

Section 8. FIRE FLOW REQUIREMENTS

A. General

1. An estimate of the fire flow required for a given fire area may be determined by the formula:

$$F = 18 C (A)^{0.5}$$

where A (Fire Area) = The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above. Vertical and horizontal separation requirements as well as the hour separation requirements between occupancies or between a single occupancy should be based on the currently adopted Building Code.

Deleted: the total floor area (including all stories, but excluding basements) in the building being considered.

F = the required fire flow in gpm

C = coefficient related to the type of construction:

0.6 for fire-resistive construction*

0.8 for non-combustible construction*

1.0 for ordinary construction*

1.5 for wood frame construction*

* See Subsection B for definitions

2. Fire Flow Requirement Tables based on the above formula for several common types of construction have been included in this Section for the convenience of the designer in estimating fire flow requirements.
3. All required fire hydrants shall provide proper fire flow (minimum of 1000 gpm at minimum 20 p.s.i. residual pressure from the 4-1/2 " outlet).
4. Public fire hydrants are attached to Albuquerque Bernalillo County Water Utility Authority ("ABCWUA"), water lines, which are paid for by the developers in accordance with ABCWUA Water and Sewer System Extension and Expansion Policies. These hydrants are maintained by the ABCWUA.
5. Private fire lines, with fire hydrants located on private property, are paid for by the property owner and are maintained by the property owner. A monthly fee is charged for private connections, per the Water and Sewer Rate Ordinance.
6. The property owner is also responsible for the cost of additional hydrants required because of new development, additional development, or redevelopment. In the event of additional development or redevelopment, the existing development is also included in the fire hydrant protection analysis, and deficiencies for both existing and new development are required to be corrected.

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B. Definitions

For the specific purpose of using the fire flow requirement tables which follow, the following definitions apply:

WOOD FRAME CONSTRUCTION: Any structure in which the structural members are wholly or partly of wood or other combustible material and the construction does not qualify as ordinary construction. (Building Types V-Non-Rated and V-1 hour)

ORDINARY CONSTRUCTION: Any structure having exterior walls of masonry or other non-combustible materials in which the other structural members, including but not limited to columns, floors, roofs, beams, girders, and joists, are wholly or partly of wood or other combustible material. (Building Types III Non-Rated and III-1 hour)

NON-COMBUSTIBLE CONSTRUCTION: Any structure having all structural members including walls, columns, piers, beams, girders, trusses, floors, and roofs of non-combustible material and not qualifying as fire-resistive construction. (Building Types I and II-Non-Combustible)

FIRE RESISTIVE CONSTRUCTION: Any structure that is considered fire resistive as defined by the Building Code of the City of Albuquerque. (Building Types I, II Fire Resistive, and II-1 hour)

NOTE: Heavy timber type buildings (Building Types IV and IV-1 hour) are required to satisfy a number of specific provisions. (See Building Code of the City of Albuquerque.)

C. Fire Flow Requirement Tables

NOTE: The following tables are for estimating only; final requirements must be verified in writing by the Fire Prevention Bureau.