



<b>FIRE PREVENTION STANDARDS</b>	DATE: 9/5/96	NUMBER: FP0-005
	APPROVED: <i>[Signature]</i>	REVISED: 01/01/2012
	TITLE: 13-D Systems on Public Water Supply	

**Guide to Fire Sprinkler Requirements  
For  
One and Two Family Dwellings  
(Public Water Supply Systems)**

These are the basic requirements for residential fire sprinkler systems compiled by the Fire Prevention Officers Section of the Santa Cruz County Fire Chief's Association.

The National Standard Utilized for residential fire sprinklers is the latest edition of N.F.P.A. 13D. Listed below are additional modifications required.

- 1) Plans shall be submitted and approved prior to installation to the Fire Prevention Office having jurisdiction. Allow a minimum of 14 days for plan check and approval.
- 2) The following information is required when submitting plans for a sprinkler system in a single or two-family residence.
- 3) Design and Installation Requirements
  - a. N.F.P.A. 13D residential automatic sprinkler systems shall be designed and hydraulically calculated by a licensed engineer, Fire Protection Engineer (F.P.E.), licensed C-16 Contractor (if they install the system), or by an owner-builder of an owner-occupied single-family dwelling.
    - (1) Scale 1/4" = 1 foot. North arrow.
    - (2) Dimensions and arrangement of rooms and partitions.
    - (3) Systems shall be calculated to provide for a 10-pound residual.
  - b. The sprinkler system shall be installed by a licensed C-16 contractor or by an owner-builder of an owner-occupied single-family dwelling.
  - c. The fire sprinkler system shall consist of the overhead and underground piping.
  - d. Proof of Engineering or C-16 license shall be submitted with plans and calculations.
  - e. When field variations are made to Fire Department approved sprinkler plans, the contractor shall provide "As Built" Plans and Calculations to prove the system as installed prior to overhead rough inspection. Insulation and wall/ceiling sheeting installations may be delayed if review of new plans and calculations is necessary.

## SYSTEM DESIGN REQUIREMENTS

### A. Water Supply

- 1) Check with applicable local water agency.
  - a. Document on the plans:
    - (1) The source of the water pressure information.
    - (2) The date the test was completed.
  - b. If test date exceeds 5 years, new test information will be required.
- 2) If the building site is outside of a local water agency service area the minimum required amount of stored fire protection water for one and two family dwellings equipped with an automatic fire sprinkler system is 10,000 gallons, or as required by the local fire agency.

### B. Requirements for Underground Installation

#### 1) Pipe

- a. Underground pipes will be 2" or as approved by the authority having jurisdiction based on available water, square footage and hydraulic calculations. Indicate on plans with a detail drawing.
- b. Future structural expansion should be considered when determining UG pipe size.
- c. Minimum underground pipe depth is 18 inches below rough grade.
- d. Schedule 40 PVC or other listed and approved materials are allowed for underground supply line from the water source to the transition fitting.
- e. Underground piping will terminate with a threaded or glued cap at six inches below finished grade, or higher.

**Note: This is the termination of the underground piping.**

- f. Transition fitting to be installed a minimum of six inches below grade.
- g. All piping from the transition fitting to the base of the riser (minimum six inches above grade) shall be approved metallic pipe. If copper pipe is used for extension, type "L" is required. \*See Attachment A for diagram.
- h. All transition from metal to plastic will be through schedule 80 plastic fittings.

#### 2) Testing

- a. All residential sprinkler system underground piping systems shall be hydrostatically tested in accordance with the requirements of the California Plumbing Code (not less than minimum design working pressure for 15 minutes) and shall be witnessed by the Fire Department prior to being covered.
- b. Underground pipe shall be flushed with water at the minimum design pressure, through an opening the size of the underground pipe's diameter, until the water runs clear insuring the line is free of contamination before the underground pipe is connected to the riser. If the underground piping is not going to be connected to the riser immediately, the underground is to be secured with a threaded or glued cap.
- c. Provide Contractor's Material and Test Certificate for underground piping at time of test. \*See Attachment C for copy of certificate.

## C. System Components

### 1) Valves and Drains

- a. Control Valve: Control Valves shall be indicating valves and be UL or NFPA approved (i.e. O.S. & Y., butterfly valve, or full flow ball valve).
  - (1) An approved sign indicating "Control Valve" shall be located adjacent to the valve. Control valves installed on the riser must be supervised by one of the following:
    - (a) Central Station, proprietary or remote station alarm service.
    - (b) Local alarm service that will cause the sounding of an audible signal at a
    - (c) Securing the valve in the open position to the approval of the fire authority.
- b. Public Metered Water Systems
  - (1) Single Meter: Owners control valves are required on all residential sprinkler systems capable of shutting off both domestic and fire sprinkler systems. In combination systems having control valves, the control valve must be located below the domestic supply tee.
  - (2) Double Meter: Owners control valves are required on all residential sprinkler systems.
- c. Main Drain/Pressure Relief
  - (1) Main Drain shall be located above the flow switch.
  - (2) Adjustable pressure relief valves are required when the pressure exceeds 125 P.S.I.
  - (3) Main drain valves shall be an approved standard valve.
  - (4) An approved sign indicating "Main Drain" shall be located adjacent to the valve.
- d. Flow Switch/Alarm
  - (1) 110-volt flow alarm with a minimum 6" bell located on an exterior master bedroom wall of the house. The design of the house may require more than one bell.
  - (2) Any exposed wiring to be installed in an approved weather resistant conduit and fittings. A drip loop to the flow switch is preferable.
  - (3) To be wired to a normally used circuit (i.e. kitchen, master bedroom) not on a G.F.C.I. or A.F.C.I. (arc fault) protected circuit.
- e. Check Valve
  - (1) A rubber-seated check valve may be required to be installed on the riser. Consult with local fire department for requirements. Include the manufacturer's "Cut Sheet" showing equivalent feet of pipe loss or PSI loss for the device.

**EXCEPTION:** On a metered service system with a double check valve installed by the water purveyor, check valves on the riser are not required.
- f. Gauge
  - (1) UL approved pressure gauge to have at least 300 PSI reading.

g. Riser Location/Construction

- (1) The riser shall be located on or adjacent to the garage or as approved by the local fire agency.
- (2) Riser to be constructed of approved metallic pipe if located on the exterior of the structure or unprotected on the interior of the structure.
- (3) Riser, if installed in the wall of the structure, shall have an access panel to the exterior with all valves and switches available through the panel when required by the fire code official. Unions should be used to facilitate repairs to the riser.
- (4) Control Valve and Main Drain signs shall be posted on the outside of the access panel door or on riser or structure if riser is exposed.

**\*See Attachment B for Riser Detail**

**\*See Attachment B-1 Riser with Domestic Tee for combination systems**

2. Overhead Piping

a. Pipe & Sprinklers

- (1) Copper, Steel, CPVC and other listed and approved materials shall be used for interior sprinkler lines. All materials shall be installed per manufacturer and fire department requirements.
- (2) A pilot head shall be installed in the attic using a 212-degree commercial head and metallic pipe.
- (3) Heat source clearance for CPVC pipe shall be a minimum of 12 inches or manufacturer's recommendations.
- (4) Areas containing heat-producing equipment shall be protected by automatic fire sprinklers.
- (5) Attics, crawl spaces, or other non-habitable areas that are used for storage shall be protected by automatic fire sprinklers.
- (6) When system is served by a single water meter (minimum 1"), a single supply outlet (passive purge) with approved valve shall be provided for use by plumber as supply to a single water closet. When the static pressure exceeds 80 p.s.i., an approved pressure reducing valve shall be install as close to the water closet as possible. **\*See Attachment E for meter configuration.**

b. Straps

- (1) All straps shall be UL listed for their use with the piping material used.
- (2) All straps shall be secured as per manufacturer's recommendations.

c. Testing

- (1) All systems shall be hydrostatically tested at not less than 200 PSI for two hours or at least 50 PSI in excess of the maximum pressure, when the maximum pressure to be maintained in the system is in excess of 150 PSI. Proof of testing shall be provided and an approved gauge showing the test pressure of at least 200 PSI shall be witnessed by the fire department.
- (2) Sprinkler heads or plugs may be used for testing. The contractor is responsible for replacing damaged heads prior to final.
- (3) Provide Contractor's Material and Test Certificate for overhead piping at time of test. **\*See Attachment D for copy of certificate.**

### 3. Inspector Test Assembly

- a. Valve
  - (1) An approved valve shall be used for the inspector's test valve.
- b. Location/Construction
  - (1) Inspector test assembly to be located at ground level piped from the most remote portion of the sprinkler system. Discharge should be located as not to cause damage to surrounding area with water flow.
  - (1) Inspector test assembly to be constructed of approved metallic pipe if located on the exterior of the structure or unprotected on the interior of the structure.
  - (2) Inspector test assembly, if installed in the wall of the structure, shall have an access panel to the exterior with all valves available through the panel.
  - (3) A "spent" sprinkler head of the same size orifice used for the interior sprinkler heads with the frame cut off shall be used as a test orifice. (An inexpensive commercial head may be used.)
  - (4) An approved sign indicating "Inspector's Test" shall be located adjacent to the valve.

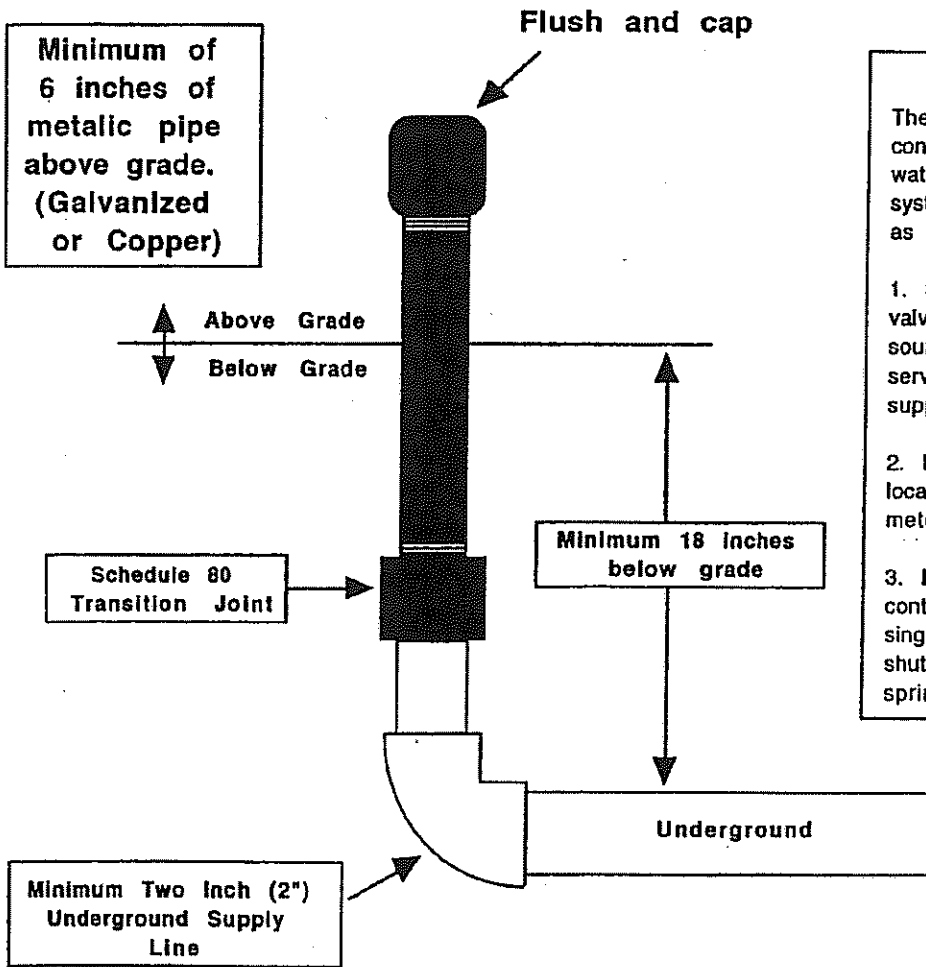
### 4. Spare Sprinkler Head Box, Sprinklers & Sprinkler Head Wrench

- a. Spare sprinkler head box capable of holding a minimum of 6 sprinkler heads shall be installed in the vicinity of the sprinkler riser or as approved by the fire department.
- b. The spare head box shall contain:
  - (1) A minimum of three of the predominant type of head and one of each other type used on the job. **EXCEPTION:** If only one head of a type is used, only one head of that type will be required.
  - (2) Sprinkler head wrench.
- c. The installing Fire Sprinkler Contractor shall affix a permanent decal or other identifying label to the face of the spare head box. Decal shall have company name and contact information.

The appropriate local agency should be contacted regarding local requirements, permit process and fees. Refer to the attached table to determine which fire agency will oversee plan review, installation activities, perform compliance inspections and collect permit fees, if any. For those agencies marked with an (\*) on the following table, CAL FIRE/Santa Cruz County Fire Department is the agency responsible for all aspects of the automatic fire sprinkler installations.

Location	Fire Agency Name	Address	Telephone
Aptos	Aptos/La Selva FPD	6934 Soquel Drive Aptos, CA 95003	(831) 685-6690
Ben Lomond	Ben Lomond FPD	9430 Hwy 9 Ben Lomond, CA 95005	(831) 336-5495
*Bonny Doon	CAL FIRE/ Santa Cruz County Fire Dept.	P.O. Drawer F-2 Felton, CA 95018	(831) 335-6748
Boulder Creek	Boulder Creek FPD	13230 Central Ave Boulder Creek, CA 95006	(831) 338-7222
Branciforte	Branciforte Fire Dept.	2711 Branciforte Dr. Santa Cruz, CA 95065	(831) 423-8856
Brookdale	Boulder Creek FPD	13230 Central Ave Boulder Creek, CA 95006	(831) 338-7222
Capitola	Central FPD	930 17 <sup>th</sup> Ave. Santa Cruz, CA 95062	(831) 479-6843
*Corralitos	CAL FIRE/Santa Cruz County Fire Dept.	P.O. Drawer F-2 Felton, CA 95018	(831) 335-6748
*Davenport	CAL FIRE/Santa Cruz County Fire Dept.	P.O. Drawer F-2 Felton, CA 95018	(831) 335-6748
Felton	Felton FPD	131 Kirby St. Felton, CA 95018	(831) 335-4422
*Freedom	Pajaro Valley Fire District	P.O. Drawer F-2 Felton, CA 95018	(831) 335-6748
La Selva Beach	Aptos/La Selva FPD	6934 Soquel Drive Aptos, CA 95003	(831) 685-6690
Live Oak	Central FPD	930 17 <sup>th</sup> Ave. Santa Cruz, CA 95062	(831) 479-6843
Mount Herman	Felton FPD	131 Kirby St. Felton, CA 95018	(831) 335-4422
Pajaro Dunes	CAL FIRE/Santa Cruz County Fire Dept.	P.O. Drawer Felton, CA 95018	(831) 335-6748
Rio Del Mar	Aptos/La Selva FPD	6934 Soquel Drive Aptos, CA 95003	(831) 685-6690
*Salispuedes	Pajaro Valley Fire District	P.O. Drawer F-2 Felton, CA 95018	(831) 335-6748
Santa Cruz City	Santa Cruz FD	230 Walnut St. Santa Cruz, CA 95060	(831) 420-5280
Scotts Valley	Scotts Valley FPD	7 Erba lane Scotts Valley, CA 95066	(831) 438-0211
Soquel	Central FPD	930 17 <sup>th</sup> Ave. Santa Cruz, CA 95062	(831) 479-6843
Watsonville	Watsonville FD	115 2 <sup>nd</sup> St. Watsonville, CA 95076	(831) 768-3200
Zayante	Zayante FPD	7700 East Zayante Rd. Felton, CA 95018	(831) 335-5100

Attachment "A"

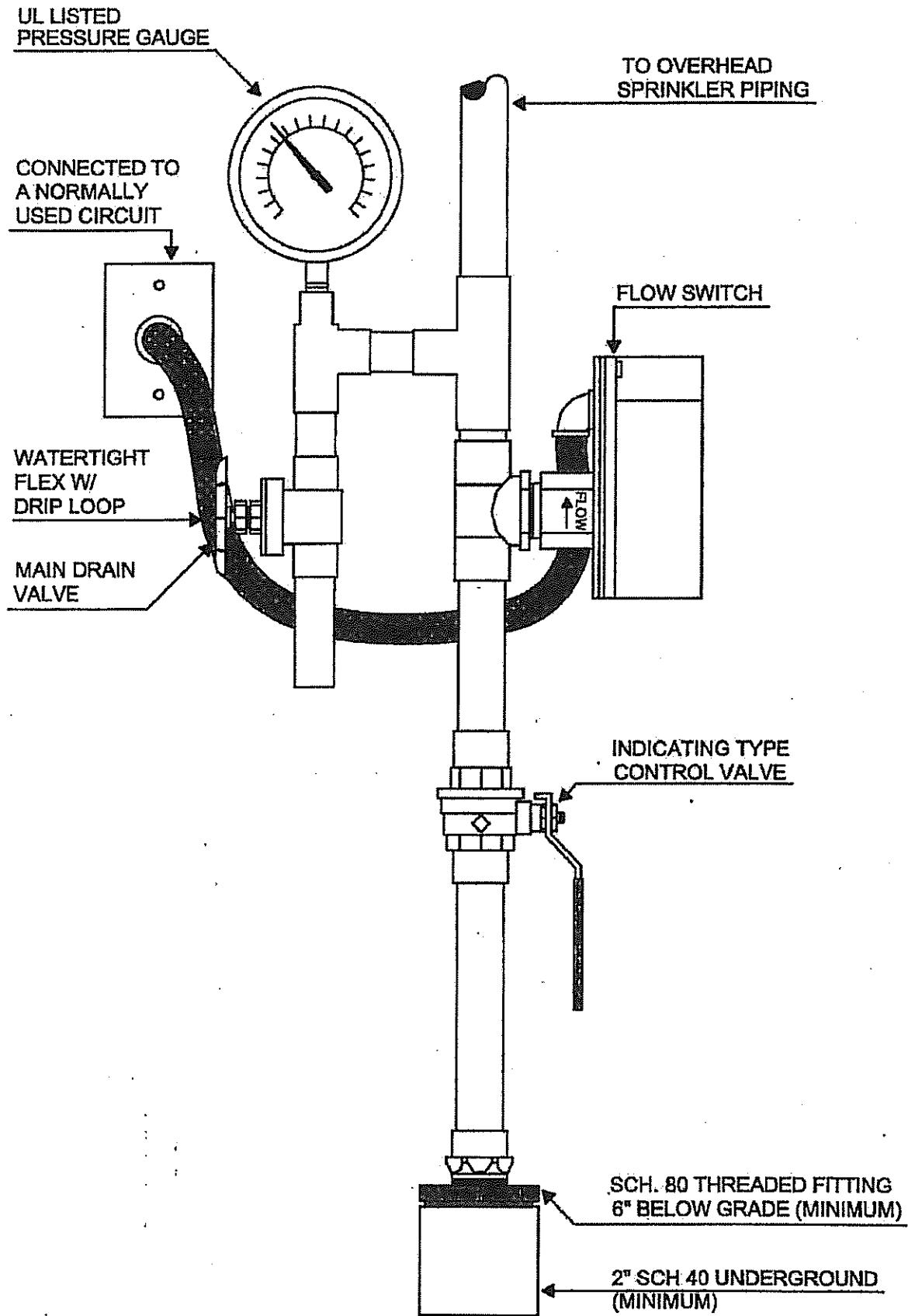


Control Valves

The requirement for fire sprinkler system control valves is dependant on the type of water system. The three types of water systems and control valve requirements are as follow:

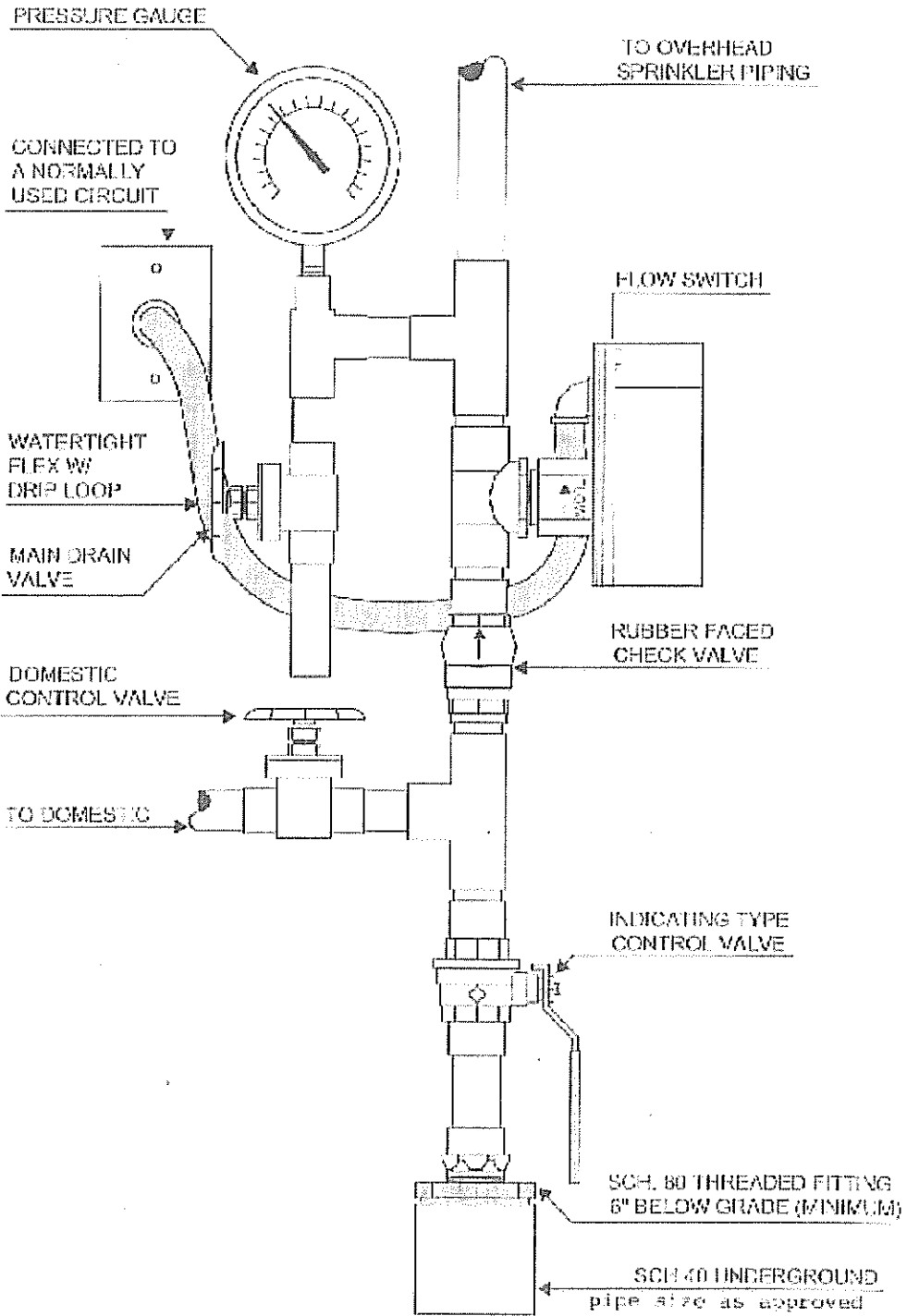
1. **Single Meter:** An owners control valve is not required when there is a single source water meter equipped with a shut-off serving both domestic and fire sprinkler supplies.
2. **Double Meter:** An owners control valve located on the riser is required on double metered systems.
3. **Private Water System:** An owners control valve is not required when there is a single source water supply equipped with a shut off serving both the domestic and fire sprinkler systems.

Attachment "B"





Attachment B-1



**Attachment "C"**

<b>Contractor's Material and Test Certificate for Underground Piping</b>	
<p><b>PROCEDURE</b>                      Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.</p> <p>A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.</p>	
Property name	Date
Property address	
<b>Plans</b>	Accepted by approving authorities (names)
	Address
	Installation conforms to accepted plans <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span>
	Equipment used is approved <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, state deviations
<b>Instructions</b>	Has person in charge of fire equipment been instructed as to location of control valves and care and maintenance of this new equipment? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, explain
	Have copies of appropriate instructions and care and maintenance charts been left on premises? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, explain
<b>Location</b>	Supplies buildings
<b>Underground pipes and joints</b>	Pipe types and class <span style="float: right;">Type joint</span>
	Pipe conforms to _____ standard <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> Fittings conforms to _____ standard <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, explain
	Joints needed anchorage clamped, strapped, or blocked in accordance with _____ standard <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, explain
<b>Test description</b>	<p><b>Flushing:</b> Flow the required rate until water is clear as indicated by no collection of foreign material in burlap bags 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.</p> <p><b>Hydrostatic:</b> Hydrostatic tests shall be made at not less than 200 psi (13.8 bar) for 2 hours or 50 psi (3.4 bar) above static pressure in excess of 150 psi (10.3 bar) for 2 hours.</p> <p><b>Leakage:</b> New pipe laid with rubber gasketed joints shall, if the workmanship is satisfactory, have little or no leakage at the joints. The amount of leakage at the joints shall not exceed 2 quarts per hour (1.89 L/hr) per 100 joints irrespective of pipe diameter. The leakage shall be distributed over all joints. If such leakage occurs at a few joints, the installation shall be considered unsatisfactory and necessary repairs made. The amount of allowable leakage specified above can be increased by 1 fluid ounce per inch valve diameter per hr. (30 mL/25 mm/hr) for each metal seated valve isolating the test section. If dry barrel hydrants are tested with the main valve open so the hydrants are under pressure, an additional 5 ounces per minute (150 mL/min) leakage is permitted for each hydrant.</p>
<b>Flushing tests</b>	New underground piping flushed according to _____ standard by (company) <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, explain
	How flushing flow was obtained <span style="float: right;">Through what type opening</span> <input type="checkbox"/> Public water <input type="checkbox"/> Tank or reservoir <input type="checkbox"/> Fire pump <input type="checkbox"/> Hydrant butt <input type="checkbox"/> Open pipe
	Lead-ins flushed according to _____ standard by (company) <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If no, explain
	How flushing flow was obtained <span style="float: right;">Through what type opening</span> <input type="checkbox"/> Public water <input type="checkbox"/> Tank or reservoir <input type="checkbox"/> Fire pump <input type="checkbox"/> Y connection to flange <input type="checkbox"/> Open pipe and spigot

### Attachment "C", Cont.

Pressure reducing valve test	Location and floor	Make and model	Setting	Static pressure		Residual pressure (flowing)		Flow rate
				Inlet (psi)	Outlet (psi)	Inlet (psi)	Outlet (psi)	Flow (gpm)
Test description	<p><b>Hydrostatic:</b> Hydrostatic tests shall be made at not less than 200 psi (13.6 bar) for 2 hours or 50 psi (3.4 bar) above static pressure in excess of 150 psi (10.2 bar) for 2 hours. Differential dry-pipe valve clappers shall be left open during the test to prevent damage. All aboveground piping leakage shall be stopped.</p> <p><b>Pneumatic:</b> Establish 40 psi (2.7 bar) air pressure and measure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours. Test pressure tanks at normal water level and air pressure and measure air pressure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours.</p>							
Tests	All piping hydrostatically tested at _____ psi (____ bar) for _____ hours						If no, state reason	
	Dry piping pneumatically tested <input type="checkbox"/> Yes <input type="checkbox"/> No							
	Equipment operates properly <input type="checkbox"/> Yes <input type="checkbox"/> No							
	Do you certify as the sprinkler contractor that additives and corrosive chemicals, sodium silicate or derivatives of sodium silicate, brine, or other corrosive chemicals were not used for testing systems or stopping leaks? <input type="checkbox"/> Yes <input type="checkbox"/> No							
	Drain test	Reading of gauge located near water supply test connection: _____ psi (____ bar)				Residual pressure with valve in test connection open wide: _____ psi (____ bar)		
Underground mains and lead in connections to system risers flushed before connection made to sprinkler piping								
Verified by copy of the U Form No. 85B flushed by installer of underground sprinkler piping <input type="checkbox"/> Yes <input type="checkbox"/> No						Other Explain		
If powder-driven fasteners are used in concrete, has representative sample testing be satisfactorily completed? <input type="checkbox"/> Yes <input type="checkbox"/> No								
Blank testing gaskets	Number used		Locations				Number removed	
Welding	Welding piping <input type="checkbox"/> Yes <input type="checkbox"/> No							
	If yes . . .							
	Do you certify as the sprinkler contractor that welding procedures comply with the requirements of at least AWS B2.1?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Do you certify that the welding was performed by welders qualified in compliance with the requirements of at least AWS B2.1?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you certify that the welding was carried out in compliance with a documented quality control procedure to ensure that all discs are retrieved, that openings in piping are smooth, that slag and other welding residue are removed, and that the internal diameters of piping are not penetrated?						<input type="checkbox"/> Yes <input type="checkbox"/> No		
Cutouts (discs)	Do you certify that you have a control feature to ensure that all cutouts (discs) are retrieved?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
Hydraulic data nameplate	Nameplate provided <input type="checkbox"/> Yes <input type="checkbox"/> No				If no, explain			
Remarks	Date left in service with all control valves open							
Signatures	Name of sprinkler contractor							
	Tests witnessed by							
	For property owner (signed)				Title		Date	
	For sprinkler contractor (signed)				Title		Date	
Additional explanations and notes								

## Attachment "D"

<b>Contractor's Material and Test Certificate for Aboveground Piping</b>											
<b>PROCEDURE</b> Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.  A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.											
Property name							Date				
Property address											
<b>Plans</b>	Accepted by approving authorities (names)										
	Address										
	Installation conforms to accepted plans							<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Equipment used is approved							<input type="checkbox"/> Yes	<input type="checkbox"/> No			
If no, explain deviations											
<b>Instructions</b>	Has person in charge of fire equipment been instructed as to location of control valves and care and maintenance of this new equipment? If no, explain?									<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Have copies of the following been left on the premises?									<input type="checkbox"/> Yes	<input type="checkbox"/> No
	1. System components instructions	<input type="checkbox"/> Yes	<input type="checkbox"/> No	2. Care and maintenance instructions	<input type="checkbox"/> Yes	<input type="checkbox"/> No	3. NFPA 25	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
<b>Location of system</b>	Supplies buildings										
<b>Sprinklers</b>	Make	Model	Year of manufacture	Orifice size	Quantity	Temperature rating					
<b>Pipe and fittings</b>	Type of pipe _____										
Type of fittings _____											
<b>Alarm valve or flow indicator</b>	Alarm device						Maximum time to operate through test connection				
	Type	Make	Model	Minutes		Seconds					
<b>Dry pipe operating test</b>	Dry valve					Q. O. D.					
	Make	Model	Serial no.		Make	Model	Serial no.				
	Time to trip through test connection <sup>1</sup>		Water pressure	Air pressure	Trip point air pressure	Time water reached test outlet <sup>1</sup>		Alarm operated properly			
	Minutes    Seconds		psi	psi	psi	Minutes	Seconds	Yes	No		
	Without Q.O.D.										
	With Q.O.D.										
If no, explain											
<b>Drift and preaction valves</b>	Operation <input type="checkbox"/> Pneumatic <input type="checkbox"/> Electric <input type="checkbox"/> Hydraulics										
	Piping supervised <input type="checkbox"/> Yes <input type="checkbox"/> No				Detecting media supervised <input type="checkbox"/> Yes <input type="checkbox"/> No						
	Does valve operate from the manual trip, remote, or both control stations?							<input type="checkbox"/> Yes <input type="checkbox"/> No			
	Is there an accessible facility in each circuit for testing?					If no, explain					
	<input type="checkbox"/> Yes <input type="checkbox"/> No		Does each circuit operate supervision loss alarm?			Does each circuit operate valve release?		Maximum time to operate release			
	Make	Model	Yes	No	Yes	No	Minutes	Seconds			

### Attachment "D", Cont.

Pressure reducing valve test	Location and floor	Make and model	Setting	Static pressure		Residual pressure (flowing)		Flow rate
				Inlet (psi)	Outlet (psi)	Inlet (psi)	Outlet (psi)	Flow (gpm)
Test description	<p><b>Hydrostatic:</b> Hydrostatic tests shall be made at not less than 200 psi (13.6 bar) for 2 hours or 50 psi (3.4 bar) above static pressure in excess of 150 psi (10.2 bar) for 2 hours. Differential dry-pipe valve clappers shall be left open during the test to prevent damage. All aboveground piping leakage shall be stopped.</p> <p><b>Pneumatic:</b> Establish 40 psi (2.7 bar) air pressure and measure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours. Test pressure tanks at normal water level and air pressure and measure air pressure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours.</p>							
Tests	All piping hydrostatically tested at _____ psi (____ bar) for _____ hours						If no, state reason	
	Dry piping pneumatically tested <input type="checkbox"/> Yes <input type="checkbox"/> No							
	Equipment operates properly <input type="checkbox"/> Yes <input type="checkbox"/> No							
	Do you certify as the sprinkler contractor that additives and corrosive chemicals, sodium silicate or derivatives of sodium silicate, brine, or other corrosive chemicals were not used for testing systems or stopping leaks? <input type="checkbox"/> Yes <input type="checkbox"/> No							
	Drain test	Reading of gauge located near water supply test connection: _____ psi (____ bar)				Residual pressure with valve in test connection open wide: _____ psi (____ bar)		
Underground mains and lead in connections to system risers flushed before connection made to sprinkler piping								
Verified by copy of the U Form No. 85B flushed by installer of underground sprinkler piping <input type="checkbox"/> Yes <input type="checkbox"/> No						Other Explain		
If powder-driven fasteners are used in concrete, has representative sample testing be satisfactorily completed? <input type="checkbox"/> Yes <input type="checkbox"/> No						If no, explain		
Blank testing gaskets	Number used		Locations				Number removed	
Welding	Welding piping <input type="checkbox"/> Yes <input type="checkbox"/> No							
	If yes...							
	Do you certify as the sprinkler contractor that welding procedures comply with the requirements of at least AWS B2.1?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Do you certify that the welding was performed by welders qualified in compliance with the requirements of at least AWS B2.1?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you certify that the welding was carried out in compliance with a documented quality control procedure to ensure that all discs are retrieved, that openings in piping are smooth, that slag and other welding residue are removed, and that the internal diameters of piping are not penetrated?						<input type="checkbox"/> Yes <input type="checkbox"/> No		
Cutouts (discs)	Do you certify that you have a control feature to ensure that all cutouts (discs) are retrieved?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
Hydraulic data nameplate	Nameplate provided <input type="checkbox"/> Yes <input type="checkbox"/> No				If no, explain			
Remarks	Date left in service with all control valves open							
Signatures	Name of sprinkler contractor							
	Tests witnessed by							
	For property owner (signed)				Title		Date	
	For sprinkler contractor (signed)				Title		Date	
Additional explanations and notes								