

Business Plan

Tanana Water and Sewer Extension



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Section 1 Executive Summary

Tanana Business Plan

Tanana Water and Sewer Extension

The Tanana Tribal Council and the City of Tanana are jointly responsible for operating the water and sewer system in Tanana. The City and Tribal Councils determined the most effective mechanism for improving health and sanitation in Tanana was to form a non-profit corporation to provide water and sewer services to the community.

The corporation, Too'gha, Inc. was formed in 1996 and was organized to engage in design, construction, ownership, and management of sanitation facilities. The board of directors consists of two representatives from the City Council, two members from the Tribal Council and the fifth member elected by the members. Too'gha means "place of good water" in Athabascan.

The Tanana water and sewer project started in 1998 with the design and construction of a new water treatment plant and laundry facility, which became operational in 2002. Installation of a piped water and sewer system, serving approximately 75% of the houses in the downtown area was completed in 2006. Construction of this system was recommended in the 1997 feasibility study prepared by CH2MHill.

Too'gha, Inc., in conjunction with the State of Alaska, Village Safe Water program, prepared a design to extend the piped water and sewer system to the remaining un-served homes in the downtown area (remaining 25%). The extension was the recommended alternative selected in the Tanana Water and Sewer Feasibility Update prepared by HDR Alaska, Inc. (HDR). HDR was retained for the design of the piping extension, which extended the piping infrastructure along First, Second, and Third Avenues, to Koyukuk and East Streets. Construction of the extension was started in 2006. To date, water and sewer piping has been installed along Third Avenue, a portion of Koyukuk Street, and a portion of Second Avenue. The Too'gha board adopted a new rate structure in 2007 in response to the expanded service area of the system. The rate structure includes both flat fees for water and sewer connection in addition to metering and a per gallon fee for water use.

This business plan discusses options to ensure the sustainability of the water and sewer utility, addresses the financial implications of maintaining the constructed system serving 75% of the downtown area and incorporates the revenue projections for the rate system adopted in 2007.

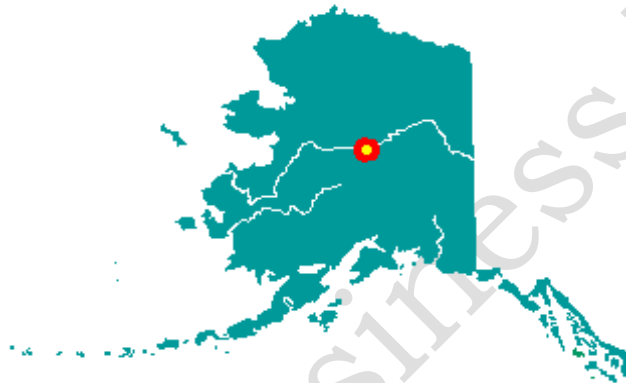
Section 2 Community Overview

Tanana Business Plan

Tanana Water and Sewer Extension

Location

Tanana is located in Interior Alaska about 2 miles west of the confluence of the Tanana and Yukon Rivers, 130 air miles west of Fairbanks. Tanana is located in the Ft. Gibbon Recording District.



Population Served

Due to its location at the confluence of the Tanana and Yukon Rivers, Tanana was a traditional trading settlement for Koyukon and Tanana Athabascans long before European contact. The community continues to be primarily native, and traditional Athabascan ways of life persist. Cultural activities include: subsistence hunting and fishing, potlatches, dances and foot races. The local economy is based primarily upon commercial fishing and subsistence activities, supplemented by seasonal employment, such as firefighting and project work. Other sources of employment include the school, government services, an elder's residence, the store, and private enterprises including traditional arts and crafts.

Tanana is located in the Yukon-Koyukuk Census Area. Selected demographic and historical data, taken from the 2000 U.S. Census and the State of Alaska demographer for the community, are provided below:

Population	
2009 (state demographer)	251
2005 (state demographer)	281
2000	308
1990	345
1980	388
1970	120

Housing (2003) Data	
Occupied Housing	121
Vacant Housing From Seasonal Use	42
Other Vacant Housing	3
Average Household Size	2.55
Economic Data (2000 Data)	
Unemployment Rate	23.70%
Median Household Income	\$29,750

Transportation Available

Tanana is accessible by air year-round and by river transportation in the summer months. The City operates a dock on the Yukon River where barged goods can be offloaded and stored. The State owns and operates the Ralph M. Calhoun Memorial Airport with a 4,400-foot long gravel, lighted runway. Float planes can also land on the Yukon River. The community has approximately 32 miles of local roads maintained by the City of Tanana. Cars, trucks, bicycles, snow machines, ATVs, and riverboats provide local transportation.

Current Infrastructure

There are two water systems in Tanana, and one sewer system. In 1976, the Indian Health Service (IHS) constructed a small piped water and sewer system to serve the Tanana Hospital, Tanana Health Center, and Regional Elder's Residence. The hospital is now closed, but the water system, which gets its water from a well beside the Yukon River, continues to serve the tribal council building, health clinic, Elder's Residence, and a few houses.

Expansion of the water/sewer system began in 1998 with the design and construction of a new water treatment plant and laundry and bathing facility (washeteria). These facilities became operational in 2002. A more extensive piped water and sewer system serving 75% of the downtown area of the community was completed in 2006. Too'gha owns and operates the water/sewer system. Water for the system is pumped from a well near the Yukon River; wastewater is treated at a 2-cell lined sewage lagoon. Further infrastructure was installed to First Street, portions of Koyukuk and Second Street as part of the on-going extension project; it became operational in 2010. The most recent expansion resulted in no net increase in customers or revenue. While some new customers signed up with the utility, others departed because of the increased rate structure.

Residents who are not served by either system haul water from a watering point at the new water treatment plant and laundry facility, and use outhouses and honey buckets.

Currently, residents, commercial entities and public facilities pay the following charges for water/sewer service:

	Rate Charged Water	Rate Charged Sewer
Customer		
Commercial (Flat rate)	\$150/month	\$150/month
Residential (Flat rate)	\$70/month	\$70./month
School	\$1620/month	\$1620/month
Tanana Health Center	\$560/month	\$560/month
Tanana Elder's Residence	\$225/month	\$225/month
Tribal Council	\$225/month	\$225/month
Facility Services		
Individual Haul	\$0.25/5 gallons	
Washer	\$7/load in large machine	
	\$5/load in medium machine	
	\$3/load in small machine	
Dryer	\$0.25/4 minutes	
Shower	\$2/15 minutes	

Key Assumptions

Community related assumptions are:

- Demographic information obtained from the State is reliable.
- Collection data from ANTHC was used to report number of users and revenues

Section 3 Management Structure

Tanana Business Plan

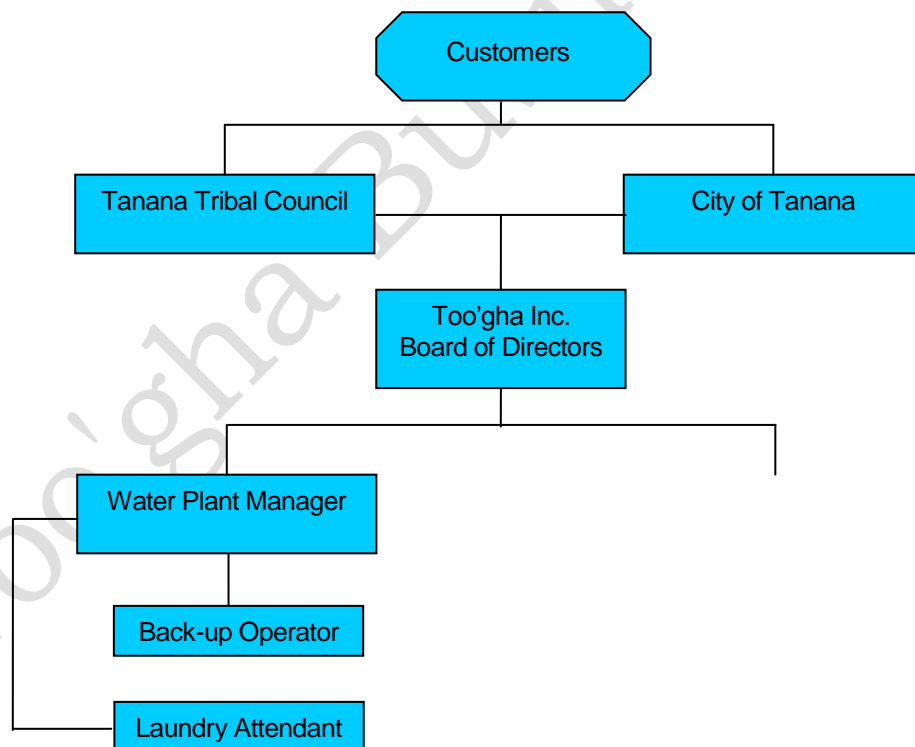
Tanana Water and Sewer Extension

Organizational Chart

The Tanana City Council and the Tanana Tribal Council voted, in 1996, to form a non-profit corporation to run the water and sewer utility. This corporation was named Too'gha, Inc. and is organized to engage in design, construction, ownership, and management of sanitation facilities for Tanana.

The Too'gha Board of Directors is composed of five members: the Tribal Council Executive Director, one member of the Tribal Council appointed by the Tribal Council, the City Manager, one member of the City Council appointed by the City Council, and one member elected at large by the residents of Tanana.

The following organizational chart illustrates the staff relationships of the water and sewer utility:



The water utility's structure is summarized in the organizational chart, above, and a brief description of the roles and duties of the positions follows:

- Too'gha, Inc. Board of Directors – Responsible for oversight of design, construction, planning, operation, maintenance, and management of the sanitation facilities
- Water Treatment Plant Operator – A full-time position responsible for the oversight and management of physical water and sewer facilities. Responsible for operating the water plant and piped water and sewer system, for minor maintenance and repairs, and for coordinating major maintenance and repairs. Supervises the Laundry Attendant and Back-up Operator.
- Back-up Operator – In the absence of the Water Treatment Plant Operator, this part-time position is responsible for operating the physical plant and piped water and sewer system, and minor maintenance and repairs. The position is to work no more than 20 hours/week.
- Laundry Attendant – Responsible, on a part-time basis, for cleaning the laundry facility and water treatment plant daily. This position is designed to work no more than 30 hours/week.

In May of 2010, Too'gha entered into a management agreement with the Alaska Rural Utility Collaborative. The agreement calls for the Alaska Native Tribal health Consortium (ANTHC) to provide billing assistance to the utility. ANTHC reports an average monthly collection rate of 91%.

In the absence of designated Too'gha administrative staff, the Tanana Tribal Council bookkeeper performs the necessary functions with board review and approval.

Staffing and Training

Too'gha, Inc., has assigned the Board of Directors to operate, maintain, construct, and replace the Tanana water and sewer systems. The powers and duties of the Too'gha, Inc. Board of Directors shall include (but not be limited to):

Too'gha Inc. Board of Directors duties

- Appoint, train, hire, promote, lay off, suspend, demote, or remove water and sewer system employees.
- Administer the water and sewer system budget and capital improvement programs.
- Prepare annual budgets, capital improvement requests, and make recommendations thereon for the efficient and economical operation of the system.
- Prepare, at the end of each fiscal year, a report on the finances and administrative activities of the water and sewer system; and prepare and make available for public distribution an annual report on the water and sewer system's finances.
- Formulate and enforce the general rules and policies pertaining to the operation of the water and sewer system within Tanana and generally be responsible for the systems and their operation and fiscal affairs, including the maintenance, operation, expansion, extension, and improvement of the water and sewer utilities.
- Study and make recommendations generally on public utility matters such as, but not limited to, rates, fiscal matters, personnel staffing, labor relations, expansion or extension of services, and public relations.

A copy of the Bylaws of Too'gha, Inc., establishing the powers and duties of the Board of Directors, is filed with Too'gha's administration records.

Day to day management of the sanitation facilities, including the Too'gha Water Treatment Plant and Laundromat, are the responsibility of the Water Treatment Plant Operator. Too'gha has no administrative personnel. Tribal Council personnel have the primary responsibility for the oversight

and handling of the finances, with the exception of billing and collections. In May of 2010, the Too'gha board entered into a management agreement with the Alaska Rural Utility Collaborative (ARUC). The agreement is for the ANTHC to provide billing assistance and at a later date complete an assessment of the utility. The utility still processes accounts payable and payroll.

Training

The water treatment plant is classified Level 2, thus the Water Plant Operator needs a Water Treatment Level 2 Certificate to operate the plant. A Level 1 certificate is needed for water distribution, wastewater collection and wastewater treatment. Presently, the operator does not have this certification but is in contact with Tanana Chiefs Conference Department of Environmental Health to schedule the appropriate training. TCC offers training for Level 1 and 2 certificates twice yearly. TCC provides room and board; the utility will be responsible only for transportation costs. The current Water Plant Operator will schedule and attend the training in 2011.

Key Personnel

The Too'gha Inc. Board of Directors will be involved in the construction phases of on-going and future water and sewer infrastructure development. The Too'gha Board of Directors has overall responsibility for the operations and maintenance of the utility systems.

The Water Plant Operator, Back-up Operator, and the Laundry Attendant are the key personnel involved in the operation of the water and sewer system.

Section 4 Financial Data

Tanana Business Plan

Tanana Water and Sewer

Bookkeeping functions, separate from billing and collections, are performed by the Tanana Tribal Council bookkeeper and reviewed by the Board. The position has the authority to submit requests for payment of bills, supplies, and materials to the board. Prior to being processed, such requests must be accompanied by supporting documents. Officials with approval for check-signing are Too'gha, Inc. board members. All checks must be signed by two of the approving officials. A copy of the check must be attached to the supporting documents and filed at the Too'gha, Inc. office.

Too'gha, Inc. currently utilizes the accounting software Quickbooks Pro 2004 to track customer transactions and system revenue and expenditures. The system is fairly sophisticated and has numerous reporting options. The annual budget for Too'gha, Inc. is established by the board of directors at an annual work session and adopted at the next regular meeting.

In May 2010 ANTHC assumed responsibility for billing and collecting revenue for the utility. Collections rates range from 87% for residential user to 100% for commercial and public facility users. Rates were last reviewed and changed in 2007. During the rate review, the Board also initiated a collection policy that enforces shutoff of services after 2 months of non-payment. The policy resulted in increased collection rates.

The following financial information reflects actual expenses and revenues for the 2009/2010 fiscal year. A number of operational changes have occurred since the end of the fiscal year that will result in decreased expenses in future fiscal years. Projected revenues and expenses based on the operational changes follow the fiscal year 2009/2010 actual revenues and expenses.

Revenue Source

Revenue required to support the proposed improvements will be generated from a variety of funding sources including commercial, residential, school, and Laundromat user fees. Revenue generated from within the community will fund the system's annual operations and maintenance cost. The revenue requirement will be estimated based on projected annual costs for operating and maintaining the water treatment plant, laundry facility, existing and new extension for the piped water and sewer system.

Revenues in 2009/2010 were \$209,142. Operational changes in the current fiscal year will result in slightly increased revenues and a significant decrease in expenses. Based on these projections, annual revenue for the utility will be approximately .

Revenue Source	Monthly Rate	# of Customers	Collection Rate	Yearly Revenues
Residential User Base Rate	\$140	50	87%	\$73080
Seasonal Residential User Base Rate	\$140	6	54%	\$5443
Seasonal Hookup/Service Disconnect Fee	\$100	6	100%	\$600
Small Commercial Base Rate	\$300	4	90%	\$12,960
Small Commercial Metered Rate	\$0.03	8,300	90%	\$2,689
School User Fees	\$3,240	1	100%	\$38,880
Native Council Fees	\$550	1	100%	\$6600
Health Clinic Fees	\$1120	1	100%	\$13440
Regional Elder's Residence Fees	\$550	1	100%	\$6600
User Fees from Laundromat	\$3,208	12	100%	\$38500
Water Sales (per gallon)	\$0.05	2,000	100%	\$1,200
Haul Fees from FAA	\$0.30	1,000	100%	\$3,600
Seasonal Construction (base rate)	\$300	2	100%	\$3,000
Seasonal Construction (metered rate)	\$0.03	17,000	100%	\$2,550
Total Revenue				\$209,142

Notes

¹- Residential users are charged a base rate of \$70/month for water service and \$70/month for sewer service.

²- Collection rates for residential users based on billing records in 2010 from ANTHC; ANTHC has been doing the billing and collections since May 2010 and show collection rates similar to those of the utility prior to May 2010.

³- The collection rate for the seasonal users was calculated by estimating the number of month's service will be provided and dividing by the total number of months if service was provided year round.

Seasonal Collection Rate = (S Customers * Months of Service) / (Total # of Seasonal Customers * 12 mo.)

Seasonal users include 3 teachers with service for 9 months and 3 summer customers with service for 4 months

⁴- Hook up service has a fee of \$50. A disconnect fee is \$50. Payment is required before service is allowed.

⁵- Small commercial users include: Tanana Power, City Building, City Shop, Tanana Commercial

⁶- Small Commercial users are charged a base rate of \$150/month for water service and \$150/month for sewer service.

⁷- Collection rates for small commercial users based on billing records in 2010.

⁸- Small Commercial users are charged a metered rate of \$0.03/gallon used. Meter records were summarized and averaged for 2010. Metering rates are part of the new rate structure which was instituted in May 2007.

⁹- School, clinic, native council, Elders all have contracted water and sewer rates and are not metered and are based on 12 months of service.

¹⁰- Laundromat user fees and water sales based on 2010 income records

¹¹- Seasonal construction rates are based on past averages. In the summer of 2011 projects for the City of Tanana and the Tribe are estimated to equal or exceed the \$5550 estimated for seasonal construction base rate and seasonal construction metered rate. Construction is expected to continue through 2012.

The Too'gha Board continues to discuss with both the City and the Tribal Council if both entities want to continue to operate the utility with the independent Too'gha Board. Both the City and Tribal Council agree that Too'gha should continue to manage the water and sewer utility. In 2007, both entities contributed operating cash to the utility. Currently, both the City and the Tribal Council continue to contribute to utility shortfalls as they arise. Recent operational changes and completion of capital projects that are reducing utility and personnel costs have been implemented. The utility, the Tribe and the City all continue to explore options to further reduce expenses. The Too'gh Board is committed to maintaining the utility to provide safe, reliable drinking water and wastewater collection to the residents.

Construction projects in the community pay for water service as a small commercial user, and water use is metered and charged the per gallon small commercial rate.

Annual Expenses

There are two cost categories that will be incurred to operate and upkeep the Water and Sewer Utility – Operations and Maintenance (O&M) and Repairs and Replacements (R&R).

Operations and Maintenance

Too'gha will incur a number of expenses related to the operations and maintenance of the system. Operations and maintenance items are defined as expenses that are incurred on a regular basis that sustain the operation of utility assets and the cost of utility administration.

Expense Category	2009/2010 Annual Expenses (Actual)
Administration	\$8800
Labor	\$110,092
Internet/phone	\$4140
Electricity	\$32,278
Heating Fuel	\$64,080
Vehicle Expense	\$3280
Wood for Boilers	\$1750
Insurance	\$4,840
Water Treatment	5600
ANTHC fees	\$4200
Other	\$1,380
FY09/10Total Expenses	\$238,560

In order to accurately portray the expenses of the utility, expenses incurred by the utility but paid for by either the tribe or the city are included in the annual expenses. These include:

- \$8800 annual expenses for administrative functions done by Tribal Council staff
- \$1750 annual expense for cord wood for the boilers paid for the City in FY 09/10

In addition, the actual number of gallons of fuel oil used during the most recent fiscal year was used to calculate expenses.

In 2007, the tribe and the City agreed to subsidize the utility by contributing \$40,000 for operating costs. Since that time, the utility, tribe and city have been exploring methods to cut costs in order to improve the long term sustainability of the utility, and subsequently, the tribe and the city. The rate structure enacted in 2007 raised rates and increased revenue collected per customer, however, a number of customers quit the service because of the increased rates. The community and the Interior region are both suffering from the impacts of high energy costs. There is no elasticity in the current rate structure of the utility. Since there is no room to increase revenues through rate increases and the collection rate remains stable, the Too'gha Board has been focusing its efforts on exploring options for reducing operating costs. Recent changes to the mechanical systems of the washeteria, the addition of a heat-add station and changes in personnel hours to reflect the job descriptions will result in a noticeable decrease in expenses in future years.

Two GARN boilers are in place and are used to heat the washeteria and the water system. The boilers significantly reduce the mount of fuel used and provide some employment opportunities in the community. Funding for the project came from the USDA Forest Service Jump-Start Wood Energy Program and the Alaska Department of Commerce, Community and Economic Development. The boilers were transferred from the City to the utility.

Repairs and Replacement

Included in the annual operations and maintenance costs are the cost that Too'gha, Inc. will incur relating to R&R of the system. R&R costs are defined as items costing more than \$1,000 and/or that are not replaced on an annual basis. R&R costs are capital costs that will be depreciated over the useful life of the item rather than expensed in the year incurred.

An estimate has been made of the expected annual R&R costs for major equipment, *i.e.*, pumps, heat exchangers, water treatment equipment, and laundry facility equipment. The total amount that should be set aside annually for major equipment R&R costs is approximately \$8,900.

Description of Equipment	Number	X	Cost	÷	Useful Years of Life	=	Annual cost to set aside
Filter Media							
Catalytic Media	1	X	\$2,500	÷	8	=	\$313
Anthracite	1	X	\$1,500	÷	8	=	\$188
Quartz Filter Sand	1	X	\$1,200	÷	20	=	\$60
Activated Carbon	1	X	\$1,800	÷	1	=	\$1,800
Softening Resin	1	X	\$1,500	÷	10	=	\$150
Water Supply							
Well Pump	1	X	\$1,000	÷	10	=	\$100
Water Treatment Facility/Laundry							
Boiler	2		\$5,000		25		\$400
Backwash pump	1	X	\$1,200	÷	12	=	\$100
Turbidimeters	3	X	\$1,800	÷	15	=	\$360
Heat exchangers	4	X	\$2,000	÷	10	=	\$800
Circulating pumps	5	X	\$2,500	÷	10	=	\$1,250
Pressure pumps	2	X	\$2,500	÷	10	=	\$500
Pressure tanks	2	X	\$2,000	÷	12	=	\$333
Washers (single load)	2	X	\$1,000	÷	12	=	\$167
Washers (double load)	4	X	\$1,200	÷	12	=	\$400
Washers (triple load)	2	X	\$1,800	÷	12	=	\$300
Dryers	8	X	\$1,000	÷	10	=	\$800
Wastewater Collection							
LS pumps	6	X	\$1,200	÷	8	=	\$900
Total amount that should be set aside annually for major R&R costs							\$8,920

Time Line / Design Life of Major Components

The design life of the Water Treatment Plant and Laundry facility is estimated to be 30 years. The water plant will need to be replaced in approximately the year 2032. The underground water and sewer pipes have an estimated design life of 50 years and will need to be replaced in 2055. The equipment shown above in the depreciation schedule have lives ranging from 8 to 15 years. Maintenance will have a positive effect on the design life of the building and equipment.

Projected Annual Revenue and Expenses

Based on revenue projected and estimated annual operation and maintenance costs, the Tanana system will generate approximately \$11,838 each year (not including local capital contribution). This number includes money that should be retained for R&R costs.

Revenue	
Residential User Base Rate	\$73080
Seasonal Residential User Base Rate	\$5443
Seasonal Hookup/Service Disconnect Fee	\$600
Small Commercial Base Rate	\$12,960
Small Commercial Metered Rate	\$2,689
School User Fees	\$38,880
Native Council Fees	\$6600
Health Clinic Fees	\$13440
Regional Elder's Residence Fees	\$6600
User Fees from Laundromat	\$38500
Water Sales (per gallon)	\$1,200
Haul Fees from FAA	\$3,600
Seasonal Construction (base rate)	\$3,000
Seasonal Construction (metered rate)	\$2,550
Total Revenue	\$209,142
Expenses	
Administration	\$8800
Labor	\$88,000
Electricity	\$32,000
Heating Fuel	\$10,844
Wood	\$25,500
Internet/phone	\$4,140
Water Treatment	\$5,600
Insurance	\$4,840
Annual Repair and Replacement Costs	\$8920
ANTHC Billing charges	\$4200
Total Expense	\$197,504
Net Operating Income (Loss)	\$11,838
Net Operating Income	\$11,838
Annual Estimated Profit	\$11,838

Notes

¹⁻ Administration costs will remain steady at \$8800/year

²⁻ Labor expenses will decrease when positions created as back-up and part-time are kept to the hours needed to operate the plants. The installation of a heat add station will increase utility costs by 2872/year. Engineers estimate is the station will conservatively save \$12,000/year in labor costs. The station will decrease freeze ups which are labor intensive to rectify.

³⁻ Electricity costs will remain stable in the current fiscal year. Increases include \$220/month that the VSW project has been paying and will revert to the utility; an additional \$200/year expense for the heat add station; and a decrease of \$3000 in anticipated savings when the lighting in the washeteria is retrofitted for compact fluorescent lights. The City has secured grant funding for the retrofit.

⁴⁻ Normal operating procedures for a GARN hating system will displace 85% of the fuel oil heating demand per year. Engineers estimate for annual heating cost using the current 12,000 gallons/year would be – Wood: 10,200 equivalent gallons @ \$1.33/gallon = \$15,960. Oil 1,800 gallons @ \$5.34 gallon = \$9612. The heat add station will increase fuel costs by \$1232/year.

⁵⁻ Wood expense is estimated at \$25,500 which is \$2.50 /equivalent gallon rather than the engineer's estimate of equivalent gallons @ \$1.33. The higher number is used since the modified boiler systems have not been operational for a full year. The City has secured a \$90,000 grant that will fund a wood stockpile or equipment to assist in the gathering of cord wood. The grant was not factored into the expense estimates as it is a one-time funding source.

⁶⁻ Washeteria revenue will increase slightly due to a change from coin slots to token slots in the laundry machines. The payment system change will lead to better revenue accountability.

⁷⁻ Billing/Collection fee charged by ANTHC is \$350/month

Annual Estimated Operating Cash Flow

The annual estimated operating cash flow depicts the annual flow of money in and out of the business over the course of an operating year; regardless of whether the expenditure is fully tax deductible, such as capital expenditures (Annual R&R), or loan principal payments.

Cash Sources	
Residential User Base Rate	\$73080
Seasonal Residential User Base Rate	\$5443
Seasonal Hookup/Service Disconnect Fee	\$600
Small Commercial Base Rate	\$12,960
Small Commercial Metered Rate	\$2,689
School User Fees	\$38,880
Native Council Fees	\$6,600
Health Clinic Fees	\$13,440
Regional Elder's Residence Fees	\$6,600
User Fees from Laundromat	\$38,500
Water Sales (per gallon)	\$1,200
Haul Fees from FAA	\$3,600
Seasonal Construction (base rate)	\$3,000
Seasonal Construction (metered rate)	\$2,550
Total Cash Sources	\$209,142
Cash Uses	
Annual Operation and Maintenance Costs	\$ 188584
Annual Repair and Replacement Costs	\$ 8,920
Total Cash Uses	\$ 197,504
Excess (Shortage) of Cash Over Expenditures	\$11,638

Based upon the projected revenue and expenses for Too'gha, Inc. water and sewer utility, the annual excess of cash over expenditures will be approximately \$11,638 which consists of Repair and Replacement costs but does not include capital replacement. This means that Too'gha will be able to operate and maintain the system, as well as provide funding for repairs and replacement of larger items based on the information available, but will not be able to accumulate funds sufficient to pay for a complete system replacement in the future.

With the operational changes in place, the utility will be sustainable, although by a relatively small margin; excess cash over expenditures is projected to be approximately \$11,000 per year. The Tanana Water & Sewer construction project purchased equipment for the project. Construction is complete and the equipment remains in Tanana. Of primary interest to the utility are a front end loader, two 10 yard dump trucks and a John Deere dozer. The equipment, if kept with the utility, can be rented out to other construction projects in the community. The proceeds from the equipment rental will help the long term sustainability of the utility and help the utility accrue capital replacement costs. Allowing the utility to retain the equipment for future use will accomplish a number of public benefits:

- Leaving the equipment in the community is the most practical means of disposal
- Allowing the utility to rent the equipment to other construction projects will likely reduce the cost of those future projects

- Equipment rental will increase utility revenues and increase the long-term sustainability of the utility.

Key Assumptions

Financial assumptions are:

- Revenue will be generated from user fees for water, sewer and Laundromat services.
- The laundry facility will operate 6 days per week from 9 am to 9 pm.
- Revenues from the laundry facility will remain stable or slightly increase with the installation of token machines on laundry machines.
- Future collection fees will remain consistent with rates experienced in 2010. These percentages are accounted for in the revenue projections.

Section 5 Legal Authority & Issues

Tanana Business Plan

Tanana Water and Sewer Extension

Ownership

Too'gha Inc. owns and operates the water treatment plant and laundry facility that supplies water to the piped distribution system in town. The City of Tanana owns the community sewage lagoon, and Too'gha operates it.

Ordinances Related to New Project

The powers and duties of the Board of Directors for Too'gha, Inc. are established by a set of by-laws. The by-laws are on file with Too'gha's administration records.

Special Permits, Licenses and Regulations

The following issues will need to be addressed and resolved during the engineering and construction phases of the project:

- Site control or land ownership conflicts, if any, related to the specific sites chosen for the project,
- Rights-of-way and utility easements,
- Permits,
- DEC Approval to Construct, and approval to Operate

Key Assumptions

Key legal assumptions are:

- Future water and sewer infrastructure will be owned and operated by Too'gha Inc.

Section 6 Interagency Relationships

Tanana Business Plan

Tanana Water and Sewer Extension

Involvement of Other Agencies

Involvement in Construction Phase

Department of Environmental Conservation, Village Safe Water will fund and oversee the construction of the preferred alternatives to expand the piped water and sewer system. Expansion will include construction of piped water and sewer service for the remaining portion of the downtown area.

Involvement in Ongoing Operations

Department of Community and Economic Development will provide training and oversight through the RUBA program. Tanana Chiefs Conference will provide training and oversight through the RMW program.

Replacement Agencies

The replacement of the utility, at the end of its design life has been considered in this business plan.

Regulatory Agencies

The primary regulatory agency for the water and wastewater project will be the Alaska Department of Environmental Conservation (ADEC). ADEC regulates a wide array of environmental areas. Of concern to this water and wastewater project is the agency's regulatory authority over wastewater disposal, operator training standards, and engineering plan approval.

Phase of Larger Project

Currently, there is a design for piped water and sewer extension to the remaining unserved downtown area. Phase I of the project has been constructed. Phase II of the project was scheduled for construction this season.

The following table from the State website shows funding for various grants and programs for water/sewer improvements.

Lead Agency	Fiscal Year	Project Status	Project Description	Project Stage	State of Alaska Cost	Total Cost
DEC/VSW	2005	Funded	Water & Sewer Improvements, Phase 2 - EPA \$2,175.0 Plumbing and service connections for 15 homes, 6,600' water, sewer, & force mains.	Construction	\$725,000	\$2,900,000
DEC/VSW	2005	Funded	Water and Sewer Improvements	Preliminary	\$725,000	\$2,900,000
DEC/VSW	2001	Funded	Sanitation Improvements - Construct piped system for the other half of downtown, plumbing for 40 homes, construct heavy equipment garage	Preliminary	\$450,000	\$1,800,000
DEC/VSW	2003	Funded	Water and Sewer Project - EPA \$1,350.0 Plumbing and service connections for 12 homes, 6,000 feet water and sewer mains. Update feasibility study.	Construction	\$450,000	\$1,800,000
DEC/VSW	2000	Funded	Water and Sewer Mains - IHS \$1,311.0 Construct water & sewer mains	Construction	\$0	\$1,311,000
DEC/VSW	2000	Funded	Sanitation Improvements, Ph II - Construct piped water and sewer for half of downtown and install plumbing for 40 homes	Construction	\$500,000	\$2,000,000
DEC/VSW	1999	Funded	Water and Sewer Mains - IHS \$940,594 Water and sewer mains	Construction	\$0	\$940,594
DEC/VSW	1998	Funded	Water Improvements - Construct new water treatment plant and washeteria	Completed	\$275,000	\$550,000
DEC/VSW	1997	Funded	Piped Water/Sewer Ph I - Construct sewage lagoon and effluent line	Completed	\$550,000	\$1,100,000
DEC/VSW	1995	Funded	Sanitation Facilities Design/Construction - Feasibility study to address upgrade of piped water and sewer system	Completed	\$338,800	\$677,600
ANTHC	1995	Funded	New Washeteria & Sewage System Improvements - DEC VSW lead. IHS \$1,125.0, EPA \$729.0. Est. completion 6/99	Completed	\$0	\$1,454,000
ANTHC	1990	Funded	Upgrade Water System & distribution loop - IHS funding	Completed	\$0	\$350,000

Lead Agency	Fiscal Year	Project Status	Project Description	Project Stage	State of Alaska Cost	Total Cost
DEC/VSW	1990	Funded	Force Main Replace - RSA to DOA	Completed	\$0	\$0
DEC/VSW	1989	Funded	Water Plant Upgrade	Completed	\$97,000	\$97,000

Key Assumptions

Agency and phase assumptions are:

- Residential establishments will not be hooked up until the following has occurred:
 - each phase is fully complete,
 - the community has accepted the project,
 - establishments have been retrofitted to accommodate plumbing.
- Revenues will be generated according to the project completion date schedule with the final construction phase being completed in the year 2013.

Section 7 Summary

Tanana Business Plan

Tanana Water and Sewer Extension

Wrap-up

The water and sewer project will be considered complete when water and sewer service is provided to all the residents in Tanana. This will include providing on-site wells and septic systems to homes in the outlying areas and providing service to homes located out to and in the Circle Subdivision. The designs for both of these areas have not been completed and are currently not under contract to be completed.

Timelines

Design for the preferred alternative for the remaining un-served portion of the downtown is complete. Construction on the installation for the extension began in 2006. The construction for this area will not be completed until a decision on on-site systems has been made.

Effect on Community

The Too'gha Board has spent a lot of time recently in reviewing and implementing a new rate structure for the community. The new rate structure is intended to fairly distribute the operation costs for providing water and wastewater collection to the community by metering water use for various users. The costs to operate the system are significant. The following table is a summary of operating revenue and expenses.

Revenue	
Residential User Base Rate	\$73080
Seasonal Residential User Base Rate	\$5443
Seasonal Hookup/Service Disconnect Fee	\$600
Small Commercial Base Rate	\$12,960
Small Commercial Metered Rate	\$2,689
School User Fees	\$38,880
Native Council Fees	\$6600
Health Clinic Fees	\$13,440
Regional Elder's Residence Fees	\$6600
User Fees from Laundromat	\$38,500
Water Sales (per gallon)	\$1,200
Haul Fees from FAA	\$3,600
Seasonal Construction (base rate)	\$3,000
Seasonal Construction (metered rate)	\$2,550
	\$209,142
Expenses/Excess of Cash over Expenses	
Annual Operation and Maintenance Costs	\$188,584

Annual Repair and Replacement Costs

\$8,920

\$11,838

The business plan shows the existing service connections and water, haul and Laundromat fees will generate approximately \$11,838 in excess of the estimated annual O&M costs to provide piped water and sewer service to the downtown area and maintain the washeteria. This excess includes an expenditure of \$8920 annually for Repair and Replacement of major equipment (i.e. pumps, heat exchangers, water treatment equipment, and laundry facility equipment) that is not replaced on an annual basis. The Utility will not generate enough funds to set aside for the total replacement of the system annually. The projections contained in this business plan do not include capital contributions from the City or Tribe. These contributions occurred in 2007 and in subsequent years as the need arose. With reduced expenditures, largely in the utility and personnel cost categories, the utility will see a slight amount of excess cash each year. It is recommended that VSW, and the Too'gha board actively pursue the retention of the construction equipment for the utilities use. It is also recommended that when the City or Tribe makes expenditures on behalf of the utility, they bill the utility. For example, it is cost effective to have an employee of the tribe perform bookkeeping functions for the utility. The Tribe should bill the City for that use, so all costs are accurately reflected. Identifying the cost will also serve to provide all Too'gha board members with an accurate accounting of what both entities are contributing to the utility. The new rate structure, adopted in 2007 resulted in a loss of some customers due to the increased rates. Revenue remained stable as customers left the utility, as the increased rates allowed for revenues to remain stable.

Cost of Living/Residents Ability to Pay

The following table addresses the resident's ability to pay for water and sewer services. The expenses are estimates based on an average household in the community.

Description	Average Rate	Times Paid a Year	Annual Amount
Income Per Household			
Median Household Income	\$2,479	12	\$29,750
Total Median Income			\$29,750
Expenses Per Household			
Rent	\$510	12	\$6,120
Food	\$150	52	\$7,800
Electricity	\$100	12	\$1,200
Fuel	\$600	4	\$2,400
Water and Sewer ¹	\$140	12	\$1,680
Airfares	\$650	4	\$2,600
Clothing	\$200	12	\$2,400
Gifts/Holidays			\$500
Other	\$200	12	\$2,400
Total Median Expense			\$27,100
Surplus/(Deficit)			\$2,626

Key Assumptions

Key assumptions related to community impact are:

- Household income from State of Alaska statistics is correct.
- There will be no significant increase in the cost of air and freight transportation.
- This document has not considered the effect of natural disasters such as fire, flood, and earthquake.

Too'gha Business Plan