

Solid Waste Infrastructure EPA Grant Narrative

By: Christian Sorflaten, Volunteer

Title:

The Fairfield Sustainable Landscaping Center and Coffeeshop

Introduction

As outlined in the NOFO for this grant, solid waste is a primary aspect of sustainability. As unglamorous as it sounds, recycling is one of the best things that people can do for future generations. We feel a Sustainable Landscaping Center is the best way to jumpstart these activities and give them some glamour. Also, serve coffee.

(Disclaimer - This application is intended to not compete or interfere with the application for the Environmental Justice Grant, that Fairfield has recently submitted. Perhaps some aspects of these grants can be combined, if applicable. I have not read that grant, and am a volunteer writer approved by City Council, with a focus on reopening the brush pile.)

Overview

This grant application is focused on the two biggest solid waste streams that Fairfield, Iowa, produces:

1. Yard Debris - Over 200 tons/year. Due to inflation and cost, the current yard debris pile has been closed off to residents, with very limited access. Many complaints have been filed, as well as concerns posted to social media. As unsustainable as it sounds, the city is considering burning the brush, to mitigate the expense, and reopen the pile.
2. Recycled Glass - Over 200 tons/year. Due to inflation and cost of shipping five hours to Chicago, all our city glass is being sorted in Des Moines and shipped to the Des Moines landfill. Which is two hours away.

Income Stream Goals

With this grant opportunity, we feel infrastructure can be funded such that the following goals can be achieved permanently and profitably:

1. Sell mulch, compost, firewood and sawmill grade logs. Market research suggests viability for this, as I have personal experience since 2010. So much so, that I have converted my truck to a dump truck and purchased a 30' logging trailer. There is usually a line of up to 10 trucks to pick up mulch. I have become personally acquainted with several mulch delivery drivers, that do not have dump trucks, and it is still profitable for them.
2. Charge a fee for drop-off and install an electric gate with tag code and cameras.
3. Sell biochar and inoculated biochar fertilizer. Check out Des Moines company www.arti.com (1) for resources about this increasingly popular product, derived from waste wood. We feel it is the best possible way to

sequester carbon. Essentially, it is pure sequestered carbon. There is no “burn-unit” or renewable fuel produced and we feel it complies with grant guidelines.

4. Sell tumbled recycled glass as “glass mulch” or “landscaping glass.” The city of Austin, Texas provides it, and retailers such as Home Depot. Local franchises do not sell it, so we feel it is a viable prospect. (2,3)
5. Have full time staff on hand to sell products, schedule deliveries, answer questions, and sell sustainable coffee.

Design

1. Purchase Land

Currently, the city brush pile is on leased land and not sustainable. The following under-utilized parcel is suggested for design purposes:



Address: 1994 GEAR AVE
PIN: 06-27-200-032
Tax ID: 2072721197050
Appraised Value: 429,400
Acreage: 22.32
Owner: A & A STORAGE LLC
Class: RESIDENTIAL

This parcel is ideal because of adequate size, and within city limits. The current mulch pile is about 2-3 acres. Although this one is zoned Residential, it is in an industrial part of town with no residences within a half-mile or so. Rezoning is assumed, if this parcel is purchased. If the owner is unwilling to sell and there are no suitable alternatives, Imminent Domain is suggested.

Another reason I like this site, is because it has a good stretch of a major tributary to Schmidt Creek. With a steep enough grade, there is no risk of flooding infrastructure due to beaver pond activity. Although not within the scope of solid waste guidelines, beaver treatment wetlands are suggested to be the most efficient method to mitigate liquid waste and improve water quality. A primary goal of the state of Iowa, as listed in the Iowa Water Quality Initiative. (4) An online library of resources are provided at the Beaver Institute website, such as how beaver wetlands reverse climate change and more. (5)

Perhaps, the coffeeshop will have a scenic overlook of beaver treatment wetlands, with migratory birds nesting and dragonflies eating nuisance gnats and mosquitoes.

2. Biochar Reactor

These units are produced domestically and are often the size of a shipping container. A loader loads it up with brush and out comes biochar. Which is about 10x less in volume. Biochar is currently worth \$200/ton on the open market. Federal grants are available to pay farmers this rate for using it. (6) Therefore, a value added process. Also, certain species of wood can be sorted and bagged into cook fuel for barbecue. Currently, wood charcoal has been out of stock at

local markets, such as Hy-Vee and Wal-Mart, due to supply shortages of sawmill scrap.

3. Loader - Required for loading brush, glass, mulch, etc.
4. Shed - House the loader and coffeeshop, maintenance.
5. Tumbler - Smooths glass.
6. Bagger - Bag tumbled glass, mulch, wood charcoal, fertilizer, etc.
7. Forklift - Move pallets and smaller loads, load tumbler.
8. Website - Buy drop-off tags, key codes, education, price updates, etc.
9. Advertising

A Sustainable Landscaping director shall be appointed, to manage the grant and purchasing.

2 full-time employees to sort glass, run equipment, sort logs, etc.

1 full-time employee to run coffeeshop and call center.

Tier 2 Design - If funding allows

- Garbage truck with automated arm to collect glass. This may not be necessary, if the current recycling contractor can deliver glass. They will be naturally incentivized to do this, because it will save them at least one semi-load per month to Des Moines. Currently, they do 4 semi-loads per month, of 25 tons each. But, its intuitively better if the center can operate independently.
- Bins specifically for glass.
- Conveyer belt - to sort glass into different colors, etc.
- Espresso machine - for guormet coffee beverages, such as the Beaverccino.
- Use glass mulch for countertop and floor terrazzo.

- Extra employees and interns. Local university MIU has a sustainability program. This center has the potential to keep local graduates in town and provide them with meaningful jobs.
- Kid center, coloring books, educational cartoons.
- Educational pamphlets and materials.
- Baler - to recycle paper, metal, plastic, etc. The current rate of paper/ cardboard is \$80/bale, or ten cents a lb.
- Many of these aspects will be managed by the part-time grant manager and up to city discretion.
- Event area
- Public restroom
- Tourist materials
- Field trips
- CDL training
- Replicate in other counties

References

1. www.arti.com
2. <https://www.homedepot.com/b/Outdoors-Garden-Center-Landscaping-Supplies-Landscape-Rocks/Landscape-Glass/N-5yc1vZbx5dZ1z0p95f>
3. <https://www.zanthan.com/gardens/garden-essays/from-garbage-to-garden/>
4. <https://www.cleanwateriowa.org/water-quality-initiative>
5. <https://www.beaverinstitute.org/>
6. https://biochar-us.org/sites/default/files/learning/files/USBI_AFT_NRCS_Biochar_Funding_for_US_Producers_Quick_Guide_digital_0.pdf

Phone calls

Joe Harms - International Paper Recycling Plant, Des Moines, Iowa

Joe Hird - Director of Public Works, Fairfield, Iowa

Waste Management front desk, Fairfield, Iowa

Thank you,

Christian Sorflaten

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Volunteer

Beaver Corp Iowa Representative

Budget

To be adjusted by Sustainable Landscaping Director

Tier 1

Land	\$500,000
Electric Gate	\$100,000
Loader	\$700,000
Shed/coffeeshop	\$2,000,000
Biochar Reactor	\$500,000
Director, 3 years	\$200,000
Employees, 3 yrs	\$400,000
Forklift	\$100,000
Tumbler	\$20,000
Bagger	\$20,000
Website	\$5,000
Total	\$4,545,000

Tier 2

Conveyer Belt	\$100,000
Garbage truck	\$800,000
Glass bins	\$100,000
Baler	\$40,000

