



ISO 9001:2008 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

Landmark Center II, Suite 220 • 4601 Six Forks Road • Raleigh, NC 27609 • Phone 919-783-9214 • Fax 919-783-9266

**To:** Mr. Ronald W. Nalley  
Town of Montreat Town Administrator



**From:** Dewayne L. Sykes – KCI Associates of NC, PA  
Project Manager

**Date:** February 4, 2016

**TIP Number:** B-5196

**County:** Buncombe

**Project:** Replacement of Bridge #528 – Texas Road over Flat Creek

#### **Background and Available Options**

NCDOT Bridge Management Unit records indicate Bridge No. 528 has a sufficiency rating of 21.9 out of a possible 100 for a new structure. It was constructed in 1960 and has reached the end of its useful life, exhibiting a degree of deterioration that can no longer be addressed by maintenance activities; therefore, the existing bridge is currently closed to vehicular traffic due to safety concerns related to its state of deterioration. Replacement of the bridge is needed to provide safer access and mobility in the area as well as to improve community connections. The project is needed to support event circulation and ongoing access to Montreat College and the Montreat Conference Center, a retreat and conference center around which the Town of Montreat was founded and which remains a focus of activity for the community. Additionally, the replacement would maintain safe pedestrian access across Flat Creek and between several adjacent recreation areas, supporting an existing pedestrian path that crosses the bridge.

In November 2015, the residents of the Town of Montreat elected a new mayor and 3 new town council members. The new board has indicated that they wish to revisit B-5196 alternates. Please note that adherence to current guidelines require that the proposed replacement bridge result in a “No rise” in flood elevation at the bridge. The outcome is the bridge elevation as currently designed, 7’ higher than the existing bridge. The previous town council did ask for consideration of a reduction in impacts. The proposed bridge elevation can be lowered through the acceptance of up to a 1’ in rise of flood elevation at the Texas Road Bridge.

The following is a brief description of the 4 basic options: Option A (leave as designed, no change), Option B (leave proposed bridge in the same place but lower the bridge elevation), Option C (select one of the previously studied alternates) and Option D (study and select a new alternate).

### Option A

This option leaves the design and location of the bridge as is. The town proceeds forward with the plans as currently designed. Must resume Right of way agreement with Mountain Retreat Association. Must resume environmental and TVA permit application process.

Delay: 2 months

Design Cost: NA

### Option B

This option leaves the horizontal location of the bridge as is but lowers the bridge elevation significantly. It requires that the town accept up to a 1 foot rise in flood elevation. A CLOMR (Conditional Letter of Map Revision) showing the revised flood limits must be done. While the horizontal location will not change, the vertical elevation will. A new roadway grade and a new bridge must be designed. Other than proceeding as currently designed, this is the simplest and quickest. It could also result in construction cost savings in a shorter bridge.

Delay: 12 months

Design Cost: \$200K (\$40K by Town of Montreat + \$160K by FHWA)

### Option C

This option selects one of the previously studied alternates and perhaps the one that ties opposite Tennessee Road. The planning document must be reopened and agreement with State Historic Preservation Office (SHPO), FHWA and others obtained. There is no guarantee that an alternate other than replace at the existing location could be selected. With the MRA recreational area impacts, an avoidance alternate must be studied. This would push alternate selection back to the current alternate, along existing. This essentially creates a new project and we would be starting over on the design. New surveys, roadway design, drainage design, bridge design and utility coordination would be required. Different R/W and easements must be acquired.

Delay: 6 months (for planning document), 20 -24 months (new design) 26 – 30 months (total).

Planning and design Cost: \$300K (\$60K by Town of Montreat + \$240K by FHWA)

### Option D

This option creates and selects a new alternate. This new alternate must be designed and studied. The planning document must be reopened or redone. Agreement with SHPO, FHWA and others obtained. There is no guarantee that an alternate other than replace at the existing location could be selected.

With the MRA recreational area impacts, an avoidance alternate must be studied. This would push alternate selection back to the current alternate, along existing. This essentially creates a new planning document, a new project and we would be starting over on the design. New surveys, roadway design, drainage design, bridge design and utility coordination would be required. Different R/W and easements must be acquired.

Delay: 12 months (for planning document), 20 -24 months (new design) 32– 36 months (total).  
Planning and design Cost: \$350K (\$70K by Town of Montreat + \$280K by FHWA)

These delay and cost numbers are estimates but relative. Option A is by far the cheapest, the simplest and the easiest to implement but may not address the wishes of the new board. Of the remaining options, Option B is the cheapest, the simplest, the easiest to implement and was under consideration by the previous board. We have surveys and a horizontal alignment that can be used. We have R/W and easement that can be used. The planning document can remain as is with a 'consultation' addressing the elevation change. There could be a construction cost savings with a shorter bridge. The other 2 options require a reopening and a possible major redo of the planning document. They are almost a completely new project. Delay and cost are significant. A replace in place (Options A & B) is usually the least damaging for all parties. In addition, conversations with FHWA indicate they could participate in funding. Option B would also be more amenable to SHPO since it lowers the proposed bridge elevation and therefore reduces impacts to the eligible historic properties.

Should there be questions, please don't hesitate to contact me.