



NIAGARA-HAMILTON WastePlan

Niagara-Hamilton Joint EA Study for Waste Disposal

Tour of Waste Management Facilities in Halifax Regional Municipality June 7-9, 2006

*WastePlan Joint Working Group
July 13, 2006*



Working together for shared solutions

Overview

- **Presentation by Nova Scotia Ministry of the Environment Staff**
- **Otter Lake Solid Waste Management Facility**
- **Chester Landfill**
- **Reception with the Province of Nova Scotia**
- **Presentations on public consultation and clear plastic bags**
- **New Era Farms Composting Facility**
- **Eco-Efficiency Centre**

Presentation by the Nova Scotia Ministry of the Environment Staff

- **Nova Scotia population – 940,000, Halifax Regional Municipality has 40%, Cape Breton has 11%**
- **Change began in early 1990s**
- **Resource Management Strategy goals:**
 - 50% diversion by 2000
 - Increased disposal standards
 - Regional cooperation
 - Economic opportunities

Presentation by the Nova Scotia Ministry of the Environment Staff

- **Disposal bans**
 - Environmental reasons (leachate, air emissions, methane, animals, contaminants)
- **Public demand/consultation**
 - Value of waste as a resource
- **Difficulty siting disposal facilities**
- **More sustainable approach**
- **Create jobs**
- **50% diversion**

Results to Date

- **Municipal open burning ceased, 7 municipal solid waste disposal sites are all full containment landfills**
- **All residents have access to curbside recycling**
- **About 80% of residents have curbside organics collection, will be about 95% when CBRM facility opens**
- **80 depots for beverage containers and paint**
- **All regions participating BYC programs**
- **over 1000 new jobs, over 7000 jobs in the environmental field many as a result of waste management strategy**
- **Thousands of derelict vehicles collected**
- **Tire stockpiles cleaned up, most tires recycled**

Results to Date

- **Lowest solid waste disposal rate in Canada**
- **Highest plastic bottle recovery rate in Canada**
- **Businesses export knowledge and products**
- **Province saves at least \$31 million/year**
 - Increased employment
 - Environmental benefits
 - Extended landfill life
 - Increased exports/avoided compensation/tourism

Diversion Tonnages/Year

- **315,000 tonnes of waste diverted in Nova Scotia annually**
- **100,000 organics**
- **85,000 commercial/demolition**
- **45,000 recyclable materials**
- **65,000 private fibre**
- **20,000 tires, beverage containers, paint**

Otter Lake Solid Waste Management Facility

- **Built 1997-98, opened January 1999**
- **Approximately 125 hectares, Halifax Regional Municipality owns 3800 hectares surrounding**
- **Receives 450-900 tonnes per day**
- **Front end sorting of recyclables**
- **In-vessel stabilization of organics**
- **Incoming 155,000 per year, landfilled residuals 135,000 per year**

Tour of Otter Lake Facility



Site Overview



Processing Facility Overview



Incoming waste on tipping floor



Incoming waste on Tipping Floor



Receiving hall



Primary sorting line before trommel screens,
from receiving hall





Trommel screens & conveyor to sorting line

Conveyor from trommels to sorting line





Recycling bunkers under sorting line



WastePlan group, with baled paper in background



Stabilized waste loaded by conveyor into transfer trailer



Transfer trailer bay from composting area

Stabilized waste after composting process



**Trailer discharging stabilized waste onto
landfill tipping face**





Trailer discharging stabilized waste onto landfill tipping face

Compactor at tipping face





SPRAY
PIPE



**Active landfill area foreground, completed cell
in background with gas vents**



Litter fencing



Litter fencing

View of new cell with liner system, covered fill area (left) and completed cell in background



Close up view of top of landfill with daily cover



Chester Landfill

• **Compaction System:**

- Caterpillar patented system
- Computerized – monitoring in office and compactor
- Cat equipment only
- Optimum compaction and landfill airspace use if properly calibrated

• **Leachate Treatment System:**

- First of its kind in Canada
- Initial treatment in lagoons
- Then supernatant is made into snow in winter, atomized the rest of the year
- No discharge to receiving waters
- Sludge is contained and landfilled

Tour of Chester Landfill



GPS Technology to maximize landfill compaction



Landfill tipping face





Leachate treatment building



On site leachate treatment

Computer control panel for leachate disposal





Leachate discharge (snow making equipment)

Reception



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Public Consultation

- **Presentation by Martin Janowitz, VP Jacques Whitford (former Executive Director, Clean Nova Scotia Foundation)**
- **Champion for public consultation process for solid waste strategy in Nova Scotia**
- **Effective public consultation happens when all of the “windows” are aligned (political, public and private sector)**
- **Decision making feared more than not making a decision**
- **In HRM, removal of plastics impacted on the feasibility of incineration**

Clear Plastic Bags

- **Michelle Campbell, Waste Reduction Coordinator, Cape Breton Region**
- **Several municipalities have implemented**
- **Diversion up by 31%**
- **Issues:**
 - Punitive, enforcement
 - Availability of bags
 - Sorting time, hard to do
 - Don't want to use backyard composter
 - Privacy
- **Positive aspects:**
 - Increased diversion
 - Increased organics at curb
 - Most residents felt it needed to be done to reduce garbage, should have done it years ago
- **Promotion and Education Key – advertising, personal visits, collectors meetings, feedback of results**

New Era Composting Facility

- **Located in Goodwood, N.S.**
- **Owner Operator – New Era Technologies**
- **Stinnes in-vessel system**
- **Residential and commercial source separated organics**
- **25,000 tonnes per year**
- **Bulk sales for soil blends**

New Era Farms Composting Facility



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Biofilter

Eco-Efficiency Centre

- Educational and environmental support for small and medium sized businesses on waste reduction, resource conservation and sustainable business practices
- Non-profit organization funded by government and industry partners and operated by Faculty of Management, Dalhousie University
- Located in Burnside Industrial Park, Halifax – one of the largest in eastern Canada with 1400 hectares, 1300 businesses and 17,000 employees
- Centre encourages the concept of industrial ecology within the business park
- Visit: www.dal.ca/eco-efficiency

Thank You

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