CITY OF GUSTAVUS
CITY COUNCIL REGULAR WORK SESSION

Monday, March 03, 2025 at 6:00 PM
Gustavus City Hall

COUNCIL MEMBERS	**CITY HALL**
Mayor Sally McLaughlin	City Administrator – Kathy Leary
Vice Mayor Shelley Owens	City Clerk – Liesl Barker
Council Members: Susan Warner, Rachel Patrick	City Treasurer – Ben Sadler
Brian Taylor, Lucas Beck, Mike Taylor	Phone: 907-697-2451 | clerk@gustavus-ak.gov

AGENDA

VIRTUAL MEETING INFORMATION

https://tinyurl.com/mry9hxed
ID: 515 501 9406 **PASSCODE:** 2145 **TEL:** 253-215-8782

SUBJECTS INCLUDE:

i. Falls Creek Recreational Area Access

ii. CY25-XX Clarifying the Role of the City of Gustavus and the Southeast Alaska land trust in the Gustavus Natural Lands Lease Project

iii. Thank you, Council Member Brian Taylor

iv. Review updated scoping document for the Gravel Pit

v. Gustavus Septage Management Planning Project

vi. Review 03-10-2025 draft agenda

POSTED ON: February 26, 2025 at P.O, Library, City Hall & https://cms.gustavus-ak.gov/

The public is invited to attend Public comment is not typically taken at Work Sessions. Public comment is taken at Special and General Meetings or an e-mail may be sent to the clerk for distribution to City Council clerk@gustavus-ak.gov.

ADA NOTICE

Any person with a disability who requires accommodations in order to participate in this meeting should telephone the City Clerk's office at (907) 697-2451, at least 48 hours prior to the meeting in order to make a request for a disability related modification or accommodation.

MISSION STATEMENT

The City of Gustavus is a distinctive Alaskan City that provides high quality public services in a thoughtful, cost effective and professional manner to sustain a safe, beautiful tolerant environment to live, work, and play with respect for individual freedom and each other.

March 3, 2025

To: Council Members

From: Mayor McLaughlin

Re: Falls Creek Recreational Area Access

This has been a contentious issue in the past few years and one that, I believe, can be solved in a straightforward manner given the right conditions and attitudes.

After a few emails and a video call with David and Michelle Olney, I reached out to Jeffrey (JD) Hoyle, who acts as a Dispute Resolution Adviser with the Federal Energy Regulatory Commission (FERC). Mr. Hoyle worked with the Olneys and AP&T over the last two years to attempt to resolve the dispute over access through easements on the road used to reach hiking opportunities in the Falls Creek area.

There were issues regarding vehicle access, restricted access through easements, historical records, as well as allegations of vandalism, trespassing and harassment. A temporary agreement was reached while negotiations took place. Ultimately, Mr. Hoyle became frustrated with the poor cooperation of the parties involved and determined to withdraw from further arbitration efforts.

I have pledged my support to FERC, AP&T and the Olney family in finding a resolution that all parties can agree to. In return, they have asked that the City be involved if and when necessary and that we give our stamp of approval on the final agreement. I have made it clear that I have no interest in rehashing past allegations or disagreements.

I ask that you join me in committing to supporting the process in a positive manner. Further, I ask that you be open to considering reasonable alternatives and to be prepared to accept possible compromise.

Once Mr. Hoyle has confirmation of our commitment, he will proceed to reopen negotiations.

I provide this information as a starting point for tonight’s discussion, leading to the development of a long-term resolution to the issue of access.

CITY OF GUSTAVUS, ALASKA
RESOLUTION CY25-XX

A RESOLUTION BY THE CITY OF GUSTAVUS CLARIFYING THE ROLE OF THE CITY OF GUSTAVUS AND THE SOUTHEAST ALASKA LAND TRUST IN THE GUSTAVUS NATURAL LANDS LEASE PROJECT

WHEREAS, Resolution CY24-12 on May 13, 2024 established the Conservation Lands Advisory Committee ("CLAC") to provide recommendations, strategies, and supporting documentation to the City on oversight and conservation lands within the City boundaries; and,

WHEREAS, CLAC in partnership with the Southeast Alaska Land Trust ("SEALT)" applied for an Endowment Fund grant for the Gustavus Natural Lands Lease Project (the "Project") to allow time to investigate, pursue, and obtain funding for a temporary conservation easement on lands privately held by the DeBoer family; and,

WHEREAS, it is intended that SEALT obtain the temporary conservation easement (the "lease"), and manage and enforce its provisions for the benefit of the community of Gustavus; and

WHEREAS, following the submission of the Endowment Fund application, CLAC was advised that because the application was submitted by a City committee, it needed to comply with Resolution CY22-20 requiring advance approval by the City Council of a project scoping plan for grant proposals over $15,001. Accordingly, CLAC prepared a project scoping document ("PSD") which was introduced on the agenda for the Dec. 16, 2024 Council meeting in advance of Resolution CY24-19 regarding approval of Endowment Fund Grant awards; and

WHEREAS, there are inconsistencies between the PSD and documents filed supporting the Endowment Fund award, including the Endowment Fund application (Gustavus Natural Lands Project – An Introduction) and a letter from SEALT dated December 9, 2024. This resulted in public concern that the funding was intended for a City project to purchase and manage privately-held lands; and,

WHEREAS, additional clarification is needed to clear up confusion in the roles and responsibilities of SEALT and CLAC, variously described as project manager, partner, consultant and liaison, and in references to project management and unauthorized operational expenditures (attorney fees); and,

WHEREAS, in order to clarify the roles and responsibilities of SEALT and CLAC with regard to the Endowment Funding award for the Gustavus Natural Lands Lease Project, an amendment of the PSD is necessary to align its planning design in accordance with City ordinances and the Endowment Fund grant;

NOW THEREFORE BE IT RESOLVED, that the Gustavus City Council adopts the following clarifications for incorporation as an amendment to the PSD as follows:

1. The Gustavus Natural Lands Lease Project is not a project of the City of Gustavus.
2. CLAC serves as advisory partner, consultant and liaison with SEALT and interested parties.
3. The PSD provides planning and guidance on achieving the goal of long-term conservation of high-value natural property to the community of Gustavus, and its visitors, but does does not vest the authority or responsibility in the City or CLAC to manage the property or enforce the terms of the easement.

PASSED and **APPROVED** by the Gustavus City Council this _____ day of __________, 2025, and effective upon adoption.

____

Sally A. McLaughlin, Mayor

____

Attest: Liesl M. Barker, City Clerk

Project Planning: Attachment B
Project Development Form - Amended

This form is to be used to document project planning and approval 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: Gustavus Natural Lands Leasing Project

Department: Conservation Lands Advisory Committee   Contact: Susan Warner
E-mail: Susan.warner@gustavus-ak.gov   Phone: 907-750-7846

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?
   - What are its goals and objectives?
     Pursuant to City of Gustavus Resolution CY24-12 Establishing a Conservation Lands Committee, this project seeks to secure continuing public recreation and wildlife habitation on beach and upland meadow lands on both sides of Dock Road currently held privately by the DeBoer family.

     Planning for the Gustavus Natural Lands Lease Project (Project) envisions two phases: (1) a ~~A multi-year~~ two-year temporary conservation easement (CE)~~lease~~ of the property will allow the City, SEALT, landowners, and project partners time to investigate, pursue, and obtain funding for an (up to) five-year temporary conservation easement (CE), while preserving the land's natural character for future conservation plans with the City and landowner(s). It will also provide protection from near term development or sale. The temporary CE, sometimes referred to as a lease in this request, will be held by the Southeast Alaska Land Trust (SEALT) for the benefit of the community of Gustavus. Once temporary protection is established, a phase (2) plan can be developed to bring the property under permanent conservation status, should all parties agree, and sufficient funding is obtained.

   - Who/what will be aided by this project? Who are the targeted stakeholders/customers?
     The community of Gustavus will benefit from assured protection of the beach upland tracts on both sides of Dock Road, which the public enjoys for low impact recreational activities through the grace and generosity of the owners, the DeBoer family.

   - Is a preliminary survey necessary to identify the number of potential customers/users? How will you design and conduct the survey?

     No survey is anticipated but observations of Conservation Lands Committee members indicate that the trails and meadows are used daily by a wide range of hikers, dog walkers, birders and more. The meadows offer remarkable unobstructed open views even from Dock Road of beaches, Icy Passage, nearby islands, the Salmon River, and the Fairweather

Range. The east side meadows and the Fairweather Range beyond are the background to the information kiosk that welcomes visitors arriving by ferry.

- What is NOT covered by this project? What are its boundaries?
  This project addresses the undeveloped natural lands tracts on both sides of Dock Road formerly known as the Mount Fairweather Golf Course. On the west side of the road Tracts 8A, D, and E are included. On the east side of the road Lot 36 of Plat 89-18. Not included are the adjacent State-owned Tracts A and B2 under cooperative management with the City of Gustavus as the Gustavus Beach Park. Also excluded is City-owned Bulk Fuel Facility Tract B1.

2. Why is the project needed?
- What community problem, need, or opportunity will it address?
  Community members enjoy recreational use of the beach meadows properties as an extension of the Gustavus Beach Park but do so only through the grace and generosity of the private owners who receive no return on the value of the property. There is no guarantee the public will continue to enjoy such access indefinitely and there are competing options such as subdivision and leasing for grazing purposes that may preclude future public use. Fortunately, the DeBoer family understands and appreciates the importance of the lands to the Gustavus Community and has entertained discussions with the Southeast Alaska Land Trust (SEALT) regarding conservation options. SEALT assigns high value to the tracts for conservation purposes if they can be held intact. It may take months or a few years to develop options and fair compensation for long-term protection of the tracts. Time is of the essence because competing financial options could impact or eliminate options for conservation of the valuable tracts. Working with SEALT, the City of Gustavus has the opportunity now to assist in efforts to secure the lands in their natural condition for future generations and the Committee believes it should act with all deliberate speed to do so. This project will recognize the value of the tracts to the community and provide some financial compensation for the public use the DeBoer family graciously allows.

- What health, safety, environmental, compliance, infrastructure, or economic problems or opportunities does it address?
  Leasing or establishing a conservation easement for the lands is the first step to retain their superb natural value for Gustavus residents, visitors, and wildlife long into the future.

3. Where did the idea for this project originate? (Public comments, Council direction, committee work?)
   The idea was developed by the Conservation Lands Advisory Committee as part of its assigned work.

4. Is this project part of a larger plan? (For example, the Gustavus Community Strategic Plan, or committee Annual Work Plan?)
   The project is part of the larger remit of the Conservation Lands Advisory Committee, which was established by Resolution 24-12 to take more active measures to assure maintenance and protection of natural lands valuable to the community, in accordance with the Gustavus Community Vision Statement.

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5. What is your timeline for project planning?
Planning has begun already. Although Phase 1 is not a City project, t~~T~~he Committee is working ~~with~~ in close collaboration with SEALT Director Margaret Custer in the ~~to~~ negotiations for~~e~~ a lease or conservation easement for the tracts involved.

- By when do you hope to implement the project?
  We hope to implement the initial lease by early in CY 2025.

- Will the planning or final project occur in phases or stages? See phased implementation described in Part 2. Project Scope paragraph 1. above.
  Milestones for the 2024 Endowment Fund Grant for the Conservation Lands Advisory Committee (CLAC) to assist SEALT in initiat~~e~~ing a lease to the DeBoer property and work toward obtaining a permanent conservation easement (CE) include:
  2024-Nov CLAC report to Council, Council EFG Work Group session
  2024-Dec EFG Awards announced 12/16, Project start-up work 12/17
  2025-Jan Review of ~~D~~draft SEALT lease agreement with landowners~~, attorney review~~
  2025-Feb SEALT initiates lease agreement, and implements
  2025-Mar 1st Quarter CLAC report to Council, 1st lease payment
  2025-Apr Assist in developing ~~Begin~~ 5-year temporary CE plan with landowners
  2025-May plan summer work
  2025-June 2nd quarterly CLAC report to Council
  2025-July – October Develop Plan to apply for 5-year temporary CE
  2025-Dec 2nd lease payment, final 2024 Endowment Fund Grant report to Council
  2026-Jan-July Assist d~~D~~evelopment of plan to apply for permanent CE

6. What is your budget for the planning process? Will you be using a consultant?
  See budget outline in item 7, below. The Committee is partnering with and serving as consultant to SEALT.~~ as our consultant.~~

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.

$18,800	2 X $9,400 lease payments
$2,310	Legal review
$3,000	Baseline Documentation Report
$1,000	Title work, GIS, and project planning
$4,000	Monitoring, stewardship, and enforcement
$ 890	Contribution towards property access/use signs
$30,000	Total

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.

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Alternatives would include

a) do nothing, hope the land remains available to public use but accept that it may not.
b) Lease land for a limited period to allow further options to be developed and implemented. The lease would be held by SEALT for the benefit of ~~to~~ the City for public use, including by visitors.
c) Agree a legal temporary conservation easement with similar terms to a lease.

2. What solution was chosen as the best and why is it the best?
The Conservation Lands Advisory Committee recommends working with SEALT toward achieving either b) or c) depending on negotiations with the DeBoer family.

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.
The committee proposes ~~to fund~~ the initial phase of the project would be funded through a grant from the Endowment Fund in the amount of $25,000, plus private donations of at least $5,000. The committee is aware of potential private local doners who express interest in supporting the project.

Part 4. Environmental, Social, Financial Impacts

1. Project Impacts Checklist

Will this project affect:	No	Yes (+/-)	Maybe
Environmental quality? (+ = impact is beneficial; - = harmful)			
• Climate change		+	
• Streams/groundwater quality		+	
• Air quality		+	
• Soils/land quality		+	
• Fish/wildlife habitat, populations		+	
• PFAS soil or water contamination	X		
• Plant Resources (timber, firewood, berries, etc)		+	
• Invasive or pest species		+	
• Natural beauty of landscape or neighborhoods		+	
• Neighborhood character		+	
• Noise or other environmental impacts		+	
• Environmental sustainability		+	
• Hazardous substances use	X		
• Community waste stream	X		
• Light pollution at night			X
Recreational opportunities?			
• Public land use and access		+	
• Trails/waterways		+	
• Parks		+	
• Public assembly/activities			X

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Education/training/knowledge & skill development?	X		
Public safety?	X		
Public health?		+	
Medical services?	X		
Emergency response?	X		
Economic performance & sustainability?			
• Employment of residents	X		
○ Short-term (i.e. construction)	X		
○ Long-term (operating and maintenance)	X		
• Cost of living reduction	X		
• Return on investment	X		
• Visitor opportunities/impressions/stays/ purchases		+	
• Competitive business environment	X		
• Support for existing businesses			X
• New business opportunities			X
• Economic sustainability			X
• Attractiveness of City to new residents/businesses		+	
City government performance?			
• Infrastructure quality/effectiveness/reach (more people)	X		
• Existing services	X		
• New services	X		
• Cost of City services	X		
• 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.)

The project exemplifies the City Vision Statement in that it supports and demonstrates our ability to prosper while and by protecting our natural resources.

3. Are other projects related to or dependent on this project? If yes, describe projects, action or activities specifying phases where appropriate.

It is not dependent on other projects, but coordinates with protection of the Beach Park lands and other goals of the Conservation Lands Advisory Committee.

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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?)

The project may eventually require some budget for part time stewardship of City conservation lands. The Committee is in discussions with SEALT regarding such future requirements.

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

None

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

Initial cost is approximately $30,000. Continuing costs, if any, will depend on what future options are developed for the lands.

7. Is an engineering design or construction estimate necessary?

No

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?

The project will enhance Gustavus as a visitor location by retaining the open character of the lands and making them available for visitor use. Recreational opportunities on the beach meadow lands and the Gustavus Beach Park offer visitors opportunities and reasons to extend their stay in Gustavus. We are a visitor economy and more stays generate more business for firms here and more tax revenue for the City.

Part 5. Project Budget

$18,800	2 X $9,400 lease payments
$2,310	Legal review
$3,000	Baseline Documentation Report
$1,000	Title work, GIS, and project planning
$4,000	Monitoring, stewardship, and enforcement
$ 890	Contribution towards property access/use signs
$30,000	Total

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

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

2. How many full-time, permanent jobs will this project create or retain?

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

__________Create/retain in 1-3 years
_________Create/retain in 3-5 years

3. What training is necessary to prepare local residents for jobs on this project?

4. How many local businesses will be affected by this project and how?

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: http://va-interactive.com/tools/business_plan.html

Basic components of a business plan:

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

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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 (Meeting of committee, Council report, public hearing, etc.	Date	Agenda Posted (date)	Minutes or record Attached? (yes/no)	Outcome Rec to Council, requested action of Council, etc.	No. of atten-dees
General Meeting	12-16-24	12-11-24	No	Approved 4 yea/3 nay	7 council members

Part 9. Feedback to the Council

Submitted by: _Susan Warner__ Meeting Date: 12-16-2024 Approved_X_ Not Approved ____

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2025-0203 Proposed revision

(**Bold and Underlined** items are additions. Strikeout items are deletions.)

CITY OF GUSTAVUS, ALASKA RESOLUTION CY25-XX

A RESOLUTION BY THE CITY OF GUSTAVUS CLARIFYING THE ROLE OF THE CITY OF GUSTAVUS AND THE SOUTHEAST ALASKA LAND TRUST IN THE GUSTAVUS NATURAL LANDS LEASE PROJECT **(RENAMED THE GUSTAVUS BEACH MEADOWS PROJECT)**

WHEREAS, The City of Gustavus endorses and supports the goal of this community project to secure continuing public and wildlife access to the Gustavus Beach Meadow lands on both sides of Dock Road; and,

WHEREAS, the project has evolved since original conception from a temporary lease for public use of the lands to a temporary conservation easement that will enable continued public use, and in light of public comments, concerns, and suggestions, some clarification of the City's role in this community project is appropriate; and,

WHEREAS, Resolution CY24-12 on May 13, 2024 established the Conservation Lands Advisory Committee ("CLAC") to provide recommendations, strategies, and supporting documentation to the City on oversight and conservation lands within the City boundaries; and,

WHEREAS, CLAC in partnership with the Southeast Alaska Land Trust ("SEALT)" applied for an Endowment Fund grant for the Gustavus Natural Lands Lease Project (the "Project") **to forestall competitive offers and** to allow time to investigate, pursue, and obtain funding for a temporary conservation easement on lands privately held by the DeBoer family; and,

WHEREAS, it is intended that SEALT obtain the temporary conservation easement and in cooperation with the DeBoer family manage and enforce its provisions for the benefit of the community of Gustavus; and,

WHEREAS, following the submission of the Endowment Fund application, CLAC was advised that because the application was submitted by a City committee, it needed to comply with Resolution CY22-20 requiring advance approval by the City Council of a project scoping plan for grant proposals over $15,001. Accordingly, CLAC prepared a project scoping document ("PSD") which was introduced on the agenda for the Dec. 16, 2024 Council meeting in advance of Resolution CY24-19 regarding approval of Endowment Fund Grant awards; and,

WHEREAS, **through the proposal development and submission process, there were some** inconsistencies, **such as in terminology of lease vs conservation easement**, between the PSD and documents filed supporting the Endowment Fund award, including the Endowment Fund application (Gustavus Natural Lands Project – An Introduction) and a letter from SEALT dated December 9, 2024. This resulted in **some members of the** public ~~concern~~ **misconstruing** that the funding was intended for a City project to purchase and manage privately-held lands; and,

WHEREAS, At the December 16th General Meeting, the City Council approved a Scoping Document for the Gustavus Natural Lands Lease Project and awarded $21,036.32 from the 2024 Endowment Fund Grants (Resolution CY24-19), which was less than the requested amount. Consequently, the required Endowment Fund Grant Post-Award Update was filed with the City Treasurer on January 6, 2025, which specified that, with the reduced amount, the ~~City~~ Endowment Fund grant would then pay SEALT for the top two items of the proposal only, including the two lease payments and legal review. (The update should have stated explicitly that review is a standard measure for such land trust transactions and is required by SEALT's Counsel, not to be provided by the City of Gustavus Attorney). The update also advised the City Treasurer, that as suggested by SEALT and approved by the CLAC, the project name would henceforth be changed to the: Gustavus Beach Meadows Project, and,

WHEREAS, additional clarification is needed ~~to clear up confusion in~~ **regarding** the roles and responsibilities of SEALT and CLAC **in this community project,** ~~, variously described as project manager, partner, consultant and liaison, and in references to project management and unauthorized operational expenditures (attorney fees);~~ ~~and,~~

~~WHEREAS, in order to clarify the roles and responsibilities of SEALT and CLAC~~ an amendment of the PSD is necessary to **demonstrate its** align**ment of** its planning design in accordance with City ordinances and the **terms of the** Endowment Fund grant;

NOW THEREFORE BE IT RESOLVED, that the Gustavus City Council adopts the following clarifications for incorporation as an amendment to the PSD as follows:

1. The Gustavus Natural Lands Lease Project **(now renamed Gustavus Beach Meadows Project)** ~~is not a project of the City of Gustavus~~ **is a community project conducted cooperatively with SEALT within the City of Gustavus boundaries, proposed and monitored by the City's Conservation Lands Advisory Committee, in support of community objectives.**
2. **SEALT is the lead partner, providing expertise and substantial supplementary funding, negotiating, and crafting the terms of a conservation easement supporting the interests of the community of Gustavus.**
3. **Ownership of the beach meadow tracts involved will remain with the existing private owners. The City of Gustavus has no plan or authorization to take ownership of the properties.**
4. **Land management of the tracts will remain the responsibility of the private property owners but will be informed by the conditions of the conservation easement held by SEALT during the term of the easement.**
5. CLAC serves as **an** advisory partner, consultant**,** and liaison with SEALT ~~and interested parties~~ **to assure Endowment grant funds are used effectively, in accordance with the terms of the grant agreement, and that the interests of the community of Gustavus are understood and achieved.**
6. The PSD provides planning and guidance on achieving the goal of long-term conservation of high-value natural property to the community of Gustavus, and its visitors, but does ~~does~~ not vest the authority or responsibility in the City or **in** CLAC to manage the property or enforce the terms of the easement.
7. **Upon passage of this Resolution, a revised PSD that fully incorporates these amendments and fully updates the name, description, and post-award budget for the two-year project may be submitted for Council consideration at the next General Meeting.**
8. **The authority of this resolution will expire with the expiration of the temporary conservation easement.**

PASSED and APPROVED by the Gustavus City Council this _____ day of __________, 2025, and effective upon adoption.

____

Sally A. McLaughlin, Mayor

____

Attest: Liesl M. Barker, City Clerk

Project Planning: Attachment B
Project Development Form [Amended]

This form is to be used to document project planning and approval 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: Gustavus Beach Meadows Project—Renamed from the Gustavus Natural Lands Leasing Project Scoping Document

Department: Conservation Lands Advisory Committee Contact: Susan Warner
E-mail: Susan.warner@gustavus-ak.gov Phone: 907-750-7846

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.

Note: This scoping document reflects new project developments. It updates and replaces the earlier scoping document for the Gustavus Natural Lands Leasing Project.

1. What is the project?

- What are its goals and objectives?
  Pursuant to City of Gustavus Resolution CY24-12 Establishing a Conservation Lands Committee, this project seeks to secure continuing public recreation and wildlife habitation on beach and upland meadow lands on both sides of Dock Road currently held privately by the DeBoer family, while encouraging the family to work with a land trust to assure continued public recreational access to the lands in their natural condition.

  The project will support acquisition by the Southeast Alaska Land Trust (SEALT), on behalf of the community of Gustavus, of *a temporary, two-year, conservation easement* covering the Beach Meadows tracts (AKA the former Mt. Fairweather Golf Course) owned by the DeBoer family on the east and west sides of Dock Road. It will enable and encourage SEALT and the private property owners to investigate, pursue, and obtain funding for long term protection of the natural character of the lands and public recreational access thereto, absent competing pressures on the properties. During the two-year term the conservation easement will assure continuing public recreational access and protection from development or sale. The temporary conservation easement will be held by SEALT for the benefit of the community of Gustavus. During the easement period work can begin to bring the property under permanent conservation status, should all parties agree, and sufficient funding is obtained. The project described in this scoping document will terminate with the conclusion of the temporary conservation easement. Future provisions for and management of the lands involved after the expiration of the temporary conservation easement will be the responsibility of the private property owners and SEALT in accordance with their negotiated agreement.

The Beach Meadow tracts will remain in private ownership. The project does not commit the City of Gustavus to any continuing responsibility for stewardship of the lands and there is no intent that the City will take ownership of the lands in the future.

The role of the City of Gustavus Conservation Lands Advisory Committee, which conceived this project, shall be to monitor the acquisition of the temporary conservation easement and its implementation to assure that the interests of the community of Gustavus are understood and assured, and that the terms of Endowment Fund grant for the temporary easement are met.

- **Who/what will be aided by this project?** Who are the targeted stakeholders/customers? The community of Gustavus will benefit from assured protection of the beach upland tracts on both sides of Dock Road, which the public enjoys for low impact recreational activities through the grace and generosity of the owners, the DeBoer family.

- **Is a preliminary survey necessary to identify the number of potential customers/users? How will you design and conduct the survey?**
  No survey is anticipated but observations of Conservation Lands Committee members indicate that the trails and meadows are used daily by a wide range of hikers, dog walkers, birders and more. The meadows offer remarkable unobstructed open views, even from Dock Road, of beaches, Icy Passage, nearby islands, the Salmon River, and the Fairweather Range. The west side meadows and the Fairweather Range beyond are the background to the information kiosk that welcomes visitors arriving by ferry.

- **What is NOT covered by this project? What are its boundaries?**
  This project addresses the undeveloped natural lands tracts on both sides of Dock Road formerly known as the Mount Fairweather Golf Course. On the west side of the road Tracts 8A, D, and E are included. On the east side of the road Lot 36 of Plat 89-18.
  Not included are the adjacent State-owned Tracts A and B2 under cooperative management with the City of Gustavus as the Gustavus Beach Park, and the City-owned Bulk Fuel Facility Tract B1.

  Provisions that may be agreed to be implemented after the term of the temporary conservation easement ends are beyond the scope of this project.

  The City Conservation Lands Advisory Committee has been awarded a grant from the City of Gustavus Endowment Fund in the amount of $21,036.32 to cover the estimated direct cost of the temporary conservation easement and associated necessary legal fees. Other work to secure a conservation easement for the easement acquisition are the responsibility of SEALT to be paid for with funding from SEALT's private sources.

2. Why is the project needed?

- **What community problem, need, or opportunity will it address?**
  Community members enjoy recreational use of the beach meadows properties as an extension of the Gustavus Beach Park but do so only through the grace and generosity of the private owners who receive no return on the value of the property. There is no

guarantee the public will continue to enjoy such access indefinitely and there are competing options such as subdivision and leasing for grazing purposes that may preclude future public use. Fortunately, the DeBoer family understands and appreciates the importance of the lands to the Gustavus Community and has entertained discussions with SEALT regarding conservation options. SEALT assigns high value to the tracts for conservation purposes if they can be held intact. It may take months or a few years to develop options and to acquire fair compensation for long-term protection of the tracts. Time is of the essence because competing financial options could impact or eliminate options for conservation of the valuable tracts. Working with SEALT, the community of Gustavus has the opportunity now to secure the lands in their natural condition for future generations. On behalf of the community, the Conservation Lands Advisory Committee believes Gustavus should act with all deliberate speed. This project will recognize the value of the tracts to the community and provide some financial compensation for the public use the DeBoer family graciously allows.

- **What health, safety, environmental, compliance, infrastructure, or economic problems or opportunities does it address?**
  Establishing a temporary conservation easement for the lands is the first step to retaining their superb natural value for Gustavus residents, visitors, and wildlife long into the future.

3. **Where did the idea for this project originate?**
   The idea was developed by the Conservation Lands Advisory Committee as part of its assigned work.

4. **Is this project part of a larger plan?**
   The project is part of the larger remit of the Conservation Lands Advisory Committee, which was established by Resolution 24-12 to take more active measures to assure maintenance and protection of natural lands valuable to the community, in accordance with the Gustavus Community Vision Statement.

5. **What is your timeline for project planning**?
   Planning has begun already. With grant funding from the City Endowment Fund now assured, SEALT Director Ms. Margaret Custer and staff have begun negotiations with the DeBoer family toward a temporary conservation easement for the tracts involved. The DeBoer family has responded positively.

- **By when do you hope to implement the project?**
  We hope to implement the initial lease by early in CY 2025.

- **Will the planning or final project occur in phases or stages?**
  The present project has a single phase—the two-year temporary conservation easement. However, during the term of the temporary easement, negotiations will evolve to seek permanent conservation assurance for the tracts. If negotiations are successful and funding can be acquired, a second, permanent conservation phase will evolve. That second phase will be a separate project conducted by the private landowners and SEALT. The Conservation Lands Advisory Committee's role during a second phase will be solely observational with no expense to the City.

Milestones for the 2024 Endowment Fund Grant for the Conservation Lands Advisory Committee (CLAC) to initiate a temporary conservation easement to the DeBoer property and work toward obtaining a permanent conservation easement include:

2024-Nov; CLAC report to Council, Council EFG Work Group session
2024-Dec; EFG Awards announced 12/09, Project start-up work 12/10
2025-Jan; Review draft SEALT lease agreement with landowners, SEALT legal review
2025-Feb-Mar; SEALT initiates easement agreement, and implements terms
2025-Mar; 1st Quarter CLAC report to Council, SEALT makes 1st easement cost payment
2025-Apr-Jun; SEALT prepares and files application for large grant from appropriated funding under the North American Wetlands Conservation Act (NAWCA) for permanent conservation easement provisions.
2025-May; SEALT summer field site work to survey resources in support of grant funding and of provisions for permanent conservation arrangements.
2025-June; 2nd quarterly CLAC report to Council
2025-June to Dec; SEALT continues to seek grant funding for permanent conservation easement and negotiates terms with DeBoer family for permanent measures.
2025-Dec; SEALT makes 2nd annual lease payment. CLAC files final 2024 Endowment Fund Grant report to Council
2026-Jan-Dec. SEALT finalizes long term protection agreements with DeBoer family.

6. **What is your budget for the planning process?** Will you be using a consultant?
   Planning is conducted by SEALT using private funds acquired for the project already.

7. **What is your rough estimate of the total cost of the planning and final product?**
   Project budget for portion of the project funded by Endowment Fund grant:

$18,800 2 X $9,400 lease payments
$ 2,236.32 Legal Review
$21,036.32 Total Equals 2024 Endowment Fund Grant total

Additional costs to SEALT for acquiring the temporary conservation easement will be funded by SEALT from private funds already on hand.

Parts 3 - 6. Project Investigation and Development

Summary:

1. **What alternative approaches or solutions were considered?**

   Alternatives considered included:
   a) Do nothing, hope the land remains available to public use, but accept that it may not.
   b) Lease land for a limited period to allow further options to be developed and implemented. The lease would be to the City for public use, including by visitors.
   c) Agree a legal temporary conservation easement with similar terms to a lease.

2. **What solution was chosen as the best and why is it the best?**
   The Conservation Lands Advisory Committee recommends working with SEALT toward achieving c) a temporary conservation easement subject to negotiations with the DeBoer

family. SEALT recommended the option of a conservation easement because it is a standard method used by land trusts to secure conservation values and public access on lands held by private owners. Standard legal and operating provisions can be applied to the mutual benefits of the easement holder (eg SEALT), the private landowner, and public.

3. Identify your funding source(s).

- **How will the project be funded initially, and for its operating life?**
  Initial and final funding for the conservation easement will be $21,000 from the Endowment Fund grant plus $9,000 already on hand from public donations to SEALT for the project.
- **Is there a matching fund requirement?**
  No matching funding is required.

Project budget Note for January 31, 2025:
At the December 16, 2024, General Meeting, the City Council approved a Scoping Document for the Gustavus Natural Lands Lease Project and awarded $21,036.32 from the 2024 Endowment Fund Grants (Resolution CY24-19) The project originally proposed a $30,000 budget, requesting $25,000 from the Endowment Funds and offering a 20% match of $5,000 from private donations. Since the Endowment money awarded was approximately $4,000 short of that requested, the *private contribution* was upped to a 30% match of $9,000, which will be paid directly to the Southeast Alaska Land Trust, to keep to the original project budget as approved by the Council. Thus, the budget portion paid by grant funds has been revised as follows:

$18,800	2 X $9,400 easement payments
$ 2,236.32	Legal Review
$21,036.32	Total (Amount funded by 2024 Endowment Fund Grant)

Furthermore, it was proposed at the December 3rd meeting of the Conservation Lands Advisory Committee to change the project name to the Gustavus Beach Meadows Project, for better positioning for future outside grant applications. The City's interests and support for this *community project* will be managed through the Conservation Lands Advisory Committee's point of contact with the Southeast Alaska Land Trust, which will be the holder of the Conservation Easement.

Part 4. Environmental, Social, Financial Impacts

1. Project Impacts Checklist

Will this project affect:	No	Yes (+/-)	Maybe
Environmental quality? (+ = impact is beneficial; - = harmful)			
• Climate change		+	
• Streams/groundwater quality		+	
• Air quality		+	
• Soils/land quality		+	
• Fish/wildlife habitat, populations		+	
• PFAS soil or water contamination	X		
• Plant Resources (timber, firewood, berries, etc)		+	
• Invasive or pest species		+	

• Natural beauty of landscape or neighborhoods		+	
• Neighborhood character		+	
• Noise or other environmental impacts		+	
• Environmental sustainability		+	
• Hazardous substances use	X		
• Community waste stream	X		
• Light pollution at night			X
Recreational opportunities?			
• Public land use and access		+	
• Trails/waterways		+	
• Parks		+	
• Public assembly/activities			X
Education/training/knowledge & skill development?			X
Public safety?	X		
Public health?		+	
Medical services?	X		
Emergency response?	X		
Economic performance & sustainability?			
• Employment of residents	X		
o Short-term (i.e. construction)	X		
o Long-term (operating and maintenance)	X		
• Cost of living reduction	X		
• Return on investment	X		
• Visitor opportunities/impressions/stays/ purchases		+	
• Competitive business environment	X		
• Support for existing businesses			X
• New business opportunities			X
• Economic sustainability			X
• Attractiveness of City to new residents/businesses		+	
City government performance?			
• Infrastructure quality/effectiveness/reach (more people)	X		
• Existing services	X		
• New services	X		
• Cost of City services	X		
• Tax income to City	X		
Transportation?			
• Air	X		
• Water	X		
• Roads	X		
Communications?			
• Internet	X		

Submitted by: ____________ Meeting Date: __________ Approved____ Not Approved ____

• Phone	X		
• TV/radio	X		
Other? (type in)			

2. How does this project provide benefits or add value in multiple areas

The project exemplifies the Gustavus Community Vision Statement in that it supports and demonstrates our ability to prosper while and by protecting our natural resources.

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

- **Is this project dependent on other activities or actions?**
  It is not dependent on other projects, but coordinates with protection of the Beach Park lands and other goals of the Conservation Lands Advisory Committee.
- **If yes, describe projects, action or activities** specifying phases where appropriate.
  N/A.

4. Will the project require additional infrastructure, activity, or staffing outside the immediate department or activity?

The project as now conceived will not require any new infrastructure, activity, or staffing. The Conservation Lands Advisory Committee, a group of volunteers, will provide monitoring and oversight during the two-year easement period to assure the expectations of the community and the requirements of the Endowment Grant funding are assured.

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

None

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

Initial cost against the Endowment Fund grant will be $21,036.32. There are no further costs to the City of Gustavus or its Conservation Lands Advisory Committee. SEALT will fund costs beyond the Endowment Fund grant from private donations already on hand for the project.

7. Is an engineering design or construction estimate necessary?

No

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?

The project will enhance Gustavus as a visitor location by retaining the open character of the lands and making them available for visitor use. Recreational opportunities on the beach meadow lands and the Gustavus Beach Park offer visitors opportunities and reasons to extend their stay in Gustavus. We are a visitor economy, and more stays generate more business for firms here and more tax revenue for the City.

Part 5. Project Budget

Construction project Budget estimate	Cost	Operational budget estimate (annual)	Cost
Administrative	$	Personnel	$
Project management	$	Benefits	$
Land, structures, ROW, easements	$18,800	Training	$
Engineering work	$	Travel	$
Permitting, inspection		Equipment	$
Site work	$	Contractual	$
Construction	$	Supplies	$
Waste disposal	$	Utilities	$
Equipment	$	Insurance	$
Freight	$	Repair & maintenance	$
Contingencies	$	Other (list)	$
Other (list)SEALT Legal review	$2,236.32	Other (list)	$
Other (list)		Total direct costs	$
		Indirect costs	$
		Income (fees, taxes)	$
		Balance: costs-income	$

Part 6. Jobs and Training (required by some granting agencies)
Not Applicable.
1. What service jobs will be needed for operation and maintenance?
2. How many full-time, permanent jobs will this project create or retain?
__________Create/retain in 1-3 years
_________Create/retain in 3-5 years
3. What training is necessary to prepare local residents for jobs on this project?
4. How many local businesses will be affected by this project and how?

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: http://va-interactive.com/tools/business_plan.html

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 (Meeting of committee, Council report, public hearing, etc.	Date	Agenda Posted (date)	Minutes or record Attached ?(yes/no)	Outcome Rec to Council, requested action of Council, etc.	No. of atten-dees
CLAC	10/11/24	5 days ahead	Posted on website		4
CLAC	10/25/24	5 days ahead	Posted on website	Approved filing Endowment Grant	4
CLAC	11/22/24	5 days ahead	Posted on website	Recommended approval of EF grant and scoping document	4
City Council	12/16/24	5 days ahead	Posted on website	Approved grant and original scoping document	7
CLAC	1/3/25	5 days ahead	Posted on website		7
CLAC	2/7/25	10 days ahead	To be Posted on website	Approved updated resolution and scoping document	6

PROJECT SCOPING and 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: Gustavus Gravel Extraction Improvement Project

Department: Lands Contact: Kathy Leary

E-mail: administrator@gustavus-ak.gov Phone 907-697-2451

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? Extending the life of the Gustavus gravel pit operation by implementing an alternative to the current extraction method.
   Specifically:
   - Conduct an engineering study to optimize extraction of the gravel resource.
   - Conduct the surveying and mapping necessary to support the engineering study.
   - Conduct drilling that will provide information about the depth and characteristics of the remaining gravel resource to support the engineering study.
   - Permitting.
   - Determine the cost and process for leasing or acquiring additional DNR managed land for a new gravel extraction area.
   - Legal costs to support additional land lease or purchase.
   - Issue a Request for Quotation for a single contractor to manage the gravel pit operation according the engineering plan.
   - Purchase a portable scale to weigh gravel for sale or for City projects.
   - Purchase of construction rock for capital projects and natural disaster recovery. There is no source for suitable construction rock in Gustavus:
     – Good River Bridge Repair and Bank Stabilization (187 cy).

- DRC Recycling Building (1853 cy)
- DRC Compost Shelter (135 cy)
- Salmon River bank erosion stabilization at and around City Hall (not yet designed).

- Who/what will be aided by this project? Who are the targeted stakeholders/customers?
  Provide a plan and method for gravel extraction that will extend the life of the existing gravel pits to maximize the recovery of the gravel resource that leaves the excavated area with adequate drainage and in a condition that is suitable for aquatic habitat.

  Purchase construction rock and establish a new stockpile to be developed at the gravel pit. There is not a source for suitable construction rock in Gustavus and a stockpile is needed. Factors that restrict the City's ability to import rock are:
  - ADOT is requiring $3 million of insurance to allow for construction rock to be delivered at the dock, which exceeds the coverage that local contractors can obtain.
  - There are very few marine operators capable of delivering construction rock to the Gustavus dock.
  - Construction rock availability is limited.

- Who/what will be aided by this project? Who are the targeted stakeholders/customers?
  The primary beneficiaries of this project will be the City for road maintenance and new infrastructure, and property owners and businesses that require gravel for their construction projects.

- Is a preliminary survey necessary to identify the number of potential customers/users? How will you design and conduct the survey?
  No.

- What is NOT covered by this project? What are its boundaries?

  The purchase of the gravel extraction equipment.

2. Why is the project needed?
   The project is needed so gravel will continue to be available for City road maintenance and construction projects for the City and property owners.

- What community problem, need, or opportunity will it address?
  The problem this project addresses is the pending exhaustion of gravel from the City's gravel pits. Given the current rate of extraction, using the current method, the City will soon run out of gravel.

- The project will provide a method to extract the maximum volume of gravel from the City owned gravel pits. This project will extend the life of the gravel pits so gravel will continue to be available for road construction and maintenance, City infrastructure projects, and construction on private property.

- There isn't a source for construction rock in Gustavus, so it has to be shipped to Gustavus by barge. This project will establish an area within the gravel pit property for a construction rock stockpile.

- Opportunity: The project provides the opportunity to continue supplying gravel from the existing pits for the community's road maintenance and construction project needs.

- What health, safety, environmental, compliance, infrastructure, or economic problems or opportunities does it address?
  The project addresses the pending loss of the current gravel source. Without any available gravel the current road maintenance standards cannot be sustained, and new construction projects will not be able to proceed. The project also addresses the improvement of the gravel pit drainage system into the east airport ditch and leaving exhausted areas of the pit in good condition for establishing aquatic habitat.

3. Where did the idea for this project originate? (Public comments, Council direction, committee work?)
   The project originated through discussions going back to 2020 with contractors notifying the City that the gravel pits are nearing exhaustion.

4. Is this project part of a larger plan? (For example, the Gustavus Community Strategic Plan, or committee Annual Work Plan?)
   No.

5. What is your timeline for project planning?
   - By when do you hope to implement the project?
     The initial request was for the project to be implemented for spring/summer of 2020. The target now is to begin engineering work in spring 2025 and implement the recommended new gravel extraction plan and extraction method as soon as possible so there is no interruption to the gravel supply.

   - Will the planning or final project occur in phases or stages?
     The extraction plan will be completed first, then an RFQ for the operation of the gravel pit using the new plan and extraction method will be issued.

6. What is your budget for the planning process? Will you be using a consultant?
   The budget for the project is $500,000. $200,000 is for the purchase of shot rock and D-1 to stockpile for upcoming capital projects and natural disaster recovery. $300,000 will cover the costs for engineering, surveying, drilling,

permitting, land acquisition, legal costs and purchase of a scale. Consultants will be used for engineering, surveying, drilling, permitting and legal work.

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.

$300,000 for the Gravel Extraction Improvement Project. $200,000 for the construction rock stockpile.

Parts 3., 4., 5., 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.

The alternatives include:

- Don't proceed with the gravel extraction improvement project and exhaust the gravel supply. Road maintenance standards will not be achieved, and new construction projects will not be possible.
- Lease or purchase land from DNR for new gravel pits. More land will be stripped for the new pits.
- Purchase and ship gravel from a source outside of Gustavus. The cost and logistics will make road maintenance and new projects unaffordable.

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

An engineering study to evaluate the gravel resource in the City's 40-acre gravel pit property will inform the decision about a method to extract the deep gravel resource or acquire more land for new gravel pits.

3. Identify your funding source(s).
   - How will the project be funded initially, and for its operating life?
     Initially through CAPSIS or other capital funding, and subsequently through gravel pit sales, (with the ability to extract more material).
   - Is there a matching fund requirement? Please provide details.
     This is envisioned as a grant funded project through CAPSIS (State of Alaska). If a match requirement is necessary, the

city, upon approval by council could apply an approximately 5% match towards the overall project.

Part 4. Environmental, Social, Financial Impacts

1. Project Impacts Checklist

Will this project affect:	No	Yes (+/-)	Maybe
Environmental quality? (+ = impact is beneficial; - = harmful)			
• Climate change	X		
• Streams/groundwater quality	X		
• Air quality	X		
• Soils/land quality		X	
• Fish/wildlife habitat, populations		X	
• Plant Resources (timber, firewood, berries, etc)		X	
• Invasive or pest species		X	
• Natural beauty of landscape or neighborhoods		X	
• Neighborhood character	X		
• Noise or other environmental impacts		X	
• Environmental sustainability		X	
• Hazardous substances use	X		
• Community waste stream	X		
• Light pollution at night	X		
Recreational opportunities?			
• Public land use and access		X	
• Trails/waterways		X	
• Parks	X		
• Public assembly/activities	X		
Education/training/knowledge & skill development?	X		
Public safety?		X	
Public health?	X		
Medical services?	X		
Emergency response?	X		
Economic performance & sustainability?		X	
• Employment of residents		X	
o Short-term (i.e., construction)		X	
o Long-term (operating and maintenance)		X	
• Cost of living reduction		X	
• Return on investment		X	
• Visitor opportunities/impressions/stays/ purchases	X		
• Competitive business environment		X	
• Support for existing businesses		X	
• New business opportunities		X	

• Economic sustainability		X	
• Attractiveness of City to new residents/businesses		X	

City government performance?			
• Infrastructure quality/effectiveness/reach (more people)		X	
• Existing services		X	
• New services		X	
• Cost of City services		X	
• 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.)
This project has multiple benefits:

- The City can build and maintain roads.
- Contractors will have a local source of gravel for projects.
- Gravel will generate funds for the City through gravel sales.
- Safe roads, through proper maintenance, will provide for transportation safety.
- The gravel operations will employ Gustavus residents.
- A local source of gravel will assist businesses with staying competitive.
- Continued use of the existing gravel pits will limit the need to expand to other areas for gravel extraction.
- Using a local source for gravel will reduce the carbon footprint of the City by not shipping gravel in from other locations.
- Construction rock will be stockpiled and ready for upcoming capital projects.
- Construction rock will be available for emergency road repair in the event that a natural disaster such as the December, 2020 floods occurs again.

3. Are other projects related to or dependent on this project? Yes, as explained above.

- Is this project dependent on other activities or actions? No
- If yes, describe projects, action or activities specifying phases where appropriate. N/A

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?)
The continuing operation of the gravel pits will be done by a contractor. An additional

culvert may need to be installed under Rink Creek Road.

5. What regulatory permits will be required and how will they be obtained?
ADF&G Fish Habitat Permit, and possibly an Alaska DEC water discharge permit and US Army Corps of Engineers permit. Permit applications will be submitted by the engineering contractor.

6. What are the estimated initial (e.g., construction or purchase) and continuing operational costs of the project?
$300,000 for the gravel pit planning and land acquisition costs. $200,000 for the construction rock stockpile for capital projects and natural disaster recovery. Operations costs to the City are not yet identified but are expected to be minimal and paid for by the profits of the gravel sales. The gravel pit contractor will be responsible for the equipment and related gravel extraction costs.

7. Is an engineering design or construction estimate necessary? Yes.

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?
Yes, through the sale of gravel.

Part 5. Project Budget

Proposed Budget Line Items

Construction project Budget estimate	Cost	Operational budget estimate (annual)	Cost
Administrative	$5000	Personnel	$
Project management	$5000	Benefits	$
Land, structures, ROW, easements	$230,000	Training	$
Engineering work	$40,000	Travel	$
Permitting, inspection		Equipment:	$
Site work	$	Contractual	$
Construction	$	Supplies	$
Waste disposal	$	Utilities	$
Equipment Truck scale	$20,000	Insurance	$
Freight	$	Repair & maintenance	$
Contingencies	$	Other (list)	$
Other (list) Construction Rock	$200,000	Other (list)	$
Other (list)		Total direct costs	$
		Indirect costs	$
		Income (fees, taxes)	$
		Balance: costs-income	$

Updated Latest Estimate Budget Line Items if Changed Date: ___N/A_________

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

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

1. What service jobs will be needed for operation and maintenance?
   O & M will be the contractor's responsibility.

2. How many full-time, permanent jobs will this project create or retain? None unless contractor hires additional operator(s)
__________Create/retain in 1-3 years
_________Create/retain in 3-5 years

3. What training is necessary to prepare local residents for jobs on this project? N/A, this is the contractor's responsibility.

4. How many local businesses will be affected by this project and how? There are three gravel pit leases that will be reduced to one operator. However, many businesses will be affected by the availability or loss of a local gravel source.

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 (12/2010): is http://www.va-interactive.com/inbusiness/editorial/bizdev/ibt/business_plan.html

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)

The Mayor, Council Member Taylor, City Administrator, and current gravel pit contractors have discussed the issue and alternatives on multiple occasions.

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? N/A

Meeting Record

Event (Meeting of committee, Council report, public hearing, etc.	Date	Agenda Posted (date)	Minutes or record Attached? (yes/no)	Outcome Rec to Council, requested action of Council, etc.	No. of attendees
February Worksession May GM work session	Feb 3, 2025 May 6, 2019	Jan. 29, 2025	No (on city website) No	Update Scoping Document for CIP to CAPSIS Moved to GM	

This is what is being sent via the News email to the community. We are looking for community as well as council input. Please see the message below.

To: Gustavus City Council, Gustavus Community Members, Gustavus Businesses

On August 7, 2024 A townhall meeting was held in Gustavus to introduce the engineers from HDR (who are working on behalf of the City through ADEC Village Safe Water) to meet with the community and to collect on the ground information in order to develop alternatives to solving septic needs in Gustavus. Only a couple of community members were in attendance and a couple more participated on Zoom. This meeting was publicly noticed 8/1/2024.

https://mccmeetings.blob.core.usgovcloudapi.net/gustavusak-pubu/MEET-Agenda-b3d82e3259554b8bb343998149ee17c1.pdf

Attached are 4 documents in date order - two documents from HDR that have resulted from those meetings and their engineering research and review. Each of HDR's memos have responses provided by John Barry of Neval Engineering, who the city contracts with for consulting on these matters.

1- HDR- Gustavus Septage PER Alternatives Memo – A preliminary memo of proposed alternatives
2- Neval Engineering - Response to the initial HDR Alternatives Memo
3- HDR- Preliminary Engineering Report at 65% Draft
4- Neval Engineering – Response to HDR's 65% Draft Document

The City of Gustavus and Village Safe Water invites comments on this Septage Management Planning Project from the 65% Draft Preliminary Engineering Report.

(Confirmation of support for an alternative presented within the 65% Draft PER or any other comments you would care to submit.)

Basically, the sequencing of the project started with a site visit including members of HDR's and VSW's teams to meet with the community and collect on the ground information. This information was developed by HDR into an Alternative Memo which outlined potential solutions to the issue. The Alternative Memo is reviewed by a regional health organization, and then is submitted to the multi-agency review committee for comments and/or approval to proceed. Non-viable approaches may be dropped at this phase and the alternatives that will be evaluated more closely can come into focus.

We now invite feedback before this proceeds to the 95% PER (Preliminary Engineering Review) which goes through the same review process until finally a 100% final PER is completed. The final PER then is ideally accepted by the community and will inform design and facilitate acquiring funding for design and construction.

Please reply to this email with your comments by emailing clerk@gustavus-ak.gov or by dropping them by City Hall in the exterior mailbox or you can bring them during open business hours.

Kathy Leary

City Administrator

City of Gustavus

(907) 697-2451

administrator@gustavus-ak.gov

https://gustavus-ak.gov/

Memorandum

To: Kathy Leary, City Administrator
City of Gustavus

From: John Barry, P.E., Technical Services Manager, Neval Engineering

Date: October 18, 2024

Subject: Response to HDR Proposed Gustavus Septage PER Alternatives Memo dated 9/6/24

Category 1: Septage Stabilization and Treatment Alternatives

Alternative 1A: Mechanical Dewatering – Requires a trained and maybe a licensed plant operator, and the plant will require maintenance. Disposal of leachate in a subsurface drainfield at the DRC is practical. Also it's worth looking for available mobile dewatering systems, such as a pump truck that can concentrate solids on board and return the water to the septic tank.

Alternative 1B: Passive Dewatering - More information about dewatering with geobags and a containerized dewatering system is needed to form a judgement about their practical application at the DRC. The containerized dewatering system will require maintenance.

Alternative 1C: Aerobic Digestion and Dewatering – Although the aerobic digestion treatment plant adds another treatment process to Alternatives 1A and 1B, the plant should be a small package plant similar to but somewhat larger than an on-lot residential secondary treatment system. A small aerated system would not be expensive or difficult to operate and maintain. This approach would accomplish significant dewatering and reduce the amount of residual material that had to be further dewatered and disposed of.

Alternative 1D: Dewatering and Composting – Composting may be a practical option but because the sludge has to be dewatered before composting with a mechanical, passive and possibly also an aerobic process it seems that it should be moved to Category 2 as a sludge disposal alternative. Evaluation of the composting option should take into account that there will be some hesitancy about using the compost product as a soil amendment or for other applications due to perceptions about PFAS and that it is a product of human waste.

Alternative 1E: Reed Bed Drying – A large, lined open lagoon and adding layers of sludge does not seem to be a good fit for the DRC or Gustavus in general.

Alternative 1F: No Action - Evaluated for comparison to the above four alternatives only. It is not a reasonable long term option.

Category 2: Sludge Disposal

Alternative 2A: Incineration – Although incineration would be a practical disposal method, it may not be popular in Gustavus due to the burning of diesel fuel in the process. Partnering with the NPS to incinerate sludge is worth pursuing but NPS may object to bringing waste material into the park for disposal. Administrative barriers should be expected.

Alternative 2B: Monofill – I don't have experience with monofill disposal for biosolids. My impression is that this option would take up a large section of the DRC permitted solid waste disposal area.

Alterative 2C: Ship to Juneau for Drying – Local disposal of sludge is preferred, but further study may show that shipping dewatered sludge to Juneau is a practical alternative. Details about the dumpster used for storing and shipping the sludge and the expected shipping frequency and method will have to be researched.

Alternative 2D: Land Application – This alternative was examined by the DRC committee in 2007 and was determined to be not feasible due to airport separation requirements and lack of suitable and available land. This alternative should be evaluated but is likely to come to the same conclusion as the DRC committee.

Alternative 2E: No Action – Same as Alternative F.

After reviewing the descriptions of the proposed treatment and disposal alternatives, the most promising combination and a good fit for Gustavus would aerobic digestion with leachate sent to a drainfield to reduce both water and solids volume, then further dewatering with leachate to the drainfield followed by composting with local disposal.

Memorandum

To: Kathy Leary, City Administrator, City of Gustavus
Michelle Beadle, Alaska Department of Environmental Conservation

From: John Barry, P.E., Technical Services Manager, Neval Engineering

Date: February 2, 2025

Subject: Response to HDR Proposed Gustavus Septage PER 65% Alternatives Memo dated 11/21/24

Pump Trailer vs. Pump Truck

A pump trailer is specified in the costing for the septage stabilization and treatment options. A pump trailer loaded with the average volume of septage pumped from a typical tank (1000 gals.) would be cumbersome to maneuver considering the weight of the loaded trailer (septage about 8300 lbs. + trailer weight (unknown)). A pump truck would be much more maneuverable into the spaces where tanks are often located. A pump truck will cost considerably more than the trailer, and the truck will need a covered parking place at the DRC, but it will be much more practical for accessing septic tanks than a trailer. The City doesn't have a pickup truck to tow the trailer.

Capital and Operating Costs

Capital costs matter to the City because it will have to contribute at least 10% of the cost, assuming that grant money would cover most of the project cost. The operating costs will have the most significant impact on Gustavus residents over time.

Septage Stabilization and Treatment Alternatives

Alternative 1A: Mechanical Dewatering – Mechanical dewatering with a screw press is the most practical option. Leachate disposal can be done in a subsurface drainfield at the DRC. The 4000 sq. ft. drainfield is oversized and the final design should be smaller. The drainfield design will be based on a daily application rate which could be spread out to more operating days than the rate used in the report. There is not enough suitable drain rock produced from the Gustavus gravel pits for a drainfield of this size so it will have to be built with gravelless chambers set on coarse grained sand.

The operating costs use a rate of eight septic tanks pumped per day. This rate was achieved in 2023 by an out of town contractor using a pump truck and working long days. Septic tank pumping won't be done in such a compressed time frame. This applies to all of the alternatives.

Alternative 1B: Passive Dewatering – This method is slow, messy and produces dewatered sludge with a much higher water content that the screw press.

Alternative 1C: Aerobic Digester - High capital and operating costs plus the burden, expense and risk of maintaining the required mechanical equipment for twenty years makes this alternative unattractive.

Alternative 1D: Reed Bed Drying – It's an interesting alternative and the capital and operating costs are the lowest of the alternatives. The filtrate from the large, lined open lagoon will be piped to a drainfield, which needs to be sized to accept the filtrate plus the average annual 62 inches of rainfall that will be captured in the bed. There's a lot of risk with this method since it hasn't been tried in SE Alaska.

Alternative 1F: No Action – There is a lot of risk with this alternative since it depends on the performance of a third party contractor. Although there isn't a capital cost, the operating costs for residents of Gustavus is the highest per tank ($1000+).

Sludge Disposal Alternatives

Alternative 2A: Incineration – High capital and operating costs compared to other alternatives.

Alternative 2B: Monofill – The dewatered sludge is placed once or twice per year in a lined landfill with soil cover. The leachate collection system and drainfield need to be sized to accept the leachate plus the average annual 62 inches of rainfall that will be captured in the bed. The drainfield also has to accommodate the water from the screw press. The sludge has to be stored on site between placements. This option takes up a large section of the DEC permitted solid waste disposal area. The proposed location of the monofill is in the same place as the current balefill expansion. The monofill area can't be used for other landfill purposes.

Alterative 2C: Ship to Juneau for Drying – Local disposal of sludge is preferred, but this study shows that shipping dewatered sludge to Juneau is the lowest cost sludge disposal alternative. Details about the specialty sludge dumpster used for storing and shipping the sludge are needed to determine if it's suitable for shipping sludge on the ferry.

Alternative 2D: Land Application – Withdrawn from consideration. It was examined by the DRC committee in 2007 and was determined to be not feasible due to airport separation requirements and lack of suitable and available land.

Alternative 2E: Composting – This alternative should be investigated further rather than assuming the compost would be contaminated with PFAS without any lab testing data to make that determination. The combined capital and operating cost is lower than the proposed alternative that combines mechanical dewatering with monofill. Composting may be the most practical of the local disposal alternatives from an operating standpoint.

Capital + Operating Cost by Alternative			
Septage Dewatering Alternatives		Sludge Disposal Alternatives	
1A Mechanical Dewatering	2,698,725	2A Incineration	2,968,080
1B Passive Dewatering	1,953,297	2B Monofill	2,055,712
1C Aerobic Digester	4,741,246	2C Ship to Juneau	579,196
1D Reed Bed Drying	1,555,299	2E Composting	4,186,932
1E No Action	0	2F No Action	857,404
Best Total Cost - Combined Alternatives			
No Action		857,404	
Mechanical Dewatering + Ship to Juneau		3,277,921	
Composting		4,186,932	
Mechanical Dewatering + Monofill		4,754,437	

The most important advantage of sludge composting is that it would provide a local sludge disposal opportunity that doesn't require space in the permitted landfill area. Incineration and monofill have issues. The compost product, if PFAS test results allow, could be used for non-agricultural applications such as landscaping, for example the revegetation of the ditch at the DRC that was rerouted in 2024.

The DRC food composting program has provided experience that will benefit a sludge composting program and that should be taken into account when calculating operating costs. The food waste composting operation would be completely separate.

The cost estimate for the screw press in Alternative 1A is $100,000. The cost estimate for the screw press in Alternative 2E is $450,000. Is it the same screw press?

Alternative 1A specifies a 1200 square foot enclosed treatment building to house the screw press costing $600,000. Alternative 2E specifies a 4500 square foot composting structure costing $1,350,000. Is an enclosed treatment building to house the screw press included in the cost of the 4500 square foot composting structure?

The current DRC composting operation handles 50,000 to 70,000 pounds of food waste and produces 10-20 cubic yards of compost annually. The City has a detailed design for a new 900 square foot, five bay food waste composting building at the DRC that will replace the current 1400 square foot Quonset hut. In 2022 PND Engineers estimated the cost to construct the new compost facility at $445,000. The HDR report estimates 24 cubic yards of sludge produced annually by the screw press that could be composted. HDR should look more closely at the proposed 4500 square foot covered area necessary for a sludge composting operation considering the DRC's experience with composting food waste.

Disposal of the compost in the landfill or using it to cover the landfill does not fit into the landfill manager's operating plan and would make a mess in the landfill.

Odor could be an issue.

Some details about the Petersburg sludge composting operation would be good.

PFAS and Composting

A septage treatment facility design for composting needs to include management of septage containing PFAS. The plan should be based on using sampling data to determine if septage contains PFAS before it's treated, what the PFAS limits should be and what the disposal criteria is for septage that tested positive for PFAS. Perceptions about potential PFAS contamination without a testing program to validate actual PFAS content should not influence the selection of a preferred alternative. Current federal and state regulations for disposal of septage and leachate containing PFAS are not clear. The drinking water standard could be used as the criteria. The facility design should include provision for treating septage and disposing of the sludge containing PFAS, such as having the option to ship PFAS sludge to Juneau.

An example of a wastewater PFAS management plan could be that the septic tanks in the known PFAS plume and some margin around the plume could be designated as a PFAS risk. Tanks from this area could be pumped on a campaign basis and kept in the holding tanks at the DRC pending PFAS test results. The sampling method and testing costs should be considered. Decisions about how to treat or otherwise dispose of the septage can be made based on test results.

In the report the local disposal of treated septic sludge is not recommended due to PFAS contamination, but disposal of leachate from the treated septage in a drainfield is present in all the alternatives. Does this mean the PFAS concentrates in the sludge and the leachate is expected to be uncontaminated? There are no drinking water wells in the vicinity of the DRC that could become contaminated.

Alternatives Memo

Date:	September 6, 2024
Project:	Gustavus Septage Treatment
To:	Anita Erickson PE, Village Safe Water
From:	Anson Moxness PE, KC Kent, HDR
Subject:	Gustavus Septage PER Alternatives Memo

Introduction

HDR Alaska, Inc. (HDR), is developing the Gustavus Septage Management Preliminary Engineering Report (PER) under Village Safe Water (VSW) work order 24-GST-TO-016. The project's scope is to identify and study alternatives for treatment and disposal of septage. This memorandum identifies potential alternatives for further development in the 65% PER.

Gustavus residents and businesses are served by on-site septic tanks, which require periodic pumping for proper operation. The pumped septage requires proper disposal. Currently, septage pumped from on-site septic tanks is transported to two 10,000-gallon septage transfer tanks located at the Disposal and Recycling Center (DRC), followed by transport via the Alaska Marine Highway System (AMHS) in a large septage hauling tanker truck and septage pump truck to Juneau. In Juneau, the septage is disposed of at the wastewater treatment facility. The community desires a local treatment and disposal option to eliminate the reliance on other communities and the AMHS for disposal.

The goal of this PER is to recommend a method of local treatment and disposal of septage in a manner that meets Alaska Department of Environmental Conservation (ADEC) regulations and addresses Gustavus' needs. Given the relatively small volume of septage produced in Gustavus, a large, continually operating processing plant is likely not feasible. Large processing facilities or treatment plants are labor and resource-intensive, requiring large and continuous volumes of septage to operate efficiently. Although accepting septage from other Southeast Alaska communities could increase the total volume to be treated, it is unlikely that this would make a continually operating treatment facility economical. Since septic pumping is done in batches, treatment and disposal methods that can be operated intermittently will be best meet project needs.

The most effective plan for septage disposal involves either depositing septage in a treatment facility capable of receiving it (outside of Gustavus city limits) or dewatering the septage and disposing of the dewatered solids. To facilitate the analysis, two categories of alternatives were developed: stabilization and treatment of the septage, and disposal, if needed, of the solids.

Category 1: Septage Stabilization and Treatment Alternatives

A. Mechanical Dewatering
B. Passive Dewatering

C. Aerobic Digestion
D. Dewatering and Composting
E. Reed Bed Drying
F. No Action

Category 2: Sludge Disposal Alternatives

A. Incineration
B. Monofill
C. Ship to Juneau
D. Land Application
E. No Action

Proposed Alternatives

HDR considered a range of alternatives to address each of the categories of alternatives described above.

Category 1: Septage Stabilization and Treatment Alternatives

These alternatives describe several methods of stabilization and treatment of septage. Dewatering of septage creates a sludge or biosolid that is easier to dispose.

ALTERNATIVE 1A: MECHANICAL DEWATERING

Alternative 1A would install a mechanical dewatering facility, likely located at the DRC. The existing septage receiving tanks would serve as the receiving station and flow equalization. Septage would be lime stabilized in the receiving tank in batches prior to dewatering. Septage would then be pumped into a mechanical dewatering process such as a screw press or belt filter press. Polymer would be added to enhance the dewatering process. Leachate from the dewatering process would be disposed of in a subsurface drainfield on site. Due to the high solids percentage, the dewatered septage, now sludge, could be disposed of by any number of methods discussed in Category 2.

The indoor facility would contain the lime and polymer feed systems and mechanic dewatering process with an indoor vehicle bay for a City-owned pumper truck or trailer to service the septic tanks.

ALTERNATIVE 1B: PASSIVE DEWATERING

Alternative 1B would include the purchase of a septage pumper truck or trailer and a passive dewatering system, likely located at the DRC. Similar to Alternative 1A, septage would be pumped into one of the existing septage receiving tanks for equalization and lime stabilization. The stabilized septage would then be pumped to one of several passive dewatering options. Passive dewatering options could include geobags, a containerized dewatering unit, or other method. As with mechanical dewatering, passive dewatering will also include polymer addition to enhance dewatering.

Like Alternative 1A, leachate water would be disposed of in a drainfield at the DRC and dewatered sludge disposed of by an alternative selected in Category 2. This alternative would likely require an indoor facility to contain the lime feed and polymer feed systems with a vehicle bay for a City-owned pumper truck or trailer.

ALTERNATIVE 1C: AEROBIC DIGESTION AND DEWATERING

Alternative 1C would construct an aerobic digestion treatment plant to treat septage. The septage would be batch processed in a digester with bubble aerators to promote the activity of microbes which breaks down the septage and makes it dewater more efficiently and effectively. This process would use electric-powered blowers to provide oxygen into the digester. Digested sludge would then be dewatered using one of the processes from Alternatives 1A, 1B, or 1D. Decant from the digester and leachate from dewatering would be disposed of in a subsurface drainfield near the facility.

ALTERNATIVE 1D: DEWATERING AND COMPOSTING

Sludge composting is an aerobic digestive process that produces a stabilized biosolid that can be used for soil amendment or mulch. Alternative 1D would construct a sludge composting facility to receive and process septage and facilitate composting. This alternative would require a dewatering process prior to the composting process. Dewatered sludge would be mixed with a bulking agent such as wood chips or saw dust and aerated mechanically or turned to create a compost pile. The composting process creates a stable biosolid suitable as a soil amendment, land application, or for disposal.

ALTERNATIVE 1E: REED BED DRYING

Planted reed bed filters have been used extensively in Europe for sludge dewatering and treatment. The reed bed operates similar to a conventional sand filter drying bed with additional septage treatment from the reeds. A large, lined lagoon is constructed with a geomembrane to contain the filtrate. Layers of gravel and coarse sand are added over perforated filtrate collection pipes. Once the reeds are established, a layer of sludge can be added directly from a septic pumper truck and distributed through the reed bed. New layers of sludge can be added to the bed once or twice a month without a negative impact.

Filtrate would be disposed of in a subsurface drainfield, and dewatered sludge can be periodically (once every several years) collected and disposed of using a method described in Category 2.

ALTERNATIVE 1F: NO ACTION

Per the U.S. Department of Agriculture (USDA) Rural Development PER requirements, Alternative 1F would involve no action. This alternative would continue with the existing system with no capital or operational improvements. This alternative would result in no local treatment of septage and would continue the reliance on outside entities for transport and disposal.

Category 2: Sludge Disposal

Once the septage has been processes through an alternative in Category 1, the resultant sludge must be disposed of. These alternatives cover possible methods for disposal of sludge.

ALTERNATIVE 2A: INCINERATION

Alternative 2A would involve either the installation of an incinerator at the dewatering site or utilizing the incinerator at the Bartlett Cove Wastewater Treatment Facility if an agreement between the City and Bartlett Cove is reached. A diesel fired incinerator would burn dewatered sludge, and the ash would be landfilled.

ALTERNATIVE 2B: MONOFILL

Alternative 2B would include the permitting and construction of a monofill at the existing landfill to accept dewatered sludge. The dewatered sludge would be transferred from one of the Category 1 dewatering processes to the new monofill. Once the sludge is placed in the monofill, soil would be spread over the sludge per ADEC regulations.

ALTERNATIVE 2C: SHIP TO JUNEAU FOR DRYING

Alternative 2C would involve shipment of dewatered sludge to Juneau for drying and final disposal. This alternative would be different from current septage disposal because the water content would be greatly reduced and the total volume needed to ship would be less, resulting in lower costs and a smaller operation. Dewatered sludge would only require a dumpster rather than the tanker that is currently being used. Dewatered sludge could be delivered directly to the sludge drying facility in Juneau and bypass the wastewater treatment facility. Juneau disposes of the dried sludge in a facility in the Lower 48.

ALTERNATIVE 2D: LAND APPLICATION

Alternative 2D would involve disposing of dewatered, treated sludge by land application at a vacant site in the Gustavus area.

ALTERNATIVE 2E: NO ACTION

Per the USDA Rural Development PER requirements, Alternative 2E would involve no action. This alternative would retain the existing process of transport and disposal of raw septage in Juneau's wastewater treatment facility with no capital or operational improvements.

Preliminary Engineering Report

Gustavus Septage Management Improvements

November 21, 2024

65% Draft

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EXECUTIVE SUMMARY

HDR Alaska, Inc. (HDR), is developing the Gustavus Septage Management Preliminary Engineering Report (PER) under Village Safe Water (VSW) work order 24-GST-TO-016. The project's scope is to identify and study alternatives for treatment and disposal of septage.

Gustavus is a community of 655 people and is located on the northern shore of Icy Passage, approximately 50 miles northwest of Juneau (see Figure 1). Gustavus is served by an airport with two asphalt runways with daily jet flights in the summer. Gustavus is also served by a weekly Alaska Marine Highway System (AMHS) ferry which docks in Icy Passage and a seaplane base located in Bartlett Cove to the north. Gustavus is not connected to the Alaska road system but is located on the AMHS.

Gustavus residents and businesses are served by on-site septic tanks, which require periodic pumping for proper operation. The pumped septage requires proper disposal. Currently, septage pumped from on-site septic tanks is transported to two 10,000-gallon septage transfer tanks located at the Disposal and Recycling Center (DRC), followed by transport via the AMHS in a large septage hauling tanker truck and septage pump truck to Juneau. In Juneau, the septage is disposed of at the wastewater treatment facility. The community desires a local treatment and disposal option to eliminate the reliance on other communities and the AMHS for disposal.

The goal of this PER is to recommend a method of local treatment and disposal of septage in a manner that meets Alaska Department of Environmental Conservation (ADEC) regulations and addresses Gustavus' needs. Given the relatively small volume of septage produced in Gustavus, a large, continually operating processing plant is likely not feasible. Large processing facilities or treatment plants are labor and resource-intensive, requiring large and continuous volumes of septage to operate efficiently. Although accepting septage from other Southeast Alaska communities could increase the total volume to be treated, it is unlikely that this would make a continually operating treatment facility economical. Since septic pumping is done in batches, treatment and disposal methods that can be operated intermittently will best meet project needs.

Information used in the development of this PER includes communication with VSW, Environmental Protection Agency (EPA), and Gustavus officials; prior studies conducted; publicly available government data; and data collected during a site visit in August 2024.

This PER examines several alternatives in two categories: stabilization and treatment of the septage, and disposal, if needed, of the solids.

Category 1: Septage Stabilization and Treatment Alternatives

- Alternative 1A: Mechanical Dewatering
- Alternative 1B: Passive Dewatering
- Alternative 1C: Aerobic Digestion
- Alternative 1D: Reed Bed Drying
- Alternative 1E: No Action

Category 2: Sludge Disposal Alternatives

- Alternative 2A: Incineration
- Alternative 2B: Monofill
- Alternative 2C: Ship to Juneau
- Alternative 2D: Land Application
- Alternative 2E: Composting
- Alternative 2F: No Action

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Acronyms and Abbreviations and Definitions

°F	degrees Fahrenheit
AACE	Association for the Advancement of Cost Engineering
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADOLWD	Alaska Department of Labor and Workforce Development
AIS	American Iron and Steel
AMHS	Alaska Marine Highway System
BABAA	Buy American Build American Act
BOD	biological oxygen demand
CFR	Code of Federal Regulations
City	City of Gustavus
DRC	Disposal and Recycling Center
EPA	U.S. Environmental Protection Agency
gpd	gallons per day
gpm	gallons per minute
HDPE	high-density polyethylene
HDR	HDR Alaska, Inc.
NPS	National Park Service
NRHP	National Register of Historic Places
PER	Preliminary Engineering Report
PFAS	Per- and Polyfluoroalkyl Substances
SHPO	State Historic Preservation Office
TKN	Total Kjeldahl Nitrogen
TP	Total Phosphorus
TSS	total suspended solids
VSW	Village Safe Water
septage	entire contents of a septic tank
sludge	mixture of solids and liquid settled at the bottom of a septic tank
solids	sludge that has undergone a dewatering process
STRB	Sludge Treatment Reed Bed
NUFWS	United States Fish and Wildlife Service
UV	ultraviolet

1. PROJECT PLANNING

The City of Gustavus (City) is looking to develop a plan to locally treat and dispose of septage from septic tanks around the community to effectively meet the long-term needs of the entire community. This Preliminary Engineering Report (PER) outlines the existing conditions and proposes alternative solutions to treat and dispose of septage and "No Action" alternatives. This document is intended to assist the City with identifying alternatives for pursuing future projects and funding.

1.1 Location

Gustavus is located on the northern shore of Icy Passage, approximately 50 miles northwest of Juneau (see Figure 1). The City is situated along the mouth of the Salmon river and is surrounded by Glacier Bay National Park and Preserve to the north, east, and west. Gustavus is served by an airport with two asphalt runways with daily jet flights in the summer. Gustavus is also served by a weekly Alaska Marine Highway System (AMHS) ferry which docks in Icy Passage and a seaplane base located in Bartlett Cove to the north. Gustavus is not connected to the Alaska road system but is located on the AMHS. The community can be accessed year-round by a 30-minute flight from Juneau or a 5-hour ferry ride from Juneau.

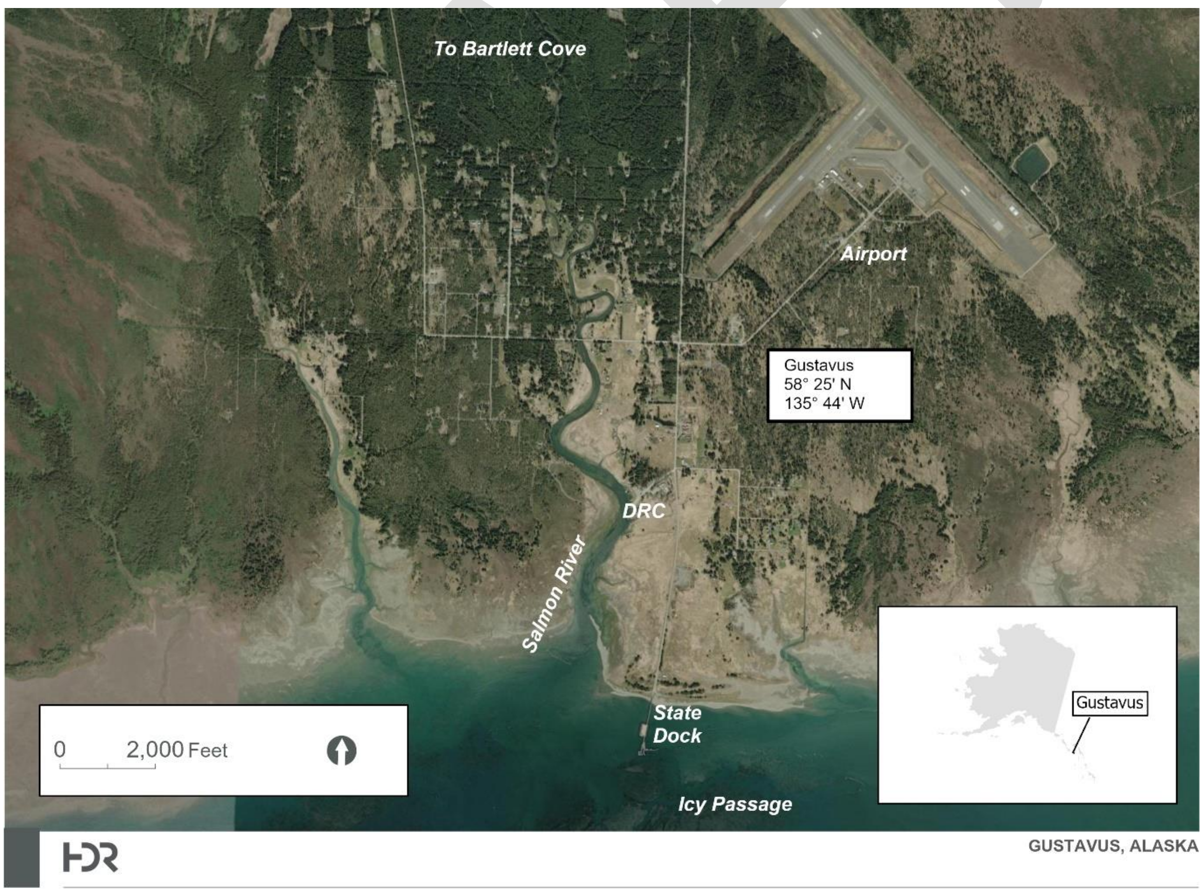


Figure 1. Gustavus vicinity map (ESRI Aerial 2024)

1.2 Environmental Resources Present

1.2.1 Climate

Gustavus is located in Icy Passage. It falls within the southeast maritime climate zone with cool summers, mild to cold winters, and heavy rain. Temperatures range generally near 30 degrees Fahrenheit (°F) during the winter to 55°F during summer. The historical mean minimum, maximum, average monthly temperatures, and mean precipitation for Gustavus are shown in Table 1.

Table 1. Historic Climate Data for the City of Gustavus

Month	Mean Maximum Temperature (°F)	Mean Minimum Temperature (°F)	Mean Average Temperature (°F)	Mean Precipitation (in.)
January	34.0	21.5	28.0	5.9
February	35.5	21.1	29.0	3.8
March	37.6	26.6	31.8	3.2
April	42.7	34.3	38.5	3.0
May	51.1	43.7	46.3	3.0
June	55.2	48.8	52.4	2.9
July	58.0	52.5	55.7	4.4
August	57.6	52.3	55.1	5.4
September	51.0	47.0	49.0	8.2
October	43.3	37.6	40.8	8.4
November	37.3	18.2	32.1	6.8
December	34.5	18.2	28.6	7.3

Source: NOAA (2024).
Note: °F = degrees Fahrenheit.

1.2.2 Geology and Soil Conditions

Gustavus can geographically be split into three different areas: Exclusion Ridge, Gustavus Flats, and the Bartlett Cove Moraine. Excursion Ridge lies at the northeast edge of the City and contains hemlock and spruce forests and wetlands with thick peat deposits. Below Excursion Ridge is limey mudstone bedrock. Gustavus Flats contains most of the City. The flats are mostly sandy soils with silt in areas near the shoreline. Well logs from the area show multiple layers of sand and silt. The Bartlett Cove moraine area in the northwest area of Gustavus contains a series of moraines with expanse of spruce, hemlock, alder, and some open meadows.

1.2.3 Archaeological Resources

A review of the Alaska Heritage Resources Survey site maintained by the Alaska Office of History and Archaeology State Historic Preservation Office (SHPO) lists the World War II Barge Landing site (the present boat loach) as the only archaeological site in the immediate vicinity of the Disposal and Recycling Center (DRC) and the proposed project area. This is a historic-era barge landing site to facility at the construction of the Gustavus Airport. It has been deemed not eligible for the National Register of Historic Places (NRHP) due to lack of integrity. The Gustavus Airport Historic District contains 29 documented cultural resources. The site encompasses the area surrounding the airport and was determined eligible for the NFHP for significant associations with the Civil Aeronautics Administration's role in aviation history of Southeast Alaska and the community development of Gustavus. Any project work occurring near the airport would need additional study to determine the impact on this district. Other, unknown sites may still exist in the area. Collaboration with agencies should occur to determine if a formal survey of the area is necessary. If historic, prehistoric, or archaeological sites, locations, remains, or objects are discovered, SHPO must be notified (AHRS 2024).

1.2.4 Wetlands and Wildlife

Several wetlands area have been identified by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory in and around Gustavus. Areas along the seashore and the Salmon River have been identified as freshwater emergent and forested wetlands. The landfill area does not appear to be within identified wetlands.

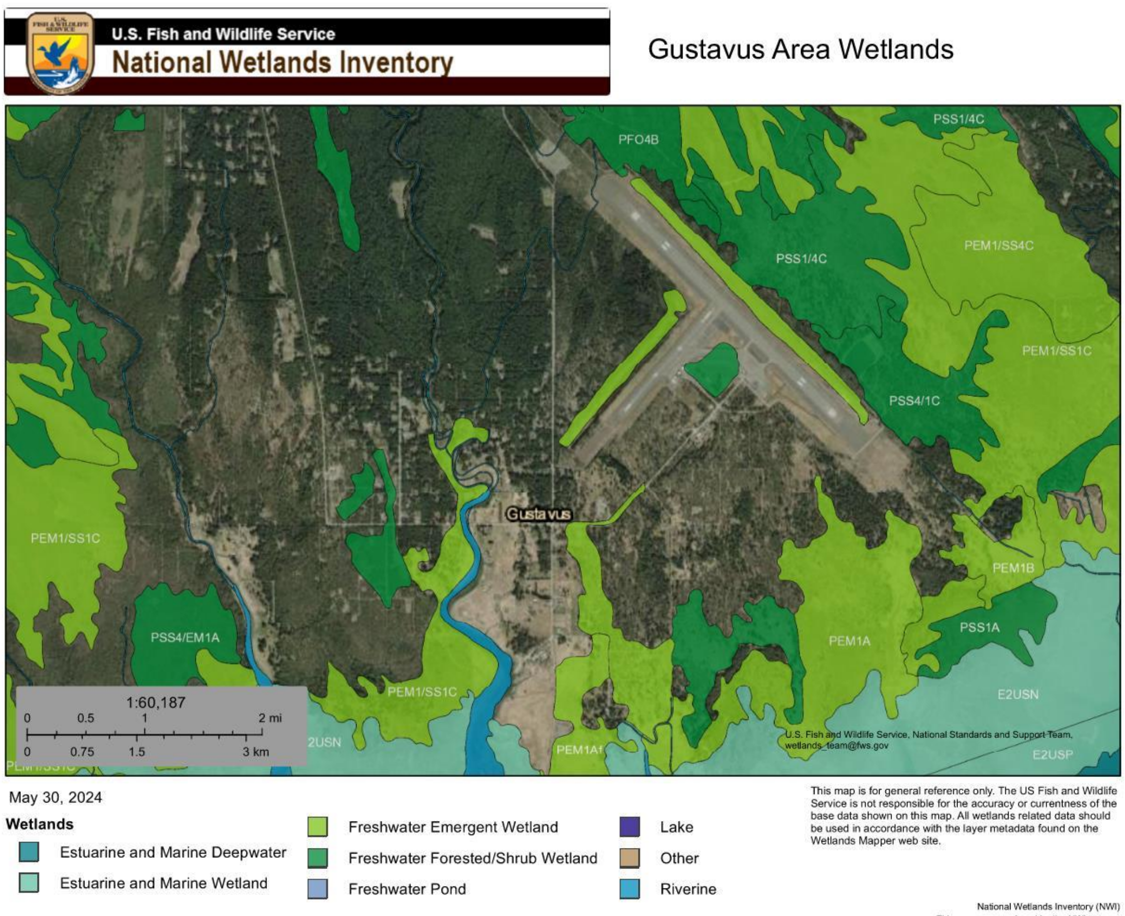


Figure 2. Wetlands in and around the City of Gustavus (USFWS 2024)

Records from the Alaska Department of Fish and Game (ADF&G) indicate that most, if not all streams in Gustavus are anadromous within the project area. ADF&G has identified coho, pink, chum, Dolly Varden, and Steelhead trout present in the creek. Other fish such as king (*Oncorhynchus tshawytscha*), sockeye (*Oncorhynchus nerka*) salmon, and halibut (*Hippoglossus stenolepis*) have been observed in Icy Passage. Dungeness Crab (*Metacarcinus magister*) has previously provided a significant commercial fishery. However, with the closure of Glacier Bay National Park to commercial fishing, the fishery's size has decreased dramatically.

Several species listed as threatened or endangered under the Endangered Species Act reside near Gustavus. The short-tail albatross (*Phoebastria albatrus*) is known to breed and nest in the vicinity. The Northern Sea Otter (*Enhydra lutris kenyoni*) are listed as located in the vicinity as well.

The west and central North Pacific populations of humpback whales (*Megaptera novaeangliae*) spend summers in Alaska waters feeding and may exist in Icy Passage. The North Pacific populations of blue whale (Balaenoptera musculus), right whale (*Eubalaena japonica*), sperm whale (*Physeter macrocephalus*), sei whale (*B. borealis*), and leatherback sea turtle (*Dermochelys coriacea*) are listed as endangered and may be in the vicinity.

The Gustavus area is also home to Sitka black-tailed deer (*Odocoileus hemionus sitkensis*), brown bears (*Ursus arctos*), an abundance of smaller fur-bearing animals, seals (*Pinnepedia*), sea lions (Otariinae), sea otters (*Enhydra lutris*), and numerous waterfowl.

A search of the Documented Eagle Nest Site Library maintained by the State of Alaska did not reveal any documented eagle nests within the city limits (State of Alaska 2024); however, bald eagles (*Haliaeetus leucocephalus*) have been observed in the area. As no significant tree clearing would be necessary for construction, it is unlikely that a raptor study would need to be necessary.

1.3 Population Trends

The U.S. Census Bureau population data presented in Table 2 provides a historic look at the population of Gustavus. Gustavus has been steadily growing since 1980, with an average annual growth rate of over 6 percent, fueled mostly by tourism.

Table 2. Gustavus, Alaska, Population History

Year	Population
1940	27
1950	82
1960	107
1970	64
1980	98
1990	258
2000	429
2010	442
2020	655

Source: U.S. Census Bureau (2020).

The population of Gustavus approximately triples during the summer season with increased tourism and the accompanying summer workers to serve the tourism industry. It is challenging to project future growth in rural Alaska, as interrelated factors such as available land and housing, changing climate, and industry changes can greatly impact population projections. It is often more informative to develop population range estimates by using past population data and extrapolating these numbers. For the purposes of this report the projected population range was bracketed by a 1 percent annual gain, which is approximately equal to a linear trendline of all population data and a 2 percent annual gain. A linear trendline of value using the only data from 1980 to 2020, translated so that it intersects the most recent census, falls somewhere in the middle. Using this approach, the 2045 population in Gustavus is estimated to fall within the range of 840 to 1075 people (see Figure 3). For the purposes of this PER, it is assumed that the population growth will generally follow the trendline shown. The 2045 projected population for this PER is 980 people

The Alaska Department of Labor and Workforce Development (ADOLWD) issues area population projections for each region of Alaska. ADOLWD projects an average annual population loss of 0.6 percent through 2045 for the Hoonah-Angoon Census Area. However, with the significant tourism draw of Glacier Bay National Park and Preserve, population trends for Gustavus likely do not match those of other rural communities in the area as projected by ADOLWD.

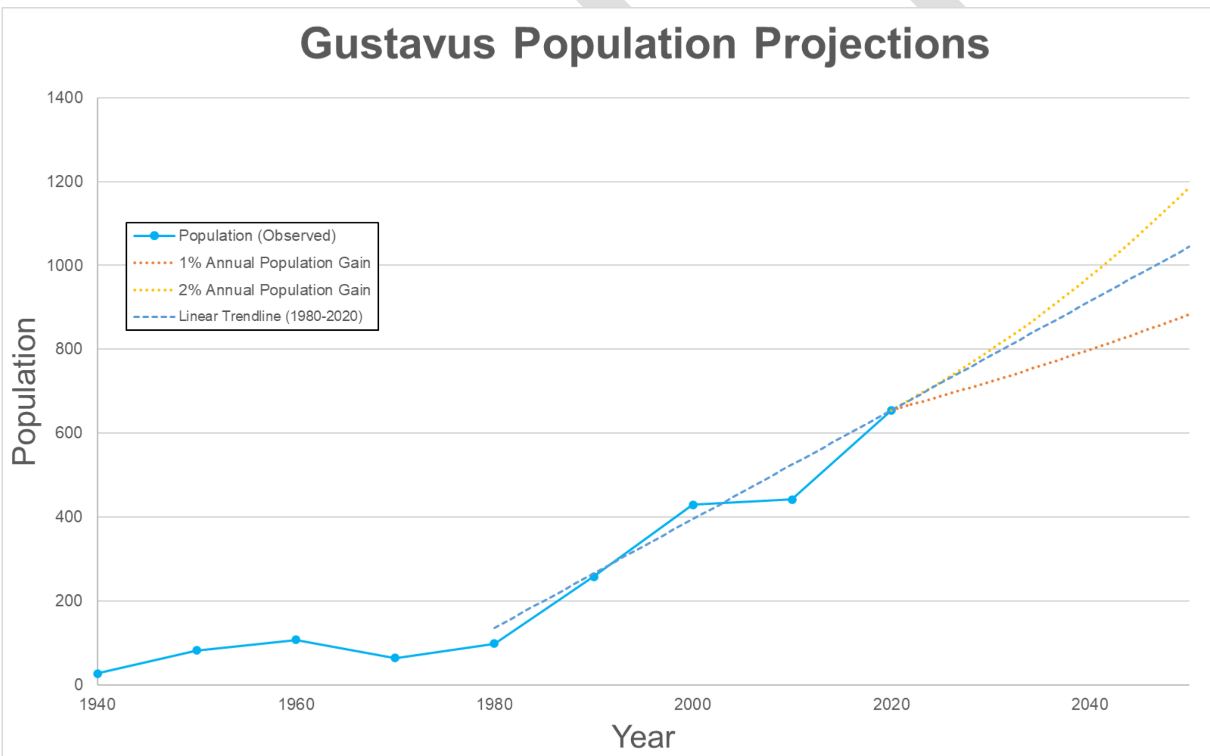


Figure 3. Future population projection in Gustavus, Alaska

1.3.1 Tourist and Transient Population Estimates

In addition to year-round residents, Gustavus sees an increase in population in the summer to match the increase of tourist traffic. The population is estimated to approximately triple in size during the tourism season.

1.3.2 Septic Tank and Septage Quantity Estimates

As septic pumping is not performed on an individual basis, but rather a per household basis, number of households is likely a better estimate of total volume of wastewater flow. The 2020 Census showed 302 total households in Gustavus. This number includes housing that is served by the Bartlett Cove Wastewater Treatment facility and would not need septic pumping services. A report from John Barry, PE, estimated 188 households that need septic pumping services (Neval Engineering 2023). This equates to approximately 3.5 total residents per septic tank. While some households are not served by septic systems, there are commercial properties that are not included in this count. For the purposes of this analysis, it is assumed that the present number of septic tanks that need to be pumped in Gustavus is approximately 200. This equates to one septic tank for every 3.3 people

The Septage Holding Tank Facility at the DRC is sized to accommodate approximately 50 septic tanks pumped per year over each summer. This results in each tank being emptied every four years. The Environmental Protection Agency (EPA) generally recommends septic tanks get pumped every 3 to 5 years (EPA 2002). Four years falls in line with industry standards of pumping frequency, while more frequent pumping could be recommended in the future depending on the condition of the tanks and sludge volume.

1.3.2.1 Septage Pumping Volume Estimates

The records of the 2023 septic tank pumping showed an average volume pumped per tank of 1,100 gallons per tank. If the number of total septic tanks per person stays consistent through the 20-year planning period and the pumping frequency remains at every four years, an estimate of the total number of septic tanks pumped per year and the total volume of septage pumped is shown in Table 3.

Table 3. Gustavus, Alaska, Septage Volume Estimates

Year	Population Estimate	Number of Septic Tanks (Estimate)	Number of Tanks Pumped Per Year[1]	Gallons per year pumped (Estimate)
2020	655	200	50	55,000
2025	720	220	55	60,400
2030	785	240	60	65,900
2035	850	259	65	71,300
2040	915	279	70	76,800
2045	980	299	75	82,200

[1] Assume each tank is pumped once every 4 years.

1.3.2.2 Septage Solids Estimate

Septage consists of, on average, 2 percent solids and 98 percent liquid. Table 4 shows estimates of the total dry weight, in tons, of the septage solids. These values assume that all liquid is removed from the septage.

Table 4. Gustavus, Alaska, Dry Solids Estimates

Year	Gallons per year pumped (Estimate)	Dry Weight of Septage Solids (tons)
2020	55,000	4.6
2025	60,400	5.1
2030	65,900	5.5
2035	71,300	6.0
2040	76,800	6.5
2045	82,200	6.9

1.4 Community Engagement

HDR Alaska, Inc. (HDR), engineers and a Village Safe Water (VSW) representative visited Gustavus on August 7th and 8th 2024, to meet with City officials and residents and to inspect the existing septage receiving facility, the landfill, and several other sites through Gustavus. A community meeting was held on August 7th about the septage disposal topic. The meeting was attended by several community members and council members. HDR described the PER process to the council and those present at the meeting and then described the current progress and the problem this PER will address. Several questions were answered regarding the project timeline, potential pitfalls, and some high-level theoretical possibilities for alternatives. Suggestions and inputs from the community were also received including aeration of the waste and per- and polyfluoroalkyl substances (PFAS) concerns.

2. EXISTING FACILITIES

To serve the needs of the community the City constructed a septage holding facility to facilitate the removal of septage from local septic tanks. In 2023, the facility was put into service at the DRC site. The facility consists of two buried 10,000-gallon fiberglass holding tanks with high water alarms and other controls. A septic pump truck pumps septage from local septic tanks and deposits it in the tanks. Periodically through the pumping season, generally June through September, a larger 4,500-gallon tanker trailer will utilize the AMHS ferry to transport the stored septage to Juneau for further processing. The ferry is only docked for 45 minutes, so the tanker trailer must quickly drive from the dock to the receiving facility, fill up and return before the ferry departs.

The receiving facility is very new and in good condition.

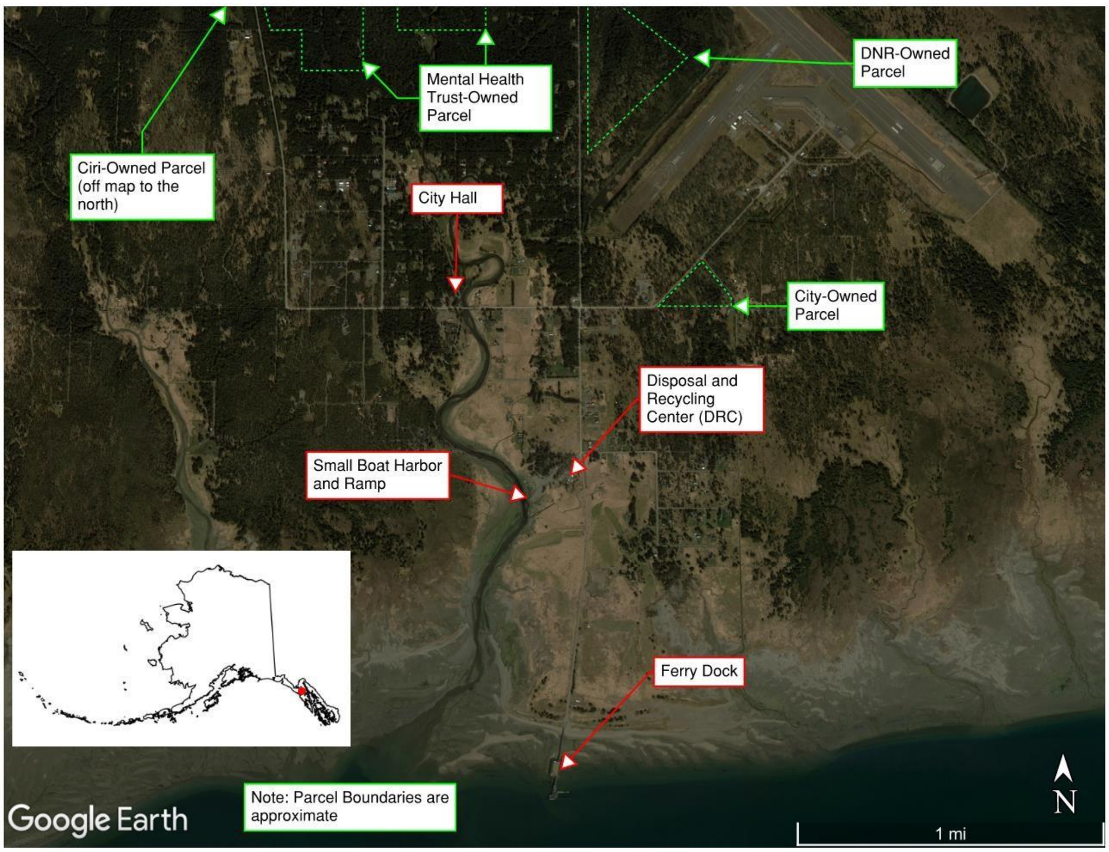


Figure 4. Location of infrastructure in Gustavus, Alaska and the parcels visited

2.1 Community History

The Gustavus area is the ancestral homeland of the Huna Tlingit people. The community as it exists today began as a homesteaded area in the 1910s. The homesteading process paused in 1939 with the enlargement of the Glacier Bay Monument to encompass all public land around Gustavus. During World War II, the airport and many other infrastructure facilities were constructed. After the war, with extensive effort from the local community, land was opened again for homesteading. With the growing popularity of Glacier Bay National Park and Preserve, the community has grown steadily since 1980.

Due to the dispersed development of the community, no centralized water distribution or wastewater collection systems exist. Buildings are served by groundwater wells for water and septic tanks and drainfields or composting toilets for wastewater.

2.1.1 Septage Disposal

Septage disposal in Southeast Alaska is notoriously difficult due to the small volumes and limited disposal methods. Starting 2011 after the establishment of ferry service to Gustavus in 2010, septic pumping service providers would load pump trucks on the ferry, pump several tanks, and return to Juneau. Due to the ferry schedule, this process would keep the trucks in Gustavus for much longer than necessary. This process was both very time intensive and kept the trucks away from the high volumes of septic pumping in Juneau. This process was not economically feasible in the long term.

To address the timing issue, the septage holding tank facility was constructed as referenced above.

2.1.2 Landfill Permit

The DRC is authorized to receive waste as a Class III Community Landfill under State of Alaska Solid Waste Permit Number SW3A017-25. The permit is effective through September 1, 2025. The permit does not currently allow the disposal of sewage solids.

2.2 Condition of Existing Facilities

2.2.1 Septage Holding Facility

The septage holding facility is very new and is in good condition. It is serviced by a gravel road. At the time of the site visit, one tank was found completely full and one partially full of the prior year's septic tank pumping. There were several open bung holes; however no odor was present from the tanks. Several pump hoses were also found to be left on site.

Figure 5. Location of the septage holding tanks

Figure 6. Caps of one of the septage holding tanks

2.2.2 PFAS Issues

Groundwater wells serve the residences and commercial properties in Gustavus. Well testing has shown extensive contamination of PFAS and other “forever chemicals.” The observed levels of these chemicals are in excess of current PFAS drinking water regulations and solutions are being formulated to provide clean drinking water to Gustavus. While there are no current regulations in relation to PFAS in wastewater, sludge, or sewage solids, there is a high probability of future regulatory action.

Due to PFAS in the groundwater wells, it is an almost certainty that PFAS is present in the pumped septage. Due to the presence of PFAS, when Gustavus’ septage is treated in Juneau, the resultant solids are shipped to a facility in the Lower 48 for disposal in a lined facility to limit environmental contamination.

As there are no current regulations pertaining to PFAS in solid waste, it would be premature to select alternatives solely upon their treatment or handing of contaminated sludge. Though provisions should be made in any selected alternative to allow for future installation of PFAS treatment systems or components that would reduce contamination of the environment from PFAS.

2.3 Financial Status of Existing Facilities

There is currently no cost to the City for the operation of the septage holding facility. Individual homeowners and businesses are invoiced separately by the septic services company. It is estimated that the bill for a septic tank pump is approximately $1,000. This includes the cost of depositing the septage in Juneau.

2.4 Water/Energy/Waste Audits

HDR is not aware of any water, energy, or waste audits, and none were obtained for this project.

3. NEED FOR THE PROJECT

3.1 Health, Sanitation, and Security

The primary need for this project is the health and sanitation of the community and environment. The current system requires the intervention of outside contractors and is reliant on the AMHS. Should the septic tanks at home not be able to be pumped, there is a risk of damage to the sub surface drainfields and possible overflow of septage onto the ground. Finding an effective and sustainable solution to septage management will greatly improve the area's health and sanitation.

Due to the unique aspects of this project and the functionality of the current system, there is not an applicable Indian Health Service deficiency level.

3.2 Aging Infrastructure

The current septage receiving infrastructure is quite new and in good condition. Aging infrastructure is not a driving factor for this project.

3.3 Reasonable Growth

The population of Gustavus has been trending upwards for the past 40 plus years. With the expansion of tourism in the area, it is expected that those trends will continue. This increase in population will only exasperate the sludge handling issues as the volume of sludge will increase. In town treatment and disposal of sewage sludge will reduce the cost and technical burden on the City as the population increases.

4. ALTERNATIVES CONSIDERED

HDR developed four alternatives (plus a No Action Alternative) for addressing the issues found with septage treatment and disposal in Gustavus. Alternatives were split into two categories: stabilization and treatment, and disposal. The goal of this PER is to select the preferred alternative with one method of stabilization and treatment of septage and one method for disposal. After consideration, the alternative relating to composting, while initially included in alternatives related to stabilization and treatment, was moved to Category 2. These alternatives are:

Category 1: Stabilization and Treatment of Septage

- Alternative 1A: Mechanical Dewatering
- Alternative 1B: Passive Dewatering
- Alternative 1C: Aerobic Digestion
- Alternative 1D: Reed Bed Drying
- Alternative 1E: No Action

Category 2: Septage Disposal

- Alternative 2A: Incineration
- Alternative 2B: Monofill
- Alternative 2C: Ship to Juneau
- Alternative 2D: Land Application
- Alternative 2E: Composting
- Alternative 2F: No Action

4.1.1 Alternative 2D – Land Application

Alternative 2D would involve disposing of dewatered, treated sludge by land application at a vacant site within the Gustavus Vicinity.

Land application of treated sludge requires that the sludge be treated to significantly reduce pathogens to create a classified biosolids product. Biosolids land application is governed by the EPA guidelines under 40 CFR Part 503. Class A and Class B biosolids are both able to be disposed by land application.

Class A biosolids have been treated to reduce pathogens to undetectable levels. Of the treatment alternatives proposed above, composting or reed bed drying would result in Class A biosolids. Class B biosolids are treated to significantly reduce pathogens; however, there still may be some detectable levels of pathogens. Of the treatment alternatives proposed above, aerobic digestion would result in Class B biosolids. Solids that are simply dewatered would not be eligible for land application.

While treatment of sewage sludge to a classified biosolids product will reduce or eliminate pathogens, none of the commercially available processes for sludge treatment eliminate PFAS contamination.

While PFAS will likely be expelled in the dewatering process, the treated sludge solids will continue to be contaminated with PFAS. The concentration of PFAS is unknown.

Any land application of sludge from Gustavus in the vicinity of groundwater wells or residents is not recommended. The application of biosolids will reintroduce PFAS into the environment and provide another avenue for contamination.

During the site visit, several properties were identified as locations for possible land application. Many of the unused properties are near residences and businesses to they would not be recommended for land application. On property near the National Park border on CIRI-owned land was visited. However, the area had high ground water, with water near ground level. Due to the high groundwater, PFAS contamination would likely seep into the groundwater at that location.

Due to the desire to not return PFAS back into the environment and the groundwater, land application is not a suitable alternative for disposal of biosolids from Gustavus and will not be further evaluated.

5. SEPTAGE STABILIZATION AND TREATMENT ALTERNATIVES

As stated in Sections 2 and 3, the existing wastewater management infrastructure in the City is not adequate to support its current and future populations. The following section presents alternatives that address the improvement of the existing wastewater treatment system and present plans for continuing maintenance of the system to adequately serve the community for years to come. These sections discuss how each solution works within the regulatory framework of the Alaska Department of Environmental Conservation (ADEC) and EPA.

5.1 General Design Criteria

The design criteria for wastewater flow for a 20-year period are presented in Table 5. These projected flows are applicable to the alternatives presented in the following sections. These flows assume the upper range estimate of population and estimates of the summer transient resident and tourist populations as presented in Section 1.3.

Table 5. Gustavus Wastewater Treatment Improvements Design Criteria

Criteria	Value	Unit
Design Period	20	Years
Year 2045 Resident Population	980	People
Year 2045 Septic Tanks	299	Tanks
Year 2045 Tanks Pumped Per Year	75	Tanks
Year 2045 Estimated Septage Pumped	82,200	Gallons
Year 2045 Estimated Septage Pumped with Accepting Sludge from other Communities[1]	95,800	Gallons
Year 2045 Estimated Dry Weight of Solids	6.9	Tons
Year 2045 Estimated Dry Weight of Solids with Accepting Sludge from other Communities	8.1	Tons

[1] An additional 50% of the communities projected growth is added to account for sludge delivered from other communities via the AMHS

5.1.1 Operator Certification Levels

As dewatering or septage receiving facilities do not involve significant wastewater treatment, it is unlikely a wastewater operator certification is required. However, it is desirable to have a certified operator to oversee the process. This operator would need to obtain a Level 1 certification.

5.2 Cost Estimates

All cost estimates in this PER are HDR's opinions of probable project cost and are considered approximately equivalent to Level 4 estimates as defined by the Association for the Advancement of Cost Engineering (AACE) International. These estimates represent the engineer's professional judgement based on the information available at the time of writing this PER and are based generally on process flow diagrams, major construction activities, and major equipment quotes. Per AACE guidelines, these estimates have an estimated accuracy of -15 to -30 percent and +20 to +50 percent on the low and high sides of total cost, respectively. To reflect this range of estimated accuracy and to account for cost complexities associated with remote work, a 30 percent contingency is added to the opinion of probable cost for each alternative. The 30 percent contingency also accounts for the recent market volatility and inflation and the resulting unpredictability of material and labor costs, especially for remote Alaska projects.

The American Iron and Steel Act (AIS) and Buy America Build America Act (BABAA) are applicable to this project. The cost estimates in this PER address AIS and BABAA with a 20 percent factor on applicable iron and steel components and 10 percent on other components. The costs borne by a construction contractor to administer AIS are accounted for with a line item that would cover the labor of an additional employee to handle the documentation.

5.3 Alternative 1A – Mechanical Dewatering

Alternative 1A would install a mechanical dewatering facility, likely located at the DRC. The existing septage receiving tanks would serve as the receiving station and flow equalization. Septage would be lime stabilized in the receiving tank in batches prior to dewatering. Septage would then be pumped into a mechanical dewatering process such as a screw press or belt filter press. Polymer would be added to enhance the dewatering process. Leachate from the dewatering process would be disposed of in a subsurface drainfield on site. Due to the high solids percentage, the dewatered septage, now sludge, could be disposed of by any number of methods discussed in Category 2.

The indoor facility would contain the lime and polymer feed systems and mechanic dewatering process with an indoor vehicle bay for a City-owned pumper truck or trailer to service the septic tanks.

5.3.1 Description

Mechanical dewatering is a common way for industries, including wastewater treatment, food processing, and paper production, to separate solids from liquids. In wastewater treatment, this process helps achieve several potential goals, including

- Reducing the volume, thus reducing storage and transportation costs,
- Eliminating free liquids before landfill disposal,
- Reducing fuel requirements if residuals are to be incinerated or dried,
- Producing a material which will have sufficient void space and volatile solids for composting when blended with a bulking agent,
- Avoiding the potential of biosolids pooling and runoff associated with liquid land application, and
- Optimizing subsequent processes such as thermal drying.

Three types of mechanical dewatering that would apply well to the scale of processing required in Gustavus are the use of a screw press, belt filter press, or centrifuge.

5.3.1.1 Screw Press

A screw press is a type of machine that uses a screw mechanism to exert pressure on a material, forcing liquid out and leaving behind a drier solid product. As the screw rotates, it pushes the material forward, while allowing water to escape through its perforated casing. As the sludge moves through the press, the pressure gradually increases, leaving the operator with the desired dewatered product. The liquid can be further filtered as it exits the apparatus.

Screw presses can come as either single-screw or twin-screw presses, with the former being simpler to design and operate, and the latter being more efficient and able to produce higher pressures, allowing for more effective dewatering. Figure 7 below shows the screw press schematic.

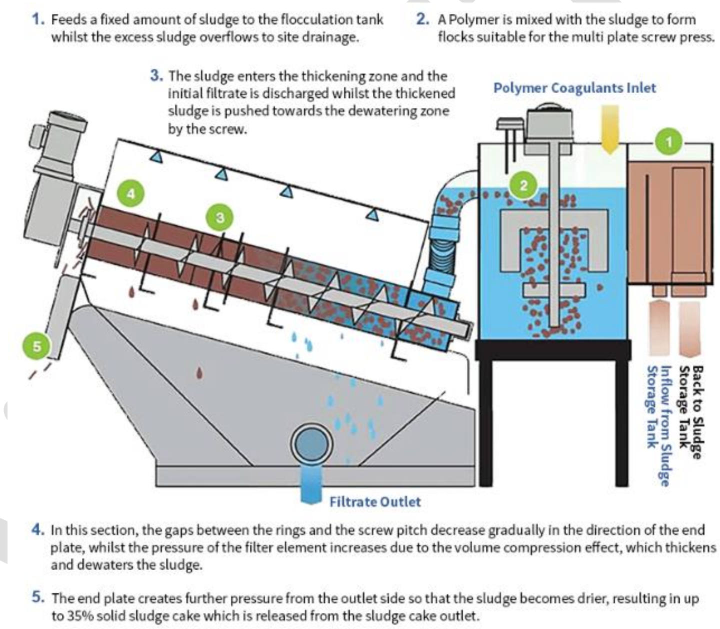
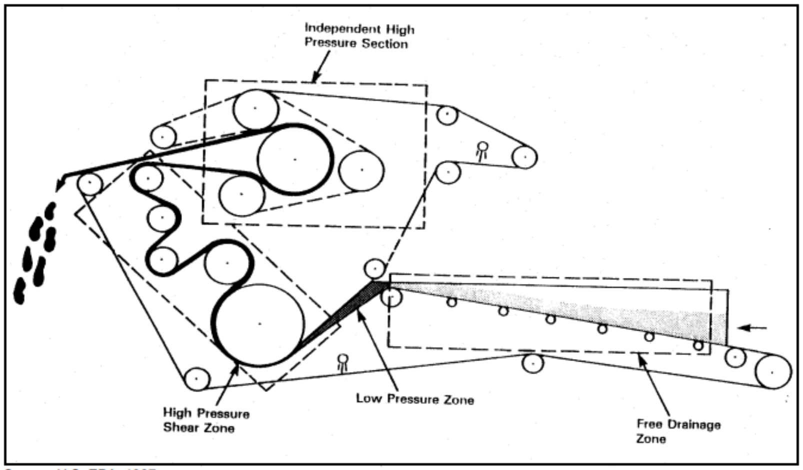


Figure 7. Screw press process (screwpressdewatering.com)

5.3.1.2 Belt filter press

A belt filter dewaters by applying pressure to the biosolids to squeeze out the water. Biosolids sandwiched between two tensioned porous belts are passed over and under rollers of various diameters. Increased pressure is created as the belt passes over rollers which decrease in diameter. Many designs of belt filtration processes are available, but all incorporate the following basic features: polymer conditioning zone, gravity drainage zones, low-pressure squeezing zone, and high-pressure squeezing zones. Advanced designs provide a large filtration area, additional rollers, and variable belt speeds that can increase cake solids by five percent. The general mechanical components of a belt filter press include dewatering belts, rollers and bearings, belt tracking and tensioning system, controls and drives, and a belt washing system. Figure 8 below depicts a typical belt filter press.



Source: U.S. EPA, 1987.

Figure 8. Belt Filter Press Schematic (EPA 2000)

5.3.1.3 Centrifuge

Centrifuges use the principle of centripetal acceleration to separate liquids from solids. In wastewater treatment, this means loading septage into the drum of a centrifuge and rotating it quickly, causing the denser solids to be pushed to the perimeter of the container, separating them from the less dense water. Then this dewatered sludge can be scraped off the inside, while sending the water to the next stage of treatment.

Centrifuges require more energy and maintenance than the previous two above-discussed methods of mechanical dewatering. While modern centrifuge designs use technology such as variable frequency drives to tune the rotational speed to the process demands, spinning a drum containing septage at high rotations per minute (RPMs) requires significant energy input. There are also many crucial mechanical components in a centrifuge, such as bearings, seals, and conveyors. The bowl of the machine also must be cleaned regularly and checked for imbalances, as sediment accumulation can have extreme impacts on the performance of the machine.

5.3.1.4 Dewatering Mechanism Selection

Selection of a mechanism for this alternative should be based on its ability to operate intermittently over the course of the year with relatively low operational costs. Based on discussions with several mechanical dewatering equipment manufacturers, a screw press is best suited for the applications that would be present in Gustavus. Belt filter presses are best operated continuously, and centrifuges have higher energy and maintenance costs. For this PER, a screw press is the recommended method of mechanical dewatering. This conclusion should be verified during the design study report, should this alternative be selected.

Site Plan

The existing holding tanks will serve as an equalization system, where the pumped septage will be dropped off. The septage will then be pumped into the screw press by a submersible pump. The screw press would deposit dewatered solids into a specialty sludge dumpster. A polymer feed system would meter coagulant into the stream to aid dewatering. The screw press, polymer feed system, and sludge dumpster would be located in a 1,200 square foot (SF) building located as shown in Figure 9.

As one dumpster is filled, it could be trailered away for disposal and the spare sludge dumpster, stored outside the building, would be placed in the building to receive dewatered solids.

Leachate from the screw press would flow into an approximately 4,000 SF sub-surface drainfield. Depending on design and elevations, leachate may need to be pumped.

A lime stabilization system would also be located in the building if necessary for the system.

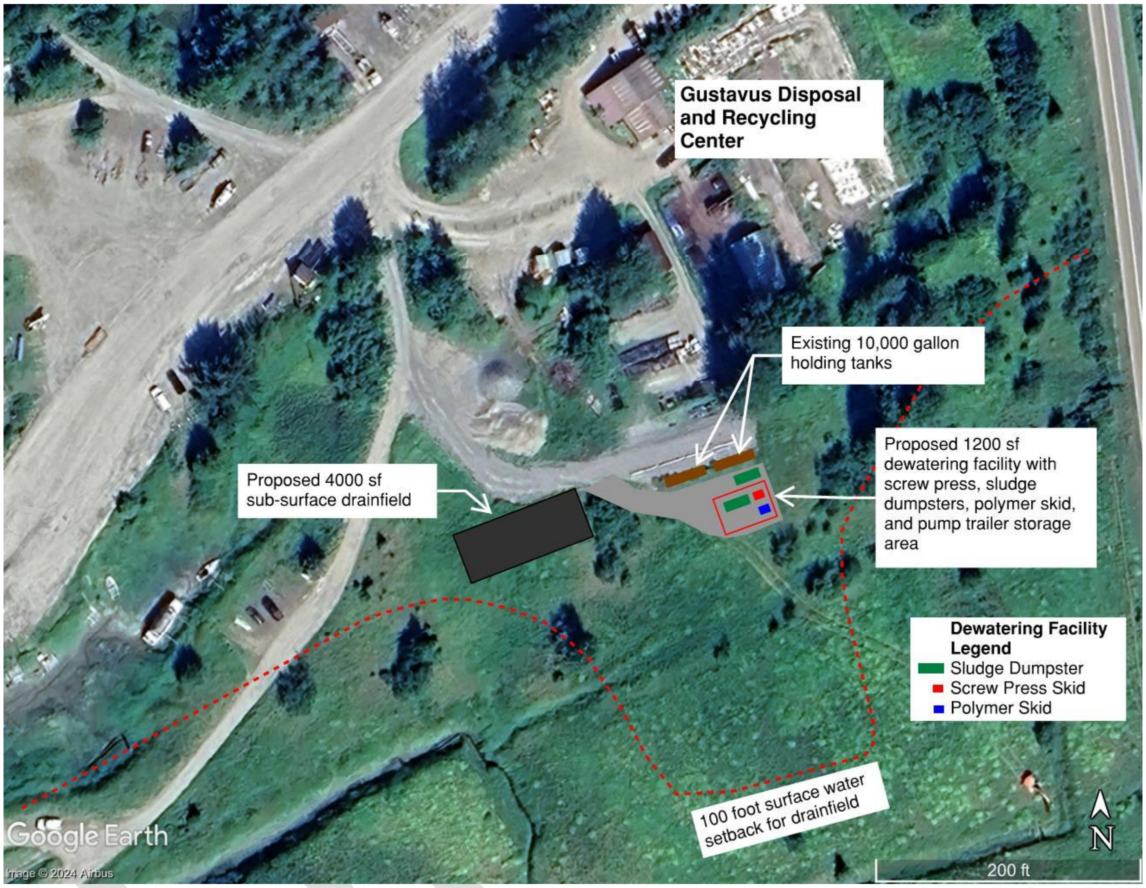


Figure 9. Alternative 1A site layout

5.3.2 Design Criteria

Based on the design criteria shown in Table 5, it is estimated that a dewatering facility will need to process approximately 82,200 gallons of septage from Gustavus by the end of the planning period, or up to 95,800 gallons of septage should the facility accept waste from other communities.

5.3.2.1 Screw Press Sizing

The characteristics of the sludge being processed impacts the performance of the screw press, so proposed configurations are likely to change, even batch to batch at the Gustavus facility. For design of a screw press, the most important factors are the size and pitch of the screw, and the geometry of the screen. During the design septage samples should be sent to the screw press manufacturer so that these factors can be determined.

Based on preliminary information, FKC Screw Press, who has recently provided a screw press to Skagway, Alaska provided flow rate information for several sizes of screw presses. A 250 millimeter (mm) screw press can process approximately 4.6 gallons per minute (gpm) of septage at 2 percent solids. The manufacturer states that the screw press will produce a cake of around 40 percent total solids and utilize between 10 to 15 pounds of polymer per dry ton of septage processed.

Table 6 below shows, for several different scenarios, the amount of processing time required to dewater one years' worth of pumped septage. The screw press does not require constant supervision, though an operator should be nearby to occasionally monitor the process.

Table 6. Screw Press Processing Volumes

Scenario	Gallons Treated	Hours to Process	Processing Days (8-hour assumed)	Polymer Required (lbs)	Volume for Disposal at 40% solids
2025	60,400	220	27	76	3,000 Gal 15 cubic yards
2045	82,200	298	37	105	4,100 Gal 21 cubic yards
2045 with waste from other communities	95,800	348	44	120	4,800 Gal 24 cubic yards

5.3.2.2 Drainfield

To dispose of the leachate, a mounded subsurface drainfield must be sized to accept the volume of liquid removed by the dewatering process. Based on a reduction in water volume from 2 percent solids to 40 percent solids at a rate of 4.6 gpm, the screw press will produce approximately 4.4 gpm, or around 2,090 gallons per day, of leachate for disposal. A drainfield should be sized to accommodate at least 3,135 gallons per day to account for a 50 percent safety factor.

Factors such as soil permeability and depth of groundwater will affect the size of the design. Based on discussions with engineer John Barry, the soil has good permeability in the area with groundwater at 5.5 to 6 feet of depth below the ground surface. Assuming a percolation rate of between 1 to 5 minutes per inch and a bed type design, the drainfield would need to be around 4,000 square feet. The construction of the drainfield is anticipated to be as follows:

1) Remove the organic layer (estimated to be around 6-inches thick
2) Place 6 inches of septic drain rock
3) Place drainpipe in a bed configuration, covered in more septic drain rock and a soil barrier
4) Place three feet of soil above the bed with 3:1 slopes down to the original grade.

The exact size and location of the drainfield would be determined during design.

5.3.2.3 Septic Pumping Trailer

Part of this, and several other alternatives, is the purchase of a septic pumping trailer. A 1,250-gallon pumping trailer would be sufficient to empty most septic tanks while still being manageable to tow with a pickup truck. This trailer could be stored in the building at the dewatering facility while not in use to protect it from the elements.

5.3.3 Environmental Impacts

5.3.3.1 Floodplains

Not applicable.

5.3.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

5.3.3.3 Wildlife

Not applicable. This alternative would operate within existing developed areas of Gustavus, so no additional disruption would occur beyond construction noise. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

5.3.3.4 Geotechnical Exploration

Geotechnical work will be necessary to during the construction of the building and for test holes to determine size and location of the drainfield.

5.3.3.5 Other Resources

Not applicable

5.3.4 Land Requirements

No additional land requirements, as this alternative would involve construction on land already within the boundaries of the DRC. The land required to construct Alternative 1A is shown in Figure 9.

5.3.5 Potential Construction Problems

Construction in Gustavus is a challenge, as most material will need to be shipped in.

The project will be subject to AIS requirements. Long lead times for AIS-compliant materials, supplies, and components should be anticipated when developing project schedules. Equipment and materials should be procured well in advance of construction such that construction is not unnecessarily delayed by the supply chain.

5.3.6 Sustainability Considerations

5.3.6.1 Water and Energy Efficiency

Additional energy would be required to operate a sludge dewatering system. However, significantly less energy would be required to dispose of the dewatered solids, as the volume transported would be less.

5.3.6.2 Green Infrastructure

Not applicable.

5.3.6.3 Other

Not applicable.

5.3.7 Cost Estimates

The capital cost estimates for Alternative 1A are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 1A are provided in Table 7. The capital cost estimates in Table 8 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 7. Alternative 1A Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$45,000	$45,000
Treatment Building	1,200	SF	$500	$600,000
Septage Pumping System	1	LS	$50,000	$50,000
Screw Press	1	EA	$100,000	$100,000
Driveway	1,000	SF	$50	$50,000
Polymer System	1	EA	$50,000	$50,000
Drainfield construction	4,000	SF	$30	$120,000
Dumpster for Disposal	4	EA	$15,000	$60,000
			Construction Subtotal	**$1,475,000**
			Mob/Demob/Construction Logistics (10%)	$147,500
			Construction Contingency (30%)	$442,500
			Total Construction	**$2,065,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$247,800
			Construction and Professional Services	**$2,362,800**
			VSW Project Management (8%)	$189,024
			Project Total	**$2,551,824**

Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; SF = square feet; VSW = Village Safe Water.

Table 8. Alternative 1A Capital Cost Estimates with AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$49,500	$49,500
Treatment Building	1200	SF	$600	$720,000
Septage Pumping System	1	LS	$55,000	$55,000
Screw Press	1	EA	$495,000	$495,000
Driveway	1000	SF	$50	$50,000
Polymer System	1	EA	$55,000	$55,000
Drainfield construction	4000	SF	$33	$132,000

Dumpster for Disosal	4	EA	$18,000	$72,000
Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; SF = square feet; VSW = Village Safe Water.			**Construction Subtotal**	**$1,628,500**
			Mob/Demob/Construction Logistics (10%)	$162,850
			AIS/BABA Administration	$75,000
			Construction Contingency (30%)	$488,550
			Total Construction	**$2,354,900**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$282,588
			Construction and Professional Services	**$2,687,488**
			VSW Project Management (8%)	$214,999
			Project Total	**$2,902,487**

Estimated operating expenses associated with Alternative 1A are shown in Table 9. Operating expenses consider power costs to operate the screw press and polymer system, polymer costs, costs to heat the building, and labor to operate the system. These costs would be distributed among the number of tanks pumped per year. Disposal costs would be accounted for in another alternative. These combined would determine the total cost to pump a septic tank.

Based on records of septage hauling, approximately 8 tanks can be pumped per day. For 2025 estimates, estimating that there is some extra time to pump with a trailer rather than a truck, 55 septic tanks could be pumped in eight 8-hour workdays. It is assumed that dewatering would occur during this time, with additional, non-pumping days required to complete the dewatering. Non-pumping dewatering days were assumed to be 4 hours of work per day to start up, shut down, and monitor the equipment.

Table 9. Alternative 1A Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Labor Costs	140	Hour	$50	$7,000
Power Costs	700	Kilowatt Hour	$0.45	$315
Building Heat	150	Gallon	$5.50	$825
Polymer and Chemical Costs	1	Lump Sum	$300	$300
Total Annual Expenses				$8,440
			Tanks Pumped	55
			Expense per tank pumped	$153.45

5.4 Alternative 1B – Passive Dewatering

Alternative 1B would include the purchase of a septage pumper truck or trailer and a passive dewatering system, likely located at the DRC. Similar to Alternative 1A, septage would be pumped into one of the existing septage receiving tanks for equalization and lime stabilization, if needed for disposal. The septage would then be pumped into a passive dewatering process. Passive dewatering options could include geobags, a containerized dewatering unit, or other method. As with mechanical dewatering, passive dewatering will also include polymer addition to enhance dewatering.

Like Alternative 1A, leachate water would be disposed of in a drainfield at the DRC and dewatered sludge disposed of by an alternative selected in Category 2. This alternative would likely require an indoor facility to contain the lime feed and polymer feed systems with a vehicle bay for a City-owned pumper truck or trailer.

5.4.1 Description

Passive dewatering uses the force of gravity to separate solids from liquids. In wastewater treatment, this is to accomplish the goal of isolating solids, or drier, "cakier" sludge for further treatment or disposal. These processes generally use less energy and operational attention than the methods discussed in Alternative 1A, but often deliver solids with a higher liquid content. Depending on the method of septage disposal, a higher liquid content in the dewatered sludge might not be an issue. For example, if incineration were the disposal method, passive dewatering would not be a recommended dewatering method, as the solids would take much more energy to burn because of the need for initial burning-off of the excess liquid. However, in a reed bed or vertical flow constructed wetlands, a higher liquid content wouldn't be very detrimental.

5.4.1.1 Geotextile Bags

Geotextile bags (Geobags) are large bags that act as filters, allowing leachate water to permeate through the fabric, while containing solids for further treatment of disposal. Lime-stabilized and polymer-treated waste is pumped or dumped into the bags. Then, gravity pulls the water through the membrane while solids settle to the bottom. For faster processing, sludge can be continually pumped into bigger bags, as the pump adds extra pressure to force water out faster. The leachate water is collected and disposed of in a drainfield, and the bags are then carried off for disposal.

Figure 10. Pumped (left) and gravity-fed (right) geotextile bags.

5.4.1.2 Containerized Dewatering Unit

A containerized dewatering unit is a Connex-like dewatering system that works similarly to a geotextile bag, with the advantage of being housed in its own structure. The box is usually a 20- or 40-foot unit with a removable top and/or openable end for easy unloading of waste material. The septage would be pumped from the holding tanks into the dewatering container where gravity would settle the solids on the bottom and pull the water out through permeable screens on the sides, shown below in Figure 11. The liquid leachate can then flow into the drainfield, and the solids can be removed from the bottom of the box for further treatment or disposal.

Figure 11. Dewatering Container Schematic and Exterior

5.4.1.3 Passive Dewatering System Type Selection

While geobags are an inexpensive and low maintenance system, they are difficult to dispose of once they have been filled. As it is anticipated that the dewatered sludge will need to be moved, either shipped out of town, or to another site for disposal, a containerized system will allow the sludge to be easily trailered. It is recommended that a containerized system be specified for this alternative

Site Plan

The existing holding tanks will serve as an equalization system, where the pumped septage will be dropped off. The septage will then be transferred into a containerized system by a submersible pump at a rate that does not overwhelm the dewatering container or the drainfield. Two dewatering containers would be located under a covered, fenced area with one in use at any time. A polymer feed system will be located in an equipment shed.

As one container fills with solids, it could be trailered away for disposal and the other container would be connected to the drainfield and submersible pump and be put into service. Should the need arise, septage could be pumped directly from the pump trailer and into the containers as well, so long as the capacity of the dewatering container or drainfield is not exceeded.

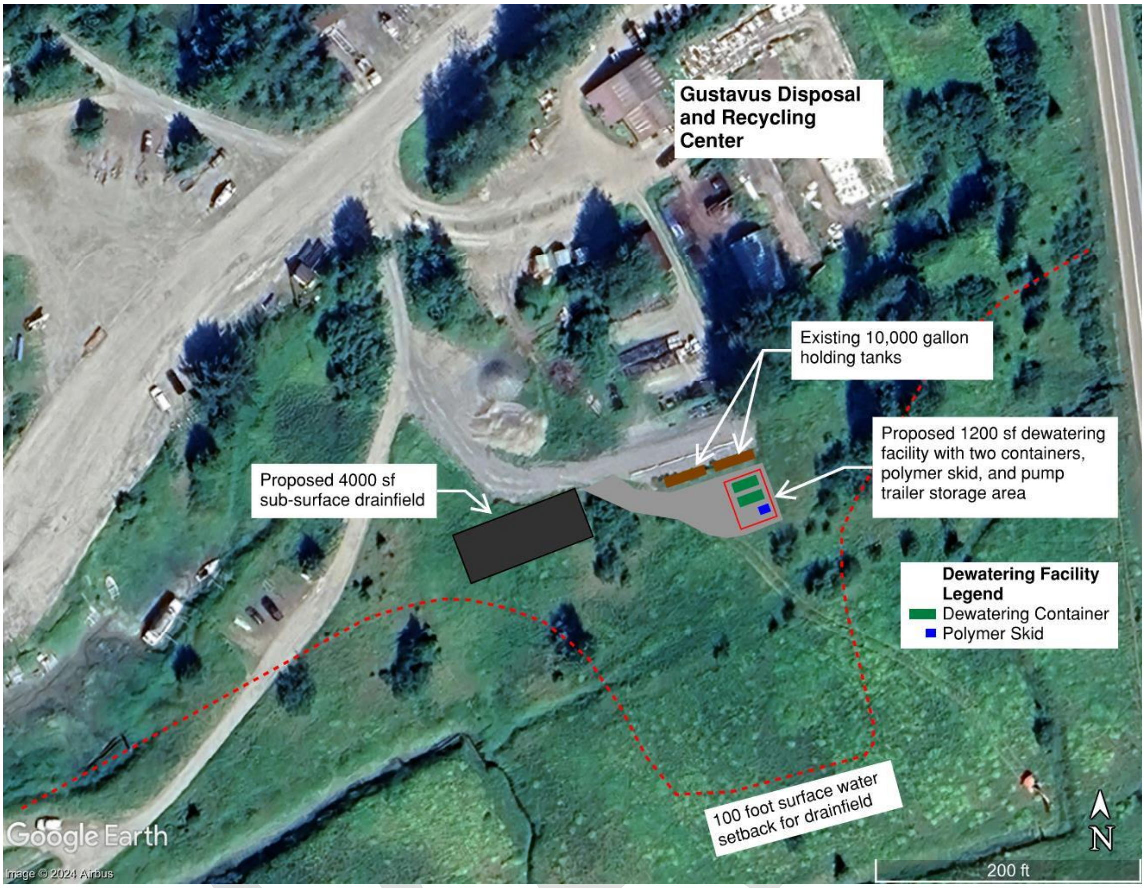


Figure 12. Alternative 1B site layout

5.4.2 Design Criteria

Based on the design criteria shown in Table 5, it is estimated that a dewatering facility will need to process approximately 82,200 gallons of septage from Gustavus by the end of the planning period, or up to 95,800 gallons of septage should the facility accept waste from other communities.

5.4.2.1 Dewatering Container Sizing

Like the screw press, the characteristics of the sludge being processed impacts the performance of the passive dewatering process, so proposed configurations could change during design.

Based on preliminary information provided by NewTech Environmental, which produces containerized dewatering facility, a single dewatering box can process up to 30,000 gallons at 1.5 percent solids (1.8 dry tons) and produce approximately 3,000 gallons of dewatered sludge at 15 percent solids.

Table 10 below shows, for several different scenarios, the volume of dewatered septage and an estimate for the polymer required to dewater on years' worth of pumped septage. The number of dewatering loads assume that each load carries approximately 1.8 dry tons of material, or 2,100 gallons at 15 percent solids. It is likely that more time in the dewatering container would produce higher solids percentage and could decrease the number of loads required.

Purchase of two dewatering containers would allow for continuous dewatering while the waste in one container is being disposed of or if one is undergoing maintenance.

Table 10. Gravity Dewatering Processing

Scenario	Gallons Pumped (2% solids)	Dry Tons of Solids	Polymer Required (lbs)	Volume at 15% solids	Dewatering Container Loads (1.8 dry tons each)
2025	60,400	5.1	76	6,000 Gal 30 cubic yards	3
2045	82,200	6.9	105	8,200 Gal 41 cubic yards	4
2045 with waste from other communities	95,800	8.1	120	9,600 Gal 48 cubic yards	5

5.4.2.2 Drainfield

To dispose of the leachate, a subsurface drainfield must be sized to accept the volume of liquid removed by the dewatering process. Should an entire day's worth of pumped septage (approximately eight 1,000-gallon tanks) be dewatered in one day, this would produce approximately 7,000 gallons of leachate that must be absorbed by the subsurface drainfield. This would require a very large drainfield. To alleviate this, the existing holding tanks will be used as equalization and the septage would be metered into the dewatering containers at a rate consistent with what is able to be absorbed by the drainfield.

Based on the drainfield sizing from Alternative 1A, a 4,000 square foot bed-style drainfield would not be unmanageably large, but still able to accommodate up to 3,135 gallons per day if necessary. This would allow the treatment of around 3,500 gallons of pumped sludge per day. The construction of the drainfield would be similar to the drainfield proposed in Alternative 1A. The exact size and location of the drainfield would be determined during design.

5.4.2.3 Septic Pumping Trailer

Part of this, and several other alternatives, is the purchase of a septic pumping trailer. A 1,250-gallon pumping trailer would be sufficient to empty most septic tanks while still being manageable to tow with a pickup truck. This trailer could be stored under the cover where the dewatering containers are located while not in use to protect it from the elements.

5.4.3 Environmental Impacts

5.4.3.1 Floodplains

Not applicable.

5.4.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

5.4.3.3 Wildlife

Not applicable. This alternative would operate within existing developed areas of Gustavus, so no additional disruption would occur beyond construction noise. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

5.4.3.4 Geotechnical Exploration

Geotechnical work will be necessary to during the construction of the building and for test holes to determine size and location of the drainfield.

5.4.3.5 Other Resources

Not applicable.

5.4.4 Land Requirements

No additional land requirements, as this alternative would involve construction on land already within the boundaries of the DRC. The land required to construct Alternative 1B is shown in Figure 12.

5.4.5 Potential Construction Problems

Construction in Gustavus is a challenge, as most material would need to be shipped in.

The project will be subject to AIS requirements. Long lead times for AIS-compliant materials, supplies, and components should be anticipated when developing project schedules. Equipment and materials should be procured well in advance of construction such that construction is not unnecessarily delayed by the supply chain.

5.4.6 Sustainability Considerations

5.4.6.1 Water and Energy Efficiency

This alternative is more energy efficient than the similar Alternative 1A as the only energy requirement is the submersible pump in the holding tanks and the polymer feed system. The dewatering process does not require energy. Less energy would be required to ship the dewatered solids compared to the existing system and there would be significantly lower volume to transport.

5.4.6.2 Green Infrastructure

Not applicable.

5.4.6.3 Other

Not applicable.

5.4.7 Cost Estimates

The capital cost estimates for Alternative 1B are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 1B are shown in Table 11. Capital cost estimates in Table 12 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 11. Alternative 1B Capital Cost Estimates (in 2023 U.S. Dollars)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$45,000	$45,000
Treatment Building	1,200	SF	$500	$600,000
Septage Pumping System	1	LS	$50,000	$50,000
Dewatering Dumpsters	3	EA	$40,000	$120,000
Driveway	1,000	SF	$50	$50,000
Polymer System	1	EA	$50,000	$50,000
Drainfield construction	4,000	SF	$30	$120,000
			Construction Subtotal	**$1,050,000**
			Mob/Demob/Construction Logistics (10%)	$105,000
			Construction Contingency (30%)	$315,000
			Total Construction	**$1,470,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$176,400
			Construction and Professional Services	**$1,696,400**
			VSW Project Management (8%)	$135,712
			Project Total	**$1,832,112**

Note: Demob = demobilization; EA = each; LF = linear feet; Mob = mobilization; SF = square feet; VSW = Village Safe Water.

Table 12. Alternative 1B Capital Cost Estimates including AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$49,500	$49,500
Treatment Building	1,200	SF	$600	$720,000
Septage Pumping System	1	LS	$55,000	$55,000
Dewatering Dumpsters	3	EA	$48,000	$216,000
Driveway	1,000	SF	$50	$50,000
Polymer System	1	EA	$55,000	$55,000
Drainfield construction	4,000	SF	$33	$132,000
Note: AIS = American Iron and Steel Act; BABAA = Build America, Buy America Act; Demob = demobilization; EA = each; LF = linear feet; Mob = mobilization; VSW = Village Safe Water.			**Construction Subtotal**	**$1,277,500**
			Mob/Demob/Construction Logistics (10%)	$127,750
			AIS/BABAA Administration	$100,000
			Construction Contingency (30%)	$383,250
			Total Construction	**$1,888,500**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$226,620
			Construction and Professional Services	**$2,165,120**
			VSW Project Management (8%)	$173,210
			Project Total	**$2,338,330**

Estimated operating expenses associated with Alternative 1B are shown in Table 13. Operating expenses consider power costs to operate the and polymer system, polymer costs, and labor to operate the system. These costs would be distributed among the number of tanks pumped per year. Disposal costs would be accounted for in another alternative. These combined would determine the total cost to pump a septic tank.

Based on records of septage hauling, approximately 8 tanks can be pumped per day. For 2025 estimates, estimating that there is some extra time to pump with a trailer rather than a truck, 55 septic tanks could be pumped in eight 8-hour workdays. It is assumed that dewatering would occur during this time, with additional, non-pumping days required to complete the dewatering. Non-pumping dewatering days were assumed to be 2 hours of work per day to pump stored septage into the contain monitor the equipment.

Table 13. Alternative 1B Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Labor Costs	100	Hour	$50	$5,000
Power Costs	100	Kilowatt Hour	$0.45	$45
Building Heat	150	Gallon	$5.50	$825
Polymer and Chemical Costs	1	Lump Sum	$300	$300
Total Annual Expenses				$6,170
			Tanks Pumped	55
			Expense per tank pumped	$112.18

5.5 Alternative 1C – Aerobic Digestion and Dewatering

Alternative 1C would construct an aerobic digestion treatment plant to treat septage. The septage would be batch processed in a digester with bubble aerators to promote the activity of microbes which breaks down the septage and makes it dewater more efficiently and effectively. This process would use electric-powered blowers to provide oxygen into the digester. Digested sludge would then be dewatered using a screw press. Decant from the digester and leachate from dewatering would be disposed of in a subsurface drainfield near the facility.

5.5.1 Description

Aerobic digestion is the degradation of the organic sludge solids in the presence of oxygen. The oxygen is introduced as fine bubbles of air into the reactor. The micro-organisms in the sludge convert the organic material and oxygen to carbon dioxide and water, and the ammonia and amino species to nitrate.

These systems require aeration blowers to maintain dissolved oxygen levels in the equalization, aeration, and sludge tanks. The blowers are the most energy intensive component of the system and must remain in service at all times. A schematic of a single vessel aerobic digestor is shown in Figure 13.

Digestate liquid from the digester would be disposed of a sub-surface drainfield. The digested sludge would still need to be dewatered, but the digestion process already achieves a significant reduction in sludge volume and elimination of pathogens for a high-quality product. The aerobic digestive process however does reach temperatures that would eliminate PFAS from the waste stream. While the end product of the process would likely meet Class A biosolids requirements, PFAS contamination would likely eliminate the possibility of utilizing the biosolids in any sort of soil amendment or fertilizer context.

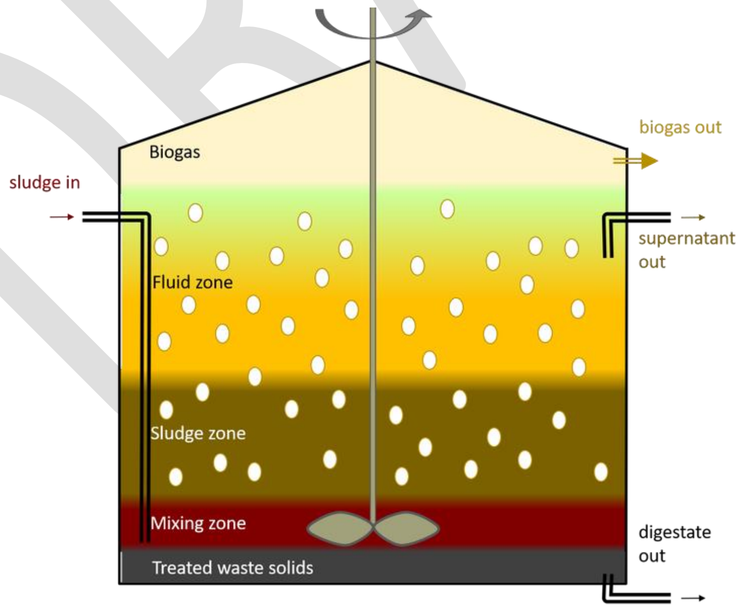


Figure 13. Aerobic Digestor Process Schematic

5.5.1.1 Site and Process Plan

In this alternative, the existing holding tanks would be used as an equalization basin for the incoming septage. Septage would then be dosed into the aerobic digestor. The sludge would then be digested into a high quality, slightly dewatered digestate. This digestate would be pumped into a screw press for further dewatering with the assistance of a polymer feed system. The aerobic digestion process makes the dewatering process much easier and more effective. Dewatered sludge would then be put into a dumpster for disposal. All these processes would be located in a building located near the existing holding tanks. The building would also contain space for storage of spare parts and a sewage pump trailer.

The digestate from the digestor and the leachate from the screw press would be disposed of in a subsurface drainfield. A site plan is shown in Figure 14.

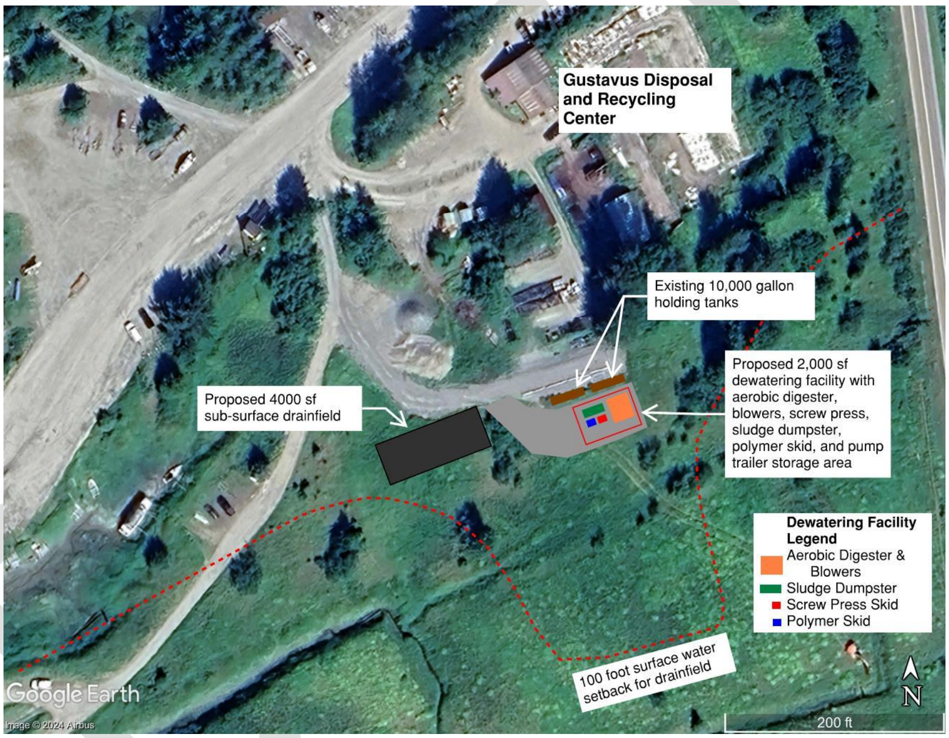


Figure 14. Alternative 1C site layout

5.5.2 Design Criteria

The design flow criteria for the treatment facility are listed in Table 5. The precise sizing of the aeration blowers and aerobic digestor volume and process would be determined during a design study report. A schematic diagram of the aerobic digestor process is shown in Figure 15.

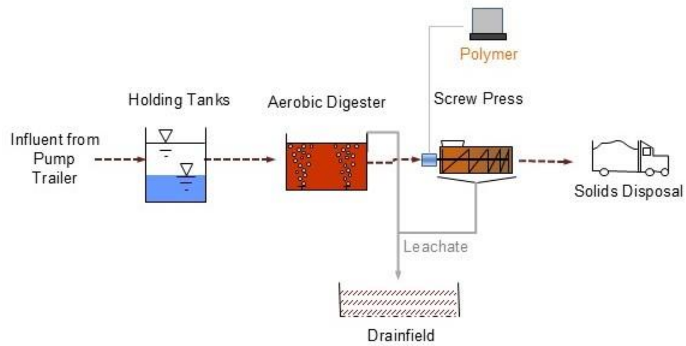


Figure 15. Aerobic Digestor Process Diagram

5.5.3 Environmental Impacts

5.5.3.1 Floodplains

Not applicable.

5.5.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

5.5.3.3 Wildlife

Not applicable. This alternative would operate within existing disturbed areas of Gustavus, so no additional disruption would occur beyond construction noise. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

5.5.3.4 Geotechnical Exploration

Geotechnical work will be necessary to during the construction of the building and for test holes to determine size and location of the drainfield.

5.5.3.5 Other resources

Not Applicable

5.5.4 Land Requirements

No additional land requirements, as this alternative would involve construction on land already within the boundaries of the DRC. The land required to construct Alternative 1C is shown in Figure 14.

5.5.5 Potential Construction Problems

Construction in Gustavus is a challenge, as most material would need to be shipped in.

The project will be subject to AIS requirements. Long lead times for AIS-compliant materials, supplies, and components should be anticipated when developing project schedules. Equipment and materials should be procured well in advance of construction such that construction is not unnecessarily delayed by the supply chain.

5.5.6 Sustainability Considerations

5.5.6.1 Water and Energy Efficiency

Alternative 1C would involve significantly higher energy consumption than the current system due to the installation of numerous electrically powered systems and large-capacity aeration blowers. It would also likely need the construction and implementation of one of the dewatering processes in Alternative 1A or 1B.

5.5.6.2 Green Infrastructure

Not applicable.

5.5.6.3 Other

Not applicable.

5.5.7 Cost Estimates

The capital cost estimates for Alternative 1C are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 1C are shown in Table 14. Capital cost estimates in Table 15 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 14. Alternative 1C Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$45,000	$45,000
Treatment Building	2,000	SF	$500	$1,000,000
Septage Pumping System	1	LS	$50,000	$50,000
Aerobic Digester	1	EA	$600,000	$600,000
Screw Press	1	EA	$450,000	$450,000
Aeration Blower	2	EA	$60,000	$120,000
Polymer System	1	EA	$50,000	$50,000
Disposal Dumpsters	3	EA	$15,000	$45,000
Drainfield construction	4,000	SF	$30	$120,000
Driveway	1,000	SF	$50	$50,000
			Construction Subtotal	**$2,530,000**
			Mob/Demob/Construction Logistics (10%)	$253,000
			Construction Contingency (30%)	$506,000
			Total Construction	**$3,289,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$394,680
			Construction and Professional Services	**$3,733,680**
			VSW Project Management (8%)	$298,694

Note: Demob = demobilization; CY = cubic yard; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; SF = square feet; VSW = Village Safe Water.

Project Total	**$4,032,374**

Table 15. Alternative 1C Capital Cost Estimates including AIS (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$49,500	$49,500
Treatment Building	2,000	SF	$600	$1,200,000
Septage Pumping System	1	LS	$55,000	$55,000
Aerobic Digester	1	EA	$660,000	$660,000
Screw Press	1	EA	$495,000	$495,000
Aeration Blower	2	EA	$66,000	$132,000
Polymer System	1	EA	$55,000	$55,000
Disposal Dumpsters	3	EA	$18,000	$54,000
Drainfield construction	4,000	SF	$33	$132,000
Driveway	1,000	SF	$50	$50,000
			Construction Subtotal	**$2,882,500**
			Mob/Demob/Construction Logistics (10%)	$288,250
			AIS/BABAA Administration	$100,000
			Construction Contingency (30%)	$864,750
			Total Construction	**$4,135,500**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$496,260
			Construction and Professional Services	**$4,681,760**
			VSW Project Management (8%)	$374,541
			Project Total	**$5,056,301**

Note: Demob = demobilization; CY = cubic yard; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; SF = square feet; VSW = Village Safe Water.

Estimated operating expenses associated with Alternative 1C are shown in Table 16. Operating expenses consider power costs to operate the blower, screw press, and polymer system, polymer and other chemical costs, and labor to pump the tanks and operate the system. These costs would be distributed among the number of tanks pumped per year. Disposal costs would be accounted for in another alternative. These combined would determine the total cost to pump a septic tank.

Based on records of septage hauling, approximately 8 tanks can be pumped per day. For 2025 estimates, estimating that there is some extra time to pump with a trailer rather than a truck, 55 septic tanks could be pumped in eight 8-hour workdays. As the aerobic digestor must be continually operated to keep the microbes alive, it is assumed that a 1/4 full time equivalent worker would need to be employed to perform both the septage hauling and the system operations. This alternative would likely also require that the worker possess an ADEC operator certification.

Table 16. Alternative 1C Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Labor Costs (1/4 FTE)	500	Hour	$50	$25,000
Building Heat	200	Gallon	$5.50	$1,100

Item	Quantity	Unit	Unit Price	Cost
Power Costs	20,000	Kilowatt Hour	$0.45	$9,000
Polymer and Chemical Costs	1	Lump Sum	$750	$750
Total Annual Expenses				$35,850
			Tanks Pumped	55
			Expense per tank pumped	$651.82

5.6 Alternative 1D – Reed Bed Drying

Planted reed bed filters have been used extensively in Europe to dewater and treat septage as well as in several operations in Canada. The reed bed operates like a conventional drying bed with additional treatment from the planted reeds. A lined lagoon is constructed with a geomembrane to contain the leachate liquid from the septage. Layers of gravel and coarse sand are added over perforated filtrate collection pipes as shown in Figure 16. Once the planted reeds are established, a layer of sludge can be added after a rough bar screen directly from a septic pumper truck and distributed through the reed bed. New layers of sludge can be added to the bed once or twice a month during the summer without a negative impact.

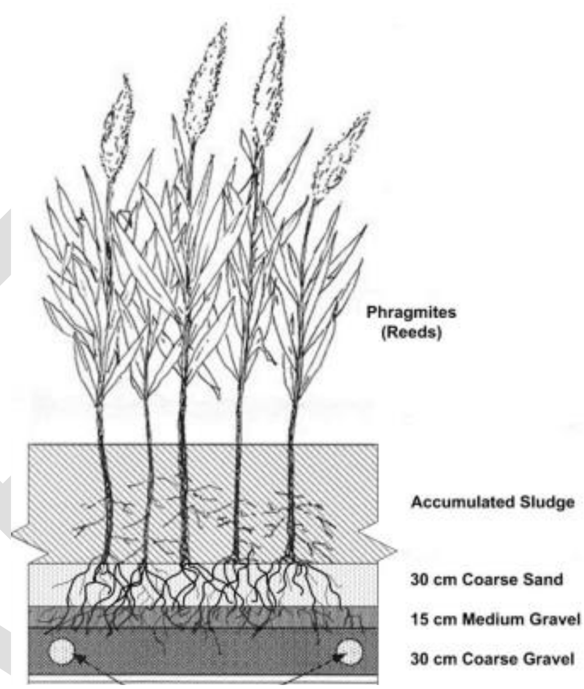


Figure 16. Reed Bed Schematic (Kowalik 2014)

Filtrate would be disposed of in a subsurface drainfield, and dewatered sludge can accumulate for up to a decade and then be collected and disposed of using a method described in Category 2. The product of the reed bed process is suitable for land application or could be used as cover at the landfill.

5.6.1 Description

Alternative 1D would take the septage either from the existing holding tanks or directly from a septage pump truck or trailer and put through a bar screen to remove trash and large solids. An example of a septage bar screen is shown in Figure 17. The cleaned septage would then flow into the reed bed. Once inside the reed bed, the wastewater undergoes a series of natural treatment processes as it moves laterally through the root zone from one end of the bed to the other. The wetland plants leak small amounts of oxygen out through their roots, creating oxygenated sites within an otherwise anaerobic environment. This mix of aerobic and anaerobic conditions creates an ideal environment for the growth of micro-organisms on the surface of the gravel and plant roots. These micro-organisms are largely responsible for the pollutant removal that occurs in a reed bed, as they feed on and breakdown organic matter and nutrients and compete against pathogenic organisms.

Figure 17. Example Septage Bar Screen (Or-Tech)

During the loading period, the particulate matter in the influent septage is physically retained on the top surface of the reed bed, with the liquid leachate will percolating through the reed bed and is released into a subsurface drainfield via a drainage system. Studies in Ontario have tested dewatered sludge after treatment in a septage treatment reed bed to be around 23 percent solids. The leachate was tested to have a 99 percent reduction in biological oxygen demand, total suspended solids, total phosphorus, and total Kjeldahl nitrogen (Kinsley 2014).

5.6.2 Design Criteria

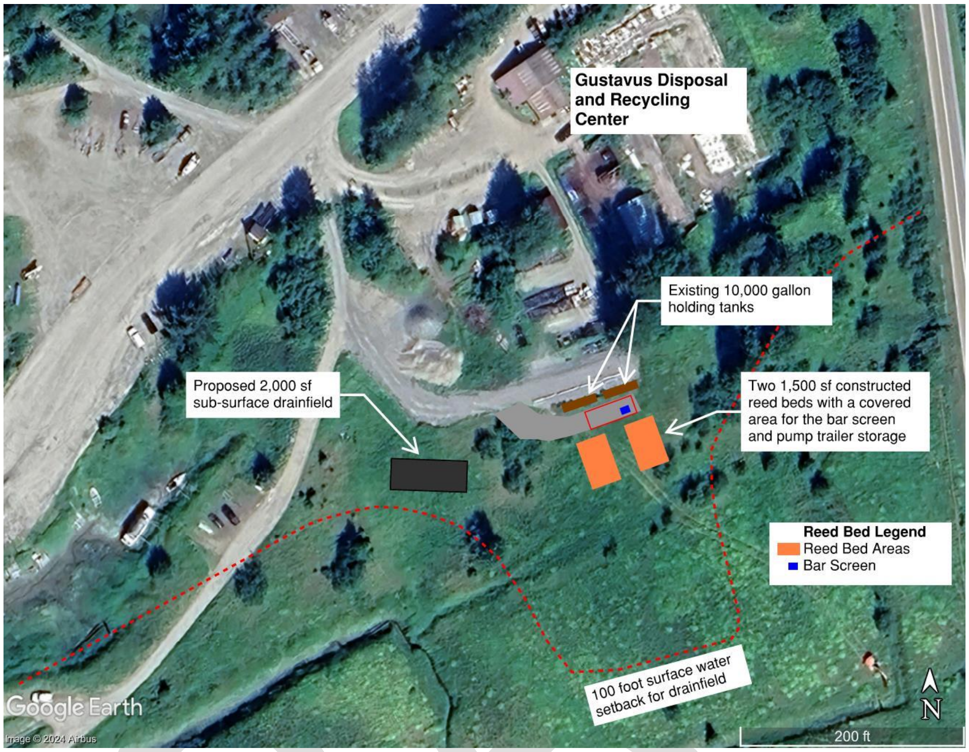


Figure 18. Alternative 1E site layout

5.6.2.1 Reed Bed Sizing

Sizing of a septage treatment reed bed is key to allow for sufficient space for treatment without using excessive area. Based on an ultimate design population of 980 and design flow of 95,800 gallons as shown in Table 5 and the sizing of other septage receiving beds, the bottom area needed is approximately 4,300 square feet. This area was split into three separate beds so that fields could be used in alternate years. Each 1,500 square foot bed would have 6 feet of freeboard above the level of the gravel and sand layers.

With a 2:1 slope, the dimensions of each bed would be approximately 75 feet by 55 feet with a total volume of 15,000 cubic feet. Given the design flow from Table 5 and a dewatering performance of 23 percent, each bed would last approximately 10 years before it is too full to use. Construction of two beds would be sufficient for at least 20 years of septage treatment. A site layout is shown in Figure 18.

Once a bed is full, it could remain in place, or the dewatered sludge utilized as cover for the landfill. After a season of sitting, the pathogen levels will likely be reduced enough to be categorized as Class A or B biosolids. As discussed in Section 4.1.1, land application of biosolids from Gustavus septage would not be feasible due to PFAS contamination.

5.6.2.2 Drainfield

The dewatering process in a reed bed is generally slower than those in Alternative 1A or 1B, so a smaller subsurface drainfield would be required. An entire days' worth of pumped septage (approximately eight 1,000-gallon tanks) would be dewatered over the course of about one week, this would produce approximately 1,000 gallons of leachate that must be absorbed by the subsurface drainfield per day.

Based on the drainfield sizing from Alternative 1A, a 2,000 square foot bed-style drainfield would not be unmanageably large, but still able to accommodate up to 1,600 gallons per day. The construction of the drainfield would be similar to the drainfield proposed in Alternative 1A and would likely require a pump station to lift the leachate from the reed bed drain to the drainfield. The exact size and location of the drainfield would be determined during design.

5.6.2.3 Septic Pumping Trailer

Part of this, and several other alternatives, is the purchase of a septic pumping trailer. A 1,250-gallon pumping trailer would be sufficient to empty most septic tanks while still being manageable to tow with a pickup truck. This trailer could be stored under the cover where the bar screen is located while not in use to protect it from the elements.

5.6.3 Environmental Impacts

5.6.3.1 Floodplains

Not applicable.

5.6.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

5.6.3.3 Wildlife

This alternative would operate within existing disturbed areas of Gustavus, so no additional disruption would occur beyond construction noise. It is possible that the reed beds will attract animals such as bird; therefore, increasing habitat diversity in the area. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

5.6.3.4 Geotechnical Exploration

Geotechnical work will be necessary to during the construction of the covered area and for test holes to determine final size and location of the drainfield.

5.6.3.5 Other Resources

Not applicable.

5.6.4 Land Requirements

This alternative requires a similar amount of land as the other alternatives which use drainfields. This will fit in the area surrounding the DRC. See Figure 18 for a proposed site layout.

5.6.5 Potential Construction Problems

Building in the City is challenging due to its remote location. However, reed beds are simple to construct and operate due to their relative lack of man-made infrastructure.

5.6.6 Sustainability Considerations

5.6.6.1 Water and Energy Efficiency

This method uses very little energy and water in processing the septage. It represents the most carbon-efficient way to stabilize and dewater septage that we are considering, as the process in the reed beds sequesters carbon from the septage and atmosphere using plants.

5.6.6.2 Green Infrastructure

A reed bed treatment system is an environmentally friendly, green solution to septage treatment that requires less resources to achieve high levels of treatment.

5.6.6.3 Other

Not applicable.

5.6.7 Cost Estimates

The capital cost estimates for Alternative 1D are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 1D are shown in Table 14. Capital cost estimates in Table 15 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 17. Alternative 1D Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$45,000	$45,000
Bar Screen	1	EA	$150,000	$150,000
Covered Area	1,500	SF	$150	$225,000
Unusable Excavation	1,200	CY	$60	$72,000
Reed Bed Construction	2	EA	$150,000	$300,000
Leachate Pump Station	1	LS	$40,000	$40,000
Drainfield Construction	2,000	SF	$30	$60,000
Note: Demob = demobilization; CY = cubic yard; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; SF = square feet; VSW = Village Safe Water.	**Construction Subtotal**			**$892,000**
	Mob/Demob/Construction Logistics (10%)			$89,200
	Construction Contingency (30%)			$178,400
	Total Construction			**$1,159,600**
	Permitting & Agency Consultation			$50,000
	Engineering and Design (12%)			$139,152
	Construction and Professional Services			**$1,348,752**
	VSW Project Management (8%)			$107,900

Project Total	**$1,456,652**

Table 18. Alternative 1D Capital Cost Estimates including AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$49,500	$49,500
Bar Screen	1	EA	$165,000	$165,000
Covered Area	1,500	SF	$165	$247,500
Unusable Excavation	1,200	CY	$60	$72,000
Reed Bed Construction	2	EA	$165,000	$330,000
Leachate Pump Station	1	LS	$44,000	$44,000
Drainfield Construction	2,000	SF	$33	$66,000
Note: Demob = demobilization; CY = cubic yard; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; SF = square feet; VSW = Village Safe Water.			**Construction Subtotal**	**$974,000**
			Mob/Demob/Construction Logistics (10%)	$97,400
			AIS/BABAA Administration	$100,000
			Construction Contingency (30%)	$292,200
			Total Construction	**$1,463,600**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$175,632
			Construction and Professional Services	**$1,689,232**
			VSW Project Management (8%)	$135,139
			Project Total	**$1,824,371**

Estimated operating expenses associated with Alternative 1D are shown in Table 16. Operating expenses consider power costs to operate the bar screen and pump station, and labor to maintain the reed beds and operate the system. These costs would be distributed among the number of tanks pumped per year. Disposal costs would be accounted for in another alternative. These combined would determine the total cost to pump a septic tank.

Based on records of septage hauling, approximately 8 tanks can be pumped per day. For 2025 estimates, estimating that there is some extra time to pump with a trailer rather than a truck, 55 septic tanks could be pumped in eight 8-hour workdays.

Table 19. Alternative 1C Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Labor Costs	100	Hour	$50	$5,000
Power Costs	100	Kilowatt Hour	$0.45	$45
Total Annual Expenses				$5,045
			Tanks Pumped	55
			Expense per tank pumped	$91.73

5.7 Alternative 1F – No Action

Alternative 1F would take no action. The alternative would continue operation of the existing holding tank system and pumping as described in Section 2 with no capital or operational improvements.

5.7.1 Description

Alternative 1F would perform no work and continue the deposition of untreated septage into two existing 10,000 gallon holding tanks to await transport to a sewage treatment plant.

5.7.2 Design Criteria

Not applicable.

5.7.3 Environmental Impacts

Selecting the No Action Alternative would create no new additional environmental impacts.

5.7.3.1 Floodplains

Not applicable.

5.7.3.2 Wetlands

Not applicable.

5.7.3.3 Wildlife

Not applicable.

5.7.3.4 Geotechnical Exploration

Not applicable.

5.7.3.5 Other Resources

Not applicable.

5.7.4 Land Requirements

Not applicable.

5.7.5 Potential Construction Problems

Not applicable.

5.7.6 Sustainability Considerations

5.7.6.1 Water and Energy Efficiency

Not applicable.

5.7.6.2 Green Infrastructure

Not applicable.

5.7.6.3 Other

Not applicable.

5.7.7 Cost Estimates

Alternative 1F does not include capital costs; therefore, no capital cost estimate is provided.

Alternative 1F would cause no change in the current operations and maintenance costs. It is estimated that each pumping costs approximately $1,000 per occurrence.

6. SLUDGE DISPOSAL ALTERNATIVES

Once the septage has been processed through an alternative in Category 1, the resultant dewatered sludge must be disposed of. These alternatives cover possible methods for disposal of sludge.

6.1 Alternative 2A – Incineration

Alternative 2A would involve the installing a solids incinerator at the dewatering site (the DRC). While it was initially proposed to utilize the incinerator at the Bartlett Cove Wastewater Treatment Facility (BCWTF), based on the hesitation of the National Parks Service (NPS) to consider or enter into any agreement to treat septage at their wastewater treatment facility, an agreement between the City and the NPS is unlikely to occur. For this alternative, a diesel-fired incinerator would burn dewatered sludge, and the ash would be landfilled.

6.1.1 Description

Presently, incineration of sewage sludge is a relatively uncommon method for disposing of septage. There are approximately 170 sewage sludge incineration plants in the United States. These plants use different methods of creating an extremely high-heat environment in which fecal solids can be converted to ash, which can then be disposed of more easily without as much consideration to the leaching of toxic material.

6.1.1.1 Bartlett Cove Wastewater Treatment Facility

BCWTF is a small wastewater treatment facility located 7 miles north of Gustavus, accessible via Park Road. The facility produces solids that are dewatered in a sludge bagger. The facility uses an incinerator to dispose of both sewage solids and other waste. While this alternative assumes that the City would operate its own incinerator due to the unwillingness of the NPS to enter into formal contracts for waste disposal, should a contract be possible, there could be much lower capital expenses associated with this alternative as well as likely a reduced operations and maintenance (O&M) costs.

6.1.1.2 New Incinerator

Several types of incinerators are produced that can burn sewage solids. A multiple hearth furnaces are a vertically oriented cylinder with several zones (or hearths) that process and burn the biosolids. Multiple hearth furnaces are more energy intensive than more modern, fluidized bed furnaces. Fluidized beds are a vertically oriented shell with a bed of sand at the bottom on which the biosolids are placed. Over the years, fluidized bed furnaces replaced many multiple hearth furnaces due to the lower operating costs and higher quality emissions. A fluidized bed furnace is recommended for this alternative.

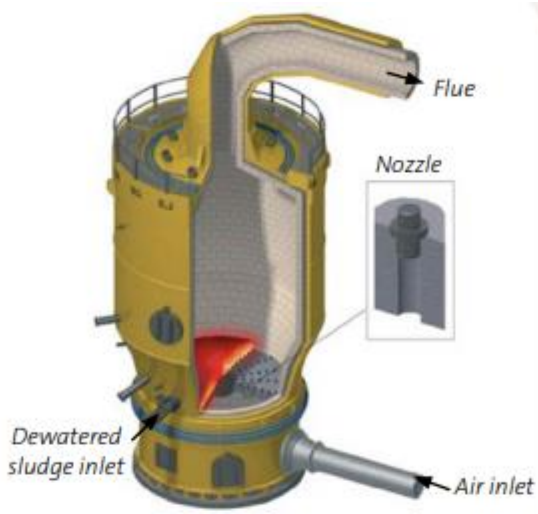


Figure 20. Fluidized Bed Incinerator Schematic (Veolia)

6.1.2 Design Criteria

Sizing the incinerator is key to balancing the volume of dewatered sludge disposed of at one time with energy usage. A larger incinerator costs more to construct and operate, where a smaller incinerator would need to be operated for a longer period of time. Incinerators are most efficient when operated continuously until the volume needed to be disposed of is completely consumed. Most dewater sludge specific installations are for larger volumes than will be seen in Gustavus, so procurement of an appropriately-sized incinerator designed to receive dewatered sludge may be difficult.

The installation of the incinerator and other elements of the disposal process, such as emissions controls, and the blower would be located in a building at the DRC. A site plan for construction of an incineration facility at the DRC is shown in Figure 19.

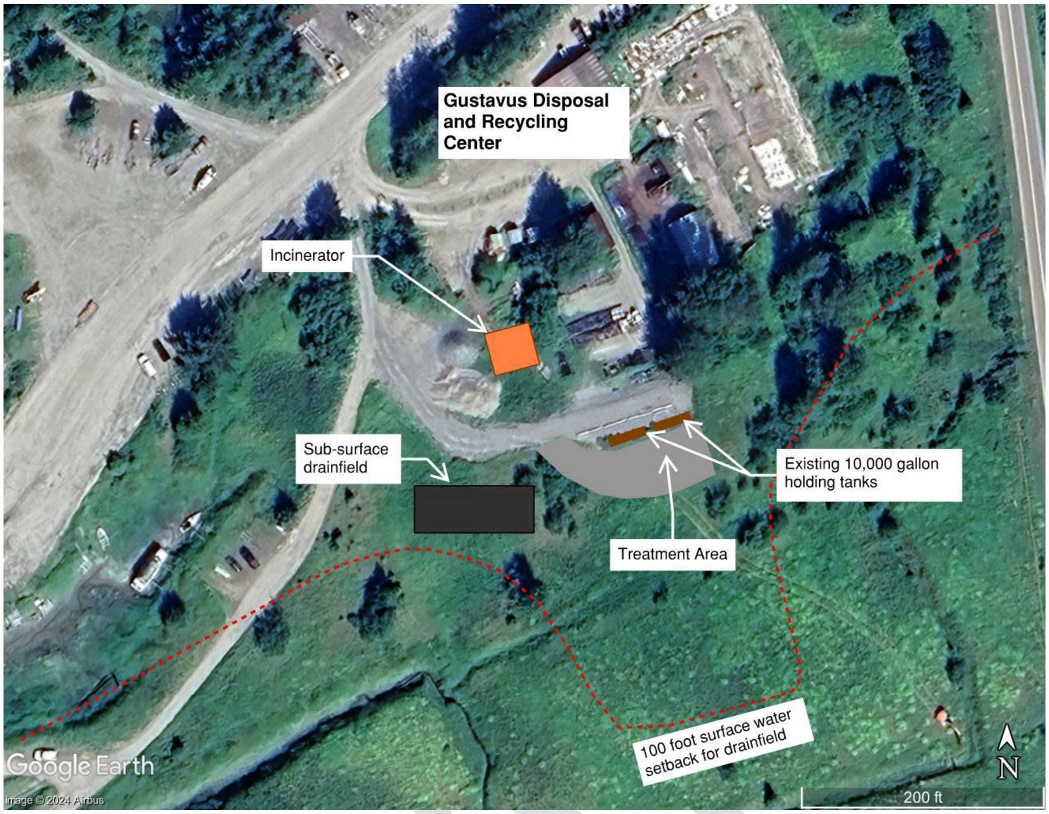


Figure 19. Alternative 2A site layout

6.1.3 Environmental Impacts

Overall, installation of incinerators has been decreasing due to the high volume of contaminants that are emitted to the environment during the process. Measures can be taken to reduce these effects, such as adding afterburners to increase the temperature or catchment of the containment before they are exhausted into the environment. These measures can be costly and are difficult to monetize on Gustavus' scale.

6.1.3.1 Floodplains

Not applicable.

6.1.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

6.1.3.3 Wildlife

Not applicable. This alternative would operate within existing disturbed areas of Gustavus, so no additional disruption would occur beyond construction noise. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

6.1.3.4 Geotechnical Exploration

It is likely that little to no geotechnical exploration would be necessary, as this alternative at most would only add a small amount of infrastructure in the same location as other alternatives.

6.1.3.5 Other Resources

Not applicable.

6.1.4 Land Requirements

Alternative 2A could use existing infrastructure if the BCWTF option is selected. The local landfill may need an increase in size if ash deposition occurs at a large enough scale. If the City constructs their own incineration facility it would be able to use DRC land.

6.1.5 Potential Construction Problems

No significant issues beyond the basic challenges of remote construction.

The project will be subject to AIS requirements. Long lead times for AIS-compliant materials, supplies, and components should be anticipated when developing project schedules. Equipment and materials should be procured well in advance of construction such that construction is not unnecessarily delayed by the supply chain.

6.1.6 Sustainability Considerations

6.1.6.1 Water and Energy Efficiency

The use of incineration to process the dewatered sludge would be far more energy intensive than more passive disposal methods because of the need to use more fuel in the existing incineration facility at Bartlett Cove or a new facility. This fuel use is slightly offset by the lack of need to ship the dewatered sludge long distances.

6.1.6.2 Green Infrastructure

Not applicable.

6.1.6.3 Other

Not applicable.

6.1.7 Cost Estimates

The capital cost estimates for Alternative 2A are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 2A are provided in Table 20. The capital cost estimates in Table 21 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 20. Alternative 2A Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Incinerator Building	1,200	SF	$500	$600,000
Fluidized bed Incinerator	1	EA	$650,000	$650,000
Aeration Blower	1	EA	$100,000	$100,000
Misc Connections	1	LS	$50,000	$50,000
			Construction Subtotal	**$1,400,000**
			Mob/Demob/Construction Logistics (10%)	$140,000
			Construction Contingency (30%)	$420,000
			Total Construction	**$1,960,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$235,200
			Construction and Professional Services	**$2,245,200**
			VSW Project Management (8%)	$179,616
			Project Total	**$2,424,816**

Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; Mob = mobilization; VSW = Village Safe Water.

Table 21. Alternative 2A Capital Cost Estimates with AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Incinerator Building	1,200	SF	$600	$720,000
Fluidized bed Incinerator	1	EA	$715,000	$715,000
Aeration Blower	1	EA	$110,000	$110,000
Misc Connections	1	LS	$55,000	$55,000
			Construction Subtotal	**$1,600,000**
			Mob/Demob/Construction Logistics (10%)	$160,000
			AIS/BABAA Administration	$100,000
			Construction Contingency (30%)	$480,000
			Total Construction	**$2,340,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$280,800
			Construction and Professional Services	**$2,670,800**
			VSW Project Management (8%)	$213,664
			Project Total	**$2,884,464**

Note: Demob = demobilization; EA = each; LS = lump sum; Mob = mobilization; VSW = Village Safe Water.

Estimated operating expenses associated with Alternative 2A are shown in Table 22. These costs would be distributed among the number of tanks pumped per year. Treatment/dewatering costs would be accounted for in another alternative. These combined would determine the total cost to pump a septic tank.

It is assumed that the labor costs to run and maintain the incinerator are approximately 160 hours per year. Other major costs for Alternative 2A are the power cost to run the aeration blower and the diesel fuel to power the incinerator. The estimate in Table 22 is based on dewatered solids at 40 percent. Should the solids percentage be lower than that due to either poor dewatering or a different method, the fuel costs could be significantly higher. Environmental monitoring and testing are also necessary due to the nature of incineration.

Table 22. Alternative 2A Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Labor Costs	160	Hour	$50	$8,000
Power Costs	10,000	Kilowatt Hour	$0.45	$4,500
Incinerator Fuel	2,000	Gallon	$5.50	$11,000
Monitoring and Testing	1	Lump sum	$7,500	$7,500
Total Annual Expenses				$31,000
			Tanks Pumped	55
			Expense per tank pumped	$563.64

6.2 Alternative 2B – Monofill

Alternative 2B would include the permitting and construction of a monofill on the existing landfill property to accept dewatered sludge. The dewatered sludge would be transferred from one of the Category 1 dewatering processes to the new sewage solid monofill as defined in 18 AAC 60.470. Once the sludge is placed in the monofill, cover material would be spread over the sludge per ADEC regulations.

6.2.1 Description

A monofill is a landfill, or part of a landfill, that accepts dewatered sludge. The process of monofilling consists of preparing the site, transferring the sludge to the site, and covering the sludge with a layer of cover material. Because of the concentration of PFAS pollutants found in existing Gustavus biosolids, site preparation would include installing a liner to prevent contaminants from leaching into the surrounding environment. Groundwater and air monitoring would need to be installed to test for lateral migration of contaminants

Landfilling of sludge in monofill is regulated by the Environmental Protection Agency under Subpart C of 40 CFR, Part 503, Standards for the Use and Disposal of Sewage Sludge as surface disposal and ADEC regulations 18 AAC 60 Article 4. If the concentration of any of these pollutants exceeds the criteria, the facility must be lined. The regulations also allow establishment of site-specific pollutant limits at the discretion of the permitting authority. These regulations also require that biosolids placed in a landfill meet either Class A or Class B pathogen reduction requirements or that they be covered with soil or other material at the end of each operating day. Based on monitoring requirements listed in 18 AAC 60.470(j) and estimated capacity in Section 6.2.2, monitoring of sewage solid material would need to be completed annually, and explosive gas testing would not be required. Treatment alternatives 1C, 1D, and 1E would likely allow for the monofill to remain uncovered. Alternatives to cover material require submitting a waiver request with approval from the ADEC. Class B pathogen reduction could be achieved in alternatives 1A and 1B with the addition of lime stabilization.

This Alternative would consist of a lined monofill area adjacent to the existing landfill area. A leachate collection system would collect any additional liquids in the lined area and dispose of them in the subsurface drainfield. Leachate collection and disposal requirements must follow requirements of 18 AAC 72.

Sludge would be collected from the dewatering and/or treatment system and placed in the monofill on a yearly or biyearly basis. The sludge would be covered by soil or an impervious geomembrane. Once the monofill is filled, it would be closed permanently and monitored for a minimum of three years per AAC 60.470(o) and 18 AAC 60.245 with leachate collected and disposed of and a new monofill or lateral expansion would need to be constructed.

6.2.2 Design Criteria

A monofill would need to be sized for disposal of waste for at least 20 years. The volume of sludge needing disposal depends on the alternative from Category 1 chosen. The volume needing disposal if Alternative 1A is chosen is between 15 and 24 cubic yards as shown in Table 6. The volume needing disposal under Alternative 1B is between 30 and 48 cubic yards as shown in Table 10. Based on these estimates, a 1,000 cubic yard monofill would be sufficient for 20 years of disposal with room for liners, covers, leachate systems, and any necessary buffer zones. A site plan for a monofil site is shown in Figure 20.

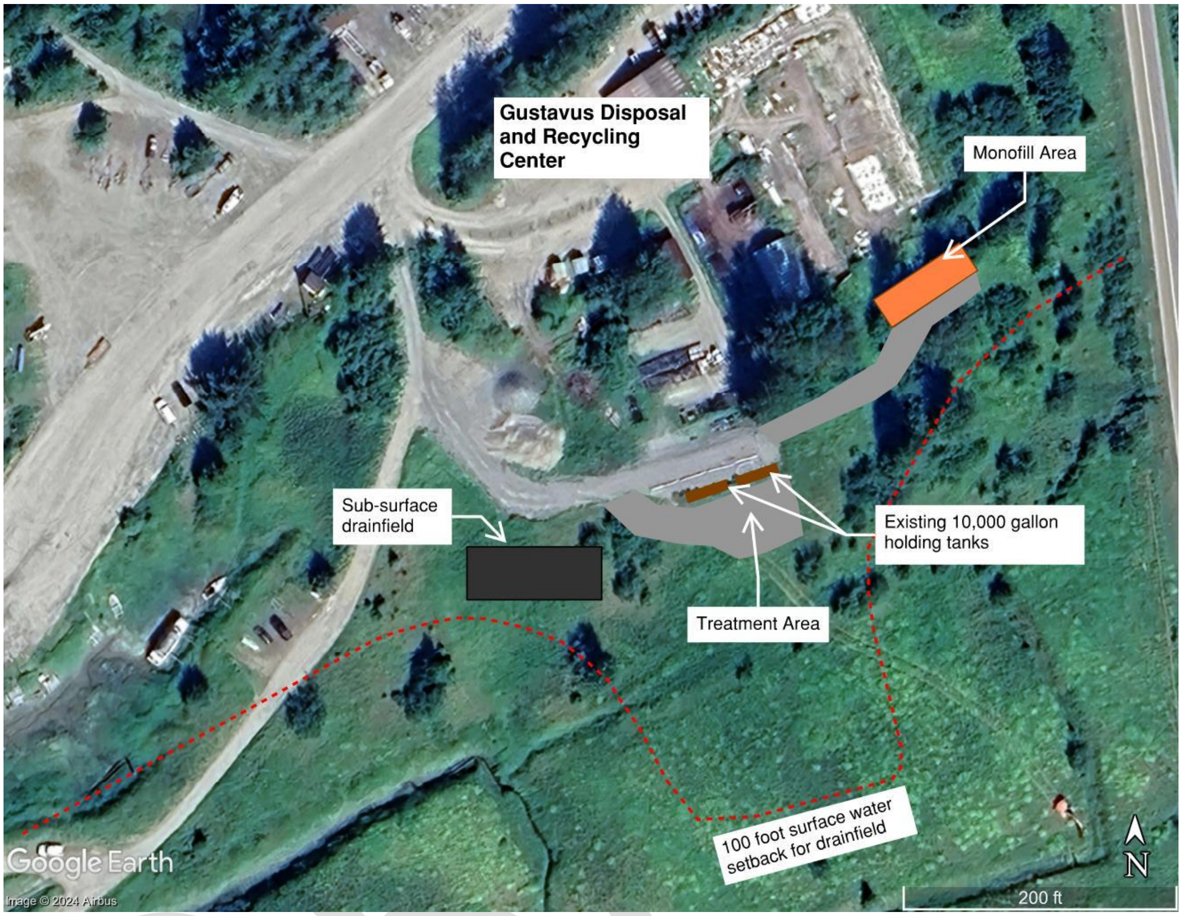


Figure 20. Alternative 2B site layout

6.2.3 Environmental Impacts

There are several potential environmental impacts associated with landfilling of dewatered sludge. Leachate from the landfill may transport nitrate, metals, organics, and/or pathogens to groundwater if the landfill site has not been properly selected or if the liner has been damaged. Rainfall runoff from an active landfill may carry contaminates to nearby surface waters if the monofill was not designed for runoff to be contained in the liner and treated as leachate. The monofill may release landfill gases during decomposition; however, due to the estimated size of the sewage sludge monofill gas generated is expected to be minimal concentrations that dissipate and will not require monitoring per 18 AAC 60.470(j).

6.2.3.1 Floodplains

This monofill should be located in a place not affected by flooding concerns.

6.2.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

6.2.3.3 Wildlife

Not applicable. This alternative would operate within existing disturbed areas of Gustavus, so no additional disruption would occur beyond construction noise. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

6.2.3.4 Geotechnical Exploration

It is likely that geotechnical exploration will be necessary. This work would occur concurrently with geotechnical work for the treatment alternative.

6.2.3.5 Other Resources

Not applicable.

6.2.4 Land Requirements

Alternative 2B involves the creation of a new monofil. A new area within the confines of the DRC would need to be allocated for the monofil and would be unavailable for other landfill activities.

6.2.5 Potential Construction Problems

No significant issues beyond the basic challenges of remote construction.

6.2.6 Sustainability Considerations

6.2.6.1 Water and Energy Efficiency

Disposing of the solids locally would be more energy efficient than shipping them to Juneau and/or beyond.

6.2.6.2 Green Infrastructure

Not applicable.

6.2.6.3 Other

Not applicable.

6.2.7 Cost Estimates

The capital cost estimates for Alternative 2B are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 2B are provided in Table 20. The capital cost estimates in Table 21 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 23. Alternative 2B Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Monofill Construction	1	LS	$850,000	$850,000
Leachate Piping	1	LS	$20,000	$20,000
Driveway	3500	SF	$50	$175,000
			Construction Subtotal	**$1,045,000**
			Mob/Demob/Construction Logistics (10%)	$104,500
			Construction Contingency (30%)	$313,500
			Total Construction	**$1,463,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$175,560
			Construction and Professional Services	**$1,688,560**
			VSW Project Management (8%)	$135,085
			Project Total	**$1,823,645**

Note: AIS = American Iron and Steel Act; BABAA = Build America, Buy America Act; Demob = demobilization; LF = linear feet; Mob = mobilization; VSW = Village Safe Water.

Table 24. Alternative 2B Capital Cost Estimates with AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Monofill Construction	1	LS	$935,000	$935,000
Leachate Piping	1	LS	$24,000	$24,000
Driveway	3500	SF	$50	$175,000
			Construction Subtotal	**$1,134,000**
			Mob/Demob/Construction Logistics (10%)	$113,400
			AIS/BABAA Administration	$100,000
			Construction Contingency (30%)	$340,200
			Total Construction	**$1,687,600**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$202,512
			Construction and Professional Services	**$1,940,112**
			VSW Project Management (8%)	$155,209
			Project Total	**$2,095,321**

Note: AIS = American Iron and Steel Act; BABAA = Build America, Buy America Act; Demob = demobilization; LF = linear feet; Mob = mobilization; VSW = Village Safe Water.

Estimated operating expenses associated with Alternative 2B are shown in Table 25. These costs would be distributed among the number of tanks pumped per year. Treatment/dewatering costs would be accounted for in another alternative. These combined would determine the total cost to pump a septic tank.

It is assumed that the labor costs to monitoring and disposal would consist of two hours per week of monitoring and approximately 80 total hours to coordinate disposal of solids in the monofil. Other costs for Alternative 2B are the power cost to run the leachate pump and testing costs.

Table 25. Alternative 2B Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Monitoring and Disposal Labor	184	hour	$50	$9,200
Leachate Pump Costs	100	kilowatt hour	$0.45	$45
Monitoring and Testing	1	Lump sum	$5,000	$5,000
Total Annual Expenses				$14,245
			Tanks Pumped	55
			Expense per tank pumped	$259.00

6.3 Alternative 2C – Ship to Juneau for Drying

Alternative 2C would involve shipment of dewatered sludge to Juneau for drying and final disposal. This alternative would differ slightly from current septage disposal as the water content would be greatly reduced and the total volume needed to ship would be less, resulting in lower costs and a smaller operation.

6.3.1 Description

This alternative uses elements of the current system of septage disposal in Gustavus, namely shipment to Juneau via the AMHS. The difference with the current conditions is that after dewatering or treatment, the dewatered sludge would have a much lower volume and would be more solid. Dewatered sludge would be transferred via tipping dumpster on the AMHS ferry to Juneau and trucked to the Juneau Mendenhall Wastewater Treatment Facility where the newly operational solids dryer is located. Gustavus would contract the Juneau Public Works Department for drying and ultimate disposal of the solids.

A truck from Juneau would travel on the AMHS to Gustavus. During the ferry's idle time in Gustavus, the truck would drive to the DRC and retrieve a full sludge dumpster and return to the ferry. The truck would then deposit the solids in Juneau. The contractor would either return the dumpster to Gustavus or store the dumpster until it can be returned during the next sludge retrieval.

6.3.2 Design Criteria

Alternative 2C would use existing infrastructure, including dumpsters designed for sludge handling that can be dumped into the Juneau sludge drying facility. The dumpsters would be purchased as part of a treatment alternative as the number depends on the efficiency of dewatering.

The Juneau Wastewater Treatment Facility is not currently permitted to accept dewatered sludge, and some modifications to the drying facility would be necessary to allow for acceptance of dewatered solids.

6.3.3 Environmental Impacts

6.3.3.1 Floodplains

Not applicable.

6.3.3.2 Wetlands

Not applicable.

6.3.3.3 Wildlife

Not applicable.

6.3.4 Geotechnical Exploration

Not applicable.

6.3.5 Other Resources

Not applicable.

6.3.6 Land Requirements

Not applicable.

6.3.7 Potential Construction Problems

Not applicable.

6.3.8 Sustainability Considerations

6.3.8.1 Water and Energy Efficiency

This alternative would lower the energy costs compared to the existing conditions and a much lower volume would need to be shipped to Juneau.

6.3.8.2 Green Infrastructure

Not applicable.

6.3.8.3 Other

Not applicable.

6.3.9 Cost Estimates

The costs involved with this alternative are transportation of the sludge to Juneau via the AMHS and costs to dry and dispose of the dewatered sludge at the Juneau Wastewater Treatment Facility and the costs to permit and perform improvements to the facility in Juneau to receive dewatered sludge. Permitting costs are higher than other alternatives, due to the anticipated coordination with the Regulatory Commission of Alaska in order to create a tariff to accept dewatered sludge.

The capital cost estimates for Alternative 2C are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 2C are shown in Table 26. Capital cost estimates in Table 27 have been adjusted to reflect AIS and BABAA requirements that apply to this project.

Table 26. Alternative 2E Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Improvements to Juneau Facility	1	LS	$200,000	$200,000
Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; MMBR = moving bed bioreactor; Mob = mobilization; SF = square feet; V = volts; VSW = Village Safe Water.			**Construction Subtotal**	**$200,000**
			Mob/Demob/Construction Logistics (10%)	$20,000
			Construction Contingency (30%)	$60,000
			Total Construction	**$280,000**
			Permitting & Agency Consultation	$100,000

Engineering and Design (12%)	$33,600
Construction and Professional Services	**$413,600**
VSW Project Management (8%)	$33,088
Project Total	**$446,688**

Table 27. Alternative 2E Capital Cost Estimates including AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Improvements to Juneau Facility	1	LS	$240,000	$240,000
Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; MMBR = moving bed bioreactor; Mob = mobilization; SF = square feet; V = volts; VSW = Village Safe Water.			**Construction Subtotal**	**$240,000**
			Mob/Demob/Construction Logistics (10%)	$24,000
			AIS/BABAA Administration	$50,000
			Construction Contingency (30%)	$72,000
			Total Construction	**$386,000**
			Permitting & Agency Consultation	$100,000
			Engineering and Design (12%)	$46,320
			Construction and Professional Services	**$532,320**
			VSW Project Management (8%)	$42,586
			Project Total	**$574,906**

Operational costs vary depending on the volume of dewatered sludge needed to transport. Table 28 shows the costs associated with mechanical dewatering, and Table 29 shows the costs associated with a passive dewatering system.

To transport sludge to the Juneau, it is assumed that a flatbed truck would be contracted from Juneau and travel to Gustavus on the AMHS Ferry. It would then pick up the sludge trailer and transport it back to Juneau on the same day for disposal. Conversations with Juneau Engineering and Public Works Department estimated that the cost of dispose of a 15-yard dumpster of dewatered solids would be $5,000.

Table 28. Alternative 2C Estimated Operating Expenses – Mechanical Dewatering (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Transport Costs	1	Per Trip	$2,000	$2,000
AMHS Costs	1	Per Trip	$1,500	$1,500
Disposal Costs	1	Per Trip	$5,000	$5,000
Total Annual Expenses				$8,500
			Tanks Pumped	55
			Expense per tank pumped	$154.54

Table 29. Alternative 2C Estimated Operating Expenses – Passive Dewatering (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Transport Costs	3	Per Trip	$2,000	$6,000
AMHS Costs	3	Per Trip	$1,500	$4,500
Disposal Costs	3	Per Trip	$5,000	$15,000
Total Annual Expenses				$25,500
			Tanks Pumped	55
			Expense per tank pumped	$463.63

6.4 Alternative 2E – Composting

Sludge composting is an aerobic digestive process that produces a stabilized biosolid that can be used for soil amendment or mulch. Alternative 2E would construct a sludge composting facility to receive and process septage and facilitate composting. The composting process creates a stable biosolid suitable as a soil amendment, land application, or for disposal.

6.4.1 Description

Composting is a type of aerobic digestion. Sewage sludge is combined with a bulking agent or amendment such as wood chips or sawdust, prior to composting to provide a pasteurized product.

The process begins with receiving dewatered sludge, this alternative assumes that a mechanical screw press is utilized for dewatering. Then bulking agents such as wood chips or saw dust are added to the sludge at the beginning of the composting process. After that, decomposition is accelerated by mechanical turning. Next, the bulking agent can be removed if not degraded, and the compost can be stored to provide continued stabilization and then final disposal.

Composting employs natural mesophilic and thermophilic aerobic degradation within a largely static system which is aerated by natural diffusion and the periodic mechanical turning and, therefore, has a very low energy demand. The process results in a high-quality class A biosolids product. However, composting is a lengthy process that requires large land areas and would not eliminate PFAS contamination. It is likely that biosolids that were composted from septage in Gustavus would contain PFAS and should not be used for soil fertilizers or soil amendment. Often, composted biosolids can be sold to homeowners or farmers; however, because of the PFAS issue, this is not recommended for Gustavus.

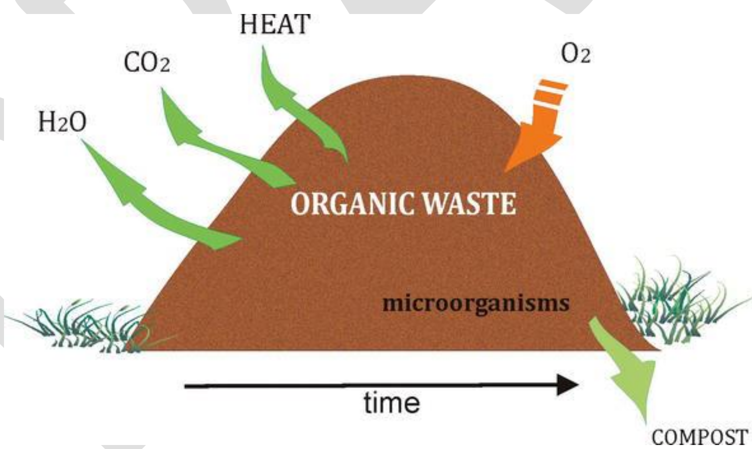


Figure 21. Sludge composting schematic

Site and Process Plan

For this alternative, septage would be pumped into the existing holding tanks where it would be metered into a mechanical dewatering screw press with a polymer feed system to enhance flocculation. Dewatered sludge would be placed into a covered area for the addition of bulking agents, like the current composting process occurring at the DRC.

The compost pile would be periodically mechanically turned, and the temperature of the pile monitored to ensure the process is occurring as intended. Once the process is completed, the compost would be distributed. Due to the PFAS contamination issue, it is recommended that the compost be used for cover at the landfill.

6.4.2 Design Criteria

The size of the composting facility would require volume to process the volume of dewatered sludge output from the dewatering mechanism. That volume is shown in Table 6. The design volume of sludge to be composted is estimated at 4800 gallons, or 24 cubic yards of material per year.

While the precise size of the facility would be confirmed in a design study report, the space required to compost this volume of sludge is approximately 4,000 square feet. This number is based on the size of composting facility located in Petersburg, Alaska, and scaled to the volume of sludge processed in Gustavus. This alternative estimates that a total of 4,500 square feet of covered area with a concrete pad sloped to drain would be sufficient for composting to allow for dewatering facilities.

While the DRC operates a composting facility currently for food waste and other compostables, it is assumed that the two facilities would be separated. The current compost is used by residents for gardening and soil amendments, and it is likely that there would be significant pushback against combining the composting streams that would result in PFAS contaminated compost.

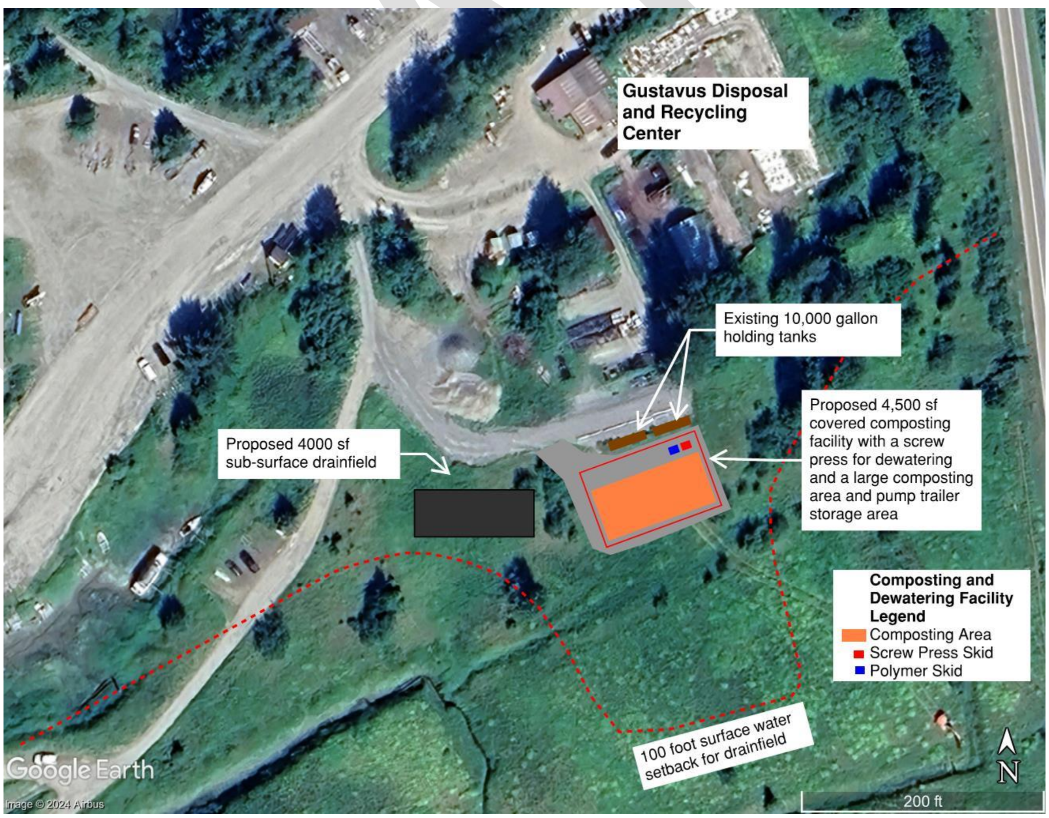


Figure 22. Alternative 2E site layout

6.4.3 Environmental Impacts

6.4.3.1 Floodplains

Not applicable.

6.4.3.2 Wetlands

Construction of this alternative would involve no construction in wetlands. Figure 2 shows the wetlands as they are currently mapped around the Gustavus area.

6.4.3.3 Wildlife

Not applicable. This alternative would operate within existing disturbed areas of Gustavus, so no additional disruption would occur beyond construction noise. See Section 1.2.4 for a more in-depth discussion of wildlife in the Gustavus area.

6.4.3.4 Geotechnical Exploration

Geotechnical work will be necessary to during the construction of the covered composting area and for test holes to determine size and location of the drainfield.

6.4.3.5 Other Resources

Not applicable.

6.4.4 Land Requirements

No additional land requirements, as this alternative would involve construction on land associated with the DRC. The land required to construct Alternative 2E is shown in Figure 22.

6.4.5 Potential Construction Problems

Construction in Gustavus is a challenge, as most material would need to be shipped in.

The project will be subject to AIS requirements. Long lead times for AIS-compliant materials, supplies, and components should be anticipated when developing project schedules. Equipment and materials should be procured well in advance of construction such that construction is not unnecessarily delayed by the supply chain.

6.4.6 Sustainability Considerations

6.4.6.1 Water and Energy Efficiency

This alternative can have a similar energy use to Alternatives 1B, as the same dewatering process could be used, and potentially could eliminate the energy use of long-distance shipping if the compost was stabilized enough for local use. However, the existence of PFAS would still require safer disposal elsewhere.

6.4.6.2 Green Infrastructure

Not applicable.

6.4.6.3 Other

The risk of PFAS getting back into the environment due to the use of this alternative should the compost be used as a soil amendment is an issue that must not be overlooked.

6.4.7 Cost Estimates

The capital cost estimates for Alternative 2E are based on present-day-value calculations of previous work conducted in comparable communities in Southeast Alaska, estimated quantities of raw materials, and allowances for construction contingency, logistic, permitting, legal, engineering, and VSW expenses. The total capital cost estimates for Alternative 2E are shown in Table 30. Capital cost estimates in Table 31 have been adjusted to reflect AIS and BABAA requirements that apply to this project. Alternative 2E includes the costs to implement a mechanical dewatering system as it can be housed in the composting facility and does not need to be a separate facility.

Table 30. Alternative 2E Capital Cost Estimates (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$45,000	$45,000
Covered Composting Facility	4500	SF	$300	$1,350,000
Septage Pumping System	1	LS	$50,000	$50,000
Screw Press	1	EA	$450,000	$450,000
Driveway	1000	SF	$50	$50,000
Polymer System	1	EA	$50,000	$50,000
Drainfield construction	4000	SF	$30	$120,000
			Construction Subtotal	**$2,115,000**
			Mob/Demob/Construction Logistics (10%)	$211,500
			Construction Contingency (30%)	$634,500
			Total Construction	**$2,961,000**
			Permitting & Agency Consultation	$50,000
			Engineering and Design (12%)	$296,520
			Construction and Professional Services	**$3,366,320**
			VSW Project Management (8%)	$269,306
			Project Total	**$3,635,626**

Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; MMBR = moving bed bioreactor; Mob = mobilization; SF = square feet; V = volts; VSW = Village Safe Water.

Table 31. Alternative 2E Capital Cost Estimates including AIS/BABAA (2024 USD)

Item	Quantity	Units	Unit Cost	Cost
Pumper Trailer	1	EA	$49,500	$49,500
Covered Composting Facility	4500	SF	$360	$1,620,000
Septage Pumping System	1	LS	$55,000	$55,000
Screw Press	1	EA	$495,000	$495,000
Driveway	1000	SF	$50	$50,000
Polymer System	1	EA	$55,000	$55,000
Drainfield construction	4000	SF	$33	$132,000

Note: Demob = demobilization; EA = each; LF = linear feet; LS = lump sum; MMBR = moving bed bioreactor; Mob = mobilization; SF = square feet; V = volts; VSW = Village Safe Water.	**Construction Subtotal**	**$2,456,500**
	Mob/Demob/Construction Logistics (10%)	$245,650
	AIS/BABAA Administration	$100,000
	Construction Contingency (30%)	$736,950
	Total Construction	**$3,539,100**
	Permitting & Agency Consultation	$50,000
	Engineering and Design (12%)	$424,692
	Construction and Professional Services	**$4,334,895**
	VSW Project Management (8%)	$321,103
	Project Total	**$4,334,895**

Estimated operating expenses associated with Alternative 2E are shown in Table 32. Operating expenses consider labor costs to maintain the dewatering, and composting facility, power costs for the dewatering facility, polymer costs, and equipment costs to mechanically turn the compost. These costs would be distributed among the number of tanks pumped per year. Unlike most disposal alternatives, treatment costs are not needed as these alternative covers both treatment and disposal.

It is assumed that a ¼ full time equivalent worker would need to be employed to perform both the septage hauling and the system operations.

Table 32. Alternative 2E Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Labor Costs (1/4 FTE)	500	Hour	$50	$25,000
Equipment Costs	1	Lump Sum	$3,000	$3,000
Power Costs	1,000	kilowatt hour	$0.45	$450
Polymer Costs	1	Lump Sum	$500	$500
Total Annual Expenses				$28,950
			Tanks Pumped	55
			Expense per tank pumped	$526.36

6.5 Alternative 2F – No Action

Alternative 2F would be to take no action. This alternative would continue the use tanker trucks and the AMHS ferry to transport the untreated septage to Juneau.

6.5.1 Description

Alternative 2F would perform no work and would require the current users to continue paying around $1000 per system and pump every 4 years. It would also require the continued practice of quickly disembarking, filling, and embarking a tanker truck from/to the Juneau ferry in the 45 minutes it stops in Gustavus.

This alternative relies upon an outside contractor to perform the work.

6.5.2 Design Criteria

Not applicable.

6.5.3 Environmental Impacts

Selecting the No Action Alternative would create no new additional environmental impacts.

6.5.3.1 Floodplains

Not applicable.

6.5.3.2 Wetlands

Not applicable.

6.5.3.3 Wildlife

Not applicable.

6.5.3.4 Geotechnical Exploration

Not applicable.

6.5.3.5 Other Resources

Not applicable.

6.5.4 Land Requirements

Not applicable.

6.5.5 Potential Construction Problems

Not applicable.

6.5.6 Sustainability Considerations

6.5.6.1 Water and Energy Efficiency

Not applicable.

6.5.6.2 Green Infrastructure

Not applicable.

6.5.6.3 Other

Not applicable.

6.5.7 Cost Estimates

Alternative 2F does not include capital costs; therefore, no capital cost estimate is provided.

The current cost to pump a tank in Gustavus is $1,000. Table 33 shows those cost annualized.

Table 33. Alternative 2E Estimated Operating Expenses (2024 USD)

Item	Quantity	Unit	Unit Price	Cost
Contractor Pump Cost	55	Per Tank	$1,000	$55,000
Total Annual Expenses				$55,000
			Tanks Pumped	55
			Expense per tank pumped	$1,000

7. SELECTION OF AN ALTERNATIVE

As there are a number of alternatives for both treatment and disposal of septage, Table 34 and Table 35 show advantages and disadvantages of each alternative.

Table 34. Treatment Alternatives Advantages and Disadvantages

Alternative	Advantages	Disadvantages
1A – Mechanical Dewatering	Simple process with some operator intervention needed	Requires mechanical components Without lime stabilization produces low quality biosolids with no pathogen reduction that would need to be disposed of in a landfill, WWTF, or incinerated
1B – Passive Dewatering	Simple process with low operator intervention Few mechanical components	Without lime stabilization produces low quality biosolids with no pathogen reduction that would need to be disposed of in a landfill, WWTF, or incinerated Does not dewater as much as Alternative 1A
1C – Aerobic Digestion	Simple process Produces high quality biosolids	High power costs Large building required Additional process beyond dewatering
1D – Reed Bed Drying	Simple process	No consistent history of operations, especially in Alaska

Table 35. Disposal Alternatives Advantages and Disadvantages

Alternative	Advantages	Disadvantages
2A – Incineration	On-site disposal Small volume of waste to dispose of	High operational costs Significant testing and emissions regulations Increased environmental impact Emissions into the environment, near residences
2B – Monofill	On site disposal Low disposal cost	Limits space at the DRC for additional landfill expansion Requires monitoring
2C – Shipment to Juneau	Similar process to existing operations Lower cost to dispose waste versus current operations	Higher disposal cost Operationally complex with transporting dewatered septage Reliant on outside contractor to move and dispose of septage
2E – Composting	No shipping of waste Similar process to existing composting operations	No market for PFAS contaminated compost Would likely need to be used as landfill cover versus beneficial reuse Odor could be an issue

7.1 Life-Cycle Cost Analysis

Life-cycle cost analysis was conducted for the three issues identified in Section 4: Alternatives Considered. Each was compared to the No Action Alternative, as shown in Figure 23 and Figure 24.

Planning Period (years)	20				
Real Discount Rate	2.5%				Circular A-94 Appendix C
USPW Factor	**15.59**				
SPPW Factor	**0.6103**				
	Alt 1A Mechanical Dewatering	**Alt 1B** Passive Dewatering	**Alt 1C** Aerobic Digester	**Alt 1D** Reed Bed Drying	**Alt 1E** No Action
Capital Cost, 2024	$ 2,467,152	$ 1,832,112	$ 4,032,374	$ 1,456,652	$ -
Annual O&M Cost, 2024	$ 8,440	$ 6,170	$ 35,850	$ 5,045	$ -
USPW of O&M Costs	$ 131,573	$ 96,185	$ 558,871	$ 78,647	$ -
Short Lived Assets Replacement Costs	$ 100,000	$ 25,000	$ 150,000	$ 20,000	$ -
Salvage Value, 2045	$ -	$ -	$ -	$ -	$ -
SPPW of Salvage Value	$ -	$ -	$ -	$ -	$ -
Total Net Present Value	**$ 2,698,725**	**$ 1,953,297**	**$ 4,741,246**	**$ 1,555,299**	**$ -**

Note: Annual O&M Costs for Alternative 1E does not include any O&M costs as those are addressed in the disposal alternatives

Figure 23. Life-Cycle Cost Analysis Treatment Alternatives

Short-lived asset replacement costs include the following:

- Alternative 1A: Sludge transfer pumps, polymer dosing pumps, pump trailer components, and screw press motors
- Alternative 1B: Sludge transfer pumps, polymer dosing pumps, and pump trailer components
- Alternative 1C: Aeration system blowers, sludge transfer pumps, polymer dosing pumps, pump trailer components, and screw press motors
- Alternative 1D: Pump trailer components, and leachate pumps

Planning Period (years)	20				
Real Discount Rate	2.5%				Circular A-94 Appendix C
USPW Factor	**15.59**				
SPPW Factor	**0.6103**				
	Alt 2A Incineration	**Alt 2B** Monofil	**Alt 2C** Ship to Juneau	**Alt 2E** Composting	**No Action** No Action
Capital Cost, 2024	$ 2,424,816	$ 1,823,645	$ 446,688	$ 3,635,626	$ -
Annual O&M Cost, 2024	$ 31,000	$ 14,245	$ 8,500	$ 28,950	$ 55,000
USPW of O&M Costs	$ 483,264	$ 222,068	$ 132,508	$ 451,306	$ 857,404
Short Lived Assets Replacement Costs	$ 60,000	$ 10,000	$ -	$ 100,000	$ -
Salvage Value, 2045	$ -	$ -	$ -	$ -	$ -
SPPW of Salvage Value	$ -	$ -	$ -	$ -	$ -
Total Net Present Value	**$ 2,968,080**	**$ 2,055,712**	**$ 579,196**	**$ 4,186,932**	**$ 857,404**

Figure 24. Life-Cycle Cost Analysis Disposal Alternatives

Short-lived asset replacement costs include the following:

- Alternative 2A: Air Blowers, Incinerator components
- Alternative 2B: Leachate transfer pump
- Alternative 2E: Polymer dosing pumps, pump trailer components, and screw press motors

7.1.1 Total Cost of Pumping Comparison

In order to fully compare each alternative, combination of a treatment and disposal alternative must be combined to determine the full cost to pump a tank. Based on the values found in Table 36, scenarios involving mechanical dewatering, and the reed bed drying are the most economical. All scenarios are less expensive than the current process.

Table 36: Total Cost Comparison per Tank to Pump

Scenario	Treatment Alternative	Disposal Alternative	Treatment Cost	Disposal Cost	Total Cost
1	Passive Dewatering	Ship to Juneau	$112	$464	$576
2	Mechanical Dewatering	Ship to Juneau	$153	$155	$308
3	Mechanical Dewatering	Monofil	$153	$259	$412
4	Mechanical Dewatering	Incineration	$153	$564	$717
5	N/A	Composting		$526	$526
6	Reed Bed Drying	Ship to Juneau	$92	$155	$246
7	Aerobic Digester	Monofil	$652	$259	$911
8	No Action	No Action	N/A	$1,000	$1,000

7.2 Non-Monetary Factors

7.2.1 Treatment Alternatives Non-Monetary Factors Comparison

Non-monetary factors for Alternatives 1A through 1E are summarized in Table 37. The matrix measures the impact of each alternative on three key non-monetary metrics: (1) regulatory compliance, (2) system resilience, and (3) ease of operation. Each category is measured on a scale of 1–10.

The summation of both the non-monetary factor scores provides an overall category score for each alternative that addresses wastewater treatment.

Criteria were considered using the following definitions:

- Resilience – Alternative's ability to expand to meet increasing demands or changing environmental and other conditions
- Ease of Operation – Alternative's complexity of operation, with ideally not requiring additional staff or expertise
- Reliability – Limited or simple moving parts and a proven track record of treatment of septage treatment

Table 37. Non-Monetary Factors Treatment Alternatives

Criteria		Alternative 1A: Mechanical Dewatering	Alternative 1B: Passive Dewatering	Alternative 1C: Aerobic Digester	Alternative 1D: Reed Bed Drying	Alternative 1F: No Action
Resilience	Resilience, sub-score (1–10)	8	8	7	5	0
	Weighting Factor (1–10)	6	6	6	6	6
	Overall Resilience Score	**48**	**48**	**42**	**30**	**0**
Ease of Operation	Ease of Operation, sub-score (1–10)	7	8	3	6	10
	Weighting Factor (1–10)	8	8	8	8	8
	Overall Operation Score	**56**	**64**	**24**	**48**	**80**
Reliability	Reliability, sub-score (1–10)	5	7	2	4	0
	Weighting Factor (1–10)	4	4	4	4	4
	Overall Operation Score	**20**	**48**	**8**	**16**	**0**
	Total Score	**124**	**140**	**74**	**94**	**80**

7.2.1.1 Resilience

Alternatives 1A and 1B were ranked highly in the Resilience category, as they can be meet the needs of the community should it grow as they would simply need to be operated more often or for longer. Alternative 1C is slightly more restricted in ability to grow, however an aerobic digestion system is quite resilient to changing conditions. Alternative 1D requires the growth and maintenance of plants to properly treat septage.

7.2.1.2 Ease of Operation

Alternative 1A and 1B are relatively simple to operate, with 1A being slightly more complex with the screw press. Alternative 1C requires a higher operator skill level and effort to properly maintain. Once the bed is established Alternative 1D is low maintenance option, however there is some upfront work as well as effort once the treatment is complete to collect the dewatered and treated sludge. Alternative 1F requires zero operator input as there is no operation occurring.

7.2.1.3 Reliability

Establishing a simple, reliable alternative with a low number of parts to break with a good track record of performance is important. Alternative 1A requires some moving parts, but the technology is proven to work with examples in use in Southeast Alaska. Alternative 1B has much fewer moving parts and redundancy with multiple dewatering dumpsters. Alternative 1C has significantly higher number of potential parts to break with the addition of blowers and more pumps. Alternative 1D is a low-tech solution, but it has not been proven in similar communities in Southeast Alaska.

7.2.1.4 Results

Alternatives 1B and 1A are the top two scoring alternatives. Should there be a suitable avenue for disposal of the product of either of these two alternatives, from a non-monetary factor analysis, these are preferred.

7.2.2 Disposal Alternatives Non-Monetary Factors Comparison

Non-monetary factors for Alternatives 2A through 2F are summarized in Table 38. The matrix measures the impact of each alternative on three key non-monetary metrics: (1) ease of operation, (2) environmental impact, and (3) reliability and self-reliance. Each category is measured on a scale of 1–10. A score of 10 is most preferable and a score of 1 is least preferable.

The summation of the non-monetary factor scores provides an overall category score for each alternative that addresses disposal.

Criteria were considered using the following definitions:

- Ease of Operation – Alternative's complexity of operation for local operators.
- Environmental Impacts – Effect on the environment of the disposal. This includes removal of PFAS from the local environment, and possible effects on the surrounding area from sight, spell, or odor.
- Reliability and Self-Reliance – Ability of the City to maintain and operate the disposal by itself with minimal moving parts that need repair

Table 38. Non-Monetary Factors Disposal Alternatives

Criteria		Alternative 2A: Incineration	Alternative 2B: Monofill	Alternative 2C: Shipment	Alternative 2E: Composting	Alternative 2F: No Action
Ease of Operation	Ease of Operation, sub-score (1–10)	2	5	10	2	10
	Weighting Factor (1–10)	6	6	6	6	6
	Overall Operation Score	**12**	**30**	**60**	**12**	**60**
Environmental Impact	Environmental Impact, sub-score (1–10)	2	5	8	4	7
	Weighting Factor (1–10)	8	8	8	8	8
	Overall Environmental Impact Score	**16**	**40**	**64**	**32**	**56**
Reliability	Reliability, sub-score (1–10)	5	8	4	8	2
	Weighting Factor (1–10)	4	4	4	4	4
	Overall Reliability Score	**20**	**32**	**16**	**32**	**8**
	Total Score	**48**	**102**	**140**	**76**	**124**

7.2.2.1 Ease of Operation

Alternatives 2C and 2F were ranked highly in the Ease of Operation category, as they require little to no input from local operators. Alternatives 2A, 2B, and 2E all require some level of operator input with Alternatives 2A and 2E requiring significant operator intervention.

7.2.2.2 Environmental Impact

Incinerators (Alternative 2A) release significant volumes of pollutants into the environment during the incineration process. While mitigation measures can be taken, there are still emissions, and the operation of the incinerator can be disturbing to local residents. Alternative 2B keeps all pollutants within the confines of the DRC in a lined monofil, but there is the potential for odor to impact neighboring properties. Alternative 2C removes the waste into a certified landfill and away from the local population. Alternative 2E has no effective way to remove PFAS and other contaminants from the environment as the biosolids would need to be disposed of locally. Composting also could have a significant odor issue for neighboring properties.

7.2.2.3 Reliability and Self-Reliance

Alternatives 2A, 2B, and 2E all keep the sludge within the City, so the City has full control. Alternative 2A does have a significant number of mechanical items which would require lengthy repair times if something does go wrong. Alternative 2C requires the use of the AMHS and an outside contractor, but the City does have the ability to store dewatered solids in dumpsters for some time if there is an issue with disposal. Alternative 2F is solely reliant on the AMHS and an outside contractor for every aspect of disposal.

7.2.2.4 Results

While Alternative 2C was ranked the highest in this analysis with Alternative 2B being the next highest-ranking alternative that is not no action.

8. PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

At this time, HDR recommends the following alternatives:

- Alternative 1A – Mechanical Dewatering
- Alternative 2B – Monofill

  or

- Alternative 2C – Shipment to Juneau

See Section 5.3, Section 6.2, and Section 6.3 for a full description and cost estimate of each respective recommended alternative. This section will be completed once community feedback is received and the 65% PER draft is reviewed and comments received from VSW and the Review Committee.

8.1 Preliminary Project Design

8.2 Project Schedule

8.3 Permit Requirements

8.4 Sustainability Considerations

8.4.1 Water and Energy Efficiency

8.4.2 Green Infrastructure

8.4.3 Other

8.5 Total Project Cost Estimate

8.6 Annual Operating Budget

9. CONCLUSIONS AND RECOMMENDATIONS

To be developed in 95% Draft PER

10. REFERENCES

AHRS (Alaska Heritage Resource Survey). 2023. Department of Natural Resources. Available at: https://dnr.alaska.gov/ohasecurity/portal. Accessed 2023.

EPA (U.S. Environmental Protection Agency). 2002. *Onsite Wastewater Treatment Systems Manual*. Office of Research and Development, Office of Water, February 2002, EPA/625/R-00/008. https://www.epa.gov/sites/default/files/2015-06/documents/2004_07_07_septics_septic_2002_osdm_all.pdf

National Oceanic and Atmospheric Administration (NOAA). 2024. Climate Data Online. Accessible here: Noaa.gov. Accessed September 2024

Neval Engineering. 2023. *Septage Holding Tank Facility Engineer's Report.* Submitted to Alaska Department of Environmental Conservation Engineering Support and Plan Review 2023

U.S. Census Bureau. 2020. *US 2020 Census Data*. Accessible here: Census.gov. Accessed 2024.

EPA (U.S. Environmental Protection Agency). 2000. *Belt Filter Press Fact Sheet*. Office of Water September 2020 https://www.epa.gov/sites/default/files/2018-11/documents/belt-filter-press-factsheet.pdf

Screw Press Sludge Dewatering *Minimizing Wastewater Solution: Screw press vs. disc press sludge dewatering*. Accessed 2024 from https://www.screwpresssludgedewatering.com/en/new/Minimizing-Wastewater-Solution-Screw-press-disc-press-sludge-dewatering.html

Kinsley, C., Crolla, A., & Kennedy, K. (2014). *Septage Treatment with Reed Bed Filters*. Ontario Rural Wastewater Centre, Université de Guelph-Campus d'Alfred. Retrieved from https://ontarioruralwastewatercentre.ca/wp-content/uploads/2018/01/owrc-extension-research-note-septage-treatment-with-reed-bed-filters.pdf.

Kowalik, Piotr & Mierzejewski, Michał & Randerson, Peter & Williams, Haydn. (2004). Performance of Subsurface Vertical Flow Constructed Wetlands Receiving Municipal Wastewater. Archives of Hydroengineering and Environmental Mechanics. 51.

USFWS (U.S. Fish and Wildlife Service). 2024. National Wetlands Inventory. https://www.fws.gov/program/national-wetlands-inventory.

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Appendix A

Kickoff Meeting Agenda

Agenda

Project:	VSW 24-GST-TO-016 Gustavus Septage Management PER	
Subject:	Kick-Off Meeting	
Date:	Friday, October 06, 2023	
Location:	Remote	
Attendees:	Anson Moxness (HDR)	Anita Erickson (VSW)
	KC Kent (HDR)	City of Gustavus Representatives

Introductions

Project Overview (Anita /Anson)

Discussion

- **Project Goals and Expectations**
  - **Community**
  - **VSW**
- **Site Visit Logistics and Plan**
- **Anticipated Alternatives (HDR)**
  - **Status of the Barlett Cove WWTF**

Questions/Wrap up

Appendix B

Site Visit Report

Trip Report

Date:	Wednesday, August 14, 2024
Project:	Gustavus Septage Management PER
To:	Anita Erickson, P.E. – Village Safe Water
From:	Anson Moxness, P.E., HDR; KC Kent, HDR
Subject:	Gustavus Site Visit

HDR Alaska, Inc. (HDR) engineers Anson Moxness, PE and KC Kent conducted a site visit to Gustavus, Alaska to inspect the existing septage management system as part of the Gustavus Septage Management Preliminary Engineering Report (PER), work order 24-GST-TO-016. The scope of the project is to identify and study alternatives for addressing issues with the wastewater management and treatment facilities associated with storage and treatment of solids.

HDR engineers arrived in Gustavus at approximately 10:30 am on August 7th and met with Kathy Leary, City Administrator, John Berry, Local Engineer, and Mike Taylor, city council member to discuss site visit plans. The project team and Mr. Berry visited the Disposal and Recycling Center (DRC) where they observed the existing septage storage tanks and received a site tour from Ian Barrier, the DRC operator. Mr. Berry and Mr. Barrier identified land intended for DRC expansion and pointed out preferred locations for additional treatment facilities neighboring the DRC.

One septage storage tank appeared to be full of solids from the previous year's septage hauling and one storage tank appeared to be partially full. The tanks were in good condition; however the bung hole caps had been left open and several fill and drain hoses had been left on site. Mr. Berry indicated this was due to an incident with the pumper truck during the winter. The truck is currently undergoing repairs in Juneau and there has been no septage pumping service to homes or to empty the storage tank from Juneau Septic Services in the last 8 months. It was noted that despite the open bung holes, there was minimal to no odor being emitted from the septic tanks.

HDR engineers, Mr. Berry, and Ms. Leary visited several other possible sites which could be designated for septage treatment facilities and/or disposal areas on Cook Inlet Regional Inc (CIRI) owned land and Alaska Mental Health Trust owned parcels. The CIRI-owned parcel had large amounts of ponding water in low lying areas which indicates likely high groundwater. Mr. Taylor and HDR engineers visited a State of Alaska Department of Natural Resources (DNR) owned parcel adjacent to local housing and a City of Gustavus owned parcel directly off of the main road through town. These sites were generally forested but appeared to have a lower groundwater table then the CIRI parcel.

The team attended a community meeting in the evening of August 7th. The meeting was attended by several community members, city council members, and Anita Erickson, the VSW Project Manager. HDR described the PER process to the council and those present at the meeting and then went into describing the current progress and the problem that this PER will address. Several questions were answered regarding the project timeline, potential pitfalls, and some high-level theoretical possibilities for alternatives. Suggestions and inputs from the community were also received including aeration of the waste and PFAS concerns.

The morning of August 8th, HDR met with operators at the National Park Service Barlett Cove wastewater treatment facility. HDR was given a tour of the facility including the solids handling apparatus and activated sludge treatment system.

Next steps include the development of alternatives.

The following pages contain photographs documenting the site visit.

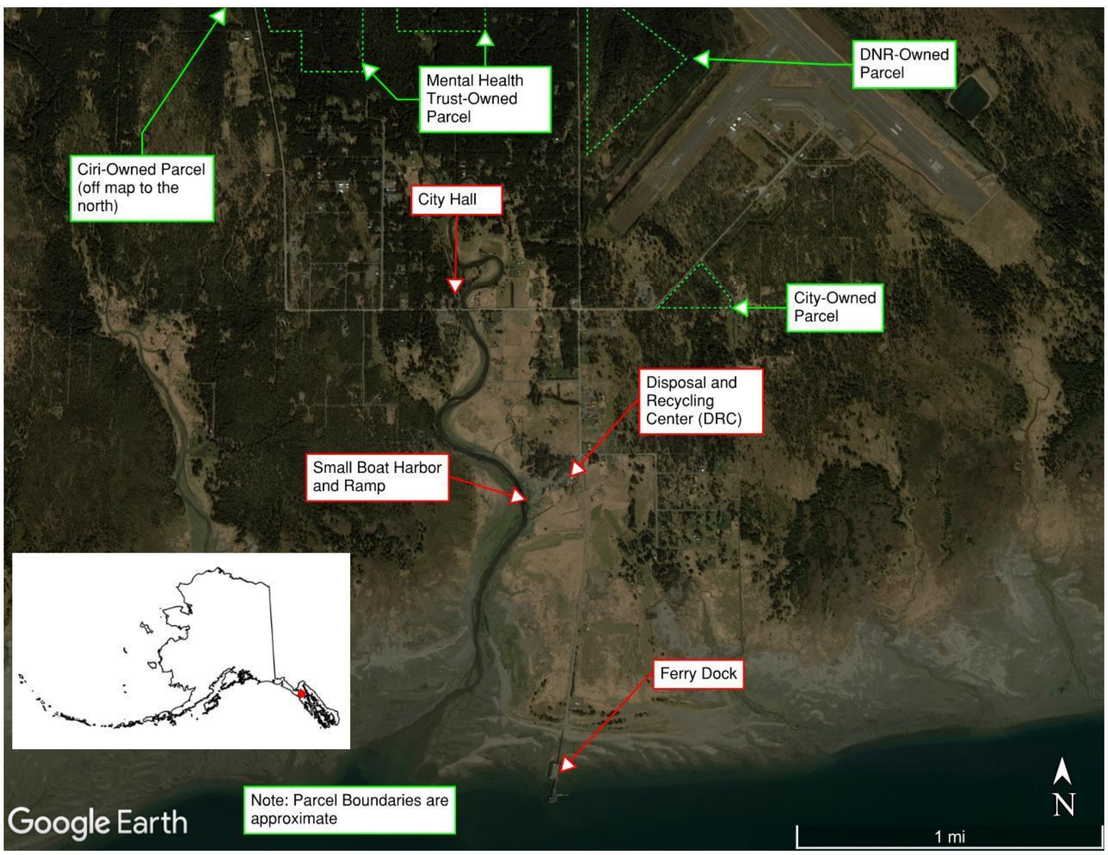

Figure 1. Location of infrastructure in Gustavus, Alaska, and the visited parcels.

Figure 2. Location of the two underground 10,000 gallon fiberglass septage holding tanks

Figure 3. Caps of one of the septage holding tanks

Figure 4. DRC composting area

Figure 5. Potential area for future development, owned by the Alaska Department of Transportation

Figure 6. Wastewater treatment facility at Bartlett Cove

Figure 7. The sludge bagger at Bartlett Cove wastewater treatment facility.

CITY OF GUSTAVUS
CITY COUNCIL GENERAL MEETING

Monday, March 10, 2025 at 7:00 PM
Gustavus City Hall

COUNCIL MEMBERS	CITY HALL
Mayor Sally McLaughlin	City Administrator – Kathy Leary
Vice Mayor Shelley Owens	City Clerk – Liesl Barker
Council Members: Susan Warner, Rachel Patrick	City Treasurer – Ben Sadler
Brian Taylor, Lucas Beck, Mike Taylor	Phone: 907-697-2451 | clerk@gustavus-ak.gov

AGENDA- DRAFT

VIRTUAL MEETING INFORMATION

https://tinyurl.com/4esfph35

ID: 515 501 9406 **PASSCODE:** XXXX **TEL:** 253-215-8782

ROLL CALL

Reading of the City of Gustavus Mission Statement

APPROVAL OF MINUTES

1. 02-10-2025 General Meeting Minutes

MAYOR'S REQUEST FOR AGENDA CHANGES

COMMITTEE / STAFF REPORTS

2. Library Quarterly Report
3. Gustavus Visitors Association Quarterly Report
4. Conservation Lands Advisory Commitee Quarterly Report
5. Policy Advisory Committee (Endowment Fund) Monthly Report
6. City Treasurer Monthly Report
7. City Administrator Monthly Report

PUBLIC COMMENT ON NON-AGENDA ITEMS

CONSENT AGENDA

ORDINANCE FOR PUBLIC HEARING

8. FY25-13 NCO Introduction Capital Improvement Long Term Transfer (Public Hearing 03-20-2025)

UNFINISHED BUSINESS

9. FY25-09 Introduction providing amendment of 2.40.150 Committees (Public Hearing 03-10-2025)

NEW BUSINESS

10. Appointment of new City Council Member to fill seat D, term expiring 10-13-2025
11. Swearing in of new City Council Member seat D
12. CY25-XX Cost of Living Adjustment
13. Approve Policy Committee Appointments
14. Approve scoping document for community outdoor furniture enhancements

CITY COUNCIL REPORTS

15. Mayor Monthly Report

CITY COUNCIL QUESTIONS AND COMMENTS

PUBLIC COMMENT ON NON-AGENDA ITEMS

EXECUTIVE SESSION

ADJOURNMENT

POSTED ON: Month Day, 202X at P.O, Library, City Hall & https://cms.gustavus-ak.gov/

ADA NOTICE

Any person with a disability who requires accommodations in order to participate in this meeting should telephone the City Clerk's office at (907) 697-2451, at least 48 hours prior to the meeting in order to make a request for a disability related modification or accommodation.

MISSION STATEMENT

The City of Gustavus is a distinctive Alaskan City that provides high quality public services in a thoughtful, cost effective and professional manner to sustain a safe, beautiful tolerant environment to live, work, and play with respect for individual freedom and each other.

CITY OF GUSTAVUS
CITY COUNCIL GENERAL MEETING

Monday, February 10, 2025 at 7:00 PM
Gustavus City Hall

COUNCIL MEMBERS
Mayor Sally McLaughlin
Vice Mayor Shelley Owens
Council Members: Susan Warner, Rachel Patrick
Brian Taylor, Lucas Beck, Mike Taylor

CITY HALL
City Administrator – Kathy Leary
City Clerk – Liesl Barker
City Treasurer – Ben Sadler
Phone: 907-697-2451 | clerk@gustavus-ak.gov

MINUTES - PENDING

VIRTUAL MEETING INFORMATION

https://tinyurl.com/bdd8ye5a
ID: 515 501 9406 **PASSCODE:** 99826 **TEL:** 253-215-8782

SCAN TO WATCH

ROLL CALL
PRESENT
Mayor Sally McLaughlin
Vice Mayor Shelley Owens
Council Member Susan Warner
Council Member Lucas Beck
Council Member Mike Taylor

ABSENT
Council Member Rachel Patrick (excused)
Council Member Brian Taylor (not excused)

Reading of the City of Gustavus Vision Statement

Vision Statement read by Council Member M. Taylor.

APPROVAL OF MINUTES

1. 01-13-2025 General Meeting Minutes

   Motion made by Vice Mayor Owens to approve by unanimous consent the 01-13-2025 Meeting Minutes.

   Seconded by Council Member Beck

   Public Comment: None

   Council Comment: None

   Hearing no objections, the 01-13 -2025 General Meeting Minutes were approved by unanimous consent.

MAYOR'S REQUEST FOR AGENDA CHANGES

There were no agenda changes.

Hearing no objections, Mayor McLaughlin announced the agenda set as presented by unanimous consent.

COMMITTEE / STAFF REPORTS

2. Disposal and Recycling Center Quarterly Report

   Disposal and Recycling Center Manager/Operator, Ian Barrier submitted a written report and provided an oral summary.

   Clarifying Questions:

   Vice Mayor Owens

   Council Member M. Taylor

3. City Treasurer Monthly Report

   City of Gustavus City Treasurer, Ben Sadler provided monthly financial documents and gave an oral summary.

   Clarifying Questions:

   Council Member M. Taylor

   Council Member Warner

   Mayor McLaughlin

   City Administrator Leary

4. City Administrator Monthly Report

   City of Gustavus City Administrator, Kathy Leary provided a written report and provided an oral report.

   Clarifying Questions: None

PUBLIC COMMENT ON NON-AGENDA ITEMS

None

CONSENT AGENDA

5. Approve Policy Committee Appointments
6. FY25-13 NCO Introduction Capital Improvement Long Term Transfer (Public Hearing 03-20-2025)

Council Member Warner requested to remove item number 5, the appointments to special policy committee from the consent agenda.

Motion made by Vice Mayor Owens to adopt the consent agenda by unanimous consent minus item number 5.

Seconded by Council Member M. Taylor

Hearing no objections, the motion passed.

ORDINANCE FOR PUBLIC HEARING

7. FY25-07 Providing amendment of 1.03.020 Procedures for resolution (Introduced 01-13-2025)

   Mayor McLaughlin opened the public hearing at 7:24 PM.

   Public Testimony: None

   Mayor McLaughlin closed the public hearing at 7:24 PM.

   Motion made by Vice Mayor Owens to approve FY25-07 1.03.020 Procedures for resolution introduced on 01-13-2025.

   Seconded by Council Member Warner

   Council Debate: None

   Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

   5 yea / 0 nay

   Motion Passed

8. FY25-08 Providing amendment of 2.40.030 Order of business (Introduced 01-13-2025)

   Mayor McLaughlin opened the public hearing at 7:27 PM.

   Public Testimony: None

   Mayor McLaughlin closed the public hearing at 7:27 PM.

   Motion made by Council Member Warner to approve FY25-08 Providing amendment of 2.40.030 Order of business introduced 01-13-2025.

   Seconded by Council Member M. Taylor

   Council Debate: None

   Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

   5 yea/ 0 nay

   Motion Passed

9. FY25-10 Providing amendment of 2.50.010 City Clerk and Treasurer, 2.50.050 Internal Control, 2.50.070 City Administrator (Introduced 01-13-2025)

   Mayor McLaughlin opened the public hearing at 7:29 PM.

   Public Testimony: None

   Mayor McLaughlin closed the public hearing at 7:29 PM.

Motion made by Vice Mayor Owens to approve FY25-10 Providing amendment of 2.50.010 City Clerk and Treasurer, 2.50.050 Internal Control, 2.50.070 City Administrator introduced 01-13-2025.

Seconded by Council Member Warner

Council Debate: None

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

5 yea/ 0 nay

Motion Passed.

10. FY25-11 Providing amendment of 4.08.010 Annual Financial Statement (Introduced 01-13-2025)

Mayor McLaughlin opened the public hearing at 7:30 PM.

Public Testimony: None

Mayor McLaughlin closed the public hearing at 7:31 PM.

Motion made by Council Member Back to approve FY25-11 Providing amendment of 4.08.010 Annual Financial Statement introduced on 01-13-2025.

Seconded by Council Member M. Taylor

Council Debate: None

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

5 yea/ 0 nay

Motion Passed.

11. FY25-12 Providing amendment of 2.40.140 Telephonic participation (Introduced 01-13-2025)

Mayor McLaughlin opened the public hearing at 7:32 PM.

Public Testimony: None

Mayor McLaughlin closed the public hearing at 7:32 PM.

Motion made by Council Member M. Taylor to approve FY25-12 Providing amendment of 2.40.140 Telephonic participation introduced 01-13-2025.

Seconded by Council Member Warner

Council Debate: None

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

5 yea/ 0 nay

Motion Passed.

UNFINISHED BUSINESS

12. FY25-09 Introduction providing amendment of 2.40.150 Committees (Public Hearing 03-10-2025)

    Motion made by Vice Mayor Owens to postpone introduction of FY25-09 providing amendment of 2.40.150 Committees to a time certain, March 10th, 2025, Gustavus City Council General Meeting.

    Seconded by Council Member Beck

    Council Debate:

    Vice Mayor Owens

    Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

    5 yea/ 0 nay

    Motion Passed.

NEW BUSINESS

5. Approve Policy Committee Appointments

    Point of information: Vice Mayor Owens- Can each of the names be segregated out and voted on individually? - answer- One can make a motion to amend the presented appointments, first there need to be a main motion to bring it to the floor

    Motion made by Council Member Beck to approve the appointments of the special policy committee.

    Seconded by Council Member M. Taylor

    Council Debate:

    **Clerk note- Vice Mayor Owens made a motion, it did not receive a second and therefore died.*

    Council Member Warner

    > Motion made by Council Member Warner to postpone to time certain March 10, 2025 General Meeting.
    >
    > Seconded by Vice Mayor Owens
    >
    > Council Debate:
    >
    > Council Member Warner
    >
    > Vice Mayor Owens
    >
    > Council Member M. Taylor
    >
    > Mayor McLaughlin
    >
    > Council Member Beck
    >
    > Council Member Warner
    >
    > Mayor McLaughlin

Council Member M. Taylor

Voting Yea: Vice Mayor Owens, Council Member Warner
Voting Nay: Mayor McLaughlin, Council Member Beck, Council Member M. Taylor

2 yea/ 3 nay

Motion Failed.

Back to Main Motion:

Council Debate Continued:

Vice Mayor Owens

Motion made by Vice Mayor Owens to amend the motion to have individual vote on each of the 4 nominations.

Seconded by Council Member Warner

Council Debate:

Point of Order: City Administrator does it (the motion to amend) align with the resolution, in making individual votes. answer - the ordinance says the council is to ratify the appointments made by the mayor.

Point of Information: Mayor McLaughlin- What does it mean to ratify? answer - to approve the item by vote

Council Member M. Taylor

Point of Information: Council Member Beck- do I have to vote on my own appointment it feels weird when other folks don't have the option vote on theirs - Answer - no, probably best to abstain, we would still have a quorum.

Mayor McLaughlin

Motion made by Mayor McLaughlin to recess for 5 minutes.

Second by Council Member Warner

Hearing no objections the motion to recess was approved by unanimous consent

Mayor McLaughlin called the Council back to session at 8:04pm.

Mayor McLaughlin rules the motion out of order.

**Clerk note - ruling made on the basis it would set the city of for possible defamation of character because each name would be debated and wants to review further.*

Back to main motion:

Council Debate Continues:

Council Member M. Taylor

Motion made by Council Member M. Taylor to postpone this item to time certain of the March 10, 2025 general meeting.

Seconded by Vice Mayor Owens

Council Debate:

Council Member Beck

Motion made by Council Member Beck to amend the motion to postpone the item until time certain of a special meeting prior to the March 10th, 2025 general meeting.

Seconded by Mayor McLaughlin

Council Debate:

Council Member M. Taylor

Voting Yea: Mayor McLaughlin, Council Member Beck, Council Member M. Taylor
Voting Nay: Vice Mayor Owens, Council Member Warner

3 yea/ 2 nay

Motion ~~Passed~~ Failed. (see point of order below)

Point of Order by Council Member M. Taylor - a motion must have 4 yea votes to pass.

Motion made by Mayor McLaughlin to recess for 5 minutes.

Seconded by Council Member Warner

Hearing no objection the motion passed by unanimous consent.

Mayor McLaughlin called the meeting back in session from recess at 8:16 pm.

Answer to point of order - well taken

**Clerk note: Correction - The motion to postpone to time certain to a special meeting failed.*

Back to motion (to postpone till time certain March 10, 2025)

Council Debate continued:

Mayor McLaughlin

Council Member Warner

Mayor McLaughlin

Council Member M. Taylor

Council Member Beck

Voting Yea: Vice Mayor Owens, Council Member Warner, Council Member M. Taylor
Voting Nay: Mayor McLaughlin, Council Member Beck

3 yea/ 2 nay

Motion Failed.

Back to main motion (to approve appointments to the Special Policy Committee)

Council Debate Continued:

Council Member Beck

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Beck, Council Member M. Taylor
Voting Nay: Council Member Warner

4 yea/ 1 nay
Motion Passed.

13. Renew Special Land Use Permit with the Gustavus Community Garden

Motion made Mayor McLaughlin to approve renewing the Special Land Use Permit with the Gustavus Community Garden

Seconded by Council Member M. Taylor

Council Debate: None

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

5 yea/ 0 nay
Motion Passed.

14. Girl Scouts of Alaska Troop 23032 Endowment Fund Grant - Requesting 90% of funding in advance

Motion made by Council Member M. Taylor to approve Girl Scouts of Alaska Troop 23032 Endowment Fund Grant request to receive 90% of funding in advance.

Seconded by Vice Mayor Owens

Public comment: None

Council Debate: None

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

5 yea/ 0 nay
Motion Passed.

15. CY25-03 Submission of Capital Projects Submission and Information System (CAPSIS) to the Alaska Legislature

Motion made by Council Member Beck to adopt resolution CY25-03 Submission of Capital Projects submission and information system (CAPSIS) to the Alaska Legislature.

Seconded by Vice Mayor Owens

Public comment: None

Council Debate: None

Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

5 yea/ 0 nay
Motion Passed.

16. Accept resignation of City Council Member B. Taylor effective 03-09-2025

    Motion made by Council Member M. Taylor to accept the resignation of Council Member Brian Taylor effective 03-09-2025.

    Seconded by Council Member Beck

    Public comment: None

    Council Debate:

    Council Member M. Taylor

    Voting Yea: Mayor McLaughlin, Vice Mayor Owens, Council Member Warner, Council Member Beck, Council Member M. Taylor

    5 yea/ 0 nay

    Motion Passed.

CITY COUNCIL REPORTS

17. National League of Cities/Washington DC trip update

    Council Member B. Taylor submitted a written report.

18. Mayor's Monthly Report

    Mayor McLaughlin submitted a written report and provided an oral summary.

CITY COUNCIL QUESTIONS AND COMMENTS

Vice Mayor Owens - We will be accepting application for a City Council Member

Council Member Warner - Tea with Mayor, OMA?

PUBLIC COMMENT ON NON-AGENDA ITEMS

Renee Patrick - Thanking the City Council

EXECUTIVE SESSION

None

ADJOURNMENT

With no further business and hearing no objections, the meeting was adjourned at 8:37 PM.

POSTED ON: February 5, 2025 at P.O, Library, City Hall & https://cms.gustavus-ak.gov/

ADA NOTICE

Any person with a disability who requires accommodations in order to participate in this meeting should telephone the City Clerk's office at (907) 697-2451, at least 48 hours prior to the meeting in order to make a request for a disability related modification or accommodation.

VISION STATEMENT

We envision a distinctive community:

- *That prospers while and by protecting its natural resources;*
- *With a sustainable economy and infrastructure that assures public health and safety while promoting personal development and initiative; and*
- *Where all members take social responsibility and actively participate in decision making affecting growth, development, regulation and enforcement; and*
- *In which people retain a closeness with and caring for each other individually and collectively while working together to accomplish community goals and preserve community traditions.*

Sally A. McLaughlin, Mayor — Date

Attest: Liesl M. Barker, City Clerk — Date

CITY OF GUSTAVUS, ALASKA
ORDINANCE FY25-XXNCO

AN ORDINANCE FOR THE CITY OF GUSTAVUS PROVIDING FOR THE AMENDMENT OF THE CITY HELD ACCOUNTS IN FISCAL YEAR 2025

BE IT ENACTED BY THE GUSTAVUS CITY COUNCIL AS FOLLOWS:

Section 1. Classification. This is a **Non-Code Ordinance**

Section 2. For the Fiscal Year of 2025, the following City held account balance transfers are to be made for the reasons stated.

Section 3. For the current fiscal year, City held accounts are amended to reflect the changes as follows:

CITY HELD ACCOUNTS	**Amounts Account Balance**	**Amended Balance**	**Change**
CP18-01 SRH Clean Up *Project was completed in FY25. Returning funds to AMLIP Capital Imrov Long-Term account.*	$ 716.86	$ 0.00	<$ 716.86 >
CP19-08 Library Bike Shelter *Project was completed in FY25. Returning funds to AMLIP Capital Imrov Long-Term account.*	$ 691.91	$ 0.00	<$ 691.91 >
CP21-02 Refurbish Old PO *Project was completed in FY25. Returning funds to AMLIP Capital Imrov Long-Term account.*	$ 15.43	$ 0.00	<$ 15.43 >
CP21-04 MFC Building in SRB *Project was completed in FY23. Returning funds to AMLIP Capital Imrov Long-Term account.*	$ 1,323.29	$ 0.00	<$ 1,323.29 >
CP21-06 Fish Waste Disposal *Project was completed in FY24. Returning funds to AMLIP Capital Imrov Long-Term account.*	$ 2,162.08	$ 0.00	<$ 2,162.08 >
CP22-02 Marine Facilities Vessel *Project was abandoned in FY25. Returning funds to AMLIP Capital Imrov Long-Term account.*	$ 30,000.00	$ 0.00	<$ 30,000.00>
AMLIP Capital Improv Long-Term* **Approximate, this is a dynamic value.*	$ 621,634.59	$ 656,544.16	$ 34,909.57
Total Change in City Held Account Balances			$ 0.00

Section 4. The City held accounts are hereby amended as indicated.

Section 5. Effective Date. This ordinance becomes effective upon its adoption by the Gustavus City Council.

DATE INTRODUCED: *February 10, 2025*
DATE OF PUBLIC HEARING: *March 10, 2025*

PASSED and **APPROVED** by the Gustavus City Council this __th day of ______, 2025.

____
Sally McLaughlin, Mayor

____
Attest: Ben Sadler, City Treasurer

Attest: Liesl Barker, City Clerk

CITY OF GUSTAVUS
ORDINANCE FY25-09

AN ORDINANCE FOR THE CITY OF GUSTAVUS PROVIDING FOR THE AMENDMENT OF TITLE 2 ADMINSTRATION, CHAPTER2.40 CITY COUNCIL PROCEDURES, SECTION 2.40.150 COMMITTEES

BE IT ENACTED BY THE GUSTAVUS CITY COUNCIL AS FOLLOWS:

Section 1. Classification**.** This ordinance is of general and permanent nature and shall become a part of the City of Gustavus Municipal Code.

Section 2. Severability. If any provisions of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and its application to other persons, or circumstances shall not be affected thereby.

Section 3. Enactment. Now therefore, it is enacted by the Gustavus City Council that Title 2, Chapter 2.40.150 be amended as follows:

Bold and Underlined items are additions. Strikeout items are deletions.

TITLE 2 - ADMINISTRATION

Chapter 2.40 – City council procedures

Section 2.40.150 – Committees

(a) Standing committees shall be created and dissolved by resolution.

(b) Special committees shall be created by resolution. The city council shall have such special committees as may be considered necessary. Special committees automatically terminate upon completion of the committee's assignment as defined in the resolution.

(c) Any member of the city council may sit with any committee at all times; such member shall have the right to participate in committee discussion except that members of the committee have priority in obtaining the floor and only committee members may vote. Reasonable opportunity for the public to be heard shall be allowed at committee meetings other than those designated as work sessions.

(d) Selection, process, and duties of committees of the city council.

(1) Standing committees.

(A) There shall be not more than two (2) city council members appointed to each standing committee of the city council. **City council members appointed to the committee shall serve as a liaison, without voting privileges.**

(B) Volunteers interested in filling a vacancy on a committee shall submit an application for appointment to the city clerk's office, on a form provided by the city clerk's office.

(C) ~~(B)~~Nominations for standing committee appointments and for the position of chair of each such committee shall be made by the mayor **from applications received and** subject to ratification by the city council.

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(D) ~~(C)~~ A standing committee may at the call of its chair or the vote of its membership take up any matter within the scope of its charge established by these rules and not pending as legislation authorized by the city council. Matters not within the scope of any standing committee or within the scope of more than one (1) standing committee shall be assigned by the mayor.

~~(D)Each committee shall refer information to and coordinate activities with other appropriate committees. Issues referred to another committee and any directions to the mayor must have the concurrence of a majority of the committee members.~~

(2) Special committees. ~~Nominations for special committee appointments and the chair position of each special committee shall be made by the mayor and shall be subject to ratification by the city council.~~

(A) There shall be not more than two (2) city council members appointed to each standing committee of the city council. City council members appointed to the committee shall serve as a liaison, without voting privileges.

(B) Volunteers interested in filling a vacancy on a committee shall submit an application for appointment to the city clerk's office, on a form provided by the city clerk's office.

(C) Nominations for special committee appointments and for the position of chair of each such committee shall be made by the mayor from applications received and subject to ratification by the city council.

(e) The council liaison is a nonvoting member who may participate in committee deliberation, provides a direct line of communication between the committee and the city council, and provides guidance about Open Meetings Act and Roberts Rules of Order.

(f)~~(e)~~ The **meeting** schedule will be made available in the office of the clerk and posted in at least three (3) public locations throughout the City of Gustavus five (5) days prior to meeting. All committees will prepare and present quarterly reports at city council meetings as scheduled by the council or at the request of the city council.

(g)~~(f)~~ Quorum of committees. For committees with seven (7) or eight (8) members, four (4) of the membership shall constitute a quorum; for committees with five (5) or six (6) members, three (3) of the membership shall constitute a quorum. For committees with four (4) or fewer members, two (2) of the membership shall constitute a quorum for the transaction of business. **Council members serving on committees will not count in the constitution of a quorum.**

(h)~~(g)~~ Voting. The minimum vote required to take official action shall be the same as that constituting a quorum.

(i) All committee members under this chapter shall take an oath of office prior to participation in any meeting.

Section 4. Effective Date**.** This ordinance becomes effective upon its adoption by the Gustavus City Council.

Date Introduced: February 10th, 2025
Date of Public Hearing: March 10th, 2025

PASSED and **APPROVED** by the Gustavus City Council this XXth day of XXXX, 2025

____
Sally A McLaughlin, Mayor

____
Attest: Liesl M. Barker, City Clerk

Attachments: If any

Date Received: RECEIVED FEB 25 2025

SEAL INCORPORATED APRIL 1 2004 CITY OF GUSTAVUS ALASKA

APPLICATION FOR APPOINTMENT TO OPEN COUNCIL SEAT
CITY OF GUSTAVUS

Name: Geoffrey (Last) Fosse (First) W (MI)

Residence Address: 15 Berry Creek

Mailing Address: PO Box 228,Gusatavus, Ak 99826

Home Phone: cell# 417-718-7156

E-Mail Address: gfosse2017@gmail.com

Can you regularly attend meetings? ☑ YES ☐ NO

Are you currently affiliated with the City in any way?
(For example emergency responder, employee)
☐ YES ☑ NO

If yes, please list positions:

Have you been a member of the City Council before? No

Reason for interest in being a Council Member: To better understand the needs of our community to be a part in how the City moves forward for our citizens.

Brief background of experience that would qualify you for the position:
Managment of trucking company's freight lot and movement therein.
Safety assistant in the hours of service rules and regulations adherence.

[signature]	Geoffreyt Fosse	2/25/25
Signature	Printed Name	Date

Date Received: RECEIVED FEB 26 2025

APPLICATION FOR APPOINTMENT TO OPEN COUNCIL SEAT
CITY OF GUSTAVUS

Name: Kearns (Last) James (First) S. (MI)

Residence Address: 1010 Chase DR.

Mailing Address: PO BOX 148

Home Phone: 907-723-3065 landline 907-697-2334

E-Mail Address: jim@fairweatheradventures.net

Can you regularly attend meetings? [X] YES [ ] NO

Are you currently affiliated with the City in any way?
(For example emergency responder, employee)
[ ] YES [X] NO
If yes, please list positions:

Have you been a member of the City Council before? No

Reason for interest in being a Council Member: Interested in helping our community

Brief background of experience that would qualify you for the position:

School Teacher

James S. Kearns (Signature) | James S. Kearns (Printed Name) | 2/25/2025 (Date)

CITY OF GUSTAVUS, ALASKA
RESOLUTION CY25-XX

A RESOLUTION PROVIDING FOR A COST-OF-LIVING PAY ADJUSTMENT FOR CITY OF GUSTAVUS EMPLOYEES IN REGULAR POSITIONS

WHEREAS, the Gustavus City Council adopted an “Employee Payment and Earnings Policy” on June 8, 2006; and

WHEREAS, the Gustavus City Council adopted Resolution 2011-23 on December 8, 2011, which updates the Section of the “Employment Payment and Earnings Policy” entitled “Pay Raises”; and

WHEREAS, the adopted Policy of “Pay Raises” states that the Gustavus City Council may grant, from time to time, by Resolution, periodic adjustments to the City’s pay schedule. The City Council will consider the cumulative change in the Consumer Price Index (Anchorage) since the last such pay adjustment in formulating such adjustments. Such periodic pay adjustments, if any, will apply to all Regular Position employees of the City of Gustavus. A Regular Position is a full-time or part-time year-round position in which the employee generally works the same schedule every week, although actual hours each week may vary with season or with workload; and

WHEREAS, in adopting this policy, the Gustavus City Council has determined that adjusting the pay of its Regular Position employees in an amount equal to the change in the consumer price index (CPI) for Anchorage, the standard measure of CPI for Alaska, is appropriate; and

WHEREAS, the logical time to approve the Cost-of-Living Pay Adjustment is before the Gustavus City Council has adopted the next fiscal year budget; and

WHEREAS, the consumer price index (CPI) for Anchorage rose 2.3% for the calendar year 2024.

NOW THEREFORE BE IT RESOLVED, that the Gustavus City Council grants a 2.3% Cost-of-Living Pay Adjustment to current hourly rates (nonexempt) and base salary (exempt) for all Regular Position Employees effective July 1, 2025.

PASSED and APPROVED by the Gustavus City Council this ___th day of ________, 2025, and effective upon adoption.

____
Sally McLaughlin, Mayor

____
Attest: Liesl Barker, City Clerk

March 10, 2025

Re: Appointments to Special (EFG) Policy Committee

Per City Ordinance 2.40.150 (d) (B), nominations for committee appointments shall be made by the mayor and shall be subject to ratification by the city council.

We received four applications originally; the committee can have up to six members further applicants can still be considered.

I nominate the following for the Special Policy Committee formed by Resolution CY25-01 and ask that the Council accept the nominations.

Jennifer Thompson

Artemis BonaDea

Submitted by: Sally A. McLaughlin, Mayor

Project Planning: Attachment C

City of Gustavus
Project Nomination Short Form

Project eligibility

Does the proposed project represent a major (**NO**), nonrecurring expense? (**YES**)	YES **X** NO **X**
Will the proposed project result in a fixed asset (e.g., land, major equipment, building or other structure, road or trail) with an anticipated life of at least two years?	YES **X** NO ☐
Will the project provide broad community benefit?	YES **X** NO ☐

If you were able to answer YES to all three questions, please provide the following additional information:

1. Project title: Community Outdoor Furnishing Enhancements

2. Project description and benefit. Describe the project in half a page or less, including specific features, stages of construction, etc. Explain how the project will benefit the Gustavus community.

To roll some remaining items into one project - the procurement of benches, picnic tables for various recreational areas and facilities around Gustavus, including a solid fire pit at the beach, a wood carved Salmon River Park sign for the main road. This is so we can manage one project instead of keeping open several. An NCO for just under 35K closed several projects and moves the funds into long term capital AMLIP.

These items have been requested repeatedly by Gustavus residents. The ongoing projects that are being closed out and funds moved to AMLIP include some of the remaining funds for the items being requested for this project. Additionally, community members have long asked for students to be involved in local projects.

The intention for at least part of the outdoor furnishings is for the Marine Facilities Coordinator to facilitate construction with the CTE instructor and students at Gustavus School. A few volunteers may also assist in parts of the project. The idea is to build at least two, hopefully four benches – one to replace the bench at the beach on the west side that is no longer safe. One or two benches are to be included at the SRP as part of the playground equipment walkway enhancements. We hope to add one more bench near the dock on one side of the road. We want to construct at least two, possibly three, ADA accessible picnic tables. One would be placed across from the GVA sign by the trees on the west side of the dock road. This would serve multiple uses including for folks who have mobility issues accessing the beach and to accommodate those awaiting the ferry cart or other transport from the dock. We want at least one, hopefully two for Salmon River Park. One of the two for SRP would be a hex-shaped table. All would be ADA compliant.

As part of the bike shed project at the library, the few remaining funds were to purchase a folding picnic table to be used for outdoor activities inside the shed.

3. Plans and progress. Describe in one or two paragraphs what has been accomplished so far (if anything). This may include feasibility study, conceptual design, final design/engineering/permitting, fundraising activity, and total funds raised to date.

Included in the scope of the second phase of the SRP improvements, was to position one or two benches by the new playground equipment so adult observers and other caretakers would have a place to sit while children played. We asked for sufficient funds/materials to buy or build another picnic table. To save on shipping and handling, we asked the pathway contractor to order extra materials when he was ordering the HDPE recycled lumber (from Oregon), so these items could be constructed at a later time. This lumber was already procured as part of Phase II of the SRP enhancements which was in part from a grant through the Crossette Foundation.

To date we have undertaken these activities:

- Contractor provided a list of remaining HDPE lumber.
- City Administrator met with Gustavus School CTE instructor to discuss students' involvement, schedule, the various types of benches and tables, and the expectations for outcomes. Also discussed obtaining locally cut lumber for a couple of the projects. CTE teacher also recommended updating the boards on the benches of the Nagoonberry Trail, recognizing that those benches are not the first priority.
- City Administrator has discussed project with the Marine Facilities Coordinator who will be overseeing the project and coordinating with the school.
- City Administrator has also discussed with the local resident who built the original bench at the beach who will assist with dismantling the old one and will perspective about securing the bench to the ground.
- MFC has met with CTE Teacher to discuss scope and schedule.
- The City has ordered two Commercial Quality "Lifetime" folding picnic tables from Costco that the MFC will pick up when he goes to Juneau via ferry in the next couple of weeks. At least one will be for the library to use outdoors or in the bike shelter.

4. Project cost:

A. TOTAL COST (including funds already secured) = $ 5,000

This estimate includes materials, not yet in stock, such as special fasteners, and extra saw blades for the HDPE lumber, We need two sets of the Cast Aluminum Park Bench legs (made in USA) and cross bars (stretcher rods) for stability and long-term life of equipment, (these are expensive but apparently bullet-proof). We will need some locally milled lumber to supplement additional tables or benches once the HDPE lumber is utilized. I'm told the school has a planer which will be used for the local rough-cut lumber. Stain or paint for the wood projects and other hardware will be needed. Materials estimate is approximately $4,000. The outdoor folding picnic tables and locally carved SRP sign is an additional $1,000.

B. For construction projects, break out preconstruction costs (feasibility/design/permitting):

Preconstruction costs = $___N/A____ Construction costs to build items = $5,000

5. Timeline: Indicate when you hope to complete each phase of the project.

We hope to have tables and benches completed and installed by mid-Summer depending on how many we can build with the CTE class and the amount (bf) of existing and additional materials.

A. For projects that consist of land or equipment purchase only, state when the purch
would be made: N/A

For construction projects:
B. Preconstruction phase to be completed by ___________________.
C. Construction phase to be completed by ___________________.

6. <u>Provide a quality digitized photo, drawing, map, or other graphic image of your project if possible</u> Some Options below:








Submitted by: __________ Meeting Date: __________ Approved___ Not Approved___