CHECKLIST ITEM #7

CONCEPTUAL CLOSURE PLAN

7-19-19

Background

We have some experience in plant closures, because Charlie Falletta of Cermet Materials, Inc. (Cermet) and Eco. Plastic Products of Delaware, Inc. (EPPD) recently closed down Cermet's operations at 18 Germay Drive

Cermet had used the facility to manufacture aluminum paste for the solar industry. This business was lost to Chinese companies and as a result, Cermet ceased operations and shut down the facility. There were significant expenses associated with inventory disposal while the disposal of the manufacturing equipment actually brought in income.

The closure of Eco Plastic Products of Delaware, Inc. (EPPD) would have a similar pattern, but on a much smaller scale. There is a ready market for the equipment although at a large discount in value. Also, we would have to dispose of any unused raw materials. This would include purchased plastic granules as well as any plastic bottles and bags that had been collected. Because these are all non hazardous materials they could be disposed of in regular trash. Of course we would want to keep inventory of these materials as low as possible so that disposal in case of closure does not become a serious problem.

We do not plan on ever keeping a large inventory of finished product. Most items are manufactured to order.

We estimate that the cost of closing the facility to be less than $6,000. This would consist of:

Disposal of all inventory
Equipment Removal
Cleaning the facility

Once closed, the building would probably be put up for sale. It is a very desirable property because it has a good balance of open factory or warehouse space and front office space.

Removal of in-process inventory - Preface

Inventory of recycled material would consist of undensified plastic bags, unground plastic bottles together with densified plastic bags and ground bottles. New material can be excluded from the factory simply by stopping collections. We have estimated that the maximum amount of this material to be about 2 tons.

We also keep about 3 Gaylords of purchased plastic granules (equivalent to densified plastic) together with about 8 x 50 lb drums of colorants.

Our policy is to densify plastic bags as soon as we have separated a Gaylord full of plastic bags by color. We do not anticipate receiving many plastic containers. Most people recycle these with their regular trash collections. This cannot be done with plastic

bags, of course. At any rate, plastic bottles are ground as they are received and do not pile up to any degree.

Worst Case Scenario

The worst case scenario for closure would be to have two tons of totally unprocessed plastic bags. This material has the lowest density (highest volume) of all the possible inventory combinations and would require the largest number of disposal containers.

In order to calculate disposal requirements, several measurements were made. These are summarized below. Calculations may be found in appendix #1:

Density of plain plastic bags in a large container:	.018gms/cc
Density of bottles in a large box:	.03 gms/cc
Density of densified bags or ground plastic bottles	.21 gms/cc

Other useful values:

Volume of a Gaylord box:	110,592 cc
Volume of a 20 Yd trash container	425,088 cc
Net weight of 1 Gaylord of plastic bags	70 lbs
Net weight of 1 drum of densified plastic	100 lbs

Receipt of any new material would be stopped immediately by simply removing the collection boxes. Thus the disposal problem would be limited to in house inventory, which we have estimated it to be no more that 2 tons. In fact, the number of collection boxes being used will be a good control over the amount of material coming in at any particular time.

Disposal of this quantity of material would require **7 x 20 yd roll offs** and it would require **56 Gaylords** to just store this quantity of bags in the building. All calculations are shown in Appendix #2 (10)

In addition to the bags, there are approximately **4 Gaylords** of purchased plastic (equivalent to densified material) and about **10, small, 35 gallon** fiber drums of colorants that would all have to be disposed of. **This would bring the total number of Gaylords stored on the premises to 60 and the total number of 20 yd roll-offs required to dispose of all the plastic in the building to 8. (see appendix 2 (13))**

None of the materials is hazardous.

Actual disposal would be simple and straightforward. Because the Gaylords are cardboard and very light (70 lbs., net wt full of bags), they can simply be carried by two people to the roll offs and emptied. A hand fork lift (available in the building) to move things around would speed things up.

Note: the four Gaylords containing purchased material are quite heavy (nearly 900 lbs each) and require a slightly different technique. The simplest approach would be to use a hand fork lift to move the Gaylords next to the roll-offs and scoop the densified plastic into the roll offs using a 5 gallon bucket. Another approach would be to scoop the densified plastic into 55 gallon drums, then moving the drums to the roll of with a hand truck and dumping the drums by hand into the roll off. A 55 gallon drum full of densified plastic weighs about 100 lbs. (see appendix #1, (7))

It would not take more than 2 days to dispose of the 60 Gaylords of material. Two people would be required to do this work.

Total costs of this worst case scenario would be as follows:

8 x 20 yd roll-offs (8 x $425) (see attached quote)	**$3400.00**
2 people for 16 hrs each @ $15/hr	**480.00**
TOTAL COST	**$3880.00**

MOST LIKELY SCENARIO

The most likely scenario is that our inventory will consist of a combination of undensified plastic bags and densified bags and bottles. Plastic bags are sorted and densified soon after arrival at the factory. Whenever a Gaylord of separated bags accumulates, it is densified so that there should never be more than 4 Gaylords of unprocessed material in inventory at any given time. (one Gaylord of colored bags, one Gaylord of white bags and two Gaylords of bags waiting to be sorted.)

Densification of a Gaylord of bags takes less than an hour. As mentioned previously, we only anticipate receiving a limited number of plastic bottles and these are almost always ground up the same day that they arrive at the building. It appears that most people recycle plastic bottles through their trash collections. Bags, of course, cannot be recycled that way.

Thus our two tons of inventory will most likely consist of 5 Gaylords of undensified plastic bags, representing about 286 lbs. In addition, there would be approximately 3714 lbs of densified material which would require about 5 Gaylords to store. All calculations are shown in appendix #3 (14), (15)

The amount of miscellaneous material would be approximately the same as the worst case scenario, 0.6 Gaylords (purchased plastic plus colors).

Disposal of all this material would be a similar process to the worst case scenario, except that the volumes would be much lower, requiring only 2 x 20 yd roll offs. (see Appendix 3 (17))

Loading the roll offs is more complicated, though, because the Gaylords containing densified material are quite heavy (nearly 900 lbs each) and require a slightly different technique. The simplest approach would be to use a hand fork lift to move the Gaylords next to the roll-offs and scoop the densified plastic into the roll offs using a 5 gallon bucket. Another approach would be to scoop the densified plastic into 55 gallon drums, then moving the drums to the roll of and dumping the drums by hand into the roll off. A 55 gallon drum full of densified plastic weighs about 100 lbs. Calculations may be found in appendix #1

We are allotting the same labor requirements for this scenario as for the worst case scenario, 2 people for 1 day at $15/hr.

Total costs for the most likely scenario would be as follows:

2 x 20 yd roll-off ($425) (see attached quote) $850.00
2 people for 16 hrs each @ $15/hr 480.00

TOTAL $1330.00

Costs for Equipment Removal and Clean up

The large equipment consists of an extruder, densifier, about 10 molds, a tumbler and two granulators These items can easily be sold to a used equipment dealer with free pick up. Our fork lift installed the equipment so it can easily remove it. One flat bed tractor trailer would hold it all. This would require 2 people about 1 day total. The equipment purchaser would provide the trailer but we would need to supply the labor to load it

TOTAL 2people x 8hrs x 1 days x $15/hr..... $240

The fork lift, itself, does not belong to EPPD and would stay with the building.

Clean up of Building would require 3-4 people about two days and 1 x 20 yd roll off for trash.

4 people x 8hrs/day x 2 days x $15/hr = $960
20 yd roll off (1 x $425) = $425

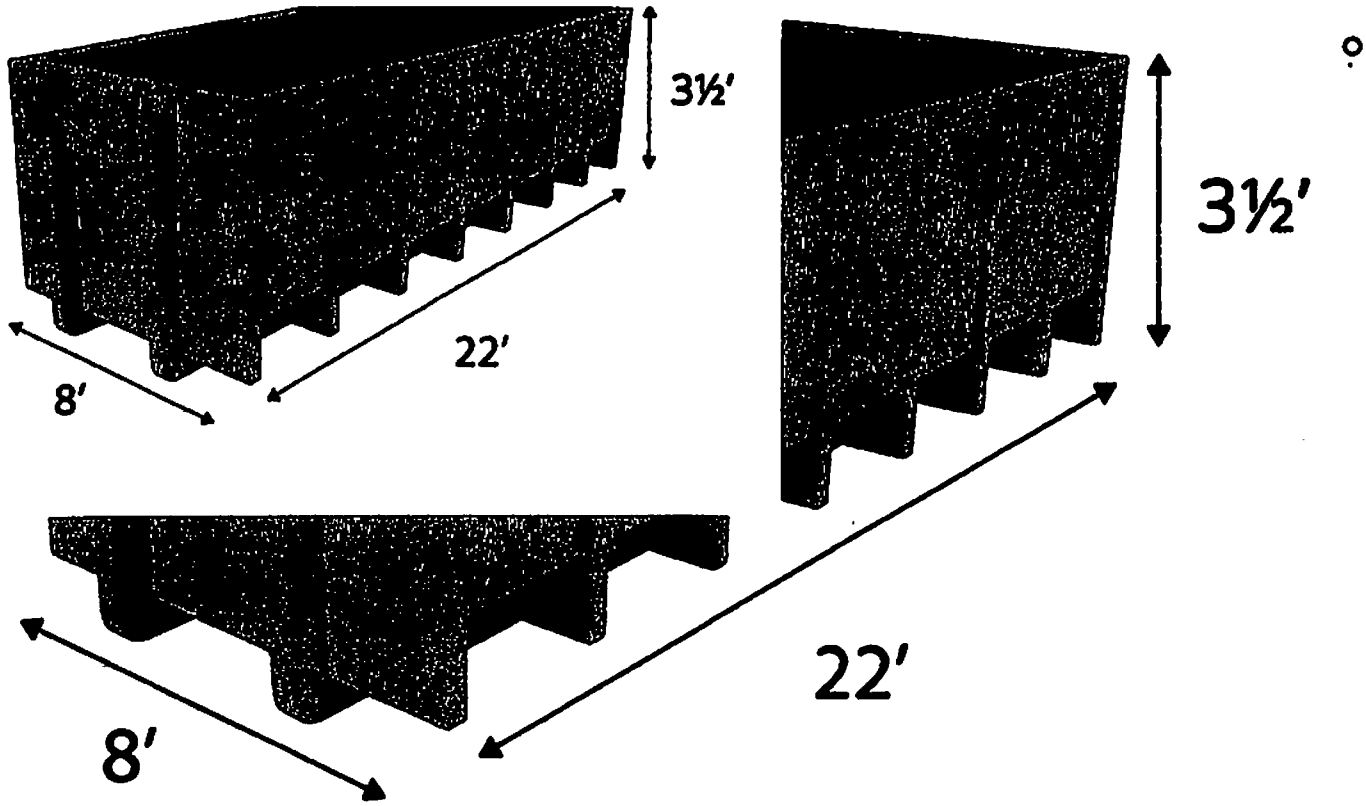
TOTAL: .... = $1385

Total Equipment Removal and Clean-up Costs ..... = $1625.00

TOTAL PLASTIC DISPOSAL AND CLEAN-UP COSTS:

Inventory Disposal.....$3880.00 (worst case scenario)
Equipment removal and clean-up $1625.00

TOTAL: $5,505.



(https://www.dumpstersondemand.com/wp-content/uploads/2016/10/20cubicyard-1-1.jpg)

20 Cubic Yard

$425.00

19804

Calc Price

One of our most popular sizes, these 20-yard dumpsters hold up to 2.5 tons of material, and accommodate virtually any small- to mid-sized residential or commercial project. At a height of 3½ ft., each is easy to load yet holds 4 tons of trash and materials.

Pick a delivery date * (required)

Pick a return date * (required)

Appendix 1: Density Calculations

1. Densities

1.1 Plastic Bottles (unground)

1 gal Milk bottle (measured) $= \frac{58g}{gal} \times \frac{.000264gal}{cc} = .0153 g/cc$

Coffee Jar (measured): $\frac{129g}{.75gal} \times \frac{.000264gal}{cc} = .045 g/cc$

Average Density: $\frac{.0153 + .045}{2} = \boxed{.03 g/cc}$ (1)

1.2 Plastic Bags (undensified)

Measured Box Volume: $17'' \times 11.5'' \times 9'' = 1760 in^3$

Net wt Full of bags = 520gms

Density: $\frac{520gms}{1760 in^3} = \frac{.295gm}{in^3} \times \frac{1 in^3}{16.3cc} = \boxed{\frac{.018gm}{cc}}$ (2)

1.3 Plastic Bags (densified) and Plastic Bottles (ground)

Measured: $17'' \times 11.5'' \times 9'' = 1760 cc$ Box

Net wt Full (measured) = 6140gms

Density $= \frac{6140gm}{1760 in^3} = \frac{3.5g}{in^3} \times \frac{1 in^3}{16.4cc} = \boxed{\frac{.21g}{cc}}$ (3)

Appendix 1: (Continued)

2. Other useful Calculations

2.1 Volume of Gaylord:

$48'' \times 48'' \times 48'' = 110{,}592\ in^3$

$110{,}592\ in^3 \times \frac{16.3\ cc}{in^3} = \boxed{1{,}802{,}650\ cc}$ (4)

2.2. Volume of $20\ yd^3$ roll-off

$20\ yd^3 \times \frac{27\ ft^3}{1\ yd^3} \times \frac{1728\ in^3}{1\ ft^3} \times \frac{16.4\ cc}{in^3} = \boxed{15{,}303{,}168\ cc}$ (6)

2.3 1 roll-off can hold:

$\frac{15{,}303{,}168}{1{,}802{,}650} = \boxed{\frac{8.5\ Gaylords}{20\ yd^3\ roll\text{-}off}}$ (1)

2.4 Max wt of 55gal drum full of densified plastic.

$55\ gal \times \frac{231\ in^3}{gal} \times \frac{16.4\ cc}{in^3} \times \frac{.21\ gm}{cc} \times \frac{1\ lb}{454\ gms} = \boxed{96\ lbs/drum}$ (7)

Appendix 2 - Worst Case Scenario
(2 Tons undensified bags in building)

2.1 Plastic Bags

Volume: $4000 lbs \times \frac{454 gms}{lb} \times \frac{1 cc}{.018 g} = 100,888,888. cc$ (8)
(12)

20yd roll-offs:

$100,888,888 cc \times \frac{1 \text{ roll-off}}{15,303,168 cc} = \boxed{6.6 \text{ roll-offs}}$ (9)
(8) (6)

Gaylords:

$100,888,888 \times \frac{1 \text{ Gaylord}}{1,802,660 cc} = \boxed{56 \text{ Gaylords}}$ (10)

2.2 Purchased Plastic (4 Gaylords)

$4 \times \frac{1 \text{ roll-off}}{8.5 \text{ Gaylords}} = \boxed{.47 \text{ roll-off}}$ (11)
(6)

2.3 Plastic Color Additives (10 x 35gal drums)

$10 \times \frac{35 gal}{drum} \times \frac{1 cc}{.000264 gal} = 1,325,757 cc$

$\frac{1,325,757}{15,303,168 cc} = \boxed{.087 \text{ roll-off}}$ (12)
(6)

Total Roff-off requirement:

$6.6 + .47 + .087 = \boxed{7.157 \approx 8}$ (13)

Appendix 3: Most likely Scenario

1. 4 Gaylords of bags (wt)

$$4 \text{ Gaylords} \times \frac{1{,}802{,}650 \text{ cc}}{\text{Gaylord}} \times \frac{.018 \text{ g}}{\text{cc}} \times \frac{1 \text{ lb}}{454 \text{ gms}} = \boxed{286 \text{ lbs}}$$ (14)

(4)

2. Densified bags

$4000 \text{ lbs} - 286 \text{ lbs} = 3714 \text{ lbs}$ densified material

$$3715 \text{ lbs} \times \frac{454 \text{ gms}}{\text{lb.}} \times \frac{1 \text{ cc}}{.21 \text{ gms}} = 8{,}031{,}476 \text{ cc.}$$

$$\#\text{ Gaylords} = \frac{8{,}031{,}476 \text{ cc}}{1{,}802.650} = \boxed{4.45 \text{ Gaylords}}$$ (15)

(4)

3. Total Inventory

$$4 \underset{\text{bags}}{\text{ Gaylords}} + 4.45 \underset{\text{(densified)}}{\text{ Gaylords}} = 8.45 \text{ Gaylords}$$ (12)

$$8.45 \text{ Gaylords} \times \frac{1 \text{ roll-off}}{8.5 \text{ Gaylords}} = \boxed{1.0 \text{ roll off}}$$

4. Totals (including purchased plastic + colors)

All recycle (1.0 roll-off) + Purchased plastic (.47 roll-off) +

Colors (.087 roll-offs) = $\boxed{1.557 \text{ roll-offs}}$ (17)