City of San José
Using Mixed Waste Processing to Transform the Commercial Solid Waste System

New York Chapter
Solid Waste Association of North America
Mixed Waste MRFs Conference – February 24, 2016
Integrated Waste Management

Key Services and Programs:

- Residential and Multi-Family
- Businesses
- Construction & Demolition
- City Facilities
- Public Events
About San José

• 10th Largest City in U.S.
• 3rd Largest City in CA
• Population 1,000,000+
• Diverse Demographic Profile
• Generates 1.8 Million Tons Waste/Year
• Citywide Diversion 71%
Time for Change

2007 Green Vision
• 10 Citywide Goals
• 100% Waste Diversion
• Waste-to-Energy

2008 City Waste Characterization
• 79% disposed was recoverable

2008 MFD Mixed Waste Processing
• 75% diversion (mixed and single stream)
Commercial System 1995-2012

20+ Non-exclusive haulers
22% Diversion rate (not including C&D or MFD)
225K Commercial tons waste/year
8K Commercial service accounts
Commercial System

Challenges:
• Volume-Based City Fees
• Inconsistent Customer Rates & Services
• Low Diversion Rate

Goals:
• Stabilize General Fund
• Increase Diversion
• Attract Infrastructure Development
Redesign Process

Seven Years of Planning

• Stakeholder Engagement

Two RFPs (2010)

• Organics Processing
  • 3 proposals

• Collection, Recyclables Processing and Disposal
  • 5 proposals
Commercial System 2012-2027

Collection, Recycling & Disposal

Organics Processing

Delivering world class utility services and programs to improve our health, environment and economy
Republic Services

Newby Island Resource Recovery Park

Facility Readiness:
- Materials Recovery Facility (MRF)
- Organics Composting
- Gas-to-Energy
- C&D
- CNG Fueling Station
- Landfill
Republic Services

The Recyclery

• Largest MRF in the world
• Rebuilt interior
• 110 tons per hour / 400,000 tons per year capacity
• 300 motors
• 200 employees
• BHS equipment technology

Delivering world class utility services and programs to improve our health, environment and economy
Republic Services

Four processing lines at the MRF:

- Residential single stream
- Commercial single stream
- Commercial **Dry** Waste
- Commercial **Wet** Waste

**Wet Organics:**

- Pre-processed at MRF
- Direct delivered
Republic Services

2014 Recyclery Throughputs:

330K tons to MRF

220K tons from San Jose

- 2/3 tons Dry
- 1/3 tons Wet
Zero Waste Energy Development Co.

High Solids Dry Anaerobic Digestion Facility

• First in the U.S.
• Zero Waste Energy and BHS technology
• 16 digesters
  • 300 tons each
  • 21-28 day cycle
• 3 In-Vessel Compost tunnels
Zero Waste Energy Development Co.

2015 Annual Throughput:
- **70K** tons (San Jose)
- **85K** tons total (all sources)
- **95K** tons maximum
- **4K** tons compost

Site Potential:
- **270K** tons per year
- **100K** CY compost
- **1.6 MW**
Organics Delivery Specifications

AD material requirements
• ≤ 0.25% glass allowance
• ≤ 30% fiber allowance

Organic Stream (OS) requirements:

<table>
<thead>
<tr>
<th>Allowance</th>
<th>Tiered Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS1 ≤ 5%</td>
<td>($75.40)</td>
</tr>
<tr>
<td>OS2 5-10%</td>
<td>($80.29)</td>
</tr>
<tr>
<td>OS3 10-20%</td>
<td>($90.35)</td>
</tr>
<tr>
<td>OS4 20-30%</td>
<td>($99.58)</td>
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</tbody>
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How is Mixed Waste Processing Going?

- **Commercial Diversion**
  - 77% in 2014

- **Organic Streams**
  - Fiber
  - Plastics

- **Relationship Building**
  - Separate Contracts Challenges
  - Contract Amendments

- **Markets**
  - Port Accessibility
  - PG&E Power Purchase
What's Next for Mixed Waste?

• Single Family Garbage
• Continue to review emerging technologies
• Lawrence Berkeley National Laboratory Partnership
• Evaluate and Adjust
  – Recyclables
  – Compost
  – Diversion
  – Marketability
Thank you!

Questions?
OUR PASSION. OUR CITY. KEEP IT CLEAN.

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#keepSJclean

Delivering world class utility services and programs to improve our health, environment and economy