

STATE OF ALASKA
ALASKA CLEAN/DRINKING WATER FUND
GREEN PROJECT ASSESSMENT FORM

As applicable under the EPA annual capitalization grants provided to the Alaska Clean Water Fund (ACWF) and Alaska Drinking Water Fund (ADWF) loan programs, a portion of funds appropriated shall be for projects to address green infrastructure, water or energy efficiency improvements or other environmentally innovative activities.” To meet this condition under the federal grant for administering these funds, this assessment form is provided to document this eligibility or what is termed a “Categorical” or “Business Case” justification, which will be reviewed by DEC for provisional compliance. For more information on green infrastructure development, please review the following EPA web site:

http://cfpub.epa.gov/npdes/home.cfm?program_id=298

For those projects requiring a “Business Case,” Part 2 will require completion to qualify a “traditional project” as green; justification is broken down into two parts, technical and financial. The technical part should use information from a variety of sources such as maintenance or operation records, engineering studies, project plans or other applicable documentation to identify problems (including any data on water and/or energy inefficiencies) in the existing facility, and that clarifies the technical benefits from the project in water and/or energy efficiency terms. Financial justification needs to show estimated savings to a project based on the technical benefits, and demonstrate that the green component of the project provides a substantial savings and environmental benefit.

For more information and assistance in completing this assessment form, please contact the Municipal Matching Grants & Loans program in Anchorage at 907-269-7673, or in Juneau at 907-465-5300.

GENERAL INFORMATION

Name of Community Haines Borough
Address P.O. Box 1209
Haines, AK 99827
Contact Name Krista Kielsmeier Title Deputy Clerk Telephone (907) 766-2231 ext. 36

PROJECT INFORMATION

Project Name Sewer Treatment Plant Health and Safety Upgrades Location Haines, AK
Project Type: New Construction Upgrades
 Stormwater Infrastructure Energy Efficiency Project
 Water Efficiency Project Innovative Environmental Project

Green Project Description: The current condition of the wastewater treatment facility is in disrepair. Due to the numerous leaks and moist environment, the insulation in the roof is saturated in many places and has little or no R-value. The utility has spent approximately \$30,000 per year 10% of the annual operating budget, heating the building to 45 degrees. See more information attached from engineer Jim Dorn.

PART 1 – GREEN PROJECT CATEGORY & COSTS

Identify the most appropriate “Green” Clean Water or Drinking Water category project type. Note, any selection with (BC) at the end will require a Business Case demonstration.

ENERGY EFFICIENCY – the use of improved technologies and practices to reduce the energy consumption of water quality projects.

- Wastewater/water utility energy audits Clean power for public owned facilities
- Leak detection equipment Retrofits/upgrades to pumps & treatment processes (BC)
- Replace/rehabilitation of distribution (BC) Other: _____ (BC)

WATER EFFICIENCY – the use of improved technologies and practices to deliver equal or better services with less water.

- Water meters Fixture Retrofit Landscape/Irrigation
- Graywater or other water recycling Replace/rehabilitation of distribution (BC)
- Leak detection equipment OTHER: _____ (BC)

GREEN INFRASTRUCTURE – Practices that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater.

- Green Streets Water harvesting and reuse
- Porous pavement, bioretention, trees, green roofs, water gardens, constructed wetlands
- Hydromodification for riparian buffers, floodplains, and wetlands
- Downspout disconnection to remove stormwater from combined sewers and storm sewers
- OTHER: _____ (BC)

ENVIRONMENTALLY INNOVATIVE PROJECTS – Demonstrate new/innovative approaches to managing water resources in a more sustainable way. This may include projects that achieve pollution prevention or pollutant removal with reduced costs and projects that foster adaptation of water protection programs and practices to climate change.

- Wetland restoration Decentralized wastewater treatment solutions
- Water reuse Green stormwater infrastructure Water balance approaches
- Adaptation to climate change Integrated water resource management
- OTHER: _____ (BC)

PROJECT & GREEN COMPONENT COSTS

	<u>TOTAL PROJECT COSTS</u>	<u>TOTAL "GREEN" COMPONENT COSTS</u>
Administration	\$ 10,000	\$ 10,000
Legal	\$	\$
Preliminary Studies/Reports	\$ 25,000	\$ 25,000
Engineering Design	\$ 133,800	\$ 133,800
Inspection/Surveying/Construction Management	\$ 108,800	\$ 108,800
Construction	\$ 1,168,000	\$ 1,168,000
Equipment	\$ 10,000	\$ 10,000
Contingencies	\$ 259,400	\$ 259,400
Other _____	\$	\$
Total Costs	\$ 1,715,000	\$ 1,715,000

PART 2 – PROJECT “BUSINESS CASE” TECHNICAL/FINANCIAL ASSESSMENT

TECHNICAL ANALYSIS OF BENEFITS* (see attached)

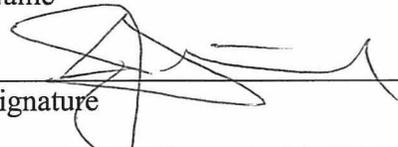
In addition to this form, a supporting technical and financial analysis is required to verify energy and water saving efficiencies for any green component of the project. For green infrastructure and innovative environmental type projects, the analysis should include any applicable efficiency and environmental benefits. For assisting MGL in evaluating “Business Case” assessments of water main, meter, and pump facility replacement type projects, the attached form titled “ADWF - Water/Energy Efficiency Determination - Water Main Replacement/Meter/Pump Facility” is required to be completed. Once the form is complete along with any supporting documentation, please submit documentation to the MGL program for review and concurrence. Note, only water/energy efficiencies that achieve a 20% or greater increase in efficiency will categorically qualify as a Green project.

CERTIFICATION STATEMENT:

I certify the above information is current and accurate.

Jila Stuart
Name

Chief Fiscal Officer
Title


Signature

5/15/15
Date

Submit Completed Form to:

Alaska Department of Environmental Conservation
Municipal Matching Grants & Loans
555 Cordova Street
Anchorage, AK 99501-2617

Technical Memorandum



Carson Dorn, Inc.

Date: 5/1/2015

712 West 12th Street
Juneau, AK 99801

Tel: 907-586-4447
Fax: 907-586-5917

To: Carlos Jimenez, Krista Kielsmeier

From: Jim Dorn

Reference:

Subject: Haines WWTP Improvements
Phase I
Green Project Information

Building Insulation Improvements

Many of the facilities and equipment at the Haines Borough Wastewater Treatment Plant were initially constructed in the 1970's and 1980's. Most of the plant is over 40 years old. The plant has been experiencing more frequent equipment failures as the plant ages. It is reaching the end of the typical useful life for wastewater treatment facilities and some of the unit processes within the plant need to be replaced. The Haines Borough has made compliance with their wastewater discharge permit a high community priority and as such has committed funds to evaluate the plant and its operation. Engineering studies of the wastewater treatment plant conducted for the Haines Borough by Carson Dorn Inc. in 2010 have identified influent screening and sludge dewatering as the unit treatment processes that are most in need of replacement and upgrade. Additionally, the steel building is starting to collapse as corrosion has attacked the main structural steel members and metal siding.

The Haines WWTP Improvements Phase I project is primarily focused on replacing the old steel building with new more corrosion resistant building that is better insulated.

The existing Wastewater Treatment Plant Building is a 6,500 square foot pre-engineered metal building with a vinyl-backed fiberglass insulation with an estimated average thickness of 2" and R Value of 7. The new pre-engineered building will be constructed of hot dip galvanized steel with insulated metal wall and roof panels. The roof panels have a 4" polyurethane foam core with an R value of 28 and the wall panels have a 3" polyurethane foam core with an R value of 21. The average R Value for the new building will be R 25. This increase in insulation over the existing insulation means fuel consumption will be about 28% ($7/25 = 28\%$) of current fuel consumption within the waste water treatment building.

Fuel consumption for the wastewater treatment complex has historically been as follows:

2010	4,708 gallons/year
2011	6,306 gallons/year
2012	7,615 gallons/year
2013	4,770 gallons/year
2014	4,713 gallons/year
Avg	5,622 gallons/year

With construction of the new better insulated building fuel consumption is projected to be on the order of 1,600 gallons per year or about a 72% reduction in fuel consumption.

Infiltration/Inflow

Haines conducts a regular program of monitoring the wastewater collection system to identify areas with excessive I/I. Over the years repairs to the collection system to eliminate I/I have resulted in average flow reduction of about 75,000 to 100,000 gallons per day or about 25% of current plant flow. I/I monitoring is an on-going effort and as problems are identified, they are corrected or repaired.