Biosolids Master Plan
Stakeholder Advisory Committee
Meeting #1

October 1, 2013

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Outline

- About Biosolids
- Sewage Treatment Facilities
- Biosolids Treatment
- Biosolids Disposal
- Biosolids Master Plan
- Biosolids Use in Other Canadian Cities

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About Biosolids

- Nutrient-rich, organic, solid material produced as a result of advanced sewage treatment
- Contain significant quantities of nitrogen and phosphorous, as well as other trace nutrients (e.g., copper, iron and zinc)
- Valuable as a natural fertilizer and soil conditioner for agricultural land
- Subject to strict standards for pathogens, heavy metals, and chemicals

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About Biosolids (Cont'd)

- Have distinctive odour, usually caused by compounds containing sulphur and ammonia, both of which are plant nutrients
- Provincially regulated

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Sewage Treatment Facilities

- Three City-owned and operated sewage treatment plants
  - produced about 13,500 dry tonnes of biosolids in 2012
  - expected to produce 23,000 dry tonnes of biosolids by 2037
- All solids hauled to City's largest facility (north end plant) for treatment

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North End Sewage Treatment Plant

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Biosolids Treatment

- Since 1930's, using anaerobic digestion for biosolids (bacterial process in the absence of oxygen)
  - generates a biogas containing 65% methane (natural gas) as a by-product
- Using methane year-round to heat the digesters to 35 degrees C as well as heating facility buildings in winter, providing major savings in energy costs

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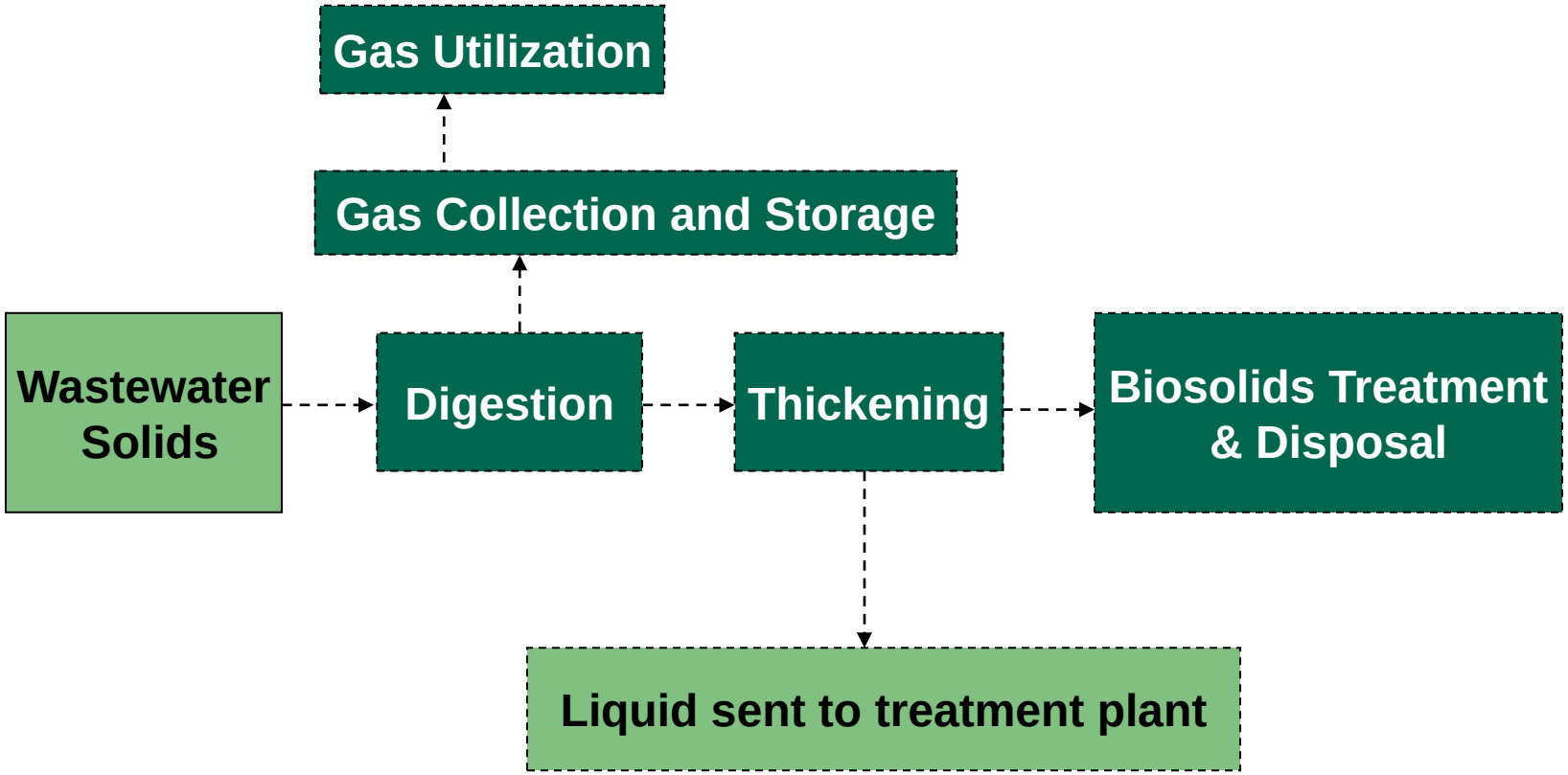
Sludge, Biosolids, & Nutrient Management



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Biosolids Disposal until 2010

- Incorporated biosolids into agricultural land at no cost to landowners, providing great benefit to the farming community
- Land application program was rigorously monitored and regulated

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Current Practice

- Since January 1, 2011, landfilling biosolids at the Brady Resource Management Facility due to more stringent provincial nutrient regulations under the Water Protection Act
- Landfilling not desirable in the long term:
  - lacks the opportunity to reuse the nutrients
  - increases potential for nuisance odours for neighbouring residents (e.g., Waverley West)

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Biosolids Master Plan Required

- Manitoba Conservation and Water Stewardship requested a Biosolids Master Plan be submitted by October 2014
- Main goals of the master plan:
  - sustainable reuse of biosolids and/or end product(s)
  - utilization of nutrients (nitrogen and phosphorous)

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Developing Biosolids Master Plan

1. Identify technologies to treat and reuse biosolids, including costs
2. Consult and solicit advice from industry professionals, regulatory authorities, other stakeholders, and the public
3. Select technologies to treat and reuse biosolids based on information gathered in Steps 1 and 2
4. Submit a Biosolids Master Plan to Manitoba Conservation and Water Stewardship in October 2014

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Future Plans

- Investing about $200 million* in biosolids treatment and reuse
  - two-year pilot program composting 20% of biosolids at the Brady Road Resource Recovery facility
  - digester upgrades
  - biosolids reuse

**subject to Council approval*

Request for Information Issued

- Closes September 30, 2013
- First time exploring external interest
- 23 people attended information session on the RFI
- Understand the market and the financial implications for biosolids reuse
- Help identify the most cost effective option or combination of options

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Biosolids Use in Other Canadian Cities

- Applying to land as agricultural fertilizer
- Drying and use as a commercial fertilizer
- Alternative fuel and energy
- Incorporating into cement and brick manufacturing
- Landfilling

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Overview of SAC Meetings

Meeting #1	Biosolids overview
Meeting #2	Options for biosolids reuse
Meeting #3	Options for biosolids reuse, input on public engagement process
Meeting #4	Review public engagement outcomes, final input and wrap up

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Questions ?

Relevant Websites

- City of Winnipeg Biosolids Website
  - http://www.winnipeg.ca/waterandwaste/sewage/projects/biosolids/
- Canadian Water and Wastewater Association
  - http://www.cwwa.ca/faqbiosolids_e.asp
- Compost Council of Canada
  - http://www.compost.org/Biosolids_Composting_FAQ.pdf

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