



DEPARTMENT OF UTILITIES  
ENGINEERING SERVICES DIVISION  
DEVELOPMENT REVIEW SECTION  
and  
FIRE DEPARTMENT  
FIRE PREVENTION DIVISION

GUIDELINES,  
AND  
PROCEDURES

001

**Guidelines: Residential Domestic/Fire Water Service Connection**

Effective 1/1/2011

This guideline is based on current City Code, Design and Procedure Manual (DPM -1990), Cross-Connection Control Policy (CCC), Fire Department Policy 10-001, 2007 Standard Specifications and DOU current standard practices. It is intended to clarify and document the acceptable water service connections for all single family residential, townhome and duplex projects that are required to be equipped with fire sprinklers systems per the code changes in 2010 California Residential Codes.

**Water Service Connection:** The size of the water service connection shall be verified with the Fire Department Plan Review prior to authorizing a water service connection (excluding Future Service Connections).

City Code Section 13.04.060 in part states *“Except as provided herein, **maximum** sizes of service connections shall be determined by the director. For single-family domestic service connections, the **maximum** size shall be one inch, or one and one half inches if residential fire sprinkler systems are present, unless otherwise authorized by the director.”*

If the request for a water service connection is greater than 1 ½”, the plan reviewer shall ask the client to formally submit a request for a larger service prior to authorizing the service connection. The request shall acknowledge the associated development fees and monthly service charges. Information related to water development fees, monthly meter fees and tap fees may be given to the client in advance.

**“Future” Service Connection:** The **one inch** future water service connection specified in the DPM Section 13.4.16 is superseded. The future water service connection may be 1”, 1 ½” or larger if requested by the private engineer. Approval of service connections larger than 1 ½” shall require a formal request. The private engineer is responsible for sizing future water service connections required for the subdivision.

**Water Meter:** Per current DOU practices water meter shall be the same size as the water service connection.

**Water Development Fee:** The water development fee shall be based on the meter size.

**On-site Fire Protection System:** The accepted domestic/fire system for residential use is the NFPA 13D Multipurpose Piping System that terminates at a connection to a toilet or other plumbing fixtures to prevent water from becoming stagnant. This system is also known as “Passive Purge Looped System” to many water purveyors. This design is allowed without the use of a backflow prevention assembly unless a booster pump is required or an auxiliary water supply

exist within the owners premises.

Fire plan review will verify that the sprinkler system has connections at all toilets, minimizes the use of branches or laterals, and has no dead end branches or laterals that exceed 3' in length; to prevent water from becoming stagnant.

DOU plan review will verify that a minimum of one tie-in for each floor is provided, as well as a fire system tie-in at all toilets just above the angle stop.

**Back Flow Prevention Assembly:** If a backflow assembly is required, per Section 10 of CCC Policy, the assembly shall be the same size (diameter) as the water meter.

The backflow prevention assembly shall be commensurate with the degree of hazard that exists on the owner's premises and shall be installed at the point of service of the premises, regardless of the type of fire protection system.

When a pump is required anywhere on the domestic/fire water service connection, an approved double check back flow prevention assembly (DC) will be required and permitted to be installed below grade with the water meter in a box accessible for testing and maintenance.

When an auxiliary water supply exist the required backflow prevention assembly shall be an approved reduced pressure principle assembly (RP) installed per detail W-505.

When a DC or a RP is installed, other fire protection systems specified in NFPA 13 D are acceptable.

**Separate Dedicated Fire Service Connection:** A separate dedicated fire service connection is not allowed unless authorized by the Utilities Field Service Superintendent (Water).

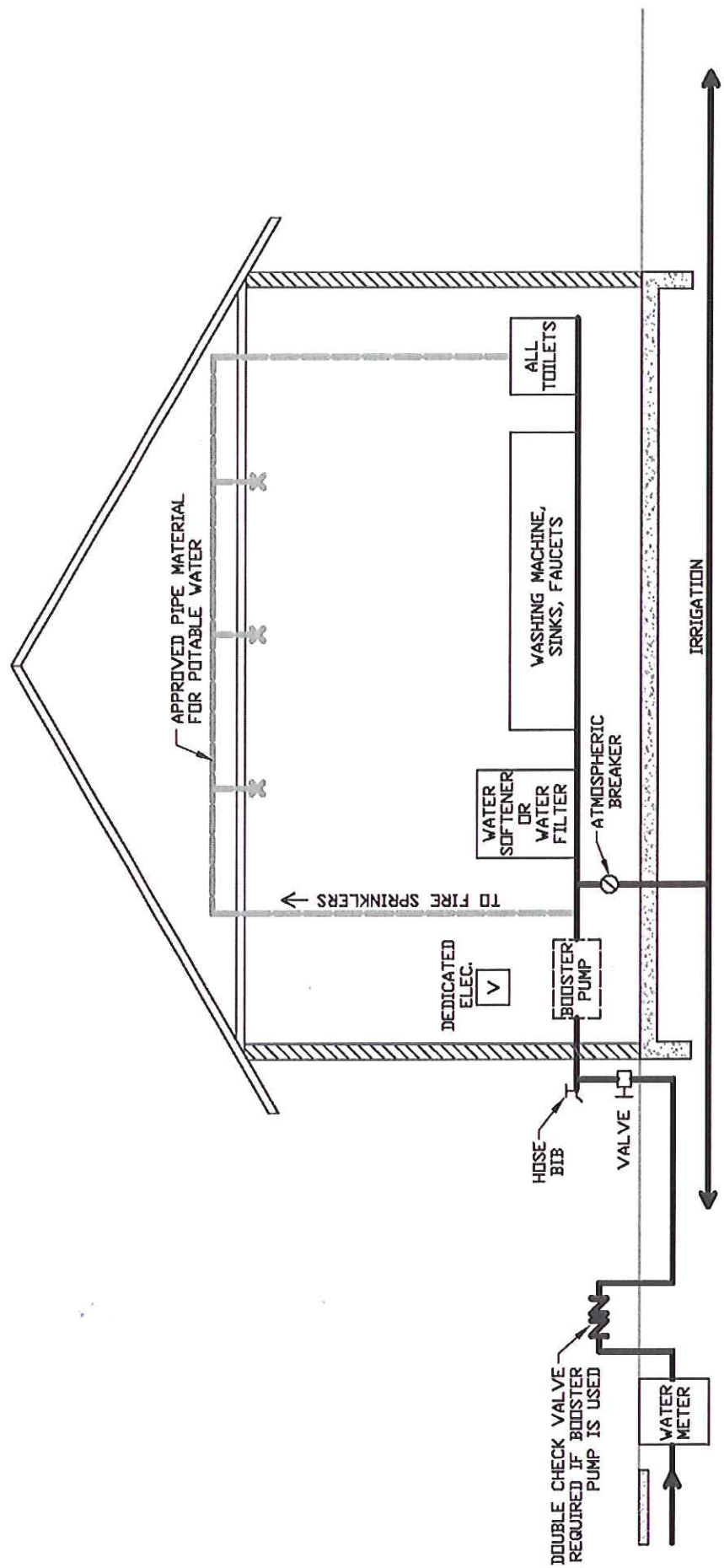
**Deep Lot Development:** A private fire hydrant may be required for a deep lot residential property. A domestic/fire service connection shall not tee off of a private fire hydrant lead.

**Condominium and Fourplex:** Condominiums and fourplexes shall have separate domestic and fire service connections; except, for condominium units that have individual water service connections to a public water main, these units are required to have individual domestic/fire service connections. Halfplexes shall be treated as two single family residences.

**Fire Department Requirements:** Consult Fire Department Policy 10-001 for further guidance of full system requirements.

	Rev.	Date	Description
Approved by: <u><i>Wah</i></u> Department of Utilities		<u>8-23-11</u> Date	Approved by: <u><i>Michael L. Bandy</i></u> Fire Department
			<u>8-18-11</u> Date

CITY OF SACRAMENTO  
 PLUMBING CONFIGURATION  
 FOR  
 MULTIPURPOSE PIPING SYSTEM  
 [SEE NFPA 13D FIGURE A.3.3.9.3(C) EXAMPLE 2]



APPROVED BY FIRE: *Michael S. Denton*  
 DATE: JUNE 2011

APPROVED BY UTILITIES: *Max An*  
 DATE: JUNE 2011

NOT TO SCALE  
 06/02/2011