

Project Planning: Attachment B Project Development Form

This form is to be used to document project planning and approval in order to assure that: project options are well-considered; the best option is put forward; initial and continuing costs and funding are addressed; and that Council approval has been given for implementation. Use this project scoping form with the Project Planning and Approval Process Flow Chart.

Answer the questions that pertain to your proposed project. Attach additional narrative pages if necessary. Type in the electronic form using as much space as you feel is necessary.

Part 1. Project Identification

Name of project: Composting Yard Improvement Project

Department: Disposal & Recycling Center (DRC) Contact: Paul Berry

E-mail: dumpmaster@gustavus-ak.gov Phone 907-697-2118

Part 2. Project Scope refers to a project's size, goals, and requirements. It identifies what the project is supposed to accomplish and the estimated budget (of time and money) necessary to achieve these goals. Changes in scope will need Council approval.

1. What is the project?

Improving the composting facility at the DRC.

What are its goals and objectives? The goal of this project is to improve the DRC's food waste composting operation by repairing, replacing or upgrading all of the deficient components of the composting operation. This is so that the DRC Operator can do their work without having to contend with: a building that is in danger of collapsing; concerns of running out of composting area during peak season; having odor events or not being able to fully utilize the composting yard because of muddy ground or the absence of pushwalls needed for material retrieval. Another way of looking at the goal of this project is to make our food waste composting operation more robust and capable of taking on additional waste streams such as fish waste without severely impacting the facility as a whole.

This project is a continuation and expansion of the on-going Quonset replacement project and is a continuation of the completed 2017 compost yard paving project.

 Who/what will be aided by this project? Who are the targeted stakeholders/customers? The primary beneficiaries of this project is the Operator and the DRC operation as a whole. Since the DRC serves the community of Gustavus all residents will receive benefit from this project.

- Is a preliminary survey necessary to identify the number of potential customers/users? How will you design and conduct the survey? This is not a new service. No survey has been conducted.
- What is NOT covered by this project? What are its boundaries? This project is only concerned with the composting program at the DRC.
- 2. Why is the project needed?
 - What community problem, need, or opportunity will it address? This project addresses four needs in the DRC's food waste composting program:
 - **Replacement of the Quonset structure**. The existing Quonset building was constructed in 2006 and the fourteen 8" x 8" wooden posts used in the base or "pony-wall" of the structure have rotted. When the posts rot the walls start to expand out and the metal tubing that supports the fabric looses its ability to keep the roof up. This will result in an eventual collapse of the roof. To temporarily deal with this problem several wooden buttresses or large piles of coversoil have been added to the two pony-walls to hold them in and keep the roof up. It should also be noted that the fabric that makes up the roof of the Quonset has passed it's warrantied 10 year lifespan and will eventually tear and fail.
 - **Improvement of the method used for composting the food waste** This part would be to change from the current open-pile, passive aeration (termed "pile and smile") composting method to a better method. The open-pile, passive aeration; has no odor controls. The current operation has the additional problem that it is difficult to retrieve the compost in the Quonset once it is ready for turning or curing because the Operator can not push the loader bucket against the retaining wall of the Quonset to retrieve the compost for fear of going through the wall. There are also no sidewalls in the composting facility further adding to the challenge of retrieving compost from the facility.

The plan is to change to the Aerated Static Pile (ASP) composting method and the proposed new composting structure is designed around this method. With ASP the food waste mixture is placed in one of five concrete bays. Each bay has an integral air ducting feature so that it is possible to induce airflow through the mix of material using an electric blower. This method is referred to as positive aeration. ASP both speeds up the composting process and provides means for odor control. The use of concrete bays makes it much easier to retrieve the material after when it is ready because our equipment can push against the bay wall to fill the loader bucket.

Also budgeted is a water system for the composting operation. Water is necessary for equipment cleaning and for keeping the composting mixture moist should it become too dry to complete the composting process. Because the composting structure is adjacent to an unlined landfill, a cistern has been proposed for water collection and storage rather than a simple well. While a cistern is more expensive there is less long-term risk for introducing contaminates (such as heavy metals or PFAS) into the compost which will be distributed throughout the community.

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- Additional paving in the compost yard. When the compost yard was repaired in 2017 the budget at that time did not allow for paving the full width of the composting yard. To remedy this an additional 18.5' wide x 90' long area would be paved with concrete. Additionally, a push wall constructed of concrete would be installed along the perimeter of this area to improve the storage and retrieval of wood chips and finished compost. This new slab would reduce muddy conditions when collecting wood chips or compost and would further reduce invasive plant infiltration to the composting facility. At some point in the future a simple roof over the wood chip area could be installed to help keep the wood chips dry.
- **Wood chipper**. Done correctly food waste composting requires large particles, such as wood chips, to provide air flow (porosity) which keeps the compost pile aerobic and more odor free. Adequate wood chips in conjunction with good aeration insure that the composting process remains aerobic and does not produce objectionable odor. The proper ratio for composting food waste is 1 unit of food waste to 3 units of wood chips/ sawdust and the typical weekly or semiweekly mix during the summer months is 1 to 2 yards of food waste which means that each week the DRC needs 3 to 6 yards of wood chips. Compost is screened to remove the larger wood chips but all of the wood fiber material less than 3/8" in diameter has to be continually replaced. The DRC's wood chips are mostly supplied by the National Park Service which has occasional improvement projects that involve brushing or stump grinding. However, this is a limited supply and the DRC needs more sources of wood chips. The City could purchase a medium sized chipper that would be powered by the City's Bobcat A770 All Wheel steer loader. The chipper could be used in brushing projects as a means of generating wood chips for the composting operation although it should be noted the City currently lacks a vehicle and trailer for moving the Bobcat loader.

Because of the fact that wood chips are often donated by the Park Service's Bartlett Cove operation, and that the DRC does not have a ready supply of trees or brush on the DRC site to be chipped, the purchase of a wood chipper is presented as an option in the project's budget.

 What health, safety, environmental, compliance, infrastructure, or economic problems or opportunities does it address? As addressed above.

3. Where did the idea for this project originate? (Public comments, Council direction, committee work?)

DRC Manager/ Operator Paul Berry

4. Is this project part of a larger plan? (For example, the Gustavus Community Strategic Plan, or committee Annual Work Plan?)

This project is part of the DRC's General Operations Plan on file with the Alaska Department of Environmental Conservations Solid Waste Program. This project is also a component of the City's annual Capital Improvement Plan document.

5. What is your timeline for project planning?

- By when do you hope to implement the project? The project began with the initial paving of the composting yard in the summer of 2017. Completion would be when there is funding. Construction is likely to take 2 - 6 months.
- Will the planning or final project occur in phases or stages? Funding and planning limitations have dictated that this is a multi phase project.
 - **Completed**: Initial paving and Quonset replacement design.
 - **To be completed:** Funding, construction of ASP composting facility, completion of compost yard paving.
- 6. What is your budget for the planning process? Will you be using a consultant? The budget for the initial planning process is \$5,000 50% of this, \$2,500, was paid with PO 18-198 on April 5, 2018. The consultant for this project is:

Peter Moon President/ Principal Engineer O2Compost Systems & Training PO Box 1026 Snohomish, WA 982291 360-568-8085

O2Compost Systems & Training has engineered a large number composting facilities across the US and has a very good understanding of the food waste composting process.

\$2,500 will need to be paid to O2Compost Systems & Training once the facility is complete. This is for the blower and an operating manual designed for the facility.

7. What is your rough estimate of the total cost of the planning and final product? At the least, please list cost categories. See Part 4. (Ques. 4-8) and Part 5 (Budget) for guidance.

Total Project Request \$	111.585.00	
Wood chipper for A770 Bobcat loader + shipping from JNU	\$14,700.00	quote
Slab and backwall for wood chips and finished compost	\$25,000.00	estimate
Yard improvement		
Total for Quonset replacement	\$71,885.00	
10% contingency	\$6,535.00	
Electrical service	\$3,000.00	estimate
Water system – 5,000 gallon cistern & plumbing	\$12,000.00	estimate
Structure cost	\$47,850.00	1.5 x engineers
50% due on O2 cornerstone plans	\$2,500.00	actual
Quonset replacement		
Original 2019 budget		

2022 budget Based on November 15, 2022 Engineer's estimate, PND Engineers

Quonset replacement	
50% due on O2 cornerstone plans, blower and training manual	\$2,500.00
Composting structure cost	\$147,000.00
Mobilization, site prep and materials	\$64,050.00
Concrete paving and push wall	\$137,540.00
Contingency (10%)	\$34,860.00
Total Recommended Construction Budget	\$385,950.00

Parts 3 - 6. Project Investigation and Development

Parts 3.—6. refer to social, environmental, and financial impacts of various options. These questions will help you document your consideration of alternatives and your choice of the option providing the best value for the community. Your goal is to generate alternatives and make a recommendation from among them. Return to Part 3., "Summary" after applying Parts 4.—6.

Summary:

1. What alternative approaches or solutions were considered? Make a business case for your top two or three options by discussing how effectively each would fulfill the project goals, and by comparing the economic, social, and environmental costs vs. benefits of each one.

No action – Does not address the problems described in the goals and objectives for the project.

Completion of project as described - Composting is one of the most important components of the DRC's recycling strategy. Composting of food waste conserves landfill airspace. Landfill airspace refers to the area where non-recyclable waste is placed (locally refered to as "the mound") and is a finite and valuable resource. Composting also provides the residents of Gustavus with a soil amendment that is usefull for food production and contributes to Gustavus's food security. The proposed composting facility project attempts to make operating the DRC's food waste composting program as efficient and robust as possible.

The DRC needs a paved work area to manage the composting operation. Operating the loader in unpaved work areas leads to muddy conditions, increases odor and very difficult working conditions.

Having a composting facility with Aerated Static Piles gives the operator a means of controlling odor and speeding up composting times. This can be important when odor management is a concern. Throughput can be a concern when a lot of material is received in a short period of time, such as the summer tourist season.

A building design was chosen that is durable and will need little maintenance.

2. What solution was chosen as the best and why is it the best? See above.

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- 3. Identify your funding source(s).
 - How will the project be funded initially, and for its operating life?
 - Is there a matching fund requirement? Please provide details.

Grant(s) will be pursued for the construction of this project. Operating costs will be covered by the DRC's operating budget. No significant increase in operating costs is anticipated by this project. Electricity use by the blower is not considered to be high. The blower will only operate intermittently during the times of peak use and little or not all during times of low use (winter).

Part 4. Environmental, Social, Financial Impacts

1. Project Impacts Checklist

	Will this project affect:	No	Yes (+/-)	Maybe
Envi	conmental quality?			
(+ = i	mpact is beneficial; - = harmful)			
•	Climate change		+	
•	Streams/groundwater quality		+	
•	Air quality			x
•	Soils/land quality		+	
•	Fish/wildlife habitat, populations			x
•	Plant Resources (timber, firewood, berries, etc)			x
•	Invasive or pest species			х
•	Natural beauty of landscape or neighborhoods	x		
•	Neighborhood character	x		
•	Noise or other environmental impacts		-	
•	Environmental sustainability		+	
•	Hazardous substances use	x		
•	Community waste stream		+	
•	Light pollution at night	x		
Recre	eational opportunities?			
•	Public land use and access	x		
•	Trails/waterways	x		
•	Parks	x		
•	Public assembly/activities	x		
Educ	ation/training/knowledge & skill	x		
devel	opment?			
Publi	c safety?	x		
Publi	c health?		+	
Medi	cal services?	x		
Emer	gency response?	x		
Econ	omic performance & sustainability?			
•	Employment of residents	X		
	 Short-term (i.e. construction) 		+	
	 Long-term (operating and maintenance) 		+	
•	Cost of living reduction			X

Return on investment			х
• Visitor opportunities/impressions/stays/			x
purchases			
Competitive business environment	x		
 Support for existing businesses 		+	
 New business opportunities 		+	
Economic sustainability		+	
Attractiveness of City to new		+	
residents/businesses			
City government performance?			
 Infrastructure quality/effectiveness/reach 		+	
(more people)			
Existing services		+	
New services	x		
Cost of City services		-	
Tax income to City	x		
Transportation?			
• Air	x		
• Water	x		
• Roads	x		
Communications?			
• Internet	x		
• Phone	x		
TV/radio	x		
Other? (type in)			

2. How does this project provide benefits or add value in multiple areas? (E.g., benefits both to the environment and to business performance.)

As mentioned in other sections of this document, composting addresses two important points: finite disposal area and food security. Composting reduces how much area the DRC consumes on an annual basis for the disposal of non-recyclable waste and compost as a product helps the community with food production and provides the community with a certain level of food security.

3. Are other projects related to or dependent on this project?

- Is this project dependent on other activities or actions? The DRC's food waste composting program is a major component of the DRC's solid waste program.
- If yes, describe projects, action or activities specifying phases where appropriate.

4. Will the project require additional infrastructure, activity, or staffing outside the immediate department or activity? (E.g., will the construction of a new facility require additional roads or road maintenance or more internal City staffing?) This project is an improvement of an existing program. No new labor or staff will be required.

5. What regulatory permits will be required and how will they be obtained?

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The only permitting known at this time is for the Fire Marshal's review of the construction plans. Plan review will be part of the construction process.

6. What are the estimated initial (e.g., construction or purchase) and continuing operational costs of the project?

Construction cost of the Quonset replacement and additional yard paving is estimated to be \$385,950.00.

7. Is an engineering design or construction estimate necessary? Yes. The City has contracted with PND Engineering of Juneau, Alaska for the development of construction plans and a construction cost estimate.

8. Will operation of the project generate any revenue for the City such as sales, user fees, or new taxes? If so, how will the new revenue be collected?

For over 20 years the DRC has sold its finished compost back to the community at a nominal price. This service is done as part of the DRC's usual operation and is managed using the DRC's point-of-sale system.

Part 5. Project Budget

Please refer to the construction budget in Part 2, 7

Construction project Budget estimate	Cost	Operational budget estimate (annual)	Cost
Administrative	\$	Personnel	\$
Project management	\$	Benefits	\$
Land, structures, ROW,	\$	Training	\$
easements		_	
Engineering work	\$	Travel	\$
Permitting, inspection		Equipment	\$
Site work	\$	Contractual	\$
Construction	\$	Supplies	\$
Waste disposal	\$	Utilities	\$2,000
Equipment	\$	Insurance	\$1,000
Freight	\$	Repair & maintenance	\$
Contingencies	\$	Other (list)	\$
Other (list)	\$	Other (list)	\$
Other (list)		Total direct costs	\$3,000
		Indirect costs	\$
		Income (fees, taxes)	\$2,000
		Balance: costs-income	\$1,000

Proposed Budget Line Items

Part 6. Jobs and Training (required by some granting agencies)

1. What service jobs will be needed for operation and maintenance? DRC Operator

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- 2. How many full-time, permanent jobs will this project create or retain?
 - <u>1</u> Create/retain in 1-3 years
 - <u>1</u> Create/retain in 3-5 years
- 3. What training is necessary to prepare local residents for jobs on this project? None.

4. How many local businesses will be affected by this project and how? All businesses producing food waste or fish waste will be effected by this operation. The cost for the City in providing the service will be kept lower by having an improved facility.

Part 7. Business Plan (Upon Council request)

Upon Council request, please prepare a business plan for the operating phase of your leading option(s). Plans will differ according to the nature of the project.

There are a number of good Internet sites that will assist you in developing a business plan. One example (05/2018) is: <u>http://va-interactive.com/tools/business_plan.html</u>

Basic components of a business plan:

- The Product/Service
- The Market
- The Marketing Plan
- The Competition
- Operations
- The Management Team
- Personnel

Part 8. Record of Project Planning and Development Meetings

1. Please document the manner in which public input was received.

- Public comment on agenda item at committee or Council meeting
- Special public hearing
- Dates and attendance for the above.
- Written comment from the public (please attach)

2. Please use the following chart to document committee meetings, Council reports, and so on. Did the committee make recommendations or requests? Did the Council make requests of the committee?

Meeting Record

Event	Date	Agenda	Minutes or	Outcome	No. of
(Meeting of		Posted	record	Rec to	atten-
committee, Council		(date)	Attached?	Council,	dees
report, public			(yes/no)	requested	
hearing, etc.				action of	
				Council, etc.	

Part 9. Feedback to the Council

With the understanding that this form must be adapted to a variety of projects, please provide feedback on how the form worked for your committee. Thank you for your suggestions.

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