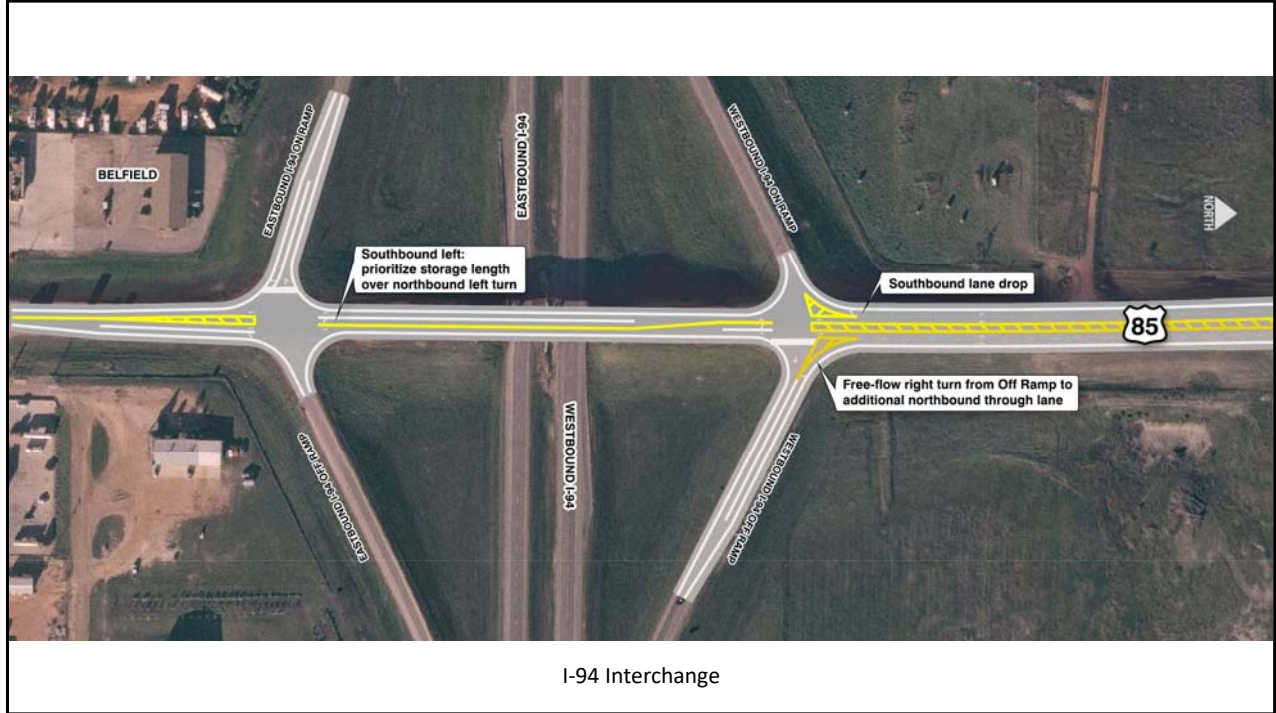




The project begins at the I-94 interchange and extends north 62 miles to the Watford City Bypass. A No Action Alternative and two build alternatives that would widen US Highway 85 to four lanes are under consideration: Alt B (divided, depressed median) and Alt C (divided, flush median). In addition, there are options under consideration for Fairfield, the ND-200/US Highway 85 intersection, and the Long X Bridge.



The build alternatives begin at the northern end of the I-94 interchange. To tie the project into the two-lane typical section south of the I-94 interchange, restriping of the interchange would be required.





Alternative B: Divided, Depressed Median



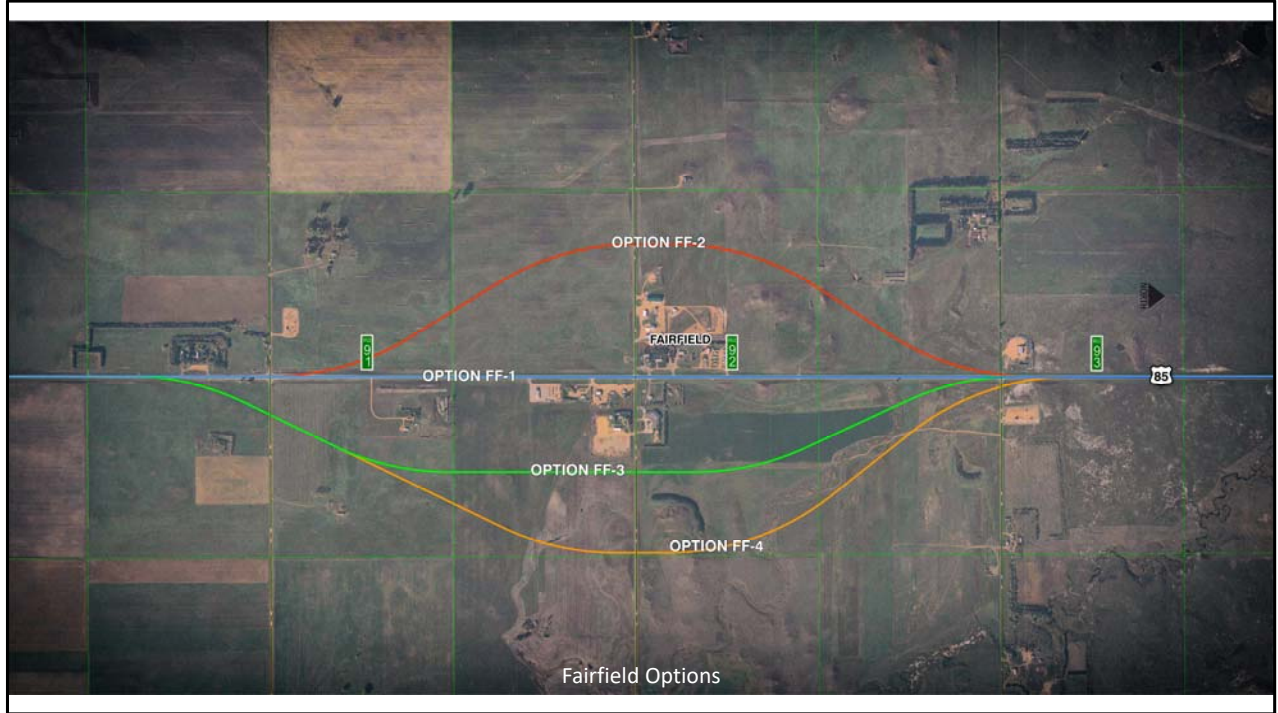


Rumble strips would be installed within non-turning lane segments of the flush, center median to discourage drivers from using the center median as a passing lane.



Alternative B: Divided, Depressed Median—Residence Avoidance Example

For Alt B, a roadway constraints assessment was completed to determine which side of the existing roadway would be the most optimal for expansion. The goal was to avoid impacts on existing resources (e.g., homes, buildings, large utilities, cultural resources) while minimizing the number of crossovers.



Option FF-1 would stay on the alignment through Fairfield with an urban typical section, and Options FF2, FF-3, and FF-4 would bypass US Hwy 85 around Fairfield on a newly constructed alignment using the typical section of the selected alternative.





Option FF-1 would construct an urbanized, four-lane section through Fairfield.



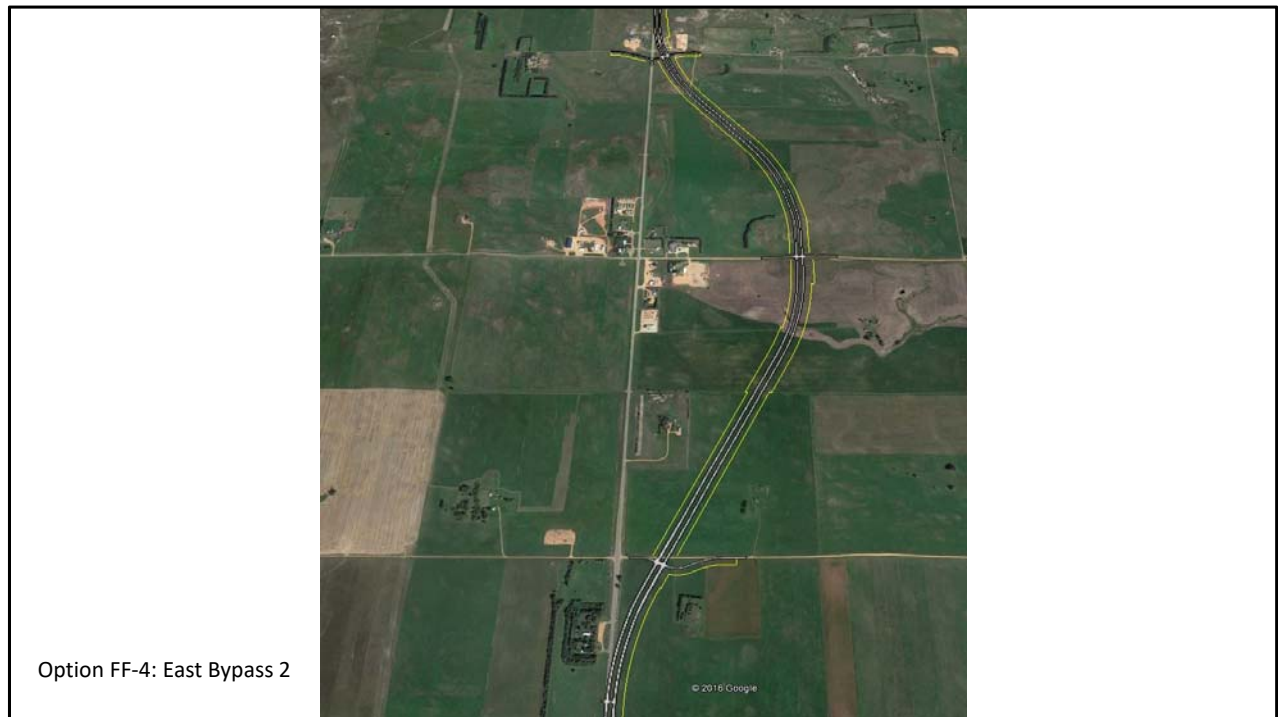
Option FF-1 would include curb and gutter along the outside edge of the shoulder, and storm sewer would be installed to handle drainage.



Option FF-2 would construct a 2-mile bypass around the community of Fairfield, approx. 0.4 miles west of the existing alignment.



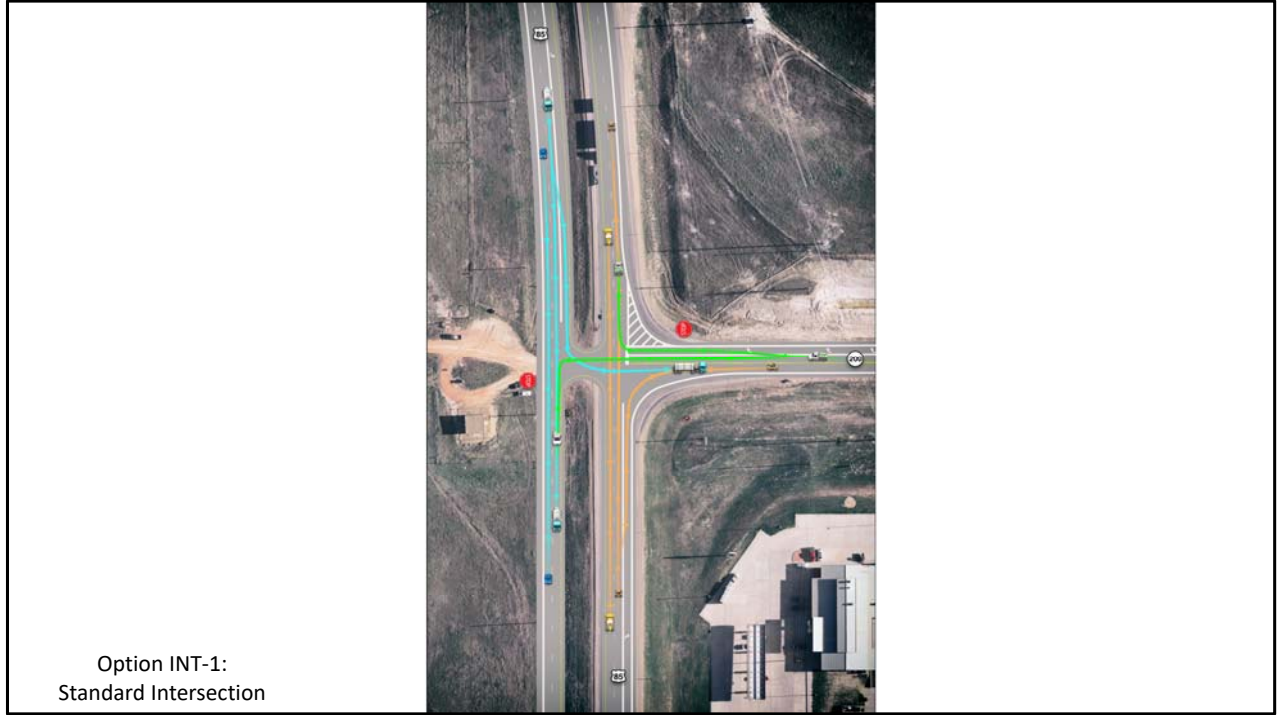
Option FF-3 would construct a 2.4-mile bypass around the community of Fairfield, approx. 0.3 miles west of the existing alignment. The intersection of 21<sup>st</sup> street SW would be realigned. The main access point to Fairfield would be from 20<sup>th</sup> street SW.



Option FF-4 would construct a 2.7-mile bypass around the community of Fairfield, approx. 0.5 miles east of the existing alignment. The intersections of 19<sup>th</sup> street SW and 21<sup>st</sup> street SW would be realigned. The main access point to Fairfield would be from 20<sup>th</sup> street SW.



Option INT-1 would construct a standard intersection; Option INT-2 a multi-lane roundabout



Standard intersection, typical of a four-lane highway. The intersection would function as it does currently with stop signs along NS-200 and the gravel roadway on the western side of the intersection.

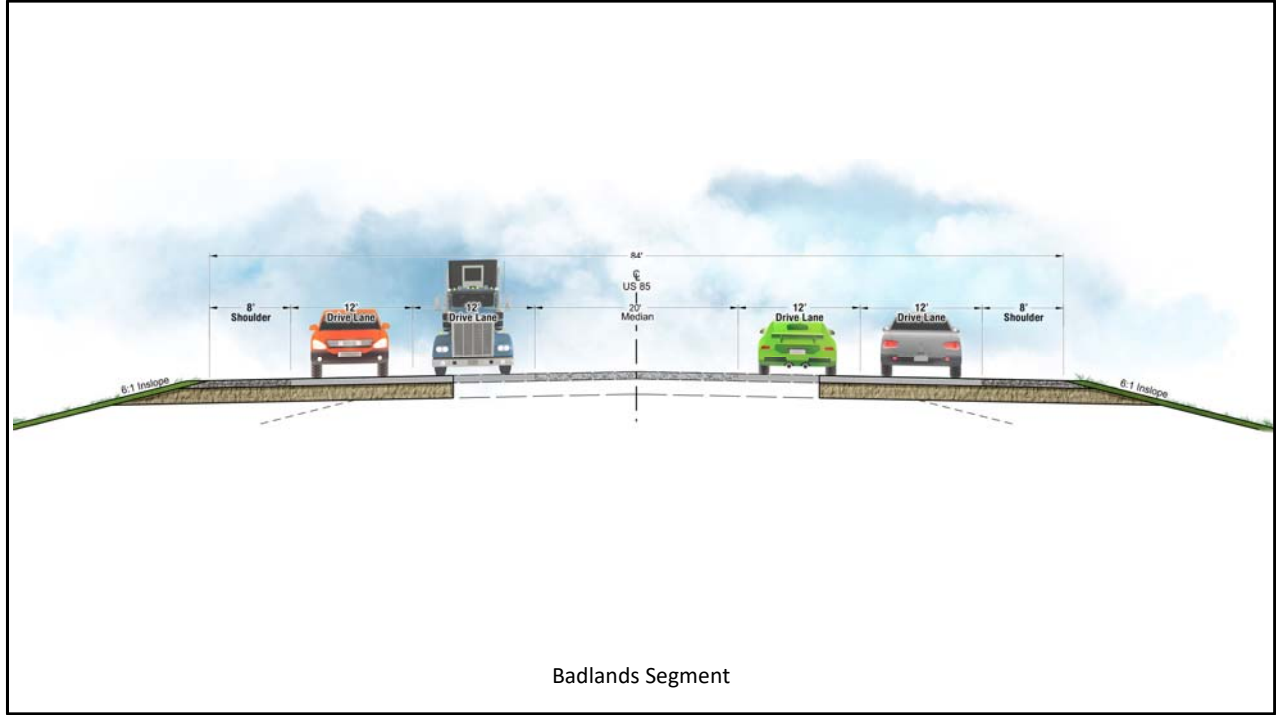


Reconstruct to multi-lane roundabout

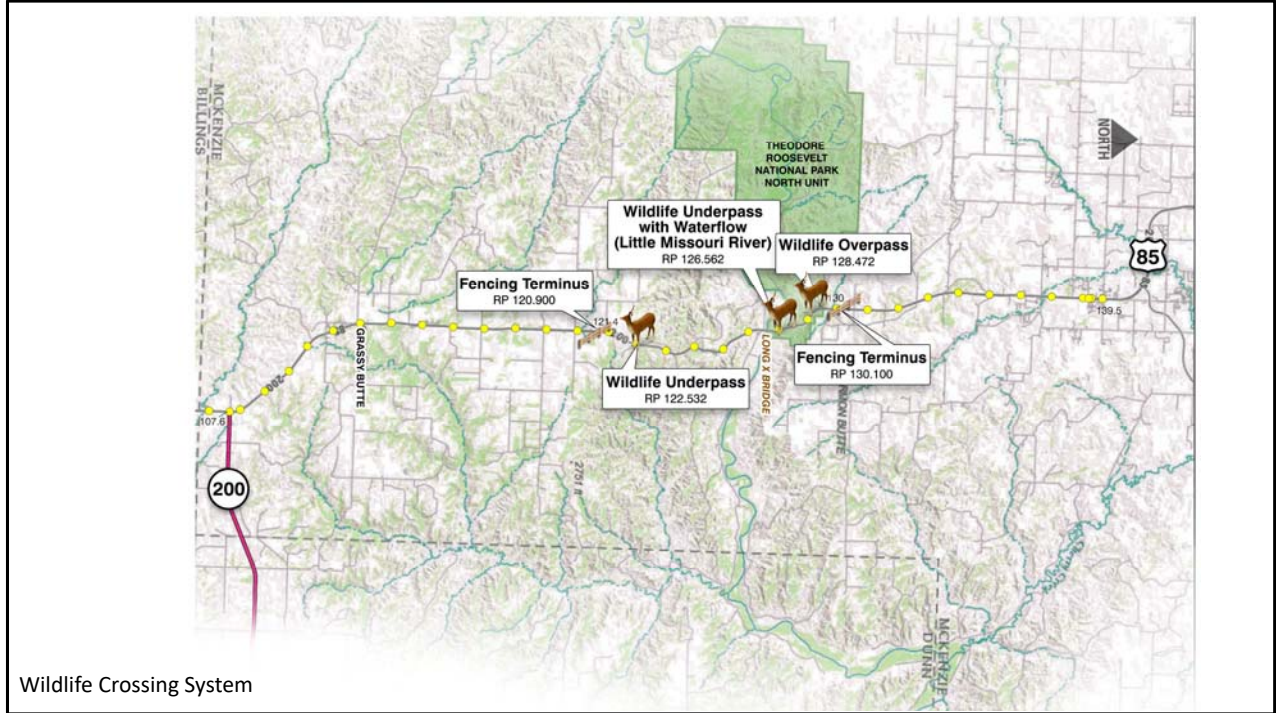




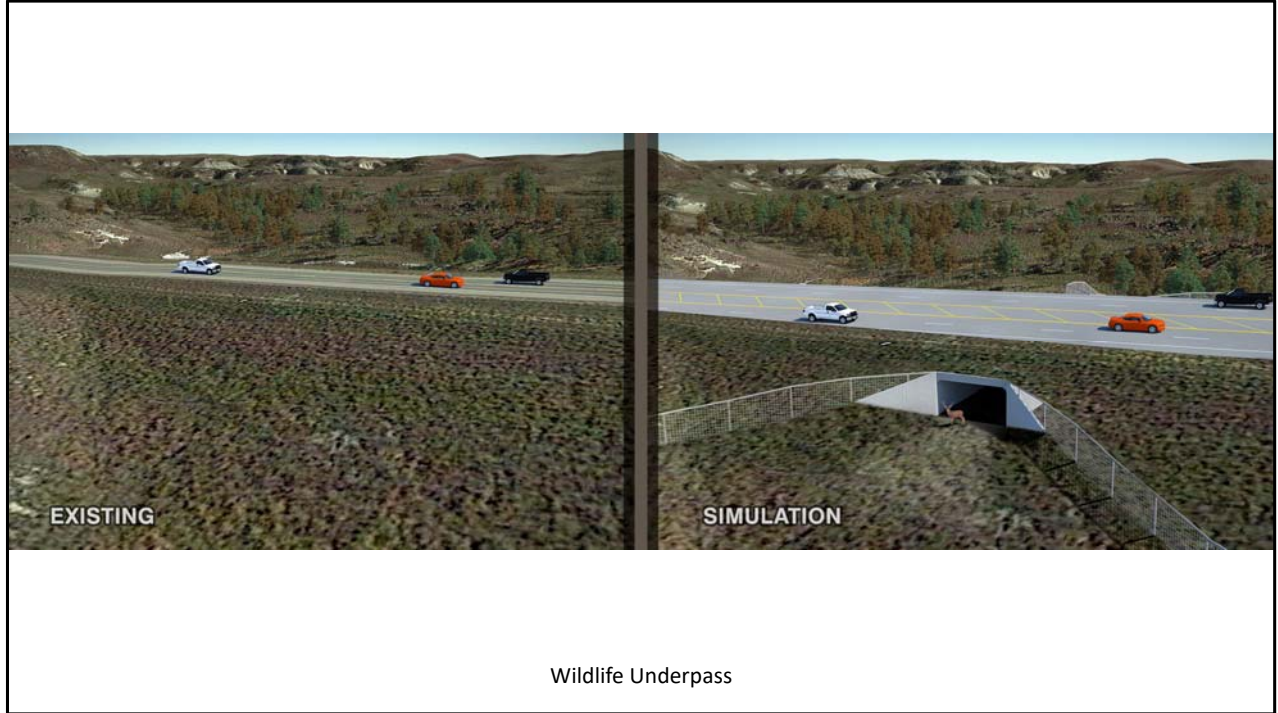
Through the Badlands segment, the roadway footprint has been reduced to minimize environmental and socioeconomic impacts, and to minimize impacts on the TRNP–North Unit, while still addressing the project’s purpose and need. Flexible design options (e.g., retaining walls, speed limits, and varying median widths) have been incorporated.



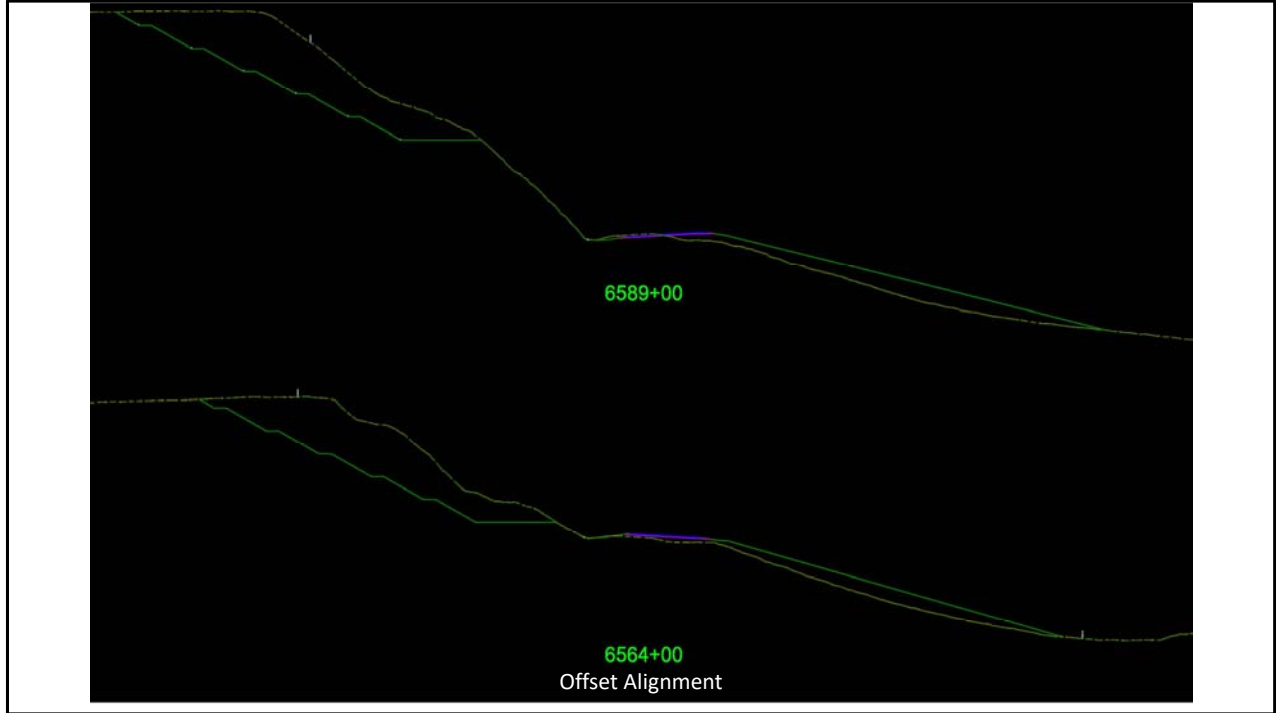
The typical section through much of the Badlands would be consistent with the divided, flush median under Alternative C. However, the center median width would be reduced to 12-feet near the entrance to the TRNP–North Unit.



To address concerns associated with the loss of wildlife mobility and habitat connectivity, as well as safety and economic losses due to wildlife-vehicle collisions, a system of wildlife crossings with fencing have been incorporated to the project within the Badlands segment.



The wildlife underpass was designed for mule deer and would consist of a concrete box culvert with an opening 10 feet tall, 20 feet wide, and 136 feet long.



The horizontal alignment from RP 124.2 to 125.4 would be shifted 40 feet east to minimize the amount of earthwork required to stabilize the west backslope. The upper portion of the slope would be graded flatter to correct the landslide issues.



A viewshed analysis was conducted for the TRNP–North Unit and USFS lands within the Badlands segment. This simulation depicts the graded slope associated with the offset alignment, as viewed from the TRNP TEMPORARY VISITOR CENTER.



Option LX-1 would construct a new two-lane bridge and rehabilitate the existing bridge. Option LX-2 would construct a new four-lane bridge and retain the existing bridge for an alternate use. Option LX-3 would construct a new four-lane bridge and remove the existing bridge. All Long X Bridge options would retain openings under the bridge(s) to allow them to function as a wildlife underpass with waterflow.



Option LX-1: New Two-lane Bridge, Rehabilitate Existing Bridge

Option LX-1 would rehabilitate the existing Long X Bridge to increase the vertical clearance and strengthen the bridge. A new two-lane bridge would be constructed east of the existing bridge that would be 42.5 feet wide by 950 feet long.





Based on coordination with the NDSHPO, Option LX-1 would have No Adverse Effect on the existing historic Long X Bridge.



Option LX-2: New Four-lane Bridge, Retain Existing Bridge for Alternate Use

Option LX-2 would retain the existing Long X Bridge for an alternate use as an example of a Warren through truss bridge and construct a new four-lane bridge east of the existing bridge that would be 85 feet wide by 950 feet long.



Based on coordination with the NDSHPO, Option LX-2 would have No Adverse Effect on the existing historic Long X Bridge.



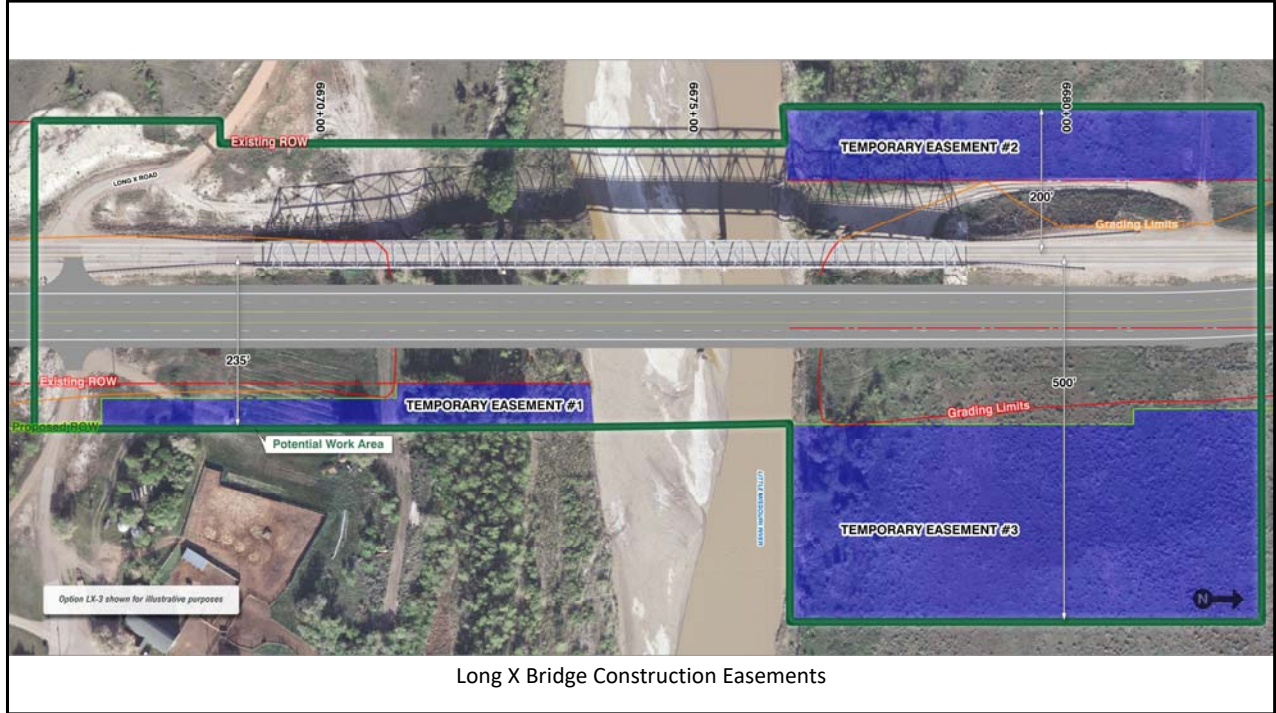
Option LX-3: New Four-lane Bridge, Remove Existing Bridge

Option LX-3 would demolish the existing Long X Bridge and construct a new four-lane bridge east of the existing bridge that would be 85 feet wide by 950 feet long.

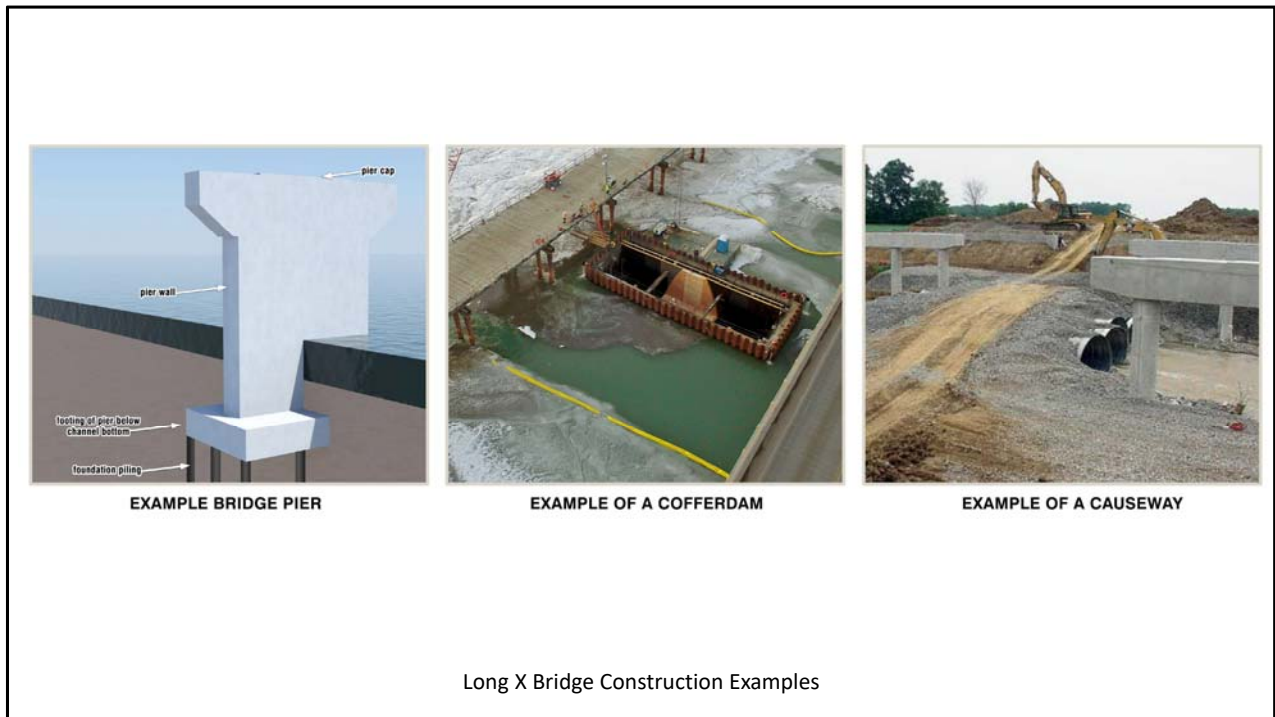


Option LX-3: New Four-lane Bridge, Remove Existing Bridge

Based on coordination with the NDSHPO, Option LX-3 would have an Adverse Effect on the existing historic Long X Bridge.



The contractor would have access to all land within the existing and proposed right of way during construction. In addition, temporary construction easements would be obtained for the project, including three potential areas for the Long X Bridge options.



Under the Long X Bridge options, two piers would be on the south bank, two in the river and one on the north bank. A typical pier consists of foundation piling, footing, and columns (or wall). Construction of piers and footings in the river would be accomplished using cofferdams or earthen ring dikes. A temporary causeway or bypass in the river would be used to facilitate access for construction.



Several alignments were considered to reroute US Highway 85 away from the TRNP–North Unit that would result in greater impacts than utilizing the existing alignment. For example, this alignment would disturb an area up to 1,032 feet wide, lower the ridgeline up to 210 feet, require 8.2 million CY of earthwork, and generate 8.1 million CY of waste excavation.

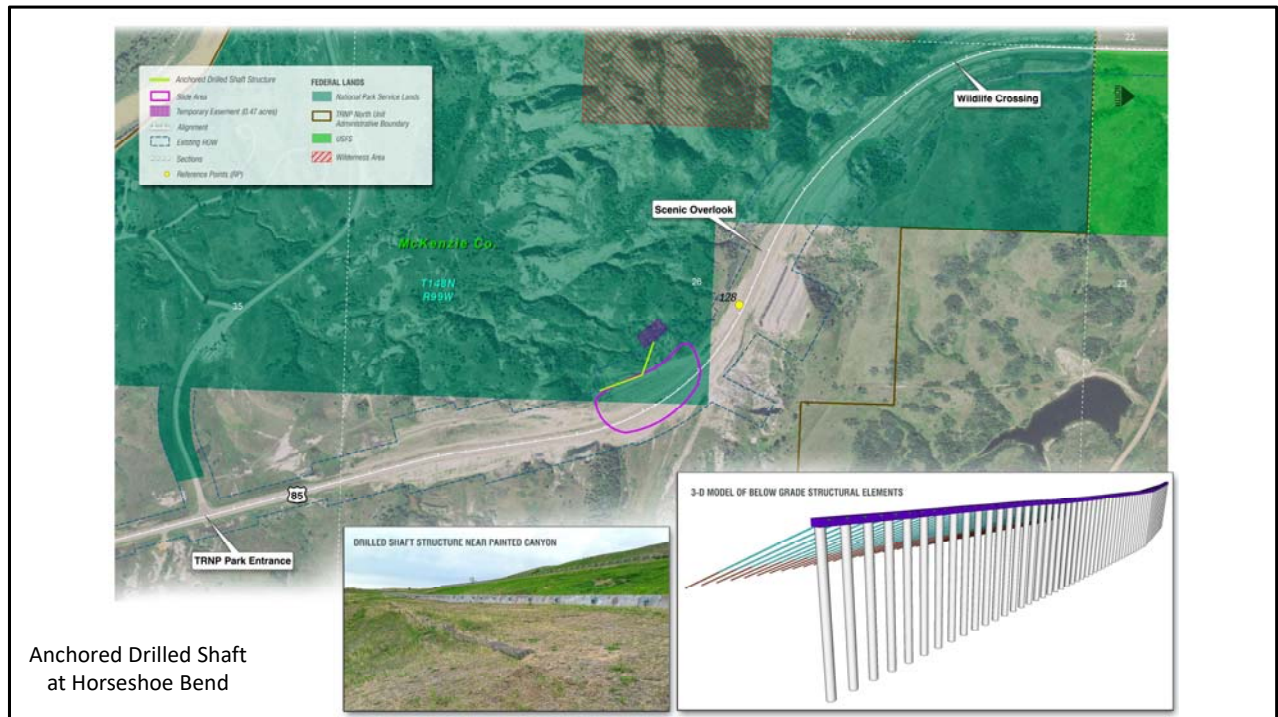




One alignment considered to reroute US Hwy 85 away from the TRNP-North Unit would include relocating the Little Missouri River crossing. This alignment would disturb an area up to 1,020 feet wide, lower the ridgeline up to 82 feet, require 3.1 million CY of earthwork, and generate 2.1 million CY of waste excavation.



Near the entrance to the TRNP–North Unit, the center median width would be reduced to 12 feet through the northern end of the Badlands.



An anchored, drilled shaft structure would be constructed to mitigate landslides. The structure would be located within existing right of way; however, a temporary easement would be required for construction.



This viewshed analysis simulation depicts the extension of an existing cut section where stratified geological layers are visible, as viewed from the Maah Daah Hey trail.



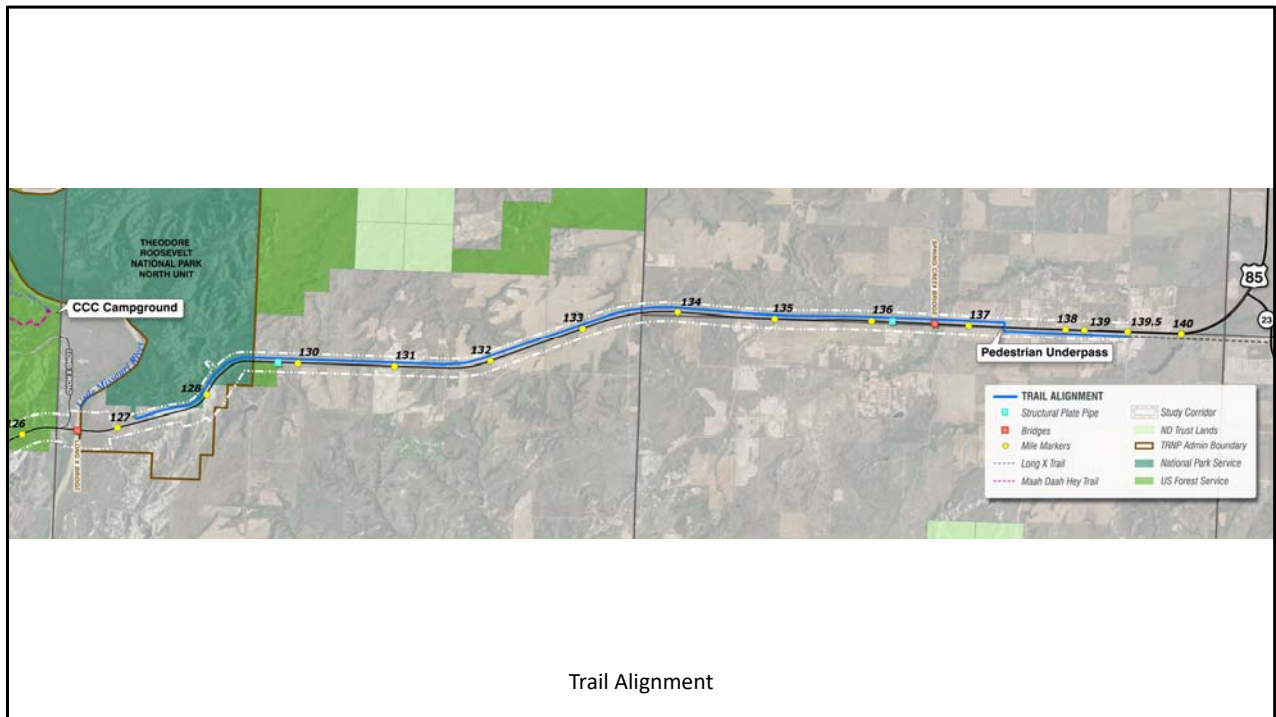
The wildlife overpass was designed for bighorn sheep and would consist of a three span, 100-foot-wide, 285-foot-long bridge covered in gravel over US Highway 85.



Overpass would provide 20.5 feet of vertical clearance for vehicular traffic.



Temporary construction easements would include two potential areas for the wildlife overpass.

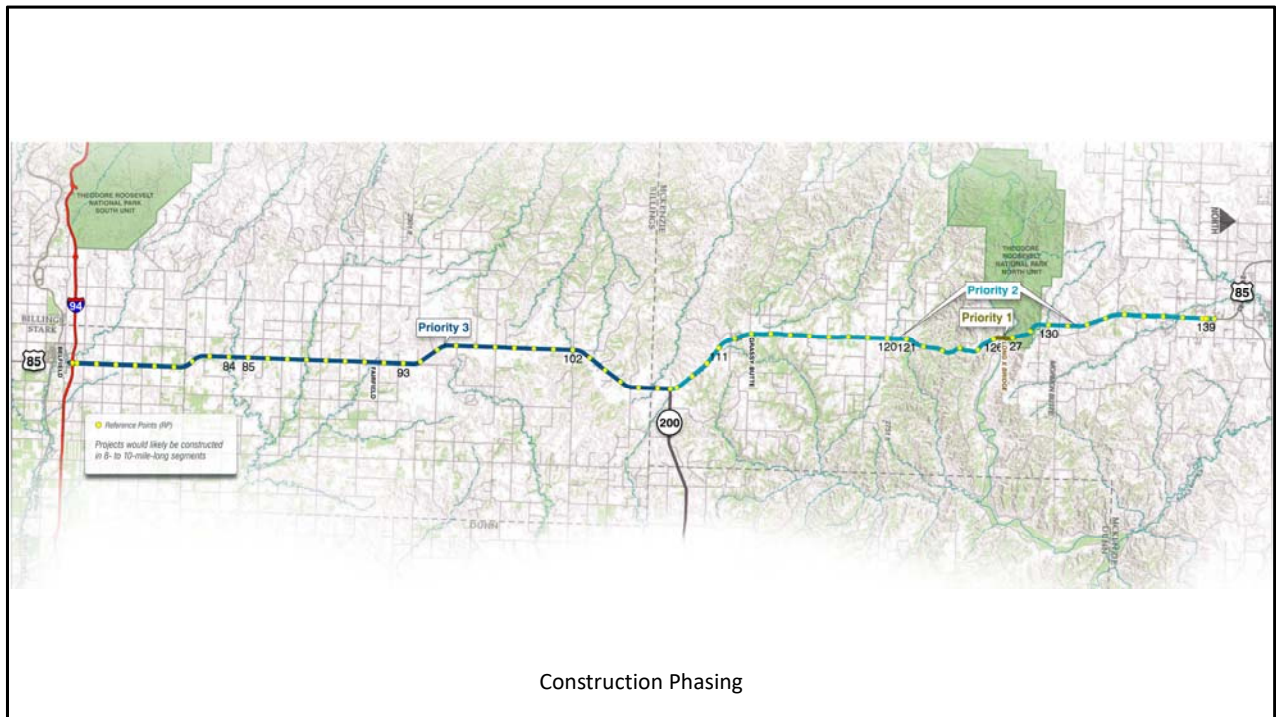


McKenzie County requested that a trail from Watford City to the TRNP–North Unit be included in the EIS. The trail would transition from the eastern to the western side of the highway at RP 137.3 via a 10-foot wide, 8-foot tall box culvert.





The trail would be an 8-foot wide, asphalt-paved trail for non-motorized use by bicyclists and pedestrians.



Construction phasing would depend upon how much funding is available and how it is programmed for construction. The first priority that is scheduled for construction is the Long X Bridge.