

**San Juan Water District (SJWD)**  
**Residential Fire System Design Procedure Summary**  
**for Residential Water Service Connections with Automatic Fire Sprinkler Systems**  
(Rev. 04-16-19)

Residential Modified Passive Purge Design Standard Provisions:

- An approved Modified Passive Purge (MPP) system is the design standard for residential automatic fire sprinkler designs within the San Juan Water District (SJWD) service area.
- Exceptions may be allowed, on a case-by-case basis, only when an automatic fire sprinkler system is installed with an SJWD approved backflow assembly valve to protect the public water supply source.
- Fire sprinkler system designs shall meet the requirements of NFPA 13D, the jurisdictional fire authority, and SJWD.
- MPP designs shall, at a minimum, supply all toilets from the fire sprinkler network piping and shall provide adequate circulation throughout the piping system and between each floor level, with no dead-end branch lines over 36-inch length and no dead-zone piping loops.
- Prior to beginning an automatic fire sprinkler system design, the designer shall verify the available water supply system pressure at the specific project location with SJWD.
- Also, contact SJWD for Standard Details and other water service related design information.

Fire Protection System Design Procedures:

- Prepare the design calculations using the SJWD provided design pressure.
- Along with the automatic fire sprinkler system water supply demands, consider all of the water demands for the project, including domestic plumbing, landscape, and other uses.
- Contact SJWD to verify the make and model water meter, service line size (ID), service line length (water main to meter box), and other water supply system materials and conditions as they apply for preparing the calculations and fire sprinkler system design.
- Assume there is no meter setter; flow is straight through the water meter for all SJWD services.
- Verify the size of the house service line from the meter to the house riser connection, elevation changes, and other factors to include in the hydraulic calculations. The designer determines the size and pipe material installed downstream of the water meter.
- Verify with SJWD if a waiver may be issued before assuming that no backflow prevention device is required to be included in the design calculations. Other site conditions, such as a pond or well, will result in a backflow device being required by SJWD.
- A SJWD approved backflow prevention device will be required in all cases if a SJWD approved MPP system is not installed, tested and certified.
- Submit a copy of the initial design to SJWD for review and incorporate SJWD comments.
- Submit the contact information to SJWD for the jurisdictional fire authority representative reviewing the design prior to the approval of the jurisdictional fire authority.
- Coordinate the automatic fire sprinkler system design, and obtain final approval from the jurisdictional fire authority.
- Submit an electronic (PDF) set of the final, approved, automatic fire sprinkler system design plans to SJWD prior to beginning installation.
- If requested, provide access for SJWD's representative to inspect the installed system.
- Submit an electronic (PDF) set of the as-built plans following installation and fire authority approval.
- Prior to SJWD's approval and waiver of any backflow requirements for the water service, the jurisdictional fire authority shall provide SJWD with an inspection report and certification that a MPP system was properly installed in accordance with the approved plans, was inspected and tested, and is approved by the fire authority and ready to be placed in service.