FINDING OF NO SIGNIFICANT IMPACT
CATEGORICAL PERMISSIONS
SECTION 408 ALTERATIONS TO EXISTING
U.S. ARMY CORPS OF ENGINEERS CIVIL WORKS PROJECTS
33 U.S.C. SECTION 408
NEBRASKA
January 2017

The Omaha District receives numerous requests each year from private, public, tribal, or other federal entities to alter civil works projects. To date, as requests are received, they are evaluated on a case-by-case basis using a nine-step process outlined in Engineering Circular (EC) 1165-2-216, Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers (USACE) Civil Works Project Pursuant to 33 USC 408. Under this process, USACE determines if the alteration would be injurious to the public interest or impair the usefulness of the USACE project. To expedite review and approval, EC 1165-2-216 states that USACE districts can develop categorical permissions to streamline the processing of alterations that are similar in nature and have minor impacts to the environment.

In accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) implementing regulations, and CEQ guidelines for Effective Use of Programmatic NEPA Reviews, a Programmatic Environmental Assessment (Programmatic EA) has been prepared. The purpose of this Programmatic EA is to evaluate the environmental and socio-economic effects of proposed alterations, categorized as categorical permissions that have been developed by the Omaha District. The attached Programmatic EA considers a suite of reasonably foreseeable categorical permissions that fall within the Omaha District's Civil Works boundaries within the state of Nebraska.

Two alternatives were considered: Alternative 1 (No Action Alternative) and Alternative 2 (Develop and use Categorical Permissions in order to expedite review), the Preferred Alternative. A list of the Categorical Permissions is provided below. The Programmatic EA and comments received from the resource agencies were used to determine whether the proposed action would require the preparation of an Environmental Impact Statement (EIS). All environmental, social, and economic factors relevant to the proposal were considered in this Programmatic EA. The analysis verifies that the effects of these categorical permissions, both individually and cumulatively will have similar and minor effects to the environment. The preferred alternative is in compliance with applicable environmental statutes.

Categorical Permissions	
Placing electrical, fiber optic, water, sanitary or drainage pipe utilities under a levee	Replacing drainage structures
Abandoning drainage structures	Removing drainage structures
Construction of bike trails on top of a levee	Installing relief wells
Abandoning relief wells	Installing pump stations
Repairing pump stations	Modifying drainage structures
Performing geotechnical explorations	Placing new riprap
Temporary staging areas and working pads for material and equipment	Installing fences
Installing utility poles	Removing existing utility poles
Replacing highway/street bridges	Placing sanitary, water, or drainage pipes up and over a levee

Categorical Permissions Continued	
Repairing/paving streets	Installing temporary channel crossings
Abandoning pipe or conduit	Placing monitoring monuments

It is my finding, based on the Programmatic EA that the proposed federal activity will not have any significant adverse impacts on the environment or USACE civil works projects and will not constitute a major federal action significantly affecting the quality of the human environment. Therefore, an EIS does not need to be prepared.

Date: 03 MAR 17

John W. Henderson, P.E.
Colonel, Corps of Engineers
District Commander

US Army Corps of Engineers
Omaha District

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT

CATEGORICAL PERMISSIONS
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January 2017

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PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

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1. Introduction

The United States Army Corps of Engineers (USACE), Northwestern Division (NWD), Omaha District (NWO) has constructed numerous civil works projects within its boundaries in the state of Nebraska to include federal flood risk reduction projects (e.g., levees and channel modifications) located in rural and urban areas. These civil works projects are constructed by USACE and turned over to a non-federal sponsor to operate and maintain per agreement with USACE. The Corps of Engineers has a congressionally mandated responsibility to ensure that the federally constructed flood risk reduction projects are appropriately operated and maintained. No improvement shall be passed over, under, or through walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right of way (ROW), nor shall any change be made in any feature of the works without prior approval of the USACE.

Each year, NWO receives numerous requests from private, public, tribal, or other federal entities (requesters) to alter federally-constructed civil works projects. In 2015, NWO received 141 requests to alter federal flood risk reduction projects. When requests are received, they are evaluated on a case-by-case basis to determine if the proposed alteration would be injurious to the public interest or impair the usefulness of the USACE project. Engineering Circular (EC) 1165-2-216, titled *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408*, provides guidance to process requests, also called Section 408 requests, and is available at http://www.publications.usace.army.mil/USACEPublications/Engineer Circulars/tabid/16426/u31387q/323136/Default.aspx.

To help expedite the submittal, review, and approval process, EC 1165-2-216 also states that USACE districts can develop categorical permissions to cover potential alterations that are similar in nature and have minor to negligible impacts.

In order to address the potential environmental impacts of implementing categorical permissions for Section 408 alterations as required under the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code [USC] 4321 *et. seq.*); the President's Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] 1500 – 1508) (CEQ, 1992);

and the U.S. Army Corps of Engineers' Engineer Regulation (ER) 200-2-2 (33 CFR 230) (USACE, 1988), NWO has prepared this Programmatic Environmental Assessment (EA). This Programmatic EA assesses the overall environmental effects of proposed actions that involve multiple individual projects, a large geographical area, or a suite of combined projects as described in the CEQ (2014) guidelines for *Effective Use of Programmatic National Environmental Policy Act (NEPA) Reviews*. If it is determined that a proposed Section 408 alteration would have more than a minor to negligible adverse effect, the alteration would not be considered a categorical permission and would therefore not fall under the scope of this Programmatic EA. In this case, a separate EA or Environmental Impact Statement (EIS) would need to be prepared.

This Programmatic EA will be reviewed on a regular basis to ensure compliance with applicable laws and regulations, and to ensure that circumstances have not changed that would impact the analysis and conclusions reached in this document.

1.1 33 USC Section 408 Authority and Guidance

The authority to grant permission for temporary or permanent alterations to federally-authorized civil works projects is contained in Section 14 of the River and Harbors Act of 1899, codified at 33 U.S.C. Section 408, titled *Taking possession of, use of, or injury to harbor or river improvements*. It states:

"It shall not be lawful for any person or persons to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, obstruct by fastening vessels thereto or otherwise, or in any manner whatever impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, or any piece of plant, floating or otherwise, used in the construction of such work under the control of the United States, in whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works: Provided, That the Secretary of the Army may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of any of the aforementioned civil works when in his judgment such occupation or use will not be injurious to the public interest: Provided further, That the Secretary may, on the recommendation of the Chief of Engineers, grant permission for the alteration or permanent occupation or use of any of the aforementioned civil works when in the judgment of the Secretary such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work."

Specific USACE guidance for implementation of 33 USC Section 408 is provided in EC 1165-2-216. EC 1165-2-216 is only applicable to alterations proposed within the lands and real property interests of USACE projects. EC 1165-2-216 defines the use of the terms "alteration" and "alter" as any action by an entity other than USACE that builds upon, alters, improves, moves, occupies, or otherwise affects the usefulness or the structural or ecological integrity of a USACE

project. The entity or individual requesting permission to alter the USACE project, hereafter referred to as the requestor, is responsible for acquiring all other needed permissions, authorizations, and permits. This includes any permits needed from the USACE Regulatory Program, specifically Section 10 of the Rivers and Harbors Act (for the construction of any structure in or over any navigable water of the United States) and 404 of the Clean Water Act (for the discharge of dredged or fill material into navigable waters of the United States).

Generally, when a Section 408 request for alteration is proposed, a nine-step procedure, as outlined in EC 1165-2-216, is followed. This procedure is scalable to be commensurate with the scope of the requested alteration. Not all the steps will be applicable to every Section 408 request. In simple cases, such as those that are applicable to this Programmatic EA, the steps may be combined or occur simultaneously. The duties contained within the nine-step procedure are shared among the USACE, the requester, and/or the non-federal sponsor as identified below:

1) Pre-coordination. Early coordination between the USACE, the requestor, and the non-federal sponsor is recommended to identify potential issues, focus efforts, minimize costs, and protect sensitive information.
2) Written request. The requester shall provide a written request to the USACE to initiate the Section 408 process. The written request shall include: a) a complete project description, b) a statement indicating if a Section 10/404/103 permit will also be pursued, c) information regarding if credit under Section 221 of the Flood Control Act of 1970 is being sought, d) a statement of whether use of federally-owned real property or property owned by the non-federal sponsor will be required, and e) a written statement from the non-federal sponsor endorsing the proposed alteration. This information is used by the USACE to determine documentation and approval requirements.
3) Required documentation. The USACE works with the requestor to obtain information necessary to determine whether the proposed alteration would impair the usefulness of the project or be injurious to the public interest. Such information includes: a) technical analysis and design, b) hydrologic and hydraulics system performance analysis, c) environmental compliance, d) real estate requirements, e) Executive Order 11988 considerations– induced development in the floodplain, f) review plan, if determined necessary, g) operation and maintenance requirements, and h) other information as deemed appropriate to complete the evaluation.
4) District-led Agency Technical Review (ATR). The USACE identifies the appropriate subject matter experts to conduct an ATR to ensure the requirements set forth in EC 1165-2-216 have been met. The ATR makes the following determinations: a) impair the usefulness of the project determination, b) injurious to the public interest determination, c) legal and policy compliance determination.
5) Summary of Findings. Upon completion of the district review and demonstration of environmental compliance, the USACE district develops a Summary of Findings that provides rationale and conclusions for recommending approval or denial of the Section 408 request.

6) USACE Division review (if required). The Division will review the Summary of Findings for policy compliance and legal sufficiency, quality assurance and completeness, identification of conflicts with ongoing studies, and confirmation of the need for USACE Headquarters review and decision review. Division will provide comments to the District to address, deny, or recommend approval of the request to USACE Headquarters.
7) USACE Headquarters review (if required). USACE Headquarters conducts a policy compliance review, and comments will be provided to the Division to be addressed or a memorandum of final decision will be signed along with the Finding of No Significant Impact (FONSI) or Record of Decision (ROD) as applicable if the request is granted.
8) Notification. The District Commander is responsible for providing a written notification to the requestor for a Section 408 requests, regardless of the decision level.
9) Post-permission oversight. The USACE district may develop procedures for monitoring construction activities and for post-construction inspections to ensure the alteration was completed accordingly. The requester will provide as-built drawings and Operations and Maintenance (O&M) Manual updates.

With this Programmatic EA in place, the nine-step procedure may be streamlined for a Categorical Permitted alteration by completing Step 1, which is recommend but optional; Steps 2 and 3 are combined; Step 4; Steps 5 and 8 are combined; and Step 9. The required documentation in Step 3 is reduced for a Categorical Permitted alteration with no need for a review plan or full environmental assessment because these items would already be satisfied. Steps 6 and 7 would not apply. Subsequently, the USACE could process Categorically Permitted Alteration requests more quickly by using the attached Record of Environmental Consideration to ensure compliance.

1.2 Scope of the Programmatic Environmental Assessment

The Omaha District's area of responsibility for civil works projects covers a wide geographic area and includes the states of Nebraska, Iowa, North Dakota, South Dakota, Wyoming, Colorado, Montana, Missouri, and Minnesota (Figure 1). The scope of this Programmatic EA is limited to federally-constructed flood risk reduction projects within the state of Nebraska. Per EC 1165-2-216, the scope of the analysis for Section 408 reviews is limited to the right of way of USACE projects and those adjacent areas that are directly or indirectly affected by the alteration. If a proposed alteration is part of a larger project that extends beyond the USACE project boundaries, the Omaha District would determine what portions or features of the larger project USACE has control or responsibility over to warrant inclusion as part of the evaluation, as described in EC 1165-2-216. Requests to modify projects other than federal flood risk reduction projects will be evaluated on a case-by-case basis.

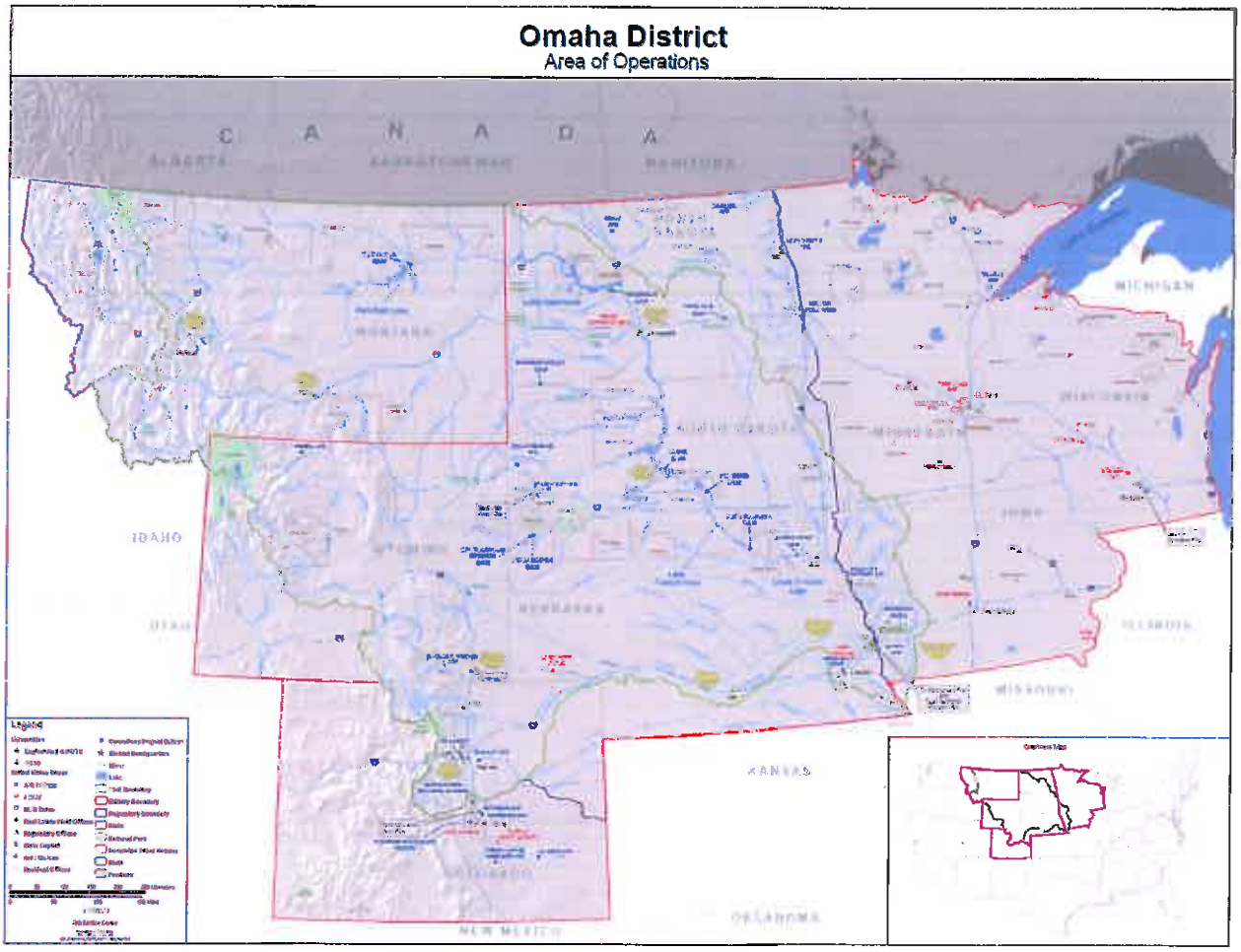

Figure 1. The Geographic Range of the U.S. Army Corps of Engineers' Omaha District.

Note: The green line outlines the civil works boundary, the red line outlines the military boundary, and the purple line outlines the regulatory boundary.

2. Purpose and Need

The Omaha District receives numerous requests each year to review proposed alterations to USACE-constructed civil works projects. NWO received 141 requests to alter the federally-constructed flood risk reduction projects in 2015 alone. The majority of the requests are for relatively minor alterations such as geotechnical borings, horizontal directional drilling for the placement of utility lines, protecting slopes, and altering interior drainage pipes. These activities tend to be similar in nature and have similar (minor to negligible) impacts.

Engineering Circular 1165-2-216 states that USACE districts have the ability to develop categorical permissions for compliance with Section 408 to cover potential alterations that are similar in nature and that have similar impacts. This aligns with guidance from CEQ concerning development of programmatic NEPA reviews for multiple actions that are similar in nature

(CEQ, 2014). At the same time, a programmatic document allows for a more comprehensive evaluation of potential environmental impacts that may result from numerous alterations within NWO. The purpose of this document is to utilize categorical permissions as described in EC 1165-2-216 to cover potential alterations that are similar in nature and have similar impacts (minor to negligible) in order to expedite the review and approval process.

3. Alternatives

National Environmental Policy Act regulations indicate to some extent the scope of alternatives to be considered in all EAs and EISs. These include the No-Action Alternative, Preferred Alternative, and other "reasonable" alternatives. These regulations also generally set the scope for a Programmatic EA by directing agencies to group activities together. For this Programmatic EA, only two reasonable alternatives, the No-Action Alternative and the Preferred Alternative, were considered, since the only viable options are to continue processing proposed Section 408 alteration requests on a case-by-case basis or utilize an approved list of categorical permissions, as outlined in this Programmatic EA, to expedite the Section 408 review process.

3.1 Alternative 1 – No Action

The No-Action Alternative would not result in the development of categorical permissions. All requests to alter USACE projects would be evaluated on a case-by-case basis to determine if the alteration would be injurious to the public interest or impair the usefulness of the USACE civil works project. This alternative would not meet the purpose and need of expediting requests that are similar in nature and have similar impacts; however, this alternative has been retained in this Programmatic EA in order to provide a baseline for comparison with the Preferred Alternative.

3.2 Alternative 2 – Utilize a List of Approved Categorical Permissions to Expedite the Section 408 Review and Approval Process (Preferred Alternative)

Under the Preferred Alternative, a list of approved categorical permissions would be utilized in order to expedite the review process for Section 408 requests to alter USACE civil works projects. All Section 408 requests must meet general and engineering requirements as well as environmental conditions established by USACE. General and engineering requirements include:

a. Design and construction specifications must be signed and sealed by a registered Professional Engineer and, if applicable, a registered Geologist from the state of Nebraska.
b. Proposed alterations must not negatively impact typical performance, inspections, operations, and maintenance of the USACE project.
c. Proposed alterations must not adversely impact any flood-fighting operations that may be conducted at the USACE project.

d. Proposed alterations must not result in any increase in operation and maintenance costs to the government.

If the above general and engineering requirements are met, the proposed alteration would not be expected to impair the usefulness of the USACE project. In addition to meeting the above requirements, Section 408 requests must meet environmental conditions which include:

a. Proposed alterations must not adversely affect threatened or endangered species, including their critical habitat, in accordance with the Endangered Species Act.
b. Proposed alterations must not result in the 'take' of any migratory birds as defined by the Migratory Bird Treaty Act.
c. Proposed alterations must not result in the transfer of any invasive species to new locations.
d. Proposed alterations requiring a Section 404 Permit must be within the limits of an applicable Nationwide or Regional General Permit.
e. Proposed alterations must incorporate Best Management Practices (BMPs) to control storm water runoff or any point source discharges in accordance with required National Pollutant Discharge Elimination System (NPDES) permits.
f. Proposed alterations must not encourage additional development within the floodplain.
g. Proposed alterations must not adversely affect any cultural resources and must be in compliance with Section 106 of the National Historic Preservation Act.
h. Proposed alterations must meet other conditions as described in Chapter 5, Environmental Consequences.

If the above environmental conditions are met and the proposed alteration has only a negligible or minor impact to the environment, then the alteration would be considered not injurious to the public interest. If a proposed alteration does not meet the above environmental conditions or results in more than negligible or minor impacts to the environment, then a stand-alone environmental assessment, potentially including mitigation for impacts, or an environmental impact statement would be prepared.

The list of categorical permissions in this Programmatic EA, described below, was developed based on past experience that showed the construction of these types of alterations met the above general and engineering requirements and were not injurious to the project. The categorical permissions also met the environmental conditions and the impacts to the environment were considered negligible to minor. By developing an approved list of categorical permissions in which detailed environmental analysis is not required, the Preferred Alternative meets the purpose and need for expedited review and approval of Section 408 requests to alter USACE civil works projects.

1) **Placing Electrical, Fiber Optic (Internet, Phone, and Cable), Water, Sanitary, or Drainage Pipe Utilities under a Levee (Note: The placement of gas lines will require a more detailed review and will not be considered a categorical permission.)**

- Open Cut – Within the project ROW, levee embankment material is removed and then replaced according to design criteria for placement of the utility.
- Horizontal Directional Drill – A pit is excavated on either side of the levee, usually outside the project ROW, and then pressure and drilling fluids are used to place the utility under the levee embankment/channel section.
- Jack and Bore – A pit is excavated on either side of the levee, usually outside the project ROW (in agricultural fields or in urban locations), and then the utility is mechanically placed under the surface.

2) **Replacing Drainage Structures**

- The existing structures are demolished and a new structure is constructed per USACE design criteria. All work typically remains within the project ROW.

3) **Abandoning Drainage Structures**

- Grout is placed inside an existing pipe and gatewell structure (to an elevation above the top invert of the pipe inside the gatewell) to fill all voids.

4) **Removing Drainage Structures**

- An existing structure is demolished and replaced with compacted fill material.

5) **Constructing a Bike Trail on top of a Levee (Including Rest Stations)**

- Gravel surfacing, concrete, or asphalt is placed on top of the existing levee crest. Placement of any material cannot degrade the authorized level of flood protection.

6) **Installing Relief Wells**

- A hole is bored into the earth's surface some distance away from the landside toe of the levee and a relief well is then installed.

7) **Abandoning Relief Wells**

- Existing relief wells are grouted full and then abandoned per State and other applicable requirements.

8) **Installing Pump Station**

- A pump structure is constructed on the landside of the levee near a water feature (ditch or channel).

9) **Repairing Pump Station**

- Components of the pump station (pump, electrical controls, etc.) may be repaired or replaced or the entire pump station itself may be replaced.

10) **Modifying Existing Drainage Structures**

- Slip lining – Slip lining, a trenchless method for repairing structural or environmental damages to a pipe, is completed by installing a smaller "carrier pipe" into the larger "host pipe" grouting the annular space between the two pipes, and sealing the ends.

11) **Performing Geotechnical Explorations**

- Geotechnical explorations, for the purpose of determining the soundness of the civil works project, may be performed on the levee crest, riverside berms, and/or landside berms by using borings, Cone Penetration Tests (small probe pushed into the ground), or

Multi-Electrode Electrical Resistivity Tests (cable and shallow depth probes placed on the levee crest or levee cross section).

12) **Placing New Riprap**
- New riprap is placed on the channel slope, levee embankment, around bridge piers and outfall structures for erosion control.

13) **Temporary Staging Areas and Working Pads for Material and Equipment**
- Temporary staging areas or working pads are set up for materials and/or equipment within the project ROW. This also includes levee crests or berms that are used as haul roads. The impacted area will need to be repaired to pre-construction conditions.

14) **Installing Fences**
- Fences that are designed to not impede wildlife migrations can be installed on the project ROW or up and over a levee. Access gates can be included.

15) **Installing Utility Poles**
- Utility poles are erected within the project ROW, but not on the levee section.

16) **Removing Existing Utility Poles**
- Existing utility poles are removed and the holes are backfilled with compacted material and/or grout.

17) **Replacing Highway/Street Bridge**
- Bridges may be removed or replaced. Levee tie-ins may be impacted with the removal of the bridge embankment and placement of bridge piers near the levee embankment or within the channel limits.

18) **Placing Sanitary, Water, or Drainage Pipes Up and Over the Levee**
- A pipe is placed on top of the levee crest, embankment material is added to cover the pipe, and the top of the levee is surfaced to accommodate vehicles. Levee side slopes also will have additional embankment material placed to cover the pipe.

19) **Repairing/Paving Streets**
- Construction of new street paving or repair of existing paving that is placed on the levee section or up and over the levee section. Typical work includes milling existing paving and placing new paving.

20) **Installing Temporary Channel Crossings**
- Temporary culverts are installed with riprap placed around and on top of the structure located within the flow line of a channel. Crossing provides access for construction equipment to move from one bank to another. A hydraulic no-rise analysis must be provided.

21) **Abandoning Pipe or Conduit**
- A pipe or conduit within the levee is either completely removed or abandoned by grouting.

22) **Placing Monitoring Monuments**
- Monuments (e.g., carsonite posts or brass caps) are constructed on the project to survey and monitor for movement typically due to nearby construction or marking the location of sub-grade features.

It should be noted that this Programmatic EA is specific to work completed on levees and other flood risk reduction projects for which USACE has an interest per the Public Law (PL) 84-99 Rehabilitation Program. The PL 84-99 program consists of federal flood risk reduction projects owned, operated, and maintained by non-federal sponsors. Although USACE does not have any real estate interest on these projects, USACE does maintain a federal interest in these projects since the program provides rehabilitation assistance for damages caused during high-water events. This Programmatic EA does not address the following activities since they have already been determined to be categorically excluded under NEPA per Corps Engineering Regulation 200-2-2 (33 CFR 230.9):

(a) Activities at completed Corps projects which carry out the authorized project purposes. Examples include routine operation and maintenance actions, general administration, equipment purchases, custodial actions, erosion control, painting, repair, rehabilitation, replacement of existing structures and facilities such as buildings, roads, levees, groins and utilities, and installation of new buildings utilities, or roadways in developed areas.

(b) Minor maintenance dredging using existing disposal sites.

(c) Planning and technical studies which do not contain recommendations for authorization or funding for construction, but may recommend further study. This does not exclude consideration of environmental matters in the studies.

(d) All Operations and Maintenance grants, general plans, agreements, etc., necessary to carry out land use, development and other measures proposed in project authorization documents, project design memoranda, master plans, or reflected in the project NEPA documents.

(e) Real estate grants for use of excess or surplus real property.

(f) Real estate grants for Government-owned housing.

(g) Exchanges of excess real property and interests therein for property required for project purposes.

(h) Real estate grants for rights of way which involve only minor disturbances to earth, air, or water: (1) minor access roads, streets and boat ramps, (2) minor utility distribution and collection lines (fiber optic lines, power lines, water lines, and irrigation lines/intakes), (3) removal of sand, gravel, rock, and other material from existing borrow areas, (4) oil and gas seismic and gravity meter survey for exploration purposes, and (5) storm water intakes.

(i) Real estate grants of consent to use Government-owned easement areas (applicable only to consents that do not impair the usefulness of the Government-owned easement).

(j) Real estate grants for archeological and historical investigations compatible with the Corps' National Historic Preservation Act responsibilities.

(k) Renewal and minor amendments of existing real estate grants evidencing authority to use Government-owned real property.

(l) Reporting excess real property to the General Services Administration for disposal.

(m) Boundary line agreements and disposal of lands or release of deed restrictions to cure encroachments.

(n) Disposal of excess easement interest to the underlying fee owner.

(o) Disposal of existing buildings and improvements for off-site removal.

(p) Sale of existing cottage site areas.
(q) Return of public domain lands to the Department of the Interior.
(r) Transfer and grants of lands to other Federal agencies.
(s) Oil and Gas Development. Examples include geotechnical investigations, seismic and gravity meter surveys, biological/cultural resource surveys, decommissioning/abandonment of wells/pipelines, reclamation activities, and repurposing existing pipelines. Currently, NWO does not use this categorical exclusion due to extraordinary circumstances. As such, these oil/gas development projects cannot be excluded from NEPA nor considered a categorical permission.

4. Existing Conditions

This section contains a description of relevant resources that could be impacted by each alternative. The important resources described in this section are those recognized by laws, executive orders, regulations, and other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. In order to assess the environmental consequences of alternatives, the existing conditions or affected environment of the proposed study area must be known. Due to the broad nature of this Programmatic EA and the large span of completed USACE civil works projects within the state of Nebraska, the affected environmental resources are addressed collectively by two means: regionally and individually. Regional resources (i.e., air quality, cultural resources, recreation, terrestrial vegetation, threatened and endangered species and wildlife) are somewhat similar throughout the state of Nebraska while individual or project-specific resources (i.e., water quality, aquatic species, noise, wetlands and threatened and endangered species) vary based on the project site.

Resources that were considered, but not carried forward because no adverse impacts were identified included: climate and meteorology (no measureable effect on climate would occur from the proposed project due to the minor construction footprint and duration), hazardous waste (these areas would always be avoided so no impacts would arise), and prime farmlands (lands occupied by the USACE civil works projects are currently under-going a differing use and are not farmable, thus, no impacts to farmlands would occur).

4.1 Existing Regional Conditions for Nebraska

4.1.1 Air Quality

Federal air quality policies are regulated through the Clean Air Act. In accordance with this act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants considered harmful to public health and the environment. The criteria pollutants include carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide, and particulate matter. The EPA is required to designate counties or air basins as in attainment or nonattainment for each criteria pollutant. Attainment means that an area is meeting or is below a given safe standard set by the EPA for the particular criteria pollutants. If

an area is in nonattainment (the levels of a particular pollutant exceed EPA standards) the state must develop an implementation plan to achieve compliance. Once in compliance with the NAAQS, the area becomes a maintenance area.

The EPA has issued regulations addressing the applicability and procedures for ensuring that federal activities comply with the Clean Air Act. The EPA Final Conformity Rule requires federal agencies to ensure that federal actions in designated nonattainment or maintenance areas conform to an approved or promulgated state implementation plan or federal implementation plan to ensure that a federal action would not cause a new violation of the NAAQS, contribute to any increase in the frequency or severity of violations of existing NAAQS, or delay the timely attainment of any NAAQS or other attainment milestones. If a project results in a total net increase in pollutant emissions that is less than the applicable *de minimis* threshold established in 40 CFR 93.153(b), detailed conformity analyses are not required. The air quality in Nebraska is good with all counties in attainment with the NAAQS for all criteria pollutants.

4.1.2 Cultural Resources

Cultural resources are a broad pattern of material and non-material sites or objects that represent contemporary, historic, and pre-historic human life, ways, or practices. River floodplains usually contain a variety of cultural resource types that span from the earliest Native American inhabitants of North America to the present. Common cultural resource sites include prehistoric Native American archeological sites, historic archeological sites, ship wrecks, and structures such as bridges and buildings. Projects involving Federal land, funds, or permitting are subject to compliance with the National Historic Preservation Act of 1966 (NHPA).

The NHPA (Public Law 89 80-655), as amended, and other applicable laws and regulations require Federal agencies to take into account the effects of their undertakings on significant cultural resources within the proposed undertaking's area of potential effect (APE). Typically, these studies require archival searches and field surveys to identify if any cultural resources are present. When significant sites are recorded, efforts are made to avoid the resources, minimize adverse effects, and preserve the site(s) in place. If any significant sites cannot be avoided and would be adversely impacted, an appropriate mitigation plan would be implemented to recover data that would be otherwise lost due to the undertaking. The civil works project areas have been previously disturbed during original construction of the project and, as such, likely do not contain subsurface cultural resources. The original levees and their component structures are in some cases over 50 years old and hence may be evaluated for eligibility to be listed on the National Register of Historic Places (NRHP). However, due to periodic substantial alterations, repairs, and replacements, they will in all likelihood lack:

"The quality of significance in American history, architecture, archeology, engineering, and cultural as present in districts, sites, buildings, structures, and objects that *possess integrity* of location, design, setting, materials, workmanship, feeling, and association, and..."

Specifically under Criterion C:

"... That *embody the distinctive characteristics* of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction."

Undertakings such as taking borings, installing posts or poles, horizontal directional drilling for the placement of utility lines, protecting slopes, and installing small structures such as outbuildings and drainage pipes or any of the actions enumerated in Section 3.2, are unlikely to impact eligible historic properties. Potential exceptions may exist, such as the repair or replacement of unique or rare historic bridges.

4.1.3 Recreation

The Federal Water Project Recreation Act of 1965, as amended, declares that recreation and fish and wildlife enhancement be given full consideration as purposes of federal water development projects. The Land and Water Conservation Fund Act of 1965 (LWCFA), as amended, assists in preserving, developing, and assuring accessibility to outdoor recreational resources.

The recreational resources associated with civil works projects generally consist of hiking and biking trails that are located on the levee crown or in the project's right of way. If project sites contain recreational resources that are LWCFA facilities (national natural treasures such as parks, protected forests, and wildlife areas), coordination with the National Park Service would be required to ensure a conversion does not occur to the feature.

4.1.4 Terrestrial Vegetation

Most of the civil works projects described in this Programmatic EA consist of levees and other flood control structures. During construction of these projects, existing habitat was cleared, the project was built, and then the area was planted with a uniform stretch of brome grass. During operation and maintenance activities on the completed projects, the brome grass is regularly mowed to prevent the establishment of trees, minimize wildlife usage that may cause adverse effects to the project, and provide ease of inspection in order to quickly identify deficiencies and allow for expedited repairs. In some areas, native vegetation has been planted adjacent to levees but never on levees themselves. As stated, trees are not allowed to grow on the projects or within the projects' right of way, which is generally 15 feet on either side. Although the projects are located in both urban and rural areas, the terrestrial vegetation on the projects remain the same; regularly mowed brome grass. In limited instances, native vegetation was planted on seepage berms.

4.1.5 Wildlife

The Fish and Wildlife Coordination Act of 1958, as amended, recognizes the vital contribution of wildlife resources to the Nation and requires equal consideration and coordination of wildlife conservation with water resources development programs. The Migratory Bird Treaty Act of 1918 established a federal prohibition against pursuing, hunting, taking, capturing, killing,

possessing, offering for sale, purchasing, delivering, shipping, transporting, exporting, or attempting any of these activities with any migratory bird, part, nest, or egg.

Because the majority of the civil works projects covered under this Programmatic EA consist of levees and improved channels with limited terrestrial vegetation (i.e., regularly mowed brome grass and lack of trees), wildlife use is limited. Wildlife in close association with the projects generally includes species accustomed to human presence and disturbance. Mammals common to these areas include white-tailed deer, eastern cottontail rabbit, raccoon, fox squirrel, and opossum. Common birds include blue jays, robins, mourning doves, cardinals, swallows, and sparrows. Raptors likely use these areas for hunting and resting but no nesting activity occurs due to the lack of trees.

For those civil works projects that are located in more rural areas, habitat adjacent to the brome-grass expanses would likely consist of agricultural or wild/undisturbed lands. Because of the diminished human presence in these areas, wildlife likely to be found adjacent to the civil works projects could include threatened and endangered species (northern long-eared bats in forests or interior least terns and piping plovers on sandbars), bald eagles, migratory birds not typically seen in urban and park-like settings, and mammals such as bobcat, cougar, and fox.

4.1.6 Threatened and Endangered Species

The Endangered Species Act of 1973 (ESA), as amended, provides for the conservation of species listed as endangered and threatened throughout all or a significant portion of their range, and provides for the conservation of the ecosystems on which they depend. As habitat loss is the primary threat to most imperiled species, the ESA allows designation of specific areas as critical habitat.

The following threatened and endangered species are known to occur in the state of Nebraska and subsequently could be found near the civil works projects described in this Programmatic EA. Following the discussion of threatened and endangered species, Table 4-1 on page 20 provides a summary of the threatened and endangered species in the State of Nebraska that have the potential to occur at individual civil works project sites.

4.1.6.1 Western prairie fringed orchids (*Platanthera praeclara*) are found in unbroken tall grass prairies, wet prairies and sedge meadows (Figure 2).

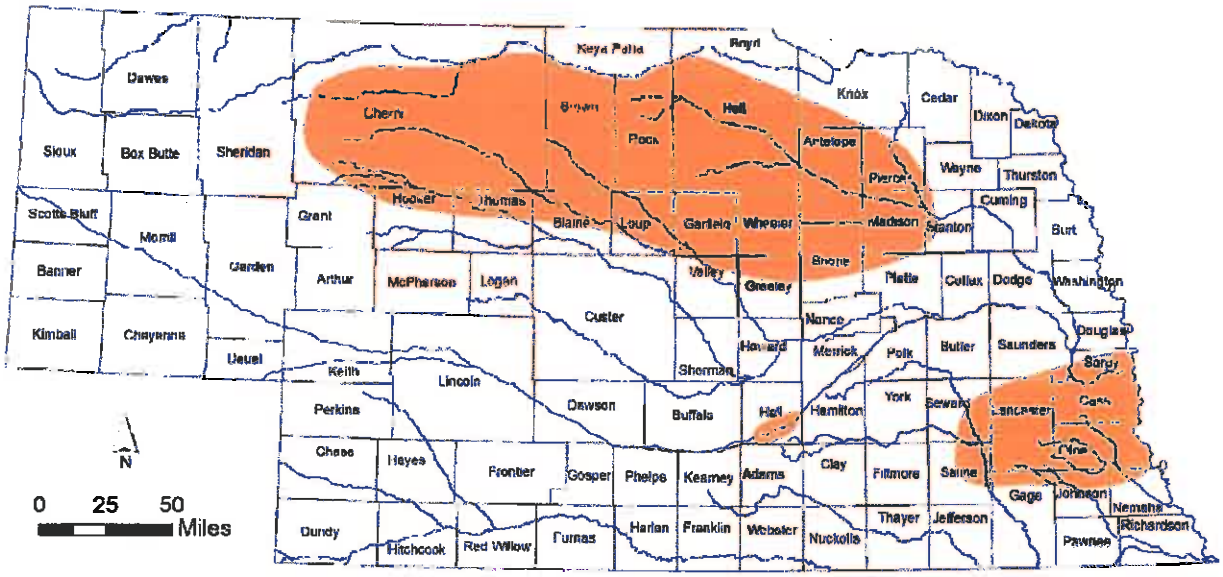

Figure 2. Estimated Current Range of Western Prairie Fringed Orchid (Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2012).

4.1.6.2 American burying beetles (*Nicrophorus americanus*) prefer wet meadows, mixed grass prairies, agricultural land, and areas with little human development (Figure 3). Adult beetles are nocturnal and search widely for carrion (i.e. flesh from dead animals). They are well adapted at detecting the smell of carrion and may fly as far as two miles to obtain it. After encountering the carrion, they work to bury it and the female may lay eggs in a chamber constructed immediately above it. The eggs tend to hatch within a few days.

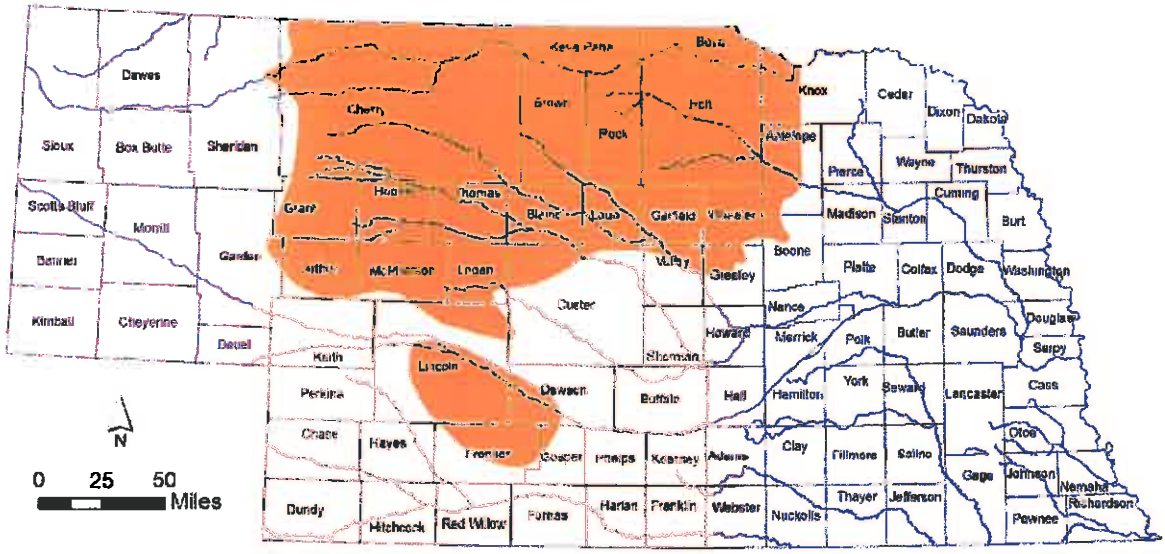

Figure 3. Estimated Current Range of American Burying Beetle (Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2014).

4.1.6.3 Salt Creek tiger beetles (*Cicindela nevadica lincolniana*) are confined to eastern Nebraska saline wetlands and associated streams and tributaries of Salt Creek, including the moist, salt-encrusted banks of the Little Salt Creek, in the northern third of Lancaster County (Figure 4). The insects are found along unvegetated mud banks of streams and seeps that contain salt deposits and in association with saline wetlands and exposed mud flats of saline wetlands.

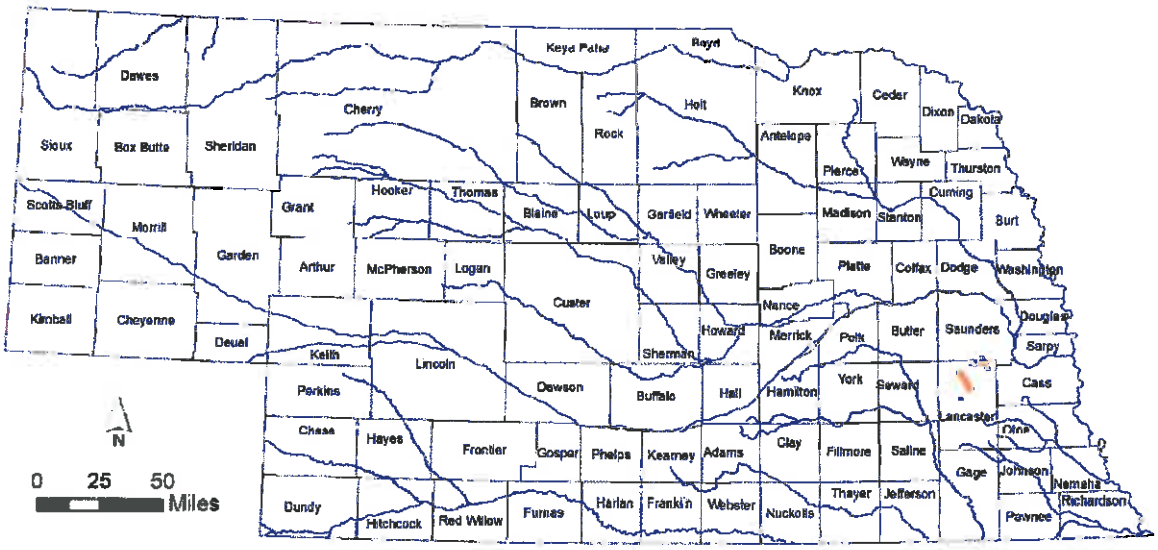

Figure 4. Estimated Current Range of Salt Creek Tiger Beetle
(Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2014).

4.1.6.4 Whooping cranes (*Grus americana*) prefer open sand and gravel bars or very shallow water in rivers and lakes (Figure 5). Migrating cranes make frequent stops along banks and sandbars to feed and rest during their migration.

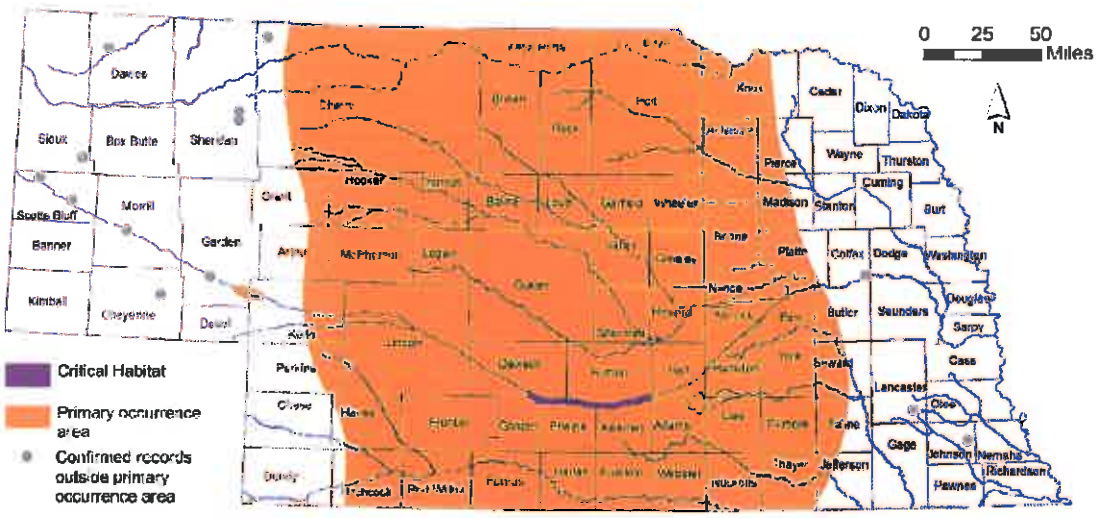

Figure 5. Whooping Crane; Migration Use Area & USFWS-designated Critical Habitat
(Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2011).

4.1.6.5 Interior least terns (*Sterna antillarum athalassos*) ***and piping plovers*** (*Charadrius melodus*) nest on unvegetated or sparsely vegetated sandbars in river channels and occasionally along the shorelines of sandpits (Figure 6). The nesting season for the least tern and piping plover is from April 15 through September 15. Channel constrictions and obstructions that disrupt natural flows and influence sandbar complexes in the river limit potential habitat for these birds.

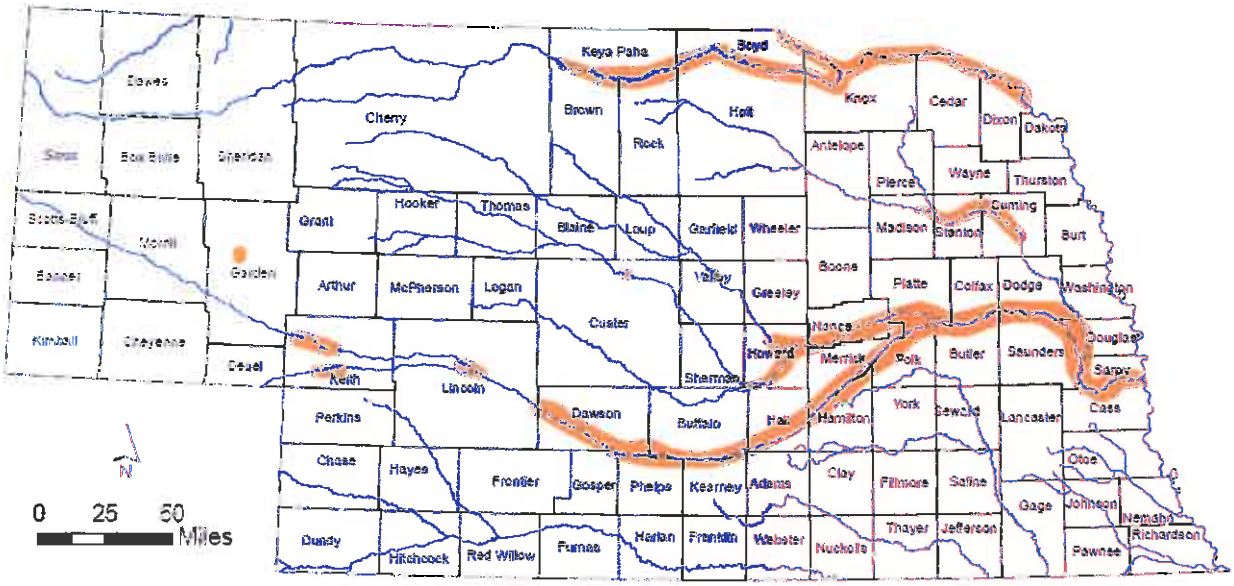

Figure 6. Estimated Current Breeding Range of Interior Least Tern and Piping Plover (Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2011).

4.1.6.6 Pallid sturgeon (*Scaphirhynchus albus*) are typically bottom dwellers in rivers with swift, turbid, and free flowing waters (Figure 7). Pallid sturgeon are adapted for living close to the bottom of large, shallow rivers with sand and gravel bars. Pallid sturgeon are associated with diverse aquatic habitats and are found in large-river ecosystems that provide a diverse array of floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters. Fish are the preferred food of pallid sturgeons, although aquatic insect larvae are also consumed in earlier life stages.

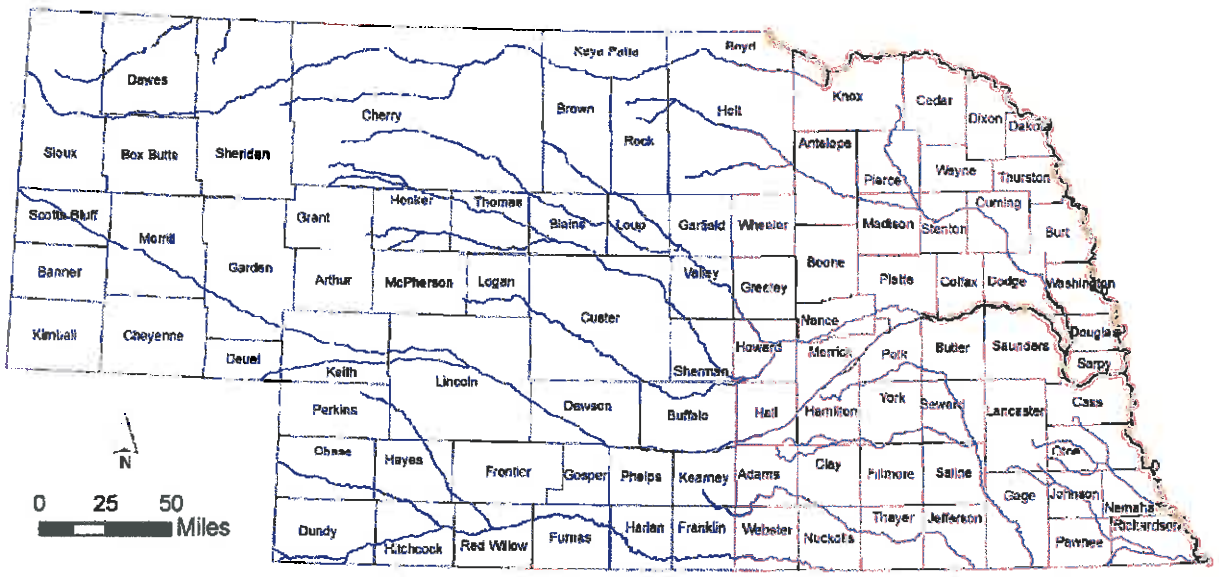

Figure 7. Estimated Current Range of Pallid Sturgeon
(Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2011).

4.1.6.7 Topeka shiners (*Notropis topeka*) are native to streams of the central plains region with good water quality and cool temperatures (Figure 8). Topeka shiners use clean gravel, cobble, and sand for spawning from May through June. Topeka shiners spend most of their time in open water, at the surface or in mid-water areas feeding on insects and zooplankton.

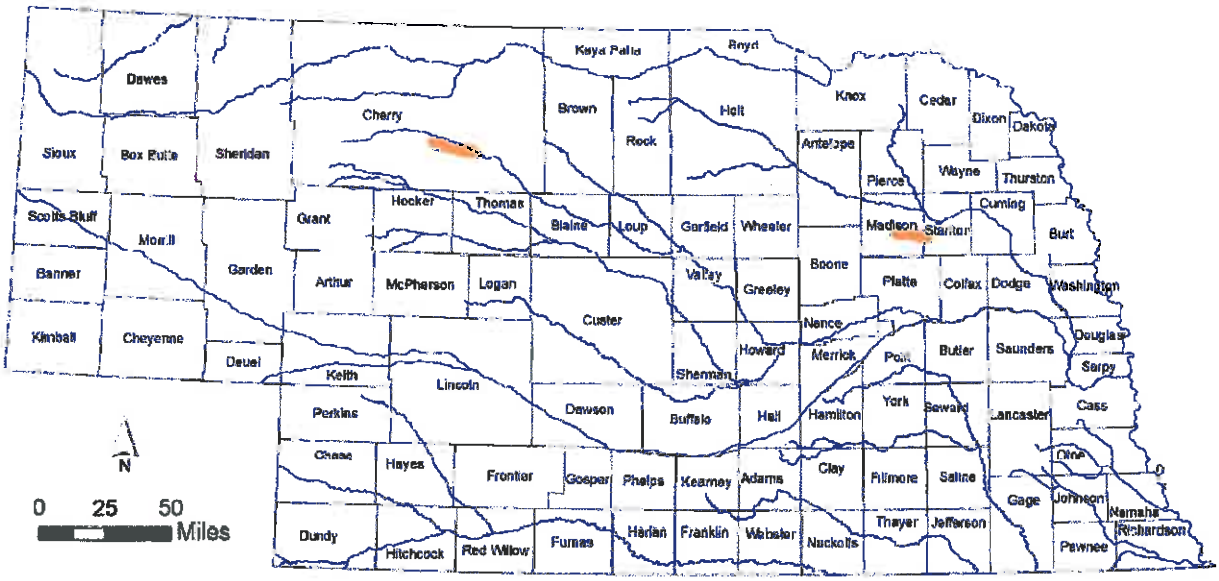

Figure 8. Estimated Current Range of Topeka Shiner
(Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2011).

4.1.6.8 Northern long-eared bats (*Myotis septentrionalis*) roost behind loose pieces of bark, within cavities and crevices of live and dead trees, and occasionally in structures like barns and buildings during the summer months. They emerge at dusk to forage on insects and return to their roosts before dawn. In the winter months, northern long-eared bats hibernate in caves and in mines. In the spring and fall months, northern long-eared bats migrate in large numbers between their summer and winter habitats (Figure 9).

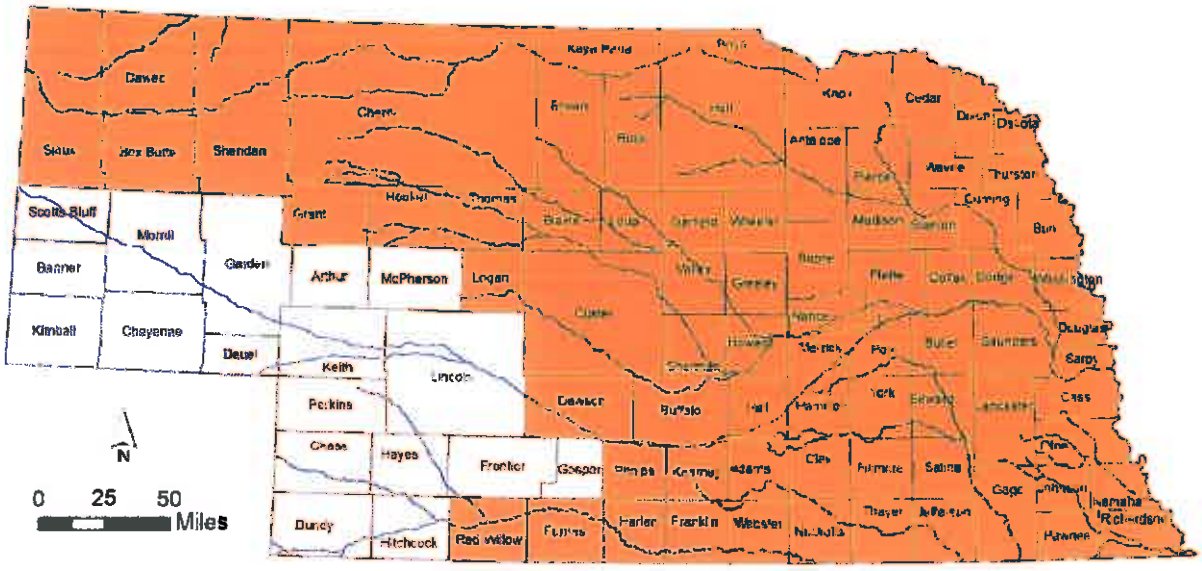

Figure 9. Estimated Current Range of Northern Long-eared Bat
(Courtesy of Nebraska Game & Parks Commission Natural Heritage Program 2015).

4.1.6.9 Designated critical habitat is not present for any of the federally-listed threatened or endangered species within areas containing completed civil works projects. Since the existing projects are within areas that were previously disturbed by construction and are now regularly disturbed (operation and maintenance activities), additional investigations for threatened or endangered species' critical habitat on USACE civil works project sites are not necessary under this Programmatic EA.

Critical habitat may be located in areas adjacent to the USACE civil works projects or designated at a date in the future. To ensure designated critical habitat is not adversely modified or destroyed by actions taken to construct categorically permitted alterations, informal consultation with the U.S. Fish and Wildlife Service (USFWS) would occur on a case-by-case basis.

Table 4-1. Threatened and Endangered Species in the State of Nebraska and Potential Occurrence at Individual Civil Works Project Sites. (An "X" indicates potential occurrence at that site).

Flood Protection Project	Western Fringed Prairie Orchid	American Burying Beetle	Salt Creek Tiger Beetle	Whooping Crane	Interior Least Tern	Piping Plover	Pallid Sturgeon	Topeka Shiner	Northern Long-eared Bat
Antelope Creek	X		X						X
Big Papillion Creek	X				X	X	X		X
Little Papillion Creek and Tributaries	X				X	X	X		X
Omaha	X				X	X	X		X
MR Levee Unit R-520	X				X	X	X		X
MR Levee Unit R-548	X				X	X	X		X
MR Levee Unit R-562	X				X	X	X		X
MR Levee Unit R-573	X				X	X	X		X
MR Levee Unit R-613	X				X	X	X		X
MR Levee Unit R-616	X				X	X	X		X
Salt Creek and Tributaries	X		X						X
No. Platte Basin Gering Valley				X					

	Western Fringed Prairie Orchid	American Burying Beetle	Salt Creek Tiger Beetle	Whooping Crane	Interior Least Tern	Piping Plover	Pallid Sturgeon	Topeka Shiner	Northern Long-eared Bat
Pierce	X			X	X	X	X	X	X
Norfolk	X			X	X	X	X	X	X
Hooper	X			X	X	X	X	X	X
Waterloo	X			X	X	X	X	X	X
West Point	X			X	X	X	X	X	X
Clarkson	X				X	X	X		X
Howells	X				X	X	X		X
Columbus	X			X	X	X	X		X
Pender	X						X		X
Lost Creek	X			X	X	X	X		X
Broken Bow	X	X		X	X	X			X
Macy	X						X		X
Meadow Grove	X			X	X	X		X	X
Madison	X			X	X	X		X	X
Sidney				X					
Scribner	X				X	X	X		X
Schuyler	X				X	X	X		X
Wood River	X			X	X	X			X

4.1.7 Floodplains

Floodplains along the rivers in Nebraska have been substantially altered over the past century. In many areas, flood control, bank stabilization, and channelization of rivers have either completely or partially removed the connectivity of the rivers with their floodplain. The majority of floodplains are now used for either agriculture or urban development. It is expected that over time, more agricultural areas will be converted to urban/suburban uses, as urban populations continue to grow.

4.2 Existing Site-Specific Conditions

For the site-specific project areas, water quality, aquatic species, noise, wetlands, and threatened and endangered species are discussed on an individual basis.

4.2.1 Water Quality

Individual states have jurisdiction for managing water quality within their states. Section 303(d) of the Clean Water Act requires each state to identify water for which existing required pollution controls are not stringent enough to meet state water quality standards as well as to identify the beneficial uses of that water. States are also required to establish total maximum daily loads (TMDLs) for these waters (see 40 CFR 130.7). In Nebraska, the Nebraska Department of Environmental Quality maintains and updates (every two years) a Water Quality Integrated Report for all surface waters in the state. The report can be downloaded at http://www.deq.state.ne.us/Publica.nsf/23e5e39594c064ee852564ae004fa010/3eeeed335d69116c86257ccb004d835c/$FILE/NE%202014%20Water%20Quality%20Integrated%20Reporta.pdf.

4.2.2 Aquatic Species

The Fish and Wildlife Coordination Act of 1958, as amended, was established to provide protection to fish and wildlife when federal actions result in the control or modification of a natural stream or waterbody.

Nebraska's rivers and streams support a diverse population of fish that feed, breed, and shelter on a year-round basis. Over 100 species have been reported in numerous surveys and much overlap in species composition is noted within Nebraska's watersheds. Within the Platte River watershed, madtoms, sturgeon, stoneroller, bullhead, catfish, carpsucker, minnows, shiners, chubs, goldeye, topminnows, suckers, sunfish, bass, dater, and sauger have been sampled on a regular basis.

Common catches within the Elkhorn River watershed include bullhead, catfish, buffalo, carpsucker, minnows, shiners, chub, shad, sunfish, redhorse, pike, stonecat, madtom, bass, darter, and drum. Reports from the Salt Creek watershed include stonecat, bullhead, buffalo, minnows, shiners, and sunfish.

The Loup River watershed supports goldeye, minnows, shiners, chubs, dace, topminnow, buffalo, carpsucker, redhorse, catfish, sunfish, and bass.

The Missouri River contains sturgeon, buffalo, catfish, drum, paddlefish, suckers, gar, carp, perch, pike, and bass (Jones, 1963).

While the lists above are extensive, they are by no means inclusive. Overall, Nebraska contains fish from the following families: lamprey, gar, sturgeon, bowfin, herring, salmon, mooneye, minnow, pike, sucker, catfish, killifish, sunfish, stickleback, trout-perch, bass, drum, and perch (Jones, 1963). The aquatic species that may occur site-specifically within drainages at each civil works project are discussed individually below.

4.2.3 Noise

Noise is defined as unwanted sound that interferes with normal activities or in some way reduces the quality of the environment. Across the civil works project area in Nebraska, the level of ambient noise varies considerably depending on the amount of development in a given area. In agricultural areas, which are typically open, noise may carry for some distance. Noise sources in agricultural areas are predominantly natural and include wind, weather, and wildlife sounds with occasional sounds from farm machinery. Traffic from highways and other roadways also are a common source of background noise. Seasonally, noise produced from farming activities create levels of noise similar to the types of noises produced by some construction activities.

In urban and residential areas, road traffic is the major source of noise with other noises coming from construction and industrial sources. The most noise sensitive areas in urban environments include parks, recreational areas, and businesses. Areas with a high sensitivity to noise, such as residences, schools and day care facilities, hospitals, places of worship, and libraries occasionally occur adjacent to USACE civil works projects.

Sources of noise in or around areas further removed from urban development may include recreational boating, hunting, and other human activities (e.g., ATVs). Isolated and even more remote areas have a greater potential to contain desirable habitat for fish and wildlife including threatened and endangered species (e.g., less human disturbance therefore less noise).

4.2.4 Wetlands

The Clean Water Act (CWA) of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968 collectively provide protection to valuable natural resources such as wetlands. Generally, wetlands in the project areas consist primarily of freshwater forested/shrub wetlands and freshwater emergent wetlands located in the floodplains of rivers and their tributaries or along the riverside and landside toes of levees where hydrology is favorable. In many cases, as a result of flooding, water features, such as new channels, have been created on the floodplains where no such features previously occurred. These areas could be considered jurisdictional waters of the United States (water bodies that are regulated by the USACE under Section 404) and could therefore, be protected under the CWA. For each site-specific project, the National Wetlands Inventory (NWI) database was consulted to determine the type and location of wetlands that occur in the project area where the proposed Section 408 alteration might take

place. It should be noted that these maps may no longer be accurate due to the habitat-shaping process associated with high water events. Thus, on-site investigations and delineations would be conducted in these areas to identify, map, and ensure protection of the resources that fall under protection of Section 404 of the CWA.

4.2.5 Threatened and Endangered Species

A description of the threatened and endangered species that regionally occur within the state of Nebraska was provided above in Section 4.1.6 of the Existing Conditions. The threatened and endangered species that may occur site-specifically near each civil works project are discussed individually below.

4.3 USACE Civil Works Projects in Nebraska

4.3.1 Antelope Creek

Name: Antelope Creek Flood Protection Project, Lincoln, Nebraska

Location: The project is located in Lincoln, Lancaster County, Nebraska, on Antelope Creek. Antelope Creek begins in southwest Lincoln, feeds into Holmes Lake (south of South 60th and East Van Dorn Streets), flows through the heart of the city, and reaches its confluence with Salt Creek north of North Antelope Valley Parkway and Military Road (Figure 10).

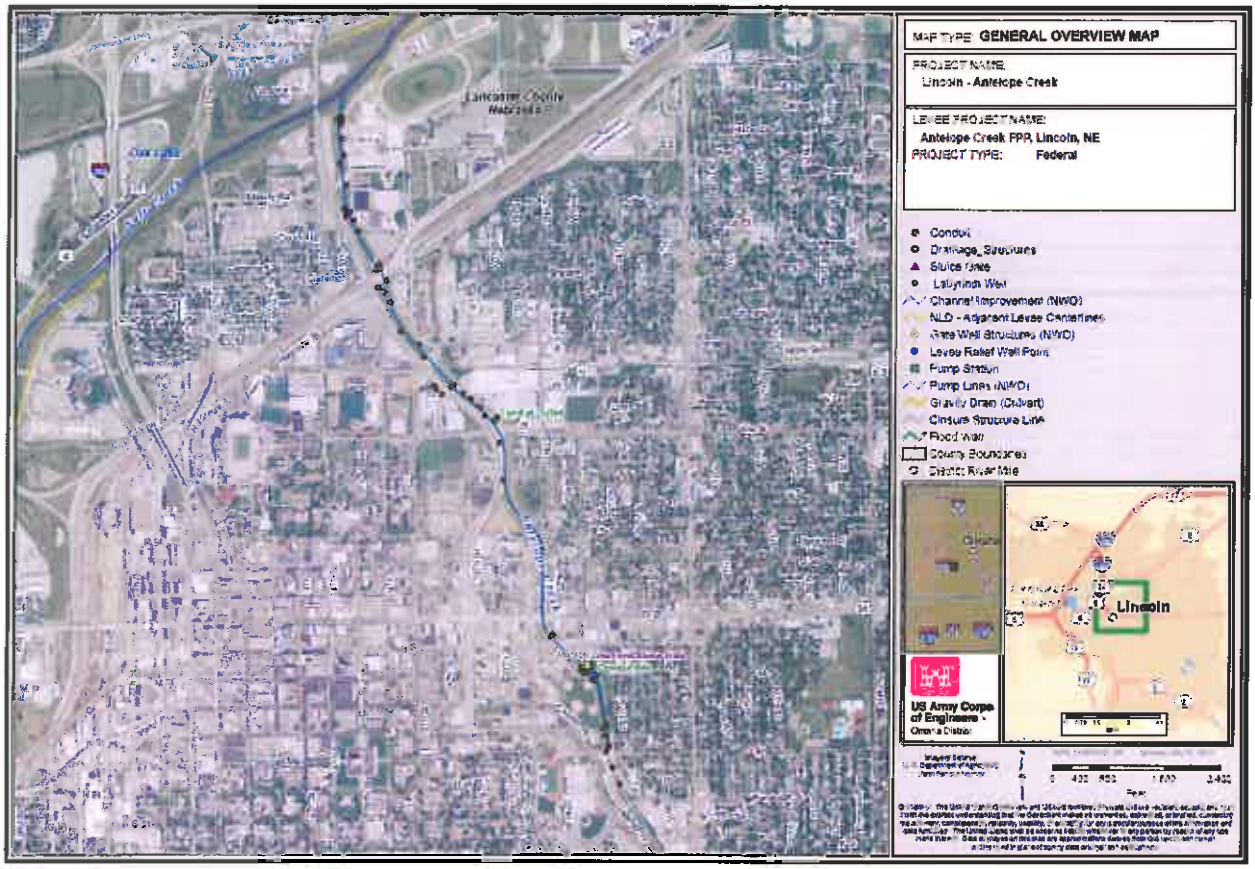

Figure 10. Antelope Creek Flood Protection Project

Project Features: The Antelope Creek watershed has an average width of about 2.5 miles, a length of about 7.5 miles, and drains an area of approximately 12.8 square miles. The entire Antelope Creek basin lies within the corporate limits of Lincoln. The stream has many roadway and pedestrian bridge crossings, as well as a BNSF Railway bridge, passing through multiple parks and primarily urban development. The flood reduction component consists of a constructed conveyance channel, a labyrinth weir, underground conduit, articulated concrete block erosion protection, non-federal conduit, concrete low-flow liner, sod, concrete retaining walls at bridges and roadways, concrete headwalls for numerous storm sewers that outlet into the channel, and slightly over two miles of hiking/biking trails (Figure 11).

Figure 11. Channel conditions found along Antelope Creek at Capitol Parkway in Lincoln, Nebraska

Existing Conditions:

Water Quality: The beneficial uses of Antelope Creek include aquatic life (Warm Water Class A), recreation (Class A – primary contact), aesthetics, and agricultural use (Class A). Antelope Creek is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli*, copper, dissolved oxygen, and selenium) that cause impairment to one or more of the beneficial uses. A TMDL (pollution plan) was developed in September 2007 for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water.

Aquatic Species: Aquatic species are likely limited in this water body due to the absence of riparian and in-stream vegetation however channel catfish, bass, suckers, sunfish, carp, shiners, and minnows have been reported. These species likely use the stream on a year-round basis for feeding, breeding, and sheltering.

Noise: Sources of noise include urban disturbances such as automobiles, construction, and industry.

Wetlands: The USFWS NWI Database revealed a few freshwater forested/shrub wetlands and freshwater emergent wetlands along Antelope Creek.

Threatened and Endangered Species: Salt Creek tiger beetle, northern long-eared bat, and western prairie fringed orchid are known to occur in Lancaster County, Nebraska. However, due

to the existing vegetative conditions (brome grass) and on-going maintenance activities that occur along the civil works project site, these species are unlikely to occur where proposed alterations would be made.

4.3.2 Big Papillion Creek

Name: Big Papillion Creek Flood Protection Project, Omaha, Nebraska

Location: The project is located along the Big Papillion Creek beginning at "L" Street and extending upstream to West Center Road, in Douglas County, Nebraska (Figures 12 through 17).

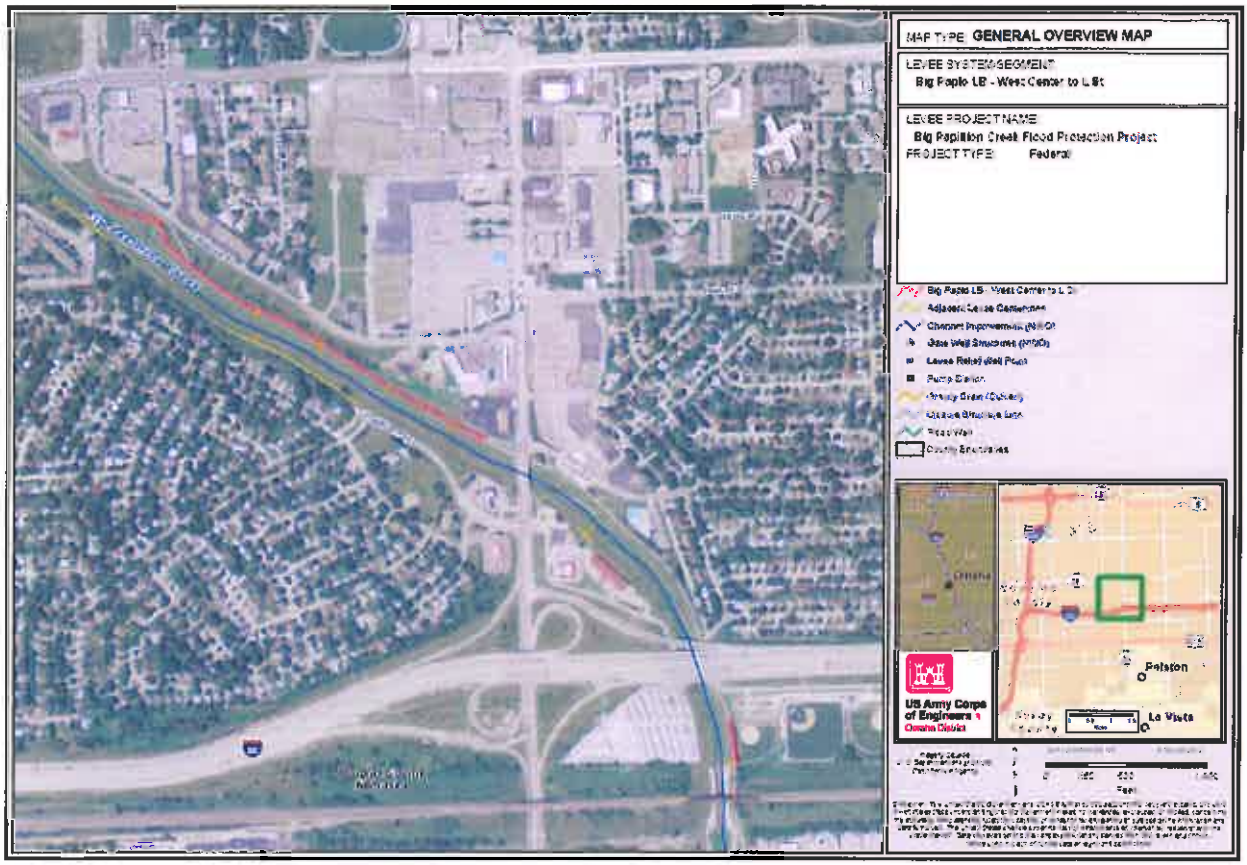

Figure 12. Big Papillion Creek Flood Protection Project Left Bank West Center to L Street

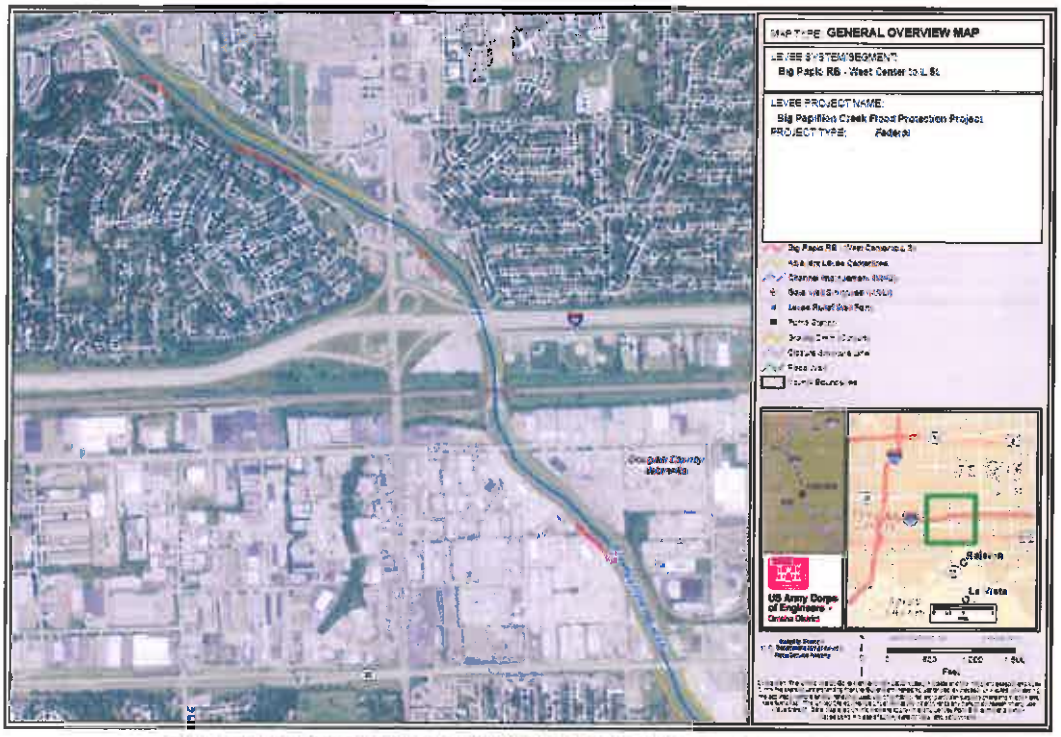

Figure 13. Big Papillion Creek Flood Protection Project Right Bank West Center to L Street

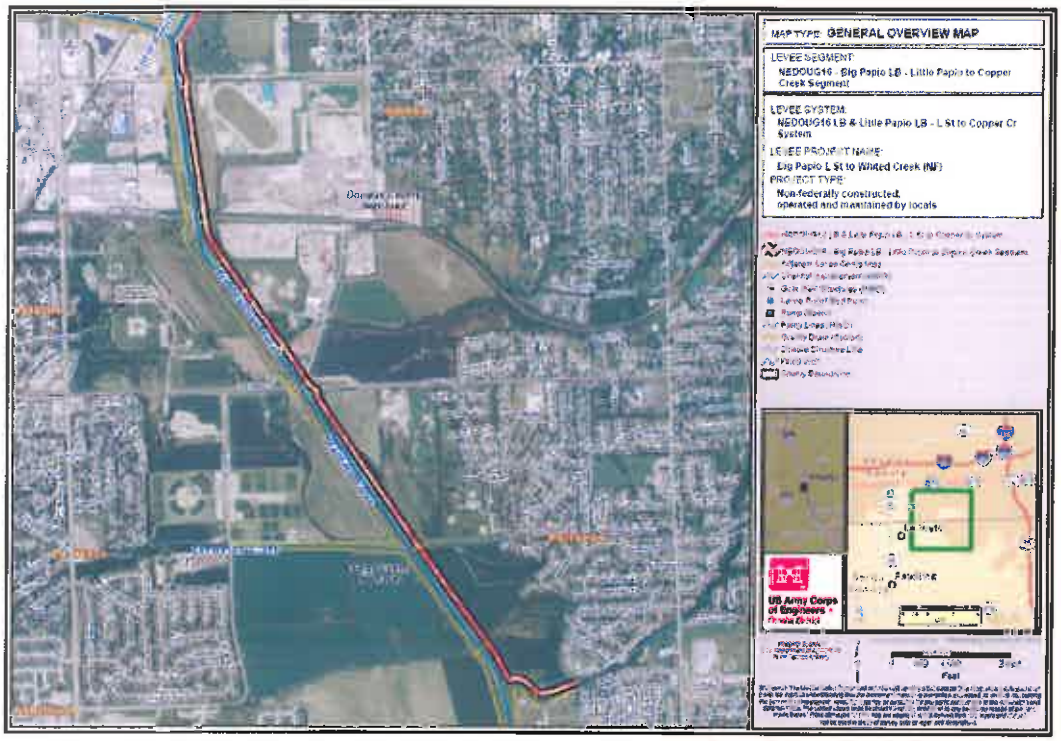

Figure 14. Big Papillion Creek Left Bank - Little Papillion Creek to Copper Creek Segment

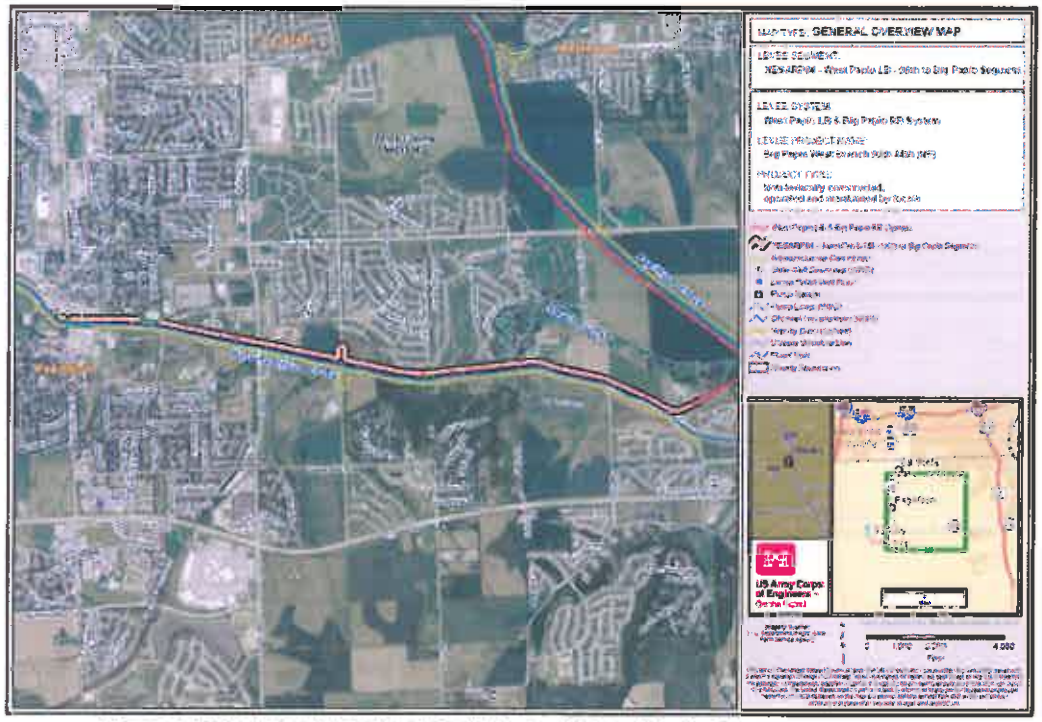

Figure 15. West Papillion Creek Left Bank - 96th to Big Papillion Creek Segment

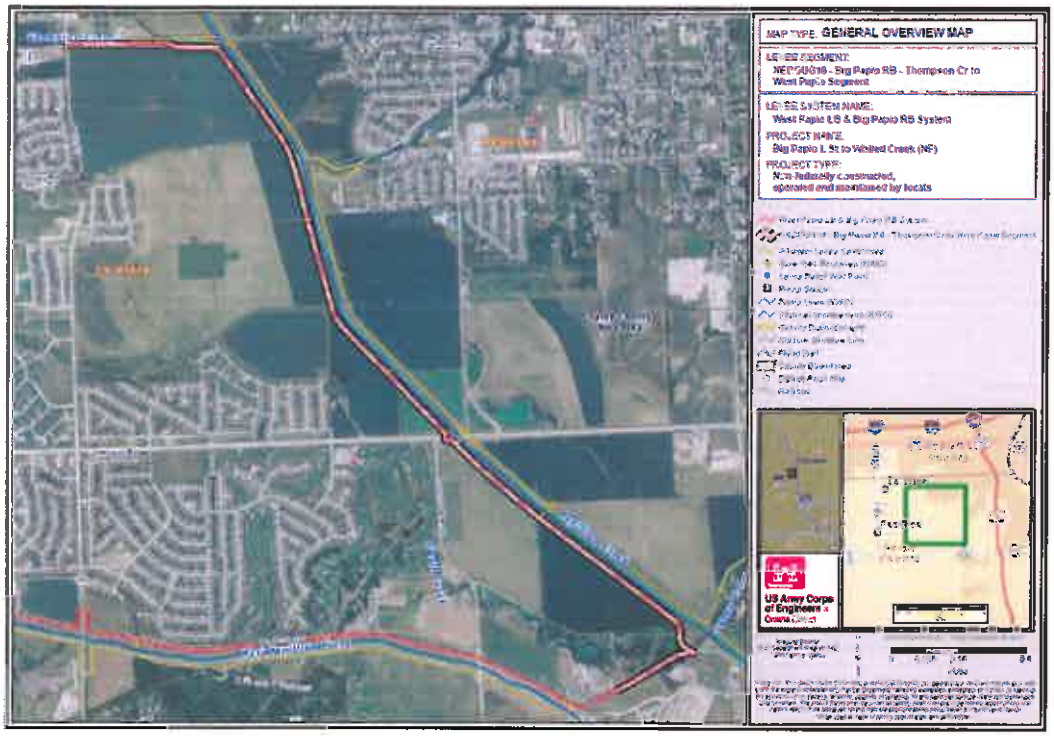

Figure 16. Big Papillion Creek Right Bank Thompson Creek to West Papillion Creek Segment

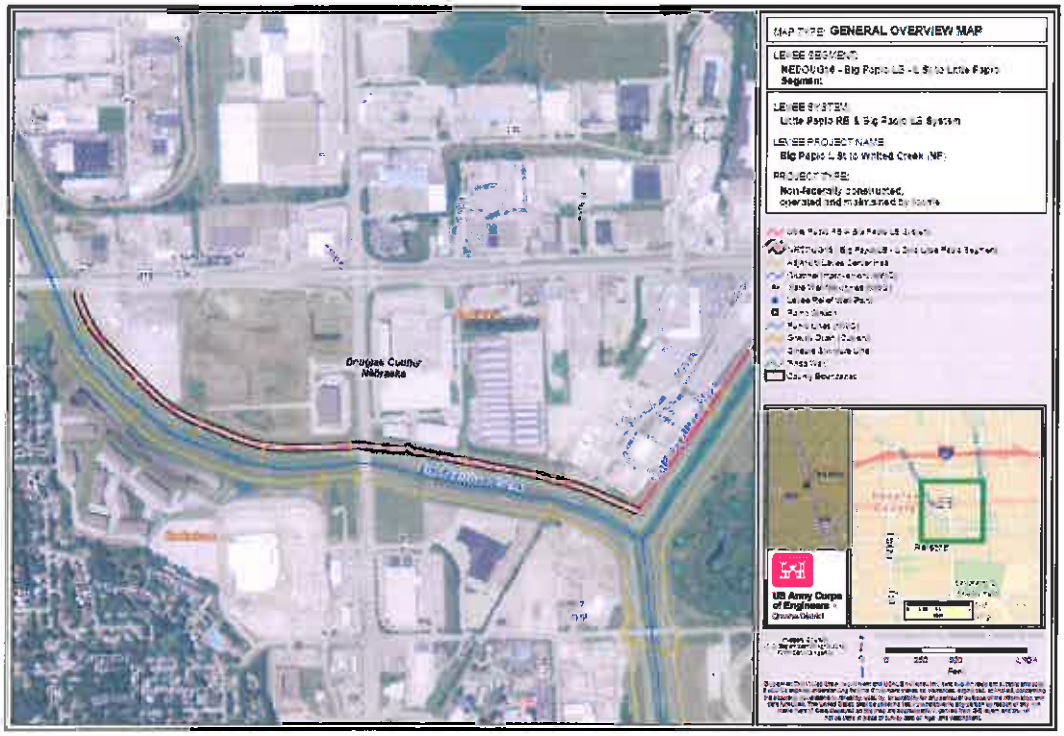

Figure 17. Big Papillion Creek Left Bank to Little Papillion Creek

Project Features: The Big Papillion Creek Flood Protection Project consists of an approximately 2.5-mile long improved channel with a 170-foot top width and a 100-foot wide berm. The side slopes are 1V to 15H. There are a total of eight reaches of levees with a total length of 5,069 feet. The levee cross section has a 10-foot wide crest with 1V on 3H creek side slopes and 1V to 6H land side slopes. Four inches of crushed rock was placed on the levee crown. There are 10 interior drainage structures (8 reinforced concrete and 2 corrugated metal) through the levee and 29 drainage structures (21 reinforced concrete and 8 corrugated) that are not constructed through the levee. Riprap has been placed at the outlets of all drainage structures to prevent erosion. Two grade control structures were constructed to address erosion concerns. Miscellaneous features include slope drains, sod, v-ditches, fences, gate structures, bike and walking paths, and a flood warning system (Figure 18).

At "L" Street looking upstream

At "F" Street looking upstream

At Interstate 80 looking upstream

At Interstate 80 looking upstream

Figure 18. Typical conditions found along the Big Papillion Creek in Omaha, Nebraska

Existing Conditions:

Water Quality: The beneficial uses of Big Papillion Creek include aquatic life (Warm Water Class A and Warm Water Class B), recreation (Class A – primary contact), agricultural use (Class A), and aesthetics. Big Papillion Creek is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli*) that cause impairment to one or more of the beneficial uses (in this case recreation). A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water.

Aquatic Species: Due to the limited riparian and in-stream vegetation associated with the Big Papillion Creek, aquatic species are limited to those able to withstand sub-standard conditions. Fish known to feed, breed, and shelter within the Big Papillion Creek include channel catfish, sunfish, bullhead, gar, suckers, carp, and minnows.

Noise: Sources of noise include urban disturbances such as automobiles, construction, recreation, and industry.

Wetlands: The USFWS NWI Database revealed no wetlands along the Big Papillion Creek although freshwater emergent wetlands are known to be scattered along its course due to favorable hydrology.

Threatened and Endangered Species: Interior least tern, piping plover, pallid sturgeon, northern long-eared bat, and western prairie fringed orchid are known to occur in Douglas County, Nebraska. Due to the limited big river features like those found in the Missouri and Platte rivers, the pallid sturgeon likely does not occur in association with this civil works project. Because of the on-going maintenance activities, lack of trees, and established brome grass along this civil works project, the northern long-eared bat and the western fringed prairie orchid do not occur here. The absence of sandbars prevents the interior least tern and piping plover from establishing residence.

4.3.3 Little Papillion Creek

Name: Little Papillion Creek Channel Improvements through the city of Omaha and Douglas County, Nebraska

Location: The project is located along the Little Papillion Creek in Douglas County, Nebraska beginning at the junction with Big Papillion Creek and extending to a location approximately 300 feet upstream of the Chicago and Northwestern Railway Bridge (Figure 19).

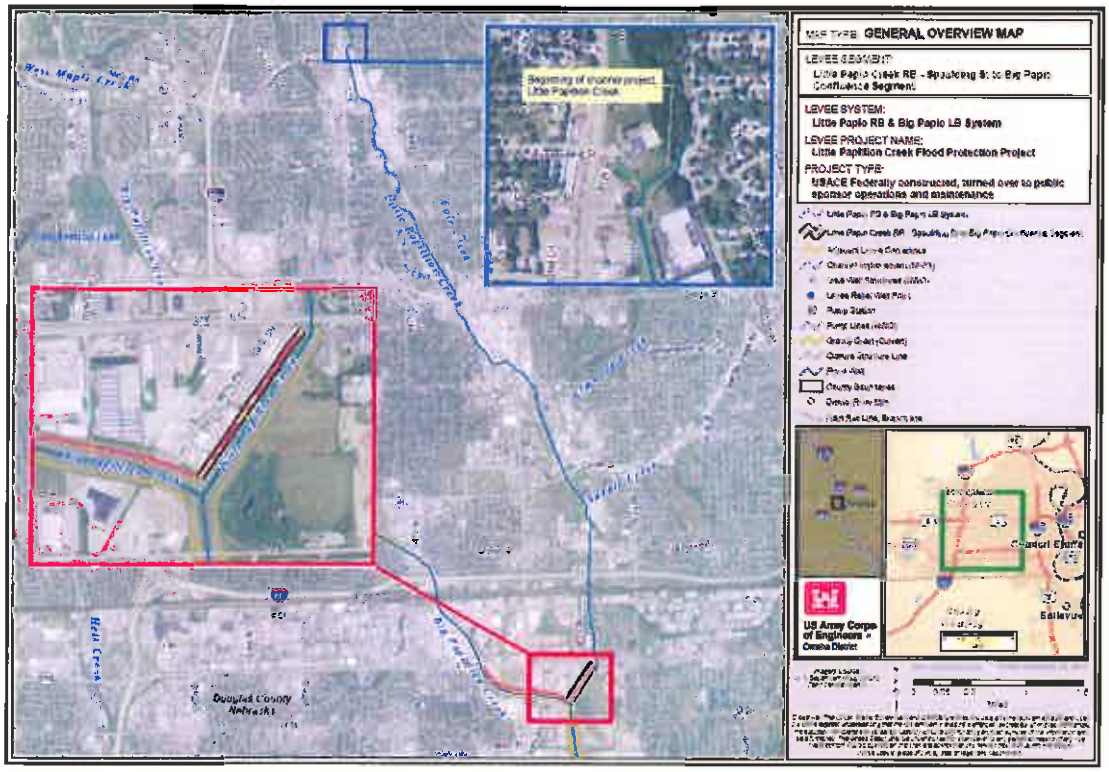

Figure 19. Little Papillion Creek Channel Improvement Project

Project Features: The Little Papillion Creek Flood Protection Project consists of an approximately seven-mile long improved channel. Channel enlargement and minor straightening has occurred with construction of earthen levees along both banks. Riprap protection through bridge openings, at drainage structures, and along erosive banks has been added. Other features include storm sewers, sanitary sewer siphons and related facilities, concrete lining in specific areas, concrete control structures, crushed rock on the levee crown, sod, timber pile toe treatment, rock drain laterals, and sub-drain systems (Figure 20).

At "L" Street looking upstream **At Interstate 80 looking downstream (railroad bridge)**

Figure 20. Typical conditions found along the Little Papillion Creek in Omaha, Nebraska

Existing Conditions:

Water Quality: The beneficial uses of Little Papillion Creek include aquatic life (Warm Water Class A and Warm Water Class B), recreation (Class A – primary contact), agricultural use (Class A), and aesthetics. Little Papillion Creek is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli*) that cause impairment to one or more of the beneficial uses (in this case recreation). A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water.

Aquatic Species: Due to the limited riparian and in-stream vegetation associated with the Little Papillion Creek, aquatic species are limited to those able to withstand sub-standard conditions. Fish known to feed, breed, and shelter within the Little Papillion Creek include channel catfish, sunfish, bullhead, gar, suckers, carp, and minnows.

Noise: Sources of noise include urban disturbances such as automobiles, recreation, construction, and industry.

Wetlands: The USFWS NWI Database revealed no wetlands along the Little Papillion Creek.

Threatened and Endangered Species: Interior least tern, piping plover, pallid sturgeon, northern long-eared bat, and western prairie fringed orchid are known to occur in Douglas County, Nebraska. However, due to the existing vegetation (maintained brome grass and lack of trees), on-going maintenance activities, absence of sand bars, and lack of big river features like those found in the Missouri and Platte rivers at this civil works project site, these species are unlikely to occur where proposed alterations would be made.

4.3.4 Missouri River (9 Projects)

4.3.4.1 Omaha Flood Protection Project, Omaha, Nebraska

Location: The Omaha Flood Protection Project is located on the right descending bank of the Missouri River between river miles 611 and 625. The upstream end of the project is tied to the bluffs near Florence Boulevard and Martin Avenue and the downstream end is tied to the bluffs approximately ½ mile south of South Omaha Bridge (Figure 21).

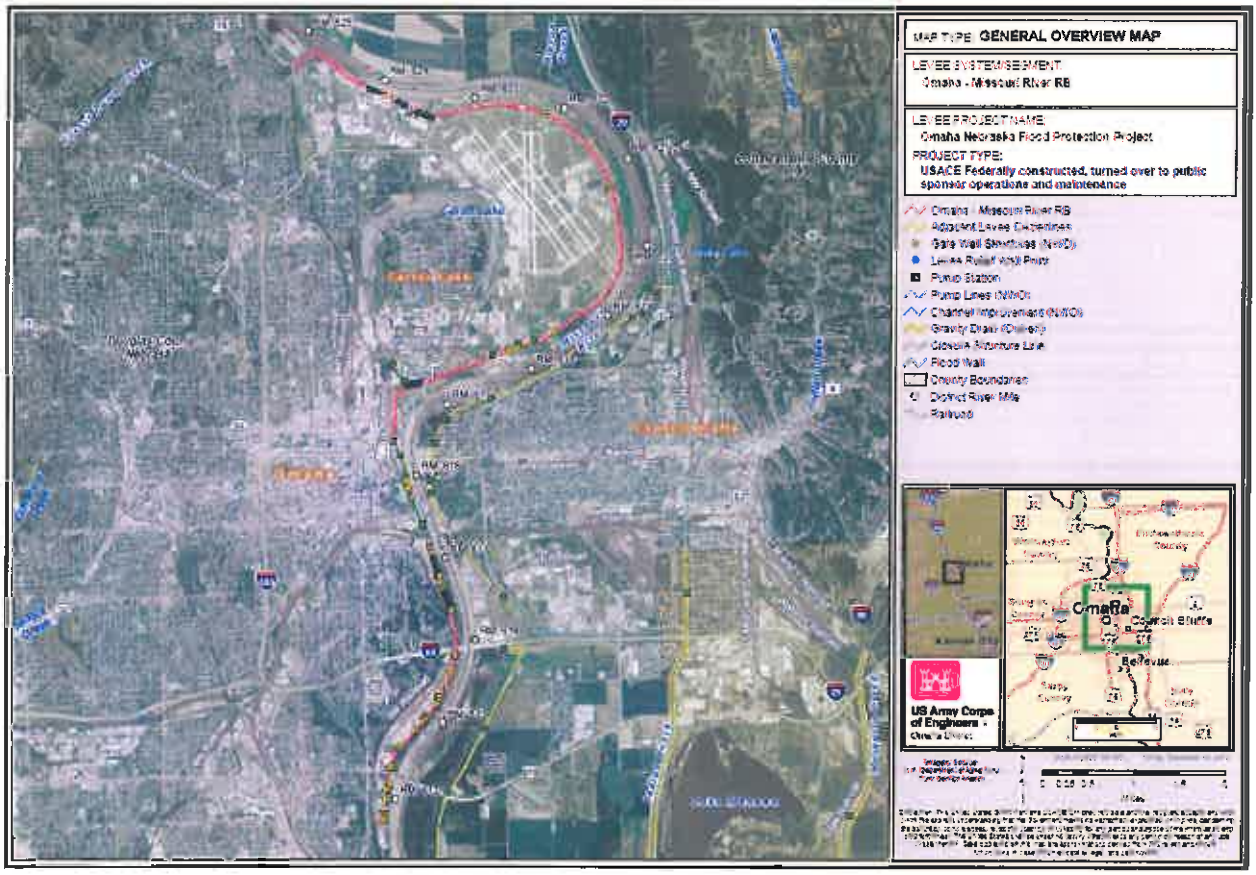

Figure 21. Omaha Flood Protection Project

Project Features: The Omaha Flood Protection Project consists of 9.3 miles of earthen levee (North Levee), a 5,730-linear foot reinforced concrete floodwall, and an additional 3.46 miles of earthen levee (South Levee). Other features include relief wells, bank protection, crushed rock, access ramps, turnouts, sod, sewer pipe, sewer gates, and gate sills (Figure 22). The project

provides flood protection to approximately nine square miles of land including industrial and residential areas of north and east Omaha; Eppley Airfield; the city of Carter Lake, Iowa; and the river front industrial area.

The Missouri River at the I-480 Bridge looking upstream

The Missouri River at the Veterans Memorial Highway looking downstream

Figure 22. Typical Missouri River conditions found along the Omaha Flood Protection Project

4.3.1.2 Missouri River Levee Unit R-520, Drainage District No. 8, Richardson County, Nebraska

Location: Unit R-520 is located along the right descending bank of the Missouri River and is approximately three miles north of Rulo, Nebraska located in a mostly rural setting (Figure 23).

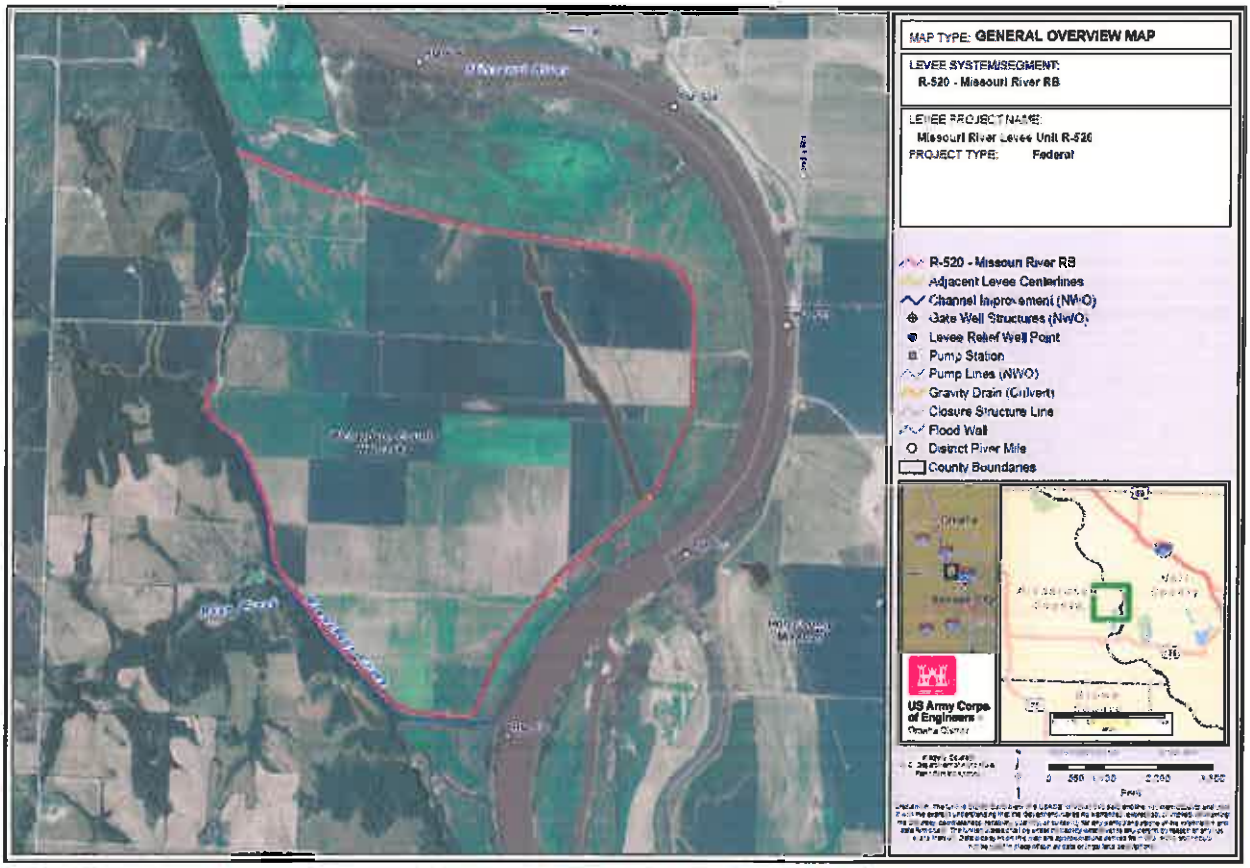

Figure 23. R-520 – Missouri River Right Bank

Project Features: The R-520 Project consists of 5.59 miles of earthen levee along the right descending bank of the Missouri River, landside berms of 80 to 90 feet in width, drainage structures, under seepage control devices, ponding areas, two channel control sills, sod, fencing and bar gates, and crushed rock levee surfacing.

4.3.1.3 Missouri River Levee Unit R-548, Brownville Levee District No. 2, Nemaha County, Nebraska

Location: Unit R-548 is located along the right descending bank of the Missouri River near the town of Nemaha, Nemaha County, Nebraska. The levee is located between Missouri River miles 528 and 534, mostly in a rural setting (Figure 24).

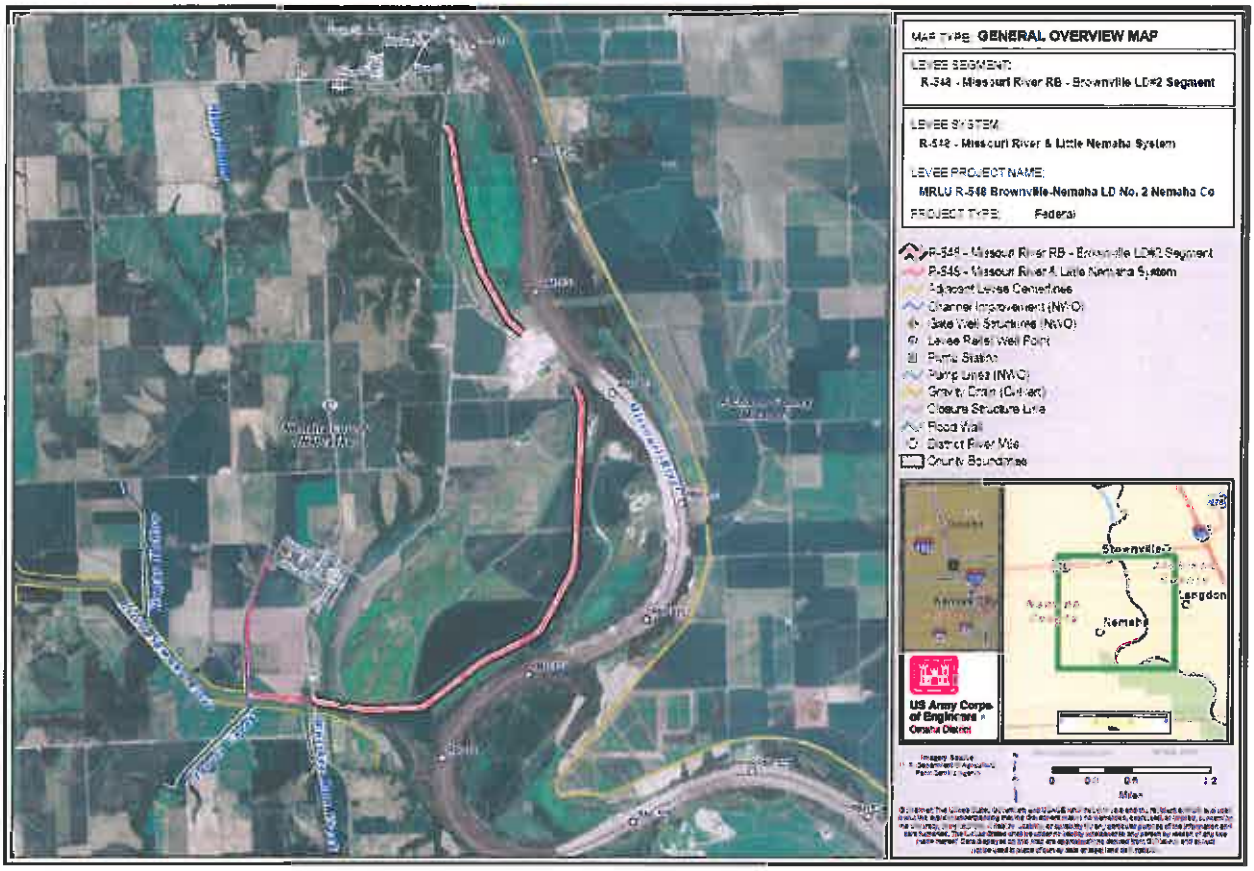

Figure 24. R-548 - Missouri River Right Bank - Brownville Levee District #2

Project Features: The R-548 Project consists of 6.17 miles of earthen levee along the right bank of the Missouri River, under seepage berms, access ramps, drainage ditches, relief wells, borrow pits, drainage structures, riprap, rock surfacing, sod, bar gates, right-of-way markers, ponding areas, and pumping stations.

4.3.1.4 Missouri River Levee Unit R-548, Little Nemaha Valley Levee District No. 3, Nemaha County, Nebraska

Location: This section of Unit R-548 is located along the right descending bank of the Missouri River at the confluence of the Missouri River and the Little Nemaha River in Nemaha County, Nebraska, largely in an agricultural setting (Figures 25 through 32).

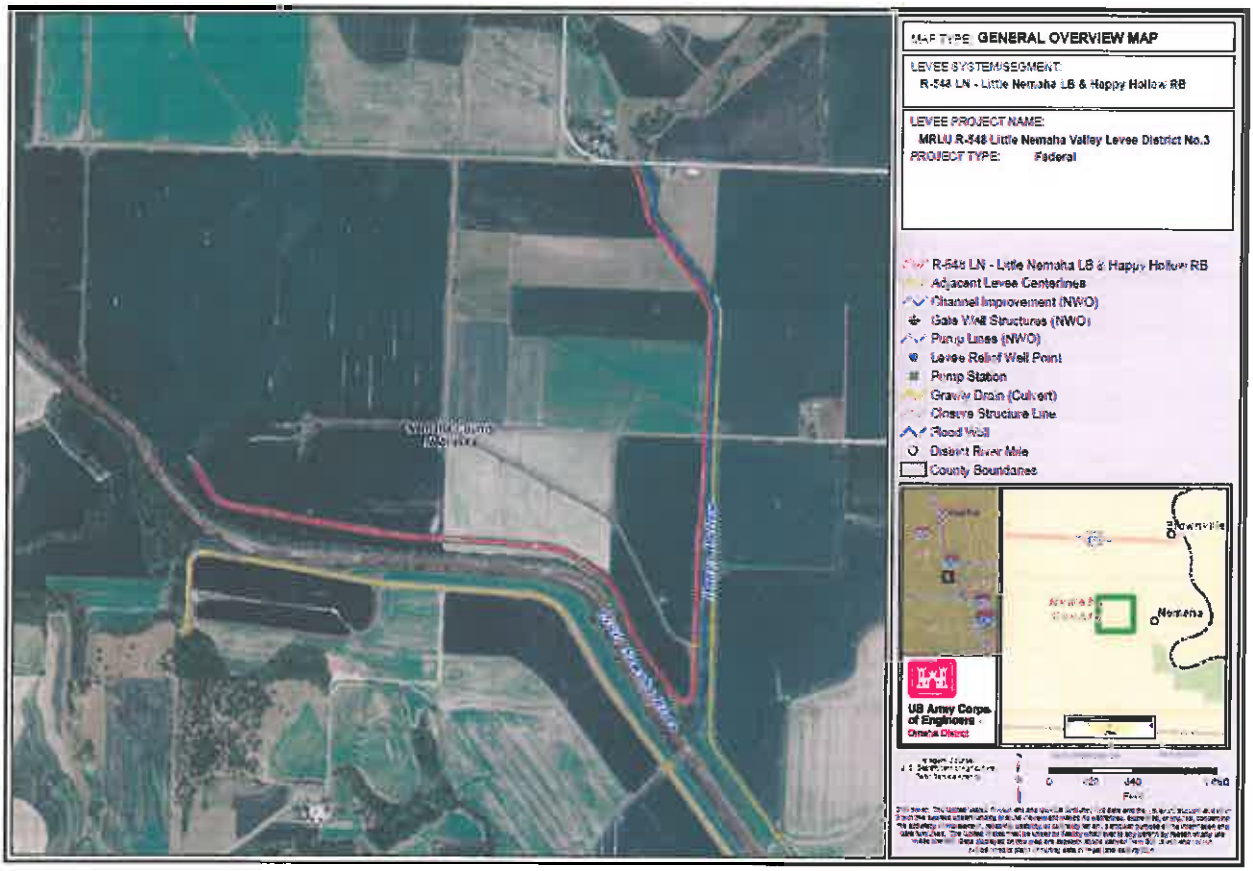

Figure 25. R-548 – Little Nemaha Left Bank and Happy Hollow Right Bank

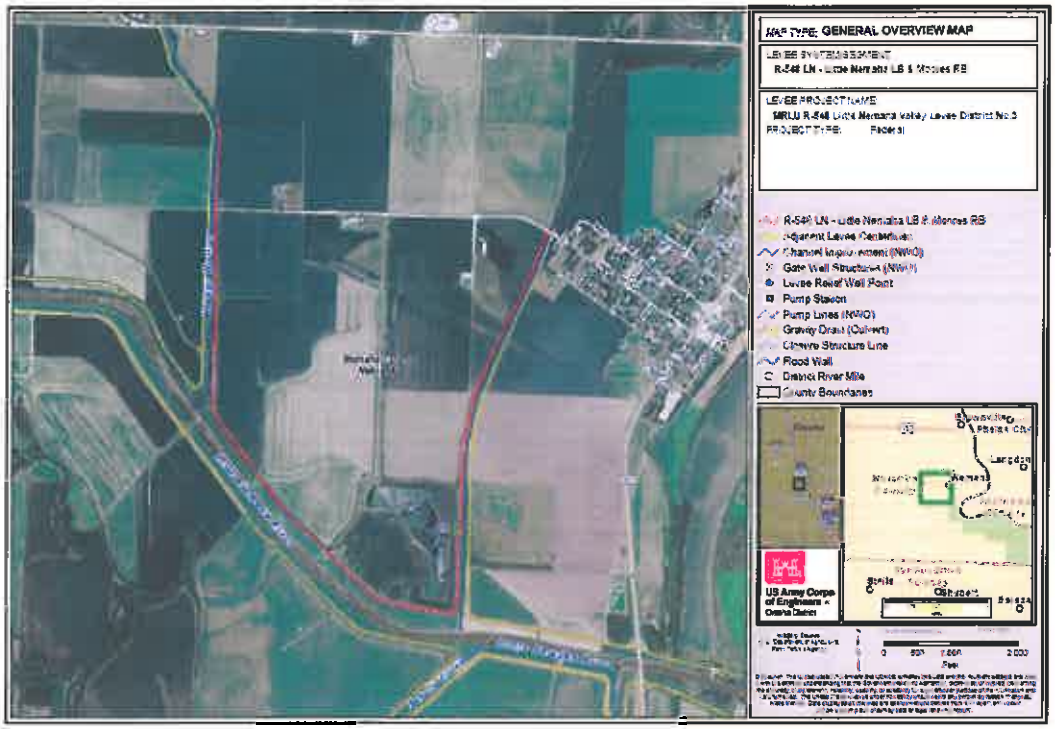

Figure 26. R-548 - Little Nemaha Left Bank and Moores Right Bank

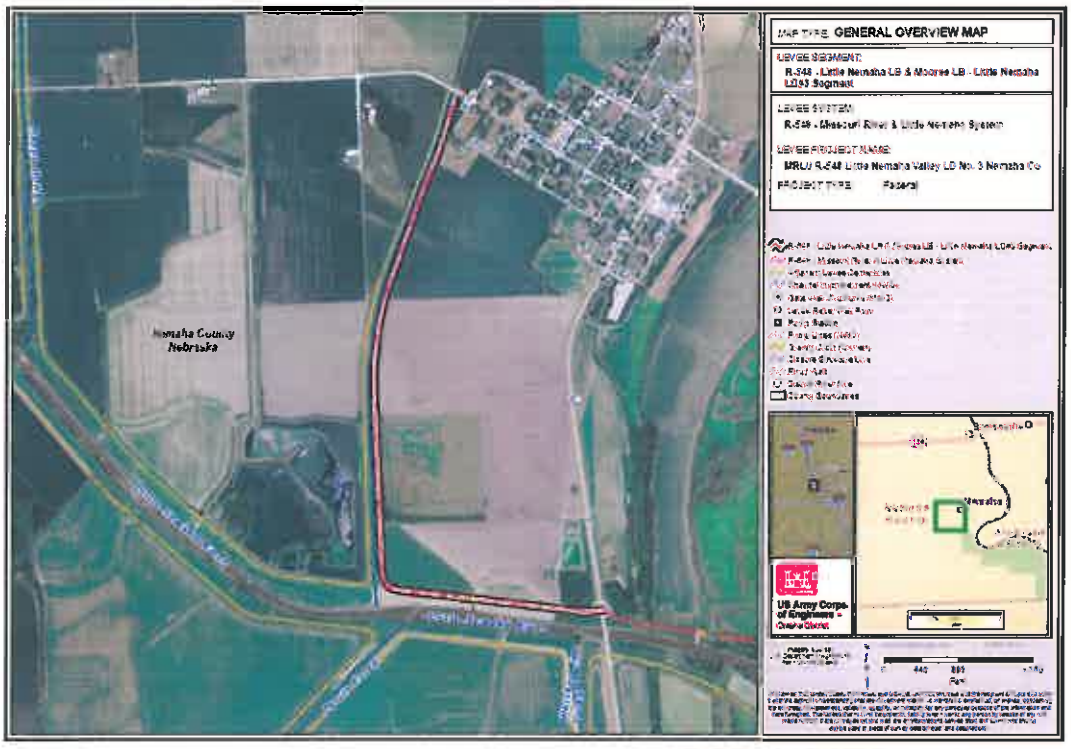

Figure 27. R-548 - Little Nemaha Left Bank and Moores Left Bank - LD#3 Segment

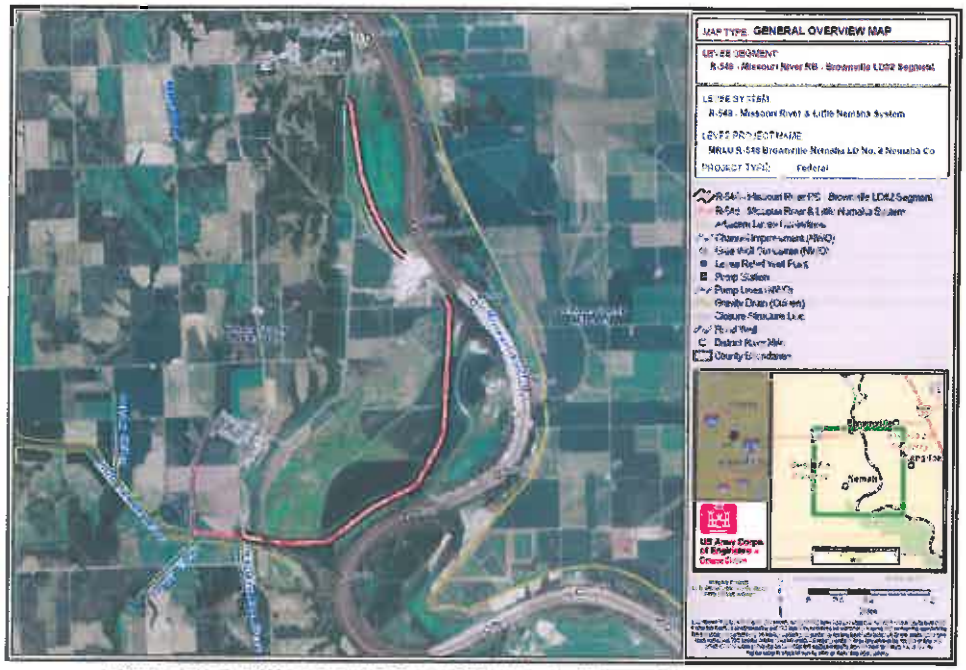

Figure 28. R-548 Missouri River Right Bank - Brownville LD#2 Segment

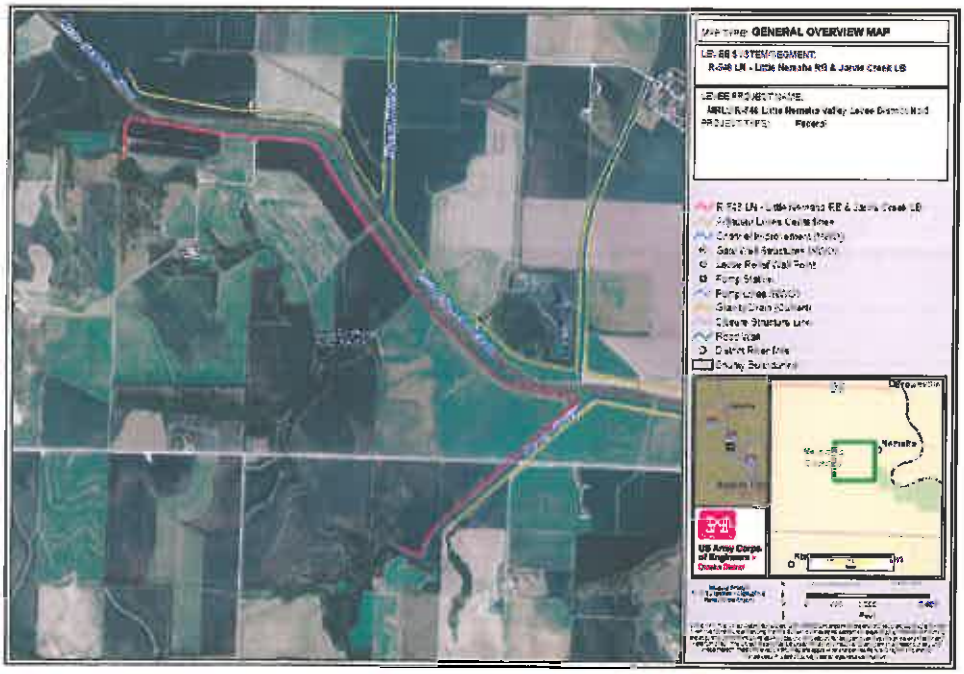

Figure 29. R-548 - Little Nemaha Right Bank and Jarvis Creek Left Bank

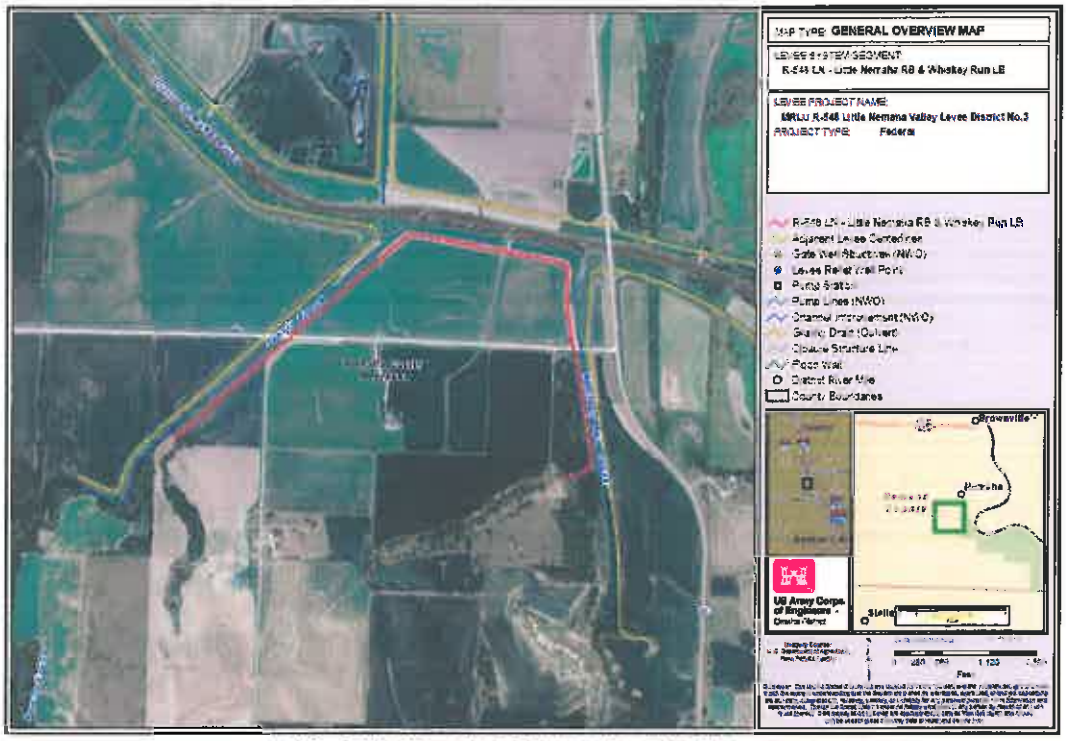

Figure 30. R-548 - Little Nemaha Right Bank and Whiskey Run Left Bank

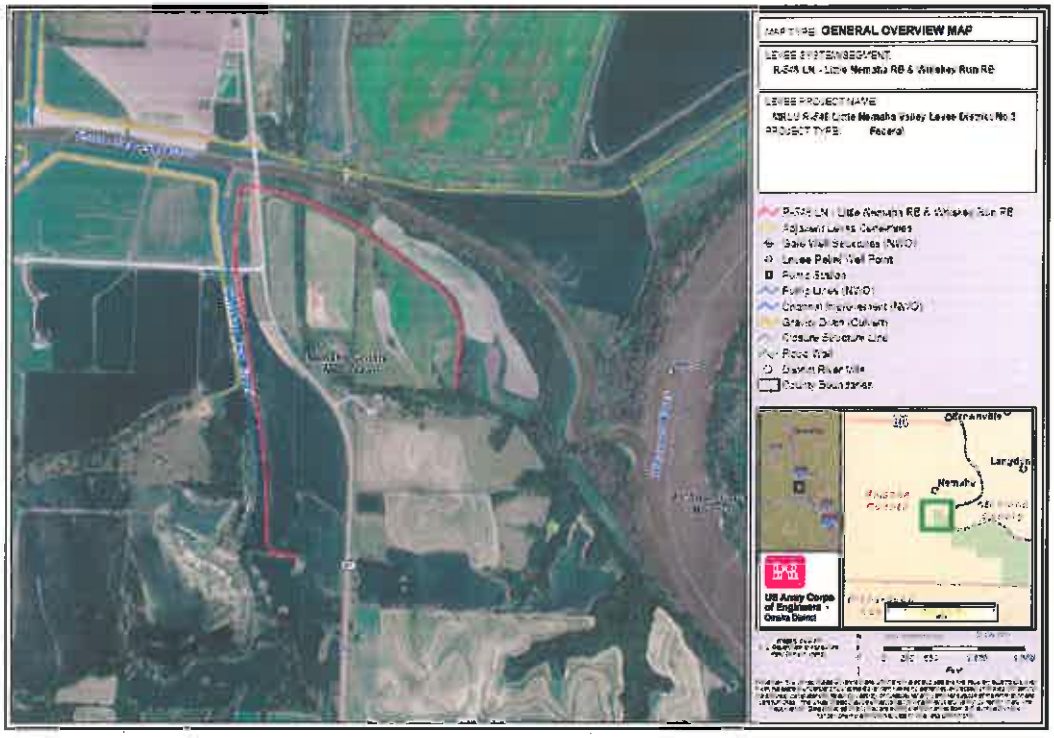

Figure 31. R-548 - Little Nemaha Right Bank and Whiskey Run Right Bank

Figure 32. R-548 Overview

Project Features: The R-548 Project consists of 13.36 miles of earthen levee along both banks of the Little Nemaha River and its downstream tributaries, which include Happy Hollow Creek, Moores Lateral Ditch, Jivers Creek, and Whiskey Run Creek. Also included are road ramp crossings, access ramps, and turnouts, drainage ditches, railroad modifications, drainage structures, riprap, rock surfacing, sod, bar gates, and borrow areas.

4.3.1.5 Missouri River Levee Unit R-562, Peru Dike and Drainage District, Otoe and Nemaha Counties, Nebraska

Location: Unit R-562 is located in Otoe and Nemaha Counties in Nebraska on the right descending bank of the Missouri River between river miles 541.5 and 548.9. The levee is located east of Peru, Nebraska, largely in an agricultural setting (Figure 33).

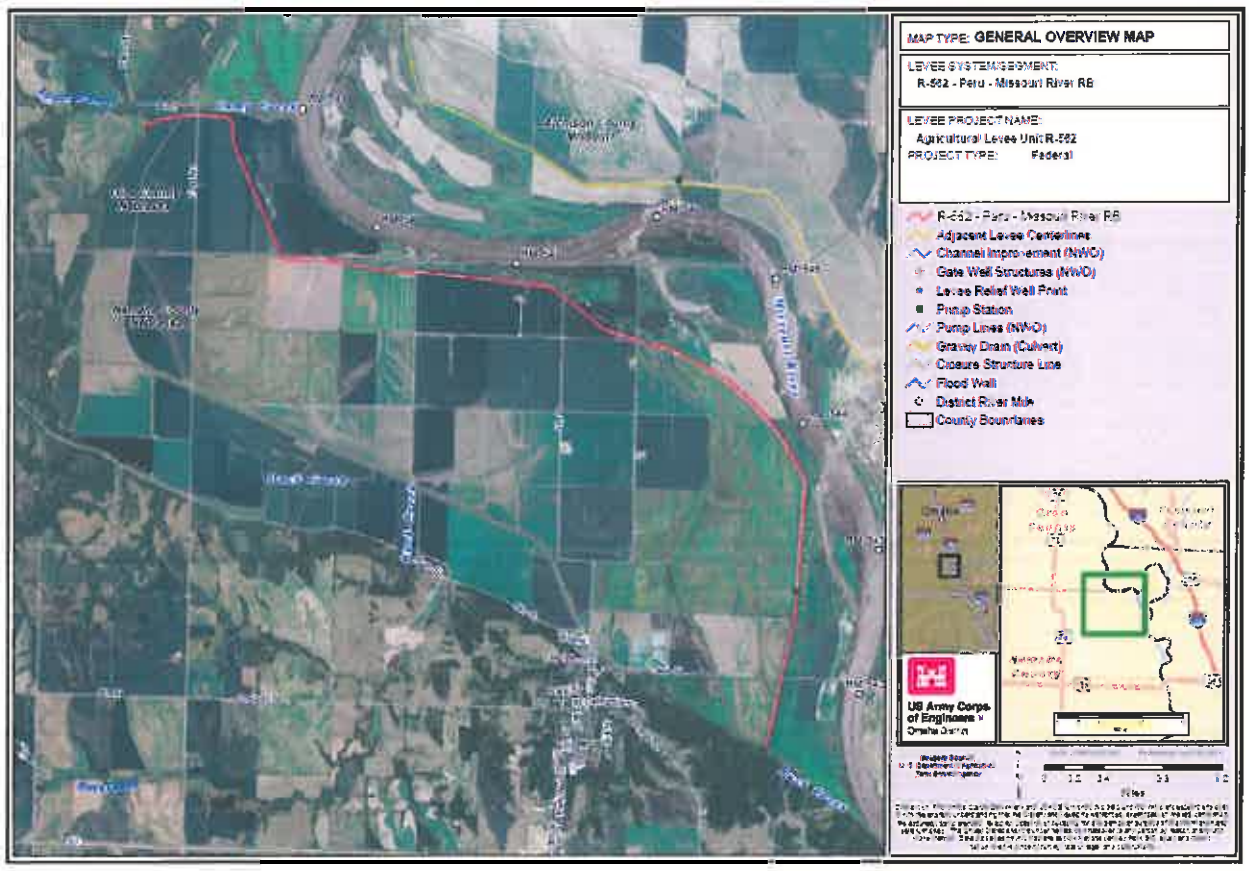

Figure 33. R-562 Missouri River Right Bank - Peru, Nebraska

Project Features: The R-562 Project consists of an earthen levee that extends 0.6 miles along the right bank of Camp Creek and seven miles along the Missouri River, road ramp crossings, access ramps, turnouts, underseepage control structures (berms, relief wells, cutoff trenches, and toe drains), interior drainage structures, a pumping station, several ponding areas, and gates and locks.

4.3.1.6 Missouri River Levee Unit R-573, Drainage District No. 2, Otoe County, Nebraska

Location: Unit R-573 is located along the right descending bank of the Missouri River channel in Otoe County, Nebraska between river miles 533 and 558. The levee is approximately five miles southeast of Nebraska City, Nebraska in a largely agricultural setting (Figure 34).

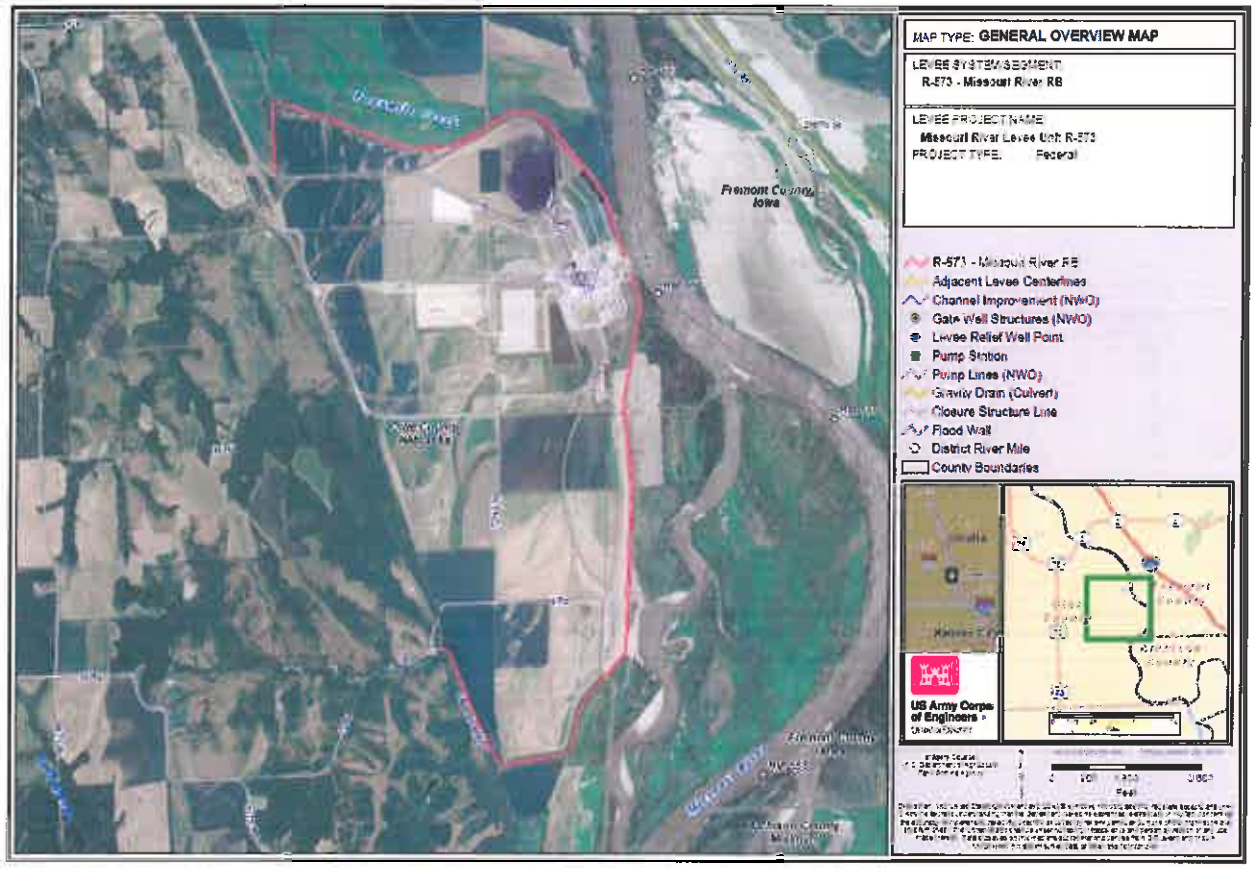

Figure 34. R-573 – Missouri River Right Bank

Project Features: The R-573 Project consists of 5.96 miles of earthen levee along the right descending bank of the Missouri River, road ramp crossings, access ramps, turnouts, under-seepage control measures (cutoff trenches, landside berms, relief wells, and toe drains), interior drainage structures, ponding areas, sod, surfacing, bar gates and locks.

4.3.1.7 Missouri River Levee System Unit R-613, Sarpy County, Nebraska

Location: Unit R-613 is located in Sarpy County, Nebraska along the right descending bank of the Missouri River near La Platte, Nebraska in both an urban and rural setting. The downstream tieback is located along the left bank of the Platte River and the upstream tieback is along the lower end of Papillion Creek (Figures 35 and 36).

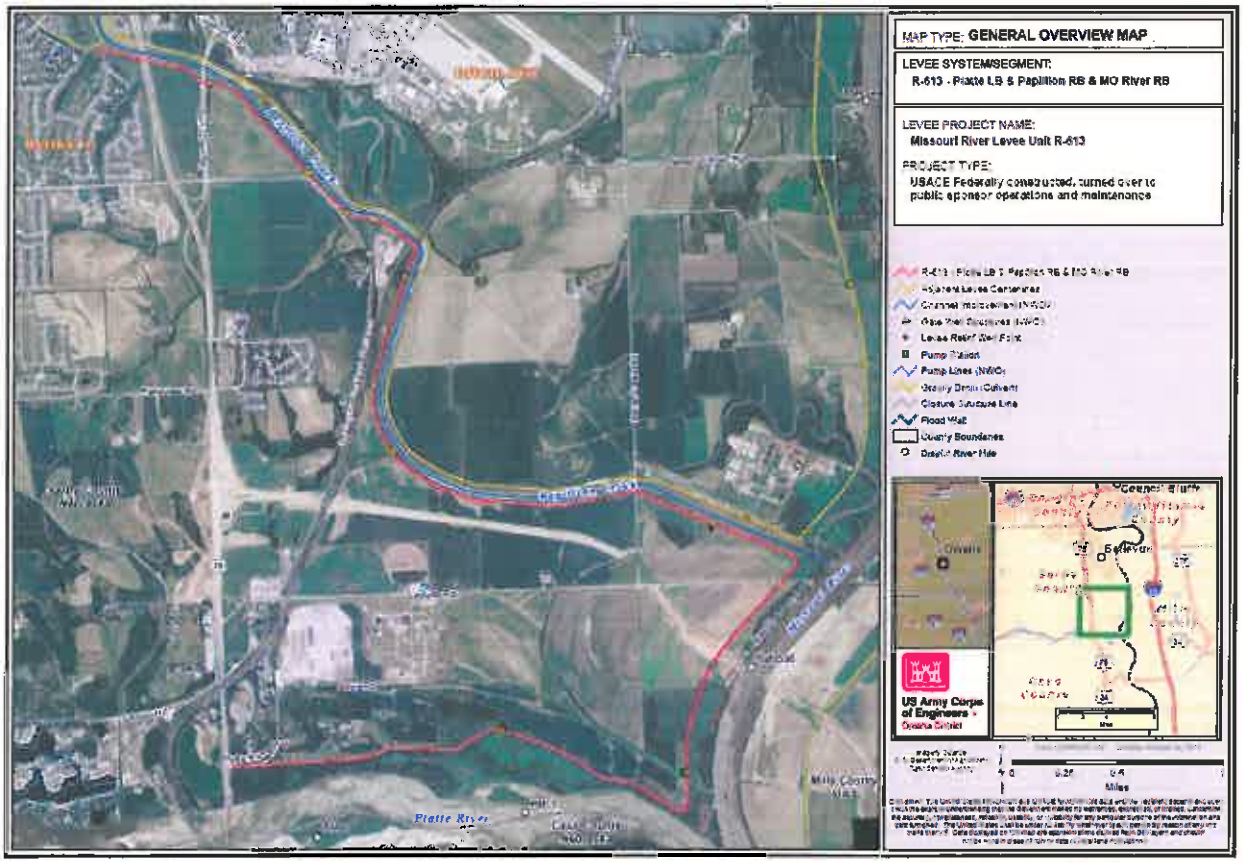

Figure 35. R-613 – Platte River Left Bank, Papillion Creek Right Bank and Missouri River Right Bank

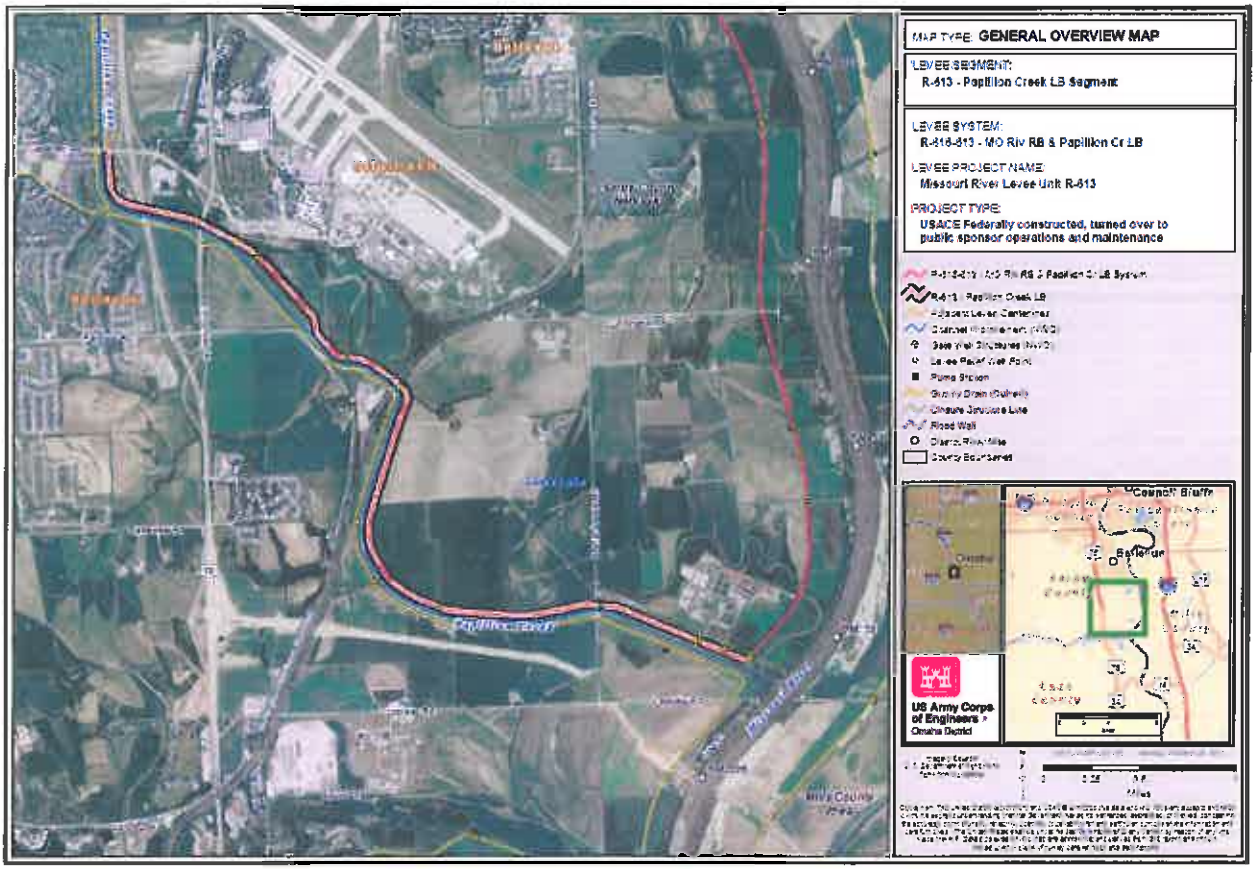

Figure 36. R-613 Papillion Creek Left Bank Segment

Project Features: The R-613 Project consists of closure embankments and sheet pile cutoffs, a highway raise along Highway 73-75 (with drainage facilities, an inlet head gate, and a four-foot by four-foot reinforced concrete box structure), 12,748 feet of earthen levee on the left bank of the Platte River (with associated drainage and under-seepage facilities), 6,587 feet of earthen levee along the right bank of the Missouri River (with associated under-seepage facilities and a pump station), 29,022 feet of Papillion Creek channel alterations, tieback levees along both banks of the Papillion Creek (the right bank levee is 26,400 feet in length and the left bank levee is 27,611 feet in length), under-seepage facilities, drainage facilities, a railroad bridge, rock bank protection, sod, bar gates and fencing, rock surfacing (on levee crowns, ramps, and turnouts), and two stream gauging stations.

4.3.1.8 Missouri River Levee System Unit R-616, Sarpy County, Nebraska

Location: Unit R-616 is located in Sarpy County, Nebraska along the right descending bank of the Missouri River between river miles 596.6 and 601.4 (Figure 37). The downstream portion of the levee begins at the mouth of Papillion Creek where it ties into the existing left bank of the R-613 levee system (Figure 38). The levee extends upstream along the Missouri River for a distance of 4.5 miles where it ties into high ground near Highway 370 in Bellevue, Nebraska.

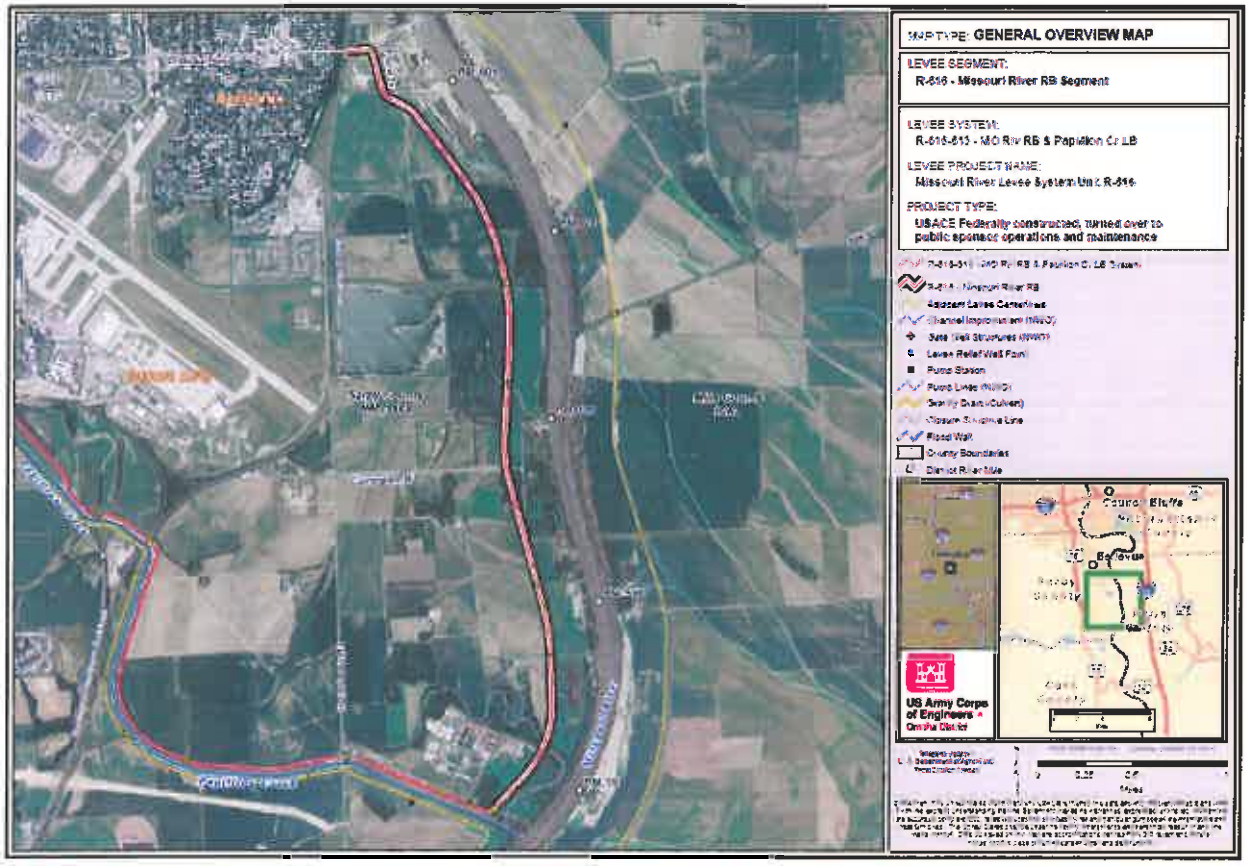

Figure 37. R-616 – Missouri River Right Bank Segment

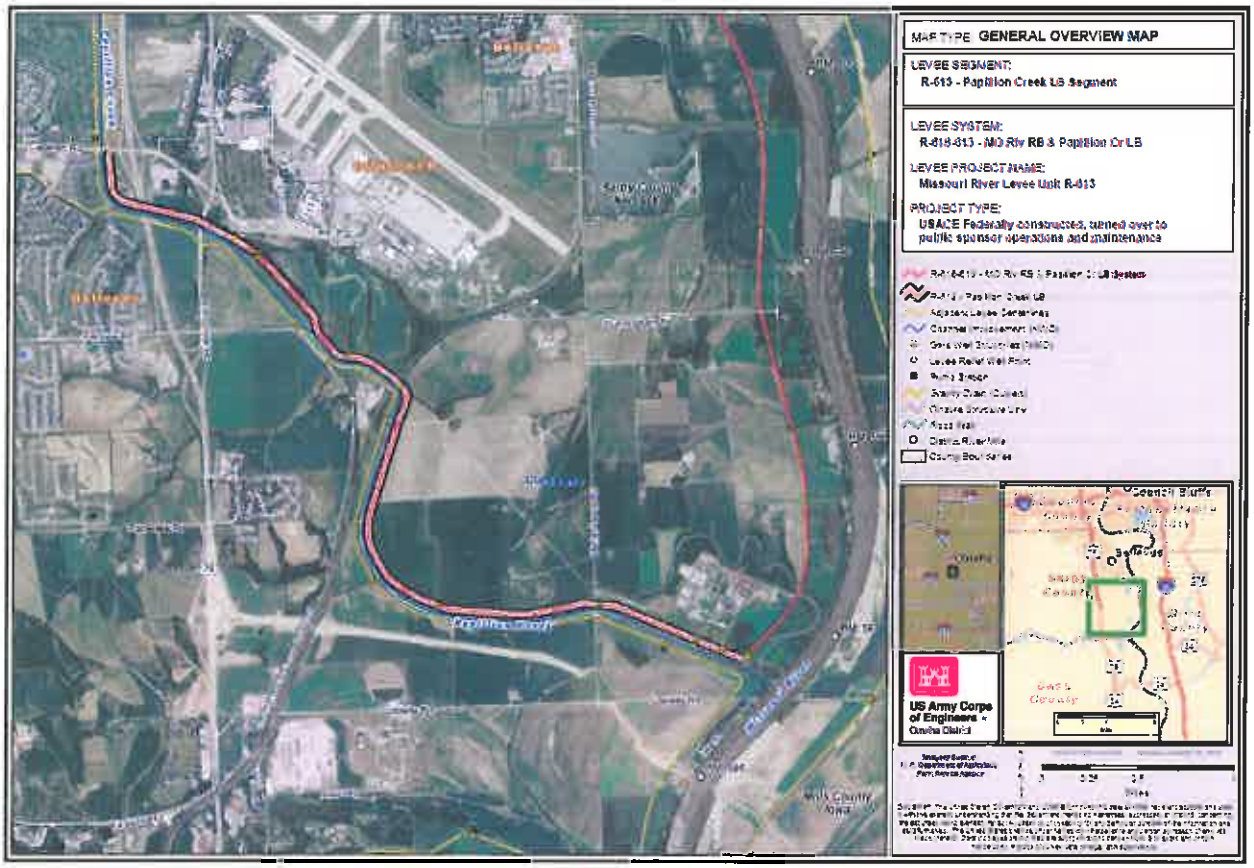

Figure 38. R-613 - Papillion Creek Left Bank Segment

Project Features: The R-616 Project consists of earthen levees, drainage structures, under-seepage control facilities (berms, relief wells, and pervious filter blankets), sandbag closures, riprap slope protection, bar gates and fencing, rock surfacing (on levee crown, ramps, and turnouts), sod, reinforced concrete right-of-way markers, and wildlife habitat plantings.

Existing Conditions:

Water Quality: The state of Nebraska has designated the following uses to the entire length of the Missouri River in Nebraska: Primary Contact Recreation, Warmwater Aquatic Life Class A, Agricultural Water Supply, and Aesthetics. It has designated the use of public drinking water supply to the river downstream of the confluence of the Niobrara River, and industrial water supply to the river downstream of the confluence of the Big Sioux River. At present, the state's water quality standards do not include any specific criteria for nutrients (regarding nutrient enrichment or eutrophication) or suspended solids applicable to the Missouri River. The Missouri River in the area of the Omaha Flood Protection Project is not currently identified as impaired by EPA.

Aquatic Species: The Missouri River is a large active river with riparian and in-stream vegetation, downed woody debris, shallow and deep areas, with both slow and fast moving currents. The aquatic species found in the Missouri River are numerous and include, but are not limited to, pallid sturgeon, shiners, shad, carpsuckers, shovelnose sturgeon, suckers, chub, walleye, sauger, bigmouth buffalo, drum, minnows, and common carp. These species spend their entire life within this river and its tributaries where they feed, breed, shelter, and migrate up and downstream.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, recreational boating, and natural sounds.

Wetlands: The USFWS NWI Database revealed freshwater emergent and freshwater forested/shrub wetlands scattered along the toe of all of these flood protection projects.

Threatened and Endangered Species: Interior least tern, piping plover, and pallid sturgeon are known to occur along the Missouri River and may be found in association with these civil works projects. Because of the on-going maintenance activities, established brome grass, and lack of trees along these civil works project, the western fringed prairie orchid and northern long-eared bat do not occur within the boundaries of the civil works projects.

4.3.5 Salt Creek and its Tributaries

Name: Salt Creek and its Tributaries Flood Protection Project, Lincoln, Nebraska

Location: The project begins at Calvert Street and extends northeast and downstream of Superior Avenue along Salt Creek within the city of Lincoln, Lancaster County, Nebraska. The levees begin at Calvert Street, with the right bank levee terminating at high ground about 300 feet east of the Union Pacific Railroad in the upstream portion of the site and at Superior Avenue in the downstream portion of the site. The left bank levee ties off at Sun Valley Boulevard upstream and recommences at the confluence with Oak Creek near 14th Street and ties off at the Chicago and Northwestern Railroad downstream (Figure 39). Tieback levees on tributaries include both banks of Haines Branch (Figures 39 and 40) and the left bank of Middle Creek (Figure 41), the left bank of Oak Creek (Figure 42), and the right bank of Deadmans Run (Figures 43 and 44). The Salt Creek right bank is shown in Figure 45.

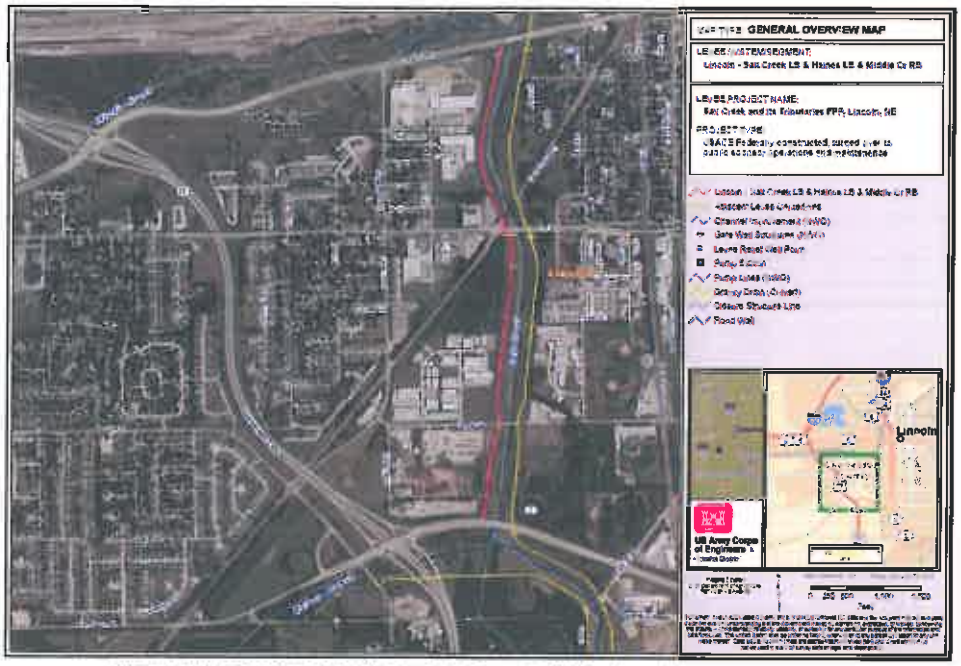

Figure 39. Salt Creek Left Bank, Haines Left Bank and Middle Creek Right Bank

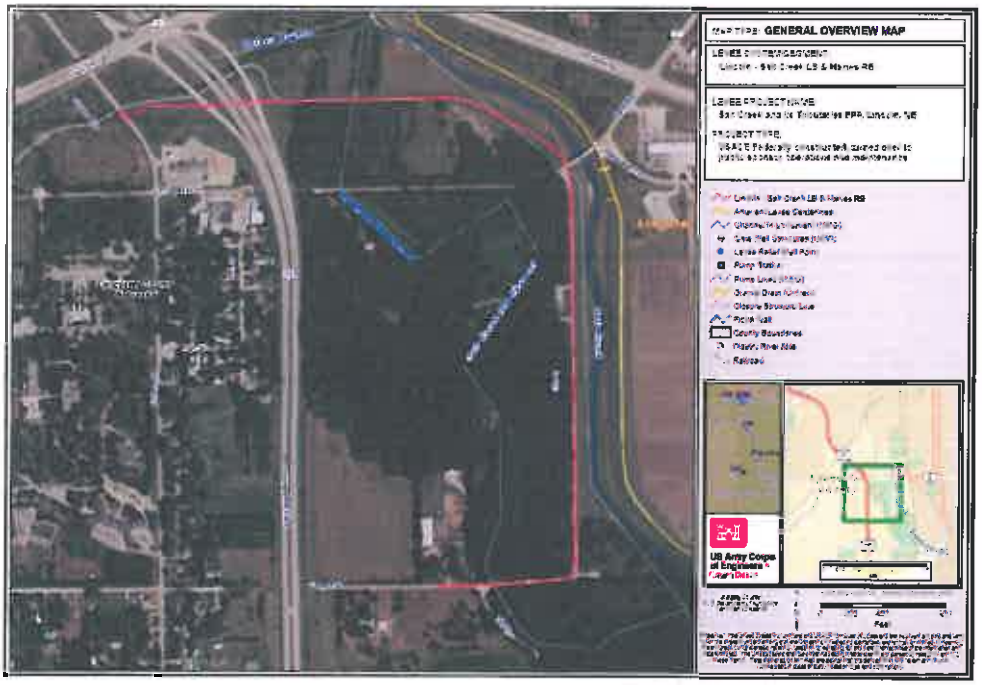

Figure 39. Salt Creek Left Bank and Haines Right Bank

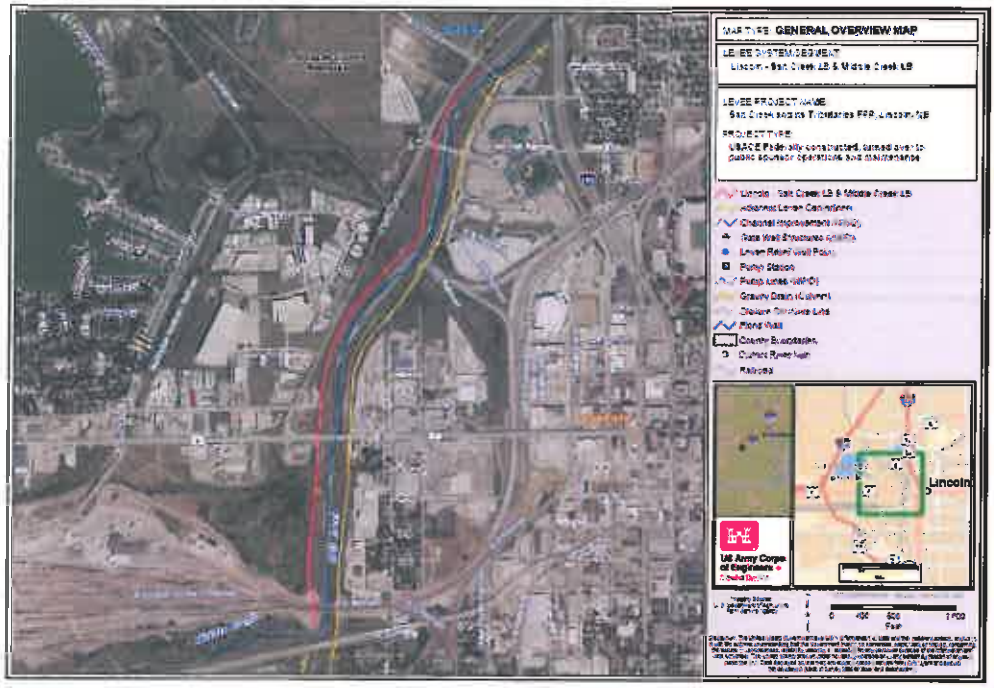

Figure 40. Salt Creek Left Bank and Middle Creek Left Bank

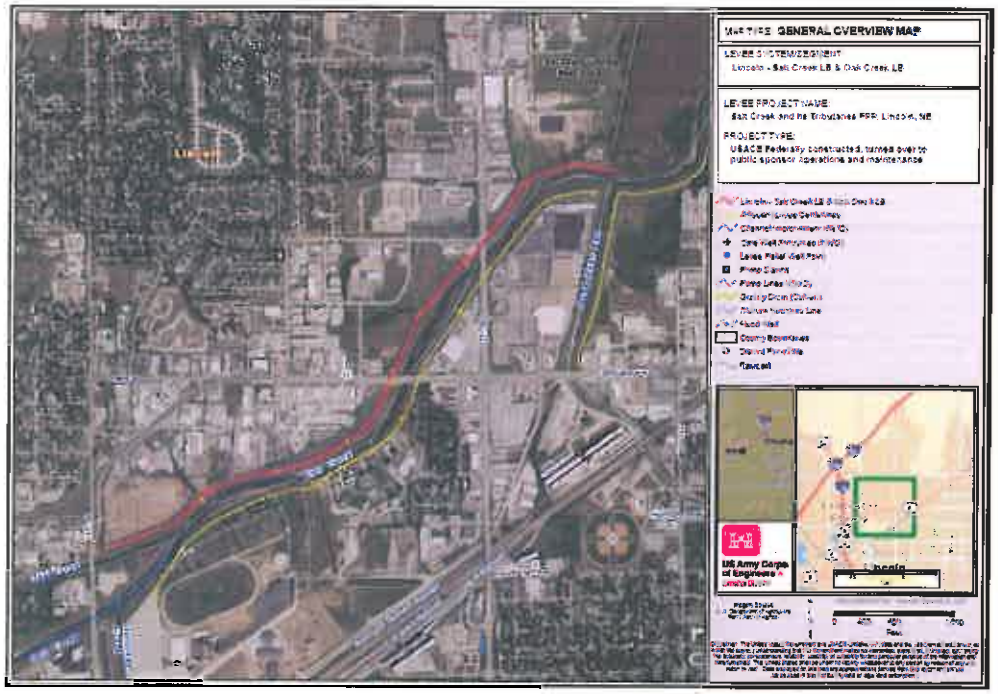

Figure 41. Salt Creek Left Bank and Oak Creek Left Bank

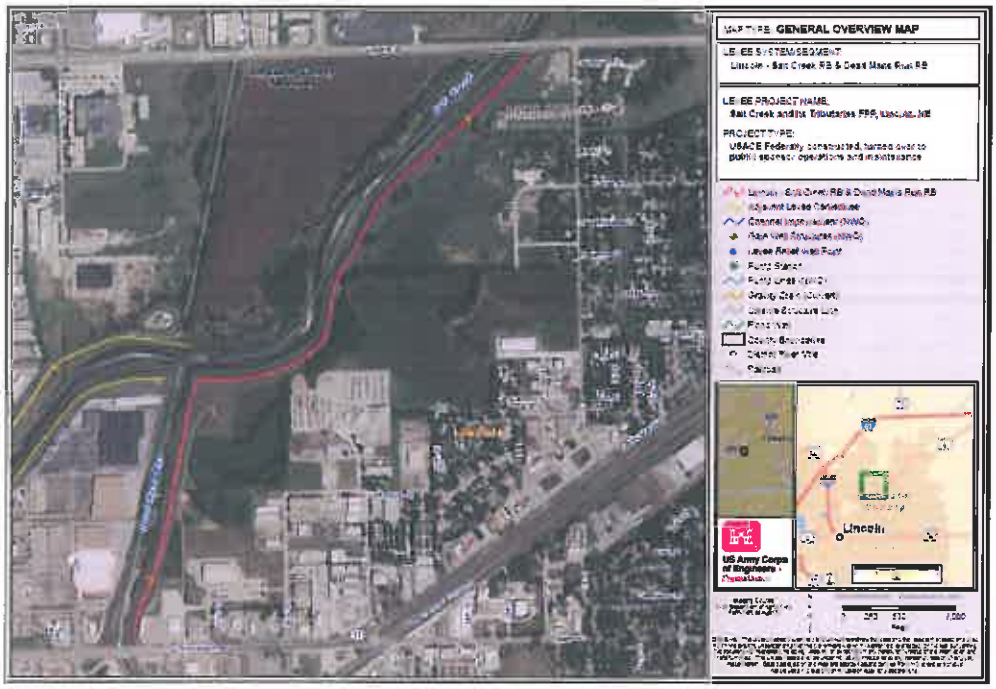

Figure 42. Salt Creek Right Bank and Deadmans Run Right Bank

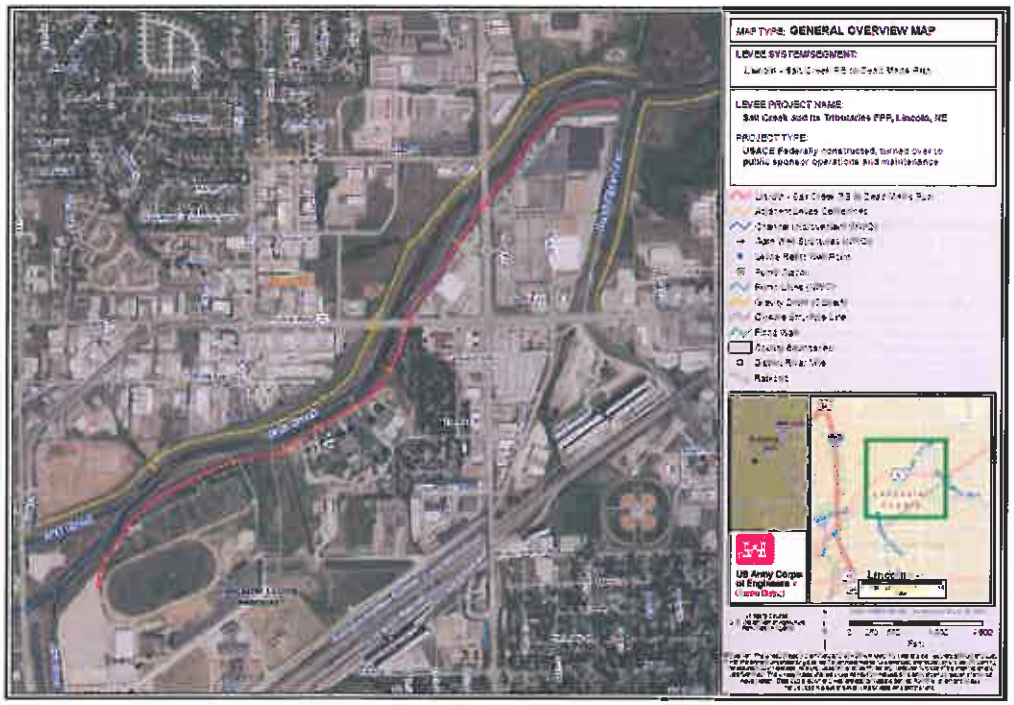

Figure 43. Salt Creek to Deadmans Run

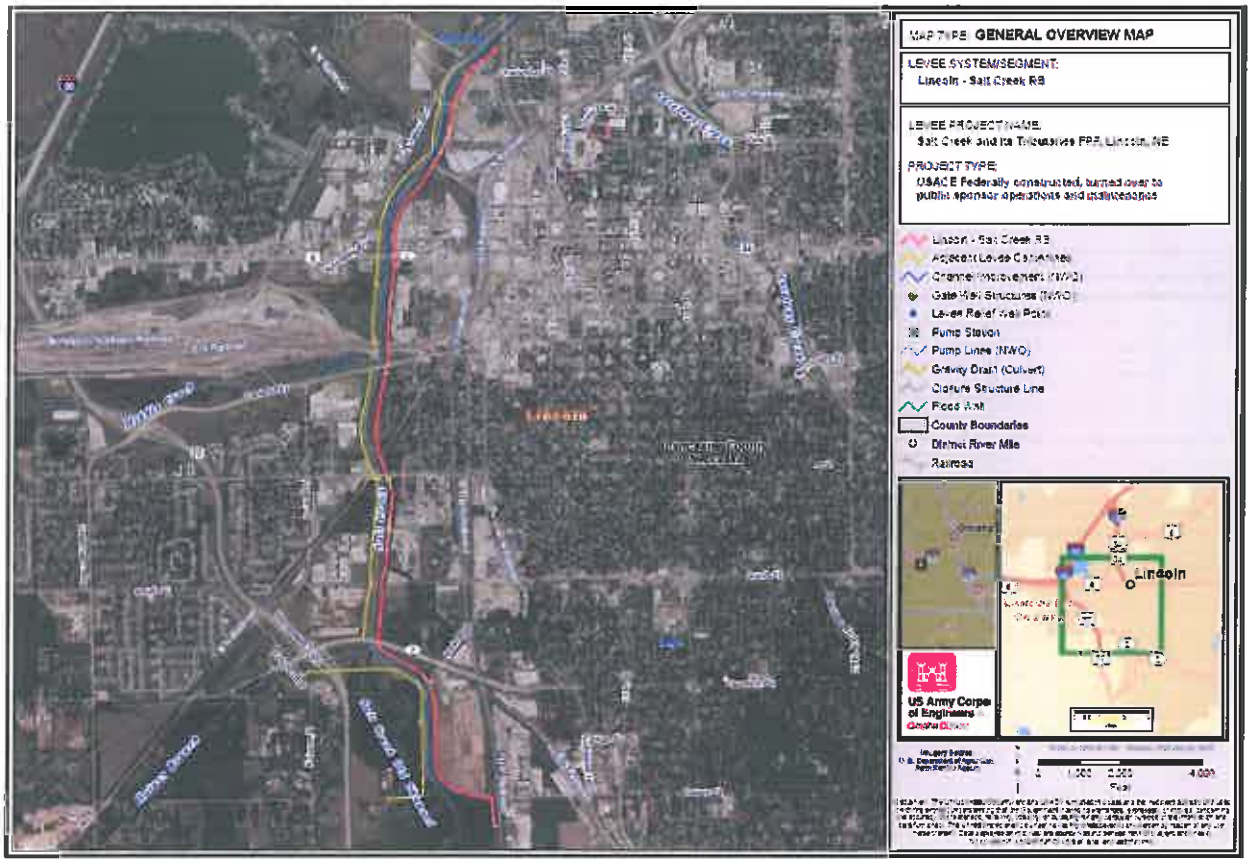

Figure 44. Salt Creek Right Bank

Project Features: The average levee height is eight to 10 feet, with a 10-foot wide crown. The levee system is about seven miles long, with sod and side slopes of 1V on 3H (Figure 46). There are 37 drainage structures on both banks that provide interior drainage. There are approximately five approaches, three access ramps, and four turnouts on the system, which, in addition to the levee crown, has been surfaced with crushed rock. Drainage ditches are located along the landward side of the levees. Two stone spur dikes were constructed to protect against bank erosion. Rip rap was placed through bridge openings, at drainage structure outlets, and where erosion has occurred. Bar gates and fencing were installed to prevent trespassing of unauthorized vehicles.

Figure 45. Typical conditions found along Salt Creek in Lincoln, Nebraska

Existing Conditions:

Water Quality: The beneficial uses of Salt Creek include aquatic life (Warm Water Class A), recreation (Class A – primary contact), agricultural use (Class A), and aesthetics. Salt Creek is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli*, ammonia), a fish consumption advisory, and an impaired aquatic community. These pollutants that cause impairment to one or more of the beneficial uses (in this case recreation and aquatic wildlife). A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water. A TMDL has not yet been developed for ammonia.

The beneficial uses of Haines Branch have not been assessed and impairments have not been determined. Haines Branch is considered a Category 3 water body, which designates the water body as having insufficient data to determine if any beneficial uses are being met.

The beneficial uses of the Middle Creek Tributary include aquatic life, agricultural water supply, and aesthetics. No impairments were identified. The Middle Creek Tributary is a Category 1 water body, which designates the water body as having all designated uses met.

The beneficial uses of Oak Creek Tributary include recreation, aquatic life, agricultural water supply, and aesthetics. Impairments include bacteria that impact recreation and naturally high pH and dissolved oxygen that impact aquatic life. A TMDL for *E. coli* was approved in 2007, and is similar to that developed for Salt Creek. The Oak Creek Tributary is a Category 5 water body, which designates the water body as having one or more pollutants (unknown in this case) that cause impairment to one or more of the beneficial uses (in this case aquatic wildlife).

The beneficial uses of Deadmans Run include recreation, aquatic life, agricultural water supply, and aesthetics. Impairments include bacteria that impact recreation and naturally high pH and dissolved oxygen that impact aquatic life. A TMDL for *E. coli* was approved in 2007 and is similar to that developed for Salt Creek. Deadmans Run is a Category 5 water body, which designates the water body as having one or more pollutants (in this case bacteria, dissolved oxygen, and naturally high pH) that cause impairment to one or more of the beneficial uses (in this case recreation and aquatic life).

Aquatic Species: Due to the absence of riparian vegetation and limited in-stream vegetation, aquatic species associated with this civil works project include catfish, drum, gar, mooneye, stickleback, minnows, suckers, carp, sunfish, shiners, and shad but can include pike, walleye, and perch. These species occur on a year-round basis where they feed, breed, and shelter.

Noise: Sources of noise include urban disturbances such as automobiles, construction, and industry.

Wetlands: The USFWS NWI Database revealed freshwater emergent wetlands along these drainages.

Threatened and Endangered Species: Salt Creek tiger beetle, northern long-eared bat, and western prairie fringed orchid are known to occur in Lancaster County. However, due to the continual vegetation disturbance of brome grass and the lack of trees found along this civil works project site, northern long-eared bat and western prairie fringed orchid are unlikely to occur where proposed alterations would be made. Salt Creek tiger beetle, with its limited distribution, is not known to occur in the southern two-thirds of Lancaster County where the civil works project is located.

4.3.6 Gering Drain

Name: North Platte River Basin, Gering Valley, Nebraska Flood Protection Project

Location: The project is located along the Gering Main Drain and its tributary drains. It is generally located southwest of the city of Gering, in Scotts Bluff County, Nebraska (Figures 47 through 52).

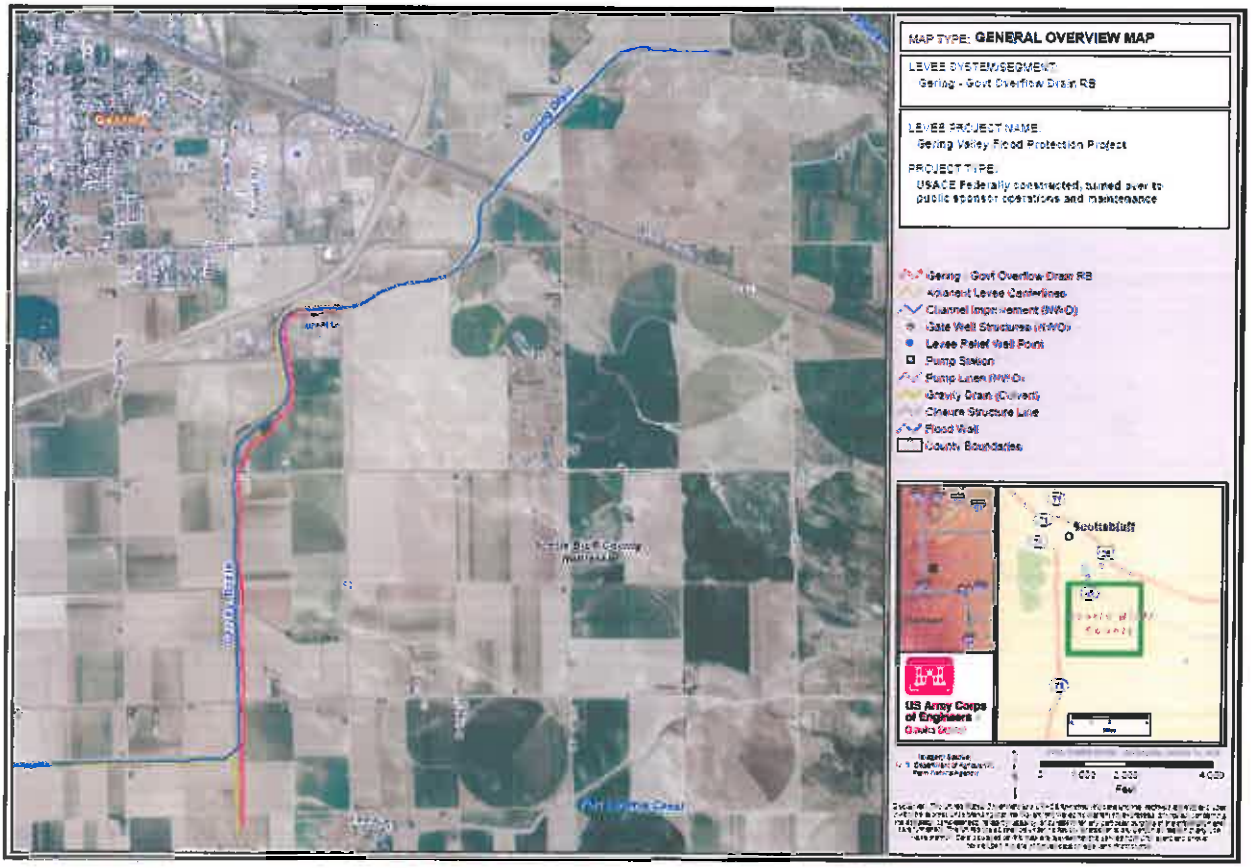

Figure 46. Gering - Government Overflow Drain Right Bank

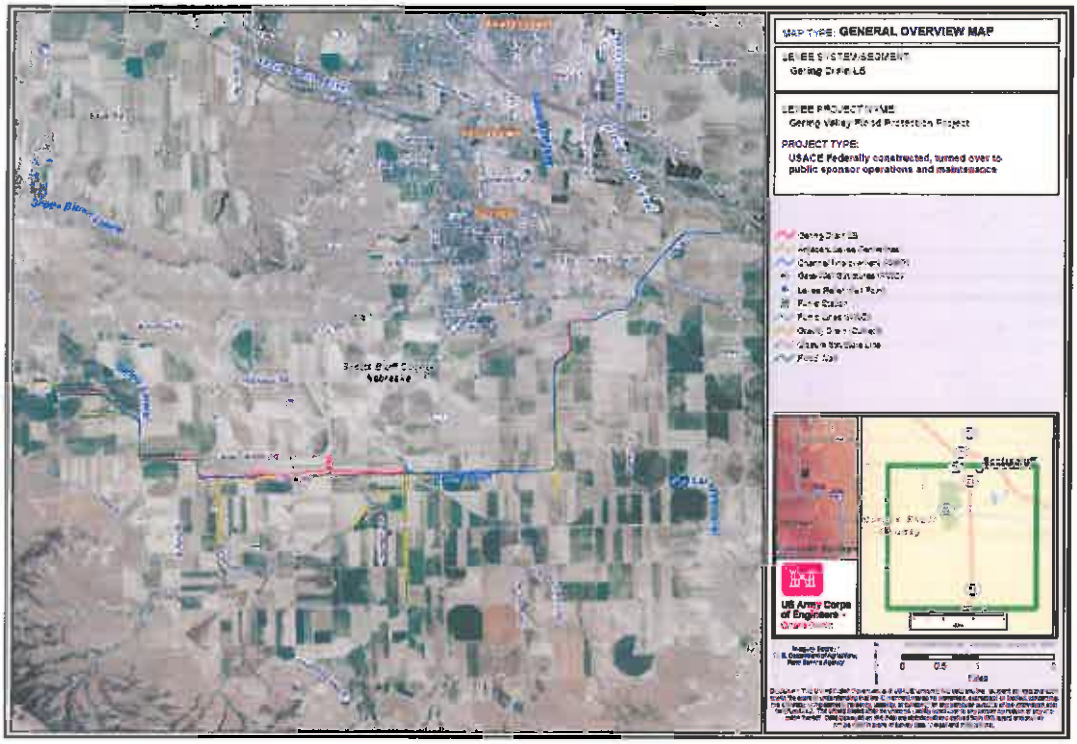

Figure 47. Gering Drain Left Bank

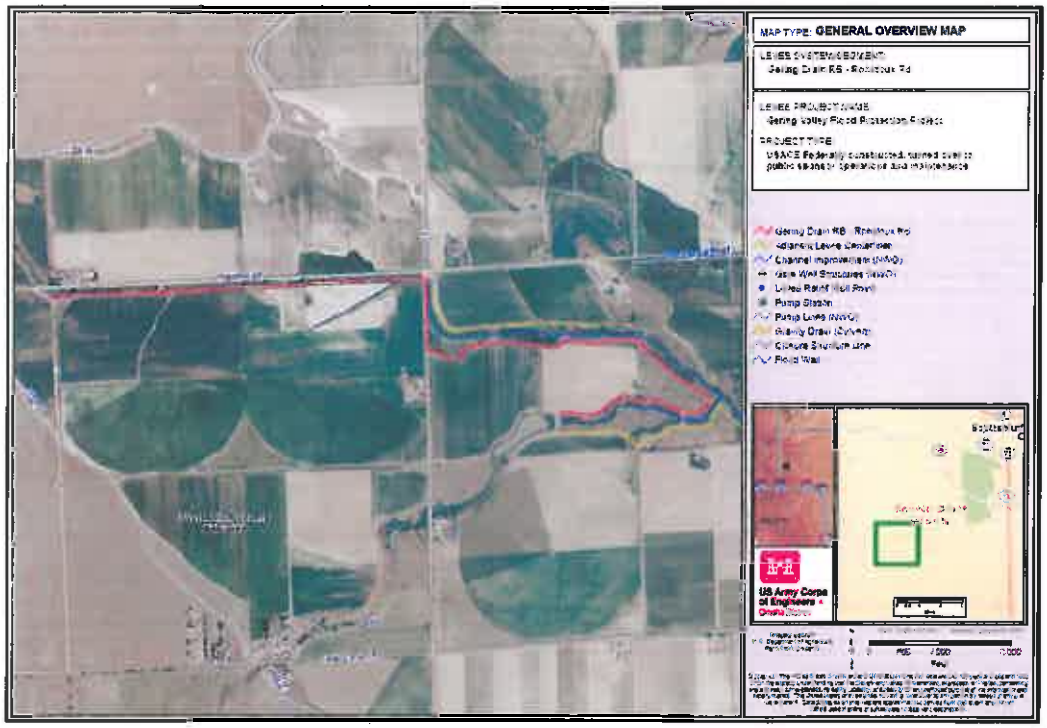

Figure 49. Gering Drain Right Bank - Robidoux Road

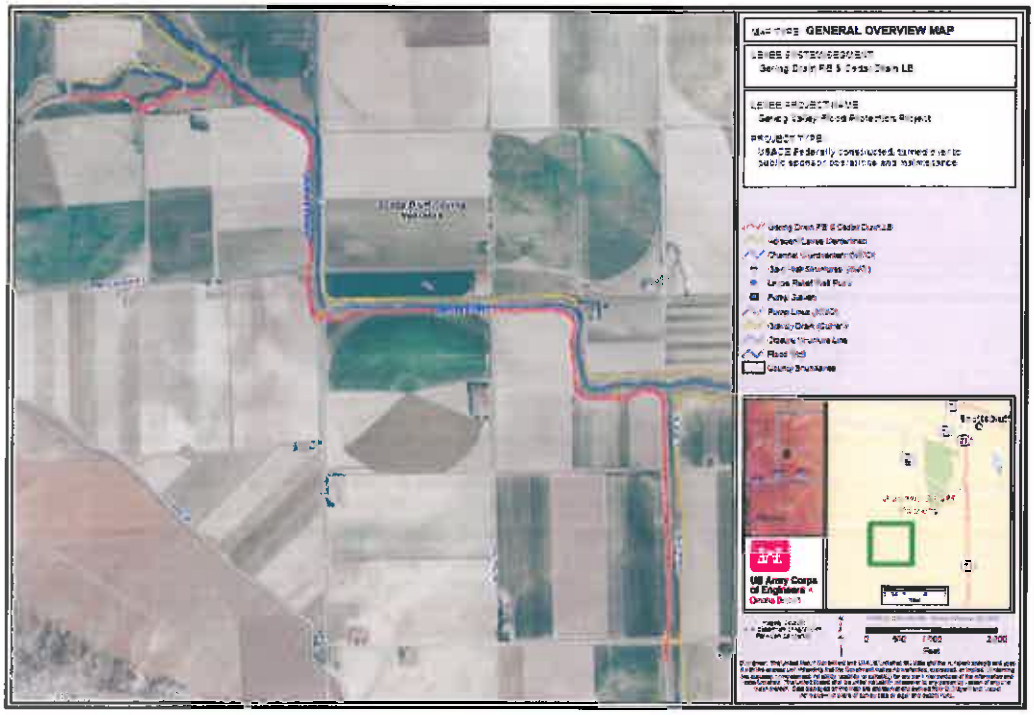

Figure 48. Gering Drain and Cedar Drain Left Bank

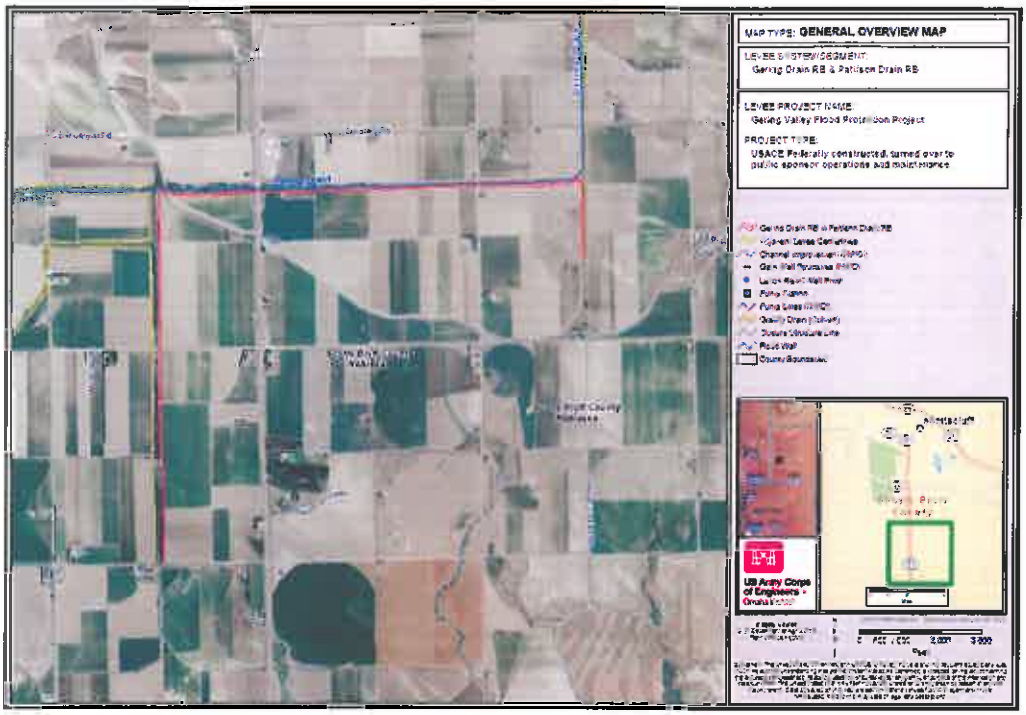

Figure 49. Gering Drain Right Bank and Pattison Drain Right Bank

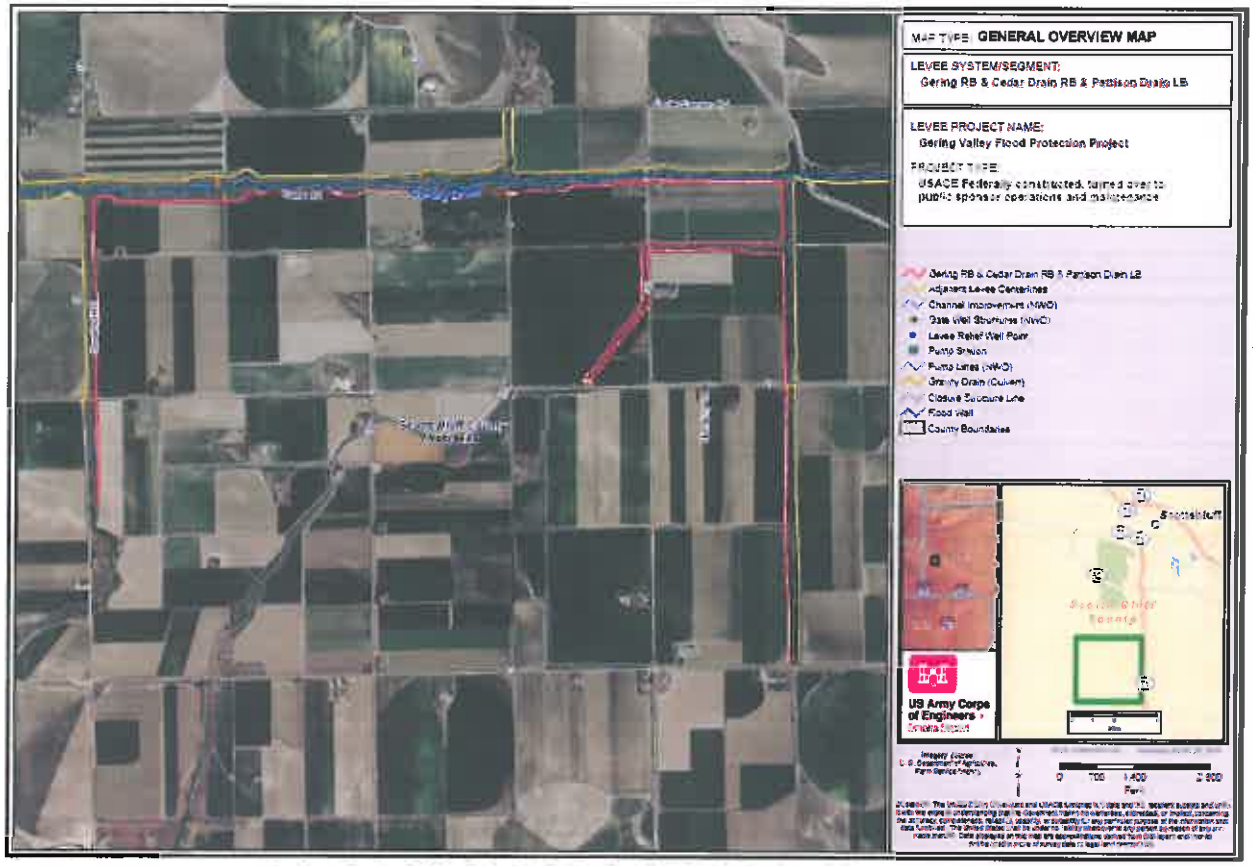

Figure 50. Gering Drain Right Bank, Cedar Drain Right Bank and Pattison Drain Left Bank

Figure 51. View of the Channel Portion of the Government Overflow Drain – Right Bank Segment near County Road P

Project Features: The flood protection and channel stabilization facilities consist of 24 concrete drop structures, 21 rock sills, 8 culvert drop structures, 101 field inlet drainage structures, 36 miles of low earth field barriers (with 10-foot crowns and side slopes of 1V on 3H), approximately 8.5 miles of concrete trickle channel, 7.5 miles of channel fencing, sod, and 800 concrete right-of-way markers (Figure 53).

Existing Conditions:

Water Quality: The beneficial uses of Gering Drain include aquatic life (Warm Water Class A), recreation (Class A – primary contact), agricultural water supply (Class A), and aesthetics. The Gering Drain is listed as a Category 4A water body, which designates the water body as impaired (in this case by *E. coli*) which impacts recreation. A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water.

Aquatic Species: Although some limited riparian vegetation is shown, normal operation and maintenance of the Gering Drain requires regular mowing on a continuing basis. Sunfish, bullhead, shiners, minnows, carp, chubs, dace, suckers, catfish, and perch are found within Gering Drain on a year-round basis where they feed, breed, and shelter.

Noise: Sources of noise include rural disturbances such as light automobile traffic, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no wetlands along the Gering Drain although freshwater emergent wetlands likely occur.

Threatened and Endangered Species: The whooping crane is the only listed species likely to be found near this project where it may be seen resting in agricultural fields during its spring and fall migrations.

4.3.7 Elkhorn River (5 Projects)

4.3.7.1PierceFlood Control Project, Pierce County, Nebraska

Location: The project is located along the right descending bank of the North Fork Elkhorn River, a tributary to the Elkhorn River. It is located along the north, east, and south sides of the city of Pierce in Pierce County, Nebraska (Figures 54 and 55).

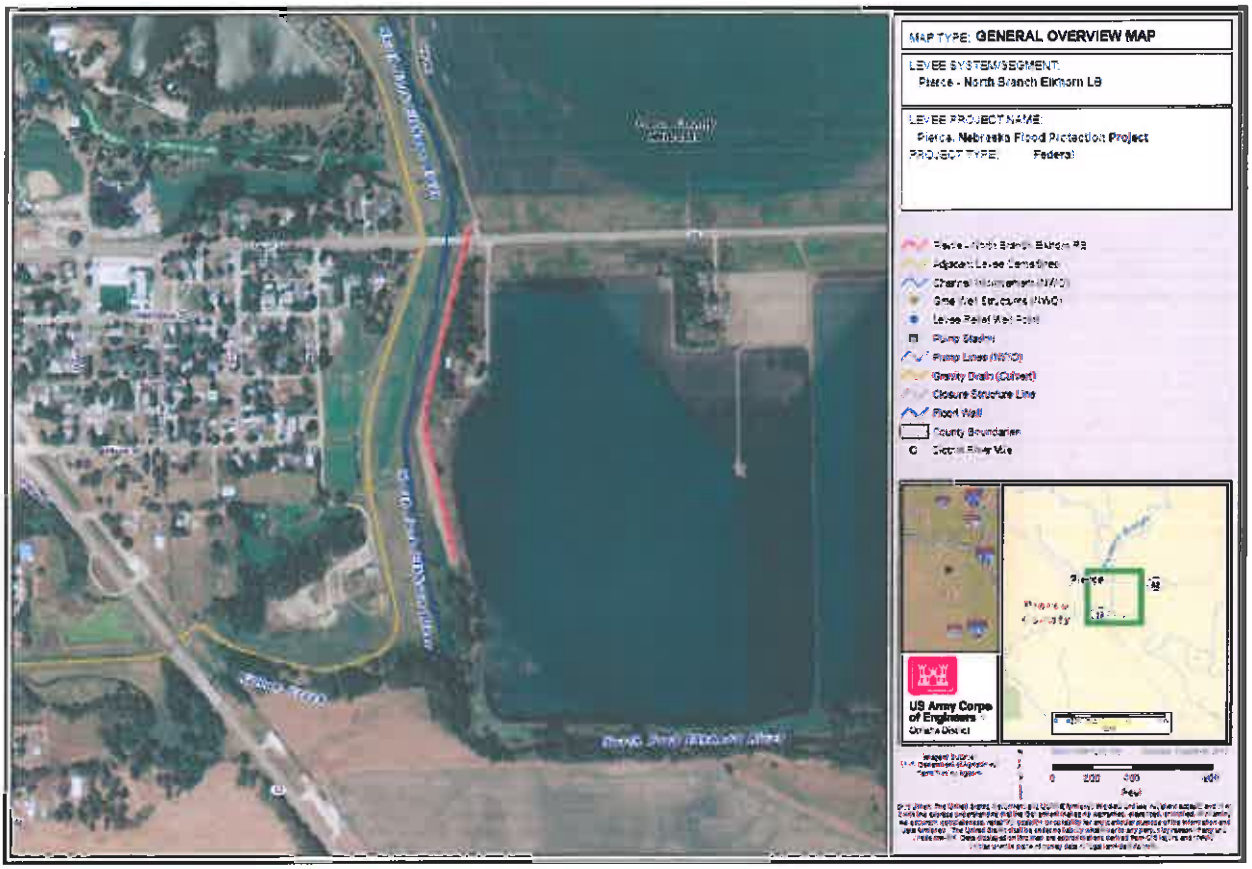

Figure 52. Pierce - North Branch Elkhorn Left Bank

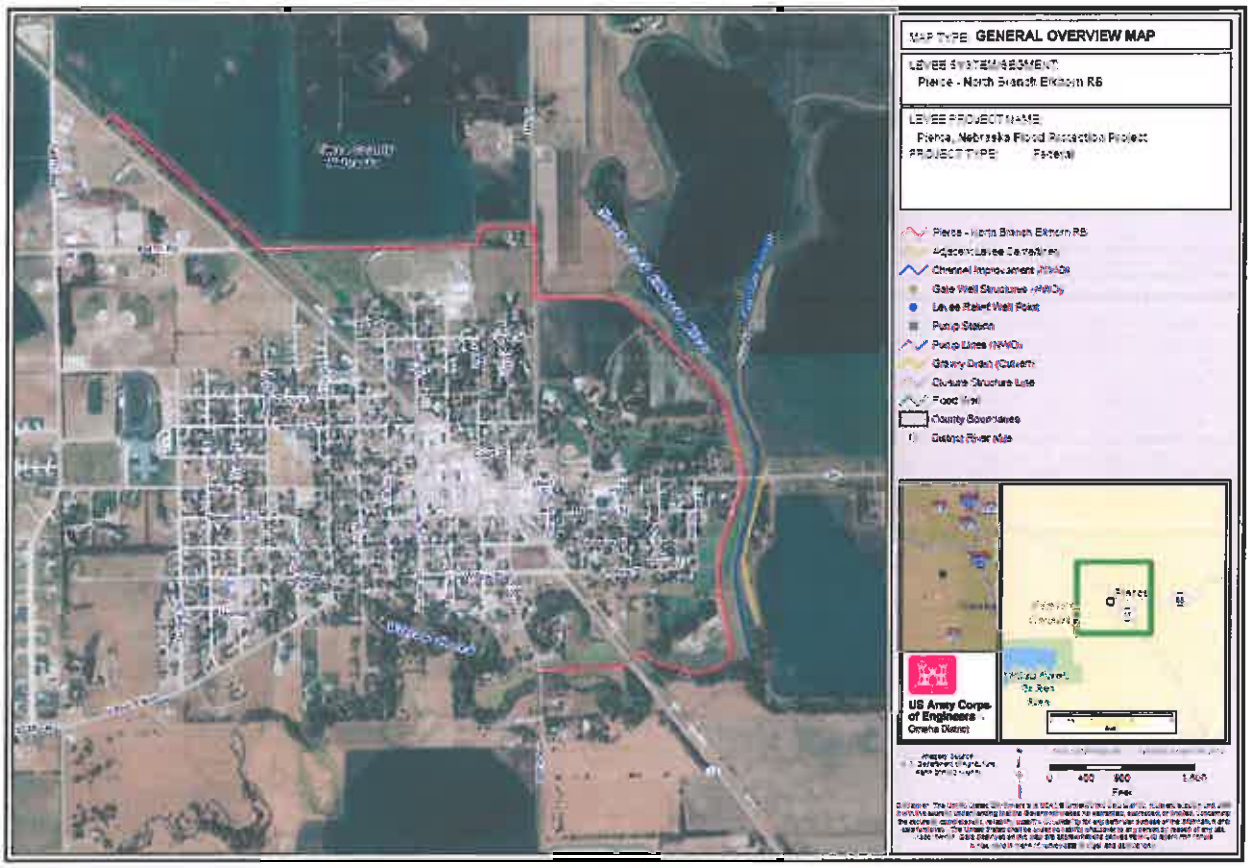

Figure 53. Pierce - North Branch Elkhorn Right Bank

Project Features: The flood protection project consists of a 3.31-mile long earthen levee (crown width of 10 feet and side slopes of 1V on 3H), an enlarged and relocated channel, drainage structures, railroad and highway closure gates, sod, rock protection on levee slopes in areas of severe erosion, a sheet pile cutoff wall, fencing and bar gates, crushed rock levee crown surfacing, ramps, and turnouts (Figure 56).

Figure 54. East Main Street Bridge looking upstream

Note: The levee is approximately 150 feet (to the left) from the river's bank and in this photo obscures all residences except for a roof of an existing structure.

4.3.7.2 Elkhorn River Basin, Nebraska Flood Protection Project, Norfolk, Nebraska

Location: The project is located on the North Fork Elkhorn River, a tributary to the Elkhorn River. It is located on the north, east, and south sides of the city of Norfolk in Madison County, Nebraska (Figures 57 and 58).

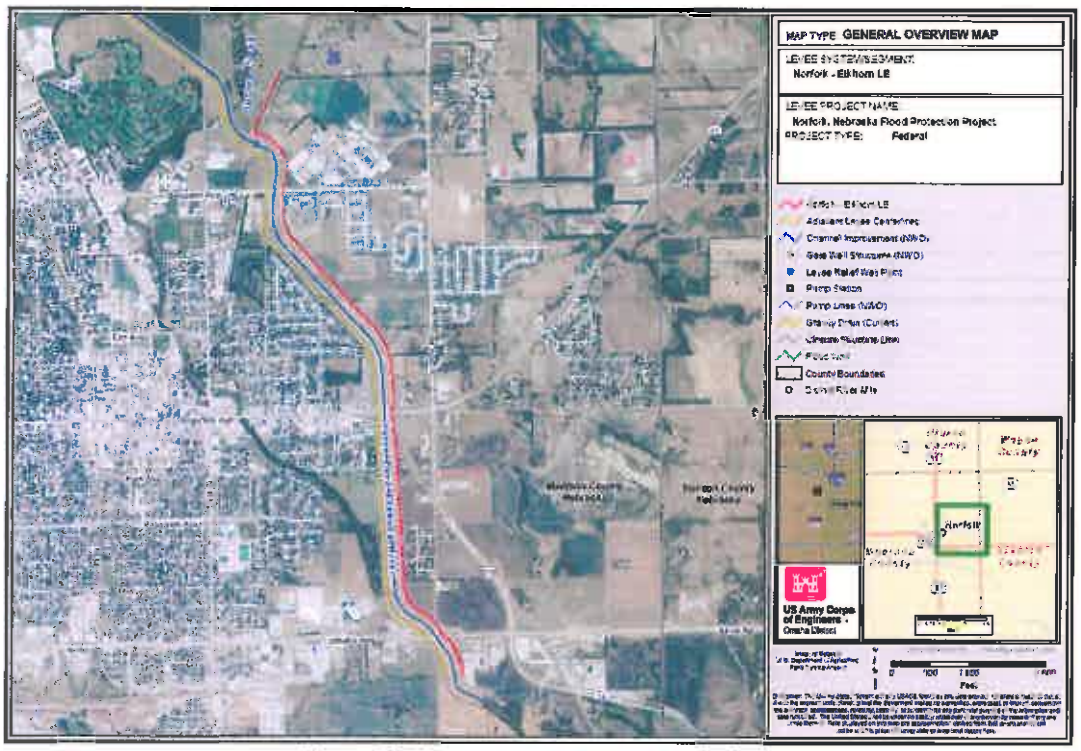

Figure 55. Norfolk - Elkhorn River Left Bank

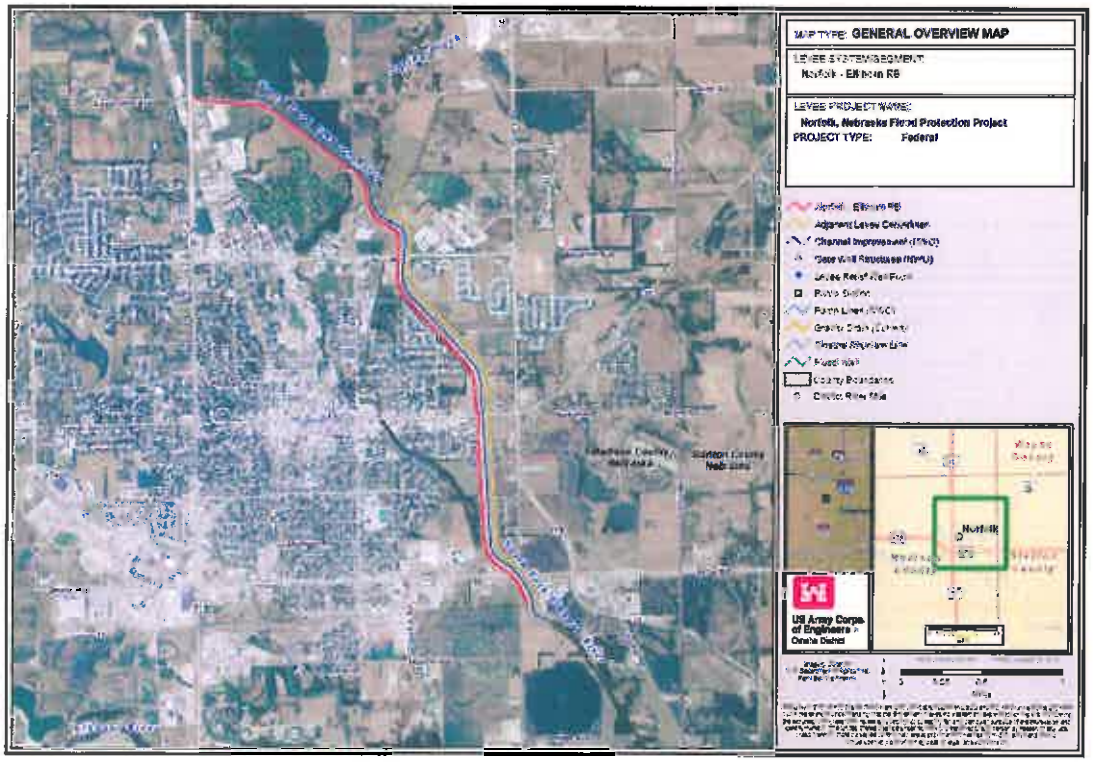

Figure 56. Norfolk - Elkhorn River Right Bank

Project Features: The flood protection project consists of a 4,525-foot improved realigned channel, a 16,158-foot diversion channel with a diversion structure, a double six-foot by six-foot reinforced and gated box culvert, a quadruple six-foot by six-foot reinforced concrete gated structure, a right tieback levee including an under-seepage berm, a left levee tie off, right and left bank levees, 17 drainage structures, rock slope protection, sod, bar gates and fencing, surfacing on the levee crown (including ramps and turnouts), and two stream gauging stations (Figure 59).

At the Highway 35 Bridge looking upstream

At the East Benjamin Avenue Bridge looking downstream

Figure 59. Norfolk, Nebraska Flood Protection Project

4.3.7.3 Hooper Flood Protection Project, Dodge County, Nebraska

Location: The project is located on the right descending bank of the Elkhorn River and along the east, north, and west sides of the village of Hooper in Dodge County, Nebraska (Figure 60).

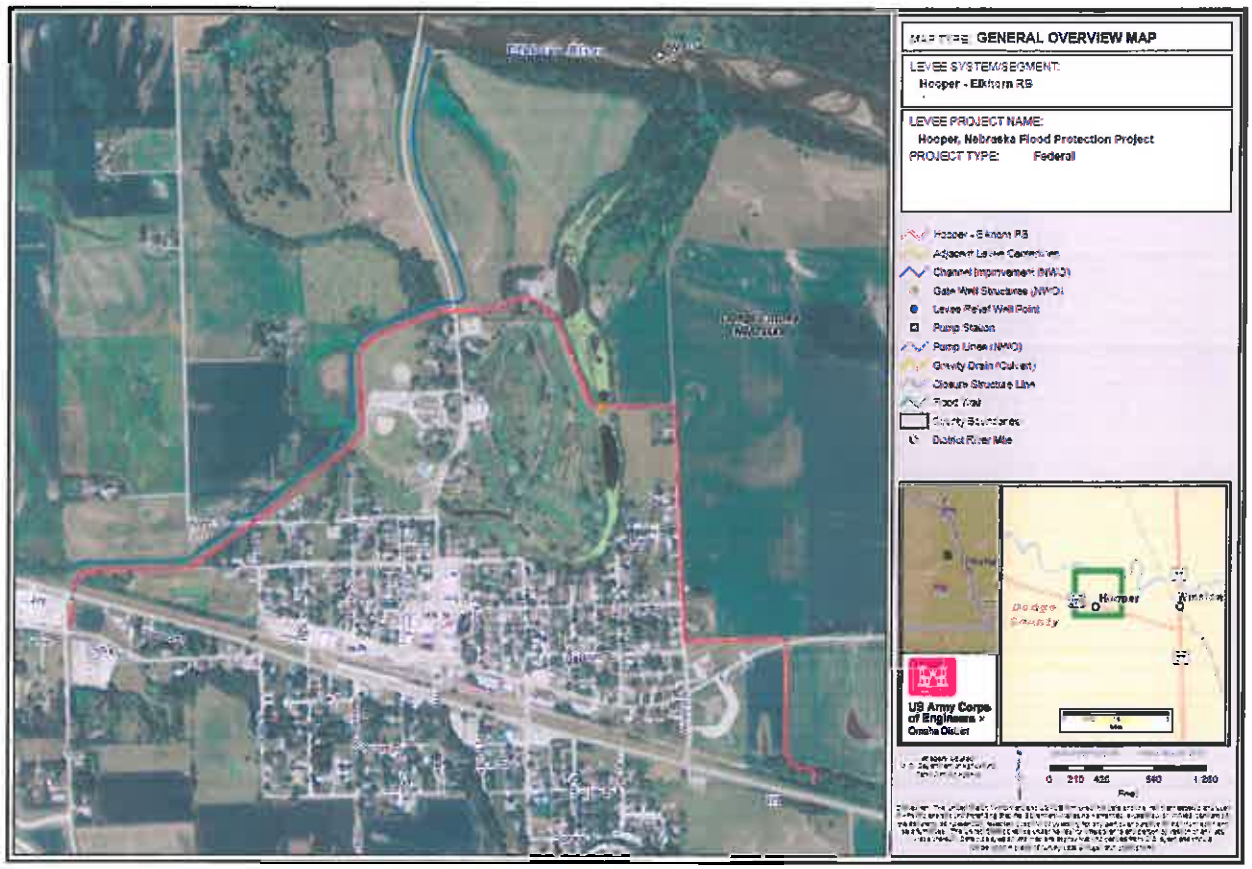

Figure 57. Hooper – Elkhorn River Right Bank

Note: This aerial photo shows the Hooper Levee (about 2,000 feet from the Elkhorn River) and the Bloomendahl Ditch (flowing into the Elkhorn River). Most of the levee is adjacent to agricultural fields with portions along the backs of residences.

Project Features: The flood protection project consists of a 2.1-mile earthen levee (crown width of 10 feet and slopes of 1V on 3H) encircling the north portion of the village, the Bloomendahl Ditch, interior drainage structures, closure structures, a storage house, riprap protection, surfacing on the top of the levee and on ramps and turnouts, sod, and bar gates and fencing.

4.3.7.4 Elkhorn River Basin Flood Protection Project, Waterloo, Nebraska

Location: The project is located on the right descending bank of the Elkhorn River approximately 12.5 miles upstream of its confluence at the Platte River (Figure 61).

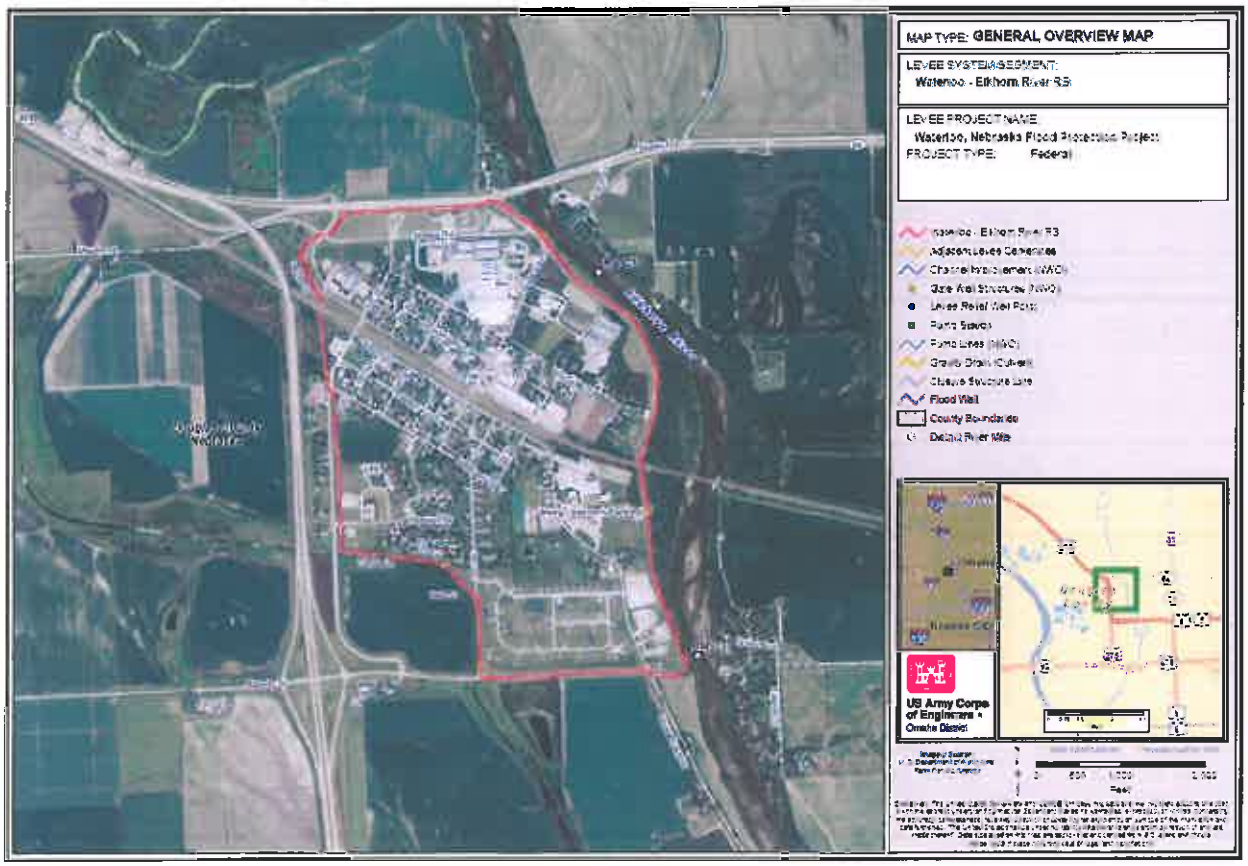

Figure 58. Waterloo - Elkhorn River Right Bank

Project Features: The flood protection project consists of a 3.75-mile earthen ring levee along the right bank of the Elkhorn River that surrounds the village of Waterloo, a highway embankment, surfacing (on the levee, ramps, and turnouts), sod, drainage structures, riprap protection, bar gates and fencing, and gatewell and outlet structures (Figure 62).

Figure 59. Elkhorn River Basin Flood Protection Project in Waterloo, Nebraska

The top of the levee runs adjacent to North 230th Street. The Elkhorn River is approximately 80 feet to the left of N. 230th Street and on the opposite side of the riparian tree line. (Note: The broad yellow line is a Goggle-placed maker denoting the road surface.)

4.3.7.5 West Point Flood Control Project, Cuming County, Nebraska

Location: The project is located on the left descending bank of the Elkhorn River on the western side of the city of West Point in Cuming County, Nebraska (Figure 63).

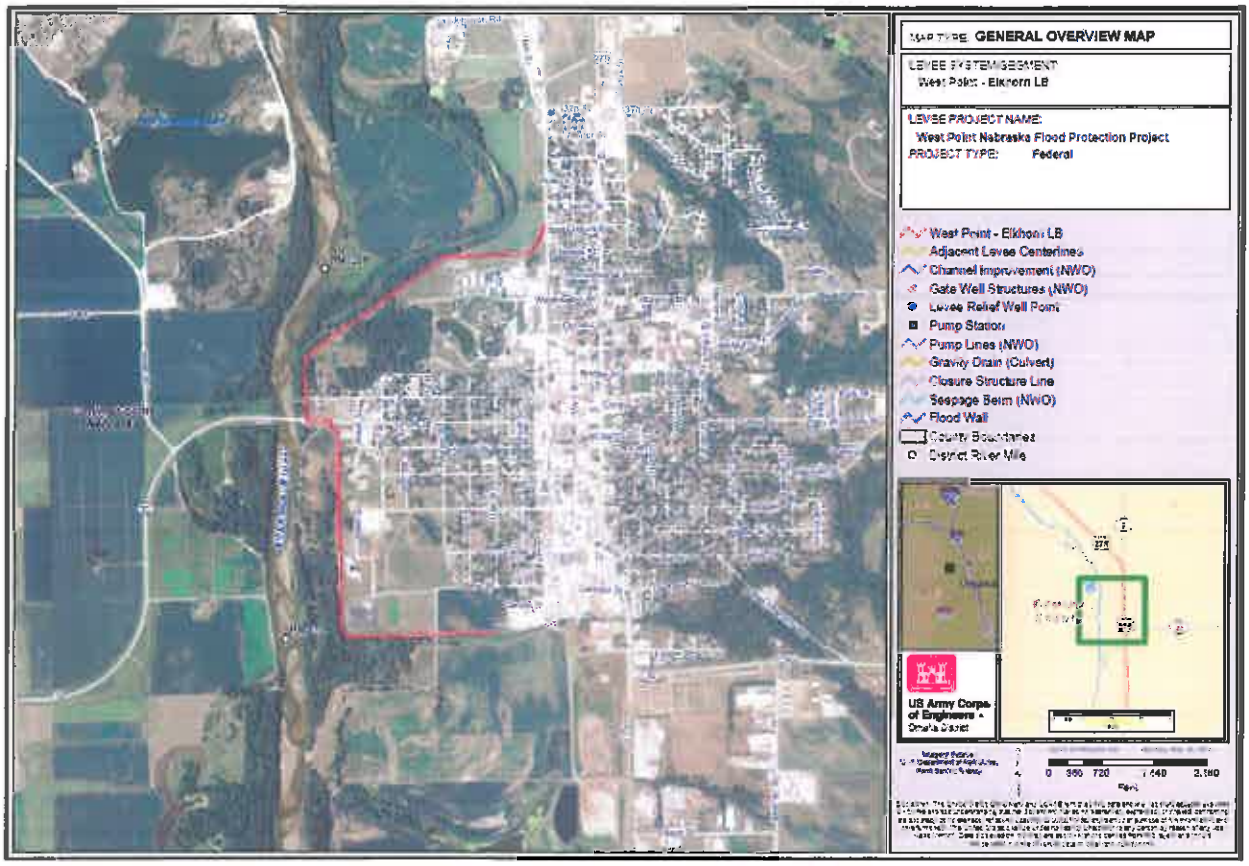

Figure 60. West Point - Elkhorn River Left Bank

Project Features: The flood protection project consists of an earthen levee along the left bank of the Elkhorn River and surrounding the western part of the city of West Point, Nebraska, drainage structures, landside berms, fencing and bar gates, sod, and rock surfacing (on the levee crown, ramps, and turnouts) (Figure 64).

Figure 61. West Point Flood Control Project in Cuming County, Nebraska

Note: The above was taken at the Karl Timmerman Memorial Bridge (the levee is located behind the house). The levee is approximately 190 feet from the Elkhorn River, which is located to the left in the photo.

Existing Conditions:

Water Quality: The beneficial uses of the North Fork Elkhorn River and Elkhorn River include aquatic life (Warm Water Class A) and recreation (Class A – primary contact). The North Fork Elkhorn River and Elkhorn River are listed as Category 5 water bodies, which designates the water bodies as having one or more pollutants (in this case *E. coli*) that cause impairment to one or more of the beneficial uses (recreation). No TMDL (pollution plan) has yet been developed although a fish consumption assessment is being prepared by the state of Nebraska.

Aquatic Species: The Elkhorn River contains substantial riparian habitat in the form of in-stream vegetation. Aquatic species include sunfish, bullhead, carp, catfish, crappie, pike, pickerel, sauger, and walleye. These species are regularly sought after by anglers and are known to feed, breed, and shelter within the river on a year-round basis.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed freshwater emergent wetlands and freshwater forested/shrub wetlands in areas along the Elkhorn River and its tributaries.

Threatened and Endangered Species: Due to the limited big river features like those found in the Missouri and Platte rivers, the pallid sturgeon likely does not occur in association with these civil works projects. Because of the on-going maintenance activities and established brome grass along these civil works projects, the western fringed prairie orchid does not occur here. However, the shifting sands within the Elkhorn River may provide habitat for interior least tern, piping plover, and Topeka shiner. Adjacent agricultural lands may provide resting spots for whooping crane during their spring and fall migrations. Adjacent treed areas may provide roosting habitat for the northern long-eared bat.

4.3.8 Maple Creek (2 Projects)

4.3.8.1 Clarkson Flood Control Project, Colfax County, Nebraska

Location: The project is located along the right descending bank of the Middle Fork of Maple Creek, and the left bank of the North Fork of Maple Creek (Figures 65 and 66). It is located on the north and east sides of the village of Clarkson in Colfax County, Nebraska.

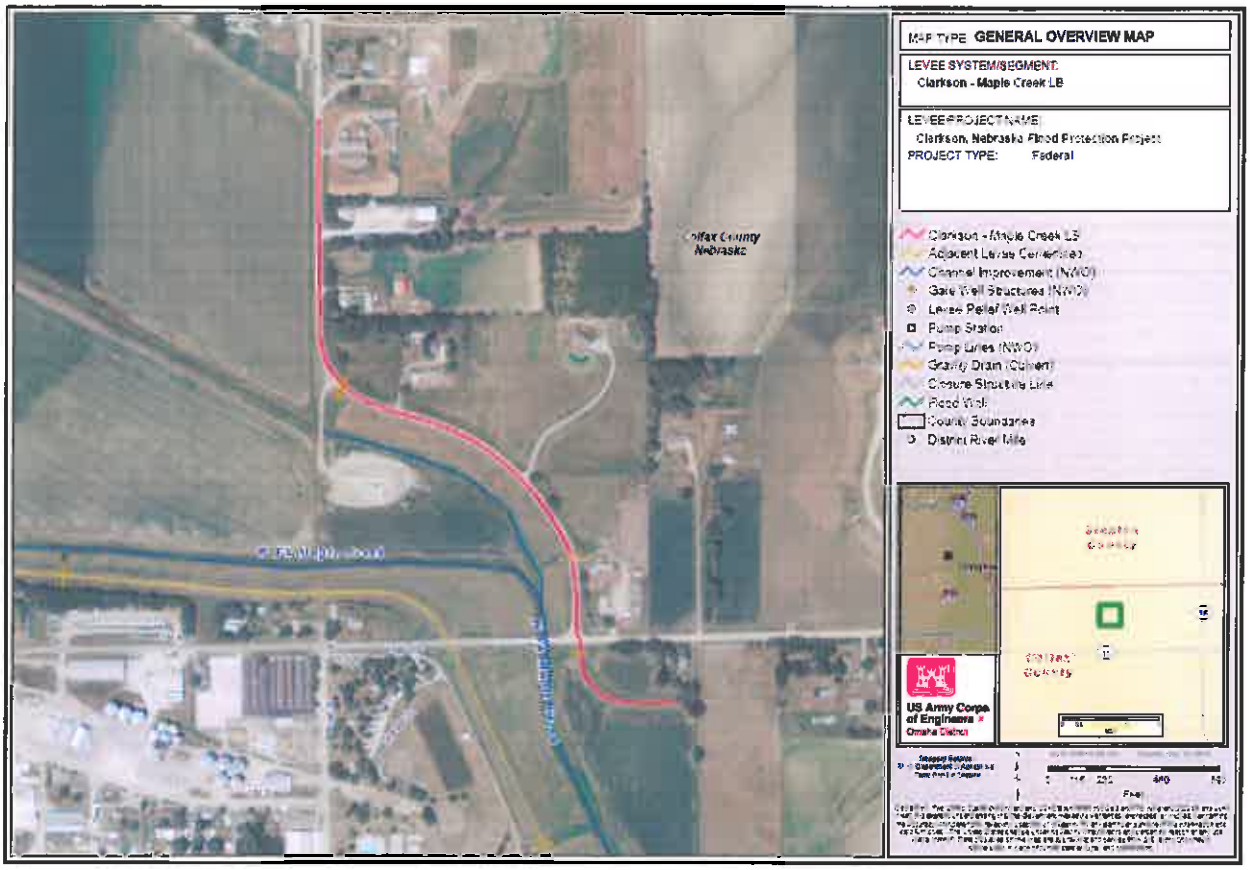

Figure 62. Clarkson - Maple Creek Left Bank

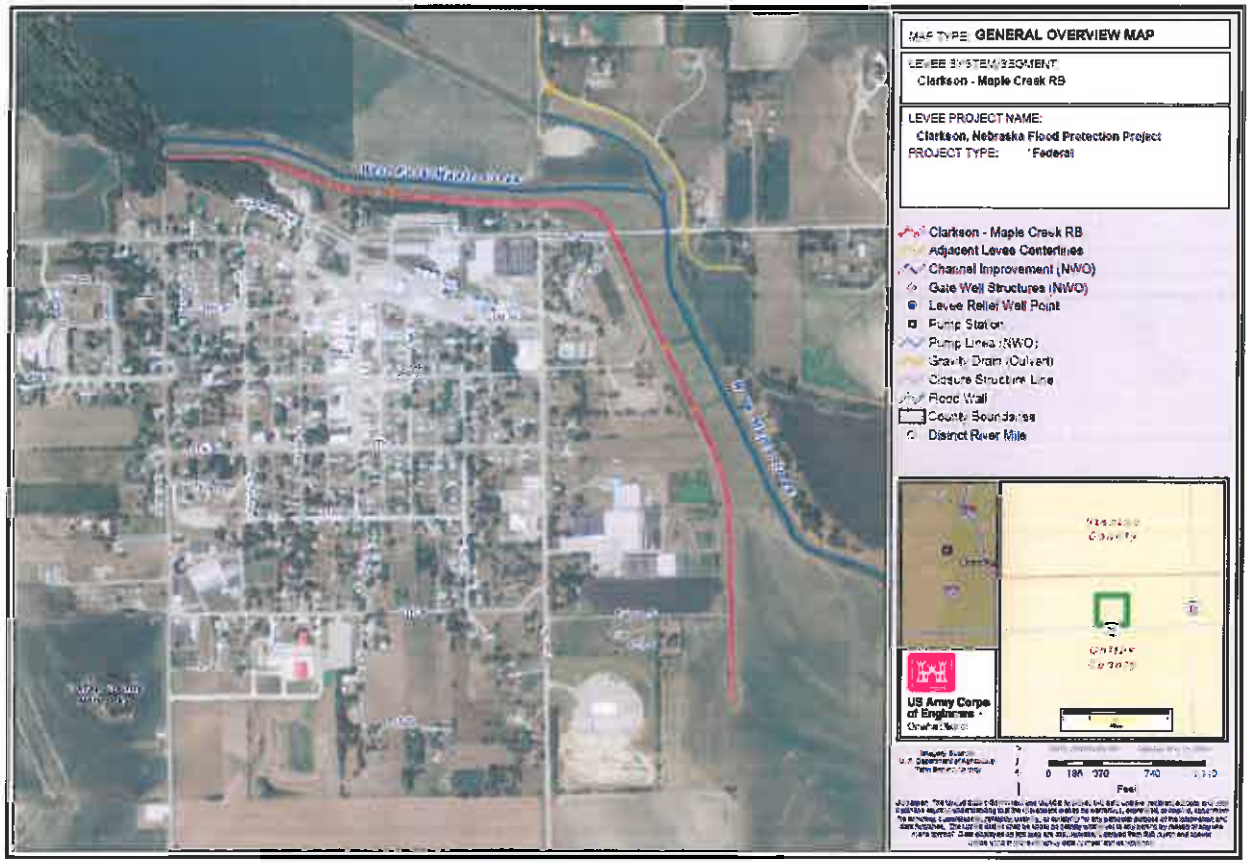

Figure 63. Clarkson - Maple Creek Right Bank

Project Features: The flood protection project consists of an earthen levee along the right bank of the Middle Fork of Maple Creek and along the left bank of the North Fork of Maple Creek (Figure 67). There are seven drainage structures, five road culverts, and a sanitary sewer line. Riprap protection lines the improved channel slopes through bridges and at the intersection of the North Fork and Middle Fork channels. Sod covers the banks of the levee while crushed rock covers the levee top, turnouts, access ramps, and riverside ramps. Bar gates and fencing has been installed to prevent unauthorized access.

Figure 64. Clarkson Flood Control Project in Colfax County, Nebraska

Note: The above was taken near the East 1st Avenue Bridge. The levee is located to the right in front of the small white structure. Maple Creek is located to the left approximately 200 feet from the levee toe.

4.3.8.2 East Fork Maple Creek Flood Protection Project, Howells, Nebraska

Location: The project is located on the right descending bank of the East Fork of Maple Creek, and is located on the north and west side of the village of Howells in Colfax County, Nebraska (Figure 68).

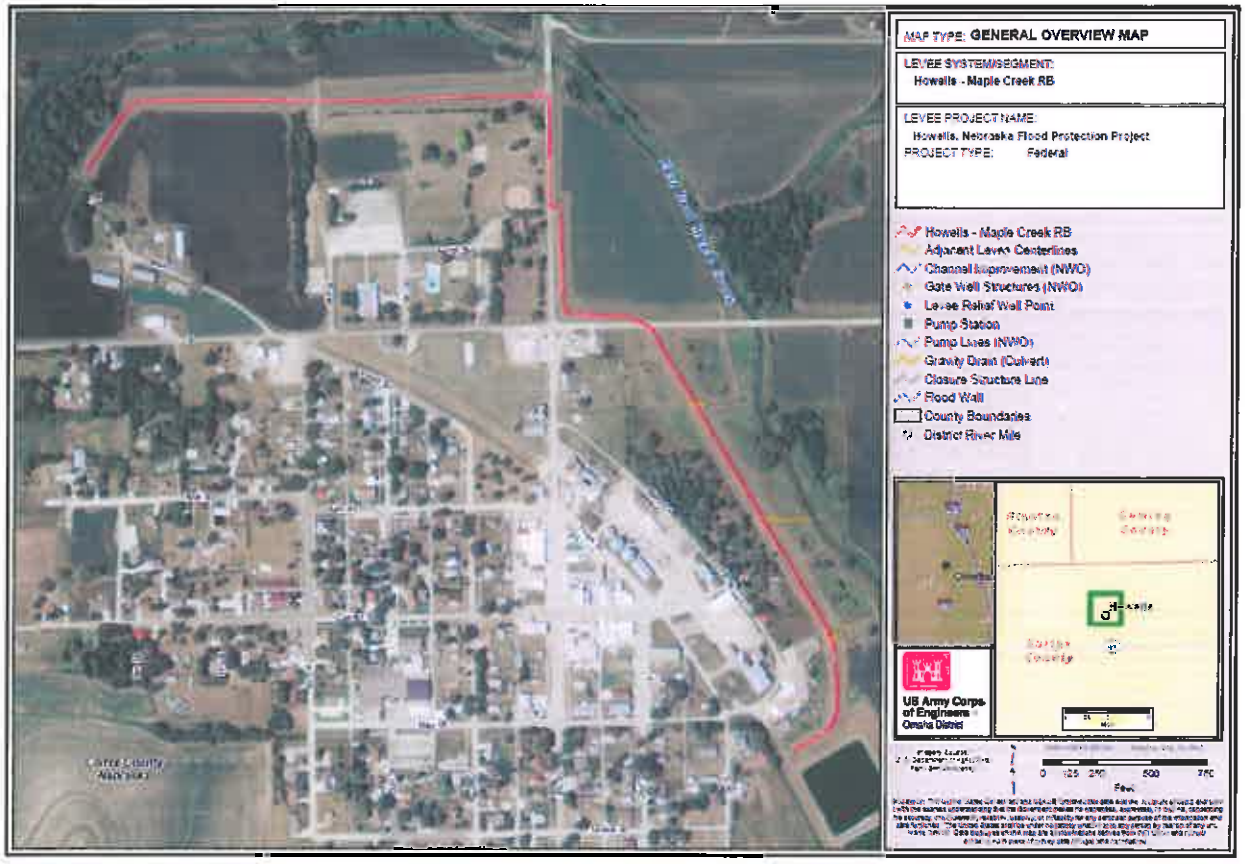

Figure 65. Howells - East Fork Maple Creek Right Bank

Note: The above figure shows the Howells civil works project located some distance from East Fork Maple Creek. Lands adjacent to the project consist of agriculture, a park, and idle green space.

Project Features: The flood protection project consists of 6,050 feet of levee, road raises and access ramps, drainage ditches and structures, crest surfacing, bar gates, and borrow and mitigation areas.

Existing Conditions:

Water Quality: The beneficial uses of the Middle, North and East Forks of Maple Creek include recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. These drainages are listed as Category 5 water bodies, which designate them as having one or more pollutants (in this case *E. coli* and selenium) that cause impairments to one or more of the beneficial uses (recreation and aquatic life, respectively). A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water. A 4C justification was approved for selenium, which means the impairment is the result of a natural cause such as landscape geology or climactic conditions, not a pollutant. An aquatic community assessment and a fish consumption assessment are currently being prepared by the state of Nebraska.

Aquatic Species: Maple Creek has limited riparian vegetation although there are areas where stretches of riparian vegetation occurs. Sunfish, catfish, walleye, bullhead, and carp occur in Maple Creek on a year-round basis where they feed, breed, and shelter.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no wetlands along the Middle and North Forks of Maple Creek or East Fork or Maple Creek although freshwater emergent wetlands likely occur due to favorable hydrology.

Threatened and Endangered Species: Because of the on-going maintenance activities and established brome grass along these civil works projects, the western fringed prairie orchid does not occur along these civil works project sites. The absence of favorable sand bars within Maple Creek would prevent interior least tern and piping plover feeding and nesting. Due to the limited big river features like those found in the Missouri and Platte rivers, the pallid sturgeon likely does not occur in association with these civil works projects. Adjacent treed areas may provide roosting habitat for the northern long-eared bat.

4.3.9 Loup River

Name: Columbus, Nebraska Flood Control Project

Location: The project is located along the Loup River, a tributary of the Platte River, and is on the south and west sides of the city of Columbus in Platte County, Nebraska (Figure 69).

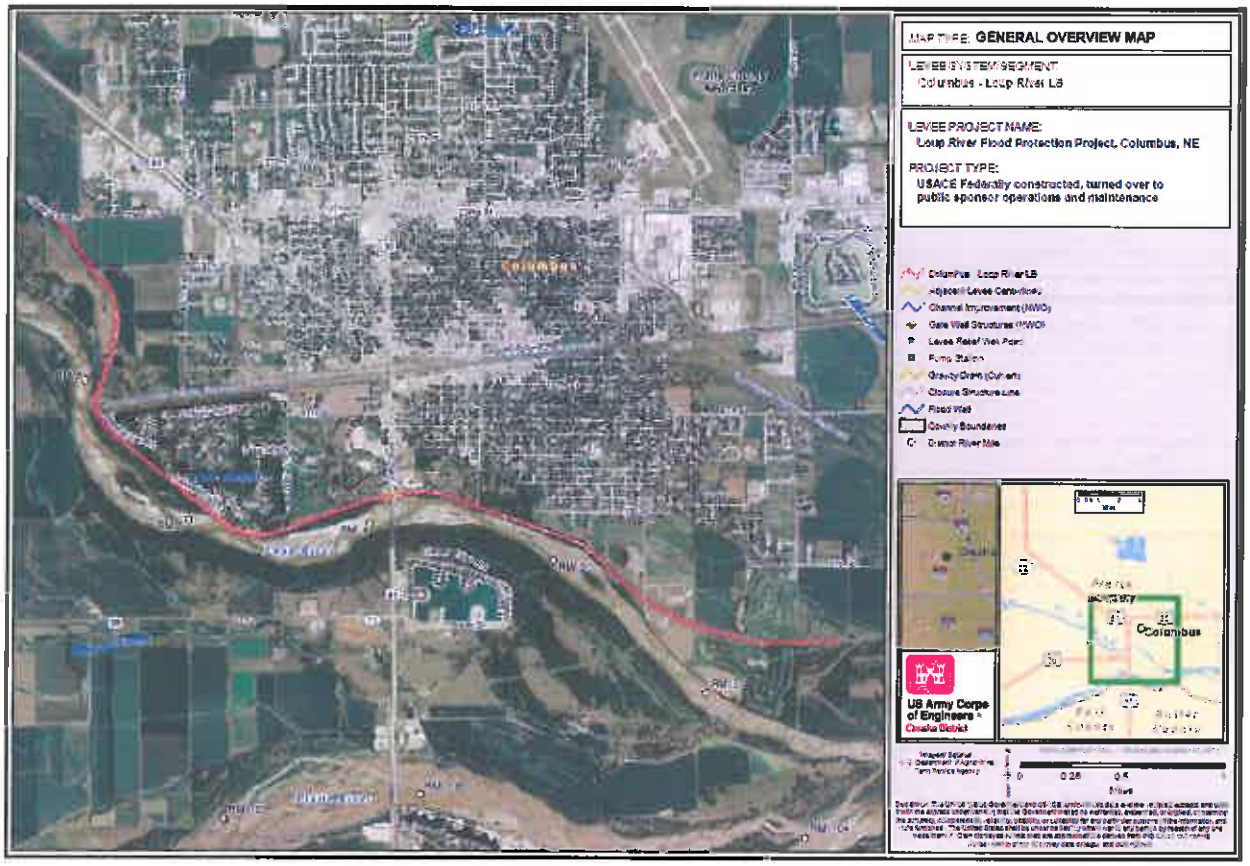

Figure 69. Columbus - Loup River Left Bank

Project Features: The flood protection project consists of 5.2 miles of earthen levee (with a 10-20-foot crown and side slopes 1V on 6H); drainage structures; stone bank erosion protection; sod cover; surfacing consisting of crushed rock on the levee crown, ramps, and turnouts; under-seepage control consisting of 3.5 miles of perforated toe drain pipe located along the landside levee toe with risers, manholes, and outlet pipes; and a road and railroad raise to levee grade (Figures 70 and 71).

Figure 66. Loup River Flood Control Project and associated trail at the Lincoln Highway Bridge in Columbus, Nebraska

Figure 67. The Loup River near the Lincoln Highway Bridge in Columbus, Nebraska

Note: The flood control project is approximately 200 feet from the Loup River.

Existing Conditions:

Water Quality: The beneficial uses of the Loup River include recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as Category 4A water body, which designates the water body as impaired. In this case the impairment is *E. coli*, which impacts recreation. A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water. A fish consumption assessment is being prepared by the state of Nebraska.

Aquatic Species: The Loup River has limited riparian vegetation along the course of the civil works project but is known to contain large stretches of riparian habitat in other locations. Vegetation is regularly mowed in order to move water through the area during times of high flow. Aquatic species within the Loup River are warm water species accustomed to reduced habitat conditions and include minnows, suckers, killifish, sunfish, catfish, and perch. These species feed, breed, and shelter within the river on a year-round basis.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed numerous wetlands along the Loup River consisting of freshwater emergent wetlands and freshwater forested/shrub wetlands.

Threatened and Endangered Species: Because of the on-going maintenance activities and established brome grass along this civil works project, the western fringed prairie orchid does not occur in association with this civil works project. Due to the limited big river features like those found in the Missouri and Platte rivers, the pallid sturgeon likely does not occur in association with these civil works projects. However, the shifting sands within the Loup River may provide feeding habitat for interior least tern and piping plover. Adjacent agricultural lands may provide resting spots for whooping crane during their spring and fall migrations. Adjacent treed areas may provide roosting habitat for the northern long-eared bat.

4.3.10 Logan Creek

Name: Pender, Nebraska Flood Control Project

Location: The project is located on the right descending bank of Logan Creek and on the east side of Pender in Thurston County, Nebraska with tiebacks on the north and south side of Pender (Figure 72).

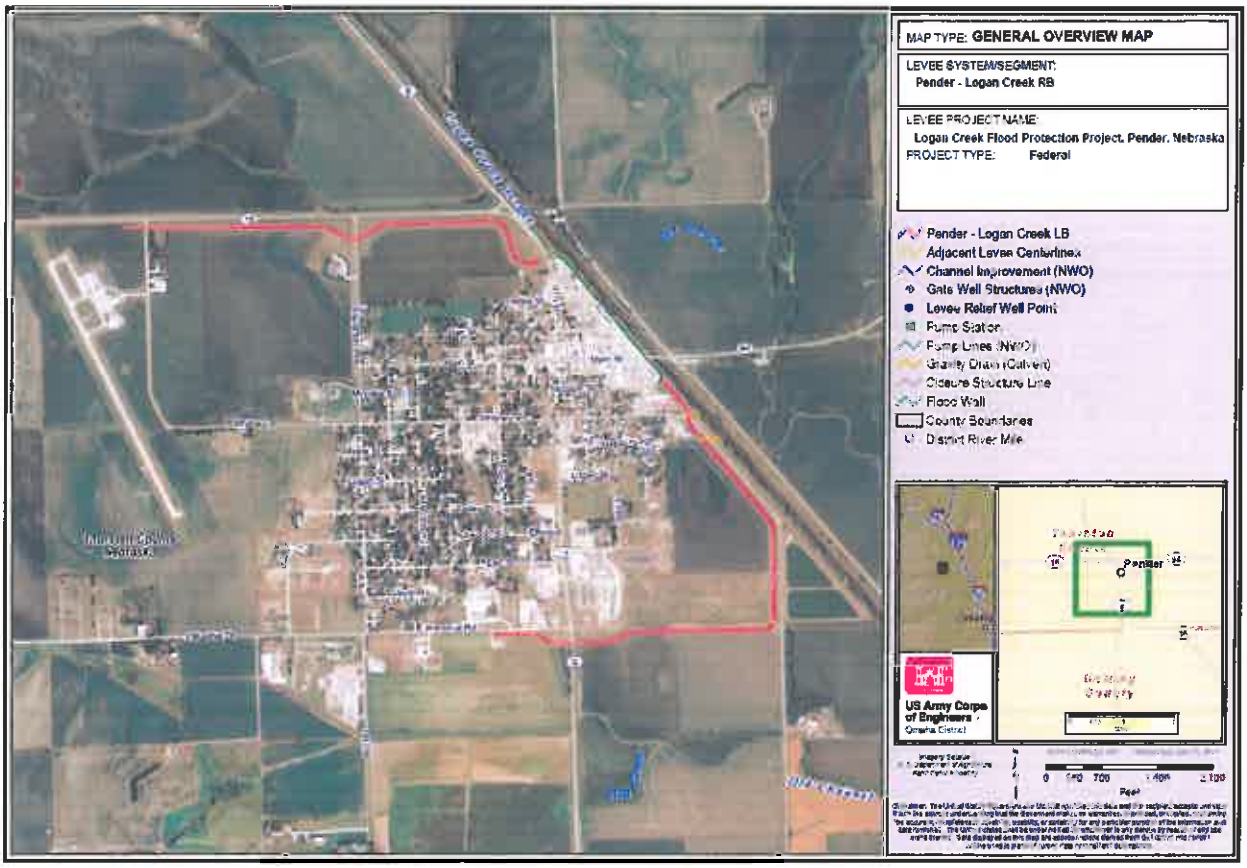

Figure 68. Pender - Logan Creek Right Bank

Project Features: The flood protection project consists of 15,269 feet of earthen levee (with a 10-foot crown, side slopes 1V on 3H, and an average height of 10 feet), tieback levees, closure structures (steel cutoff walls with aluminum panel closures), concrete floodwalls, road raises and access ramps, drainage ditches, crest surfacing, sod, panel gates, borrow areas, lateral drainage lines and structures, drainage structures through the levee, and the Highway 94 Bridge (Figure 73).

Figure 69. Pender Main Street Bridge looking downstream

Existing Conditions:

Water Quality: The beneficial uses of Logan Creek include recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli* and selenium) that cause impairment to one or more of the beneficial uses (recreation and aquatic life, respectively). No TMDL (pollution plan) has yet been developed for *E. coli*. A 4C justification was approved for selenium, which means the impairment is the result of a natural cause such as landscape geology or climactic conditions, not a pollutant. A fish consumption assessment is being prepared by the state of Nebraska.

Aquatic Species: Logan Creek contains substantial riparian and in-stream vegetation, which makes the creek a desirable location for fish. Minnows, suckers, sunfish, and catfish occur year-round in Logan Creek where they feed, breed, and shelter.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed wetlands along Logan Creek consisting of freshwater emergent wetlands and freshwater forested/shrub wetlands.

Threatened and Endangered Species: Pallid sturgeon and western fringed prairie orchid are listed within Thurston County, Nebraska but are likely not associated with the civil works project. Pallid sturgeon is generally confined to the Missouri and Platte rivers. Because of the on-going maintenance activities and established brome grass along this civil works project, the western fringed prairie orchid does not occur here. Adjacent treed areas may provide roosting habitat for the northern long-eared bat.

4.3.11 Lost Creek

Name: Lost Creek Flood Control Project, Columbus, Nebraska

Location: The project is located north of Columbus, Platte County, Nebraska just west of U.S. Highway 81. It extends east along the Lost Creek flood plain to the Loup Power District's tailrace canal (Figure 74).

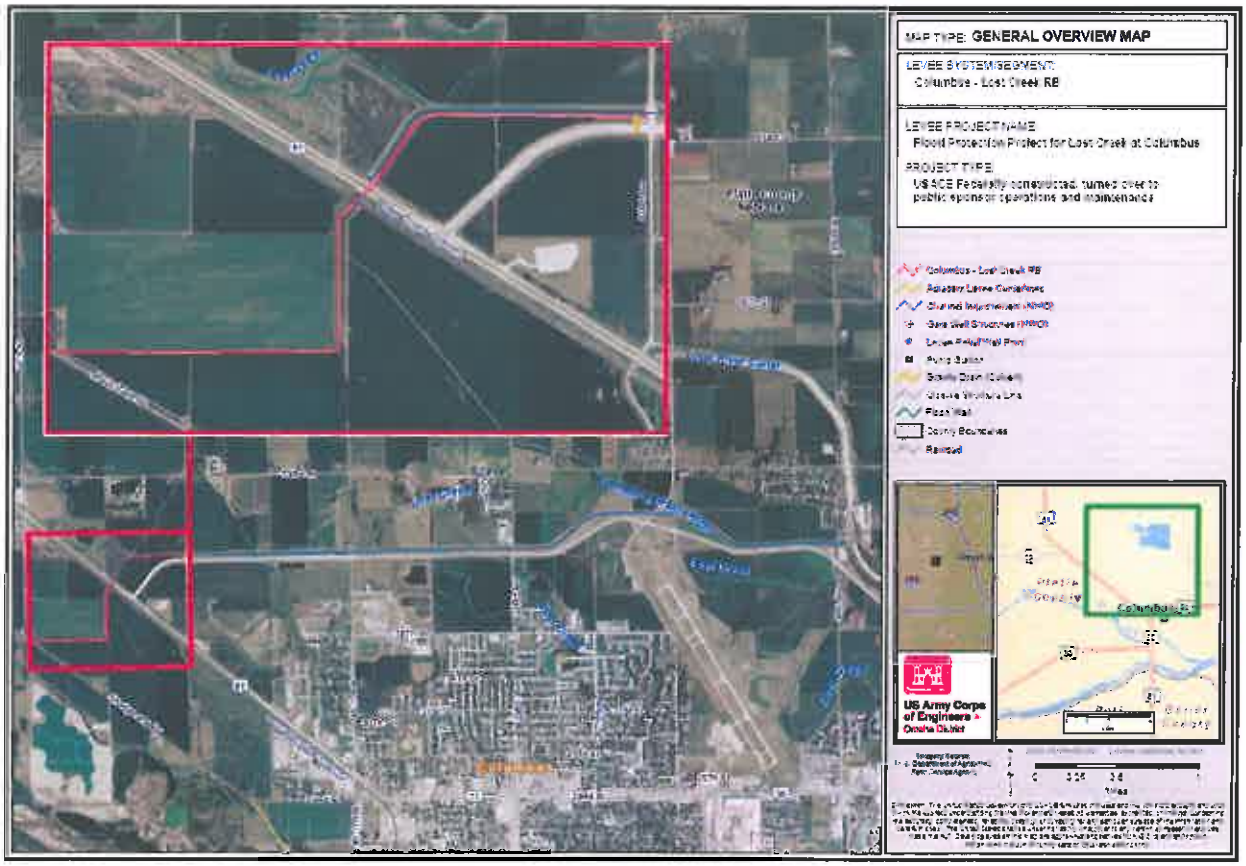

Figure 70. Columbus - Lost Creek Right Bank

Project Features: The flood protection project consists of a realignment of Lost Creek into a diversion channel 24,634 feet in length, a 6,640-foot earthen levee, a baffle chute structure, drainage structures, road crossings and five clear-span bridges, rock protection, sod, and crushed rock surfacing (on the levee top, ramps, and turnouts) (Figure 75).

Figure 71. Lost Creek Parkway, looking downstream

Existing Conditions:

Water Quality: The beneficial uses of Lost Creek have not been assessed. This water body is listed as a Category 3 water body, which designates the water body as having insufficient data to determine if any beneficial uses are being met. An aquatic community assessment is being prepared by the state of Nebraska.

Aquatic Species: Riparian vegetation is nearly absent from the banks of Lost Creek; however, minnows, suckers, killifish, sunfish, catfish, and perch, species which are accustomed to warm, shallow water, are found feeding, breeding, and sheltering in Lost Creek on a year-round basis.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed wetlands along Lost Creek consisting of freshwater emergent wetlands.

Threatened and Endangered Species: Interior least tern, piping plover, pallid sturgeon, western fringed prairie orchid, northern long-eared bat, and whooping crane are listed species in Platte County Nebraska. The interior least tern, piping plover, and pallid sturgeon are generally associated with large rivers such as the Missouri River and the Platte River so would not be found at the civil works site. The regular maintenance of grass and weeds along the civil work project would prevent western fringed prairie orchid establishment. Adjacent treed areas may provide roosting habitat for the northern long-eared bat. Whooping crane may occur on a seasonal basis in the agricultural lands adjacent to the civil works project where they may be seen resting.

4.3.12 Mud Creek

Name: Broken Bow, Nebraska Flood Protection Project

Location: The project is located along the realigned and enlarged channel of the North and South Branches of Mud Creek and Mud Creek, in Broken Bow, Custer County, Nebraska (Figures 76 and 77).

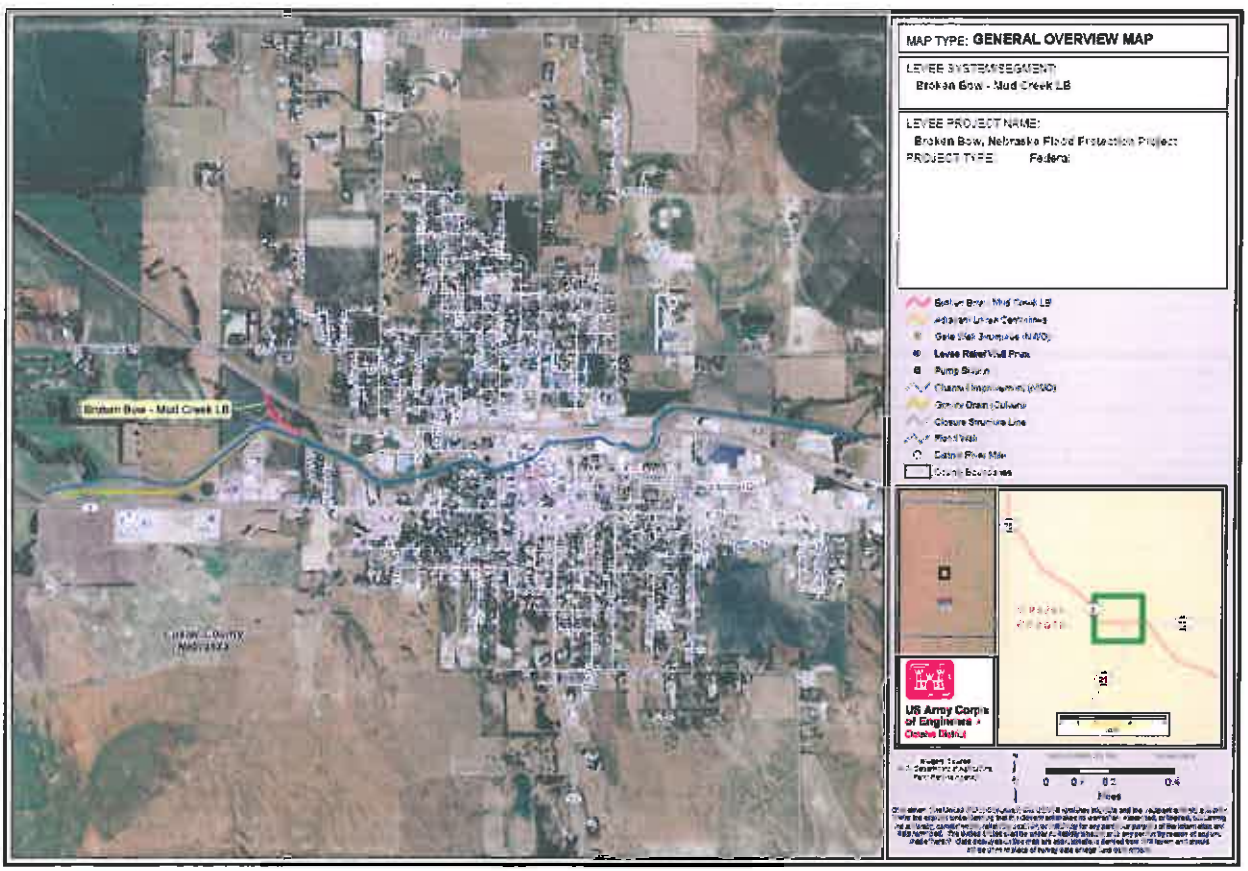

Figure 72. Broken Bow - Mud Creek Left Bank

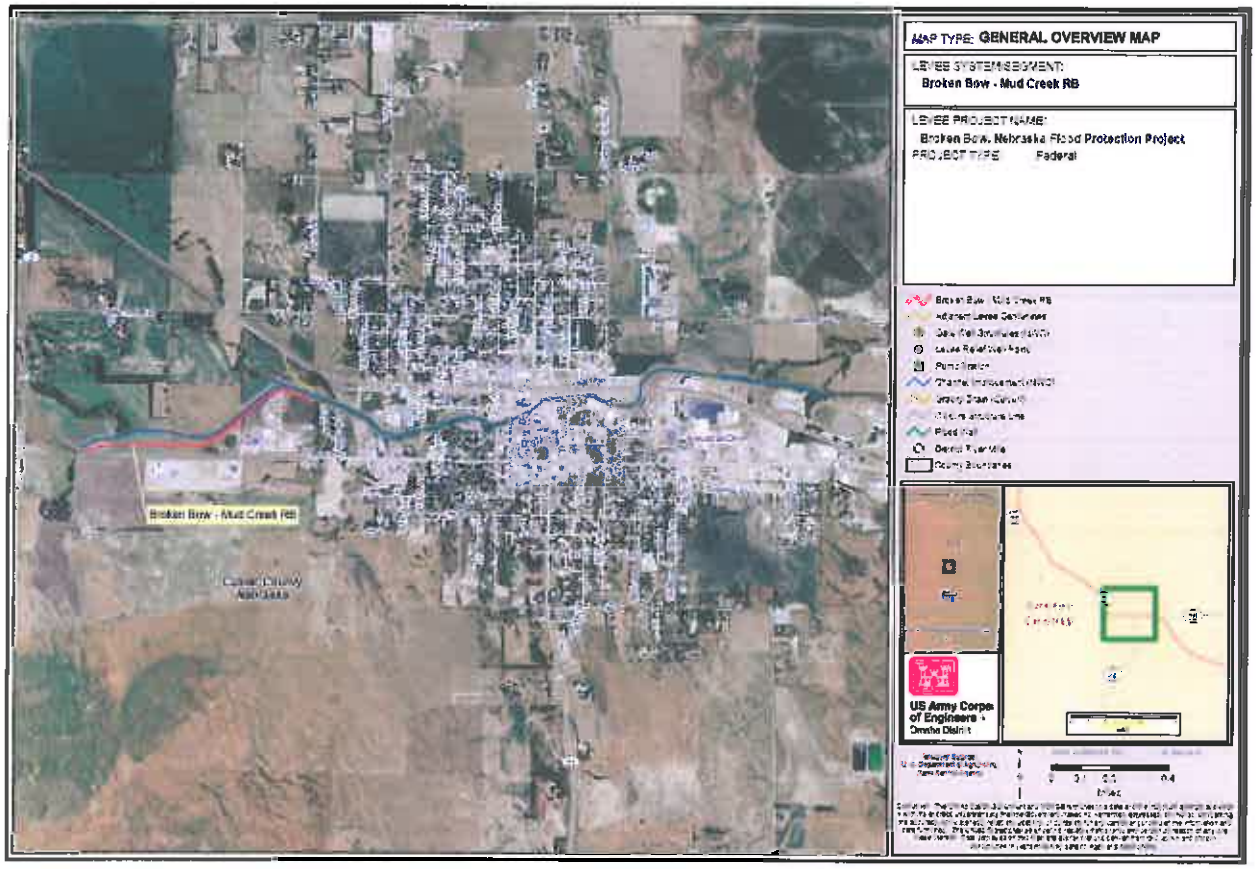

Figure 73. Broken Bow - Mud Creek Right Bank

Project Features: The flood protection project consists of approximately 15,700 feet of enlarged and realigned channels along an un-named tributary, the North and South Branches of Mud Creek and Mud Creek, a straight-drop spillway and stilling basin, 5,608 feet of earthen levees, rock protection, sod, and drainage structures (Figures 78 and 79).

Figure 74. View of the South 15th Avenue Bridge, looking upstream, shows Mud Creek flowing over the road during low flow periods

Figure 79. View of South 5th Avenue Bridge, looking upstream, shows how Mud Creek is confined

Existing Conditions:

Water Quality: The beneficial uses of Mud Creek include recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as a Category 4A water body, which designates the water body as impaired. The impairments are *E. coli* and atrazine, which impact recreation and aquatic life, respectively.

A TMDL (pollution plan) has been developed for *E. coli* which states the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water. The TMDL for atrazine states that the acute criteria shall be 330 ug/L based on a one-hour average concentration and the chronic criteria shall be 12 ug/L based on a four-day average concentration.

Aquatic Species: Mud Creek is devoid of riparian vegetation and is degraded throughout the project area as shown in Figures 78 and 79. Aquatic species within the confines of the civil works project are limited; however, in other areas of Mud Creek, crappie, largemouth bass, bream, sunfish, catfish, rainbow trout, smallmouth bass, walleye, and perch have been taken by anglers.

Noise: Sources of noise include urban disturbances such as automobile traffic, construction, and industry.

Wetlands: The USFWS NWI Database revealed no wetlands along the North and South Branches of Mud Creek or Mud Creek, which runs through the heart of Broken Bow.

Threatened and Endangered Species: American burying beetle, interior least tern, piping plover, western fringed prairie orchid, northern long-eared bat, and whooping crane are species listed in Custer County, Nebraska. Due to the lack of quality habitat and the regularly maintained brome grass found along the site, coupled with the urban setting of this civil works project site, these species are unlikely to occur where proposed alterations would be made.

4.3.13 Blackbird Creek

Name: Macy, Nebraska Flood Control Project

Location: The project is located at the confluence of the North and South Blackbird Creeks about one mile east of Macy in Thurston County, Nebraska (Figures 80 and 81).

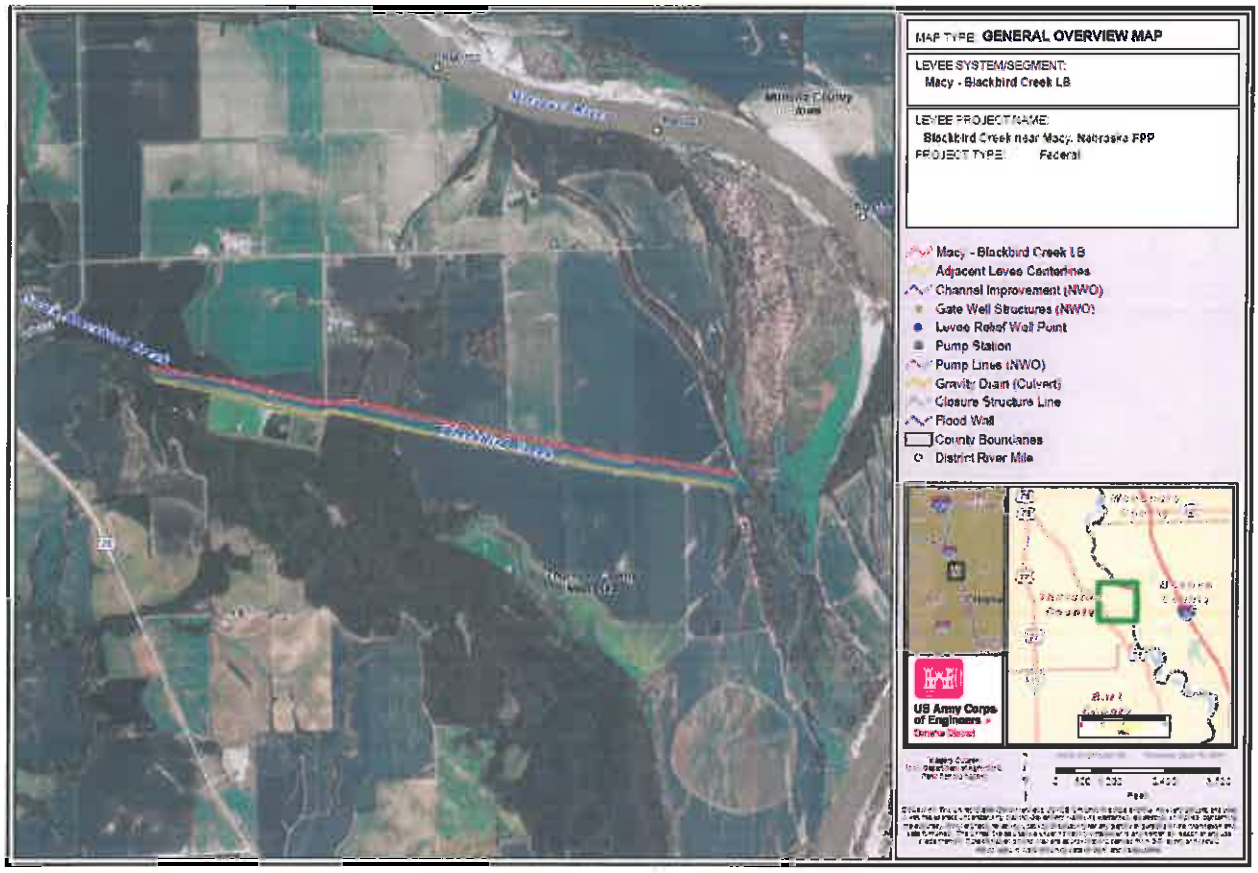

Figure 75. Macy - Blackbird Creek Left Bank

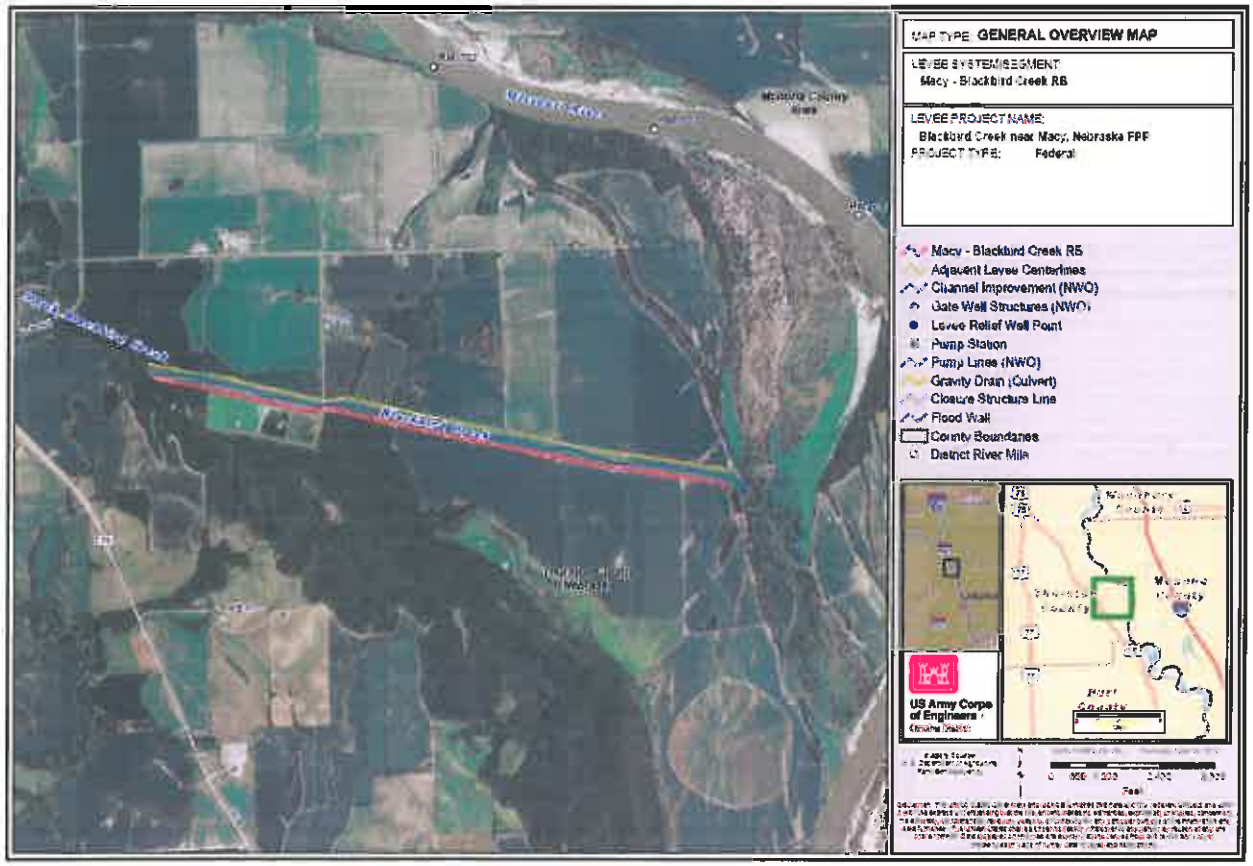

Figure 76. Macy - Blackbird Creek Right Bank

Project Features: The flood protection project consists of 13,240 feet of minor channel realignments along with a berm and levee on each bank, rock protection, access ramps, turnouts, and turnarounds.

Existing Conditions:

Water Quality: The beneficial uses of the North and South Blackbird Creeks have not been assessed. This water body is listed as a Category 3 water body, which designates the water body as having insufficient data to determine if any beneficial uses are being met.

Aquatic Species: Quality riparian habitat along the stretch of this civil works project is diminished. Aquatic species within the civil works project are limited although catfish, minnows, carp, suckers, goldeye, shiners, chub, dace, stoneroller, redhorse, killifish, crappie, bass, sauger, and darters are known to occur elsewhere in the creek where habitat conditions are more favorable (i.e., outside the confines of the civil works project).

Noise: Sources of noise generally include rural disturbances such as light automobile traffic, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no wetlands at the Macy Flood Control Project.

Threatened and Endangered Species: Pallid sturgeon, northern long-eared bat, and western fringed prairie orchid are listed species in Thurston County, Nebraska. However, due to the on-going maintenance activities that occur along the civil works project site, the lack of trees, and lack of big river features like those found in the Missouri and Platte rivers, these species are unlikely to occur where proposed alterations would be made.

4.3.14 Union and Taylor Creeks

Name: Madison, Nebraska Flood Control Project

Location: The project is located along the relocated channels of Union and Taylor Creeks within the northern limits of the city of Madison, Madison County, Nebraska (Figures 82 and 83).

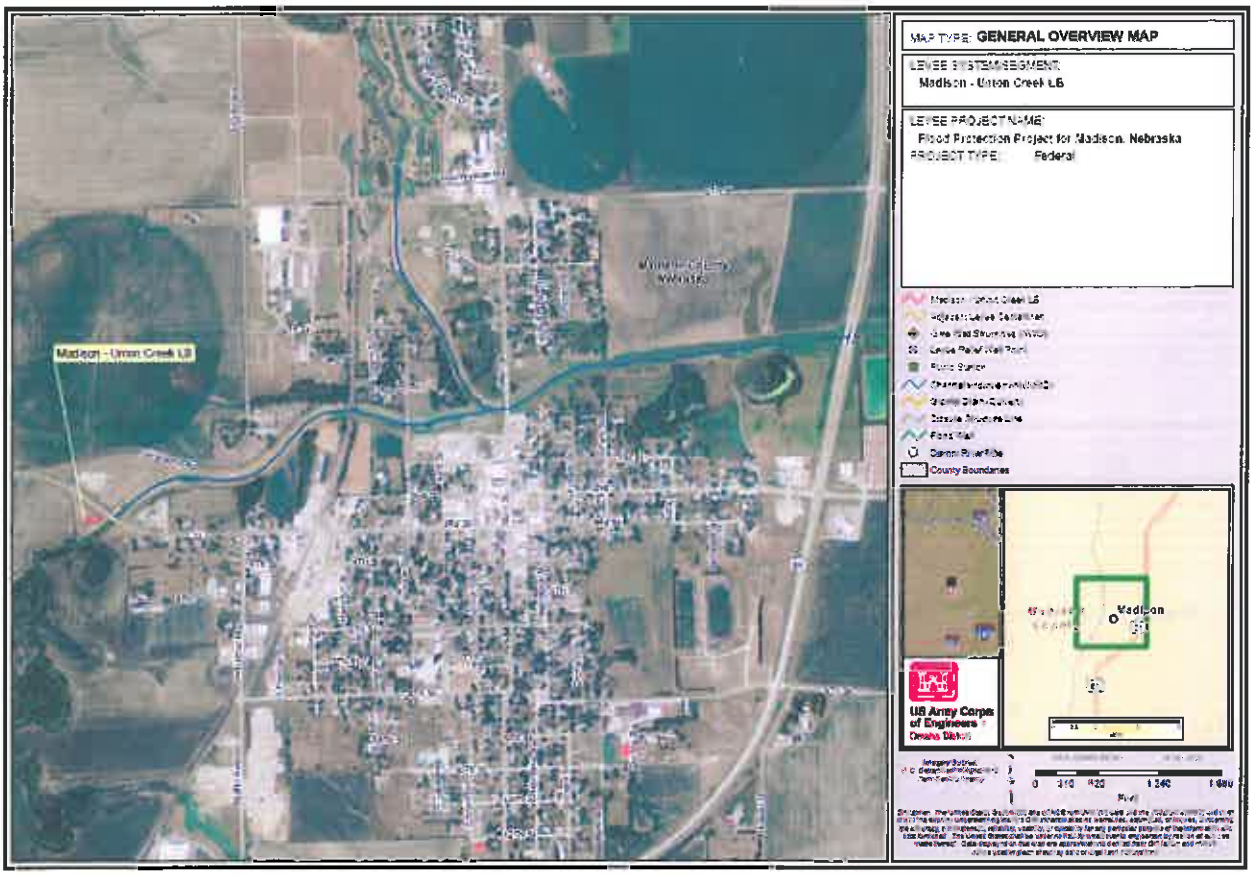

Figure 77. Madison - Union Creek Left Bank

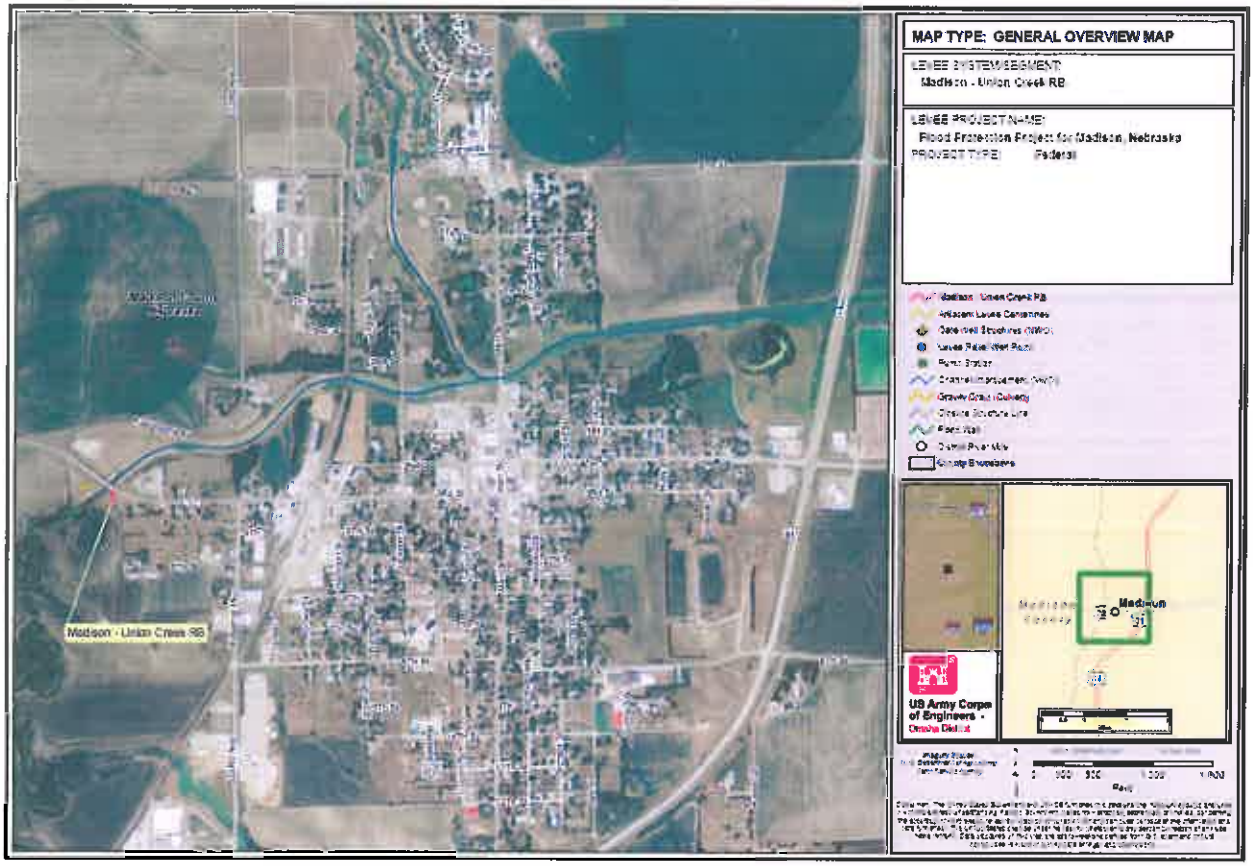

Figure 78. Madison - Union Creek Right Bank

Project Features: The flood protection project consists of channel realignment and enlargement, two 36-inch corrugated metal pipes, drop inlet structures, rock riprap protection, deflector dikes, and sod (Figures 84 and 85).

Figure 79. North Main Street Bridge, looking upstream, at the confluence of Union and Taylor Creeks

Figure 80. Highway 81 Bridge looking upstream

Existing Conditions:

Water Quality: The beneficial uses of Union Creek consist of recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli*) that cause impairment to one or more of the beneficial uses (recreation). No TMDL (pollution plan) has yet been developed for *E. coli*. A fish consumption assessment is being developed by the state of Nebraska.

The beneficial uses of Taylor Creek have not been assessed. This water body is listed as a Category 3 water body, which designates the water body as having insufficient data to determine if any beneficial uses are being met.

Aquatic Species: Habitat conditions along these creeks have been diminished by construction of the civil works project. Limited catch of catfish, minnows, carp, suckers, and bullhead have been reported. These species commonly feed, breed and shelter within these creeks.

Noise: Sources of noise include urban disturbances such as automobile traffic, construction, and industry.

Wetlands: The USFWS NWI Database revealed scattered freshwater emergent wetlands along these creeks.

Threatened and Endangered Species: Interior least tern, piping plover, Topeka shiner, western fringed prairie orchid, northern long-eared bat, and whooping crane are listed in Madison County, Nebraska. However, due to the on-going maintenance activities and lack of quality habitat along this civil works project site, only the whooping crane and northern long-eared bat would be likely to occur near the civil works project. Whooping crane may be found resting within adjacent agricultural lands on a seasonal basis during both spring and fall months. Northern long-eared bat may be found roosting in adjacent treed areas.

4.3.15 Buffalo Creek

Name: Meadow Grove, Nebraska Flood Control Project

Location: The project is located along the realigned channel of Buffalo Creek and is on the north and west sides of the village of Meadow Grove in Madison County, Nebraska (Figure 86).

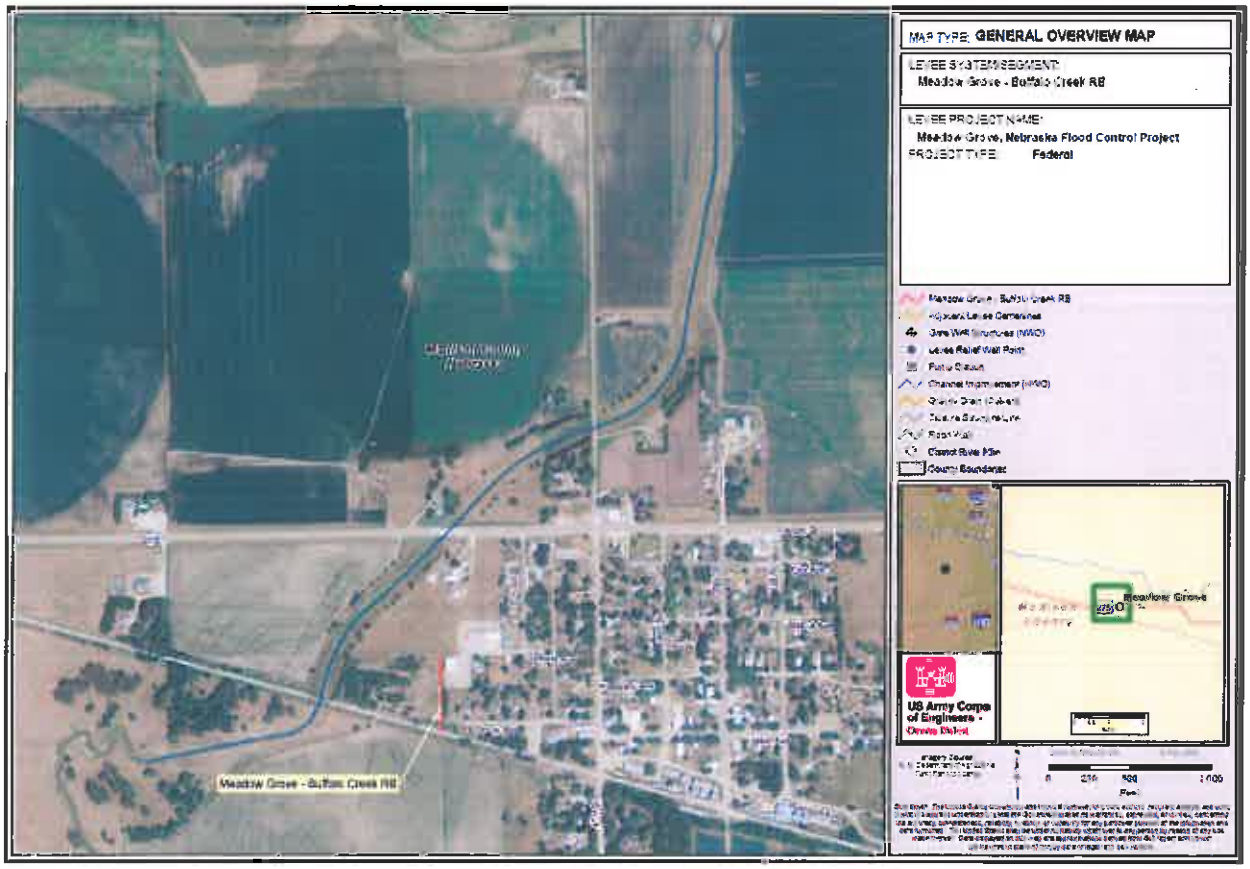

Figure 81. Meadow Grove - Buffalo Creek Right Bank

Project Features: The flood protection project consists of a 6,363-foot improved, realigned Buffalo Creek channel; a 419-foot right bank training dike, rock protection, sod, and tree plantings (Figures 87 and 88).

Figure 82. Front Street Bridge looking downstream

Figure 83. 4th Avenue Bridge looking downstream

Existing Conditions:

Water Quality: The beneficial uses of Buffalo Creek consist of aquatic life (Warm Water Class A) and aesthetics. This water body is listed as a Category 2 water body, which designates the water body as having some of the designated uses being met but has insufficient information to determine if all uses are being met. No impairments were identified.

Aquatic Species: Habitat conditions along the civil works project limit aquatic species to those able to exist in warm water environments. Aquatic species found intermittently feeding, breeding and sheltering in this creek include catfish, bass, minnows, carp, suckers, and bullhead.

Noise: Sources of noise include rural disturbances such as light automobile traffic, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no wetlands adjacent to the civil works project; however, it is likely that freshwater emergent wetlands occur along this creek.

Threatened and Endangered Species: Interior least tern, piping plover, Topeka shiner, western fringed prairie orchid, northern long-eared bat, and whooping crane are species listed in Madison County, Nebraska. Because of the on-going maintenance activities and the lack of quality habitat, it is likely that only the whooping crane and northern long-eared bat would be found associated with the civil works project where they would stop to rest in adjacent agricultural lands during their seasonal migrations or stop to roost in adjacent woody areas, respectively.

4.3.16 Lodgepole Creek and Deadwood Draw

Name: Sidney Flood Control Project, Lodgepole Creek and Deadwood Draw, Sidney, Nebraska

Location: The project is located in the south-central portion of Cheyenne County in the panhandle of Nebraska. Deadwood Draw flows south through the western edge of Sidney where it joins Lodgepole Creek which flows generally east through the southern portion of Sidney (Figures 89, 90, and 91).

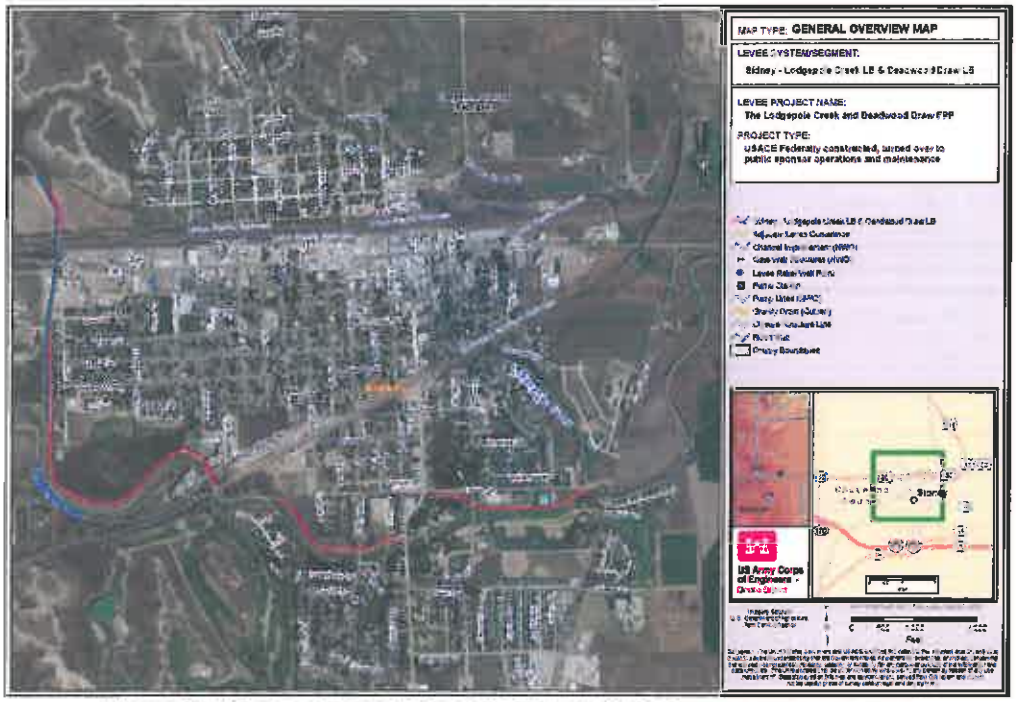

Figure 89. Sidney - Lodgepole Creek Left Bank & Deadwood Draw Left Bank

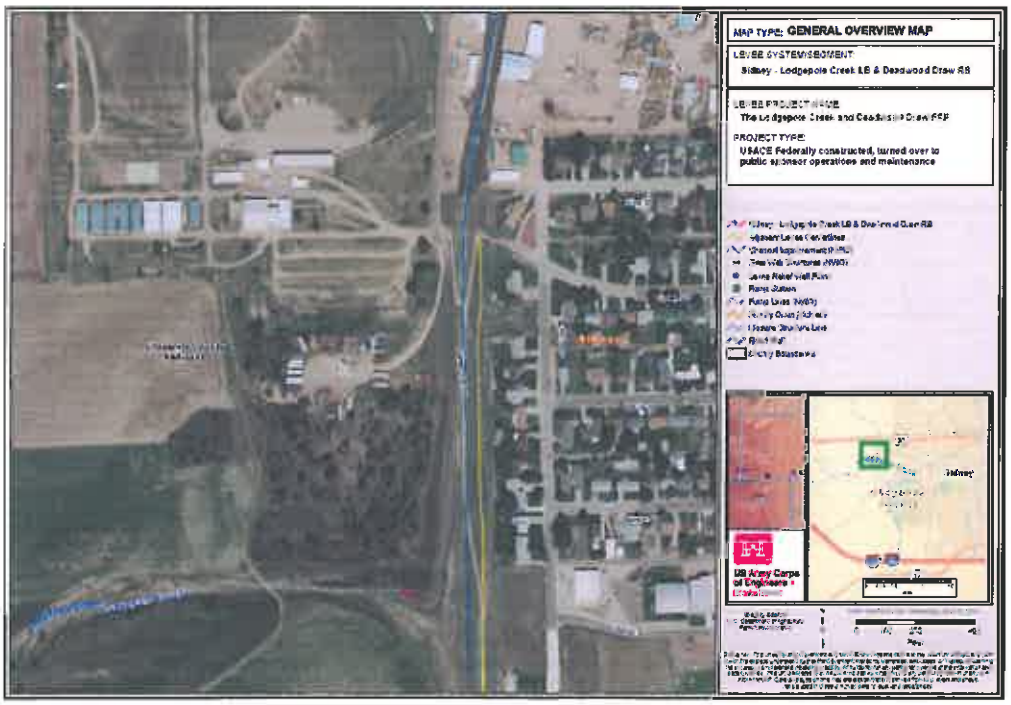

Figure 84. Sidney - Lodgepole Creek Left Bank and Deadwood Draw Right Bank

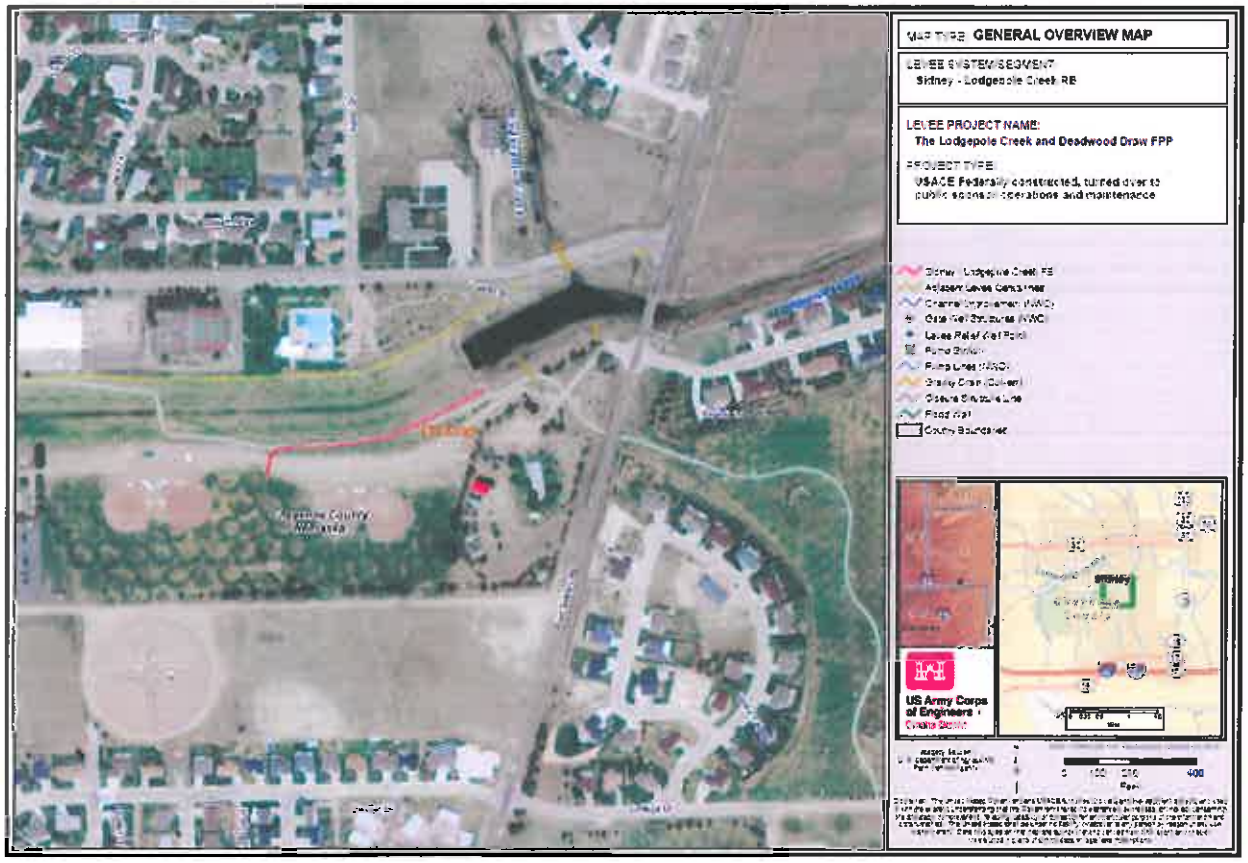

Figure 85. Sidney - Lodgepole Creek Right Bank

Project Features: The flood protection project consists of a 2.4-mile long improved Lodgepole Creek channel and a 0.8-mile long improved Deadwood Draw channel, 10,975 feet of levee on Lodgepole Creek and 2,020 feet of levee on Deadwood Draw, seepage berms, crushed rock surfacing, drainage structures, bridges, grade control structures, low flow crossings, V-ditches, fence and gate structures, and a flood warning system (Figures 92 and 93). An addendum to the Operations and Maintenance Manual added a bikeway, rock riprap, rock sills, and channel bedding.

Figure 86. Sidney Draw Road Bridge looking downstream

Figure 87. Legion Park Bridge looking downstream

Existing Conditions:

Water Quality: The beneficial uses of Lodgepole Creek consist of aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in

this case selenium) that cause impairment to one or more of the beneficial uses (aquatic life). No TMDL (pollution plan) has yet been developed for selenium. An aquatic community assessment is being developed by the state of Nebraska. No assessment has been conducted for Deadwood Draw.

Aquatic Species: Habitat conditions associated with the civil works project are greatly diminished. Aquatic species in these creeks would be confined to minnows and carp.

Noise: Sources of noise include urban disturbances such as automobile traffic, construction, and industry.

Wetlands: The USFWS NWI Database revealed no wetlands associated with the civil works project.

Threatened and Endangered Species: Whooping crane is listed in Cheyenne County, Nebraska, and may be associated with agricultural lands adjacent to the civil works project where they may be seen resting during their seasonal migrations.

4.3.17 Pebble Creek and Elkhorn River

Name: Scribner, Nebraska Flood Protection Project

Location: The levee project is located in east Scribner, Dodge County, Nebraska along Pebble Creek and the Elkhorn River (Figure 94).

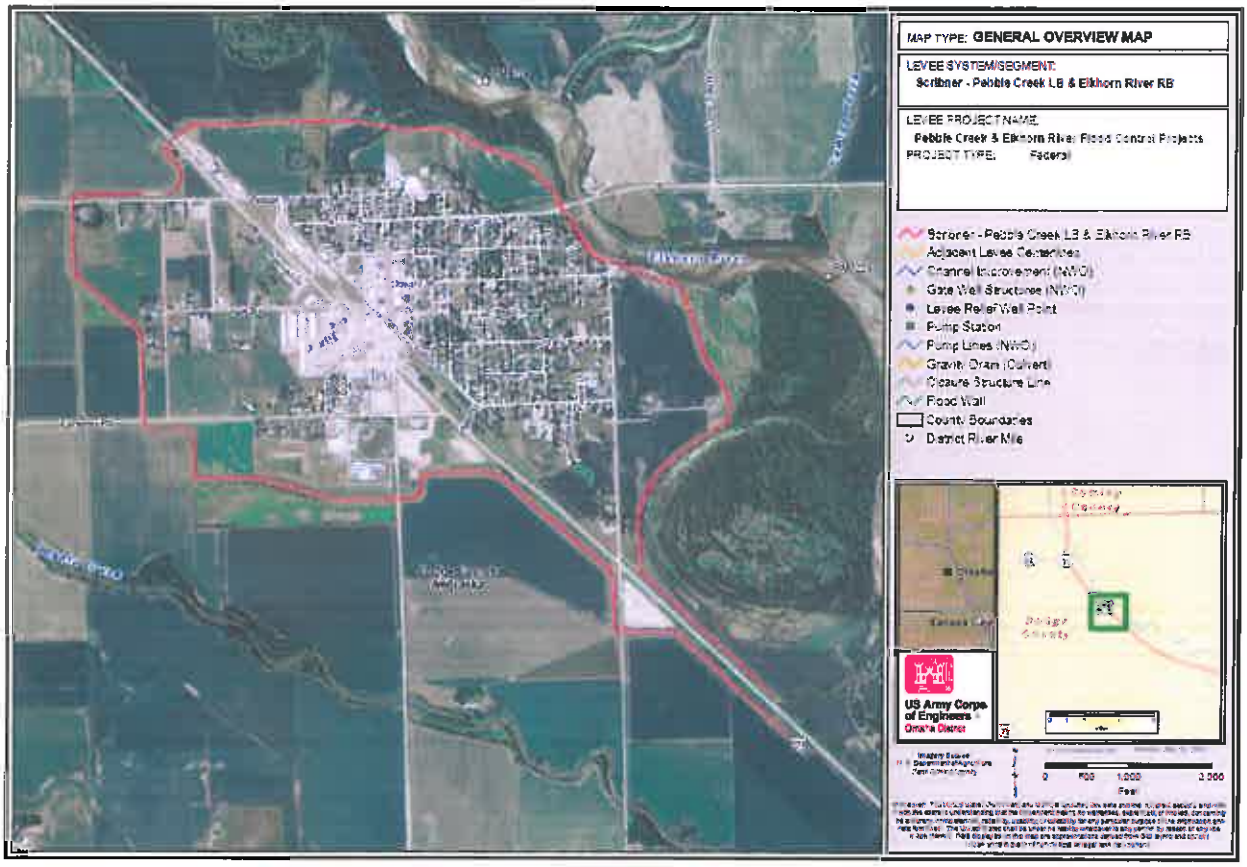

Figure 88. Scribner - Pebble Creek Left Bank & Elkhorn River Right Bank

Project Features: The Pebble Creek portion of the flood protection project consists of 18,300 feet of levee, road raises, ramps, turnouts, turnarounds, V-ditches, sod, borrow pits, drainage ditches, bank protection, crushed rock surfacing, bar gates, a flood warning system, and closure structures.

The Elkhorn River portion of the flood protection project consists of 10,650 feet of road raises, ramps, turnouts, turnarounds, V-ditches, sod, borrow pits, drainage ditches, drainage structures, bank protection, crushed rock surfacing, bar gates, a flood warning system, and levee topping closure structures (Figures 95 and 96).

Figure 89. Bridge Street Bridge looking downstream at the Elkhorn River

Figure 90. Highway 91 looking southwest at the levee

Note: Pebble Creek is along the tree line approximately 2,000 feet away in the above photo.

Existing Conditions:

Water Quality: The beneficial uses of Pebble Creek include recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as a Category 5 water body, which designates the water body as having one

or more pollutants (in this case *E. coli* and selenium) that cause impairment to one or more of the beneficial uses (recreation and aquatic life, respectively). No TMDL (pollution plan) has yet been developed for selenium. A TMDL (pollution plan) has been developed for *E. coli* and states that the concentration shall not exceed a geometric mean of 126 Colony Forming Units per 100 milliliters of water. A 4C justification was approved for selenium, which means the impairment is the result of a natural cause such as landscape geology or climactic conditions, not a pollutant. An aquatic community assessment is being developed by the state of Nebraska.

The beneficial uses of the Elkhorn River include aquatic life (Warm Water Class A) and recreation (Class A – primary contact). The Elkhorn River is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case *E. coli*) that cause impairment to one or more of the beneficial uses (recreation). No TMDL (pollution plan) has yet been developed although a fish consumption assessment is being prepared by the state of Nebraska.

Aquatic Species: Pebble Creek is treed-lined and likely supports favorable habitat conditions for aquatic species such as catfish, minnows, carp, pike, bream, and perch. The Elkhorn River contains substantial riparian habitat in the form of in-stream vegetation which supports sunfish, bullhead, carp, catfish, crappie, pike, pickerel, sauger, and walleye. These species are regularly sought after by anglers and are known to feed, breed, and shelter within the Elkhorn River on a year-round basis.

Noise: Sources of noise include rural disturbances such as light automobile traffic, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no wetlands associated with the civil works project.

Threatened and Endangered Species: Interior least tern, piping plover, pallid sturgeon, northern long-eared bat, and western fringed prairie orchid are species listed in Dodge County, Nebraska. Pallid sturgeon is found in large turbid rivers such as the Missouri River and Platte River and, thus, not likely to occur near these civil works sites. Due to the continuous maintenance activities associated with the civil works projects, western fringed prairie orchids likely are not found. It is likely that interior least tern and piping plover could be seen feeding on sandbars within the Elkhorn River near these civil works project sites. Adjacent treed areas may provide roosting habitat for the northern long-eared bat.

4.3.18 Platte River and Lost Creek

Name: Schuyler, Nebraska Flood Protection Project

Location: The project is located along a natural divide between the left bank of the Platte River and Lost Creek, approximately 3.5 miles southwest of the city of Schuyler, Colfax County, Nebraska (Figure 97).

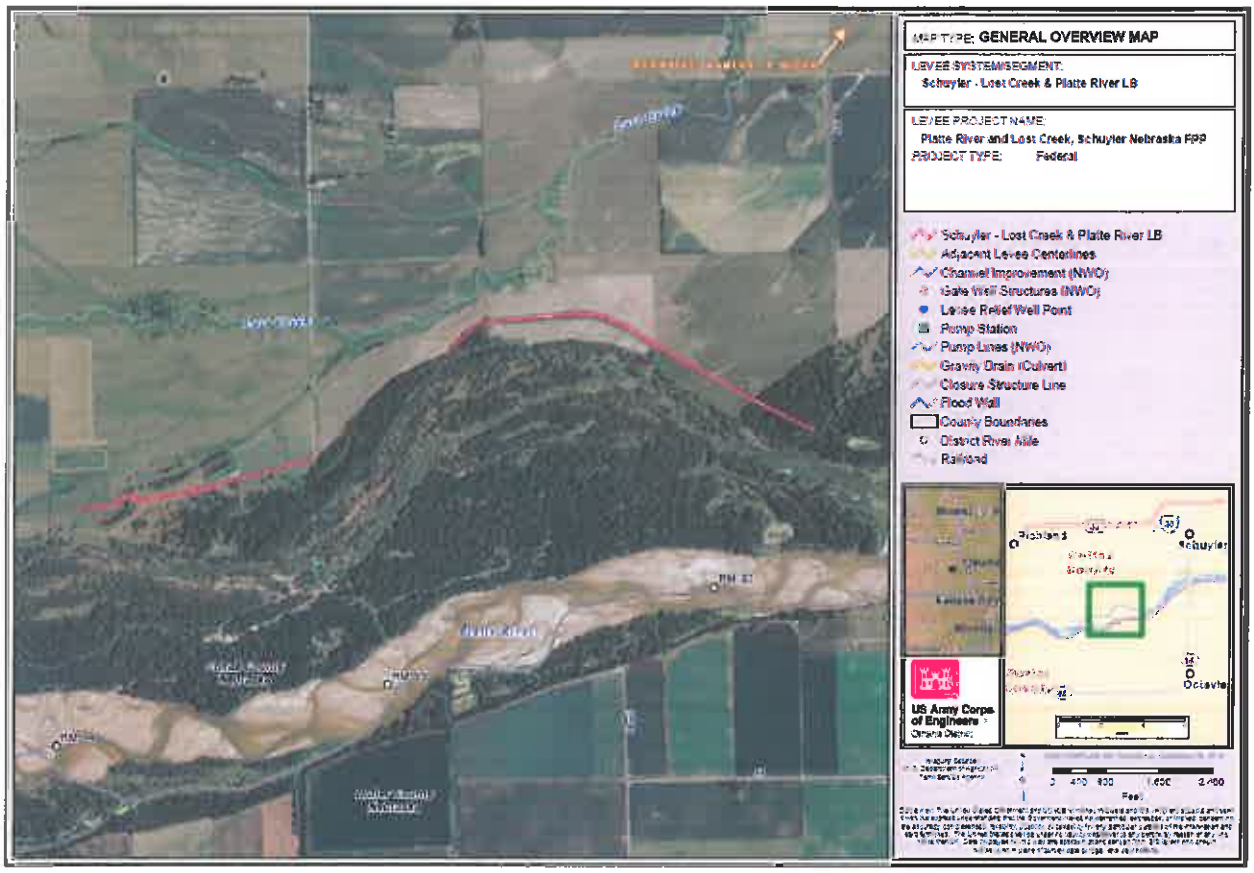

Figure 91. Schuyler – Lost Creek and Platte River Left Bank

Project Features: The flood protection project consists of a 3,800-foot upstream levee section and a 6,400-foot downstream levee section, 2,400 feet of lumber mattress, stone revetment, and stone fill dikes.

Existing Conditions:

Water Quality: The beneficial uses of the Platte River include recreation (Class A – primary contact), aquatic life (Warm Water Class A), agricultural water supply (Class A), and aesthetics. The Platte River is listed as a Category 4A water body, which designates the water body as impaired. The impairment is fecal coliform, which impacts recreation. A TMDL (pollution plan) has been developed for fecal coliform and states that the fecal coliform group

shall not exceed a geometric mean of 200/100 ml, nor exceed 400/100 ml, in more than 10 percent of samples. These criteria apply during the recreational period of May 1 through September 30.

The beneficial uses of Lost Creek have not been assessed. Lost Creek is listed as a Category 3 water body, which designates the water body as having insufficient data to determine if any beneficial uses are being met.

Aquatic Species: Aquatic species found feeding, breeding and sheltering year-round in the drainages associated with this civil works project include sturgeon, gar, mooneye, herring, shad, minnow, stoneroller, shiner, carp, minnow, chub, dace, sucker, buffalo, redhorse, catfish, bullhead, killifish, stickleback, perch, walleye, drum, bass, sunfish, crappie, perch, and darter due to the favorable riparian vegetation and dynamic nature of these water courses.

Noise: Sources of noise include rural disturbances such as light automobile traffic, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no freshwater emergent wetlands or freshwater forested/shrub wetlands along the civil works project.

Threatened and Endangered Species: Interior least tern, piping plover, pallid sturgeon, northern long-eared bat, and western fringed prairie orchid are species listed in Colfax County, Nebraska. Because of the on-going maintenance activities and established brome grass along these civil works projects, the western fringed prairie orchid does not occur here. However, the interior least tern, piping plover, and pallid sturgeon are known to occur within and along the Platte River so they may be found adjacent to the civil works projects. Adjacent treed areas may provide roosting habitat for the northern long-eared bat.

4.3.19 Wood River

Name: Wood River Flood Protection Project, Wood River, Grand Island, Nebraska

Location: The levee project starts about three miles south and four miles west of Grand Island at the intersection of Engleman Road and Schimmer Drive in Hall County, Nebraska. The project continues eastward for about seven miles to its confluence with the Platte River (Figures 98 and 99).

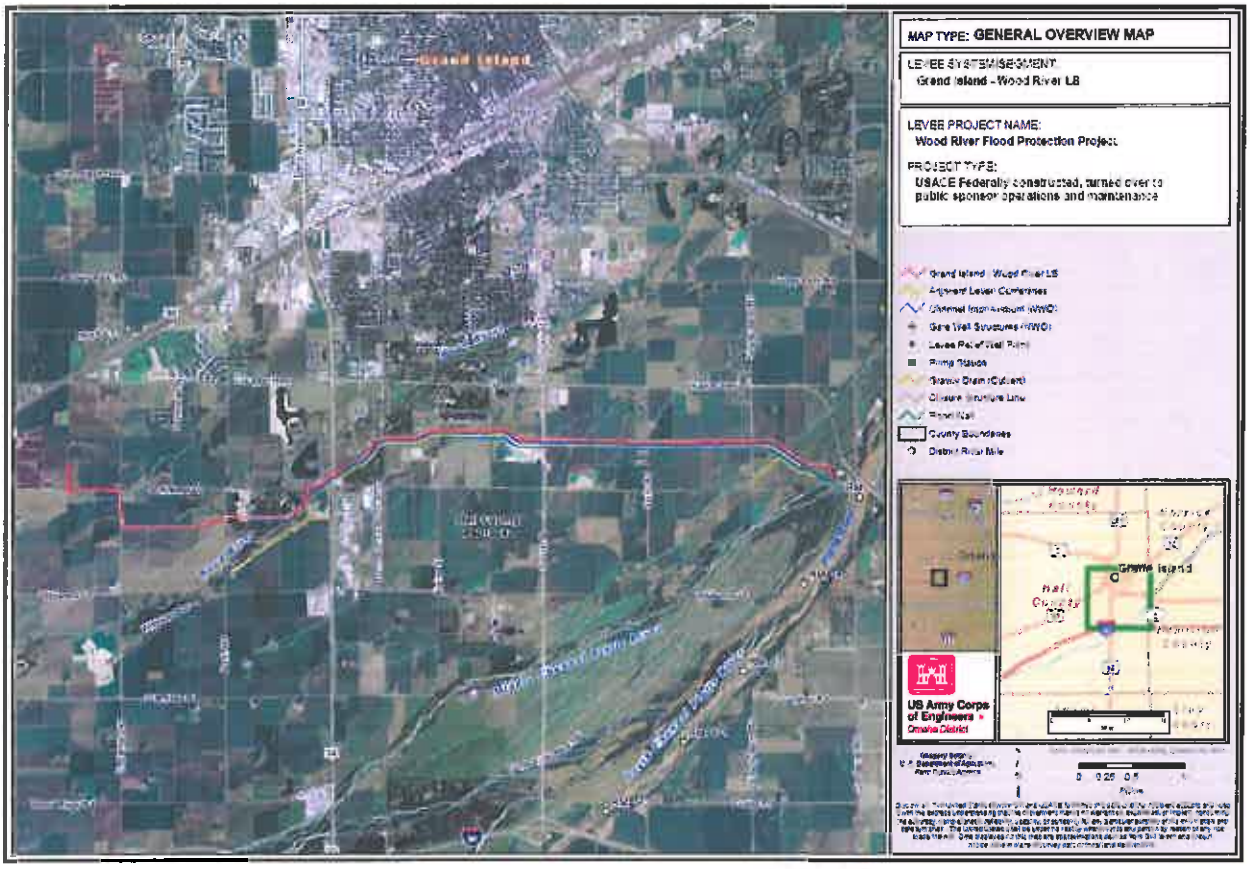

Figure 92. Grand Island - Wood River Left Bank

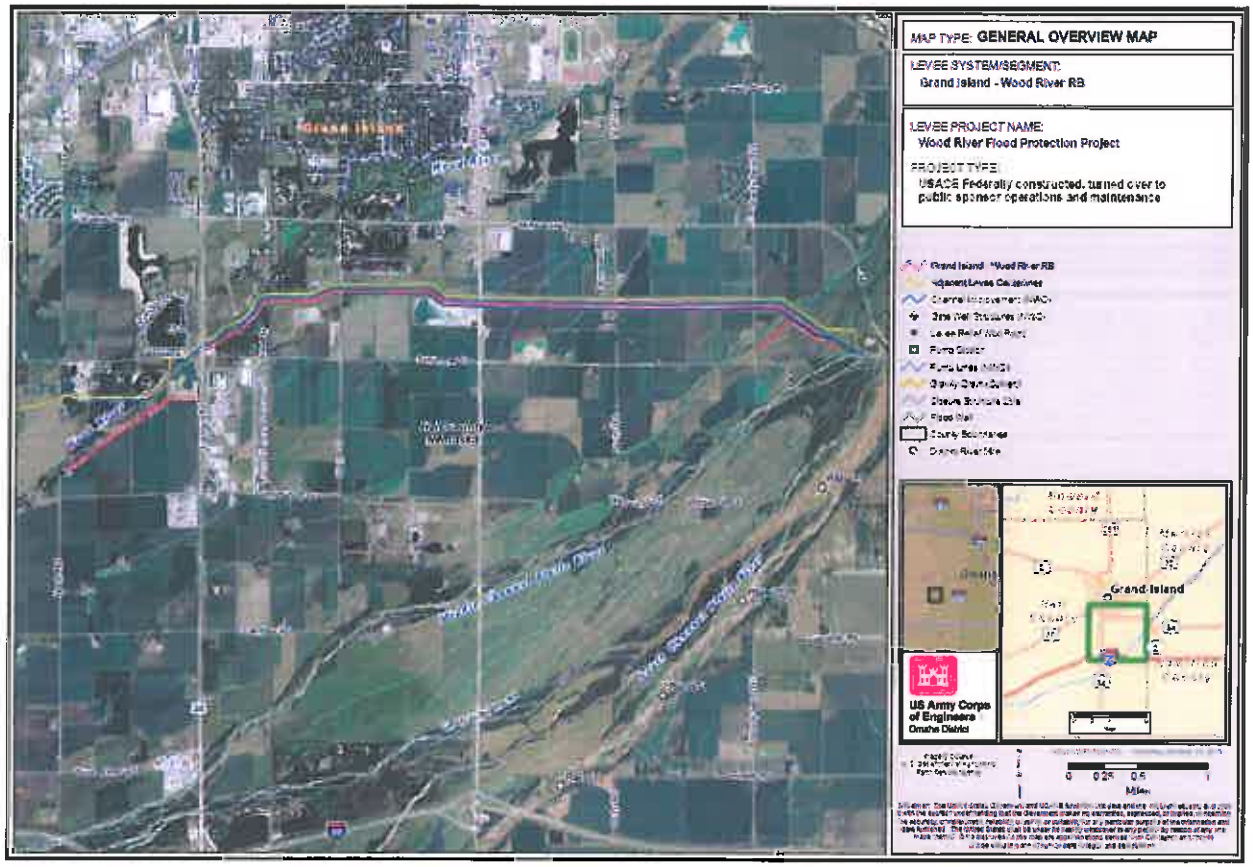

Figure 99. Grand Island - Wood River Right Bank

Project Features: The Wood River flood protection project consists of the following major features: west diversion channel, east diversion channel, north levee, south levee, Wood River levee, south drainage channel, and diversion structure and weir. Minor features include the Engleman tie-off levee, east tie-off levee, Shady Bend Road levee, drainage culverts, Union Pacific Railroad Bridge, bridges and culverts, and five county roads that cross the project (Blaine Street, South Locust Street, Stuhr Road, Shady Bend Road, and Engleman Road), sod, and wildlife habitat (a wetland, native grasses, and a remnant wet meadow) (Figure 100).

Figure 93. South Stuhr Road Bridge looking downstream

Existing Conditions:

Water Quality: The beneficial uses of the Wood River consist of aquatic life (Warm Water Class A), agricultural water supply, and aesthetics. This water body is listed as a Category 5 water body, which designates the water body as having one or more pollutants (in this case selenium and ammonia) that cause impairment to one or more of the beneficial uses (aquatic life). No TMDL (pollution plan) has yet been developed for these pollutants.

Aquatic Species: Within areas of the civil works project, aquatic species are limited due to the degraded habitat conditions. Elsewhere in the Wood River where habitat is more favorable, gar, herring, shad, shiner, sucker, catfish, minnow, carp, killifish, sunfish, perch, and drum may be found.

Noise: Sources of noise include urban and rural disturbances such as automobile traffic, construction, industry, farm machinery, and natural sounds.

Wetlands: The USFWS NWI Database revealed no wetlands associated with the civil works project although freshwater emergent wetlands along this water course are likely.

Threatened and Endangered Species: Interior least tern, piping plover, western fringed prairie orchid, northern long-eared bat, and whooping crane are species listed in Hall County, Nebraska. Due to the lack of quality habitat along this civil works project site, it is likely that only the whooping crane and northern long-eared bat would be found near the civil works project where they may be seen resting in adjacent agricultural fields during seasonal migrations or roosting in adjacent woody areas, respectively.

5. Environmental Consequences

This chapter presents the environmental effects of the No Action Alternative (Alternative 1) and the Preferred Alternative (Alternative 2). The impact analysis contained within this Programmatic EA was developed based on past experience. Past experience showed that the environmental analysis on these types of projects had environmental impacts that were minor to negligible. Upon approval of this Programmatic EA, all future Section 408 requests will undergo an initial review to ensure compliance with applicable laws and that the proposed alteration fits within the scope of the Programmatic EA. If it is determined that the proposed request to alter a USACE civil works project would result in impacts greater than minor to negligible as described in this EA, a stand-alone EA or EIS would be prepared for that request. Examples of instances where a proposed Section 408 alteration request would result in impacts greater than minor or negligible to the environment and, subsequently require a stand-alone EA or EIS, would include:

1. Any proposed alteration that may adversely affect any threatened or endangered species in accordance with the Endangered Species Act.

2. Any proposed alteration that would result in the 'take' of migratory birds as defined in the Migratory Bird Treaty Act.

3. Any proposed alteration that would result in the transfer of any invasive species to new locations.

4. Any proposed alteration that would require an individual Clean Water Act Section 404 permit.

5. Any proposed alteration that would exceed state water quality standards.

6. Any proposed alteration that would encourage additional development within the floodplain.

7. Any proposed alteration that may adversely affect any cultural resources or not be in compliance with Section 106 of the National Historic Preservation Act.

8. Any proposed alteration that would have more than negligible to minor vegetative impacts to grasslands or treed areas.

9. Any proposed alteration that would result in any impacts to federal mitigation areas and/or lands specified as ecosystem restoration areas.

10. Any proposed alteration that does not use Horizontal Directional Drilling (HDD), Jack and Bore and/or overhead utility construction when crossing a wetland or other Waters of the U.S.

11. Any proposed alteration that requires off-site tree clearing activities that have a connected use to the civil works project and does not complete the clearing within the winter months when neither nesting migratory birds nor listed bats are in the area.

This section presents the effects of each of the alternatives on the existing resource. Impacts are quantified whenever possible.

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

- Magnitude
  a. No Impact – there is no effect to the resource.
  b. Negligible – there is no discernible impact to the resource in the project area, but the resource is likely affected due to human presence.
  c. Minor – there are noticeable impacts to the resource in the project area, but the resource is still mostly functional.
- Duration
  a. Short term – temporary effects caused by the construction and/or implementation of a selected alternative. Note: Because this Programmatic EA identifies those Section 408 alterations that can be categorically permitted, there are no instances in which the duration of the impact would be long term as a long-term impact could be deemed more than minor.

5.1 Alternative 1 - No Action

Under the No-Action Alternative, Section 408 categorical permissions would not be developed. All requests to alter USACE projects would continue to be evaluated on a case-by-case basis with the preparation of an individual EA or EIS to determine if the alteration would be injurious to the public interest or impair the usefulness of the USACE project.

5.2 Alternative 2 - Utilize a List of Categorical Permissions to Expedite the Section 408 Review and Approval Process (Preferred Alternative)

Under Alternative 2, the list of categorical permissions identified in this Programmatic EA would be adopted and a streamlined review and approval process would be conducted.

5.2.1 Detailed Description of Environmental Impacts Associated with Construction of the Categorical Permissions

5.2.1.1 Noise

Construction of some of the categorical permissions could be accomplished with a small work crew and the use of hand tools. In those instances, no discernible noise would be generated. However, in other cases, proposed alterations would require the use of heavy construction

equipment. The operation of heavy construction equipment would result in a discernible increase in noise at the project sites. The noise may cause wildlife species to leave or avoid the area. To avoid or minimize construction-related noise impacts on sensitive wildlife species, preconstruction surveys may be required to determine if sensitive species are located in the vicinity of the proposed alteration, at staging areas, or within borrow areas. Coordination with the USFWS would be implemented if sensitive species are identified and a determination is made that construction-related noise could affect the sensitive species. Measures recommended by the USFWS to minimize noise impacts to sensitive species may then be required, and could include establishing an appropriate buffer area around the identified species' location, enforcing temporal restrictions on construction activities, and/or establishing access restrictions on construction personnel and vehicles.

Additionally, noise from the operation of construction equipment could create a disturbance that disrupts individuals engaged in recreational activities or those participating in day-to-day activities in noise-sensitive areas (hospitals, churches, residences). Construction-related noise could reduce the recreational enjoyment of individuals by diminishing the peaceful atmosphere that nature provides or by scaring fish and wildlife away from the area where the recreationalist might be fishing, hunting, or wildlife viewing. Construction-related noise also could irritate individuals in noise-sensitive areas by interfering with their resting, worshipping, and normal day-to-day activities. To reduce construction-related noise, Best Management Practices (BMPs) would be implemented. BMPs would include avoiding idling heavy construction equipment when not immediately needed to reduce noise during the daylight hours, and not operating heavy construction equipment during the hours between sunset and sunrise to limit noise when most individuals are resting. Upon completion of the construction, noise would cease and thus no long-term impacts are anticipated.

Overall, the construction-related noise from implementation of categorically permitted alterations would be considered minor and short-term. Construction-related activities would be conducted only during daylight hours when other noise-generating activities regularly occur (traffic, agricultural practices, and airplanes) and, thus, it would blend into other normal daytime sounds. Not idling construction equipment and implementing measures recommended by the USFWS would help minimize noise impacts on the surrounding environment. Fish and wildlife displaced from the area during construction could return to the area once construction is completed as no long-term noise is anticipated. Based on the above analysis, noise generated during the proposed categorically permitted Section 408 alterations would not be considered significant.

5.2.1.2 Air Quality

The operation of construction equipment would result in slight and temporary increases in particulate matter in the immediate area of where the construction equipment would be operating. The increase in particulate matter would stem from equipment exhaust and dust generated from the movement of the construction equipment. Best Management Practices, such as avoiding idling construction equipment when not immediately needed and wetting or

otherwise preparing the construction site prior to and during construction activities, would be implemented to reduce dust and adverse air quality impacts. The construction-related increases in particulate matter would cease upon completion of the proposed alteration and no long-term adverse air quality impacts would occur. As such, with the implementation of BMPs, the minor input of particulate matter to the environment generated during construction of the categorically permitted Section 408 alterations would not be considered significant as no NAAQS for criteria pollutants would be exceeded.

5.2.1.3 Water Quality

Construction of some categorically permitted alterations could impact water quality by increasing sediment loads in waterways adjacent to where construction is occurring. Increased sediment impacts water quality by increasing turbidity. Turbidity can reduce the aesthetic quality of a waterbody by making the water appear cloudy or murky and, thereby impact recreation. Turbidity can harm fish and other aquatic species by reducing food supplies, degrading spawning beds, and affecting gill function. Turbidity also can reduce sunlight penetration in the water, which reduces photosynthesis of aquatic plants, and in turn reduces the amount of dissolved oxygen in the aquatic environment. Sediment absorbs heat, so turbidity can raise the surface water temperature and impact species accustomed to colder water environments. Sediments can add nutrients such as nitrogen and phosphorus to the water and cause unexpected algae growth. When the algae die and decompose, dissolved oxygen is used, which adversely impacts dissolved oxygen uptake by aquatic species. Alterations that require earth-moving activities such as shaping and grading levee slopes and placing rock riprap are examples of how sediment can enter the waterway and increase turbidity. Eroding soil from bare construction sites is another way sediments could reach the adjacent waters. To minimize water quality impacts caused by increased sediments, BMPs such as using hay bales and silt fences would be employed around the construction site to minimize sediment movement from bare areas and during earth-moving operations. Following construction, all bare areas not otherwise hard-surfaced, would be planted with native vegetation to help hold sediments in place.

Gas, oil, and other fluids leaking from ill-maintained construction equipment are examples of pollutants that may enter the waterway and impact water quality. Construction fluids can enter the waterways in two ways: directly from dripping machinery or indirectly if spilled on the ground and carried to the waterway by overland storm flows. Petroleum products do not dissolve in water and can stick to everything from sediments to wildlife. Petroleum products are toxic to wildlife and plants and if introduced to the aquatic environment, can cause death. To minimize water quality impacts caused by gas, oil, and other fluids, BMPs such as ensuring construction equipment used on site is properly maintained to prevent leakage and is power-washed with at least 140 degree water at an approved wash site to remove grease, oil, and noxious plant and animal species and parts before entering the proposed construction site.

Additionally, the construction representative would ensure that he/she complies with requirements related to stormwater discharges from construction activities. This would include obtaining a National Pollutant Discharge Elimination System (NPDES) permit if more than one

acre of ground would be disturbed as part of the overall project and preparing a stormwater pollution prevention plan. The construction representative also would be required to obtain a CWA Section 401Water Quality Certification to ensure that no state water quality standards would be exceeded. These conditions, when implemented, would greatly limit the amount of sediment and pollutants that could enter area waterways. Activities that meet the conditions of the identified BMPs, requirements, and permits do not usually result in more than minor impacts to water quality because the potential contaminants are removed from the site prior to entrance, contained on site, and/or have minimal exposure to the waterway. As such, any minor input of pollutants would not significantly impact water quality or result in significant impacts to related uses such as aquatic life, recreation, agricultural water supply, aesthetics, public drinking water, or industrial water supply.

5.2.1.4 Wetlands

Construction of categorical permissions would employ horizontal directional drilling, jack and bore, or overhead utility construction as first choices when encountering wetlands. These actions would result in no impact to wetlands as the activities would avoid the wetlands by traversing under or over them. However, in the event that open cutting is used, construction equipment could inadvertently introduce fill into the wetland or impact the clay lining that retains water within the wetland during the construction activity. If fill is introduced into a wetland or the clay lining is impacted, the wetland's ability to function normally could be impacted. Thus, when open-cutting is proposed, the NWO would ensure that any impacts to the wetlands from construction activities are kept to a minimum and fall within the limits of a Nationwide or Regional General Permit. Since it has been determined that Nationwide and Regional General Permits have minimal individual and cumulative adverse effects, the proposed method would not result in significant adverse impacts to wetlands. If impacts do not fall within the scope of a Nationwide or Regional General Permit, then a supplemental or stand-alone NEPA document would be required.

In some instances, bore pits may need to be constructed off of USACE civil works boundaries in order to provide appropriate space to conduct the horizontal directional drilling. In these instances, an assessment of that area would occur to ensure that bore pit construction would have no adverse impacts to wetlands above that allowed under a Nationwide or Regional General Permit. If it can be demonstrated that no impacts to wetlands occur from the offsite bore pit construction, or the offsite bore pit construction would result in impacts that fall within the limits of a Nationwide or Regional General Permit, the proposed alteration would fall within the guidelines of a categorical permission and the impacts would not be considered significant.

5.2.1.5 Terrestrial Vegetation

The vegetation that covers civil works project areas consists of either non-native species (fescue, brome or rye grasses) that are regularly maintained (mowed) or native grass species that are left in a more natural state. On levees, which are designed to hold back water, non-native species (i.e. brome grass) that are regularly maintained are preferred in order to provide uniformity along the course of the levee to allow levee inspectors to easily determine if any deficiencies are

present. The regular maintenance of vegetation also keeps trees from growing on the levee so that their roots do not have an opportunity to destroy the integrity of the levee. Seepage berms, which are constructed landside of the levee, are not designed to hold back water but rather designed to provide weight behind the levee to help control under-seepage flows and keep those flows from 'boiling up' near the toe of the levee. Because seepage berms do not require the same level of inspection or performance as levees, native grasses are sometimes planted on these features and left in a natural state to provide habitat for wildlife.

During construction of categorically permitted Section 408 alterations, vegetation may need to be cleared or grubbed to provide a workable surface area for construction of the alteration; to provide staging areas for construction equipment, supplies, and/or vehicles; or to provide areas for bore pit construction when horizontal directional drilling is proposed. To ensure that alterations do not result in more than negligible to minor impacts on vegetation, any degradation to terrestrial vegetation shall be repaired to its pre-construction condition. Thus, following construction, any disturbed area not otherwise hard-surfaced would be replanted with vegetation that existed prior to the disturbance unless the disturbed area contained weedy species. In cases where weedy species were impacted, native vegetation or non-native grasses would be replanted depending upon the location of the disturbed area (i.e., on levees non-native grasses would be planted, on seepage berms native vegetation would be used). As such, no significant impacts to vegetation are anticipated.

When lands outside of the civil works boundaries are needed to construct categorically permitted alterations, they are considered 'linked' to the categorical permission. For linked areas (other than agricultural or urban areas) where vegetation, especially trees, would need to be cleared or grubbed, a pre-construction survey would need to be conducted prior to the disturbance. To determine the significance of the disturbance, results of the pre-construction survey would need to be shared with the USFWS to determine if listed species would be adversely affected. Depending on the outcome, a separate EA or EIS may need to be prepared.

5.2.1.6 Fish and Wildlife

The operation of heavy construction equipment and/or the presence of construction crews may adversely impact fish and wildlife. Adverse impacts to fish and wildlife could result from vibrations in the ground and water caused by the operation of the heavy equipment, noise from the operation of the heavy equipment, and/or visual disturbances cause by the motion of the heavy equipment and/or work crews. These impacts would be short-term and occur only during the construction period. Once construction was completed, ambient conditions would return, thus, these impacts are not considered significant.

Water quality impacts to fish and wildlife could result during construction. The potential for localized increases in turbidity from construction-related activities could interfere with the feeding, breeding, or sheltering activities of many species. However, because most rivers and streams in Nebraska are located in areas that consist of easily erodible soils, short-term increases in turbidity occur naturally in these drainages during storm events. Because of this, most of the

native fish and wildlife species within the region are tolerant of short-term increases in turbidity; therefore, impacts are not considered significant.

Because USACE project areas have been heavily disturbed in the past from previous construction of the projects and continue to be disturbed on a continuous basis from operation and maintenance activities, they are not known to contain any unique habitat for wildlife that is not available in other nearby locations. It is expected that fish and wildlife that associate with the USACE civil works project areas would simply move to other habitat in nearby locations during construction activities. Thus, the construction-related impacts to fish and wildlife would be considered minor and not significant. Following construction, any disturbed areas not otherwise hard-surfaced (e.g., rip rapped banks), would be re-planted with vegetation that existed prior to the construction activity unless it was weeds or other noxious vegetation that was removed. In these instances, native vegetation or brome grasses would be planted depending on where the revegetation was to occur (i.e. seepage berms vs. levee banks). Thus, the impact to fish and wildlife from construction activities that temporarily impact vegetation would be considered short term and not significant.

In order to avoid impacts to fish and wildlife during borrow operations, any borrow material that may be needed for repairs would need to be obtained from commercial sources or agricultural lands. Similarly, any excess soil material removed from the proposed project site would need to be spoiled in commercial areas or in agricultural lands. Borrow/spoil operations that use commercial or agricultural sites have been determined to be non-significant in past environmental assessments conducted by the NWO. If, however, borrow material would be obtained from or spoiled at locations other than commercial sources or agricultural lands, a separate EA or EIS may need to be prepared.

5.2.1.7 Migratory Birds

Although the provisions of the Migratory Bird Treaty Act (MBTA) are applicable year-round, most migratory bird nesting activity within Nebraska typically ranges between April 1 through July 15 for passerines (song birds) and February 1 to July 15 for raptors. During this period, trees and grasslands with nests containing eggs, young, or adult birds engaged in nesting activities are considered active and shall be avoided. It should be noted here that some migratory birds nest outside of the nesting periods identified above.

Construction of categorically permitted alterations has the potential to disturb nesting migratory birds. Noise and ground vibrations from construction equipment, visual movement of construction equipment and/or work crews, and/or the removal of trees or grasses containing active nests could interfere with migratory bird nesting.

To minimize impacts to nesting migratory birds, grass and tree clearing would be scheduled to occur within the winter months when migratory birds are not present. If clearing of grasses and trees is proposed to occur during the primary nesting season or at any other time that may result in the 'take' of nesting migratory birds, a qualified biologist would need to conduct a pre-

construction field survey of the affected habitats to determine the presence or absence of nesting migratory birds. If nesting migratory birds are present, no grass or tree clearing would occur until the young birds have left the nest. If no nesting migratory birds are present, the proposed clearing of grass and trees may proceed as planned. In the event that pre-construction surveys have been conducted, no migratory bird nesting activities have been discovered, construction has begun, and an occupied nest of a species protected by the MBTA is then observed, construction would be stopped and consultation with the USFWS initiated to ensure compliance with the MBTA. Construction would not re-start until consultation has been completed and the possibility of impacting nesting migratory birds has passed. With implementation of these minimization and avoidance measures, the potential adverse impacts associated with the categorically permitted alterations would not be considered significant on migratory birds.

5.2.1.8 Bald and Golden Eagles

The bald eagle has been de-listed from the Endangered Species Act, but continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA), the MBTA, and the Lacey Act -16 U.S.C. § 701, May 25, 1900. The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." This definition also includes impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present; if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

Because large trees that are used by eagles are not allowed to grow on USACE flood risk reduction projects, it is likely eagles would not be encountered on the proposed project sites. However, eagles in active nests in the "line-of-sight" of the proposed alteration could be disturbed by the noise and movement of construction equipment and construction personnel. Thus, eagle nest surveys may be required prior to the initiation of construction in order to determine eagle presence/absence, particularly if construction is slated to occur during January 1 to July 31.

To avoid construction-related disturbances to any nesting bald eagles and their young, USFWS guidelines would be followed. These guidelines include maintaining a buffer zone of at least 660 feet between the project and any active nest, or restricting construction to the August through late-December time frame when bald eagles are not nesting. The size and shape of effective buffers may vary depending on the topography and other ecological characteristics surrounding the nest site and would be established following any eagle survey if necessary. The variations in buffer zones serve to minimize visual and auditory impacts associated with human activities near nest sites.

All eagle nest surveys shall be conducted by a qualified biologist if the proposed alterations are to take place within the active nesting season of bald eagles. A stand-alone NEPA document may need to be prepared if nesting eagles are identified in the proposed project area and the proposed minimization measures would prove to be ineffective. However, if no eagles are discovered, the alterations may proceed. With implementation of the eagle minimization and avoidance measures, the adverse construction-related impacts associated with the categorically permitted alterations would not be considered significant on nesting eagles.

5.2.1.9 Threatened and Endangered Species

With the majority of the civil works projects being located in areas where human-induced disturbances occur on a continual basis, the likelihood of encountering an endangered or threatened species is minor. However, for the civil works projects located in more remote areas that experience less human-induced disturbances, the likelihood of encountering endangered or threatened species increases.

Impacts to endangered and threatened species in the more remote areas would generally result from construction-related noise and human presence during construction. Noise and human presence could cause disruptions to the normal behavioral activities of the endangered or threatened species. Causing species to leave their nesting sites, interrupting their feeding activities, and/or causing species to avoid the area are some examples of disrupting normal behavioral activities. When an effect to listed species is anticipated, an effect determination must be made and coordination with the USFWS conducted. As such, this Programmatic EA also acts as a Biological Assessment for Endangered Species Act compliance.

5.2.1.9.1 **No Effect Determinations.**

Salt Creek tiger beetles are confined to eastern Nebraska saline wetlands and associated streams and tributaries of Salt Creek in the northern third of Lancaster County. They are found along mud banks of stream and seeps, and in association with saline wetlands and exposed mud flats of saline wetlands. The current range of this species does not coincide with existing civil works project sites; therefore, the categorical permissions would have no effect on the Salt Creek tiger beetle. No conservation measures have been identified or would be needed.

5.2.1.9.2 **May Affect, but Not Likely to Adversely Affect Determinations.**

For species with a "may affect, but not likely to adversely affect" determination, the USACE would consult with the USFWS on a case-by-case basis prior to construction of any categorically permitted alteration to ensure the effect determinations made here remain valid. Consultation with the USFWS would be triggered during review of individual categorically permitted alterations as noted in the attached Record of Environmental Consideration (Appendix B). Consultation with the USFWS would ensure compliance with the Endangered Species Act.

American burying beetles are restricted to grassland prairie, forest edge, and scrubland areas in central Nebraska that are undisturbed by human influence. Because of this species' ability to smell carrion from as far away as two miles and fly to its location, American burying beetles may be associated with some of the Corps' civil works sites described in this Programmatic EA. Should construction of proposed alterations be located in the same areas as carrion buried by American burying beetle, direct take of adults and young could occur. The following conservation measure is proposed to avoid potential adverse effects.

American Burying Beetle Conservation Measure: To avoid potential adverse effects to American burying beetle, all proposed alterations occurring within the estimated current range of the species would be coordinated with the USFWS, and no action taken until coordination is completed. The USFWS stated, in a telephone conversation on January 13, 2015, that pre-construction surveys for the species are difficult to conduct and that pre-construction coordination would be an acceptable measure to help avoid take of the species.

Western prairie fringed orchids are found in unbroken tall grass prairies, wet prairies and sedge meadows. In some civil works project locations, native habitat has been planted or naturally occurs nearby. In these cases, construction-related activities associated with clearing and grubbing of vegetation has the potential to take this species. The following conservation measure is proposed to avoid potential adverse effects.

Western Prairie Fringed Orchid Conservation Measure: To avoid potential adverse effects to the western fringed prairie orchid, pre-construction surveys for this species would be conducted to determine if it is present or absent at the proposed site. If the species is identified as occurring on site, no construction would take place until coordination with the USFWS has been completed. If surveys reveal that this species is not located on site, the project could proceed and survey results would be forwarded to the USFWS for informational purposes.

Whooping cranes may be found migrating through the project areas, feeding along banks and sandbars of rivers, or resting in agricultural fields adjacent to the civil works projects described in this Programmatic EA. Migrations occur during two times of the year: April to May and September to November. If alterations are occurring at the project sites when this species is present, construction-related noise and human presence could interrupt the migration, feeding, resting, or sheltering activities of this species. Thus, the categorically permitted alterations may affect whooping cranes. The following conservation measure is proposed to avoid potential adverse effects.

Whooping Crane Conservation Measure: To avoid potential adverse effects to whooping cranes, work would be scheduled outside of the migration season to the extent possible. However, if work must be scheduled during their migration seasons, surveys would be conducted each morning prior to the start of construction to determine presence or absence of whooping cranes in the project vicinity. If whooping cranes are sighted, no work would be conducted until the

birds have vacated the area. If no whooping cranes are sighted, construction may proceed as planned.

Interior least terns may be found feeding or nesting on barren to sparsely vegetated sandbars along rivers, at sand and gravel pits, or on lake shorelines adjacent to the civil works projects described in this Programmatic EA. Nesting for this species occurs from late April through August. If categorically permitted alterations are proposed to occur when this species is in close proximity to the proposed project site (close proximity is considered 2,640 feet as stated in the *2011 USACE Emergent Sandbar Habitat Programmatic Environmental Impact Statement*), construction-related noise and human presence could interfere with the feeding, breeding, or sheltering of this species. Thus, the categorically permitted alterations may affect interior least terns. The following conservation measure is proposed to avoid potential adverse effects.

Interior Least Tern Conservation Measure: Should construction of any categorically permitted alteration be proposed during the April through August time frame and in counties containing this species, a pre-construction survey would be conducted. If the species is identified feeding or initiating nesting activities, no work would be conducted until the species has vacated the area. If no interior least terns are spotted, the proposed action may proceed as planned.

Piping plovers may be found feeding or nesting near wetlands, along lakeshores, or along sandbars adjacent to civil works projects. Nesting for this species occurs from late April through August. If categorically permitted alterations are proposed to occur at a project site when this species is in close proximity (close proximity is considered ½ mile), construction-related noise and human presence may interfere with the feeding, breeding, or sheltering of this species. Thus, the categorically permitted alterations may affect piping plover. The following conservation measure is proposed to minimize potential adverse effects.

Piping Plover Conservation Measure: Should any categorically permitted alteration be proposed during the April through August time frame in counties containing this species, a pre-construction survey would be conducted. If the species is identified and is feeding or initiating nesting activities, no work would be conducted until the piping plover has vacated the area. If no piping plover are spotted, the proposed project may continue as planned.

Northern long-eared bats are found behind loose pieces of bark, within cavities and crevices of live and dead trees, and occasionally in structures like barns during the summer months. In the winter months, northern long-eared bats hibernate in caves and in mines. In the spring and autumn months, northern long-eared bats migrate between their summer and winter homes. Because northern long-eared bats do not seek a specific tree species or forest community to roost (rather selecting trees with loose or exfoliating bark), the northern long-eared bat may be found within forested communities adjacent to the civil works projects described in this Programmatic EA but not within the USACE project ROW since trees are regularly removed as a maintenance requirement.

In some cases, clearing of the trees adjacent to the USACE ROW may be required to establish staging areas or to construct bore pits for horizontal directional drilling activities. In these instances, the areas outside of the USACE ROW would be considered "linked" to the categorically permitted alteration, and any potential adverse impacts occurring in those linked areas would be considered within the scope of the alteration. Clearing trees in linked areas may affect northern long-eared bats if they happen to be roosting in the trees when the trees are removed. Additionally, the removal of trees may affect the bat by incrementally removing ideal roosting habitat. To ensure adverse effects to bats that occur in linked areas are minimized, the following conservation measures would be required.

Northern Long-eared Bat Conservation Measures: All tree clearing needed as part of any categorically permitted alteration in linked areas shall be conducted within the winter months when the bats are in hibernation. Additionally, the proposed removal of trees would be coordinated with the USFWS to determine if the amount of trees proposed for removal or the location of trees proposed for removal could rise to a level of an adverse effect.

Pallid sturgeon may be found feeding, breeding, or sheltering in deep and shallow waters of the main channel and tributaries of the Missouri and Platte rivers. If categorically permitted alterations are proposed to occur at the project when this species is present, construction-related noise, vibrations in the water, and human presence could interfere with the feeding, breeding, or sheltering of this species and cause the pallid sturgeon to leave the area of disturbance. However, once construction has ceased, it is believed that pallid sturgeon would return to the area to again carry on with its normal activities. Thus, the categorically permitted alterations may affect this species. The following conservation measures are proposed to minimize potential adverse effects.

Pallid Sturgeon Conservation Measures: Best management practices would be implemented to reduce overland flows, erosion, and sediment from impacting water quality in the immediate area of the alteration. Additionally, in-water construction would not occur during the species' spawning migrations (April – June) in areas where this species is known to occur.

Topeka shiner may be found feeding, breeding, and sheltering in the Elkhorn River (Madison County) and its tributaries adjacent to the civil works projects described in this Programmatic EA. Topeka shiners spawn from late-March to mid-July. If categorically permitted alterations are proposed to occur when this species is present, construction-related noise, increases in turbidity, vibrations in the water, and human presence could interfere with the feeding, breeding, or sheltering of this species and cause the Topeka shiner to temporarily leave the area. Once construction has ceased, it is believed that Topeka shiner would return to the area to again carry on with its normal activities. Thus, the categorically permitted alterations may affect this species. The following conservation measures are proposed to minimize potential adverse effects.

Topeka Shiner Conservation Measures: Best management practices would be implemented to reduce overland flows, sediment, and erosion from impacting water quality in the immediate area of the alteration. Additionally, no in-stream work would occur during the March through mid-July time frame in areas where this species is known to occur.

5.2.1.9.3 **May Adversely Modify or Destroy Designated Critical Habitat.**

Designated critical habitat is not present at any of the civil works projects described in this Programmatic EA for any of the federally-listed threatened or endangered species. Since the existing projects are within areas that were previously disturbed (construction) and are now regularly disturbed (operation and maintenance activities), no future potential is likely to designate critical habitat on USACE civil works project lands.

However, there is the potential to inadvertently modify or destroy designated critical habitat that occurs on lands located adjacent to USACE lands if the areas designated as critical habitat receive stormwater runoff containing sediments and/or pollutants from construction activities or staged materials. Thus, BMPs that limit stormwater runoff (e.g., hay bales and silt fences) would be implanted to avoid adverse modification or destruction of any adjacent sensitive habitats. It should be noted that direct modification or destruction of critical habitat on adjacent lands would not be authorized under this Programmatic EA and would be subject to an additional assessment under NEPA.

5.2.1.10 Cultural Resources

The Omaha District's Cultural Resources Specialist (pers. comm., August 26, 2015) stated that provided the alterations are confined to the footprint of the previous construction (the existing civil works project), the alteration would have "No Potential to Affect Historic Properties."

The original levees and their component structures are in some cases over 50 years old and hence may be evaluated for eligibility to be listed on the National Register of Historic Places (NRHP). However, due to substantial alterations, repairs and replacements they typically do not *possess integrity* and do not *embody the distinctive characteristics* under Criterion C of the National Register Criteria for Evaluation.

In the event of an unanticipated discovery of cultural resources, the work shall be halted immediately and a district archeologist shall be notified. The work shall not be continued until the area is inspected by a staff archeologist. If he or she determines that the discovery requires further consultation, the Nebraska State Historic Preservation Office will be notified.

If the categorically permitted alteration requires activities to occur outside of the footprint of the previous construction (staging areas, bore pits, borrow sites, etc.) additional site assessments for cultural resources would need to be made. Note that in these cases, a separate or tiered NEPA document also may need to be prepared.

5.2.1.11 Floodplains

Construction of the categorical permissions listed in this Programmatic EA would not result in additional development in the floodplain or encourage additional occupancy and/or modification of the floodplain on the lands or real property interests of USACE projects. They would not result in any increases in water elevations during flood events. Requirements of Executive Order 11988 – Floodplain Management, would be followed. If these requirements are not met, then the request to alter a USACE project would not be allowed under this programmatic environmental assessment. If greater than minor impacts to floodplain management were identified during the preparation of any tiered environmental assessment, a separate stand-alone NEPA document would need to be prepared.

5.2.2 Categorical Permissions that have No to Negligible Environmental Impacts

During review of the list of Section 408 alterations that qualify for categorical permissions and taking into consideration the above impacts that could occur during construction of the alterations, USACE noted that the proposed alterations could be combined into groups of alterations that would have similar impacts on the environment.

For example, the proposed categorical permissions listed below would have no impact on air quality, water quality, wetlands, threatened and endangered species, fish, or cultural resources. The below-listed categorical permissions would result in negligible impacts to terrestrial habitat because the disturbed area would be returned to pre-construction condition following the alteration or would have negligible impact to wildlife as the species may be startled during construction or human presence and avoid the area until the disturbance has ended. These conclusions were made based on the fact that the alteration would require a very small project footprint, only minimal human presence, and a slight generation of noise in the area during the alteration. These alterations include (and are numbered according to the list generated under Alternative 2 above):

3) Abandonment of Drainage Structures
5) Bike Trail on Top of Levee (including rest stations)
7) Abandonment of Relief Wells (Filled in-place)
9) Repair of Pump Station
11) Geotechnical Explorations
14) Fences
15) Installation of Utility Poles
16) Removal of Existing Utility Poles
22) Placement of Monitoring Monuments

5.2.3 Categorical Permissions that have Minor Environmental Impacts to Water and Terrestrial Resources

The next set of alterations would result in minor disturbances to water or channel banks. The impacts to water resources would be minimized with Best Management Practices and would not exceed the limits of a Nationwide or Regional General Permit. The alterations identified below would have minor and short-term impacts on air quality (from the operation of construction equipment), water quality (slight increases in turbidity within the immediate area of construction), wetlands (within Nationwide or Regional General Permit limits), threatened and endangered species primarily to pallid sturgeon and Topeka shiner due to turbidity increases (beneficial effect) and construction-related vibrations causing the fish to temporarily leave the area (minor affect), fish (similar effects as with pallid sturgeon), wildlife (causing the species to temporarily leave the area), terrestrial habitat (minor disturbances during construction that would be remedied by returning the area to pre-construction conditions), and noise (slight and temporary increases from construction operations). As with all categorical permissions, the chances of encountering a cultural resource is extremely low due to the fact that the alteration would occur on previously disturbed ground. However, should a cultural resource be encountered during construction, all work would cease until the area was inspected by a cultural resource specialist and a right to proceed was granted. These alterations include (and are numbered according to the list generated under Alternative 2 above):

8) Installation of Pump Station
12) Riprap Placement
17) Highway/Street Bridge Replacement
20) Temporary Channel Crossing

5.2.4 Categorical Permissions that have Minor Environmental Impacts to Terrestrial Resources Only

The remaining Section 408 alterations would result in minor impacts to air quality (from the operation of construction equipment), wetlands (within Nationwide or Regional General Permit limits), threatened and endangered species [terrestrial species from construction-related noise causing the species to temporarily leave the area (minor affect)], wildlife (causing the species to temporarily leave the area, any tree removal would be coordinated to occur outside of migratory bird nest season and bat roosting), terrestrial habitat (minor disturbances during construction that would be remedied by returning the area to pre-construction conditions), and noise (slight and temporary increases from construction operations). As with all Section 408 alterations, the chances of encountering a cultural resource is extremely low due to the fact that the alteration would occur on previously disturbed ground. However, should a cultural resource be encountered during construction, all work would cease until the area was inspected by a cultural resource specialist and a right to proceed was granted. These alterations include (and are numbered according to the list generated under Alternative 2 above):

1) Utilities under the Levee
2) Replacement of Drainage Structures
4) Removal of Drainage Structures
6) Installation of Relief Wells
10) Modification of Existing Drainage Structures
13) Staging Areas (materials and equipment)
18) Pipes Up and Over Levee (sanitary, water, drainage)
19) Street Paving/Repair
21) Pipe or Conduit Abandonment

6. Cumulative Impacts

The combined incremental effects of human activity are referred to as cumulative impacts (40CFR 1508.7). While these incremental effects may be insignificant on their own, accumulated over time and from various sources, they can result in serious degradation to the environment. The cumulative impact analysis must consider past, present, and reasonably foreseeable actions in the study area. The analysis also must include consideration of actions outside of the Corps, to include other state and federal agencies. As required by the National Environmental Policy Act, the Corps has prepared the following assessment of cumulative impacts related to the categorical permissions being considered in this Programmatic EA.

Past, Present, and Reasonably Foreseeable Projects

Past actions included the construction of the civil works project sites. In addition, many residential subdivisions and commercial properties have been constructed on the landside of the civil works sites. Agricultural land has been developed on both sides at many of the civil works project sites. The construction of all these facilities has greatly altered the historic aquatic and terrestrial environment.

Present actions at the civil works project sites include the current operation and maintenance of the project by the USACE and non-federal sponsors. The entire civil works project sites are regularly maintained, which limits the establishment of terrestrial and aquatic habitat from forming, and also results in an on-going human presence. In addition, portions of the projects are regularly used for recreation, which results in steady human disturbances. Alterations to civil works projects are being conducted in multiple states across the entire District. Alterations made in one state could affect environmental resources located in another state if the impact in the first state causes species to permanently relocate to other areas. These activities have an incremental and continuing adverse impact on the aquatic and terrestrial environment.

The anticipated alterations of civil works projects would continue to have an incremental adverse impact on the environment although it is believed the impacts would not be significant over time since the alterations would occur to existing constructed facilities and fish and wildlife associated with these projects could return to the area when construction has completed. Other

future actions associated with the civil works project sites could include the potential for construction of residential and commercial developments, and transportation improvements since the areas on the landside of the USACE civil works project would be better protected from floods. This would most likely come at the expense of agricultural lands and would increase human presence and their associated disturbances. These impacts, which are out of the scope of this Programmatic EA, could have more than a minor cumulative adverse impact on the environment if not properly mitigated.

7. Compliance with Environmental Statutes

Bald and Golden Eagle Protection Act, 16 U.S.C. Sec. 668, 668 note, 669a-668d. In compliance. This Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions for the scientific or exhibition purposes, for religious purposes of Indian Tribes, or for the protection of wildlife, agriculture or preservation of the species. The proposed categorical permitted alterations would have no adverse effects on bald eagles as trees suitable for nesting do not occur on the civil works project sites described in this Programmatic EA. For linked projects, no clearing or grubbing activities would be allowed within the February 1 through July 15 timeframe if an active nest is in line-of-sight of the clearing. In addition, a survey would be conducted not more than five days prior to the commencement of clearing and grubbing operations to ensure no active nests are within 660 feet of the proposed clearing. If an active nest is found within the 660-foot area, no clearing would occur until the USFWS and the Nebraska Game and Parks Commission (NGPC) have been notified and information on how to proceed has been obtained.

Clean Air Act, as amended, 42 U.S.C. 185711-7. et seq. In compliance. Air quality is not expected to be significantly impacted to any measurable degree by the proposed action.

Clean Water Act (CWA), as amended. (Federal Water Pollution Control Act) 33 U.S.C. 1251. et seq. In compliance. Regulatory requirements for the placement of dredged or fill material into waters of the United States is mandated by the CWA under Section 404. The Corps authorizes this permit. Categorically permitted alterations must not exceed the limits of a Nationwide or Regional General Permit. Since it has been determined that Nationwide and Regional General Permits have minimal individual and cumulative adverse effects, the proposed categorically permitted alterations would not result in significant adverse impacts to wetlands.

The Omaha District Regulatory Office coordinated with the Nebraska Department of Environmental Quality during preparation of the Nationwide and Regional General Permits to ensure compliance with Section 401 of the CWA. Results of that coordination concluded with issuance of a "blanket" Water Quality Certification that was "tied to" the Nationwide and Regional General Permits.

Comprehensive Environmental Response Compensation and Liability Act (CERCLA). In compliance. Typically CERCLA is triggered by (1) the release or substantial threat of a release

of a hazardous substance into the environment; or (2) the release or substantial threat of a release of any pollutant or contaminant into the environment which presents an imminent threat to the public health and welfare. To the extent such knowledge is available, 40 CFR Part 373 requires notification of CERCLA hazardous substances in a land transfer. Areas containing hazardous waste would always be avoided and are not subject to this Programmatic EA.

Endangered Species Act, as amended, 16 U.S.C. 1531, et seq. In compliance. The USFWS was contacted via email on August 28, 2015 during preparation of the DRAFT PEA and requested to provide comments on the DRAFT document. On October 9, 2015, the USFWS provided comments. Those comments were incorporated into the DRAFT PEA. On July 6, 2016, a second email was sent to the USFWS to inform them that the final DRAFT EA was available for agency and public comment. The Corps requested the USFWS review the DRAFT document and provide any additional comments. No additional comments were received.

Environmental Justice (E.O. 12898). In compliance. Federal agencies shall make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. The categorically permitted alterations do not disproportionately impact minority or low-income populations.

Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981), effective August 6, 1984. In compliance. Compliance with this act also satisfies the requirements set forth in Council on Environmental Quality (CEQ) Memorandum of August 11, 1980, *Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA*. No prime farmland would be converted to a different use as a result of this proposed action.

Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1(12), et seq. In compliance. Categorically permitted alterations may temporarily impact recreational use until such time as construction was complete. In the long-term, no changed recreational use of the civil works projects would occur.

Fish and Wildlife Coordination Act. 16 U.S.C. 661 et seq. In compliance. As stated above, the USFWS was contacted on multiple occasions and informal comments provided by the USFWS were added to the DRAFT PEA during its preparation.

Floodplain Management (E.O. 11988). In compliance. The categorically permitted alterations would occur on previously constructed civil works projects and no betterments would be authorized. No change in area floodplains would result.

Migratory Bird Treaty Act of 1918 as amended, 16 U.S.C. 703-711, et seq. In compliance. The MBTA is the domestic law that affirms, or implements, the United States' commitment to four international conventions with Canada, Japan, Mexico and Russia for the protection of shared

migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over utilization. Executive Order 13186 (2001) directs executive agencies to take certain actions to implement the act. The Corps will avoid impacts to migratory birds, and their nests, during categorically permitted alterations by ensuring the removal of any trees associated with the alteration is conducted within the winter months before the arrival of migrating birds.

National Environmental Policy Act (NEPA), as amended, 42 U.S.C. 4321, et seq. In compliance. This programmatic environmental assessment has been prepared for the proposed action and satisfies the NEPA requirement. An Environmental Impact Statement is not required.

National Historic Preservation Act, as amended. 16 U.S.C. 470a, et seq. In compliance. In a personal communication (August 26, 2015) with the Omaha District's cultural resources staff, the Planning Section was informed that provided the categorically permitted alterations are confined to the footprint of the previously cleared Area of Potential Effect, the categorically permitted alterations would have No Potential to Affect Historic Properties. In a second communication with the cultural resources staff, dated February 18, 2016, the Planning Section was informed that levees and their component structures that are 50 years or older are not eligible for listing on the National Register of Historic Places because the continual alterations, repairs, and replacements that occur to these structures reduce the quality of their significance in American history, architecture, archeology, engineering, and culture.

There is always potential for an unanticipated discovery of cultural resources during construction activities. In the event that historic resources are uncovered, work would be halted immediately and a District archeologist would be notified. The work will not be restarted until the area has been inspected by a District archeologist and an order to proceed is given. If the District archeologist determines that the resources require further consultation, he or she will notify the Nebraska State Historic Preservation Office.

Noise Control Act of 1972, 42 U.S.C. 4901 et seq. In compliance. While there will be a minor noise disturbance from construction during the categorically permitted alterations, there will be no long-term noise disturbances associated with this alterations.

Protection of Wetlands (E.O.11990). In compliance. The proposed categorically permitted alterations must fall within the limits of a Nationwide or Regional General Permit. Since it has been determined that Nationwide and Regional General Permits have minimal individual and cumulative adverse effects, no significant impacts to wetlands or waters of the U.S. are anticipated.

Rivers and Harbors Act, 33 U.S.C. 401, et seq. In compliance. A Section 10 permit is not required for Corps projects.

Watershed Protection and Flood Prevention Act, 16 U.S.C. 1101, et seq. In compliance. The contractor is required to prepare an erosion and sedimentation control plan (Plan) prior to the start of construction. Best Management Practices to minimize erosion and sedimentation need to be identified in the Plan and then implemented.

Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq. This Act preserves the outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. No impacts to wild and scenic rivers are anticipated as no civil works projects are located on wild and scenic designated segments of the Niobrara or Missouri rivers.

8. Public Involvement and Agency Coordination

8.1 Public Involvement

In accordance with NEPA, a 30-day review period of this draft Programmatic EA was provided via a Notice of Availability on the Omaha District's website at:
http://www.nwo.usace.army.mil/Missions/CivilWorks/Planning/PlanningProjects.aspx

Public comments received included: No public comments were received.

8.2 Agency Coordination

The following agencies were contacted via email to solicit comment and input on the proposed Programmatic EA. Please see Appendix A.

- U.S. Fish and Wildlife Service
- Nebraska Game and Parks Commission
- NWO Cultural Resources staff
- U.S. National Park Service
- U.S. Environmental Protection Agency

Comments received included:

U.S. Fish and Wildlife Service: The USFWS was contacted via email on August 28, 2015 during preparation of the DRAFT PEA and requested to provide comments on the DRAFT document. On October 9, 2015, the USFWS provided comments. Those comments were incorporated into the DRAFT PEA. On July 6, 2016, a second email was sent to the USFWS to inform them that the final DRAFT EA was available for agency and public comment. The Corps requested the USFWS review the DRAFT document and provide any additional comments. No additional comments were received.

Nebraska Game and Parks Commission: The Nebraska Game and Parks Commission did not respond.

Cultural Resources: In a personal communication (August 26, 2015) with the Omaha District's cultural resources staff, the Planning Section was informed that provided the categorically permitted alterations are confined to the footprint of the previously cleared Area of Potential Effect, the categorically permitted alterations would have No Potential to Affect Historic Properties. In a second communication with the cultural resources staff, dated February 18, 2016, the Planning Section was informed that levees and their component structures that are 50 years or older are not eligible for listing on the National Register of Historic Places because the continual alterations, repairs, and replacements that occur to these structures reduce the quality of their significance in American history, architecture, archeology, engineering, and culture.

U.S. National Park Service: The U.S. National Park Service did not respond.

U.S. Environmental Protection Agency: In a July 26, 2016 letter, the U.S. Environmental Protection Agency stated that they had concerns with categorical permissions numbers 1 and 12. Specifically, for categorical permission number 1, it was stated that gas pipelines (and other hazardous liquid pipelines) should be excluded from the list because these types of pipelines are more likely to require special design considerations (e.g., valve placement and enhanced erosion protection) to protect water resources. **Response:** Noting that gas lines would require a more detailed analysis to ensure they have no significant impacts on the environment, they have been removed from the list of categorical permissions.

For categorical permission number 12, it was stated that riprap placement should be limited to repairing and replacing existing riprap, or that a condition be included that requires new riprap placement be limited in scope to that authorized within the limits of a Nationwide Permit. **Response:** As stated in the environmental conditions on page 7 of this EA, proposed alterations requiring a Section 404 Permit must be within the limits of an applicable Nationwide or Regional General Permit.

Note: While the comments received from the EPA addressed civil works projects in the states of Colorado, Montana, North Dakota, South Dakota, and Wyoming, the comments were of a general nature such that they were considered and included in this PEA as well.

9. Preparer

This Programmatic EA and the associated FONSI were prepared by Mr. Matthew D. Vandenberg (Environmental Resource Specialist). The address of the preparer is: U.S. Army Corps of Engineers, Omaha District; PM-AC, 1616 Capitol Avenue, Omaha, Nebraska 68102.

10. References

Jones, David J., A History of Nebraska's Fishery Resources, 1963. Nebraska Game and Parks Commission Publications. Paper 31.

Prepared By: Matthew D. Vandenberg — Date: Jan 3, 2017

Matthew D. Vandenberg
Environmental Resources Specialist

Approved By: Eric Laux — Date: 1/10/17

Eric Laux
Chief, Environmental Resources and Missouri River Recovery Program Plan Formulation Section

Appendix A
Agency Coordination

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

CATEGORICAL PERMISSIONS
SECTION 408 ALTERATIONS TO EXISTING
U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROJECT
33 U.S.C. SECTION 408
NEBRASKA

January 2017

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

JUL 26 2016

Ref: 8EPR-N

U.S. Army Corps of Engineers, Omaha District
CENWO-PM-AC
Attn: Section 408 EA
1616 Capitol Avenue
Omaha, NE 68102-4901

RECEIVED 29 Jul 16

[redacted]

Re: Programmatic Environmental Assessment: Categorical Permissions Section 408 Alterations to Existing Civil Works Projects

Dear Sir or Madam:

We have reviewed the draft Programmatic Environmental Assessments and Finding of No Significant Impacts: Categorical Permissions, Section 408 Alterations to Existing U.S. Army Corps of Engineers Civil Works Projects for the states of Colorado, Montana, North and South Dakota, and Wyoming, dated June 2016. We have two recommendations to reduce potential environmental impacts for projects that may be authorized under the categorical permissions. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The environmental assessments analyze the environmental effects of projects utilizing the proposed list of categorical permissions (Alternatives 2) and the no action alternative. The proposed list of categorical permissions is generally activities that will have minor environmental impacts. However, categorical permission numbers 1 and 12 should be modified to further limit the use of the permissions to construction activities that routinely have only minor impacts.

Permission 1) Placing Electrical, Fiber Optic (Internet, Phone, Cable), Gas, Water, Sanitary, or Drainage Pipe Utilities under a Levee

We recommend that the permission 1 be changed to:

- Exclude gasoline and other hazardous liquid pipelines. These types of pipelines are more likely to need project specific environmental analyses to protect water resources and special design considerations such as valve placement and enhanced erosion protection.

- Clarify the term "gas" pipe utilities. Based on the context of the permission it appears that gas means "natural gas" pipelines such as local gathering and distribution lines. We recommend that the permission also exclude natural gas transmission lines, which are larger and are at higher pressures.

Permission 12) Placing New Riprap

- New riprap is placed on the channel slope, levee embankment, around bridge piers and outfall structures for erosion control.

We recommend that permission 12 be limited to repairing and replacing riprap. Another possibility would be to limit new areas of riprap, such as the 200 foot limitation in the Section 404 of the Clean Water Act Nationwide Permit (NWP) Number 3, Maintenance. In addition the NWP specifies "The placement of new or additional riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer."

Thank you for the opportunity to provide comments on the draft Programmatic Environmental Assessments for Categorical Permissions for Section 408 Alterations to Civil Works Projects. If further explanation of our comments is desired, please contact me at (303) 312-6704, or your staff may contact Dana Allen at (303) 312-6879 or by email at allen.dana@epa.gov.

Sincerely,

Philip S. Strobel
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

From: Vandenberg, Matthew D NWO
To: "david_hurd@nps.gov"
Subject: Review and Comment on Environmental Assessments - Intermountain Region (UNCLASSIFIED)
Date: Friday, July 08, 2016 12:44:00 PM
CLASSIFICATION: UNCLASSIFIED

Mr. Hurd:

The Corps of Engineers has prepared several final draft programmatic environmental assessments (EA) for developing categorical permissions under Title 33, U.S. Code 408 of the Rivers and Harbors Act of 1899 (Section 408) and those are currently available for review and input.

The draft programmatic EAs evaluate the environmental impacts of allowing certain routine alterations to be permitted at federally-constructed civil works projects within the Omaha District's civil works boundary (Montana, North Dakota, South Dakota, Wyoming, Colorado, Nebraska and Iowa).

Please navigate to http://www.nwo.usace.army.mil/Media/News-Releases/Article/821771/public-input-sought-onproposed-list-for-expediting-routine-alterations-at-dist/ and scroll through the list to find the Draft programmatic EAs specific to your areas of concern.

Comments must be postmarked or received no later than August 1, 2016.

Project Contact: Matt Vandenberg - - matthew.d.vandenberg@usace.army.mil

Thank you for your attention to this request for input.
Matthew D. Vandenberg
Environmental Resources Specialist
Omaha District, US Army Corps of Engineers
1616 Capitol Avenue
Omaha, Nebraska 68102
402/995-2694
CLASSIFICATION: UNCLASSIFIED

From: Vandenberg, Matthew D NWO
To: "shepard.larry@epamail.epa.gov"; "nicholas_chevance@nps.gov"; "Eliza Hines"; "Albrecht, Frank"
Subject: FW: Agency input sought on Environmental Assessment for routine alterations at District civil works projects (Section 408) (UNCLASSIFIED)
Date: Wednesday, July 06, 2016 9:58:00 AM

CLASSIFICATION: UNCLASSIFIED

Team:

A final draft programmatic environmental assessment (EA) for developing categorical permissions under Title 33, U.S. Code 408 of the Rivers and Harbors Act of 1899 (Section 408) is currently available for review and input.

The draft programmatic EA evaluates the environmental impacts of allowing certain routine alterations to be permitted at federally-constructed civil works projects within the Omaha District's civil works boundary (Montana, North Dakota, South Dakota, Wyoming, Colorado, Nebraska and Iowa).

Please navigate to http://www.nwo.usace.army.mil/Media/News-Releases/Article/821771/public-input-sought-onproposed-list-for-expediting-routine-alterations-at-dist/ and scroll through the list to find the Draft programmatic EA specific to your state of concern.

Comments must be postmarked or received no later than August 1, 2016.

Project Contact: Matt Vandenberg - - matthew.d.vandenberg@usace.army.mil

Thank you for your attention to this request for input.
Matthew D. Vandenberg
Environmental Resources Specialist
Omaha District, US Army Corps of Engineers
1616 Capitol Avenue
Omaha, Nebraska 68102
402/995-2694
CLASSIFICATION: UNCLASSIFIED

From: Ledwin, Jane
To: Vandenberg, Matthew D NWO
Cc: Bruce, Angi [DNR]; Chafa, Doug [DNR]
Subject: Re: [EXTERNAL] Re: Programmatic Environmental Assessment and ESA Affect Determinations
Date: Friday, October 09, 2015 12:57:13 PM

Hi Matt -

I have an opportunity to review the draft document and offer these comments for your consideration.

General - I'm not sure I understand all the activities that could be covered under this authority. Does it include improvements to the projects, i.e., increased pumping, dredging, drainage etc.?

Page 4, Alternative 3.1 - if a project lies outside the Corps Public Works project, 408 may not apply, but that does not mean there would be no NEPA. I think the sentence intends to convey that the Corps, or this PEA would not apply. Don't want to confuse the public in that some activities may need NEPA under a different authority.

Page 7, item e - How will this be done? It is not clear where this evaluation happens in the process. For example, while seasonal tree- clearing can avoid direct take of federally listed bats, removal of habitat can be an adverse effect, depending on the amount and the location. This should be addressed in the document.

Page 12. Section 4.1.6.8 Designated Critical habitat - The ESA section 7 analysis should evaluate effects to critical habitat. This could occur outside the footprint of the civil works project (i.e., access, egress to work site, noise or water quality effects to adjacent habitats, etc. At this time I cannot think of any designated critical habitat near your project areas, but always check the Service's IPaC website to ensure no new listings have occurred since this PEA is finalized.

Page 14, last paragraph - Note that by convention the USFWS NWI often does not map farmed wetlands, and the inventory should not be used to determine jurisdictional wetlands in the project areas. It is designed to remotely tract landscape-scale changes in functional wetlands across many years. (This is true for all sections that refer to NWI.

Page 36, No effect determinations - Please see previous comments on federally listed bats and tree removal. In most cases, activities with removal of suitable habitat should yield a may affect determination. It is possible the amount and location of tree removal could rise to the level of an adverse effect, in spite of seasonal cutting restrictions.

Page 38, second paragraph - Depending on the location of piping plover foraging areas, prolonged disturbance and avoidance of that habitat could rise to the level of an adverse effect, particularly if there is no available habitat to move to. This should require consultation with the Service to ensure consideration of site specific conditions.

Thanks for the opportunity to provide comments. Please contact me if you would like to discuss or have questions.

Best regards -
Jane
Jane Ledwin
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
101 Park DeVille Drive
Columbia, Missouri 65203
Phone 573/234-2132, extension 109
cell 573/356-1721
email jane_ledwin@fws.gov

From: Vandenberg, Matthew D NWO
To: "Eliza Hines"; "Grell, Carey"
Subject: Programmatic EA for Section 408 Alterations
Date: Friday, August 28, 2015 8:38:00 AM
Attachments: 1_PEA Working Draft Section 408 .docx

Eliza/Carey:

The USACE is working on a Programmatic Environmental Assessment (PEA) for Section 408 Alterations that have been deemed Categorical Permissions.

Section 408 Alterations are any modifications to a Public Works project (in this case levees) no matter how big or small as all alterations require permission from the USACE to ensure the Alteration does not AFFECT THE FUNCTION or ALTER THE PURPOSE of the Public Works project.

Categorical Permissions are those alterations deemed "minor" and would have negligible to minor impacts to the environment with implementation of minimization measures (page 5 - 7 of the DRAFT PEA provides a list of Categorical Permissions along with certain conditions that must be implemented to ensure the alteration remains within the Categorically Permitted Alteration category).

Page 10 of the PEA provides a list of T&E Species that MAY BE associated with the Public Works projects. Pages 13 to 33 provides a list of the Public Works projects in Nebraska along with a description of existing conditions including T&E species found in the county where the Public Works project is located.

Pages 34 to 37 includes my attempt to group Section 408 Alterations that would result in similar impacts (No to negligible impacts, impacts to water and terrestrial resources, and impacts solely to terrestrial resources).

Pages 41 to 44 is the section of the PEA that acts as the Biological Assessment and makes affect determinations. Included with the determinations are measures that must be implemented along with the proposed alteration to reduce potential affects to T&E species.

The USACE requests your concurrence with those determinations.

Additionally, for determinations of "may affect, but not likely to adversely affect" the PEA states that the USACE would coordinate with the USFWS. Do you wish the USACE to do this coordination on a project-by-project basis, or, with implementation of the minimization measures, are you satisfied that the determinations and minimization measures are adequate.

I understand that this is a lot to take in so if you have any comments at all, please feel free to contact me at any time.

The hope is that this PEA can be completed by October, which would be a quick turn-around, but the USACE in getting inundated with requests for these "minor" alterations.

Thanks for your assistance with this project.

Matthew D. Vandenberg
Environmental Resources Specialist
Omaha District, US Army Corps of Engineers
1616 Capitol Avenue
Omaha, Nebraska 68102
402/995-2694

From: Vandenberg, Matthew D NWO
To: Barnum, Sandra V NWO; McCullor, Matthew
Subject: Section 408 Programmatic Environmental Assessment
Date: Friday, August 28, 2015 10:16:00 AM

Sandy/Matt:

Planning is working on a Programmatic Environmental Assessment (PEA) for Section 408 Alterations that have been deemed Categorical Permissions.

Section 408 Alterations are any modifications to a Public Works project (in this case levees) no matter how big or small. All alterations require permission from the USACE to ensure the Alteration does not AFFECT THE FUNCTION or ALTER THE PURPOSE of the Public Works project.

Categorical Permissions are those alterations deemed "minor" and would have negligible to minor impacts to the environment with implementation of minimization measures (page 5 - 7 of the DRAFT PEA provides a list of Categorical Permissions along with conditions that must be implemented to ensure the alteration remains within the Categorically Permitted Alteration category).

Pages 13 to 33 provides a list of the Public Works projects in Nebraska along with a description of existing conditions.

The alterations to Public Works projects would, for the most part, occur within the existing footprint of the Public Work project so it is believed that no cultural resources would be encountered. However, we will note that should a cultural resource be encountered, work would stop until a District archeologist surveys the area and coordinates with SHPO as required.

Some alterations may require disturbances off of the Public Works project boundaries. In these instances, coordination with cultural resources staff will occur on a case-by-case basis.

Please review the attached DRAFT PEA and provide comments on cultural resources as necessary

Thanks for your assistance with this project.
Matthew D. Vandenberg
Environmental Resources Specialist
Omaha District, US Army Corps of Engineers
1616 Capitol Avenue
Omaha, Nebraska 68102
402/995-2694

Appendix B

Example of the Tiered NEPA Document to be used for Categorically Permitted Alterations

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

CATEGORICAL PERMISSIONS SECTION 408 ALTERATIONS TO EXISTING U.S. ARMY CORPS OF ENGINEERS CIVIL WORKS PROJECT 33 U.S.C. SECTION 408 NEBRASKA

Tiered NEPA Document for Categorically Permitted Alterations to Existing U.S. Army Corps of Engineer Civil Works Projects

	Proposed Categorically Permitted Alterations (Check all that apply)
☐	Utilities under the levee: • Open cut: Within the project Right of Way (ROW) levee embankment material is removed and then replaced according to design criteria for placement of the utility.
☐	• Horizontal Directional Drill: A pit is excavated on either side of the levee, usually outside the project ROW, and then pressure and drilling fluids are used to place the utility under levee embankment/channel section.
☐	• Jack and Bore: A pit is excavated on either side of the levee, usually outside the project ROW (in agricultural fields or on urban locations), and then the utility is mechanically placed under the surface.
☐	Replacement of drainage structures: • The existing structures are demolished and a new structure is constructed per USACE design criteria. All work typically remains within the project ROW.
☐	Abandonment of drainage structures: • Grout is placed inside an existing pipe and gatewell structure (to an elevation above the top invert of the pipe inside the gatewell) to fill all voids.
☐	Removal of drainage structures: • An existing structure is demolished and replaced with compacted fill material.
☐	Construction of a Bike trail on top of levee (including rest stations): • Gravel surfacing, concrete, or asphalt is placed on top of the existing levee crest. Placement of any material cannot degrade the authorized level of flood protection.
☐	Installation of relief wells: • A hole is bored into the earth's surface some distance away from the landside toe of the levee and a relief well is then installed.
☐	Abandonment of relief wells: • Existing relief wells are grouted full and then abandoned per State and other applicable requirements.
☐	Installation of pump stations: • A pump structure is constructed on the landside of the levee near a water feature (ditch or channel).
☐	Repair of pump stations: • Components of the pump station (pump, electrical controls, etc.) may be repaired or replaced or the entire pump station itself may be replaced.
☐	Modification of existing drainage structures: • Slip lining –Slip lining, a trenchless method for repairing structural or environmental damages to a pipe, is completed by installing a smaller "carrier pipe" into the larger "host pipe" grouting the annular space between the two pipes, and sealing the ends.
☐	Geotechnical Explorations • Geotechnical explorations, for the purpose of determining the soundness of the civil works project, may be performed on the levee crest, riverside berms, and/or landside berms by using borings, Cone Penetration Tests (small probe pushed into the ground), or Multi-Electrode Electrical Resistivity Tests (cable and shallow depth probes placed on the levee crest or levee cross section).

☐	Riprap placement: • New riprap is placed on the channel slope, levee embankment, around bridge piers and outfall structures for erosion control.
☐	Temporary Staging areas and Working Pads for Material and Equipment: • Temporary staging areas or working pads are set up for materials and/or equipment within the project ROW. This also includes levee crests or berms that are used as haul roads. The impacted area will need to be repaired to pre-construction conditions.
☐	Fences: • Fences that are designed to not impede wildlife migrations can be installed on the project ROW or up and over a levee. Access gates can be included.
☐	Installation of utility poles: • Utility poles are erected within the project ROW, but not on the levee section.
☐	Removal of existing utility poles: • Existing utility poles are removed and the holes are backfilled with compacted material and/or grout.
☐	Replacement of Highway/Street Bridge: • Bridges may be removed or replaced. Levee tie-ins may be impacted with the removal of the bridge embankment and placement of bridge piers near the levee embankment or within the channel limits.
☐	Placement of Sanitary, Water, or Drainage Pipes Up and Over the Levee): • A pipe is placed on top of the levee crest, embankment material is added to cover the pipe, and the top of the levee is surfaced to accommodate vehicles. Levee side slopes also will have additional embankment material placed to cover the pipe.
☐	Street paving/repair: • Construction of new street paving or repair of existing paving that is placed on the levee section or up and over the levee section. Typical work includes milling existing paving and placing new paving.
☐	Installation of temporary channel crossings: • Temporary culverts are installed with riprap placed around and on top of the structure located within the flow line of a channel. Crossing provides access for construction equipment to move from one bank to another. A hydraulic no-rise analysis must be provided.
☐	Pipe or conduit abandonment: • A pipe or conduit within the levee is either completely removed or abandoned by grouting.
☐	Placement of monitoring monuments: • Monuments (e.g., carsonite posts or brass caps) are constructed on the project to survey and monitor for movement typically due to nearby construction or marking the location of sub-grade features.

Record of Environmental Consideration

Project Name:

Project Location:

Project Description:

Name and Date of Original NEPA document: *Programmatic Environmental Assessment & Finding of No Significant Impact, Categorical Permissions, Section 408 Alterations to Existing U.S. Army Corps of Engineers Civil Works Projects, 33 U.S.C. Section 408, January 2017 Nebraska*

Status of Existing NEPA Documentation: A FONSI was prepared for Categorically Permitted Alterations in the state of Nebraska and signed by Omaha District Commander Colonel John W. Henderson, P.E. in March 2017. Factors considered in making that determination included considerations as to whether or not the proposed alteration would be injurious to the public interest, impair the usefulness of the USACE project, or result in significant adverse impacts to the human environment.

Rational Used to determine if this Record of Environmental Consideration (REC) is Appropriate:

☐ The proposed action is Categorically Excluded from NEPA requirements.

☐ The proposed alteration is included on the list of Categorically Permitted Alterations contained within the Programmatic Environmental Assessment as identified above.

☐ The proposed action has been adequately assessed in an existing NEPA document and determined to not present the potential for significant adverse effects to the human environment, be injurious to the public interest, or impair the usefulness of the USACE civil works project.

☐ Reevaluation of the potential Environmental Effects has been completed as demonstrated on the attached. (**Review Completed**).

_____ _____

Date

Eric Laux, Chief
Environmental Resources and Missouri River Recovery Program Plan Formulation Section

I. Compliance Review for Environmental Laws

A. National Historic Preservation Act

☐ No potential to affect historic properties. On ___DATE___, the Nebraska State Historic Preservation Office provided a letter that stated,

Provide information obtained from SHPO

There is always the possibility that previously unsuspected archeological remains may be uncovered during the process of project construction. In the unlikely event of an unanticipated discovery of cultural resources, work will halt immediately and contact will be made with a Corps archeologist. The work will not continue until a qualified archeologist inspects the find. If it is determined that the discovery requires further consultation, the Corps will consult with the Nebraska SHPO.

☐ Historic properties or Archeological resources may be affected. Standard Section 106 review required.

☐ Project conditions are required. See explanation in Section V.

B. Endangered Species Act

☐ No listed species and/or critical habitat are present in areas affected directly or indirectly by the Federal Action.

☐ Listed species and/or critical habitat are present in areas affected directly or indirectly by the Federal Action. Coordination with the U.S. Fish and Wildlife Service conducted (See Agency Coordination at the end of this REC).

☐ No effect determination shared with the U.S. Fish and Wildlife Service.

☐ May affect, not likely to adversely affect threatened and endangered species or designated critical habitat concurrence provided by the U.S. Fish and Wildlife Service.

C. Clean Water Act

☐ No waters of the United States would be affected directly or indirectly by the project.

☐ Waters of the United States, including wetlands, would be affected by the proposed project.

☐ Project requires Section 404/401 (Clean Water Act) and/or Section 10 (Rivers and Harbors Act) permits/certifications. To be obtained prior to construction.

☐ Permits/certifications have been obtained (copy attached).

D. Fish and Wildlife Coordination Act

☐ No water body would be affected, modified, or controlled by the project.

☐ A water body would be affected, modified, or controlled by the project.

☐ Coordination with the U.S. Fish and Wildlife Service was conducted.

☐ No recommendations offered by the U.S. Fish and Wildlife Service.

☐ Recommendations provided by the U.S. Fish and Wildlife Service.

☐ Project conditions would be required. See explanation in Section V.

E. Clean Air Act

☐ No significant air quality emissions would result from the proposed project and no National Ambient Air Quality Standards would be exceeded.

F. Migratory Bird Treaty Act

☐ No take of migratory birds would occur from the project.

G. Bald and Golden Eagle Protection Act

☐ No take of bald or golden eagles would occur from this project.

H. Noise Control Act

☐ No permanent noise would result from the project.

G. Vegetation

☐ No more than a minor amount of vegetation would be disturbed and vegetation impacts would be offset by returning the area to conditions that existed prior to the construction-related disturbance.

H. Recreation

☐ No permanent impacts to recreation would result from the proposed alteration.

II. Compliance Review for Executive Orders

A. Executive Order 11988 – Flood Plains

☐ No effect on Flood Plains/Flood Levels would occur or the project is located outside the Flood Plain.

B. Executive Order 11990 - Wetlands

☐ No effect on wetlands would occur and the project is located outside of wetlands.

☐ The project is located in wetlands or effects to wetlands would occur.

☐ Beneficial effects on wetlands would occur.

☐ Adverse effects associated with constructing in or near wetlands would occur.

☐ Coordination with the Corps Regulatory Office was conducted.

Nationwide Permit _____ would be used for this alteration.

C. Executive Order 12898 – Environmental Justice

☐ No Environmental Justice issues are associated with the project.

☐ Low income or minority populations are in or near the project area.

☐ No disproportionately high or adverse impact on low income or minority populations would occur.

III. Other Relevant Laws, Environmental Regulations, or Executive Orders

☐ No other laws, environmental regulations, or executive orders have been identified.

☐ Other laws, environmental regulations, or executive orders include:

(Identify the other laws, environmental regulations, or executive orders not clearly falling under any of the above and include an explanation of the resolution and coordination conducted in Section V).

IV. Extraordinary Circumstances

Based on review of compliance with other environmental laws and Executive Orders, and in consideration of other environmental factors, review the project for extraordinary circumstances.

Note: A "Yes" under any circumstance may require the preparation of a stand-alone Environmental Assessment or Environmental Impact Statement.

Yes	No	
☐	☐	(i) The scope is greater than normally experienced for the particular action being implemented.

Yes No

☐ ☐ (ii) The proposed action has a high level of controversy.

☐ ☐ (iii) Potential for degradation, even though slight, of an already degraded condition.

☐ ☐ (iv) Employment of unproven or unique technology.

☐ ☐ (v) Presence of hazardous or toxic substances at levels which exceed Federal, state, or local regulations or standards.

☐ ☐ (vi) Potential for adverse effects on health or safety.

☐ ☐ (vii) Potential to violate federal, state, local, or tribal law.

☐ ☐ (viii) Potential for significant cumulative impacts when the proposed action is combined with other past, present, and reasonably foreseeable future actions, even though the impacts of the proposed action may not be significant by themselves.

V. Required Project Conditions

☐ No additional project conditions are required.

☐ Project conditions are required. (Include sub-heading and describe the required project conditions).

Based on this review and coordination with the resource agencies, no new significant impacts on the environment are anticipated. Consequently, it is not necessary to prepare an Environmental Impact Statement or new Environmental Assessment. This Record of Environmental Consideration is considered adequate NEPA documentation for this action because the proposed project impacts were adequately covered in the Programmatic NEPA document.