

Frank Shoemaker Marsh Property Disposal

Environmental Assessment

Grant Number: U-1-1 (F03AP00021)

Lancaster County, Nebraska

Prepared by



**US Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Denver, Colorado**

and

**Nebraska Game and Parks Commission
Lincoln, Nebraska**

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EXECUTIVE SUMMARY

Nebraska Game and Parks Commission (NGPC) is requesting approval by the U.S. Fish and Wildlife Service (Service Wildlife and Sport Fish Restoration Program (WSFR) to dispose of property originally acquired with WSFR grant funds. NGPC proposes to reimburse WSFR for the value of the land which consists of 1.63 acres, and associated permanent and temporary easements, from the 160-acre Frank Shoemaker Marsh. The federal grant was originally provided by WSFR to NGPC in 2003 (U-1-1; F03AP0021) through the State Wildlife Grant Program (SWG), and was distributed by NGPC to the Saline Wetlands Conservation Partnership, a division of the City of Lincoln, for the purpose of conservation of the Salt Creek tiger beetle.

Purpose. The purpose of the property disposal is to allow construction of the roadway improvement by Lancaster County. The purpose of the roadway project is to preserve the transportation asset, improve the reliability of the transportation system, and perpetuate the mobility of the traveling public. The project would enhance roadway safety by improving the profile for sight distance, widening the driving surface, and flattening the foreslopes.

Need. Disposal of the property is required by Lancaster County for roadway improvements to North 27th Street, from Arbor Lake Wildlife Management Area (WMA). The existing roadway does not meet the design standards for the current and future traffic volume and speed. North 27th Street is one of the few continuous north-south roads connecting the City of Lincoln and Lancaster County to Saunders Counties to the north. Areas north of the project have experienced rural acreage development, mostly along the intersecting east-west section line roads, and not as much along North 27th Street itself.

Project Location. The project is located along North 27th Street in a rural area approximately one mile north of the City of Lincoln, Lancaster County, Nebraska. The project starts approximately one-half mile south of Bluff Road, and extends approximately 1.7 miles north to Waverly Road.

Frank Shoemaker Marsh is a 160-acre site adjacent to the west right-of-way (ROW) of North 27th Street; it is owned and operated by the City of Lincoln Parks and Recreation Department. Arbor Lake Wildlife Management Area (WMA), owned and operated by NGPC, is a 132-acre site adjacent to the east ROW of North 27th Street. These public natural areas were purchased and restored for the preservation of saline wetlands and the critical habitat they provide for federally and state threatened and endangered species, including the Salt Creek tiger beetle and saltwort. Restorations have been completed on both sites. The remaining properties along North 27th Street are primarily in agricultural uses as pasture and cropland; a few rural residences are also present. Several stands of mature trees occur along North 27th Street.

Alternatives. Three Build alternatives and a No Action alternative were considered. These were improvements centered on alignment, improvements shifted to the west, improvements shifted to the east, and no build. While only the centered alternative and shifted west alternative require disposal of WSFR property, both shifted alignments (to the east or west) were eliminated from further study because they required greater ROW from public lands, and had greater wetland impacts than the centered alignment.

Therefore, the Recommended Alternative is property disposal and reimbursement of WSFR funds back to the SWG Program in order to allow construction of the roadway improvements centered on existing alignment.

Summary of Impacts on Environmental Resources by Alternative

<i>Environmental Resource</i>	<i>Alternative 1 – No Action</i>	<i>Alternative 2 – Proposed Action (Recommended Alternative)</i>
<i>Water Quality</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Wetlands</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Terrestrial Habitat</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Threatened and Endangered Species</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Raptors and Migratory Birds</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Cultural Resources</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Publicly-Owned Land</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Indirect Impacts</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Cumulative Impacts</i>	<i>No Effect</i>	<i>No Effect</i>

Impact Definitions: See Section 3.0

Of particular note, Frank Shoemaker Marsh contains suitable Category I saline wetland habitat for the Salt Creek tiger beetle; however, the proposed 1.63 acres for disposal contains only 0.081 acre of wetlands, all of which are Category III freshwater wetlands on saline soils. Restoration of Category III wetlands to Category I is not considered possible due to dilution of the salt source or loss of connection to a salt source. Therefore, the proposed action would not adversely impact the Salt Creek tiger beetle, or its suitable habitat.

Recommendation for Finding of No Significant Impact. Of the resources reviewed, four were found to have minor, adverse, short-term impacts (water quality, wetlands, terrestrial habitat, and publicly-owned land). With careful planning and implementation of mitigation plans and BMPs, these impacts would be negligible.

This EA indicates that the Proposed Action would not have a significant impact on the human or natural environment; therefore, a FONSI is recommended for property disposal and reimbursement of WSFR funds to allow construction of improvements to North 27th Street by Lancaster County.

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LIST OF ACRONYMS AND ABBREVIATIONS

BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CRC	Cultural Resources Consulting
CWA	Clean Water Act
DBH	Diameter at Breast Height
DEA	Draft Environmental Assessment
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHPO	Nebraska State Historical Preservation Office
NDEQ	Nebraska Department of Environmental Quality
NGPC	Nebraska Game and Parks Commission
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
OW	Open Water
PEMA	Palustrine Emergent Temporarily Flooded
PEMC	Palustrine Emergent Seasonally Flooded
PM	Particulate Matter
PSSA	Palustrine Scrub Shrub Temporarily Flooded
ROW	Right-of-Way
SHPO	State Historic Preservation Officer
SWPPP	Storm Water Pollution Prevention Plan
T&E	Threatened and Endangered Species
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WMA	Wildlife Management Area

1.0 INTRODUCTION

Nebraska Game and Parks Commission (NGPC) is requesting approval by the U.S. Fish and Wildlife Service (Service) Wildlife and Sport Fish Restoration Program (WSFR) to dispose of property originally acquired with WSFR grant funds. NGPC proposes to reimburse WSFR for the value of the land which consists of 1.63 acres, and associated permanent and temporary easements, from the 160-acre Frank Shoemaker Marsh. The federal grant was originally provided by WSFR to NGPC through the State Wildlife Grant Program (U-1-1; F03AP00021), and was distributed by NGPC to the Saline Wetlands Conservation Partnership, a division of the City of Lincoln, for the purpose of conservation of the Salt Creek tiger beetle. Disposal of the property is required by Lancaster County for roadway improvements to North 27th Street, from Arbor Lake Wildlife Management Area (WMA) on the south to Waverly Road on the north. The WSFR approval of the proposed disposal of the Frank Shoemaker Marsh property constitutes a federal action subject to the provisions of the National Environmental Policy Act of 1969, as amended (NEPA). The Service is therefore required to prepare an Environmental Assessment (EA) to analyze the effects on the human environment

and document the findings. The Service will use this Draft EA to determine if the proposed action is likely to result in significant impacts to the human environment. If it is determined that there are no significant adverse impacts, the Service will issue a Finding of No Significant Impact (FONSI). If it is determined, conversely, that significant impacts might occur, the Service will be required to prepare an Environmental Impact Statement (EIS).

1.1 Purpose and Need for the Proposed Project

Purpose. The purpose of the property disposal is to allow construction of the roadway improvement by Lancaster County. The purpose of the roadway project is to preserve the transportation asset, improve the reliability of the transportation system, and perpetuate the mobility of the traveling public. The project would enhance roadway safety by improving the profile for sight distance, widening the driving surface, and flattening the foreslopes.

Need. The need for the property disposal is to improve an existing roadway that does not meet the current design standards for the current and future traffic volume and speed. North 27th Street has been a well-used County road for over a century as it is one of the few continuous north-south roads connecting the City of Lincoln and Lancaster County to Saunders Counties to the north. Areas north of the project have experienced rural acreage development, mostly along the intersecting east-west section line roads, and not as much along North 27th Street itself.

The purpose of the original purchase of the Frank Shoemaker Marsh was to acquire land for the protection, restoration, and conservation of Nebraska's Eastern Saline Wetlands, and provide habitat for the Salt Creek tiger beetle and up to 230 migratory bird species. The wetlands also supported several saline wetland plants that are found nowhere else in the State. Three of these are considered rare in Nebraska and one, saltwort, is listed on the State endangered species list.

The Shoemaker Marsh property was a desirable acquisition site because it was located adjacent to the largest known concentration of Salt Creek tiger beetles, and was considered to have high potential to provide recovery habitat either through natural colonization or by reintroduction. Nearby or contiguous populations are considered necessary to reestablish and expand populations that have been locally depleted or extirpated thereby aiding in the recovery of a species. The importance of the Shoemaker Marsh as a recovery site was further enhanced by the presence of a diversity of habitat types used by Salt Creek tiger beetles at other locations (including mud banks of streams and seeps, and saline wetlands). The protection of the property also provided a significant buffer to other nearby properties being used by the beetle, and was considered a factor in avoiding further declines in the species.

1.2 **Project Location**

Project Location. The project is located along North 27th Street in a rural area approximately one mile north of the City of Lincoln, Lancaster County, Nebraska. The project starts approximately one-half mile south of Bluff Road, and extends approximately 1.7 miles north to Waverly Road (**Figures 1 and 2**).

Frank Shoemaker Marsh is a 160-acre site adjacent to the west right-of-way (ROW) of North 27th Street; it is owned and operated by the City of Lincoln Parks and Recreation Department. Arbor Lake Wildlife Management Area (WMA), owned and operated by NGPC, is a 132-acre site adjacent to the east ROW of North 27th Street. These public natural areas were purchased and restored for the preservation of saline wetlands and the suitable habitat they provide for endangered and threatened species, including the Salt Creek tiger beetle and saltwort. Restorations have been completed on both sites. The remaining properties along North 27th Street are primarily in agricultural uses as pasture and cropland; a few rural residences are also present. Several stands of mature trees occur along North 27th Street.

1.3 **Public Involvement**

The proposed roadway improvement has been part of Lancaster County's Fiscal Year *1 & 6 Year Road and Bridge Program* for several years (2011, 2012, 2013, 2014, and 2015.) Public hearings were held in each of the respective years (6 Dec 2010, 29 November 2011, 20 November 2012, 19 November 2013, and 28 October 2014). The Lincoln-Lancaster Planning Commission held a public hearing on the project 15 October 2014. In general, based on the above-mentioned meetings, the public is in support of the project.

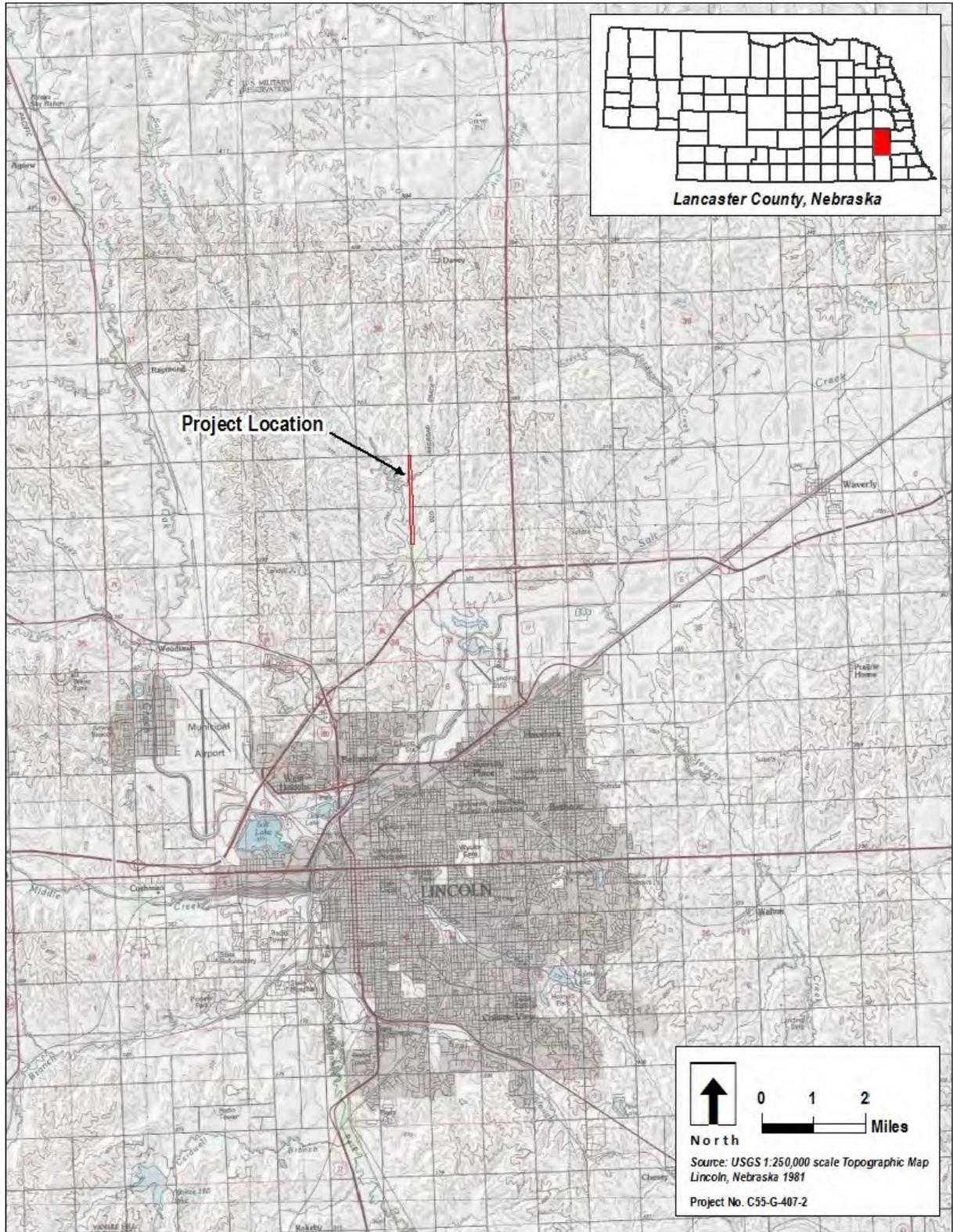
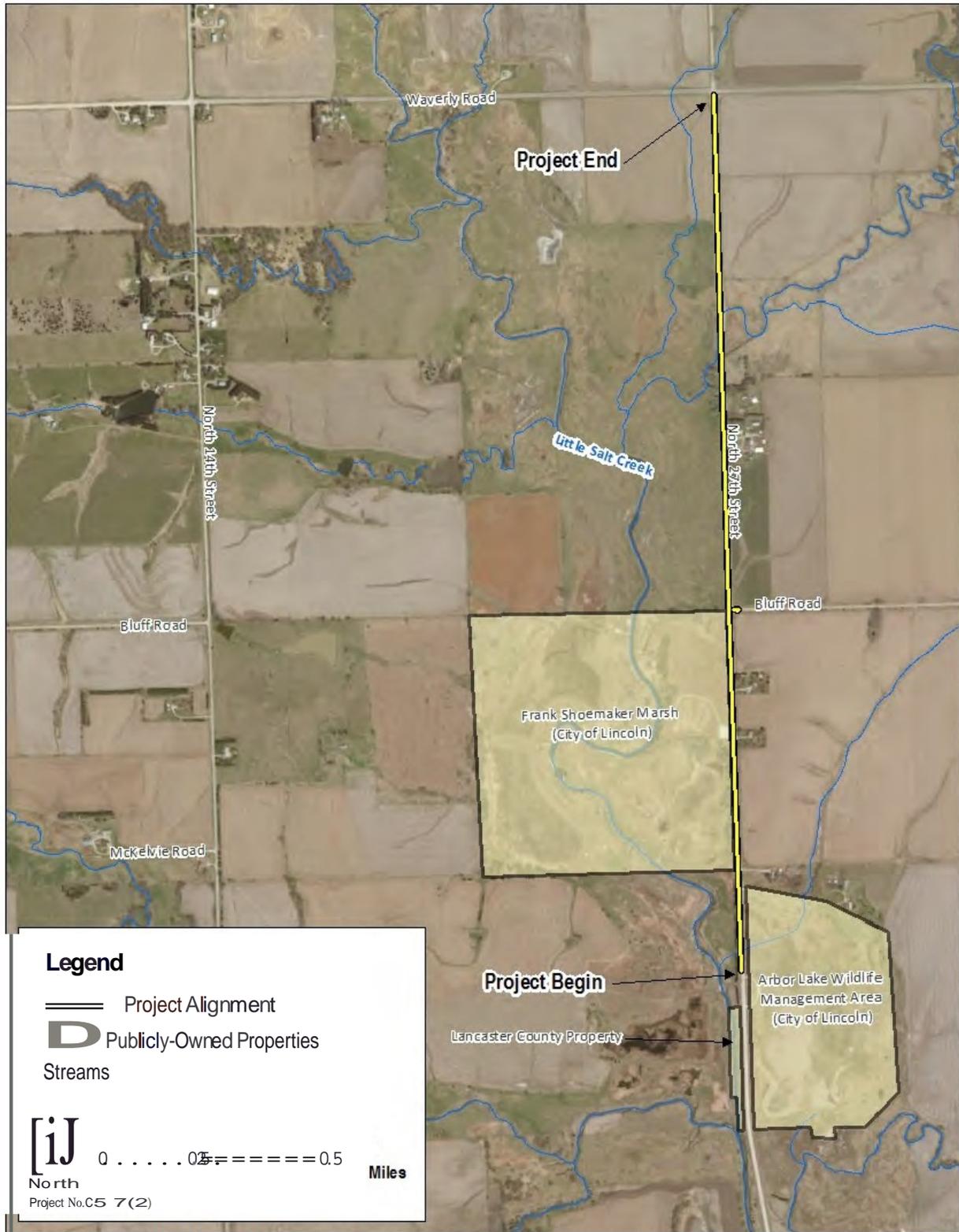
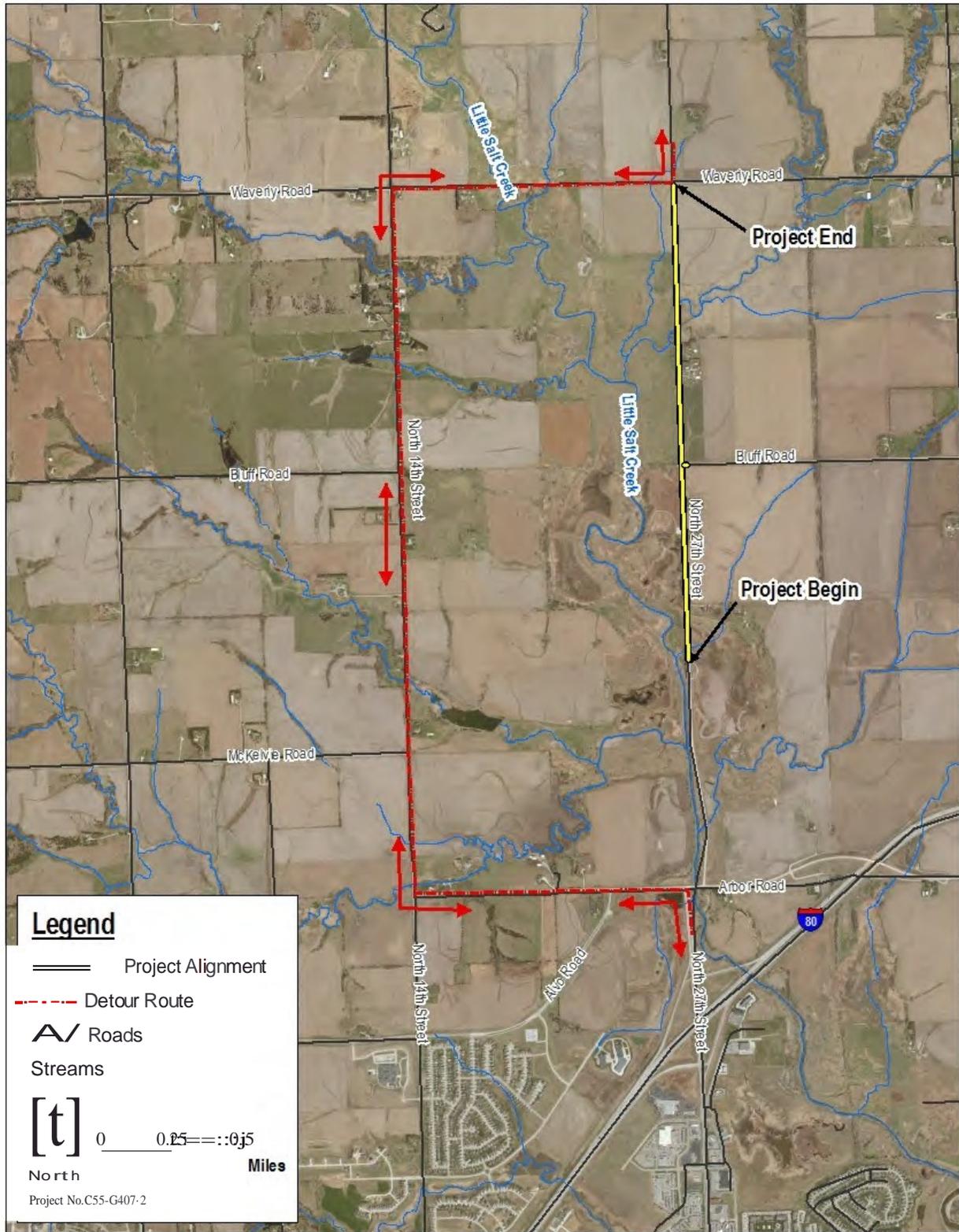


Figure 1. Topographic Vicinity Map



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 2. Aerial Location Map



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 3. Project Detour Map

2.0 ALTERNATIVES

NEPA requires that feasible and prudent alternatives, including a No Action (No Build) Alternative, are presented and evaluated in a NEPA document. Three build alternatives were evaluated to identify an action that would minimize potential impacts to the environment and meet the purpose and need of the project. Two alternatives were carried forward: Alternative 1– No Action, and Alternative 2 – Proposed Action (Recommended Alternative) which includes property disposal and reimbursement of WSFR funds to allow construction of roadway improvements centered on the existing alignment.

2.1 *Alternative 1 – No Action*

If WSFR does not approve the disposal and reimbursement of the 1.63 acres of Frank Shoemaker Marsh and associated easements, then Lancaster County would be unable to construct roadway improvements. Therefore, the No Action Alternative does not meet the purpose and need to improve this segment of North 27th Street to meet design standards for current and future traffic volume and speed.

For the near future there would be no disturbances to the Frank Shoemaker Marsh; however, Lancaster County could invoke their power of condemnation for matters of ensuring public safety—resulting in comparable reimbursement of WSFR funds. The amount of compensation would be negotiated based on an appraised market value of the 1.63 acres of Frank Shoemaker Marsh. The funds would be returned to NGPC's SWG Grant Program for future obligation toward eligible activities.

Alternatively, the county could redesign the roadway improvements shifted to the east, thereby requiring only ROW from Arbor Lake WMA but with greater wetland impacts and impacts to Category I saline wetlands. Under such a scenario, it would be unlikely for the project to meet the alternatives analysis under the US Army Corps of Engineers Section 404 permit program, which requires the agency to approve the Least Environmentally Damaging Practicable Alternative (LEDPA).

This alternative was carried forward for analysis and is discussed in subsequent sections to establish a baseline for comparison of the Proposed Action. Alternative 1 has no direct environmental impacts.

2.2 *Alternative 2 – Proposed Action (Recommended Alternative)*

The Proposed Action is property disposal to allow construction of a roadway improvement on North 27th Street.

The roadway improvement would re-grade approximately 1.7 miles of North 27th Street including the extension of one culvert and the replacement of twenty-three culverts (15 driveway culverts and 8 culverts under the roadway). North 27th Street is currently a rural road with 28-feet of gravel surfacing and 66-feet of ROW (**Figures 1 and 2**).

The project would re-grade the roadway centered on existing alignment by adjusting the vertical profile (with a maximum cut of 5-feet and fill of 5-feet), and providing 30-feet of gravel surfacing and 3-feet of earthen shoulder on each side. The project would increase the existing roadway width from 28 to 36 feet, and would increase the ROW from 66 to 120 feet. All foreslopes would be 4:1 with 8-foot ditches and 3:1 backslopes (**Exhibit 1**). It is noted that there are some locations along North 27th Street where the existing roadway is below the elevation of the adjacent wetlands.

The project requires ROW from the adjacent Frank Shoemaker Marsh, limited work in a tributary of Little Salt Creek, construction within floodplains, and wetland impacts on both sides of the ROW. Culvert work

would be required in a tributary of Little Salt Creek. A 10-foot x 12-foot concrete box culvert would be extended on the east side of North 27th Street with limited channel work. An old oxbow of this tributary would have limited channel work involving construction of a pipe culvert inlet on the east side and outlet on the west side of North 27th Street. The project also involves work in the 100-year floodplain of the Little Salt Creek and the perpendicular crossing of the Little Salt Creek Tributary floodplain and floodway (**Exhibit 2**).

The project would require additional ROW during construction and the road would be closed to traffic. Lancaster County would provide a posted detour with signs directing traffic for the entire construction period (approximately 3 months). The detour would be 4.5 miles long and utilize existing paved roads (**Figure 3**). Five residences are located along this section of North 27th Street. No residence would require relocation; all existing driveways would be reconstructed. Access to the residences would be maintained during construction.

The Proposed Action is the Recommended Alternative because it meets the purpose and need, and minimizes impacts to the two adjacent saline wetland restoration areas which are located on both sides of the roadway. As such, the alternative is the least environmentally damaging practicable alternative.

2.3 Other Alternatives Eliminated from Further Study

Two other alternatives were considered but eliminated from further study. These were: 1) shifting the proposed centerline to the west, and 2) shifting the proposed centerline to the east. Since wetlands occur at the south end of the project on both the east and west sides of North 27th Street, shifting the centerline west or east would not avoid wetland impacts (**Exhibit 4 and 5**). Shifting the proposed centerline to the west would require greater ROW from Frank Shoemaker Marsh and greater wetland impacts than the Recommended Alternative. Shifting the proposed centerline to the east would require ROW acquisition from Arbor Lake WMA and greater wetland impacts (including Category I saline wetlands) than the Recommended Alternative, as well as ROW from two residences with small lots that are close to the road.

While only the centered and shifted west alternatives require property disposal and reimbursement of WSFR funds, both shifted alignments were eliminated from further study because they required greater ROW from public lands, and had greater wetland impacts than the centered alignment. Therefore, the Recommended Alternative is property disposal and reimbursement of WSFR funds to allow construction of the roadway improvements centered on existing alignment. This Proposed Action is the least environmentally damaging practicable alternative.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter presents the beneficial and adverse environmental impacts of the No Action Alternative and the Proposed Action (Recommended Alternative). This section is organized by environmental resource and presents the existing conditions of the resource, and then the impacts of the alternatives. Also discussed are the mitigation measures (also referred to as conservation conditions or environmental commitments depending on the resource) that would avoid, reduce, or compensate for substantial adverse impacts of the Proposed Action. Impacts are quantified whenever possible. Qualitative descriptions of impacts are explained by accompanying text where used.

Qualitative definitions of impacts as used in this section include:

- ▶ Intensity
 - No effect – Resource not measurably impacted
 - Minor – Noticeable impacts to the resource in the project area, but the resource is still mostly functional
 - Moderate – The resource is impaired, so that it cannot function normally
 - Major – The resource is severely impaired so that it is no longer functional in the project area
- ▶ Duration
 - Short term – Temporary effects caused by the construction and/or implementation of a selected alternative
 - Long term – Caused by an alternative after the action has been completed and/or after the action is in full and complete operation
- ▶ Type of Impact
 - Direct impacts are caused by the action and occur at the same time and place.
 - Indirect impacts are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.
 - Cumulative impacts are the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

Significance has been analyzed in this document in terms of both context (sensitivity) and intensity (magnitude and duration).

Environmental resources that were considered, but eliminated from further analysis because no adverse impacts were identified or would have no effect on decision-making, included: noise, air, invasive species, floodplain, land uses and farmland, environmental justice, and hazardous materials. These resources are documented in **Section 3.2** below.

Environmental resources for which in-depth analysis was warranted included: water quality, wetlands, terrestrial habitat, threatened and endangered species, raptors and migratory birds, cultural resources, and publicly-owned lands. These resources are described in **Section 3.3**. Also discussed are indirect and cumulative impacts.

3.1 **Environmental Setting**

The project is located in a rural setting approximately one mile north of the City of Lincoln in southeastern Nebraska. The City of Lincoln's Frank Shoemaker Marsh is adjacent to the west of North 27th Street and NGPC's Arbor Lake WMA is adjacent to the east. Both are restored saline wetlands. The remaining land uses along North 27th Street are pastureland and cultivated cropland. Five residences occur on this portion of North 27th Street.

3.1.1 **Climate**

The climate in eastern Nebraska is described as humid continental which is characterized by wide seasonal variations in temperature and precipitation. In general eastern Nebraska has hot humid summers and cold winters. The average July (summer) high temperature is 88 degrees Fahrenheit and the average low temperature is 65 degrees Fahrenheit. The average January (winter) high temperature is 32 degrees Fahrenheit and the average low temperature is 11 degrees Fahrenheit. The average yearly rainfall is 29 inches and the average yearly snowfall is 23 inches. Thunderstorms are common in the spring and summer months with the growing season generally considered as May to October.

3.1.2 **Geology**

The primary upper bedrock underlying much of Lancaster County is the Dakota Sandstone Formation deposited during the Lower Cretaceous Period, roughly 120-million years ago. Below the Dakota Sandstones are the Wabaunsee Formations of the Pennsylvanian System limestone, deposited prior to 280-million years ago, and Admire and Council Grove Formations of Permian System limestones and interbedded shales laid down in the vast Cretaceous Inland Sea before 245-million years ago.

Eastern Nebraska was glaciated during the Nebraskan (1.5 to 1.1-million years ago) and Kansan (900 – 600-thousand years ago) glaciations that pushed into eastern Nebraska during the early Pleistocene Epoch. The rolling hills are underlain with end-moraine, esker, drumlin, and kame formations composed of glacial till ranging in size from small cobbles to large glacial erratic. As the glaciers retreated, the till covered surfaces were eroded and reshaped by glacial outwash streams which also deposited thick layers of clay, sand, and gravel alluvium along the stream floors.

3.1.3 **Hydrology**

The project is located in southeastern Nebraska along a tributary of Little Salt Creek within the Salt Creek Watershed. The Salt Creek Watershed covers roughly 2,016 square miles and the longest segment of creek is roughly 50 miles long. Salt Creek generally flows from the southwest to the northeast until it enters the Platte River. The Proposed Action also involves work in the 100-year floodplain of Little Salt Creek and has a perpendicular crossing of the floodplain and floodway of the Little Salt Creek tributary (**Exhibit 2**).

The Salt Creek watershed is unique within the state because of the presence of salt marshes which have formed due to saline seeps and upwelling from the underlying sedimentary deposits. These wetlands form a regionally unique wetlands complex located in the floodplain swales and depressions of the Salt Creek, Little Salt Creek, and Rock Creek drainages in Lancaster and southern Saunders Counties. The eastern saline wetlands of Nebraska were once estimated to be excess of 20,000 acres, but now less than 4,000 acres remain and many of these are degraded. Saline wetland restoration projects such as those at Frank Shoemaker Marsh and Arbor Lake WMA have been undertaken to preserve these unusual landscapes and their flora and fauna.

3.2 Resources Eliminated from Environmental Consequences Analysis

The following resources have been considered and found not to be affected by the proposed alternatives. Where there were no potential effects identified, the resource itself has been eliminated from further evaluation and analysis.

3.2.1 Noise

Noise is defined as unwanted sound that interferes with normal activities or in some way reduces the quality of the environment. Across the proposed project area, the magnitude and frequency of ambient noise varies considerably depending on the amount of development in a given area. Noise sources in agricultural areas are predominately: wind, wildlife, and agricultural equipment (tractors and combines). In urban areas, most noise comes from transportation, construction, industrial, and human sources.

Sources of noise for North 27th Street include traffic and agricultural practices. The most noise sensitive areas associated with the North 27th Street project would be the residences near the road. Noise from construction and movement of vehicles and workers may cause temporary human disturbance and temporary displacement of some wildlife species; however, noise impacts would be similar to noise generated from agricultural activities.

A Best Management Practice (BMP) for noise control (limiting construction to daylight hours only) would be implemented to reduce construction noise. With this BMP, the noise from construction would have no adverse impacts.

3.2.2 Air

Air is considered institutionally important because of the Clean Air Act (CAA) of 1963, as amended. Air quality is technically important because of the status of regional ambient air quality in relation to the National Ambient Air Quality Standards (NAAQS). It is publicly important because of the desire for clean air expressed by virtually all citizens. In accordance with the CAA, the US Environmental Protection Agency (EPA) set NAAQS for pollutants considered harmful to the environment and public health. Counties where the levels of a particular pollutant exceed EPA standards are deemed 'non-attainment counties'. Currently, there are no counties in non-attainment within the State of Nebraska.

The six principal pollutants, also known as "criteria" pollutants, are: ozone, lead, particulate matter (PM), carbon monoxide, nitrogen dioxide, and sulfur dioxide. PM-10 (10 micrometers in size) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as construction activity and natural windblown dust. PM-10 contributions would result from the operation of heavy machinery, increases in dust in the project area during construction operations, and wind-blown particles stemming from stock-piled construction materials.

BMPs to minimize PM-10 particles would be implemented during construction activities. These techniques may include, but would not be limited to, wetting the construction area to minimize dust, avoid idling of construction machinery when not performing needed tasks, and covering or mulching staging areas during or following construction activities. With these minimization techniques in place, construction activities would have no adverse impact on air quality.

3.2.3 Invasive Species

Invasive species are defined as non-native species that often adversely affect the habitats they invade.

BMPs for weed control would be implemented to minimize introduction of invasive species from construction activities. This would include that all construction equipment be required to be cleaned prior to being brought onto North 27th Street; clean construction equipment is free of soil and vegetative debris that may contain invasive species' seeds. Disturbed areas would be seeded with a native seed mixture and mulched, as required, to minimize the likelihood that invasive plants would become established on soils that have been disturbed; therefore, the Proposed Action would have no impact on the surrounding habitats.

3.2.4 Floodplain

Floodplains consist of the relatively flat land along one or both sides of a stream channel. Executive Order (EO) 11988, Floodplain Management Guidelines, 24 May 1977, outlines the responsibilities of Federal agencies in the role of floodplain management. Each agency shall evaluate the potential effects of actions on floodplains and should avoid undertaking actions that directly or indirectly support floodplain development.

The Proposed Action requires work in the 100-year floodplain of Little Salt Creek and a perpendicular crossing of the floodplain and floodway of the tributary to Little Salt Creek (as depicted on the floodplain map panel numbers 31109C0187G and 31109C0191G; **Exhibit 2**).

The Proposed Action would require that a Floodplain Development Permit be obtained from Lancaster County/City of Lincoln prior to construction to certify that the project would not raise the 100-year water surface elevation; therefore, the Proposed Action would have no adverse effect on the floodplain.

3.2.5 Land Uses and Farmland

Land uses in the project vicinity include natural areas, pasture land and cultivated cropland, and a few residential properties. Land uses would not change with the Proposed Action; therefore, there would be no adverse impacts to land uses.

Eleven acres of farmland would be converted to grassed ROW. The Natural Resources Conservation Service has determined that the Proposed Action is cleared of Farmland Protection Policy Act significant concerns (**Exhibit 3**).

3.2.6 Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations directs federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address, as appropriate, any disproportionately high and adverse environmental effects of their programs, policies, and activities on minority or low-income populations.

The percentage of minorities or low income populations along the project alignment are below the average for Lancaster County as a whole. No minority, low-income, or other protected populations would be displaced or negatively affected by the Proposed Action. The Proposed Action would equally benefit people of all socioeconomic conditions and ethnic backgrounds using the road; therefore, no adverse impacts to environmental justice.

3.2.7 Hazardous Materials

The term hazardous materials is an all-inclusive term for materials that are regulated as solid waste, hazardous waste, and other wastes contaminated with hazardous substances, radioactive materials, petroleum fuels, toxic substances, and pollutants. A review of the Nebraska Department of Environmental Quality (NDEQ) and EPA online databases show no regulated sites with spills, leaks or clean-up projects in the project area. Additionally, review of Google Earth aerial photography did not indicate evidence of hazardous materials concerns. Based on this review, impact to the project from hazardous materials is considered a low risk for the Proposed Action.

Project specifications would include the requirement that if contaminated soils and/or water or hazardous materials are encountered, then all work within the immediate area of the discovered hazardous material would stop until NDEQ is notified and a plan to properly dispose of the contaminated materials has been developed. Additionally, the potential exists for introduction of contaminants from minor spillage during fueling and service associated with construction equipment. Should contamination be found on the project during construction, the NDEQ would be contacted for consultation and appropriate actions be taken. Then, if necessary, a remediation plan would be developed for this project.

3.3 Relevant Resources

This section contains a description of relevant resources that could be impacted by the project. The important resources described in this section are those recognized by laws, executive orders, regulations, and other standards of national, state, or regional agencies or organizations; technical or scientific agencies, groups, or individuals; and the general public.

3.3.1 Water Quality

Existing Conditions. Water Quality is regulated under the Federal Water Pollution Control Act Amendments of 1972 (Clean Water Act [CWA]). The objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and non-point pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. Protection of water quality is important because of the need for a reliable drinking water supply, for swimming and recreating, for fish and shellfish consumption, for adequate agricultural supply, for habitat for fish and wildlife, and other beneficial uses. Clean water is pivotal in the protection of human health and the environment.

Each individual state has jurisdiction for managing water quality in its respective state.

Section 303(d) of the CWA requires each state to evaluate water quality conditions in designated water bodies and list as impaired any water bodies not meeting water quality standards; this is to be reported every other year.

The 2014 NDEQ Water Quality Integrated Report lists five categories to present information on the Section 303(d) finding in a descriptive and comprehensive manner.

- ▶ Category 1 – Waterbodies where all designated uses are met.
- ▶ Category 2 – Waterbodies where some of the designated uses are met, but there is insufficient information to determine if all uses are being met.
- ▶ Category 3 – Waterbodies where there is insufficient data to determine if any beneficial uses are being met.

- ▶ Category 4 – Waterbody is impaired, but a Total Maximum Daily Load (TMDL) is not needed.
- ▶ Category 5 – Waterbodies where one or more beneficial uses are determined to be impaired by one or more pollutants and all of the TMDLs have not been developed.
- ▶ States must develop and implement Total Maximum Daily Loads (TMDLs, i.e., pollutant management plans) for water bodies identified as having a Category 5 Impairment.

Little Salt Creek is listed as Category 5 in the 2014 Water Quality Integrated Report as impaired for aquatic life and overall assessment. The listed impairments for aquatic life are copper and selenium. Little Salt Creek is listed with 'supported beneficial use' for agricultural water supply and aesthetics.

Impacts of Alternative 1 – No Action. Under the No Action Alternative it is assumed that there would be no disposal of WSFR funded property. As such, North 27th Street improvements would not be made.

There would be no impacts to water quality under the No Action Alternative.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). Culvert work would be performed within the tributary of Little Salt Creek consisting of the extension of a 10-foot x 12-foot concrete box culvert on the east side of North 27th Street with limited channel work. Additionally, an old oxbow of this tributary would also have channel work limited to the construction of a pipe culvert inlet on the east side and outlet on the west side of North 27th Street. Construction activities can result in water quality impacts from soil erosion and sedimentation from removal of vegetation or from spillage of contaminants into waterways. With implementation of BMPs during construction, adverse impacts to the water quality of Little Salt Creek would be minor and short term.

Mitigation. BMPs for erosion and sedimentation control would include that any upland soil disturbances would be designed to avoid or minimize sedimentation. Erosion control measures would be used, including one or more of the following: barriers, erosion checks, inlet/outlet protection, mulching, post-construction erosion control, rolled erosion control, and vegetation. Construction related impacts to water quality would last only until vegetation is re-established.

Contractors would be advised to store all potential hazardous materials (gasoline, hydraulic fluids, etc.) in upland areas within confined berms to contain spills and prevent impacts to the surrounding environment; and to immediately clean up any spills. Machinery would not be parked in the tributaries of Little Salt Creek.

Permitting. The CWA requires preparation and submission of a general storm water permit (National Pollutant Discharge Elimination System [NPDES]) and preparation of a Storm Water Pollution Prevention Plan (SWPPP) before construction activities can begin. The SWPPP would be based on BMPs such as seeding and mulching bare slopes as soon as practicable and measures to contain spillage of any contaminants into waterways.

A Section 404 Permit has been obtained from the US Army Corps of Engineers (USACE) prior to construction within wetlands or waters of the United States. General Conditions stipulated in this permit would be complied with, thereby minimizing adverse effects on water quality.

3.3.2 Wetlands

Existing Conditions. Wetland resources are afforded protection under the CWA as amended, and EO 11990 of 1977 (Protection of Wetlands). Wetlands and riparian areas are important because they provide habitat for various species of plants, fish, and wildlife; serve as ground water recharge areas; provide storage areas for storm and flood waters; serve as natural water filtration areas; and provide protection from wave action, erosion, and storm damage.

A wetland delineation was conducted by Olsson Associates on 19 September 2012. Wetlands were found in roadside ditches and pasture land adjacent to North 27th Street, including areas on the Frank Shoemaker Marsh property and on County ROW immediately adjacent to Arbor Lake WMA. The following wetland types were identified within the project area: palustrine emergent temporarily flooded (PEMA) / palustrine emergent seasonally flooded (PEMC), palustrine scrub shrub temporarily flooded (PSSA), and Open Water (OW) (**Exhibit 4**). According to the Resource Categorization of Nebraska's Eastern Saline Wetlands, Category 1 Saline Wetlands (3.13 acres) occur in at the south end of the study area on both the east and west sides of North 27th Street; these are considered high value or potentially high value saline wetland habitats. Other wetlands were considered Category 3 and 4 Wetlands; these are freshwater wetlands on saline soils and freshwater wetlands on non-saline soils, respectively.

Impacts of Alternative 1 – No Action. Under the No Action Alternative it is assumed that there would be no disposal of WSFR funded property. As such, North 27th Street improvements would not be made. Therefore, there would be no impacts to wetlands.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). The Proposed Action Alternative would impact 0.413 acre of wetlands, including (1) 0.042 acre of Category 1 Saline Wetlands on the east side of North 27th Street within the existing ROW, and (2) 0.299 acre of Category 3 wetlands on the west side of North 27th Street, including some on Frank Shoemaker Marsh (estimated 0.057 acre) (**Exhibit 5**). NGPC and the Service recommended wetlands be mitigated if unavoidable impacts occur.

Mitigation. Every possible engineering option was evaluated to avoid or lessen the impact to wetlands. The remaining impacts would be offset by deducting credits from the City of Lincoln/Lancaster County Wetland Bank. Wetlands would be mitigated based on the Mitigation Guidelines for Nebraska's Eastern Saline Wetlands for a total debit of 0.42 acres of PEMA floodplain depression wetland credits from the Bank's ledger to mitigate for the Proposed Action impacts. Proposed mitigation will fully compensate for the unavoidable impacts.

Permitting. This alternative would be covered under a Section 404 Permit, which was issued on November 10, 2014 (Permit No. NWO-2014-01583-WEH) (**Exhibit 5**). Following appropriate BMPs, including those in the special conditions of the Section 404 Permit, and mitigation, wetland impacts are considered minor and mitigable.

3.3.3 Terrestrial Habitats

Existing Conditions. Terrestrial habitats are institutionally important and are provided specific attention in Water Resources Development Projects per Section 906 of the Water Resources Development Act of 1986 and the Fish and Wildlife Coordination Act of 1958, as amended. Terrestrial habitat is technically significant because it provides necessary habitat for a variety of species of plants and wildlife; it often supports a variety of wetland functions and values; it is an important source of commercial products; and it provides various consumptive and non-consumptive recreational opportunities. Terrestrial habitat is publicly important because of the high priority that the public places on its aesthetic, recreational, and commercial values.

Terrestrial habitats in the project vicinity include grassed ROW dominated by smooth brome (see **Section 3.2.3**), wetlands (see **Section 3.3.2**), replanted prairies (see **Section 3.3.7**), pasture land and cropland (see **Section 3.2.5**), and woodlands. These habitat types are addressed in other sections of this document with the exception of woodlands. Mature tree stands along the west side of North 27th Street begin approximately 0.25 miles of south Bluff Road and extend 0.25 miles to the south. Additional trees are found surrounding residential homes and near the Little Salt Creek tributary. Wildlife that occur in the area would include typical species like whitetail deer, turkey, raccoon, squirrel, and various song birds.

Impacts of Alternative 1 – No Action. The No Action Alternative would have no impacts on trees.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). It is anticipated that the majority of the North 27th Street improvements would occur on areas previously disturbed by the construction of the original roadway. However, an estimated 200 trees (including 77 with DBH greater than or equal to 8 inches) would be removed from the acquired ROW from Frank Shoemaker Marsh. The area that would be impacted by the acquired ROW is small (1.63 acres) and is already located adjacent to an existing road along its entire length, therefore, impacts to wildlife would be minor. There is an abundance of suitable habitat nearby and general wildlife species will move to those areas if necessary, and the wooded habitat that will be impacted by the acquired ROW will be replaced on-site.

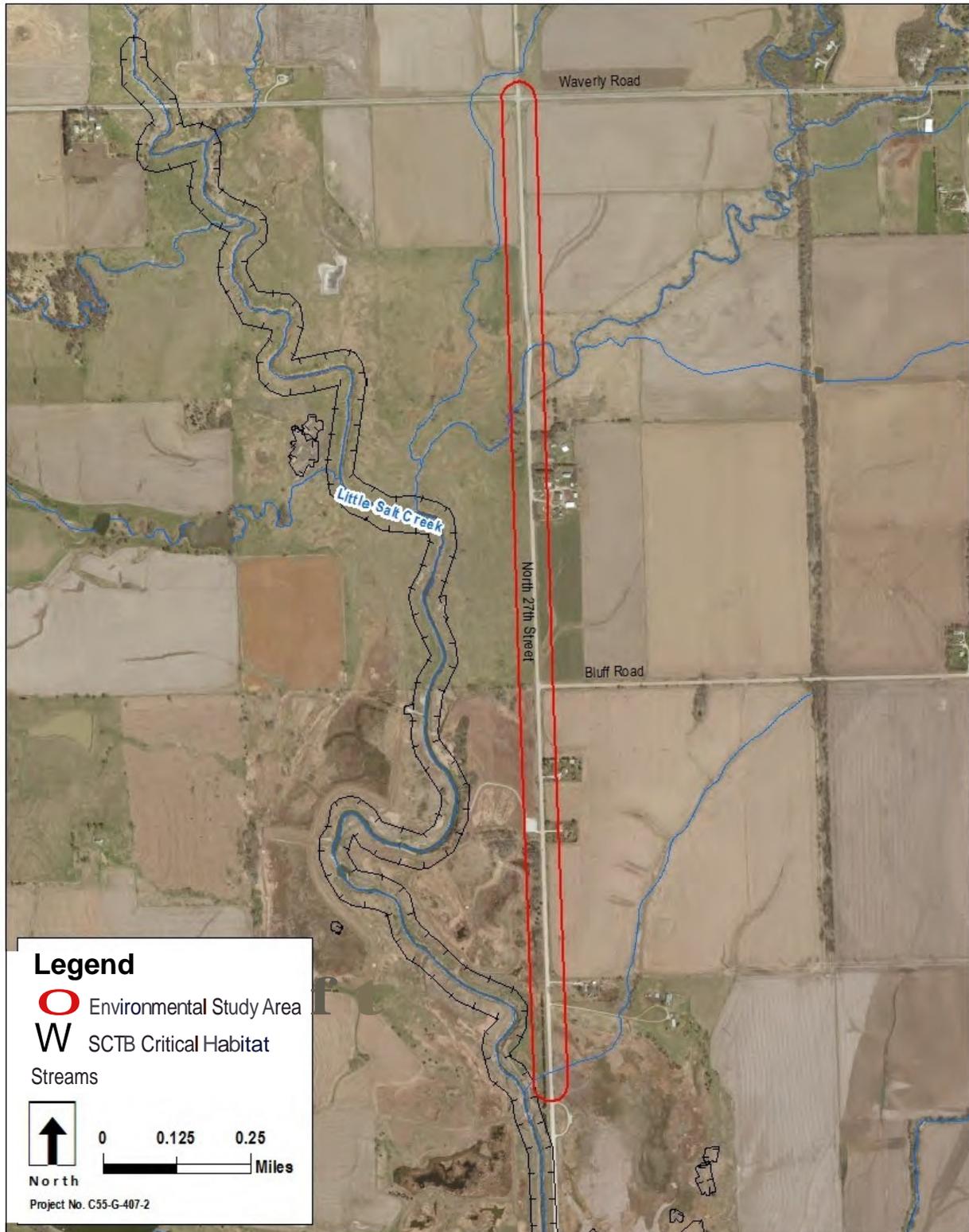
Mitigation. The proposed improvements include revegetation measures for roadside ditches to be reseeded to prevent the establishment of weedy species, erosion, and/or to provide for ease-of-maintenance. Selection of borrow and staging areas would include avoidance of areas that have the potential for a protected or listed species.

Lancaster County has coordinated with the Lower Platte South Natural Resources District to create a tree replacement plan (**Exhibit 6**). With implementation of mitigation measures, adverse impacts on terrestrial habitats would be minor and short-term.

3.3.4 Threatened and Endangered Species

Existing Conditions. An assessment of known ranges and potential habitat for threatened and endangered (T&E) species using USFWS and NGPC resources indicated there were three species of concern that could occur in the project area (**Table 1**). Two species, the Salt Creek tiger beetle and saltwort, are specifically known to occur in saline wetlands; however, the saline wetlands found within the project boundary are not likely to support these endangered species. Suitable habitat for the Salt Creek tiger beetle is mostly restricted to saline channel banks and saline mudflats with sustained moisture. Adult Salt Creek tiger beetles may be found foraging along the Little Salt Creek tributaries within the project vicinity. Critical habitat for the Salt Creek tiger beetle occurs along the Little Salt Creek channel to the west of the project area, but does not occur within the environmental study area (ESA) (**Figure 4** below). Suitable habitat for the saltwort is mostly restricted to saline-rich moist, clay mudflats. No evidence of saltwort growth or mudflat habitat was identified during the wetland delineation for the project. The northern long-eared bat utilizes deciduous trees (≥ 3 inches diameter at breast height (DBH)) for summer roosting and

occasionally roosts in man-made structures, such as culverts. Suitable trees and one large concrete box culvert (10 feet x 12 feet) are found within the environmental study area.



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, USFWS, 2014

Figure 4. Salt Creek Tiger Beetle (SCTB) Critical Habitat Map

Table 1. State and Federally Listed Endangered, Threatened, or Proposed Species in Lancaster County

Common Name	Scientific Name	Federal Listing	State Listing	Potentially Occurs Within Project Area
Gray wolf	<i>Canis lupus</i>	T	NL	No
<i>rufa</i> red knot	<i>Calidris canutus rufa</i>	P-T	NL	No
Salt Creek tiger beetle	<i>Cicindela nevadica lincolniana</i>	E	E	Yes
Saltwort	<i>Salicornia rubra</i>	NL	E	Yes
Northern long-eared bat	<i>Myotis septentrionalis</i>	P-E	NL	Yes
Western prairie fringed orchid	<i>Platanthera praecleara</i>	T	T	No

T = Threatened, P-T = Proposed Threatened, E = Endangered, P-E = Proposed Endangered, NL = Not Listed
 Source: USFWS and NGPC, 2014

Impacts of Alternative 1 – No Action. The No Action Alternative would have no impact on T&E species.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). Two meetings were held on site (16 April 2013 and 9 April 2014) with the NGPC, the Lancaster County Engineering Department, and the City of Lincoln Parks and Recreation Department. The NGPC had several concerns, which are listed below with the corresponding EA Section that addresses the concern in parentheses:

- wetland impact and mitigation (**Section 3.3.2**)
- impacts on migratory birds (**Section 3.3.5**)
- impacts on the Salt Creek tiger beetle and its critical habitat (**Section 3.3.4**)
- impacts on other T&E species (**Section 3.3.4**)
- control of erosion on the project (**Section 3.3.1**)
- sedimentation control and its impact to the tributaries of Little Salt Creek (**Section 3.3.1**)
- non-stormwater pollution and its prevention (e.g., fueling operations) (**Section 3.3.1**)
- machinery in the tributaries to the water of Little Salt Creek (**Section 3.3.1**)
- impact of night work by the contractor (**Section 3.3.4**)
- disposition of demolition and construction debris (**Section 3.3.4**).

Based on these concerns, Lancaster County developed the plans for the Proposed Action to minimize potential adverse impacts to T&E species, including the incorporation of conservation conditions.

Mitigation. It is unlikely that the Salt Creek tiger beetle or saltwort would occur in the impacted areas because they do not provide suitable habitat for the species, and/or they have not been found to-date. However, the potential adverse impact on adult Salt Creek tiger beetles foraging in the Little Salt Creek tributaries or downstream effects on the designated critical habitat would be minimized and avoided by implementing the following conservation conditions:

1. Lancaster County would include Special Provisions in the Construction Contract prohibiting the use of machinery in the tributaries to the waters of Little Salt Creek.
2. Lancaster County would include Special Provisions in the Construction Contract for the project prohibiting night time work.
3. Lancaster County would include Special Provisions in the Construction Contract prohibiting the burial of debris from clearing and grubbing, demolition and construction operations on the project ROW.
4. Lancaster County would acquire an NPDES permit for the construction of this project. A requirement of the permit is that a Stormwater Pollution Prevention Plan be developed. The plan must incorporate a temporary plan for the control of erosion during the construction process, and a permanent plan for the control of erosion and revegetation after work has been completed. The construction of the erosion control techniques area a part of the construction contract. They are inspected on a routine basis and after significant rainfall events. If a technique is found to have failed or is non-functional, the contractor would be directed by Lancaster County to repair or replace it as part of the work on the contract. If, after a rainfall even an inspection identifies locations which need further protection or a different technique to accomplish the control of erosion products, Lancaster County would direct the contractor to install them as part of their work.
5. Lancaster County would develop a SWPPP for the project. The goal of the Erosion Control Plan is to prevent the products of erosion occurring from leaving the site. Erosion control measures and silt traps would be utilized to prevent sedimentation from leaving the site as a result of storm water runoff.
6. The second goal of the County's SWPPP is to prevent non-storm water pollution from leaving the project. The contractor's Temporary Pollution Prevention Plan would address prevention of pollution from sources such as concrete wash-outs, fueling operations, sanitary wastes, use and storage of chemical products, or hazardous waste. Techniques typically employed include protective diking, storage at upland sites, spill kits, complete removal from the site, and prohibitions on where petroleum, chemicals, or hazardous wastes may be used or stored. Lancaster County would review and approve the contractor's Non-Storm Water Pollution Prevention Plan prior to beginning construction operations.

According to the tree replacement plan (**Exhibit 6**), 77 trees planned for removal have a DBH greater than or equal to 8 inches. The potential adverse impact on northern long-eared bats roosting and roosting habitat would be minimized and avoided by implementing the below conservation conditions:

1. Lancaster County would coordinate with the NGPC, City of Lincoln, and the Saline Wetland Conservation Partnership to address tree loss and re-seeding requirements along the frontage of Shoemaker Marsh. A tree replacement/mitigation plan would be implemented (**Exhibit 6**).
2. Tree clearing and culvert removal (station 105+16, twin 12-foot x 10-foot concrete box culvert) would be scheduled to occur between October 1 and March 31. If these activities occur during the roosting period (April 1 to September 30), then a qualified biologist will perform surveys prior to the start of these activities. If the species is absent, then the work may proceed. If the species is found, then further consultation with the Service would be initiated.

With implementation of these conservation conditions, the Proposed Action would have no effect on the Salt Creek tiger beetle (or its designated critical habitat), saltwort, or northern long-eared bat. Concurrence from the Service (19 June 2014) and NGPC (16 June 2014) are found in **Exhibit 7**.

3.3.5 Raptors and Migratory Birds

Existing Conditions. Pursuant to the Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act (MBTA) an assessment was conducted to determine if there would be any potential effects to bald eagles, golden eagles, other raptors, or migratory birds. Nesting season is from February to July for raptors and April to September for other migratory birds.

It has been determined that suitable habitat does exist within 0.5 miles of the study area for bald eagles. Golden eagles use prairie habitats in the western part of Nebraska; there is no suitable habitat for golden eagles in the project area. Raptor species likely to occur within and near the project area include red-tailed hawks (*Buteo jamaicensis*), bald eagles (*Haliaeetus leucocephalus*), American kestrels (*Falco sparverius*), Swainson's hawks (*Buteo swainsoni*), peregrine falcons (*Falco peregrinus*), and several owl species including short-eared owls (*Asio flammeus*). Raptor species likely use the site primarily for roosting, nesting, feeding, and perching habitat. Over 15 species of migratory birds could utilize habitat within the project area for breeding and nesting.

Impacts of Alternative 1 – No Action. The No Action Alternative would not impact raptors or migratory birds.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). Required tree clearing activities may impact bald eagles, raptors, and migratory birds. With the implementation of surveys and avoidance of nesting periods, the Proposed Action would not impact bald eagles, golden eagles, raptors, or migratory birds.

Mitigation. Surveys will be conducted for the bald eagle, raptor, and migratory bird species. Surveys following the Bald Eagle Survey Protocol (**Exhibit 8**) would be conducted by a qualified biologist to avoid impacting raptors and bald eagles. Trees would be felled prior to the April 1 – September 30 time period; prior to nesting season for migratory birds.

If bald eagles or bald eagle nest(s) are present within 0.5 miles of the project area, the Project Construction Coordinator would notify the NGPC and the Service, and construction would not commence prior to their approval. If a survey identifies nesting raptors or migratory birds before or during construction, then Lancaster County would halt pending construction operations and contact the Service for further consultation.

3.3.6 Cultural Resources

Existing Conditions. A request was made to the Nebraska State Historical Society to inquire about historic resources and archeological resources within the project area. The Nebraska State Historical Preservation Office (NeSHPO) reviewed their records and found no currently recorded historic resources or historic resource surveys for the area (memo dated 29 April 2013) (**Exhibit 9**). However, archaeological sites are nearby in similar terrain conditions as the proposed project. The NeSHPO recommended that the location be inspected by a qualified archaeologist to determine if unreported sites would be affected.

Impacts of Alternative 1 – No Action. Under the No Action Alternative it is assumed the improvements to North 27th Street would not be made. There would be no impact to cultural resources with the No Action Alternative.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). An archeological survey and assessment was conducted in July 2013 by Cultural Resources Consulting (CRC), a qualified archeologist. No prehistoric artifacts, features, or buried soil horizons were observed in the inspected road-cuts, or the randomly-placed shovel tests. Observed historic artifacts on the surface were limited to materials typical of those found along roadways or in farm fields. No artifact concentration was recognized and no artifacts grouped into a definable archeological assemblage were identified. In conclusion, CRC recommended that the Proposed Action would not imminently threaten archeological resources and the project should be allowed to proceed as planned (**Exhibit 9**).

Mitigation. In the event of an unanticipated discovery of cultural resources, work would be halted immediately and a qualified archeologist would be notified. The work would not continue until the area is inspected by a qualified archeologist. If he or she determines that the discovery requires further consultation, the NeSHPO Office would be notified.

3.3.7 Publicly-owned Lands

Existing Conditions. Two publicly-owned natural areas occur along the alignment of the North 27th Street improvements; the City of Lincoln's Frank Shoemaker Marsh and NGPC's Arbor Lake WMA (see **Figure 2**). Both were purchased and restored for the purpose of developing and maintaining Category 1 Eastern Nebraska Saline Wetlands and the suitable habitat they provide for endangered and threatened species, including the Salt Creek tiger beetle and saltwort.

In addition, there is a license agreement to prohibit development on a portion of the property south of Frank Shoemaker Marsh (Parcel No. 12-24-400-003-000) where wetland mitigation was accomplished in 1992 west of the Little Salt Creek channel.

Lancaster County owns a narrow parcel on the west side of North 27th Street as shown in **Figure 2**. The parcel is not within the project limits.

Impacts of Alternative 1 – No Action. Under the No Action Alternative, there would be no disposal of WSRF funded property, and improvements to North 27th Street would not be made. There would be no impact to the Frank Shoemaker Marsh or Arbor Lake WMA, or other publicly-owned lands with the No Action Alternative.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). The Proposed Action would require a 27-foot wide strip along the east property line of the Frank Shoemaker Marsh, for a total of 1.63 acres. Approximately one-half of the frontage along the roadway is lined with trees, 0.299 acres are PEMA wetlands, and the remainder is grassed ROW. Proposed construction would require removal of the trees and building the roadway with ditch backslopes and fill foreslopes.

Since work would not extend outside of the existing ROW onto the Arbor Lake WMA property, and appropriate BMPs will be implemented for erosion and sedimentation control, there will be no impacts to Arbor Lake WMA.

Mitigation. To mitigate the impacts on the Frank Shoemaker Marsh, the project includes a wetland mitigation plan and a tree replacement plan (**Exhibit 6**). The rock parking lot and existing fence would be

relocated by the City of Lincoln Parks and Recreation Department. Therefore, the impacts to Frank Shoemaker Marsh would be minor and mitigable.

3.4 *Indirect and Cumulative Impacts*

3.4.1 **Indirect Impacts**

Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonable and/or foreseeable.

Impacts of Alternative 1 – No Action. Under the No Action Alternative disposal of WSRF funded property would not occur, and improvements to North 27th Street would not be made. There would be no indirect impacts with the No Action Alternative.

Impacts of Alternative 2 – Proposed Action (Recommended Alternative). Potential indirect impacts of the Proposed Action would likely be increased traffic and rural residential development due to increased accessibility provided by an improved North 27th Street corridor. However, the 2040 Lincoln/Lancaster County Comprehensive Plan (Comp Plan) has been developed to specifically identify and protect sensitive natural resources along the Little Salt Creek drainage. The Comp Plan shows the project location as extending through a swath of properties identified as environmental resources, corresponding to the Little Salt Creek channel and adjacent wetlands, many which are already in public ownership (**Exhibit 10, Map 1.1**). While the Comp Plan shows this segment of North 27th Street as a future potential paved road (**Exhibit 10, Map 10.14**), areas surrounding the environmental resources are identified in white, as beyond the 2040 planning window. More specifically, the Comp Plan includes future Priority Growth Areas, including Tier I, II and III areas. Tier III is identified as occurring beyond 2060, and is based on drainage basins located within the 3-mile extraterritorial jurisdiction, *excluding the area identified as Salt Creek tiger beetle habitat* (**Exhibit 10, Map 12.3**). Sensitive areas along the Little Salt Creek drainage are shown in white, and are not included in any areas identified for growth. Increased traffic along the road may bring a slight increase in disturbance and noise upon local wildlife, however, the road has already been in existence for some time and it is currently a relatively busy County road. Just under 160 acres of permanently protected conservation land at Frank Shoemaker Marsh already in public ownership lies adjacent and further removed from the road that will provide refuge for general wildlife species from roadway disturbance. Increased rural residential development could have an impact on wildlife, however, as further discussed in this section, rural residential development is unlikely to occur due to protections in place for much of the Little Salt Creek drainage.

Based on initiatives in the Comp Plan, the presence of Little Salt Creek floodplain and floodway, as well as the presence of publicly owned wetland properties and license agreements to protect wetlands, it is unlikely that development would be permitted within sensitive areas, even if they should become more accessible by the Proposed Action or future paving.

However, development could occur beyond the drainage basin. Areas north of the project have experienced some rural acreage development, mostly along the east-west section line roads, and not as much along North 27th Street. North 27th Street has remained a relatively busy County road for over a century as it is one of the few continuous north-south roads connecting Lancaster and Saunders Counties.

Based on this assessment, there would be no indirect impacts with the Proposed Action.

3.4.2 **Cumulative Impacts**

Cumulative impacts on a particular resource may result from the incremental impacts that have occurred in the past, are occurring now, and are likely to occur in the future. It is the combination of these effects, and

any resulting environmental degradation, that is the focus of the cumulative impact analysis. Cumulative impact analysis is resource-specific and generally performed for environmental resources directly impacted by a federal action under study. Cumulative Effects can result from individually minor but collectively significant actions taking place over a period of time.

Under the Proposed Action, improvements would be made to North 27th Street including widening the road and buying the ROW to prepare for the future; this portion of North 27th Street is shown in the 2040 Lincoln/Lancaster County Comprehensive Plan as a future potential paved road (**Exhibit 10**). The Proposed Action is the first step in providing a paved road.

It is important to note that if a project has no direct or indirect impacts on a particular resource, then it also has no cumulative impacts on the resource.

Although no adverse indirect impacts have been identified, the following resources have been identified for cumulative impacts consideration based on the minor adverse and short-term direct impacts of the North 27th Street improvements.

- Water quality
- Wetlands
- Publically-owned land
- Terrestrial Habitats

The Cumulative Impact Study Area includes the Little Salt Creek Watershed.

Past: The City of Lincoln was founded in 1856 as the Village of Lancaster, and became the county seat of the newly created Lancaster County in 1859. The city was originally platted near Salt Creek adjacent to the saline wetlands of northern Lancaster County. Settlers and Native Americans, long before them, had gathered salt from the natural deposits for their own use or for barter. Settlers saw the potential wealth to be made from eastern Nebraska's salt basin. Commercial exploitation began in the late 1850s and the 'salt boom' continued into the 1880s.

Salt Creek and its tributaries were channelized to lessen the probability of flooding, beginning with the Sanitary District Number 1 of Lancaster County in 1891. The adjacent saline wetlands were drained by headcutting from the channelization, ditched for agricultural production, and filled for landfills and development of the growing City of Lincoln.

Eastern saline wetlands were once estimated to be excess of 20,000 acres. Now less than 4,000 acres remain and many of these are degraded. These wetlands form a regionally unique wetlands complex located in the floodplain swales and depressions of the Salt Creek, Little Salt Creek, and Rock Creek drainages in Lancaster and southern Saunders Counties. Two endangered species occur in the saline wetlands: the Salt Creek tiger beetle and saltwort. The Salt Creek tiger beetle's population has been steadily declining over the past decades due largely to loss of habitat; it makes its home exclusively on the salt flats and moist side slopes along stream banks of Salt Creek and its tributaries. The beetle is often used as an indicator species signally the existence of a healthy saline wetland. The saltwort grows only in wet, saline or alkaline soils.

In 2003, a group of state and local agencies joined forces to establish the Saline Wetlands Conservation Partnership which has established an implementation plan to address the preservation of this special land and the needs of the community. Over the past decade the partnership has been actively purchasing properties and acquiring easements to protect saline wetlands, and their unique flora and fauna.

The City of Lincoln's population was 40,000 in 1900; 98,884 in 1950; and 225,581 in 2000.

Present: Lincoln's population in 2013 was 268,738. Currently, the Saline Wetlands Conservation Partnership has 31 easements and waterfowl management areas consisting on 4,236.5 acres of saline wetlands along Salt Creek, Little Salt Creek, and Rock Creek.

The 2040 Lincoln/Lancaster County Comprehensive Plan (Comp Plan) has been developed to specifically identify and protect sensitive natural resources along the Little Salt Creek drainage. The Comp Plan shows the project location as extending through a swath of properties identified as environmental resources, corresponding to the Little Salt Creek channel and adjacent wetlands, many which are already in public ownership. While the Comp Plan shows this segment of North 27th Street as a future potential paved road, areas surrounding the environmental resources are identified in white, as beyond the 2040 planning window. More specifically, the Comp Plan includes future Priority Growth Areas, including Tier I, II and III areas. Tier III is identified as occurring beyond 2060, and is based on drainage basins located within the 3-mile extraterritorial jurisdiction, *excluding the area identified as Salt Creek Tiger Beetle habitat*. Sensitive areas along the Little Salt Creek drainage are show in white, and are not included in any areas identified for growth.

Future: The projected population estimate of Lincoln for 2040 is 410,000 persons. As the city continues to grow, development could occur beyond the Little Salt Creek drainage basin. Areas north of the project are likely to experienced further rural acreage development especially along the east-west section line roads. North 27th Street has remained a relatively busy County road for over a century as it is one of the few continuous north-south roads connecting Lancaster and Saunders Counties.

Based on initiatives in the Comp Plan, the presence of Little Salt Creek floodplain and floodway, as well as the presence of publicly owned wetland properties and license agreements to protect wetlands, it is unlikely that development would be permitted within sensitive areas, even if they should become more accessible by the Proposed Action or future paving.

Cumulative impacts on water quality: While there is little development upstream of the project location, water quality of Little Salt Creek is affected by agricultural runoff, increased turbidity from the naturally erosive dispersive clay soils, and headcutting from downstream channelization. Despite degradation, this watershed supports some of the highest quality saline wetlands. The proximity of the proposed road to saline wetlands, which are habitats of concern, suggests possible water quality degradation over time from increased traffic and run-off. Since the roadway project includes the construction of grassed ditches and shoulders, all run-off would filter through these features which would serve as buffers to the nearby wetlands and creeks. Cumulative impacts to water quality would not occur since the Proposed Action would utilize appropriate BMPs as required by state and federal regulations for NPDES permits and future development would follow the initiatives outlined in the Comp Plan.

Cumulative impacts on wetlands: State and federal projects are mandated by law to mitigate wetland impacts to provide for no net loss of wetlands. Nebraska State Title 117 requires mitigation of wetlands even in cases where the affected wetlands are not regulated wetlands under the jurisdiction of the USACE Section 404 permit program. Cumulative impacts to wetlands would not occur since the Proposed Action, as well as future construction projects, provide mitigation for wetland losses due to state and federal wetland regulations.

The proximity of the proposed road to saline wetlands, which are habitats of concern, suggests possible degradation over time from increased traffic and run-off. Since the roadway project includes the construction of grassed ditches and shoulders, all run-off would filter through these features which would serve as buffers to the nearby wetlands. Cumulative impacts to wetlands would not occur since the Proposed Action, as well as future construction projects, will utilize appropriate BMPs as required by state and federal regulations for NPDES permits.

Cumulative impacts on publicly-owned land: The Proposed Action would permanently transfer 1.63 acres from the Frank Shoemaker Marsh, and associated easements, to Lancaster County for roadway ROW. Since this will provide the appropriate ROW width for a paved road; no additional ROW would be needed for the future paving of North 27th Street. Cumulative impacts to publicly-owned land would not occur because the ROW needed for future roadway improvements would already be owned by the County.

Cumulative impacts on terrestrial habitats: The North 27th Street roadway has been in place for over a century, and is likely to be improved for future use, so the roadway has had, and will continue to have, some level on impact on local wildlife populations. In recent times, conservation efforts along the Little Salt Creek drainage have resulted in the protection of larger parcels of land with important natural resources through purchase of land into public ownership and under resource agency management numbering in the many thousands of acres. The proposed transfer of 1.63 acres from Frank Shoemaker Marsh for road ROW would not result in cumulative impacts to wildlife considering the impacted wooded habitat will be replaced on-site and also considering the amount of good quality wildlife habitat available in permanently protected conservation lands that exist at the Frank Shoemaker Marsh and within other protected areas up and downstream within the Little Salt Creek drainage.

4.0 COORDINATION

Preparation of this EA and draft Finding of No Significant Impact (FONSI) is being coordinated with appropriate Tribal, Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. The federal and state agencies and Non-Government Organizations that were contacted or would receive a copy of the draft EA for review are listed below:

- ▶ US Fish and Wildlife Service
- ▶ Nebraska Game and Parks Commission
- ▶ Nebraska State Historic Preservation Office

5.0 CONCLUSION

Lancaster County has prepared this EA to evaluate the potential impacts of improving North 27th Street, from Arbor Lake to Waverly Road. The document has been prepared in accordance with NEPA and the CEQ's Regulations (40 CFR 1500–1508). Seven specific environmental resources were evaluated in depth and discussed: 1) water quality, 2) wetlands, 3) terrestrial habitat, 4) threatened and endangered species, 5) raptors and migratory birds, 6) cultural resources, and 7) publicly-owned lands. Findings of the evaluation are summarized in Table 2. Of the resources reviewed, four were found to have minor adverse, short-term impacts (water quality, wildlife, wetlands, terrestrial habitat, and publicly-owned land). With careful planning and implementation of mitigation plans and BMPs, these impacts would be negligible.

This EA indicates that the Proposed Action would not have a significant impact on the human or natural environment; therefore, a FONSI is recommended for property disposal and reimbursement of WSFR funds to allow construction of improvements to North 27th Street by Lancaster County.

<i>Environmental Resource</i>	<i>Alternative 1 – No Action</i>	<i>Alternative 2 – Proposed Action (Recommended Alternative)</i>
<i>Water Quality</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Wetlands</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Terrestrial Habitat</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Threatened and Endangered Species</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Raptors and Migratory Birds</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Cultural Resources</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Publicly-Owned Land</i>	<i>No Effect</i>	<i>Adverse, Minor, Short Term</i>
<i>Indirect Impacts</i>	<i>No Effect</i>	<i>No Effect</i>
<i>Cumulative Impacts</i>	<i>No Effect</i>	<i>No Effect</i>

Impact Definitions: See Section 3.0

6.0 EA PREPARATION

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Exhibit 3

Farmland Memo

