

Environmental Assessment and Section 4(f) Evaluation

FOR

I-229 and Exit 3 (Minnesota Avenue) Interchange Reconstruction

Project Numbers:

IM-CR 2292(84)2, PCN 000S, NH 2115(46), PCN 08DN

Sioux Falls CIP #11099

Sioux Falls #11 (2023 Bike Plan)

Minnehaha County, South Dakota

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

South Dakota Department of Transportation, And

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*References are called out by number throughout this Environmental Assessment and listed numerically as endnotes at the end of the document.

List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ACS	American Community Survey
APE	Area of Potential Effect
AST	Above Ground Storage Tank
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
CAA	Clean Air act
CE	Categorical Exclusion
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
COC	Community of Comparison
CIP	Capital Improvement Plan
CR	County Road
dB	Decibel
DDI	Diverging Diamond Interchange
EA	Environmental Assessment
EJ	Environmental Justice
EO	Executive Order
ESA	Endangered Species Act/Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FFPA	Federal Farmland Protection Act
FWHA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GMP	Growth Management Plan
IJR	Interchange Justification Report
IPaC	Information for Planning and Consultation
LOS	Level of Service
LRTP	Long-Range Transportation Plan
MBTA	Migratory Bird Treaty Act
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NLEB	Northern Long-Eared Bat
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NPV	Net Present Value

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	Noise Sensitive Area
PAH	Polycyclic Aromatic Hydrocarbon
PBO	Programmatic Biological Opinion
PCB	Polychlorinated Biphenyls
PEM	Palustrine Emergent Wetland
PL	Public Law
PUB	Palustrine Unconsolidated Bottom Wetland
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RGU	Responsible Governmental Unit
ROD	Record of Decision
ROW	Right of Way
SDARC	South Dakota Archaeological Research Center
SDCL	South Dakota Codified Law
SDDENR	South Dakota Department of Environment and Natural Resources
SDDANR	South Dakota Department of Agriculture and Natural Resources
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Game, Fish, and Parks
STIP	Statewide Transportation Improvement Program
SWD	Surface Water Discharge
SWPPP	Storm Water Pollution Prevention Plan
TIP	Transportation Improvement Program
TLE	Temporary Land Easement
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VIA	Visual Impact Assessment
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
WOTUS	Waters of the United States

1.0 Introduction and Project Overview

1.1 Environmental Document Statement

This Environmental Assessment (EA) has been prepared in compliance with the requirements of the National Environmental Policy Act (NEPA) of 1969. The EA 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 under consideration. Finally, it provides the decision maker with appropriate information to make a reasoned choice when identifying a preferred alternative.

1.2 Project Background

The stakeholders for this project include the City of Sioux Falls, the Sioux Falls Metropolitan Planning Organization (MPO), South Dakota Department of Transportation (SDDOT), and the Federal Highway Administration (FHWA). The roles for these agencies are as follows:

- FHWA –Lead Federal Agency
- SDDOT – Joint Lead Agency
- City of Sioux Falls – Joint Lead Agency
- Sioux Falls MPO – Participating Agency

As lead agencies, FHWA, SDDOT, and the City of Sioux Falls have direct oversight over the environmental document and are signatories for its approval. As a Participating Agency, the Sioux Falls MPO has direct involvement with the development and review of the environmental document but is not a signatory. The MPO is a member of the Study Advisory Team for the project, has attended regular project status meetings, and has been given the opportunity to determine their own level of participation in the project.

SDDOT, in partnership with the other project stakeholders, is completing an environmental study of the Interstate Highway 229 (I-229) interchange and its approach roadways at Exit 3 (Minnesota Avenue) in Sioux Falls, South Dakota. This study will build on the work and findings of recently completed studies for the area, including, the 2010 Decennial Interstate Corridor Study, the I-229 Major Investment Study (MIS), and the I-229 Exit 3 Interchange Modification Justification Report (IMJR) and the I-229 Exit 3 Environmental Scan Report (ESR).

The Exit 3 interchange, in its current state, was identified as having safety and capacity problems in the 2010 Decennial Interstate Corridor Study, which identified the need for improvements at the interchange¹. The 2010 study also recommended the widening of I-229 in the study area to add an additional lane in each direction by the forecast year 2020. (Note: The 2020 Decennial Interstate Corridor Study assumed Exit 3 improvements were programmed for construction, so there was no mention of the project in updated decennial study.)

The more recent I-229 MIS was completed in 2017 and included recommendations for interchange improvements at the Exit 3 interchange². The MIS allowed the City of Sioux Falls, the Sioux Falls MPO, the SDDOT, FHWA, and others to help determine the vision for the I-229 Corridor. The I-229 Exit 3 (Minnesota Avenue) Corridor Study was a subarea study of the I-229 MIS. The MIS initially evaluated a broad range of alternative for I-229 and Minnesota Avenue at the Exit 3 location, and ultimately recommended three alternatives to be carried forward for further evaluation.

SDDOT, along with other project stakeholders, initiated an IMJR for Exit 3 to evaluate the design, safety, operations, and policy and funding implications of modifying the Minnesota Avenue (Exit 3) interchange along I-229 based on the recommendations of the MIS. The IMJR design year 2050 traffic forecasts show impacts to the interstate system due to regional growth in the metropolitan area. No adverse impacts to the interstate highway system are forecasted due to the proposed changes at the interchange. The IMJR was completed in November 2020, and the interchange concepts from the IJR were given Engineering and Operations Acceptance by FHWA. This action allowed the project stakeholders to proceed with the preparation of an environmental document for the study area to evaluate the impacts of alternatives considered in the IMJR. The IMJR is included as Appendix A.

Alongside the development of the IMJR, an ESR was completed for the project. The ESR established a foundation for the Purpose and Need statements with community input, defined the study limits of the project, and preliminarily screened alternatives for any that may be unreasonable. The ESR provided a planning level evaluation from which the EA could refine and build upon with additional analysis. The ESR is included as Appendix B.

1.3 Project Location, Logical Termini, Independent Utility, and Reasonably Foreseeable Transportation Improvements

1.3.1 Project Location and Logical Termini

The I-229 Exit 3 interchange and Minnesota Avenue is located in the south-central portion of the Sioux Falls metropolitan area in southeastern South Dakota. I-229 Exit 2 (Western Avenue) is one mile to the west and Exit 4 (Cliff Avenue) is one mile to the east. Federal regulations require that federally funded transportation projects have logical termini (defined as the rational end point for a transportation improvement and the rational end points for a review of the environmental impacts per 23 Code of Federal Regulations (CFR) §771.111(f)(1). Simply stated, this means that a project must have rational beginning and end points. Those end points may not be created simply to avoid proper analysis of environmental impacts. Logical termini were selected jointly between the SDDOT and City of Sioux Falls for this project. The SDDOT's I-229 mainline interstate study limits are Exit 2 (Western Ave) to the west and Exit 4 (Cliff Avenue) to the east. These were chosen because they are the nearest service interchanges in both directions along I-229. The City of Sioux Falls' Minnesota Avenue study limits include 39th Street to the north and 57th Street to the south. These were chosen because the needs of the project extend north and south along Minnesota Avenue to 41st street and 57th Street respectively. To fully encompass 41st Street within the project area, 39th Street was chosen as a logical terminus in the project's IMJR because it is the next major intersection to the north. 57th Street was chosen as the southern logical terminus because the next major intersection south of 57th street is over $\frac{3}{4}$ of a mile away. The rational end points of the environmental impact analysis include the SDDOT and City study area limits and the human or natural environment limits of the affected resource located within it. The NEPA Study limits include a broader area which encompasses the logical termini, city study limits, and SDDOT study limits as one project action. Generally, the study area contains urban land uses to the north of I-229, and open/vacant land or natural area to the south of I-229. A combination of physical buffering, natural habitat, and environmental features were used to determine the area of potential impacts. Project Location and Study Areas are shown on Figure 1-1.

1.3.2 Independent Utility

Federal regulations require that a project have independent utility. Independent utility is defined as having independent significance (i.e., it should be usable and be a reasonable expenditure even if no additional

transportation improvements in the area are made; 23 C.F.R. § 771.111(f)(2)). This means a project must be able to provide benefit by itself and not be a waste of money or compel further expenditures to make the project useful. Stated another way, a project must be able to satisfy its purpose and need with no other projects being built. The project limits were selected such that independent utility of the proposed improvement would result, and that benefits could be achieved even without additional transportation improvements made near or adjacent to the study area. To meet this requirement, the project must meet three conditions:

1. It must not require other improvements to meet its Purpose and Need, and
2. It must not force a need for improvements beyond its termini or on intersecting roads.
3. It must not restrict consideration of alternatives for other reasonably foreseeable transportation improvement.

In order to achieve independent utility and meet the purpose and need of the project, interchange improvements would necessitate improvements along Minnesota Avenue within the study area and would require temporary improvements along I-229. These have been identified as reasonably foreseeable future actions and are currently fiscally constrained. The SDDOT 2025-2028 Statewide Transportation Improvement Program (STIP³) includes Exit 3 interchange improvements (PCN 000S) and Minnesota Avenue improvements (PCN 08DN). The Sioux Falls MPO 2025-2028 Transportation Improvement Program (TIP⁴) also references the 000S and 08DN project components. The City of Sioux Falls' most recent 2026-2030 Capital Improvement Plan (CIP⁵) identifies improvements on Minnesota Avenue from 41st Street to W Lotta Street (Project 11099). Additionally, The City of Sioux Falls 2023 Bike Plan⁶ identifies Minnesota Avenue with an underpass under I-229 within the study area (Project #11) as a "Very High Priority" improvement. This has been identified as a project goal. Together, the four projects mentioned above work together to meet the project Purpose and Need without necessitating additional improvements or restricting consideration of other alternatives, and thus, are considered to have independent utility. Projects discussed in this section are shown on Figure 1-1. The project purpose, need, and goals are discussed in Sections 1.4 and 1.5 below. The range of alternatives considered, and evaluation of purpose and need are discussed in Section 2.

1.3.3 Other Reasonably Foreseeable Transportation Improvements

The following project were also identified within or in close proximity to the study area of this project. These projects have their own independent utility, are fiscally constrained (and referenced by their capital plan project numbers), and do not represent components of the Exit 3 project. These other reasonably foreseeable actions are shown in Figure 1-1.

Exit 4 Interchange Project (and associated projects): The 2025-2028 Statewide Transportation Improvement Program (STIP) includes Exit 4 interchange improvements (PCN 05HN). Additionally, The City of Sioux Falls 2023 Bike Plan identifies an underpass within the study area (Project #7) as a project with "Very High Importance." These projects are currently being evaluated for impacts by a separate Environmental Assessment as one project action. The combined project has an approved ESR, IMJR, and purpose and need and functions as a standalone project with independent utility.

Temporary Crossover Project: The I-229 crossover project (PCN 07CY) includes the modification of the median crossovers on I-229 and a new temporary bridge structure. This project has its own independent utility, has received NEPA approval, and is planned for construction in 2024.

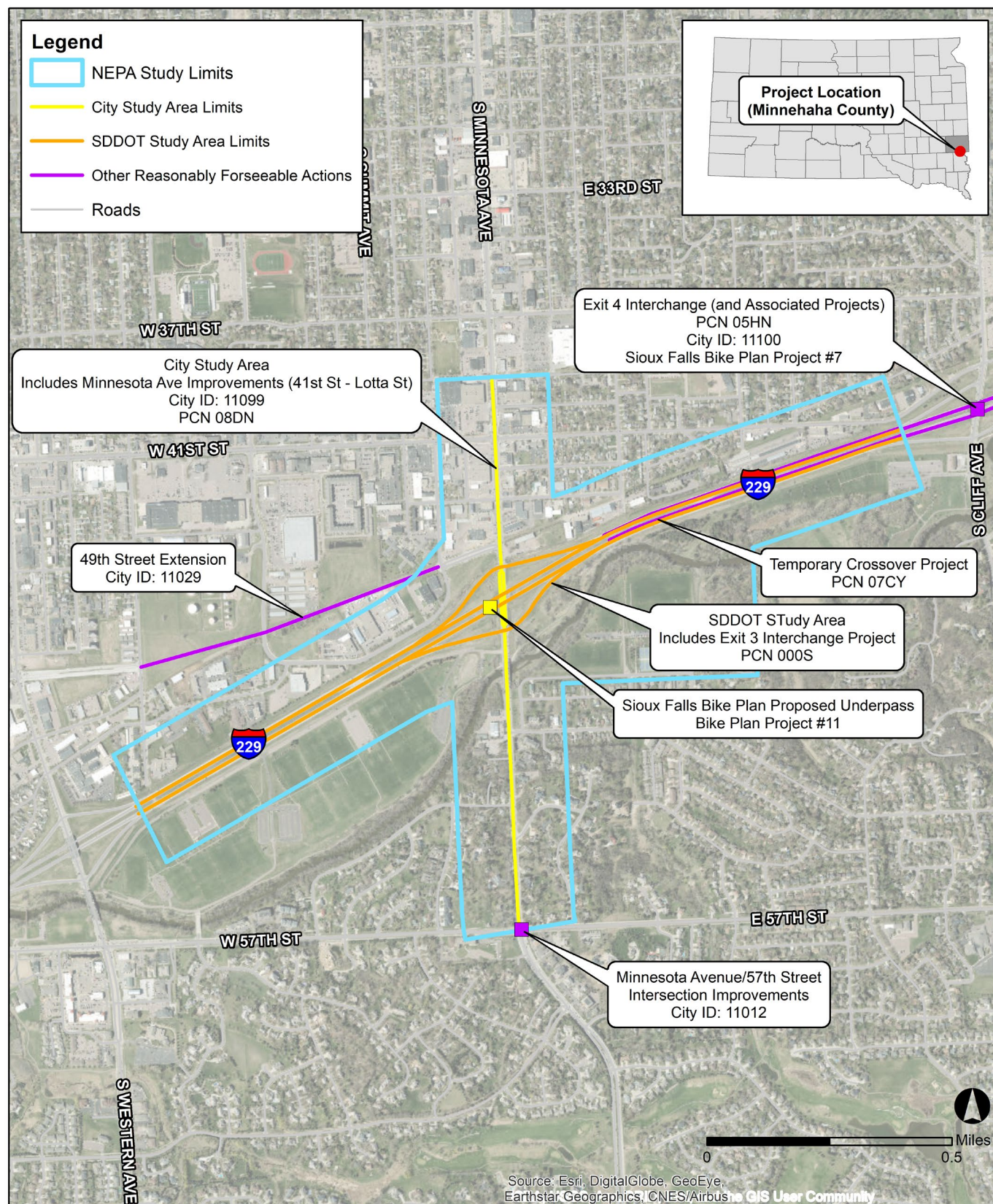
49th Street Extension: This includes two phases of 49th Street improvements from Western Avenue to Grange Avenue and from Grange Avenue to Duluth Avenue. The eastern end of this project falls within the NEPA study area for the I-229 Exit 3 project, but the 49th Street Improvements do not coincide with planned improvements on Minnesota Avenue. The 49th Street improvements demonstrate independent utility by addressing traffic needs on 49th Street (outside of the I-229 Exit 3 study area) resulting from congestion on 41st Street. The need for 49th street improvements arises from projected growth in the Sioux Falls Metropolitan Area, and not the I-229 Exit 3 build alternative, as demonstrated by the 2050 No Build scenario conditions modeled in the I-229 Exit 3 IMJR. The 49th Street improvements will have their own separate environmental analysis. Although the two projects are independent and address different needs in different areas, they are in close proximity to one another. The Sioux Falls CIP notes the 49th Street project should coordinate with the I-229 Exit 3 project to ensure that the design and construction of the two projects don't conflict with each other. Coordination has been ongoing throughout the environmental and design process.

Minnesota Ave/57th Street Intersection Improvements: this includes improvements to the intersection of Minnesota Ave and 57th Street. This project lies at the southern terminus of the Exit 3 project. However, proposed intersection Improvements are far removed from Exit 3 project improvements and constitute an independent project with independent utility. The need for these intersection improvements arises from projected growth in the Sioux Falls Metropolitan Area, and not the I-229 Exit 3 build alternative, as demonstrated by the 2050 No Build scenario conditions modeled in the I-229 Exit 3 IMJR. This project will be planned and designed by the City of Sioux Falls who will be responsible for the environmental analysis for the project.

Sioux Falls CIP Major Street Reconstruction: The Sioux Falls CIP includes project #11003 which describes reconstruction and widening of various arterial and major collector streets including Minnesota Ave from 40th St to I-229. This project number represents a pool of money that could be used for a number of city projects, but does not represent additional improvements beyond those included in the Exit 3 project and its components.

Sioux Falls CIP LED Street Light Upgrade Program: The Sioux Falls CIP project #11030 includes lighting upgrades as part of a city-wide project to replace high-pressure sodium lights with LED's. This does not represent an integral part of transportation solutions proposed by the Build Alternative, but rather an independent city-wide initiative that would be implemented regardless of any street improvements in the project area.

Figure 1-1: Project Location Map



1.4 Purpose and Need

The project Purpose and Need were first developed in the planning phase of the project during the development of the ESR. State agencies, federal agencies, and Native American tribes were mailed a map and description of the project during this process, and draft of the project purpose and need prior to the ESR's first public involvement meeting. They were asked to provide comments on the draft purpose and need statements at this time. Responses were received from several agencies providing additional guidance during the environmental review process, but no comments on the draft purpose and need or major concerns with the construction of the project were expressed. The public was first offered the opportunity to provide input on the project at a Public Open House/Information Meeting held on January 23, 2019 (In-person meeting). The preliminary purpose and need for the ESR was shared at this meeting, with the intent of receiving feedback to refine the purpose and need for NEPA. After the opportunity for comments, the Study Advisory Team made refinements to the purpose and need to include in the final draft of the ESR. The final draft of the purpose and need statement was shared with the public at the open house on November 6, 2020 (virtual online meeting), with the intent of sharing the purpose and need to be used during NEPA and receive any final comments. General support for the draft purpose and need statements was received and no concerns were expressed. The final ESR was approved by FHWA in April, 2021.

The ESR process identified the main need factors (mobility and geometric deficiencies) of the project as well as the additional project goals (safety and non-motorized connectivity). With input and coordination from project stakeholders in the ESR process, the purpose, needs, and goals were used as a foundation for the NEPA study, and were carried forward to form the final Purpose and Need of project to meet NEPA requirements.

1.4.1 Project Purpose

The purpose of this project is to improve travel mobility and address geometric deficiencies at the I-229 Exit 3 interchange and along the Minnesota Avenue corridor, while also considering potential additional desirable outcomes of improving safety and nonmotorized connectivity.

1.4.2 Project Need

The purpose of the project is to address the main needs identified in the study area. These needs, which are listed below and will be addressed with equal importance and priority in this study, are:

- **Mobility** – LOS C or better should be maintained along all sections of I-229 and all ramp terminals (Per SDDOT standards) and LOS D or better should be maintained along all sections of Minnesota Avenue within the project area (per City of Sioux Falls Standards) through the 2050 project design year with a preference for alternatives that meet these requirements under higher than anticipated demand. Supporting information for this need is included in EA Section 1.4.2.1.
- **Geometric Deficiencies** – Geometric deficiencies, including infrastructure condition deficiencies for roadways in the study area, should be addressed to meet current standards by the project's design year (2050). Supporting information for this need is included in EA Section 1.4.2.2.

These needs were initially identified in the ESR phase of the project. Since the approval of the ESR, the Study Advisory Team expressed a desire to consider whether any of the alternatives would meet the mobility needs of the project under higher than anticipated traffic volumes. The mobility need was updated from the ESR version to reflect this consideration. Supporting information is provided in section 1.4.2.1.

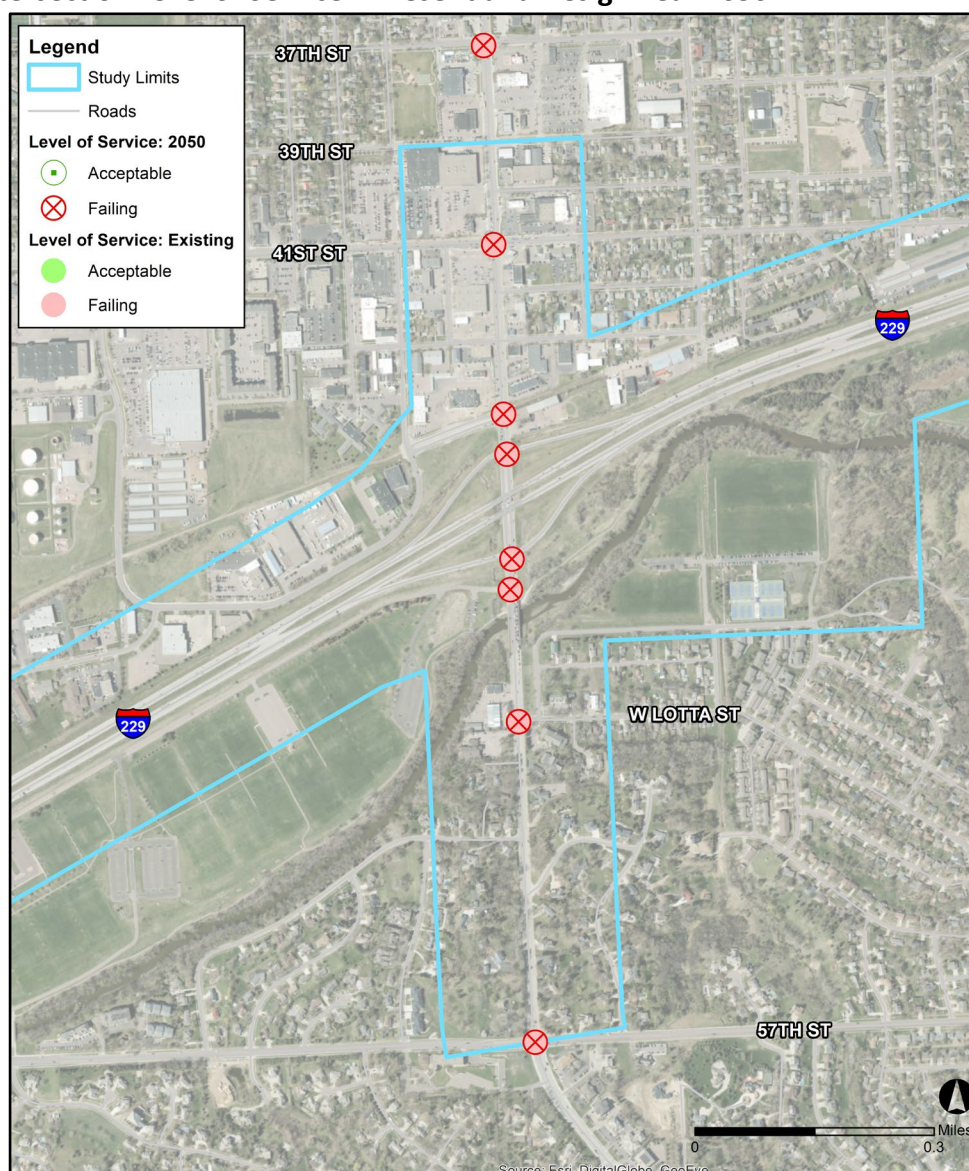
1.4.2.1 Mobility

Traffic forecasts were prepared for all intersections and roadway segments within the project area using the regional travel demand model maintained by the City of Sioux Falls and the Sioux Falls MPO. The operational analyses of alternatives, including the No Build Alternative, were evaluated using appropriate Level of Service (LOS) evaluation techniques.

LOS is a qualitative rating system used to describe the efficiency of traffic operations on a roadway segment or at an intersection. Six levels of service are defined, designated by letters A through F. LOS A represents the best operating conditions (no congestion), and LOS F represents the worst operating conditions (severe congestion), as shown in Table 1-1. The SDDOT has established a minimum standard of LOS C on urban interstate highway corridors, including ramp terminal intersections. The City of Sioux Falls has established a minimum standard of LOS D on arterial signalized intersections and any intersection movement at LOS E or better. All alternatives were evaluated with forecast demands for the opening year of 2024, a mid-term year of 2035, and a design year of 2050.

Present day conditions show that existing traffic conditions are at LOS C or better for all segments of I-229 in the project area. These conditions are projected to continue through the year 2024. However, traffic volumes within the study area are anticipated to increase substantially between the present and the project's design year of 2050. During this time, traffic volumes along I-229 are expected to grow from 58,000 to 90,500 vehicles per day (vpd) and traffic volumes along Minnesota Avenue are expected to grow from 23,000 to 31,400 vpd (See Figure 1-3). By 2050, the projected LOS under the no build scenario is expected to drop to LOS D during either the a.m. or p.m. peak hour for four of the northbound I-229 segments in the study area. By 2050, eight of the southbound I-229 segments in the study area will also drop to LOS D or worse.

Traffic operations at eight intersections along Minnesota Avenue were also examined as part of this study. Present day conditions show that all eight of these intersections operate below LOS C, and five of them operate at LOS F or have a failing queue storage ratio. Under the No Build Alternative, operations are expected to become worse by 2050 (see Figure 1-2).

Figure 1-2: Intersection Level of Service – Present and Design Year 2050

Sioux Falls is one of the fastest growing cities in South Dakota. During the preliminary planning phase of this study, the City of Sioux Falls expressed the need for future infrastructure improvements to operate acceptably, even if traffic experiences more growth than anticipated. When forecasting and modeling traffic volumes, there is always some level of uncertainty in the results of the analysis. To account for this, a sensitivity analysis is often completed to analyze system performance under increases in traffic volumes that are higher than anticipated. USDOT policy recommends the use of sensitivity analysis as part of sound practice in Modeling.⁷ Traffic Analysis for this study used Highway Capacity Manual, 6th Edition, techniques.

To address traffic operation needs in the study area, LOS C or better should be maintained along all sections of I-229 and all ramp terminals and LOS D or better should be maintained along all sections of Minnesota Avenue within the project area through the 2050 project design year with a preference for alternatives that meet these requirements under higher than anticipated demand.

Table 1-1: Level of Service Definitions (Highway Capacity Manual)**Freeway Measures of Effectiveness**

Level of Service (LOS)	Description	Density (pc/mi/ln)
A	Free-flow operation	≤ 11.00
B	Reasonably free-flow operation; minimal restriction on lane changes and maneuvers	$> 11.0 - 18.0$
C	Near free-flow operation: noticeable restriction on lane changes and other maneuvers	$> 18.0 - 26.0$
D	Speed decline with increasing flows; significant restriction on lane changes and other maneuvers	$> 26.0 - 35.0$
E	Facility operates at capacity; very few gaps for lane changes and other maneuvers; frequent disruptions and queues	$> 35.0 - 45.0$
F	Unstable flow; operational breakdown	> 45.0

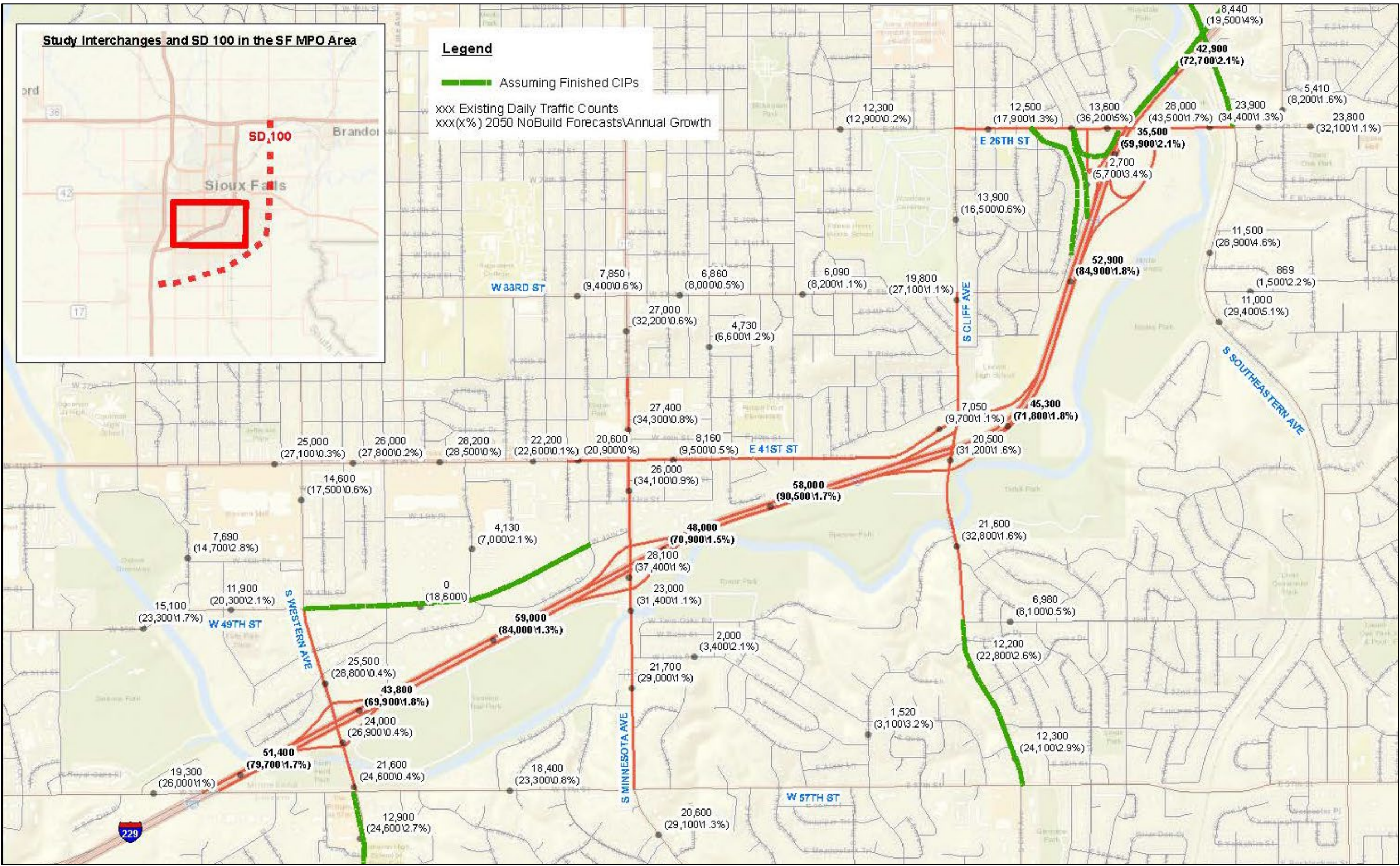
Signalized Intersection Control Measures of Effectiveness

Level of Service (LOS)	Description	Density (pc/mi/ln)
A	Very minimal queuing; excellent corridor progression	< 10.00
B	Some queuing; good corridor progression	$> 10.0 - 20.0$
C	Regular queuing; not all demand may be serviced on some cycles (cycle failure)	$> 20.0 - 35.0$
D	Queue lengths increased; routine cycle failures	$> 35.0 - 55.0$
E	Majority of cycles fail	$> 55.0 - 80.0$
F	Volume to capacity ratio near 1.0; very long queues, almost all cycles fail	> 80.0

All-Way and Two-Way Stop Control Measures of Effectiveness

Level of Service (LOS)	Description	Density (pc/mi/ln)
A	Queuing is rare	≤ 10.00
B	Occasional queuing	$> 10.0 - 15.0$
C	Regular queuing	$> 15.0 - 25.0$
D	Queue lengths increased	$> 25.0 - 35.0$
E	Significant queuing	$> 35.0 - 50.0$
F	Volume to capacity ratio approaches 1.0; very long queues	> 50.0

Figure 1-3: Current and Future Traffic Volumes



1.3.2.2 Geometric Deficiencies

Since the interchange was constructed in the early 1960s, geometric design standards have changed. As a result, some of the existing geometric characteristics no longer meet current design standards. Deficiencies include:

- Substandard shoulder widths on the ramp connections; left and right shoulders.
- K-value (representing the abruptness in grade change) for the southbound on-ramp crest vertical curve.
- Control of access of adjacent intersections to the ramp terminal intersections are less than desirable. There are currently full access intersections on either side within the current standard of 250 feet of the ramp terminal intersections.
- Pavement condition varies throughout the study area, but conditions are either deteriorating or expected to deteriorate throughout the 2050 design year.
- The two I-229 bridge structures over Minnesota Avenue have exceeded their design life.

The pavement on the existing I-229 mainline through the project area is continuously reinforced concrete pavement (CRCP). The roadway was resurfaced in 2001 and many of the ramp connections were also resurfaced at this time. The City of Sioux Falls uses a rating called the pavement condition index (PCI) to score the conditions of streets such as Minnesota Avenue. This rating helps the City to make informed decisions about future repairs and street reconstruction. PCI scores range from 0 to 100 and generally fall into one of the following condition categories: “Very Poor” (0 to 25), “Poor” (25 to 40), “Marginal” (40 to 50), “Fair” (50 to 60), “Good” (60 to 70), “Very Good” (70 to 85) and “Excellent” (85 to 100). In general, pavement is need of resurfacing or rehabilitation if it has a PCI rating below 75 or 58 respectively. As identified in Table 1-2, the average PCI ratings for Minnesota Avenue within the NEPA study limits (39th Street to 57th Street) through the project length range from 59 to 71, with only two scores at or above 70.

Table 1-2: Pavement Condition Data for Minnesota Avenue in Sioux Falls

Minnesota Avenue Segment	Pavement Condition Index (PCI) Score
41st Street to 42nd Street	63
42nd Street to 43rd Street	70
43rd Street to 49th Street	68
49th Street to I-229 Ramp	69
I-229 Ramp to I-229 Ramp	66
I-229 Ramp to Lotta Street	59
Lotta Street to Dome Place	71
Dome Place to Batcheller Lane	67
Batcheller Lane to Harpel Drive	66
Harpel Drive to 57 th Street	65

As shown in table 1-2, one of the ten sections along Minnesota Avenue has a “Fair” PCI score, eight have “Good” PCI scores and one has a “Very Good” score. The average daily traffic (ADT) on Minnesota Avenue in 2050 is

forecasted to be higher than it is under existing conditions. The condition of the pavement is anticipated to degrade below “Good” PCI levels in all sections as the infrastructure ages and the ADT increases. I-229 has two separate bridges over Minnesota Avenue and both structures are currently in fair condition. The concrete bridges were constructed in 1959 and have exceeded their 50-year design life. The Federal Sufficiency Rating (FSR) for both the northbound I-229 and the southbound I-229 bridges are 86.8 according to the 2019 Bridge Inspection Reports; both are classified as fair.

To address geometric deficiency needs in the project area, substandard shoulder widths, vertical curve K-values, and access control deficiencies near ramps within the project area should be addressed to meet current standards by the design year 2050. Pavement condition should also be maintained at a rating of at least “good” (PCI score 60+) on roadways in the project area through the project’s design year, and the life of the bridges should be extended through the project’s design year.

1.5 Project Goals/Other Desirable Outcomes

As part of the planning process for the project, several other goals were identified for the project. While project goals are not direct project needs and are therefore not a basis for eliminating an alternative based on meeting the purpose of the project, they can be considered as a factor in screening and selecting a preferred alternative. They should be considered when evaluating the alternatives, where possible, to achieve desirable outcomes. The goals identified for the project include safety and non-motorized connectivity. These goals are discussed further in this section.

1.5.1 Safety

Crashes in the project area were evaluated between 2013 through 2017 as part of the IMJR analysis. The crash records were segregated into crashes for each of the study intersections and the arterial and freeway segments. The type and severity of the crashes were reviewed, and crash rates and critical rates were calculated for each.

Crash rates are expressed as the number of crashes per million entering vehicles (MEV) at an intersection or along a segment. The critical crash rate is a statistical value that is unique to each intersection based on vehicular exposure and the average crash rate for a similar intersection or segment; a crash rate higher than the critical rates indicates a sustained crash problem. A critical crash rate index is calculated by dividing the crash rate by the critical rate; any value above 1.0 indicates a crash rate at or exceeding the critical rate.

The average crash rate for an urban freeway system, provided by SDDOT, was 1.09 crashes per MEV. The City of Sioux Falls provided the most recent average crash data, from 2015, for the varying arterial roadway and intersection traffic control types at the time of the analysis.

All freeway mainline segments are well below the calculated critical rates. There are four Minnesota Avenue intersections that exceed the calculated critical rate under existing conditions (37th, 41st, and 49th Streets, and the I-229 southbound ramp) and two additional intersections approaching (within 15 percent) the critical rate (the I-229 northbound ramp and Lotta Street).

Safety is an important consideration for all transportation projects. With any new transportation project comes an opportunity to improve safety. Safety should be considered during the design of alternatives for this project. Alternatives should work toward reducing crashes within the study area below the No Build Levels, with a preference for alternatives that improve safety more than others.

1.5.2 Non-Motorized Connectivity

The Shape Sioux Falls 2040 Comprehensive Plan and the current edition of the City of Sioux Falls Engineering Design Standards include goals and policies to accommodate all potential transportation system users by improving streetscapes and multimodal access. Sidewalks currently exist on both sides of Minnesota Avenue, but due to limited ROW, have no separation from the roadway in most sections. Crossings at intersections are not always marked and often require non-motorized travelers to cross many lanes of traffic. Many of the pedestrian curb ramps in the project area do not meet current Americans with Disabilities Act (ADA)/Public Rights-of-Way Accessibility Guidelines (PROWAG) guidelines. Cracked and uneven sidewalks are other ADA challenges within the project area.

Bicyclists' skills, confidence and preferences vary considerably. Some bicyclists are comfortable riding anywhere they are legally allowed to operate, including space shared with motorized vehicles. Some bicyclists prefer to use roadways that provide space separated from motorists. Although children may be confident bicyclists and have some level of bicycle handling skills, they most often do not have the experience of adults nor the training or knowledge of traffic laws necessary to operate safely on the road. There are currently no bicycle facilities on Minnesota Avenue. Numerous comments were received at the project's first public meeting (held in December 2019) regarding bicycle and pedestrian safety, particularly concerning safety improvements at Minnesota Avenue.

The City of Sioux Falls 2023 Bike Plan identifies an underpass at I-229 within the study area as a priority improvement. It also shows sidepath improvements on Minnesota Avenue as a priority improvement. Other potential long-range improvements are shown on 49th Street and along the North side of I-229, and along 57th Street crossing Minnesota Avenue.

A goal of this project is to work toward the desirable non-motorized traveler-desired outcomes identified in local plans and through public outreach efforts discussed above. Design efforts of the study alternatives must consider the addition of sidewalks, trails, bicycle facilities, and marked crossings in key locations where there are gaps in these networks. New facilities should also aim to address current deficiencies in ADA standards on existing facilities in the project area and ensure new project-related sidewalks and trails also meet these standards.

2.0 Alternatives

Initial development of conceptual alternatives for this project started prior to the planning/ESR phase of the project. Initially, The I-229 Major Investment Study (MIS) conducted in 2017 examined the need for improvements along a larger length of I-229 and included 13 interchange alternatives and four arterial corridor alternatives for the Minnesota Avenue interchange with I-229. The MIS narrowed the number down to six alternatives for further refinement and ultimately recommended the three alternatives carried forward which met the needs of the study.

For more information on the previously dismissed alternatives from the MIS, see the I-229 Exit 3 (Minnesota Avenue) Crossroad Corridor Study located online at:

https://dot.sd.gov/media/documents/I229_SS2_FINALReportAppendices_June2017.pdf

The IMJR focused its analysis on the MIS-recommended alternatives. In addition to these, an additional evaluation of a diverging diamond interchange, which had previously been dismissed during the MIS study, was restudied based on the SAT's request for additional analysis. The analysis showed the close proximity of 49th Street to the

north ramp terminal intersection would cause traffic queuing failures between intersections and therefore was dismissed again for not meeting the Purpose and Need of the Study.

The three remaining alternatives were evaluated in the planning phase of the project with the ESR. The ESR analysis determined that all three alternatives satisfied the project's preliminary Purpose and Need, and therefore, they should be carried forward for additional consideration and screening in NEPA. These alternatives, along with a No build Alternative, are described below. All build alternatives assume improvements to Minnesota Avenue will be made, as most currently represented by Sioux Falls project 11099 and SDDOT Project 08DN.

2.1 Range of Alternatives Considered in the Environmental Screening Process

2.1.1 No Build Alternative

The No Build Alternative is a "no action" alternative. This alternative assumes that no modifications would be made, and the interchange would be maintained in its current configuration. Continual maintenance and repairs would be performed to ensure the safety of the traveling public, and safety measures would be implemented to the extent feasible and practicable. Although the No Build Alternative typically does not meet the purpose and need of a proposed transportation project, it is always carried forward to serve as the baseline to which the other alternatives are compared when analyzing the potential social, economic, and environmental impacts of other alternatives. Consideration of a no action alternative is required by Council of Environmental Quality regulations for implementing NEPA (40 CFR 1500-1508).

2.1.2 Alternative Minn-2C

5/4-Lane Divided Corridor with Northeast Quadrant Loop and Northeast Ramp aligned with 49th Street Alternative

This alternative is being carried forward from the I-229 Major Investment Study (MIS) recommendations. The northbound I-229 ramp terminal would remain a standard diamond configuration with additional turn lanes to improve capacity and the closely spaced Park Access Road would be reconfigured to a $\frac{3}{4}$ access intersection.

The southbound I-229 ramps would be substantially reconfigured. The I-229 entrance ramp would be split into two ramps with a new entrance ramp access on southbound I-229. The southbound Minnesota Avenue ramp would be a free right turn movement, and the northbound Minnesota Avenue traffic would have a free right turn onto a new loop ramp connection. The southbound I-229 exit ramp would connect to the 49th Street intersection. This connection helps improve safety and relieves the closely spaced intersection issue.

Along Minnesota Avenue, a four-lane divided roadway would be provided to the north with several driveway access closures and 43rd Street would remain open as a $\frac{3}{4}$ access intersection. The four-lane divided section would be carried south to 57th Street. Lotta Street would remain full access, but other streets would convert to right-in/right-out access (RI/RO).

2.1.3 Alternative Minn-2D

6/4-Lane Divided Corridor with Northeast Quadrant Loop and Northeast Ramp aligned with 49th Street Alternative

This alternative is being carried forward from the I-229 MIS recommendations and the interchange configuration is very similar to "Minn-2C." The northbound I-229 ramp terminal would remain a standard diamond configuration

with additional turn lanes to improve capacity. The closely spaced Park Access Road would be reconfigured to a $\frac{3}{4}$ access intersection.

The southbound I-229 ramps would be substantially reconfigured. The I-229 entrance ramp would be split into two ramps with a new entrance ramp access on southbound I-229. The southbound Minnesota Avenue ramp would be a free right turn movement, and the northbound Minnesota Avenue traffic would have a free right turn onto a new loop ramp connection. The southbound I-229 exit ramp would connect to the 49th Street intersection. This connection helps improve safety and relieve the closely spaced intersection issue.

Along Minnesota Avenue, a six-lane divided roadway would be provided to the north with several driveway access closures and 43rd Street would remain open only as a RI/RO access intersection. A five-lane section, with four-lanes and a center left turn lane, would be carried south to 57th Street.

2.1.4 Alternative Minn-9D

6/4-Lane Divided Corridor with Single Point Urban Interchange and Northeast Ramp aligned with 49th Street Alternative

This alternative is being carried forward from the I-229 MIS recommendations. The existing diamond interchange would be reconfigured to a Single Point Urban Interchange (SPUI).

The northbound I-229 ramps are typical of a SPUI design. The closely spaced Park Access Road would be reconfigured to a $\frac{3}{4}$ access intersection. The southbound I-229 entrance ramp is also typical of a SPUI design.

The southbound I-229 exit ramp would be substantially reconfigured from a standard SPUI design. The I-229 exit ramp would be split into directional ramps for Minnesota Avenue. The southbound Minnesota Avenue traffic would tie into the traditional SPUI intersection. The northbound Minnesota Avenue traffic would connect to the 49th Street intersection. This connection helps improve safety and relieve the closely spaced intersection issue.

Along Minnesota Avenue, a six-lane divided roadway would be provided to the north with several driveway access closures. The 43rd Street intersection would remain open only as a $\frac{3}{4}$ access intersection. A four-lane divided section would be carried south to 57th Street. The Lotta Street intersection would remain full access, but other street crossings would convert to RI/RO.

Figure 2-1: Alternative Minn-2C

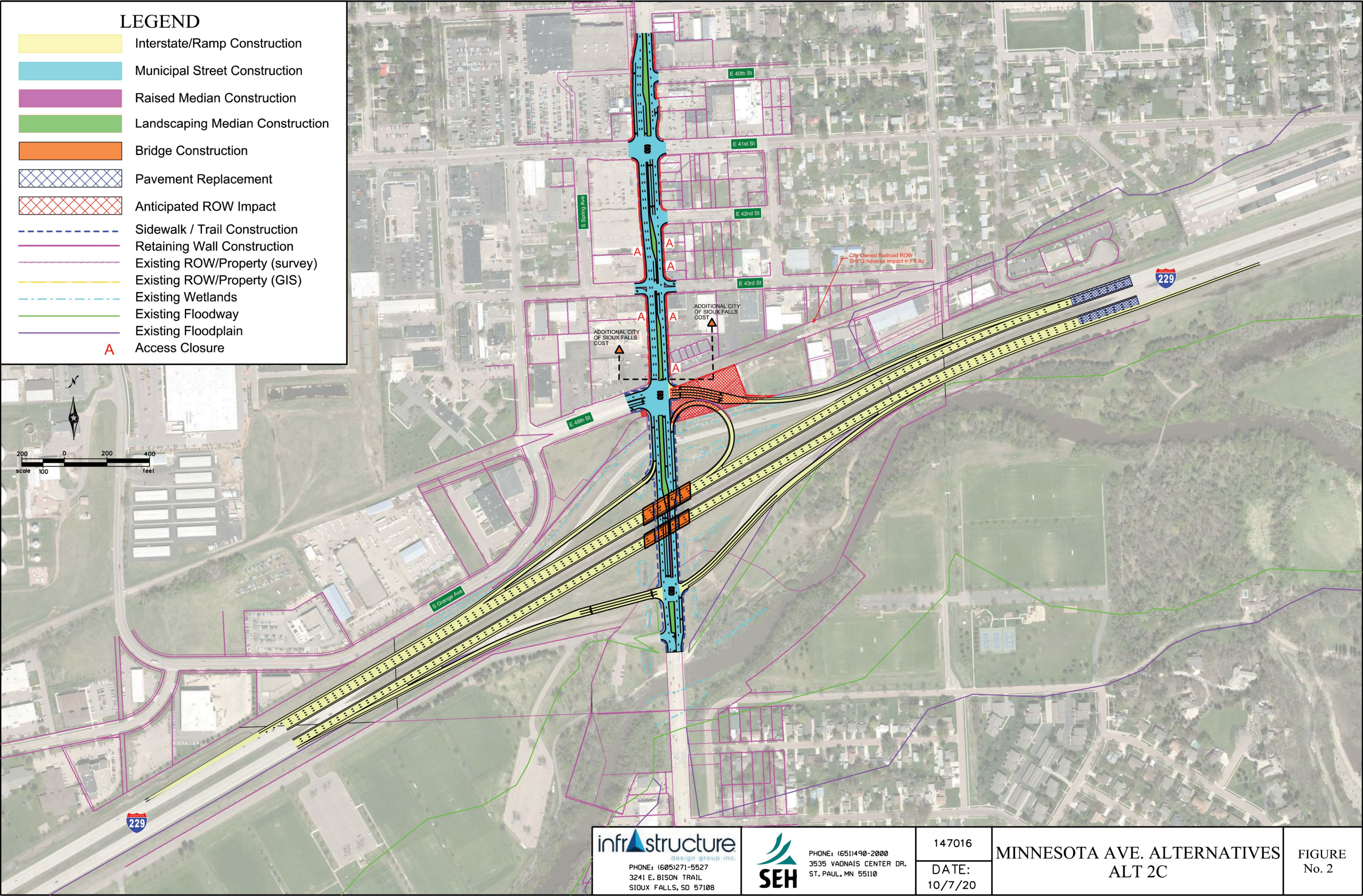


Figure 2-2: Alternative Minn-2D

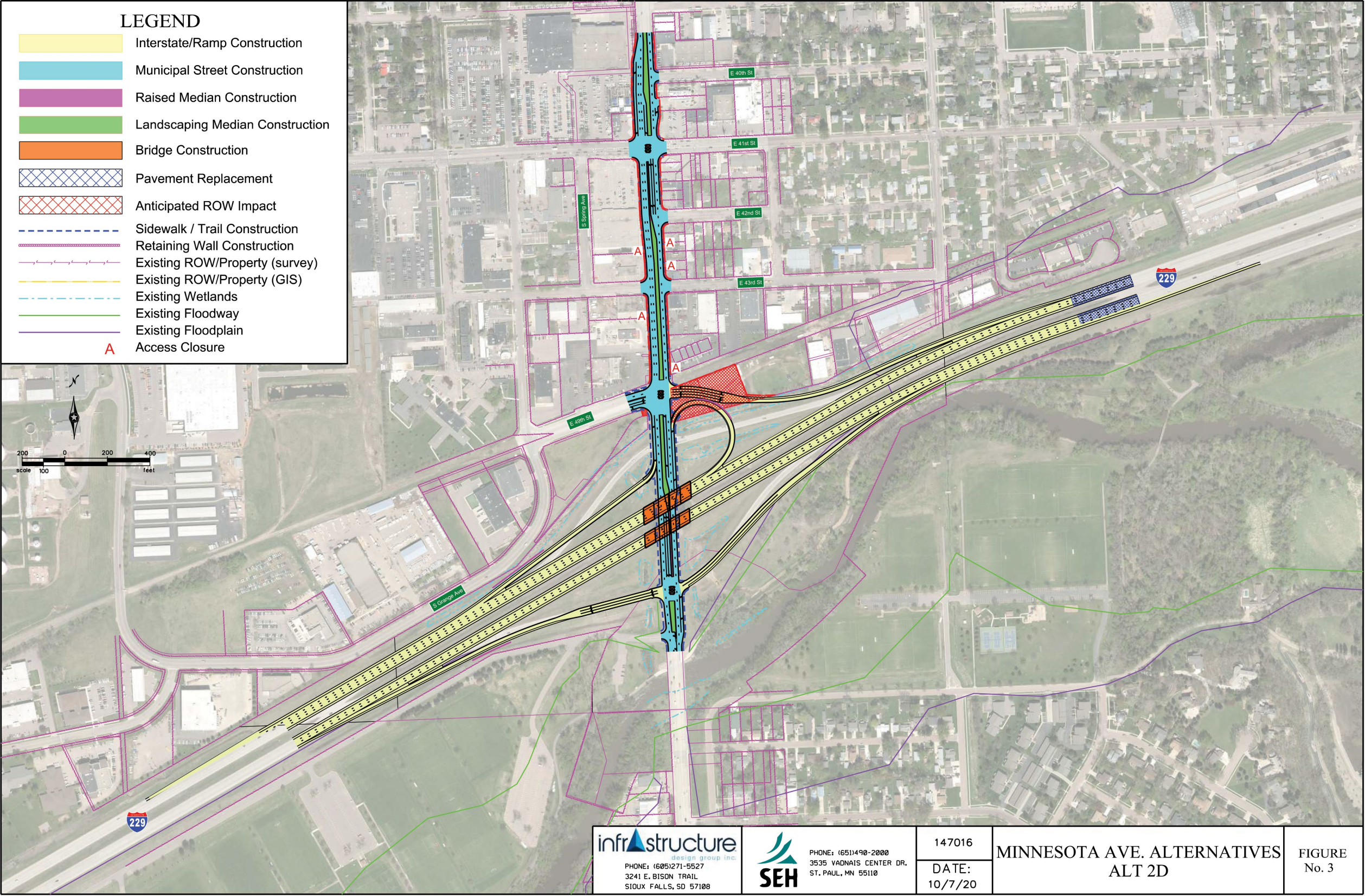
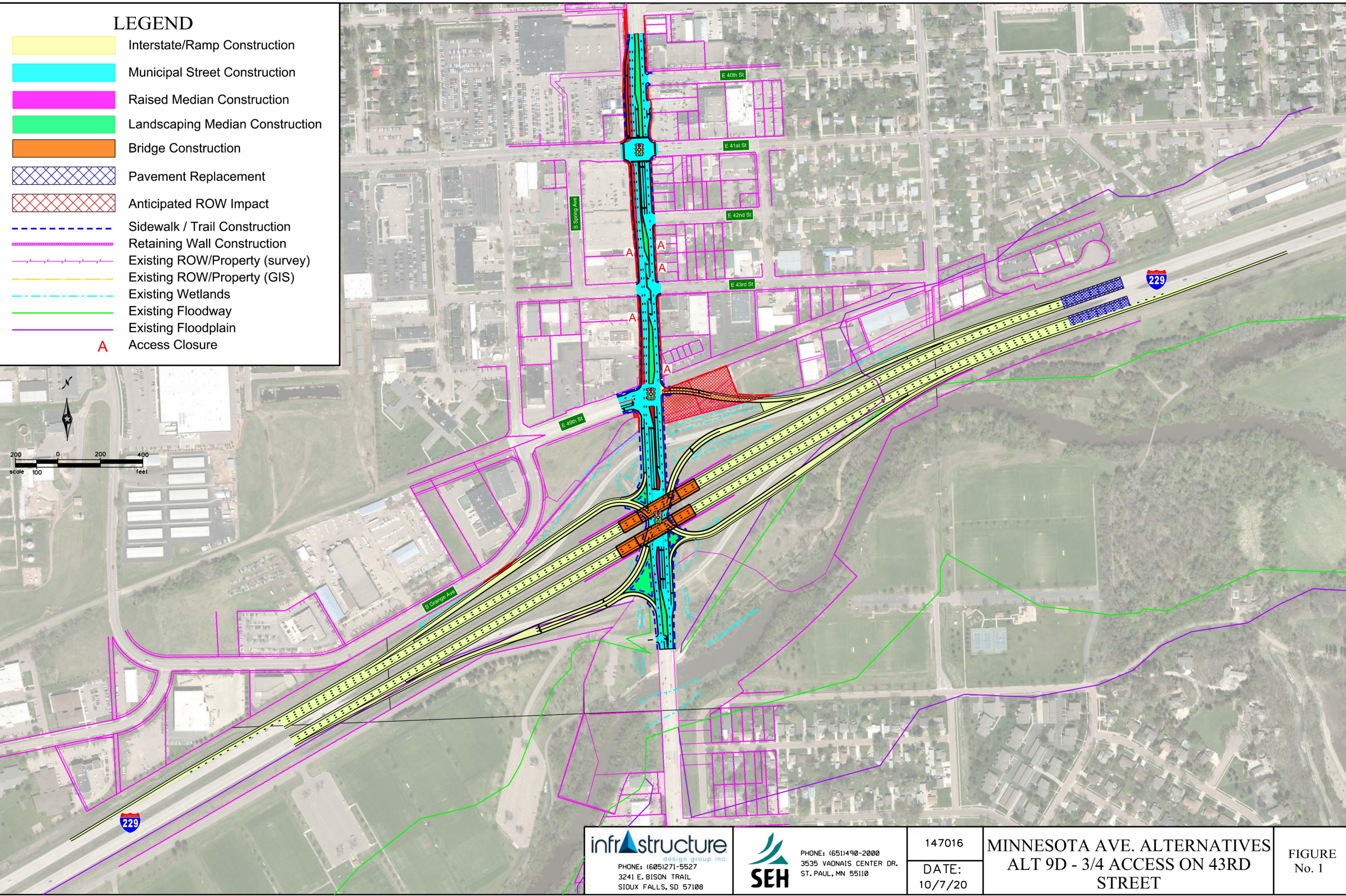


Figure 2-3: Alternative Minn-9D



2.2 Evaluation Criteria Applied to the Study Alternatives

NEPA analyses are required to “rigorously explore and objectively evaluate all reasonable alternatives” (40 Code of Federal Regulations [CFR] 1502.14). The first step in evaluating alternatives for this project was to consider whether each of the identified viable alternatives meets the purpose and need of the study. Alternatives that do not meet the purpose and need for the project are not considered further during the NEPA process. For the alternatives that meet the purpose and need criteria, environmental considerations are used to further evaluate the alternatives and aid in the selection of a Preferred Alternative.

2.2.1 Purpose and Need

The ESR completed for the project initially concluded that all three alternatives would satisfy the preliminary Purpose and Need of the project. Since the approval of the ESR, the Study Advisory Team expressed a desire to consider whether any of the alternatives would meet the mobility needs of the project under higher than anticipated traffic volumes. The mobility need was updated to reflect this consideration in the NEPA process.

As discussed previously, to determine if the alternatives met the purpose and need, criteria for each of the project’s needs must be met. These criteria include:

- **Mobility** – LOS C or better should be maintained along all sections of I-229 and all ramp terminals (Per SDDOT standards) and LOS D or better should be maintained along all sections of Minnesota Avenue within the project area (per City of Sioux Falls standards) through the 2050 project design year with a preference for alternatives that meet these requirements under higher than anticipated demand.
- **Geometric Deficiencies** – All shoulder widths, changes in vertical curve grade (k-values), and adjacent intersection spacing should meet current standards. In addition, a “good” pavement condition score should also be maintained and the lifespan of deficient structures should be extended through the 2050 design year.

2.2.1.1 Mobility

As discussed previously in the Purpose and Need section, LOS is anticipated to fall below acceptable levels through 2050 in many places throughout the study area. Analysis in the study’s IMJR indicates that by 2050, projected LOS with existing transportation facilities is expected to drop to LOS D during either the a.m. or p.m. peak hour for four of the ten northbound I-229 segments in the study area. By 2050, eight of the ten southbound I-229 segments in the study area will also drop to LOS D. These anticipated future levels of service are a reflection of what would be expected under the No Build Alternative, and this alternative, therefore, does not meet the mobility needs of the study area.

With the build alternatives, operations and mobility would improve throughout the study area. All of the build alternatives would improve LOS to levels that meet the needs of the project at locations along I-229 and Minnesota Avenue under peak conditions.

Table 2-1: Anticipated 2050 Levels of Service by Alternative

Level of Service Location/Type	No Build Alternative	Alternative Minn-2C	Alternative Minn-2D	Alternative Minn-9D
Worst Minnesota Avenue Performance (Excludes Ramp Terminal Intersections)	LOS F	LOS C	LOS C	LOS C
Worst I-229 Performance (Within Project Limits)	LOS E	LOS C	LOS C	LOS C
Worst Ramp Terminal Performance in 2050	LOS E	LOS C	LOS C	LOS C
Worst Ramp Terminal Sensitivity Analysis Performance (10% increase)	LOS F	LOS D	LOS D	LOS C

A sensitivity analysis was also conducted and documented in the IMJR. The analysis shows that with a 10 percent increase in traffic volumes over anticipated levels, The No Build Alternative would still fail, and Alternative Minn-9D would still maintain passing levels of service. Alternatives Minn-2C and Minn-2D would each have ramp terminals that fall to LOS D, causing them to fail operationally. While these failures would only occur under higher than anticipated traffic volumes (i.e. only under the 10% increased volumes represented in the sensitivity analysis), this is still a factor worth considering during the evaluation of alternatives.

Overall, the No Build Alternative does not meet the mobility need of the project. While all three alternatives meet the preliminary need established in the ESR process, Alternative Minn-9D would provide the most confidence in meeting this need under higher than anticipated traffic volumes and best meets the mobility need established in NEPA.

2.2.1.2 Geometric Deficiencies

The No Build Alternative would take no action to address the geometric deficiencies of narrow shoulder widths, substandard k values and access control. Routine maintenance would still occur with this alternative and could include repaving. Overall, a majority of the existing geometric deficiencies would persist through the project design year with the No Build Alternative, and as a result, this alternative would not meet the project need for geometric deficiency improvements.

All three of the build alternatives were designed to address the project's geometric deficiency needs. All three alternatives include widened shoulders, a resigned southbound entrance ramp with acceptable k values, and redesigned intersections adjacent to the ramp terminal intersections with improved access control. With the reconstruction of the interchange and Minnesota Avenue within the study area, new pavement would be laid. Bridge structure design life would be extended through the project's 2050 design year. Based on the above information, all three build alternatives would meet the geometric deficiency needs of the project.

2.2.2 Project Goals, Other Desirable Outcomes, and Other Factors

The goals for the project include safety and non-motorized connectivity. While project goals are not direct project needs and are therefore not a basis for eliminating an alternative based on meeting the purpose of the project, they can be considered as a factor in screening and selecting a preferred alternative. They should be considered when evaluating the alternatives, where possible, to achieve desirable outcomes.

An additional factor to consider when designing and evaluating alternatives is cost. If an alternative cannot be funded, then it would likely be an unfeasible alternative to move forward. Discussion related to the above goals, outcomes, and other factors, as they apply to the preliminary range of alternatives, is included below.

2.2.2.1 Safety

While not an immediate need within the study area, safety is an important consideration in the design of any transportation facility. With transportation improvements, it is important to avoid creating additional safety concerns, and improving safety is a desirable project benefit. Table 2-2 shows the effect each alternative would have on the surrounding transportation network, represented by total crashes. While safety would decrease in the future with the No Build Alternative, the three build alternatives would result in an increase in safety over anticipated future conditions, with Alternative Minn-9D demonstrating the greatest safety improvement. A full safety analysis is included in the project's IMJR (Appendix A).

Table 2-2: Anticipated Crashes by Alternative (2024-2050)

	No Build Alternative	Alternative Minn-2C	Alternative Minn-2D	Alternative Minn-9D
Safety Improvement (2024 through 2050 Crashes)	No (2646 crashes)	Yes (2084 crashes)	Yes (2044 crashes)	Yes (1949 crashes)

2.2.2.2 Non-motorized Connectivity

Many local and regional plans support the improvement of multimodal transportation facilities, especially when they can be included with the construction of other transportation facilities. The City of Sioux Falls has a Complete Streets Policy that requires the needs of pedestrian and bicyclists be considered whenever reconstructing or constructing a new arterial roadway. The policy includes a Phase I checklist for preliminary design to ensure that bicycle, pedestrian, and transit elements are incorporated into the project (sidewalks/paths, crosswalks, lighting, separation from vehicle traffic, transit signage, etc.). The City of Sioux Falls 2023 Bike Plan identifies an underpass at I-229 within the study area as a priority improvement (Project #11). The Sioux Falls MPO 2045 Long-Range Transportation Plan includes Multimodal Integration as one of its main guiding principles, which also includes several goals related to the inclusion of bicycle and pedestrian facilities.⁸

Sidewalks currently exist on both sides of Minnesota Avenue but have no separation from the roadway in most sections. Crossings at intersections are not always marked and often requires that non-motorized traffic must cross many lanes of traffic. Many of the pedestrian curb ramps in the project area do not meet current ADA/PROWAG guidelines. Cracked and uneven sidewalks present other ADA challenges within the project area. Major opportunities for bicycle and pedestrian facilities include separating facilities from the roadway, improving facilities to meet ADA/PROWAG guidelines, and providing connections to the Sioux Falls Bike Trail and local roadways to the north.

The No Build Alternative would not provide substantial improvements to bicycle and pedestrian infrastructure. While routine maintenance activities could potentially include repairing uneven sidewalks and pedestrian ramps, no new facilities or connections would be constructed allowing noted deficiencies to persist. All three of the build alternatives would allow for new multimodal infrastructure that would be consistent with local plans. Designs of these alternatives would allow for separated bicycle/pedestrian facilities, grade-separated crossings of I-229, and direct connections to the Sioux Falls Bike Trail and local roadways to the north. While these facilities would be

fully developed in final design, they are anticipated to be feasible additions to all build alternatives. As a result, all three build alternatives would meet the additional goal for non-motorized connectivity.

2.2.2.3 Cost

If an alternative cannot be funded, then it would not likely be a feasible alternative to move forward.

The 2025-2028 STIP includes construction for Exit 3 improvements and Minnesota Avenue which are anticipated to be constructed in 2027-2028. The City of Sioux Fall 2026-2030 CIP includes improvements for Minnesota Avenue, which also includes bicycle and pedestrian improvements. All of these improvements are also included in the MPO TIP. Current SDDOT budget estimates for interchange and roadway improvements are shown below.

Current construction cost estimates for the interchange, I-229 mainline, and local roadway improvement work are \$40.3 Million in 2018 dollars.

Table 2-3: Estimated Cost Comparison for Alternatives

Estimated Construction Costs	No Build Alternative	Alternative Minn-2C	Alternative Minn-2D	Alternative Minn-9D
Estimated Interchange Structure Costs (\$M)	n/a	\$8.3	\$8.3	\$15.1
Estimated Interchange Roadway Costs (\$M)	n/a	\$12.3	\$12.3	\$12.9
Estimated Arterial Roadway Costs (\$M)	n/a	\$5.0	\$5.0	\$5.6
Total Estimated Construction Cost (Millions)	n/a	\$25.6	\$25.6	\$33.6

Preliminary cost estimates for the build alternative indicate that construction costs would vary from approximately \$25M to \$33M. Alternative Minn-9D would be the most expensive, primarily due to ramp and bridge structure construction costs. However, it is anticipated that all three build alternatives would be fundable through a combination of resources, including the National Highway Performance Program, Surface Transportation Block Grant Program, and the City of Sioux Falls' Capital Improvement Program.

2.3 Evaluation Results and Recommendations for Full NEPA Analysis

Results of the NEPA Screening process for each alternative are summarized in Table 2-4. Additional discussion for each alternative is included below.

Table 2-4: Screening Results Summary

Screening Criteria		No Build Alternative	Alternative Minn-2C	Alternative Minn-2D	Alternative Minn-9D
Mobility (Need)	Worst Minnesota Avenue Performance (Excludes Ramp Terminal Intersections)	LOS F	LOS C	LOS C	LOS C
	Worst I-229 Performance (Within Project Limits)	LOS D	LOS C	LOS C	LOS C
	Worst Ramp Terminal Performance in 2050	LOS F	LOS C	LOS C	LOS C
	Worst Ramp Terminal Sensitivity Analysis Performance (10% increase)	LOS F	LOS D	LOS D	LOS C
Geometric Deficiencies (Need)	All geometric deficiencies addressed	No	Yes	Yes	Yes
Safety (Goal)	Anticipated 2024-2050 Crashes	2646	2084	2044	1949
Nonmotorized Connectivity (Goal)	Allows for I-229 Crossing, Sidewalk Improvements, Pedestrian Ramps	No	Yes	Yes	Yes
Cost (Other)	Total Project Cost (\$M)	n/a	\$25.6	\$25.6	\$33.6

2.3.1 No Build Alternative

With failing levels of service and unaddressed geometric deficiencies, the No Build Alternative does not meet the purpose and need of the project. Alternatives which do not meet the purpose and need of the project are not typically carried forward for consideration in the NEPA Process. Although the No Build Alternative does not meet the purpose the project, it is always carried forward to serve as the baseline when analyzing the potential social, economic, and environmental impacts of other alternatives. Consideration of a no action alternative is required by Council of Environmental Quality regulations for implementing NEPA (40 CFR 1500-1508).

2.3.2 Alternative Minn-2C

Alternative Minn-2C does not meet the purpose and need of the project. This alternative addresses the geometric deficiencies identified as project needs and improves LOS to acceptable levels in all locations. However, the sensitivity analysis indicated that this alternative could still fail operationally with higher than anticipated levels of traffic when compared to other alternatives.

This alternative achieves additional project goals by allowing for the addition of bicycle and pedestrian infrastructure and providing a safety improvement by reducing crashes in the study area. However, the reduction in crashes provided would be less than those provided by other alternatives.

Despite having benefits such as low cost, this alternative is not recommended for further evaluation in the NEPA process. This alternative has the potential to fail operationally under higher traffic volumes, meaning it would not

meet the purpose and need of the project. This alternative also has the least safety benefits compared to other alternatives. For these reasons, it is not considered a prudent and feasible option compared to other alternatives and will not be carried forward for further analysis in the NEPA process.

2.3.3 Alternative Minn-2D

Alternative Minn-2D does not meet the purpose and need of the project. This alternative addresses the geometric deficiencies identified as project needs and improves LOS to acceptable levels in all locations. However, the sensitivity analysis indicated that this alternative could still fail operationally with higher than anticipated levels of traffic when compared to other alternatives.

This alternative achieves additional project goals by allowing for the addition of bicycle and pedestrian infrastructure and providing a safety improvement by reducing crashes in the study area. However, it would not provide the greatest safety benefit among the alternatives.

Because of the potential for this alternative to fail operationally under higher traffic volumes, and the fact that other alternatives provide a greater safety benefit, it is not considered a prudent and feasible option compared to other alternatives. Because of this, Alternative Minn-2D will not be carried forward for further analysis in the NEPA process.

2.3.4 Alternative Minn-9D

Alternative Minn-9D meets the purpose and need of the project. This alternative addresses the geometric deficiencies identified as project needs. It also improves LOS to acceptable levels in all locations, even under 10 percent higher traffic volumes than anticipated, and is the only alternative to do this.

Alternative Minn-9D also meets the non-motorized connectivity goal of the project by allowing for the integration of new bicycle and pedestrian infrastructure to the project area, such as buffered sidewalks and trails, crosswalks, lighting, and transit signage; all of which are encouraged through the City's complete streets checklist. The city is currently reviewing the complete streets Phase I checklist for this alternative's preliminary design, further demonstrating that this alternative supports the non-motorized connectivity goal of the project. The designer would complete the remaining phases of checklist in final design. This infrastructure would safely connect non-motorized travelers using the Sioux Falls Bike trail and local parks to destinations north of the interchange, using a combined system of at-grade bridge sidewalks and grade separated trails with tunnel crossings of I-229. It meets the safety goal of the project by reducing crashes, and it does this to a greater extent than any other build alternative. Although this alternative would have the highest cost, it would still be fundable (I.e. the cost is not so high that it would prevent the construction of the alternative). and would provide more benefits overall than other alternatives.

For the above reasons, this alternative will be carried forward for further analysis in the NEPA process.

2.3.5 Evaluation Summary

Among the build alternatives, Alternative Minn-9D is the most prudent and feasible. It meets the purpose and need of the project through the design year (2050), while also providing the greatest safety benefit. This alternative will be further evaluated for environmental impacts in the next section of this environmental analysis. Conversely, Alternatives Minn-2C and Minn-2D will not be carried forward. Alternative Minn-9D will be referred to as the "Build Alternative" for the analysis of environmental impacts. The Build Alternative includes the four previously identified project components: the I-229 Exit 3 Interchange with improvements to Minnesota Avenue (PCN 000S, 08DN), the expansion of Minnesota Avenue (City ID #11099), and the bike/pedestrian underpass (Sioux

Falls Bike Plan Project #11). Other reasonably foreseeable actions will not be evaluated in this EA, as separate environmental evaluations would be required for those projects.

In addition to the Build Alternative, the No Build Alternative will also be carried forward for further evaluation and to serve as a baseline for comparison for environmental impacts of the Build Alternative.

3.0 Affected Environment and Environmental Impacts

The existing social, economic, and natural environment within the study area that may be directly impacted by the alternatives are described in this section. The permanent and temporary impacts, including consideration of construction, are discussed in each resource section where applicable. Construction impacts are short-term, occurring only during the period when construction personnel and equipment are operating. Indirect and cumulative impacts within and surrounding the study area are also considered.

Avoidance, minimization, and mitigation measures are summarized for each resource area, as applicable. The ESR process examined all regulated environmental resources to determine their applicability and potential to be impacted by the project. Resources not present, or which did not require further consideration in this EA, include climate change, coastal barriers, coastal zones, farmland, and wild and scenic rivers. These resources were documented in the project's ESR as resources needing no further analysis. The elements discussed in this section represent the items identified in the ESR which would require further evaluation in NEPA.

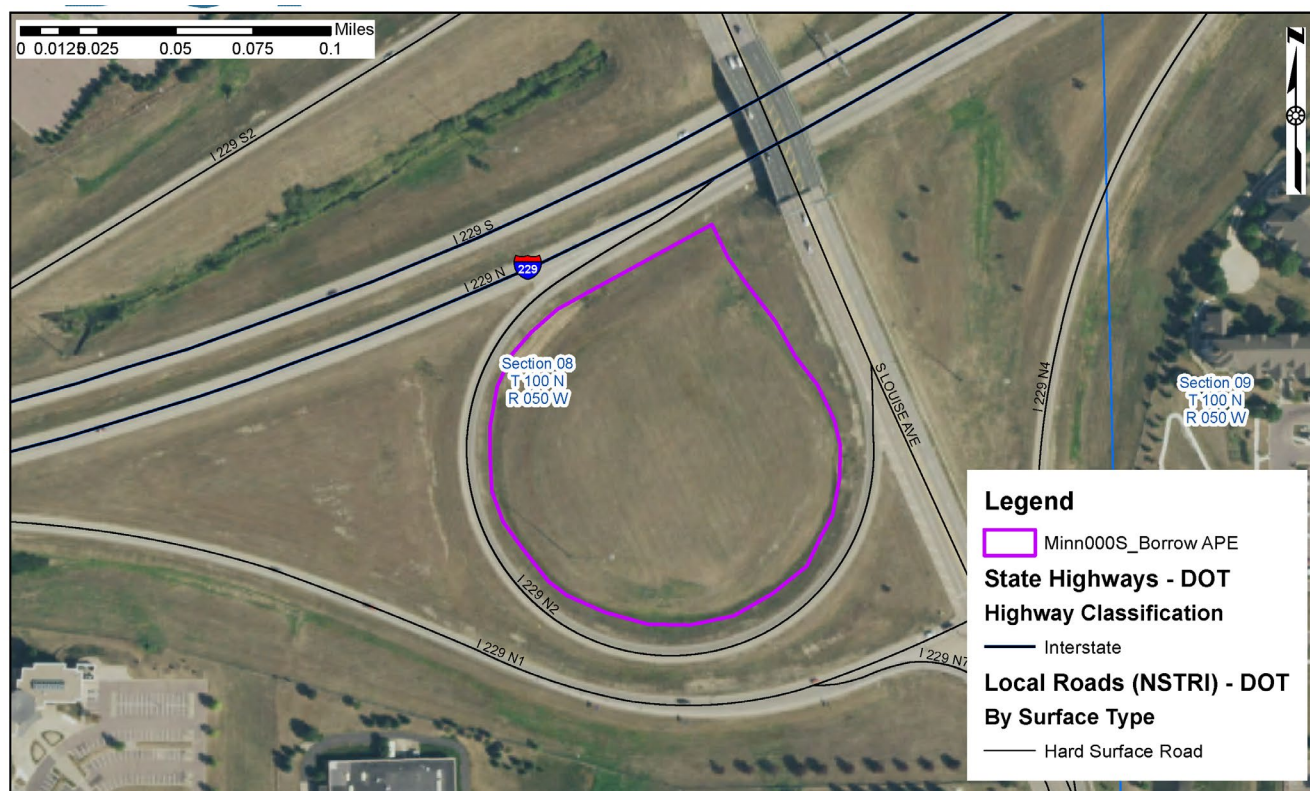
This section will focus on the probable beneficial and adverse social, economic, and effects of the No Build and Build Alternative under consideration and describe the measures proposed to mitigate adverse impacts. Unless otherwise noted, the impacts associated with the build alternative include potential impacts of the I-229 Exit 3 Interchange, City of Sioux Falls CIP, Bike Plan, and associated Minnesota Avenue improvement projects. Typically, alternatives are developed to a "preliminary" level of design for their analysis in NEPA. In some cases, advancement of design is necessary in order to sufficiently examine potential impacts in some areas. Any advance design in this section was deemed necessary for the evaluation of environmental impacts. Completion of the "final design" of the recommended alternative would occur after the approval of the environmental decision document.

As the project, including preliminary design of the build alternative, developed throughout the NEPA process, additional potential impacts from the project were identified which would occur outside of the study area. A potential "borrow site" for fill material was identified which could be used for construction of the build alternative if it is needed. Because the need for this site would not be determined until final design, this site is classified by SDDOT standard specifications as a State Designated Option borrow site. This requires that the site also undergo all required environmental clearances. Additional coordination took place with all required agencies for clearance of the borrow site, and potential impacts resulting from use of the site were analyzed. The site has been previously disturbed by its use for other construction projects, and impacts related to many of the resources discussed in this section will not apply. Additional discussion related to the borrow site is included only where applicable. The borrow site is shown in Figure 3-1.

On January 20, 2025, President Trump signed Executive Order (E.O.) 14148 --Initial Rescissions of Harmful Executive Orders and Actions and E.O. 14154 – Unleashing American Energy. The E.O.s revoked E.O. 13990 – Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (January 20, 2021) and E.O. 14008 – Tackling the Climate Crisis at Home and Abroad (January 27, 2021). Subsequently on January 29, 2025, Secretary Duffy signed a Memorandum for Secretarial Offices and Heads of Operating Administrations – Implementation of Executive Orders Addressing Energy, Climate Change, Diversity, and Gender. On February 25, 2025, the Council on Environmental Quality (CEQ) published an Interim Final Rule removing the CEQ's National Environmental Policy Act (NEPA) implementing regulations, effective April 11, 2025 (90 Fed. Reg. 10610). As a result of these actions, FHWA will not include greenhouse gas emissions and climate change analyses in the federal environmental review process. Any purported greenhouse gas emissions and climate change impacts will not

considered in the federal decision. Accordingly, no greenhouse gas emissions or climate change analyses are included in this Environmental Assessment.

On January 20, 2025, President Trump signed Executive Order (E.O.) 14148 --Initial Rescissions of Harmful Executive Orders and Actions and E.O. 14154 – Unleashing American Energy. The E.O.s revoked E.O. 14096 – Revitalizing Our Nation’s Commitment to Environmental Justice for All (April 21, 2023). Subsequently on January 21, 2025, President Trump signed E.O. 14173 – Ending Illegal Discrimination and Restoring Merit-Based Opportunity. This E.O. revoked E.O. 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). On February 25, 2025, the Council on Environmental Quality (CEQ) published an Interim Final Rule removing the CEQ’s National Environmental Policy Act (NEPA) implementing regulations, effective April 11, 2025 (90 Fed. Reg. 10610). As a result of these actions, all federal environmental justice requirements are revoked and no longer apply to the federal environmental review process. FHWA, FTA and FRA’s Joint NEPA regulations (23 CFR part 771) and the agencies Interim Final Guidance on “Section 139 Environmental Review Process: Efficient Environmental Reviews for Project Decision making and One Federal Decision” (12/17/2024) do not require an environmental justice analysis. Accordingly, no analysis of environmental justice is included in this Environmental Assessment. Any purported environmental justice impacts will not be considered in the federal decision. Social, economic, and community impacts will continue to be disclosed where applicable in accordance with 23 CFR 771.

Figure 3-1: Designated Option Borrow Site

3.1 Land Use

Land use and transportation are closely linked. Land use decisions can affect transportation mobility, accessibility, and safety as well as the environment and quality of life. Likewise, transportation decisions can affect land use, the environment, and quality of life as well as mobility, accessibility, and safety (Center for Environmental Excellence by AASHTO 2010). Land use was evaluated by determining the direct and indirect effects of the project on existing land uses (for example, recreation, residential, commercial, and industrial) and by verifying the consistency of the project with development patterns and land use planning in the study area.

The ESR process identified the current comprehensive development and land use plans discussed in this section. These plans formed the basis land use impact analysis of alternatives considered in NEPA.

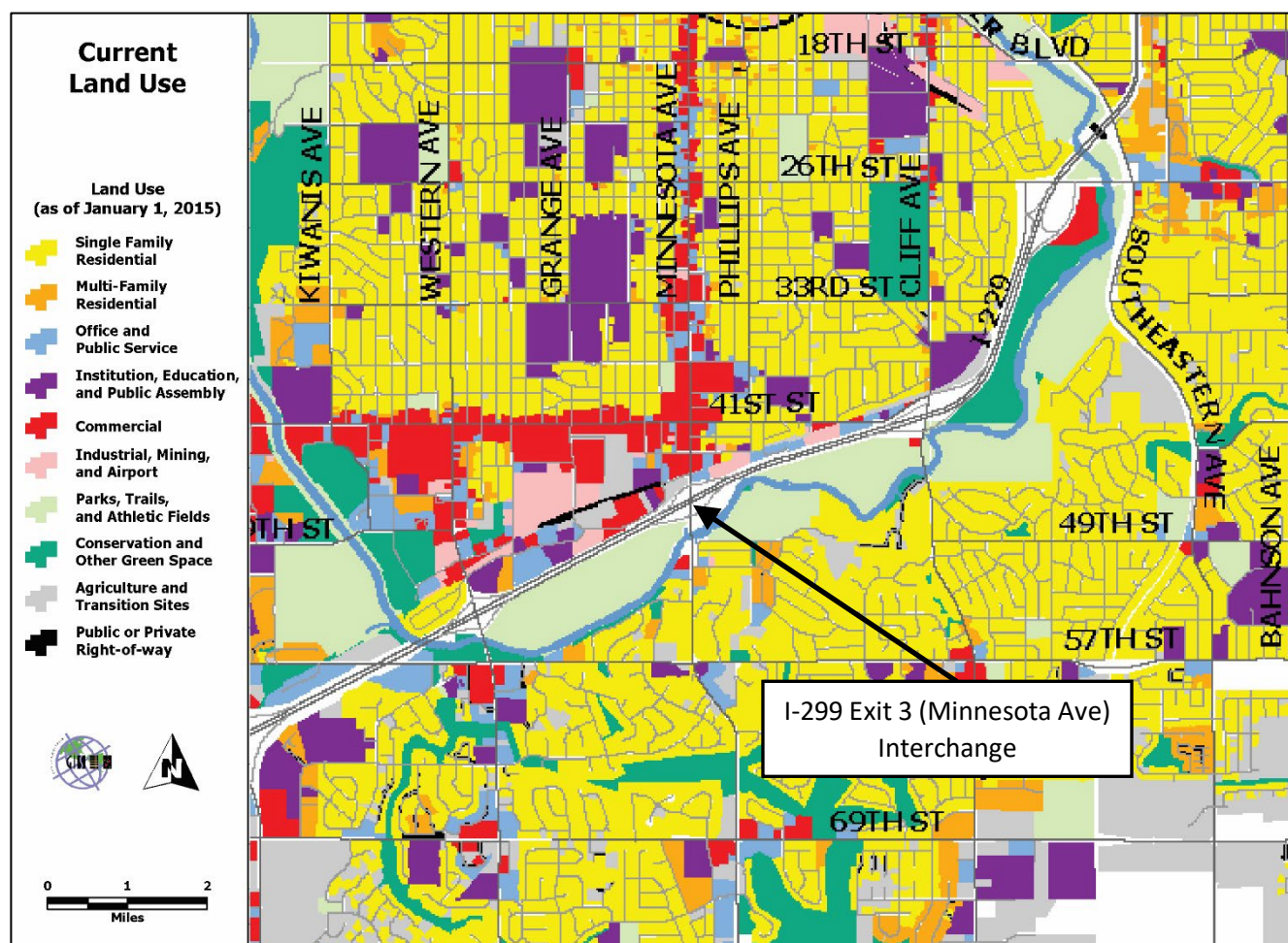
3.1.1 Existing Land Use

The study area is located in a fully urbanized area of Sioux Falls. The land use adjacent to SDDOT and City transportation right-of-way is a mix of single- and multi-family residential, commercial/retail, office, industrial, public/institutional, parks/open space and undeveloped. Figure 3-2 shows existing land use, based on The City of Sioux Falls most recent land use map.

Adopted plans for the area include the City of Sioux Falls Shape Sioux Falls 2040 Comprehensive Plan and the Sioux Falls MPO's Go Sioux Falls 2045 Long-Range Transportation Plan. The Shape Sioux Falls 2040 Comprehensive Plan states that office and commercial land uses should have access to major roadways and that the transportation network should provide adequate service for these uses. This plan also supports multimodal transportation throughout the city, but especially by offices and other employment areas. It also supports the city's complete

streets policy, which states that all modes of transportation should be considered when constructing transportation projects. The Sioux Falls MPO's Go Sioux Falls 2045 Long-Range Transportation includes operational efficiency, multimodal integration, safety and security, and system preservation as guiding principles.

Figure 3-2: Existing Land Use (City of Sioux Falls, 2017)

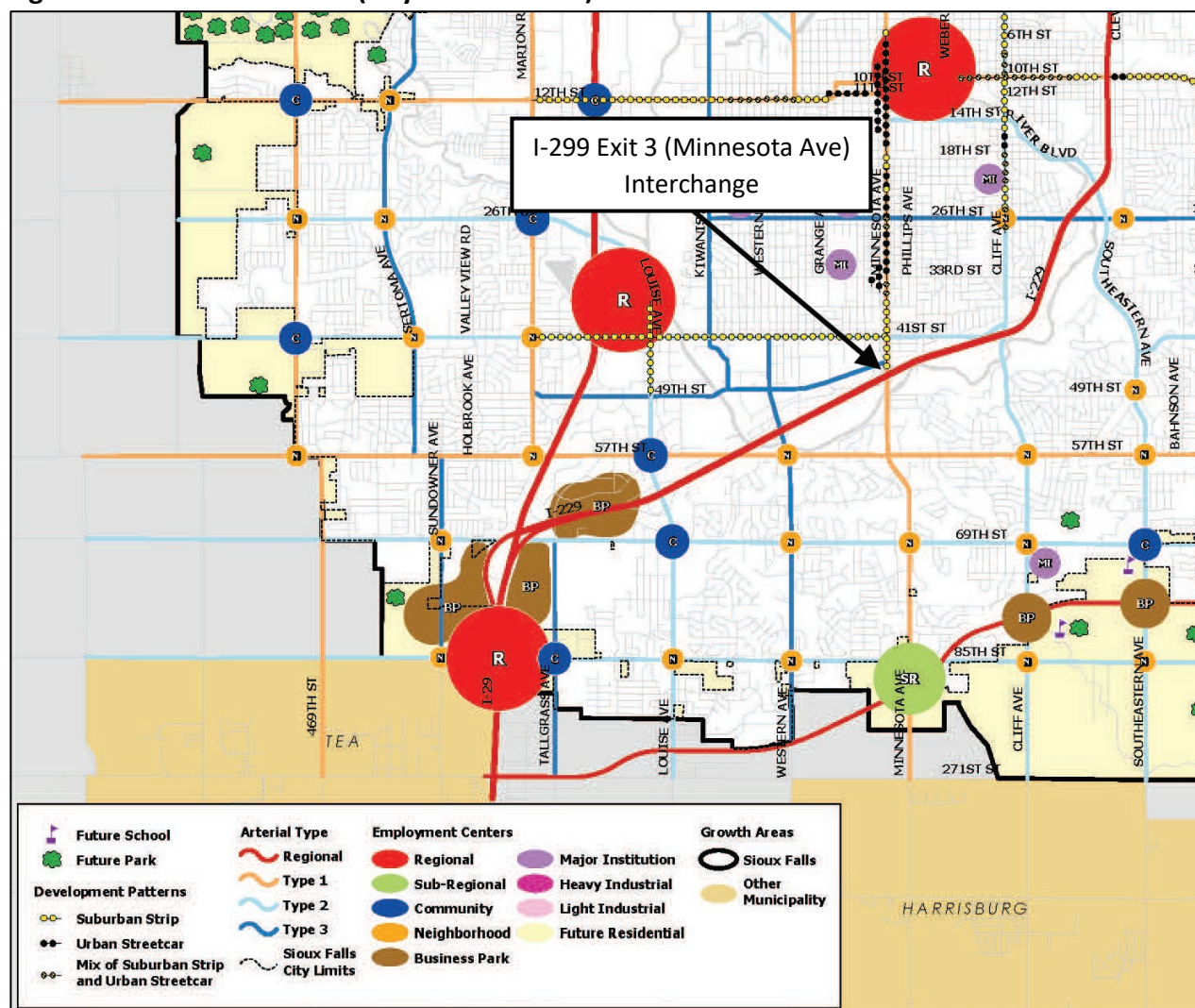


Source: City of Sioux Falls 2017

3.1.2 Future Land Use

The City of Sioux Falls' adopted comprehensive plan, Shape Sioux Falls, plans for future land use to the 2040 planning horizon. The city does not anticipate substantial changes to land uses surrounding the study area, as it is already a fully-developed urban area. Figure 3-3 shows future land use from the Shape Sioux Falls plan.

Figure 3-3: Future Land Use (City of Sioux Falls)



Source: City of Sioux Falls

3.1.3 Impacts of Alternatives

No Build Alternative

No conversion of land use would take place with the No Build Alternative. The No Build Alternative is not consistent with the City of Sioux Falls' long range land use planning. The No Build Alternative would be consistent with planned land uses, as minimal change is anticipated. However, the ability of the transportation system to serve these land uses will diminish as mobility and safety decrease under anticipated conditions. The No Build Alternative will not support surrounding land uses in the future.

Build Alternative

The Build Alternative would require approximately 3.9 acres of new ROW for construction. This would include approximately 2.3 acres of commercial property, and 1.6 acres of land that is currently vacant, undeveloped, or already used for transportation purposes. Impacted commercial land include strip acquisitions adjacent to the current ROW along Minnesota Avenue, as well as the entire acquisition of two commercial properties northeast of the existing Exit 3 interchange. One commercial business located on two city lots was recently acquired by the City of Sioux Falls through a voluntary acquisition process specifically for project purposes to accommodate a westbound exit ramp from I-229 to Minnesota Avenue, and also to potentially provide land for a compensatory storage/stormwater detention area location to accommodate project-related fill needed in Big Sioux River floodplain, in accordance with the City of Sioux Falls' Floodplain Ordinance requirements. Strip acquisitions along Minnesota Avenue would not have a permanent effect on business operations in those locations but may require temporary disturbance to access during construction. The land use impacts for this alternative are shown in Figure 3-4. Acquisitions and relocations are discussed further in Section 3.2.

Temporary land easements (TLE's) may be required for construction immediately outside of the proposed ROW boundary. TLE area would be designated as part of future design efforts. Land use impacts in TLE areas would be temporary with no long-term effects, as these areas would be returned to their previous land use after construction is complete. Direct impact land use changes associated with the alternatives are summarized in Table 3-1.

Table 3-1: Summary of Land Use Impacts

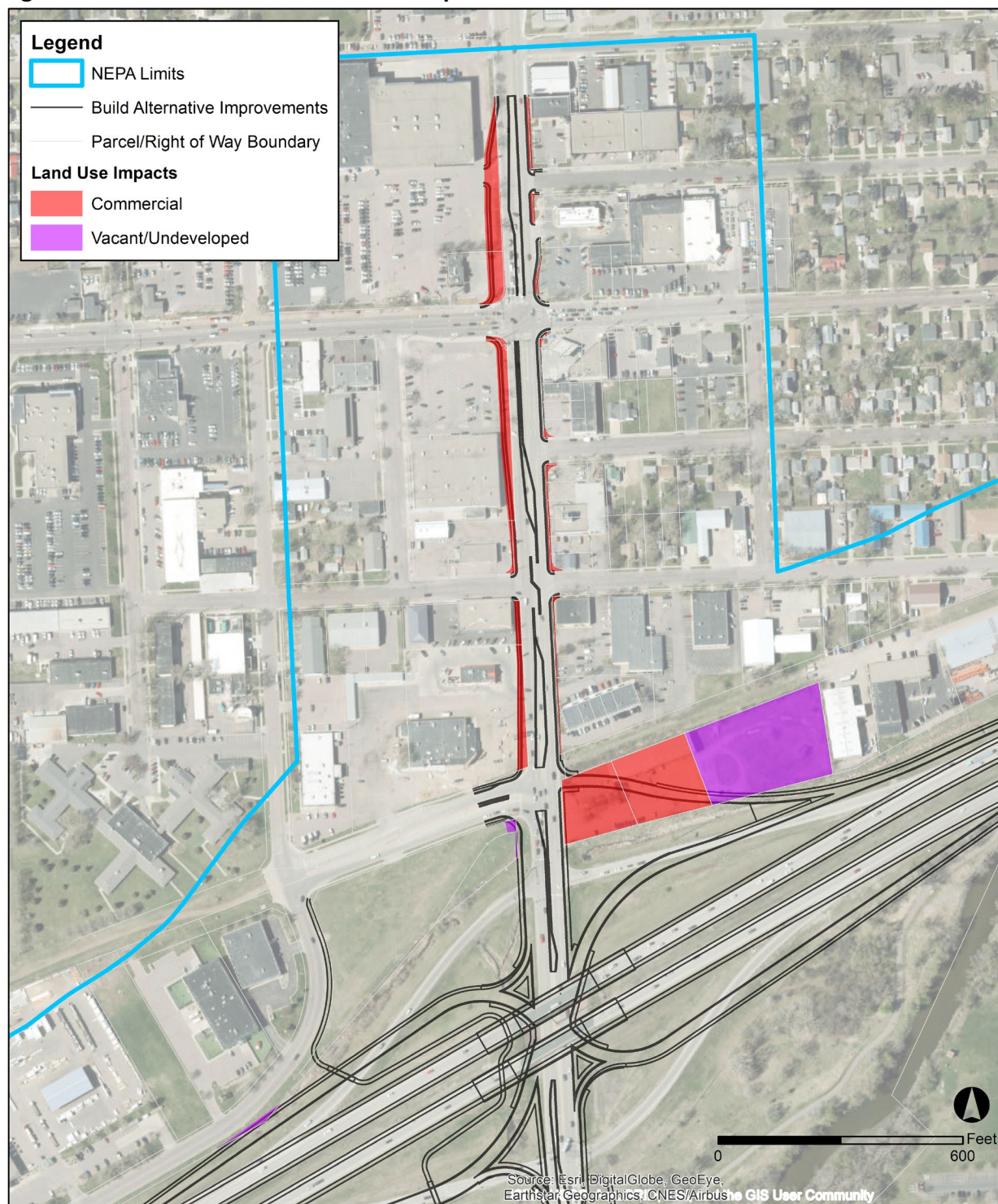
Land Use Type	Land Use Impacts (Acres) by Alternative	
	No Build	Build
Total permanent property acquisition	0	3.9
Commercial	0	2.3
Vacant/Undeveloped/Transportation	0	1.6

No changes in land use would be anticipated with the implementation of the Build Alternative apart from the direct conversion of previously discussed uses to ROW. While additional capacity would be added to Minnesota Avenue, access to surrounding properties would be maintained, and no additional indirect effects are anticipated. The Build Alternative includes reasonably foreseeable future projects within the study area, and no additional cumulative impacts from other projects were identified.

Direct impacts to parkland would have the potential to constitute a Section 4(f) impact. Additional discussion for these impacts is included in Section 3.15.

The Build Alternative is consistent with the City of Sioux Falls Shape Sioux Falls 2040 Comprehensive Plan and the Sioux Falls MPO's Go Sioux Falls 2045 Long-Range Transportation Plan. This project would maintain consistency with these plans by maintaining operations and safety on the transportation network, improving bicycle and pedestrian facilities, and improving deteriorating pavement within the project area.

Figure 3-4: Build Alternative Land Use Impacts



3.1.4 Avoidance, Minimization, and/or Mitigation Measures

Care was taken to minimize conversion of new land to ROW during the design of the Build Alternative by utilizing existing ROW.

Coordination between SDDOT, FHWA, The City of Sioux Falls, and the Sioux Falls MPO began early in the planning process/during the creation of the ESR and continued throughout the NEPA process. After the approval of the environmental document, prior to construction, SDDOT will inform The City of Sioux Falls and Sioux Falls MPO of the availability of the environmental document and proposed project action.

3.2 Acquisition and Relocation

Federal law requires that relocation assistance be provided to any person, business, or farm operation displaced because of the acquisition of real property by a public entity for public use (Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, PL-91-646 and amendments) (Uniform Act). In recognizing the rights of citizens displaced by transportation improvement projects, SDDOT has adopted policies that assure fair treatment and just compensation for owners and tenants of businesses and residential property. This compensation includes farms and all types of housing. All ROW acquisition and relocation would be in accordance with the Uniform Act, which require that just compensation be paid to the owner of private property taken for public use. The appraisal of fair market value is the basis of determining just compensation to be offered the owner for the property to be acquired. An appraisal is defined in the Uniform Act as a written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

The Federal Relocation Assistance Program requires that before a project can be constructed, a Replacement Housing Study must be completed to determine the needs of the people being relocated and the availability of replacement housing. In general, these requirements would ensure that displaced persons and families would be provided decent, safe, and sanitary housing that is comparable to the property being acquired and is within their financial means. Relocation payments may also be included to cover expenses involved with finding, purchasing, or renting, and moving to a new location. The potential relocation payments are available to both private residences and businesses.

No person shall be displaced from his or her residence unless a comparable replacement dwelling is available or provided for the displaced occupant. A displaced business would be offered a Relocation Assistance Program that meets all the criteria under federal and state laws governing displacements on publicly financed projects. This program is designed to offer advisory services and under many circumstances, to make payments to help offset some of the expenses and costs experienced by those who are displaced.

Under 23 CFR 710.501(c), property acquisition may take place prior to the approval of the environmental document if the following conditions are met:

- 1) The property was lawfully obtained by the State agency;
- 2) The property was not land described in 23 U.S.C. 138;
- 3) The property was acquired, and any relocations were carried out, in accordance with the provisions of the Uniform Act and regulations in 49 CFR part 24;
- 4) The State agency complied with the requirements of title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d-2000d-4);

- 5) The State agency determined, and FHWA concurred, the early acquisition did not influence the environmental review process for the proposed transportation project, including:
- i. The decision on need to construct the proposed transportation project;
 - ii. The consideration of any alternatives for the proposed transportation project required by applicable law; and
 - iii. The selection of the design or location for the proposed transportation project; and

3.2.1 Affected Environment

Relocation of residences to accommodate purchase of new ROW and subsequent construction of new roadway segments is an unavoidable consequence of reconstructing transportation systems in urban areas. In some instances, displacement would involve only a portion of an existing property. In other instances, it would involve the entire property. A field survey and aerial photos were used to identify business and residence locations in the project area. Numerous homes and businesses exist within the study area.

Coordination has taken place between the City, SDDOT, residents, and landowners in the study area as alternatives for the study have been developed.

3.2.2 Impacts of Alternatives

No Build Alternative

The No Build Alternative would not result in the acquisition or relocation of any residences or businesses.

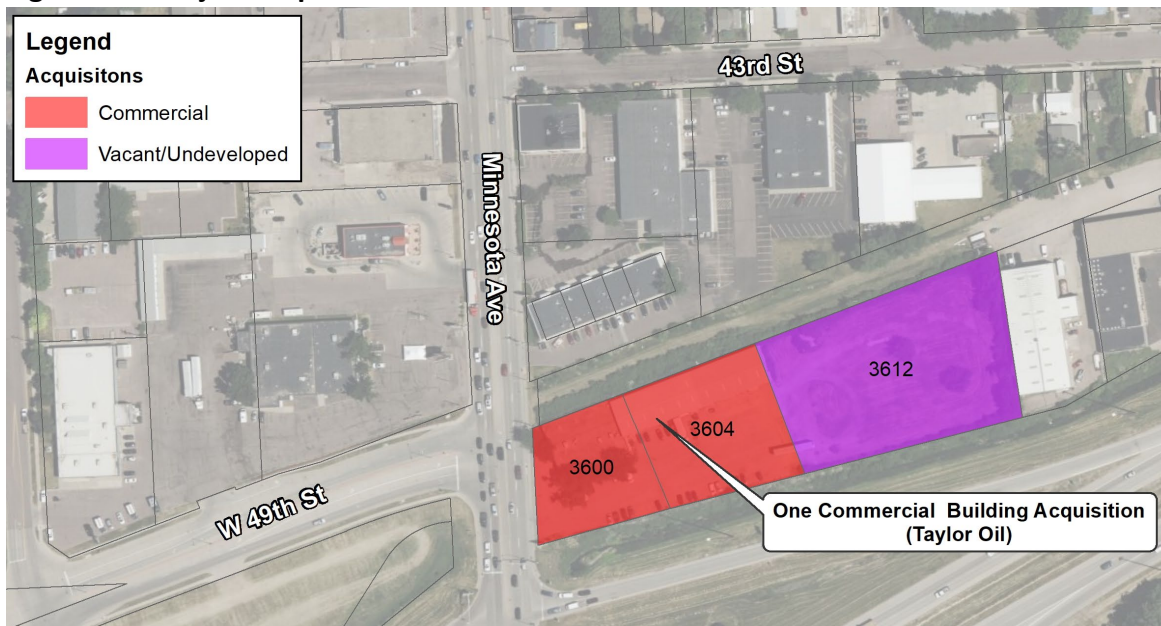
Build Alternative

The Build Alternative would result in the acquisition of one business located on two commercial lots just north of I-229 on the east side of Minnesota Avenue (Figure 3-5). These properties have recently been acquired (along with a third undeveloped adjacent lot) by the City of Sioux Falls and are currently in the process of being vacated. The property was appraised, review appraised, and settlement was reached in February 2020. This transaction was completed in 2020. The acquisition was completed prior to the completion of the EA for this project because the city was approached by the owner, who wished to sell. The City purchased the property “at-risk” knowing that the property would not be eligible for federal reimbursement of funds, a final preferred alternative may not require use of the property, and any environmental impacts that were identified would need to be avoided, minimized, and mitigated to the extent practicable as required by NEPA.

The early acquisition of this property is allowed for under 23 CFR 710.501(c) given that all of the necessary conditions of the statute are met (as outlined in Section 3.2 above). SDDOT coordinated with FHWA on September 2, 2025 demonstrating that all requirements were met for the early acquisition of this property. FHWA concurred with the early acquisition of the property being complete in accordance with 23 CFR 710.501(c) on September 3, 2025 (correspondence included in Appendix L).

Minor amounts of additional permanent property/strip acquisitions would be needed from businesses on Minnesota Avenue and access modifications would be required in certain locations, but the structures and functional access would be maintained (see Section 3.1.3, Figure 3-4). While this may result in temporary construction impacts, no long-term impacts are anticipated. Coordination between property owners and the city has been ongoing. Final access configuration and strip acquisitions would be determined in final design.

All property acquisition for the project would take place in accordance with the Uniform Act. The acquisition of all property not approved for early acquisition under 23 CFR 710.501(c) would take place after the approval of the Environmental Document.

Figure 3-5: Project Acquisitions

3.2.3 Avoidance, Minimization, and/or Mitigation Measures

Acquisitions and relocations would be conducted in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Surface Transportation Assistance Act of 1987 and 49 CFR, Part 24, effective April 1989. Relocation assistance would be made available to all affected persons without discrimination.

3.3 Utilities, Public Facilities, and Services

Public facilities include but are not limited to government buildings, schools, libraries, hospitals, and roadways. Coordination with utilities, public facilities, and services is an essential part of every transportation project. Coordinating improvements to the transportation network with these facilities and services help ensures that these services and facilities are accessible, more efficient, and can rely on the transportation network to properly function where applicable.

3.3.1 Affected Environment

Public facilities located in or near the study area include:

- Minnehaha County Juvenile Center
- Sioux Falls Fire Station 3

Public services include police, fire, emergency services, and sheriff's department. None of these services has a facility located within the study area. Public services also include utilities such as electricity, natural gas, cable, internet, and telephone. Utility suppliers in the study area include Southeastern Electric, Lincoln County Rural Water, Lewis and Clark Regional Water, CenturyLink/Qwest/Lumen, Midcontinent Communications, South Dakota Network (SDN), the City of Sioux Falls, Knology/WOW/Vast/Bluepeak, Xcel Energy, Prairie Wave, and MidAmerican Energy.

Utility coordination has been ongoing during the environmental process for this study and will continue through final design. An additional Utility Coordination Meeting would be organized by the City of Sioux Falls and the SDDOT prior to any construction activities to verify utility locations.

The ESR identified the City of Sioux Falls Bus Route #3 within close proximity to the study. Sioux Falls bus routes have since been revised and renamed. Presently, the Sioux Falls Blue Route runs along W 41st Street and turns north on Minnesota Avenue. This portion of the route lies within the NEPA study area for the project.

3.3.2 Impacts of Alternatives

No Build Alternative

The No Build Alternative would not result in impacts to utilities. Community facilities would experience negative effects in the future resulting from the No Build Alternative. Increased traffic congestion would make access to these facilities more difficult and time consuming. Response times for emergency services would also likely decrease in the future with the No Build Alternative as a result of increased traffic congestion.

Build Alternative

The Build Alternative would have no long-term impact on public buildings, or their access, in the vicinity of the study area. Temporary impacts to routes and response times for Fire Station 3 could occur during construction. None of the identified facilities are located adjacent to the construction zones associated with the Build Alternative.

Several utilities would likely have to be relocated within the new ROW or into a new utility easement with the Build Alternative. Utilities are located within the existing ROW and utility easements. Neither an additional utility corridor nor additional ROW specifically for utility expansion are anticipated to be needed for the project. Additional utility coordination will continue through final design where more detailed utility planning will take place. The relocation of utilities would be a short-term negative impact associated with the Build Alternative. This impact would be considered a common impact associated with roadway and other development projects.

Emergency services would be accommodated through construction at all times, but response times along Minnesota Avenue could be negatively impacted during construction activities. This impact would be limited to the area in the immediate vicinity of the construction zone. Post-project, emergency response times through the area would be shortened due to improved traffic operations on I-229 and Minnesota Avenue. This would be positive long-term impact associated with the project.

Coordination with the City of Sioux Falls would take place during final design to ensure that the route can continue to run. Access to stops will be maintained and appropriate signage will be used where necessary. Access to bus routes will be maintained. These measures will be included as project commitments.

3.3.3 Avoidance, Minimization, and/or Mitigation Measures

It is standard practice to coordinate with the fire department during final design. The Design team will coordinate with Fire Station 3 during final design and work to minimize impacts.

The SDDOT and the City of Sioux Falls would continue to coordinate with the utility companies about specific utility relocations and avoidance measures during final design and prior to construction activities to minimize impacts.

During construction, the public would be informed of any service interruption prior to the loss of service. Interruptions would be temporary and minimized to the extent possible with the Build Alternative.

3.4 Economic Resources

3.4.1 Affected Environment

The City of Sioux Falls has experienced a steady growth of population, combined with an increase in land acquisition and development. As growth continues, commuter demands on existing and new roadway systems would continue to increase in the future. The City of Sioux Falls' growth can be attributed to a number of reasons. The Sioux Falls Metropolitan Statistical Area (MSA) is the largest and fastest-growing labor market area in the state of South Dakota. Between 2005 and 2015, nearly 28,000 new jobs were created in the City of Sioux Falls. New employment opportunities continue to be created in many industries. From 2005-2015, new non-farm employment in the Sioux Falls MSA grew by over 22%. The following industries have seen employment growth by more than 20% during this time:

- Professional and Business Services (+56.52%)
- Health and Education Services (+44.83%)
- Transportation (+34.45%)
- Leisure and Hospitality (+20.28%)

Continued expansion of employment opportunities in the City of Sioux Falls is expected to sustain the level of immigration seen during the last two decades. Projections assume the national trend of large employers relocating or expanding into medium-sized Midwestern cities recognized as safe, clean communities with a high quality of life will continue. Additionally, South Dakota's favorable tax climate is anticipated to remain a primary competitive advantage supporting further employment opportunities.

According to the 2019 American Community Survey (ACS) 5-year estimates, as Shown in Table 3-2 the annual median household income for the City of Sioux Falls and Lincoln County are \$62,843 and \$61,968, respectively. These values are slightly lower than the national average in these categories.⁹

Table 3-2: City and County Annual Income

Annual Income	City of Sioux Falls	Minnehaha County
2019 Annual Median Household Income	\$62,843	\$61,968

Sources of revenue for Minnehaha County include general property taxes and revenue shared from the State of South Dakota. The taxable value of Minnehaha County in 2020 was more than \$17 billion. This includes nearly \$890 million in agricultural valuation, nearly \$10 billion in owner-occupied valuation, and over \$6 billion in other property valuation, as shown in Table 3-3.¹⁰

Table 3-3: Minnehaha County Property Tax Income Information

Tax Metric	Value
Total County Taxable Value	\$17.1 Billion
Taxable Value (Agricultural)	\$889 Million
Taxable Value (Owner-Occupied)	\$9.7 Billion
Taxable Value (Other Property)	\$6.4 Billion

The area immediately surrounding the study area is fully developed urban area which includes a number of existing businesses. While there is little to no space for additional development in the study area, business turnover and redevelopment may occur within the study area over the lifecycle of the project. Many businesses rely on a functional transportation network for the transportation of goods and services and to maintain accessibility for customers.

3.4.2 Impacts of Alternatives

No Build Alternative

The No-Build Alternative would result in increased congestion for a major arterial and a major collector within the study area, I-229 and Minnesota Avenue, respectively. Over time, congestion may diminish the desirability of the Project Area as a commercial, industrial, or residential destination. Impacts such as additional driving costs (e.g., gas, vehicle maintenance) for drivers and lack of expansion of these businesses may occur. While the surrounding area is fully developed and has little to no available space for commercial development, these problems associated with congestion may harm the overall economic viability of the study area in the future as opportunity for business turnover and infill development arise. Overall, the No-Build Alternative is anticipated to have a moderate, adverse effect on the economic resources in the Project Area.

Build Alternative

Development adjacent to I-229 and Minnesota Avenue includes several businesses. To improve traffic operations and safety, the Build Alternative would require the relocation of one business, additional private property acquisitions, and closure of direct public street or private access to businesses currently operating with multiple access points. Unmitigated loss of businesses would negatively impact the City of Sioux Falls' tax base. All ROW acquisition and relocation impacts would therefore be mitigated in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act (UA) of 1970. Through these mitigation actions, no loss of businesses or tax base would be anticipated from the project.

Transportation facilities would be improved to accommodate future traffic volumes with the build alternative. It is anticipated that these improved facilities would continue to serve existing businesses, but this alternative is not anticipated to spur significant redevelopment. Access to these businesses for all modes of transportation would be maintained, and no diversion of traffic away from businesses is proposed. Parking is currently prohibited on Minnesota Avenue, and it is not anticipated that parking for nearby businesses would be negatively affected by the project. Increased safety and operations, along with increased traffic volumes, would provide a potential long-term benefit to businesses which rely on through-traffic.

During any construction that would take place with the Build Alternative, residents, businesses, and visitors would likely encounter temporary impacts to economic resources including nominally increased travel times for brief durations. However, access to vital resources would be maintained throughout the construction period; therefore, impacts are expected to be minimal and short-lived. The City of Sioux Falls and Minnehaha County would experience a short-term beneficial economic impact due to the purchase of goods and services during the construction of the Build Alternative.

3.4.3 Avoidance, Minimization, and/or Mitigation Measures

Care was taken to minimize impacts to any businesses during the preliminary design of the Build Alternative. All ROW acquisition and relocation impacts to businesses would be mitigated in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act (UA) of 1970. For businesses where strip acquisitions are required, the structures and functional access would be maintained during and after construction.

Access would be maintained to surrounding businesses during construction. Construction would be phased to minimize traffic congestion impacts and overall time of construction in the project area. Temporary business access "wayfinding" signage will be utilized to help mitigate impacts during time of construction.

3.5 Considerations Relating to Pedestrians and Bicyclists

Many local and regional plans support the improvement of multimodal transportation facilities, especially when they can be included with the construction of other transportation facilities. The City of Sioux Falls has a Complete Streets Policy that requires the needs of pedestrian and bicyclists be considered whenever reconstructing or constructing a new arterial roadway.¹¹ The 2023 Sioux Falls Bike Plan includes the development of a complete bicycle network through the addition of new facilities identified in the plan as a very high priority goal.² The Sioux Falls MPO 2045 Long-Range Transportation Plan includes Multimodal Integration as one of its main guiding principles, which also includes several goals related to the inclusion of bicycle and pedestrian facilities.³

In addition to this project's needs, one major goal is to support multimodal transportation in a way that is consistent with local and regional plans. As a goal of the project, transportation solutions should work to address deficiencies in multimodal network identified in local plans and maintain consistency with planned multimodal projects.

3.5.1 Affected Environment

Sidewalks currently exist on both sides of Minnesota Avenue but have no separation from the roadway in most sections. Crossings at intersections are not always marked and often require non-motorized travelers to cross many lanes of traffic. Many of the pedestrian curb ramps in the project area do not meet current Americans with Disabilities Act (ADA)/Public Rights-of-Way Accessibility Guidelines (PROWAG) guidelines. Cracked and uneven sidewalks are other ADA challenges within the project area.

The City of Sioux Falls maintains approximately 28 miles of existing bicycle trails primarily located in the central part of the city. The Sioux Falls Bike Trail runs south of and parallel to I-229 within the study area, crossing under Minnesota Avenue at under the bridge that spans the Big Sioux River. No bicycle facilities exist within the study area which connect the trail to the residences and business north of Exit 3 Interchange.

The City of Sioux Falls 2023 Bike Plan identifies the following priorities for multimodal improvements within or near the study area:

- Proposed underpass at I-229 (proposed improvement)
- Improvements on Minnesota Avenue from 49th Street to the Big Sioux River (very high priority side path improvement)
- Improvements on 49th Street from Grange Avenue to Duluth Avenue (high priority side path improvement).
- Improvements on 49th Street from Duluth Avenue to S. Phillips Avenue (side path improvements identified as needing a future study).
- Improvements on the north side of I-229 east of S. Phillips Avenue (long-range improvements).

Numerous comments were received at the project's first public meeting (held in December 2019) regarding bicycle and pedestrian safety. All of these comments pertained to a few key factors for the project: unsafe shared bike lanes on Minnesota Avenue, maintaining access to the bike trail during and after construction, and unsafe crossing of I-229 and Minnesota Avenue. These issues are identified in Figure 3-6.

3.5.2 Impacts of Alternatives

No Build Alternative.

The No Build Alternative assumes no construction activities related to this project would occur related to the I-229 Exit 3/Minnesota Avenue study area and its street crossings. Therefore, no new bicycle trails would be constructed along the project corridor and no existing parks or bike trails would be impacted. The study area would continue to generally lack ADA accessibility. Many planned bicycle and pedestrian improvements could be implemented independently but an underpass at I-229 could prove to be difficult.

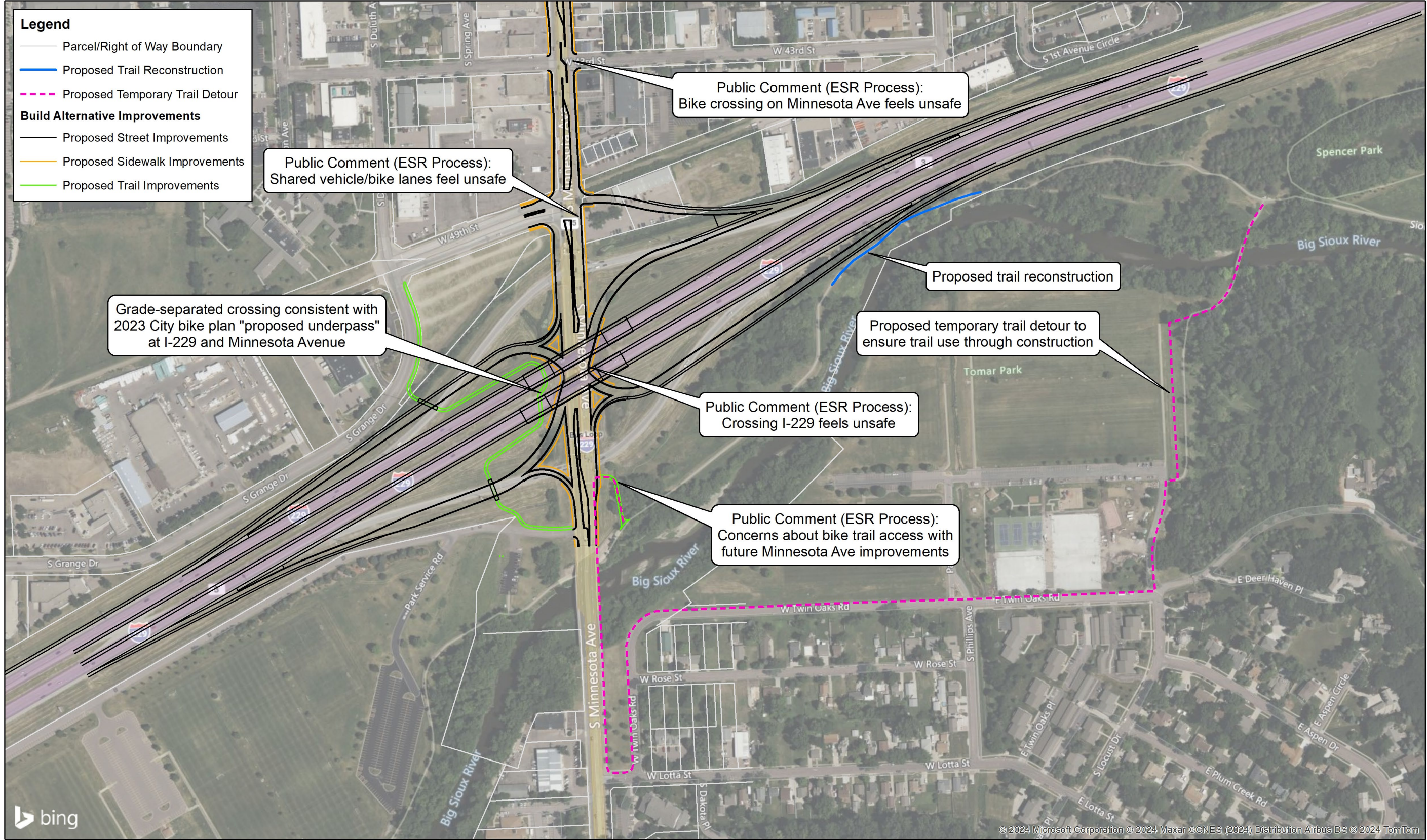
Build Alternative

The Build Alternative includes the construction of new sidewalks, a new section of trail, and a grade separated crossing of I-229. New facilities would be designed and constructed to meet ADA accessibility standards. These would provide a long-term benefit to the bicycle and pedestrian network in the study area. Proposed bicycle and pedestrian improvements are shown in Figure 3-6.

Proposed improvements would be consistent with planned city projects, providing improvements along Minnesota Avenue and an underpass of I-229, which could be compatible with future surrounding long-range projects that may connect to the study area. Improvements would also address public safety concerns by providing a grade-separated crossing of I-229, including crosswalks and pedestrian signals at all Minnesota Avenue intersections.

The Build alternative would require temporary rerouting of the Sioux Falls Bike Trail, a Section 4(f) and Section 6(f) resource, during construction (see Section 3.15, Section 4(f) and Section 6(f) Resources). This trail segment would be temporarily closed and reconstructed. A detour is planned for this trail closure, which would allow the trail to maintain its function without interruption. The detour was approved by the City of Sioux Falls and has been used previously to accommodate other local projects. The reconstruction would occur in off-peak months when there are fewer users of the trail. The detour is anticipated to be short term and temporary in nature and would not equate to negative long term or permanent impacts.

Figure 3-6: Proposed Bicycle and Pedestrian Improvements



3.5.3 Avoidance, Minimization, and/or Mitigation Measures

No long term or permanent impacts are anticipated with the implementation of the Build Alternative. Public comments related to bicycle and pedestrian travel were addressed by making nonmotorized connectivity a goal of the project and incorporating safe and accessible facilities in the build alternative. A temporary detour will also be provided to minimize disruption to the trail. The proposed trail reconstruction would occur in off-peak months when there are fewer users of the trail.

Additional consideration of impacts to the trail as they pertain to Section 4(f) and Section 6(f) resources is discussed in Section 3.15. Mitigation measures required for Section 4(f) and Section 6(f) resources are as follows (and also included in section 3.15.3):

The following measures to minimize harm to the Sioux Falls bike trail will be incorporated into the plans as plan notes and as environmental commitments in the EA.

- Access to the proposed closure of the 2,816-foot section of the Sioux Falls Bike Trail will be restricted for the 180-day duration of construction activities due to safety concerns.
- Temporary construction fencing shall be installed at the termini of the proposed construction trail reconstruction limits prior to the start of construction activities to protect the existing 4(f) property and the public.
- Appropriate signage shall be installed to alert users of the Sioux Falls Bike Trail of construction activities, access restrictions or closures, and to direct users to secondary access points.
- The staging and/or storage of construction equipment or materials shall not take place outside proposed construction limits that are within the defined boundaries of the 4(f) property.
- The Contractor shall be required to closely coordinate the construction schedule with SDDOT and the City of Sioux Falls prior to the start of construction activities, including a commitment that the Sioux Falls Bike Trail cannot be temporarily closed for more than 180 days.

Temporary closure of the trail will be less than 180 days in duration and less than the time needed for construction. Based on the scope of the proposed Build Alternative and type of work, there will be no permanent adverse effects to the protected recreational activities, features, or attributes associated with the Sioux Falls Bike Trail.

3.6 Air Quality

The Federal Clean Air Act of 1970, as amended, required the adoption of National Ambient Air Quality Standards (NAAQS). These standards were established in order to protect public health and welfare from known effects of sulfur dioxide, particulates (10 microns to 2.5 microns [PM₁₀], 2.5 microns and smaller [PM_{2.5}]), carbon monoxide, nitrogen dioxide, ozone, and lead. The NAAQS define the allowable concentrations of pollutants that may be reached but not exceeded in a given time period to protect human health (primary standard) and welfare (secondary standard) with a reasonable margin of safety.

3.6.1 Affected Environment

The United States Environmental Protection Agency (USEPA) delegated the protection of the ambient air quality in South Dakota to the South Dakota Department of Agriculture and Natural Resources (SDDANR, Previously SDDENR) in 1972. The SDDANR adopted the federal air pollution control regulations by reference, and these are shown in Table 3-4. As part of the state's program, the SDDANR operates a network of air monitoring samplers. The samplers determine the existing concentrations of regulated pollutants for different areas in the state.

Currently, the City of Sioux Falls is considered an attainment area for all of the regulated air pollutants, meaning entities are in compliance with all of the NAAQS.¹²

Table 3-4: National Ambient Air Quality Standards

Pollutant	Averaging Time	Concentration
Sulfur Dioxide	Annual (1)	0.03 ppm
	Twenty-Four Hour (1)	0.14 ppm
	One Hour	0.075 ppm
Particulates (PM10)	Twenty-Four Hour (1)	150 µg/m ³
Particulates (PM2.5)	Annual (1)	12 µg/m ³
	Twenty-Four Hour (1)	35 µg/m ³
Carbon Monoxide	One Hour (1)	35 ppm
	Eight Hour (1)	9 ppm
Ozone	Eight Hour	0.070 ppm
Nitrogen Dioxide	Annual	0.053 ppm
	One Hour	0.100 ppm
Lead	Three Month Arithmetic Mean	1.5 µg/m ³

3.6.2 Impacts of Alternatives

No Build Alternative

No construction activities related to this project would occur with the No Build Alternative. The area surrounding the I-229 Exit 3 Interchange would experience increased traffic volumes and congestion. This would have the potential to result in localized air quality impacts related to vehicle exhaust, especially during AM and PM peak hours. Due to size and scale of the study area, no air quality standard violations would be likely.

Build Alternative

Coordination took place with SDDANR as part of the ESR planning phase for the study and was updated during NEPA. The SDDANR indicated in a letter dated December 27, 2018 (Appendix C) that SDDOT projects could have a minor impact on air quality through point source and fugitive emissions. During construction, the Build Alternative would have temporary, minor impacts on air quality relating to increased dust levels and vehicle exhaust. Any adverse impacts would be short-term and localized, and it is not anticipated that a permit would be required. The Build Alternative would reduce traffic congestion and therefore lower emissions from projected increased traffic volumes. DANR's updated coordination letter dated July 10, 2024, indicated this project is unlikely to have adverse impacts to air quality in the area. No long-term major impacts are anticipated with the Build Alternative and no air quality standard violations would be likely.

Short-term air quality impacts during construction would occur for the following reasons:

- Vehicle delays during construction would increase exhaust emissions.
- Construction vehicles and related equipment would increase exhaust emissions.
- Disruption of ground covers by grading and other activities would generate dust.

3.6.3 Avoidance, Minimization, and/or Mitigation Measures

Construction equipment with point source emissions in many cases are required to have an air quality permit to operate. Any such equipment used during construction would obtain any necessary air quality permits if applicable.

Fugitive emissions, although not covered under State air quality regulations, are a common source of public concern and may be subject to local or county ordinances. Fugitive emissions add to the deterioration of the ambient air quality and should be controlled to protect the health of communities within the construction areas.

Emissions caused by vehicle delays, construction vehicles, and related equipment and activities generating dust would be minimized to the extent possible and are not expected to change the attainment air quality status of the project or surrounding areas.

To minimize air quality impacts during construction, the following Best Management Practices (BMP) would be implemented:

- Construction contractors would be required to comply with the statutory regulations for the State for air pollution control and to receive permits, as needed.
- Construction contracts would stipulate adherence to requirements regarding open burning of grub material, fugitive dust, visible emissions, and permits.
- A schedule of water sprinkling would be developed and followed to control dust.

3.7 Noise

The Federal Noise Abatement Criteria 23 (CFR) 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise) established the noise criteria for various land uses. Because this Project considers the construction of a new overpass or interchange, it is considered a Type I project per SDDOT guidance. Federal Noise Abatement Criteria (NAC) apply to all Type I projects requiring FHWA approval, regardless of funding source, or Type I projects requiring Federal-aid highway funds.

3.7.1 Affected Environment

In South Dakota, traffic noise impacts are evaluated by measuring and/or modeling the traffic noise levels that exceed the equivalent steady-state sound level of the time during the worst hour traffic volumes for the design year. This number is identified as the Leq level.

According to 23 CFR 772, a noise impact is defined as occurring when the predicted traffic noise levels:

- Approach or exceed the noise abatement criteria (see Table 3-5)
- Substantially exceed the existing noise levels

SDDOT has defined “approach or exceed” as when the predicted Leq is within one dBA, or less, or exceeds the Leq given for the activity category in the NAC (Table 3-5), and “substantially exceed” as an increase of 15 dBA or more over existing noise levels.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible are incorporated into the plans and specifications for project.

Table 3-5: FHWA Noise Abatement Criteria

Activity Category	Activity Criteria ^{1,2} Leq(h) dBA	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B ³	67	Exterior	Residential
C ³	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E ³	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted.
Notes: (1) Leq(h) shall be used for impact assessment (2) Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement (3) Includes undeveloped lands permitted for this activity category			

A traffic noise study, completed October 2021, was conducted in accordance with the Noise Analysis and Abatement Guidance for SDDOT (2011) and FHWA Noise Regulation found at 23 CFR 772. These resources help identify impacts the Build Alternative has on traffic noise levels in the immediate vicinity of the project at noise sensitive receptors, such as residences, businesses, etc. and to evaluate the feasibility and reasonableness of noise mitigation measures if there would be noise impacts associated with the project. See Appendix D of this EA for the full noise analysis report.

The noise modeling for both the existing noise levels and Build Alternative noise levels (which included all proposed interchange improvements and improvements on Minnesota Avenue and I-229) was completed using the noise prediction program TNM 2.5, which was developed for FHWA. The model uses the roadway alignment (horizontal and vertical), traffic volumes, traffic speeds, vehicle classification, and the distances from the roadway

center-of-lanes to the receptors as well as relative elevation differences. In general, higher traffic volumes, vehicle speeds, and numbers of heavy trucks increases the loudness of highway traffic noise.

Traffic noise impacts were assessed by modeling noise levels at noise sensitive receptor locations likely to be affected by the construction of the proposed project. SDDOT Noise Analysis and Abatement Guidance defines the noise study area for the Build Alternative to be from the beginning project construction point to the ending project construction point. The minimum distance to look for receptors is 300 feet from the edge of pavement. The project receptors were divided up into six separate noise areas based on proximity of adjacent receptors and roadway access locations, as shown in Figure 3-7. Using worst hour traffic volumes for the design year and future posted speed limits, traffic noise levels were modeled at a total of 40 representative receptor locations throughout the project area. The majority of receptors represented park receptors at Yankton Trail Park and Tomar Park. There were also a smaller number of receptors for residential properties (single-family homes) and commercial properties with areas of exterior use. Resulting noise levels from the No Build and Build Alternative noise modeling can be found in the Noise Report (Appendix D).

3.7.2 Noise Model Results

In general, the construction of the Build Alternative would result in increases in traffic noise levels compared to existing conditions. Future modeled Build Alternative noise levels at the modeled receptor locations range from 59.6 dBA (Leq) to 75.0 dBA (Leq). Modeled noise receptors exceeded FHWA noise activity criteria (Leq) at 11 of 40 modeled receptor locations under build (2050) conditions, however, none of these of these exceedances represent a “substantial exceedance” due to the proposed project. Modeled build (2050) condition noise levels vary from 0.4 dBA to 4.6 dBA from existing (2018) conditions. A summary of noise receptors by noise sensitive area by activity category is included in Table 3-6. A summary of noise model results is included in Table 3-7.

Generally, traffic noise levels are increased with the proposed build project due to many factors.

Some of the major changes that influence the increases are as follows:

- Traffic demands will increase between the existing (2018) conditions and future (2050) conditions.
- Portions of the proposed roadways will be shifted closer to the existing receptors.

Table 3-6: FHWA Noise Receptors by Noise Sensitive Area

Noise Sensitive Area	Number of Receptors	Category B	Category C	Category E	Additional Notes
NSA 1	2	0	1	1	Two businesses
NSA 2	1	0	0	1	One business
NSA 3	23	0	23	0	Yankton Trail Park; primarily seating areas for sports fields, picnic areas, trail crossings
NSA 4	6	0	6	0	Tomar Park and picnic areas along Sioux Falls Bike Trail
NSA 5	2	0	0	2	Two businesses
NSA 6	6	6	0	0	Six residences east of Minnesota Avenue

Table 3-7: FHWA Noise Model Results

Noise Sensitive Area	Number of Receptors	Range of Noise Levels Existing Conditions (2018) (dBA Leq)	Range of Noise Levels Projected conditions (2050) (dBA Leq)	Range of Noise Level Increase (2018-2050) (dBA)	Noise Receptors Exceeding FHWA criteria (2050)	Noise Receptors Demonstrating a "Substantial Increase"
NSA 1	2	67.8-73.2	69.3-74.6	1.4-1.5	1	0
NSA 2	1	73.3-73.3	75.0-75.0	1.7-1.7	1	0
NSA 3	23	58.0-67.2	59.6-68.7	0.4-2.2	6	0
NSA 4	6	60.3-67.3	63.0-71.9	2.2-4.6	3	0
NSA 5	2	64.8-67.7	65.8-68.7	1.0-1.0	0	0
NSA 6	6	60.2-62.4	62.1-64.7	1.8-2.3	0	0
All NSA's	40	58.0-67.7	59.6-75.0	0.4-4.6	11	0

NSA 3 includes Activity Category C receptors in Yankton Trail Park and NSA 4 includes Activity Category C receptors in Tomar Park and Spencer Park. Both of these public recreation areas are considered Section 4(f) resources, which require additional consideration of impacts during NEPA. Increased noise levels can constitute a constructive use of Section 4(f) resources. 23 CFR 774.15(f) outlines situations in which an increase in projected noise levels do NOT constitute a constructive use of these resources. Most notably in the context of this project, constructive use does not occur when:

- The impact of projected traffic noise levels of the proposed highway project on a noise-sensitive activity do not exceed the FHWA noise abatement criteria (67dBA for activity category C receptors)
- The projected noise levels exceed the relevant threshold (67dBA for activity category C receptors) because of high existing noise, but the increase in the projected noise levels if the proposed project is constructed, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less)

The project's noise analysis modeled a perceptible increase (exceedance of 3 dBA) at only one receptor within a Section 4(f) resource (receptor 4-3 within NSA 4). This location's existing (2018) dBA was already in exceedance of the criteria of 67 dBA to warrant the need for a noise abatement analysis. Receptor 4-3 represents a segment of trail that is already in close proximity to Interstate I-229, and impacts from the project will not substantially impair the protected activities, features, or attributes that qualify the property for protection under Section 4(f).

3.7.3 Noise Abatement Analysis

FHWA and SDDOT policy require that when noise impacts are identified, a noise barrier evaluation analysis must be performed. Noise barrier construction decisions are determined based on the evaluation of the feasibility and reasonableness of the noise barriers.

If noise abatement is found to be feasible and reasonable, it must be incorporated into the project. Feasibility of the noise barrier is determined by engineering feasibility (i.e., whether a noise barrier could feasibly be constructed on the site) and by acoustic feasibility (a minimum of 60 percent of front row receptors directly behind the noise wall achieve a 5 dBA noise reduction). Reasonableness is based on three factors determined by the number of benefited receptors from the noise abatement that must be met. The noise barrier must meet the SDDOT cost effectiveness threshold of \$25,000 per individual benefited receptor. Additionally, at least 40 percent of benefited receptors must achieve a 7 dBA noise reduction. Acceptance of the barrier must also be received by the majority of benefited residents and owners, through the voting process outlined in the SDDOT Noise Analysis and Abatement Guidance.

For the No Build Alternative, there are no traffic noise impacts requiring a noise abatement analysis.

For the Build Alternative, a total of four barriers were modeled using TNM 2.5 to determine if they met feasibility and reasonableness requirements. Acoustic reasonableness and cost effectiveness were calculated for each of the four noise barriers that were evaluated for this study. None of the noise barriers were found to meet the cost-effectiveness threshold for being considered reasonable and will not be proposed to be incorporated into the project. Because none of these barriers are otherwise considered feasible or reasonable, no public voting process is required. Additional details for each Noise Area and each of the analyzed barriers is included below. Analyzed barriers and impacted receptors are shown on Figures 3-8 through 3-10.

Noise Area 1 – North of I-229 Southbound (West of Minnesota Avenue)

Land use north of I-229 Southbound, west of Minnesota Avenue consists of two commercial receptors. Noise levels were modeled at two receptor locations in Noise Area 1. Modeled noise levels approached or exceeded the Federal NAC at 1 of 2 receptor locations with future (2050) Build conditions. A noise barrier was modeled across this parcel, along the existing right-of-way along I-229 Southbound, to mitigate traffic noise to this property.

Barrier 1-1

An approximately 400 foot long, 12.9-foot high (average) noise barrier was modeled on the north side of I-229 Southbound, west of Minnesota Avenue, to mitigate impacts to the commercial receptor 1-1. The noise barrier

achieved a 5 dBA noise reduction for a minimum of 60% of the front row receptors directly behind the noise barrier and a 7 dBA reduction for receptor 1-1 with 40% or greater of the benefited receptors represented. However, the cost per benefited receptor is \$267,904, which exceeds the allowable CE threshold of \$25,000 benefited receptor. Therefore, the barrier is not considered reasonable and is not proposed.

Noise Area 2 – North of I-229 Southbound (West of Minnesota Avenue)

Land use north of I-229 Southbound, east of Minnesota Avenue consists of one commercial receptor. Noise levels were modeled at 1 receptor location in Noise Area 2. Modeled noise levels approached or exceeded the Federal NAC at 1 of 1 receptor locations with future (2050) Build conditions. A noise barrier was modeled across this parcel, along the existing right-of-way along I-229 Southbound, to mitigate traffic noise to this property.

Barrier 2-1

An approximately 350 foot long, 10.9-foot high (average) noise barrier was modeled on the north side of I-229 Southbound, east of Minnesota Avenue, to mitigate impacts to the commercial Receptor 2-3. The noise barrier achieved a 5 dBA noise reduction for a minimum of 60% of the front row receptors directly behind the noise barrier and a 7 dBA reduction for Receptor 2-3 with 40% or greater of the benefited receptors represented. However, the cost per benefited receptor is \$197,470, which exceeds the allowable CE threshold of \$25,000 benefited receptor. Therefore, the barrier is not considered reasonable and is not proposed.

Noise Area 3 – South of I-229 Northbound (West of Minnesota Avenue)

Land use south of I-229 Northbound, west of Minnesota Avenue consist of Yankton Trail Park. The park's parcel extends from Western Avenue to Minnesota Avenue, containing various sporting fields, and trail crossings.

Noise levels were modeled at 23 receptor locations in Noise Area 3, which represented seating areas at the sporting fields as well as one trail crossing and 2 picnic areas. Modeled noise levels approached or exceeded the Federal NAC at 6 of 23 receptor locations with future (2050) Build conditions.

Barrier 3-1

An approximately 5,000 foot long, 12.2-foot high (average) noise barrier was modeled on the south side of I-229 Northbound, west of Minnesota Avenue, to mitigate impacts to the receptors located at Yankton Trail Park. The noise barrier was unable to achieve a 5 dBA noise reduction for 60% of the front row receptors directly behind the noise barrier and is not considered feasible. For the reasonableness determination, at least 40% of the benefited receptors achieved a noise reduction of 7 dBA or more, however, the cost per benefited receptor is \$316,680, which exceeds the allowable CE threshold of \$25,000 benefited receptor. Therefore, the barrier is not considered feasible or reasonable and is not proposed.

Noise Area 4 – South of I-229 Northbound (East of Minnesota Avenue)

Land uses south of I-229 Northbound, east of Minnesota Avenue consist of Tomar Park and picnic areas along the Sioux Falls Bike Trail. Noise levels were modeled at 6 receptor locations in Noise Area 4. Modeled noise levels approached or exceeded the Federal NAC at 3 of 6 receptor locations with future (2050) Build conditions.

Barrier 4-1

An approximately 1,965 foot long, 13.1-foot high (average) noise barrier was modeled on the south side of I-229 Southbound, east of Minnesota Avenue, to mitigate impacts to the receptors located at Tomar Park. The noise barrier was unable to achieve a 5 dBA noise reduction for 60% of the front row receptors directly behind the noise barrier and is not considered feasible. For the reasonableness determination, at least 40% of the benefited receptors achieved a noise reduction of 7 dBA or more, however, the cost per benefited receptor is the cost per

benefited receptor is \$446,186, which exceeds the allowable CE threshold of \$25,000 benefited receptor. Therefore, the barrier is not considered feasible or reasonable and is not proposed.

Noise Area 5 – Minnesota Avenue, West (North of I-229 Interchange)

Land uses along the west side of Minnesota Avenue, between I-229 and 39th Street consists of 2 commercial receptors. Noise levels were modeled at 2 receptor locations in Noise Area 5. Modeled noise levels approached or exceeded the Federal NAC at 0 of 2 receptor locations with future (2050) Build conditions. With no impacted receptors, noise mitigation was not evaluated.

Noise Area 6 – Minnesota Avenue, East (South of I-229 Interchange)

Land uses along the east side of Minnesota Avenue, between I-229 and 39th Street consists of 6 residential receptors. Noise levels were modeled at 6 receptor locations in Noise Area 6. Modeled noise levels approached or exceeded the Federal NAC at 0 of 6 receptor locations with future (2050) Build conditions. With no impacted receptors, noise mitigation was not evaluated.

Figure 3-7: Noise Analysis Overview Map

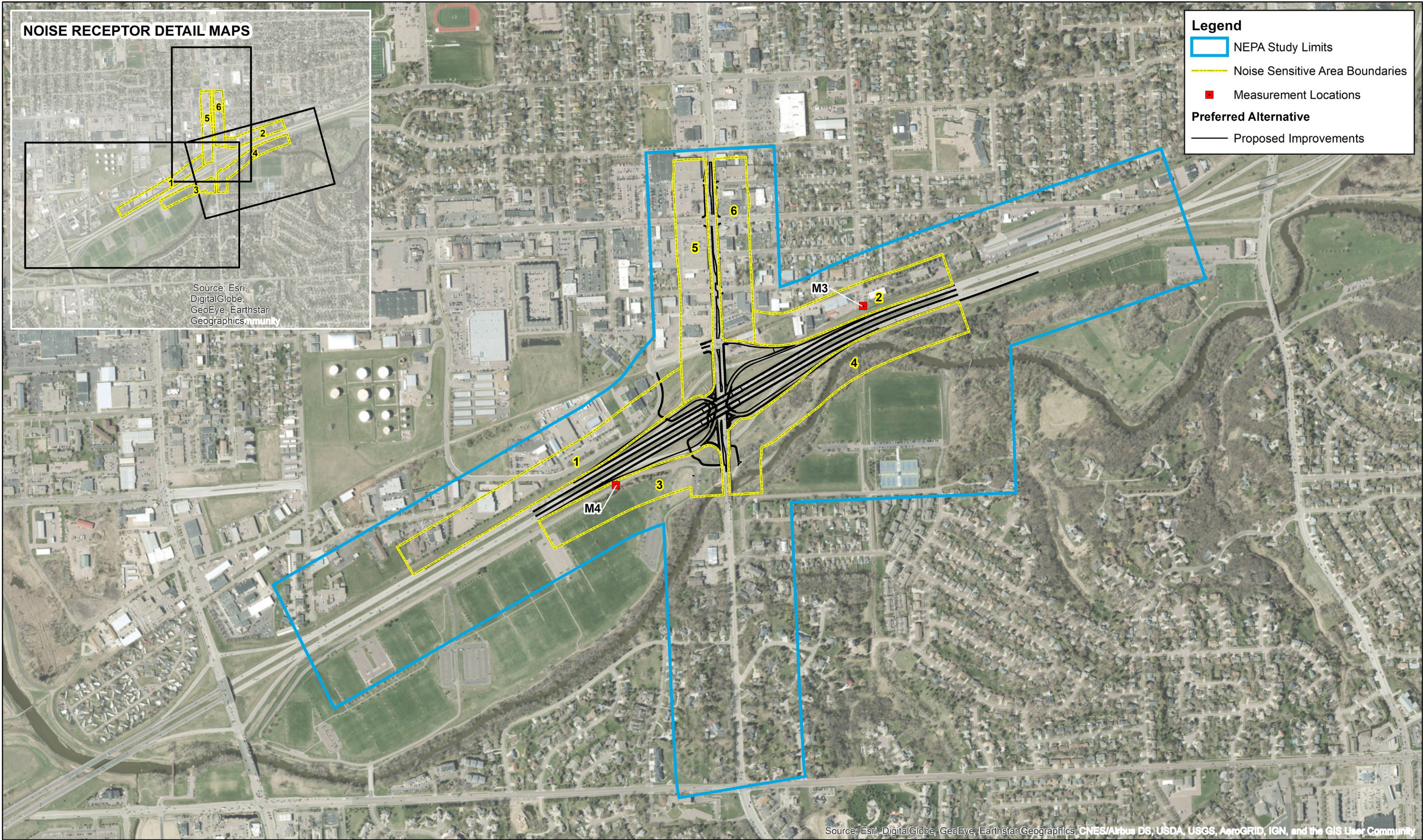


Figure 3-8: Modeled Noise Barriers (NSA 1 and 3)

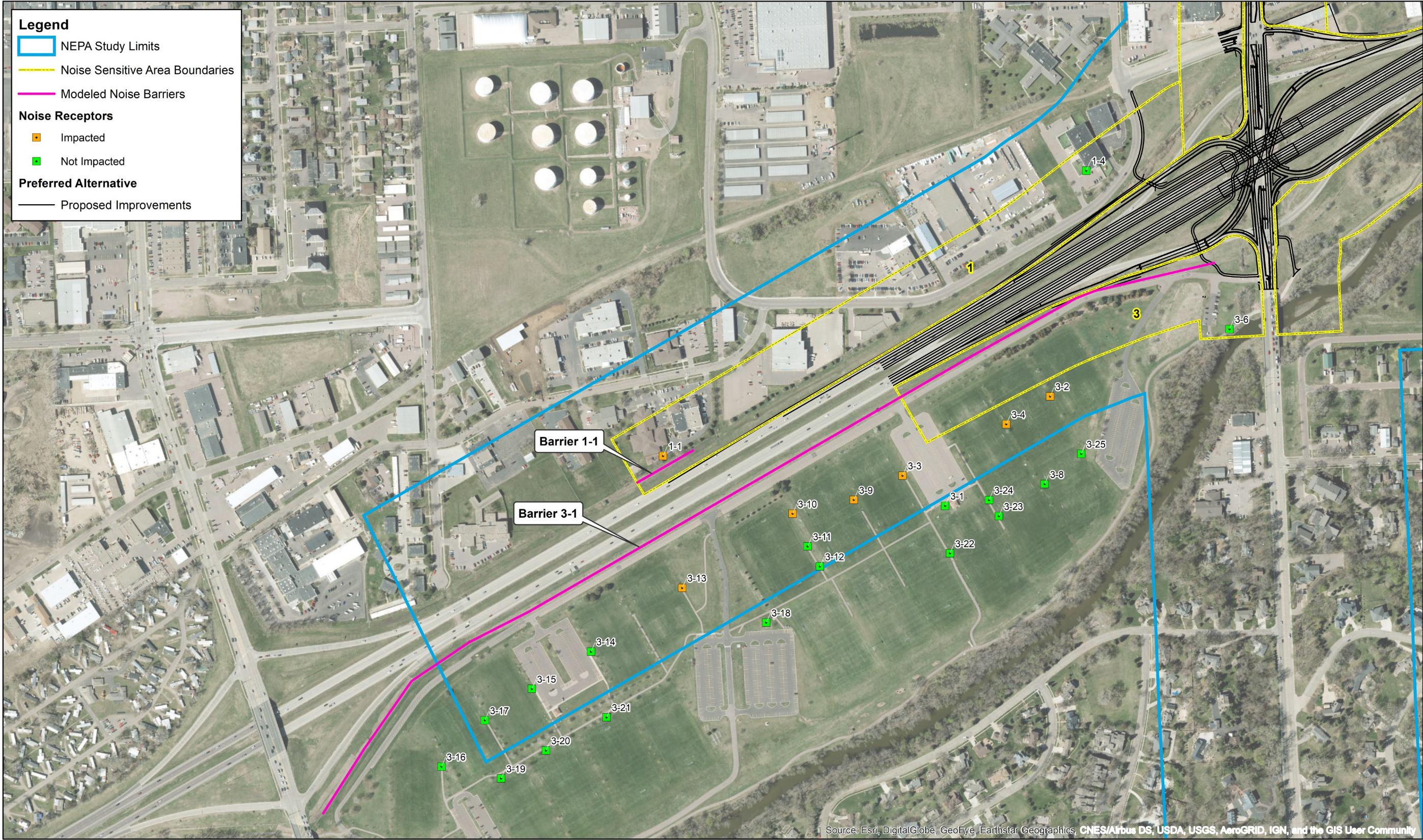


Figure 3-9: Modeled Noise Barriers (NSA 2 and 4)

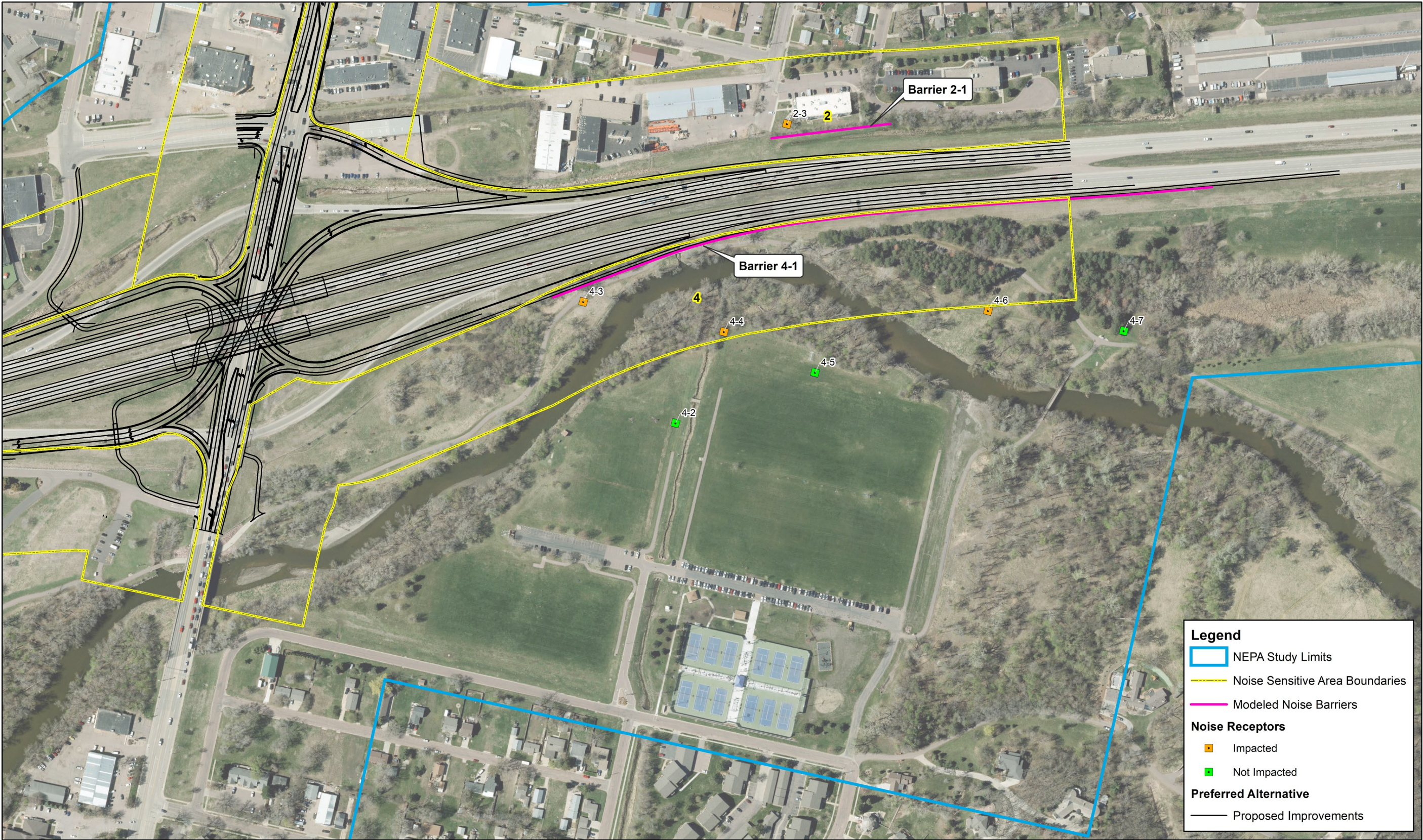
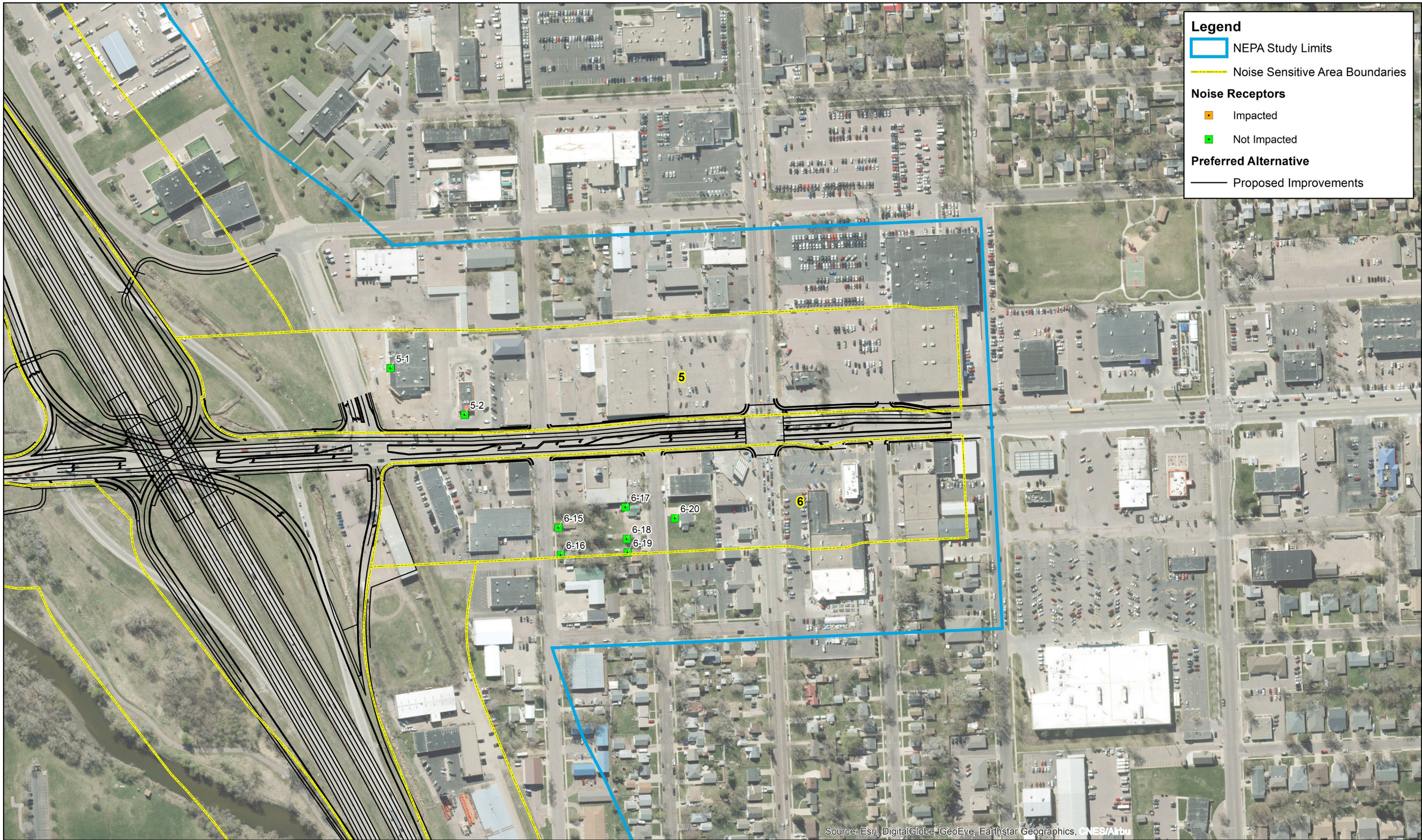


Figure 3-10: Modeled Noise Barriers (NSA 5 and 6)



3.7.4 Summary of Noise Impacts

3.7.4.1 No Build Alternative

Because future traffic levels are projected to increase, noise levels are anticipated to increase with the No Build Alternative. As no construction would take place with this alternative, no mitigation measures for construction noise would be required.

3.7.4.2 Build Alternative

With the Build Alternative, noise levels in the study area are projected to increase as a result of increased traffic volume. Four noise barriers were analyzed to mitigate noise impacts, but none of these met the criteria for being considered feasible and/or reasonable.

Elevated noise levels are, to a degree, unavoidable for roadway construction projects. Construction noise impacts would be short-term and limited to the duration of construction. SDDOT will require that contractors comply with the sound control requirements identified in the SDDOT 2015 Standard Specifications for Roads and Bridges. Construction noise abatement will be determined by weighing the duration of the project, benefits achieved, overall adverse social, economic, and environmental effects, and cost of abatement measures.

There is the potential for construction noise during both daytime and nighttime hours with the Build Alternative.

3.7.5 Avoidance, Minimization, and/or Mitigation Measures

In conformance with SDDOT's Noise Analysis & Abatement Guidance document Section 14, local officials will be provided with information on noise compatible planning techniques that can be used to prevent future highway traffic noise impacts. To assist local officials within whose jurisdiction a Type I highway project is located, the SDDOT will provide information on future noise levels for each Activity Category located along the project. This will be accomplished by providing a copy of the noise analysis report to the local official. The local official will also be provided with an estimation of future noise levels for various distances from the highway (noise contours) as an environmental commitment.

The Date of Public Knowledge of the location and potential noise impacts of a Type I project will be the approval date of the environmental document, i.e., Categorical Exclusion (CE), Finding of No Significant Impact (FONSI) or Record of Decision (ROD).

3.8 Water Quality

The Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), provides for the establishment of water quality standards, control of discharges, development of wastewater treatment management plans and practices, prevention or minimization of the loss or degradation of surface waterbodies and groundwater, the location with regard to an aquifer or sensitive ecological area, and the regulation of other issues concerning water quality. The purpose of this section is to determine if the project has the potential to exceed water quality standards from the discharge of surface water runoff, cause impact on the groundwater and water supply/drinking water sources or affect wastewater treatment management plans and practices.

The USEPA's National Pollutant Discharge Elimination System (NPDES) Program requires all construction activities that disturb more than one acre to receive a construction NPDES permit to conform to the CWA. SDDANR issues the NPDES permits under its Surface Water Discharge (SWD) Program.

In 1992, the USEPA identified the City of Sioux Falls as a Phase I Stormwater community subject to stormwater regulations. In 1999, SDDANR issued a stormwater permit to the City of Sioux Falls. The stormwater permit

required the City to develop programs to reduce the discharge of pollutants into the municipal separate storm sewer system (MS4). The City developed seven programs which included management practices, control techniques, and local standards to reduce the discharge of pollutants. The Public Works Environmental Division administers and manages associated Enforcement Response Plans to address any non-compliance with the City standards established by their stormwater programs.¹³

3.8.1 Affected Environment

The largest hydrological feature in the vicinity of the study area is the Big Sioux River, is located on the south side of I-229.

Based on the SDDANR Surface Water Quality Standards online mapping application accessed in September 2021, the portions of the Big Sioux River Nearest to the study area are designated as a Beneficial Use for:

- Domestic Water Supply Waters
- Fish and Wildlife Propagation, Recreation, and Stock Watering Waters
- Irrigation Waters

Conversely, these portions of the Big Sioux River are considered impaired for immersion and limited contact recreation waters (due to E. coli) and warmwater semipermanent fish life propagation waters (due total suspended solids).

The SDDANR indicated in a letter dated December 27, 2018 (Appendix C of this EA) the office had no objections to the project with regards to surface water quality impacts, assuming a number of environmental commitments are met. These commitments are summarized in the Avoidance, Minimization, and/or Mitigation Measures Section for water quality (Section 3.8.3). This was confirmed in DANR's updated coordination letter dated July 10, 2024. Many of these conditions are required through the standard commitments established in the SDDOT Environmental Procedures Manual, such as Commitment C: Water Source and Commitment D: Water Quality Standards.

3.8.2 Impacts of Alternatives

No Build Alternative

Since the No Build Alternative involves no construction activities related to this project, there would be no construction-related water quality impacts with this alternative.

Build Alternative

Construction of the Build Alternative would require the potential disturbance of approximately 2.4 acres. Since construction would occur within close proximity to water resources, and more than 1 acre would be disturbed, a number of mitigation measures would be necessary with this alternative, as described in section 5.

The Big Sioux River is located within study area. Although this waterbody would not be directly impacted by the Build Alternative, construction activities could discharge sediment and other potential pollutants into intermittent small drainageways within the study area and ultimately into the Big Sioux River or Skunk Creek. Dewatering may be required during construction, and sediment collection would take place on site to avoid impacts.

The SDDANR indicated in a letter dated December 27, 2018, and updated letter dated July 10, 2024 (Appendix C of this EA) that the office had no objections to the project with regards to surface water quality impacts, assuming basic procedures are followed, as described in Section 3.9.3.

The compensatory floodplain impact storage areas will provide a secondary benefit during precipitation events by temporarily storing stormwater runoff. Stormwater flow rates to the downstream drainage system will be reduced. This will generally allow smaller stormwater pipes and culverts, which will result in a cost savings to the projects.

3.8.3 Avoidance, Minimization, and/or Mitigation Measures

All required permits, plans, and BMP's will be obtained and implemented to ensure all necessary minimization and mitigation efforts are carried out with the implementation of the Build Alternative.

Commitments related to Surface Water Quality which have been stipulated by SDDANR through coordination efforts will be adhered to. The following requirements were identified through coordination with SDDANR:

- All fill material shall be free of substances in quantities, concentrations, or combinations which are toxic to aquatic life.
- Removal of vegetation shall be confined to those areas absolutely necessary for construction.
- At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Any construction activity that disturbs an area of one or more acres of land must have authorization under the General Permit for Storm Water Discharges Associated with Construction Activities.
- All material identified as removed waste material, material stockpiles, dredged or excavated material shall be placed for either temporary or permanent disposal in an upland site that is not a wetland, and measures taken to ensure that the material cannot enter the watercourse through erosion or any other means.
- Methods shall be implemented to minimize the spillage of petroleum, oils and lubricants used in vehicles during construction activities. If a discharge does occur, suitable containment procedures such as banking or diking shall be used to prevent entry of these materials into a waterway.
- All newly created and disturbed area above the ordinary high-water mark which are not riprapped shall be seeded or otherwise revegetated to protect against erosion.
- Special construction measures may have to be taken to ensure that water quality standards are not violated for waters of the state, including measures to ensure that the 30-day average total suspended solids criterion of 90 mg/L is not violated for the Big Sioux River.

If construction dewatering is required for any projects, the Contractor shall obtain the General Permit for Temporary Discharge Activities from the SDDANR Surface Water Program prior to the preconstruction meeting. The Contractor shall provide a copy of the approved permit to the Project Engineer.

3.9 Floodplain

Potential encroachments on floodplains are coordinated under 23 CFR 650 Subpart A. Its purpose is to prescribe FHWA policies and procedures for the location and hydraulic design of highway encroachments on floodplains, including direct Federal highway projects administered by FHWA. The Federal Emergency Management Agency (FEMA) defines the floodplain as any land area susceptible to being inundated by floodwaters from any source. Floodplains are mapped by FEMA.

The City of Sioux Falls Code of Ordinances, Chapter 156: Floodplain Management applies to this project since it lies within the FEMA Regulatory Floodplain of the Big Sioux River.

After the Initiation of the NEPA process for this study, The City of Sioux Falls (City) passed an amendment to Chapter 156: Floodplain Management on July 6, 2021, which includes provisions for Compensatory Storage (Chapter 156.074). Chapter 156.074 includes the following language:

New development shall not reduce the effective flood storage volume of the regulatory floodplain. A development proposal shall provide compensatory storage if grading or other activity eliminates any effective flood storage volume. Compensatory storage shall:

- a) Provide equivalent volume at equivalent elevations within the same drainage basin that is being displaced. For this purpose, "equivalent elevation" means having a similar relationship to ordinary high water and to the best available ten-year, 50-year, and 100-year water surface profiles; and*
- b) Be hydraulically connected to the source of flooding; and*
- c) Provide compensatory storage in the same construction season as when the displacement of flood storage volume occurs and before the flood season begins; and*
- d) The newly created storage area shall be graded and vegetated to allow fish access during flood events without creating fish stranding sites.*

Preliminary discussions have taken place with the City at SAT/project meetings to ensure current designs are compliant with local floodplain regulations.

3.9.1 Affected Environment

Based on the Federal Insurance Administration Flood Boundary and Floodway map for Minnehaha County (dated March 7, 2017, panel number 46099C0464E), designated 100-year floodplains are present along the Big Sioux River. Floodway and 100-year floodplain boundaries for the study area are shown on Figure 3-11.

The City of Sioux Falls participates in the National Flood Insurance Program (NFIP). By participating in the NFIP, the City of Sioux Falls has implemented controls, zoning, and development regulations, along with effective land use planning to reduce and control development that occurs within the 100-year floodplain.

FEMA routinely develops newer floodplain maps that supersede previous maps. For the preparation of the EA, the most recent available mapping from FEMA at the time of analysis was used. Newer floodplain boundaries will be considered to the extent possible throughout the course of the design process to ensure future compatibility.

After the Initiation of the NEPA process for this study, the City of Sioux Falls passed an amendment to Chapter 156: Floodplain Management on July 6, 2021, which included requirements for compensatory storage. Coordination has taken place with the city to ensure current designs are compliant with local floodplain regulations.

3.9.2 Impact of Alternatives

No Build Alternative

As a result of not requiring construction activities, the No Build Alternative would not encroach upon the 100-year floodplain.

Build Alternative

The Build Alternative for the project will require a detailed hydraulic analysis to understand the effects of filling in the floodplain, road raises, and any changes to the Big Sioux River bridge crossing and associated overflow locations. For this project and to report in the EA, the location and hydraulic design analysis is being completed in

accordance with the procedures identified in 23 CFR 650.111 (c)(1)(2)(3)(4)(5), which states that the significance of the floodplain impact risk or environmental impact for all alternatives containing encroachment must be addressed, including risks of the proposed action being implemented, the impacts on natural and beneficial floodplain values, the support of probably incompatible floodplain development, the measures to minimize floodplain impacts associated with the proposed action, and the measures to restore and preserve the natural and beneficial floodplain values impacted by the proposed action. In addition, the analysis must include evaluation and discussion of the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development (23 CFR 650.111 (d)). The results of this analysis must also be made available for public comment, in accordance with 23 CFR 650.109.

Preliminary analysis has been completed for the project based on preliminary design with consideration of 23 CFR 650.111 (and 23 CFR 650.109) procedures. Results of the preliminary analysis are documented in Appendix E and summarized below. During final design, this analysis will be reverified to confirm the results remain valid with the more detailed final design. This analysis will be completed concurrently with the final design process. Results of the preliminary analysis indicated that activities associated with the project will have a minor encroachment on the floodplain. The final design process will include efforts to not increase the 100-year water surface elevation (“no-rise”) as a mitigation measure for floodplain impacts and as a measure to restore and preserve the natural and beneficial floodplain values impacted by the action. Preliminary analysis indicates that the project can achieve a no-rise condition, and based on this it is anticipated that the final design will be able to achieve a no-rise condition as well.

If the project is not able to achieve a no-rise condition, a FEMA Letter of Map Revision will be required along with the associated public involvement process.

The encroachment on the floodplain will be demonstrated and made available to the public for review and comment during the Draft EA public review period and public meeting, satisfying the public involvement requirements described in 23 CFR 650.109.

Portions of the Exit 3 project lie within the 100-year floodplain as indicated on FEMA FIRM 46099C0463E, dated March 17, 2017. The 100-year floodplain extents on the west side of Minnesota Ave. are located along the southern edge of I-229. On the east side of Minnesota Ave., the 100-year flood elevation is higher than I-229, which is why areas on the north side of I-229 are shown in the 100-year floodplain.

The optional borrow site (approximately 2 miles west of the Exit 3 Interchange, shown previously in Figure 3-1) is located outside of the FEMA regulatory floodplain, and no work within the floodplain would be associated with the use of that site.

Based on a review of the 100-year floodplain elevation and the existing Minnesota Avenue profile, there appears to be an area where floodwaters from the 100-year event could potentially inundate areas west of Minnesota Ave. and north of I-229. However, the profile low point elevation is only slightly below the 100-year flood elevation. For the purposes of this analysis, it was assumed that the 100-year flood would not flow over Minnesota Ave. to the west. This will be verified as part of the final hydraulic analysis.

The Exit 3 project results in a total fill of approximately 8,000 CY below the 100-year floodplain elevation.

The City of Sioux Falls requires compensatory storage for fill below the 100-year floodplain elevation. Several locations within the Exit 3 interchange project area were evaluated to provide the required compensatory

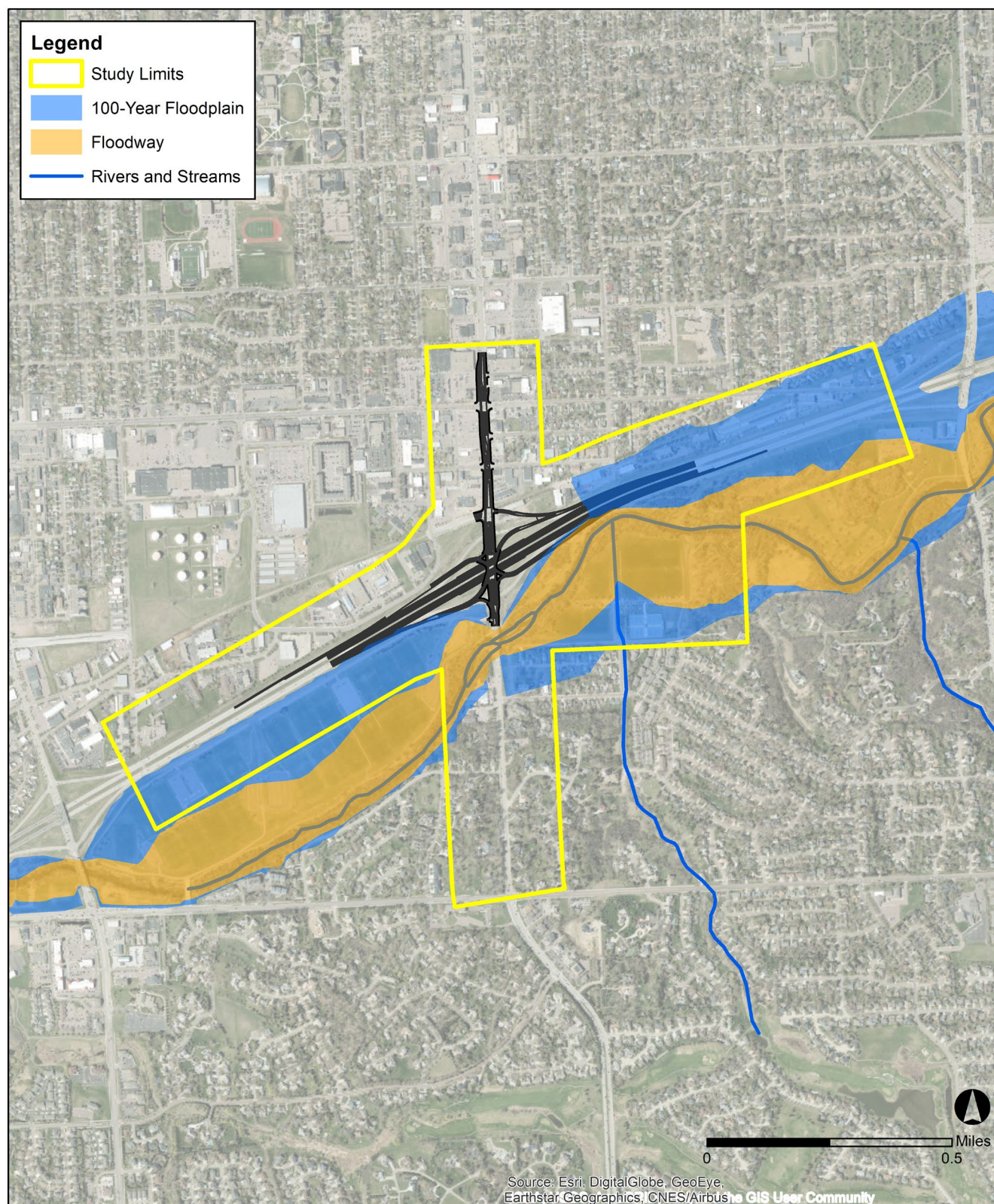
storage. For each component of the interchange ramps, an estimated 8,000 CY of floodplain fill will be needed, and an estimated 26,000 CY of floodplain cut has been determined, with a balance of -18,000 CY of compensatory storage.

3.9.3 Avoidance, Minimization, and/or Mitigation Measures

The final design process will include efforts to not increase the 100-year water surface elevation. During final design of the Build Alternative, a Floodplain Development Permit would be acquired as a design commitment. To address the City of Sioux Falls' floodplain compensatory storage requirements, compensatory storage areas have been proposed within the proposed transportation right of way. Build alternative impacts discussed in this EA have accounted for the inclusion of these compensatory storage areas. A summary of the floodplain impact compensatory storage analysis and recommendations is included in EA Appendix E.

An Emergency Action Plan (EAP) is currently being developed for this project. The designer will complete the EAP prior to construction. The EAP will define operation, maintenance, monitoring, and emergency actions to be taken by the construction contractor during each stage of the project.

Figure 3-11: Rivers, Streams, and Floodplains



3.10 Wetlands and Waters of the United States

Waters of the United States (WOTUS) include all Interstate water, including Interstate wetlands and other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairies potholes, wet meadows, playa lakes, and natural ponds. In addition, tributaries to these waters are also considered to be WOTUS. The study area is within the drainage of the Big Sioux River, which is a WOTUS, but no defined stream is present within the study area. WOTUS located within the study area are limited to numerous jurisdictional wetland areas.

Proposed action(s) that would affect jurisdictional wetlands or other WOTUS are required to obtain a permit from the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act of 1977 (33 United States Code. [U.S.C.] §1344). Wetland delineations are required to verify wetland boundaries and community types, which are valid for 5 years from the date of approval.

Two types of authorization are available from the USACE for activities regulated under Section 404. Depending on the type of project and potential impacts, either an individual 404 Permit or a Nationwide General permit would be issued by the USACE. In addition, EO 11990, entitled Protection of Wetlands, requires federal agencies (in this case FHWA) to take action to minimize the destruction and/or modification of wetlands (both jurisdictional and non-jurisdictional). The Federal Aid Highway Program found at 23 CFR 777.11(g) has the objective of providing a “net gain of wetlands” program wide. In order to comply with EO 11990, a Wetland Finding is required if documented wetlands cannot be avoided by the project. Any specific conditions required for compliance with the South Dakota’s water quality standards would be specified in the Section 401 certification and in the permit conditions of the issued Section 404 permit.

Jurisdictional wetlands are a distinct subset of all WOTUS and are legally defined as: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions” (40 CFR 230.2 and USACE, 33 CFR 328.3) and are tributary to a WOTUS water body. This definition emphasizes that under normal circumstances wetlands must possess three characteristics: a prevalence of hydrophytic vegetation, hydric soils, and wetlands hydrology.

3.10.1 Affected Environment

A number of digital resources were examined, and a field review was conducted to determine wetland locations within the study area. Digital resources examined include:

- The Natural Resources Conservation Service (NRCS) Web Soil Survey (2019)
- U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) (2019)
- Minnehaha County Hydric Soils List (2019)

The field delineation site visit was conducted by Rebecca Beduhn, SEH Senior Scientist, on September 12th and 13th, 2018. The purpose of these visits was to identify areas meeting the technical wetland criteria in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE 2010). In total, 11 wetland areas were delineated within the study area. Wetlands in the study area consist of primarily palustrine emergent wetlands (PEM), with one palustrine unconsolidated bottom (PUB) wetland. The Preliminary Wetlands Assessment for the current survey was provided to the USACE on August 5, 2021 and is included in Appendix F. The Big Sioux River, a traditionally navigable Waterway (TNW) was also identified within the study area. USACE

provided an Approved Jurisdictional Determination (AJD) on March 31, 2022 (Appendix G). The AJD states that there are jurisdictional and non-jurisdictional waters located within the review area. Therefore, any activity involving the discharge of dredged or fill material within the WOTUS would require a permit from USACE.

The initial wetland delineation type and boundary concurrence expired in September 2023, a reevaluation of the wetland boundaries was made by Luke Menden, an SEH Wetland Biologist, in early September 2023. This reevaluation included a site visit to each of the previously delineated wetlands to compare conditions and determine if any substantial changes were observed to either the wetland boundary or type. Approved wetland boundaries were field verified using a sub-meter GPS unit and were determined to be accurate and therefore will continue to be utilized for project planning purposes. This assessment relies primarily on observations of vegetation and hydrology, it confirmed that site conditions were unchanged, and none of the wetland boundaries have been altered, modified, or natural changed. No new wetlands were identified during the field review. On this basis, the previous boundaries remain valid for the purposes of completing the EA, quantifying impacts, and identification of mitigation. Documentation of the wetland boundary verification is included with the Wetland Delineation Report (Appendix F). Coordination took place between USACE and SDDOT in October 2023 following the initial wetland delineation expiration and reevaluation. USACE confirmed the findings of the March 31, 2022, AJD remain valid. Documentation of this coordination is included with the AJD (Appendix G).

A Wetland Finding was prepared for the project to document project impacts and proposed mitigation measures. FHWA approved the wetland finding on July 25, 2024. A summary of impacts and mitigation is included in the following sections. The approved wetland finding is included as Appendix H.

3.10.2 Impacts of Alternatives

No Build Alternative

The No Build Alternative would involve no construction activities related to this project, resulting in no wetland impacts.

Build Alternative

The Build Alternative would impact Jurisdictional and Non-jurisdictional waters. A Section 404 permit would be required for jurisdictional wetlands. As a stand-alone project, a permit specifically for the Exit 3 project would be obtained. A separate permit would be obtained for the adjacent Exit 4 project. Non-jurisdictional wetlands would need to be mitigated under EO 11990. Due to the large number of wetlands present with the general study area and the limited ability to modify the designs because of engineering constraints, it would be impossible to avoid all of the wetlands. Non-jurisdictional wetlands would be mitigated in accordance with FHWA regulation 23 CFR 777.9. With the implementation of the mitigation measures, there would be no net impact on wetlands. Delineated and impacted wetlands are shown in Figure 3-12 and listed in Table 3-7.

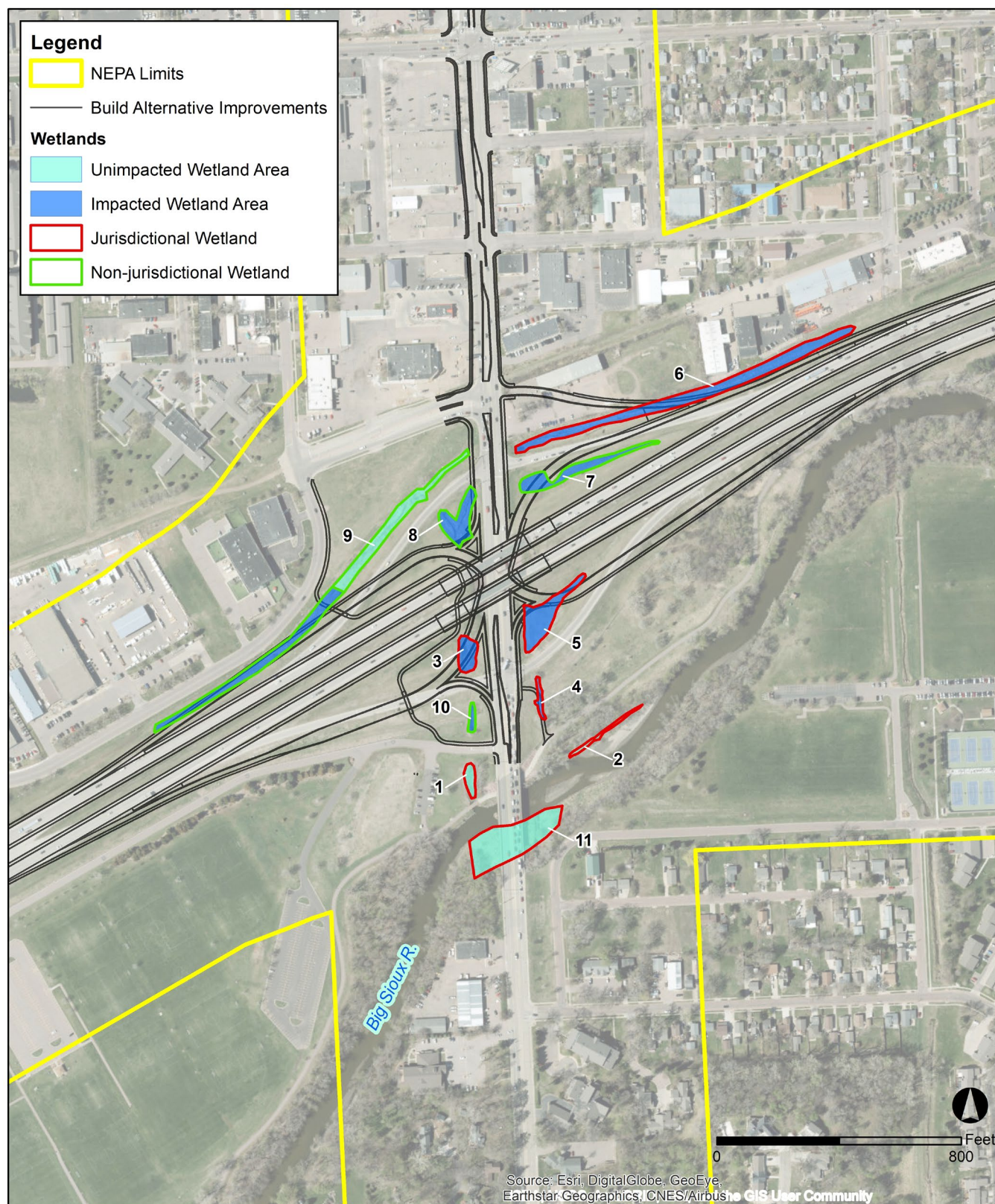
Based on the preliminary design of the Build Alternative at the time of this report, the Build Alternative is anticipated to affect approximately 2.51 acres of wetlands, including 1.42 acres of jurisdictional wetlands and 1.09 acres of non-jurisdictional wetlands. No wetlands exist on the proposed borrow site which would be disturbed. The site is comprised of disturbed fill material that is frequently disturbed.

As discussed in Section 3.8, no direct impacts to the Big Sioux River are anticipated with this project. The AJD identified seven wetlands (wetland number 1, 2, 3, 4, 5, 6, and 11) as exhibiting a contiguous surface connection to the Big Sioux River. Of these, wetland 3, 4, 5, and 6 are anticipated to be impacted by the project.

Table 3-7: Delineated Wetlands and Potential Wetland Impacts

Wetland Number (SEH Delineated Wetlands)	Wetland Size (Acres in Study Area)	Potentially Impacted Acres	Cowardin Classification	Jurisdictional Status
Wetland 1	0.07	-	Type 5 / PUBH	Jurisdictional
Wetland 2	0.06	-	Type 2 / PEMB	Jurisdictional
Wetland 3	0.14	0.14	Type 2 / PEMB	Jurisdictional
Wetland 4	0.05	0.05	Type 3 / PEMC	Jurisdictional
Wetland 5	0.34	0.34	Type 3 / PEMC	Jurisdictional
Wetland 6	0.89	0.89	Type 3 / PEMC	Jurisdictional
Wetland 7	0.30	0.30	Type 2 / PEMB	Non-Jurisdictional
Wetland 8	0.26	0.26	Type 2 / PEMB	Non-Jurisdictional
Wetland 9	0.91	0.49	Type 3 / PEMC	Non-Jurisdictional
Wetland 10	0.04	0.04	Type 2 / PEMB	Non-Jurisdictional
Wetland 11	0.63	-	Type 3 / PEMC	Jurisdictional
Total Potential Wetland Impacts		2.51 ac.	(1.42 JD, 1.09 Non-JD)	

Figure 3-12: Delineated Wetlands and Build Alternative Wetland Impacts



3.10.3 Avoidance, Minimization, and/or Mitigation Measures

There are a total of 1.42 acres of permanent wetland impacts to jurisdiction waters (Wetlands 3, 4, 5, and 6) which will be mitigated in accordance with Section 404. Based on a standard mitigation ratio of 5.5:1, a total of 7.81 functional capacity units (FCUs) is expected to satisfy Section 404 compensatory mitigation requirements. The remaining 1.09 acres of permanent wetland impacts are to non-jurisdictional waters (Wetlands 7, 8, 9, and 10) and will be mitigated in accordance with EO 11990. A total of 1.10 FCUs will be required to satisfy EO 11990 compensatory mitigation requirements based on a 1.01:1 ratio mitigation. All wetland impacts occur in the Lower Big Sioux Geographic Service Area (GSA).

Off-site wetland mitigation through the purchase of wetland credits from a wetland bank is proposed to satisfy the requirements for both the Section 404 permit and “No Net Loss” per EO 11990. Wetland Banking is the preferred option for off-site mitigation. On-site mitigation is not proposed due to the site constraints with available land. The SDDOT proposes to mitigate permanent wetland impacts by purchasing released credits from Ducks Unlimited’s Moody County wetland mitigation bank site. SDDOT intends to mitigate EO11990 impacts concurrently with Section 404 impacts which is anticipated to require a purchase of 8.91 FCUs from Ducks Unlimited.

Ducks Unlimited has confirmed it has sufficient credits available at this time and has provided a letter of credit availability for the project. A copy of the letter is included with the wetland finding (Appendix H). Ducks Unlimited has also confirmed they have 100 advanced In-Lieu Fee (ILF) credits available in the Lower Big Sioux GSA. If released wetland bank credits are not available, following Section 404 permitting for this project, SDDOT proposes to purchase available ILF from Ducks Unlimited.

The final credits required to compensate for unavoidable permanent impacts to aquatic resources will be determined by the USACE during Section 404 permitting. A USACE Nationwide 23 Permit is anticipated to be issued for this project once the environmental clearance document is completed.

With the implementation of these mitigation measures there would be no net impact on wetlands.

3.11 Vegetation, Fish, and Wildlife

Biological resources considered in this section include vegetation, terrestrial wildlife, and aquatic wildlife. Several state and federal regulations on fish and wildlife coordination for environmental review have implications for this project. At the federal level, coordination regarding the Fish and Wildlife Coordination Act (1958), the Migratory Bird Treaty Act (MBTA), and the Endangered Species Act (ESA) is with the USFWS. At the state level, the South Dakota Game, Fish and Parks (SDGFP) regulates and manages certain fish and wildlife species including game, non-game, and state threatened or endangered species.

Federal Executive Order 13112 establishes that federal agencies, through their actions, implement measures and means to prevent the spread of invasive species, in particular vegetative species. Other important vegetative issues include native prairies, high valued trees and landscaping, and areas subjected to vegetation management activities such as roadway right-of-way corridors. South Dakota Administrative Rule 41:10:04 forbids the possession and transport of Aquatic Invasive Species.

3.11.1 Affected Environment

A wide variety of vegetation presently exists within and adjacent to the study area. Most types are associated with a typical urban environment: planted grasses within road ROWs, manicured lawns with planted grasses and ornamental type trees, wetlands, and idle land. All of the vegetation types listed above are present within the

study area. A large amount of parkland also exists within the study area, especially along the Big Sioux River. This includes additional wetlands, small wooded areas and grassy sports fields separated by rows of trees.

The quality of the wildlife habitat present within and adjacent to the study area is heavily influenced by existing vegetation and associated land use. The grassed road ROW, and manicured lawns and sports fields are not the preferred habitat for most terrestrial wildlife species; however, wildlife species have adapted to use available habitat in urban areas. Additionally, trees within the study area have the potential to be used as nesting habitat by songbirds such as robins, finches, cardinals, etc. streams and the surrounding wooded areas would provide fair habitat for a variety of fish, reptiles, amphibians, nesting birds and small mammals.

The idle land and wetland areas represent the best terrestrial wildlife habitat within the study area as these areas would provide nesting habitat for marsh type birds, and cover and foraging habitat for amphibians, reptiles, and small to medium sized mammals. Wetlands with open water areas would also have the potential to be used by nesting and migration waterfowl. Proximity to existing urban features would limit the usage level of many wildlife species within all of the habitats. No publicly owned wildlife or waterfowl refuges exist within the study area.

Coordination occurred with SDDANR, SDGFP, and USFWS for this project. SDGFP indicated that there are records of trout perch, a species of greatest conservation need in the Big Sioux River, downstream of the project area. No specific concerns related to unique natural communities were raised by these agencies. Field surveys were conducted for wetlands and bat habitat for this study. No unique natural communities were identified as a result of the surveys. Additional survey information is included in Section 3.11 (Wetlands and other Waters of the United States) and Section 3.13 (Threatened and Endangered Species).

3.11.2 Impacts of Alternatives

No Build Alternative

With the No Build Alternative, there would be no construction activities related to this project and there would be no impact to vegetation, fish, and wildlife.

Build Alternative

The Build Alternative would disturb vegetation located in the existing ROW, in newly acquired ROW, and on temporary construction easements.

Disturbance to existing habitat would primarily include existing road ROW, vacant land, and a small number of residential/business properties. Wetlands and parkland will be avoided to the extent practicable, but small quantities of impacts would result to these areas as well. Impacted areas would support new roadway/bicycle and pedestrian facilities, or may be maintained as vegetated road ROW, and may serve stormwater management and drainage purposes. Depending on the alignment of the final design, some trees located within the study area may be designated for removal during construction of the roadway.

As discussed previously, the Build Alternative would result in the conversion of some wetland areas to roadway and road ROW. All wetland impacts would be mitigated in a manner that results in no net loss of wetlands. With the Build Alternative, there would be a minor reduction in the quality of terrestrial wildlife habitat within limited areas (pastureland and idle land) within the study area. Therefore, this alternative would only have minimal impact on the terrestrial wildlife species within the study area.

Construction activities would temporarily disturb terrestrial and aquatic wildlife near the ROW. Therefore, wildlife within the ROW would likely seek sanctuary in nearby habitat during grading operations.

3.11.2 Avoidance, Minimization, and/or Mitigation Measures

The City of Sioux Falls is taking a proactive approach to manage Emerald Ash Borers in Minnehaha County. Removal of ash trees by the project undertaking will need to coordinate an action plan in accordance with the City's approved quarantine data and restrictions.

Impacts on fisheries in the Big Sioux River would be reduced by implementation of BMP's identified in the SWPPP to minimize impacts on the water quality of these streams. These BMP's would be employed during the project construction. With the planned BMP's and other stipulations in the NPDES construction permit required for the project, Build Alternative would not have an indirect adverse effect on the Big Sioux River and associated aquatic resources.

SDDOT 2015 Standard Specifications and the City of Sioux Falls General Conditions, Specification, and Policies; and BMP's would also be employed for minimizing impacts on disturbed upland habitat, which would be restored by seeding the disturbed areas with a native grass and forb mixture. The seeding would stabilize soil and decrease soil erosion.

As discussed previously, impacts to wetlands would be mitigated by the purchase of credits in an existing wetland bank.

3.12 Threatened and Endangered Species

3.12.1 Potentially Affected Species

Through the USFWS Information for Planning and Consultation (IPaC) process, three federally listed species were identified within the project area. This includes one mammal, one bird, and one plant species.

- The Northern Long-eared Bat (*Myotis septentrionalis*, endangered) (NLEB) is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears. White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns and sheds. Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents.
- The Rufa Red Knot (*Calidris canutus rufa*, threatened) is a primarily brown and gray shorebird ranging from 25-28 centimeters in length. On wingspans of 20 inches, some knots fly more than 9,300 miles from south to north every spring and repeat the trip in reverse every autumn, making this bird one of the longest-distance migrants in the animal kingdom. The birds hopscotch along migration stopovers between wintering and breeding areas. A serious population decline occurred for the species in the 2000s, caused primarily by reduced food availability from increased harvests of horseshoe crabs. Knot numbers appear to have stabilized in the past few years, but they remain at low levels relative to earlier decades.
- The Western Prairie Fringed Orchid (*Platanthera praeclara*, threatened) is a smooth, erect, perennial herb that grows to 4 feet tall. Plants have two to five fairly thick, elongate, hairless leaves each. The open, spike-like flowering stalk bears up to 24 showy, 1-inch wide, white flowers. The lower petal of each flower is

deeply 3-lobed and fringed, hence the common name. It is found most often on unplowed, calcareous prairies and sedge meadows. It has been cited that conversion of habitat to cropland is the greatest remaining threat to southern populations. The persistence of western prairie fringed orchid is dependent on periodic disturbance by fire, mowing, or grazing, but these practices may also cause adverse effects and must be carefully implemented.

Since the coordination process began, two new species, the tricolored bat and monarch butterfly, have been identified as proposed endangered species and candidate species respectively, which are known to occur in Minnehaha county.

- The Tricolored Bat (*Perimyotis subflavus*) is one of the smallest bats native to North America. The once common species is wide ranging across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the winter, tricolored bats are found in caves and mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts. During the spring, summer and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves. As its name suggests, the tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip. White-nose syndrome, a disease that impacts bats, is caused by a fungal pathogen. It has led to 90 to 100% declines in tricolored bat winter colony abundance at sites impacted by the disease. Since white-nose syndrome was first observed in New York in 2006, it has spread rapidly across the majority of the tricolored bat range.
- The Monarch Butterfly (*Danaus Plexippus*) is one of the most recognizable species in North America. Monarchs are particularly remarkable because they migrate each year, flying from as far as Canada and across the United States to congregate at a few forested overwintering sites in the mountains of central Mexico and coastal California. These sites are an amazing phenomenon: thousands of monarchs cluster in the trees in California, and millions of monarchs drape large swathes of forest in Mexico. But over the past two decades, monarch numbers in North America have declined, prompting the U.S. Fish and Wildlife Service to join state agencies, tribes, other federal agencies and non-government groups to identify threats to the monarch and take steps to conserve monarchs throughout their range.

A map of the study area was provided to the SDGFP as part of the project coordination that took place in the ESR/planning phase. In their response letter dated December 27, 2018, SDGFP noted that the National Heritage Database indicated the presence of the following state-listed species:

- Trout-perch (*Percopsis omiscomaycus*) is a species of greatest conservation need in the Big Sioux River, downstream of the project area. This freshwater fish is relatively small, reported by the USGS to be approximately 20cm in length. The trout-perch serves as a source of food for larger fish. It is natively found throughout much of the Midwest, as far east as Vermont, Massachusetts, and Connecticut, and as far north as Alaska.

Updated coordination with SDGFP took place on June 25, 2024 and included the borrow site. A response was received on July 2, 2024. No additional concerns were identified.

Certain birds are protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act. IPaC also identified a number of migratory birds that are either listed on the USFWS Birds of Conservation

Concern (BCC) list or warrant special attention in the project location. The bald eagle is no longer a federally listed species; however, it is protected under the Bald and Golden Eagle Protection Act and the MBTA. Migratory birds have the potential to nest on the ground within areas not regularly mowed as well as within trees, large shrubs and on bridge structures.

3.12.2 Impacts of Alternatives

No Build Alternative

With the No Build Alternative, there would be no construction activities related to this project and there would be no impact to vegetation, fish, and wildlife.

Build Alternative

The Build Alternative will not adversely affect federal-listed threatened and endangered species. Preferred habitat for the federal-listed/proposed for listing species and state-listed species does not occur within the study area. Individual determinations for each species, and support for these determinations is included below for each species:

- The Northern Long-eared Bat – No hibernacula (caves and mines) for the northern long-eared bat were identified through field investigation or coordination with regulatory agencies. However, the potential for summer roosting sites exists within the area. Trees and manmade structures which could serve as roosting habitat occur within the study area. A habitat survey was completed on July 25, 2019, to determine if trees (five surveyed stands) or structures planned for removal within the project area (the commercial building proposed for acquisition and the I-229 bridge over Minnesota Avenue) are serving as roosting habitat for the northern long-eared bat. The survey concluded none of the structures were being used by the bats. The survey also noted that a number of dead trees surveyed in tree stand B would have the potential to serve as roosting habitat, although no evidence of bat use was observed. To avoid potential impacts, any tree clearing should be avoided during pupping season in accordance with the requirements of the Programmatic Biological Opinion for Transportation Project in the Range of the Indiana Bat and Northern Long-Eared Bat. The survey is provided in Appendix C.

In December 2016, FHWA and USFWS, with the Federal Railroad Administration and Federal Transit Administration, completed a revised Programmatic Biological Opinion (PBO) for Transportation Projects in the Range of the Indiana Bat and the Northern Long-Eared Bat. A coordination letter was sent to USFWS December 10, 2018 during the ESR process. A habitat survey was conducted on July 25, 2019.

The IPaC consultation process was completed on April 5, 2019 and a verification letter was issued. The online consultation form and habitat survey were sent to USFWS on December 17, 2021 as part of NEPA coordination for the project. A preliminary determination of “May Affect – Not Likely to Adversely Affect” was made for the NLEB for this project. USFWS concurred with the survey findings and the “May Affect – Not Likely to Adversely Affect” determination for the NLEB in their final correspondence letter dated February 1, 2022.

Since the coordination for this project was completed, the NLEB status been changed from threatened to endangered. As a result, the 4(d) rule for USFWS consultation no longer applies. The determination key for this species was updated in IPaC on November 9, 2023. A May Affect, Not Likely to Adversely Affect Determination was still recommended for this species. This was sent in an updated letter to USFWS on

November 9, 2023. Concurrence with this determination was provided in a response letter dated November 9, 2023.

Updated coordination was required later in the NEPA process for additional advanced design elements of the project. A coordination letter was sent to USFWS on April 19, 2024, recommending a No Effect determination for all species that may be impacted by these activities based on a survey conducted on April 10, 2024, that did not identify bridges or trees as suitable NLEB habitat. USFWS concurred with this recommendation in their response letter signed and dated May 16, 2024. Additional coordination for the borrow site was sent November 15, 2023, proposing a “no effect” determination for this site. USFWS concurred with this determination on December 14, 2023.

- The Red Knot – No project impacts are expected for the Red Knot. This species is migratory and is known to avoid inhabited, urbanized areas. Although no critical habitat has been defined for this species, no shallow water is available that would support feeding during migration, making the study area an unideal stopover site. A letter was sent to USFWS on December 17, 2021, with a preliminary determination of “No Effect” for this species. USFWS concurred with this determination in their correspondence letter dated February 1, 2022. Re-coordination of this determination with USFWS occurred on May 16, 2024, to confirm the original determination.
- The Western Prairie Fringed Orchid – No project impacts are expected for this species. Impacts would primarily occur on mowed rights of way and lots within urbanized areas, which are not suitable habitats for this species. A letter was sent to USFWS on December 17, 2021, with a preliminary determination of “No Effect” for this species. USFWS concurred with this determination in their correspondence letter dated February 1, 2022. Re-coordination of this determination with USFWS occurred on May 16, 2024, to confirm the original determination.
- Trout-perch – GFP indicated that the project would have no anticipated significant impact to fish and wildlife resources and would anticipate that to remain if a number of suggestions are considered during the planning and construction of the project. These suggestions are included as avoidance/minimization/mitigation measures below and will be included as project commitments.
- Tricolored Bat – No project impacts are expected for the tricolored bat. No evidence of the bat was identified during the field survey conducted for the NLEB. USFWS concurred with this determination in their most recent response letter signed and dated May 16, 2024.
- Monarch Butterfly - No project impacts are expected for the monarch butterfly. Project impacts would occur in developed areas where vegetated areas are primarily mowed lawns and rights-of-way. No suitable habitat for the butterfly would be impacted by the project. USFWS concurred with this determination in their most recent response letter signed and dated May 16, 2024.

Based on the above findings, it has been determined that the Build Alternatives would not likely adversely affect the NLEB, would not affect other federal listed or candidate species, and would have no impact on the state listed species.

3.12.3 Avoidance, Minimization, and/or Mitigation Measures

On May 16, 2024, USFWS concurred with a No Effect determination based on the aforementioned April 10, 2024 survey of the Study Area. Prior to the completion of the environmental decision document, SDDOT would coordinate with USFWS to confirm the effect determinations remain valid. Prior to construction, field verification for the habitat survey would be conducted by SDDOT to ensure that it remains valid within the 24-month required window prior to construction. These are included as environmental commitments for the project.

To avoid impacts to trout perch, the following suggestions from SDGFP will be adhered to:

- Disturbance to riparian and wetland areas should be kept to an absolute minimum.
- If riparian vegetation is lost it should be quantified and replaced on site. Seeding of indigenous species should be accomplished immediately after construction to reduce sediment and erosion.
- A site-specific sediment and erosion control plan should be part of the project.
- A post construction erosion control plan should be implemented in order to provide interim control prior to re-establishing permanent vegetative cover on the disturbed site.
- Stream bottoms impacted by construction activities should be restored to pre-project elevations.
- In stream work should not be conducted during fish spawning periods. Most spawning occurs during April, May, and June.

Adherence to the Migratory Bird Treaty Act (MBTA) and its amendments and USFWS regulations should result in the avoidance and/or minimization of most impacts to migratory birds. Vegetation removal, including the removal of trees would be timed to the extent possible to avoid the migratory bird breeding and fledging season (April 1 through July 15). If any trees need to be removed during this time period, the trees would be surveyed for nests by a qualified biologist and cleared prior to the initiation of work. If a nest is identified in any of the trees to be removed, a migratory bird nest depredation permit under the MBTA would be obtained from the USFWS, or appropriate inactive nest removal and hazing/exclusion measures would be incorporated into the work to avoid the need to disturb active migratory bird nests.

The bald eagle is no longer a federal-listed species; however, it is protected under the Bald and Golden Eagle Protection Act and the MBTA. Pre-construction surveys are recommended prior to construction to determine if any active bald eagle nests are located in the project area. The City of Sioux Falls would notify the USFWS if a bald eagle nest is located within one mile of the construction site at time of construction. The project engineer would be notified immediately so a course of action can be determined. Additionally, the project would comply with the National Bald Eagle Management Guidelines.

3.13 Cultural (Historic and Archaeological) Preservation

In addition to review under NEPA, consideration of effects to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended through 2006 (16 U.S.C. 470 et seq.) and implemented by regulations found at 36 CFR § 800. Section 106 of the NHPA requires the federal agency to take into account the effect of an undertaking on any historic properties within the area of potential effects (APE). Historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). The APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." [36 CFR Part 800.16(d)].

The APE for this project is defined in section 3.13.1 and shown in Figure 3-13.

3.13.1 Affected Environment

SDDOT and FHWA initiated Section 106 consultation with SHPO in April 2019. In November 2018, SDDOT sent letters to appropriate federally recognized American Indian tribes. It was requested that they identify any concerns about potential project effects and inviting them to participate in public scoping meetings and/or schedule a separate meeting to discuss any specific tribal issues and concerns. The Yankton Sioux Tribe sent a response noting that they do not have an interest in the project at this time but would like to be informed if any cultural artifacts are found. An updated coordination letter for the project, including the borrow site, was sent to the tribes on June 23, 2024. No additional responses were received.

Consulting party letters were sent to the following American Indian tribes:

- Flandreau Santee Sioux Tribe
- Lower Brule Sioux Tribe
- Sisseton-Wahpeton Oyate
- Standing Rock Sioux Tribe
- Yankton Sioux
- Three Affiliated Tribes (Mandan Hidatsa Arikara Nation)
- Ponca Tribe of Nebraska
- Chippewa Cree Tribe

A Level III intensive cultural resources survey, including a Level I record search and pedestrian survey, was initially completed for the study by SDARC on February 22, 2019. An updated review for the project was completed August 29, 2023. The review included area of potential effect (APE), which encompasses the project's area of anticipated direct impacts, as well as a one-mile buffer around I-229 Exit 3. The APE includes the proposed reconstruction area for Exit 3 and its associated components (i.e., areas of grading, structure replacement, traffic light installation, etc.) (See Figure 3-13). The study area was evaluated for cultural resources, and a survey was conducted in the APE during the periods of September 11 and 12, 2018 and January 9 and 10, 2019. The most recent record search was conducted March 27, 2023. Only those resources that have the potential to be affected by the study's alternatives are discussed in this EA.

An APE was also examined for the designated option borrow site (Figure 3-14), located approximately 2 miles southwest of the project along I-229, which may be used as a potential borrow area for the project during construction. The amount and source of borrow for the project, however, is currently unknown and would not be determined until final design. Borrow from this site may not be necessary, but it was included in the review as a proactive measure. The site is commonly used to store fill material. No environmental impacts are anticipated with the use of the site should it be used for the project.

The ESR previously identified nine standing structures and one bridge structure. The most recent investigation conducted on March 27, 2023, which included a more refined study area and APE based on anticipated project impacts, resulted in the documentation of two standing structures and one bridge structure, all of which have been determined Not Eligible for listing in the National Register of Historic Places (NRHP). Two newly recorded segments of site 39MH2000 were identified within the APE. Site 39MH2000 is the historic Burlington Northern (BN) railroad grade which is eligible for listing in the NRHP. This site was also initially identified in the ESR as a potential archaeological site. The two segments within the project APE, however, were found to have been

previously disturbed to the extent that they are no longer integral to the overall eligibility of site 39MH2000 for the NRHP.

The nearest historic districts listed on the NRHP are located approximately one mile north of the Exit 4 interchange (Northeast of Exit 3). The City of Sioux Falls has a Historic Preservation Board which serves in an advisory capacity, providing guidance and recommendations to the Mayor and City Council on matters related to historic preservation and the City's seven historical districts. The Minnehaha County Historic Society is another historic advocacy group, which works to recognize, preserve, and revitalize the historic architectural and cultural resources of Minnehaha County. As no historic impacts were anticipated with the project, no additional coordination was required.

Figure 3-13: APE for Cultural Resource Review

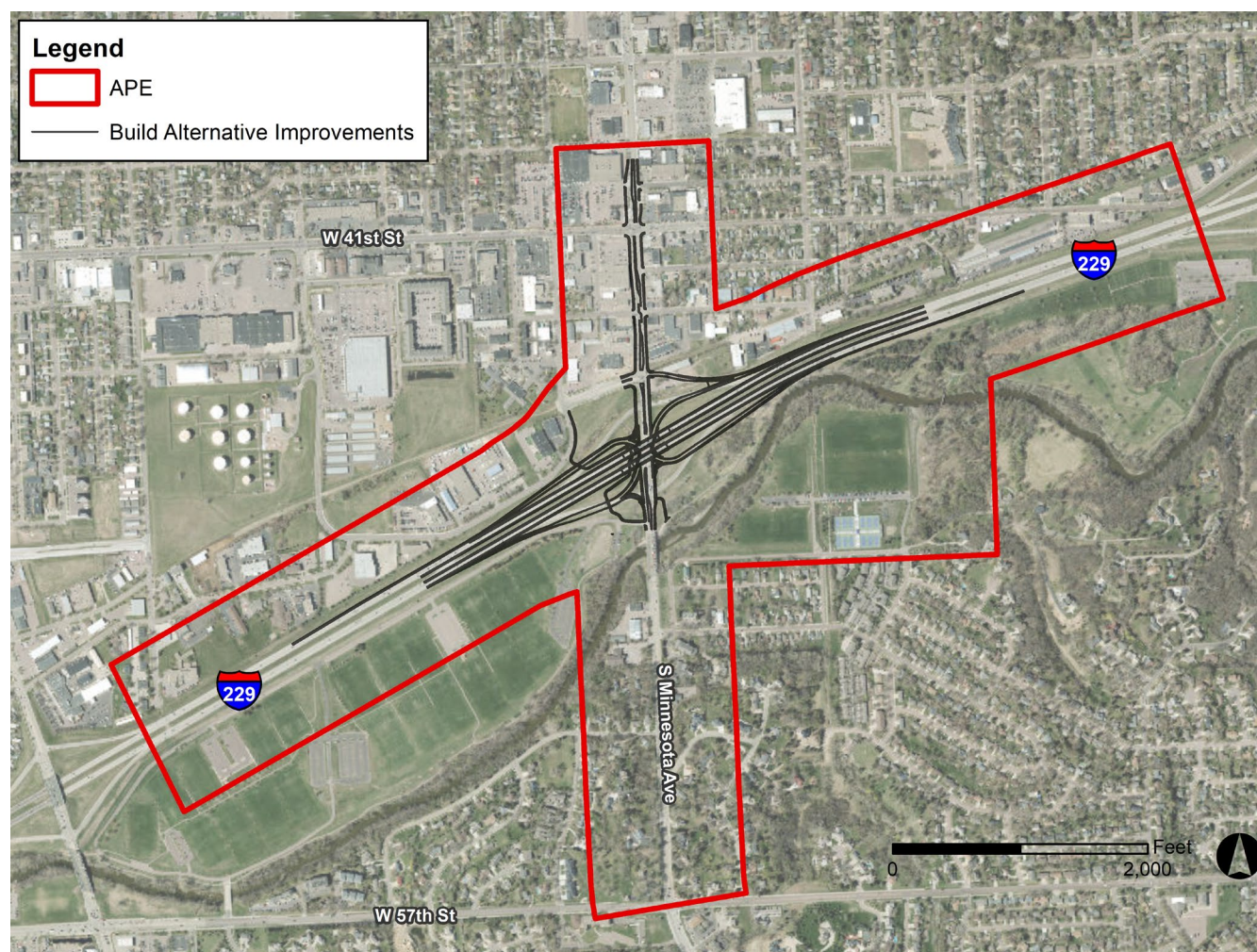


Figure 3-14: APE for Designated Option Borrow Site

3.13.2 Impact of Alternatives

No Build Alternative

The No Build Alternative would not result in any expansion of the roadways in the APE. No construction activities would occur, and no new ROW would be needed. This alternative would not impact historic structures or archaeological sites in the study area.

Build Alternative

The Level III intensive cultural resources survey indicated that no historic properties and no bridges eligible for or listed in the NRHP will be adversely affected by the Build Alternative. The nearest historic districts are over one mile away from anticipated project work associated with constructing the build alternative, and therefore, would also not be affected.

A determination of No Adverse Effect was made for the Build Alternative. SHPO concurred with this recommendation on September 12, 2023. This coordination included the Exit 3 project as well as the adjacent Exit 4 project. Updated coordination was sent to ensure this determination would stand for the Exit 3 project as an independent federal action. SHPO provided a letter on July 18, 2024 expressing continued concurrence of a Section 106 determination of No Adverse Effect for the project after SDDOT re-coordinated the project with an updated description including all of the project's components, including the borrow site. FHWA agreed with this determination via email correspondence dated August 13, 2024. Documentation of SHPO coordination is included in Appendix C.

3.13.3 Avoidance, Minimization, and/or Mitigation Measures

During the construction of the Build Alternative, if it is determined that additional fill material is needed beyond what is available at the designated option borrows site, the contractor would be responsible for assuring any borrow brought in from outside the study area (which includes the designated option borrow site) is obtained from an approved site. The Contractor will also be responsible for a cultural resource review of all clearing material processing sites, stockpile sites, storage areas, plant sites, and waste areas not designated in the plans.

If cultural resources are encountered during construction activities, construction would be stopped and the SHPO would be contacted. Construction would not be resumed until appropriate coordination has occurred and SHPO approval has been received.

All undertakings involving human remains are subject to applicable federal and state burial laws and ordinances, including South Dakota Codified Law (SDCL 34:27:21-31) when on state or private lands. In the event of an inadvertent discovery of human remains or funerary objects on state or private land, the procedures outlined in SDDOT's Inadvertent Discovery of Human Remains guidance will be followed.

3.14 Section 4(f) and Section 6(f) Resources

Section 4(f) of the USDOT Act of 1966, now codified in 49 U.S.C. 303 and 23 U.S.C. 138, protects the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) provides that the Secretary of the USDOT shall not approve any program or project that requires land from a public park, recreation area, wildlife or waterfowl refuge, or historic (including archeological) sites of national, state or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program or project includes all possible planning to minimize harm resulting for the use.

The Land and Water Conservation Fund Act (Section 6(f)) established a land and water conservation fund to assist local, state, and federal agencies in meeting the demand for present and future outdoor recreation sites. This is done through grants for land acquisition, park amenities, and other park development costs. Once a city, county, or agency has used Section 6(f) for funds, either the land or the park appurtenances cannot be eliminated or acquired without coordination with the National Park Service and the substitution of the property proposed for replacement is of reasonable equivalent usefulness and location as that being converted.

Section 4(f) states, in part, that, "It is the policy of the United States Government that special effort be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites" (49 USC 303). Section 4(f) resources that must be evaluated for a proposed highway project include public recreation areas, parks, wildlife and waterfowl refuges, and significant historic properties. Section 6(f) states that no lands that have been paid for in part or in entirety by federal land and water grants can be converted to non-park or non-recreation uses without the approval of the National Park Service. This approval will be granted only if the action follows 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 (16 USC 4601-4 to -11 et seq., as amended).

3.14.1 Section 4(f) and Section 6(f) Resources Present

Coordination with the Sioux Falls City Parks and Recreation Department and SDGFP took place during the NEPA process. Several resources within or near the Exit 3 NEPA study area were identified as Section 4(f) resources, including:

- **Spencer Park** – Spencer Park is located adjacent to the project South of I-229 and East of Minnesota Avenue. This park is identified as a Section 4(f) resource because it is open to the public and supports the following recreation features and activities: Portable Restroom, Accessible Picnic Shelter, Accessible Playground, League Soccer Fields, Accessible Dog Park, Bike Trail Access Point, Nordic Ski Trails, 9 Hole Disc Golf, Singletrack Bike Trails.
- **Tomar Park** – Tomar Park is located adjacent to the project South of I-229 and East of Minnesota Avenue. This park is identified as a Section 4(f) resource because it is open to the public and supports the following recreation features and activities: Accessible Restroom, Accessible Picnic Shelter, Accessible Playground, League Soccer Fields, Bike Trail Access Point, 9 Hole Disc Golf, Tennis Courts.
- **Yankton Trail Park** – Yankton Trail Park is also adjacent to the project, south of I-229 and west of Minnesota Avenue. This park is identified as a Section 4(f) resource because it is open to the public and supports the following recreation features and activities: Accessible Restrooms, League Soccer Fields, Recreation Trail Access Point, Drinking Fountain, Singletrack Bike Trails.
- **Sioux Falls Bike Trail** – The Sioux Falls Bike Trail runs through the study area on the south side of I-229. This park is identified as a Section 4(f) resource because it is open to the public and supports the following recreation features and activities: Biking, Walking.

Through coordination with SDGFP, all of the above resources were identified as also being Section 6(f) resources due to the use of LWC funds that were used to either purchase or improve the properties and/or their facilities.

A **segment of the railroad grade** of the former Burlington Northern Railroad also exists in the Exit 3 Study Area. Historic sites also qualify as Section 4(f) resources, however, the segment of the railroad grade in the project area was determined to be significantly degraded and no longer contributes to the eligibility of the historic site.

3.14.2 Impacts of Alternatives

Use of a Section 4(f) property occurs: (1) when land is permanently incorporated into a transportation project; (2) when there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or (3) when there is a constructive use (a project's proximity impacts are so severe that the protected activities, features, or attributes of a property are substantially impaired).

If impacts to Section 4(f) property would not adversely affect the activities, features, or attributes of the Section 4(f) resource, a *de minimis* determination can be made by the Federal Highway Administration (FHWA).

- All possible planning to minimize harm has been incorporated into project development.
- The nature and magnitude of changes will not adversely affect the recreational activities, features, or attributes that qualified the property for 4(f) protection.
- Proposed measures to minimize harm and resulting mitigation, in regard to protecting the 4(f) property and maintaining access and safety, are considered to be reasonable and acceptable.

Increased noise levels can constitute a constructive use of Section 4(f) resources. 23 CFR 774.15(f) outlines situations in which an increase in projected noise levels do NOT constitute a constructive use of these resources. Most notably in the context of this project, constructive use does not occur when:

- The impact of projected traffic noise levels of the proposed highway project on a noise-sensitive activity do not exceed the FHWA noise abatement criteria (67dBA for activity category C receptors)
- The projected noise levels exceed the relevant threshold (67dBA for activity category C receptors) because of high existing noise, but the increase in the projected noise levels if the proposed project is constructed, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less)

A use of Section 6(f) occurs when some or all of the 6(f) resources is converted to a use other than public outdoor recreation either permanently or for a duration of greater than six months. A temporary non-conforming use occurs when the conversion of use occurs for less than six months.

Section 4(f) and Section 6 (f) resources in the Exit 3 Study Area and anticipated uses resulting from the build alternative are illustrated in Figure 3-15 and further described below and in Table 3-10.

No Build Alternative

The No Build Alternative would not result in any expansion of the roadways in the study area. No construction activities would occur, and no new ROW would be needed. This alternative would not impact any Section 4(f) or Section 6(f) resources.

Build Alternative

This section describes project impacts to section 4(f) and Section 6(f) resources. Table 3-10 shows the resource type, activities, and anticipated impacts for each of these resources.

Spencer Park

Care was taken to avoid any work within parkland during design of the build alternative. No impacts to this park and no disruptions to access or park activities are anticipated. The project's noise analysis modeled two receptors at Spencer Park. Neither receptor is anticipated to increase by perceptible (3dBA) levels and would not constitute a constructive use of the park. No permanent incorporation of land, temporary occupancy, or constructive use of this section 4(f) resource will result from the build alternative. No permanent conversion of use and no temporary non-conforming use of this Section 6(f) resource property will result from the build alternative.

Tomar Park

Care was taken to avoid any work within parkland during design of the build alternative. No impacts to this park and no disruptions to access or park activities are anticipated. The project's noise analysis modeled three receptors at Tomar Park. None of these receptors are anticipated to increase by perceptible (3dBA) levels and would not constitute a constructive use of the park. No permanent incorporation of land, temporary occupancy, or constructive use of this section 4(f) resource will result from the build alternative. No permanent conversion of use and no temporary non-conforming use of this Section 6(f) resource property will result from the build alternative.

Yankton Trail Park

Care was taken to avoid any work within parkland during design of the build alternative. No impacts to this park and no disruptions to access or park activities are anticipated. The project's noise analysis modeled 22 receptors at Yankton Trail Park. None of the receptors are anticipated to increase by perceptible (3dBA) levels and would not constitute a constructive use of the park. No permanent incorporation of land, temporary occupancy, or constructive use of this section 4(f) resource will result from the build alternative. No permanent conversion of

use and no temporary non-conforming use of this Section 6(f) resource property will result from the build alternative.

Sioux Falls Bike Trail

The project's noise analysis modeled two receptors at along the Sioux Falls Bike Trail where the trail lies in close proximity to the project. A perceptible increase (exceedance of 3 dBA) at one receptor (receptor 4-3 within NSA 4). This location's existing (2018) dBA was already in exceedance of the criteria of 67 dBA to warrant the need for a noise abatement analysis. Receptor 4-3 represents a segment a of trail that is already in close proximity to in interstate and impacts from the project will not substantially impair the protected activities, features, or attributes that qualify the property for protection under Section 4(f).

A total of approximately 2,816 feet of the Sioux Falls Bike Trail needs to be temporarily closed for the Build Alternative's construction and trail users will be rerouted to a temporary detour to maintain continuity and increase safety for trail users and construction workers. The detour is routed entirely along existing trails, sidewalks, and local roadways and has been used as a detour route in the past for this trail. Approximately 630 feet of the existing trail and a small bridge will be reconstructed in place. While the provisions of Section 6(f) of the Land and Water Conservation Act do not apply to the approximately 630-foot segment of the trail being reconstructed on SDDOT right-of-way, the temporary trail closure and temporary trail bypass route do constitute a Section 6(f) temporary non-conforming use of this resource provided the duration of temporary closure and routing of trail users along the detour route for construction is less than 180 days in duration.

If impacts to a Section 4(f) property would not adversely affect the activities, features, or attributes, of the Section 4(f) resource, a de minimis determination can be made by FHWA. A de minimis determination is proposed for temporary impacts to the Sioux Falls Bike Trail based on the following:

- All possible planning to minimize harm has been incorporated into project development.
- The nature and magnitude of changes will not permanently adversely affect the recreational activities, features, or attributes that qualified the property for 4(f) protection.
- Access to the trail will be maintained throughout construction by routing trail users along the temporary trail detour route.

Coordination took place with the SDGFP grants administrator, who concurred with the temporary nonconforming use finding on January 12, 2022. Coordination also took place with the City of Sioux Falls Parks director, who provided written agreement that proposed impacts to Tomar Park from the project would be temporary on February 16, 2022. On July 17, 2024, SDDOT notified the Sioux Falls Parks and Recreation Director (OWJ), of intent to pursue a de minimis finding for the planned temporary impacts resulting for the detour to the Sioux Falls Bike Trail. On September 30, 2025 SDDOT sent an updated notification of intent to pursue a de minimis for the Sioux Falls Bike Trail, clarifying that proposed work to the trail lies outside of Tomar Park and that there would be no impact to Tomar Park. Section 4(f) coordination documentation is included in Appendix I. The public must also have the opportunity to comment on a de minimis finding before it is approved. This opportunity will be provided at the final public meeting for this EA. Formal concurrence from the OWJ would also be required after the public comment period. A Final Section 4(f) determination would be documented in the environmental decision document.

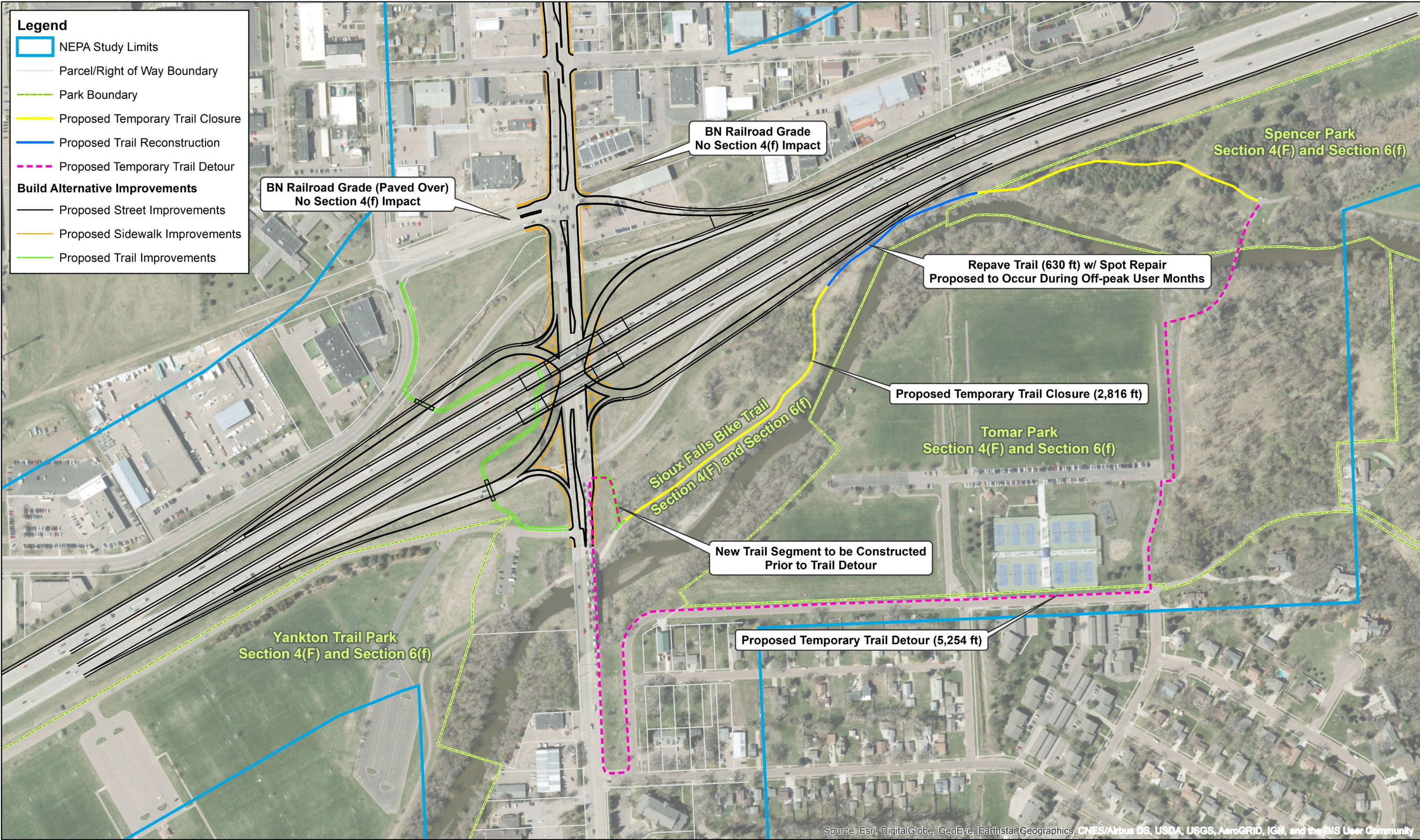
Segment of the Former Burlington Northern Railroad Grade

No impacts or disturbances to this site will occur with the build alternative. SHPO is the official with jurisdiction over this historic property. SDARC completed a cultural resource survey which included this segment of the former Burlington Northern Railroad, and determined the segment is no longer integral to the overall eligibility of the site. SHPO concurred with the recommendation of No adverse Effect for the project on September 12, 2023. This coordination included the Exit 3 project as well as the adjacent Exit 4 project. Updated coordination was sent to ensure this determination would stand for the Exit 3 project as an independent federal action. Concurrence from SHPO was received July 18, 2024. SHPO was notified that the impacts to the rail grade would not constitute a Section 4(f) use. On August 13, 2024 FHWA concurred with the no use determination. Section 4(f) coordination documentation is included in Appendix I.

Table 3-10: Section 4(f) and Section 6(f) Resources

Resource Name	Resource Type	Activities	Impacts/Type
Spencer Park	Section 4(f) and Section 6(f)	Portable Restroom, Accessible Picnic Shelter, Accessible Playground, League Soccer Fields, Accessible Dog Park, Bike Trail Access Point, Nordic Ski Trails, 9 Hole Disc Golf, Singletrack Bike Trails	No Section 4(f) use No Section 6(f) use
Tomar Park	Section 4(f) and Section 6(f)	Accessible Restroom, Accessible Picnic Shelter, Accessible Playground, League Soccer Fields, Bike Trail Access Point, 9 Hole Disc Golf, Tennis Courts	No Section 4(f) use No Section 6(f) use
Yankton Trail Park	Section 4(f) and Section 6(f)	Accessible Restrooms, League Soccer Fields, Recreation Trail Access Point, Drinking Fountain, Singletrack Bike Trails	No Section 4(f) use No Section 6(f) use
Sioux Falls Bike Trail	Section 4(f) and Section 6(f)	Biking, Walking	Approximately 630 feet of reconstruction and 2,816 feet of temporary trail closure <i>Section 6(f) temporary non-conforming use and proposed Section 4(f) de minimis impact</i>
Historic Railroad Grade	Section 4(f)	Historic Resource	No Section 4(f) use on account of the impacted portion of the site not contributing to the eligibility of the historic resource.

Figure 3-15: Section 4(f) and Section 6(f) Impacts



3.14.3 Avoidance, Minimization, and/or Mitigation Measures

Because no impacts are anticipated to Spence Park, Tomar, Park, Yankton Trail Park, or the historic rail grade, no avoidance, minimization, and/or mitigation requirements would be required for these resources.

The following measures to minimize harm to the Sioux Falls bike trail will be incorporated into the plans as plan notes and as environmental commitments in the EA.

- Access to the proposed closure of the 2,816-foot section of the Sioux Falls Bike Trail will be restricted for the 180-day duration of construction activities due to safety concerns.
- Temporary construction fencing shall be installed at the termini of the proposed construction trail reconstruction limits prior to the start of construction activities to protect the existing 4(f) property and the public.
- Appropriate signage shall be installed to alert users of the Sioux Falls Bike Trail of construction activities, access restrictions or closures, and to direct users to secondary access points.
- The staging and/or storage of construction equipment or materials shall not take place outside proposed construction limits that are within the defined boundaries of the 4(f) property.
- The Contractor shall be required to closely coordinate the construction schedule with SDDOT and the City of Sioux Falls prior to the start of construction activities, including a commitment that the Sioux Falls Bike Trail cannot be temporarily closed for more than 180 days.

Based on the scope of the proposed Build Alternative and type of work, there will be no permanent adverse effects to the protected recreational activities, features, or attributes associated with the Sioux Falls Bike Trail.

3.15 Regulated Materials and Hazardous Waste

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC 9601 et seq.), commonly referred to as “Superfund” established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste, and established a trust fund to cleanup when no responsible party could be identified.

The Resource Conservation and Recovery Act (RCRA) (42 USC §6901 et seq.) gives the U.S. Environmental Protection Agency the authority to control hazardous waste from the “cradle-to-grave.” This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled the U.S. Environmental Protection Agency to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

While CERCLA and RCRA are the primary federal laws governing regulated materials and hazardous waste, a number of other federal laws discussed in other sections, such as the CWA, CAA, and Safe Drinking Water Act, also apply.

The American Society for Testing and Materials (ASTM) Standard E 1527-05 defines a recognized environmental condition (REC) as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release. Or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.”

This section discusses the potential for soil, surface water, or groundwater contamination to be encountered during within the study area. This section discusses existing and potential environmental conditions in the study area that could affect the project. Environmental conditions include facilities and properties where hazardous material spills or leaks have occurred and may present risk to the purchaser of that property. Contaminated, or potentially contaminated, properties are of interest for transportation projects because of the potential liability associated with acquiring contaminated property for ROW, the potential cleanup costs, and the safety concerns related to exposure to contaminated media (i.e., soil, surface water, or groundwater).

3.15.1 Affected Environment

A Modified Phase I Environmental Site Assessment (ESA) was completed for this study in July 2019 (Appendix J of this EA). The ESA identifies potential soil, groundwater and soil vapor contaminated sites that may pose an environmental risk to the project. Activities conducted as part of the Phase I ESA include records review, site reconnaissance, and interviews. The review was conducted congruently with an adjacent environmental study for I-229 Exit 4 (Cliff Avenue) as two separate actions. The area reviewed includes property within a “buffer” around the projects’ limits, as depicted on Figure 3-16. All parcels partially or wholly within the buffer were assessed during the Modified Phase I ESA. A total of 140 sites were identified within the buffer area, which required detailed review.

The SDDANR Spills, Leaks, and Tanks website databases were used as the primary source of environmental site information for the records review portion of the ESA. An environmental database review was conducted within the buffer area. SDDANR site locations were field verified when possible and locations were reassigned to the correct property parcel if necessary. A third-party database, GeoSearch, was also conducted for the buffer area as a supplemental information source. Additional databases such as the National Pipeline Mapping System (NPMS) Public Viewer were also reviewed.

Figure 3-16: Phase I Environmental Site Assessment Area and Recognized Environmental Concerns (REC's)

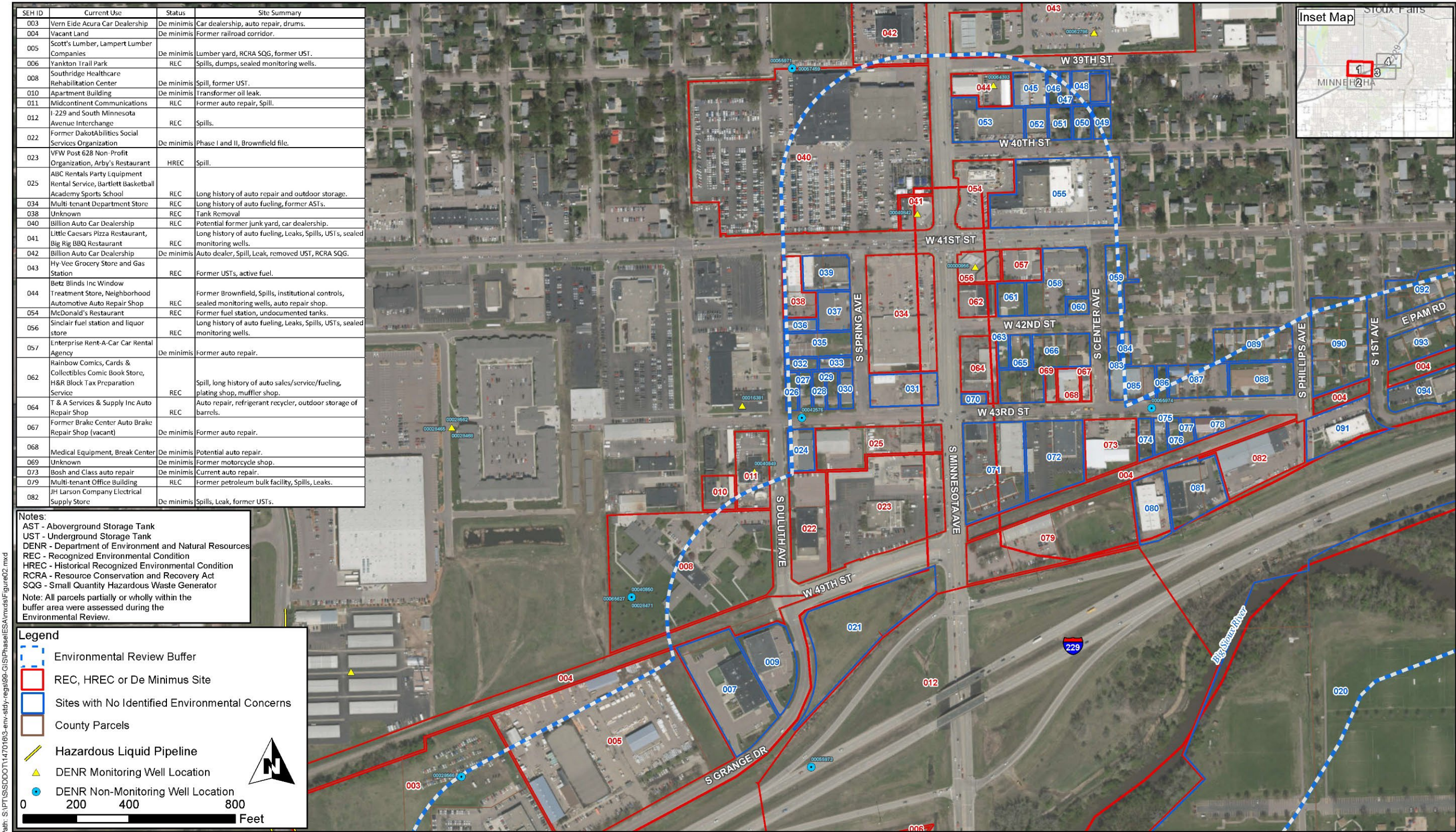


Figure 3-16 (Cont'd): Phase I Environmental Site Assessment Area and Recognized Environmental Concerns (REC's)



Table 3-11: Regulated Material Records Review Summary

Database Type	REC's Identified
Environmental Database Review	140 total database entries
Registered Tanks	36 tanks from 10 sites (8 current UST, 19 removed UST, 9 Removed AST)
Monitoring Wells	23 monitoring wells from 8 sites

Additionally, a field survey was completed for the study area. Properties in the review area were observed, as well as any structures located on the properties, for indications of RECs to the extent not obstructed by thick vegetation, bodies of water, stored materials or product, equipment, or other obstacles.

The Phase I ESA identified a number of area wide concerns for the study area. These concerns do not necessarily qualify as RECs but are worth noting as they may potentially affect aspects of the project. The following concerns were expressed in the ESA:

- **Railroad Corridors**

A former railroad corridor generally parallels I-229 through the project corridor. General concerns regarding railroads and adjacent properties include the following:

- Facilities adjacent to railroad corridors have a risk of spills where loading/unloading of hazardous/regulated materials may have historically taken place. Additionally, railroads may have used herbicides for controlling encroaching vegetation along the tracks, and pesticides for rodent control. The potential exists for creosote or other chemically treated railroad ties to have been left in place during previous realignments/abandonment of rail lines.
- Rail yard/track areas where maintenance activities took place are often associated with petroleum and heavy metals contamination. Polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs), and other industrial products related to maintenance activities can also be associated with rail operations. Ash, coal slag, demolition debris and asbestos may be associated with rail yards from past storage/disposal practices.

- **Historical Structures and Non-native Fill**

Portions of the project corridor were observed to be built up. Fill material was historically placed for interchanges and developed properties to achieve the current grade. The origin of this fill material is not known. Historical structures such as residential properties, single family farms, apartment buildings, etc., may have remnants of historical structures, such as demolition debris or foundations associated with the removed buildings. The potential exists that buried materials are present within the project corridor that require management as solid waste or waste with hazardous materials or regulated substances. Additionally, farmsteads, churches, hotels, and other structures historically may have used undocumented heating oil tanks and/or farm ASTs.

- **Hazardous Liquid Pipelines**

Hazardous liquid pipelines were identified through the project corridor. The NPMS public online viewer (NPMS, 2019) allows viewers to access general locations of pipeline accidents and incidents dating back to 2002. No liquid pipeline accidents or incidents were identified within the project corridor. Pipeline products can be released to the environment and are commonly the result of corrosion or accidental damage to the pipe system.

Of the 140 sites that required a detailed review for this study, 37 sites in the study area were identified as REC's for the purpose of this study. Not all of these are likely to impact the project. The Phase I ESA recommended that a Phase II Investigation work plan be developed prior to construction if impacts are anticipated to any open REC sites.

The Build Alternative would impact one of the REC's identified in the Phase I ESA, the Taylor Oil Property. A Phase II Investigation was conducted for this property on August 25, 2023 (Appendix K). The investigation found evidence of petroleum contamination on the site. It is anticipated that this contamination is confined to the site. SDDANR reviewed the Phase II ESA and determined that there is no current risk to human health or further risk to the environment and no further assessment is warranted.

The Phase I ESA was provided to SDDOT on July 23, 2019 (See Appendix J). SDDANR was contacted about this project by letter in December 2018 and July 2024. SDDANR concurred that this project will have little or no impact on solid waste management in the area in their response letter Dated July 10, 2024. SDDANR provided a response to the Phase II findings in a letter dated July 15, 2024. (See Appendix C).

3.15.2 Impacts of Alternatives

No Build Alternative

The No Build Alternative would not involve any construction activities related to this project.

Build Alternative

The Build Alternative would impact one of the REC's identified in the Phase I ESA, the Taylor Oil Property. A Phase II Investigation was conducted for this property on August 25, 2023 (Appendix K). The investigation found evidence of petroleum contamination on the site. DDNAR reviewed the Phase II ESA and determined that there is no current risk to human health or further risk to the environment and no further assessment is warranted. Two spills are recorded for the business site related to underground storage tanks on the site. All storage tanks have since been removed from this site. The SDDANR previously reviewed the two spills at this site and closed the files with no further action recommended.

3.15.3 Avoidance, Minimization, and/or Mitigation Measures

DNR Indicated in their letter dated July 15, 2024 that the following commitments would apply to the project related to the Taylor Oil Property:

- If construction activities result in contaminated soil being removed, it must be properly disposed of at a permitted facility.
- All remaining monitoring wells associated with this release site must be abandoned in accordance with DANR's Well Construction Standards ARSD 74:02:04 within 30 days and submit written documentation to DANR showing the wells have been properly abandoned.

- If future problems arise from any remaining contamination, the City of Sioux Falls will be responsible for conducting additional assessment or remediation. The City of Sioux Falls may also be responsible for further assessment and cleanup actions if the use of this property or adjacent affected properties indicates changes that increase the risk to human health and the environment from remaining contamination.

3.16 Visual Impacts and Aesthetics

NEPA was established, in part, to “assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings” Sec. 101 [42 U.S.C. § 4331]. NEPA is the primary governing rule that established the country’s national environmental policy. NEPA requires Federal agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Visual impacts are included among those environmental effects.

Other federal regulations exist which govern visual aesthetics as they relate to specific resources. These include National Scenic Areas, Wild and Scenic Rivers, the National Trails System, National Monuments, Historic Resources, and Sections 4(f) and 6(f).

The SDDOT Environmental Procedures Manual observes FHWA guidelines¹⁴ which are provided in it’s environmental review toolkit for determining the need for a Visual Impact Assessment (VIA) and the level of assessment required.

Other local government plans, policies, and ordinances may also govern visual aesthetics. No such plans, policies, or ordinances apply to the study area.

3.16.1 Affected Environment

The existing Natural Landscape Characteristics are limited and mostly consist of the Big Sioux River and the adjacent river margin trees and associated vegetation. The river channel and corresponding bottomland act as a vegetated backdrop to the I-229 interchange when viewed from the commercial area to the north and as a buffer when viewed from the recreation and residential areas to the south. Small scale post-disturbance wetland vegetative areas have developed from transportation-oriented projects over the last 40 years. They do not significantly enhance the visual appeal of the study area and portray a remnant or “unmaintained” aesthetic compared to a naturally occurring larger scale prairie wetland potholes.

The Existing Cultural Landscape Characteristics are the dominant feature of the Exit 3 study area. These include constructed infrastructure such as the interstate, interchange, roadways, and buildings. The existing transportation facilities such as the interchange and associated streetscape have a very functional pragmatic aesthetic and do not have significant visual interest.

The population affected by the visual quality of the Exit 3 project include people that live, work, or otherwise spend time within the NEPA study limits of the project (e.g. for recreation, travel/commuting/etc). Two public meetings were held early in the planning phase of the project. Information regarding the project and its alternatives were provided and members of the public were encouraged to provide input. No concerns related to visual impacts were expressed.

The preferred visual condition the visual quality is to maintain the existing visual condition of the area.

3.16.2 Impact of Alternatives

No Build Alternative

Because the No Build Alternative would not involve any project improvements, it wouldn't directly alter the existing visual impacts and aesthetics of the study area. If improvements do not occur, recurring traffic congestion because of increased vehicle queuing and longer intersection wait times will create negative visual impacts.

Build Alternative

Because traffic already occurs, the Build Alternative would not likely cause permanent visual impacts on the study area. The removal of an existing commercial metal building for proposed off ramp improvements does not have any architectural significance and would "green-up" the area in a location that was otherwise mostly paved prior. Proposed interchange improvements also offer new opportunities for the implementation of landscape areas that will visually mitigate the proposed reconfiguration of traffic lanes while travelling through the study area. The Build alternative does not substantially impact the existing vegetation of the adjacent river margin trees and area.

The Big Sioux River corridor's natural setting offers an excellent viewshed for an enhanced aesthetic of streetscape, landscape and structure development that can mitigate any potential negative visual impacts. Aesthetic development of Exit 3 should consider other existing exits within the I-229 river corridor to promote a unifying and combined southern Sioux Falls aesthetic. Alteration of the visual environment would be moderate during construction but minor when completed if context sensitive solutions are implemented.

FHWA's VIA scoping questionnaire is a helpful tool in determining whether a VIA should be completed for a project. Projects scoring in the 6–9-point range, and with no special needs/considerations do not require VIA's. The scoping questionnaire was completed for the build alternative, which ultimately received a score of 9. As a result, a VIA was not deemed necessary for this EA. The scoring breakdown for this alternative, by question number on the scoping questionnaire, is as follows:

Environmental Compatibility Questions

- 1) Low level of permanent/temporary change in physical environment characteristics (1 pt.)
The project would reconstruct the existing roadways and interchange in locations where they already exist, resulting in minimal change to the visual environment.
- 2) High compatibility with the Visual character desired by the community (1 pt.)
The proposed conditions would be similar to existing visual characteristics of the area, which are consistent with the context of the surrounding developed area.
- 3) No local concern for project features (0 pts.)
No community concerns were raised regarding the visual characteristics of the project.
- 4) No extensive strategies/measures would be required for mitigating visual impacts (0 pts.)
It is expected that if visual mitigation is determined warranted, conventional means of mitigation in the form of landscaping or architectural treatments would be adequate.
- 5) No collective/aggregate adverse visual change (cumulative impacts unlikely) (1 pt.)
The project exists within a fully developed area where no substantial development changes are planned.

Viewer Sensitivity Questions

- 1) No potential for project controversy within the community (0 pts.)

No controversy was identified for the project regarding visual impacts. Due to the consistency in visual character between the proposed project and existing conditions, no future controversy is anticipated.

- 2) Low potential for viewer sensitivity (1 pt.)
Viewer Sensitivity is anticipated to be low. The project would not introduce visual elements which are drastically difference from existing conditions.
- 3) High project compatibility with applicable aesthetic laws/ordinances (1 pt.)
The Project's aesthetic approach is highly compatible, as the project has been studied and planned for over 10 years. This has allowed for the incorporation of the project into local land use plans, transportation plans, and capital plans.
- 4) Permits would be required by outside regulatory agencies (3 pts.)
No permits would be required which would necessitate a particular level of Visual Impact Assessment.
- 5) No additional benefit for project sponsor/public would be anticipated from VIA (1 pt.)
No, a more detail visual analysis would not be anticipated.

Views of the surrounding area, including existing and future businesses, would be maintained, or even enhanced by improved transportation facilities with this alternative, providing a net benefit to those businesses. No negative impacts to aesthetics would be anticipated.

3.16.3 Avoidance, Minimization, and/or Mitigation Measures

The project involves the reconstruction of roadway infrastructure which would be consistent with existing conditions. Alteration of the visual environment would be moderate during construction but minor when completed if context sensitive solutions are implemented.

While no visual impacts were identified for the project, minor disturbances could occur to vegetated areas from construction. Conventional replacement/repair methods would be suitable for mitigating long-term impacts.

In addition, adherence to the City of Sioux Falls' Complete Street Policy would also be expected to enhance the visual quality of the proposed project area by implementing current design standards making the appearance of project materials more cohesive.

The project presents an opportunity to consider the aesthetics of nearby infrastructure when Exit 3 is reconstructed. Aesthetic development of Exit 3 should consider other existing exits within the I-229 Big Sioux River corridor to promote a unifying and combined southern Sioux Falls aesthetic.

3.17 Indirect and Cumulative Impacts

The CEQ regulations (40 CFR §§ 1500-1508) define the impacts and effects that must be addressed and considered by federal agencies in satisfying the requirements of the NEPA process. This includes indirect and cumulative impacts.

Indirect impacts are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. (40 CFR § 1508.8)

Cumulative impacts are the impacts on the environment, which 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 can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR § 1508.7)

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The resources considered in the indirect and cumulative impact assessment were determined by analyzing the types of environmental resources outside, but near the study area. While there are no guidelines or regulations establishing a specific distance from the study area within which resources must be considered for indirect and cumulative impacts, the study team worked to identify resources outside of the study area that would have the potential to be significantly impacted by the project based on their knowledge of the alternatives. Those resources are discussed in this section. Resources that would not be adversely or permanently affected by the project are not discussed further in this section.

3.17.1 Affected Environment

A number of past, present, and/or reasonably foreseeable future actions have been identified within are near the study which may contribute to indirect and cumulative impacts of the project.

3.17.1.1 Past Actions

Since the settlement of the Sioux Falls area, native prairie in the study area has been converted to developed area and parkland. Commercial and residential development has occurred along I-229 and surrounding local roadways. Paved local roadways serve this development. Parkland, which includes a mix of preserved natural area, hardscape and park structures, and mowed lawn and athletic field space, comprises much of the area immediately south of I-229 in the study area. Other types of development, including construction roads and utilities, have also occurred in the area. Numerous local, county and state highways exist near the study area. Many of these are paved while others have a gravel surface. Interstate I-229 runs through the study area, with exits on several local roads and a system interchange near the 69th Street Corridor.

3.17.1.2 Present Actions

The area surrounding the I-229 Exit 3 interchange is fully developed. No present construction projects within the study area have been identified.

3.17.1.3 Reasonably Foreseeable Future Actions

The I-229 Exit 3/Minnesota Avenue study is one of several transportation projects/studies taking place within the southern portion of the Sioux Falls Metropolitan Area. Projects in the vicinity of this study area which are included in the SDDOT 2025-2028 STIP, Sioux Falls MPO 2025-2028 TIP, City of Sioux Falls 2026-2030 Capital Program (meaning they are fiscally constrained) are listed below and shown in Figures 3-17 and 3-18.¹

¹ Hyperlinks to these plans are included in the references section at the end of this environmental assessment.

City of Sioux Falls CIP Project List by CIP number (Exit 3):

- **5 (CIP #11012)** - Intersection improvements at Minnesota Avenue/57th Street (as part of city-wide arterial intersection improvements).
- **21 (CIP #11029)** – Extend 49th Street from Western Avenue to Duluth Avenue.
- **25 (CIP #11099)** – Reconstruction and expansion of Minnesota Avenue from 41st Street to Lotta Street to six lanes with a median.
- **29 (CIP #11030)** – Upgrade the existing high-pressure sodium fixtures with LED fixtures (various locations, city-wide).

Sioux Falls MPO TIP Project List by TIP number (Exit 3):

- **000S** – I-229 Exit 3 (Minnesota Ave) in Sioux Falls
- **08DN** – Minnesota Ave from 49th Street to N of 40th Street in Sioux Falls
- **11099** – Minnesota Ave from 41st Street to Lotta Street

SDDOT STIP

- **000S/08DN** – interchange reconstruction, I229 Exit 3 (Minnesota Ave) in Sioux Falls; Minnesota Ave – Fm 49th St to N of 40th St in Sioux Falls

Of the above listed projects, Project numbers 000S, 08DN, and 11099 relate to the build alternative or related projects included in the project's independent utility, and have been included in project impact analysis for this EA. In addition to these, the planned bike/ped underpass under I-229 and improvements in Minnesota Avenue included in the City of Sioux Falls Bike Plan (Project #11) are also included with the Exit 3 project. These improvements have been included as part of the project's independent utility and included project impact analysis for this EA.

The remainder of the project identified above are not related to this project, but rather other reasonably foreseeable actions. Additional information is provided below.

- **49th Street Extension:** This includes two phases of 49th Street improvements from Western Avenue to Grange Avenue and from Grange Avenue to Duluth Avenue. The eastern end of this project falls within the NEPA study area for the I-229 Exit 3 project, but the 49th Street Improvements do not coincide with planned improvements on Minnesota Avenue. The 49th Street improvements demonstrate independent utility by addressing traffic needs on 49th Street (outside of the I-229 Exit 3 study area) resulting from congestion on 41st Street. The need for 49th street improvements arises from projected growth in the Sioux Falls Metropolitan Area, and not the I-229 Exit 3 build alternative, as demonstrated by the 2050 No Build scenario conditions modeled in the I-229 Exit 3 IMJR. The 49th Street improvements will have their own separate environmental analysis. Although the two projects are independent and address different needs in different areas, they are in close proximity to one another. The Sioux Falls CIP notes the 49th Street project should coordinate with the I-229 Exit 3 project to ensure that the design and construction of the two projects don't conflict with each other. Coordination has been ongoing throughout the environmental and design process.
- **Minnesota Ave/57th Street Intersection Improvements:** this includes improvements to the intersection of Minnesota Ave and 57th Street. This project lies at the southern terminus of the Exit 3 study area. However, proposed intersection Improvements are far removed from Exit 3 project improvements and

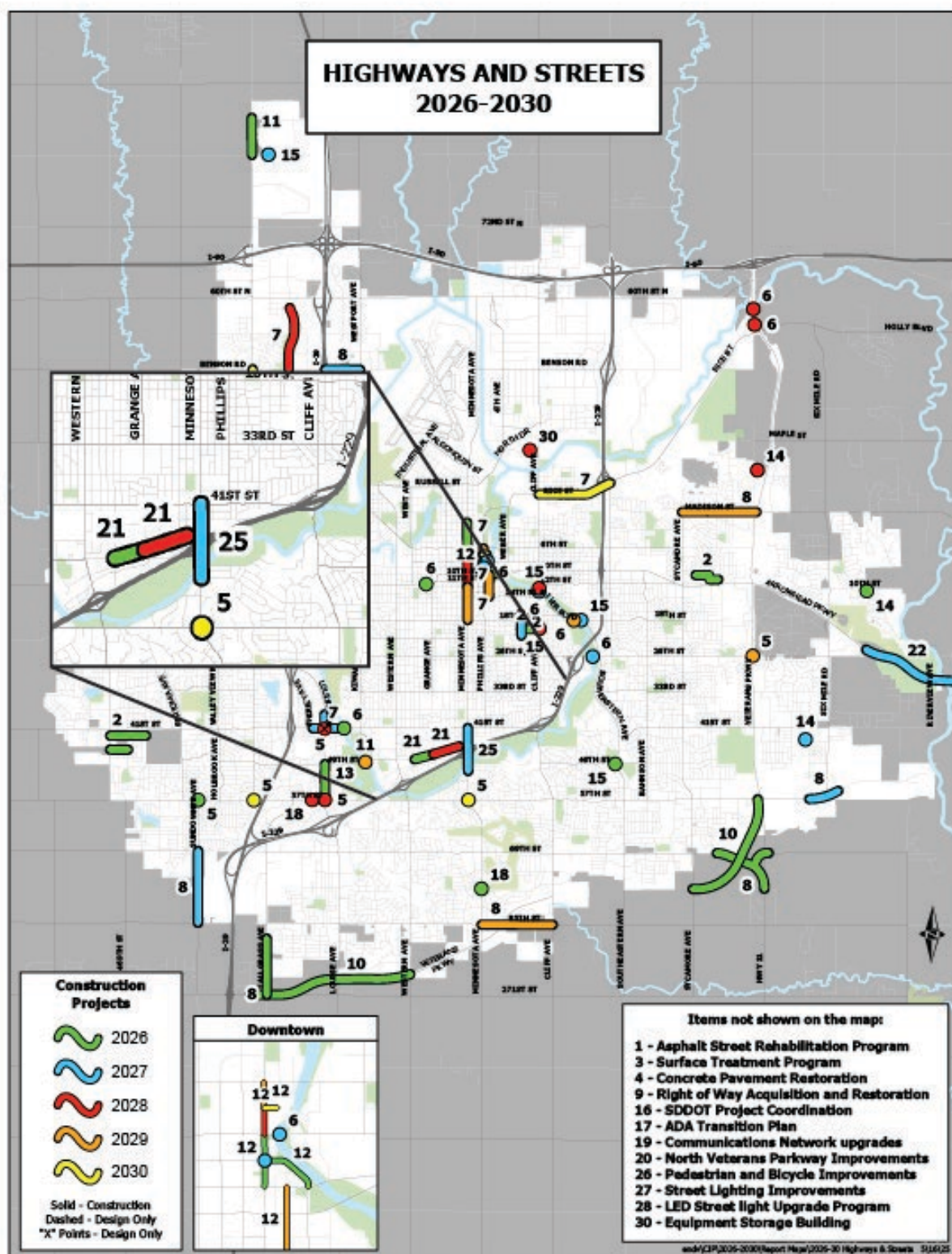
constitute an independent project with independent utility. The need for these intersection improvements arises from projected growth in the Sioux Falls Metropolitan Area, and not the I-229 Exit 3 build alternative, as demonstrated by the 2050 No Build scenario conditions modeled in the I-229 Exit 3 IMJR. This project will be planned and designed by the City of Sioux Falls who will be responsible for the environmental analysis for the project.

- **Sioux Falls CIP Major Street Reconstruction:** The Sioux Falls CIP includes project #11003 which describes reconstruction and widening of various arterial and major collector streets including Minnesota Ave from 40th St to I-229. This project number represents a pool of money that could be used for a number of city projects, but does not represent additional improvements beyond those included in the Exit 3 project and its components.
- **Sioux Falls CIP LED Street Light Upgrade Program:** The Sioux Falls CIP project #11030 includes lighting upgrades as part of a city-wide project to replace high-pressure sodium lights with LED's. This does not represent an integral part of transportation solutions proposed by the Build Alternative, but rather an independent city-wide initiative that would be implemented regardless of any street improvements in the project area.

In addition to these projects, the Exit 4 Reconstruction Project (and its associated components) and Temporary Crossover Project are located near the Exit 3 Project. These are separate project actions, as described below.

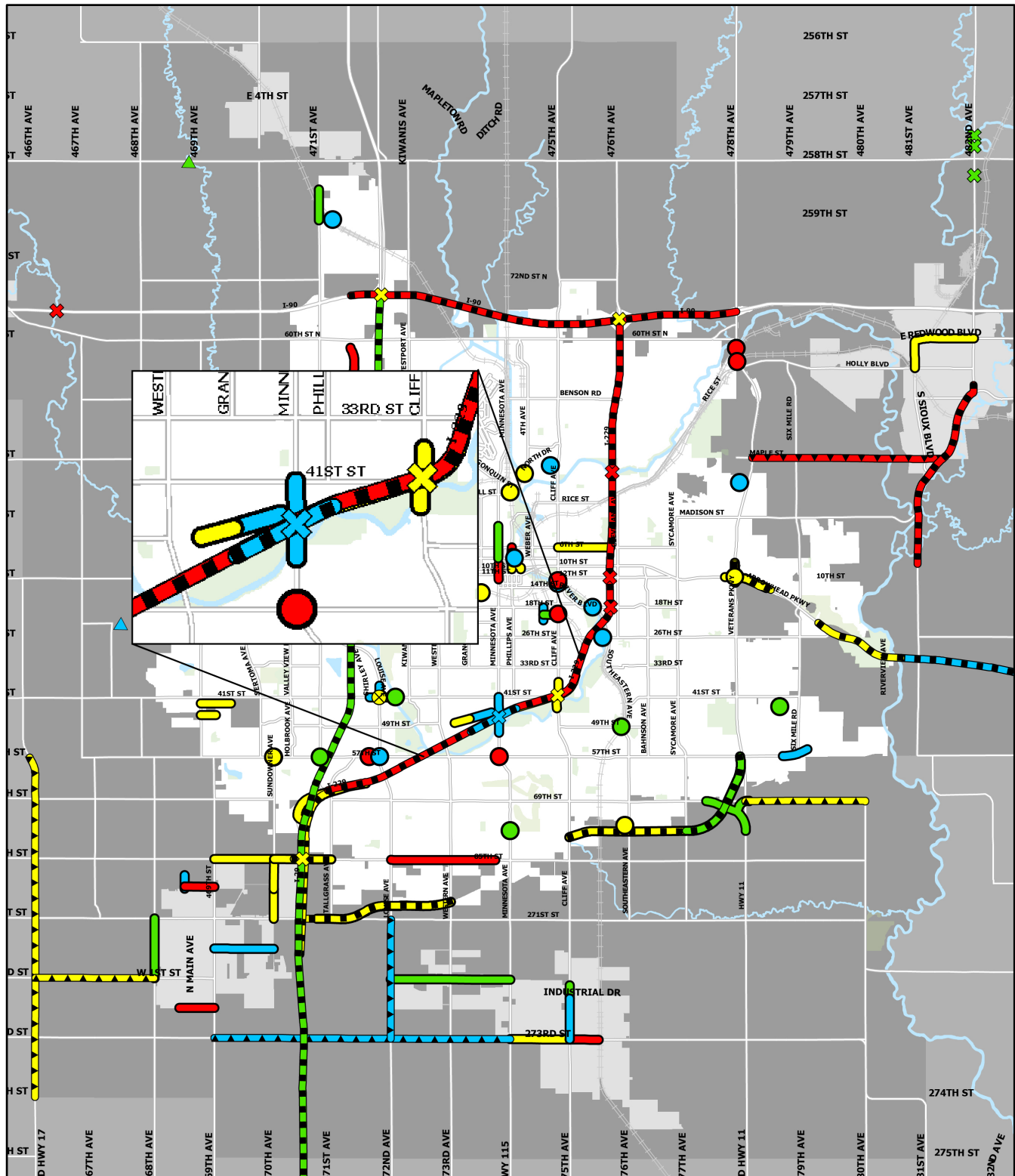
- **Exit 4 Interchange Project (and associated projects):** The 2024-2027 Statewide Transportation Improvement Program (STIP) includes Exit 4 interchange improvements (PCN 05HN). Additionally, The City of Sioux Falls 2023 Bike Plan identifies an underpass within the study area (Project #7) as a project with "Very High Importance." These projects are currently being evaluated for impacts by a separate Environmental Assessment as one project action. The combined project has an approved ESR, IMJR, and purpose and need and functions as a standalone project with independent utility.
- **Temporary Crossover Project:** The I-229 "crossover" project (PCN 07CY), includes the modification of the median crossovers on I-229 and a new temporary bridge structure. This project has its own independent utility, has received NEPA approval, and was constructed 2024.

Figure 3-17: Fiscally-Constrained Transportation Projects – City of Sioux Falls 2026-2030 CIP



Source: City of Sioux Falls Capital Program 2026-20230

Figure 3-18: Fiscally-Constrained Transportation Projects – Sioux Falls MPO 2025-2028 TIP



Source: Sioux Falls MPO Transportation Improvement Program 2025-2028

3.17.2 Land Use Impacts

Development southwestern Sioux Falls Metropolitan Area is expected to expand over the project planning period, both in area and density, due to anticipated development. While constructing the Build Alternative would maintain safe and efficient access to potential new development at a regional level, new development is not anticipated as a result of this alternative. The study area is already fully developed urban area. Direct impacts of the Build alternative are minor and are not anticipated to be a substantial cumulative contributor to the conversion of land use in the study area and surrounding areas.

3.17.3 Traffic Operations and Safety

As discussed previously, numerous transportation projects have been identified which are planned for construction by the project design year. Individually, these projects would do little to improve overall regional traffic operations. The IMJR traffic analysis shows that acceptable levels of operation can be achieved and maintained throughout the network with the implementation of the Build Alternative. This would be a cumulative net benefit for the transportation system.

There are no pressing safety concerns on the transportation network within the study area. However, with increased traffic volumes in the future could contribute to less safe conditions. The Build Alternative would maintain safety and operations within the study area, providing many direct benefits, but moving increased levels of traffic efficiently to other areas of the local transportation network can contribute to safety concerns elsewhere. This is one reason that it is important to consider surrounding planned transportation projects when planning a new transportation project. The IMJR for this study considered planned transportation project during the development of alternatives, a practice that will also be observed for future transportation projects in the City of Sioux Falls and surrounding areas. This helps to ensure safety not only within the immediate study area but contributes to a cumulative safety benefit regionally.

3.17.4 Noise

Noise levels increase as traffic volumes or travel speeds increase. The Build Alternative is anticipated to increase noise levels in the study area. New development and redevelopment can also contribute to increased noise levels. The Build alternative, in conjunction with surrounding transportation projects and other non-transportation development, should they arise, could contribute to a larger cumulative increase in noise levels.

3.17.5 Natural and Environmental Resources

Due to the developed nature of the study area, cumulative impacts to environmental and natural resources are limited. Future development in the area would be limited to infill and redevelopment of already developed areas. Future transportation improvements may require expansions of right of way, which could impact vegetated urban areas. The result could include impacts to habitat and wetlands. These impacts would likely be insignificant and largely mitigatable.

Future transportation projects could also result in increased amounts of impervious surfaces, which could impact water quality and WOTUS. This would cause a cumulative increase to stormwater runoff intensity that would need to be managed by drainage improvements. This could lead to more runoff impacts to water bodies. Impacts to these resources would be limited by the size of the developments and regulatory requirements, such as limits on stormwater runoff under NPDES permits. Impacts to wetlands and WOTUS would be further limited by permit and mitigation requirements. Most of the impacts would be short-term, primarily during construction.

For the Project and other present and reasonably foreseeable projects which would require work within the Floodplain, a Floodplain Development Permit would be required. Because of these permit requirements, a minor, adverse effect on floodplain in the Project Area would be anticipated.

4.0 Preferred Alternative

4.1 Preferred Alternative Selection Criteria

As discussed previously, the main considerations for selecting a Preferred Alternative include:

- 1) Ability of the alternative to satisfy the project purpose and need; and,
- 2) Consideration of environmental impacts for each alternative.

4.1.1 Purpose and Need

In Section 2.3.5, it was determined that of the initial range of alternatives considered, only the Build Alternative would satisfy the purpose and need of the project. This alternative was carried forward into environmental review. The No Build Alternative was also carried forward into environmental review, despite not satisfying the Purpose and Need, so it could serve as a baseline of comparison for other alternatives. The No Build Alternative did not satisfy the project purpose and need and was eliminated from further consideration.

4.1.2 Environmental Considerations

Section 3 goes into greater detail on the environmental considerations for the No Build Alternative and the Build Alternative. Impacts of the alternatives are summarized in the following section (Section 4.2), which will ultimately aid in selecting a Preferred Alternative, which is discussed further in Section 4.3.

Environmental Resource	No Build Alternative	Build Alternative
Land Use	• The study area is fully developed, no direct land use changes would result from this alternative. • This alternative is consistent with planned land uses, as minimal change is anticipated. However, the ability of the transportation system to serve these land uses would diminish as mobility and safety decrease under anticipated conditions. The No Build Alternative will not support surrounding land uses in the future.	• Approximately 3.9 acres of new ROW converted from its existing use to transportation use: • 2.3 commercial acres. • 1.6 vacant/undeveloped acres • Additional TLE during construction, with no long-term impact.
Farmland	• No farmland would be impacted with this alternative.	• No farmland would be impacted with this alternative.
Acquisitions, Relocations, and Access	• No structures would need to be acquired or relocated.	• The Build Alternative would result in the acquisition of one business located on two commercial lots. Coordination with the business owner has taken place, and the relocation of the business is not anticipated to be a substantial burden. • Additional property would need to be acquired from several and access modifications would be required in certain locations, but the structures and functional access would be maintained. While this may result in temporary construction impacts, no long-term impacts are anticipated.
Utilities, Public Facilities, and Services	• No Impact to utilities.	• Several utilities would likely have to be relocated with this alternative. These utilities could include cable, phone, fiber optic, and water lines. • Relocations of utilities represent a temporary short-term negative impact. • SDDOT and the City of Sioux Falls would coordinate with the utility companies about specific utility relocations prior to construction activities. • During construction, the public would be informed of any service interruption prior to the loss of service. Interruptions would be temporary and minimized to the extent possible.
Economic Resources	• This alternative would result in traffic congestion in the future. Over time, this congestion may diminish the desirability of the Project Area as a commercial, industrial, or residential destination. This could result in an adverse economic effect for infill and redevelopment.	• Relocations would mitigate long term impacts to businesses. • Short term construction impacts would occur for business but would be temporary.
Considerations Relating to Pedestrians and Bicyclists	• No sidewalk or bike lane improvements would be added along Minnesota Avenue. • The project would not address public concerns identified by the public or be consistent with local plans.	• The Build Alternative includes the construction of new sidewalks, a new section of trail, and a grade separated crossing of I-229. New facilities would be designed and constructed to meet ADA accessibility standards. These facilities would provide a long-term benefit to the bicycle and pedestrian network in the study area. • Proposed improvements would be consistent with planned city projects, providing improvements along Minnesota Avenue and an underpass of I-229, which could be compatible with future surrounding long-range projects that may connect to the study area. Improvements would also address public safety concerns by providing a grade-separated crossing of I-229. • Temporary closure of the Sioux Falls Bike Trail would be mitigated with a marked detour that would be used for less than 180 days.
Air Quality	• Increased traffic volumes would have the potential to result in localized air quality impacts related to vehicle exhaust, especially during AM and PM peak hours.	• Temporary, minor impacts on air quality relating to increased dust levels and vehicle exhaust during construction. • Impacts would be short-term and localized, and no permit would be required. • No long-term major impacts are anticipated, and no air quality standards would be violated.
Noise	• No impacts related to noise.	• Construction noise impacts would be short-term and limit to the duration of construction. • Modeled noise receptors exceeded FHWA criteria at 11 of 40 modeled receptor locations. None of these exceedances are from a substantial increase in traffic noise resulting from the Build Alternative. • No noise barriers would be recommended with this alternative (none were determined to be feasible and reasonable).
Water Quality	• Potential for indirect impacts to quality water could occur as the area surrounding the roadway develops. Increased impermeable surface could cause increased storm-water runoff which has a negative impact on water quality downstream.	• NPDES Permit (General Permit for Storm Water Discharges Associated with Construction Activities) under the South Dakota SWD program would be required. • Development of a SWPPP that outlines the BMP's used during construction would be developed prior to construction.
Floodplain	• No floodplain impacts would occur with this alternative.	• Fill below the 100-year floodplain would occur. Compensatory storage requirements would be met to ensure no net impacts to the floodplain are created.

Wetlands and other Waters of the United States	No wetland impacts would occur with this alternative.	- Approximately 2.51 acres of wetlands impacted, including 1.42 acres of jurisdictional wetlands and 1.09 acres of non-jurisdictional wetlands. - Non-jurisdictional wetlands mitigated under EO11990 and FHWA regulation 23 CFR 777.9. No net loss of wetlands. - Any permanent impacts to jurisdictional wetlands would require a Section 404 Permit.
Vegetation, Fish, and Wildlife	No impacts to vegetation, fish, or wildlife would occur with this alternative.	- Some loss of habitat would occur (mowed lawn/ROW, vacant land, wetlands). - Conversion of poor-quality habitat (lawns and cropland) to road ROW, which is considered to be poor quality habitat, and is plentiful in areas surrounding the study area. - With the use of BMP's, such as silt fences and/or bales, and other stipulations in the NPDES construction permit required for the project, no indirect adverse effect on the Big Sioux River and associated aquatic resources. - Adherence to the MBTA and its amendments and USFWS regulations should result in the avoidance and/or minimization of most impacts to migratory birds. Vegetation removal, including the removal of trees would be timed to the extent possible to avoid the migratory bird breeding and fledging season (April 1 through July 15).
Threatened and Endangered Species	No impacts to threatened or endangered species would occur with this alternative.	- Preferred habitat for the federal listed/ proposed for listing species and state listed species does not occur within the study area. - No Effect determination for all federal listed and candidate species. - No impact on state listed species with the implementation of protection measures during construction.
Cultural (Historic and Archaeological) Resources	No impact to cultural resources.	A determination of No Adverse Effect was made for the Build Alternative, assuming no impacts would occur to the environmentally sensitive site. No impacts are anticipated.
Section 4(f) and Section 6(f) Resources	No impact to Section 4(f) or Section 6(f) Properties.	An approximately 2,816-foot section of the Sioux Falls Bike Trail would need to be temporarily closed and approximately 640 feet of the trail, including a small bridge within this temporarily closed section, would need to be reconstructed. Bicyclists and pedestrians would need to be temporarily rerouted during the project's construction for the safety of trail users and construction workers. The closure/detour would occur over a period of less than 180 days. This would constitute a Section 6(f) temporary non-conforming use and proposed Section 4(f) de minimis impact
Regulated Materials and Hazardous Waste	No Impacts related to regulated materials and hazardous waste.	No regulated materials are anticipated to be disturbed by construction. A Phase II investigation of a nearby contaminated site has been conducted. Two additional soil borings are planned in the right of way near a site where excavation may be required for utilities. Although it is not anticipated, if contamination is found, additional coordination with SDDANR would take place to determine an appropriate course of action.
Visual Impacts and Aesthetics	As this development occurs, the viewshed would be changed from a rural setting to an urban setting.	- Temporarily altered by construction activities and construction equipment. - Views of the surrounding area, including existing and future businesses, would be maintained, or even enhanced by improved transportation facilities with this alternative, providing a net benefit to those businesses. - No long-term negative impacts to aesthetics would be anticipated.
Indirect and Cumulative Impacts	This alternative would contribute to a cumulative negative effect on traffic by not addressing future demand needs.	- Would not likely alter land use in the surrounding developed area. - Cumulative benefits to traffic operations and safety are anticipated with this alternative. - Potential cumulative impact to noise levels, not anticipated to be significant. - Other indirect and cumulative impacts are not anticipated to occur or would be fully mitigated.
Consistency with Local and Regional Plans	This alternative is largely inconsistent with local and regional plans. It does not address transportation or economic need identified in these plans.	- The Build Alternative is consistent with goals identified in many local and regional plans and policies including: - Go Sioux Falls 2040 Long-Range Transportation Plan – consistent with connectivity and economic vitality goal, addresses operations needs on roadways identified in the study area. - The Shape Sioux Falls 2040 Comprehensive Plan – capacity of transportation facilities goal. - City of Sioux Falls Complete Streets Policy – incorporates bike and pedestrian infrastructure with new transportation project. - City of Sioux Falls 2023 Bike Plan – supports multimodal facilities. - Sioux Falls 2026-2030 Capital Program – financial support for the project. - Sioux Falls MPO 2025-2028 Transportation Improvement Program – financial support for the project.

4.2 Comparison of Selection Criteria

The No Build Alternative would have the least impact on the physical environment; however, this alternative would not satisfy the purpose and need for the project. As discussed in Section 2.3.1, this Alternative does not improve LOS to acceptable levels and would not address any geometric deficiencies.

The Build Alternative meets all criteria established in the purpose and need. Wetlands would be converted with the Build Alternative, but these impacts would be fully mitigated, resulting in no net loss of functional wetland area. One business relocation would be required with the Build Alternative. Coordination with the business owner has taken place to ensure fair compensation, and the relocation of the business is not anticipated to be a substantial burden.

The Build Alternative, though more costly, would satisfy the project's Purpose and Need while limiting environmental impacts to those that would be considered insignificant.

4.3 Selection of the Preferred Alternative

Based on the selection criteria identified in this section, the Preferred Alternative is the Build Alternative. The Build Alternative was selected as the Preferred Alternative for the following reasons:

- The Build Alternative satisfies the project's purpose and need, while other alternatives do not.
- The Build Alternative provides numerous benefits over the No Build Alternative. While the Build Alternative does have environmental impacts, these impacts can be largely avoided, minimized, and mitigated, and any impacts resulting from the Preferred Alternative are anticipated to be insignificant.

In addition to passing the project's screening criteria, there are a number of other benefits provided by the Build Alternative. These include:

- **Project Goal of Safety:** The Build Alternative was designed to meet all safety requirements for transportation projects and not impose additional safety issues on the surrounding network. It had the fewest anticipated crashes compared to other build alternatives.
- **Project Goal of Nonmotorized Connectivity:** The Build Alternative includes sidewalks and trail improvements, including improved crossing at I-229. This will provide infrastructure for bicyclists and pedestrians that is currently lacking.
- **Transportation Planning Support:** The Build Alternative addresses and meets transportation goals already in place locally and regionally.
- **Local Support:** The Build Alternative is largely supported by the public. Through the various public and agency meetings, the study team has observed virtually no opposition to the project, amongst overwhelming support from landowners and local agencies.

5.0 Environmental Commitments

The SDDOT Environmental Procedure Manual identifies environmental commitments which may be required for transportation projects in South Dakota. The commitments which apply to this project are discussed below, using the numbering system established in Section A of the Environmental Procedure Manual or noted as a preconstruction commitment.

Commitment A: Wetlands

Jurisdictional and non-jurisdictional wetlands will be mitigated in accordance with EO 11990 and FHWA regulation 23 CFR 777.9. Credits will be purchased from an approved wetland mitigation bank by Sioux Falls and SDDOT prior to letting the contract. Temporary impacts will not be mitigated as original grades would be re-established.

Section 404 requires a permit before dredged or fill material may be discharged into WOTUS, including jurisdictional wetlands. Section 404 Permit commitments are included as Commitment N.

Commitment B: Federally Threatened, Endangered, and Protected Species

Commitment B4: Bald Eagle

Bald eagles are known to occur in the Sioux Falls vicinity. The bald eagle is no longer a federal listed threatened or endangered species; however, it is protected under the Bald and Golden Eagle Protection Act and the MBTA and is a state listed species. If an occupied bald eagle nest is observed within one mile of the construction site, the Project Engineer will be notified immediately so a course of action can be determined. Additionally, the project will comply with the National Bald Eagle Management Guidelines. Sioux Falls and SDDOT will preserve any trees with active or unoccupied eagle nests.

Commitment B5: Northern Long-Eared Bat

Prior to the completion of the environmental decision document, SDDOT would coordinate with USFWS to confirm the effect determinations remain valid. Prior to construction, field verification for the habitat survey would be conducted by SDDOT to ensure that it remains valid within the 24-month required window prior to construction. These are included as environmental commitments for the project.

Potential summer roosting sites exist within the area. Live and dead trees as well as several manmade structures which could serve as roosting habitat occur within the study area. Tree removal activities conducted by Sioux Falls and SDDOT would occur in accordance with the requirements of the Avoidance and Minimization Measures identified as part of the Range-wide Programmatic Consultation between the USFWS and FHWA for the Indiana Bat and Northern Long-eared Bat. Tree removal activities would occur outside of bat roosting period. Tree removal would occur after October and before April. Trees to be removed will be clearly demarcated prior to removal to assure no additional trees will be accidentally removed from the project area. Therefore, potential bat roosting habitat would be removed during the hibernation period when the roosting sites are not being used by the bats.

Commitment B6: Migratory Birds Work Restriction

Migratory birds are known to use the project area for nesting, which primarily occurs from April 1 to July 15. Contractor is responsible for conducting migratory bird surveys in the designated nesting areas that have not been mowed or cleared prior to April 1st. SDDOT will coordinate with the USFWS to determine appropriate offsetting measures for impacts to migratory birds if impacts are identified.

Commitment C: Water Source

Before work begins that requires water for construction of any projects, the Contractor must obtain a water right, through the application of SD E Form – 2052LD Request for Temporary Permit to Use Public Waters.

The water source note is required for projects that have a potential to withdraw (extract) water from waters within the state. The Contractor must apply for and obtain this permit from SDDANR and USACE prior to any extraction of water.

If the water is being extracted from streams in the James, Big Sioux, and Vermillion Watersheds, the Wildlife Biologist in the EO must be contacted to verify pump size and screen size to ensure fish are not caught in pumps or pipes related to the water.

Commitment D: Water Quality Standards

This Commitment includes both surface water quality and surface water discharge.

Commitment D1: Surface Water Quality

Commitments related to Surface Water Quality which have been stipulated by SDDANR through coordination efforts will be adhered to for all projects, as described below.

1. All fill material shall be free of substances in quantities, concentrations, or combinations which are toxic to aquatic life.
2. Removal of vegetation shall be confined to those areas absolutely necessary to construction.
3. At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Any construction activity that disturbs an area of one or more acres of land must have authorization under the General Permit for Storm Water Discharges Associated with Construction Activities. Contact the Department of Environment and Natural Resources for additional information or guidance at 1-800-SDSTORM (800-737-8676) or.
4. All material identified in the application as removed waste material, material stockpiles, dredged or excavated material shall be placed for either temporary or permanent disposal in an upland site that is not a wetland, and measures taken to ensure that the material cannot enter the watercourse through erosion or any other means.
5. Methods shall be implemented to minimize the spillage of petroleum, oils and lubricants used in vehicles during construction activities. If a discharge does occur, suitable containment procedures such as banking or diking shall be used to prevent entry of these materials into a waterway.
6. This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that water quality standards are not violated.
7. This project is in the vicinity of the Big Sioux River. This waterbody is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:
 - (5) Warmwater semipermanent fish life propagation waters;
 - (7) Immersion recreation waters;
 - (8) Limited contact recreation waters;
 - (9) Fish and wildlife propagation, recreation, and stock watering waters; and
 - (10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that the 30-day average total suspended solids criterion of 90 mg/L is not violated.

Commitment D2: Surface Water Discharge

If construction dewatering is required for any projects, the Contractor shall obtain the General Permit for Temporary Discharge Activities from the SDDANR Surface Water Program prior to the preconstruction meeting. The Contractor shall provide a copy of the approved permit to the Project Engineer.

Commitment E: Storm Water

A stormwater permit, which requires revegetation of disturbed areas, is required for all projects. Removal of vegetation shall be confined to those areas necessary for construction. A site-specific sediment erosion control plan would be implemented to provide interim control prior to re-establishing permanent vegetation cover on the disturbed site. If riparian vegetation is lost, it should be quantified and replaced on site. Seeding of indigenous species should occur immediately after construction to reduce sediment and erosion.

Commitment F: Seasonal Work Restrictions

Commitment F1: Trout Perch (GFP Recommendations)

1. Disturbance to riparian and wetland areas should be kept to an absolute minimum.
2. If riparian vegetation is lost it should be quantified and replaced on site. Seeding of indigenous species should be accomplished immediately after construction to reduce sediment and erosion.
3. A site-specific sediment and erosion control plan should be part of the project.
4. A post construction erosion control plan should be implemented in order to provide interim control prior to re-establishing permanent vegetative cover on the disturbed site.
5. Stream bottoms impacted by construction activities should be restored to pre-project elevations.
6. In stream work should not be conducted during fish spawning periods. Most spawning occurs during April, May and June.

Commitment G: Dewatering and Sediment Collection

The Sioux Falls and SDDOT projects would impact more than one acre of land; therefore, the contractor will be required to implement BMP's in accordance with the SDDOT specifications and Sioux Falls construction standards to minimize temporary impacts on water quality during construction. The SDDANR administers the Federal NPDES program and issues general permits for stormwater discharges from construction activities.

The Contractor is responsible for creating a Stormwater Pollution Prevention Plan (SWPPP) for dewatering and sediment collection if the Contractor chooses to discharge water into "Waters of the US" or "Waters of the State."

Commitment H: Waste Disposal

The Contractor will furnish appropriate sites for the disposal of construction and/or demolition debris generated by Sioux Falls and SDDOT projects. Any waste disposal sites will be managed and reclaimed in accordance with the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal under the South Dakota Waste Management Program issued by SDDANR.

Any waste disposal sites will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

Commitment I: Historic Preservation Office Clearances

Sioux Falls and the FHWA/SDDOT has obtained concurrence with the SHPO for all work included within the project limits. The contractor will be responsible for all earth disturbing activities not designated within the plans obtaining a cultural resource review prior to scheduling the pre- construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

If cultural resources are encountered during construction activities, construction will be stopped and the SHPO would be contacted. Construction will not be resumed until appropriate coordination has occurred and SHPO approval has been received.

In the unlikely event that human skeletal remains or associated funerary objects are inadvertently discovered during construction activities, all work in the immediate area of the find will immediately cease and the following protocol be followed, pursuant to the provisions of South Dakota Codified Law 34-27.

Commitment L: Contaminated Material

Commitments stipulated by SDDANR in their coordination letter dated December 27, 2018, will be adhered to for all projects:

- Should any hazardous waste be generated during the implementation of this project, the generator must abide by all applicable hazardous waste regulations found in ARSD 74:28 and 40 CFR Part 262.
- If any contamination is encountered during construction activities, the contractor, owner, or party responsible for the release must report the contamination to the department. Any contaminated soil encountered must be temporarily stockpiled and sampled to determine disposal requirements.
- If road construction is planned for areas within a city or town, the DOT or contractor should contact this Department prior to construction.
- Any solid waste generated that will not be reused in some beneficial manner must be disposed or managed at a permitted solid waste facility. Only Regional landfills are permitted to accept all wastes generated.
- The SDDANR Asbestos Coordinator should be contacted prior to the demolition or renovation of a building structure.

Commitment M: Section 4(f)/6(f) Resources

Commitment M1: Section 4(f) Property

Property(ies) must be listed in the plan note by station and include required measures for the Contractor to comply with Section 4(f). The Project Engineer will contact the EO if changes to an easement adjacent to the 4(f) property occurs, before proceeding with any plans that may affect Section 4(f) property.

Commitment M2: Section 6(f) Property

Known properties must be listed by station in the Section A Plan Notes. The Project Engineer will notify the EO if there is a change to easements adjacent to a 6(f) property, so that required approvals or concurrences can be obtained. Measures to protect the Section 6(f) property are included in the note as applicable.

Commitment N: Section 404 Permit

Jurisdictional wetlands are located within the study area. Should any of these wetlands be impacted by the final design of the Preferred Alternative for any projects, a section 404 permit would be required. Dredge, excavation, and fill activities outside the project limits, affecting wetlands or waters of the United States associated with staging areas, borrow sites, waste disposal sites, or material processing sites require that the Contractor obtain a 404 permit from USACE.

Preconstruction Commitment: Land Use

After the approval of the environmental document, before construction, SDDOT will inform The City of Sioux Falls and Sioux Falls MPO of the availability of the environmental document, and proposed project action.

Preconstruction Commitment: Acquisitions, Relocations, Access

All acquisitions and relocations would be conducted in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Surface Transportation Assistance Act of 1987 and 49 CFR, Part 24, effective April 1989. Relocation assistance would be made available to all affected persons without discrimination.

Final strip acquisitions and access modifications along Minnesota Avenue will be determined by the designer during Final Design.

Preconstruction Commitment: Utilities, Public Facilities and Services

Utilities located within the new roadway alignment would be relocated. SDDOT and Sioux Falls would coordinate with the utility companies regarding utility relocations prior to construction activities. The public would be informed of any service interruption prior to the loss of service.

Coordination will take between the Sioux Falls emergency services and the Designer during final design.

Commitment T1: Air Quality

Construction equipment with point source emissions in many cases are required to have an air quality permit to operate. Any such equipment used during construction would obtain any necessary air quality permits if applicable.

Fugitive emissions, although not covered under State air quality regulations, are a common source of public concern and may be subject to local or county ordinances. Fugitive emissions add to the deterioration of the ambient air quality and should be controlled to protect the health of communities within the construction areas.

To minimize air quality impacts during construction, the following Best Management Practices (BMPs) would be implemented:

- Construction contractors would be required to comply with the statutory regulations for the State for air pollution control and to receive permits, as needed.
- Construction contracts would stipulate adherence to requirements regarding open burning of grub material, fugitive dust, visible emissions, and permits.
- A schedule of water sprinkling would be developed and followed to control dust.

Preconstruction Commitment: Noise

In conformance with SDDOT's Noise Analysis & Abatement Guidance document Section 14, local officials will be provided with information on noise compatible planning techniques that can be used to prevent future highway traffic noise impacts. To assist local officials within whose jurisdiction a Type I highway project is located, the SDDOT will provide information on future noise levels for each Activity Category located along the project. This will be accomplished by providing a copy of the noise analysis report to the local official. The local official will also be provided with an estimation of future noise levels for various distances from the highway (noise contours).

Commitment T2: Noise

The contractor will apply for a sound level permit for construction activities within the boundary of the City of Sioux Falls when construction activities will produce amplified or elevated sound levels (e.g. pile driving). The

contractor will provide the approved permit to the Project Engineer prior to scheduling the preconstruction meeting.

Preconstruction Commitment: Work within Floodplain

During final design of the SDDOT and Sioux Falls projects, a Floodplain Development Permit would be acquired.

Commitment T3: Emerald Ash Borer Management

The City of Sioux Falls is taking a proactive approach to manage Emerald Ash Borers in Minnehaha County.

Removal of ash trees by the project undertaking will need to coordinate an action plan in accordance with the City's approved quarantine data and restrictions.

Preconstruction Commitment: Regulated Materials

No excavation should be performed on the Taylor Oil site. Additional Soil borings will take place in the right of way near the site where excavation would be needed for utility work to ensure that excess levels of contamination are not present. The Contractor should be alert for large areas of soil staining, buried drums, ASTs, and USTs. If contamination is found, additional coordination with SDDOT and SDDANR should take place prior to continuing work in those areas to determine an appropriate course of action. If it is determined in final design that disturbance to the rail corridor REC site is anticipated, Phase II Investigation work plan is recommended.

Preconstruction Commitment: Complete Streets

The designer will utilize the City of Sioux Falls Checklist process to ensure the inclusion of nonmotorized transportation elements and vegetative screening and will obtain approval/signature from the City.

Preconstruction Commitment: Bus Routes

The designer will coordinate with the City of Sioux Falls during final design to ensure that the Blue Route can continue to run. Access to stops will be maintained and appropriate signage will be used where necessary.

Preconstruction Commitment: Emergency Action Plan

The designer will complete the Emergency Action Plan (EAP) prior to construction. The EAP will define operation, maintenance, monitoring, and emergency actions to be taken by the construction contractor during each stage of the project.

Preconstruction Commitment: Visual Aesthetics

Conventional vegetation replacement/repair methods would be suitable for mitigating construction impacts. Context sensitive solutions should be considered during design to maintain visual character of the transportation facilities. Aesthetic development of Exit 3 should consider other existing exits within the I-229 river corridor to promote a unifying and combined southern Sioux Falls aesthetic.

In addition, adherence to the City of Sioux Falls' Complete Street Policy would also be expected to enhance the visual quality of the proposed project area by implementing current design standards making the appearance of project materials more cohesive.

6.0 Comments and Coordination

This chapter includes a summary of agency coordination and public involvement that has taken place during development of this EA.

6.1 Agency Coordination

Federal, state, and local agencies that were included in project coordination efforts include:

- South Dakota Department of Agriculture and Natural Resources
- South Dakota Game, Fish and Parks
- U.S. Fish and Wildlife Services – South Dakota Field Office
- Natural Resources Conservation Service
- U.S. Army Corps of Engineers
- South Dakota State Historic preservation Office

The consultation letters sent to each agency and the agency responses are provided in Appendix C and summarized in Table 6-1.

Table 6-1: Agency Coordination Summary and Status

Government Agency	Type of Approval or Permit	Status
Federal		
Federal Highway Administration	EA Approval	Pending
	Section 4(f) Approval	After Opportunity for Public Comment
	EIS Need Decision	Pending
U.S Army Corps of Engineers	Jurisdictional Determination	Received
	Section 404 Permit	Will be coordinated after the environmental decision document
USFWS	Concurrence with No Effect and May Affect, not Likely to Adversely Affect Determinations	IPAC up to date, preliminary effects determination sent to USFWS, concurrence with effect determinations received.
State		
SD Department of Transportation	EA Approval	Pending
	Section 4(f) Approval	After Opportunity for Public Comment
SD Department of Agriculture and Natural Resources (formerly SD Department of Environment and Natural Resources)	National Pollutant Discharge Elimination System Permit	Required Prior to Construction
SD Department of Game, Fish, and Parks	No Impact on State Listed Species	Received
	Section 6(f) concurrence for trail impacts	Received
State Historic Preservation Office	Concurrence with No Adverse Effect	Received
Local		
City of Sioux Falls Public Works	EA Approval	Pending
	Floodplain Development Permit	Pending
City of Sioux Falls Parks Department	Section 4(f) concurrence	Approval required after public comment period.

6.2 Tribal Coordination

In accordance with Section 106 of the NHPA (36 CFR Part 800), the SDDOT solicited comments on this project from the following tribes:

- Flandreau Santee Sioux Tribe
- Lower Brule Sioux Tribe
- Sisseton-Wahpeton Oyate Tribe
- Standing Rock Sioux Tribe
- Yankton Sioux Tribe
- Three Affiliated Tribes of North Dakota
- Ponca Tribe of Nebraska
- Chippewa Cree Tribe

Consultation letters were sent to each tribe on December 11, 2018 (Appendix C). The Yankton Sioux Tribe sent a response requesting any information on cultural resources found within the study area. No resources were identified during the Cultural Resource Investigation.

An updated coordination letter for the project, including the borrow site, was sent to the tribes on June 23, 2024. No additional responses were received.

6.3 Public Involvement

As a result of E.O. 14148, E.O. 14154, E.O. 14173, and the removal of the Council on Environmental Quality's regulations, all federal environmental justice requirements are revoked and no longer applicable to the federal environmental review process. Accordingly, this Environmental Assessment does not consider public comments regarding environmental justice.

6.3.1 Public Open Houses

Open House style public meetings were held throughout the project, which helped the study team identify impacts and obtain input on the alternatives. Stakeholders were notified of the meetings through postcard mailings, the project website, press release, local newspaper ads, and social media. The following Open Houses were held for the project:

- Public Meeting /Open House #1, April 17, 2019 – The focus of this meeting was to introduce the project and provide an overview of the scope and schedule, present a draft purpose and need, and present a draft range of alternatives. A presentation was provided by project staff, and poster-board exhibits were set up at the meeting. Comment forms were provided, and members of the study team were on hand to answer questions. Postcard invitations were mailed directly to 158 properties surrounding the project area. Approximately 120 individuals signed in at the meeting.
- Public Meeting /Virtual Open House #2 November 6 – December 5, 2020. Due to the COVID 19 pandemic, an online public meeting and virtual open house were held without in-person contact. The online meeting was held concurrently for I-229 Exit 3 and I-229 Exit 4, as both interchanges are adjacent to one another and planned for reconstruction. Three individual speaker presentations were recorded for the public's information on recommended improvements, the Interchange Modification Justification Report (IMJR) summary, and Environmental Scan Report (ESR) and posted online for a period of 30 days. A total of 933 unique website visitors were recorded during this period, the majority of which accessed the project website directly for project update information. Online comment forms were provided next to each pre-

recorded presentation in the Virtual Open House. Comments were received on the three video recordings and were also received via telephone and email.

These meetings were held in the ESR phase to gather public and agency input early in the process related to the project, its alternatives, and its purpose and need to inform the NEPA process. A final public meeting will be held to allow additional opportunity for public comment and complete the EA and Section 4(f) processes. ESR process identified the main need factors (mobility and geometric deficiencies) of the project as well as the additional project goals (safety and non-motorized connectivity). With input and coordination from project stakeholders in the ESR process, the purpose, needs, and goals were used as a foundation for NEPA, and were carried forward to form the final Purpose and Need of project to meet NEPA requirements.

A project website was established for the project which served as a tool for the public to access project information and view public meeting materials. The website was utilized throughout the ESR and NEPA process. The website can be accessed with the following link: <https://www.i229exits3and4.com/>.

6.3.2 Future Public Involvement

The EA will be made available to public agencies and the general public for review and comments. The EA will be available for a 30-day comment period at the following locations:

- Project Website
- SDDOT Website
- Sioux Falls City Center, Engineering Department
- SDDOT Sioux Falls Area Office

FHWA will take into consideration all verbal and formal comments received during the comment period in determining whether the Preferred Alternative would or would not result in significant social, economic, and environmental impacts. If a Finding of No Significant Impacts (FONSI) is determined, this will be posted on the SDDOT website.

An additional public information meeting will be held to present the findings of the EA and meet Section 4(f) requirements. If it is found that project does not result in significant impacts, a Finding of No Significant Impacts (FONSI) would be prepared and submitted to FHWA. The FHWA would take into consideration all verbal and formal comments received during the comment period in determining whether the Preferred Alternative would or would not result in significant social, economic, and environmental impacts. If a Finding of No Significant Impacts (FONSI) is determined, this will be posted on the SDDOT website. If not, the agencies would consider whether the project will be pursued under an Environmental Impact Statement.

References

- ¹ 201 Decennial Interstate Corridor Study
<chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://dot.sd.gov/media/documents/09-104Phase1reportFINAL.pdf>
- ² I-229 Exit 3 (Minnesota Avenue) Final Report – Major Investment Corridor Study
https://dot.sd.gov/media/documents/I229_SS2_FINALReportAppendices_June2017.pdf
- ³ South Dakota Department of Transportation 2025-2028 Statewide Transportation Improvement Program, Accessed September 2023
<https://dot.sd.gov/projects-studies/planning/stip>
- ⁴ Sioux Falls MPO Transportation Improvement Program 2025-2028, Accessed September 2024
[Transportation Improvement Program \(TIP\) \(siouxfallsmpo.org\)](https://www.siouxfallsmpo.org/Transportation%20Improvement%20Program%20(TIP)%20(siouxfallsmpo.org))
- ⁵ City of Sioux Falls 2026-2030 Capital Program, Accessed June, 2024
<https://www.siouxfalls.org/finance/capital-programs>
- ⁶ City of Sioux Falls 2023 Bicycle Plan, Accessed October 2023
<https://www.siouxfalls.org/planning-dev/planning/transportation-planning/highlights/bicycle-planning>
- ⁷ 2015 Status of the Nation's Highways, Bridges, and Transit: Conditions & Performance, Chapter 10, Sensitivity Analysis
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- ⁸ Sioux Falls MPO 2045 Long-range Transportation Plan, Accessed January 2022
<https://siouxfallsmpo.org/Document%20Center/Resources/MPO%20Major%20Planning%20Documents/LRTP/2045%20LRTP%20Final.pdf>
- ⁹ United States Census Bureau, Accessed November 2019
<https://data.census.gov>
- ¹⁰ South Dakota Department of Revenue
<https://sddor.seamlessgov.com/publications-annual-reports>
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- ¹³ City of Sioux Falls Public Works Department, Accessed November 2020
<https://www.siouxfalls.org/public-works/storm-drainage>
- ¹⁴ FHWA Environmental Review Toolkit - Guidelines for the Visual Impact Assessment of Highway Projects, Accessed July, 2021
[FHWA | Environmental Review Toolkit | Guidelines for the Visual Impact Assessment of Highway Projects \(dot.gov\)](https://www.fhwa.gov/Environmental%20Review%20Toolkit/Guidelines%20for%20the%20Visual%20Impact%20Assessment%20of%20Highway%20Projects)