Solid Waste Management

Mike Gore, Utilities Director
September 17, 2019
Solid Waste Management

Introductions

- Mitch Kessler, Principal, Kessler Consulting Inc.
- Rob Shankle, Solid Waste Division Manager
- Jeanne Detweiler, Solid Waste Enforcement Superintendent
Solid Waste Management Agenda

- Current Operations
- Master Plan Recommendations
Solid Waste Management

Current Operations

- Lena Road Landfill
- Erie Road Landfill (closed)
- Mandatory Waste Collection
- Enforcement
- Recycling
- Debris Management
Solid Waste Management
Lena Road Landfill

- Started in 1983
- Site Location
- Class 1 Landfill
- Permits
- Disposal cell and associated operations
Litter Screens
GIS Computer Aided Software - Compactor
Alternate Daily Cover – Tarp
Lena Road Flare and Standard Gas Well
Solid Waste Management
Lena Road Site Life

- Operating Facilities
  - Household Hazardous waste
  - Scrap Metal
  - White Goods
  - Waste Tires

- Future Preserve

- Stage II estimated remaining life
  - Fill sequence planning
### Projected Remaining Capacity and Site Life

#### Remaining Volume:
- **11,200,391 CY**

#### Average Density:
- **1,443 lbs/CY** (20-year average)
- **1,417 lbs/CY** (5-year average)
- **1,331 lbs/CY** (per capita average)

#### Volume Consumed:
- **462,621 CY/year** (20-year average)
- **454,251 CY/year** (5-year average)
- **507,274 CY/year** (per capita average)

#### Remaining Life:
- **24.2 years** (20-year average)
- **24.7 years** (5-year average)
- **20.1 years** (per capita average)

<table>
<thead>
<tr>
<th>Reporting Year</th>
<th>Historical Tonnages (Tons)</th>
<th>Volume Used (CY/Yr)</th>
<th>Apparent Density (lbs/CY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>339,357.16</td>
<td>589,000</td>
<td>1,152.32</td>
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<tr>
<td>2001</td>
<td>363,924.34</td>
<td>550,700</td>
<td>1,321.68</td>
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<td>2002</td>
<td>340,975.45</td>
<td>504,700</td>
<td>1,351.20</td>
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<td>2003</td>
<td>343,499.64</td>
<td>485,772</td>
<td>1,414.24</td>
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<td>2004</td>
<td>363,385.41</td>
<td>417,900</td>
<td>1,739.11</td>
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<td>2005</td>
<td>389,257.63</td>
<td>569,200</td>
<td>1,367.74</td>
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<td>2006</td>
<td>376,492.88</td>
<td>659,200</td>
<td>1,142.27</td>
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<td>2007</td>
<td>350,071.61</td>
<td>351,000</td>
<td>1,994.71</td>
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<td>2008</td>
<td>329,054.97</td>
<td>531,300</td>
<td>1,238.68</td>
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<td>2009</td>
<td>302,373.55</td>
<td>287,700</td>
<td>2,102.01</td>
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<td>2010</td>
<td>274,482.91</td>
<td>307,700</td>
<td>1,784.09</td>
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<td>2011</td>
<td>254,848.56</td>
<td>465,400</td>
<td>1,095.18</td>
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<td>2012</td>
<td>273,770.81</td>
<td>390,900</td>
<td>1,400.72</td>
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<tr>
<td>2013</td>
<td>280,488.47</td>
<td>384,000</td>
<td>1,460.88</td>
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<tr>
<td>2014</td>
<td>296,083.99</td>
<td>486,700</td>
<td>1,216.70</td>
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<tr>
<td>2015</td>
<td>303,023.69</td>
<td>314,373</td>
<td>1,927.80</td>
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<td>2016</td>
<td>300,067.64</td>
<td>516,500</td>
<td>1,161.93</td>
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<tr>
<td>2017</td>
<td>330,724.56</td>
<td>470,000</td>
<td>1,407.34</td>
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<td>2018</td>
<td>335,607.40</td>
<td>490,000</td>
<td>1,369.83</td>
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<td>2019</td>
<td>292,722.41</td>
<td>480,380</td>
<td>1,218.71</td>
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</table>
Stage II (Full Permitted Build Out)
Stage II (Partial Build Out – Transfer Station and Yard Waste Pad)
Stage II (Partial Build Out – Transfer Station)
Stage II (Partial Build Out – Yard Waste Pad)
## Solid Waste Management
### Lena Road Site Life (2)

<table>
<thead>
<tr>
<th></th>
<th>5-year Avg (in years)</th>
<th>Per Capita (in years)</th>
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</thead>
<tbody>
<tr>
<td>Estimated remaining life</td>
<td>24.7</td>
<td>20.1</td>
</tr>
<tr>
<td>Estimated remaining life with transfer station</td>
<td>18.6</td>
<td>14.0</td>
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<tr>
<td>Estimated remaining life with transfer station and yard waste site</td>
<td>14.2</td>
<td>9.6</td>
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</table>
Solid Waste Management
Future Disposal

- Regional disposal options
Solid Waste Management
New County Owned Facility

- Location
- Opportunities/Challenges
- Timeline
Lena Road Landfill Advantages

- Proximity to I-75
- Adjacent to Southeast Regional Water Reclamation Facility
- Central location for County
  - Between SR 64 and SR 70 East/West
- Adjacent to power grid
- Geology subsurface conditions
- Available space for buffer area
# Landfill Development Timeline

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activities</th>
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</thead>
</table>
| **Phase I** | Site Selection  
Due Diligence  
Land Acquisition  
Site Assessments (Wildlife, Wetlands, etc.)  
RFQ for Engineering Firm |
| **Phase II** | Conceptual Landfill Design & Permit Applications  
FDEP Permitting Process - Solid Waste  
FDEP Permitting Process - Environmental Resource Permits  
USACE Wetlands Permitting  
FDEP Wetlands Mitigation Construction  
Construction Level Engineering Plans & Specs  
RFP for Landfill Construction  
RFP for Building Construction |
| **Phase III** | Landfill Construction  
Ancillary Building Construction  
FDEP Certification of Construction Completion  
Prepare for Landfill Operations |

**Landfill Development - Approximately 19 Years**

Lena Rd LF Closes
SOLID WASTE CONTRACTS, LENA ROAD PROJECTS & LANDFILL DEVELOPMENT TIMELINE

Site Selection, Acquisition & Assessment Complete 7/1/24
LF Design & Permitting Complete 8/1/36
LF Construction Complete 9/1/38

Term of Existing Agreements (10/1/08 - 9/30/23)
Procurement Planning
Collection RFP
Service Transition
New Contracts Initial Term (8 yrs)
New Contracts Renewal Term (7 yrs)
Procurement Planning for Future 2039 Collection Contracts
Future 2039 Collection RFP
Service Transition
New Contracts Initial Term (1/1/39 - 12/31/47)

Collection Franchises

Collection Franchises

Proposed Landfill Phase I
Site Selection
Due Diligence
Land Acquisition
Site Assessments (Wildlife, Wetlands, etc.)
RFQ for Engineering Firm

Proposed Landfill Phase II
Conceptual Landfill Design & Permit Applications
FDEP Permitting Process - Solid Waste
FDEP Permitting Process - Environmental Resource Permits
USACE Wetlands Permitting
FDEP Wetlands Mitigation Construction
Construction Level Engineering Plans & Specs
RFP for Landfill Construction
RFP for Building Construction

Proposed Landfill Phase III
Landfill Construction
Ancillary Building Construction
FDEP Certification of Construction Completion
Prepare for Landfill Operations

Potential Transfer Station
Updated Evaluation and BCC Decision
Design & Permitting Application w/in LF Footprint
FDEP Permitting Process w/in LF Footprint
RFP for Transfer Station Construction w/in LF Footprint
Construction w/in LF Footprint
Design & Permitting Application
FDEP Permitting Process
RFP for Transfer Station Construction

LANDFILL DEVELOPMENT - APPROXIMATELY 19 YEARS

May need TS 6 yrs earlier if constructed in LF footprint
Lena Rd LF Closes

LF Design & Permitting Complete 8/1/36
LF Construction Complete 9/1/38

Proposed Landfill Phase I
Site Selection, Acquisition & Assessment Complete 7/1/24

Proposed Landfill Phase II

Proposed Landfill Phase III

Potential Transfer Station

LANDFILL DEVELOPMENT - APPROXIMATELY 19 YEARS
Solid Waste Management Staff Recommendations

- Scope and purchase land
- Preserve
Questions?