

Beneficial Use Determination (BUD)
Application

Enterprise Plastics Recycling

July 7th 2016

Revised October 25th 2016

Table of Contents

- 1.0 Introduction
- 2.0 Purpose
- 3.0 Site Description
- 4.0 Proposed waste reuse
- 5.0 BUD Application
- 6.0 RIDEM Review of Variance

Figure

- 1 Site map

1.0 Introduction

Enterprise Plastics Recycling has prepared the following Beneficial Use Determination (BUD) application for the recycling of treated and destroyed regulated medical waste sharps. A site plan is provided in figure 1. The following provides details of the proposed reuse of this solid waste material. The required information for the BUD application is provided in section 5.0

2.0 Purpose

The purpose of this BUD application is to obtain a RIDEM variance to allow the beneficial reuse of solid waste material (treated and destroyed regulated medical waste sharps) from Stericycle Inc. Specifically the owner is seeking permission to separate the Plastic (polyethylene) from stainless steel and rubber. Once separated the plastic will be washed and extruded into its pure state and sent out to a molder to make items such as paint trays.

3.0 Site Description

The location where the separation of the material will take place is located at
Enterprise Plastics Recycling
60 Aspen Way
Oakland, RI 02858

The site is a 10,000 square foot warehouse. The separation equipment is located in the south west corner of the building. See attached site plan for details.

4.0 Proposed waste reuse

The waste to be reused is treated and destroyed regulated medical waste sharps. This waste will be delivered to Enterprise Plastics Recycling in tubs, boxes or roll-off containers. Stericycle will provide the transportation of the waste material from the point of generation to Enterprise Plastics Recycling. Once received the plastic, stainless steel and rubber will be mechanically separated and washed. The plastic material will be ground down and sent through an extruder to create a almost pure product for the molding companies. Once this process is complete the plastic rods or pellets will be delivered to a molding company that will make paint trays or other similar plastic items.

5.0 Beneficial Use Determination (BUD) application requirements.

1) How are any environmental hazards associated with recycling of solid waste be minimized or eliminated?

The solid waste to be recycled is currently a treated and destroyed regulated medical waste. Specifically, treated and destroyed sharps waste. This waste mainly consists of plastic, stainless steel and rubber. This material is currently taken to either a landfill or a waste to energy incinerator for disposal. By recycling the waste stream it will remove the waste from the landfills and or the waste to energy incinerators.

2) To what degree will the recycled solid waste material be analogous to commonly used raw materials and how will the use of this material result in a viable and beneficial substitution of a discarded material for a commercial product or raw material?

The material in question, once delivered to the recycler, will be shredded to an even smaller size. The rubber, stainless steel and the plastic material will be separated. The plastic material will be reduced in size and sent through an extruder to make raw plastic rods or pellets. These plastic pellets or rods will be sent to a manufacturer as raw material to be used to make items such as paint trays. The rubber and stainless steel material will be sent back to Stericycle for proper disposal.

3) How will the proposed recycling and reuse of the solid waste in question protect the natural resources of the State. In addition to discussing how and to what extent the reuse of the solid waste in question will conserve the limited and finite capacity of the State's solid waste landfills, your response must also address why the proposed use of the recycled solid waste will not present a threat to public health or the State's groundwater, surface water, air, or other environmental resources.

The recycling of this material will either remove the solid waste from a landfill. Plastic in landfills does not decompose as normal waste products therefore we will not be limiting the life of a landfill. If the waste is sent to a waste to energy incinerator then we will be removing the ash from going to a landfill as well as eliminating any possible air contaminants.

4) To what extent is there a guaranteed end market for the recycled waste material to be produced?

Enterprise Plastics Recycling has been in business for 21 Years. Recycled plastic is a material in demand. If the current product (paint trays) were to end then there are numerous products that the plastic could be used for.

5) Why will the proposed recycling and reuse of solid waste not degrade the environment?

Recycling of the materials removes the waste from the landfills or waste to energy plants.

6) Identify and discuss the controls that will be used to properly and safely recycle and reuse the solid waste.

a. The quantity of solid waste material to be received and recycled:

Approx 500,000 pounds/month

b. The maximum quantity of solid waste material to be stored at the site at any one time:

- a. Quantity stored on site. 2 roll-off containers

c. The source of solid waste, including the name and address of the generator:

Stericycle Inc	Stericycle Inc
369 Park East Drive	210 Sherwood Ave
Woonsocket, RI 02895	Farmingdale, NY 11735

d. A detailed narrative and schematic diagram of the production, manufacturing, and/or residue process by which the waste material is produced:

See attached schematic drawing and the narrative.

e. The expected consistency of the waste material:

Stericycle has serviced medical waste generators for 27 years. This is a constant waste stream. With the aging population this waste stream is projected to increase over the next few decades.

f. How the generator has minimized the quantity and toxicity of the waste material:

Stericycle has used a reusable sharps container program to reduce the amount of plastic from the waste stream. The used sharps have been treated and destroyed by Stericycle prior to delivering the recyclable material to Enterprise Plastic Recycling. At this point there is no other way to reduce the amount of this waste stream.

g. Adequate and regular inspection of the waste material on receipt:

The only material being recycled is treated and destroyed medical waste. The inspection is being completed at the Stericycle location prior to delivery to Enterprise Plastics Recycling.

h. Adequate site controls relating to the storage, handling and processing of the waste material, including the extent to which the recycled solid waste material will be handled to minimize loss:

All processing will be done inside the building, there is expected to be no loss. See attached process description in the appendix.

i. Adequate controls for handling and disposing of any residual solid wastes, including the location of final disposal for any residual solid wastes:

All separated stainless steel, rubber products and non-compatible mixed plastics will be placed into a roll-off container and will be shipped back to Stericycle for proper disposal.

j. Appropriate odor, sediment, storm water (runoff) and erosion control measures:

There is no sediment, stormwater issues, or erosion due to the fact that the process is completed inside of a building. Odors will be handled on an as needed basis. If the waste becomes putrescent while in storage in the building before then it will either be processed immediately or will be sent back to Stericycle for disposal.

7) Explain why the proposed recycling of solid waste is not simply an alternative method of disposal. The Director may require information regarding the estimated value of the solid waste material before and after it is recycled.

The end product (raw plastic) will be sent to a manufacture where the material will be made into paint trays or other plastic products as described in the appendix. The plastic products will be sold to the general public. This process will reduce the requirements to make more raw plastic.

8) What degree of processing has the solid waste undergone and degree of further processing is required, if any? The applicant must demonstrate that any mixing of different types of material improves the usefulness of the recycled solid waste material.

Stericycle is currently permitted to transport and treat regulated medical waste. The waste is treated in an autoclave at 275 F for 30 minutes. The sharps are then sent through a hammer mill and shredded. Per the State of RI this process constitutes treated and destroyed regulated medical waste. Therefore the waste is considered a solid waste. This waste stream is not mixed with any other solid waste prior to delivery to the Enterprise Plastics Recycling.

9) Where the project in question includes the reuse of any soil impacted by known or suspected contamination... the applicant must demonstrate the use of these materials at the location in question.

N/A

10) Whenever the proposed end use for a recycled product involves land application, the applicant shall address the need for applicable engineering standards and controls in accordance with Solid Waste Regulations.....

N/A-- There is no land application pertaining to this waste stream.

11) Provide a characterization plan that includes protocols for sample collection and analyses designed to provide a representative characterization of the waste material.

Not applicable

12) Any person involved in the storage, handling, processing or use of solid waste for the beneficial reuse shall be required to provide financial assurance that:

a. The project approved in the BUD will be completed: and/or

b. Any unused solid waste/beneficial reuse material will be properly removed and disposed of upon completion of the project or if project operations cease for any reason.

2) Financial Assurance

13) Additional information as required at the discretion of the Department.

N/A at this time.

14) Certify that the applicant, the facility where the solid waste is processed for reuse and the facility where the processed material is to be used are not the subject of any actual or potential statutory or regulatory environmental violations (state or federal), or if actual or potential violations exist, that the processing of the waste or its use are part of a final settlement or remedy approved by DEM.

6.0 RIDEM Review of Variance

Upon RIDEM's approval of this application, a notice will be placed in the local newspaper to obtain public comment for the application. This notice will also be provided to **the Burrillville municipal** offices.