Tate Moeller
Sales & Marketing Coordinator
Midwest Food Waste Recovery Summit
September 11, 2018

Food Waste Recycling for Institutional, Commercial, & Industrial (ICI) Facilities
About Organix Solutions

Mission: To provide cost-effective and sustainable collection and processing solutions that recover organic waste and maximize the potential value of recyclable feedstocks.

Residential Organics

Patented Organix Co-Collection Method™

Commercial Organics

Commercial Organics Setup

Facility Design & Technology

Our Layered Approach

Biopolymer Manufacturing

Proud Manufacturer of:

GreenBag Organix

BlueBag Organics

Organix AG Film

Agriculture Generation
Why Recycle Organics?
Solid Waste (MSW) Characterization – Minnesota 2013

2013 Statewide Waste Characterization

**RECOVERABLE MATERIALS**
Organic Materials 31.0%
Paper 24.5%
Fines 10.5%

**TRADITIONAL RECYCLABLES**
Plastics & Metals 9.8%

**NON-RECOVERABLE MATERIALS**
Problem Materials & Glass/Electronics 3.4%
HHW/HW 0.4%
Other Waste/Other Plastics 20.4%

75.8%

24.2%

100.0%

Organics Legislation in the United States

State-Wide Organics Diversion Mandate and/or Disposal Ban¹,²,³

Local Residential Waste Collection Program⁴

Both

¹,² Sources: BioCycle 2014a survey from 39 states that responded; 2014b Rhode Island legislation effective 2016.

³ Source: MSW Management, 2015

⁴ Source: BioCycle 2015, denotes states that have 1 or more communities with residential SSO program; are not state-wide.
Policy Changes in Minnesota Aimed at Recycling and Composting

1995 - Legislature establishes a 50% recycling goal for the metropolitan counties by 2030 → Reached in 2015

2010 - Organics are now classified as a recyclable and the legislature exempts source separated compostable waste from solid waste management taxes

(Minn. Stat. §297H.06).

2014 - Legislature sets a new 75% recycling and composting goal for the Twin Cities metro area by 2030.
- Commercial facilities required to recycle in the metro by January 1, 2016
- Made a substantial increase in grants to all Minnesota counties to support recycling and composting

On the Horizon
- Specific ordinances for commercial facilities—namely large food waste generators—to recycle organics by 2020 or 2022
  • Currently advised & encouraged by the MPCA for counties and cities to implement in order to meet upcoming recycling goals
  • Recycling ordinances and waste plans being revised

ICI Facilities We’ve Partnered With

- Office Buildings
- Fast Food Restaurant
- Elementary, Middle, & High Schools
- K-12 Schools
- Medical Center
- Material Recovery Facility (MRF)
- Major League Sports Complexes
- Senior Living Center
- Food Shelf
- Sit-down Restaurants
- Churches
- Outdoor Golf Course
- Apartments

CHS Field

Two MarketPointe

Delano K-12 Schools
Commonalities Across Facilities

- Existing sort stations with trash & recycling
- Paper towels in bathrooms
- Kitchen/cafeteria area
- Too many trash bins or too large in size

- Single-use supplies
- Lack of signage/education
- At least 1 pioneer or champion wanting to lead the implementation
- Take pride in “doing the right thing”
Facility Differences

- Physical area or space for trash & pickup
- Funding or budget limitations
- Staff turnover or education upkeep
- Motivation to start & sustain the program

Servicing Space Examples:
Compactor vs. separate tank
Case Study: Prairie Seeds Academy

2018 Program Launch

- 800+ K-12 students & faculty each day
- 10 bathrooms, 2 cafeterias, 1 gymnasium, 25 classrooms
Initial Facility Audit
Document current collection practices to establish new methods capturing maximal waste

Key Organics Collection Areas

- Kitchen/Cafeteria
- Bathrooms
- Hallways
- Teachers’ Lounges
- Specialty classrooms with a sink

Important Considerations

- Common contaminants
- Cafeteria flow
- Existing container placement
- Signage used
- Where else people bring food

Establish a “Green Team” for the school to assist with education, grant application, implementation, & ongoing support.
Determining Bin Sizes, Sorting Stations, & Locations of Each Container Recommendations

- Student/staff traffic in the area
- Materials collected in the area
- Space available
- Visual appeal/aesthetics
- Collection frequency
- Budget allowance

Current Examples
Signage Examples
Role of the Waste Hauler

Setup Support

- Current collection frequencies and tonnages
- Alternative tank sizing
- Servicing changes
- Coordinate organics destination

Key Cost Savings

- County tax 14.5% per ton
- State tax 17% per ton
- Frequency of pick-ups
- Potential tank size reductions

If a hauler needs more space on a route, taking organics out or allocating that tonnage elsewhere often benefits their route management.

<table>
<thead>
<tr>
<th>Material</th>
<th>Volume (gal or yard)</th>
<th>How many?</th>
<th>Frequency of pickup</th>
<th>Cost of service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash</td>
<td>8 yard dumpster</td>
<td>1</td>
<td>3x Week</td>
<td>$910.80</td>
</tr>
<tr>
<td>Recycling</td>
<td>4 yard dumpster</td>
<td>1</td>
<td>2x Week</td>
<td>$218.33</td>
</tr>
</tbody>
</table>
Grant Application

Key Focuses
• Project Description
  • Outline & scope
  • Current practices & proposed changes
  • Expected outcomes & goals
  • Why funding is deserved
• Project Planning
  • Research & Design
  • Planning Steps
  • Baseline Waste data
• Timeline
• Project Budget

Proposed Timeline

<table>
<thead>
<tr>
<th>Task</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore program options</td>
<td>Dec 2017</td>
</tr>
<tr>
<td>Conduct an audit</td>
<td>Jan 2018</td>
</tr>
<tr>
<td>Educate the Green Team</td>
<td>Feb 2018</td>
</tr>
<tr>
<td>Students create school awareness</td>
<td>Mar 2018</td>
</tr>
<tr>
<td>Complete Grant Application</td>
<td>Mar 2018</td>
</tr>
<tr>
<td>Place Equipment/Supply order</td>
<td>Apr 2018</td>
</tr>
<tr>
<td>Collect Waste Date from Republic</td>
<td>Apr-May 2018</td>
</tr>
<tr>
<td>Staff Training (Christopher Flores/Organix Solutions)</td>
<td>Aug 2018</td>
</tr>
<tr>
<td>Student video/awareness of PSA Recycling Program</td>
<td>Sept 2018</td>
</tr>
<tr>
<td>Collect Data from Haulers 6-7 months from launch date</td>
<td>Mar-Apr 2019</td>
</tr>
<tr>
<td>Purchase finished compost for PSA Garden</td>
<td>Apr 2019</td>
</tr>
</tbody>
</table>

Utilize Green Team here as much as possible.
# Proposed Budget

<table>
<thead>
<tr>
<th>Task/Items</th>
<th>Vendor</th>
<th>Web Link</th>
<th>Justification for Item</th>
<th>Unit Cost</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example. 7 gallon blue recycling bins</td>
<td>Ex Recyling Bins Inc.</td>
<td><a href="http://www.recyclingbinsinc.com/">Ex</a></td>
<td>To be used in classroom for single stream recycling to replace cardboard boxes currently being used.</td>
<td>$X.XX</td>
<td>XX</td>
</tr>
<tr>
<td>Classroom Recycle Cans</td>
<td>Home Depot</td>
<td><a href="http://www.homedepot.com">www.homedepot.com</a></td>
<td>Blue Recycle cans for classrooms, color coded (11 Gallon)</td>
<td>10.00</td>
<td>25</td>
</tr>
<tr>
<td>Restroom OR Cans (Large)</td>
<td>Home Depot</td>
<td><a href="http://www.homedepot.com">www.homedepot.com</a></td>
<td>Green Organics Slim Jims for Restrooms (23 Gallon)</td>
<td>25.00</td>
<td>10</td>
</tr>
<tr>
<td>Restroom OR Cans (Small)</td>
<td>Home Depot</td>
<td><a href="http://www.homedepot.com">www.homedepot.com</a></td>
<td>Green Organics cans for smaller restroom in Elementary/Pre-School Area</td>
<td>10.00</td>
<td>10</td>
</tr>
<tr>
<td>Hallways 3-Station</td>
<td>Recycle Away</td>
<td><a href="https://www.recycleaway.com/view_cart.asp">https://www.recycleaway.com/view_cart.asp</a></td>
<td>Larger 3-Station in Hallways (23 Gallon)</td>
<td>327.00</td>
<td>4</td>
</tr>
<tr>
<td>Small 3-Station</td>
<td>Home Depot</td>
<td><a href="http://www.homedepot.com">www.homedepot.com</a></td>
<td>Small 3-Station for staff lounges (11 Gallon)</td>
<td>30.00</td>
<td>3</td>
</tr>
<tr>
<td>3 Stations for kitchen</td>
<td>Home Depot</td>
<td><a href="http://www.organixsolutions.com">www.organixsolutions.com</a></td>
<td>Trash, Recycling and Organics 23 Gallon 3-Station</td>
<td>75.00</td>
<td>2</td>
</tr>
<tr>
<td>Compostable Bags</td>
<td>Organix Solutions</td>
<td><a href="http://www.organixsolutions.com">www.organixsolutions.com</a></td>
<td>1 year supply of compostable bags for the lunchroom and restrooms</td>
<td>7,064.00</td>
<td>1</td>
</tr>
<tr>
<td>3-Station for Cafeteria</td>
<td>Murphy Construction</td>
<td><a href="http://www.recyclingsortingtables.com/home.html">http://www.recyclingsortingtables.com/home.html</a></td>
<td>Mainstream Waste Diversion in the cafeteria</td>
<td>2,220.00</td>
<td>2</td>
</tr>
<tr>
<td>Liquid container shelf</td>
<td>Murphy Construction</td>
<td><a href="http://www.recyclingsortingtables.com/home.html">http://www.recyclingsortingtables.com/home.html</a></td>
<td>Collection of liquids</td>
<td>280.00</td>
<td>2</td>
</tr>
<tr>
<td>Strainer for Liquid bucket</td>
<td>Murphy Construction</td>
<td><a href="http://www.recyclingsortingtables.com/home.html">http://www.recyclingsortingtables.com/home.html</a></td>
<td>Strainer for liquid bucket to strain out solids</td>
<td>25.00</td>
<td>2</td>
</tr>
<tr>
<td>Organics Recycling Pickup Service</td>
<td>Randy’s Environmental</td>
<td><a href="https://www.randysenvironmentalservices.com/">https://www.randysenvironmentalservices.com/</a></td>
<td>Organics Recycling Hauling/Pickup</td>
<td>100.00</td>
<td>12</td>
</tr>
<tr>
<td>33 Gallon Container</td>
<td>Home Depot</td>
<td><a href="http://www.homedepot.com">www.homedepot.com</a></td>
<td>32 Gallon Color coded containers for 3-stations in cafeterias, with casters</td>
<td>65.00</td>
<td>6</td>
</tr>
</tbody>
</table>

## Total Grant Request:

<table>
<thead>
<tr>
<th>Match Tasks/Items</th>
<th>Unit Cost</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid container shelf</td>
<td>100.00</td>
<td>2</td>
</tr>
<tr>
<td>Sign Rack for Table</td>
<td>473.00</td>
<td>2</td>
</tr>
</tbody>
</table>

## Total Match Amount

## Total Project Cost
Staff Training & Utilizing the Green Team

**Training Goals**
- Reinstate program importance, goals, and expectations to instill onto students
- Train the cafeteria faculty, cleaning staff, and lunchroom supervisors
- Distribute & recommend placement of signage and containers

**Ongoing Support**
- 3-month check-in
- Green Team
- Hauler collection data
- Future goals or ways to reduce trash even further

*We also include at this time the importance of creating a closed-loop system by purchasing and utilizing finished compost on the school grounds.*
More Successful Program Summaries
Corporate office & medical center

- Cost savings
- Employee engagement
- Spacing solutions
- Purchasing modifications
- Data tracking
- Ongoing support

Best Buy Headquarters
Years sustained: 11
AVG organics recovered: 28,780 lbs per month

Ridgeview Medical Center
Years sustained: 4
AVG organics recovered: 5,000 lbs per month
Current linear waste disposal system should be transformed to support organics processing.

Infrastructure is needed for organics recycling that supports commercial composting and anaerobic digestion.

Compostable Organic Waste
Benefits of Compost Use

- Sequesters carbon dioxide in soil preventing release into the atmosphere
- Increases soil moisture retention, reduces runoff into waterways
- Binds and degrades pollutants
- Reduces desertification - persistent degradation of ecosystems by variations in climate and human activities
- Diverting organic materials from MSW by reducing, recycling and composting are sustainable means to protect human health and the environment
Thank You.

Tate Moeller
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