

	<p>NORTH CENTRAL FIRE PROTECTION DISTRICT</p> <p>POLICIES</p> <p>408.003 FIRE FLOW POLICY FOR RURAL AREAS</p> <p>EFFECTIVE: JANUARY 2016</p>
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SCOPE

This policy establishes the minimum fire flow requirements for an available water supply for the purposes of firefighting and for fire sprinkler system water supply in the rural areas of the North Central Fire Protection District (NCFPD or District), where no publicly regulated water system is present or feasible to connect to.

This policy was adopted by reference by the NCFPD Board of Directors via Resolution 10-03 – Exhibit B, dated March 25, 2010.

PURPOSE

The purpose of this policy is to clarify the District’s requirements on both the quantity and method of delivery of fire protection water supplies.

DEFINITIONS

Fire Flow: A water supply available for firefighting and/or fire sprinkler systems. The firefighting water supply may be available by draft or from a pressurized hydrant system as required.

Water Purveyor: A public utility, a mutual water company, a governmental body, or other entity owning or operating a water system regulated by a State or County government agency.

LAFCO Sphere of Influence: An urban growth limit boundary for cities and designated communities established by the Local Agency Formation Commission (LAFCO) of Fresno County.

Rural Development: Development occurring outside of the city limits of Kerman, Fresno, and the community limits of Biola.

Ag-Exempt: A category of buildings, which the County of Fresno,

Department of Public Works and Planning Department, may exempt from building permits as prescribed by Fresno County Ordinance Code, Title 15. Such buildings have a limited use and employees are not permitted to work in the buildings. The use of such buildings is limited to the storage of farm equipment, farm crops, or animal feed, which is produced or utilized on the property. Such buildings are within the “U” use group by California Building Code (CBC); however, specific occupancy is determined by the County of Fresno.

Categorically
Exempt
Buildings:

A category of buildings not classified as Ag-Exempt located on farms or rural residential parcels for the exclusive use of the farmer or homeowner. Such non-commercial S, F, or R-3 occupancy buildings may be exempt from the conditional use permit and land use procedures of Fresno County. Building plans, building permits, and an operational statement by the owner are required for such buildings. Such plans are not routed to either Fresno County Fire or NCFPD for access and fire hydrant plan review. Specific occupancy is determined by the County of Fresno.

U Occupancy: A *California Building Code* (CBC) building use group which includes agricultural buildings, barns, stables, greenhouses, livestock shelters, sheds, and smaller private garages.

F Occupancy: A CBC building use group, which includes fabrication and repair facilities.

S Occupancy: A CBC building use group for storage not otherwise classified as a U occupancy.

R-3 Occupancy: A CBC building use group, which includes single-family and duplex homes.

CFC Appendix B: *California Fire Code* (CFC) fire flow requirements for buildings.

NFPA 1142: *National Fire Protection Association* (NFPA) standard on Water Supplies for Suburban and Rural Fire Fighting.

NCFPD Fire
Sprinkler
Ordinance:

Amendments to the CFC requiring fire sprinklers at a more restrictive threshold than the CBC. Within the service area of a water purveyor, fire sprinklers are required for buildings over 5,000 square feet. In rural areas without a water purveyor, fire

sprinklers are required for buildings over 7,500 square feet in area.

BACKGROUND

As noted in the CFC, the authority having jurisdiction (AHJ) is permitted to develop policies pursuant to Section 104.1.

The NCFPD primarily covers a rural land use pattern. The areas with a domestic water main and fire hydrant infrastructure provided by a water purveyor are the City of Kerman, the community of Biola, and some unincorporated areas within the City of Fresno's LAFCO sphere of influence. Most properties outside of these areas are dependent on the 750 gallon water supply carried on each engine, and a 3,000 gallon water supply carried on each water-tender. Systems are in place to shuttle water from fixed sources; however, such tactics are inefficient and labor intensive.

Some unincorporated LAFCO sphere of influence areas of the City of Fresno currently have water service from the City of Fresno Water Division, but most areas are beyond the existing infrastructure and extension of services, especially for small projects, which is cost prohibitive. Many of the light industrial "county islands" resemble urban land use patterns and are of special concern due to fire exposure to other buildings.

Rural development primarily involves four categories of land use:

1. Large lot single-family homes.
2. Ag-Exempt, Group U buildings constructed on farms for exclusive use by the farmer.
3. Categorically exempt, non-U buildings on farms and rural residential parcels for exclusive use of the farmer or home owner.
4. Commercial, institutional, and other uses including: Packing sheds, farm equipment repair facilities accepting off-farm work; agricultural chemical and feed wholesalers and retailers. Mini-marts are also within this category, Fresno County Department of Public Works and planning has historically only referred those projects in category 4 to the District for fire protection analysis.

Based on direction of the NCFPD Board on January 28, 2010, a fire flow water supply will not be required for categories 1, 2, and 3, as listed above, provided fire sprinklers are not required by the CBC.

REQUIREMENTS

Based upon the need for uniformity in application across the District's diverse service delivery area, and after careful deliberation of the applicable codes and standards, the District has determined the following:

General Requirements:

Development in rural areas within the LAFCO sphere of influence for the cities of Kerman, Fresno and the community of Biola require the developer extend water main and fire hydrant infrastructure.

Exception: Where extension of water supply services is deemed impractical by the developer and the water purveyor, all proposed buildings shall be fire sprinklered and a fire flow water supply based on fire sprinkler demand as detailed further in this policy. Buildings meeting the description in numbers 4 and 5 in the exemptions will be exempt from fire flow and fire sprinkler requirements.

The most practical and acceptable way to provide fire flow is by use of a stationary water storage tank with suction outlet for use by a fire engine. When fire sprinklers are required, in addition to the suction out, an approved fire pump is necessary to provide pressure and volume to the fire sprinkler system.

Swimming pools, cisterns, decorative water features, ponds, or other potential year round water sources for fire flow may be approved at the sole discretion of the fire department.

For sites with multiple buildings or where the water tank cannot be located within 150 feet from the protected buildings, remote piped fire engine drafting outlets may be required. The total site building area that may be protected by a drafting source shall not exceed 50,000 square feet in area.

Proposed developments in excess of 50,000 square feet in total site building area shall be provided with a pressurized fire hydrant system and water tank sized in accordance with Appendix B of the CFC.

Extra hazard or high piled storage building uses require individual evaluation of acceptable fire flow.

Fire Flow Requirements for Buildings with Fire Sprinklers:

For fire sprinklered buildings, fire flow water supply is based on the NFPA 13 fire sprinkler system demand with outside hose allowance for manual firefighting. As specific design of fire sprinklers for a building are done as deferred submittals well after site and architectural plans are reviewed and approved, specific water tank capacities will be specified for light hazard occupancies and ordinary hazard

occupancy fire sprinkler systems.

Light hazard occupancies shall have a minimum water supply based on a 30-minute duration and shall be at least 10,000 gallons.

Ordinary hazard occupancies shall have a minimum water supply based on a 60-minute duration and shall be at least 35,000 gallons. Dry pipe systems shall have the water supply increased to at least 40,000 gallons.

Exception: When a Fresno Fire Department (FFD) reduced hydraulic demand sprinkler system is permitted for fire sprinkler system design, tank size may be reduced to 22,500 gallons.

Fire Flow for Buildings Without Fire Sprinklers:

Fire flow shall be based on the requirements found in the currently adopted edition of NFPA 1142 found in the CFC. The total amount of water is determined by a formula that takes into account the following building parameters:

Formula:

Volume of the structure, type of construction materials, use of the building, and presence of fire exposures 50 feet or less from the proposed building.

Examples:

1. Proposed mini-mart, 7,500 square feet in area, wood framed, and no closer than 50 feet to other buildings or property line, would require a water tank capacity of 42,000 gallons.
2. Proposed church, 7,500 square feet in area, metal frame and roof, and no closer than 50 feet to adjacent buildings or property line, would require a water tank capacity of 20,000 gallons.

Exemptions:

The following rural development will not require a fire flow water supply when no fire sprinkler requirement is present in the CBC.

1. Non-subdivision single family homes on rural residential parcels.
2. Ag-Exempt Group U buildings constructed on farms for exclusive use by the farmer.
3. Categorically Exempt, non-U buildings on farms and rural residential parcels for exclusive use of the farmer or home owner.

4. Buildings under 2,000 square feet in area constructed entirely of non-combustible materials and located no closer than 50 feet to adjacent buildings or property lines.
5. Buildings under 1,000 square feet in area constructed of combustible materials and located no closer than 50 feet to adjacent buildings or property lines.

RESPONSIBILITY OF DEVELOPER AND/OR CONTRACTOR:

It is the responsibility of the developer and/or contractor to note and address each of the items above on both site plan and fire sprinkler plan submittal documents.