



CLARK COUNTY FIRE DEPARTMENT - FIRE PREVENTION BUREAU

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Email: FPPCQ@clarkcountynv.gov

Permit Submittal Guideline

BACKFLOW PREVENTOR UPGRADE

This permit guide outlines submittal requirements for replacement of existing backflow preventor with a Reduced Pressure Detector Assemblies (RPDA) in a water supply to fire sprinkler systems. This permit focus is ensuring that the increase in hydraulic friction loss does not compromise the required pressures for existing fire sprinkler systems. A permit is required per CCFC section 105.6.19

PLEASE NOTE: If the existing fire sprinkler design information does not support the increased friction loss of a new RPDA with a recent LVVWD water model, the upgrade cannot be approved. Contact Fire Plans Check Questions <FPPCQ@ClarkCountyNV.gov> in cases when the existing sprinkler system demand exceeds the available water supply.

APPLICABLE CODES:

The following codes and standard apply to this permit.

- *Clark County Fire Code Amendments, 2024 edition (CCFC)*
- *International Fire Code, 2024 edition (IFC)*
- *Standard for the Installation of Private Fire Service Mains and Their Appurtenances, NFPA 24, 2022 edition*

SUBMITTAL REQUIREMENTS:

The requirements in this guide are not intended to be all inclusive, nor do they entail a limit to the extent of the information, etc., which may be necessary to properly evaluate the submitted plans.

The following information is required for a civil engineering plan submittal that includes adding or replacing a backflow preventor with an RPDA.

1. **PLANS:** To be designed to an indicated engineering scale and sized 30 x 42 inch saved to a .PDF file. Plans shall include all information applicable to project per CCFC section D102.1 and sealed or digitally signed by a Nevada Registered Professional Engineer.
2. **GENERAL NOTES:** refer to CCFC D102.2 for Clark County Fire general notes.
3. **SUPPORTING DOCUMENTATION:** Provide documents that support the design. These may include:
 - Approved Fire Protection Report (FPR) and/or an Alternate Means and Method Report (AMMR) if utilized to mitigate water or access requirements.
4. **WATER SUPPLY INFORMATION:**
 - Provide water supply information using the hydrant nearest to the new RPDA. Request a new water supply model from the water purveyor for areas served by the Las Vegas Valley Water District (LVVWD) or conduct a waterflow test when the LVVWD does not provide the data. A permit is required for a flow test. See the Permit by Inspector (PBI) permit category, *Hydrant Flow Test*.
 - The water supply data must be dated within the past 12 months.

5. EXISTING FIRE SPRINKLER SYSTEM INFORMATION:

- Provide the required flow and pressure at the base of each fire sprinkler riser in gpm and psi.

This can be obtained by any of the following:

- A photograph of the hydraulic calculation placard on the sprinkler riser
- Original approved fire sprinkler system plans along with the existing hydraulic calculations
- Existing plans that can be requested through the Clark County Records Department, request form.
- Hydraulic calculations of the most hydraulically demanding sprinkler or standpipe system by a NICET 2 sprinkler designer or Nevada registered professional engineer.