To meet the project need, WVDOH considered several build alternatives and the No Build Alternative. Build Alternative 4 is the Preferred Alternative. The Preferred Alternative includes the following features:

- Steel plate girder bridge with an overall length of 353 feet
- Two spans with a single pier positioned outside the river
- Abutments built behind (farther from river) the existing abutments, which will be removed to a point below the ground surface
- Clear roadway width of 32 feet, including two 12-foot vehicle lanes and two 4-foot shoulders
- Sidewalk that is 5 feet, 7 ¾ inches wide
- Approximately 250 feet of roadway approach work in both directions
- Shifting the end of Brooklyn Drive slightly to the west to allow for the new bridge abutment construction
- Four structures are planned to be taken for right-of-way and temporary construction easements
- A temporary bridge built downstream during construction
- No work will take place below the ordinary high water (OHW) mark of the Little Kanawha River
- Total estimated cost of $12.6 million.

To avoid need for a 15-mile detour, a temporary bridge will be constructed downstream of the existing bridge. Traffic will be directed from US 33/119 to the temporary bridge, and will use Brooklyn Drive to get back onto the US route (see Figure 1). Once the temporary bridge and detour are established, the old bridge will be removed and the new bridge will be constructed in its place.

The proposed temporary structure is a single-span, approximately 250-foot long, Acrow (or similar) structure (see Figure 3). It will have two 10-foot traffic lanes and a 5-foot sidewalk with a 2-foot buffer for barrels to lie between the traffic and sidewalk. The temporary bridge can be launched from the banks of the Little Kanawha River or lifted into place using one or more cranes.