Advisory Committee
Solid Waste Management Plan for Lincoln and Lancaster County (Solid Waste Plan 2040)
May 14, 2013
Purpose of the Plan

The Solid Waste Plan 2040 will be a guidance document, communication tool, and resource for policy decisions regarding solid waste management systems, facilities, and programs.
1. Public Meeting Law Acknowledgement & Safety Briefing
2. Call Meeting to Order
3. Roll Call
4. Approve Meeting Minutes from April 9, 2013
5. Process for Developing Recommendations
   a) Additional Information on Yard Waste Options
6. Committee Questions and Discussions

BREAK
Agenda

BREAK

7. Public Participation
8. Process for Developing Recommendations (cont.)
9. Committee Questions and Discussions
10. Next Advisory Committee Meeting
   a) Timing, Topics and Notification
11. Public Comment (final 15 minutes)
12. Close Meeting
Planning Process

- Baseline Assessment Survey
- Needs Assessment
- Open House/Public Meeting
- System Definition
- Open House/Public Meeting
- Evaluate Options
- Refine

- Approval
- Present to Governing Bodies
- Final Plan
- Mayor Review
- Draft Plan

Solid Waste Management Plan for Lincoln and Lancaster County
Options vs. System Definition vs. Final Plan

Options:
• Identifies a Preferred Path
• Used to create a System Definition

System Definition:
• Present to Public
• Refined for Final Plan Recommendations

Committee Plan Recommendations:
• Not necessarily tied to the System Definition
• May include phased approach
• May include program specific goals
Process for Developing Recommendations

- Vision
- Guiding Principles
- Waste Management Hierarchy
- Regulatory Background
- Evaluation Criteria
Developing System Definition

Process

- Topic Overview
- Discussion
- Initial Polling
- Discussion
- Final Polling

Solid Waste Management Plan for Lincoln and Lancaster County

Solid Waste Plan 2040
Options Topics

- Yard Waste
- Commercial Recycling and Diversion
- Construction and Demolition Materials Recycling
- Organic Waste Diversion (Composting)
- Waste Conversion Technologies
- Bioreactor/Bio-Stabilization Landfill
- Transfer Station and Processing Facilities
Yard Waste – Clarifications

Yard Waste:
- Grass and leaves
- Branches and other organic material collected as the result of the care of ornamental plants, lawns, shrubbery, vines and gardens.
Yard Waste - Primary

Issue:
State law allows yard waste (grass and leaves) disposal in landfills for the production and recovery of methane gas for use as fuel. Increased quantities of yard waste (grass and leaves) disposal would decrease the life of the City’s MSW landfill. 3% of what is currently received for disposal at the City’s MSW landfill is grass, leaves, garden waste and brush; 5% of what is currently diverted from the City’s landfill is grass, leaves, garden waste and brush.

Options - Primary: Grass and Leaves
1) Maintain Status Quo (Seasonal Ban on grass and leaves).
2) Allow grass and leaves disposal at City’s MSW landfill year round.
3) Ban grass and leaves disposal at City’s MSW landfill year round.
Yard Waste (Grass and Leaves)

1. Maintain Status Quo (Seasonal Ban)

2. Allow grass and leaves disposal at City’s MSW landfill year round.

3. Ban grass and leaves disposal at City’s MSW landfill year round.

4. Abstain.
Program Types:

• New construction (infrastructure) requirements

• Refuse hauler recycling service
  – Service is **offered**
  – Service **must be provided**

• Owner/Operator commercial recycling service
  – Minimum level of recycling services

• Processing facility
Commercial Recycling and Diversion

**Issue:**
Higher levels of waste diversion (capture more resources) could be achieved with more convenient program options for commercial waste recycling. Commercial recycling provides the greatest opportunity for increased diversion rates. Commercial recycling accounts for 9 percent of the total MSW recycled in the Planning Area.

**Options:**
1) Maintain Status Quo.
2) Commercial recycling to be provided to multi-family dwellings, businesses, industries, and institutions.
1. Maintain Status Quo.

2. Commercial recycling to be provided to multi-family dwellings, businesses, industries, and institutions.

3. Abstain.
Construction & Demolition Materials Recycling

Current System:

• C & D Processors
  - 75% - 80% of Total C&D Generation
• North 48th Street Construction and Demolition Waste Landfill
  - Not a Diversion Program
Construction and Demolition Materials Recycling

Program Types:

• Regulatory Requirements
  – Mandatory recycling plans
  – Minimum diversion requirements
  – Incorporation into disaster response plans

• Market and Diversion Incentives
  – Modify government procurement/purchasing specifications
  – Require the use of recyclable materials
  – Targeted programs
  – Increased landfill fees
  – Disposal bans

• Construction Materials Recycling and Processing Centers
Issue:
Seventy-five to eighty percent of the construction and demolition debris generated in the Planning Area is currently recycled. The material being recycled is primarily concrete and asphalt. Additional opportunities for resource recovery exist for C&D materials currently sent to disposal.

Options:
1) Maintain Status Quo:
   a. Support private recycling and material reuse effort.

2) Require C&D recycling/diversion for construction and demolition projects.

3) Select C&D material bans at City disposal sites.
Construction and Demolition
Materials Recycling

1. Maintain Status Quo (Support private recycling and material reuse effort).

2. Require C&D recycling/diversion for construction and demolition projects.

3. Select C&D material bans at City disposal sites.

4. Abstain.
Committee Questions & Discussion

Process for Developing Recommendations
The Solid Waste Plan 2040 will be a guidance document, communication tool, and resource for policy decisions regarding solid waste management systems, facilities, and programs.
Website: lincoln.ne.gov
- keyword: solid waste plan

Social Media
- Facebook
- Twitter

Comment Line
- (402) 441-7738

Log on to http://lincoln.ne.gov
Search: solid waste plan
Current System:

- Food Programs (Source Reduction)
- Paper Fibers (Recycling)
- Yard and Wood Waste
  - Christmas Tree Recycling
  - Composting – Bluff Road
  - Drop-off – North 48th Street
  - Curbside Recycling – Voluntary/Subscription
- Livestock Waste Composting
Organic Waste Diversion (Composting)

Program Types:

• Marketing

• Collection and Recovery
  – Wet/Dry System
  – Sanitary Sewer Collection Systems

• Composting or Digestion
  – Aerobic Organic Waste Composting
  – Anaerobic Organic Waste Digestion/Composting

Food Recovery Hierarchy
- Source Reduction
- Feed Hungry People
- Feed Animals
- Industrial Uses
- Composting
- Incineration or Landfill

Solid Waste Management Plan for Lincoln and Lancaster County
Solid Waste Plan 2040
Organic Waste Diversion (Composting)

Issue:
Food waste represents approximately 16 percent of the MSW disposed of at the Bluff Road Landfill. Organic waste can include paper and other materials as well as food waste. Reducing the organic waste in landfills reduces air emissions and can help reduce long-term liabilities associated with MSW landflling.

Options:
1) Maintain Status Quo (limited diversion by private initiatives).
2) Develop/support programs to reduce the quantity of organics, especially food waste, going to the City’s MSW disposal site.
1. Maintain Status Quo (limited diversion by private initiatives).

2. Develop/support programs to reduce the quantity of organics, especially food waste, going to the City’s MSW disposal site.

3. Abstain.
Disposal – Waste Conversion Technologies

- Also known as: waste-to-energy, resource recovery, combustion, incineration
- 12% of MSW in US managed by combustion with energy recovery
- Recovery of energy and metals
- Compatible with recycling and diversion programs
- Reduces volume and organic content of landfilled waste
Waste Conversion Technologies

- May be considered a renewable energy source
- Current landfill gas-to-energy system at the Bluff Road MSW Landfill is a form of conversion technology
- MSW = ½ the energy content of coal
Waste Conversion Technologies

- Social/political acceptance
- Supply of waste
- Siting/location
- Permitting
- Implementation considerations

- Technology risk
- Costs
- Energy markets
- Air emission
- Residuals management
Waste Conversion Technologies

**Issue:**
Materials destined for disposal in a landfill contain at least one additional major resource that can be recovered – renewable energy. Waste conversion technologies can help to maximize resource recovery (energy and possibly others) and reduce the tonnage of waste being disposed by 80 percent by weight. The energy output of 500 tons of MSW is equivalent to the energy demands of approximately 5,000 to 8,000 homes or 10 percent of the total number of occupied residential housing units in single- to four-unit dwellings in the Planning Area.

**Major Question:**
Pursue the development of waste conversion technology(ies) as part of a long-term strategy for energy recovery and resource conservation.

1) Yes
2) No
Waste Conversion Technologies

Pursue the development of waste conversion technology(ies) as part of a long-term strategy for energy recovery and resource conservation.

1. Yes
2. No
3. Abstain
**Bioreactor/Bio-Stabilization Landfill**

- Long-term biologic activity versus stabilization
- Requires large volumes of off-site liquids
- Research, Development & Demonstration (RD&D) permit required

- Added benefit in utilization of permitted air-space:
  - 10 -15 % Retrofits
  - 30 -50 % New site

- Reduces long-term risk?
- More landfill gas – short-term

![Graph comparing conventional and bioreactor landfill gas production over 20-year life](Image)
Bioreactor/Bio-Stabilization Landfill

Most research focuses on the following techniques:
- Anaerobic
- Aerobic
- Hybrid

Issues:
- Liquids and liquid source(s)
- Added costs (construction & operation)
- Neighbor concerns
- Regulatory uncertainty
Bioreactor/Bio-Stabilization Landfill

**Issue:**
Landfills represent a long-term liability and risk to the environment because the waste remains biologically active for many decades. Evolving technologies may provide opportunities to more rapidly stabilize the organic waste in the landfill. Bioreactor landfill technology can extend the life of a landfill by 30 percent (range 15 to 50 percent).

**Major Question:**
Pursue the development of Bioreactor/Bio-Stabilization technology for use at the City’s MSW Landfill if it can be shown to be technically and economically feasible.

- Yes
- No
Pursue the development of Bioreactor/Bio-Stabilization technology for use at the City’s MSW Landfill if it can be shown to be technically and economically feasible.

1. Yes
2. No
3. Abstain
Transfer Station and Processing Facilities

• City’s North 48th Street Transfer Station accepts only small vehicles.

• Three private waste processing facilities support recycling service providers.
Transfer Station and Processing Facilities

• Conceptually a transfer station in the southern third of the City may be cost effective.

• Conceptually there are benefits to co-locating transfer stations and processing or other diversion facilities.
Transfer stations often serve many purposes:

- Cost savings
- Control expense
- Traffic mitigation
- User convenience
- Waste screening
- Facilitate recycling
- Reduce air emissions
- Others
Transfer Station and Processing Facilities

**Issue:**
Properly located transfer stations can result in cost savings to waste haulers, reduced traffic at the landfills and provide other benefits to a waste management system. Based on rule of thumb distances a transfer station may be economically advantageous to waste haulers operating in the southern part of the Planning Area.

**Major Question:**
Develop a Municipal Solid Waste Transfer Station if a Feasibility Study shows it can be cost effective.

- Yes
- No
Transfer Station and Processing Facilities

Develop a Municipal Solid Waste Transfer Station if a Feasibility Study shows it can be cost effective.

1. Yes
2. No
3. Abstain
Committee Questions & Discussion

Process for Developing Recommendations
Next Advisory Committee Meeting

Next Meeting:
June 11, 2013
2:30 pm to 4:30 pm
Lincoln/Lancaster County Health Department
Lower Level Training Room
Public Comment

Guidelines:

– State name and address

– Limit your remarks to time allotted – 3 minutes

– Show respect to the meeting attendees, Advisory Committee members, facilitator and presenter(s)

– No foul language or inappropriate behavior

– Follow standard rules of decorum