
APPENDIX D

UPPER FRASER VALLEY CWPP ACCESS AND WATER SUPPLY RECOMMENDED GUIDELINES

Introduction

This appendix has been designed with public education in mind and is intended to be used to help familiarize homeowners, contractors, and developers with the general principles of the access and water supply needs of firefighters. The recommendations in this section are based on proven practices. However, they are not intended to be a substitute for locally adopted codes.

Emergency response personnel do their best to respond to calls in a timely manner, often while negotiating difficult terrain. Planning for access by emergency equipment allows for a more efficient response, improving safety for residents and their families, as well as that of the firefighters and emergency medical technicians that will arrive on scene. This is especially important in rural areas, where response times may be considerably longer than in cities.

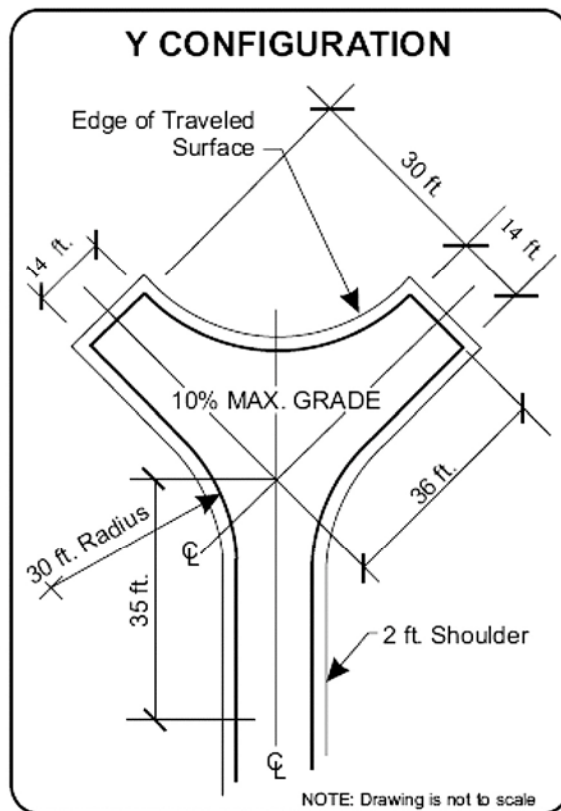
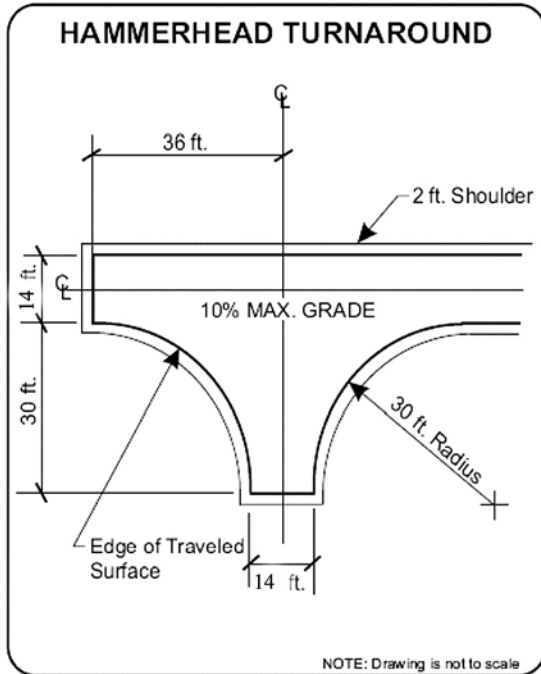
Access Guidelines

Driveway Turnarounds

Turnarounds that are unobstructed by parked vehicles are designed to allow for the safe reversal of direction by emergency equipment. The “Y” and “Hammerhead” turnarounds shown below are preferred because they provide the necessary access while minimizing disturbance to the site. Turnarounds should be located at the end of every driveway.

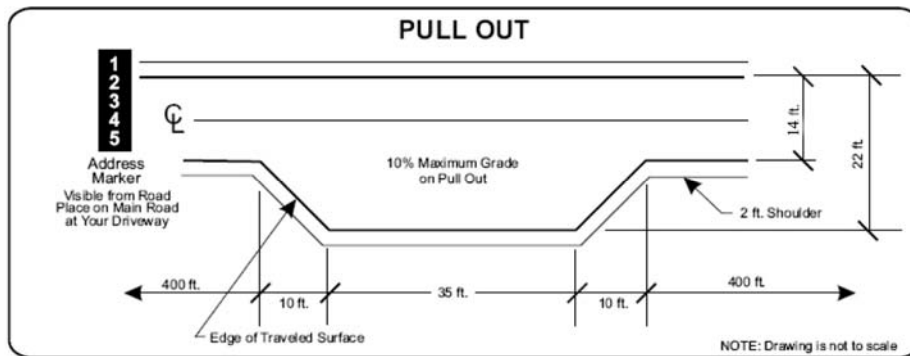
Driveway Width and Height

Driveways should have an unobstructed vertical clearance of 13 feet 6 inches. Trees may need to be limbed, and utility lines relocated to provide the necessary clearance. Driveways should have a 14-foot wide drivable surface and 14 feet of horizontal clearance.



Driveway Pullouts

Driveway pullouts are designed with sufficient length and width to allow emergency vehicles to pass one another during emergency operations. These features should be placed at 400-foot intervals along driveways and private access roads (community driveways). The location of pullouts may be modified slightly to accommodate physical barriers such as rock outcroppings, wetlands, and other natural or manmade features.



Address Markers

Every building should have a permanently posted, reflective address marker mounted on a non-combustible pole. The sign should be placed and maintained at each driveway entrance. Care should be taken to ensure that the location will not become obscured by vegetation, snow, or other features, whether natural or manmade. It is critical that the location and markings are adequate for easy night-time viewing. It is preferable to locate markers in a consistent manner within each community. A good guideline for this practice is

to place the markers five feet above ground level on the right side of every driveway. Where multiple homes are accessed by a single driveway, all addresses that are accessed via that driveway should be clearly listed on the driveway marker. Where multi-access driveways split, each fork should indicate all residences accessed by that fork, and the proper direction of travel to arrive at a given address. It is not adequate to simply mark addresses on a common pole in the center of the fork. Residential homes should have an additional reflective address marker permanently attached to the home in clear view of the driveway or access road. Homes that are marked by lot number while under construction should have the lot number removed and a permanent address marker posted before granting a certificate of occupancy.

Bridge Load Limits

Bridge load limits should be posted with a permanently mounted, reflective marker at both entrances to the bridge. Care should be taken to ensure that these markers will not become obscured by vegetation, snow, or other features, whether natural or manmade. It is critical that the location of the markings and the markings themselves be adequate for easy night-time viewing.

Rural Water Supply for Creditable Storage

In the study area, like many of the mountainous areas of Colorado, water is a critical fire suppression issue. The hazard assessment revealed several communities in the study area which are a considerable distance from reliable water sources for fire suppression. The following information on rural water supply for creditable storage has been included to provide information regarding supplementing the existing system of pressurized hydrants. It is not intended to be a substitute for the existing hydrants. For more detailed recommendations regarding enhancement of the existing water supply system, please see *Water Supply FMU* in the main report.

Since 1985 East Grand Fire has been working to improve fire suppression capabilities in the rural portions of the Fraser Valley and has earned an ISO Class 4 rating on properties within five miles of their stations. Among the many things the District has been required to do to maintain this rating, working to improve the water supply for fire suppression has been critically important. Water is the major component of fighting fires the Fire District does not directly control. Water supplies are developed and maintained by a variety of providers including individuals, home owner's associations (HOAs), Water and Sand Districts, town governments and others. Water supplies for fire suppression vary from millions of gallons to the basic minimum creditable supply (30,000 gallons). The past few years have seen many impacts to our water supplies for firefighting including some which have dried up entirely. To avoid concerns over the availability of water in the future the Fire District has proactively set minimum requirements for creditable water supplies for new developments or upgrades to existing supplies. The following is a list of the minimum requirements for a creditable water supply:

- All supplies must be offline and not subject to call during low water flow years.
- All supplies are to be covered or underground tanks or cisterns protected from freezing and not subject to buildup of sediment or plant growth.
- All supplies are to gravity feed to a location where a Fire District engine can take supply with at least a minimum pressure to avoid drafting.
- All supplies should be built in supply from a dedicated exempt fire well, a feed from an approved domestic source, or other approved system. Refill shall be automatic or

by a Fire District approved manual control. An approved system to indicate the supply is full will also be required.

- A Fire Department hose fitting of 4.5 inch NST male threads for supplying a minimum flow from the system of 1,000 gallons per minute (GPM) and a recirculator return line of 2.5 inch NST female threads adequate to flow 250 GPM are required. These fittings and lines must be protected from freezing and supplied with suitable caps.
- The supply should be available year-round from an all weather road surface. Adequate markings to allow the location of attachment points and to prevent blockage by vehicles is required.
- The minimum volume required for Fire District operations is 30,000 gallons of water for single family dwellings that may be shared. That is calculated as 250 GPM for two hours to provide a creditable supply. This is a minimum capacity and larger developments may require additional sites located no greater than 1.5 miles from structures. Developments with large buildings will require larger supplies as calculated from the NFPA 1142 standard.
- Long term maintenance is a critical component of a water supply system and an approved plan is required to insure proper maintenance.
- Ponds, lakes, river crossings and other natural water sources may be used as additional water sources, but are not suitable for primary use.