

Gustavus Disposal & Recycling Center (DRC) Quarterly Staff Report
Paul Berry, DRC Manager/ Operator
Monday, February 13th, 2023

My last quarterly report was at the November 14th, 2022 General Meeting. My next quarterly report is scheduled for the May 8th, General Meeting.

General Operations and Management

Labor

As my career with the City winds down, I am doing my best to train the DRC Operator, Ian Barrier, with how I manage all the different aspects of running the DRC: from recruiting prospective employees for the DRC's labor pool, to supervising those employees once they are in the Pool, to managing and using the point of sale system, to managing the DRC's account billing system, to how to budget for the coming fiscal year, to tracking the current budget as the fiscal year progresses, to managing the shipping of recyclables, to ordering supplies and equipment parts and the use of purchase orders, to management of the mound, to professional training and career development. Ian will do well as our next DRC Manager.

I have also been using this winter to go through 28+ years of paperwork at the DRC. Ironically, as a person who has access to and manages a recycling facility, I seem to hold onto a lot of material ... I'm figuring out what documents get recycled, what documents are retained and properly listing any post-incorporation (2004) documents prior to recycling as part of the City's records retention policy.

Ian was able to participate in ADEC's Solid Waste Boot Camp held virtually January 17 – 19. He told me that some of the more interesting subjects discussed were managing/reducing leachate, managing construction debris, and how inspections are scored. Future training goals include 24 or 40 hour HAZWOPER training, compost facility operator training and Rural Alaska Landfill Operator training.

Equipment repairs

During this reporting period we have had one serious service repair event with the larger A770 loader. One morning it displayed an error code that basically shuts the machine down to an idle. Roughly speaking, in this error condition, the black box that controls the machine is programmed to give the operator just enough power to crawl back to the shed and wait for help, no work can be performed. It was a service issue that only a service center such as Bobcat of Juneau can properly diagnose and remedy. So, in December, the A770 got a ride on the ferry and some shop time in Juneau. Basically, this was a "passive regen (desox)" issue. Once every 200 hours the machine is supposed to do a process to clean the exhaust system (the loader has a EPA tier 4 diesel engine). But, as we learned, if you do not have a desox event over 800 hours of operation, the machine will go into this shutdown error condition until the controller is reset by a service technician who can access the black box. In Juneau the machine was diagnosed, the controller was reset and we have a much better understanding of the desox procedure and how to avoid this error condition in the future. This would be by operating the machine at a higher idle and watching for the next 200 hour point for the desox event and make sure the machine goes through it.

During this reporting period Ian has been able to do some much needed maintenance work on our older 763 loader. First was a replacement of a fuel line within the fuel tank that had failed late last spring. Replacing a fuel line within the fuel tank would seem easy enough but with the 763 you have to remove the engine to access the fuel tank. If I was the Operator I would have had to send the machine to Juneau for service but Ian successfully disconnected everything on the engine, removed it and then performed the repair on the fuel line. After everything went back together Ian tuned up the 763's steering mechanism.

Following that procedure on the 763, Ian also rebuilt the device (called the Bob-tach) that connects the front end of the Bobcat to all the various attachments (buckets, forks etc.). The pivot point parts of the Bob-tach had become very worn and there was a lot of slop in it. Ian was able to replace the worn components, paint the Bob-tach and give the front part of the 763's lift arms a paint job as well. We are very fortunate to have someone working at the DRC who not only has such equipment maintenance skills but is proactive in regards to equipment maintenance.

Shipping rate increases

As a recycling oriented solid waste facility, the DRC ships a lot of material (aluminum, scrap metal, cardboard, mixed paper, plastic etc.) on an annual basis. Like 70,000 to 90,000 pounds a year so our shipping expense category is very sensitive to fuel increases and inflation. The DRC's shipping rates are rising faster than they have in a while. For instance a 20' container of baled scrap metal that cost \$3,600 to ship to Seattle in 2019 now costs \$4,500. The trucking fees for the port of delivery to vendor freight forwarding in the Seattle area have gone up right in step. In addition to those charges, fees are being assessed when containers sit at the port for more than a few days, charges that in the past either didn't occur or were not assessed.

As shipping costs are going up, the value of most recyclables are still down from their pre-pandemic highs. We should be thankful that with the DRC's user fees, revenue from the Community Chest, and a healthy City subsidy, the cost of our recycling is kept comparatively low for the customer. I am not saying we shouldn't recycle as much of our waste stream as we do, no, I wish we did more recycling – just that it is important to do as much local processing of recyclables as we can to avoid expensive shipping charges. Projects such as the plastic lumber pilot project with SWTI mentioned in my last report are a step in that direction.

Electronics Product Stewardship in Alaska

I wanted to write about a good development that is occurring with Extended Producer Responsibility (EPR) in Alaska. Specifically the recycling of waste electronics or e-waste. The Solid Waste Alaska TaskForce or SWAT has been working on the issue of EPR and e-waste in Alaska since 2016. E-waste EPR is legislated state by state (currently 25 states have EPR legislation) and the goal of SWAT is to have e-waste EPR legislation introduced this legislative session in Alaska.

EPR for e-waste would benefit the whole state, especially smaller more rural communities such as Gustavus. With this legislation, at a minimum each community would have at least one e-waste collection event a year and the cost of the event and the shipping of the collected material would not have to be covered by the community. EPR legislation would really help the DRC's e-waste recycling program. The DRC currently collects e-waste and it is one of the most expensive items to ship with current rates being around \$0.50 per pound (e-waste has a higher than average per-pound rate). Combine this with fees charged by processors to handle e-waste and our own labor expenses, e-waste costs the City over \$0.60 per pound and we are only charging the recycling rate of \$0.20 for the e-waste for the item (except TVs and computer monitors which have a \$0.60 per pound fee). Needless to say, EPR in Alaska would really help our e-waste recycling program. For more information look to:

<https://907swat.org/product-stewardship/electronics-product-stewardship-for-alaska/>

Community Chest

Annie Mackovjak continues as our fine crew boss for the Community Chest.

Ian was able to get some fill into the yard of the Chest to reduce the size of the puddle of water that forms during wet weather.

Trisha Dawson has put together a Credit Card Merchant Service Proposal (CCMSP) for the Chest. Basically moving the Chest past the cash and check only payment paradigm to a new paradigm with credit card processing and an iPad based Point-Of-Sale system, where we could have a picture based sales device where the front desk person touches images of various sales items: shirts, books, pants, kitchen, etc. to ring up a given sale. This would provide the Chest with an opportunity to upgrade how it rings up sales, and upgrade our paper index card based account system (individual customer credit/ debit accounting) with something electronic. If I was managing the Chest like I manage the DRC, I'd have done this a while ago, but I deliberately chose not to manage the Chest in an active fashion, not biting off more than I could chew and honoring the wishes and abilities of the volunteer staff who actually operate the Chest. A CCMSP as proposed would require the support and retraining of the Chest's volunteer sales staff, and it would require more time from the DRC Manager to oversee it. Ian supports the idea and I think it is a good idea too, customers would be able to use credit cards at the Chest, the paper index account system could be upgraded, we'd have a lot better data of what kind of items sell the best, what the volume and character of the individual sales are, and more fair and consistent pricing for items. This project will not move forward without the support of Annie the rest of the Chest's volunteer sales staff.

Since my last report our sales desk volunteers have been: Annie Mackovjak, Vicki Bender, Connie Darnell, Mary Williams, Trisha Dawson and Becky King. Sorting, purging, stocking and other site work has been performed by some of the sales crew and Heleen Buttram, Betty Hanson, Marie Byron, Mary Healy, Jozee Archambault, Penny Cook Tea Neilson and Judy Hardy. I know I missed some names, sorry. Many thanks to all the individuals who keep the Chest alive and thriving – we are all the beneficiary.

Capital Project Summaries

Ground Water Monitoring Well Replacement Project

In my previous reports where I have discussed our ground water monitoring program, I mentioned a serious problem with our two down-gradient (south of the landfill) monitor wells. These wells are going dry during much of the year and making it impossible to sample the ground water during times of low precipitation and low-low tide events. The two wells in question, known as MW1 & MW6, were installed in 1991 and 1993. Isostatic rebound has raised them above the water table. We need new wells installed that can access the water table. The DRC has four ground water monitoring wells but only two of the four have become unusable. Glacier Bay Construction could drill the wells with their equipment. I would like to work with Vista GeoEnvironmental, the engineering firm that specializes in landfills and has been working with us for 7+ years, to specify the right kind of well, depth and exact location. Roughly, I would say the cost of each new well would be around \$5,000. Groundwater monitoring is a requirement of our solid waste operating permit with ADEC. But even without that permit requirement it is in our best interest to know if our landfill is affecting ground water in the area of the DRC.

The Big Three Capital Projects

There are three important projects at the DRC which are in the planning and initial funding stages. Because these are such important, and expensive projects, I have developed an illustrated summary to help describe the projects and their importance to our operation.

1. New Composting Facility and Compost Yard Improvements
2. New Main Building

3. Purchase of a Horizontal Baler

In this report I will only list the summary heading for each project unless there has been new information since my last report. To get a more complete picture the reader should review the more recent reports located on City's DRC website: <https://www.gustavus-ak.gov/drc>

Title: New Composting Facility/ Quonset replacement

Summary: the goals of this project are:

1. Replace the failing Quonset structure with a much more robust and usable composting facility. The new facility would be capable of processing greater amounts of material in a more temperature controlled manner by using ASP (aerated static piles). The new facility would have five bays for composting, would be constructed of concrete, and housed in a well built wood and metal structure
2. Pave most of the remaining unpaved area of the composting yard with concrete. Additionally, concrete push walls would be installed behind the piles of stored wood chips, sawdust, overs and curing compost. These improvements will make using the yard much easier for operator to use, allow for better recovery of stored materials and will reduce the spreading of invasive plant species by keeping invasive plants well away from the compost to be distributed.
3. Purchase of a Bandit 250XP wood chipper and a Ford F-350 truck to move the chipper, wood chips and other work related duties.

Status: PND Engineers completed their construction diagrams and construction cost estimate for the project. Currently the City is working with a consultant to put together a grant application for EPA's SWIFR (Solid Waste Infrastructure for Recycling) grant that, with Council approval, will be submitted in February.

Scoping Document: Revised and adopted December 12, 2022

Anticipated cost: Approximately \$590,000 including \$25,000 City match



Conceptual diagram of new composting facility

Title: New main building

Summary: The new building will be designed to replace the functionality of the current landfill building. The current landfill building has two critical shortcomings:

- 1 It is too small to be able to properly accommodate the amount of waste throughput on a daily or weekly basis. It is also too small to house the proper equipment needed to process effectively the community's waste stream.
- 2 It was not constructed to allow the full use of powered equipment, such as a small loader or forklift, within the building. Evidence for this is a lack of concrete push walls or metal clad barrier posts beside drive through openings.

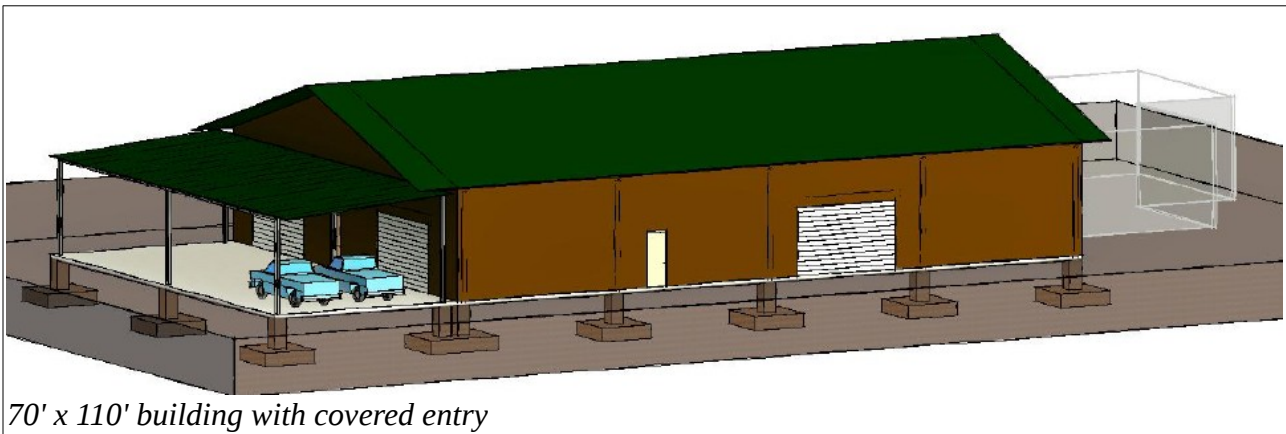
The new building will provide sufficient covered area for the public to deliver and sort their waste and provide adequate room for the equipment used to process that waste. An adequately sized building means our facility can continue to recycle over 50% of the communities waste stream well into the future. Recycling requires equipment such as a baler, shredder and glass pulverizer and we would like to be able to load the processing equipment with a loader when incoming volumes are high. All of this requires push-walls, ventilation and adequate space.

The existing landfill building will remain in place during the construction of the new building and will be converted to a storage area and maintenance shop

Status: PND Engineering has completed an initial conceptual drawing packet and estimated construction costs. The city is currently exploring funding possibilities.

Scoping document Revised and adopted December 12, 2022

Anticipated cost: depending on size \$3 - \$4.4 million



Title: New horizontal baler

Summary: The baler is one of the cornerstone pieces of processing equipment in our facility. It turns a pile of loose garbage or several bins of aluminum cans into a single, compact bale. Baling densifies material which then makes it possible to efficiently move that material – either 150 feet to the mound or a thousand miles to the recycling facility. Shipping is expensive in a small, rural, end-of-the-spoke community like Gustavus and we need a baler that can produce as dense and compact bales as possible. The more weight you can get in a shipping container the lower your overall shipping costs per pound will be. Also, the more dense our bales of non-recyclable waste are the more material we will be able to get into our waste mound and the longer we will be able to use our finite disposal area.

Horizontal balers, while typically more expensive than vertical balers are much stronger as they can use more steel in the baling chamber without making the device top heavy. Horizontal balers have the additional advantage of using the force of the large hydraulic ram used for compaction to push finished bales out of the baling chamber. Vertical balers rely on a dump tray mechanism for bale removal that is simply not as robust and bales can get stuck in the baling chamber requiring powered equipment such as a loader with forks to remove the bale.

Status: Researching and soliciting quotes for the most suitable model baler. In the best scenario the new baler would be funded with the new main building project.

Scoping document: Adopted December 12, 2022

Anticipated cost: \$222,800



The end, thank you.

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