

## UNDERGROUND PIPING FOR PRIVATE FIRE SERVICE MAINS, HYDRANTS, FIRE SPRINKLERS AND FIRE STANDPIPES

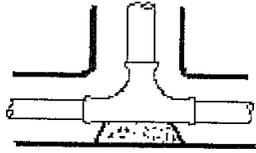
1. Prior to installation, all plans and specifications shall be approved by the Office of the State Fire Marshal.
2. Inspections are required: 1) prior to pouring thrust blocks, 2) of thrust blocks and joints 3) hydrostatic testing, and 4) for flush. Schedule all inspections 72 hours in advance. Call the local Deputy State Fire Marshal for inspection scheduling.
3. Installation, inspection, and testing shall conform to 2013 NFPA 13 and 2013 NFPA 24.
4. Geotechnical engineering report to compliment thrust block design must be listed on plans.
5. Private fire hydrants shall be approved type and have not less than a 6 inch diameter connection with the mains. All outlets shall be provided with National Standard Threads (NST).
6. A valve shall be installed in the hydrant connections; all valves shall be installed within 20 feet of the hydrant.
7. Fire hydrants shall be located not less than 40 feet from the buildings to be protected. A keyed gate valve shall be provided for each hydrant in an accessible location. Valves shall not be located in parking stalls.
8. Hydrants shall be protected if subject to mechanical damage. The means of protection shall be arranged in a manner that does not interfere with connection to or operation of hydrants.
9. Piping shall be listed for fire protection service or shall comply with the standards in 2013 NFPA 24 table 10.1.1
10. All buried fittings shall be of an approved type with joints and pressure class ratings compatible with the pipe used.
11. All bolts used for underground connections shall be stainless steel. All corrosion protection shall be in place.
12. All bolted joint accessories shall be cleaned and thoroughly coated with asphalt or other corrosion-retarding material after installation.
13. The depth of cover over water pipes shall be determined by the maximum depth of frost penetration in the locality where the pipe is laid; top of the pipe shall be buried not less than 1ft. below the frost line for the facility.
14. In those locations where frost is not a factor, the depth of cover shall not be less than 2 ½ ft. to prevent mechanical damage. When surface loads are expected, a minimum of 3 ft. cover shall be provided.
15. All tees, plugs, caps bends, reducers, valves and hydrant branches shall be restrained against movement in accordance with 2013 NFPA 24 §10.8.2 or §10.8.3
16. Thrust blocks, or other approved method of thrust restraint, shall be provided wherever pipe changes direction.
17. The trench shall be excavated for thrust blocks and inspected *prior* to pour. Thrust blocks shall be placed between undisturbed earth and the fitting to be restrained and shall be ca[able of resisting the calculated thrust force.
18. Thrust blocks shall be placed so that the joints are accessible for repair.
19. A hydrostatic test (200 psi for two hours or 50 psi over maximum static pressure, whichever is greater) shall be witnessed by a Deputy State Fire Marshal. The trench shall be back-filled between the joints to prevent movement of the pipe.
20. The system shall be thoroughly flushed before connection is made to overhead piping. Flow shall be through a minimum of a 4" hose or pipe unless otherwise approved by the Deputy State Fire Marshal. A Deputy State Fire Marshal shall witness the flush.
21. Control valves shall be supervised by one of the 4 acceptable methods listed in 2013 NFPA 24 §6.7.2

# Office of the State Fire Marshal

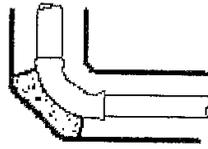
## NOTES FOR THRUST BLOCK RESTRAINTS

PLACE THE FOLLOWING NOTES, VERBATIM, ON THE PLAN:

CONDITION I



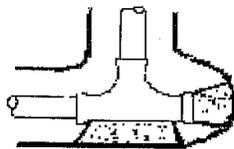
CONDITION II



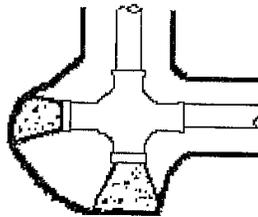
CONDITION III



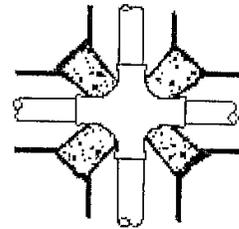
CONDITION IV



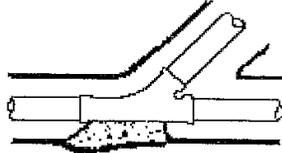
CONDITION V



CONDITION VI



CONDITION VII



CONDITION VIII

