of plan submittal date.)

10) Backflow Prevention Devices Requirement:

- A) Required backflow prevention devices and type of control valve monitoring detailed on plans.
- B) Backflow devices and check valve for FDCs shall be installed in the riser room.
- C) Backflow protection shall meet City of Garland Water Utilities Department requirements for backflow. (DCBF) Approved backflow devices can be verified by calling Chris Williams at 972-205-3244 or Kasi Ruiz at 972-205-3214

11) Locations of all thrust blocks and details shown on the plans.



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- 12) Pipe embedment shall be in accordance with the City of Garland Engineering Department's standards.(COG Embedment Detail I)
- 13) All Underground Fire Protection Systems must be installed in accordance with International Fire Code 2015, NFPA 24 and local amendments and policies.
- 14) Installing contractor MUST BE licensed by the Texas State Fire Marshal's Office as an RME-U minimum.

Underground Fire Line Installation and Testing

- 1) All fire protection systems including the underground must be submitted, reviewed, and permitted by the Fire Marshal's Office at 1500 Highway 66.
- 2) All work done in the Row/Easements must have a ROW Permit and approved plans submitted. Registration guidelines must be met prior to any work done on the Fire yard line. Contact the Engineering ROW Administrator at 972-205-3622 or at 800 Main Street.
- 3) Contact the City of Garland Field Engineering Department at (972-205-2183) for required inspection of installation and hydrostatic testing and of the underground fire line and Fire Department Connection.
- 4) Call the Fire Marshal's Office at (972-781-7148) to schedule a fire inspector to witness flushing of the Fire Department Connection.
 - a. Must have Field Engineering Department proof of inspection on file in the Fire Marshal's Office before flush test can be scheduled.
 - b. Must have 5" Knox locking cap for FDC ordered AND on site before flush test can be scheduled.
 - c. Knox cap is to be installed on FDC immediately upon completion of flush.

FLUSHING: Flow the required rate until water is clear as indicated by no collection of foreign material at outlets such as hydrants and blow-offs. Flush at flows not less than 390 gpm (1476 L/min) for 4 in. pipe, 880 gpm (3331 L/min) for 6 in. pipe, 1560 gpm (5905 L/min) for 8 in. pipe, 2440 gpm (9235 L/min) for 10 in. pipe, and 3520 gpm (13,323 L/min) for 12 in. pipe. When supply cannot produce stipulated flow rates, obtain maximum available. (NFPA 13-2013)