

**ISSUE: DS 2025-003:** The Petitioner Kyle Davis of Coburn and Associates is seeking a declaratory statement regarding whether a single fixture or a group of fixtures require a full-open valve at the top of the feed, provided that there are shut-off valves at the fixture.

**Petitioner seeks clarification of the following questions:**

1. Does a single fixture require a full-open valve at the top of the feed, provided that there are shut-off valves (stops) at the fixture?
2. Does a group of fixtures, within a single-story building, require a full-open valve at the top of the feed, provided that there are shut-off valves (stops) at each fixture?

**Background:**

The Petitioner is designing a single-story commercial building with multiple single-occupant restrooms. Domestic water piping is routed through the ceiling space and down to each fixture through the wall cavity, some drops within the wall serve a single fixture, others serve a group of fixtures located on the same wall. The petitioner would like to gain understanding as to how the code section referenced below applies to a single-story building with domestic water pipe mains routed above the ceiling and down within a wall cavity. Based on the attached interpretations, it is the Petitioner's understanding that the code referenced below is intended to require a full-open valve at the top of a pipe that serves multiple floors and is not intended to require valves for portions of the system within a single-story building.

**8<sup>th</sup> Edition (2023) Florida Building Code, Plumbing**

**CHAPTER 2 DEFINITIONS**

**FULL-OPEN VALVE.** A water control or shutoff component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

**WATER PIPE.**

Riser. A water supply pipe that extends one full story or more to convey water to branches or to a group of fixtures

**CHAPTER 6 WATER SUPPLY AND DISTRIBUTION**

**SECTION 606 INSTALLATION OF THE BUILDING WATER DISTRIBUTION SYSTEM**

606.1 Location of **full-open valves**. Full-open valves shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.

2.1. In multiple-tenant buildings, where a common water supply piping system is installed to supply other than one- and two-family dwellings, a main shutoff valve shall be provided for each tenant.

3. On the discharge side of every water meter.

4. On the base of every water riser pipe in occupancies other than multiple-family residential occupancies that are two stories or less in height and in one- and two-family residential occupancies.

5. On the top of every water down-feed pipe in occupancies other than one- and two-family residential occupancies.

6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.

7. On the water supply pipe to a gravity or pressurized water tank.

8. On the water supply pipe to every water heater.

### 2021 IPC Commentary

Valves are needed to isolate components and portions of a water distribution system to facilitate service, repair and replacement and to allow emergency shut-off in the event of catastrophic leak. A full-open valve, as defined in the legacy codes, is a shutoff valve that, in the full-open position, has a straight-through flow passageway with a diameter of not less than one nominal pipe size smaller than the nominal pipe size of the connecting pipe, or with an area not less than 85 percent of the cross-sectional area of the connecting pipe. Unlike shutoff valves and stops, full-open valves cause very little resistance to flow and, therefore, cause minimal pressure loss downstream of the valve. Full-open valves are also referred to as “water service valves” and include gate, ball and butterfly valves. The following discuss each one of this section’s list items:

1. A curb valve (also known as a “curb stop”) is typically installed by the water utility company at the end of the water utility service connector pipe [see Commentary Figure 606.1(1)]. Decades ago, a curb valve was typically a lubricated rotor-type (plug) valve. However, newer installations often use ball valve-type curb valves. Where the water meter is located near the curb, a valve in the water meter vault or crock could serve the same purpose as the curb valve.
2. Where the water meter is located inside the building, the building entrance valve is located before the water meter. Where the water meter is located outside of the building (such as in a vault or crock), the building entrance valve is the valve between the end of the water service system and the beginning of the water distribution system. In buildings with multiple tenants, the code requires a valve to be provided as a main shutoff for the water supply to each individual tenant. This allows work to be performed within an individual tenant without disrupting the water supply to other building tenants or occupants.

3. The location of a valve before and after the water meter allows meter replacement without having to drain down the building water distribution system or empty the water service system [see Commentary Figure 606.1(2)]. Where the water meter is in a vault or crock outside the building, a valve immediately downstream of the water meter is not required since the building entrance valve can serve as the valve after the water meter
4. A water pipe extending vertically through one or more stories and conveying water vertically upward is considered a riser. Valves at the base of risers are very helpful for servicing a multistory building so that the entire water distribution system does not require draining in order to facilitate repairs in one area [see Commentary Figure 606.1(3)]. One- and two-family residential buildings are exempt from the water riser valve requirement as are multiple-family dwellings that are not over two stories in height.
5. A water pipe extending **vertically through one or more stories** and **conveying water vertically downward is considered a down-feed**. Valves at the top of down-feeds are very helpful for servicing a multistory building so that only small areas of the building will be without water in order to facilitate repairs in one area [see Commentary Figure 606.1(3)]. One- and two-family residential buildings are exempt from the water down-feed valve requirement. Note, however, that multiple-family dwellings that are not over two stories in height are not exempt from the requirement for valves on down-feed pipes.

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### **Informal Interpretation Report – Number 8808**

#### **8<sup>th</sup> Edition (2023) Florida Building Code – Plumbing**

Section 606.1 (Item 5)

#### **Question:**

For a single-story commercial building, is it the intent of this section to require a full open valve at the top of all water distribution vertical drops to all individual plumbing fixtures to be able to isolate the fixture in the event of a leak or other issue? Especially for a urinal or water closet with a flushometer where a shut off is not installed at the fixture.

#### **Answer:**

No. The intent is to be able to isolate the main water supply line to an individual dwelling unit within a multi-family building for repairs without having to shut the entire building water supply. This applies to single story or multi-story buildings.

### **Informal Interpretation Report – Number 8687**

#### **7<sup>th</sup> Edition (2020) Florida Building Code – Plumbing**

Section 606.1 (Item 5)

**Question:**

Is it the intent of the 2020 Florida Plumbing Code for this section to apply to all down-feed pipes in buildings – including single story?

**Answer:**

The IPC Commentary is explicated on not including a single-story building.

**Commentary:**

A down-feed pipe is akin to a water riser, only it conveys water downward rather than upward. Down-feed pipes and water risers extend vertically through one or more stories, implying multistory buildings. Full-open valves are not required on single story down-feed pipes.

**Staff Analysis****Question #1:**

Does a single fixture require a full-open valve at the top of the feed, provided that there are shut-off valves (stops) at the fixture?

**Answer:**

The answer to the Petitioner's question is no. Since the project in question is a single-story commercial building with a shut-off valve at the fixture, a full-open valve is not required to be provided at the top of the water down-feed pipe as required by section 606.1 (Item 5), Florida Building Code, Plumbing, 8<sup>th</sup> Edition (2023).

**Question #2:**

Does a group of fixtures, within a single-story building, require a full-open valve at the top of the feed, provided that there are shut-off valves (stops) at each fixture?

**Answer:**

The answer to the Petitioner's question is no. Since the project in question is a single-story commercial building with a shut-off valve at each fixture, a full-open valve is not required to be provided at the top of the water down-feed pipe as required by section 606.1 (Item 5), Florida Building Code, Plumbing, 8<sup>th</sup> Edition (2023).