Building a Food Waste Diversion Network: Experience and Drop-off Enclosure Standards
• Population: 548,000
  – St. Paul: 302,000

• 130,576 Single-Family Households & 87,487 Multi-Family Units

• Most racially and ethnically diverse county in MN

• 126 languages spoken in St. Paul alone
• 7 collection sites
• Residential waste only
• Open to Ramsey County residents only
• Hours (same at all sites):
  5 days/week April-Nov.
  Weekends only Dec.-March
• All sites accept leaves/grass (soft material)
• 4 sites also accept tree/shrub waste
25 Years of Operations
25 Years of Operations
25 Years of Operations
25 Years of Operations
25 Years of Operations
Averages

- 413,000 site visits/year
- 132,000 cy leaves/grass/year
- 132,000 cy brush/year
Organics (SSO) Collection at Yard Waste Sites

- **Background**
  - No current residential curbside SSO collection in east metro
  - 2013
    - County Board passes proposal to collect at yard waste sites
  - April 2014
    - SSO collection begins at county yard waste sites

- **Intent**
  - Drop-off sites provide a possible transition to curbside collection while increasing education and awareness
SSO Collection at Yard Waste Sites

- 2 sizes of compostable bags provided to residents at no charge
- SSO collected/managed separate from yard waste
- “Wet” SSO must be received in BPI-Certified bags
- Hauling is done via County’s recycling/waste disposal contract
- SSO is hauled to commercial composting facility
2017 Data

- 59,114 site visits dropping off SSO
- 574,588 pounds collected
RAMSEY COUNTY

SSO Promotion

Mounds View Yard Waste Site

APRIL - NOVEMBER
Mon., Wed., Fri. 11 a.m. - 7 p.m.
Sat. 9 a.m. - 5 p.m.
Sun. 11 a.m. - 5 p.m.

DECEMBER - MARCH
Mon. - Fri. Closed
Sat. 9 a.m. - 5 p.m.
Sun. 11 a.m. - 5 p.m.

CLOSED HOLIDAYS

ACCEPTED: Leaves | Grass | Garden Waste | Organic Waste (Food Waste)
NOT ACCEPTED: Lawn Bags | Branches | Trees | Shrubs

Residential use only | NO COMMERCIAL YARD SERVICES

651-633-EASY (3279), answered 24/7 RamseyRecycles.com

RECYCLE
ORGANIC WASTE
HERE

RAMSEY RECYCLES
ORGANIC WASTE

Foth
SSO Promotion
SSO Promotion

RAMSEY RECYCLES
Organics Recycling

- Coffee grounds
- Egg shells
- Food-soiled paper products
- Fruit/vegetable scraps
- Grains

RamseyRecycles.com #RamseyRecycles

RECYCLING GUIDE
Household Recycling, Yard Waste, Organics Recycling, Household Hazardous Waste & More

RamseyRecycles.com 651-633-EASY (3279) answered 547

GOING GREEN GUIDE
Recycling, Household Hazardous Waste, Yard Waste & more!

Download your copy now

Llama al 651-266-SOSO para una Guía en Español
SSO Promotion

RAMSEY RECYCLES
ORGANIC WASTE

RamseyRecycles.com

Foth
Program Expansion

• County Board approval to expand SSO collection sites beyond the yard waste sites

• Included in Solid Waste Master Plan
  – Continue to provide free SSO drop-off for residents
  – Co-develop SSO drop-off site with municipalities
  – Incentives for increased State funding includes co-sponsorship of SSO drop-off sites
  – Explore expansion to include very small businesses

• Began working with municipalities to site local 24/7 drop-off sites
  – Require an enclosure, at a minimum
Organics Drop-Off Standards
Why Create Standards?

- No national standards yet developed
- Enclosure designs depend on local conditions and aesthetics
Why Create Standards?

- Ramsey County wanted to ensure
  - Convenient, consistent, maintainable, safe drop-off locations
  - Serve environmental justice communities that are historically underserved
How to Guide Development

• **Audience**
  – 19 Municipalities in Ramsey County

• Checklist to identify locations and build a standard design

• Paired with budget tool for construction costs
1) Identify a site that is a natural fit for an organics collection drop-off enclosure within the community.
   - Publically owned
   - Sites that do not need local zoning
Siting Criteria and Guidelines

2) Located in areas that provide increased convenience for users.

- Users need to be able to access by
  - Car
  - Public transit
  - Bicycle
  - On foot
3) Identify a site that is safe for users and accessible to haulers.

- Sightlines
- Well lit
- Safe to leave traffic to park
- Accessible to walking users
- Look to prevent slips, trips and falls
Enclosure Design

• Standard design benefits
  – **Residents** – improves ease of site usage regardless of location and have the same experience
  – **Municipalities** – improves ability to collaborate with construction vendors and maintain site usability
  – **County** – creates possibility for procurement of a county-wide construction contract
  – **Environmental Justice** – ensures municipalities serve residents in the same manner regardless of economic status or geography
Design Criteria and Minimal Requirements

1) Durability and Design Life

*Minimal Requirement: Life expectancy of 10 years*

2) Signage

Should be well signed to ensure:

- Consistent user experience
- Provide easy to understand instructions
- Be attractive to promote participation
- Be visible and readable to passing traffic

*Minimal Requirement: Use signage provided by county*

*Minimal Requirement: Site must have ability to display signage.*
Organics
RECYCLING COLLECTION SITE
RamseyRecycles.com
### Organics Recycling ONLY

<table>
<thead>
<tr>
<th>Accepted:</th>
<th>NOT Accepted:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee grounds</td>
<td>Dog, cat or animal waste of any kind</td>
</tr>
<tr>
<td>Egg shells</td>
<td>Trash</td>
</tr>
<tr>
<td>Food soiled paper products</td>
<td>Grass, leaves or yard waste of any kind</td>
</tr>
<tr>
<td>Fruit/vegetable scraps</td>
<td>Plastic, metal or glass of any kind</td>
</tr>
<tr>
<td>Grains</td>
<td>Wood, liquids, diapers, trash or other items that cannot be composted</td>
</tr>
<tr>
<td>Meats, including bones</td>
<td></td>
</tr>
<tr>
<td>Paper towels</td>
<td></td>
</tr>
<tr>
<td>Nut shells</td>
<td></td>
</tr>
<tr>
<td>Tissues</td>
<td></td>
</tr>
</tbody>
</table>

For a detailed list: RamseyRecycles.com
Organics Recycling ONLY

We Accept:
• Animal and pet food.
• Coffee grounds and filters.
• Delivery pizza boxes.
• Egg cartons.
• Food waste.
• Fur and hair.
• Paper cups and plates.
• Tissues and paper towels.
• Toilet paper tubes.

We DO NOT Accept:
• Trash.
• Dog, cat or animal waste of any kind.
• Grass, leaves or yard waste of any kind.
• Plastic, metal or glass of any kind.
• Wood, liquids, diapers, trash or other items that cannot be composted.

For a detailed list: RamseyRecycles.com
Design Criteria and Minimal Requirements (Cont.)

3) Enclosure Surface or Floor
   – Must have flat, level concrete floor.
   – May need apron and or drainage

*Minimal Requirement: Concrete Flooring*
4) Screening is Required

- Needed to improve visual appeal and meet municipality standards
- Cannot interfere with ADA compliance or site accessibility (i.e. ability to shovel snow)
- Vinyl screening, plastic wood, or composite materials preferred

*Minimal Requirement: Maintenance free screening that guarantees 10-year life expectancy*
Design Criteria and Minimal Requirements (Cont.)

5) Interior curb stops or bollards

Optional best management practice to add curb stops or bollards help to ensure the dumpster does not damage interior walls during collection.
6) Gates

- Require at least two gates: one for people to access the enclosure and one for haulers to access dumpsters

*Minimal Requirement: Pedestrian gate (36” wide)*

*Minimal Requirement: Hauler access gate (105” wide)*
7) Enclosure footprint size

*Minimal Requirement: Enclosure footprint size of 20’ by 8’*

8) Accessibility

- Maximum slope of 5%
- Path of travel cannot be behind parked cars
- Crossing the vehicle path of travel is okay but signals or crosswalks are encouraged
- ADA compliant
Design Criteria and Minimal Requirements (Cont.)

9) In relationship to Truck Assess Point (TAP)

- Where truck stops and lifts containers into truck
- TAP ideally is on concrete apron and can withstand 20,000 pounds of direct force

*Minimal Requirement: TAP must meet hauler vehicle needs to safely service organics collection dumpsters*
Enclosure Designs
FLOOR PLAN KEY NOTES:

1. BOLLARD - SEE DETAIL F1/A1
2. HSS3x3x1/8 HOT DIPPED GALVANIZED VERTICAL STEEL GATE POST
3. ORGANICS CONTAINER (NIC)
4. PRECAST CONCRETE CURB. SEE DETAIL B5/A1
5. HSS4x4x1/8 HOT DIPPED GALVANIZED VERTICAL STEEL GATE POST
6. 6’ CONCRETE SLAB W/#4 @ 2’-0” O.C. EACH WAY (AT OPTION A ONLY)
7. HSS5x5x3/8 HOT DIPPED GALVANIZED VERTICAL STEEL POST
8. HSS4x4x3/8 HOT DIPPED GALVANIZED HORIZONTAL STEEL POST
9. HSS3x3x3/8 HOT DIPPED GALVANIZED STEEL FRAME
10. CORRUGATED ALUMINUM PANEL AS SPECIFIED
FRONT ELEVATION - OPTION A1 (BASE BID) & A2

1/4" = 1'-0"
Budget Tool

• Budget tool was developed for municipalities to compare materials, design elements, and optional elements using engineering cost estimates

• A minimum requirement enclosure is estimated to cost $10,000 in materials
  – Includes a 30% contingency
  – Does not include construction labor that can be completed by internal departments, such as Public Works.
### Organics Drop-off Enclosure Budget Tool

**NOTE:** Difference columns in table will show if actual went over estimated amounts. Red numbers show went over (negative) and black shows under numbers (positive).

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
<th>Quantity</th>
<th>Engineer Estimated Cost per Item ($)</th>
<th>Estimated costs ($)</th>
<th>Actual [Enter project actuals after bidding] ($)</th>
<th>Difference ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal</td>
<td>Base grading and 8-inch class 5 base material, compacted (typical)</td>
<td>1</td>
<td>$1,750.00</td>
<td>$1,750.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Minimal</td>
<td>Slab: Concrete (6-inch, 3000 psi, with 1 mat of rebar 16-inch on center) 8x20' enclosure (sq. feet)</td>
<td>160</td>
<td>$5.50</td>
<td>$880.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Minimal</td>
<td>Apron: Concrete (6-inch, 3000 psi, with 1 mat of rebar 16-inch on center). 6x20' apron assumed. (sq. feet)</td>
<td>120</td>
<td>$5.50</td>
<td>$660.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Minimal</td>
<td>Screening: Vinyl Fence (Minimum wall height of 6'/4&quot;) (Linear feet, including posts)(40' basis)</td>
<td>40</td>
<td>$50.00</td>
<td>$2,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Minimal</td>
<td>Gates: Hauler Collection (Swing outward, 2&quot; off the ground and hung on separate posts from the outside. Open to at least 120 degrees. Gate opening of 105&quot;. (each)</td>
<td>2</td>
<td>$750.00</td>
<td>$1,500.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Minimal</td>
<td>Gate: Pedestrian (36&quot; wide with a 32&quot; clearance of all hardware) (each)</td>
<td>1</td>
<td>$500.00</td>
<td>$500.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Directions:**
- Enter “1” for quantity. Note: Additional grading options are available in row 20 and 21. Only one grading cost per project is needed. Enter “0” for quantity if row 20 or 21 are selected.
- Enter square feet of enclosure for quantity. For example for an 8’ by 20’ enclosure enter “8*20”.
- Enter square feet of the apron, if needed, for quantity. For example for a 6’ x 20’ apron enter “6*20”.
- Enter height of screening, in feet, for quantity.
- Enter number of gates needed as quantity. Pricing is provided a cost per one gate.
Current Project Status
Partnerships with Municipalities

• Burdensome project for municipalities
  – Siting
  – No standardized enclosures
  – Enclosure construction costs vary
    • $5,000 not enough incentive
  – Procurement of design and construction contracts
  – State notification
Current Ramsey County Plan

• County develops standardized plan based on design criteria from Foth.
• City provides site/location for enclosure.
• County pays full cost of enclosure construction including signage.
• County provides hauling and compostable bags.
Thank you!

**John Springman** | Environmental Health Supervisor  
Saint Paul – Ramsey County Public Health  
Environmental Health  
Office: 651-266-1150  
john.springman@co.ramsey.mn.us

**Kate Bartelt** | Lead Environmental Scientist  
Foth Infrastructure & Environment, LLC  
Office: 515-251-2566  
Mobile: 612-202-3028  
kate.bartelt@foth.com