2.16 Submittal Guidelines for Fire Department Access & Fire Flow Approval (2019)

Reference: 2019-SFFC §§ 503, 504, 507, Appendix B, BB, C, & CC; 2016-NFPA 14; 2016-NFPA 13

Purpose: The purpose of developing comprehensive guidelines is to provide consistent methods to assist designers in the submittal requirements for review by the SFFD for all new structures regardless of occupancy classification. The San Francisco Fire Department will review these submittals to assure apparatus access and to verify that water supplies are sufficient for required firefighting per the SFFC and NFPA 14.

Scope: The guidelines in this administrative bulletin shall apply to all new and relocated structures in the City and County of San Francisco.

Requirements for Approval: Prior to the approval of site permits, or construction permits for new buildings where the site permit/addendum process is not used for new buildings, building owners/developers are required to verify that access and fire-flow to the building site meet the San Francisco Fire Code requirements. If plans are submitted separately for this approval, a fee based on two hours of inspection time shall be submitted by check payable to the SFFD for review. Additional fees may be charged at an hourly rate for review and/or meetings for more complex projects.

Two sets of overall site plans drawn to a minimum scale of 1 inch equals 20 feet shall be submitted for review. Plans shall be submitted on a minimum sheet size of 11” X 17”. The scope of work shall be indicated on the plans. The information provided on the plans shall be specific to fire department access and fire flow requirements. No additional information that would make the plan difficult to review shall be included on the plans. Included in the submittal package shall be a processed water flow request and a fire flow calculation wet stamped and signed by a mechanical engineer, an architect or a C-16 contractor. Plans and payment shall be submitted to the Bureau of Fire Prevention’s Plan Check Section. This approval is not part of the over the counter plan review service provided by the SFFD. Plans will be reviewed in the order they are received. Designers are encouraged to submit plans as far in advance as possible to avoid any costly changes in the later stages of a project.

The following items shall be included with your submittal:

1. Show the location of all streets (both public and private streets) within a one block radius and identify them as either one or two-way traffic.
    a. Indicate approach, departure and grade of all streets.
2. All streets shown on the plan shall include street (curb to curb) and sidewalk widths and indicate whether parking will be allowed on one or both sides.
3. Dead end fire department access roads in excess of 150 feet shall include a turnaround with dimensions sized per SFFC Section 503.
4. Provide CADD (computer aided design and drafting) drawings for all fire department- access roads and include fire department vehicle diagrams negotiating all turns and any required turn around. This requirement will be reviewed on a case-by-case basis. The intent of this section is for it to be applicable for large projects. When approved by the fire code official, this requirement may be waived. The drawings must show that the apparatus is capable of staying within the designated roadway. The encroachment of the vehicle into bike paths when making turns may be approved at the discretion of the reviewer, based on anticipated traffic levels. For busy streets, vehicles should not have to leave their vehicle lane to negotiate turns. Please include both inside and outside radii for all turns. All dimensions of the turnaround shall be included on the plan.

Additionally, show the expected travel time from the closest firehouse to the building. The speed of vehicles used in the computer model shall not exceed 35 mph at any time, and shall be reasonable for the turns shown.

5. Show the location, type of construction for all proposed buildings, total square footage of all floors, and identify the building(s) as new or relocated. Building heights and setbacks from street frontage shall be included. Include the occupancy classification(s) for all proposed buildings.
6. For streets where no parking will be allowed due to inadequate width, details shall be included to indicate how the streets will be marked “NO PARKING”, i.e. curbs painted red, striped “fire lanes”, signage (include sign layout and distance between signs).
7. Identify fire sprinkler protection, if provided, for all buildings and indicate the NFPA standard the system is designed to.
8. Where the associated fire protection includes standpipes, please show the location of all new fire department connections (they shall be within 100 feet of a hydrant per NFPA 14).
9. Show the location of all low pressure fire hydrants both public and private and include the water main and lateral feed sizes. Hydrant locations shall be based on the requirements of Appendix C of the SFFC (CFC). Fire hydrants may be required on both sides of high traffic, multi-lane streets or streets with medians or tracks installed. The minimum required flow requirements for fire hydrants added to an existing main is 1500 GPM @ 20 PSI residual for one hydrant or 1000 GPM @ 20 PSI each for multiple hydrants.
10. Provide a fire flow calculation for the all new construction per Section 507 and Appendix B of the SFFC (CFC). A processed water flow request form shall be included with the supply demand graph showing the available fire flow at 20 psi residual pressure.

A “***Request for Water Flow Information***” form has been included with this form. This is the basis upon which existing fire-flow is determined.

2019 CFC, Appendix B, **B105.3 Water supply for buildings equipped with an automatic sprinkler system.** For buildings equipped with an approved *automatic sprinkler system*, the water supply shall be capable of providing the greater of:

1. The *automatic sprinkler system* demand, including hose stream allowance.
2. The required fire-flow.

Any costs associated with required upgrades to the city water main and/or hydrants to provide adequate fire flow or sprinkler design demands are the responsibility of the developer/building owner.

Request for Water Flow Information Form