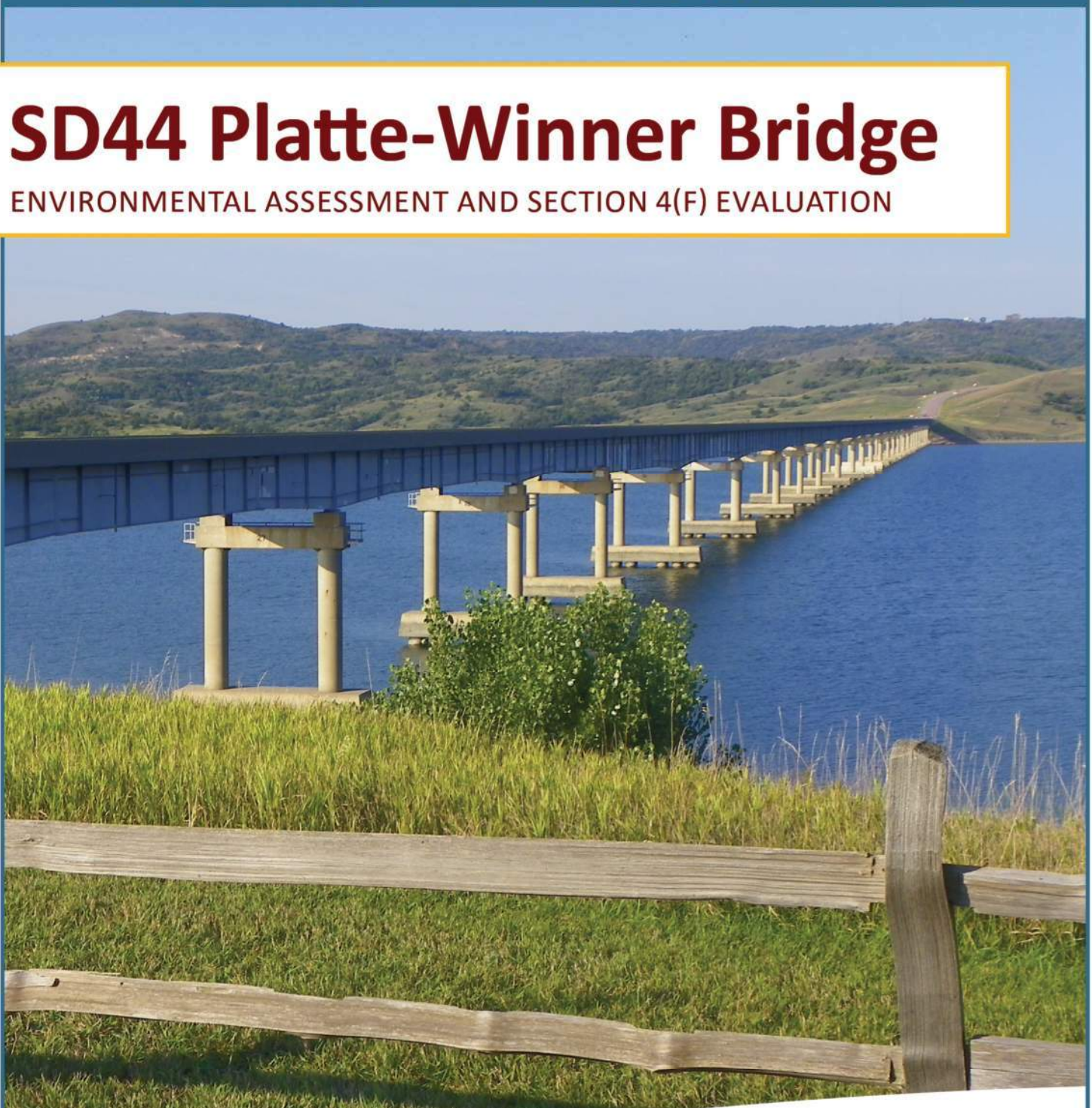
PROJECT NUMBERS: P0044(207)290, PCN:05XO AND P0044(228)290, PCN:08PP

SD44 Platte-Winner Bridge

ENVIRONMENTAL ASSESSMENT AND SECTION 4(F) EVALUATION



MAY 2023

Prepared for:

SD DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation Federal Highway Administration

US Army Corps of Engineers®

GREGORY AND CHARLES MIX COUNTIES, SOUTH DAKOTA

Environmental Assessment and Section 4(f) Evaluation

For

SD44 / Platte – Winner Bridge
Gregory County and Charles Mix County
South Dakota

Project Number: P 0044(207)290, PCN: 05XO
Project Number: P 0044(228)290, PCN: 08PP

Submitted Pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303
By the
U.S. Department of Transportation
Federal Highway Administration
And
South Dakota Department of Transportation

In Cooperation with
U.S. Army Corps of Engineers and U.S. Coast Guard

May 2023

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ACRONYMS AND ABBREVIATIONS

BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
CFR	Code of Federal Regulations
CWA	Clean Water Act
EA	Environmental Assessment
EC	Engineering Circular
EJ	Environmental Justice
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERR	Environmental Review Report
ESA	Endangered Species Act
FEMA	Federal Emergency Management Administration
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Coordination Act
GPA	Game Production Area
IPaC	Information for Planning and Consultation
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
Msl	Mean sea level
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act of 1969
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High Water Mark
RA	Recreation Area
REC	Recognized Environmental Conditions
SAT	Study Advisory Team
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SCRA	Snake Creek Recreation Area

SD	South Dakota
SDDANR	South Dakota Department of Agriculture and Natural Resources
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Department of Game, Fish, and Parks
SHPO	State Historic Preservation Office
SWPPP	Storm Water Pollution Prevention Plan
THPO	Tribal Historic Preservation Office
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
WOUS	Waters of the United States

1.0 PURPOSE OF AND NEEDS FOR PROPOSED ACTION

This chapter provides background information on the proposed project, identifies the project study area, and defines the purpose and need for the project.

1.1. Introduction

The South Dakota Department of Transportation (SDDOT) is proposing to replace the existing South Dakota Highway 44 Bridge (Bridge No. 12-085-080), also known as the Lake Francis Case Memorial Bridge. For the purposes of this study the bridge is referred to as the Platte-Winner Bridge. The Platte-Winner Bridge connects Gregory and Charles Mix Counties over the Missouri River.

This Environmental Assessment (EA) has been prepared to satisfy the National Environmental Policy Act (NEPA) of 1969 requirements (42 United States Code [USC] 4321 et seq.). All federally funded projects must comply with NEPA, which requires social, environmental, and economic considerations be incorporated into project planning, interagency coordination, and public involvement as part of the decision-making process. The environmental document is a full-disclosure document which provides a description of the purpose and need for the proposed action, the existing environment, analysis of the anticipated beneficial or adverse environmental effects resulting from the proposed action and potential mitigation measures to address identified effects. This document also allows others the opportunity to provide input and comment on the proposed action, alternatives, and environmental impacts. Finally, it provides the decision maker with appropriate information to make a reasoned choice when identifying a preferred alternative. This environmental document must be read entirely so the reader understands the reasons that one alternative is identified as the preferred alternative over other alternatives considered.

The Council on Environmental Quality updated its NEPA regulations at 40 Code of Federal Regulations (CFR) 1500-1508 during the preparation of the EA. These NEPA regulations apply to all federal agencies. Per updated 40 CFR 1506.13, the updated regulations, "apply to any NEPA process begun after September 14, 2020." Since the NEPA process for this project started prior to that date, Federal Highway Administration (FHWA) and SDDOT prepared this EA consistent with the older version of the regulations, and all references to 40 CFR 1500-1508 throughout this document reference the older version of the regulations.

The FHWA is the lead federal agency for this project with the U.S. Army Corps of Engineers (USACE) and the U.S. Coast Guard (USCG) as cooperating agencies. The FHWA has jurisdiction over the roadway and bridge portions of the project. The USACE owns lands in fee title and waters below elevation 1,375 feet mean sea level (msl) and has jurisdiction over the flood control measures on the Missouri River and Lake Francis Case. Lands above 1,375 feet were transferred to the South Dakota Department of Game Fish and Parks (SDGFP) under Title VI at the Fort. Randall Project. The USACE also has oversight of the Section 106 process for this project. The USCG has jurisdiction over the navigation within the Missouri River. Both USACE and USCG will adopt this EA and develop their own Finding of No Significant Impacts (FONSI). Before construction can occur Section 404 and 408 permits are needed from the USACE and a Section 10 permit is needed from the USCG.

This EA complies with the requirements of NEPA and SDDOT *Environmental Procedures Manual* to achieve the following: analyze the proposed action, determine if there is a potential for significant environmental impacts, and to inform and allow input from decision-makers and the public. The study area corridor serves as the general boundary to initiate coordination and conduct studies for the EA process.

Additionally, this EA was prepared considering Engineering Circular (EC) 1165-2-220, *Policy and Procedural Guidance for Processing Requests to alter U.S. Army Corps of Engineers Civil Works Projects pursuant to 33 USC 408* and is being submitted to the USACE, Omaha District as a Section 408 Request. USACE, Omaha District will use the information contained in this EA in order to make an informed decision on the appropriateness of an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI), and an appropriate decision on whether to grant a Section 408 permission to the Requestor (SDDOT) using the information contained herein.

1.2. Project Background

The SDDOT conducted a study of the major bridges located throughout the state to develop a systematic implementation plan for addressing issues associated with the 18 major bridges in the state. The SDDOT 2016 *Major Bridge Investment Study* evaluated future needs of each location and developed recommendations for improvement projects for including maintenance, preservation, repairs, rehabilitation, and replacement. The study analyzed each structure for traffic operations and safety, structural conditions, roadway geometrics, and environmental resources. The outcome of the study was a prioritized list of projects based on the need of the bridges scheduled in a way to reduce the occurrence of financial hardship on the SDDOT.

The Platte-Winner Bridge ranked second out of seven in order of priority of bridge replacement, behind only the Pierre-Fort Pierre/Waldron Bridge over the Missouri River. Figure 1 shows the location of these bridges immediately upstream and downstream of South Dakota Highway 44 (SD44). According to the 2016 *Major Bridge Investment Study,* the replacement of the Platte-Winner Bridge is anticipated to take place in the mid-2020's with construction tentatively planned for Federal Fiscal Year 2024.

SD44 is the primary route linking the cities of Platte, SD and Winner, SD. Regionally, SD44 stretches 379 miles from US 385 west of Rapid City, SD to I-29 near Sioux Falls, SD in southern South Dakota. Adding to the significance of this crossing is that any closure of the bridge would require an approximate 85-mile detour involving travel to the I-90 crossing of the river at Chamberlain, SD.

Built in 1966, the current bridge spans over the Missouri River approximately 5,656 feet making it the longest bridge in the state. The existing bridge has a 28 foot-wide bridge deck including two 12-foot wide travel lanes and two 2-foot wide shoulders. In 1989, the SDDOT improved the bridge by replacing the bridge railings with concrete barriers and installed drain openings to convey stormwater.

SDDOT closed the Platte-Winner Bridge for several months in 1997 while it made a repair to two existing pier pile caps in the river. The damage is believed to be the result of impact from ice floes in the river. Additionally, the SD44 highway corridor in this project study area has historically faced maintenance challenges, especially on the western side of the Missouri River due to the natural geology of the area. Landslides caused by poor drainage along steep slopes and ridges have resulted in millions of dollars in repair and mitigation expenses to SDDOT. Although SDDOT has implemented a wide variety of monitoring and mitigation measures to reduce the risk of landslides or impacts from ice floes, the potential for future maintenance issues remains.

The existing SD44 Platte-Winner Bridge is a Girder/Slab style bridge. The bridge's two-girder system prevents SDDOT from building a new structure in the existing location without long-term closure of the crossing to traffic. As such, it is not feasible to reconstruct the bridge and simultaneously maintain traffic.

The *Major Bridge Investment Study* was prepared in 2016, the same year the Platte-Winner Bridge turned 50 and the age at which structures are eligible for listing on the National Register of Historic Places

(NRHP). At that time, a formal determination of the bridge's eligibility for the NRHP was not made. A determination of eligibility would require additional documentation of potential impacts in Section 106 and Section 4(f) evaluations. Most notably, any project outcome that results in removal of an existing bridge eligible for the NRHP would result in the need for a Section 106 determination of "adverse effect" and consequent mitigation measures to address the impact.

In 2017, SDDOT initiated a *Corridor Study* process to examine long-term needs for the bridge and its associated SD44 highway corridor. Feedback provided by community members during public meetings held in 2017 and 2018 consistently identified a desire to avoid any closure of the existing bridge. SDDOT published the *Corridor Study* report in 2019 (see Appendix A). In the study, the SD44 corridor was recognized as a critical connection for local economies near the study area and inter-regional traffic serving points beyond the study area. Further, the Snake Creek Recreation Area (SCRA) is located immediately east of the Platte-Winner Bridge to the north and south of SD44. The State Park is managed by SDGFP. The SDGFP has placed a high priority on the minimization of impacts to park resources such as campgrounds and boat launches. The *Corridor Study* identified these concerns as key factors in development of recommendations for future improvements.

The Platte-Winner Bridge features a girder-style construction that is repeated across all spans.

1.3. Project Location and Study Area

The project is located in south-central South Dakota along SD44. The initial corridor study area included a 21-mile long by 5-mile wide corridor centered on SD44. This initial study area was used for the purposes of evaluating an initial, complete range of bridge and SD44 corridor alternatives.

Figure 2 shows the location of the project corridor. The project corridor represents a more refined footprint for detailed studies to be conducted in development of this EA. This footprint was determined through several studies of traffic, roadway condition, and the feasibility of new highway alignment and river crossing locations near the Platte-Winner Bridge. The study area is large enough to include the new alignment alternatives that have been considered in detail, a probable construction staging areas, and associated repairs needed to restore connections to SD44.

Figure 3 shows the project study area that was used as the footprint for the resources discussed in Section 3 Affected Environment and Environmental Impacts of this document. The project study area is made up of two areas. The majority of which includes the proposed roadway and bridge improvements plus two landslide repair areas. The 28 acre rectangular study area, located approximately 1.5 miles east of the river, includes the proposed Section 4(f) mitigation that is referred to throughout this document as the "mitigation area".

The majority of project study area was evaluated for environmental resources between 2018 and 2020 and did not include the mitigation area because it was thought that a suitable mitigation site would be found within the SCRA. After evaluation it was decided that no suitable Section 4(f) mitigation sites existed within the SCRA and other locations were considered. More discussion is included in Section 3.15 regarding the Section 4(f) mitigation area. The mitigation area was evaluated for environmental resources in 2022 and is documented in the 2023 *Supplemental Environmental Screening Report* that is included in Appendix B.

The Platte-Winner Bridge goes over the Missouri River where it is also known as Lake Francis Case, a reservoir created by the damming of the Missouri River at Fort Randall Dam at Pickstown, SD. The west end of the bridge is located in Gregory County and the east end of the bridge is located in Charles Mix County. The nearest cities to the bridge along SD44 are Winner approximately 40 miles west and Platte approximately 15 miles east.

On the west side of the river, a scenic overlook parking area and boat launch are located immediately southwest of the bridge approach within the West Bridge Recreation Area (West Bridge RA). The surrounding lands are predominately grasslands featuring abrupt changes in elevation as the highway rises out of the river valley. On the ease side of the river is the SCRA. The SCRA includes recreational and supporting facilities including a welcome center, campground, and boat launch. The SCRA is located both north and south of SD44 on the east bank of the river. The state established SCRA following the construction of the Platte-Winner Bridge in an effort to expand the recreational use of the area. Rangelands, including SDGFP-managed Game Production Areas (GPAs), are the predominant land feature.

Snake Creek Recreation Area includes a boat launch on the north side of SD44 and campground facilities on the south side (view in this image is looking east)

The proposed project meets logical termini and independent utility requirements per 23 CFR 777.111(f). The proposed project is a standalone project, meaning it can be constructed and function on its own without depending on the construction of other projects. The beginning and ending points of the proposed project allow enough room to tie the proposed improvements back into the existing roadway alignment allowing for logical connection points. The proposed project will require construction to be completed in phases to maintain traffic on the existing roadway and bridge.

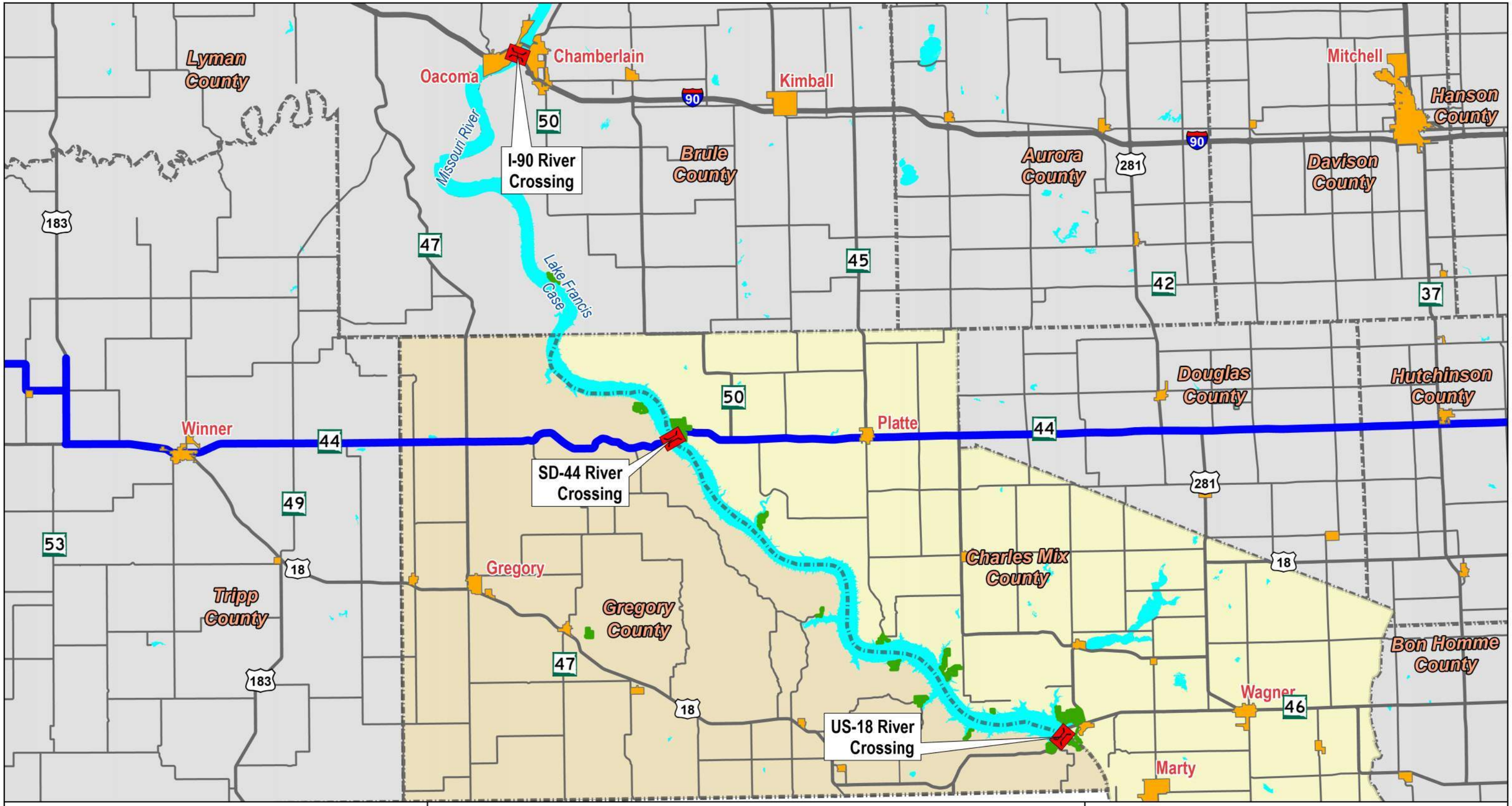

Figure 1 Project Location and Missouri River Crossings

SD44/Platte-Winner Bridge
Environmental Assessment
Gregory and Charles Mix Counties

Legend

- SD44
- Highways
- Arterial Roads
- Collector Roads
- Existing Bridge
- Cities
- Parks and Recreation Areas
- Bodies of Water
- Charles Mix County
- Gregory County

HRGreen
SD DOT

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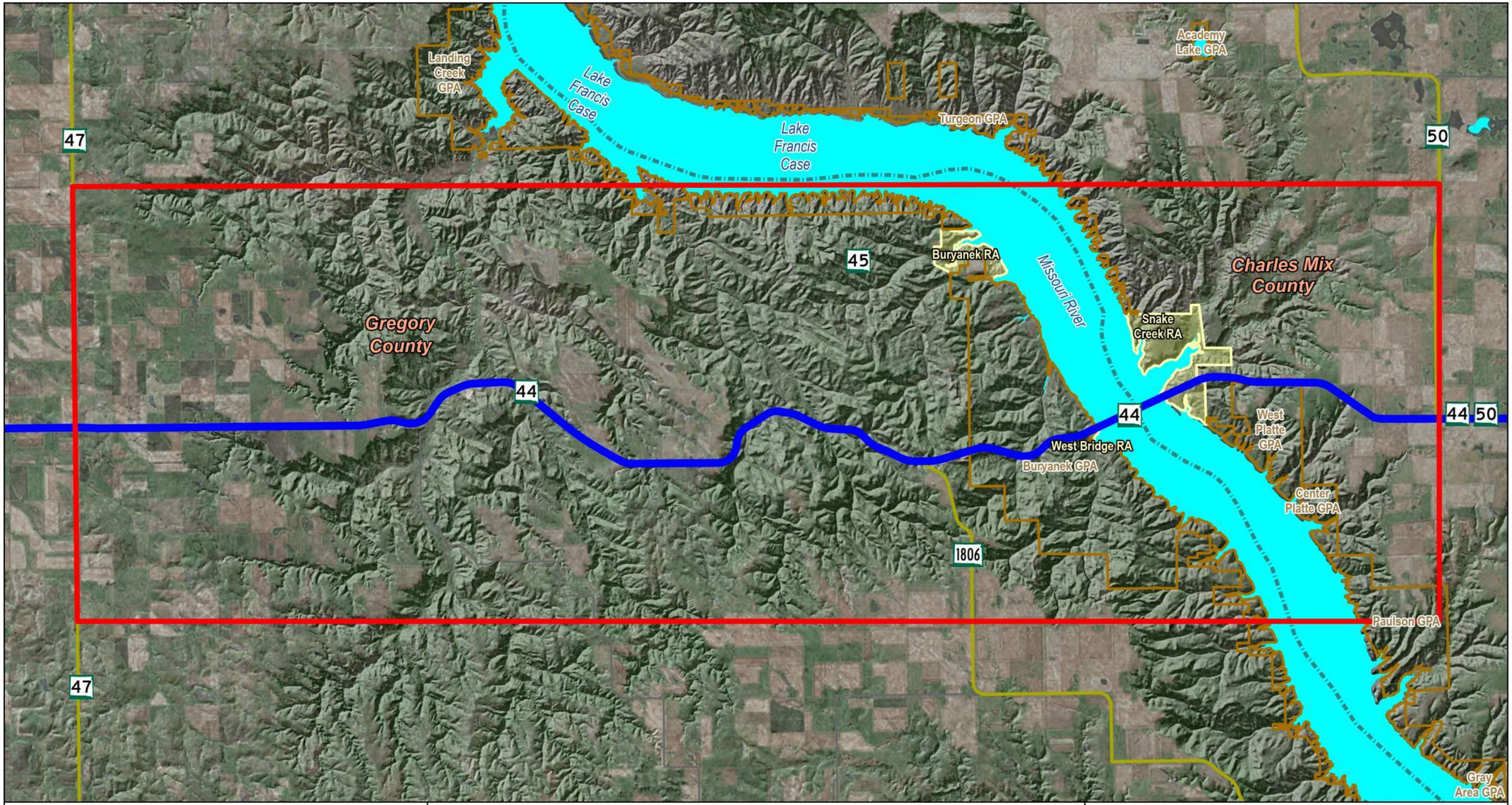

Figure 2 Project Corridor
SD44/Platte-Winner Bridge
Environmental Assessment
Gregory and Charles Mix Counties

Legend
- Project Corridor
- SD44
- Bodies of Water
- Parks and Recreation Areas
- Game Production Areas

HRGreen. SD DOT

0 0.5 1 Miles

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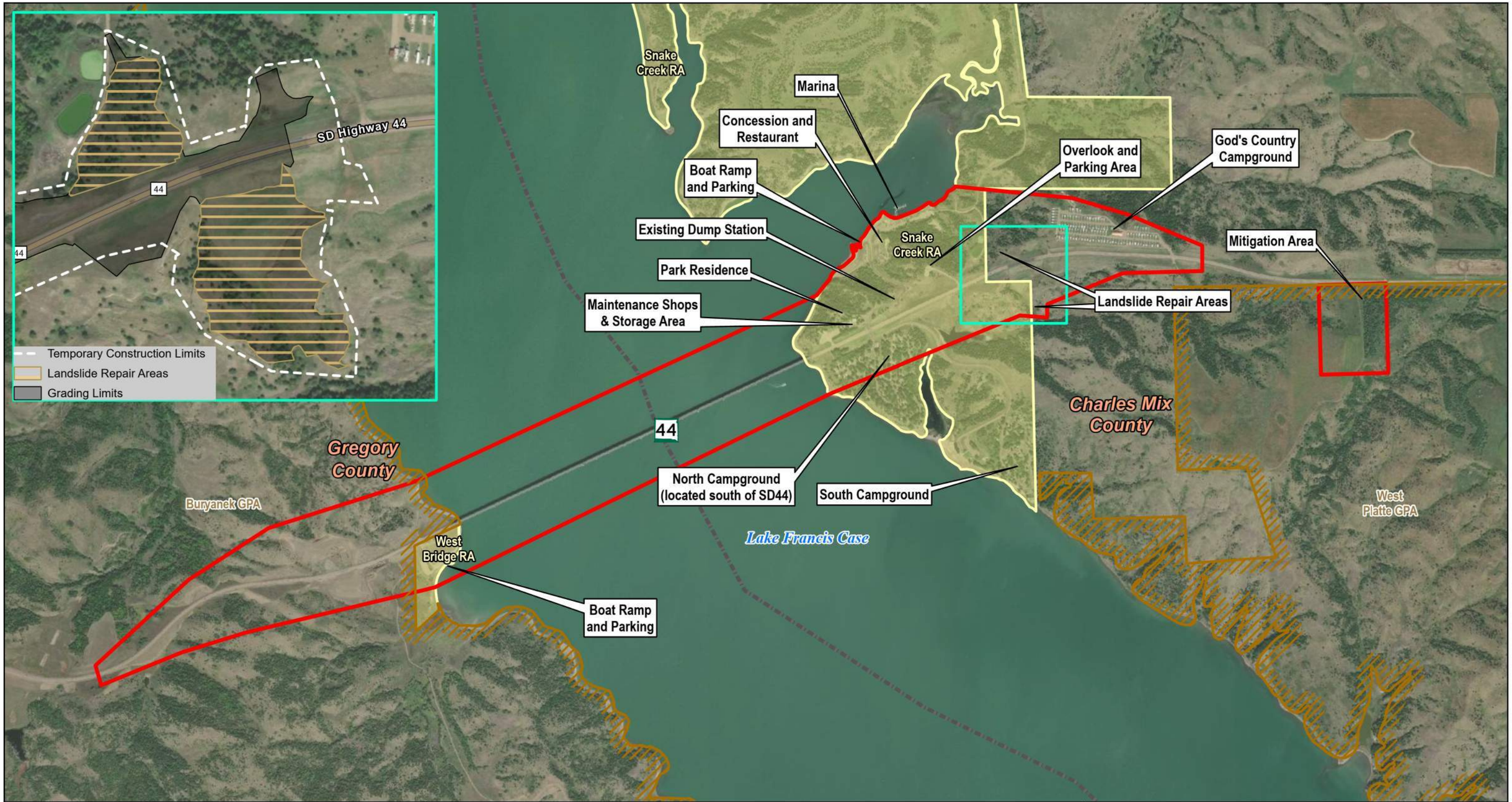

Figure 3 Project Study Area

SD44/Platte-Winner Bridge
Environmental Assessment
Gregory and Charles Mix Counties

Legend

- Study Area
- Parks and Recreation Areas
- Game Production Areas

HRGreen
SD DOT

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Feet

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1.4. Purpose and Needs for Project

NEPA and other environmental requirements rely on a project decision-making process guided by the Purpose and Need for the project. The purpose is a brief statement of the primary intended transportation objective and related goals to be achieved by a proposed transportation improvement. The need is a condition sought to be relieved, or a statement of the problem in need of a solution. The need proves that the transportation problem exists based on existing data and information.

The following sections describe the purpose of and the need for the project. The need for the proposed improvements is the basis from which the improvement alternatives will be developed, compared, and evaluated, ultimately leading to the preferred alternative.

Purpose of the Project
The purpose of the project is to replace the existing SD44 Platte-Winner Bridge over the Missouri River to maintain the regional connectivity along SD44 in South Dakota.

Project Needs
The project is needed to address several critical issues associated with the existing bridge constructed in 1966. The SDDOT's *Major Bridge Investment Study* and the *SD44 Platte-Winner Bridge Corridor Study*, identified the following issues with the existing bridge that combined threatened the long-term viability of the bridge. These concerns have lead the SDDOT to program the Platte-Winner Bridge for replacement in 2024 as part of SDDOT major bridge replacement program.

- Overall aging infrastructure of the bridge and long-term maintenance costs
- Narrow bridge width that does not meet current geometric design standards

Overall Age of Infrastructure & Long-Term Maintenance Costs
The bridge was constructed in 1966 and is currently 57 years old. This bridge is reaching the end of its lifespan given that the average lifespan of this type of bridge is approximately 50 years. The bridge is inspected routinely and determined safe for travel without restrictions. However, the need for maintenance is increasing as the infrastructure ages. The increased costs to maintain the bridge would lead to future restrictions being placed on the bridge such as weight or size limitations to maintain the structural integrity of the existing bridge.

Narrow Bridge Width
The existing bridge has a 28-foot wide deck that includes two 12-foot wide driving lanes and two 2-foot paved shoulders. The 28-foot wide existing bridge can be problematic for motorists attempting to drive large trucks or carry oversized machinery, including farm equipment, across the river. The narrow bridge width is also a safety concern for vehicles that need to make emergency stops on the bridge or for emergency service vehicles to have a place to pull over out of the travel lanes while on the bridge. Current SDDOT bridge width standards indicate that the bridge should have a total width of 36 feet, an additional 8 feet wider than the existing bridge. This additional space results in the capacity for two 12-foot wide driving lanes and two 6-foot paved shoulders. Anything less than this dimension will not meet project Purpose and Need.

Project Goals
In addition to the project needs, the location of the replacement bridge needs to consider the following goals:

- Respecting the sensitive environmental resources located along the SD44 corridor and along the Missouri River
- Maintaining regional connectivity and community cohesion between the communities of Platte and Winner, South Dakota
- Addressing known geotechnical concerns in the study area, which includes lands along the Highway 44 corridor as well as subsurface conditions under the Missouri River, where bridge foundations will be placed. There are landslide areas occurring in this project study area adjacent to SD44 just east of the SCRA that require repairs and mitigation measures to maintain a stable environment for infrastructure.

Sensitive Environmental Resources
The environmental resources that are a concern in the area include recreational areas and cultural resources. There are three different recreational facilities adjacent to the SD44 Platte-Winner Bridge. West of the river is the Buryanek GPA and West Bridge RA. On the east side of the river is SCRA that is divided by SD44. These recreational resources are protected under Section 4(f) of the U.S. Transportation Act of 1966. In addition, the SCRA is protected under Section 6(f) of the Land and Water Conservation Fund (LWCF) of 1965 because it received funds from this federal funding source. From the cultural resources perspective, historic records indicate buried archeological resources may exist along the banks of the Missouri River. In addition, the bridge itself has been determined to be eligible for listing on the NRHP through an evaluation completed in 2019 (Appendix H). The cultural and historic aspects of the bridge and surrounding area demands review through a consultation process governed by Section 106 of the National Historic Preservation Act of 1966 (Section 106).

Regional Connectivity and Community Cohesion
The Platte-Winner Bridge is one of five crossings of the Missouri River in South Dakota that were built to facilitate vehicle transportation. All five crossings are vital to the regional connectivity and transportation system in South Dakota. The SD44 route is a key east/west route through the state using the Platte-Winner Bridge. According to the 2017 traffic counts, the Platte-Winner Bridge sees approximately 835 vehicles per day. Approximately 22 percent of the vehicles crossing this bridge are classified as trucks, which is a relatively high portion of vehicles using the corridor compared to other roadways in the state.

Should this bridge be closed for some reason, the economic ramifications of detouring traffic are a concern. The nearest river crossing to the north of the Platte-Winner Bridge is the I-90 crossing, which is approximately 47 road miles if traveling on the east side of the river and 66 road miles if traveling on the west side of the river. The nearest crossing to the south is the US 18/ US 281 crossing near Pickstown, SD which is approximately 54 miles south if traveling on the east side of the river and 67 miles if traveling on the west side of the river. The out of distance travel equates to additional transportation costs including fuel and wear and tear on other roads that may not be designed to handle additional detoured traffic. For example, when the damaged bridge priers were repaired in the summer of 1997 it caused the bridge to be closed to traffic for about four months and required some motorists on SD44 to use a detour that was more than 70 miles out of the way.

The SD44 Platte-Winner Bridge serves as a critical connection for the rural communities in the region. The communities of Winner, Colome, Dallas, Gregory, and Burke are located on the west side of the Missouri River. Economically, these communities depend on each other for products and services especially in regards to the agricultural industry. Businesses such as agricultural equipment dealers and service providers,

livestock auctions, grocery stores, other services and jobs are located east of the river in Platte. All of the communities work together and rely on each other to sustain the region economically, which would not be possible without the connection that the SD44 Platte-Winner Bridge provides.

Geotechnical Conditions and Repairing Landslide Areas

The soils in the area and within the Missouri River Valley are known to be unstable. The hilly terrain, unstable soils, and erosion are causing landslides near SD44 on both sides of the Missouri River. In 2022 the SDDOT completed landslide repair work located near the west end of the existing Platte-Winner Bridge. This work was completed as an independent project to stabilize the soils to stop potential erosion from undercutting the SD44 roadbed. Similarly, two additional locations where erosion and landslides are occurring have been identified on the east end of the bridge just east of the SCRA boundary. Both repair areas are directly adjacent to SD44, one on the north side of SD44 and one on the south side of SD44. Figure 3 shows the location the landslide repair areas. The repair work to stabilize and regrade the soils in these two areas would take place during the grading of the proposed roadway realignment needed for the new bridge replacement approach. This risk for landslides in the study area is notable as well for its importance in considering new highway alignment options. Alignments that have greater divergence from the existing corridor pose higher risks for causing new landslide issues by way of the disruptions caused by construction and changes to the surrounding environment.

As described in the 2019 *Corridor Study* (Appendix A), there are geotechnical risks in the Missouri River related to placement of foundations for a new bridge structure. Construction methods used for the existing bridge created areas around the existing foundations that are higher risk for obstructions for new foundations. The *Corridor Study* provided recommendations for areas of greatest risk to avoid with a new alignment. Those conditions generally favored alignments that are located away from the current bridge. However, the above-river geotechnical conditions tend to favor bridge alignments that are closer to the current bridge. This is because the original bridge alignment takes advantage of a prominent bedrock formation that helps minimize the bridge length and provides a stable location for transition of the highway from a road on land to the bridge over water.

2.0 ALTERNATIVES

This chapter explains the process and rationale used in the development of alternatives, elimination of alternatives from consideration, as well as the decision on which alternatives warranted further consideration, resulting in the Preferred Alternative. The alternatives considered for this EA include the No Build Alternative and the range of build alternatives.

2.1. No Build Alternative

The No Build Alternative was identified for the study in accordance with the NEPA requirements that the impacts of no action be considered. The No Build Alternative also serves as a basis of comparison with the build alternatives. Under the No Build Alternative, the SDDOT would continue routine maintenance on the bridge but the existing bridge would not be replaced. Given the age and condition of the existing bridge, this alternative does not meet the purpose and need of the project.

2.2. Build Alternatives

The build alignment alternatives were identified and developed as the project progressed utilizing input from the SDDOT, the Study Advisory Team (SAT), key stakeholders from both communities of Platte, SD and Winner, SD, and general public input. The September 2019 *SD44 Platte-Winner Bridge Corridor Study* describes the alternative development process. Nine initial build alignment alternatives, each of which meet the core elements of project Purpose and Need, were developed and are briefly described in Table 1 and shown in Figure 4.

Each alternative is named for its proposed location in relationship to the existing bridge. The “N” or “S” designates the location of proposed alignment being either north (upstream) or south (downstream) of the existing bridge. The number after the “N” or “S” indicates the approximate distance, in feet, the alignment is located away from the existing bridge. The alignments named “skew” represent those alignments that are not parallel to the existing bridge. The numbering associated with the skew alternatives is given in a two number sequence, where the first number references the distance, in feet, from the western bridge abutment, and the second number represents the distance, in feet, from the eastern bridge abutment.

In addition to the bridge alignment alternatives, different types or styles of bridges were evaluated. There were six different bridge types that were considered including the Girder/Slab, Segmental, Arch, Truss, Cable Stay, and Suspension. All six of the different bridge types could be used for any of the initial build alignment alternatives, and therefore are also consistent with the project Purpose and Need.

Table 1. Initial Build Alignment Alternatives (All Meet Project Purpose and Need)

Alignment	Features	Design Intent and Notes
N100	100 foot parallel separation upstream of existing	Minimizes new roadway alignment by staying as close to the existing bridge location as feasible.
N400	400 foot parallel separation upstream of existing	Offers an alternative location for impacts minimization, including potential avoidance of cultural resources, while also offering potential Section 4(f) mitigation options with the space created, and leveraging the natural topography to keep the bridge length approximately the same as existing.
N400 – Modified West	Same as N400, with west end roadway option shown	Same as N400 except this alignment considers feedback about western approach sightlines by straightening the approach.
N600	600 foot parallel separation upstream of existing	By going this far north, the bridge length is extended substantially in order to avoid impacts to potential cultural resources. The parallel alignment creates a substantial segment of new alignment on the west side, which would require large amounts of earthwork.
North Skew (50-200)	Come into west bank at an angle to minimize length of new roadway	By coming in at an angle on the west side, the alignment is able to tie-in to existing roadway earlier and minimize geotechnical impacts. This causes the eastern side to push slightly further from the current highway into an area of uncertain cultural resources.
North Skew (50-400)	Come into west bank at an angle to minimize length of new roadway, but push further north on the eastern bank	Similar to the North Skew (50-200) alignment, but perhaps creates more opportunity for cultural resource site avoidance and park impact mitigation.
North Skew (400-50)	Straightens the approach to bridge from west, creating a more extensive line of sight across the river valley	This alignment considers feedback about western approach sightlines. Substantial geotechnical impacts would be involved on the west side, and the east bank side of this alignment is at risk for cultural resource impacts.
S100	Minimize geotechnical impacts and amount of new roadway by going downstream as close as feasible to the existing bridge	The corridor works with the existing topography and geology to minimize above-river geotechnical risks on the west approach. Campground and park access impacts are a concern.
South Skew (300-50)	Use skew to potentially return to SD44 more quickly on the east side	It is unclear whether the skew manages to avoid or minimize impacts to the campground or park access. By creating the skew, some of the geotechnical advantages of the south side are lost.

2.2.1. Build Alternatives Evaluation

Several criteria were used to conduct a comprehensive evaluation of the build alignment alternatives. As part of the review, the project goals identified in Section 1.4 of this EA were a core element of screening decisions. Those goals related to sensitive environmental resources (recreational, historic, and cultural resources), community connectivity, and geotechnical risk factors related to landslides and placement of bridge foundations. To present a complete picture of the potential impacts and benefits of each build alignment alternative, additional criteria were included in the analysis. The range of evaluation criteria for build alignments included the following:

- *Environmental Criteria:* Section 4(f), Section 6(f), Cultural Resources, Water resources, Multimodal, Socioeconomic, and Construction impacts.
- *Geotechnical Criteria:* Risk for conflict with existing foundations, Roadway impacts and abutment location, Long term maintenance, and Initial construction costs.
- *Roadway/ Traffic:* Maintenance of traffic, Access, Lines of sight, Safety, and Length of new roadway.
- *Bridge Location:* Length and foundations, and Ability to remove the existing bridge.
- *Constructability/ Cost Effectiveness:* Constructability, Staging, Right of way, and Costs.

The following criteria were used to narrow down the bridge type alternatives to those to be carried forward:

- *Maintenance:* Long term maintenance needs for bridge type, and Potential for closure to traffic.
- *Footprint of Foundations:* Number of substructure units required as a measure of the environmental impact off the bridge.
- *Staging/ Construction Impacts:* Requirements for contractor to construct the bridge and potential impacts associated with construction.
- *Construction Duration:* Timeframe to construct the new bridge.
- *Constructability:* Availability of contractors, Experience with bridge types, Environmental conditions, Suitability to construction of the bridge type.
- *Cost:* Superstructure and substructure costs to capture the total bridge costs.
- *Risk Factors:* Bridge type risks not captured in other criteria.

Table 2 describes the recommendations from the evaluation of the nine build alignment alternatives that is documented in detail in the 2019 *SD44 Platte-Winner Bridge Corridor Study* (Appendix A). Of the nine build alignment alternatives, two were recommended to retain for further evaluation, two were recommended to be combined and modified into one alternative to carry forward, and four were recommended to be eliminated from further consideration. The three build alignment alternatives recommended for further consideration included N100, S100, and North Skew (Combination of North Skew (50-200) and North Skew (50-400)), where the east side approach is realigned at a location between the two options).

Table 2. Screening Recommendations of Initial Build Alternative Alignments

Alignment	Meets Purpose and Need	Able to Meet Goals	Recommendation
N100	Yes	Yes. This distance from the existing bridge is a minimum separation and poses the greatest underwater foundation risks (middle of the river at deepest location). By being close to existing alignment, there is an ability to address sensitive environmental and geotechnical concerns.	Retain for further evaluation
N400	Yes	No – while the sensitive cultural resources are potentially avoided, the distance creates concerns for landslide activity and substantial impacts to recreational resources at SCRA.	Eliminate

Alignment	Meets Purpose and Need	Able to Meet Goals	Recommendation
N400-Modified West	Yes	No – while the sensitive cultural resources are potentially avoided, the distance creates concerns for landslide activity and substantial impacts to recreational resources at SCRA.	Eliminate
N600	Yes	No – while the sensitive cultural resources are potentially avoided, the distance creates concerns for landslide activity and substantial impacts to recreational resources at SCRA.	Eliminate
North Skew (50-200)	Yes	Yes – the skewed alignment helps minimize risk for landslide activity, while avoiding deep water foundation risks. This location on the east side poses greater vicinity risks to an identified cultural resource area.	Combine with North Skew 50-400 to create one alignment that offers cultural resource avoidance while balancing other impacts
North Skew (50-400)	Yes	Yes – for similar reasons to the North Skew (50-200) alignment. The alignment on the east side offers a better opportunity to avoid cultural resource impacts.	Combine with North Skew 50-200 to create one alignment that offers cultural resource avoidance while balancing other impacts
North Skew (400-50)	Yes	No – substantial geotechnical risks associated with landslides on the west side of the river	Eliminate
S100	Yes	Yes – at this level of study it appears as though the alignment is able to avoid impacts to key recreational resources (campgrounds) on the east while also minimizing geotechnical and other sensitive environmental resource impacts or risks.	Retain for further evaluation
South Skew (300-50)	Yes	No – greater separation from the current alignment poses substantial landslide risks on the west side of the river	Eliminate

Similar to the process for evaluating build alignment alternatives, the bridge types were evaluated based on criteria predetermined by the project team. The evaluation of the bridge types is documented in detail in the July 25, 2017 *Bridge Type Concept Evaluation Project Memorandum* (provided as part of the *Corridor Study* Report). The evaluation determined that the Arch, Truss, Cable Stay, and Suspension bridge types were not feasible due to high construction costs and complex, labor intensive, or specialized construction. The Girder/Slab and Segmental type bridges were considered feasible. However, the Segmental bridge type was determined to be more expensive compared to the Girder/Slab type bridge with potential for greater impacts during construction as well. The Girder/Slab type bridge was determined to be feasible and appropriate for this project location.

2.2.2. Refined Build Alternatives

In the spring of 2018, the three build alignment alternatives (N100, S100, and North Skew Combo) were further refined and evaluated. Due to further analysis of foundation constructability concerns, the buffer distance away from the existing bridge was extended from 100 feet to 125 feet. As a result, the alternatives known as N100 and S100 became known as "N125" and "S125". In addition, the North Skew Combo

alternative became known as "Refined North Skew" alternative since it was the only north skew alternative left for consideration.

The N125, S125, and Refined North Skew build alternatives were evaluated in regards to their impacts to the recreational areas, cultural resources, in-river ice loading, geotechnical footprint, abutment location, and how well they met the purpose and need and goals of the project. According to the *SD44 Platte-Winner Bridge Corridor Study* (see Appendix A), the southern alternative (S125) was compared to the two northern alternatives (N125 and Refined North Skew). When comparing the two northern alternatives to each other, it was determined that the N125 alternative had greater potential for geotechnical impacts on the west side of the river and offered less flexibility in optimizing the footprint to avoid potential cultural resources on the east side of the river than the Refined North Skew alternative, thereby not fully addressing goals of the project. Therefore, the decision was made to eliminate the N125 alternative from further consideration.

The S125 alternative offered potential benefits in minimizing geotechnical impacts but had the most direct impact to the SDGFP's campground facilities and other impacts to Section 4(f) resources (notably the West Bridge RA) compared to the Refined North Skew alternative. This resulted in not being able to satisfactorily address identified goals of the project. In comparison, the Refined North Skew alternative offered a reasonable alternative with fewer impacts on Section 4(f) resources. Therefore the S125 alternative was eliminated from further consideration.

2.2.3. Build Alternative Retained for Further Analysis

Based on the review of alternatives as described above and in more detail in the *SD44 Platte-Winner Bridge Corridor Study*, the Refined North Skew alignment meets the project Purpose and Needs, and is the best option for addressing all identified Project Goals. Of the six bridge types evaluated, the Girder/Slab type bridge was recommended to carry forward for further consideration. Going forward in this document the Refined North Skew Alternative will be referred to as the Recommended Alternative which is shown in Figure 4.

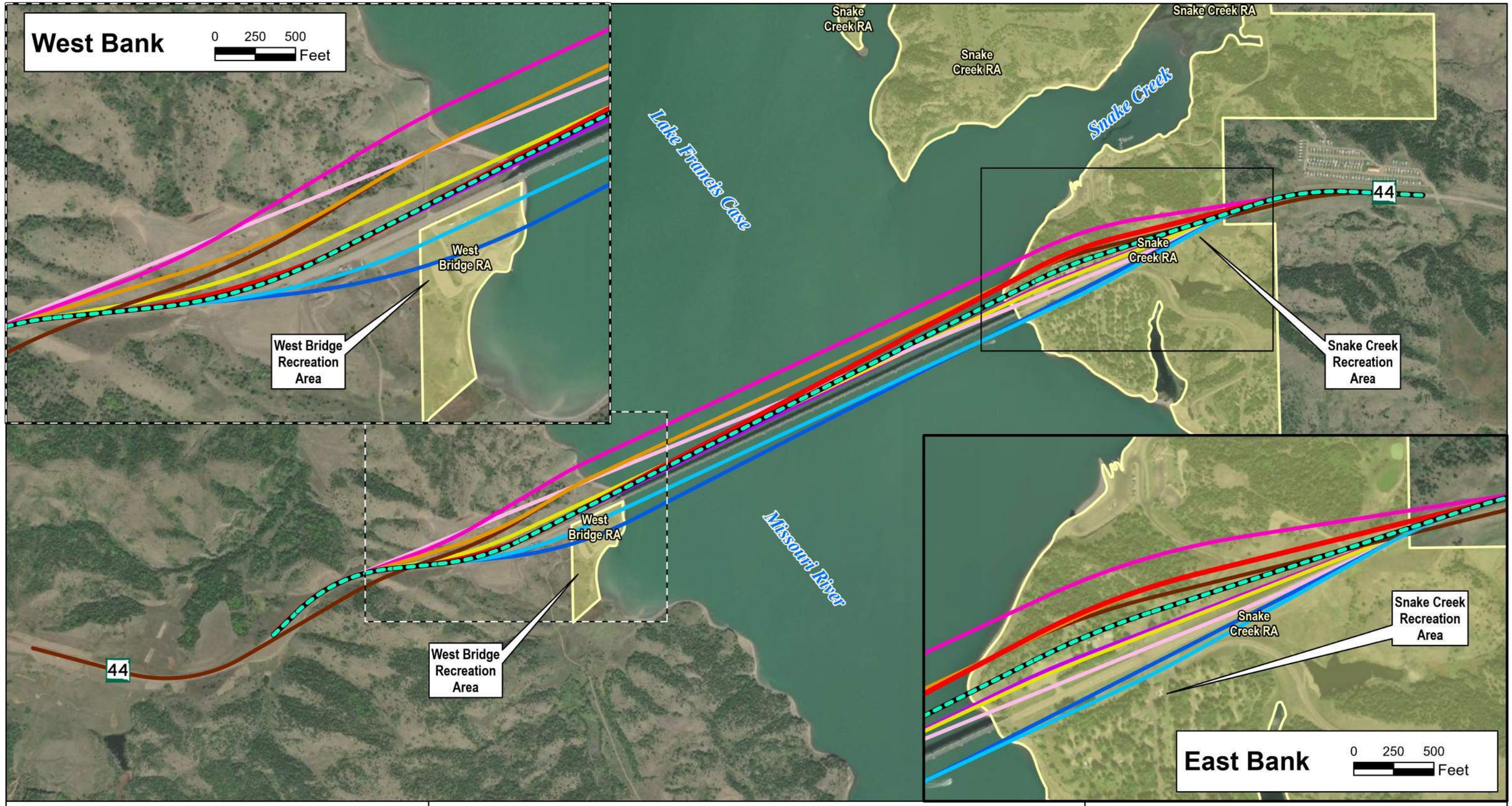

Figure 4 Range of Alternatives Considered

SD44/Platte-Winner Bridge
Environmental Assessment
Gregory and Charles Mix Counties

Legend

- Recommended Alternative
- South 100' (125')
- South Skew (300'-50')
- North 400'
- North 600'
- North 400' Modified West
- North Skew (400'-50')
- North 100 (125')
- North Skew (50'-200')
- Parks and Recreation Areas

HRGreen. SD DOT

0 600 1,200
Feet

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter includes a description of the environmental and socioeconomic resources within the project study area, the contextual setting of the affected environment, and describes the potential impacts to those resources resulting from the No Build Alternative and the Recommended Alternative. Avoidance, minimization, and mitigation measures are summarized for each resource as applicable. Impacts to resources are shown in Figure 5. This chapter does not include resources that are not present in the project study area or are not impacted by the Recommended Alternative. This includes wild and scenic rivers.

3.1. Land Use

Land use surrounding the bridge is mainly public recreational land. The SCRA is both north and south of SD44 on the east side of the bridge. This recreation area includes campgrounds, cabins and supporting facilities such as a welcome center, park ranger residence, maintenance shops, sanitary dump/ water station, marina, and restaurant. Nearly all of the proposed alignment of new roadway east of the river occurs within the boundaries of SCRA.

The west side includes the Buryanek GPA land to the north and south of SD44 and the West Bridge RA boat ramp, scenic overlook, and parking area to the south of SD44 along Lake Francis Case. The SDGFP Land Use owns and manages the recreational lands on both sides of the bridge. The South Dakota Statewide Comprehensive Outdoor Recreation Plan (SCORP) guides Land Use on SDGFP land and examines the needs of citizens for quality, accessible opportunities for outdoor recreation and protection of wetlands.

The bridge crosses over the Fort Randall Project (Fort Randall Dam/Lake Francis Case), a U.S. Army Corps of Engineers (USACE), Omaha District Federal Multipurpose Civil Works Water Resource Development Project. The lands and waters of the Fort Randall Project are managed in accordance with the *Fort Randall Dam/Lake Francis Case Master Plan*, dated September 2014. This Project is managed for the congressionally authorized purposes of flood risk reduction, hydroelectric power, navigation, irrigation, fish and wildlife, recreation, water supply, and water quality. The Fort Randall Project is managed by USACE as an integral part of the Missouri River Basin Main Stem Reservoir System, also known as the Pick-Sloan Plan, along with the other five Main Stem Reservoirs – Fort Peck, Garrison, Oahe, Big Bend, and Gavins Point.

The mitigation area is located within the West Platte GPA at the eastern end of the project study area. The primary use of the GPA is habitat for the purpose of wildlife game production and recreation.

No Build Alternative
The No Build Alternative will have no impact to land use.

Recommended Alternative
The Recommended Alternative will result in direct impacts to SDGFP maintenance facilities, the park manager's residence, and a sanitary dump/water station for recreation vehicle use. These impacts are proposed to be mitigated through a mitigation plan that has been developed through consultation with SDGFP in the Section 4(f) process. This mitigation will be constructed as Project Number 0044(228)290, PCN: 00PP. Mitigation for the relocation of the park ranger residence and maintenance shops will retain all impacted land uses within the current SCRA boundaries. The impacted residence and maintenance facilities will be moved to a new location within SCRA. The SD44 roadway right-of-way will be shifted generally north, but existing SD44 right-of-way will become recreational and SCRA facility land use. No permanent

access changes will occur as a result of the recommended alternative and access to the north and south areas of SCRA will be maintained during construction.

The relocation of the sanitary dump/water station to the proposed mitigation area will impact approximately one acre of land within the West Platte GPA. The one acre of land would be paved and converted to the proposed new sanitary dump/water station and parking lot, which is consistent with the recreational land use of the West Platte GPA. The addition of the sanitary dump/water station at this location is considered a beneficial impact to the land use of this GPA due to the increased access and delineation of parking within the space. West Platte GPA currently has a grassy area that is available for use as a parking area. This space is currently not high-quality habitat for non-game species or small game due to its close proximity to the roadway and undesirable distance (from a wildlife habitat perspective) from food sources and trees or similar shelter. A clearly defined, paved access and parking lot would help delineate the areas that are to be used for parking, sanitary dumping, and water station space while also discouraging use of vehicles in areas that contain high-quality game production lands.

3.2. Bicyclists and Pedestrians

The existing Platte-Winner Bridge is narrow compared to current design standards. The existing bridge deck is 28-feet wide and has two 12-foot wide lanes, two 2-foot shoulders for both directions of travel across the bridge. This layout does not meet current geometric design standards. Bicyclists using the bridge have no refuge outside of the driving lanes, creating an uncomfortable environment for bike or pedestrian users who choose to cross the river.

More common within this project study area are bike and pedestrian crossings occurring across SD44 between the north and south entrances of SCRA and roads within the campgrounds. Pedestrians within the park are also observed to cross underneath the Platte-Winner Bridge along the river when river conditions allow an un maintained path. Additionally, recreation area roads and an internal trail network are used by pedestrians walking between the north and south areas and within and between campgrounds.

No bicycle or pedestrian facilities exist within the mitigation area.

No Build Alternative
The No Build Alternative will continue to be a detrimental impact to bicyclists and pedestrians since the safety concerns would remain in place.

Recommended Alternative
The purpose, need, and goals of this project does not include pedestrian or bicycle facilities since the existing facility has none and is located is in a rural area with no connecting pedestrian or bicycle facilities. No improvements to pedestrian and bicycle facilities are included within the Recommended Alternative. No impacts to pedestrian or bicycle facilities will occur since there none within the project study area. No temporary construction impacts to pedestrian or bicycle facilities will occur since there are none within the project study area.

The Recommended Alternative is proposed to include a 36-foot wide bridge deck, which will allow for a 6-foot wide shoulder in both directions. This will better accommodate bicyclists choosing to use the bridge than the current bridge and its 2-foot shoulder. While no specific pedestrian or bicycle accommodations are proposed on the bridge, the 6-foot wide shoulder may lead to an increase of people using the bridge for these uses. The Recommended Alternative bridge is anticipated to have a design similar to the current bridge. The pedestrian passage under the bridge would remain available but is not maintained. No accommodations specific to pedestrian use below the bridge are planned. No bicycle or pedestrian

accommodations such as cross walks or other improvements are planned for the SD44 crossing between the north and south entrances of the SCRA.

No impacts to bicycle or pedestrian facilities would occur at the mitigation area since these facilities do not currently exist. No accommodations for bicycles or pedestrians are proposed within the mitigation area.

3.3. Visual Impacts and Aesthetics

The existing Platte-Winner Bridge sweeps across Lake Francis Case casting shadows on sunny days in the water and ice on at the lake's surface. It connects the areas of South Dakota known as east river to west river literally and visually across the vast expanse of Lake Francis Case. The landscape rises dramatically west of the river into rolling hills specked with cedar forests and open rangeland with no buildings outside of the West Bridge RA pit toilet building visible. The landscape on the east is less dramatic, with gradually sloping hills past the base of Lake Francis Case and a collection of buildings, planted trees, and roadways associated with the SCRA.

Lake Francis Case is a reservoir created by the damming of the Missouri River at the Fort Randall Dam in Pickstown, SD. The reservoir in the vicinity of the Platte-Winner Bridge is approximately one mile wide. The reservoir offers recreational opportunities including boating, fishing, and swimming. From a boater's perspective, the view of the Platte-Winner Bridge is that of a tall bridge with 29 piers in the reservoir to navigate through and around. The shoreline of the reservoir is natural beach. Boaters can launch from SCRA on the east side of the reservoir and from the West Bridge RA on the west side of the reservoir.

The mitigation area is located within the West Platte GPA. The landscape includes undeveloped land that is publicly owned and publicly used for hunting, habitat for game and non-game species, and passive recreation. The facility includes food plots and coniferous and deciduous tree shelterbelts managed for wildlife production and a grass/dirt vehicle path allowing access into the West Platte GPA.

No Build Alternative
The No Build Alternative will have no impact on visual impacts and aesthetics to the project study area including the mitigation area. A traveler would have the same view of the lake/river and of both ends of the bridge as they do currently. The view from a boater's perspective would also not change compared to the current view. The view of the West Platte GPA would remain the same as it is currently.

Recommended Alternative
The Recommended Alternative will eliminate parking areas associated with an overlook and maintenance area storage yard. These resources are informally available to highway users as a parking stop and location to view the river valley. The parking lots are not actively managed by SDGFP for the purpose of recreational/park user space.

Maintenance buildings and a storage yard are partially visible from SD44. These facilities will be moved to the current overlook area fully out of view. Existing trees block views of and from the campground to the south of SD44. Because the roadway is moving north, no impacts to these trees are anticipated. Overall, the aesthetic of a sweeping bridge across Lake Francis Case will be maintained. A traveler would generally have the same view of the river, and both ends of the bridge as they do currently with the view including a wider bridge. Therefore, no visual impacts would occur from the traveler's perspective.

The view from a boater's perspective would not change when looking at the shoreline or up at the bridge. The shoreline will not change and the look of long, tall bridge over the lake/river would not change after construction and the removal of the existing bridge piers is complete. However, the number of piers a boater

would need to navigate through and around would decrease from 29 to 19 for the bridge itself and therefore would have a slight change to what a boater would see compared to the existing view.

The visual aesthetic of the mitigation area will change as one acre of the West Platte GPA is converted from a gravel parking lot and grassy area into a paved parking lot and sanitary dump/water station. The view from the new parking lot and sanitary dump/water station will remain the same as the rest of the West Platte GPA would remain unchanged.

Illustrated renderings of the new bridge at the east side of the river are shown above. The left image shows a conceptual representation of where the new bridge would be located relative to the existing bridge. The right image is a concept of the new bridge with the existing bridge removed.

3.4. Socioeconomic Resources

The communities on either side of the Missouri River (including Platte, Winner, and Gregory) have shown an economic interdependence, where the ability to travel between these towns is vital to their respective economies. Many agricultural services are provided on both sides of the river, which is often identifiable by the relatively high number of large trucks that use the SD44 corridor and bridge.

The river itself, SCRA, and the West Platte GPA are valuable economic drivers for the area, as they provide a critical recreational resource for users from across South Dakota and beyond.

No Build Alternative

The No Build Alternative does not result in immediately identifiable negative effects to economic resources in the area. However, closure of the bridge for repairs will become increasingly likely over time as the bridge ages. Such a closure could result in significant impacts to economic activity in the region if the repairs occur over an extended period. Commercial movement between Platte and Winner would need to travel a significant detour of over 100 miles. Additionally, hindered access to SCRA and the West Platte GPA from the west could limit park use and other recreational traffic from the west side of the river.

Recommended Alternative

By constructing the bridge on new alignment, the Recommended Alternative would leave the existing bridge open during construction. This would allow the continued passage of commercial and recreational traffic across the river. Additionally, the presence of construction crews associated with the project over a multi-year timeline are anticipated to have temporary beneficial economic effects for nearby communities. Construction of the proposed project is anticipated to create a temporary increase in local spending on food,

lodging, and supplies. No beneficial or adverse effects on minority or low-income populations will be associated with the Recommended Alternative due to no environmental justice considerations present. There is an indirect and temporary benefit to low-income populations in the area with the implementation of the Recommended Alternative due to construction-related services in the area.

3.5. Environmental Justice

Environmental Justice (EJ) refers to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with the respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and Tribal programs and policies.

Guidance on environmental justice terminology developed by the Council on Environmental Quality (CEQ) provides the following definitions (CEQ 1997):

- Low-income population – This is based on annual statistical poverty thresholds developed by the U.S. Census Bureau. In 2019, the poverty level was based on total income of $12,490 for an individual and $25,750 for a family of four (U.S. Department of Health and Human Services 2019).
- Minority – These are individuals who are American Indian, Alaska Native, Asian, Pacific Islander, Black, or Hispanic.

E.O. 12898 requires that all Federal agencies consider disproportionately high and adverse human health or environmental effects on minority and low-income populations from actions, policies, and programs. In 2021, E.O. 13985 was enacted which directs Federal agencies to evaluate whether their polices produce racially inequitable results when implemented and to make necessary changes to ensure underserved communities are properly supported. E.O.s 13990 and 14008, also enacted in 2021, further require the Federal government to advance environmental justice considerations in relevance to the climate crisis and the disproportionate effects to disadvantaged and minority communities from climate change impacts.

The Environmental Protection Agency (EPA) EJ Screen Environmental Justice (EJ) Screening and mapping tool was accessed on May 3, 2023 to identify minority and low income demographics for the study area. Census tract 46053971100 in Gregory County is identified as a disadvanteaged community due to climate change and health burdens. Census tract 460239700100 in Charles Mix County is not identified as disadvantaged. The EJ Screen Report (Version 2.11) combines block group data for the project study area and a two-mile buffer of the study area and it showed a minority population of 3% versus a state average of 19% for the study area, putting the study area in the 18th percentile for the state of South Dakota. Low income population is 42% of the project study area versus 30% for the state, putting the project study area in the 76th percentile for the state of South Dakota. This information is shown in Table 3.

Adverse impacts to Environmental Justice populations are not anticipated since the existing bridge will remain open and a new bridge will provide an overall direct benefit to the local community, including disadvantaged populations. No disadvanted populations are directly adversley impacted by the project. Access to commerce, public recreation, and emergency services will be improved to disadvantaged populations since the construction will leave a Missouri River crossing open and improve the safety, function, and life expectancy versus the existing bridge.

Table 3. Block Group Information

Block Group (BG) and State	Percent Minority	Percent Low Income	Percentile Minority	Percentile Low Income
BG 460539711001	7%	29%		
BG 460239701001	3%	42%		
EJ Screen Project Area	3%	42%	18th (in state)	76th (in state)
South Dakota	19%	30%	10th (in USA)	72nd in USA
USA	40%	30%		

Source: https://www.census.gov/quickfacts/SD

No Build Alternative

The No Build Alternative would have no direct impact on Environmental Justice. The No Build Alternative may result in adverse indirect impacts on the surrounding disadvantaged community such as the existing bridge being prone to closures, increased maintenance, potential hazards due to the narrow bridge deck, and hazards of traveling on aging infrastructure.

Recommended Alternative

The portions of Gregory County in the study area are a disadvantaged community while the Charles Mix County portions are not. The Recommended Alternative results in one residential relocation within the study area which is not within the disadvantaged community. However, there is no disproportionate adverse effect from the relocation because it will be completed in advance of construction in order to avoid impacting use of the residential property. Based on the above discussion and analysis, the Recommended Alternative will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of E.O.s 12898, 13985, 13990, 14008, and FHWA Order 6640.23A. The Recommended Alternative would provide indirect benefits to the disadvantaged community. During construction of the proposed project, the existing bridge will remain open providing access to commerce, emergency services, and general access to the other side of the river. The proposed construction would also provide transportation security providing the disadvantaged community access to various services.

Mitigation measures for the Recommended Alternative would minimize short-term temporary construction (e.g. dust and noise) impacts to the local community, including minority and low-income populations. The construction of the project may create temporary jobs that would benefit local individuals and the community. Overall, there would be no disproportionate short- or long-term impacts on minority or low-income populations as a result of the Recommended Alternative, and there would be positive impacts for better transportation access to services and for recreation for these communities.

3.6. Environmental Sustainability and Quality of Life

With the signing of the Consolidated Appropriations Act on December 27, 2020, came funding for the U.S. Department of Transportation's National Infrastructure Investments, the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program. Projects that are federally funded or plan to have federal funds included at some point in the project's development process need to consider climate change and racial equity. As part of environmental reviews and planning for the proposed Platte-Winner Bridge over the Missouri River, a variety of environmental sustainability and quality of life categories were considered. This section is focused on how the proposed project would impact climate change related categories, quality of life, as well as equity for sensitive populations including greenhouse gas emissions, areas of persistent poverty, disaster preparedness, access to services, and freight access to underserved communities. Regardless of the project applying for a RAISE grant, information discussed in this section is consistent with E.O. 14008, "Tackling the Climate Crisis at Home and Abroad", the

"Justice40 Initiative", and E.O. 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government".

3.6.1. Greenhouse Gas Emissions

Greenhouse gas emissions considers the vehicle emissions generated from traffic using the bridge. In general, the number of vehicles and the number of trucks crossing this bridge has increased as the number of trucks shipping products across the country has increased. According to the 2017 *Traffic Operations Memo,* the existing (2017) number of vehicles crossing the bridge per day is 835 with 22 percent of the traffic consisting of heavy trucks. In the design year (2050), this is predicted to increase to 1,420 vehicles per day with 22 percent heavy trucks.

No Build Alternative
The No Build Alternative has no impact initially. Vehicles would continue to use the existing bridge as they currently do. However, as the bridge ages and maintenance costs increase it is likely that at some point in the future the bridge will be closed to traffic for safety reasons. In this situation, the No Build Alternative would have an adverse impact due to the amount of adverse travel and additional emissions generated from the detour.

If the SD44 Platte-Winner Bridge were no longer in service or was considered no longer safe to use, vehicles would need to cross the Missouri River using the I-90 bridge to the north in Chamberlain, or the US 18 bridge to the south in Pickstown. Not knowing where vehicles are starting their trip from, it was assumed that vehicles would start in either Platte or unincorporated Dixon on SD44 in Gregory County. According to Google Maps, the distance from Platte to by way of Chamberlain is 104 miles and takes 1 hour 42 minutes. The distance from Platte to Dixon by way of Pickstown is 105 miles and takes 1 hour 47 minutes. The calculations in Table 4 are based off of the assumption that vehicles would take the shorter route and cross the river in Chamberlain driving 104 miles even though the two routes are similar in length and time. The route they would take includes going north on SD45, west on I-90 to Chamberlain Bridge over the Missouri River, then south of SD47 to get back to SD44 just on the east side of Dixon. The distance from Platte to Dixon on US44 is about 34 miles. The total adverse travel is approximately 70 miles (104 miles minus 34 miles).

Using the EPA's Greenhouse Gas Equivalencies Calculator the amount of additional greenhouse gases can be calculated. Table 4 describes the amount of carbon dioxide equivalent that would generated from all vehicles traveling the additional 70 miles annually.

Table 4. Amount of Carbon Dioxide Equivalent of Adverse Travel

Year	Additional Miles Traveled	Additional Vehicles Per Day	Additional Vehicle Miles Per Year	Additional Gallons of Gas Consumed Annually*	Additional Amount of Carbon Dioxide
2017	70 miles	835 vehicles	21,334,250 miles	1,066,713 gallons	10,450 tons
2050	70 miles	1,420 vehicles	36,281,000 miles	1,814,050 gallons	17,770 tons

**Note: Assumes an average fuel economy of 20 miles/gallon*

Under existing conditions (2017), the additional 70 miles traveled by 835 vehicles per day equates to about 10,450 tons of additional carbon dioxide annually. In the design year (2050), the additional 70 miles traveled by 1,420 vehicles per day equates to about 17,770 tons of additional carbon dioxide annually. This assumes that all vehicles are consuming gasoline and receive 20 miles to the gallon in fuel economy. The

model does not consider that vehicles could become more fuel efficient and operate cleaner as time moves forward.

Recommended Alternative
If the Recommended Alternative is constructed there would be a slight increase in carbon dioxide emissions annually because of the increase of traffic traveling over the bridge that is predicted to increase each year. However, there would not be any additional miles traveled, additional gallons of gasoline consumed, and additional carbon dioxide emitted into the air to get to another crossing of the Missouri River and back to SD44. Construction of the bridge would create a temporary increase in greenhouse emissions due to the transport of materials to and from the site and the construction equipment operation. However, this would not be a long-term impact as the construction is anticipated to take two to three years to complete.

3.6.2. Areas of Persistent Poverty

Platte is in Charles Mix County, east of the Missouri River. Charles Mix County is considered Areas of Persistent Poverty as defined by the U.S. Census Bureau and the RAISE grant tracking tool. Winner is in Tripp County, the next county west of Gregory County west of the Missouri River. Tripp County does not have the designation of being an Area of Persistent Poverty. There are no incorporated communities along SD44 within Gregory County and Gregory County does not have the designation of being an Area of Persistent Poverty.

No Build Alternative
The No Build Alternative has no impact initially. Vehicles would continue to use the existing bridge as they currently do. However, as the bridge ages and maintenance costs increase it is likely that at some point in the future the bridge will be closed to traffic for safety reasons.

The SD44 Platte-Winner Bridge is the only crossing over the Missouri River for 85 miles to the south or 50 miles to the north. Without this bridge in service, the rural communities it serves would be adversely impacted. The adverse travel equates to additional transportation costs including fuel and wear and tear on vehicles.

The SD44 Platte-Winner Bridge serves as a critical connection for the rural communities in the region. The communities of Winner, Colome, Dallas, Gregory, and Burke are on the west side of the Missouri River of which Winner is the largest of these communities. The communities of Platte, Geddes, and Lake Andes are on the east side of the Missouri River, of which Platte is the largest of these communities. The communities work together and rely on each other to sustain the region economically, which would not be possible without the connection that the SD44 Platte-Winner Bridge provides.

The No Build Alternative would have an adverse impact on the communities in the region. More specifically, an adverse impact would occur to the three counties including Charles Mix County which would have an adversely impact on Areas of Persistent Poverty.

Recommended Alternative
Replacing the bridge would not have an impact on the rural communities that currently rely on this crossing of the Missouri River. The communities already rely on this bridge for the movement of goods, services, and emergency services.

3.6.3. Disaster Preparedness and Resiliency

Having reliable critical infrastructure during times of disaster helps stabilize the community. Access to clean drinking water, food, and medical supplies are lifelines to citizens whose lives have been disrupted. Having stable and traversable roads and bridges are critical in the distribution of essential services and access for emergency vehicles to get where they are needed. This could include support from nearby larger metropolitan areas in South Dakota including Rapid City or Sioux Falls, especially in times of need.

Types of disasters that have or could occur include:

- Flooding
- Ice jams
- Blizzards
- Pavement buckling (extreme heat or cold)
- Drought
- Wildfire
- Landslides
- Tornado
- Pandemic

SDDOT closed the Platte-Winner Bridge for several months in 1997 while it repaired two existing pier pile caps in the river. The damage is believed to be the result of impact from ice floes. Additionally, the SD44 highway corridor in this project study area has historically faced maintenance challenges, especially on the western side of the Missouri River due to the geology of the area. Landslides caused by poor drainage along steep slopes and ridges have resulted in millions of dollars in repair and mitigation expenses to SDDOT.

No Build Alternative
Under the No Build Alternative, the existing bridge would remain unchanged and not brought up to current design standards. Users would still travel across a 57-year-old bridge that has aging piers in the river with the potential for future ice floe issues. Initially there would be no impact, but over time as the bridge ages, maintenance costs will increase, which may lead to the eventual closing of the bridge should it become unsafe to travel and too costly to maintain.

Although SDDOT has implemented a wide variety of monitoring and mitigation measures to reduce the risk of landslides or impacts from ice floes, the potential for future maintenance issues remains on the existing bridge. The No Build Alternative reduces the ability for disaster preparedness and resiliency of the rural communities in the area and ultimately has an adverse impact.

Recommended Alternative
The Recommended Alternative includes a design that integrates disaster preparedness and resiliency into the structure. The proposed bridge will reduce the number of piers in the river. This allows more water to flow under the bridge unimpeded resulting in less risk of potential for ice jams forming upstream of the bridge compared to the existing bridge. The proposed pier foundations will be designed to withstand ice loads as required by and included in current design standards.

Upgrading the bridge to current design standards requires the proposed bridge to have a wider bridge deck and ability to withstand some seismic activity even though the area is a low-risk area for earthquakes. Current design standards for the Recommended Alternative widen the bridge from 28 feet to 36 feet wide which allows large farming equipment to cross the bridge. There have been reports of people backing up or waiting for large machinery to cross the bridge because the current bridge is not wide enough to

accommodate traffic in both lanes when large farm equipment crosses the bridge. The proposed wider bridge will allow SD44 to remain a relevant and viable route for farmers and agricultural services to get to farm fields and ultimately get products to market safely and effectively.

Several soil stabilizing projects have been completed by the SDDOT over the years to address the region's landslide issues. This investment in the region is maintained and optimized since the Recommended Alternative uses the existing alignment compared to the need to reinvest in soil stabilization on a new alignment.

While the river may flood, the existing bridge is not prone to being under water during high water conditions. The bridge is tall due to the need to maintain navigational clearance for river traffic despite no barge traffic on this section of the river. The proposed bridge will maintain the needed navigational clearances and the risk for it being overtopped with water during a flood is low.

The deconstruction of the existing bridge will be up to the deconstruction contractor and the SDDOT. The deconstruction contractor will need to follow agreed-upon bridge deconstruction procedures, which often includes dismantling the bridge in pieces and sections to avoid environmental impacts. The deconstruction contractor will be encouraged to follow best management practices including reuse and recycling of materials if feasible. Since the existing bridge was constructed in 1966 there is the potential for lead based paint on the steel portions of the bridge which will need to be disposed of correctly and could make recycling of some portions of the bridge more difficult than others.

3.6.4. Access to Services

The communities in the region work together to support the population in the area with goods and services. Access to health, education, recreation, religious, retail, and repair services are available in many of the communities on both sides of the Platte-Winner Bridge. The SD44 Platte-Winner Bridge route is used in providing needed supply chain connections not only for retail and commerce but for education, recreation, and emergency services vital to the health and wellbeing of the communities in the region.

Police, fire, and emergency services are provided by the counties and communities and the county or community responding would depend on the location of the emergency. Gregory County and Burke would typically respond to emergencies on the west side of the river and Charles Mix County and Platte would typically respond to emergencies on the east side of the river. The SD44 Platte-Winner Bridge is an important connection for emergency services, area hospitals, care facilities to transport patients by ground to larger facilities in Sioux Falls when needed.

No Build Alternative

Under the No Build Alternative, the existing bridge would remain unchanged and not brought up to current design standards. Users would still travel across a 57-year-old bridge with a narrow 28 foot-wide bridge deck that has aging piers in the river with the potential for future ice floe issues. Initially there would be no impact, but over time as the bridge ages, maintenance costs will increase, which may lead to the eventual closing of the bridge should it become unsafe to travel and too costly to maintain.

The No Build Alternative reduces the ability for larger equipment and vehicles to cross potentially limiting the ability for communities to keep up with current market trend. This may lead to an adverse impact.

Recommended Alternative
The Recommended Alternative would have no impact in the short term and a beneficial impact to access to services over time. Reconstructing the bridge to the current design standard would maintain the access to services for the rural communities in the area and potentially increase the access to services. The increase could come from businesses realizing the value of a new bridge that allows for stable and consistent way to transport goods and services across the Missouri River without concern of delays.

The Recommended Alternative would continue to provide undisrupted and consistent emergency response for communities in the region. The Recommended Alternative provides police, fire, and emergency services with consistent access routes and predictable travel times.

3.7. Farmland, Soils, and Topography

Cattle rangeland is present west of the Platte-Winner Bridge and east of SCRA and developed land is present within the SD44 right-of-way and within SCRA and West River Access. For the purposes of the Farmland Protection Policy Act (FPPA), rangeland can be considered farmland if it includes prime or unique farmlands of statewide or local importance. The Natural Resources Conservation Service (NRCS) is responsible for implementing the FPPA. The Farmland Conversion form, provided by NRCS on April 13, 2023, is included in Appendix C and includes soil information and instructions on how the Farmland Conversion form is completed . The project received a score of 114 points out of 260 points, which is less than 160 points, the threshold for significant impacts to prime farmland. This indicates that the proposed activity will have no significant impact on the prime farmland or farmland of statewide importance in Charles Mix and Gregory Counties, and no further alternatives need be considered.

Geotechnical evaluations were completed for the SD44 roadway and bridge alignment as well as the SCRA in April of 2022. According to these geotechnical reports, the general surficial soils west of Lake Francis Case are comprised of bentonitic clay shale from the Pierre Formation. The subgrade soils are a thin mantle of soil overlaying the Pierre Formation which are often marginally stable. The slopes are generally steeper than 3 feet horizontal to 1 foot vertical and the Pierre Formation is exposed due to erosion from the river over the years. Soil instability and landslides in the area are caused by natural weathering of these soils. Table 5 shows the NRCS soil map units present in the project study area and the farmland classification associated with the soil map unit. It includes two soil map units of statewide importance and one prime farmland if irrigated unit. There is no know irrigation occurring within the project study area .

No farmland exists within the mitigation area.

Table 5. NRCS Farmland Classifications

Map Symbol	Map Unit Name	Farmland Classification	Present in Recommended Alternative?
BdF	Betts-Ethan loams, 15 to 40 percent slopes	Not prime farmland	No
LcF	Labu-Sansarc silty clays, 9 to 35 percent slopes	Not prime farmland	Yes
LoB	Lowry silt loam, 3 to 6 percent slopes	Prime farmland if irrigated	Yes
LoB	Lowry silt loam, 2 to 6 percent slopes	Prime farmland if irrigated	No
LoC	Lowry silt loam, 6 to 9 percent slopes	Farmland of statewide importance	Yes

Map Symbol	Map Unit Name	Farmland Classification	Present in Recommended Alternative?
ObE	Okaton-Lakoma silty clays, 15 to 40 percent slopes	Not prime farmland	Yes
PrB	Promise clay, 3 to 6 percent slopes	Farmland of statewide importance	No
SnF	Sansarc clay, 6 to 35 percent slopes	Not prime farmland	No
SoF	Sansarc-Boyd complex, 15 to 40 percent slopes	Not prime farmland	Yes
SuE	Sully silt loam, 9 to 25 percent slopes	Not prime farmland	Yes

No Build Alternative
The No Build Alternative would have no impact on prime farmland or farmland of statewide importance. The SDDOT would continue to address natural weathering and potential landslides in the area if needed to maintain SD44 roadway.

Recommended Alternative
The Recommended Alternative would impact the location of the Lowry silty loam, 6 to 9 percent slopes soil map unit, but the unit is present only within existing developed right-of-way and areas of SCRA. Construction support structures such as access roads and staging areas would result in minor and short-term effects to soils, such as soil compaction and mixing. No impacts to prime farmland or farmland of statewide would occur as a result of the Recommended Alternative.

In general, the soils and topography within the project study area will not change due to the Recommended Alternative. The design of proposed improvements are such that they work with the existing soil and topography of the area to reduce the risk for landslides and erosion. For example, flatter slopes of the roadway are incorporated into the design of the Recommended Alternative knowing the type of soil instability issues that exist within the area. In addition riprap is proposed in areas to help stabilize the soils.

Overall, the construction and operation of the Recommended Alternative would not have a long-term adverse impact on the project area topography or soils.

3.8. Noise

Under the Noise Control Act of 1972 and its amendments (Quiet Communities Act of 1978; U.S.C. Title 42, Parts 4901-4918), States have the authority to regulate environmental noise by which governmental agencies must comply with in addition to community noise policies and regulations. Sources of noise around the project area consists predominately of motor vehicle traffic, agricultural activities, public recreators, and motorboat traffic on the lake.

According to the 2022 *Traffic Noise Evaluation Memorandum,* (Appendix D) noise receptors within the project study area include the park residence, traveler's chapel and campsites south of SD44. Noise monitoring was completed at these locations, and it was determined no further analysis was necessary since the proposed roadway will be farther away from the campsites south of SD44. Additionally, the roadway will be higher than the existing SD44, providing a grade separation and noise-attenuating benefits. The lone identified receiver north of SD44, the park manager residence, will be relocated to a location determined acceptable to the SDGFP park purposes.

No noise receptors are located within the mitigation area.

No Build Alternative
The No Build Alternative will have no impact on noise.

Recommended Alternative
The Recommended Alternative will not result in adverse effects from noise impacts. In terms of SDGFP's most sensitive potential receptors, the proposed roadway will be located farther away from the campsites south of SD44. Additionally, the roadway will be higher than the existing SD44, providing a grade separation and noise-attenuating benefits. The only receiver north of SD44, the park manager residence, will be relocated to a location identified by SDGFP. As part of the relocation, SDGFP has incorporated visual screening methods (such as planning of trees and vegetation) that will further buffer the residence from SD44 noise. A traffic noise evaluation completed for the project (HR Green, 2022) showed that the project would not be considered a Type I project since there is no substantial alignment alteration. Additionally, based on noise monitoring data collected, noise levels would not exceed FHWA noise abatement criteria per 23 CFR Part 722 within SCRA. Noise levels in the project study area will temporarily increase during construction and demolition of the bridge.

Temporary increase in noise within the project area would occur due to construction equipment. Construction sounds would be continuous in nature and are expected to remain below background levels. Peak sound levels may increase above the existing conditions, but they would be of short duration. Construction noise may occur during daylight hours and up to seven days a week.

3.9. Wetlands and Waters of the United States

A wetland delineation completed for the project (HR Green, 2017) identified seven wetlands totaling 4.151 acres within the large project study area (Appendix E). This information is shown in Table 6 and on Figure 5. Six of the wetlands are west of the bridge and one of the wetlands is east of the bridge. None of the wetlands are adjacent to the existing SD44 right-of-way. Additionally, approximately 250 acres of the Lake Francis Case reservoir are within the project study area below the 1,365 feet above mean sea level elevation of the ordinary high water mark (OHWM) of the reservoir.

A desktop wetland and species report (HR Green, 2023) (Appendix F) identified no mapped hydric soils or National Wetland Inventory mapped wetlands occurring within the mitigation area project study area.

A Section 404 permit and Section 10 from USACE and 401 Water Quality Certification from South Dakota Department of Agriculture and Natural Resources (SDDANR) will be needed for any impacts to wetlands and other Waters of the U.S.

Table 6. Delineated Wetlands Within Study Area

Feature	Lat°	Long°	Observed Jurisdictional Status*	Observed Cowardin Classification**	Acres in Project Study Area
Lake Francis Case	43.385609	-99.133368	WOUS	L1UBHh	249.471
SE-1	43.39062	-99.115361	WOUS/ EO11990	PUBFh	0.349
NW-1	43.384475	-99.143849	WOUS/ EO11990	PEMA	0.091
NW-2	43.383694	-99.145089	EO11990	PEMB	0.02

Feature	Lat°	Long°	Observed Jurisdictional Status*	Observed Cowardin Classification**	Acres in Project Study Area
SW-1	43.379519	-99.143379	WOUS/ EO11990	PEMJ	2.435
SW-2	43.38007	-99.143125	WOUS/ EO11990	PEMB	0.658
SW-3	43.381232	-99.143222	WOUS/ EO11990	PEMA	0.180
SW-4	43.380501	-99.144453	WOUS/ EO11990	PEMB	0.419
Total					253.623

*WOUS = Water of the United States. EO 11990 = Executive Order 11990 Protection of Wetlands
**Cowardin et al (1979) Classification of Wetlands and Deepwater Habitats of the United States

No Build Alternative
The No Build Alternative will have no effect on wetlands or other waters of the United States.

Recommended Alternative
The Recommended Alternative will not impact any wetlands. All seven wetlands fall outside of the proposed construction limits and will not be impacted.

The Missouri River and Lake Francis Case are Traditional Navigable Waters and Waters of the United States. Both water bodies are Jurisdictional Waterways under Section 10 of the Rivers and Harbors Act that will require a Section 10 Department of the Army Permit for work in the water and a Section 404 Nationwide Permit 14 for Transportation Projects for fill from new piers and rip rap and temporary impacts associated with deconstruction work. Permanent impacts from riprap placement at the east abutment and new bridge piers would permanently fill 0.37 acres below the OHWM of Lake Francis Case. Stream mitigation is required for permanent adverse stream impacts over 0.03 acres and will be coordinated as part of the Section 404 permit process.

Potential impacts to wetlands should be evaluated if the construction footprint changes during Final Design. Wetlands NW-1 and NW-2 are outside of, but nearest the Recommended Alternative construction limits.

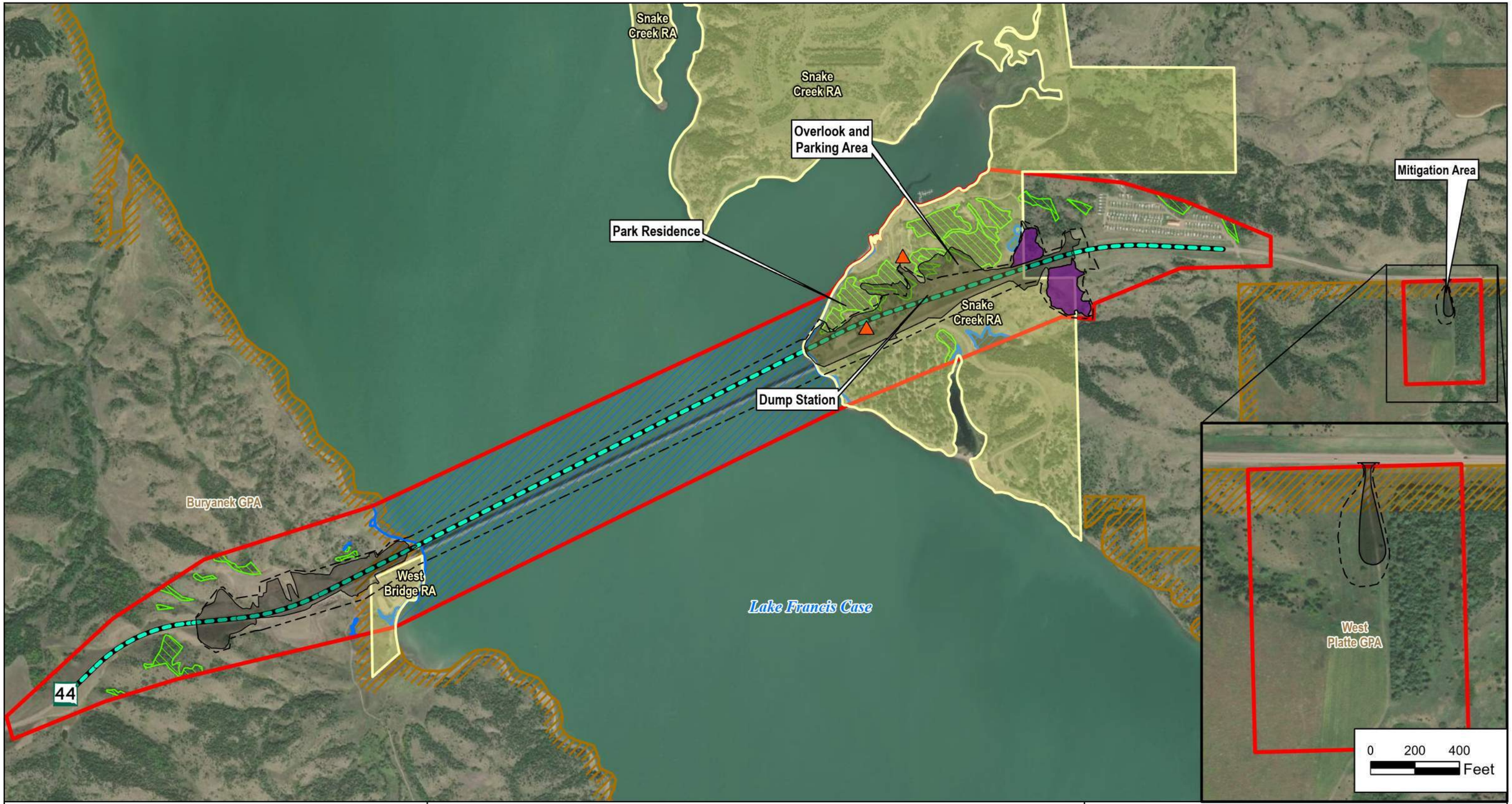

Figure 5 Environmental Impacts

SD44/Platte-Winner Bridge
Environmental Assessment
Gregory and Charles Mix Counties

Legend

- Study Area
- Recommended Alternative
- Wetlands/Waters of the U.S.
- Forested Areas
- Parks and Recreation Areas
- Game Production Areas
- Landslide Repair Areas
- Grading Limits
- Temporary Construction Limits
- Regulated Materials (RECs)

HRGreen

SD DOT

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3.10. Water Quality & Stormwater Management

The Platte-Winner Bridge crosses over the Missouri River and Lake Francis Case. Lake Francis Case is a reservoir behind the Fort Randall Dam approximately 40 river miles to the south and the Big Bend Dam approximately 70 river miles to the north of the Platte-Winner Bridge, respectively. The study area is within the Upper Missouri River Basin.

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act (CWA) of 1977, provides the authority to establish water quality standards, control discharges into surface and subsurface waters, develop waste treatment management plans and practices, and issue permits for discharges (Section 402) and dredged or fill material (Section 404). The SDDANR has developed surface water quality standards, as required by the CWA, as amended. The water quality standards establish the use or uses to be made of a waterbody, set criteria necessary to protect the uses, and establish policies to maintain and protect water quality. South Dakota's water quality standards are designed to protect public health and welfare, enhance the quality of water, and uphold the goals of the Federal CWA.

All streams in the State of South Dakota with sufficient quantities of water for a sufficient duration are assigned beneficial uses. According to the SDDANR 2018 Integrated Report for Surface Water Quality Assessment, the assigned beneficial uses for Lake Francis Case are commerce and industry; domestic water supply; fish and wildlife propagation, recreation, and stock watering; immersion recreation; irrigation waters; limited contact recreation; and warmwater permanent fish life propagation. Additionally, the Missouri River is classified as a domestic water supply and warmwater permanent fishery. Because of these beneficial uses, special construction measures may have to be taken to ensure that the total suspended solids standard of 90 mg/L is not violated. The State of South Dakota has not placed Lake Francis Case on the State's Section 303(d) list of impaired waters and has not issued a fish consumption advisory for the reservoir.

The USACE-Omaha District has monitored water quality conditions at the Fort Randall Project (Lake Francis Case) since the late 1970s. Water quality monitoring locations have included sites on the reservoir and on the inflow to and outflow from the reservoir. According to the 2018 USACE report *Water Quality Conditions in the Missouri River Mainstem System,* water quality trends from 1980 to 2018 indicate a decrease Secchi Depth meaning water is becoming less clear, which is attributed to increases in total phosphorus in Lake Francis Case. During a 5-year study period from 2014 through 2018 samples collected south of the Platte-Winner Bridge reported decreasing temperatures and dissolved oxygen concentrations with increasing depth in the lake. A summary of this data is included in Table 7.

Stormwater currently runs off of the existing bridge and drains directly into Lake Francis Case through curb openings and vertical pipes extending outside of the bridge girders. The existing SD44 roadway drains to roadside ditches on both sides of the bridge. No stormwater ponds or other stormwater treatment is present.

No streams are located within the mitigation area.

Table 7. Summary of monthly (May through September) water quality conditions monitored in Lake Francis Case near Platte Creek (Site FTRLK0911DW) from 2014 – 2018. Source: USACE, 2019.

Parameter	Monitoring Results[A]						Water Quality Standards Attainment		
	Detection Limit[B]	No. of Obs.	Mean[C]	Median	Min.	Max.	State WQS Criteria[D]	No. of WQS Exceedances	Percent WQS Exceedance
Pool Elevation (ft-NGVD29)	0.1	24	1356.4	1356.2	1353.5	1360.5	-----	-----	-----
Water Temperature (°C)	0.1	610	20.4	21.6	6.9	27.8	27[1,5]	7	1%
Dissolved Oxygen (mg/L)	0.1	609	8.1	8.2	2.1	11.4	5[1,6]	19	3%
Dissolved Oxygen (% Sat.)	0.1	609	93.0	96.0	24.4	118.6	----	-----	-----
Epilimnion/Metalimnion Dissolved Oxygen (mg/L)[E]	0.1	521	8.3	8.3	3.3	11.4	5[1,6]	5	1%
Hypolimnion Dissolved Oxygen (mg/L)[E]	0.1	67	7.1	7.5	2.1	10.2	5[1,6]	14	21%
Specific Conductance (uS/cm)	1	610	905	917	768	1007	-----	-----	-----
pH (S.U.)	0.1	610	8.3	8.4	7.3	8.8	6.5[1,2,6], 9.0[1,2,5], 9.5[4,5]	0	0%
Turbidity (NTUs)	1	607	5	3	n.d.	40	-----	-----	-----
Oxidation-Reduction Potential (mV)	1	610	384	394	272	448	-----	-----	-----
Secchi Depth (M)	0.02	24	1.8	1.8	0.6	5.0	-----	-----	-----
Alkalinity, Total (mg/L)	7	50	165	167	146	182	-----	-----	-----
Carbon, Total Organic (mg/L)	0.05	50	4.07	4.05	2.70	5.60	-----	-----	-----
Chloride (mg/L)	1	50	13	13	11	19	438[2,5], 250[2,7]	0	0%
Chlorophyll-*a* (ug/L) – Field Probe	1	586	-----	3	n.d.	23	-----	-----	-----
Chlorophyll-*a* (ug/L) – Lab Determined	3	25	-----	3	n.d.	11	-----	-----	-----
Colorized Dissolved Organic Matter (ug/L)	10	50	19	18	12	32	-----	-----	-----
Dissolved Solids, Total (mg/L)	4	50	617	617	482	840	1,750[2,5], 1,000[2,7], 3,500[4,5], 2,000[4,7]	0	0%
Nitrogen, Ammonia Total (mg/L)	0.02	50	-----	0.00	n.d.	0.19	3.9[1,5,8], 0.73[1,7,8]	0	0%
Nitrogen, Kjeldahl Total (mg/L)	0.1	50	0.28	0.26	0	0.88	-----	-----	-----
Nitrogen, Nitrate-Nitrite Total (mg/L)	0.04	50	-----	n.d.	n.d.	0.58	10[2,5]	0	0%
Nitrogen, Total (mg/L)	0.1	50	0.34	0.32	n.d.	0.92	-----	-----	-----
Phosphorus, Dissolved (mg/L)	0.008	50	-----	n.d.	n.d.	0.040	-----	-----	-----
Phosphorus, Orthophosphate (mg/L)	0.005	50	-----	n.d.	n.d.	0.050	-----	-----	-----
Phosphorus, Total (mg/L)	0.008	50	-----	0.010	n.d.	0.060	-----	-----	-----
Sulfate (mg/L)	1	50	283.4	287.0	202.0	335.0	875[2,5], 500[2,7]	0	0%
Suspended Solids, Total (mg/L)	4	50	-----	6	n.d.	30	158[1,5], 90[1,7]	0	0%
Microcystin, Total (ug/L)	0.1	25	-----	n.d.	n.d.	0.4	-----	-----	-----

n.d. = Not detected.

[A] Results for water temperature, dissolved oxygen, specific conductance, pH, turbidity, ORP, and chlorophyll-*a* (field probe) are for water column depth-profile measurements. Results for chlorophyll-*a* (lab determined) and microcystin are for "grab samples" collected at a near-surface depth. Results for other parameters are for "grab samples" collected at near-surface and near-bottom depths.

[B] Detection limits given for the parameters Pool Elevation, Water Temperature, Dissolved Oxygen (mg/L and % Sat.), Specific Conductance, pH, Oxidation-Reduction Potential, and Secchi Depth are resolution limits for field measured parameters.

[C] Nondetect values set to 0 to calculate mean. If 20% or more of observations were nondetects, mean is not reported. The mean value reported for pH is an arithmetic mean (i.e. log conversion of logarithmic pH values was not done to calculate mean).

[D] Criteria given for reference – actual criteria should be verified in appropriate State water quality standards.
- [1] Criteria for the protection of warmwater permanent fish life propagation waters.
- [2] Criteria for the protection of domestic water supply waters.
- [3] Criteria for the protection of immersion and limited contact recreation waters (applies only to epilimnion and metalimnion if water body stratified).
- [4] Criteria for the protection of commerce and industry waters.
- [5] Daily maximum criterion (monitoring results directly comparable to criterion).
- [6] Daily minimum criterion (monitoring results directly comparable to criterion).
- [7] 30-day average criterion (monitoring results not directly comparable to criterion).
- [8] Total ammonia criteria pH and temperature dependent. Criteria listed are for the median pH and temperature conditions.

[E] A hypolimnion is defined to occur when a measured depth-profile of water temperature indicates a decrease of 1.0°C or more over a 1-meter depth increment, or a decrease of at least 0.5°C and a decrease of at least 1 mg/L dissolved oxygen over a 1-meter depth increment. The top of the hypolimnion is delineated as the depth where the above changes occur.

No Build Alternative

The No Build Alternative will have no impact to water quality and stormwater management.

Recommended Alternative

The Recommended Alternative will have temporary impacts to water quality. These will be mitigated by construction Best Management Practices (BMPs) implemented as part of the Stormwater Pollution Prevention Program (SWPPP) required for the General Permit for Stormwater Discharges Associated with Construction Activities from SDDANR required for the project. Due to the length of the bridge, stormwater will continue to outfall to the Missouri River and Lake Francis Case via deck drains after construction, similar to how stormwater drains off the existing bridge. The Recommended Alternative bridge will be

approximately 400 feet longer and six feet wider than the existing bridge resulting in approximately 1.1 acres of additional impervious surface from the bridge deck and railings. However, the additional amount of runoff entering the river from the bridge deck is not anticipated to result in a change to the water quality of the Missouri River or increase total suspended solids. Current Best Management Practices related to bridge deck stormwater runoff will continue including minimization of salt application on bridge decks and bridge deck sweeping. Construction BMPs are detailed in the environmental commitments in Appendix N.

The Recommended Alternative would result in approximately 7,064 cy of fill being placed into Lake Francis Case in the form of compacted earthen fill, riprap and concrete. This has the potential to cause minor, temporary effects on the water quality of Lake Francis Case if soil erosion from fill is not prevented or minimized. In most locations where riprap will be added to the banks of Lake Francis Case, the existing ground will be excavated and replaced with riprap, resulting in zero net fill. An exception to this is where the banks around the proposed east abutment have eroded and will be restored to a minimum 2(H):1(V) slope, resulting in the addition of a total net volume of earthen fill and riprap equal to 3,394 cy. The existing bridge has 27 piers which will be removed below the minimum Zone A elevation of 1,350. The total volume of existing concrete to be removed from Zones A, B, and C is 4,504 cy. The proposed bridge will include 19 new piers and have a total volume of concrete of 8,174 cy in Zones A, B, and C. A Department of the Army Regulatory Permit (Section 404) is being submitted concurrently with the Section 408 Request to USACE for approval.

During construction of the bridge and support features (i.e. temporary access roads, staging areas, and haul roads) to facilitate the Recommended Alternative, erosion may occur resulting in short-term adverse impacts on the water quality. The project has been designed to minimize construction disturbances. To decrease water quality impacts during construction, best management practices (BMPs) would be implemented including things like the use of silt fencing and biodegradable erosion control blankets.

Federal limits on the amounts of specific pollutants that could be discharged to surface waters are governed by the Clean Water Act (CWA; 33 U.S.C. 1251 et seq., as amended) and the National Pollutant Discharge Elimination System (NPDES). Discharge of stormwater resulting from construction activities that would disturb more than one acre of surface area requires an NPDES permit under Section 402 of the CWA. The South Dakota Department of Agriculture and Natural Resources (SDDANR) authorizes NPDES permits in the State of South Dakota. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared prior to commencement of construction activities. The plan would address practices and measures required to control and reduce the amount of pollutants in stormwater runoff.

Any portion of existing SD44 that is bypassed by the new alignment will be removed. In the case of the bridge, a deconstruction plan will be prepared to identify the methods of bridge removal and measures taken to avoid impacts, including to water quality. The deconstruction plan will be follow the SDDOT's specifications for bridge removal over water and comply with water quality requirements. The roadway segments that are vacated will be taken out and replaced with a pervious ground cover (topsoil and native grasses). The result is expected to be minimal change in overall impervious area created by the project as these areas will be returned to nearly pre-construction state.

Overall, temporary and minor impacts to water quality in Lake Francis Case would result from construction activities.

3.11. Air Quality

The Clean Air Act (CAA) (42 U.S.C. § 7401 et seq.) of 1970 required the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) to protect public health and

welfare and the environment, and to regulate emissions of hazardous pollutants. The Clean Air Act identifies two types of NAAQS. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public health welfare protection, including protection against decreased visibility and damage to animals, vegetation, and buildings.

Air quality in the project area is monitored by the SDDANR. Real-time regional air quality conditions can be located on their website at: https://denravweb.sd.gov/AirVision/default.aspx.

Air quality in the area is influenced by a combination of factors, which include climate, meteorology, and density and geographic distribution of local and regional air pollution sources. The dispersion of pollutants is influenced by the properties of the pollutants as well as the way air masses interact with the regional topography. Sources of suspended particulate matter and air pollutants in the project area include agricultural activities, recreation and boating traffic, residential areas, and local and motor vehicle traffic.

No Build Alternative
The No Build Alternative will have no impact to air quality.

Recommended Alternative
The proposed construction activities associated with the Recommended Alternative would be temporary, occurring across an estimated three-year period. Construction activities that would generate emissions include earthwork (i.e., land clearing, ground excavation, and cut-and-fill operations), aggregate/material handling, construction of the bridge, and demolition of the existing bridge. Construction activities would result in short-term emissions including fugitive dust from soil disruption and combustion emissions from the construction equipment and on-road vehicles. Emissions associated with construction equipment and on-road vehicles include criteria pollutants ((PM2.5, PM10, carbon monoxide, ozone, and sulfur dioxide), greenhouse gasses, and small amounts of air toxics. These emissions are expected to be within acceptable air quality standards.

In addition, the general actions below would help to avoid or minimize impacts to air quality during construction activities:

- Minimize clearing vegetation within all the construction work areas to minimize soil disturbance and keep dust down.
- Conduct construction activities in a manner to minimize the creation of dust. This may include measures such as limitations on equipment, speed, and/or travel routes.
- Implement measures to minimize the transfer of mud onto public roads.
- Maintain construction equipment in good working order.
- Implement a fugitive particulate emission control plant that specifies the steps to minimize fugitive dust generation.
- Plan construction scheduling to minimize vehicle trips.

3.12. Floodplains

A floodplain is defined as the area adjacent to a watercourse, including the floodway, inundated by a particular flood event. A floodway is the channel and any adjacent floodplain areas that must be kept free of encroachment to ensure that the 100-year (1-percent annual chance) flood is conveyed without increasing the flood height by more than 1 foot. For the purposes of discussion in this EA, floodplain is synonymous with the 100-year floodplain.

The National Flood Hazard Layer was reviewed. No floodplain mapping is available for the west side of the project study area in Gregory County. The east side within Charles Mix County shows Lake Francis Case and areas up to approximately 1,380 feet elevation adjacent to the Lake within the 100-year floodplain.

No floodplains exist within the mitigation area.

No Build Alternative
The No Build Alternative will have no impact on floodplains.

Recommended Alternative
The Recommended Alternative will include a net increase of 7,064 cubic yards of fill within the floodplain. This gain in fill volume includes an increase of fill within the floodplain from earthwork (including riprap armoring) and the proposed bridge totaling 11,568 cubic yards along with a 4,504 cubic yard decrease in fill resulting from removal of the existing bridge . A hydraulic design report (HR Green, 2022) completed for the Recommended Alternative showed that no flooding impacts are anticipated from the temporary condition during construction or completed condition of the Recommended Alternative. As part of the final design process the SDDOT may be required to complete a floodplain analysis and issuance of a "no-rise" certification that will be sent to Federal Emergency Management Agency (FEMA) (Region 8) and the appropriate Gregory and Charles Mix Counties floodplain permit departments, if necessary.

3.13. Vegetation, Fish & Wildlife

Vegetation east of the bridge, including the mitigation area. is open grass rangeland, maintained right-of-way, recreation area grounds, and forested draws near Lake Francis Case Lake. Forested areas are mostly Eastern red cedar and green ash with native shrubs and smooth brome grass. Most of the area shows some disturbance from historic land clearing activity, but the area remains sparsely developed with abundant wildlife. Designated noxious weeds in the area include Canadian, musk and bull thistle. West of the bridge is mostly open grassed rangeland with cedar and native shrubs in drainages or maintained right-of-way. Steep slopes to Lake Francis Case on both sides consists of mostly cedar and brome grass, but a sloped wetland and emergent wetland are located south of SD44 west of Lake Francis Case. Cottonwoods, willows, eastern red cedar, green ash, and Russian olive are some of the trees found in the area. Warm and cool season grasses include switchgrass, indiangrass, big and little bluestem, smooth brome, and crested wheatgrass. Sweet clover is abundant along with many other native and non-native forbs.

Lake Francis Case has a maximum depth of approximately 95 feet within the study area. Large game fish populations include walleye, northern pike, sauger, sunfish, yellow perch, white bass, common carp, black bullhead, channel catfish, and smallmouth bass. Paddlefish, shiner and minnow species, drum, gizzard shad, shorthead redhorse, sauger and other fish species are also found in the lake.

E.O. 13751 and 11987 cover Federal responsibilities to ensure projects will not contribute to the introduction or spread of invasive species – both aquatic and terrestrial species. Additionally noxious weeds should be controlled. State of South Dakota listed noxious weeds include: absinth wormwood (*Artmisia absinthium*), leafy spurge (*Euphorbia esula*), Canada thistle (*Cirsium arvense*), perennial sow thistle (*Sonchus arvensis*), hoary cress (*Cardaria draba*), purple loosestrife (*Lythrum salicaria*), and salt cedar (*Tamarix* spp.). Musk and plumeless thistles are also listed as locally noxious weeds present near the project area.

Aquatic invasive species identified within Lake Francis Case includes the invasive fish European rudd, invasive plants curlyleaf pondweed and Eurasian watermilfoil, and invasive invertebrates Asian clam and zebra mussel.

Lake Francis Case lies within the central flyway and is a corridor for spring and fall migrations of waterfowl and other birds including Canada geese, white-fronted geese, snow geese, and mallard ducks. Other bird species include sandhill cranes, American bitterns, double-crested cormorants, white pelicans, great blue herons, sandpipers, terns, and other species. Forested draws and other trees within the study area provide valuable habitat to common sparrows, robins, chickadees, migratory flycatchers, and warblers among other songbirds such as Western meadowlarks, bobolinks, upland sandpipers, and longspurs. Birds of prey near Lake Francis Case includes bald and golden eagles, red-tailed hawks, great horned owls, prairie falcons, and osprey. Upland game birds include wild turkey, sharp-tailed grouse, and ring-necked pheasant.

Mammals potentially found in the project area include the mitigation area include big game, small game, and numerous rodent species. These include white-tailed deer and mule deer, coyotes, bobcat, red fox, raccoons, squirrels, and jackrabbits. Reptiles include the prairie rattlesnake, bull snake, hognose snakes, and snapping turtles. Common amphibians include the great plains toad, bullfrogs, and leopard frogs.

Pursuant to the Fish and Wildlife Coordination Act (FWCA), if the proposed improvements would affect water resources, consultation with the U.S. Fish and Wildlife Service (USFWS) and with the State agency having administrative responsibilities over wildlife resources must be initiated. In South Dakota this State agency is the SDGFP. Consultation is used to determine the possibility of damage to wildlife resources and the means and measures that should be adopted to prevent the loss of, or damage to, those resources, as well as to provide for the concurrent development and improvement of such resources. This Act also provides protection of any publicly-owned wildlife or waterfowl refuge of National, State, or local significance.

No Build Alternative
The No Build Alternative will have no impact on vegetation, fish, and wildlife.

Recommended Alternative
The Recommended Alternative will impact wildlife habitat through land and vegetation clearing activities for roadway, bridge, and the sanitary dump/water station construction. Given the extensive work required for construction of new bridge piers and removal of the old piers in the river, temporary impacts to fish habitat will occur. To the extent possible, construction within Lake Francis Case will avoid fish spawning periods. Native vegetation would be planted along areas disturbed by the selected alternative to minimize the establishment of invasive plant species. The ROW should be maintained to prevent the spread of invasive species (e.g., spraying and mowing of invasive species). Additionally, equipment used in Lake Francis Case will be washed, free of seeds and vegetation, and dried for a minimum of seven days to prevent spread of both aquatic and terrestrial invasive species/noxious weeds. Clean Wildlife will continue to have the ability to move under the Platte-Winner Bridge on the east and west sides of the bridge. Wildlife is expected to remain abundant in the study area during and after construction.

Coordination with USFWS and SDGFP took place in 2023. The USFWS responded on February 8, 2023 with the determination of "no effect" on the endangered Indiana bat or the threatened Northern long-eared bat. Other species were not included in this determination. The SDGFP responded on May 2, 2023 stating False Map Turtles, a state threatened species, were captured north of the SCRA and downstream of the project location. Both of these letters are included in Appendix M.

Approximately one acre of wildlife habitat will be impacted at the West Platte GPA as part of the mitigation and of the sanitary dump/water station. The dump/water station site was selected as the most conducive area for the least amount of ground disturbance, relatively low existing habitat value, and convenience for SCRA using the sanitary dump/water station.

3.14. Threatened & Endangered Species, Migratory Birds and Eagles

3.14.1. Federally Listed Threatened and Endangered Species

Section 7 of the Endangered Species Act (16 U.S.C. 1536) states that all Federal agencies shall, in consultation with the Secretary of the Interior, ensure that any action authorized, funded, or otherwise carried out by them do not jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of critical habitat. An endangered species is the classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range. A threatened species is the classification provided to an animal or plant likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

A desktop evaluation of threatened, endangered, candidate species, and critical habitat within the project area was completed by review of the USFWS Information for Planning and Consultation (IPaC) database. The IPaC review produced an official species list of federally listed or candidate species for listing for protections of the Endangered Species Act that may be present in the project study area including the mitigation area. The IPaC list includes seven species, their listing status, and general habitat needs as described in Table 8.

Table 8. Federal Listed Species and Habitat

Common Name	Scientific Name	Listing Status	Habitats
Northern long-eared bat	*Myotis septentrionalis*	Endangered	During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Occasionally roost in structures including bridges. Winter hibernating in caves and mines.
Piping plover	*Charadrius melodus*	Threatened	Sandbars, lakeshores and alkali wetlands
Red knot	*Calidris canutus rufa*	Threatened	Shorelines of large lakes or marshes
Whooping crane	*Grus americana*	Endangered	During migration, feed in croplands and roost in shallow, freshwater wetlands
Pallid sturgeon	*Scaphirhynchus albus*	Endangered	Large, silty rivers with natural a hydrograph (seasonal depth changes). Preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats and gravel bars.
Monarch butterfly	*Danaus plexippus*	Candidate	Generalist

Northern Long-eared Bat

The endangered northern long-eared bat spends winters hibernating in caves and mines. During the summer these bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Like most bats they emerge at dusk to feed. They primarily fly through the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation. The northern long-eared bat's range includes much of the eastern and north central United States, including all of South Dakota. Potentially suitable roosting and nursery habitat is found near the project area, especially within forested areas on the eastern side of Lake Francis Case. The primary reason for its decline is the white-nose syndrome. Other

reasons include loss of habitat, loss of access to hibernacula sites, and wind farm operations (USFWS 2021b).

Piping Plover

Piping plovers are small shorebirds that populate prairie alkali wetlands; river channels and associated sandbars and islands; and reservoirs and inland lakes and their sparsely vegetated river sandbars (USACE and USFWS 2018). Historically, on the Missouri River, the plovers nested mainly on sparsely vegetated river sandbars (USACE and USFWS 2018). Now the birds frequently use river sandbars, sand and gravel mines, lake shore housing developments and reservoir shorelines (NGPC 2022a). They typically nest from mid-May to mid-July and rear chicks from mid-June to mid-August. Nests are shallow scrapes or bowls frequently lined with small pebbles or shell fragments. Both sexes participate in incubation of four eggs, usually lasting 22 to 30 days. Fledging occurs approximately 25 to 35 days after hatching. Feeding plovers utilize open, wet, sandy areas, feeding primarily on exposed substrates by pecking for invertebrates at or just below the surface (USFWS, 2016).

Red knot

Red knots are a threatened shorebird that makes migratory stopovers in Montana, although these are quite rare. Red knots travel up to 9,300 miles twice a year in search of suitable habitat and food. Red knots breed in the arctic and after chicks fledge, migrate as far south as southern Chile and Argentina to winter. Red knots wintering in Texas typically use a central, overland flyway across the mid-continental U.S., with birds departing Texas in mid-May and using inland saline lakes, and potentially freshwater habitat, as stopover areas in the Northern Great Plains. They feed on plant seeds, grass shoots, invertebrates, small snails, and crustaceans.

Whooping Crane

The whooping crane is the largest wading bird in North America. The adult has a white body with contrasting black legs, black wing tips, and bright red on the top and sides of the head. The whooping crane was never abundant. Population estimates for the 1870s suggest a total population of 500–1,400 birds; by 1941 that estimate had declined to 21 whooping cranes (USACE, 2012). Shooting and the loss of large expanses of wetland were the primary factors responsible for the population decline.

The whooping crane is a biannual migrant, traveling between its summer habitat in central Canada and its wintering grounds on the Texas coast, across the Northern Great Plains of the U.S. in the spring and fall of each year. Whooping cranes return to the same breeding territory in Wood Buffalo National Park, Canada in April. Autumn migration begins in mid-September, and most birds arrive on the wintering grounds of Aransas National Wildlife Refuge on the Texas Gulf Coast by late-October to mid-November. The migratory corridor runs in an approximately straight line from the Canadian Prairie Provinces of Alberta and Saskatchewan through the Northern Great Plains states of eastern Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. During their annual migrations, the cranes make frequent stops to feed and rest on open sand and gravel bars or very shallow water in rivers and lakes. In Nebraska and South Dakota, the whooping crane is an annual spring and fall migrant in the Missouri River drainage.

The whooping crane breeds, migrates, winters, and forages in a variety of wetland and other habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Migrant whooping cranes stopping over in the northern Great Plains use palustrine wetlands, river bottoms, and agricultural land, preferring sites with minimal human disturbance. For feeding and roosting, whooping cranes primarily use shallow, seasonally and semi permanently flooded palustrine

wetlands, and various cropland and emergent wetlands. The whooping crane is omnivorous and eats a variety of plant and animal foods, including berries, seeds, mast, mollusks, crustaceans, aquatic and terrestrial insects, flightless birds, fish, amphibians, and snakes.

Pallid Sturgeon

It is thought that river channelization and mainstem dam construction and operation have resulted in loss of habitat to the pallid sturgeon. The pallid sturgeon received a Federally endangered status on September 6, 1990. This big river fish species was historically found in the lower Mississippi, Missouri, and Yellowstone Rivers. Pallid sturgeons prefer turbid and murky water at a variety of depths ranging from 2 to 48 feet deep (Bramblett & White, 2001).

A conceptual life-history model was provided for the pallid sturgeon from a combined study conducted by the U.S Department of the Interior (DOI) and the U.S. Geological Survey (USGS). It has been determined that pallid sturgeon spawn between spring and summer upstream, after which the adults migrate downstream and overwinter. The larvae incubate upstream and drift downstream. It is thought that the timing of spawning has seasonally evolved through environmental cues such as hydrological flows. Since these flows have been altered through anthropogenic means, recruitment has suffered (Wildhaber et al., 2007).

In attempts to alleviate population constraints on this species, pallid sturgeons have been artificially propagated since 1994. Adult pallid sturgeons are captured, spawned, and released on an annual basis. In turn, fertilized eggs are retained until they have hatched and these juvenile fish are then reared in state and federal hatcheries.

Monarch Butterfly

The monarch is a large butterfly, easily recognized by its orange and black markings, that lives in a variety of open habitats throughout North America and various additional locations across the globe. In autumn, monarchs travel between 1,200 and 2,800 miles or more from eastern and central U.S. and Canada to central Mexican forests where they hibernate in winter in the mountain forests. In spring and summer, monarchs return north for breeding, and they need milkweed (*Asclepias* spp.) and additional nectar sources for completing their life cycle. The larvae only feed on a variety of milkweed plants, and the adults nectar on many flowering plants. The Project is in the monarch's spring and summer range where they use open habitats including fields, meadows, marshes, and roadsides.

The monarch butterfly has declined by 80 percent in the last 20 years. There are many potential reasons for the butterfly's decline, including habitat loss at breeding and overwintering sites, disease, pesticides, logging at overwintering sites, and climate change. On December 15, 2020, the monarch became a candidate for listing under the Endangered Species Act (ESA). Candidate species are not proposed for listing but are species for which the development and publication of proposed rules for listing are anticipated. The USFWS encourages cooperative conservation efforts for these species because they are species that may warrant future protection under the ESA.

3.14.2. State Listed Species

False map turtles (*Graptemys pseudogeographica*), a state threatened species has been recorded adjacent to the project area and is assumed present. Additionally, a SDGFP Environmental Review Report (ERR) listed three state special status species in the project vicinity: great blue heron, ring-necked snake, and plains leopard frog. However, the ERR concluded that "no environmental conflicts were detected" by SDGFP for

the project. The report also stated that the review does not replace coordination with USFWS. The state special status species are species of concern but are not protected by South Dakota's endangered species law.

3.14.3. Migratory Birds

Migratory birds are protected through the federal Migratory Bird Treaty Act (MBTA). All Federal agencies are subject to the provisions of the Migratory Bird Treaty Act (MBTA) (16 U.S.C. § 703-712, though § 709 is omitted) which regulates the take of any migratory bird species. If a project is expected to impact any migratory bird species, coordination with the USFWS is typically initiated in order to minimize impacts to these species. The MBTA makes it unlawful to take, import, export, possess, sell, purchase, or barter any migratory bird, with the exception of the taking of game birds during established hunting seasons. To minimize the likelihood of adverse impacts to migratory birds, USFWS recommends that construction activities occur outside the general bird nesting season from March through August. Alternatively, construction areas could be surveyed during the nesting and when occupied, avoided until the young have fledged. This law is of particular concern when birds such as cliff swallows nest on bridges or other highway structures. Cliff swallows' nests were observed on the existing Platte-Winner Bridge.

The IPaC database review identified two migratory Birds of Conservation Concern. The red-headed woodpecker (*Melanerpes erythrocephalus*) has a probable presence in the study area in April through September with the highest potential in July and its breeding months stretch from May through September. The chimney swift (*Chaetura pelagica*) has a probable presence in April through September with the highest potential in June and its breeding months stretch from May through September. If tree removal would occur during nesting season, a migratory bird nesting survey would be completed by a qualified biologist prior to construction to determine the presence/absence of migratory birds or their nests. If active nests are found, construction will maintain a minimum buffer of 25 feet around the nest until the nest is no longer active, unless otherwise coordinated prior with USFWS.

3.14.4. Eagles

Bald eagles are no longer on the federal or state endangered species lists, but still has federal protection through the MBTA, the Bald and Golden Eagle Protection Act (BGEPA), and the Lacey Act. Bald and golden eagles, their eggs, nests, and nesting habitat are protected under these acts. Bald eagles are known to occur along Lake Francis Case where there is open water. No bald eagle nests were observed in or near the project area during wetland delineation of the study area. No nests were identified within the coordination received from SDGFP.

3.14.5. Impacts to Listed Species

No Build Alternative
The No Build Alternative will have no impact on federal and state-listed species, migratory birds or eagles.

Recommended Alternative
Impacts to species for the Recommended Alternative are detailed below.

Any potential adverse impacts to wildlife are anticipated to be temporary as disturbed habitat would be restored post-construction, including mitigation of trees, vegetation, and soils disturbed during construction activities.

Federally-Listed Species

In accordance with Section 7 of the ESA, SDDOT requested concurrence with SDDOT's effect determination for the recommended alternative in a March 10, 2023 letter to USFWS. The SDDOT effect determination was "may affect, not likely to adversely affect" for northern long-eared bat and whooping crane and "no effect" for the remaining species in Table 8. USFWS in an April 5, 2023 letter concurred with SDDOT's determination of "may affect, not likely to adversely affect" for northern long-eared bat and whooping crane and advised the "no effect" determinations remain with SDDOT since there is no requirement for action agencies to receive USFWS concurrence with "no effect" determinations. The letter is included in Appendix M.

Northern Long-eared Bat
The northern long-eared bat may be present within the existing bridge structure and forested areas or trees in the project area. The bridge structure removal and forest and tree clearing will occur between November 1st and March 31st well within the USFWS dates of October 1 to March 15 when the bats are not likely present during the USFWS designated "inactive season". If bridge structure removal or tree clearing is necessary between April 1st and October 31st further coordination with USFWS including a presence/absence bat survey will occur prior to northern long-eared bat habitat removal. Therefore, a "may effect, not likely to adversely affect" determination has been made for the northern long-eared bat under the Recommended Alternative.

Whooping Crane
Whooping Crane may be present in the project area throughout the study area during spring or fall migration periods if suitable stopover habitat is present. The fall migration period is typically mid/late-September through mid-November. The spring migration is typically mid-March to late April. If a Whooping Crane is sighted in the vicinity of the project, borrow pits, or staging areas associated with the project, construction activities in the affected area will cease until the Whooping Crane departs. The siting will be immediately reported to USFWS. It is unlikely whooping cranes would utilize the project area due to lack of suitable stopover habitat within the vicinity of the project area; along with the project area being in close proximity to campgrounds, recreation areas, traffic, and other human disturbances. However, it cannot be ruled out that whooping cranes would not attempt to use exposed shoreline areas, particularly during low water periods for potential stopover habitat. Therefore, a "may effect, not likely to adversely affect" determination has been made for the whooping crane under the Recommended Alternative.

Other Federally listed species
The red knot and piping plover are migratory shorebirds, are potentially present in the project area on low water habitat in the rocky sandy flats along the shore of Lake Francis Case, but unlikely to use the project area for nesting. Therefore, a "no effect" determination has been made for both the red knot and piping plover.

Pallid sturgeon range includes the Missouri River from Fort Benton, Montana to the mouth of the river near St. Louis, Missouri. Dams along the river have controlled natural seasonal river level variation and limited migration of pallid sturgeon eliminating much of its shallow river, braided channel habitat. Stocked pallid sturgeon are present in Lake Francis Case, but do not naturally reproduce because of the dam-controlled water levels and fish passage. Coordination with the USFWS for this project was conducted and the South Dakota Ecological Services Office agreed with the determination of "no effect" on the Pallid Sturgeon under the Recommended Alternative.

State-Listed Species - SDGFP should be contacted if false map turtles or other state-listed species are identified in the study area during site development or construction.

Migratory Birds - Construction activities occurring within outside the general bird nesting season from March through August could impact nesting migratory birds known to use the study area.
A qualified biologist will conduct preconstruction migratory bird surveys in suitable areas that have not been mowed or cleared prior to April 1st to determine if there are current nests and to determine offsetting measures to compensate for impacts to migratory birds. A survey will be conducted annually for each year of construction. Work will be restricted in specific locations if nesting birds are identified.

Eagles – Both the bald eagle and golden eagle are protected under the MBTA, but the BGEPA has additional federal protection by making it unlawful to disturb an eagle without the proper permit. No known eagle nests are present in the study area or vicinity. To avoid potential disturbance to bald eagles, the National Bald Eagle Management Guidelines will be reviewed for mitigation measures to avoid harm or disturbance to eagles or if eagle nests are present within 200 meters of the project area per the guidelines.

3.15. Historical & Archeological

The Platte-Winner Bridge is the common name for the Francis Case Memorial Bridge (Bridge No. 12-085-080). This bridge was evaluated regarding eligibility for listing in the NRHP as part of the consultation process for Section 106. The FHWA delegated the Section 106 review authority for this project to the USACE. The Section 106 review considers both historic structures and cultural/archeological resources for one overall determination of effect from the proposed project.

All structures in the project study area , including the Platte-Winner Bridge, were evaluated for potential historic significance. The consistent representation of the Platte-Winner Bridge joining the east and west portions of the state together rises to the level of National Register eligibility. Additionally, constructed features including the bridge's length, girder depth, early and extensive use of welded girder fabrication technology, and substructure design and construction are significant and contribute to the level of National Register eligibility. As such, the studies conducted as part of this project resulted in a formal determination that the bridge is eligible for the NRHP. The 2019 *National Register of Historic Places Evaluation* is included in Appendix G.

The bridge generally retains all the original elements of design and construction, with the exception of railings that were replaced by concrete Jersey barriers in 1989. An evaluation of the bridge's eligibility was conducted in 2019 (see Appendix G for the complete evaluation). The review of eligibility determined that the bridge is eligible for the National Register under two of the criteria: "Criterion A" because the bridge was broadly represented as joining the East River and West River areas of South Dakota and beyond, and "Criterion C" because of features such as bridge length and construction methods used at the time. The State Historic Preservation Office (SHPO) concurred with this finding on November 27, 2019. This concurrence letter is in Appendix M.

In South Dakota, the Missouri River valley is regarded as having high potential for archeological resources. Studies of the project area were conducted for this study to evaluate the potential for buried cultural deposits. The west side of the river does not appear to have potential for archeological resources, as it demonstrates substantial erosion and is heavily disturbed by activities including construction of SD44. The east side of the river contains more potential for resources, specifically in the area adjacent to the river, above the shoreline of Lake Francis Case. Coordination with agencies and stakeholders, including the State Historic Preservation Office (SHPO), and Tribal Historic Preservation Officers (THPOs), resulted in surveys on the east side of the river. A representative from the Yankton Sioux Tribe was on site during the cultural resource and geotechnical investigations.

After a review of findings from cultural resource surveys, the SHPO determined sufficient evidence exists to classify the area surrounding the existing east abutment of the bridge as being worthy of consideration as eligible for listing on the NRHP in their May 20, 2020 and December 4, 2020 concurrence letters. These letters are included in Appendix M.

The mitigation area was reviewed for cultural resources in September of 2022 (Augustana, 2022). No historical or archeological resources were found within the mitigation area. The SHPO concurred with this finding in their April 13, 2023 letter that is included in Appendix M.

No Build Alternative
The No Build Alternative will have no effect on historical and archeological resources.

Recommended Alternative
The Recommended Alternative will result in a determination of Section 106 Finding of Adverse Effect. This is due to the determination that the existing Platte-Winner Bridge is eligible for listing on the NRHP, and it will be removed after the new bridge is built and operational. In consultation with USACE and SHPO, a Memorandum of Agreement (MOA) was prepared in which commitments about impact mitigation and construction observation are included. The effective date of the MOA is March 22, 2022. The MOA was signed by the USACE, SDDOT, SDGFP, SHPO, Yankton Sioux Tribe, and Rosebud Sioux Tribe between the dates of October 2021 and March 2022 and is included in Appendix H.

The MOA includes 12 stipulations which are listed below and describe if they are taking place pre, during, or post construction. These stipulations are included in Table 11, Summary of Environmental Commitments in Chapter 4 of this document

- Photographic Documentation – Preconstruction
- Existing Record Search – Preconstruction
- Existing Record Reproduction – Preconstruction
- Historic Bridge Digital Content – Preconstruction
- Site Avoidance – Construction
- Construction Monitoring – Construction
- Duration – Preconstruction through Post Construction
- Post Review Discoveries – Post Construction
- Monitoring and Reporting – Post Construction
- Dispute Resolution – Preconstruction through Post Construction
- Amendments – Preconstruction through Post Construction
- Termination – Preconstruction through Post Construction

Construction observation will include monitoring of earth disturbing activities due to the potential for inadvertent discovery of archeological resources. Details of the monitoring work are provided as a monitoring plan to the MOA.

The MOA was amended to include the mitigation study area. Signatures of the amended MOA are currently being obtained. When complete, the amended MOA will be documented in the anticipated Finding of No Significant Impact (FONSI) for this project.

3.16. Section 4(f) and 6(f) Properties

Section 4(f) Properties
Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C 303) states that as a policy measure, federal highway projects shall take special effort to avoid the use of publicly-owned parks, recreation areas, wildlife or waterfowl refuges, or any significant historic sites.

Section 4(f) specifies that the Secretary of Transportation may approve the use of Section 4(f) property only if:

(a) The FHWA determines that
    a. There is no feasible and prudent avoidance alternative to the use of land from the property; and
    b. The action includes all possible planning to minimize harm to the property resulting from such use; or
(b) The FHWA determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), will have a *de minimis* impact on the property.

For historic sites, a *de minimis* impact means the FHWA determined, in accordance with 36 CFR part 800, that no historic property is affected by the project or that the project will have No Adverse Effect on the historic property in question.

For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

Section 6(f) Properties
Section 6(f) of the Land and Water Conservation Fund Act (LWCF) of 1965 was established to protect federal investments and maintain high-quality recreation resources. The National Park Service administers Section 6(f), which protects parks and recreation areas that were acquired, developed, or rehabilitated, even in part, with the use of any LWCF funds. All federal agencies must comply with Section 6(f) (16 US 4601-4 et seq.).

Section 6(f) states that no lands that have been paid for in part or in entirety by LWCF funds can be converted to non-park or non-recreation uses without the approval of the National Park Service. This approval would be granted only if the action complies with the state recreation plan and an area of equal fair market value and usefulness is substituted for the land being removed from park and/or recreation use.

3.16.1. Section 4(f) Resources

Parks, refuges, and historic sites are found in the vicinity, and were considered in the determination of the Recommended Alternative for this project. Only those Section 4(f) resources that would be potentially impacted are described below. Section 4(f) resources are shown in Figure 5.

Historic Section 4(f) Resources

Platte-Winner Bridge – The SDDOT is the official with jurisdiction of the Platte-Winner Bridge and SD44 roadway. According to the 2019 *Francis Case Memorial Bridge National Register of Historic Places Evaluation* eligibility report, the existing SD44 Bridge was found eligible for the NRHP. The SHPO concurred with this finding in their November 27, 2019 letter (see Appendix M). Therefore, the bridge and

both abutments are subject to Section 4(f) protection. The historic bridge was evaluated under the Historic Bridge Programmatic Section 4(f) evaluation process.

Archeological Resources – The SDGFP is the official with jurisdiction of the archeological resources found within the recreational areas they own, operate, and manage. According to 2018 *Level III Cultural Resources Investigation and Geoarcheological Evaluation of South Dakota Department of Transportation's Proposed SD Highway 44 Platte-Winner Bridge Corridor Study and Environmental Assessment, Charles Mix and Gregory Counties, South Dakota,* archaeological sites are present within the project study area. One site is considered eligible for the NRHP and one site was not evaluated and therefore considered potentially eligible for the NRHP. Both of these sites are also subject to Section 4(f) protection.

Parkland Section 4(f) Resources

The SDGFP is the official with jurisdiction of the four recreational areas they own, operate, and manage located in the project study area .

West Bridge Recreation Area Area – This 12 acre facility is located on the west bank of Lake Francis Case. This resource, owned by SDGFP, is on the south side of SD44 and features a boat launch, parking areas, and a vault toilet with no running water.

Buryanek GPA and West Platte GPA – GPA's are open space managed by SDGFP for the production and maintenance of wildlife, and are publicly accessible lands for recreational use, primarily hunting. Upstream and downstream of this portion of the Missouri River, GPA lands are found almost continuously alongside the banks of the river. Specifically at the location of the Platte-Winner Bridge, there is the Buryanek GPA, which is 5,577 acres in size on the west side of the river. In this location the GPA is more than one-mile wide for a substantial length in both directions from the bridge. On the east side of the river there is the West Platte GPA, which is 825 acres in size. It runs inland from the east bank of the river and is bordered by SD44 on its north side.

Snake Creek Recreation Area (SCRA) – The SCRA is a 695-acre park owned by the SDGFP. The park was created following construction of the Platte-Winner Bridge. It is located adjacent to the Missouri River and Lake Francis Case, with SD44 running through the SCRA park boundaries. Consequently, the abutment for the existing Platte-Winner Bridge lies within the park. Major features within the boundaries of SCRA include two campgrounds, a boat ramp and marina, and a picnic shelter. These recreational features of the park are distributed across the park, some to the north of SD44 and some to the south. Access to SCRA is directly from SD44, with one intersection offering users access to the north and south portions of the park. SDGFP staff are available during operating hours in a welcome center that is located immediately south of SD44 at the access intersection.

The locations of the SCRA features, attributes, or activities are shown in Figure 6. The features and amenities within the park that are Section 4(f) resources include:

- **Campgrounds** –Two campgrounds are located within SCRA both of which are located south of SD44. Together, they provide 115 campsites and 10 cabins. Amenities within the campgrounds include comfort stations with restroom and shower facilities, a playground, picnic shelters, vault toilets, sand volleyball courts, horseshoe pits, and water stations.
- **Welcome Center** – The welcome center was built in its current location south of SD44 in 2017.
- **Fish Cleaning Station –** The fish cleaning station is located next to the boat launch and parking lot area near the water.

- **Concession and Restaurant Building -** The concession and restaurant building are owned and by the SDGFP and located in the boat launch and parking area near the water.
- **Boat Launch, Road, and Parking Lot** – The primary boat launch for SCRA is located north of SD44 with approximate capacity for 75 vehicles with trailers. This boat launch is heavily used during the summer season from May into September. Use of the parking area at peak periods is known to exceed capacity, with upwards of 100 trucks and trailers in and surrounding the formal parking area. Vehicles park along the road where possible when the parking lot is full.
- **Recreational Vehicle Sanitary Dump and Potable Water Station** – This one acre facility is located on the north side of SD44, alongside the access road to the boat launch. One sanitary dump/water station is provided in SCRA for all users, which are primarily coming from the campgrounds located south of SD44. This facility is known to be undersized for the number of camping spaces within the park.

Figure 6. Snake Creek Recreation Area Features and Amenities

The following features and amenities while located within SCRA are not considered Section 4(f) resources.

- **Maintenance Shops and Park Manager Residence** – These facilities are located north of SD44 and while visible to park users, are generally situated separate from the routine park user activities. The shops area includes multiple garage buildings for storage and maintenance work, gravel surface storage, parking areas, and above-ground tanks for use by park staff. A larger, gravel parking/storage area is immediately west of the maintenance shops and can be accessed directly from SD44. Adjacent to the maintenance shops is a single-family residential building owned by SDGFP for the purpose of housing the Park Manager.
- **Marina, Dock, and Boat Slips** - The marina, dock, and boat slips are owned and maintained by a private, for profit, concessionaire that has a lease with the SDGFP. The lease, which was signed in January 2017 and expires December 2026, allows the concessionaire to operate within the SCRA. While the public has access to these facilities, they are not publicly owned and are therefore, not subject to Section 4(f) protection.
- **Scenic Overlook and Parking Lot** - The scenic overlook and parking lot while located on the SCRA property is not accessed through the SCRA property. Access to the overlook comes directly from SD44 with no connection to the rest of the SCRA. There are no trails or connections from the scenic overlook to the rest of the park. The scenic overlook offers a scenic view of the river after arriving by vehicle via a separate entrance. The overlook consists of a gravel road up a hillside that terminates at a gravel parking area overlooking the river valley. The SDGFP does not considered the scenic overlook to be a feature, attribute, or activity that contributes to the recreational value of the park. Therefore, the scenic overlook and parking lot are not considered subject to Section 4(f) protection.
- **Traveler's Chapel** – The traveler's chapel is privately owned and maintained by the Christian Reformed Church. According to the May 1999 Memorandum of Agreement between the SDGFP and the Christian Reformed Church of Platte, the chapel was moved to the SCRA property for the public to access. Therefore, the chapel is not considered subject to Section 4(f) protection.
- **Trail and Trailhead** – The trail and trailhead shown on the map in Figure 6 do not exist within the SCRA. Perhaps at one time the SDGFP mowed the grass to create a trail but currently the SDGFP does not do this. They do not maintain a trail or trailhead within the SCRA. Therefore, the trail and trailhead are not considered subject to Section 4(f) protection.

3.16.2. Impacts to Section 4(f) Properties

No Build Alternative

The No-Build Alternative is the only alternative that will have no direct impact on Section 4(f) resources. By not replacing the bridge, the current bridge will remain at risk for unplanned maintenance or repair closures, thereby potentially affecting access to the recreational features found on both sides of the river.

Recommended Alternative

The Recommended Alternative will have direct impacts on Section 4(f) resources due to the realignment of the SD44 bridge and roadway. There are three different types of uses when it comes to Section 4(f) properties. Permanent incorporation is when a Section 4(f) property is acquired as part of the project. Temporary occupancy is when a temporary use of the property that is adverse in terms of the Section 4(f) resource's purpose. Constructive use is when the proximity of a transportation project on a Section 4(f) resource are so great that the activities, features, and attributes of the property are impaired. "A *de minimis* impact is one that, after taking into account avoidance, minimization, and enhancement measures, results

in no adverse effect to the activities, features, or attributes qualifying a park, recreations area, or refuge for protection under Section 4(f). A *de minimis* impact determination requires agency coordination with the officials having jurisdiction over the Section 4(f) property and opportunities for public involvement.

Historic Section 4(f) Resources

Platte-Winner Bridge - The FHWA determined that there is no feasible and prudent alternative to the use of the Platte-Winner Bridge. The proposed action includes all possible planning to minimize harm to this structure resulting from such use. The FHWA concludes that the project meets the applicability criteria set forth by Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303, and Section 18(a) of the Federal-aid Highway Act of 1968 23 U.S.C. 138. The FHWA and SDDOT signed the *Programmatic Section 4(f) Evaluation for Use of Historic* Bridge on December 12, 2022 and is included in Appendix I.

Archeological Resources - Through consultation with USACE and SHPO, it was determined that impacts are not anticipated to archeological sites due to careful consideration of the bridge and roadway location to avoid these sites. In addition, the nature of construction in this area helps avoid impacts. The project will primarily be built above the existing ground surface. The extent of ground disruption in the vicinity of the eligible site will be minimal, with scraping of existing vegetation the primary impact. However, given the potential for impacts or unanticipated discoveries due to earthwork, the SDDOT has prepared a Section 106 MOA that incorporates measures to provide an historic resources monitor on site during construction activities in this area. Details of monitoring and other related historic resource mitigation measures are included in the MOA (see Appendix H).

Parkland Section 4(f) Resources

After construction of the new roadway alignment, the old or existing roadway alignment would be graded, seeded, and converted back into grassy open space that is consistent with the recreational area. The actual amount of permanent Section 4(f) property for the use of the new roadway is negligible after construction is complete and the previous roadway is converted back to recreational land. In many cases, the parks will be receiving a net gain in acreage after the construction of the SD44 roadway is complete and the exiting roadway is removed. The exception is the existing bridge that is being replaced and the sanitary dump/water station. Both resources will be impacted and will be a total conversion of use from Section 4(f) resources to SD44 right-of-way.

The Section 4(f) impacts to the West Bridge RA, Buryanek GPA, and SCRA were determined to be *de minimis*. The SDDOT informed the SDGFP of their intent to pursue a Section 4(f) *de minimis* finding for impacts to the Buryanek GPA, West Bridge RA, and SCRA by email on May 18, 2023 (Appendix K). On May 19, 2023 the FHWA provided their intention to make a *de minimis* impact determination conditioned on results of public notice, comment period, and owner with jurisdiction concurrence. This letter is included in Appendix K. Formal concurrence on the finding will occur after completion of the public comment period for this EA document.

West Bridge RA - The construction of the proposed relocated SD44 roadway avoids the West Bridge RA except for the temporary construction impacts. Approximately 1.3 acres of the 12 acre site would be temporarily impacted as the existing roadbed is demolished and converted into recreation area land. This results in a net gain to the West Bridge RA, increasing its size from 12 acres to 13.3 acres. No features, attributes or activities that contribute to the West Bridge RA overall recreational use are impacted.

Buryanek GPA - The construction of the proposed relocated SD44 roadway would impact an additional 1.9 acres of the Buryanek GPA. Impacts to the Buryanek GPA are to open space that is not actively used

for features, attributes or activities that contribute to the GPA's overall recreational use. Approximately 1.9 acres of the 5,577 acres site would be impacted, or less than one percent of the site would be converted to roadway use. However, when the construction of the proposed roadway is complete, about 2.9 acres of the existing SD44 roadway would be converted back to GPA use.

SCRA - Impacts to the SCRA include 8.6 acres of open space of the 700-acre site. Approximately 1.2 percent of the SCRA would be converted to roadway use. However, when the construction of the proposed roadway is complete, about 12.9 acres of the existing SD44 roadway would be converted back to recreation land. The majority of the 8.6 acres of impact is to open space within the SCRA that is not actively used for features, attributes, or activities that contribute to the park's overall recreational use. The exception is the impacts to the one-acre sanitary dump/water station. This feature/ attribute/ activity of the SCRA would be permanently converted to roadway right-of-way and requires mitigation.

3.16.3. Measures to Avoid and Minimize Harm to Section 4(f) Resources

3.16.3.1. Section 4(f) Avoidance and Minimization Measures

During the development of alternatives for the replacement bridge, options were considered on the south and north sides of the current alignment. All feasible alternatives were located within a band from approximately 125 feet south of the alignment to 400 feet north of the alignment. Avoidance measures were taken to push the alignment as far away from archeological sites known to occur in the corridor. The MOA described in Section 3.14 outlines the stipulations to avoid impacting these resources.

Avoidance and minimization measures to reduce the size of impact on Section 4(f) resources, the severity of use to Section 4(f) resources, and the function of the portion used to Section 4(f) resources on both sides of the bridge were considered through the bridge and roadway realignment alternative development process. The Recommended Alternative included minimizing impacts to the Buryaneck GPA including during the construction.

Avoidance of SCRA was not a feasible and prudent option. However, the determination of which side of SD44 to locate the new bridge did have implications for which resources within SCRA were impacted. By selecting a location north of the current highway, direct impacts to the following SCRA campground and the Welcome Center are avoided.

In addition to avoiding critical Section 4(f) resources within SCRA, the Recommended Alternative avoids direct impacts to the West Bridge RA. This boat launch is valued for the ability to provide an alternative launch location to the popular, and often congested, site within SCRA. Access to the boat launch will remain open during construction.

3.16.3.2. Section 4(f) Mitigation and Enhancements

The existing sanitary dump/ drinking water station is the lone Section 4(f) resource that requires mitigation. The existing sanitary dump/ drinking water station from an aerial view is about 0.1 acres in size, but together with the associated leach field, parking space, it is estimated to be approximately one acre in size. It is located as a pull off area on SCRA access road to the boat launch facility north of SD44. Two recreational vehicles can use the facility at one time. According to the SDGFP, the facility is undersized, is not located in an ideal location, and can cause traffic backups on the boat launch road during the summer months.

The SDGFP considers the features, attributes, and activities of the SCRA critical to the operation of the park and will need to remain open to the public during the two or three year construction period including

the use of the sanitary dump/ water station. Discussions with the SDGFP indicate that a suitable location for mitigating the sanitary dump/water station needs to include the following:

- Allows the new sanitary dump/ water station to be reconstructed and operational during construction of bridge and roadway improvements
- Allows for the development of a suitable sized leach field
- Located away from water bodies
- Has suitable soils
- Avoids impacting other features, attributes, and activities of the park
- Avoids impacting archaeological resources

Relocating the sanitary dump/water station to another space within the SCRA became prohibitive because no sites at SCRA will meet the requirements of a new sanitary dump/ water station and maintain dump/water station access during project construction. Many different solutions were discussed and vetted including relocating the dump/ water station in a temporary location until after construction is complete and then finding a permanent location. This is cost prohibitive. Ideas of relocating the station to where the existing SD44 roadway was discussed. Placing the dump/ water station within the existing SD44 alignment is not consistent with continuous use since the roadway will need to be demolished and access will need to be available within the bridge approach construction footprint. Additional areas within SCRA were found to be not suitable for dump/ water station construction by SDGFP.

As a result, the SDGFP found a suitable site located approximately 1.4 miles east of the existing bridge on the south side of SD44. The site is located within the West Platte GPA which is a 825-acre contiguous property that is owned and operated by the SDGFP for public hunting and wild game production purposes. The West Platte GPA is subject to Section 4(f) protection.

The existing West Platte GPA is undeveloped land that is publicly owned and publicly used for hunting, habitat for game and non-game species, and passive recreation. A grass/dirt vehicle path within the site allows access into the West Platte GPA. The facility includes food plots and coniferous and deciduous tree shelterbelts managed for wildlife production.

The proposed new sanitary dump/ water station would be placed in an existing open grassy area located near the SD44 roadway. The new facility would include a paved entrance, paved angle parking for up to ten parking spaces for easy access to the sanitary and water facilities.

This site meets the SDGFP's criteria needed for a new location of the facility. This site would be constructed in advance of the bridge and roadway construction, and dump/ water station demolition, as part of Project Number 0044(228)290, PCN 08PP, allowing campers at the SCRA the ability to use this facility for the duration of construction and after. The West Platte GPA dump/ water station area is a geotechnically stable location in an area known for landslides. Additionally, it is in an area where risk of impacting environmental resources is low. This area provides stable soil, away from water bodies, is void of eligible archaeological resources and wetlands according to 2022 surveys, has no existing park attributes to avoid outside of providing access to the larger West Platte GPA, and has space for the associated dump/ water station leach field.

Approximately two acres of the 825-acre West Platte GPA would be disturbed to construct the new sanitary dump/ water station. Approximately one acre of that West Platte GPA two acres area would constitute a use of the property to be used as mitigation for the impacts to the SCRA sanitary dump/ water station. The one acre mitigation site within the West Platte GPA is commensurate to the one acre of impact occurring within the SCRA to construct a new sanitary dump/water station. The one acre mitigation site within the West Platte GPA would be permanently converted from its current undefined parking area use to a new

dump/ water station facility. This new facility proposal includes paved access, the paved dump/water station area, angled parking, and the needed drain field areas. The other acre is needed to construct the facility and is a temporary impact to the West Platte GPA that would not be considered a use of the property or mitigation to the SCRA sanitary dump/ water station. The SDDOT and SDGFP will work together to determine the correct seed mix needed to reseed the disturbed land around the new dump/ water station facility with native, high quality seeds that contribute to the mission of providing habitat for deer, pheasants, and grouse.

The SDGFP considers the proposed new sanitary dump/water station to be located at the West Platte GPA a use of one acre of the property but also as an enhancement to the access, parking, and habitat of the site. According to 23 CFR 774.13(g), the FHWA has identified various exceptions to the requirement for Section 4(f) approval including 23 CFR 774.13(g). This exception states that "Transportation enhancement activities, transportation alternatives projects, and mitigation activities, where: 1) the use of the Section 4(f) property is solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for Section 4(f) protection; 2) and the official with jurisdiction over the Section 4(f) resource agrees in writing to the use[1]."

The proposed improvements at West Platte GPA are access related and considered an overall enhancement with minimal impact to the site. The proposed paved access off of SD44 and paved parking lot would improve access for all users including hunters and those with disabilities, which is line with the mission of the West Platte GPA and other GPAs located throughout the state. Having a defined access and parking place would enhance the user's experience at the site by providing a clarity in expectations at the site.

The official with jurisdiction of the West Platte GPA is the SDGFP. The SDGFP Department Secretary concurred to Section 4(f) Exception for Transportation Enhancement Activities, Transportation alternative Projects, and Mitigation Activities (23 CFR 774.13(g)) on November 10, 2022 (see Appendix J).

A Section 4(f) re-evaluation be completed if changes to the Section 4(f) resources are need during the final design phase of the project.

3.16.3.3. Section 4(f) Temporary Construction Impacts

Plans for managing access to SCRA during construction will be coordinated with SDGFP during final design of the project. While the majority of impacts from construction, including access, will occur on the north side of SD44, methods for staging construction and traffic flow through the area have the potential for temporarily impacting access to the south side of the park as well. To the extent possible, impacts to park access will be made during the off-peak season (October-April) to minimize park user inconvenience. Construction activities for the bridge and highway will have a disruptive effect to some features of SCRA. Most notably, construction is expected to create noise and disturbance that will at times be apparent to users of the campground area. This noise, which will be temporary to occur during construction is not be considered a constructive use of the Section 4(f) resources.

Given the history of identified cultural resource sites in the vicinity of the current bridge abutment, construction activities pose a risk for the disruption of currently buried archeological resources. The project design which largely builds up and on top of the areas of concern has been developed in part to minimize the risk of such disruptions. However, recognizing the concern, construction activities in areas with the potential to contain historic resources will be monitored by an independent observer.

[1] Source: https://www.law.cornell.edu/cfr/text/23/774.13

3.16.4. Section 6(f) Land and Water Conservation Properties

Coordination with the SDGFP Grants Coordinator took place in March 2017 to determine if LWCF funded resources were only in the SCRA. No other LWCF are known to have been used within the project study area. Through the coordination, it was determined that four grants from the LWCF funds were used within SDGFP's SCRA. Table 9 provides information about the LWCF grants used in the SCRA and information SDGFP sent on March 27, 2017 is included in Appendix M.

Table 9. SCRA Land and Water Conservation Fund Grants

Project Number	Park	Amount of Grant	Use of Funds
46-00975	SCRA	$39,075	Construction of support facilities
46-01292	SCRA	$45,816	Construct picnic areas, swimming facilities, and support facilities
46-01309	SCRA	$23,790	Construction of support facilities
46-01424	SCRA	$45,000	Construct facilities including RV electric pedestals, service panels, and underground wiring

This project will result in direct impacts to SCRA. Because SD44 will be on new alignment through the park, coordination regarding the right-of-way impacts has been ongoing between SDDOT and SDGFP. Land that is currently within right-of-way but no longer necessary for the new SD44 corridor is proposed to be given back to SDGFP in exchange for new right-of-way. The result should be a no net loss of SDGFP park land. SDDOT will continue to work with SDGFP through final design to determine appropriate boundary locations for right-of-way on the new alignment to achieve the no net loss objective.

Construction activities have the potential for temporarily disrupting recreational activity at SCRA. For example, the work could result in some short-term changes to park access or partial closure of roadways to park features. Section 6(f) requires that such uses of the park may occur for no more than 180 days. Conditions may be set as part of a non-conforming use request from SDDOT. The SDGFP determined that no use and no temporary non conforming use of Section 6(f) property would result from the implementation of the proposed improvements in their May 16, 2023 email. This email is included in Appendix M.

3.16.5. Sections 4(f) and 6(f) Agency Coordination

Extensive coordination occurred between SDDOT, FHWA, and SDGFP to develop and evaluate project alternatives, along with the development of strategies to avoid, minimize, and mitigate impacts to the park system in this study area. This coordination resulted in the mitigation plan described in Section 3.15.3.2.

The SDGFP, USACE, and SHPO have been informed of the FHWA's intent to:

- Implement all measures as discussed above to avoid, minimize and mitigate impacts as well as enhance SDGFP park and recreational features; and
- Based on the measures to minimize harm, the FHWA made a *de minimis* impact finding on the West Bridge RA, Buryanek GPA, and SCRA property; and
- Separately, based on the expected impact to the existing Platte-Winner Bridge (removal of the bridge), FHWA is using a Programmatic Section 4(f) Evaluation specific to this use of this historic bridge.

Coordination also occurred with the SDGFP Grants Coordinator regarding Section 6(f) properties within the study area. The SDGFP determined that no use and no temporary non conforming use of Section 6(f)

property would result from the implementation of the proposed improvements in their May 16, 2023 email communication to the project team. This document is included in Appendix M.

A summary of the Section 4(f) and Section 6(f) resources impacted is included in Table 10.

Table 10. Summary of Section 4(f) and Section 6(f) Uses and Approvals

Resource	Type of Resource	Section 4(f) Use	Section 4(f) Approval
Platte Winner Bridge	Section 4(f)	Permanent-Removal of bridge	Historic Bridge Programmatic
Archaeology Site	Section 4(f)	No use	Not Applicable. There is no use of the site. (Note: the Section 106 MOA established measures to manage and avoid potential impacts during construction)
West Bridge RA	Section 4(f)	Temporary	*De Minimis*
Buryanek RA	Section 4(f)	Temporary	*De Minimis*
West Platte GPA	Section 4(f)	Permanent - One acre	Exception
Snake Creek RA	Section 4(f) and Section 6(f)	Temporary - Removal of dump station	*De Minimis* and SDGFP provided concurrence on May 16, 2023 regarding no Section 6(f) use

3.16.6. Sections 4(f) and 6(f) Summary

For Section 4(f), the SDDOT informed the SDGFP of their intent to pursue a Section 4(f) *de minimis* finding for impacts to the Buryanek GPA, West Bridge RA, and SCRA by email on May 18, 2023 (Appendix K). On May 19, 2023 the FHWA provided their intention to make a *de minimis* impact determination conditioned on results of public notice, comment period, and owner with jurisdiction concurrence. This letter is included in Appendix K. Following an opportunity for public review and comment, the official with jurisdiction over the Section 4(f) property, in this case SDGFP, is anticipated to provide in writing that the proposed project would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

For Section 6(f), the SDGFP determined that no use and no temporary non conforming use of SCRA property would result from the implementation of the proposed improvements in their May 16, 2023 email communication included in Appendix M.

3.17. Regulated Materials

A *Phase I Environmental Site Assessment* conducted for the project identified two recognized environmental conditions (RECs) in the project study area and are shown in Figure 5. (See Appendix L). One REC is associated with an oil recycling operation in a maintenance building north of SD44 in the SCRA maintenance area. Other regulated materials stored in this maintenance area were properly stored and maintained including two large petroleum containing above ground storages tanks. The second REC is a closed leaking underground storage tank site near the marina. Contaminated soils were previously removed from the leaking underground storage tank site.

The January 2023 *Supplemental Environmental Screening Report* determined that no RECs are located within the mitigation area.

No Build Alternative
The No Build Alternative will have no impact on Regulated Materials.

Recommended Alternative
The Recommended Alternative will require proper relocation or decommissioning of petroleum aboveground storage tanks. Potential cleanup of surface contamination associated with an oil recycling option may need to be coordinated with SDDANR. If contamination is identified at the REC or elsewhere during construction the contractor will immediately notify the Project Engineer. The Project Engineer will notify SDDANR to determine possible contamination implications. The SDDOT will assess the property and develop a remediation plan, as necessary.

3.18. Construction Impacts

Construction impacts would be temporary and limited to the time of the construction. Details on the construction methods, including deconstruction of the existing bridge, will be determined in final design.

No Build Alternative
The No Build Alternative will require continued maintenance activities such as pavement overlays and bridge maintenance. These maintenance activities will have a temporary construction impact that could include lane closures and increased travel times.

Recommended Alternative
The Recommended Alternative is included in the SDDOT's Statewide Transportation Improvement Plan (STIP) with construction funding allocated in 2024-2028. The Recommended Alternative would be constructed using the following sequencing:

- Phase 1 – Relocation of the park residence and maintenance shops (Project Number 0044(228)290, PCN 08PP). Construction of sanitary dump/water station (January 2024 – December 2024)
- Phase 2 – Construction of the bridge and roadway (July 2024 – January 2028)
- Phase 3 – Demolition of the existing bridge (January 2028 – December 2028)

Traffic control plans including signage and minor access detours will be developed during final design. These plans will be coordinated with the GFP to make sure access is provided to the West Bridge RA, SCRA, and West Platte GPA during construction of the Recommended Alternative. No major detours of SD44 are anticipated as the existing bride will remain in place during construction of the Recommended Alternative.

The Recommended Alternative will employ BMPs to be followed to minimize impacts during construction including:

- Emissions caused by vehicle delays, construction vehicles, and equipment and activities generating dust would be minimized to the extent possible by implementing smooth traffic-flow patterns and dust control.
- The amount of sedimentation from soil erosion would not increase substantially due to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities requirements. The permit limits post construction erosion to preconstruction levels (typically achieved through reestablishment of vegetation, and structural devices

such as berms and riprap). BMPs would be implemented through the General Permit to minimize impacts to Lake Francis Case.

- All fill material should be free of substances that are toxic to life.
- All material identified as waste, material stockpiles, dredged or excavated materials, for either temporary or permanent disposal, should be placed in an upland site that is not a wetland. All material should be stored such that the material cannot enter a watercourse through erosion or any other means.
- The likely existing presence of lead paint on the existing bridge requires that the lead-based paint and related debris must be disposed of in accordance with all applicable federal, state and local laws governing such disposal. All necessary measures and precautions shall be taken to ensure worker safety for work involving potential release of lead particles. Removal of lead-based paint should occur before cutting, grinding, rivet busting, or other lead-emitting tasks involved in deconstruction. Removal operations will need to plan for potential lead exposure and employees informed of the hazards of lead exposure.
- Removal of vegetation should be confined to those areas absolutely necessary for construction. For any construction areas that would remain un-vegetated for more than two weeks and over winter, temporary seeding would be required in accordance with the SWPPP.
- If buried prehistoric or historic cultural materials are encountered during construction, work should cease in that area and the SHPO should be contacted immediately.

3.19. Cumulative Impacts

As defined in 40 CFR 1508.7, a cumulative impact under NEPA is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

Cumulative impacts analysis helps to evaluate the incremental impact of the proposed project, in addition to other past, present, or reasonably foreseeable futures actions. In other words, is there a risk that the individually insignificant impacts of several projects will accumulate into a larger, more significant impact?

3.19.1. Past Actions

The current bridge was built in 1966, ten years after the completion of the Fort Randall Dam. The bridge created crossing of Lake Francis Case between the communities of Platte and Winner improving movement of commercial freight, emergency services, and recreation traffic in the region and improving community cohesion between Platte and Winner. The bridge was constructed spanning the new formed Lake Francis Case.

Heavy riprap work was completed along the west bank of the river on both sides and below the existing bridge. In 2021 the SDDOT completed landslide repair work on the west side of the river north of SD44. The soil stabilization project was completed as an independent project of this proposed action.

3.19.2. Present Actions

The existing bridge is in need of repair and long-term maintenance, at risk of ice jams damaging bridge piers and foundations, and is narrow and does not meet current geometric design standards. The existing bridge, while in need of maintenance or replacement, maintains its initial benefits providing movement of

commercial freight, emergency services, and recreation traffic in the region and improving community cohesion between Platte and Winner. The USACE, in coordination with SDGFP, is responsible for management of natural resources and reservoir facilities within Lake Francis Case and guided by the Fort Randall Dam/Lake Francis Case Master Plan.

The SDDOT identified two additional areas where soil stabilization or landslide repair is needed along the SD44 corridor on the east side of the river. One site is located north of SD44 and the other site is located south of SD44 within the SCRA. These soil stabilization and landslide repair projects are included in the proposed action of the Recommended Alternative and would occur during the project's grading phase.

3.19.3. Reasonably Foreseeable Actions

No additional actions are anticipated within the boundaries of the project area. SDGFP actively manages its SCRA property, and due to the size of land holdings, has the potential for additional improvements within SCRA. This includes relocating the SCRA sanitary dump/water station and potential modifications to lakes. However, no planned improvements have been identified to occur in the next couple of years by SDGFP. Properties surrounding the SD44 corridor on either side of the bridge are managed as rangeland with minimal opportunity for large-scale modifications that would create substantial incremental impacts.

If the bridge is not replaced it will require long term maintenance and potential temporary closure to complete this maintenance. Additionally, the risk for unplanned closures due to damage or emergency repairs would remain intact. Such closures, planned or unplanned, would impact functions of the bridge including emergency services and access to SCRA and diverting commercial traffic to the Chamberlain bridge or Pickstown.

3.19.4. Cumulative Impact Discussion

No Build Alternative
No cumulative impacts would result if the No Build Alternative were selected.

Recommended Alternative

The past actions related to the Missouri River impoundment at Fort Randall and other dams in the Missouri River System drastically changed the character of the Missouri River in the region in the mid-twentieth century. These past actions have resulted in impacts to water quality, wildlife, land use, and Waters of the U.S. The construction of the existing Platte-Winner Bridge occurred in the decade after the completion of the Fort Randall Dam and the creation of Lake Francis Case. The Recommended Alternative will replace the function of the existing bridge while improving safety and long-term connectivity between eastern and western South Dakota. In addition, the Recommended Alternative beneficially impacts socioeconomic resources and access to services within the project area.

The impacts from the past, present, and reasonable foreseeable future actions are, or will be, minimized or mitigated as a result of planning, coordination, and permitting that limits the impacts to the resources described in this chapter. Impacts to Waters of the U.S. or threatened and endangered species habitats would be limited by federal regulations, which may include permits and/or mitigation requirements.

4.0 ENVIRONMENTAL COMMITMENTS AND PERMITTING

This chapter includes a summary of the environmental commitments for the project described throughout this document. Table 11 summarizes the environmental commitments will be carried forward into final design and construction for the project. (add reference to Appendix N – Section A Environmental Commitments)

Table 11. Summary of Environmental Commitments

Resource	Environmental Commitment	Responsible Party(ies)/ Phase that Mitigation will be Implemented
Land Use	No new changes in land use will be implemented. SCRA facilities including the maintenance area, park residence, and dump station will be reconstructed within the project area.	SDDOT and SDGFP/ Design and Construction
Bicyclists and Pedestrians	The shoulders on the bridge will be wider than the existing shoulders to better accommodate cyclists. Pedestrians will be able to pass under the new bridge within SCRA.	SDDOT/ Design
Visual Impacts and Aesthetics	The maintenance facility will be moved from prominent view from SD44 and other areas within SCRA. The proposed bridge will be designed to span Lake Francis Case and preserve vistas looking from the west and east sides of the bridge.	SDDOT/ Design
Economic	No economic commitments.	
Farmland	No farmland commitments.	
Noise	No noise commitments.	
Wetlands & Waters of the United States	The Missouri River and Lake Francis Case are Traditional Navigable Waters and Waters of the United States. Both water bodies are considered Jurisdictional Waterways under Section 10 of the Rivers and Harbors Act and will require a Section 10 Department of the Army Permit for work in the water and a Section 404 permit for fill from new piers and from fill or disturbance associated with deconstruction work. In addition, a Section 408 permit from the USACE and a Section 9 permit from the U.S. Coast Guard will be needed. No wetlands will be impacted but stream mitigation may be required for permanent adverse stream impacts over 0.03 acres and the project will fill approximately 0.37 acres below the ordinary high water mark of Lake Francis Case. Stream mitigation details will be finalized as part of the Section 10 and 404 permits. Potential impacts to wetlands should be evaluated if the construction footprint changes during final design. Wetlands NW-1 and NW-2 are outside of, but nearest the Recommended Alternative construction limits.	SDDOT/ Design
Stormwater	Construction BMPs will be implemented as part of the SWPPP required for the General Permit for Stormwater Discharges Associated with Construction Activities from SDDANR required for the project.	SDDOT/ Construction
Floodplains	The SDDOT will be required to obtain a “no-rise” certification from FEMA Region 8 and the appropriate Gregory and Charles Mix Counties floodplain permit departments, if necessary, the Executive Order 11988.	SDDOT/ Design

Resource	Environmental Commitment	Responsible Party(ies)/ Phase that Mitigation will be Implemented
Vegetation, Fish & Wildlife	To the extent possible, construction within the Missouri River and Lake Francis Case will avoid game fish spawning periods. Areas stripped of vegetation during construction will be stabilized and replanted. Wildlife will continue to have the ability to move under the Platte-Winner Bridge on the east and west sides of the bridge. Native vegetation would be planted along areas disturbed by the selected alternative to minimize the establishment of invasive plant species. The ROW will be maintained to prevent the spread of invasive species (e.g., spraying and mowing of invasive species). Additionally, equipment used in Lake Francis Case will be washed, free of seeds and vegetation, and dried for a minimum of seven days to prevent spread of aquatic invasive species.	SDDOT/ Construction
Threatened & Endangered Species, Migratory Birds, and Eagles	Federally-Listed Species - Further coordination with USFWS may be required for potential habitat for the northern long-eared bat; shorebirds red knot, piping plover; and the pallid sturgeon as the project advances through final design and Endangered Species Act coordination is completed. If bridge structure removal or tree clearing is necessary between April 1st and October 31st further coordination with USFWS including a presence/absence bat survey will occur prior to northern long-eared bat habitat removal. If a Whooping Crane is sighted in the vicinity of the project, borrow pits, or staging areas associated with the project, construction activities in the affected area will cease until the Whooping Crane departs. The siting will be immediately reported to USFWS. State-Listed Species - SDGFP should be contacted if false map turtles or other state-listed species are identified in the study area during site development or construction. Migratory Birds - Construction activities occurring within the general bird nesting season from March through August could impact nesting migratory birds known to use the study area. Construction areas should be surveyed during the nesting period, and when occupied, avoided until the young have fledged. Coordination with USFWS is needed to determine impacts and potential mitigation measures prior to construction. A qualified biologist will conduct preconstruction migratory bird surveys in suitable areas that have not been mowed or cleared prior to April 1st to determine if there are current nests and to determine offsetting measures to compensate for impacts to migratory birds. A survey will be conducted annually for each year of construction. Work will be restricted in specific locations if nesting birds are identified. Eagles - To avoid potential disturbance to bald eagles, the National Bald Eagle Management Guidelines should be reviewed for recommendations that will likely avoid harm or disturbance to eagles if eagles are present.	SDDOT/ Design and Construction

Resource	Environmental Commitment	Responsible Party(ies)/ Phase that Mitigation will be Implemented
Historic & Archeological	A detailed description of mitigation is included in the MOA. Fill sources and disposal areas will also be reviewed for historic and archaeologic resource impacts. Stipulations included in the MOA include: • Photographic Documentation of existing bridge – Preconstruction • Existing Record Search – Preconstruction • Existing Record Reproduction – Preconstruction • Historic Bridge Digital Content – Preconstruction • Site Avoidance – Construction • Construction Monitoring – Construction • Duration – Preconstruction through Post Construction • Post Review Discoveries – Post Construction • Monitoring and Reporting – Post Construction • Dispute Resolution – Preconstruction through Post Construction • Amendments – Preconstruction through Post Construction • Termination – Preconstruction through Post Construction Construction activities in areas with the potential to contain historic resources will be monitored by an independent observer.	SDDOT/ Design and Construction
Sections 4(f) / 6(f)	The sanitary dump/water station location transfer will occur within the West Platte GPA as mitigation for transportation impacts to SCRA. Plans for managing access to SCRA during construction will be coordinated with SDGFP during final design of the project. Access to the West Bridge RA boat launch will remain open during construction.	SDDOT and SDGFP/ Design
Regulated Materials	If contamination is identified at the oil recycling REC or elsewhere during construction the contractor will immediately notify the Project Engineer. The Project Engineer will notify SDDANR to determine possible contamination implications. SDDOT will assess the property and develop a remediation plan, as necessary.	SDDOT/ Design and Construction

Resource	Environmental Commitment	Responsible Party(ies)/ Phase that Mitigation will be Implemented
Construction	Emissions caused by vehicle delays, construction vehicles, and equipment and activities generating dust would be minimized to the extent possible by implementing smooth traffic-flow patterns and dust control. The amount of sedimentation from soil erosion would not increase substantially due to the NPDES General Permit for Storm Water Discharges Associated with Construction Activities requirements. The permit limits post construction erosion to preconstruction levels typically achieved through reestablishment of vegetation, and structural devices such as berms and riprap. BMPs would be implemented through the General Permit to minimize impacts to Lake Francis Case. All fill material should be free of substances that are toxic to life. All material identified as waste, material stockpiles, dredged or excavated materials, for either temporary or permanent disposal, should be placed in an upland site that is not a wetland. All material should stored such that the material cannot enter a watercourse through erosion or any other means. The likely existing presence of lead paint on the existing bridge requires that the lead-based paint and related debris must be disposed of in accordance with all applicable federal, state and local laws governing such disposal. All necessary measures and precautions shall be taken to ensure worker safety for work involving potential release of lead particles. Removal of lead-based paint should occur before cutting, grinding, rivet busting, or other lead-emitting tasks involved in deconstruction. Removal operations will need to plan for potential lead exposure and employees informed of the hazards of lead exposure. Removal of vegetation should be confined to those areas absolutely necessary for construction. For any construction areas that would remain un-vegetated for more than two weeks and over winter, temporary seeding would be required in accordance with the SWPPP.	SDDOT/ Construction
Cumulative Impacts	The impacts from the past, present, and reasonable foreseeable future actions are, or will be minimized or mitigated as result of planning, coordination, and permitting limits the impacts to the resources described in these Environmental Commitments.	

4.1. Compliance with Environmental Laws, Regulations, and Executive Orders

- American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996. *In Compliance.* AIRFA protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. The Recommended Alternative will not adversely affect the protections offered by this Act.

- Archeological Resources Protection Act, 16 U.S.C., 470 et seq. *In Compliance.* Coordination with the South Dakota State Historic Preservation Office (SHPO) and Tribes were conducted by USACE, See Cultural Resources Section.

- Bald and Golden Eagle Protection Act, 16 U.S.C. Sect. 668. 668 note, 668a-668d. *In Compliance.* Coordination was conducted with SDGFP and no known bald or golden eagle nests are located in or near the proposed project area. No take of eagles will occur under the proposed project.

- Clean Air Act, as amended, 42 U.S.C. 7401-7671g, et seq. *In Compliance.* Temporary short-term effects to air quality will occur but air quality will remain within acceptable levels during construction related to the proposed project.

- Clean Water Act (Federal Water Pollution Control Act, 33 U.S.C., 1251, et seq. *In Compliance.* All Clean Water Act (CWA) Regulatory Permits will be obtained by SDDOT/FHWA prior to construction activities of the proposed action.

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). *In Compliance.* The project is not located in or near an EPA-designated Superfund site.

- Endangered Species Act, 16 U.S.C. 1531, et seq. *In Compliance.* SDDOT/FHWA conducted informal consultation under Section 7 of the Endangered Species Act with USFWS, see Threatened and Endangered Species Section.

- Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq. *In Compliance.* This Act requires that full consideration be given for recreation and fish and wildlife enhancement opportunities; that recreation planning be based on coordination of use with existing and planned Federal, State, and local recreation; and that non-Federal administration and enhancement areas be encouraged. Coordination is ongoing with SDGFP and ensuring all recreation areas be restored to pre-construction opportunities for the public.

- Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq. *In Compliance.* This Act requires proposals for work affecting any body of water be coordinated with USFWS and the State Wildlife Agency (SDGFP). Coordination with USFWS and SDGFP was conducted by SDDOT and FHWA to meet the requirements of this Act.

- Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq. *In Compliance.*

- Migratory Bird Treaty Act, 16 U.S.C. 703-712, CH. 128 as amended. *In Compliance.* Coordination with USFWS and SDGFP was conducted, necessary presence/absence surveys will be conducted and avoidance to migratory species will be conducted in accordance with the best management practices outlined in this EA.

- National Environmental Policy Act, as amended, 42 U.S.C. 4321, et seq. *In Compliance.* Coordination with stakeholders, Tribes, and external agencies was conducted during scoping periods. EA and plans will be shared with the public, stakeholders, Tribes, and the public to allow review and comment of all plans.

- National Historic Preservation Act of 1966, as amended, 16 U.S.C., 470a, et. seq. *In Compliance.* Coordination with South Dakota State Historic Preservation Office (SdSHPO) and Tribes was conducted.

- Rivers and Harbors Act, 33 U.S.C. 403, et. seq. *In Compliance.* Coordination with USACE and USCG is ongoing. All necessary permits will be obtained.

- Watershed Protection and Flood Prevention Act, 16 U.S.C. 4201 et seq. *In Compliance.* Coordination with USACE's Floodplain Management Division is ongoing.

- Farmland Protection Policy Act, 7 U.S.C. 4201, et seq. *In Compliance.* No prime farmland will be converted as a result of this project.

- Protection and Enhancement of the Cultural Environment (Executive Order 11593). *In Compliance.* Coordination with Tribes and South Dakota SHPO was conducted to ensure there are no known adverse impacts to cultural resources.

- Floodplain Management (Executive Order 11988). *In Compliance.* Coordination with USACE's Floodplain Management Division is ongoing and this project will be in compliance with the E.O.

- Protection of Wetlands (Executive Order 11990). *In Compliance.* A wetland delineation was conducted and a minimal amount of wetlands and waters of the United States would be affected. Coordination with USACE is ongoing and all necessary permits will be obtained prior to construction and impacts to wetlands.

- Environmental Justice (Executive Order 12898). *In Compliance.* See Environmental Justice Section.

- Invasive Species (Executive Order 13122). *In Compliance.* Best management practices will be conducted in order to reduce the spread of invasive species and equipment/vehicles/vessels will be cleaned prior to entering the project area to ensure no introduction of new invasive species will occur as a result of this project. Areas will be restored with native grasses after excavation and disturbance.

- Responsibility of Federal Agencies to Protect Migratory Birds (Executive Order 13186). *In Compliance.* Coordination with USFWS was conducted and areas will be surveyed for migratory birds, all migratory birds and their nests will be avoided throughout the life of this project.

- Noise Control Act of 1972, 42 U.S.C. 4901, et seq. *In Compliance.* Temporary short-term noise due to construction activities and bridge demolition will occur, however no long-term adverse noise impacts will occur as a result of this project.

- North American Wetlands Conservation Act, 16 U.S.C. Sec. 4401 et seq. *In Compliance.* See wetlands Section.

- Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271, et seq. *In Compliance.* No designated Wild and Scenic Rivers are located at the project nor will be affected by the project.

5.0 COORDINATION AND PUBLIC INVOLVEMENT

This chapter describes the communication that has taken place and documents the comments received throughout the SD44 Platte-Winner Bridge study, including coordination with Federal and State resource agencies, local governments, communities, Tribes, and project stakeholders.

5.1. Agency Coordination

Agency coordination took place throughout the SD44 Platte-Winner Bridge study with several State, Federal, and local agencies. On March 23, 2017 project information was sent to the agencies listed in the bullets below. The information included a one page summary, map showing the location of the project, and a cover letter. The information that was sent to agencies is included in Appendix M. Agency responses are described in Table 12 and included in Appendix M.

- South Dakota Department of Agriculture and Natural Resources
- South Dakota Department of Game, Fish and Parks
- South Dakota Archeological Research Center
- South Dakota State Historical Society

The FHWA, as the lead Federal agency, sent an invitation on March 28, 2017 to three other federal agencies inviting them to be Cooperating Agencies for the proposed project. The invitation was sent to the USACE, U.S. Coast Guard, and USFWS. All three of these agencies responded. The responses are described in Table 12 and correspondences are included in Appendix M.

Table 12. Agency Correspondence

Date	Agency	Response
4/17/17	U.S. Coast Guard	Agrees to serve as a Cooperating Agency for the project from a navigation standpoint. Wants to review the environmental document before it is finalized.
4/25/17	South Dakota Department of Agriculture and Natural Resources	Expressed concerns maintaining continuous traffic flow across the existing bridge during construction and the effects roadway realignment would have on wildlife, natural resources, cultural/historical properties, and public access. Requests to be involved in the scoping, planning, and design process of the re-route of SD44 and bridge over Missouri River. Searched the Natural Heritage Database and found no known threatened, endangered, or rare species in the study area.
5/25/17	U.S. Fish and Wildlife	Declines the offer to becoming a Cooperating Agency. Their role in project is relative to the resource concerns as the consulting agency for potential Endangered Species Act impacts.
5/25/17	U.S. Army Corps of Engineers	Accepts being a Cooperating Agency due to potential affects to the Missouri River, Fort Randall Project, Waters of the U.S., and wetlands. Interested in a document that will inform permitting actions and the Section 408 decision.

5.2. Tribal Coordination

Tribal coordination letters were sent to the following tribes on March 23, 2017. The information was submitted to the Tribes listed in the bullets below by the SDDOT. One response letter was received and is described in Table 13 and included in Appendix M.

- Cheyenne River Sioux Tribe
- Lower Brule Sioux Tribe
- Oglala Sioux Tribe
- Rosebud Sioux Tribe
- Sisseton-Wahpeton Oyate
- Standing Rock Sioux Tribe
- Yankton Sioux Tribe
- Three Affiliated Tribes
- Ponca Tribe of Nebraska
- Chippewa Cree Tribe

Table 13. Tribal Correspondence

Date	Tribe	Response
3/29/17	Yankton Sioux Tribe	The Yankton Sioux Tribe of South Dakota has religious and culturally significant ties to the historic property that may be affected by the proposed area of construction. They would like to have a tribal cultural property surveying as well as monitoring on this project.

5.3. Public Involvement

5.3.1. Study Advisory Team (SAT)

The SAT is a technical team with members from SDDOT, SDGFP, FHWA, and the consultant design team. The team was formed to discuss project status, review project information, and give direction on key issues related to project alternatives, impacts, and stakeholder participation. The SAT is responsible for reviewing materials before they become available to the public by way of publication or through public meetings. The SAT met 10 times between February 2017 and July 2019. In addition to the SAT meetings, a smaller, more focused group made up of members from the SAT met to discuss Section 4(f) recreation resource impacts and mitigation strategies.

5.3.2. Stakeholders

Meetings with stakeholders occurred twice throughout the course of the study to communicate the progress of the project and to collect comments regarding the study. Meetings occurred on May 22 and 23, 2018 and on December 12 and 13, 2018. Stakeholders included the following:

- Cities of Platte, Winner, Gregory, and Burke
- Platte, Winner, and Gregory Chambers of Commerce
- Gregory and Charles Mix County
- Local agribusinesses
- SDGFP SCRA

5.3.3. Public Open House Meetings

Two public meetings took place during the Study.

Public Open House #1 – May 22-23, 2017
The first public open house meeting was held on two different days in two different communities. On May 22, 2017 the public meeting was held in Winner where 61 people signed in as attendees of the meeting. On May 23, 2018 the same information was presented to the public in Platte where 96 people signed in as attendees of the meeting. A presentation was given at the meeting covering the elements of the study, the environmental process and environmental concerns identified to date, traffic data for the corridor, various bridge types and locations to be considered, the project schedule, and the role of the community in the process.

Comments were solicited and received from the community that included:

- Concern about closure of the bridge and the desire to avoid bridge closure due to the extensive detour,
- Support for a wider roadway on the bridge; large vehicles cross the bridge and risk conflict with oncoming vehicles,
- Questions about whether a causeway (similar to what is on I-90 at Chamberlain) may be part of a new bridge solution,
- Sightlines for vehicles approaching the bridge can be difficult as they take the curve going down the hill toward the river.

Public Open House #2 – December 12-13, 2017
The second public open house meeting was held on two different days in two different communities. On December 12, 2017 the public meeting was held in Winner where 19 people signed in as attendees of the meeting. On December 13, 2017 the same information was presented to the public in Platte where 39 people signed in as attendees of the meeting. A presentation was given at the meeting covering the elements of the study, confirming the need for the project along with SDDOT's intention to avoid or limit any closure of the SD44 river crossing as part of this project. Environmental constraints were described to attendees, including geotechnical concerns in the river bottom that limit how close the new bridge may be positioned relative to the existing bridge. Comments were solicited and received from the community including interest in what will happen with the existing bridge; to what extent it may be left in place versus removed. Some commenters noted the potential recreation fishing benefits of retaining the piers above water level. Interest was expressed in understanding the timeframe for construction and what economic impact the construction activity may have on the area.

5.3.4. Future Public Involvement

A public information meeting will be held following the release of this EA and Section 4(f) evaluation for public comment. A comment period will be provided for 30- days following the release of the EA. Following the comment period, Section 4(f) concurrence will need to be sought from the owner with jurisdiction. If FHWA agrees that a finding of no significant impact (FONSI) and the Section 4(f) determination is appropriate, a FONSI will be issued to the conclude the environmental review process and document the decision. If the FHWA determines the Project would result in significant environmental impacts, SDDOT may prepare an Environmental Impact Statement or select the No Build Alternative as its Preferred Alternative. All comments received will be included in the final administrative record and considered by the FHWA in determining whether the proposed alternative will have a significant impact on the environment. Other future public involvement may occur during the design and construction phases of the project. USACE will have its own 30-day public review as required by NEPA.

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APPENDICES

Available On Line at
https://sd44bridge.com/documents/

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