NEBRASKA
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DEPT. OF ENVIRONMENT AND ENERGY

Jim Pillen, Governor

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 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 at this time. The Nebraska Department of Environment and Energy (NDEE) encourages public input in this decision-making process.

PROJECT NAME: Municipal Wastewater Treatment System Modifications
APPLICANT: Village of Plymouth, NE
COUNTY: Jefferson County
POPULATION: 364 (2020 Census)
CWSRF PROJECT NUMBER: C318032
TOTAL PROJECT AMOUNT: $1,350,040
PROPOSED CWSRF NEW & INNOVATIVE TECHNOLOGY (NIT) GRANT: $600,000
PROPOSED CWSRF LOAN FORGIVENESS AMOUNT: $412,522
PROPOSED CWSRF LOAN AMOUNT: $337,518

The Village of Plymouth is located in southeastern Nebraska, off of Nebraska State Highway 4. It is about 14 miles northwest of Beatrice, NE. The community has experienced a declining population over the past decade with a current population of 364, according to the 2020 Census.

Plymouth's existing wastewater infrastructure consists of a centralized sanitary sewer collection system that transfers raw wastewater via gravity to a three-cell, controlled discharge facultative lagoon system. The original wastewater treatment facility (WWTF) was constructed in 1954 and consisted of a two-cell, controlled discharge lagoon system. The WWTF was expanded in 1979 when the two-cell lagoon system was converted into a single primary cell and two more lagoon cells were added, for a total surface area of 9.7 acres. There is an outfall structure that allows for controlled discharge of effluent out of Cell #3 to a tributary of the Big Blue River (BB1-10000 of the Big Blue River Basin).

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The Village currently has a National Pollutant Discharge Elimination System (NPDES) permit to discharge treated effluent. The permit was reissued on October 1, 2021, and the effluent ammonia limits were lowered considerably from previous permits. To help ensure compliance with these lower limits, a modification to the existing lagoon system is proposed. The modification includes the addition of a post-lagoon nitrification system known as NitrOx to the existing lagoon system, resulting in a continuous discharge system. The system will be located between Cells #2 and #3 near the lagoon outfall, as space allows, to meet the ammonia limits of the Village's NPDES permit. The proposed project will also include a clarifier to reduce total suspended solids (TSS) and an ultraviolet (UV) disinfection system to meet effluent E.coli limits during the recreational season. Additionally, the project will also include a backup generator, electrical equipment, controls, and piping improvements.

A number of federal, state, and local agencies were asked to review the project for environmental impacts. The majority of the agencies responding indicated that there would be no adverse impact, have no effect, or posed no concern. The Nebraska Game and Parks Commission (NGPC) commented that the project is located within the estimated range of the state and federally-listed threatened northern long-eared bat; however, the project site is unlikely to have suitable habitat for this species. Therefore, NGPC does not anticipate that the proposed project would have an adverse impact to state-listed endangered or threatened species. Comments provided by the U.S. Fish and Wildlife Service (USFWS) included a request for a biological analysis (BA) that includes a determination for each species of "no effect", "may affect, not likely to adversely affect", or "may affect, likely to adversely affect". In response to this comment, the NGPC's Conservation and Environmental Review Tool (CERT) was used. This tool confirmed that the project location is within the range of the state and federally-listed threatened northern long-eared bat, but conservation measures are not needed given the lack of suitable habitat for this species at the project site. After providing the CERT report and the comments offered by the NGPC to the USFWS, the USFWS had no further comments and considered the project to be in compliance with the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq*. A requirement to comply with the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act will be included in the project specifications. Temporary impacts that may be caused by construction include noise and dust and a limited potential for soil erosion and fuel and oil spills. No wastewater bypasses are expected during construction.

The project is eligible for financing through the Clean Water State Revolving Loan Fund (CWSRF) and is included on the CWSRF Project Priority Funding List in the State Fiscal Year 2023 Intended Use Plan. The Village is eligible for a 20-year loan at an interest rate of 0.5 percent. In addition to principal and interest payments, an administrative fee of 0.5 percent of the principal balance will be assessed each year. The revenues from Plymouth's wastewater utility will be dedicated to repaying the loan. The projected annual CWSRF Debt Service (including 10% coverage) for the project is $21,365. For a typical residential connection, the current monthly rate is a flat fee of $19.00. Based on 224 active service connections, monthly household rates may need to be raised $7.95 to pay for the new debt service. An additional monthly rate increase of $4.28 may be required to pay for increased operation and maintenance (O&M) costs associated with the project, resulting in a total monthly household rate increase of $12.23.

A Public Hearing was held September 12, 2022, at the Plymouth Village Hall and convened at 7:30 PM. During the Hearing, the project engineer discussed details of the project, the expected project cost, and the expected impact to wastewater user rates. No public comments were made. The hearing was advertised 32 days in advance.

The review did not indicate a significant environmental impact will result from the proposed action. It is not anticipated that the project will have adverse impacts to state or federally-listed threatened or endangered species. No known historical or archaeological sites will be impacted. No potential impacts to jurisdictional dams, floodplain management, registered groundwater wells, stream gages, or surface water rights are expected. The project will comply with Title 123 and Title 129 NDEE regulations. 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 on the basis of 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 finding of no significant impact determination are encouraged to submit such comments directly to the NDEE State Revolving Fund Program at ndee.srf@nebraska.gov, or at 402-471-4200.

Signed this 5th day of January, 2023.

Sincerely,

Sarah Starostka, Administrator
Planning and Aid Division

Attachments: Environmental Assessment
Distribution List
Map

ENVIRONMENTAL ASSESSMENT DOCUMENT

A. Project Identification:

Applicant: Village of Plymouth
Project No.: C318032
City: Village of Plymouth **County:** Jefferson **State:** NE
Estimated Total Project Cost: $1,350,040
Proposed New & Innovative Technology (NIT) Grant: $600,000
Proposed Amount of Loan Forgiveness: $412,522
Proposed CWSRF Loan Amount: $337,518

B. Community Description:

Location: The Village of Plymouth is located in southeastern Nebraska, off of Nebraska State Highway 4. It is about 14 miles northwest of Beatrice, NE.

Population: The community has experienced a declining population over the past decade with a current estimated population of 364, according to the 2020 Census.

Current Wastewater Facilities: Plymouth's existing wastewater infrastructure consists of a centralized sanitary sewer collection system that transfers raw wastewater via gravity to a three-cell, controlled discharge facultative lagoon system. The original wastewater treatment facility (WWTF) was constructed in 1954 and consisted of a two-cell, controlled discharge lagoon system. The WWTF was expanded in 1979 when the two-cell lagoon system was converted into a single primary cell and two more lagoon cells were added, for a total surface area of 9.7 acres. Cell #1 has a depth of five feet and Cells #2 & #3 have a depth of four feet. There is an outfall structure that allows for controlled discharge of effluent out of Cell #3 to a tributary of the Big Blue River (BB1-10000 of the Big Blue River Basin). The Village currently has a National Pollutant Discharge Elimination System (NPDES) permit to discharge treated effluent.

C. Project Description: The Village's NPDES permit was reissued on October 1, 2021, and the effluent ammonia limits were lowered considerably from previous permits. To help ensure compliance with these lower limits, a modification to the existing lagoon system is proposed. The modification includes the addition of a post-lagoon nitrification system known as NitrOx to the existing lagoon system, resulting in a continuous discharge system. The system will be located between Cells #2 and #3 near the lagoon outfall, as space allows, to meet the ammonia limits of the Village's NPDES permit. The proposed project will also include a clarifier to reduce total suspended solids (TSS) and an ultraviolet (UV) disinfection system to meet effluent E.coli limits during the recreational season. Additionally, the project will also include a backup generator, electrical equipment, controls, and piping improvements.

D. Alternatives Considered:

Alternatives considered were:

1. No project, or
2. Land Application Facultative Lagoons
3. Drawdown Pipe and Utilize Existing System
4. NitrOx with Clarifier and UV Disinfection
5. SAGR System with UV Disinfection
6. Lemtec System with UV Disinfection

Evaluation and Selection of the Alternative: The Village's NPDES permit was reissued on October 1, 2021, and the effluent ammonia limits were lowered considerably from previous permits. A comparison of historical reported effluent data for the Village of Plymouth's current NPDES permit limits shows that there are four discharges from 2010 to 2011 that would have exceeded the current ammonia permit limits. There was also a discharge in May 2010 that exceeded E. coli permit limits. Based on calculations included in the preliminary engineering report, the existing cells only have enough storage volume, based on average flow, net evaporation, and seepage, to store wastewater for 8.4 months prior to the wastewater exceeding the high-water level or being discharged. According to the discharge monitoring report (DMR) data, the Village has averaged a discharge every nine months and has been able to go over a year without a discharge on a couple occasions. However, without sufficient storage capacity to consistently provide 365 days of retention, the Village risks having to discharge during a season when they may not meet E. coli and/or ammonia permit limits, particularly during wet years. Therefore, if the Village does nothing, they may have difficulty maintaining compliance with their NPDES permit in the future.

Land application of lagoon wastewater was originally selected as a feasible alternative. However, the Village has made attempts to negotiate with adjacent landowners without success. Thus, there are no agricultural fields near the lagoons available for land application and this alternative is no longer feasible.

The third alternative considered was adding a drawdown pipe to Cell #1 and utilizing the existing system. As stated above, the Village would have exceeded the current permit limits for ammonia on four occasions, and the existing calculated detention time for the lagoons is 8.4 months. However, if the Village would have discharged during the winter months, the current permit limits would have been met except for one discharge in November 2011. Therefore, if the storage capacity of the lagoons was increased to ensure the facility would only have to discharge during the winter months, they may be able to maintain compliance with their NPDES permit. Currently, Cell #1 does not contribute to the total storage available in the lagoon system since there is not a two-foot low-water level drawdown pipe. Thus, the addition of a drawdown pipe between Cell #1 and Cell #2 would allow for increased storage capacity as Cell #1 could be drained. This alternative would also include removal of sludge build-up in Cell #1.

Alternatives 4, 5, and 6 all include advanced treatment systems that would provide nitrification following the existing lagoons and would require a continuous discharge of effluent. Each system is different, but all are capable of meeting the NPDES permit limits year-round. A cost-effectiveness evaluation was done for Alternatives 3, 4, 5, and 6. The least expensive alternative is Alternative 3; however, the Village is not interested in this alternative due to concerns that, if a discharge was needed during the recreation season, they would not be able to meet permit limits. The lowest cost advanced treatment system is Alternative 4, the NitrOx nitrification system with a clarifier and UV disinfection. Thus, Alternative 4 was the selected alternative due its lower cost, smaller geographic footprint, and ability to meet the Village's current and anticipated future permit limits for ammonia.

E. Environmental Impact Summary:

Primary:

Construction: Temporary impacts caused by construction include noise and dust, a limited potential for soil erosion, and fuel/oil spills. No wastewater bypasses are expected during construction. A Title 123 construction permit will be obtained from the NDEE. Demolition, grading, and construction activities will be required to meet Fugitive Dust Title 129, Chapter 15, Section 003 regulations.

Environmental: The construction contracts will require that the contractors return the area to its original or better condition. Construction will occur on land owned by the Village.

The proposed project was reviewed by numerous federal and state agencies for environmental impacts. The Nebraska Department of Natural Resources reviewed the proposed project for potential impacts to jurisdictional dams, floodplain management, registered groundwater wells, stream gages, and surface water rights and did not have any comments.

The Nebraska Game and Parks Commission (NGPC) commented that the project is located within the estimated range of the state and federally-listed threatened northern long-eared bat; however, the project site is unlikely to have suitable habitat for this species. Therefore, NGPC does not anticipate that the project, as described, would have an adverse impact to state-listed endangered or threatened species. Comments provided by the U.S. Fish and Wildlife Service (USFWS) included a request for a biological analysis (BA) that includes a determination for each species of "no effect", "may affect, not likely to adversely affect", or "may affect, likely to adversely affect". In response to this comment, the NGPC's Conservation and Environmental Review Tool (CERT) was used. This tool confirmed that the project location is within the range of the state and federally-listed threatened northern long-eared bat, but conservation measures are not needed given the lack of suitable habitat for this species at the project site. After providing the CERT report and the comments offered by the NGPC to the USFWS, the USFWS had no further

comments and considered the project to be in compliance with the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq*. A requirement to comply with the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act will be included in the project specifications.

Financial: An application for CWSRF loan assistance has been received for the project to fund the proposed improvements to allow for the construction of the NitrOx nitrification system, a clarifier, and UV disinfection system following the existing lagoon system. The total estimated project cost is $1,350,040. The Village is eligible for $600,000 of New and Innovative Technology (NIT) grant funds for the NitrOx nitrification system. The Village is eligible for a 0.5 percent, 20-year loan, with an administrative fee of 0.5% on the principal balance that will be assessed each year. The Village is also eligible for principal forgiveness set at 55% of eligible project costs; however, the amount of the NIT grant plus any additional forgiveness may not exceed 75% of the total project costs. If executed, the community will have an annual CWSRF debt service of $21,365, which includes a ten percent coverage that is required on all loans. The revenues from Plymouth's wastewater utility will be dedicated to repay the loan. For a typical residential connection, the current monthly rate is a flat fee of $19.00. Based on 224 active service connections, monthly household rates may need to be raised $7.95 to pay for the new debt service. An additional rate increase of $4.28 may be required to pay for increased operation and maintenance (O&M) costs associated with the project, resulting in a total monthly household rate increase of $12.23. An assessment of costs and revenues will be conducted after completion of the project.

Secondary:

Population Impacts: The proposed wastewater improvements are not needed for future growth, but to allow the Village to maintain compliance with more stringent NPDES ammonia limits. The design for the improvements has taken into consideration the population trends.

Land Use and Trends: The location of the proposed wastewater improvements is the existing WWTF for the Village. The existing WWTF is northeast of the Village. The Nebraska State Historic Preservation Office determined that there will be no historic properties affected by the proposed project as planned. If any cultural or human remains are discovered during the project, the office will be contacted immediately.

Environmental: Minimal solid waste generated by the project will be disposed of in a licensed landfill. The NDEE urges recycling and reuse of any materials generated by the project, where possible. No safety, vibration, noise or aesthetic considerations were identified other than the normal noise and disruptions associated with wastewater works construction. If sludge is removed from the lagoons, it will be disposed of in accordance with all applicable regulations.

Environmental Justice: The proposed project will not produce any environmental justice concerns. All structures will be placed in areas adjacent to the existing lagoons and already disturbed by the wastewater treatment facility. The services provided by the wastewater improvements will be available to everyone in the Village, equally. No segments of Plymouth'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. Since the proposed project will disturb less than 1 acre and is not part of a larger common plan of development, no construction storm water general permit authorization is required at this time.

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

F. Measures Taken to Ensure Environmental Soundness:

Public Involvement: A Public Hearing was held September 12, 2022, at the Plymouth Village Hall and convened at 7:30 PM. During the Hearing, the project engineer discussed details of the project, the expected project cost, and the expected impact to wastewater user rates. No public comments were made. The hearing was advertised 32 days in advance.

Public Opposition or Opinions: No comments were made.

Coordination and Documentation with Other Agencies and Special Interest Groups:

Facility Planning: Facility Plan Report, JEO Consulting Group, Inc., August 2013
Village of Plymouth Municipal Wastewater System Preliminary Engineering Report Amendment No. 1, JEO Consulting Group, Inc., December 2021

Federal: U.S. Fish and Wildlife Service, October 22, 2022, email & December 21, 2022, letter

State: NE Department of Environment and Energy, October 21, 2022, letter
NE Department of Natural Resources, November 10, 2022, letter
NE Game and Parks Commission, October 24, 2022, letter; November 30, 2022, Conservation and Environmental Review Tool (CERT) Report
NE State Historic Preservation Office, October 5, 2022, letter

Consulting Engineers: JEO Consulting Group, Inc., Grand Island, NE

Public Groups: Village of Plymouth Residents

G. **Positive Effects to be Realized from the Proposed Project:** The proposed project will help the Village of Plymouth maintain compliance with their current NPDES permit which helps protect the water quality of the receiving stream.

H. **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 on the environment. It is not anticipated that the project will have adverse impacts to state or federally-listed threatened or endangered species. No known historical or archaeological sites will be impacted. No potential impacts to jurisdictional dams, floodplain management, registered groundwater wells, stream gages, or surface water rights are expected. All necessary permits for construction have been or will be obtained from the appropriate agencies (i.e. NDEE), if necessary.

Reviewing Engineer

12/29/2022

Date

FINDING OF NO SIGNIFICANT IMPACT DISTRIBUTION LIST
VILLAGE OF PLYMOUTH, NEBRASKA

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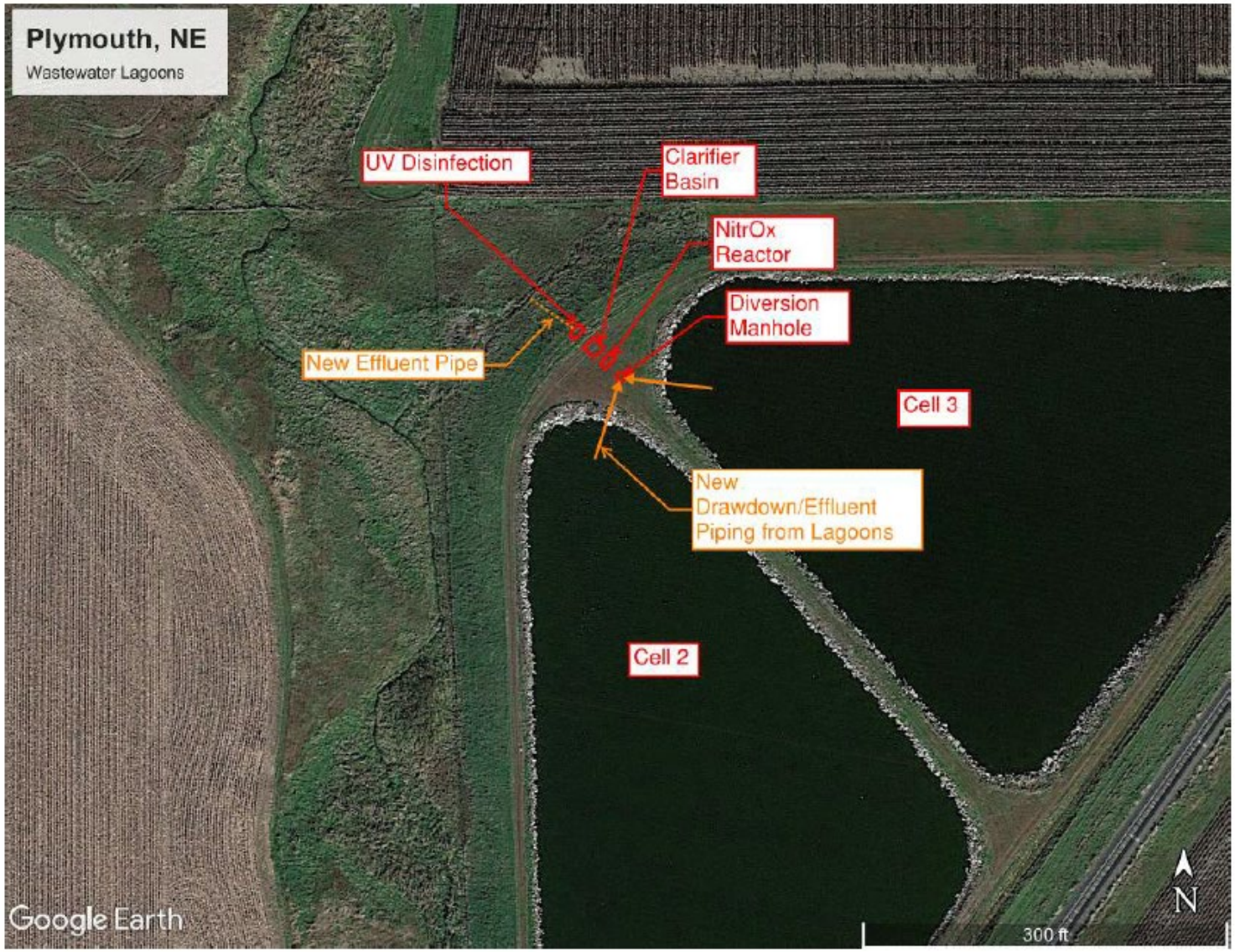
LOCAL NEWSPAPER
(Public Information Only not for Public Notice)
Beatrice Daily Sun
110 S. 6th Street
Beatrice, NE 68310

NATURAL RESOURCES DISTRICT:
Lower Big Blue Natural Resources District
805 Dorsey Street, P.O. Box 826
Beatrice, NE 68310

Map



(From Engineering Report, Amendment No. 1, Submitted by JEO Consulting Group, Inc., December 2021)