

FIRE AND HAZARD PREVENTION SERVICES POLICY  
A-00-9

ACCESS ROADWAYS  
MODIFIED ROADWAY SURFACE  
UNIFORM FIRE CODE 902

I. Purpose

The purpose of this policy is to establish procedures and standards for all weather access roads for Fire and Hazard Prevention Services vehicles when modified access road materials are used.

II. Scope

This policy shall govern and include all access roads using modified road surfaces, other than the SDG-113 Standard Portland Cement Concrete or Asphalt Concrete pavements, that may be utilized by Fire and Hazard Prevention Services vehicles/apparatus to approach or stage for an emergency response to a structure, hazard, equipment, or process.

III. Definition

- A. **Standard Road Surface** - SDG-113 pavement such as Portland Cement Concrete or Asphalt Concrete within the improved Public Rights-of-Way.
- B. **Modified Road Surface** - a type of material surface that provides for the structural stability and minimum coefficient of friction needed to traverse the access road over difficult topographic conditions for Fire and Hazard Prevention Services vehicle access, such as monolithic stamped concrete, interlocking concrete pavers, etc.
- C. **Combined Material Road Surface** - the combined use of grass with reinforced concrete pavement, interlocking block systems, or other acceptable reinforced and retained road products.

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IV. Procedures

- A. Access roads in conformance with Fire Prevention Bureau (FPB) Policy #A-96-1, with other than standard material surfaces, shall be approved by the Fire and Hazard Prevention Services Plans Review Officer and/or the New Construction Plan Check Supervisor in writing on an individual case-by-case basis only. The Fire and Hazard Prevention Services approval letter shall be included with all plan sets and in the record file prior to the commencement of construction.
- B. The required width of the Fire and Hazard Prevention Services vehicle access road shall not be obstructed in any manner, including parked vehicles, landscaping, trees, shrubbery, or decorative objects.
- C. The requirements of the FPB Policy #A-96-1 are applicable except as modified herein:
  - 1. The maximum grade for any Fire and Hazard Prevention Services Vehicle Access road is "five percent" (5%) or (2.25 degrees) for combination surfaces (like grass and concrete panels/blocks or pavement).
  - 2. A minimum eight-inch (8") width concrete border shall be used to define the sides of the Fire and Hazard Prevention Services access road. This border may be level with or rise (height not to exceed 8") above the finished road grade. The "No Parking - Fire Lane" lettering may be stamped into or painted upon the border. Signage shall comply with #A-96-1.
  - 3. For combined road surfaces, the support shall be adequately reinforced with structural steel to fully support the dead, live and impact loads necessary for Fire and Hazard Prevention Services vehicles with a gross vehicle weight of 95,000 pounds.
  - 4. Grass within the combined access road surface shall be well maintained with a height not exceeding two-inches (2"). The road surface shall be free of over growth from adjacent areas.
  - 5. Any settlement of the road surface or other damage shall be repaired immediately.
  - 6. The Fire Marshall may require removal of the modified access road surface and the construction of an approved standard all weather road surface (concrete or asphalt), for continued violations of this modified access policy.

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2. For separate **single family residential (SFR)** structures up to two stories in height, the structural section shall meet the requirements of the city designated test location for taking the "R" value test. The structural section shall be based on the actual "R" value test and shall be designed for a Traffic Index (TI) equal to or greater than 5.0.
  3. For attached **residential structures up to two stories in height**, the structural section shall meet the requirements of the city designated test location for taking the "R" value test. The structural section shall be based on the actual "R" value test and shall be designed for a Traffic Index (TI) equal to or greater than 7.5.
  4. For all other **structures greater than two stories in height**, the structural section shall meet the requirements of the city designated test location for taking the "R" value test. The structural section shall be based on the actual "R" value test and shall be designed for a Traffic Index (TI) equal to or greater than 9.5.
  5. All retaining borders for the access road, regardless of width, shall be placed on the same base material as required for the road.
  6. The completed road surface and borders shall be designed to withstand a 95,000 pound gross vehicle weight plus an additional "thirty percent" (30%) impact load.
- E. Access road engineering plans shall meet or exceed Fire and Hazard Prevention Services requirements (U.F.C. 902, FPB Policy A-96-1, and those requirements contained herein).
1. In addition to normal Development Services Permit Inspection, Fire and Hazard Prevention Services Inspection approval is required at the following stages of a project:
    - a. Subgrade materials shall be tested and verified by an certified independent soils laboratory approved by the Fire and Hazard Prevention Services and the Engineering and Capital Projects Department laboratory.
    - b. When structural steel reinforcing is in place, but prior to the placing of the concrete.
    - c. At the completion of the combined road, with the grass in place and being mowed and maintained.

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2. Fire and Hazard Prevention Services shall have final approval of the completed road.

- F. A plot plan of the project site showing all access roads, fire hydrants, fire protection systems, and building access locations, suitable for pre-fire planning (8 1/2" x 11"), is required. Fire Companies will maintain up-to-date pre-fire plans of all Fire and Hazard Prevention Services vehicle access road installations.
- G. Access road maintenance will be monitored annually by the Fire Company Inspection Program and will include actual operation of Fire and Hazard Prevention Services apparatus over the access road surface to verify access road stability.

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**FIRE AND HAZARD PREVENTION SERVICES ACCESS STANDARDS**

The following criteria are the acceptable standards permitted for Fire Access:

**I. SLOPE TO SLOPE TRANSITIONS:**

1. Maximum access grade permitted, when paved with Portland Cement Concrete (required for grades over 12%), is 15% (either for uphill or downhill grades).
2. A full standard structural pavement section is required for access grades over 5%.
3. Minimum continuous length of slope between changes or transitions in slope shall be 20 feet.
4. Maximum percent change in grade for a crest vertical change condition is 14%, providing the length of access road is a constant grade for twenty feet before and after the change.
5. Maximum percent change in grade for a sag vertical change condition is 8%, providing the length of access road is a constant grade for thirty-one feet before and after the change.

**II. DRIVEWAY STANDARDS FOR FIRE ACCESS:**

1. See the typical profile section for requirements.
2. Maximum percent change in grade for a crest condition is 14%.
3. Maximum percent change in grade for a sag condition is 8%.
4. Minimum constant transition length before change is twenty (20) feet.

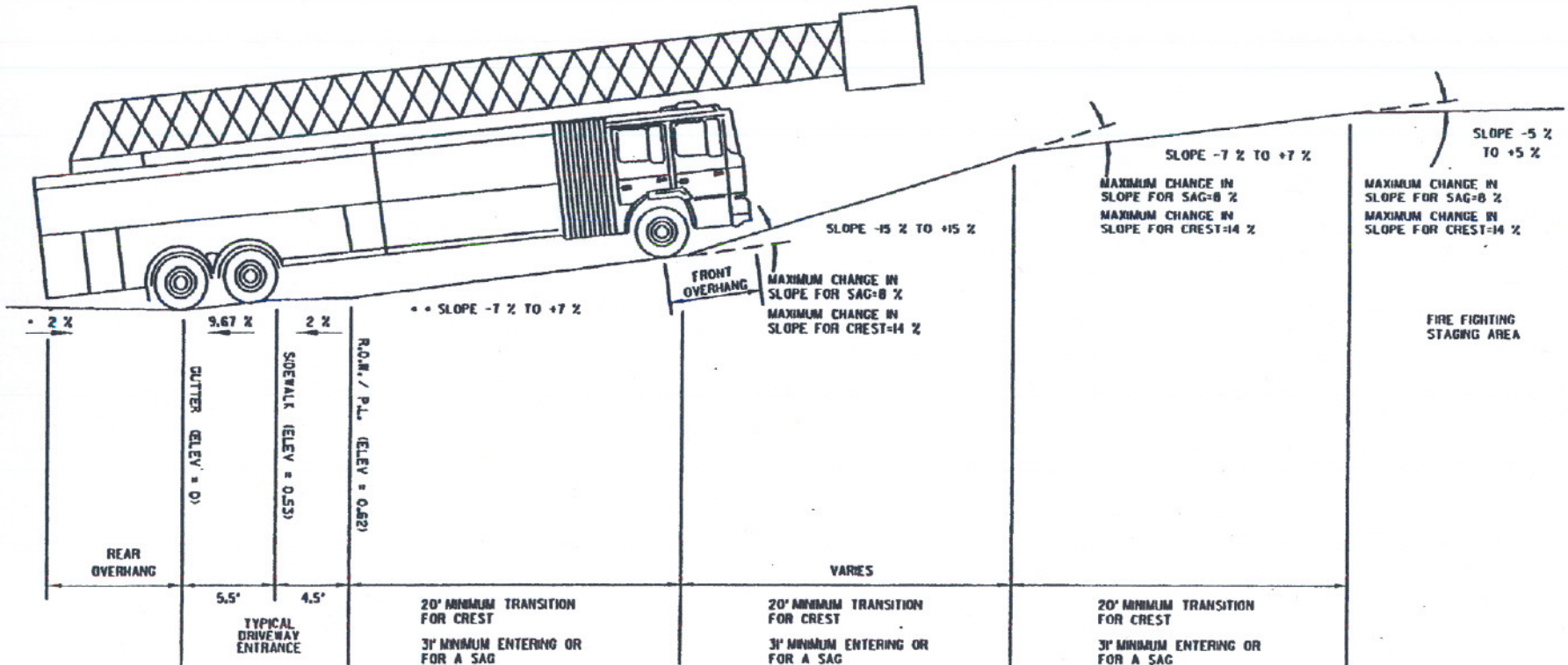
**III. FIRE FIGHTING STAGING AREA:**

1. The slope for all staging areas shall be a maximum 5% slope in any direction.

For fire access requirements refer to FHPS-102.

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# CITY OF SAN DIEGO FIRE AND HAZARD PREVENTION SERVICES POLICY DRIVEWAY ACCESS STANDARDS (NOT TO SCALE) TYPICAL PROFILE



• IF STREET CROWN IS GREATER THAN 2 % SLOPE AT • • MUST BE REDUCED BY 1% FOR EVERY 2 % THAT THE STREET IS ABOVE THE NORMAL CROWN (2 %)