

Fire sprinkler systems

Plumbing Advisory Note – July 2020

Requirements exist which are specific to the installation of fire sprinkler systems.

The requirements apply when installing fire sprinkler systems to Technical Specification FPAA101D (Automatic Fire Sprinkler Design and Installation-Drinking Water Supply) for buildings that are less than 25 m in effective height and contain Class 2 and 3 parts

Installers of FPAA101D Systems should refer to the FPAA101D Technical Specifications and the National Construction Code.

Background

The FPAA101D sprinkler system is supplied from the building's drinking water supply system. Each floor has a branch isolating valve that feeds both the drinking water and sprinkler system (and toilets).

The sprinkler system and toilets are connected downstream of a residential non-testable dual check backflow prevention device (DUAL-CV). The maximum length of any branch servicing a sprinkler head shall be no more than 3 m in length.

Design requirements

A hydraulic design submission must be lodged with the Office of the Technical Regulator (OTR) prior to the installation being carried out.

The design criteria must be hydraulically designed in accordance with FPAA101D .

It must be installed to achieve the simultaneous water supply flow demands of the sprinkler system and the toilet fixtures connected to the system. For more information, refer to Clause 4.2.3 of the FPAA101D technical specification.

Legislative requirements

The *National Construction Code* Volumes One and Three make reference to:

- FPAA101D Automatic Fire Sprinkler System Design and Installation Drinking Water Supply
- FPAA101H Fire Sprinkler System Design Installation Hydrant Water Supply.

Installation requirements

Water services

The water services component of a FPAA101D fire sprinkler system installation, including the connection from the isolation valve to toilet fixtures, can only be carried out by appropriately licensed plumbers.

The plumber must book an audit for the water services component with the OTR (refer to the diagram below).

Fire protection

The installation of the fire protection component of this system can be carried out by a registered sprinkler fitter.

The installation of the fire sprinkler service pipework and associated sprinkler heads are not regulated by the OTR. This part of the system does not need to be booked in for auditing.

Isolation valves

The fire sprinkler/drinking water isolation valve installed on each floor must be a quarter turn, lever operated type where the lever position indicates the direction of flow. The lever must be locked in the open position with a 003 padlock.

A DN15 locked off shut dump valve must be installed immediately downstream of the DUAL-CV to facilitate de-pressurising the installation if required.

A permanent or temporary pressure gauge must be installed for obtaining a pressure reading while performing the water supply proving test.

Materials and Products

All material and products installed on FPAA101D sprinkler systems must be WaterMarked in accordance with Part A2 of the *Plumbing Code of Australia*.

Refer to FPAA101D Technical Specification for further details.

Commissioning and Testing

The commissioning of a FPAA101D sprinkler system must be carried out in accordance with Section 6 of the Specification.

Certification

The installer of the fire sprinkler pipe work and fire sprinkler heads must certify the FPAA101D Sprinkler System by completing an ESP Form 2 (essential safety provisions). Refer to regulation 76 of the *Development Regulations 2008* or regulation 94 of the *Planning, Development and Infrastructure (General) Regulations 2017*. The form must be provided to the building owner who must then forward the details to the relevant planning authority/council.

An electronic Certificate of Compliance (eCoC) must also be submitted for the plumbing component of the system. This eCoC must be issued to the owner/occupier of the building and to the OTR within 7 days of completing the water services work.

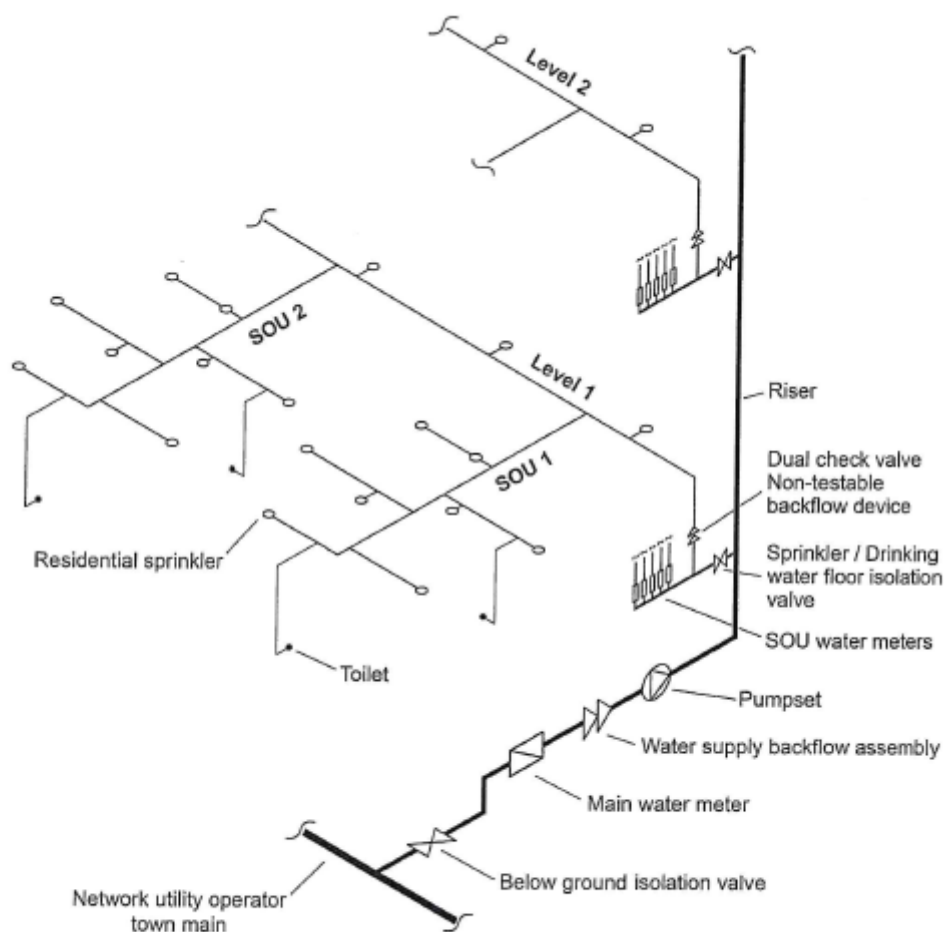


Figure 1 – Sample system diagram of an FPAA101D sprinkler system

