

A deviation from USACE criteria to have less than (5) feet of freeboard and keep the crest elevation at 929.0 feet may be investigated, but at this time it cannot be assumed that a deviation from criteria would be granted by USACE Headquarters. The crest profile of the tieback reaches will be described in detail in the following tieback-specific sections.

3.3 Western Tieback

The Western Tieback centerline will extend from the DIS in a southwesterly direction towards the Sheyenne River, as shown in Figure 3. The previous location of the Western Tieback assumed that a portion of Cass County Road 17 would serve as a dam embankment, but this is no longer the case. The proposed alignment of the Western Tieback does not follow an existing road. However, as proposed with the previous alignment, a portion of the Western Tieback will be constructed at the maximum pool elevation. The portion of the Western Tieback constructed at the maximum design pool elevation would only be overtopped in the event of a significant gate failure leading to a rise in the pool water surface elevation above the maximum design pool.

Specifically, the Western Tieback crest profile will transition from 931.0 feet just southwest of the DIS down to the maximum pool elevation, which will be no greater than 924.0 feet. The crest will remain at the maximum pool elevation for approximately 3,800 feet in a southwesterly direction until a natural ridge is intersected. At the natural ridge the crest will rise to an elevation of 929.0 feet to again provide at least 5 feet of freeboard. The crest will remain at an elevation of 929.0 feet in a southwesterly direction until natural ground having an elevation of 929.0 feet is reached. This occurs approximately 1,200 feet west of County Road 36 (168th Avenue SE).

3.4 Eastern Tieback and Wolverton Creek Crossing

The Eastern Tieback embankment begins where the crest elevation drops below elevation 931.0 feet just west of Highway 75. The Eastern Tieback embankment elevation and the Wolverton Creek Crossing culvert sizes will be selected to ensure Comstock is not adversely impacted by the Project up through the PMF event and that stage impacts are less than 0.5 foot upstream of the county line road. The embankment will be designed to be overtopped, and the design of the culverts will minimize adverse effects to connectivity. The Eastern Tieback centerline, shown in Figure 4, will be located approximately 500 feet north of the Wilkin/Clay County line.

The preliminary design indicates the embankment will transition from elevation 931.0 feet to an elevation of 925.9 feet just east of Highway 75. This transition will not require a raise of the Highway 75 roadway profile. From just east of Highway 75 to just east of the BNSF Railway railroad embankment, the Eastern Tieback will be built to an elevation of 925.9 feet. As with Highway 75, the railroad embankment elevation will not need to be altered as part of this plan. After a short transition from elevation 925.9 feet to elevation 924.3 feet just east of the railroad embankment, the embankment will be built to an elevation of 924.3 feet until it ties into natural high ground east of Wolverton Creek. Because the alignment will cross Wolverton Creek, culverts will be installed at the crossing location. The preliminary design indicates that three 10-ft by 10-ft box culverts will be required.