



Tribal Community Utility Assistance Program (CUAP)

2022-2027

Business Plan

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Table of Contents

INTRODUCTION.....	1
WATER AND SEWER DEFICIENCIES.....	3
DEVELOPMENT OF THE CUAP.....	4
CUAP BUSINESS PLAN.....	6
MISSION, VISION, VALUES.....	6
CUAP GOALS.....	7
OVERSIGHT OF THE CUAP.....	10
SERVICES OF THE CUAP.....	12
SWOTT ANALYSIS.....	17
CUAP OPERATING BUDGET.....	22
SUSTAINABILITY OF CUAP BEYOND 5 YEARS.....	24
APPENDIXES	
APPENDIX I (Geography and Population data).....	29
APPENDIX II (Water and Waste Service Overview).....	31
APPENDIX III (ANTHC Sanitation Facility Funding Sources, Intended Uses, Limitations).....	39
APPENDIX IV (Community Sanitation Infrastructure Overview and Engineering Assessments).....	ATTACHED



Introduction

The purpose of the Community Utility Assistance Program is to support quality drinking water and dependable sewer services in Norton Sound region communities. The business plan 2022-2027 guides regional investment, cooperative management, and affordability of community water and sewer systems to the 15 regional communities.

NSHC would like to thank the Rasmuson Foundation and the Helmsley Charitable Trust for their support with the CUAP pre-development phase.

Native Way of Life

The Bering Strait region is home to Yup'ik, St. Lawrence Island Yupik, and Iñupiaq communities that have called the region home for millennia.

Shishmaref, while threatened by coastal erosion, is home to several of the region's most distinguished ivory carvers. Stebbins, Wales, Diomedea, King Island, Savoonga, Gambell, and Teller continue centuries old traditions of drumming and dancing, hosting dance festivals throughout the year.



One of the largest marine mammal migrations in the world, including bowhead whales, walrus, and seals migrate twice a year from the Pacific Ocean to the Arctic Ocean through the Bering Strait. The lands, wetlands, and rivers are home to migratory birds, salmon species, moose, musk ox, reindeer, and caribou. A report by Kawerak and Oceana notes that 3,760 pounds of Native foods were harvested in 2014. 68% of the harvest was marine mammals, including walrus and bearded, ringed, spotted, and ribbon seals.

The spirituality, well-being, and health of families and extended families is directly tied to their ability to hunt and fish. This environment of wealth has sustained communities.

Quick Facts

- 10,046 people live in the Bering Strait region
- The regional population is projected to grow to 11,462 by 2045.
- Workforce: 50% government, 20% education and health services, 10% trade, transportation, and utilities, and 5% manufacturing
- Groceries are 131% higher in Nome compared to Anchorage. Costs even higher in communities.
- 30% of children live below the federal poverty line in the region. The communities in the region range from 54% to 67% below the federal poverty line.
- 31% of families in region rely on SNAP benefits for food assistance. Communities in the region range from 50-69% that rely on SNAP.
- US Department of Housing and Urban Development (HUD) estimates a shortage of 1,386 homes in the Bering Strait region.
- Regional community residential water rates range from \$30-\$162.50 a month and for metered residential rates, cost \$0.25 per gallon.

Tribal Service Providers

Headquartered in Nome, Alaska, Norton Sound Health Corporation is owned and managed by the 20 federally recognized tribes of the Bering Strait region. The tribal system includes a regional hospital and 15 village-based clinics, which operate under an Indian Self-Determination and Education Assistance Act (IS-DEAA) agreement under Indian Health Services.

Kawerak, Inc. is the regional tribal nonprofit consortium to deliver Bureau of Indian Affairs (BIA) services for 19 of the 20 federally recognized tribes of the Bering Strait region. Kawerak employs over 250 people in the region, with 55% located in Nome. In Bering Strait region communities, Kawerak employs Tribal Coordinators, who help manage tribal governments, Village Public Safety Offices, and Head Start programs.

Norton Sound Economic Development Corporation (NSEDC) is a private 501(c)(4) non-profit corporation representing 15 member communities and more than 8,700 people in the Bering Strait region of Northwestern Alaska. NSEDC is one of six Community Development Quota (CDQ) organizations in Alaska.

Bering Strait Regional Housing Authority (BSRHA) is a primary source provider of affordable housing projects including new construction, modernization, rehabilitation of current homes, and the acquisition of homes throughout the Bering Strait region.

Philosophy of Service & Partnership

The philosophy of service in the Bering Strait region is grounded in the principle of Native self-determination. Our way of life defines where we live, as we hunt and gather with each season. A family of governments operate in the Bering Strait in support of one another to address sanitation deficiencies and advance public infrastructure development. While city governments operate within State of Alaska jurisdiction, residents execute leadership as defined by Native values in cooperations and partnership with tribal governments. Tribal governments manage the delivery of services provided by regional tribal organizations including technical utility support and administrative support for elected leadership. Tribes manage the technical services of Norton Sound Health Corporation and Kawerak, Inc.



Water and Sewer Deficiencies

In the Bering Strait region, we face a \$261 million sanitation need. Five communities in the region - Diomedede, Wales, Shishmaref, Stebbins, and Teller - remain completely unconnected to running water and sewer. Gambell is 70% served, with 43 homes still unconnected to water and sewer. Ongoing sewer and water upgrades and maintenance backlogs remain concerns in seven communities. An estimated 520 homes in the Bering Strait region have no running water, nor flush toilets.

The Indian Health Service reports a total need for unserved homes across the Lower 48 at \$137 million. The total need representing unserved communities in Alaska totals \$1.5 billion. The total sanitation need in Alaska is \$2.2 billion.

According to the 2019 Statewide Threat Assessment published by the Denali Commission, the U.S. Army Corps of Engineers and the University of Alaska Fairbanks, the communities of Shishmaref, Golovin, Shaktoolik, Unalakleet, and St. Michael were identified as communities facing “erosion, flooding, permafrost degradation and combined threats” to critical public infrastructure. In Shaktoolik, storm surges from the Bering Sea are eroding away the shore and getting dangerously close to public infrastructure. The school, clinic, fuel tank farm, and other critical infrastructure are subject to flooding during fall and winter storms.

In all the region’s communities, heavy equipment, such as rubber-tired backhoes, large excavators, loaders, dozers, vacuum trucks and vacuum trailers are needed for year-round maintenance of and access to water, sewer, and honey bucket services and snow removal during the winter months. In addition, adequate arctic storage facilities are needed for this equipment.

Public Health Impacts

The impacts of a lack of sanitation and clean water infrastructure, in combination with a shortage of housing in the region’s communities remains an ongoing public health crisis. The Centers for Disease Control and Prevention (CDC) has noted that infants from communities without running water are five times more likely to be hospitalized for respiratory infections and 11 times more likely to be hospitalized for pneumonia compared to the general population. One in three infants will be hospitalized due to a lack of running water and sewer.

The communities of Diomedede, Shishmaref, and Wales are on the Environmental Protection Agency’s (EPA) Enforcement Targeting Tool (ETT) list of water systems out of compliance with federal regulations for arsenic, uranium levels over what EPA has deemed to be safe for humans to drink in the long term. Clearing regulatory (Best Practice Score, Sanitation Deficiency Systems (SDS) cost caps, and SDS match requirements) hurdles for these critical potable water projects will be tremendously helpful in addressing these water safety issues during Alaska’s short construction seasons.



Development of the CUAP

The Community Utility Assistance Program (CUAP) was created to help each city government in the Bering Strait region provide access to clean water and waste management for residents by empowering elected leadership to carry out a high-quality, DEC-compliant water and sewer program with improved sanitation reporting, engineering, and governance services, and improving operations by ensuring water plant operators are certified by creating in-region, and in-community training opportunities.

The concept of establishing a utility collaborative has been under consideration since 2017. Tribal leaders expanded engineering and environmental services at Norton Sound Health Corporation and governance and training services at Kawerak to improve sanitation in the region's communities.

In June 2021, the Helmsley Charitable Trust awarded the region a grant of \$20 million, which will be managed through Engineering Ministries International (EMI). This generous gift was the catalyst for the business formation of the CUAP through a pre-development grant.

City	Tribe	Corporation
<ul style="list-style-type: none">• Utility owners and operator employers• Best Practice Score funding requirements• Federal and State of Alaska funding and grants (PILT, Fish tax)• Sales tax, gaming revenue• NSEDC infrastructure funds/grants• State of Alaska Village Safe Water	<ul style="list-style-type: none">• Government-to-government relationship with the United States• Project Scope Oversight - IHS Sanitation Deficiency System• Self-governance<ul style="list-style-type: none">• NSHC• Kawerak, Inc.	<ul style="list-style-type: none">• Landowners• May grant rights-of-way or easements• Economic development• Advocating for shareholders

In addition to this grant, the NSHC Board of Directors and the NSEDC Board of Directors both pledged \$500,000 on an annual basis to support the ongoing efforts of the CUAP, with the goal of directly supporting each village in the CUAP.

Community Involvement & Partnership Governance

In the spring of 2021, Kawerak and NSHC met with each of the communities' tri-organizations by teleconference or in person to brief them on the preliminary details of the CUAP and the benefits, but most importantly, to gauge feedback about how the program should be designed. The CUAP is a technical assistance and support model, which has been created to address administrative challenges of city governments and attract sanitation investments. Recognizing the multi-jurisdictional nature of community governance, the CUAP will promote partnerships with cities, tribes, and village corporations.

City governments will continue to own and maintain the water and sewer utility systems and employ the water plant operators, managers and clerks. A memorandum of agreement will be put in place for member communities. As the utility owner, the city government will sign an MOA between NSHC and Kawerak. If the tribe or Native Corporation are involved, a separate MOA between tri-entities will be established (for example, if the tribal coordinators assist as utility clerks/administrators, an MOA will be in place to outline what this agreement is).

Norton Sound Economic Development Corporation has pledged \$500,000 for the next five years. NSEDC would be considered a partner in the MOA with each village, and this funding would help support any of these expenses:

1. Reserve account and any banking fees
2. Fixed annual subsidy to support any relevant water and sewer expenses
3. Contract plumber and electrician costs

NSHC and Kawerak are not encouraging any community to leave Alaska Rural Utility Collaborative (ARUC) if they are happy with the services provided. If an ARUC participating community (there are three ARUC participating villages in the region: Savoonga, St. Michael, and Golovin) would like to keep some support from ARUC, one preliminary idea is to include ARUC as a partner in the memorandum of agreement that is drafted for that village to ensure seamless service.

Bering Strait Regional Housing Authority (BSRHA) is a primary service provider of affordable housing projects, including new construction, modernization, rehabilitation of current homes, and acquisition of homes throughout the region. BSRHA has licensed a plumber on staff to assist current homeowners with plumbing repairs in the region. Homeowners no longer in the program can apply for a grant through BSRHA.

Legal Authority & Issues

OWNERSHIP

The cities will have 100% ownership of the water and sewer utility and all facilities and equipment.

ORDINANCES RELATED TO NEW PROJECTS

The cities' ordinances are sufficient to operate the water and sewer utility. The cities should consider updating the utility ordinance to better reflect how the utility has been managed.

SPECIAL PERMITS, LICENSES AND REGULATIONS

The cities operate the utilities and washeteria under their own business licenses. The cities will apply for all permitting and regulatory needs prior to construction.

Each cities' Engineering Assessment identifies projects that will be addressed and resolved during the engineering and construction phases of the project.

REGULATORY AGENCIES

Each city has regulatory agencies they must work with. The primary regulator agency for water projects is the State of Alaska Dept. of Environmental Conservation (DEC). DEC regulates a wide array of environmental areas. Of concern to this project is the agency's regulatory authority over water quality, testing standards, operator training standards, and engineering plan approval.

The Regulatory Commission of Alaska (RCA) is another regulatory agency frequently involved with water and sewer utilities. The agency is the utility regulator for the state. It issues a "Certificate of Public Convenience and Necessity" (CPCN) to utilities after finding them "fit, willing and able" to provide public service. Some communities are exempted from the requirements of a provisional CPCN because the utilities have fewer than 15 service connections.

REPLACEMENT AGENCIES

The replacement of the utilities at the end of their design life has not been considered in this business plan. It is assumed that the replacement of utilities would be a large capital project which would be funded through grants.

KEY ASSUMPTIONS

Key interagency assumptions are:

- Each agency can participate fully when needed
- Staff from the cities, their contractors, and/or tribes are available to work with agency representatives

CUAP Business Plan

The Community Utility Assistance Program (CUAP) Business Plan serves as a guide to facilitate the development of the CUAP with communities and regional partners. The Bering Strait CUAP is a technical assistance model to improve engineering and governance services with regional communities.



Our Mission

To empower elected leaders and community staff in the management and development of community utility systems for improving affordability and sanitation services with communities.

Our Vision

By 2030, all residents in the Bering Strait region will have access to safe and affordable water and wastewater disposal systems, in order to ensure healthy communities, live our way of life on our lands, and create economic opportunities for residents.

Our Values

COOPERATION AND TEAMWORK

Anticipate how to assist and serve one another in achieving results; serve one another selflessly

KNOWLEDGE OF LOCATION-BASED LANGUAGES AND CULTURES IN OUR REGION

St. Lawrence Island Yupik, Iñupiaq and Central Yup'ik

SHARING

Share knowledge to empower teammates and elected leadership; do things with kindness

HARD WORK

Don't celebrate or boast until the job is done; don't complain about work; thank others for their hard work; give credit where credit is due

AVOIDANCE OF CONFLICT

Be patient; continue to sharpen your listening; never talk back; don't interrupt

RESPECT FOR NATURE

Honor our Native ways of life and respect for a healthy environment in infrastructure planning and development

CUAP Goals

Infrastructure Goals

GOAL 1: EMPOWER COMMUNITY LEADERSHIP AND COMMUNITY STAFF IN OWNING, MANAGING AND MAINTAINING SANITATION SYSTEMS

Objective 1: Providing city governments financial and governance assistance and governance training for financial and managerial compliance

Objective 2: Providing city and tribal governments with engineering support services

Objective 3: Providing operators within region on-site and on-the-job, culturally relevant training opportunities

Objective 4: Creating membership fees enhanced services and tiered services billing, electric, plumbing, maintenance, engineering, and project management

Objective 5: Building relationships with attorneys for negotiations

Objective 6: Establish alternative energy options including blue and green alternatives

GOAL 2: IMPROVING COMMUNITY INFRASTRUCTURE THROUGH ACHIEVING ECONOMIES OF SCALE

Objective 1: Reduce the cost of construction for water, wastewater, housing, and roads projects by improving coordination of planning, specification, and engineering, logistics and construction of community infrastructure projects

Objective 2: Regional collaboration for the creation of long-range infrastructure plan including broadband

Objective 3: Standardize equipment fleet in the region

Objective 4: Create regional maintenance plan

Objective 5: Standardize water and wastewater systems

Objective 6: Regional warehouse in Nome to store equipment, tools, etc.

GOAL 3: UNDERSERVED, UNSERVED, AND SERVED REPLACEMENT INFRASTRUCTURE

Objective 1: Establish a path for services to unserved and underserved communities

Objective 2: Replace aging infrastructure and climate threat infrastructure

Objective 3: Develop and maintain community asset management system

Objective 4: Develop and maintain infrastructure data library

Objective 5: New water and sewer projected will be scoped and entered into the Alaska Native Tribal Health Consortium (ANTHC) SDS and State of Alaska Village Safe Water Capital Improvement Project (CIP) systems

GOAL 4: IMPROVE WATER AND SEWER SYSTEM RELIABILITY

Objective 1: Each community will receive an engineering assessment of its water and sewer utility system

Objective 2: A preventative maintenance manual will be developed for each utility system

Objective 3: Develop and update utility Emergency Response Plan (ERP) protocols for water and wastewater systems

Objective 4: Build up Research and Development



Human Capital Goals

GOAL 1: IMPROVE WORKFORCE RETENTION, DEVELOPMENT, AND SAFETY

Objective 1: Cross-train other individuals in each community with transferable “skill sets” to expand the level of certified water plant operators available to assist in each community

Objective 2: Identify opportunities for city governments to partner with each other to contract services for highly certified water plant operators to prevent burnout and maximize best practice scores

Objective 3: Encourage city governments to pay water plant operators a living wage and provide benefits such as insurance and retirement to help with retention

Objective 4: A sample policy and procedure book will be developed and presented to each city council as a template to use for its water and sewer utility system

Objective 5: Safety manuals will be developed for the water plant

Objective 6: NSHC sanitation response, lines of notification, responsibilities and management

GOAL 2: IMPROVE CITY GOVERNMENT FINANCIAL PERFORMANCE AND OVERSIGHT/COMPLIANCE

Objective 1: Financial training needs of each water and sewer business utility office will be assessed and a training plan will be developed for the region. Kawerak and NSHC plan, schedule, fund, provide culturally relevant trainers

Objective 2: Each city government will develop an annual operating budget for the water and sewer utility system which will ensure revenues collected for water and sewer support operating expenses

Objective 3: Each city government will pay taxes accordingly on an annual basis

Objective 4: Each city government will maintain a reserve account of \$15,000; the funds will be preserved in a bank account and utilized only when needed for maintenance and repairs

Objective 5: Each city government will review and update the utility ordinance to reflect how the utility is managed

GOAL 3: ESTABLISH AFFORDABLE UTILITY RATES AND INCREASE CONSUMER SATISFACTION WITH SERVICES

Objective 1: An assessment will be completed to identify how many homes in each community have water and sewer connections and what percentage of those homes are in working order

Objective 2: Develop a plan to repair the homes that are not working

Objective 3: Develop a policy to address longstanding bad debt for services that were not received as well as for services that were received

Objective 4: Establish utility subsidy rates to reduce the customer’s bill, such as elder subsidized rates

Objective 5: Improve water and sewer billing collection practices

Objective 6: Utilize an economist to establish local affordability rates

GOAL 4: IDENTIFY PATHWAYS THROUGH REGIONAL PARTNERSHIP FOR THE ESTABLISHMENT OF IN-REGION AND COMMUNITY-BASED TRAINING ON UTILITY MANAGEMENT (OPERATORS) THAT IS CULTURALLY RELEVANT

Objective 1: Establishment of regional career pathways and job placement for utility operators. Partnerships with NSEDC, UAF, NACTEC, BSSD, Kawerak

Objective 2: Establish systems of support (STEM prep) for the learner in becoming full-time utility operators

Objective 3: Explore the creation of cohort style learning for math prep for utility operations and technical certification tests

Objective 4: Establish a list of test instructors in each community for cer-



tification exams. Provide test prep days to share successful ways to study, learn the subjects, and learn with friends, support study groups for water test operator exams

Objective 5: Explore pathways to employment: apprenticeships and student internship opportunities with high school students; adult basic education & 477 opportunities (NACTEC)

Objective 6: Utilize existing Hazardous Mitigation Plans to establish emergency response teams for utility disasters, including the coordination of community-based emergency response volunteers. Involve youth (Kawerak's emergency response department and BSSD)

Regional CUAP Development Goals

GOAL 1: DEVELOP AND SUSTAIN CUAP

Objective 1: Establish governing policies of CUAP

Objective 2: Develop tier criteria options for membership, including process for withdrawal from CUAP

Objective 3: Conduct a water and sewer rate assessment and analysis for each community to break-even.

Objective 4: Strengthen billing practices

Objective 5: Improve homeowner collection compliance

Objective 6: Grow reserve accounts

GOAL 2: ENSURE PARTNERING AGENCIES CARRY OUT IDENTIFIED ROLES AND RESPONSIBILITIES THROUGH COLLABORATION

Objective 1: A memorandum of agreement (MOA) will be developed and signed by each participating member

Facilitate communication between the city, tribe and village corp (tri-organizations)

Tribal Coordinators assist as utility clerks/administrators

Facilitate communication at the regional level

Establish ARUC in MOA for seamless service

MOA with NSEDC to support:

1. Reserve account and any banking fees
2. Fixed annual subsidy to support any relevant water and sewer expenses
3. Contract plumber and electrician costs

Objective 2: A charter will be developed which will outline how frequently the CUAP collaborative will meet, what the standing agenda will be, and how decisions are made

Objective 3: Each city government will identify a representative who will participate in the collaborative to bring back information to his/her city council and to make decisions to guide the CUAP

Objective 4: A newsletter will be published quarterly to keep the communities and partnering agencies informed about the CUAP

Oversight of the CUAP

NSHC is owned and managed by the 20 federally recognized tribes of the Bering Strait region. The NSHC governing board is comprised of 22 board members; one representative is appointed to serve on behalf of every tribe, one seat is held by a Kawerak, Inc. representative, and another seat is held by a community of Nome representative.

Although NSHC does not receive earmarked funds to operate water and sewer utility programs in the Bering Strait region, the NSHC Board of Directors has made water and sewer a priority. In 2018, the NSHC bylaws were amended to include a Water and Sewer Committee, which would include, but not be limited to, representation from all unserved communities. NSHC is the first tribal health organization to hire its own sanitation engineer. Due to limited state funding, NSHC also self-funds a portion of the remote maintenance worker budget on an annual basis. The Water and Sewer Committee will continue tribal oversight of the operations of the CUAP. The CUAP will comply with existing NSHC Board policies and procedures.

In 2021 the NSHC Board of Directors pledged \$500,000 on an annual basis to support the CUAP. Since NSHC operates a health clinic in every community and is one of just a few institutional users of water and sewer in each community it serves, NSHC is committed to financially supporting each city government in its quest to provide the highest quality water delivery and waste management services. First, NSHC will ensure it is paying an adequate water and sewer rate for the service it receives. Once new rates have been negotiated, NSHC will utilize any remaining funds to support additional activities of the CUAP.

The CUAP Administration will comply with existing personnel and accounting policies and procedures. The CUAP project manager is hired through NSHC and provides regular reporting to the Water and Sewer Committee of the Board.

Role of the CUAP Community Advisory Council

A Community Advisory Council will be established and will include one representative from each community who is nominated by the City Council. The Community Advisory Council will meet no less than quarterly by teleconference or through virtual meeting platforms.

ORGANIZATION OF OFFICERS

The Advisory Council will nominate a chair and co-chair to lead the meetings and a secretary to approve the minutes. A charter will be developed to establish quorum and other Advisory Council policies. Robert's Rules of Order will be implemented to assist the Advisory Council to accomplish its work. Attendance will be documented through roll call, and the agenda will include standing reports from the following:

1. CUAP Project Director Report
2. NSHC Sanitation Team Report
3. Best Practice Score Update
4. Sanitation Funding Update

Old business and new business will be added to the agenda as needed, and work sessions may take place outside CUAP Community Advisory Council meetings.

CUAP project staff will document meeting minutes and the Secretary will approve the minutes and partnering organizations will receive bi-annual updates through a written progress report.

The Advisory Council will vote on nomination of seats either annually or every two to three years, or staggered for continuity.

Organizational Chart

Community Partners

- City Council (sanitation owners)
 - Water Plant Operators
 - Utility Clerks
- Tribal Councils
 - Tribal Coordinators
- Village Corporation Board of Directors
 - General Manager
 - Land Manager

Norton Sound Health Corporation

- Board of Directors
 - Water and Sewer Committee
 - CUAP Community Advisory Committee
 - Administration (Self-Governance)
 - CUAP Project Manager
- Sanitation Engineering Program
- Remote Maintenance Worker Program
- Office of Environmental Health
- Village Maintenance Workers
- Water Plant Operator Training Program
- Water Testing Lab

Regional CUAP Partners

- NSHC
- Engineering Ministries International
- Helmsley Charitable Trust
- Kawerak, Inc (self-governance; Tribal Affairs; Transportation; Employment, Education and Training)
- Norton Sound Economic Development Corporation
- Bering Strait Regional Housing Authority
- Rasmuson Foundation
- State of Alaska RUBA Program

Services of the CUAP

New Staff Hired by NSHC to Bring CUAP Implementation

Norton Sound Health Corporation will fund a new position, CUAP Project Manager, to lead the day-to-day activities of the collaborative. During the pre-development phase of the business planning efforts, there was a need identified to expand the Remote Maintenance Worker program. The State of Alaska currently funds 1.5 FTE Remote Maintenance Worker (RMW) positions, and the NSHC Board self-funds 1.5 FTE RMW/Operations and Maintenance Manager. Currently, the RMW program is in a state of being reactive when it comes to most utility operations. The staffing levels are not adequate to fulfill basic or advanced requests to stay proactive. One additional Sanitation Maintenance Worker will be added in FY23.

NSHC will continue to employ the staff to oversee the CUAP. Existing staff continues to support and work on the CUAP project. Over the past three years, the NSHC Board of Directors has self-funded (this means Indian Health Services does not provide money in the compact to directly fund a program) a sanitation program which consists of:

1. 1 FTE Sanitation Engineer
2. 1 FTE Operation and Maintenance Manager
3. 1 FTE Administrative Assistant
4. .5 FTE Remote Maintenance Worker (RMW) *Note: the State of Alaska pays for the other 1.5 FTE, for a total of 2 FTE RMWs: RMW Manager, RMW and RMW

Additional NSHC infrastructure support has been added to implement an operational water testing lab for the region:

1. 1 FTE Office of Environmental Health Director
2. 1 FTE Environmental Planner
3. 1 FTE Environmental Specialist

*All three staff members above are certified to conduct water sample testing

Water Plant Operator Training

NSHC partners with ANTHC Tribal Utility Support to provide technical assistance to operators as well as provide onsite training for operators and backup operators. Further training and support will be provided as needed during the project's one-year warranty period.

The CUAP will provide a robust, culturally relevant training program that will focus on water, sewer, and sanitation certifications. Classes operators have participated in will be tracked, so future trainings can be curtailed to the actual need of the region's operators. The "RMW Report" from the State of Alaska will also be used to assist operators in staying current with their Continuing Education Credits (CEUs). CEU requirements vary by certificate type and level.

The RMWs too will be receiving hours for certification and are too required to be certified at the level of their highest system, which is level 2. After an RMW gains sufficient experience and certification, they will have an opportunity to teach the class. New training opportunities will always be looked at. Cross training of NSHC village maintenance workers to be certified will also help boost operational responses in each community.

The eventual goal for the CUAP program is to have in-region locally trained trainers for all levels of existing

water treatment systems. The maximum level of certification is “Water Treatment 2”. Until sufficient experience and resources are built up, trainers will have to be contracted. These trainings will occur virtually, in Nome, or in specific communities.

Other training opportunities, such as Voc-Education, Electrical, Plumbing, and skills needed in this program will be explored with Kawerak and UAF Northwest Campus. This type of training will be built out after the core training of the Water, Sewer, and Solid Waste is built out.

Monitor SDS & CIP Projects

ANTHC and Village Safe Water provide Engineering and Project Management services to the communities in the Bering Strait, split out by:

- ANTHC: Brevig Mission, Elim, Golovin, Koyuk, Little Diomed, Savoonga, Shishmaref, St. Michael, Stebbins, and White Mountain.
- VSW: Gambell, Shaktoolik, Teller, Unalakleet, Wales

Communities without running water and wastewater disposal utilize a honeybucket system with various methods of hauling.

- Individual Collection Systems – Operators drive a vehicle and collect honeybuckets from outside homeowners homes. They are dumped or placed inside a large haul vehicle and taken to the disposal site.
- Individual Bin Systems – Large plastic covered bins are placed outside of each home in the community. Homeowners dump honeybucket contents into the bin which is later hauled by an ATV or snowmachine with a trailer to the disposal site. The bins are emptied and placed back in front of the house.
- Self Haul – Some communities don’t operate a honeybucket collection system because they are served. These communities may provide a permitted location for residents to dump the waste. Residents must haul their own waste.

ARUC Communities

The Alaska Rural Utility Collaborative (ARUC) partners with communities to manage, operate, and maintain water/sewer systems in rural Alaska. There are two types of memberships within the ARUC statewide program - the Assisted Billing Program and the full ARUC membership. ARUC assists member communities to calculate the water rates per the DCCED’s “The Water Rate Calculator Guidebook” for residential, small, and large commercial user and school districts.

1. Golovin
2. Savoonga
3. St. Michael

Water Testing Lab

Public water systems are highly regulated. System owner/operators are legally responsible for compliance sampling/reporting. The legality and safety of having someone else take water samples would need to be considered

The Office of Environmental Health opened a state certified drinking water lab for the region. The lab is able to analyze drinking water samples Public Water System are required to take each month. This analysis detects the presence or absence of total coliform bacteria and E. Coli in drinking water. These monthly samples are one of the most important ways to know water is safe to drink.

Providing this service in region is expected to help reduce the number of drinking water violations communities get when their samples can’t make it to Anchorage or Fairbanks labs in time for labs to analyze the samples.



Solid Waste Services

Alaska is set somewhat in a world of its own when it comes to its geography, and it's also set apart in how it manages solid waste, largely because of that unique landscape.

The far northwest state is two-and-a-half times larger than Texas but has a population of less than 750,000, translating to about 1.3 people per square mile. Nearly a third of Alaskans live in rural communities with no access to the state's few and distant lined, class 1 landfills and depend on unlined sites to dispose of their waste, though they and operators are supported by Alaska's Department of Environmental Conservation (ADEC), as well as by consultants and trained tribal communities who work with ADEC.

There are six lined class 1 landfills in Alaska, 184 unlined class 3 sites, and 13 unlined class 2 sites.

Unlined disposal sites are required to be permitted, but the state regulatory program has variances from federal Environmental Protection Agency (EPA) regulations, and permit requirements vary by design and operations. For instance, if they burn waste there are conditions related to how they do it. The permit lays out site-specific operation plans around controlling leachate seeps, dealing with honey buckets, animal carcasses, and lead acid batteries, among focuses.

The CUAP will assist its members in assessing the activity areas of collection and disposal. We will stress the 5R principle. 5R's represent namely Reduce, Reuse, Recycle, Repurpose and Refuse. Additionally, we will be able to provide assistance with landfill permitting and backhaul of recyclable materials.

City Governance Training

The city management personnel will receive utility management training through the Dept. of Commerce, Community, and Economic Development, Rural Utility Business Advisor (RUBA) Program. Training is available both on-site and at regional hubs during 32-hour courses. The certification program is available online with training materials to practice before staff takes the test.

Financial Assessments

Kawerak's Tribal Affairs Program took the lead with JW Industries (JWI) to conduct the financial assessments. Tribal Affairs scheduled all the travel and appointments, met with the City Council or City Manager and accounting staff.

Tribal Affairs received a USDA grant for technical assistance and training grant for \$129,249 provided financial training to the city council. The Tribal Affairs created a list of documents required from the city for the assessments a head of time so once on the ground they would work together to finalize the financial data needed.

NSHC contracted with JW Industries to provide analysis of the city government and utility financial situation to identify:

1. Tax liabilities
2. Total water/sewer revenues with a detailed list of all rates and subsidies
3. Total water/sewer expenses.

Identify current water/sewer collection rates (household, commercial, institutional) versus projected or new rates and create a master list.

JWI would develop a community specific projected (ideal) water/sewer operating budget to include:

1. Adequate water plant operator salary and benefits
2. Revenue streams (include new rates or subsidies)
3. Insurances
4. Sustainable reserve account

Summarize findings:

1. List of communities with tax/IRS compliance issues
2. Rate study information and recommendation for changes

3. Capacity for community to establish its own reserve account based on projected operating budget
4. Capacity for community to provide financial accounting for own reserve accounts versus NSHC holding funds
5. Financial training needs by community (what level is city staff at: 1) Needs development or 2) Competent.)

Finalize Business plan with water rate calculator for each community is the deliverable.

Engineering Assessments

NSHC contracted with Maxwell Goggin-Kehm of MK Consulting Alaska to complete 5 community's engineering assessments in the calendar year 2021 and plan the rest of the assessments for 2022. The five communities completed were:

- Brevig Mission
- Elim
- Shaktoolik
- Wales
- White Mountain

The assessments will be in Appendix III. The scope of work tasks is:

PRE-SITE VISITS: Gather up all information regarding the sanitation system from ANTHC & VSW. The information (As-Builts, construction plan sets, preventative maintenance manuals, etc) is being organized and uploaded information to cloud based storage platform for access internally and externally for data sharing (geotech, PER's, other files). Non-digital documents from ANTHC and VSW will be cataloged. Templates for the assessment will be created.

SITE VISITS: A comprehensive list of all major components in the system is extremely important for the business plan to formulate replacement costs and general value of the system.

SERVICE CONNECTIONS: Conducted a general evaluation of service connections (active and inactive in the community). A full-scale house survey with interior plumbing including GPS coordinates of the home, homeowner's name, description of service lines (include condition of all components), available shut off valves and photos of the building, arctic boxes and service lines will be a future task and should be scheduled out ASAP. This information will be provided in GIS format. Future plans for NSHC and others use for GIS data should be discussed. General information about service connections reviewed for each community.

DISTRIBUTION/COLLECTION: Inspection of all accessible water and sewer mains. This will include gauging thermal performance by opening pipe bands, junction boxes, etc. All deficiencies will be noted. Updated as-builts will be provided as well as schematic drawings. Hydrants, pump stations, and any other appurtenances will be evaluated.

WATER INTAKE/SOURCE, WATER TREATMENT PLANT FACILITY AND WATER STORAGE TANKS: Visual inspection of the building(s) including photos of all piping and equipment, the inside of all electrical control panels. Conduct functional testing of all equipment and note condition. The assessment will go through all aspects of the treatment system, boiler/hydronic systems, fuel system, backup generator, control and any other systems connected to the facilities.

Photos will be taken inside and outside each electrical control panel and recommendations will be provided for electrical resources to follow up on safety regs.

SEWER LIFT STATIONS AND TREATMENT: Inspection of all sewer facilities. Note make and model of pumps, controls, variable frequency drives. Visual inspection of lagoon, septic fields, outfalls, and drainages. Note all deficiencies.

SPARE PARTS/INVENTORY: Document all spare parts and equipment that are the Water Treatment Plant facility. Inspect all storage areas and identify additional areas that may be used to store parts.

HEAVY EQUIPMENT: A list of heavy equipment needed to properly operate the utility will be provided. There is a Heavy Equipment survey being completed by Kawerak Transportation which will be coordinated with this effort.

OPERATOR/BACK UP OPERATOR CAPACITY: Gauge the capacity/engagement of the operators in order to plan future trainings and capacity building endeavors.

The major deliverables from the effort will be:

1. Executive report detailing the overall findings from the five communities
2. Individual lists of:
 - a. Critical/immediate repairs and replacements with rough cost estimates
 - b. Recommended changes
 - c. Critical and Spare Parts Lists
 - d. Repair and Replacement List with Annual Budgetary Contributions
3. Preventative Maintenance Manuals for the entire system in Microsoft Word so NSHC and the communities can update them as changes are made to the systems
4. Operational-Schematic Poster giving basic instructions on system operation

Infrastructure Reports for Elected Leadership

To empower elected tribal and city leadership over sanitation infrastructure, and the federal/state investment in sanitation, the CUAP will communicate the Qawiaraq Sanitation Indicators, which provide public infrastructure updates for water, wastewater and solid waste facilities in Bering Strait region communities. The indicators will:

- Identify utility systems under threat of failure
- Identify active sanitation projects each construction season
- Facilitate the update of utility projects for the Indian Health Service Sanitation Deficiency System, which both state and federal allocation systems utilize in funding processes
- Facilitate the identification of funding strategies for public utility projects
- Identify the status of sanitation funding eligibility requirements
- Identify training requirements for public utility owners and operators
- Identify the status of Safe Drinking Water Act compliance measures for public utility systems

In summary, the indicators include:

- Sanitation Project Updates
- Status of Federal/State Funding Requirements
- Status of utility compliance with the Safe Drinking Water Act
- Certifications and Training Requirements

Project updates are provided by project managers (VSW, ANTHC engineers) for Bering Strait region; cross-referenced with the Indian Health Service Sanitation Deficiency System; State of Alaska's Dept. of Commerce, Community and Economic Development Division of Community and Regional Affairs; and the State of Alaska's Dept. of Environmental Conservation.

NSHC's Self-Governance Liaison manages updates to the Sanitation Indicators and distributes to cities and tribes. The Self-Governance Liaison also helps facilitate the annual interagency coordination meeting with State regulators and engineers.



SWOTT: A Strategic Analysis

Performing an analysis of strengths, weaknesses, opportunities, threats and trends (SWOTT) is a strategic way the CUAP can break down and identify its strengths and weaknesses and look closely at opportunities, threats and trends to provide a blueprint for the CUAP to work from.

A SWOTT analysis isolates specific items that can be continued with, improved upon, discarded of, or implemented. Identifying these items aids in the growth of the water operations and allows us to look at all available options for systems improvements. This information reflects information gathered through listening sessions with the local leaders in areas where water and operational opportunities should be prioritized going forward.

Strengths

WATER MONITORING SYSTEM

The Office of Environmental Health opened a state-certified drinking water lab for the region. The lab is able to analyze drinking water samples that public water systems are required to take each month. This analysis detects the presence or absence of total coliform bacteria and E. Coli in drinking water. These monthly samples are one of the most important ways to know water is safe to drink.

Providing this service in region is expected to help reduce the number of drinking water violations that communities get when their samples can't make it to Anchorage or Fairbanks labs in time for labs to analyze the samples.

REGIONAL UTILITY OPERATOR & MANAGEMENT TRAINING

The region has experienced and dedicated staff focused on the support and training of water/wastewater operators and managers.

STRATEGIC ENGINEERING AND COORDINATION

ANTHC and VSW reduce cost of construction and coordination with KTP and BSRHA as the infrastructure plan will identify projects where economies of scale can be utilized by coordinating construction logistics (barging, heavy equipment, etc.)

EDUCATION & TRAINING

NSHC and Kawerak have training programs through various departments and partners with UAF Northwest Campus and State of Alaska online and real-time on-the-ground training.

REGIONAL COORDINATION & COLLABORATION

Governing boards cooperate across the region with diplomacy, tact, and respect. The cooperation is culturally relevant.

SELF-GOVERNANCE

The principle of self-determination has demonstrated success in well managed tribal governments as well as achieved economies of scale in the delivery of financial, managerial, and technical services to communities. Our tribes, tribal organizations, and Native corporations remain poised to advance self-determination in the areas of infrastructure investment and the coordination of housing, sanitation, surface and marine transportation facilities.

DEDICATION & COMMITMENTS TO THIS PROJECT

This project has support from the region's tribal leaders. The city government, tribe, and Native corporation in each community participating in the CUAP have not only verbalized their commitment to this project, but have agreed to formalize this commitment through a signed memorandum of agreement outlining the roles and responsibilities of each entity. Both NSHC and Kawerak have made water and sewer a priority for the past decade. Several initiatives were already underway to empower our communities to improve best practice scores. Both organizations will continue to contribute staff, in-kind, to the project. Both organizations continue to support training opportunities and provide advocacy at the state and federal level. The NSHC Board of Directors has agreed to provide governance oversight for the CUAP and has pledged \$500,000 on an annual basis for a period of five years, with an option to renew based on program outcomes. NSEDC has been supporting our communities for years by investing in water and sewer capital projects and by funding training needs in the region. The NSEDC Board has matched the NSHC contribution in the amount of \$500,000 per year for a period of five years.

INFRASTRUCTURE AND ASSET MANAGEMENT

This project will create a cloud-based PS&E database with pre-planning of construction projects, including environmental and geotechnical reports stored so that we can share our resources by lowering pre-engineering work on projects.

TRADITIONAL AND LOCAL KNOWLEDGE ACKNOWLEDGMENT

NSHC's capacity to engage in communities through traditional and local knowledge to take positions on many projects to promote traditional and local knowledge to voice concerns over self-government, climate change.

Weaknesses

Identifying our weaknesses is crucial to the implementation of this business plan, as it allows the CUAP to take in constructive criticism of our operations that need improvement or potential future vulnerabilities. Through self-critique and community input, the weaknesses underscore the importance of developing a strategic approach to improving the services delivered to our customers.

AGING INFRASTRUCTURE

Infrastructure ages, and with that comes the need to plan for future investment to replace and update our existing infrastructure and continue providing customers with high quality service. Investing in infrastructure, such as new wells and water mains, will be crucial in assuring that the water delivery system is quality of product and delivery.

LACK OF PIPED WATER AND SEWER

Five communities in the Bering Strait region lack a community-wide water and wastewater system. Lack of piped water and sewer is linked to increased incidents of respiratory and skin illnesses. A major obstacle the team faces in changing how services are provided is to overcome what is perceived as infeasible costs for constructing new systems, while exploring solutions to tackle the most complex infrastructure challenges that remain to providing sustainable piped water and sewer services to everyone in the region.

GEOGRAPHICAL CHALLENGES/ARCTIC CONDITIONS

Western Alaska has logistic and transportation challenges and a short construction season (June to October). Much of the construction materials are barged from Anchorage/Seattle and unloaded in Nome, then reloaded on smaller landing crafts to access regional communities. Climate change is exasperating the challenges with coastal erosion of landing sites, permafrost thaw causing roads to sink and building infrastructure to shift and water and sewer lines to move, creating breaks in the systems.

BILLING CAPACITY

The capacity to bill and collect water, sewer, and landfill revenue to supporting expenses varied by community. Some communities have implemented a strong program, and other communities could benefit by strengthening billing processes.

MULTIPLE JURISDICTIONS AND PROHIBITIVE REGULATIONS/ENGINEERING CHALLENGES

Multiple jurisdictions and prohibitive regulations in the delivery of sanitation services continues to be a challenge in ensuing critical deficiencies and unserved communities are prioritized. The following regulatory barriers will help improve services to our unserved communities.

- Remove Indian Health Service Sanitation Deficiency System “Cost Caps”.
- Remove Indian Health Service Sanitation Deficiency System ineligible cost match requirements for Alaska Native villages.
- Remove EPA certified operator requirements for unserved communities
- Eliminate Best Practice Score Requirements

While city governments operate utilities within State jurisdiction and the State only awards State/Federal sanitation funding to cities, our tribal governments manage the delivery of technical services provided by regional tribal organizations including engineering and administrative utility support. With the purpose of empowering community leaders and operators in the management of infrastructure assets, our regional tribal organizations are poised to improve the delivery of financial, managerial, and technical capacity building services.

Native corporations are the landowners in local communities, and often must make land available for public utility development and provide rights of way. The development and management of community infrastructure projects are often planned independently of each other. Housing investment is managed by Indian housing authorities, road marine infrastructure is managed by the regional tribal BIA non-profit organizations, and the construction of sanitation projects managed by either the Alaska Native Tribal Health Consortium or the State of Alaska.

As highlighted by the Alaska Native Tribal Health Consortium federal funding streams must be coordinated to complete construction of a system in a community. For example, EPA Safe Drinking Water Act funding can only be used for community water facilities and water service lines, however no funding can be used for hooking up homes, nor interior plumbing. Indian Health Service housing dollars can be used for water and sewer facilities on “like new” native owned homes but cannot be used for Interior plumbing. Indian Health Service sanitation funding can be used for interior plumbing and Native-owned homes. An EPA Infrastructure Grant can be used for planning, water and sewer facilities, and indoor plumbing, however, cannot be used for plumbing or services lines to HUD homes constructed after 2000. This regulatory structure provides for complicated planning and delays as funding must be pieced together to complete a community project.

Opportunities

EMPHASIS ON COMMUNITY CROSS-TRAINING

To ensure that the water utility staff has the capabilities of taking on multiple facets of the organization, it is important to emphasize cross training between members of the water utility staff to get the most out of employees. Cross training allows all members of the organization to be well versed in the diverse array of duties within the water utility. Cross training also aids in getting employees the necessary training to potentially move up in the organization.

INFRASTRUCTURE COORDINATION

Kawerak Inc. is implementing, in partnership with the Federal Highways Administration, Norton Sound Health Corporation and the Alaska Native Tribal Health Consortium, the benefits of the construction management/general contractor (CM/GC) method for the planning and construction of community facilities including housing, water/sewer, roads and ports. CM/GC will reduce the costs of construction and improving construction timelines in our remote communities. Kawerak Inc. continues to improve infrastructure coordination with cities, tribes, and village corporations with the goal of developing “Long Range Infrastructure Plans” to improve the investment and delivery of essential community infrastructure facilities.

Tremendous opportunity for community infrastructure investment, local growth and regional export remains in the Bering Strait. Our geographic location to global markets in Asia is our primary strength in increasing fish and reindeer meat exports and supporting local job creation. The need for water and sewer facilities remains the top priority for leaders in the Bering Strait, to support the health of our families in responding to the coronavirus pandemic. Water production is essential the commercial production of fishery and reindeer meat exports that support local job growth.

Threats

Threats to our water operations on a safety, administrative, and systemic scale are always present, and identifying these threats and knowing how to react to them is a priority. Having a grasp on how our water operations could be threatened or compromised can better prepare the CUAP to become more resilient.

ENVIRONMENTAL CLIMATE CHANGE

Active landfill sites and closed out dump sites in multiple communities are threatened by eroding coastlines. Water and wastewater lines are threatened by storms and eroding coastlines.

ECONOMY POST-COVID-19

The global economy has not yet fully recovered from COVID-19 and its variants. Projects are costing more due to long-term lead time for materials, causing project delays.

WATER CONTAMINATION

Contamination of drinking water can take multiple forms and come from a variety of sources. Anthropogenic sources of contamination can often come in the form of spilled petroleum products, untreated sewage, leachate runoff from landfills/dumps, lead & copper from household plumbing, and mining operations. Non-anthropogenic contamination sources are often from natural rock formations; as water flows through the rock contaminates like arsenic or uranium can be dissolved into the water. Other known contamination threats to water systems in the region include bird droppings contributing to high levels of nitrate in source waters, increased algal blooms (including documented Harmful Algal Blooms in marine waters) that can quickly clog water treatment systems, salt-water intrusion, and high levels of turbidity (dirt).

Fortunately, most regional communities have pristine quality drinking water sources or have treatment systems and trained operators sufficient to remove contaminants. Exceptions to this include the communities of Diomedes and Wales. Both communities are on the US Environmental Protection Agency (EPA) Enforcement Targeting Tool (ETT) list due to their violations related to high levels of contaminants making it through their treatment systems and into their drinking water supply. Diomedes has high levels of both nitrate and arsenic, while Wales has high levels of uranium. Both communities are in the process of getting upgraded water treatment systems that should address the contaminant exceedances. Meanwhile people living in both communities are forced to continue drinking the water.

OCEAN CONTAMINATION

With the increase in Arctic shipping through the Bering Strait from the Northern Sea Route and the Northwest Passage due to climate change opening the Arctic up to natural resource development.

ENERGY CRISIS

Energy supply companies are feeling pressure during these lean times within the upstream and midstream sectors for the oil and gas sector exasperating the energy crisis.



Trends

Reviewing what trends are occurring with other municipal water utilities and in the utility industry helps provide ideas to consider updating our water system and processes.

HIGHER REGULATION STANDARDS

More water regulation means that management of water utilities could change. This may result in the need for more investment in water infrastructure, which could also impact capacity and staffing levels of the water utility. Having a good sense for the direction of the state and federal regulations regarding water is critical in planning for the future of the water utility.

Upcoming regulatory changes anticipated include:

- EPA is making final determinations to regulate PFOS/PFOA in drinking water. Further regulatory changes are expected for wastewater as well. Lead and Copper Rule Revisions effective date was extended to December 16, 2021. Summary of relevant changes:
 - Establishing a trigger level to jumpstart mitigation earlier.
 - Driving more and complete lead service line replacements.
 - Requiring testing in schools and childcare facilities.
 - Requiring water systems to identify and make public the locations of lead service lines



CUAP Operating Budget

The operating budget for the CUAP will be developed by the CUAP Advisory Council and approved by the NSHC Board of Directors in preparation for the beginning of the fiscal year: October 1- September 30th. The budget below does not include any in-kind staffing resources provided by Kawerak or NSHC and only outlines how the new revenue authorized by both governing boards of NSHC and NSEDC will be utilized over the next five years to implement the goals and objectives of the CUAP.

NSEDC will award NSHC the grant funds in the amount of \$500,000/year, which will be spent on the expenses outlined in the budget, which includes paying subsidies to the communities to support either the start of a reserve account or funds to grow the existing reserve account. Another payment will be made to the City Governments by NSHC as a pass-through from the grant funds awarded. This payment will be an annual subsidy to be used to off-set homeowner bills. NSEDC will also contribute to contractor plumbing and electrician services. NSHC would identify qualified contractors and these individuals would be dispatched to communities as needed.

NSHC's funds will be used to pay a premium, fixed water and sewer rate that is in excess of what the Indian Health Services will agree to reimburse for water and sewer services for the village clinic. As one of only a few institutional users of water and sewer in each community, the rate charged of NSHC has been nominal or non-existent and there is an opportunity for City Governments to capture more revenue by focusing on negotiated rates with NSHC alone.

Starting October 1, 2022, NSHC plans to hire a full-time Project Director and an additional Sanitation Maintenance Worker.

During the timeframe of 2022-2027, the CUAP will be in the implementation phase. During the implementation phase, the CUAP will focus on community specific rate collections to identify the opportunity available to increase revenue from institutional or other large commercial payors and to improve compliance of homeowner collection rates. Billing services will be offered through NSHC starting after January 2024 for any city governments that require assistance with this effort.

CUAP Operating Budget 2022-2027

REVENUE	NSEDC	NSHC	CITY GOVERNMENT	
Reserve Account Subsidy(\$15,000/each)	\$210,000	\$15,000		
Homeowner Bill Reduction Subsidy (\$15,357.14)	215,000			
Contribution to Project Manager		\$196,560		
Contribution to Contract Labor	\$75,000			
Contribution to new Sanitation Maintenance Worker		\$92,540		
NSHC Clinic Rate/Subsidies		\$195,900		
Total Revenue	\$500,000	\$500,000		
EXPENSES				
<i>Personnel/Fringe</i>				
1. Project Manager \$75/hr x 2080 hrs/Fringe		\$196,560		
2. Sanitation Maintenance Worker \$35/hr x 2,080/ fringe		\$92,540		
3. Water Plant Operator Wages/Fringe			\$195,900	
<i>Consulting/Contract Labor</i>				
1. Plumber, electrician, other	\$75,000			
<i>Reserve Account/repairs (City Governments)</i>			\$225,000	
<i>Homeowner Bill Reduction Expense</i>			\$215,000	
Total Expenses	\$75,000	\$289,100	\$635,900	\$1,000,000

Sustainability of CUAP Beyond 5 Years

January 2027 will mark five years of program implementation for the CUAP. During the first five years, communities will benefit from the generous contributions from NSEDC to help each balance water and sewer operating budget. Important services, such as billing and contracted plumbing and electrician labor will be provided to participating communities through other funded resources during the first five years. However, by January 2027, the CUAP will begin a new phase in which each community must be prepared with a water and sewer operating budget that balances without the reliance of large financial subsidies from NSEDC or other financial contributions from NSHC as observed during the implementation phase. To facilitate this, there are two sustainability objectives that must be met: 1. NSHC agrees to continue to fund staffing levels of CUAP and Sanitation staff, and 2. communities agree to develop and implement business plans to maximize revenue opportunities.

OBJECTIVE #1: NSHC AGREES TO CONTINUE TO FUND STAFFING LEVELS OF CUAP AND SANITATION STAFF

By 2027, NSHC will provide the following in-kind staffing contributions:

1. 1 FTE CUAP Project Director
2. 1 FTE Sanitation Engineer
3. 1 FTE Operations and Maintenance Manager
4. 1.5 FTE Remote Maintenance Worker Staff
5. 1.5 FTE Remote Maintenance Worker Staff (through State of Alaska program funding)
6. 1 FTE Office of Environmental Health Director
7. 1 FTE Environmental Planner
8. 1 FTE Environmental Specialist
9. 1 FTE Administrative Assistant
10. Any new staff identified during the evaluation and implementation phase of the CUAP*

*On page 12, NSHC's financial commitment by 2027 is estimated to be \$1,422,588 on an annual basis. This contribution could change if more staffing needs are identified during the implementation phase.

OBJECTIVE #2: COMMUNITIES AGREE TO DEVELOP AND IMPLEMENT BUSINESS PLANS TO MAXIMIZE REVENUE OPPORTUNITIES

During the pre-development phase, the financial data collected from JW Industries identified there is great potential to maximize revenue and strengthen other financial practices to facilitate a break-even water and sewer operating budget for each community. The opportunities include:

1. Development of a separate water and sewer budget

During the course of financial review, it was identified that some city governments blend revenues from other business conducted on behalf of the city into the operating budget. The goal is for all city governments to develop a separate water and sewer operating budget to better track water and sewer utility revenue and expenses.

2. Revise collection rates

Each community collects from three different users: homeowners, commercial users, and institutional users. An overall goal for the CUAP is to develop a reasonable homeowner water and sewer rate for each community.

HOMEOWNER RATES: CURRENT

Homeowner rates are different for each community. The highest rate was identified in the community of St. Michael, where homeowners are being charged in excess of \$200 if they are delinquent on past bills. The lowest rate was found in Unalakleet, which is most likely a result of other revenue collected by the city that is offsetting the rate. During the financial review, the only unserved community that stated it was charging homeowners for honeybucket or trash pick-up services was Teller. The homeowner rate is unknown at this time (all unserved communities are reported as \$0).

		2021	
Community	Est. # Homes	Rate/Month	Annual
Brevig Mission	93	\$60	\$66,960
Elim	65	\$48	\$87,360
Gambell	86	\$53	\$54,696
Golovin	60	\$110	\$79,200
Koyuk	80	\$35	\$33,600
Savoonga	160	\$80	\$153,600
Shaktoolik	60	\$60	\$43,200
St. Michael	92	\$200	\$220,800
Unalakleet	229	\$20	\$54,960
White Mountain	81	\$69	\$67,068
Diomedes	35	\$0	\$0
Shishmaref	163	\$0	\$0
Stebbins	136	\$0	\$0
Teller	65	\$0	\$0
Wales	43	\$0	\$0
Total	1448		\$861,444



HOMEOWNER RATES: POTENTIAL

While the CUAP will strive to increase commercial and institutional rates, an overall goal is to reduce the homeowner bill, so it is affordable or reasonable. The following table assumes that each community charges the same rate of \$60/month for served communities and \$5/month for unserved communities. This is a small increase in the homeowner bill for some communities and a significant decrease for other communities. Again, new rates, if any, will be at the discretion of each city government and will not be required, but encouraged by the CUAP. In 2027, a small increase of \$1/month is proposed. This table is only an example, as each proposed increase will be set and approved by each city government.

		2021		2023		2025		2027	
Community	Est. # Homes	Rate/ Month	Annual						
Brevig Mission	93	\$60	\$66,960	\$60	\$66,960	\$60	\$66,960	\$61	\$68,076
Elim	65	\$48	\$87,360	\$60	\$46,800	\$60	\$46,800	\$61	\$47,580
Gambell	86	\$53	\$54,696	\$60	\$61,920	\$60	\$61,920	\$61	\$62,952
Golovin	60	\$110	\$79,200	\$60	\$43,200	\$60	\$43,200	\$61	\$43,920
Koyuk	80	\$35	\$33,600	\$60	\$57,600	\$60	\$57,600	\$61	\$58,560
Savoonga	160	\$80	\$153,600	\$60	\$115,200	\$60	\$115,200	\$61	\$117,120
Shaktoolik	60	\$60	\$43,200	\$60	\$43,200	\$60	\$43,200	\$61	\$43,920
St. Michael	92	\$200	\$220,800	\$60	\$66,240	\$60	\$66,240	\$61	\$67,344
Unalakleet	229	\$20	\$54,960	\$60	\$164,880	\$60	\$164,880	\$61	\$167,628
White Mountain	81	\$69	\$67,068	\$60	\$58,320	\$60	\$58,320	\$61	\$59,292
Diomede	35	\$0	\$0	\$5	\$2,100	\$5	\$2,100	\$6	\$2,520
Shishmaref	163	\$0	\$0	\$5	\$9,780	\$5	\$9,780	\$6	\$11,736
Stebbins	136	\$0	\$0	\$5	\$8,160	\$5	\$8,160	\$6	\$9,792
Teller	65	\$0	\$0	\$5	\$3,900	\$5	\$3,900	\$6	\$4,680
Wales	43	\$0	\$0	\$5	\$2,580	\$5	\$2,580	\$6	\$3,096
Total	1448		\$861,444		\$750,840		\$750,840		\$768,216

COMMERCIAL RATES: CURRENT AND POTENTIAL

Although some financial statements recorded commercial revenue, not all city governments are breaking down revenue received to be that specific. Only \$250,589 was reported by all communities for commercial account collections. There is an opportunity to both better identify commercial account revenue in the financial statements and increase commercial account revenue collected by 2027. In the sustainability budget, commercial account revenues were increased by 15%.

INSTITUTIONAL RATES: CURRENT AND POTENTIAL

Each community has the opportunity to collect from three institutional users: NSHC clinic, school, and NSEDC (if a fish plant operates in that community). This collection rate is the biggest opportunity for improvement for all communities. First, each city government must strengthen its financial reporting to capture actual institutional collections instead of blending together as revenue. In addition to this, it was identified that not all communities are billing their institutional users. Only \$578,199 was recorded in institutional collections for 2021, however; by 2023, an estimated \$1,786,631 will be collected by billing the school and NSEDC and negotiating rates with NSHC. The table proposes a 15% increase to these institutional rates by 2027.

DELINQUENT ACCOUNT UNCOLLECTIBLE RATE

As with any water and sewer utility business, there is a percentage of homeowners who do not pay their monthly bills. During the financial review, it was identified that this information was not available. However, a goal of the CUAP is to ensure that each community has an accurate figure for its delinquent accounts. The sustainability budget includes a figure equal to 6% of the total utility revenue for the uncollectible rate (source: American Water Works Association), with the goal to reduce the uncollectible rate to 2% of total

revenue by 2027.

The following initiatives will be utilized to help improve homeowner collections: 1. develop policies to be approved by the city government, 2. educate homeowners and city governments about state or government homeowner utility assistance programs, 3. coordinate Bering Strait Regional Housing Authority applications for plumbing repairs (it was identified during some of the community meetings that homeowners are being billed for water and sewer services not received due to critical repairs that are needed).

REVENUE	2021	2023 PROJECTED	2025 PROJECTED	2027 PROJECTED
Homeowner Collection Rates				
Served Communities (10)	\$765,896	\$724,320	\$724,320	\$736,392
Unserved Communities (5)	\$0	\$26,520	\$26,520	\$31,824
Commercial Rates	\$250,589	\$253,095	\$255,626	\$293,970
Institutional Rates (School/Clinic/NSEDC)	\$578,199	\$1,786,631	\$1,786,631	\$2,054,625.65
NSEDC CUAP Subsidy for Reserve Account		\$210,000	\$210,000	
NSEDC CUAP Subsidy to offset homeowner bills		\$215,000	\$215,000	
Other Utility Revenue Reported	\$1,290,210	\$1,303,112.31	\$1,316,143.44	\$1,329,304.87
Total Utility Revenue	\$2,884,895	\$4,518,678	\$4,534,240	\$4,446,116
EXPENSES				
Personnel				
1. Water Plant Operators 30 x 2080 x rate/hr	975,000	\$1,622,400	\$1,747,200.00	\$1,782,144.00
2. City Clerks 15 x 1040 x rate/hr	300,000	\$436,800	\$445,536.00	\$454,446.72
Fringe Expense (20% of Total Salaries)	280500	\$411,840.00	\$438,547.20	\$447,318.14
Repair/Maintenance				
1. Reserve Accounts/Repairs	225,000	\$225,000	\$225,000	\$225,000
Purchased Services				
1. Billing Services through NSHC or Other 3rd Party				\$150,000
2. Contractors: Plumber & Electrician Services				\$150,000
3. Water Testing Expense	\$33,000			
Freight	\$120,000	\$121,200.00	\$122,412	\$123,636
Utility Expense	\$750,000	\$757,500.00	\$765,075	\$772,726
Other Expense				
1. Office Expense	\$210,000	\$212,100.00	\$214,221.00	\$216,363.21
Insurance				
1. Workers' Compensation Insurance	\$30,000	\$30,000	\$30,000	\$30,300.00
Delinquent Account Uncollectible Rate Expense (% of Total Revenue)	\$173,093.69	\$271,120.70	\$136,027.21	\$88,922.33
Total Expense	3,096,594	\$4,087,961	\$4,124,018.41	\$4,440,856.27
Profit	-\$211,699	\$430,718	\$410,221.98	\$5,260.10

EXPENSES

The expenses included in the sustainability budget were estimated using an average of actual expenses identified. However, some water and sewer operating budgets are combined with other city business, including the revenue and expenses for those other services.

PERSONNEL EXPENSES

One of the biggest projected expenses includes the water plant operator salaries. The financial review identified that not all communities are able to pay a competitive wage for water plant operators and it is unclear if all communities are paying for dedicated utility clerk for the water and sewer business. A goal in 2027 is for the city governments to employ an average of 2 FTE water plant operators and .5FTE dedicated utility clerks.

RESERVE ACCOUNTS

During the financial review, it was identified that not all communities have funds earmarked for maintenance and repair. This is a best practice score criteria and will be a focus during the implementation phase. By 2027, city governments will be expected to budget for these funds, with the assumption that NSEDC subsidies may not be made available. The implementation phase includes the set-up of reserve accounts in a separate bank account. The goal is for these funds to grow and carry-over if not utilized.

WATER TESTING EXPENSE

Many of the water and sewer budgets included a water testing expense. This expense will be eliminated as NSHC began water testing lab services in 2021, free of charge to the communities. This is one example of a CUAP initiative that is already creating efficiencies for the communities and reducing costs.

PURCHASED SERVICES

By 2027, participating communities will be asked to contribute to billing services and contracted plumbing/electrician services. A figure used in the sustainability budget is \$10,000/billing and \$10,000/contracted services. This is an average, but the figure will vary for each community based on the number of accounts being billed and the level of contractor services required per year. The payment for these services could be referred to as an annual "membership fee". It is too premature to detail out what this looks like, but the concept is being considered and will be further discussed with the CUAP Advisory Council moving forward.

UTILITY ENERGY CONNECTION

The sustainability of utilities in Bering Strait region communities is closely tied to energy costs. Energy in each community is provided by diesel fuel powering electricity to village microgrids. The communities of Diomede, White Mountain, Golovin, and Unalakleet manage their own energy utility, while the remaining communities are managed by the Alaska Village Electric Cooperative. NSEDC executes a bulk fuel buying program to improve purchasing power of the region's 15 communities. However, periods of high global energy prices impact Alaska Native communities quite severely on the affordability of electricity and home heating fuel. As Bering Strait region leaders and technical experts continue analysis to maximize revenue opportunities for water and sewer utilities, improving energy efficiency will be a critical element.

CONCLUSION

The pre-development phase provided a snapshot of what the financial data looks like for each community and what the opportunities for improvement are. During the next five years, the CUAP will focus on the development and approval of separate water and sewer operating budgets for each community so accurate revenue and expenses can be tracked. However, it is evident that there are revenue opportunities to be maximized. More analysis and studies will be conducted over the next few years to better understand what affordable homeowner rates are and what the true uncollectible rate is. By 2027, city governments should be prepared to stand-alone, which includes contributing financially to any contracted service needs for billing, plumbing, or electrician needs.

Appendix I

Geography

The region has 16 communities in total, ranging in population from 100 to 3866. The region extends north from Shishmaref, east to Koyuk, south to St. Michael, and west to Gambell. The City of Nome serves as the hub community.

The Bering Strait Region is found in northwestern Alaska, between the latitudes of 63.5 degrees and 66.5 degrees north. The region encompasses an area of 23,000 square miles and is made up of the Seward Peninsula, St. Lawrence Island, King Island, Little Diomedede Island, and the coastal lands on the eastern and southeastern shores of Norton Sound. The region contains 570 miles of coastline along the Bering Sea, Norton Sound, and the Chukchi Sea.

The landscape of the region is varied, ranging from marshy tundra plains, dotted with lakes to gentle rolling hills between 0 and 2,000 feet, to craggy mountains with steep ridges surpassing 4,000 feet in elevation. The region has no glaciers and becomes ice-free for a short period each year in late summer yet is underlain with permafrost. The region is drained by several rivers and myriad smaller creeks and streams.



Logistics

The Bering Strait region relies heavily on air transportation for passenger mail and cargo service. A state-owned airstrip is available in 15 communities, while Little Diomedede has a heliport. Boats, both personal and commercial, are used for river and ocean travel in summertime. Barges deliver heavy cargo at least five times a year to Nome and twice for the outlying communities. ATVs, snow machines, and some vehicles are used for local transportation. There are dirt and gravel and paved roads.

Population and Housing Characteristics

The region is made up of a primarily Native population who fish commercially and are active in subsistence food gathering. Other sources of employment include the school and government services as well as private enterprises including the airline industry and traditional arts and crafts.

The US Census Bureau for the Nome Census Area provided the following statistics:

Population July 1, 2019: 10,004
Population, percent change – April 1, 2010 to July 1, 2019: 5.4%
Population, census April 1, 2020: 10,046
Population, census April 1, 2010: 9,492

AGE AND SEX

Persons under 5 years, percent: 10.0%
Persons under 18, percent: 34.6%
Persons 65 year and over, percent 8%
Female persons, percent: 47.4%

RACE AND HISPANIC ORIGIN

White alone, percent 15.7%
Black or African American alone, percent: 0.9%
American Indian and Alaska Native alone, percent: 75.3%
Asian alone, percent 1.5%
Native Hawaiian or Other Pacific Islander alone, percent: 0.2%
Two or More Races, percent: 6.5%
Hispanic or Latino, Percent: 2.9%

POPULATION CHARACTERISTICS

Veterans, 2015-2019: 394
Foreign born persons, percent, 2015-2019: 2.5%

HOUSING DATA

Housing units, July 1, 2019: 4,100
Owner-occupied housing unit rate, 2015-2019: 60.5%

INCOME AND POVERTY

Median household income (in 2019 dollars), 2015-2019: \$61,048
Per capital income in the past 12 months (in 2019 dollars), 2015-2019: \$23,581
Persons in poverty, percent: 20.7%

Appendix II

Results of Water & Waste Service Overview

The CUAP will continue to work with the community's city or utility to capture data needed to calculate the water rates.

BREVIG MISSION: SMALL TREATED -- PIPED GRAVITY SYSTEM

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$60.00/month	93		
Small Commercial Users	\$180.00/month	5		
Large Commercial Users	\$180.00/month			
School User Fees	\$180.00/month	1		\$207,528.32
User Fees from Washeteria	\$5.00/load			
User Fees from NSHC Clinic	\$0			
Water Sales (per gallon)				
Total Revenue				\$207,528.32

DIOMEDE: SMALL TREATED -- COULD MOVE UP TO A LEVEL 2 SYSTEM. UNSERVED COMMUNITY. WASHETERIA AND HONEY BUCKETS.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$0	35	0	0
Small Commercial Users	\$0.25 per gallon			
Large Commercial Users	\$0.25 per gallon			
School User Fees	\$25,362.00	1		\$25,362.00
User Fees from Washeteria	\$4.00 per token			
User Fees from NSHC Clinic	0			
Water Sales (per gallon)	\$25,362.00			
Total Revenue	60,330.75			\$25,362.00

ELIM: SMALL TREATED -- PIPED SYSTEM

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$47.50/month	65		
Small Commercial Users	\$47.50/month	5	2%	
Large Commercial Users	\$0.15 per gallon	1		
School User Fees	\$0.15 per gallon	1		
User Fees from Washeteria				
User Fees from Fish Processing Plant				
Water Sales (per gallon)				
Total Revenue				

GAMBELL: LEVEL 2 -- PIPED SYSTEM WITH UP TO 40 NON-PIPED HOMES ON OLD SITE

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$53.00/month	83		
Small Commercial Users	\$53.00/month	6		
Large Commercial Users	\$0.27 per gallon	1		
School User Fees	\$0.27 per gallon	1		
User Fees from Washeteria				
User Fees from Fish Processing Plant				
Water Sales (per gallon)				
Total Revenue				

GOLOVIN: LEVEL 2 -- PIPED SYSTEM, ONE HOME NOT CONNECTED TO SYSTEM. ARUC COMMUNITY.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$110.00/month	60		
Small Commercial Users	\$320.00/month	5		
Large Commercial Users	\$0.10 per gallon metered	1		
School User Fees	\$0.10 per gallon metered	1		\$124,949.90
User Fees from Washeteria				
User Fees from Fish Processing Plant				
Water Sales (per gallon)				\$124,949.90
Total Revenue				

KOYUK: SMALL TREATED -- PIPED SYSTEM, SOME HOMES NOT CONNECTED

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$35.00/month	80		
Small Commercial Users	\$75/month	5		
Large Commercial Users	\$3,700/month	1		
School User Fees	\$3,700/month	1		\$67,046.00
User Fees from Washeteria	\$4.00 per token			
User Fees from Fish Processing Plant				
Water Sales (per gallon)				
Total Revenue				\$67,046.00

SAVOONGA: LEVEL 1 -- PIPED SYSTEM WITH VACUUM. ARUC COMMUNITY.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$80.00/month	160		
Small Commercial Users	\$150.00/month	7		
Large Commercial Users	\$150.00/month	1		
School User Fees	\$6,100.00/month	1		\$67,100.00
User Fees from Washeteria				
User Fees from NSHC Clinic	\$300/month	1		
Water Sales (per gallon)				
Total Revenue				\$67,100.00

SHAKTOOLIK: LEVEL 2 -- PIPED SYSTEM

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$30.00/month	59		
Small Commercial Users	\$35.00/month	1		
Large Commercial Users	\$35.00/month	1		
School User Fees	\$0.25 per gallon	1		\$171,296.72
User Fees from Washeteria				
User Fees from Fish Processing Plant				
Water Sales (per gallon)				
Total Revenue				\$171,296.72

SHISHMAREF: LEVEL 2 -- NON-PIPED COMMUNITY. HONEY BUCKET FLUSH AND HAUL OR HONEY BUCKET HAUL.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$			\$600.00
Small Commercial Users	250-gallon tank/\$7.00 per tank			
Large Commercial Users	250-gallon tank/\$7.00 per tank			
School User Fees	\$0.25 per gallon	1		\$280,871.91
User Fees from Washeteria				
User Fees from NSHC Clinic				
Water Sales (per gallon)				
Total Revenue				\$281,471.91

ST. MICHAEL: SMALL TREATED -- PIPED SYSTEM WITH VACUUM. ARUC COMMUNITY.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$162.50	75	90%	\$131,625.00
Small Commercial Users	\$425.00	5	100%	\$90,000.00
Water only	\$3,060.00	1	100%	\$3,060.00
School User Fees	\$7,500.00	1	100%	\$90,000.00
Water only Res	\$97.50	1	90%	\$1,525.50
User Fees from NSHC				\$60,000.00
Water Sales (per gallon)				
Total Revenue				\$311,710.50

STEBBINS: LEVEL 1 -- NON-PIPED COMMUNITY. HONEY BUCKET.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$0.25 per gallon			\$4,781.61
Small Commercial Users	Unknown			
Large Commercial Users	Unknown			
School User Fees		1		\$91,623.50
User Fees from Washeteria				
User Fees from NSHC				
Water Sales (per gallon)				
Total Revenue				\$96,405.11

TELLER: SMALL TREATED -- NON-PIPED COMMUNITY

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$0.25 per gallon	68		
Small Commercial Users	Was \$0.50 per gallon, in negotiations	2		
Large Commercial Users	In negotiations	1		
School User Fees	In negotiations	1		
User Fees from Washeteria				
User Fees from NSHC Clinic				
Water Sales (per gallon)				
Total Revenue				\$472,989.32

UNALAKLEET: LEVEL 2 -- PIPED SYSTEM

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$			\$50,703.39
Small Commercial Users	\$90.00/month			
Large Commercial Users				
School User Fees	\$8,093.00	1		\$216,961.61
User Fees from Washeteria				
User Fees from Fish Processing Plant	Blended? Mixed in?			
Water Sales (per gallon)				
Total Revenue				

WALES: SMALL TREATED -- PIPED SYSTEM. HONEY BUCKET HAUL.

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$	43		
Small Commercial Users				
Large Commercial Users				
School User Fees	\$0.50 per gallon	1		
User Fees from Washeteria				
User Fees from Fish Processing Plant				
Water Sales (per gallon)				
Total Revenue				

WHITE MOUNTAIN: SMALL TREATED -- PIPED SYSTEM

Customer Type	Rate	Number of Customers	Collection Rate	Annual Income
Residential User Fees	\$69.00	66	98%	\$50,539.71
Small Commercial Users	\$69.00	6	100%	
Large Commercial Users		1	100%	
School User Fees	\$3,916.99/month	1	100%	\$46,999.92
User Fees from Washeteria				
User Fees from Fish Processing Plant 3				
Water Sales (per gallon)				
Total Revenue				

STATISTICS	
Number of Active Residential and Multi-family Residential Water Accounts	
Number of Active Commercial Accounts	
Number of Active Institutional Accounts	
Annual Water Distribution (in gallons)	
Total Amount of Water Mains (in feet)	
Number of Main Break and Service Break Repairs	
Water Sources	

Appendix III

ANTHC Sanitation Facility Funding Sources, Intended Uses, Limitations

SOURCE	USE	LIMITATIONS
IHS Regular	Community and individual sanitation facilities, including interior plumbing for Native-owned homes.	DHUD-funded or non-Native-owned homes can only be served with community facilities.
EPA, Safe Drinking Water Act- Tribal Set Aside (SDS)	Community water facilities and water service lines for Alaska Native communities.	No individually-owned facilities (interior plumbing or individual wells). No sewer or solid waste facilities. No capital equipment.
EPA, Clean Water Act - Indian Set Aside (SDS)	Community sewer facilities and sewer service lines for Alaska Native communities. Will pay 50% of washeteria cost. Will pay for individually-owned septic tanks and drainfields.	No individually-owned facilities (interior plumbing). No water or solid waste facilities.
IHS Housing	Individual water and Sewer facilities for "like-new," Native-owned homes.	Cannot be used for interior plumbing.
State of Alaska, VSW (CIP)	Community and Individual sanitation facilities, including interior plumbing. Will pay for planning projects.	Sanitation facilities improvements to DHUD-constructed homes requires advance coordination by DEHE with VSW and DHUD.
USDA, RD (CIP)	Community and individual water, sewer, and solid waste facilities. Home service lines and interior plumbing, conceptual planning, and design studies.	
EPA, Infrastructure Grant (CIP)	Community and individual water and sewer facilities including interior plumbing. Will pay for planning projects.	Will not provide plumbing or service lines for DHUD-constructed homes built after 2000.
ADOT/PF	Roads and boardwalks associated with sanitation facilities.	
DHUD/TDHEs	Individual water and sewer facilities for DHUD-funded homes (primarily used for services lines).	