

CLEAN WATER STATE REVOLVING LOAN FUND PROGRAM FINDING OF NO SIGNIFICANT IMPACT (FNSI)

TO: All Interested Citizens, Government Agencies and Public Groups

In accordance with the Nebraska Clean Water State Revolving Fund environmental review process, which is based on the National Environmental Policy Act, an environmental review has been performed on the proposed agency action below.

This information reviews the environmental impact likely from a project. This project is planned to be federally funded through your tax dollars; therefore, you are entitled to take part in its review. If you have concerns about the environmental impact of this project, please provide them currently. The Nebraska Department of Environment and Energy (NDEE) encourages public input in this decision-making process.

PROJECT NAME: North Bend Collection System and Treatment Facility Improvements
APPLICANT: City of North Bend, NE
COUNTY: Dodge County
POPULATION: 1,244 (2023 Census)
CWSRF PROJECT NUMBER: C318077
PROPOSED CWSRF LOAN AMOUNT: \$8,595,170
PROPOSED CWSRF FORGIVENESS: \$584,472

The City of North Bend is in the southwest part of Dodge County. The city is in an agricultural area and the businesses are primarily accented toward providing service to the community. The city's population for the year 2023 was estimated at 1,244.

The City of North Bend currently utilizes a centralized sanitary sewer collection system of 8" to 18" sewer mains, which transfers raw wastewater to a mechanical wastewater treatment facility (WWTF) located east of city. Two small lift stations connect portions on the west and north sides of town to the gravity collection system. The influent lift station at the WWTF pumps raw wastewater to the treatment process. After treatment, the effluent lift station pumps effluent to the Platte River.

Flooding in 2019 caused basement backups from the sewer collection system across the city. It was shown that these weather events caused excessive amounts of hydraulic stress to the collection system, beyond what is typically experienced in the community. Also, the data available suggests that wastewater flows are significantly impacted by the inflow of surface water during precipitation events and infiltration from high groundwater. The satellite lift station on the north side of town is located on the east side of Main Street between 13th and 14th Streets west of the North Bend Public Library. The other satellite lift station is near the intersection of West 8th Avenue and Cottonwood Street on the west side of town. It was reported that the two lift stations lack a secondary power source or an on-site generator,

and the electrical systems at the lift stations are not currently set up to allow for power from a portable generator. In the event of a power failure, portable pumps and generators would have to be brought in to maintain operations. Based on site inspections, controls have been updated for the 8 year old pumps. The pumps lack a slide rail for easy removal and maintenance. Additionally, the piping is showing major corrosion, and it appears a portion of the ductile iron piping was replaced with SCH 40 PVC which is not recommended. Therefore, the lift stations need rehabilitation, and a valve vault installed for access and maintenance purposes.

A collection system rehabilitation program is recommended. The alternative consists of a multi-step process that includes phases of investigation and data collection followed by phases of improvements, one of the first steps would be performing closed circuit television (CCTV) inspections on the remaining sanitary system not previously inspected, and monitoring flow at certain points. The purpose of the monitoring is to locate areas that have excessive infiltration/inflow and determine if they warrant further investigation. Then, to identify existing sources of excessive Infiltration & Inflow (I&I) that can be economically eliminated from the system. Common sources of inflow include direct connection of storm drainage piping to the sanitary sewer system and storm runoff into manholes through covers. The common source of infiltration is groundwater, which tends to enter through cracked piping, leaking manholes and pipe joints. Following rehabilitation and replacement of segments of sanitary sewers may be necessary, or the abandonment of noncompliant connections to the collection system. With continual maintenance the amount of I&I could be reduced which would result in lower peak flows being conveyed through system lift stations and ultimately to the WWTF.

Satellite lift station improvements are recommended. The existing piping and appurtenances are deteriorating and have reached their useful life. The improvements would include complete replacement of piping, valves, pumps and appurtenances, and can include new rail systems be installed, and a separate valve vault be constructed adjacent to the wet wells. Given that the electrical and controls were recently updated, it is assumed that electrical and controls would need modification, not replacement.

The majority of the WWTF was constructed in 1978. There have been some minor improvement projects and the addition of a second aerobic digester, but most of the infrastructure is over 45 years old, reaching the end of useful design life. Furthermore, the majority of components do not perform adequately for applicable design criteria. The influent/effluent lift stations do not appear to be sized adequately based on available flow information as evident in the debris located in the float cables and the need to bypass pump wastewater during the flooding. There is significant corrosion in the lift station dry pit and the piping and valves have not been adequately maintained. The aerated grit chamber does not meet the acceptable hydraulic requirement design standards. The grit channels are no longer operating. The basins are showing signs of age as cracking and spalling of the concrete was observed. Operating this system properly requires a significant amount of manual labor and increased maintenance. The extended aeration basins meet the hydraulic and organic loading requirements for the current average values. However, the air piping and diffusers are original to the plant and beyond their design service life. Finding replacement parts for the coarse bubble diffusers and chain drives is very difficult. The final clarifiers are adequate in meeting the detention time at average day flow, and solids loading rate; however, the surface overflow rate and weir loading rate are outside acceptable limits at peak flow rates. The capacity of the existing blower is likely sufficient to supply the volume of air that is required for the existing aerated grit chamber, aeration tank, clarifier, and aerobic digester. However, with only one blower in operation there is no redundancy if the blower were to fail. Given that the blower is 25+ years old, it has reached its useful life. The Ultraviolet (UV) disinfection system appears to be operating well; however, it is a single bank system with no redundancies. In summary, the WWTF is not reliable, a small amount of growth in the

community in the future could force the city to make immediate upgrades to the reliably treat the wastewater and full replacement of the WWTF was recommended.

After carefully evaluating the technical and financial feasibility, a continuous discharge aerated lagoon treatment facility was selected as a solution. This alternative consists of constructing an aerated lagoon system to minimize treatment requirements when compared to controlled discharge or complete retention lagoons. Aerated lagoons are typically sized based upon the hydraulic and organic loadings of a community, utilizing a series of aerobic treatment cells in each lagoon, followed by a polishing reactor for nitrification. Lagoons are covered with individual casings that are fastened together to form a floating system in order to completely cover the lagoon. The insulated covers allow for increased biochemical oxygen demand (BOD) removal during the winter months which allows for a smaller lagoon footprint. The individual casings include closed-cell insulation sealed between two sheets of geomembrane. Hatches provide access to submerged or floating equipment for maintenance or repair, as well as access to the wastewater for sampling purposes. Lagoons divided into four cells using hydraulic baffles will minimize short circuiting. The first three cells will be partial mix cells utilizing low rate diffusers that will establish a suitable environment of BOD by heterotrophic bacteria. Following the partial mix cells, water will flow into settling cells with detention time of 3 days, in order to establish a quiescent zone for solids to settle. Following the settling cells, the wastewater will flow into polishing reactors for supplemental BOD removal and ammonia nitrogen polishing, to enhance the growth of nitrifying bacteria oxidize ammonia in an aerobic environment, which will satisfy the current NPDES permit. The final cell incorporates phosphorus removal through a system that uses the addition of chemicals to form phosphorus precipitates that are removed along with waste biological sludge. The feed system consists of coagulant storage tank, metering pumps, pipes, fittings, and plastic valves. The chemical application point is in a rapid mix or flash mix zone, where water flows out of rapid mix zone into a flocculation zone. The flocculation zone is separated from the final settling by a hydraulic baffle and contains surface mixers that produce the conditions to enable large particles that can be removed by sedimentation. Unlike the controlled discharge facility, the aerated lagoon facility will continuously discharge year-round. An aerated lagoon treatment system will still require a UV disinfection system prior to being pumped to the outfall via a new effluent lift station.

Federal, state, and local agencies were asked to review the project for environmental impacts. The following is a collection of responses:

- **United States Department of Interior – Fish and Wildlife Service:** February 4th, 2025-The Service does not anticipate adverse impacts to piping plover and western prairie fringed orchid.
- **Nebraska Department of Natural Resources (NeDNR):** December 9th, 2024-Potential impacts to jurisdictional dams, stream gages, or surface water rights were not identified.
- **NeDNR – Floodplain Management Section:** December 9th, 2024-Commented that the proposed project is located within a regulated 1% annual chance floodplain. All development within flood hazard area needs to comply with local floodplain regulations and a floodplain development permit obtained prior to commencement.
- **Nebraska Game and Parks Commission (NGPC):** On December 4, 2024, informal consultation pursuant to NESCA was completed by using the Conservation and Environmental Review Tool (CERT). On December 9, 2024, after consulting with NGPC, it was concluded that based on the review of the information provided, the proposed project may affect but is not likely to adversely affect northern long-eared bat, pallid sturgeon, lake sturgeon, and sturgeon chub, and

acknowledge no impacts are anticipated on all other state-listed endangered or threatened species.

A Public Hearing was held March 4, 2025, at the North Bend City Hall, advertised 35 days in advance. All local citizens and any other interested parties, governmental agencies, or groups were encouraged to comment. During the public hearing, discussion was held between council members and no one from the public attended. The project was approved unanimously by the City Council.

The project is eligible for financing through the CWSRF and is included on the Priority Funding List in the State Fiscal Year 2025 Intended Use Plan. The total estimated project cost is \$8,595,170. The City is eligible for a 6.8% of total project cost as loan forgiveness. The City is eligible for a 30-year loan at an annual interest rate of 0.7 percent. In addition to principal and interest payments, an administrative fee of 0.7 percent of the principal balance will be assessed each year. The revenues from North Bend's wastewater utility will be dedicated to repaying the loan. The projected annual debt service (including 10% debt-service coverage) is \$387,376. For a typical residential connection, the current monthly rate is \$32.50. Based on an estimated 528 of active service connections, an additional monthly increase of \$61.14 to residential user rates may be needed to pay for the new debt service, with the forgiveness assistance dedicated to limiting residential rate increases.

The review did not indicate a significant environmental impact will result from the proposed action. Based on analyses completed by the consulting engineer, and from different federal, state & local agencies, no adverse impacts are anticipated to wetlands, the floodplain, or historical resources. The project was planned to ensure that no segment of the community's population is impacted disproportionately from related effects. Consequently, a preliminary decision has been made that an Environmental Impact Statement (EIS) will not be prepared.

This action is taken based on a careful review of the engineering reports and other supporting data that are on file with NDEE. All are available for public review upon request. A copy of the environmental assessment is attached. The NDEE will not take any administrative action on the project for at least 30 calendar days from the date shown below. Persons having a comment on this determination are encouraged to submit such comments to the NDEE State Revolving Fund Program at ndee.srf@nebraska.gov, or by phone at (402) 471-4200.

Signed this 11th day of April, 2025.

Sincerely,



Sarah Starostka
Division Administrator
Planning & Aid Division

Attachments: Environmental Assessment
 Distribution List
 Map

ENVIRONMENTAL ASSESSMENT DOCUMENT

A. Project Identification:

Applicant: City of North Bend

Project No.: C318077

City: City of North Bend

County: Dodge County

State: NE

Estimated Project Cost: \$8,595,170

B. Community Description:

Location: The City of North Bend is in Dodge County in Northeastern Nebraska.

Population: According to the 2023's census update, the current population of North Bend is estimated at 1,244.

Project Description: The study and evaluation of the municipal wastewater system for the City of North Bend indicates that there are many areas where improvements are needed. The existing system has many components that are showing signs of significant aging and have served their useful life. It is recommended that the city update and improve the wastewater treatment system to replace the infrastructure to provide a more reliable and efficient system.

Alternatives Considered:

a) Action Alternative – Collection System Alternatives

- a) Collection System Rehabilitation Program
- b) Satellite Lift Station Improvements

b) Action Alternative – Wastewater Treatment Alternatives

- a) Lift Stations and Force Main to Fremont
- b) Aero-Mod Mechanical Treatment Facility
- c) Oxidation Ditch Treatment Facility
- d) Sequencing Batch Reactor Treatment Facility
- e) Controlled Discharge Lagoons
- f) Continuous Discharge Aerated Lagoon Treatment Facility

Evaluation and Selection of the Alternative: The collection system improvement alternatives are not anticipated to increase the yearly O&M costs. Also, it should be noted that the construction of these improvements has the potential to eliminate or reduce I&I entering the system which could reduce the O&M costs as there would be less maintenance and volume to treat at the WWTF. For the wastewater treatment alternative, the lowest capital cost is aerated lagoon continuous discharge system because it requires less mechanical equipment and concrete basin.

Environmental Impact Summary:

Primary:

Construction: Temporary impacts caused by construction include noise and dust, a limited potential for soil erosion, and fuel/oil spills. All demolition, grading, and construction activities will comply with Fugitive Dust Title 129, Chapter 32 regulations. No wastewater bypasses are expected during construction. A construction permit will be obtained from the NDEE in accordance with Title 123.

Environmental: Several federal, state, and local agencies were asked to review the project for environmental impacts. The following is a collection of responses:

- **United States Department of Interior – Fish and Wildlife Service:** February 4th, 2025-Commented to show that the Service does not anticipate adverse impacts to piping plover and western prairie fringed orchid.
- **Nebraska Department of Natural Resources (NeDNR):** December 9th, 2024-Commented that no potential impacts to jurisdictional dams, stream gages, or surface water rights were identified.
- **NeDNR – Floodplain Management Section:** December 9th, 2024-Commented that the proposed project is located within a regulated 1% annual chance floodplain. All development within flood hazard area needs to comply with local floodplain regulations and a floodplain development permit obtained prior to commencement.
- **Nebraska Game and Parks Commission (NGPC):** December 9, 2024-Commented that based on the review of the information provided, the proposed project may affect but is not likely to adversely affect northern long-eared bat, pallid sturgeon, lake sturgeon, and sturgeon chub, and acknowledge no impacts are anticipated on all other state-listed endangered or threatened species.

Financial: The project is eligible for financing through the Clean Water State Revolving Loan Fund (CWSRF) and is included on the Priority Funding List in the State Fiscal Year 2025 Intended Use Plan. The total estimated project cost is \$8,595,170. The City is eligible for a 6.8% of total project cost as loan forgiveness. The City is eligible for a 30-year loan at an annual interest rate of 0.7 percent. In addition to principal and interest payments, an administrative fee of 0.7 percent of the principal balance will be assessed each year. The revenues from North Bend's wastewater utility will be dedicated to repaying the loan. The projected annual CWSRF Debt Service for the project (including 10% debt-service coverage) is \$387,376. For a typical residential connection, the current monthly rate is \$32.50. Based on an estimated 528 of active service connections, an additional monthly increase of \$61.14 to residential user rates may be needed to pay for the new debt service.

Secondary:

Population Impacts: The design for the proposed wastewater improvement project has taken into consideration the population trends.

Environmental: Minimal solid waste generated by the project will be disposed of in a licensed landfill. No safety, vibration, noise, or aesthetic considerations were identified

other than the normal noise and disruptions associated with sewer and wastewater treatment facility construction.

Environmental Justice: The proposed project will not produce any environmental justice concerns. All structures will be placed in areas already disturbed through agriculture, and the services provided by the wastewater improvements will be available to everyone in the city, equally. No segments of North Bend's population are impacted disproportionately from related effects.

Mitigation measures necessary to eliminate adverse environmental effect: Proper construction techniques will be utilized to minimize soil erosion and other potential impacts of construction. An NPDES Construction Storm Water General Permit for stormwater runoff associated with construction activity and a Storm Water Pollution Prevention Plan will be required by NDEE since more than one acre of land will be disturbed. The community can designate the General Contractor as the authorized representative on the Storm Water Permit Notice of Intent submitted to the NDEE. Authorization of storm water runoff from the construction activities must be in place prior to commencing construction.

Irreversible and irretrievable commitment of resources: The resources committed to the project include the equipment, materials, and energy used in construction.

C. Measures Taken to Ensure Environmental Soundness:

Public Involvement: A Public Hearing was held March 4, 2025, at the North Bend City Hall and convened at 7:00 PM. The hearing was advertised 35 days in advance. All local citizens and any other interested parties, governmental agencies, or groups were encouraged to comment.

Public Opposition or Opinions: During the public hearing, discussion was held between council members and no one from the public attended. The project was approved unanimously by the City Council.

Coordination and Documentation with Other Agencies and Special Interest Groups:

Federal: U.S. Fish and Wildlife Service, February 2025

State: Nebraska Department of Natural Resources, December 2024
NE Game and Parks Commission, December 2024

Consulting Engineers: JEO, Lincoln, Nebraska

Public Groups: City of North Bend Residents

- D. Reasons for Concluding there will be no Significant Impacts:** Review of the engineering reports and supporting information indicates that the proposed project will result in no significant impact to the environment. No adverse impacts are anticipated to the floodplain or endangered or threatened species. All necessary permits for construction have been or will be obtained from the appropriate agencies (i.e., NDEE, the Corps of Engineers, etc.), if necessary.

A handwritten signature in black ink, consisting of a large, stylized 'A' followed by a horizontal line and a checkmark-like flourish.

Reviewing Engineer

A handwritten date in black ink, reading '04/11/2025'.

Date

**FINDING OF NO SIGNIFICANT IMPACT DISTRIBUTION LIST
NORTH BEND, NEBRASKA**

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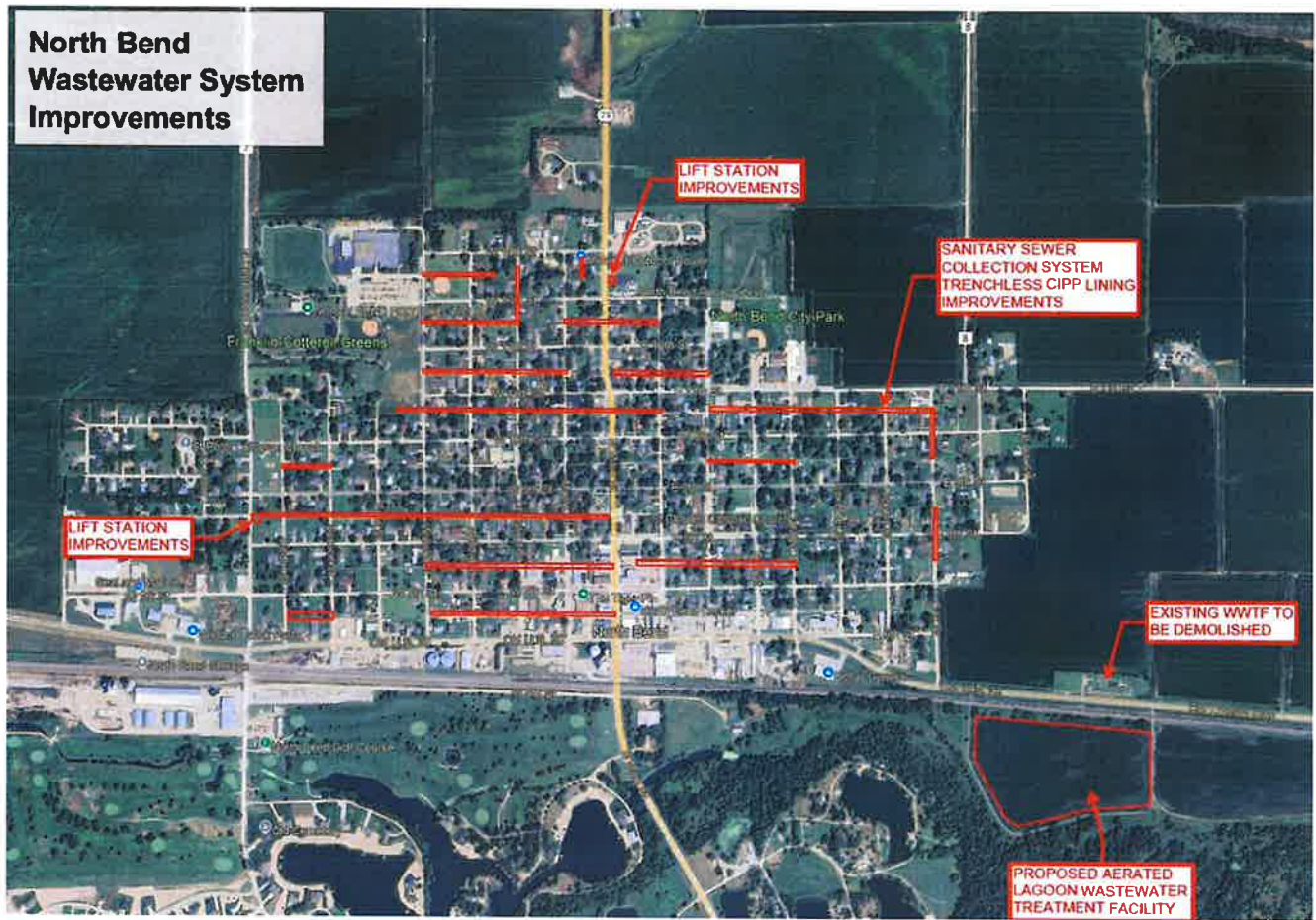
(Public Information Only not for Public Notice)

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Map of North Bend Wastewater System Improvements