



## ECO-CYCLE/CHARM BASIC DESIGN PARAMETERS

### CHaRM Space Requirements - Materials accepted currently:

- #2 Durable Plastics (roll-off container)
- #6 Foam (Styrofoam)
- Athletic Shoes
- Bike Tubes/Tires
- Bikes/Parts
- Books/Manuals
- Cell Phones
- Cooking Oil
- Electronic Scrap
- Fire Extinguishers
- Plastic Bags/Pallet Wrap
- Printer Cartridges
- Textiles/Shoes

### **Linear feet of drop-off space required along warehouse wall: 96 LF**

(Accessed by forklifts from inside the warehouse via a series of roll-up doors)

### **Linear feet of roll-off container drop-off space required: 12 LF**

(Outdoor or under shed drop-off space adjacent to warehouse wall)

### **Warehouse square footage requirements:**

|                      |                |
|----------------------|----------------|
| Pre-process staging  | 3000 SF        |
| Processing           | 2200 SF        |
| Post-process staging | <u>1500 SF</u> |
| TOTAL                | 6700 SF        |
| 20% circulation      | <u>1340 SF</u> |
| <b>GRAND TOTAL</b>   | <b>8040 SF</b> |

### CHaRM Space Requirements - Materials “on hold” pending new facility

(Materials for which we have identified potential end-markets and which have been under consideration for inclusion for several years; ideally, we would like to have the flexibility to add future materials not yet under consideration):

- #2 plastic lids
- #4 and #5 Durable Plastics (roll-off container)

- #4 Foam Packaging
- Blister Pack Packaging
- Furniture for Reuse
- Home Medical Equipment for Reuse
- Mattresses
- Nursery Pots
- Plastic Pallet Strapping
- Sheet Plastic
- Small Appliances/Motors for Refurbishment On-Site

**Linear feet of drop-off space required along warehouse wall: 66 LF**

(Accessed by forklifts from inside the warehouse via a series of roll-up doors)

**Linear feet of roll-off container drop-off space required: 24 LF**

(Outdoor or under shed drop-off space adjacent to warehouse wall)

**Warehouse square footage requirements:**

|                      |                |
|----------------------|----------------|
| Pre-process staging  | 2500 SF        |
| Processing           | 1620 SF        |
| Post-process staging | <u>1100 SF</u> |
| TOTAL                | 5220 SF        |
| 20% circulation      | <u>1044 SF</u> |
| <b>GRAND TOTAL</b>   | <b>6264 SF</b> |

**Summary of Basic CHaRM Design Elements**

- Min 15,000 SF warehouse
- Min 150 LF “warehouse wall” drop-off
- Min 36 LF roll-off drop-off (70’ clear in front for truck access)
- Drop-off area adjacent to drive-up window
- Designated lane to drive-up window
- Min 15,000 SF truck parking/container storage
- Loading dock access to 4 trailers
- Clearly defined customer traffic flow (300 cars/day)
- Separate truck traffic flow
- Warehouse daylighting where possible
- Safe school tour route through the facility

## ReSource Programming of Current and Future Sites

### Current Facility

- 1.2 acres (52,272 sq. ft),
  - not including parking, trailer, processing, and roll-off area (addt'l .6 acres)
- 16,900 sq ft of material space
  - 7,900 sq ft under roof
  - 9,000 sq ft in the open air
- Remainder of acreage taken up by aisles and roadways
- 26 parking spaces
- Public drop-off/donation receiving area
- Public loading (separate from donation receiving)
- Processing area (2,000 sq. ft)
- 200 sq ft office space
- Customer service area
- 2 ea. 40 yard roll-offs
- 1 ea. 45' semi-tractor trailer (storage)
- 3 ea. 16' trailers
- 2 ea. company trucks
- Individual program identity (i.e. one facility, one program)
- Good traffic flow

### Needs for New Facility

- Adequate acreage
- 15,000-20,000 sq. ft. of material space
  - Under one roof
  - National Best Practices study model
    - “Home Depot” style most effective programming
    - Maximum efficiency, maximum diversion
    - Caters to all consumers/individuals in community—ease of use
- Adequate parking (~40 spaces)
- Public drop-off/donation receiving area
- Public loading (separate from donation receiving)
- Processing area (2,500 sq. ft. semi-covered)
- 300 sq. ft. office space
- Customer service area
- 2-3 ea. 40 yard roll-off space
- 3-4 ea. 16' trailers
- 2 ea. company trucks
- Individual program identity
- Good traffic flow



## **Memo to Boulder City Council: Possible Expanded Uses of 6400 Arapahoe Site**

**August 6, 2009**

Eco-Cycle suggests that the City not make plans to sell all or part of the approximately 4 ½ acres remaining at the 6400 Arapahoe site until a thorough analysis is done of what facilities are necessary for the City and County to achieve their Zero Waste visions. Opportunities to purchase industrial land in the same neighborhood as the existing pieces of the Zero Waste infrastructure and thereby fulfill the “Recycle Row” concept are quite rare. Despite the current difficult budgetary constraints, this may be our best chance to finish the vision of a true alternative to the landfill.

The following ideas come from years of analysis by Eco-Cycle on how to achieve diversion rates approaching 90%, but they are still only ideas. Further research is necessary to examine the local diversion potential, capital requirements, green job creation potential, and income sources vs. operating costs for each.

None of the projects proposed are necessarily Eco-Cycle projects. All require some level of partnership with other businesses, and all have great potential for synergy with operations of the CHaRM and ReSource if placed on the same site.

### **1. Deconstruction Recycling Transfer Station**

The proximity of CHaRM and ReSource creates an opportunity for a “one-stop drop off” for local construction and deconstruction contractors to maximize construction and demolition materials diversion. While it is logical for the County to locate a transfer station for concrete and asphalt at the Brickyards site due to the potential for noise and dust, symmetries with ReSource’s reuse function and CHaRM’s market development function and relatively benign handling from the standpoint of disturbing neighbors may make collecting non-aggregate building materials at the 6400 Arapahoe site a better choice.

Minimally, a 125’x125’ concrete pad with a row of 25’x25’ bunkers on either side – covered with a shed roof on one side and uncovered on the other – could house the following materials:

- Asphalt shingles
- Scrap construction steel
- Plate glass
- Clean scrap wood

- Pallets for reuse or mulching
- Carpet
- Carpet pad
- Ceiling tile
- Gypsum wallboard
- One future material

Local markets currently exist for several of these materials, and Eco-Cycle has done at least a preliminary investigation of potential market development for the rest. Contractors could dump source-separated loads directly into the bunkers, or easily sort mixed loads on-site. They could then conveniently drop off trusses, doors, windows, etc. suitable for re-use at ReSource on the same trip.

## **2. Green Business Incubator**

An additional small warehouse on the 6400 Arapahoe property could house a number of operations to add value to CHaRM materials and soft C&D materials by doing an additional step of processing to create a more viable local market. For instance, a granulator could turn the durable plastics collected at the CHaRM into a feedstock that a local extrusion molder could turn into office recycling bins or backyard composters. A finger-joiner could turn scrap pieces of clean dimensional lumber into useable sizes that could be sold at ReSource. Pallet refurbishment and truss refurbishment are other possibilities that require a small indoor footprint, could create new green jobs and businesses, and would be in keeping with site considerations for the neighborhood.

## **3. One-Stop Drop n' Swap**

Synergistic to both CHaRM and ReSource, and sorely missing and needed to complete the Zero Waste park vision, is a reuse center for items that are currently either being landfilled, recycled before their time or being taken to individual locations all around the county, resulting in many individual car trips. To reduce the carbon footprint of multiple car trips for multiple materials, increase the rate of reuse, create opportunities for affordable or free “purchases” for local residents, and to support the local businesses, individuals, schools, etc. that would benefit from these materials, Eco-Cycle proposes a “one-stop drop n’ swap” program for drop-off and collection. Examples of materials collected and the types of business, programs or individuals they support include:

- Appliances in good shape or that need minimal repairs—repairs done through the community repair center in Eco-Cycle’s office space. Reusable appliances to be redistributed to Habitat for Humanity or local thrifts, or available to area residents for discounted price.

- Art supplies— to be used by daycares, preschools, art teachers, local artists of any kind, or used in reuse art workshop done in one of the meeting spaces in Eco-Cycle’s office
- Bubble wrap—to be picked up for reuse by area packaging stores, other businesses shipping materials or residents
- Cardboard moving boxes in good shape and other moving supplies—used by self-movers
- Children’s large yard toys such as kiddie pools and slides—Eco-Cycle receives many toys in good shape through our durable #2 plastics program at the CHaRM that are too big to go to thrift stores but in great shape.
- Classroom supplies—for collection by area teachers.
- Clothing in good condition—to be redistributed to local thrift stores
- Eyeglasses – to be donated
- Electronics not reused through the Jared Polis foundation—to be reused by students or fixed in the community repair center
- Fabrics—collected by residents, schools, or artists
- Flower pots— to be redistributed to local nurseries and farmers
- Furniture in good shape or needing repair or re-upholstery—available for collection by local thrift stores, repairs to be done in Eco-Cycle’s workshop space in the office or as part of a community workshop: learn to re-upholster
- Home décor—reused by thrifts or local residents
- Media (VHS or DVDs) —reused by schools or public libraries
- Office furniture surplus—to be reused by area non-profits, schools and others
- Scrap metal items—available for resale, or motors, etc. to be repaired through the community repair center
- Styrofoam peanuts—to be picked up for reuse by area packaging stores, other businesses or residents)

Partnerships: The reuse program supports thrift stores, businesses using reusable materials, schools, CU (semester move-outs), etc.

Jobs: The center has the potential to create jobs for disabled or developmentally disabled individuals to help sort and clean materials or do simple “upgrades” to make items reusable.

Workshops: The center creates an educational opportunity to teach area residents the skills they need to reuse, such as reupholster your own furniture, simple motor repair reusable art, bike repair, etc.