



**September 14, 2022**

**BCC 3.18.045 Fire Marshal Requirements for Private Roads and Driveways**

**Policy "Minimum Driveway and Private Road Requirements"**

**Procedure:** Upon the Benton County Fire Marshal's office receiving a submittal from the Benton County Planning Division for a Sub-Division or the Benton County Building Division, for a new Residential Structure a review will be conducted to determine if the proposed Private Road or Driveway will meet the county requirements of BCC 3.18.045.

**Benton County Code 3.18.045 MINIMUM ROAD REQUIREMENTS.** ("Private Road" means a road, driveway, or any form of access easement more than one-hundred and fifty feet (150') in length that is not dedicated to and maintained by Benton County.)

(a) Except as otherwise provided in this chapter, the minimum acceptable improved surface for a private road shall be twenty feet in width that is graded and with two inches of compacted recycled concrete asphalt or two inches of base course crushed surfacing in accordance with the specifications set forth in **Standard Specifications for Road, Bridges and Municipal Construction** published by the **Washington State Department of Transportation**, as now in effect or hereafter amended.

(b) The minimum improved surface of a private road may be twelve feet in width surfaced with the materials set forth in subsection (a) above, but only if the private road serves six or fewer dwelling units (a duplex constitutes two dwelling units) and turnouts ten feet wide and thirty feet in length, surfaced in the same manner as the remainder of the private road, are placed every three hundred feet from a public road.

(c) If a private road has any curves or turns, the required improved width of any such private road shall be as determined and set forth in writing by the Fire Marshal to a width deemed necessary to allow the appropriate firefighting equipment to safely navigate such curves or turns. If no such written determination is requested of and made by the Fire Marshal, then a private road with curves or turns must be improved to a width of twenty feet in accordance with the standards set forth in subsection (a) above.

(d) All private roads must terminate in a turnaround that shall not require more than one backing up motion for a fire truck of at least thirty-seven feet in length from bumper to bumper to completely turn around.

**All private roads must terminate in a turnaround that shall not require more than one backing up motion for a fire truck of at least thirty-seven feet in length from bumper to bumper to completely turn around.**

(e) All private roads shall be constructed to applicable standards set forth above and all conditions of approval of an encroachment permit shall be satisfied prior to any certificate of occupancy being issued for that parcel.

(f) Bridges and Culverts. All private roads over any drainage, river, creek, etc. shall be traversed by a private bridge or culvert capable of supporting at least sixty thousand (75,000) pounds or such higher weight as deemed necessary and designated in writing by the Fire Marshal. Private bridges over twenty (20) feet long are not allowed. Private bridges and culverts shall be designed to handle a 25-year storm event; provided, if located in an area designated as a 100-year flood plain, then the design must meet the 100-year flood event. A letter stating that the private bridge or culvert design meets the requirements of this section must be submitted by a licensed Washington State Civil Engineer prior to construction and, for private bridges, every two (2) years thereafter.

(g) Access - Gradients.

- (1) For all developments accessed by private road, access shall be by at least one private road with a maximum gradient of twelve (12) percent or less; provided, such maximum gradient may be exceeded under either of the following circumstances:
  - (i) A maximum gradient of no more than fifteen (15) percent shall be permissible if the private road is surfaced with two (2) inches or more of asphalt or concrete; or
  - (ii) Subject to the written approval of the Fire Marshal, a maximum gradient of fifteen (15) percent may be allowed for less than two hundred (200) feet if such gradient is followed by a gradient of zero (0) percent for a period of six hundred (600) feet and adequately satisfies the vertical curve alignment necessary for the appropriate firefighting equipment. This design may be repeated as needed.
- (2) Notwithstanding subsection (1) above, the maximum gradient of a private road providing access to a dwelling unit shall not exceed twelve (12) percent at any point within two hundred (200) feet of an intersection of such private road with another private road or with a public road.
- (3) If requested, as-built drawings of each completed private road shall be submitted. The as-built drawing shall bear the stamp of a Washington State Registered Civil Engineer.

**Dead-end fire apparatus access roads more than 150' (feet) (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4." A 120-foot Hammerhead, a 60-foot "Y", or 96-foot diameter cul-de-sac is required. (Examples supplied on page five of this handout)**

### **3.04.046 SPECIAL FIRE PROTECTION.**

**3.04.046 SPECIAL FIRE PROTECTION.** Notwithstanding other provisions of the International Building Code and/or the International Residential Code, the following restrictions shall apply:

(a) Except as set forth below, the use of cedar shakes or shingles or materials with similar flame spread characteristics for roof construction is prohibited.

(1) Cedar shakes or shingles or materials with similar flame spread may be used for roof construction of dwelling units that:

- (i) Are located in the Growth Management Act Agricultural District; and
- (ii) Are setback a minimum of 150' from all property lines and other dwelling units; and
- (iii) No other dwelling unit on the parcel/lot may have a cedar roof as described in (a) above.

(2) Class A, B, or C rated cedar shakes or shingles may be used for additions to existing structures that have cedar shake or shingle roofs and for existing roof repairs on structures of any type that have cedar shakes or shingles, provided the new fire rated shakes or shingles will not comprise fifty (50) percent or more of the existing roof within a twelve (12) month period.

(b) Non-combustible siding and soffit material is required on the downhill side of structures within thirty (30) feet of a fifteen (15) percent or greater grade.

(c) All structures within thirty (30) feet of the property line shall have non-combustible siding, soffits, or skirting on the side adjacent to an undeveloped area of natural vegetation that is in excess of five (5) contiguous acres, provided, that this restriction shall not apply to interior lots of platted parcels and development phases whose streets are accessible, and the water system is operational.

### **3.04.048 GRADES FIFTEEN (15) PERCENT OR STEEPER.**

When determined by the Fire Marshal, non-combustible siding/soffit/skirting shall be required on the downhill side(s) of the structure if within thirty (30) feet of fifteen (15) percent or greater grade. The grade will be determined by the predominant slope on the downhill side within a maximum of three hundred (300) feet.

**Purpose:** Provide for a uniform method for meeting the requirements of Benton County Code 3.18.045 Minimum Road Requirements.

**Scope:** This policy is applicable only to private roads as defined in Benton County Code 3.18.015. Private Road" means a road, driveway or any form of access easement in excess of one-hundred and fifty (150') feet in length that is not dedicated to and maintained by Benton County."

**Procedure:** Upon the Benton County Fire Marshal's office receiving a submittal from the Benton County Planning Division or the Benton County Building Division, a review will be conducted to determine if the proposed private road meets the requirements of 3.18.045.

#### **12-foot-Wide Private Roads**

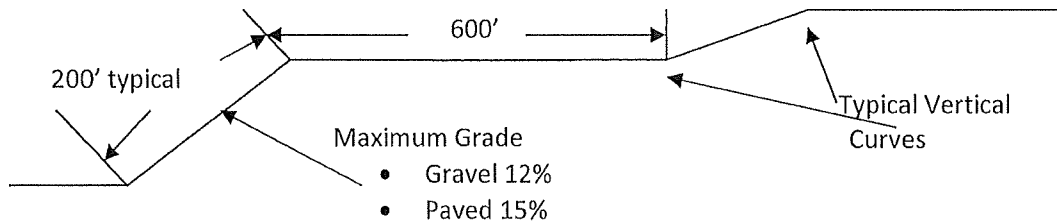
1. Road approval is required by the occupancy approval for a manufactured home, or by the final inspection for a site-built building.
2. Shall be permitted when serving six or less dwellings. A duplex count as two dwellings.
3. An approved turnaround is required when the private road length exceeds 150' (feet).
4. Turnouts shall be every 300 feet, and the surface shall be the same as the private road.
5. Maximum grade for nonpaved surfaces is 12%. For paved surfaces, it is 15%.
- 6. Radius for turns, curves, or switchbacks must be approved prior to construction.**
7. Stair stepping with **approved** vertical curves is permitted and may be repeated to the top.
8. Bridges and culverts must meet Benton County Code 3.18.045 (f). See Policy-Bridges/Culverts
9. Paved surfaces and compacted gravel surfaces shall be at least two inches thick.
  - Gravel surfaces shall meet the Base Course Standard
  - Professionals recommend gravel to be three inches thick.

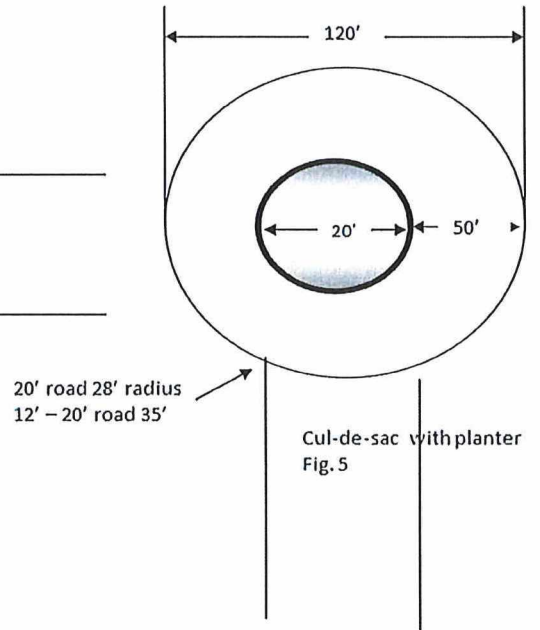
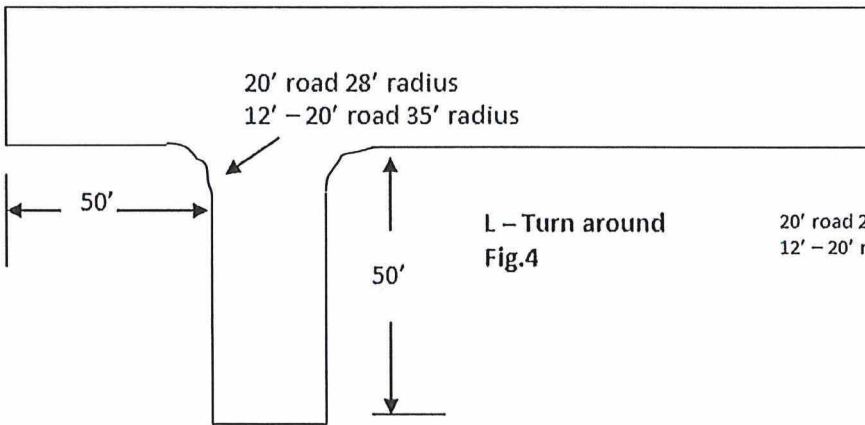
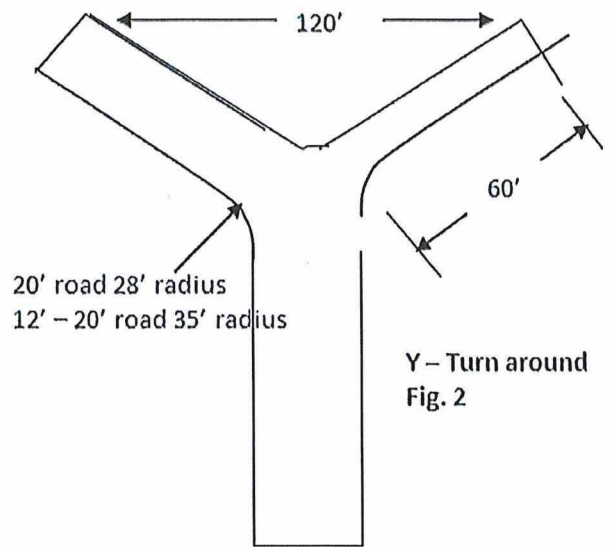
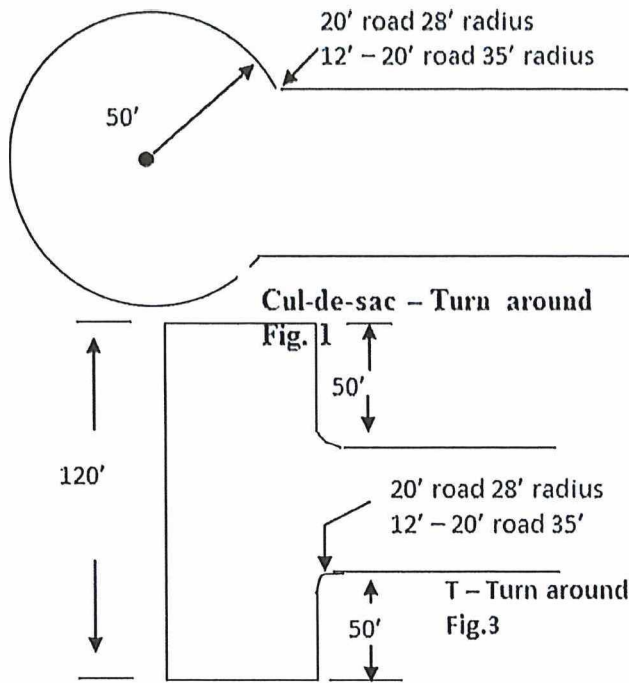
- At three inches, a cubic yard will cover 108 sq. ft. (12' x 9') At two inches, a cubic yard will cover 162 sq. ft. (12' x 13.5') A truck and trailer carry 21.5 cubic yards.

### 20-foot-Wide Private Roads

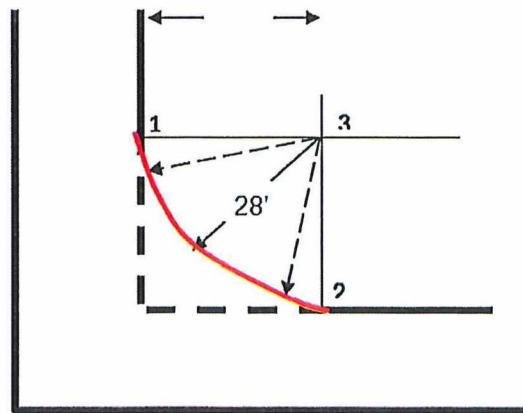
1. Road approval is required by the occupancy approval for a manufactured home, or by the final inspection for a site-built building.
2. An approved turnaround is required when the private road length exceeds 150' (feet).
3. Maximum grade for nonpaved surfaces is 12%. For paved surfaces, it is 15%.
4. **Radius for turns, curves, or switchbacks must be approved prior to construction**
5. Stair stepping with **approved** vertical curves is permitted and may be permitted to the top.
6. Bridges and culverts must meet Benton County Code 3.18.045 (f). See Policy-Bridges/Culverts
7. Paved surfaces and compacted gravel surfaces shall be at least two inches thick.
  - Gravel surfaces shall meet the Base Course Standard
  - Professionals recommend gravel to be three inches thick.
  - At three inches, a cubic yard will cover 108 sq. ft. (20' x 5.4') At two inches, a cubic yard will cover 162 sq. ft. (20'x 8') A truck and trailer carry 21.5 cubic yards.

### Stair Stepping





One of the problems that confront most of us, is how to construct a radius. Perhaps the following may be of assistance. From the corner, measure 28' in both directions. From points 1 and 2, measure 28'. Drive a large nail into the ground (point 3) and hook a string.



**Policy: Pullouts if your driveway exceeds 300 feet.**

**Purpose:**

Provide for a uniform method for meeting the requirements of Benton County Code 3.18.045 (b) \_

**Scope:**

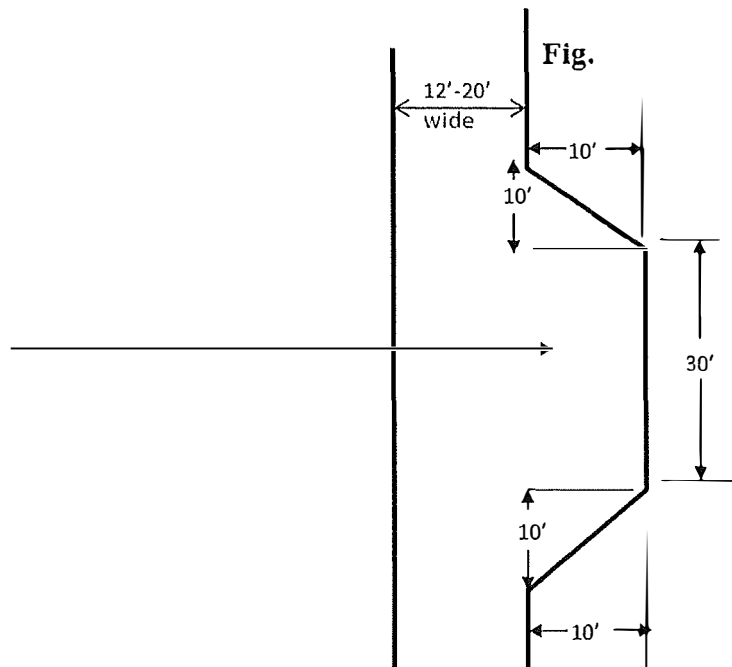
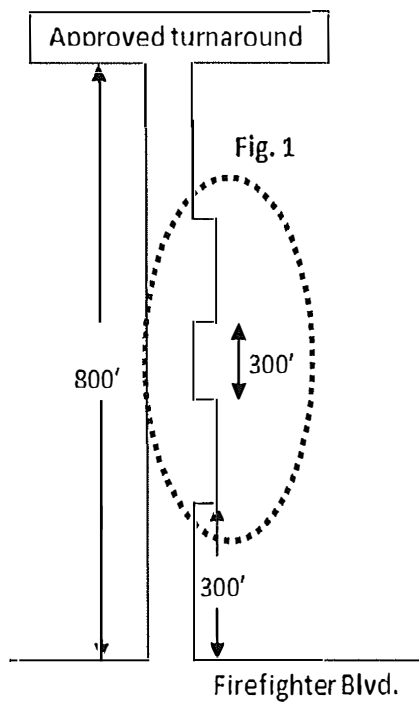
This policy is applicable only to private roads as defined in Benton County Code 3.18.015 that are between 12 feet and 20 feet wide and whose length exceeds 300'. Private Road" means a road, driveway or any form of access easement in excess of one hundred and fifty (150') feet in length that is not dedicated to and maintained by Benton County."

**Procedure:**

Upon the Benton County Fire Marshal's office receiving a submittal from the Benton County Planning Division or the Benton County Building Division, a review will be conducted to determine if the proposed private road meets the requirements of 3.18.045 (b).

- The private road must comply with all sections of Benton County Code 3.18.045.
- The pullout shall be required every 300' (feet). Fig. 1
- Turnout surface shall be the same as the private road.
- Turnouts at a minimum shall be 10' x 30'.

Fig. 2



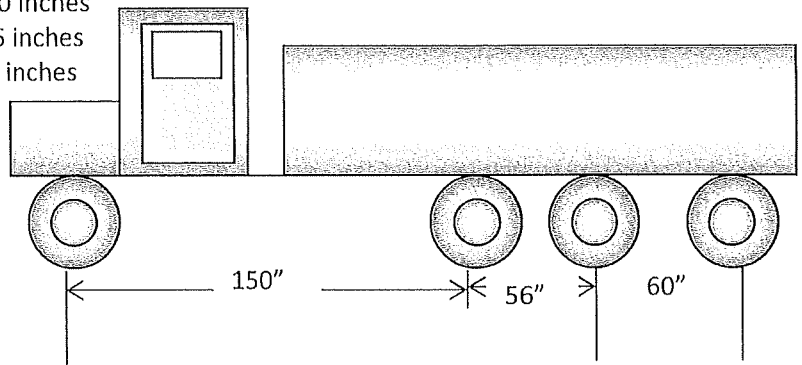
**Policy: BRIDGE DESIGN for Private Roads and Driveways.**

**Purpose:** Provide for a uniform method for the design and posting of private bridges.

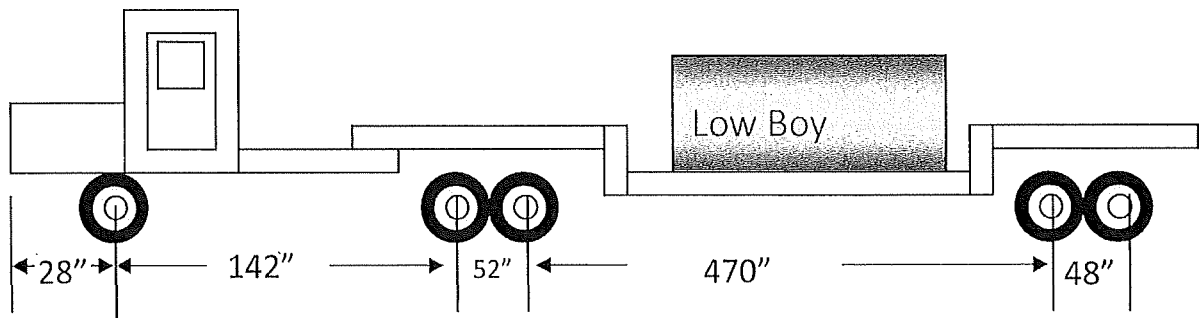
**Scope:** This policy is applicable to private roads, private driveways, lanes, drives, access easements and similar driving surfaces. Bridges shall be inspected every two years.

**Procedure:** A Washington State Registered Civil Engineer shall design the bridge to meet, at a minimum, the following requirements.

- Both ends of the bridge are required to have the capacity posted. The signs shall have a pictograph showing the two below types of fire vehicles with the bridge capacity, in lbs. below each pictograph. See sample sign on page two for minimum sign and letter sizes.
- Benton County Fire Marshal shall approve Private bridges width. The bridge shall be designed and built to accommodate a **minimum, of a 75,000-pound truck**, or a 75,000-pound low-boy with the following dimensions:
- 75,000-pound truck
  - First axle to second axle is 150 inches
  - Second axle to third axle is 56 inches
  - Third axle to fourth axle is 60 inches



- 60,000-pound low boy
  - First axle to second axle is 142 inches.
  - Second axle to third axle is 52 inches.
  - Third axle to fourth axle is 470 inches.
  - Fourth axle to fifth axle is 48 inches.



**Policy: CULVERT CROSSING**

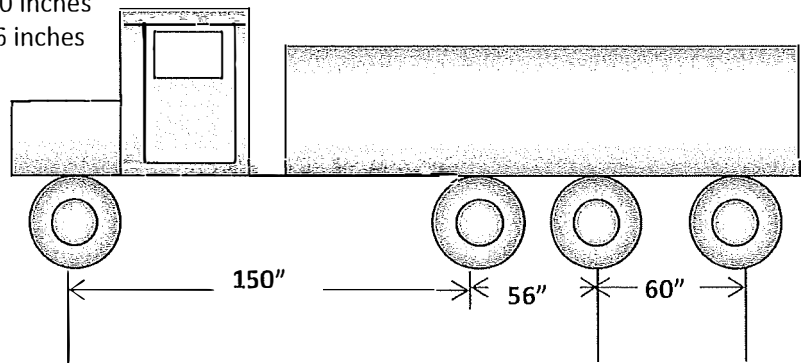
**Purpose:** Provide for a uniform method for the design of culvert crossings.

**Scope:** This policy is applicable to private roads, private driveways, lanes, drives, access easements and similar driving surfaces.

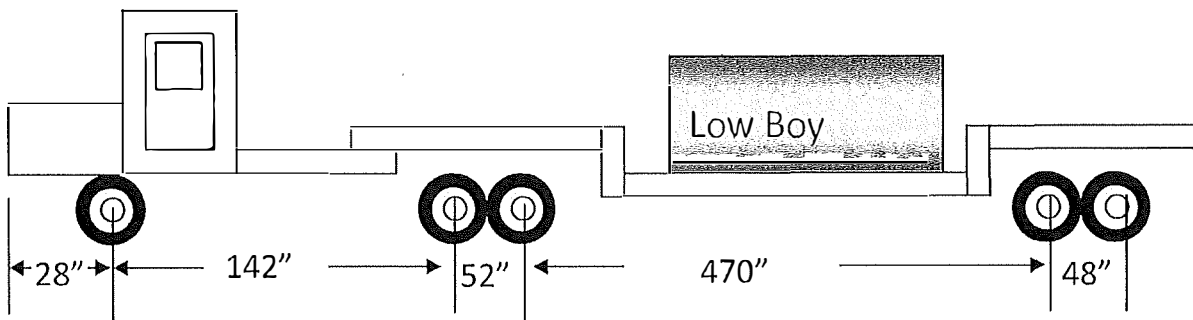
**Procedure:** A Washington State Registered Civil Engineer shall design the culvert to meet, at a minimum, the following requirements. Upon the Benton County Fire Marshal's office receiving a submittal from the Benton County Planning Division or the Benton County Building Division, a review will be conducted to determine if the proposed culvert meets the requirements of 3.18.045 (c).

- Benton County Code 3.18.045 (c) requires culverts to be designed to handle a 25-year storm and the imposed fire loads.
- Benton County Fire Marshal shall approve the design. The bridge shall be designed and built to accommodate, at a minimum, a 75,000-pound truck, or a 75,000-pound low-boy with the following dimensions:
- 75,000-pound truck
  - First axle to second axle is 150 inches
  - Second axle to third axle is 56 inches
  - Third axle to fourth axle is 60 inches

Third axle to fourth axle is 60 inches



- 75,000-pound low boy
  - First axle to second axle is 142 inches.
  - Second axle to third axle is 52 inches.
  - Third axle to fourth axle is 470 inches.
  - Fourth axle to fifth axle is 48 inches.



**Also, BCC 3.18.045 (i)**

- (i) Access Identification - Uniform Address Posts. Address locator posts shall be installed and maintained in accordance with the standards adopted by Benton County. (REQUIRED)  
The owner of the property is responsible for maintaining and replacing address locator posts per the following requirements and standards:
- (1) Address locator posts shall be perpendicular to the public right-of-way and shall be placed off the road so as not to hinder the movement of traffic and road maintenance vehicles.
  - (2) The posts shall be located adjacent to the private easement point of encroachment and/or driveway.
  - (3) If the address posts initially installed by the County are damaged, replacement of the address signs can be obtained from Benton County Planning/Building Division by submitting a fee as set by resolution of the Board of County Commissioners. In lieu of the fee, owners may provide their own signs.
  - (4) The posts must be at least four (4) and less than six (6) feet in height with reflective address numbers each at least four (4) inches in height on both sides.
  - (5) The address posts shall be flexible and shall not be hazardous to moving vehicles because of sign materials. Only posts approved by the County are allowed to be put on the public right of way.
  - (6) Address numbers shall be mounted on the structure in addition to the address locator posts. The address shall be placed on the side of the structure that faces the road. It should be placed near a doorway: if no doorway exists on the side of the structure facing the right-of-way, the numbers shall be placed four to six (4 - 6) feet above ground level. The numbers shall be a minimum of four (4) inches in height and shall contrast with their background.

**If you have questions on these requirements, please, feel free to contact the County Fire Marshal at (509) 735-3500.**

**Gary Tiplady  
Benton County Fire Marshal**