

**Boulder
County**

Boulder County
Land Use Department
Publications

Driveway Access for Emergency Vehicles

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Driveway Access for Emergency Vehicles

Emergency personnel try their best to respond to calls in a timely manner, often while negotiating difficult terrain. Planning for access by emergency vehicles improves safety for homeowners and their families by providing for a more efficient response by firefighters and other emergency personnel arriving on the scene. This is especially important in rural and mountainous areas where response times may be considerably longer than in cities, where emergency services are closer by.

Driveway Width, Height, and Grade

In order for emergency vehicles to safely access your property, your driveway must have a clean, dry all-weather surface that is able to provide adequate support for large, heavy vehicles. This may require that the drive be graded and 6" of road base be added.

- In order to allow for the passage of large vehicles such as fire engines, driveways are required to have an unobstructed vertical clearance of 13 feet, 6 inches. This may require limbing and/or removing trees and brush to provide the necessary vertical clearance
- Driveways need to have a 12-foot wide drivable surface, with a 2-foot clear zone on each side of the driveway (16-foot overall). This may require the removal of rocks and burying utility lines to provide adequate sight distance (inter-visibility).
- Grade must also be considered. The maximum grade for a driveway is 12%.
*Note: In the mountains, 14% for up to 200 feet is permitted, though an access serving a single dwelling unit may use 16% for up to 200 feet.
- Sharp turns are discouraged. The minimum centerline radius for a driveway curve is 40 feet, with a maximum 6% grade through the curve. A driveway serving a single dwelling unit may use up to 8% with 2 feet of additional width. The drive may need to be straightened or rerouted around rock outcrops and steep banks to achieve this.

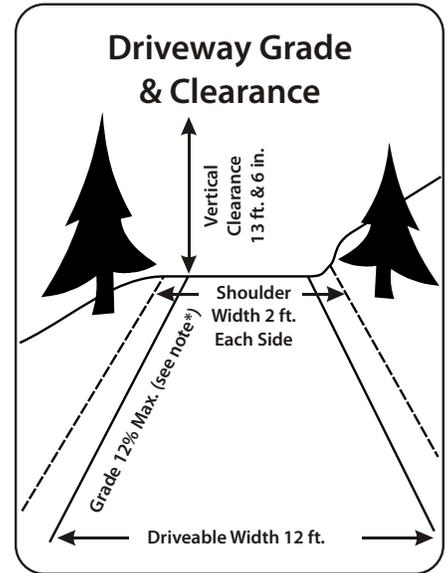


Figure 1: Driveway Grade & Clearance.

Pull-Outs

Pullouts allow emergency vehicles to pass one another and other private vehicles on one-lane driveways during emergency operations. They must be used if the driveway or private access road is greater than 400 feet in length. They must be designed to be of sufficient length and width for emergency equipment to pass one another, while at the same time minimizing site disturbance. Typically the pullout is about 8' wide. In combination with the 12' wide driveway, this creates a 20' wide section. Pullouts need to be at least 35' long to accommodate a fire engine.

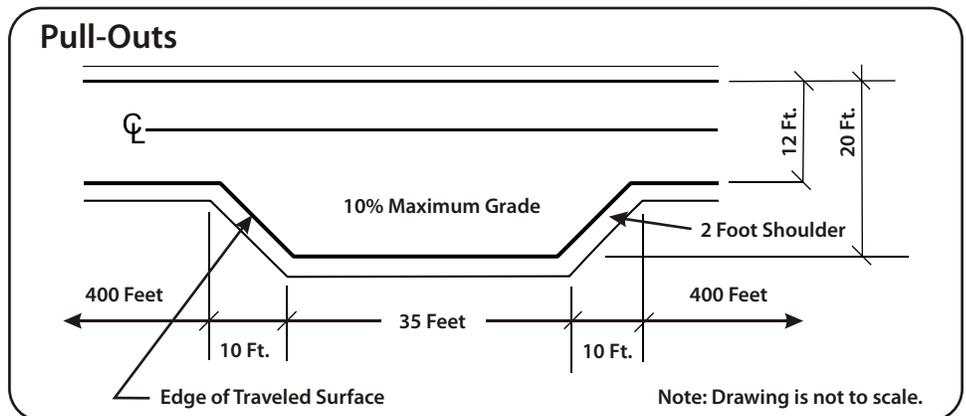


Figure 2: Driveway Pull Out.

Turn-Arounds

Emergency personnel must be able to reverse the direction of their emergency vehicles once they arrive at the house. This is for the safety of emergency personnel as well as for workability, since many operations take place from the rear of the emergency vehicle. For driveways that are 150 feet or more in drivable length from a public or private road, a turn-around is required. Two turnaround designs, the "Y" and the "Hammerhead", are preferred by Boulder County because they provide the necessary turn-around requirements while minimizing site disturbance. Other configurations may be possible, but regardless of the design, they must meet the minimum turning radius of 30 feet.

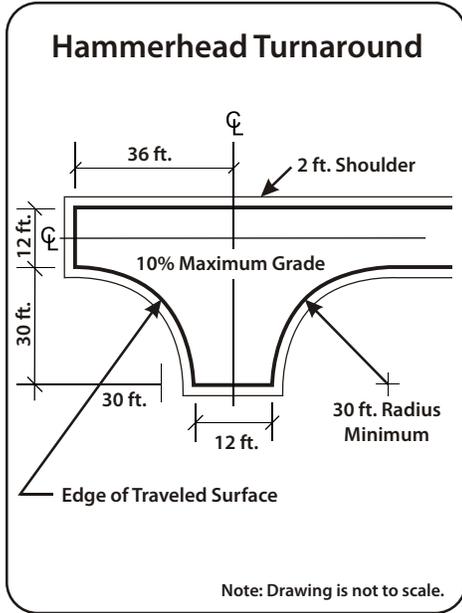


Figure 3: Hammerhead turnaround.

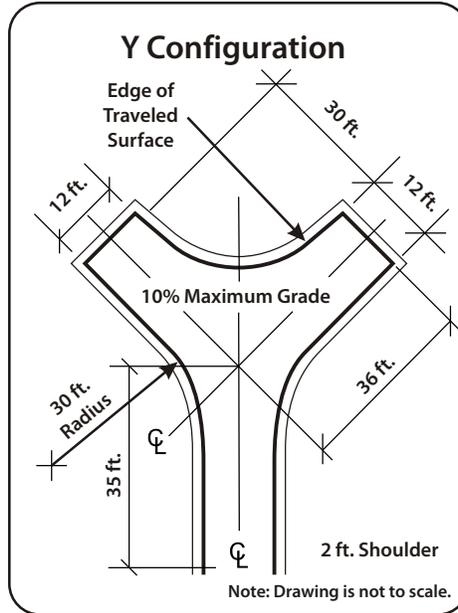


Figure 4: Y configuration.

Location

Emergency turnarounds and pullouts must be unobstructed and may not be used for other purposes, such as parking of private vehicles. The turnaround centerline shall not be closer than 50 feet to the front of the structure and no further than 150 feet from the rear of the structure. The 50 feet distance shall be met if both distances cannot be simultaneously achieved due to the shape of the structure. Pullouts must be placed at 400-foot intervals along the driveway.

The exact location for a turnaround or pullout can be modified to accommodate physical barriers such as rock outcrops, steep drop-offs, bodies of water, and other such features.

Exceptions or modifications to any of these requirements must be approved by the Transportation Department and/or the Fire Protection District.

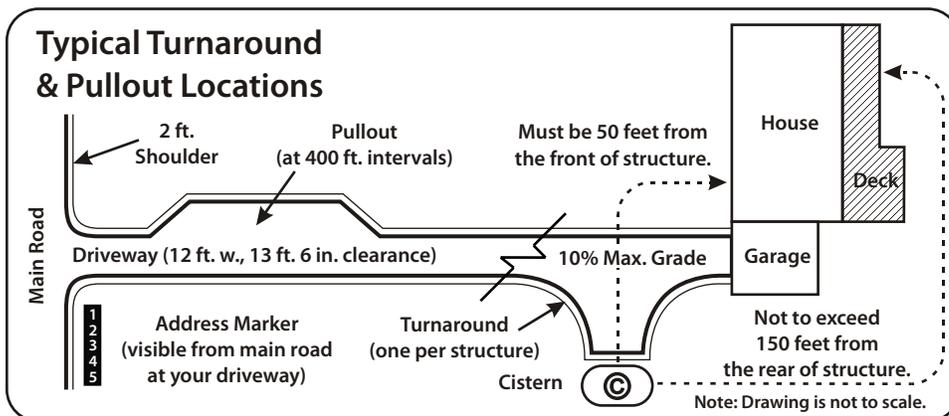


Figure 5: Typical Turnaround & Pullout Locations.

Access Guidelines

The Land Use Department relies on information provided by the Transportation Department and your local Fire Protection District about emergency access for projects under review. It is always helpful for you to discuss your project with these agencies before you submit for any Land Use Review. This will help determine what kind of emergency access, turnarounds and pullouts will work best for your site.

Ultimately, it is the Land Use Department that places the actual emergency access requirements on projects. These requirements may differ somewhat from the Fire Protection Districts suggestions, because while they can focus their comments specifically on the emergency service requirements, the Land Use review must address a wide range of issues.

Address Signs

All new structures must have a permanently posted sign with a green background and white reflective address numbering.

- The address sign must be placed and maintained at the driveway entrance. It must be visible from both directions of travel along the main road or access route.
- Signs must be mounted on a metal t-post or other noncombustible support, not on a wooden post or to a live tree.
- On multiple household driveways, address signs should be placed at the entrance of the drive and also in a location that clearly indicates where each home is located.

Address signs issued by Boulder County will be mailed to you within 45 days of building permit application. If you do not receive your sign within this period, please contact the Land Use Department at 303-441-3930.

Bridge Load Limits

Emergency vehicles are very heavy and will not cross bridges that do not have a sufficient posted weight capacity. The load limits for a bridge must be posted at both entrances of the bridge.