



**Fairbanks North Star Borough**

## **Comprehensive Economic Development Strategy (CEDS) Update**

### **IMPLAN Analysis: Ballaine Lake Sewer Utility**

*An economic impact analysis of renovating the Ballaine Lake Service Area sewage disposal system, including facility improvements and installation of a new force main sewer pipe.*

Prepared for the Fairbanks North Star Borough

by Northern Economics and Agnew::Beck Consulting



September 30, 2022

## Key Takeaways

The proposed project will provide functional sewage disposal to the Ballaine Lake Service Area. The current wastewater system, which serves 40 parcels and 21 structures within the service area, is aging and has had periodic failures. College Utilities Corporation (CUC) will acquire the facility, construct a 5,400 linear-foot high-density polyethylene (HDPE) force main sewer pipe, and make improvements to the existing lift station to ensure the system is operational in the long-term.

This project is estimated to require a \$1.6 million capital investment. This investment is projected to generate the following near-term and long-term economic benefits:

- In the near term, construction activities are projected to generate seven direct construction jobs and two additional indirect and induced jobs in the region over the course of the construction phase. These short-term construction phase jobs will generate about \$750,000 in total labor income, and \$1.5 million in total business sales.
- In the long term, the Ballaine Lake Service Area residents and businesses will benefit from having a reliable and functional wastewater system and realize savings in annual utility costs. Annual operations and maintenance of the facility will also generate some marginal economic benefits to the region in terms of jobs, income, and business sales.

## Project Description

The *Ballaine Lake Sewer Utility* project is one of the priority projects identified in the updated FNSB Comprehensive Economic Development Strategy to address critical utility needs in the region. The proposed project is intended to provide functional sewage disposal to the Ballaine Lake Service Area. Currently, this service area's sewer collects by gravity to a lift station and is pumped into a leach field owned by the FNSB. According to the FNSB, the system is aging and has periodic failures. The ground under the leach field has sunk and the sewer is no longer draining. The system provides wastewater services to 40 parcels within the service area and 21 structures. These structures, due to lot size and location, have no other way to support individual onsite systems. Furthermore, the taxing jurisdiction has not been able to generate sufficient funds to cover the cost of full system repair (FNSB 2022a).

CUC, a subsidiary of Fairbanks Sewer and Water, proposes to acquire the facility and provide wastewater service to the Ballaine Lake Service Area. The proposed project involves construction of a 5,400 linear-foot HDPE force main sewer pipe from the Ballaine Lake lift station along Farmers Loop Road to the CUC collection system at College Road. In addition, the existing lift station structure would be inspected, and new pumps, motors, electrical service, and a supervisory control and data acquisition (SCADA) system would be installed to the station. The new equipment is needed to pump the wastewater to the CUC collection site and allow CUC operators to supervise the system remotely and respond to its alarms.

The project is estimated to cost \$1,615,877 (with contingency) and includes the following items:

- Costs for design and construction of new force main piping along the route in accordance with the Utility's Standards of Construction.
- The cost of adequately sized pumps, motors, electrical service, with remote SCADA monitoring by the Utility.

- Costs for permitting associated with constructing the new main, including permits from the State of Alaska Department of Transportation and Public Facilities, State of Alaska Department of Environmental Conservation, and Rural Services.
- Costs of surveying and recording any platted easement for utilities installed serving the Ballaine Lake service area.

Note that the following are excluded from the costs itemized above: the cost of designing and constructing or reconstructing service connections, costs associated with remediation of contaminated soils or hazardous waste found in the Ballaine Lake service area, and wetlands permitting.

## Near-Term Economic Benefits of the Construction Project

The proposed construction of the force main pipe and improvements to the lift station will create a short-term economic stimulus in the region that will benefit the construction, engineering services, and logistics sectors, as well as other sectors that supply goods and services to these companies and their workers.

The work involved in this proposed project would entail excavation, pipe laying, lift station systems repair, right-of-way rehabilitation, road service restoration, mobilization and demobilization, traffic control, permitting work, surveying, design engineering. Local businesses are anticipated to benefit from this work.

This short-term stimulus is projected to generate 10 direct, indirect, and induced jobs in the region in the near term. These short-term jobs will generate about \$750,00 in labor income. The proposed direct construction spending is estimated to generate an additional \$390,000 in indirect and induced business sales in the region. Note that not all the estimated \$1.6 million in construction and installation costs will be spent locally as some of the materials and equipment will be sourced from outside the region; these items are therefore not included in the direct benefits of the project.

The proposed construction project's estimated economic benefits are summarized in the table below.

**Table 1. Projected Economic Benefits of the Ballaine Lake Service Area Sewer Connection Project**

Indicator	Direct <sup>1</sup>	Indirect <sup>2</sup>	Induced <sup>3</sup>	Total
<b>Economic Output (millions of \$)</b>	\$1.12	\$0.18	\$0.21	\$1.51
<b>Employment (# of Jobs)</b>	7	1	2	10
<b>Labor Income (millions of \$)</b>	\$0.63	\$0.05	\$0.06	\$0.75

*Source: Northern Economics estimates based on construction cost estimates provided by College Utilities Corporation and the IMPLAN<sup>4</sup> input-output model for the Fairbanks North Star Borough.*

<sup>1</sup> Direct effects refer to the new economic activity that can be tied directly to the proposed project. In this table, direct effects include spending for construction of the facility and the direct jobs and labor income associated with the construction activities.

<sup>2</sup> Indirect effects are those associated with a change in economic activity due to spending for goods and services tied to the new facility. During construction, these are the changes in the local economy occurring because construction firms purchase goods (e.g., cement, wood, and nails) and related services (e.g., landscaping, accounting, and legal). As construction firms make purchases, this creates an increase in purchases across the supply chain.

<sup>3</sup> Induced effects are those associated with a change in economic activity due to spending by the employees of businesses (labor) and by households. These are economic changes related to spending by people directly employed to construct the facility. Once operations begin, spending by employees of the facility will drive induced effects. Induced effects also include household spending related to indirect effects.

<sup>4</sup> IMPLAN is a predictive input-output model of local/regional economies and is widely used to measure the economic impact of industries and industrial/commercial development. IMPLAN uses borough level employment and payroll data to define linkages between industries in the local economy and multipliers that predict the total impact of an economic stimulus.

## Operations Phase and Long-Term Economic Benefits of the Facility

The proposed project addresses a critical need in the provision of sewer services to the Ballaine Lake Service Area and will directly benefit the homes, businesses, and other entities in the service area. The wastewater facility will be owned, operated, and maintained by CUC. The facility will provide a long-term functional sewage disposal system in the service area. Furthermore, residents and businesses are projected to realize savings in utility costs. On average, a homeowner currently pays approximately \$2,800 for sewer service in the Ballaine Lake Service Area. This assumes an average taxable assessed value of \$171,000 at a mill rate of 16.55 (FNSB 2022b). With CUC's acquisition of the facility, the cost to a typical homeowner for the sewer service is estimated to be about \$860 per year (assuming an average water consumption of 3,600 gallons per month, using CUC's bill calculator) (FNSB 2022b).

The operations and maintenance of the infrastructure is also expected to generate additional (but marginal) long-term economic benefits to the region in terms of additional jobs, income, and business sales.

## References

- CUC (College Utilities Corporation). 2022. *Ballaine Lake Sewer System Acquisition Proposal*. Document provided by the Fairbanks North Star Borough, August 19, 2022.
- FNSB (Fairbanks North Star Borough). 2022a. Description of the Ballaine Lake Service Area Sewer System. Information included in Fairbanks North Star Borough Ordinance No. 2021-20-ID. Available at <https://www.fnsb.gov/DocumentCenter/View/8030>
- FNSB. 2022b. Annual cost of service and customer cost information for Ballaine Lake Service Area Utility. Provided upon request via personal communication, September 27, 2022.
- IMPLAN Group, LLC. 2021. IMPLAN Software and Data. Huntersville, NC. IMPLAN.com.