



Ottawa Valley Waste Recovery  
Centre

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## **APPENDICES**

**Final Report for**

**The Ottawa Valley Waste Recovery Centre  
Business and Waste Management Master Plan**

**April 24, 2006**

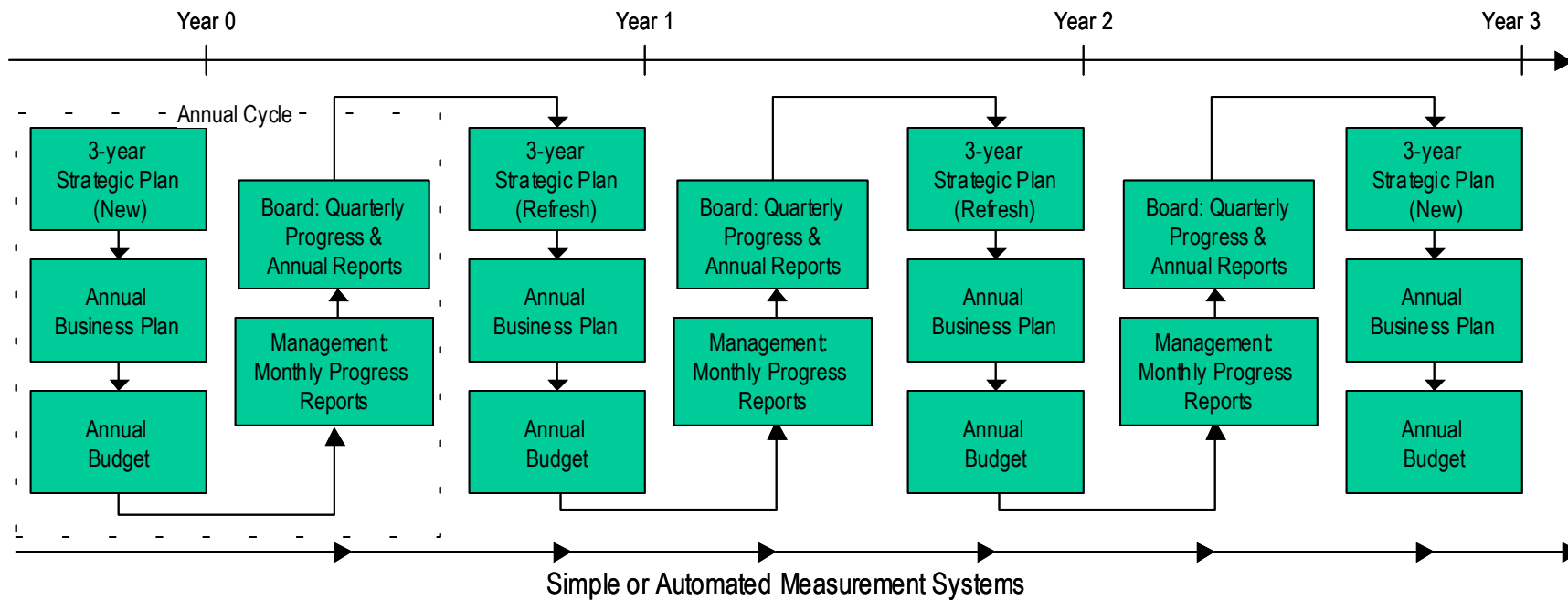
**Appendix A**  
**Proposed Strategic Planning Framework**

Figures A-1 and A-2 on the following pages present annual and 3-year views of a proposed strategic planning and implementation cycle for the Centre. This cycle represents a formalization of several existing processes, while introducing enhancements designed improve effectiveness and productivity. The components of the cycle are as follows:

- Strategic Plan – coinciding with municipal elections, a new strategic plan will be developed that incorporates the consensus long-term direction and objectives of the members. The Board develops the strategic plan with input from management.
- Business Plan – an annual business plan will be developed that reflects the annual objectives, projects and initiatives that, once accomplished, will represent timely progress to achieving the longer-term objectives of the strategic plan. Management develops the business plan for approval by the board. The annual business plan may adopt the documentation conventions of this plan.
- Budget – an annual budget is prepared that includes sufficient resources to accomplish the projects and initiatives of the business plan. Management develops the annual budget for approval by the board. The annual budget document may continue in its current form.
- Progress Reports – discussed in section 3.4 of this report
- Strategic Plan Refresh – changes in the strategic planning environment will occur. As a result of this, changes may be made that adjust the long-term direction, methods and objectives of the strategic plan so that it remains relevant. This version then forms the basis of the next business plan.
- The cycle repeats until the next municipal election results in a new board that is then entitled to adjust the long term objectives and priorities for the Centre according to its wishes.

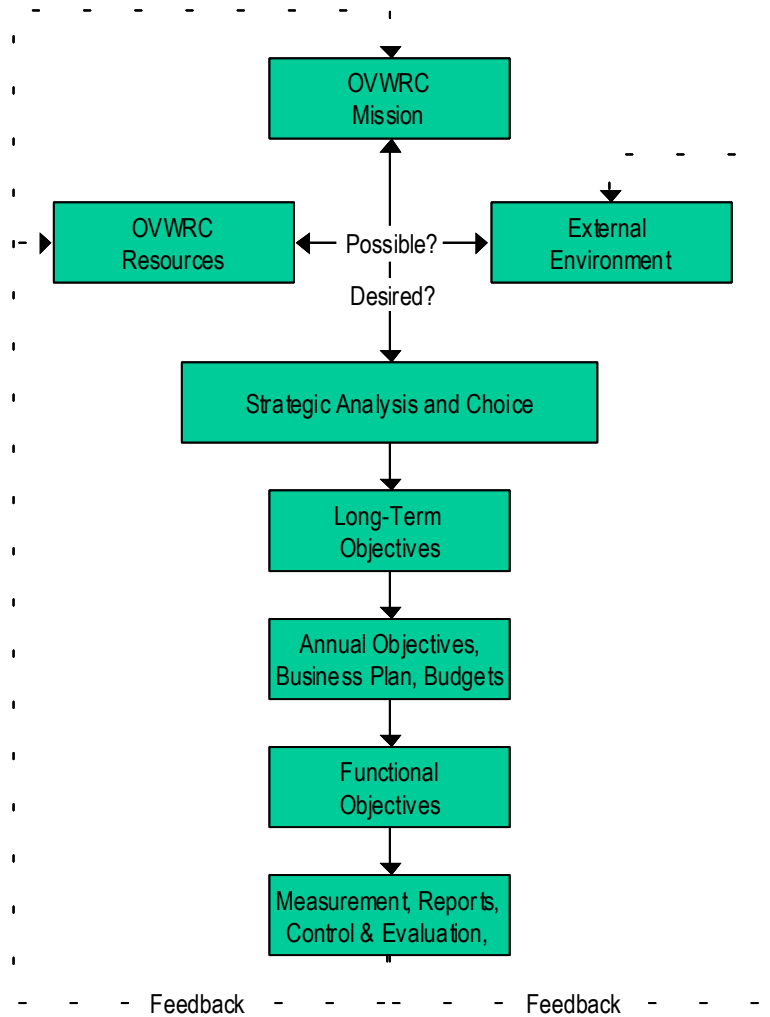
Figure A-1

# 3-Year Strategic Planning and Implementation Cycle



**Figure A-2**

# Strategic Business Planning Workflow



## **Appendix B**

**Process Reviews (Including Acquisition Analysis of  
Beaumen)**

**and**

**Detailed Overview of Business Plan Options  
for all Operational Areas**

## Recycling Processing

<b>Process Review - Recycling Processing (MRF Rationalization)</b>	
<b>Current Situation</b>	<b>Future / Potential</b>
<b>OVWRC</b>	
<ul style="list-style-type: none"> <li>- Service Area – Renfrew County, City of Pembroke, CFB Petawawa, Algonquin Park</li> <li>- Currently used by three partner municipalities with curbside SSO service and two partner municipalities through depot service</li> <li>- C of A No. A411601 (shared with landfill and other on-site facilities)</li> <li>- Significant investment in recycling infrastructure</li> <li>- Shares administration, scalehouse and road infrastructure for site (and staff)</li> <li>- 4,900 tonnes processed in 2004, C of A limit is 8,000 TPY</li> <li>- Two-stream (fibre, container) facility</li> <li>- Residential Processing Costs per Tonne in 2004 WDO datacall was \$326/tonne</li> <li>- Overall processing costs, \$224/tonne gross, \$56/tonne net of revenue</li> <li>- The current capture rate of residential recyclables from OVWRC municipalities is 157 kg/household</li> <li>- OVWRC MRF productivity (2004)               <ul style="list-style-type: none"> <li>o 11 dedicated staff, payroll of \$331,636 in 2004; (average \$30,149/person)</li> <li>o Marketed : 5890 tonnes; 535T/person</li> <li>o Revenue \$558,470; \$95/T</li> </ul> </li> <li>- Staff – 2 Diversion lead hands (shared), 9 material handlers, diversion supervisor (shared)</li> </ul>	<ul style="list-style-type: none"> <li>- has ability to accommodate additional material at current plant with current operations</li> <li>- could accommodate more materials with a change in operations (i.e. multiple shifts)</li> <li>- some minor operational changes defined in initial site visit</li> <li>- could maximize focus on high value material stream, as some of the plastic materials (film plastic) are devaluing more marketable material</li> </ul>
<b>LINKS to other OVWRC System Components</b>	
<ul style="list-style-type: none"> <li>- Landfill operations for disposal of residues</li> <li>- Co-collection system for SSO and other materials</li> <li>- HHW – container residue, aerosols, sharps</li> </ul>	

### Other Renfrew County Municipalities

- Arnprior, Deep River, Horton, Killaloe, Laurentian Hills, some of Madawaska Valley, some of Greater Madawaska (Calabogie) McNab/Braeside, Renfrew and Whitewater have curbside collection.
- All other municipalities use drop-off depots and/or transfer stations.
- Recyclables are taken to Beaumen Recycling.
- Material collected at Madawaska Valley, North Algona Wilberforce, and Bonnechere Valley depots are taken to OVWRC
- Range in residential processing costs per tonne for other Renfrew County municipalities in 2004 was from \$0/tonne to \$13/tonne based on available data from WDO. (Note: processing costs were not reported separately from collection for the majority of these municipalities)

### Summary of Other Renfrew County Municipal Recycling Costs, 2004 WDO datacall

Program Name	Calculated Blue Box Tonnes Marketed	Residential Collection Costs Per Tonne	Residential Processing Costs Per Tonne	Residential Depot/Transfer Costs Per Tonne	Gross Costs Per Tonne
Admaston/Bromley, Township of	197	\$0	\$0	\$235	\$242
Arnprior, Town of	488	\$220	\$0	\$4	\$229
Bonnechere Valley, Township of	197	\$222	\$0	\$289	\$529
Brudenell, Lyndoch and Raglan, Township of	50	\$0	\$0	\$524	\$539
Deep River, Town of	301	\$171	\$0	\$0	\$172
Greater Madawaska, Township of	137	\$0	\$0	\$93	\$94
Horton, Township of	179	\$254	\$0	\$35	\$296
Killaloe, Hagarty, and Richards, Township of	177	\$60	\$0	\$48	\$110
Laurentian Hills, Town of	145	\$344	\$0	\$0	\$350
Madawaska Valley, Township of	450	\$69	\$13	\$183	\$271
McNab-Braeside, Township of	753	\$168	\$0	\$0	\$172
Renfrew, Town of	458	\$279	\$0	\$0	\$283
Whitewater Region, Township of	416	\$249	\$0	\$0	\$253

Note: Admaston/Bromley does not collect glass as part of their program

**OPPORTUNITIES - Recycling Processing (MRF Rationalization)**

<b>Description</b>	<b>Pros / Cons</b>	<b>Barriers / Issues</b>
<b>Status Quo</b>		
<ul style="list-style-type: none"> <li>- Recycling system left as is</li> <li>- Some minor changes to current operations to increase efficiencies</li> <li>- Could shift focus to recover only lowest net cost materials, and remove high cost materials from system</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Familiarity</li> <li>- Low risk</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Current cost of recycling service is higher than other Renfrew municipalities based on WDO reporting</li> <li>- Reduction in WDO funding due to inefficiencies of operation</li> </ul>	<p><b>Barriers:</b> None</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- removing low value materials may be perceived as reducing diversion services</li> </ul>

**Discussion:**

- The current facility is operating one shift per day.
- Capacity on the tipping floor is sufficient to store more than one day's worth of material such that sorting of containers and fibres are done on alternating days (i.e., a full shift of containers sorting one day; a full shift of fibres sorting the next).
- The key observation from the above noted sorting is that "half" of the capital is sitting idle on alternating days, therefore, the cost per throughput tonne is much higher than it could be (up to four times assuming the ideal MRF operation is two shifts per day)
- The current mix of materials, particularly on the containers line, i.e., the inclusion of plastic film, thereby dictates that the MRF use additional staff to remove materials from bags (i.e., even though the program is not bag based, people do bag materials before setting them out at the curb) and remove the plastic film. The inclusion of plastic film, although it contributes to the overall diversion being achieved by the program means that the sorting line moves more slowly (i.e., lower throughput tonnages) than could be achieved without plastic film present.
- Although adding more sorters at the front end of the containers line could effectively increase the throughput tonnage rate, because of the low quantity of material being managed, it is not considered cost effective at this point.
- The cost data available at this point suggests that sorting just residential material is not sustainable over the long term. At \$326 per tonne, the program has one of the highest costs per tonne for residentially managed material in the province. Examining the MRF processing costs with the addition of IC&I sourced materials, the cost for processing materials at the facility is approximately \$56 per tonne (net of revenues), however, generally, operating costs for MRFs should be able to be completely offset by the revenues received for the materials, i.e., net cost of \$0 per tonne processing. Therefore, overall processing costs are higher than typically found in the industry. This can be attributed to three key factors:
  - High capital cost for the facility (i.e., higher level of technology in the MRF than is typically found in MRFs with that throughput tonnage);
  - Higher than average wage costs for the sorters (i.e., the unionised labour rates are \$5-\$7 per hour higher than found in non-unionised environments)<sup>1</sup>; and
  - Low overall tonnage of material means that the cost per throughput tonne is higher.
- Ultimately the high costs associated with this facility mean that the potential revenues from the WDO Blue Box Program Plan are lower than average, as the facility is not "average". With the proposed move to capping costs and paying based on benchmarked efficiencies, there is increased cost exposure to the OVWRC which means that costs to member municipalities will also increase.
- The risk of maintaining the operations in their current state is that municipalities will pay a higher cost for the management of recyclables than they would if they went to another facility for processing. For example, the City of Ottawa pays its contractors approximately \$88 per tonne for the processing of its fibres and containers collected in the same manner as Ottawa-Valley (i.e., alternating weeks fibres and containers).

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<sup>1</sup> The higher than average costs reflect the fact that there are no labour pools/temp agency companies that can provide support as is typically the case in urban centres. As an added benefit of hiring full time staff is that with an average wage of \$11.50/hour plus 20% for benefits, there is very little turnover in staff which, in turn, results in better productivity than average and a higher product quality than what would be typically found in MRFs using temporary staff. Therefore,

**Discussion - continued:**

- The City of Ottawa also retains all revenues, which averaged approximately \$122 in 2004. Therefore, the all-in-cost to the residents of the City of Ottawa actually receive a net revenue of approximately \$34 per tonne. This cost must be compared to the amount “charged”<sup>2</sup> to municipalities under the OVWRC program of \$56 per tonne. This is a price differential of \$90 per tonne. Across the residential tonnes being managed by the OVWRC, just on costs charged, the added cost under the Ottawa Valley program is more than \$250,000 annually.
- The processing costs on their own should be at a minimum, revenue neutral. Ultimately, there will be a point where the municipalities will find it financially difficult to continue with the operations.
- The operations of the MRF are completely independent of the other activities on the site and act on a stand-alone basis.

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the net impact of the higher labour rates are somewhat offset by the benefits of a full time staff. At this level of study however, these benefits have not been quantified.

<sup>2</sup> This “charged” cost is the operating costs charged to member municipalities over and above the initial capital costs incurred and debentured by the OVWRC to establish the MRF.

<p><b>Option #1 – Market Recycling Capacity</b></p> <ul style="list-style-type: none"> <li>- Sell capacity in OVWRC processing facility</li> <li>- Set tipping fee rate at level to recover appropriate share of operational and capital costs</li> <li>- Market the capacity to other municipalities (current service area and beyond)</li> <li>- Market the capacity to IC&amp;I locations (including Parks service)</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Cost per tonne could be reduced (or maintained) based on additional tonnage</li> <li>- Cost of capital investment potentially spread over other municipalities</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Need long-term contracts to provide security as will be competing with other service providers</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Cost, as OVWRC costs are currently higher than with other Renfrew County municipalities</li> <li>- Also convenience factor and OVWRC operations are not located in any urban centre and all users must haul materials or pay to haul materials to the facility</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Current tip fee</li> <li>- Need to examine differential tipping fees so that additional clean material streams can be accepted ‘free’ and other streams have lower tip fee than for mixed recyclables</li> <li>- Potential need to amend approved capacity and service area</li> <li>- Competition with other municipalities / private sector service providers</li> </ul>
<p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The cost data available at this point suggests that sorting just the current stream of materials is not sustainable over the long term. Cost review as justification is outlined under the status quo option.</li> <li>- The risk of maintaining the operations in their current state is that municipalities will pay a higher cost for the management of recyclables than they would if they went to another facility which is exacerbated by the fact that the revenues from the WDO Blue Box Program Plan will also decrease over time with the proposed move to capping costs and paying based on benchmarked efficiencies.</li> <li>- Cost structure for introducing new members to the OVWRC is punitive. There is no incentive to join, as the costs associated with operating the facility are not low enough to offset the high buy in cost.</li> <li>- Competition, with a more rudimentary MRF and/or processing operations will easily be able to undercut the costs of operating the OVWRC MRF, leaving little or no opportunity to attract additional tonnes to the facility. For example, Beaumen offers processing to its clients for \$0. Through the sale of materials, they recover their processing costs and still turn a profit. Therefore, there is a direct threat to OVWRC’s longer term viability.</li> <li>- Ultimately, there will be a point where the municipalities will find it financially difficult to continue with the operations.</li> </ul>		

<b>Option #3 – Expansion of Recycling Processing System</b>	<i>See Acquisition Analysis of Beaumen for details on Pros/Cons, Barriers etc.</i>	
- Purchase assets associated with Beaumen, including service contracts, facilities, collection fleet etc.		

## Waste Disposal (Landfill Operations)

<b>Process Review – Waste Disposal (Landfill Operations)</b>	
<b>Current Situation</b>	<b>Future / Potential</b>
<b>OVWRC</b>	
<ul style="list-style-type: none"> <li>- Service Area – Renfrew County, City of Pembroke, CFB Petawawa, Algonquin Park</li> <li>- C of A No. A411601 (shared with other on-site facilities)</li> <li>- Permitted waste stream includes domestic, commercial waste, dewatered sewage sludge</li> <li>- Only small portion of current infrastructure and investment is landfill related, very basic landfill design and operation</li> <li>- Shares administration, scalehouse and road infrastructure for site</li> <li>- Landfill currently operating under emergency extension until December 18<sup>th</sup> 2006</li> <li>- Current footprint 13.47 hectares</li> <li>- Significant investment to-date in environmental assessment study for landfill expansion</li> <li>- Staff, lead hand and 2 heavy equipment operators, operation supervisor (shared with other site activities)</li> <li>- Landfill Fill rate varies from 25,000 to 35,000 TPY, no set rate in C of A</li> <li>- Current Tip fee is \$65.87, charged to member municipalities</li> </ul>	<ul style="list-style-type: none"> <li>- EA currently underway for landfill footprint expansion, to provide between 25 to 40 years capacity for current service area</li> <li>- Requires capital investment for leachate (contaminated surface water) treatment system</li> <li>- Also requires capital investment in property purchases to support EA process (property value protection plan)</li> <li>- Currently approximately 1.2 million tonnes of waste in-place, may be viable for landfill gas capture and energy generation</li> </ul>
<b>LINKS to other OVWRC System Components</b>	
<ul style="list-style-type: none"> <li>- Disposal of residues from CCF and MRF</li> <li>- Curbside co-collection system for waste, organics, recyclables</li> <li>- Current depot collection system</li> </ul>	<ul style="list-style-type: none"> <li>- Leachate treatment system</li> <li>- Aggregate operations</li> <li>- Disposal of materials potentially collected from expanded depot system</li> </ul>
<b>Other Renfrew County Municipalities</b>	
<ul style="list-style-type: none"> <li>- 16 other landfill sites throughout Renfrew County</li> <li>- Some municipalities have one, others have multiple sites</li> <li>- Varying amount of disposal capacity, at least five municipalities have</li> </ul>	

<p>sufficient long-term capacity (Arnprior, Renfrew, Deep River/Chalk River, McNab Braeside)</p> <ul style="list-style-type: none"> <li>- Some have very little disposal capacity (i.e. Madawaska Valley) and would require EA for expansion in near future or will have to export waste</li> <li>- Township of Whitewater Region has one landfill that will be closing at the end of 2005. Ross Landfill will then be used and could have a few decades of capacity if the Ministry of the Environment approves the proposed design contours.</li> <li>- Varied fill rates, some very small</li> <li>- Varied level of environmental protection</li> <li>- Varied hours and days of operation</li> </ul>	
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**Estimated Travel Distances from Major Population Centres to the OVWRC**

<b>Municipality</b>	<b>Estimated Travel Distances to OVWRC (km)</b>
Admaston/Bromley, Township of	48
Arnprior, Town of	78
Brudenell, Lyndoch and Raglan, Township of	74
Chalk River	45
Deep River, Town of	55
Greater Madawaska, Township of	61
Head Clara & Maria, Township of	108
Killaloe, Hagarty, and Richards, Township of	31
Madawaska Valley, Township of	72
Pembroke, City of	23
Petawawa, Town of	29
Renfrew, Town of	64
Whitewater Region, Township of	28

There are a number of non-member municipalities that have limited landfill capacity. To determine the estimated amount of waste requiring disposal by these municipalities, a waste generation rate was calculated based on the amount of waste collected for disposal at the OVWRC and the population of the 5 member municipalities. The waste generation rate for Ottawa Valley member municipalities is 729 kg/capita. This waste generation rate was applied to the populations of the non-partner municipalities to determine and estimated amount of waste requiring disposal as shown below in Table \*\*.

**Estimated Amount of Waste Requiring Landfill Disposal Outside of the OVWRC.**

Municipality	Estimated Waste to Landfill Tonnages for Municipalities outside of OVWRC
Admaston/Bromley, Township of	2,059
Brudenell, Lyndoch and Raglan, Township of	1,141
Greater Madawaska, Township of	1,670
Head Clara & Maria, Township of	166
Killaloe, Hagarty, and Richards, Township of	1,817
Madawaska Valley, Township of	3,212
Whitewater Region, Township of	4,753

## DRAFT OPPORTUNITIES – Waste Disposal (Landfill Operations)

Description	Pros / Cons	Barriers / Issues
<b>Status Quo</b>		
<ul style="list-style-type: none"> <li>- Landfill is expanded and used by current partner municipalities</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Familiarity</li> <li>- Low risk</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Investment (EA, leachate treatment, additional property purchase) funded by only current partner municipalities</li> <li>- Would not improve cost effectiveness of operation (however this already is a low cost operation)</li> </ul>	<p><b>Barriers:</b></p> <p>None</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Existing tip fee structure</li> </ul>
<b>Option 1 - Market Landfill Capacity</b>		
<ul style="list-style-type: none"> <li>- Sell capacity in OVWRC landfill</li> <li>- Set tipping fee rate at level to recover appropriate share of operational and capital costs, as well as investment in EA process</li> <li>- Market the capacity to municipalities within Renfrew County</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Tipping fee could be reduced (or maintained) based on additional tonnage</li> <li>- Cost of capital investment potentially spread over other municipalities</li> <li>- Offers other Renfrew County municipalities landfill space</li> <li>- EA currently allows for use of site by other municipalities</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Reduces volume of landfill space available to current OVWRC members</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Setting tip fee high enough to cover appropriate landfill costs, and low enough to be cost competitive with other disposal options</li> <li>- Structure of current partnership arrangement</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Competition with other municipalities / private sector service providers</li> </ul>

<b>Option 2 – Shared Service Arrangements</b>		
<ul style="list-style-type: none"> <li>- OVWRC offers services to coordinate shared contracts for landfill monitoring, landfill operations and other landfill related services</li> <li>- OVWRC could administer contracts for a service fee</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Savings on service contracts for both partner and non-partner municipalities</li> <li>- Revenues from contract administration fees</li> <li>- Contract development and administration by dedicated OVWRC staff</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Potentially reduces competition for contracts</li> <li>- Complexity of administering contracts for multiple sites spread across county</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Coordinating joint competitive processes and municipal decisions on award</li> <li>- For administration option, setting fees and municipal comfort level with OVWRC involvement in operations</li> </ul> <p><b>Issues:</b></p>
<b>Option 3 - Renfrew County Landfill Management</b>		
<ul style="list-style-type: none"> <li>- OVWRC assumes responsibility for the management of operating landfills in Renfrew County</li> <li>- OVWRC could provide dedicated staff for management of landfills including a compliance officer.</li> <li>- Apportion costs of each landfill back to the host community and users</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Operations could improve</li> <li>- Dedicated staff could focus on management of waste</li> <li>- Hire a dedicated project officer to deal with all environmental compliance issues and MOE</li> <li>- Municipalities not currently able to deal with compliance issues</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Risk to OVWRC for assuming management function would have to be mitigated</li> <li>- May not reduce overall costs</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Many municipalities may not want to lose role as landfill administrator</li> </ul> <p><b>Issues:</b></p>

## Depot / Transfer Services

<b>Process Review – Depot/Transfer Services</b>	
<b>Current Situation</b>	<b>Future / Potential</b>
<b>OVWRC</b>	
<ul style="list-style-type: none"> <li>- Free drop-off of commingled containers and paper fibres at the Centre for residents of North Algona Wilberforce</li> <li>- There are 2 transfer stations in the Township of North Algona Wilberforce and 4 in the Township of Bonnechere Valley. All have recycling depots that accept <b>fibres</b> (boxboard, catalogues, magazines, cardboard, books, newspaper, egg cartons, envelopes, and cards), and <b>commingled recyclables</b> (empty dry paint cans, empty aerosol cans, glass bottles, jars, Styrofoam, drink boxes, plastic bags, aluminium plates, small scrap metals, plastics label (#1-7), and steel cans). Drop-off bins at transfer stations are picked up and hauled to the OVWRC for processing.</li> </ul>	<ul style="list-style-type: none"> <li>- Potential role for OVWRC to manage operations of municipal depots/transfer stations or to coordinated shared services / material supply agreements</li> </ul>
<b>LINKS to other OVWRC System Components</b>	
<ul style="list-style-type: none"> <li>- OVWRC landfill for disposal of waste from some municipalities</li> <li>- OVWRC MRF for processing of recyclables</li> <li>- OVWRC Composting facility for processing of Organics</li> </ul>	
<b>Other Renfrew County Municipalities</b>	

<ul style="list-style-type: none"> <li>- Laurentian Hills and Deep River use the same waste disposal site that accepts HHW, compost (leaves, grass, garden waste, and wood chips), tire recycling programs, scrap metal. Laurentian Hills also has C&amp;D disposal site that accepts brush, shingles, wood and concrete.</li> <li>- Admaston/Bromley has 3 transfer stations and 1 landfill. All sites accept fibres and commingled recyclables. Recyclables go to Beaumen Recycling and waste goes to municipal landfill.</li> <li>- Brudenell, Lyndoch, and Raglan have 4 waste disposal sites all accepting fibres and commingled recyclables. Recyclables go to Beaumen Recycling. Lyndoch waste site will be turned into a transfer station in late 2005.</li> <li>- Greater Madawaska has 1 transfer station and 4 landfills, all having recycling depots accepting fibres and commingled containers. Recyclables go to Beaumen Recycling.</li> <li>- Head, Clara, and Maria have 4 landfill sites with recycling bins accepting any materials with a recycling symbol.</li> <li>- Horton has 1 landfill site that has a recycling depot accepting mixed fibres and commingled recyclables and a HHW depot accepting paints, solvents, pesticides, pool cleaners, propane tanks, used oil, gasoline, anti-freeze, batteries, and appliances.</li> <li>- Killaloe, Hagarty, and Richards have 2 transfer stations accepting mixed fibres and commingled recyclables (cans, aluminum plates and foil, aerosol cans, paint cans, plastics #1-7, Styrofoam (#6), newspaper, flyers, magazines, boxboard, cardboard, paper bags, clear and coloured glass, and office paper) and one landfill site with depot accepting HHW, yard waste, scrap metal, mixed demolition material, furniture, painted wood, tires, and fire clean-up debris.</li> <li>- Madawaska Valley has 3 transfer stations and one landfill all accepting fibres (boxboard, catalogues, magazines, cardboard, books, newspaper, egg cartons, envelopes and cards) and commingled recyclables (empty dry paint cans, empty aerosol cans, glass bottles and jars, Styrofoam, drink boxes, plastic bags, aluminum plates, small scrap metals, plastics label (#1-7), steel cans).</li> <li>- McNab/Braeside has 2 landfills with recycling depots accepting mixed fibres and commingled recyclables and HHW.</li> <li>- Whitewater has one landfill site accepting metals, batteries, propane tanks, organics (table scraps) and leaf and yard waste.</li> </ul>	<ul style="list-style-type: none"> <li>- Potential role for OVWRC to rationalize depot/transfer system in Renfrew County or to manage materials (organics, recyclables) collected at these facilities</li> <li>- Linked to potential purchase of Beaumen that services many of these locations</li> </ul>
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## DRAFT OPPORTUNITIES – Depot/Transfer Services

Description	Pros / Cons	Barriers / Issues
<b>Status Quo</b>		
<ul style="list-style-type: none"> <li>- Depot / transfer system in partner municipalities and located at OVWRC left as is</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Familiarity</li> <li>- Low risk</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Current cost for many partners for managing depots is quite high (i.e. cost for each lift of waste currently \$250 of haul time less than 1 hour) compared to the tonnes managed</li> </ul>	<p><b>Barriers:</b></p> <p>None</p> <p><b>Issues:</b></p> <p>None</p>
<b>Option 1 - OVWRC Transfer/Depot Service</b>		
<ul style="list-style-type: none"> <li>- OVWRC set up a depot service with common elements to replace current inefficient system in municipalities based on use of roll-off containers</li> <li>- Potentially a “turn key” service where OVWRC purchases new containers, responsible for developing facility, and turn over to municipalities to operate OR OVWRC could operate</li> <li>- Materials hauled to OVWRC for management (recyclables, composting and disposal for partner municipalities, potentially some materials from non-partner municipalities).</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Could lower cost for depots for partner municipalities and potentially non-partner municipalities if service expanded to include them</li> <li>- Joint purchasing of capital items (new container systems) is usually more cost effective</li> <li>- May increase amount of materials received and processed by OVWRC, potentially reducing unit costs for partners</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Would require new capital investment</li> <li>- Some loss of local municipal control over depot/transfer service if operated by OVWRC</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Willingness of municipalities to consider alternative arrangements</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Setting fees at appropriate rate to cover costs and demonstrate savings to participating municipalities</li> <li>- Competition with private sector if all materials hauled from depots / transfer stations by OVWRC</li> </ul>

## Organics Processing

<b>Process Review – Processing of Organics (Composting Facility)</b>	
<b>Current Description of OVWRC Operations</b>	<b>Future / Potential</b>
<ul style="list-style-type: none"> <li>- Service Area – Renfrew County, City of Pembroke, CFB Petawawa, Algonquin Park</li> <li>- Currently used by three partner municipalities with curbside SSO service and two partner municipalities through depot service</li> <li>- Significant investment in composting infrastructure</li> <li>- Shares administration, scalehouse and road infrastructure for site</li> <li>- C of A A411601 (shared for all on-site operations) and C of A Air #744-4W5J9T</li> <li>- 4,200 TPY managed by system in 2004, very close to approved annual limit of 4,750 TPY</li> <li>- C of A limit is split, 3,850 tonnes for in-vessel and 900 tonnes of yard materials for outdoor compost pad</li> <li>- Maximum storage of compost on-site is 2,500 tonnes, compost product must be marketed within one year</li> <li>- Materials permitted under C of A include HHD domestic materials, yard waste, Xmas trees, selected IC&amp;I materials and commercial/retail SSO</li> <li>- Maximum residue rate (compost facility, MRF, C&amp;D facility) is 199 TPD</li> <li>- Dedicated infrastructure includes pre-processing equipment, comptainer system, asphalt pad for outdoor windrow composting/curing, stormwater/leachate management system including underground storage tank, biofilter system</li> <li>- Dedicated Rolling stock – small loader</li> <li>- Rental equipment – screening plant</li> <li>- Shared equipment – large loader (also used at landfill and other outdoor operations)</li> <li>- Staff –2 diversion lead hands (shared with MRF), Diversion Supervisor (shared with MRF), two full time operators, and 2 seasonal operators</li> </ul>	<ul style="list-style-type: none"> <li>- An expansion will be required in near future to deal with increases in tonnes generated</li> <li>- expansion options include:               <ul style="list-style-type: none"> <li>○ purchase and install new comptainers, keep collection service as is, majority of organic materials through comptainer 1<sup>st</sup>, then outdoor composting/curing</li> <li>○ expand compost pad, change collection service so that two streams of organics are collected (yard, food), requires purchase of new containers and re-jig of collection system, only food materials through boxes and yard to outdoor windrow</li> <li>○ expand compost pad, change operations so that all of the currently collected materials from OVWRC are processed outdoors, and comptainers used for new streams of organic materials</li> </ul> </li> </ul>

<b>LINKS to other OVWRC System Components</b>	
<ul style="list-style-type: none"> <li>- landfill operations for disposal of residues</li> <li>- co-collection system for SSO and other materials</li> </ul>	<ul style="list-style-type: none"> <li>- composting of materials collected via depot system</li> <li>- composting of biosolids</li> <li>- production of soil blends</li> </ul>
<b>Composting in Other Renfrew County Municipalities</b>	
<ul style="list-style-type: none"> <li>- very little organics management in municipalities outside of partnership</li> <li>- some depot operations, minimal collection</li> <li>- focus on yard waste only</li> </ul>	<ul style="list-style-type: none"> <li>- Province may regulate requirement for SSO collection and processing</li> <li>- Potential to affect the larger non-partner municipalities (Arnrior, Renfrew)</li> </ul>

<b>OPPORTUNITIES – Organics Processing (Composting Facility) Expansion and Improvements</b>		
<b>Description</b>	<b>Pros / Cons</b>	<b>Barriers / Issues</b>
<b>Status Quo</b>		
<ul style="list-style-type: none"> <li>- Composting system left as is</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Familiarity</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- System will require expansion soon, as currently near annual capacity limits</li> <li>- Will require investment in new comptainers, actual life of comptainers appears to be shorter then designed</li> <li>- Site designed for 16 comptainer units, only 11 installed, room to add 5 more without significant change to infrastructure</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- None</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- financing capital replacement of comptainers (current cost estimate between \$100,000 and \$125,000 per unit)</li> <li>- currently near limit of annual capacity</li> <li>- C of A amendment required</li> </ul>
<b>Option 1 – Shift to Lower Cost Composting Approach</b>		
<ul style="list-style-type: none"> <li>- Over time, shift composting</li> </ul>	<b>Pros:</b>	<b>Barriers:</b>

<p>system to move to low cost outdoor approach (yard), expand compost pad area</p> <ul style="list-style-type: none"> <li>- Use comptainers only for certain material streams</li> </ul>	<ul style="list-style-type: none"> <li>- OVWRC site is a suitable location for this type of approach</li> <li>- Lost cost option for expansion and management of current partner materials, cost for outdoor windrow generally \$30 to \$40 per tonne less than in-vessel composting</li> <li>- At present approximately 80% of the SSO materials collected at the curb is yard waste material that can be effectively composted via outdoor windrow, and low proportion of food waste can facilitate composting of combined stream</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- May be insufficient space adjacent to existing compost area for expanded outdoor windrow operations, could require shift to new location across the road</li> </ul>	<ul style="list-style-type: none"> <li>- MOE / Public acceptance of change in composting approach</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- C of A amendment needed</li> <li>- Odour management</li> </ul>
<p><b>Option 2 – Create New Capacity to Market outside Current Service Area</b></p>		
<ul style="list-style-type: none"> <li>- Design and market capacity at OVWRC to other municipal SSO generators</li> <li>- Set tipping fee rate at level to recover appropriate share of operational and capital costs</li> <li>- Only develop capacity if firm agreement reached, long-term contract</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Tipping fee could be reduced (or maintained) based on additional tonnage</li> <li>- cost of capital investment potentially spread over other municipalities</li> <li>- Offers other Renfrew County municipalities composting option, as well as capacity to municipalities in the Province that need capacity</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Definitely Requires significant facility expansion, options to be evaluated</li> <li>- Would have to be located on property adjacent to the existing site, due to size limitations at current facility</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Creating advantageous price/tip fee to offset haul costs for municipalities to bring materials to OVWRC</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- C of A amendment to increase approved capacity and service area</li> <li>- competition with other municipalities / private sector service providers</li> </ul>

<b>Option 3 - Expansion of Organic Streams Managed</b>		
<ul style="list-style-type: none"> <li>- Expand range of organic materials managed on-site such as Biosolids</li> <li>- Composting / blending of materials to produce landfill cover and other materials with beneficial use (rehabilitation of aggregate extraction pits)</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Offers option to manage biosolids to partner (and non partner?) municipalities</li> <li>- Production of higher quality, low cost cover materials</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Definitely requires expansion of outdoor windrow facility, on property adjacent to existing OVWRC operations</li> <li>- Likely requires purchase of additional equipment</li> <li>- Potential increase in staff</li> <li>- Potential increase in odour generation</li> <li>- Need to define viable markets to support composting materials that may not meet Ontario Class A compost standards, if produce quantities that exceed OVWRC requirements</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- MOE / public acceptance of approach</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- C of A amendment required</li> </ul>

## ***Collection***

## Process Review – Collection

Current Situation	Future / Potential
<b>OVWRC</b>	
<p><i>Petawawa, Pembroke, and Laurentian Valley (contract expires in 2008)</i></p> <ul style="list-style-type: none"> <li>- Tomlinson collects 4 different curbside streams biweekly: fibre and organics one week, garbage (4 bag limit per household) and commingles the next.</li> <li>- In June, July and August organics are picked up weekly (except for Laurentian Valley, who continues with biweekly organics collection).</li> <li>- Fall and spring large item collection (2 per year) for residential dwellings only.</li> <li>- Leaf and yard waste is collected five times per year.</li> <li>- Christmas trees are collected once in January, or can be dropped off at the OVWRC free of charge.</li> <li>- Equipment/Maintenance by Tomlinson</li> <li>- Collection vehicles: Single stream and split hopper side loaders (60/40 hopper split). Date of manufacturer is Fall 2001.</li> <li>- Organics carts</li> <li>- 1 spare vehicle at maintenance facility and 2 spare vehicles at head office.</li> </ul> <p><b>North Algona Wilberforce</b></p> <ul style="list-style-type: none"> <li>- Material from Burnt Rd transfer station is brought to OVWRC. Private hauler for curbside collection paid directly by residents. Otherwise, residents can drop off recyclables and garbage at the Centre.</li> <li>- Residents must pay the minimum tipping fee or purchase bags at the NAW township office for \$1 per bag.</li> </ul> <p><b>Bonnechere Valley</b></p> <ul style="list-style-type: none"> <li>- Eganville Ward 1 has curbside collection of fibres and commingles and is brought to the OVWRC.</li> <li>- All other residents utilize drop off depots and transfer stations. OVWRC hauls all material to the Centre for processing.</li> <li>- All residents pay \$1/bag of garbage (regardless of curbside or drop off).</li> </ul>	<ul style="list-style-type: none"> <li>- OVWRC could coordinate preparation of RFP/Tender for new contract</li> <li>- OVWRC could administer contract on behalf of partner municipalities</li> </ul> <p>See Opportunities / Options</p>
<b>LINKS to other OVWRC System Components</b>	
<ul style="list-style-type: none"> <li>- Materials from 5 partner municipalities are processed at the OVWRC, links to landfill, composting, recycling operations</li> </ul>	

<b>Other Renfrew County Municipalities</b>	
<ul style="list-style-type: none"> <li>- Beaumen Recycling provides curbside collection of garbage and recycling to Arnprior, Deep River, Horton, Laurentian Hills, Renfrew and Whitewater (various contract expiration dates)</li> <li>- Horton, McNab/Braeside, Killaloe, some of Madawaska Valley also have curbside collection.</li> <li>- All other municipalities use drop-off depots and/or transfer stations.</li> </ul>	

<b>DRAFT OPPORTUNITIES - Collection</b>		
<b>Description</b>	<b>Pros / Cons</b>	<b>Barriers / Issues</b>
<b>Status Quo</b>		
<ul style="list-style-type: none"> <li>- Three partner municipalities develop and issue contract for collection services for period when current contract expires</li> <li>- Three partner municipalities continue to administer contracts, including public complaints, contractor issues etc.</li> <li>- Overlapping role with OVWRC regarding collection contractor performance on the quality of materials brought to facility and enforcement of set-out requirements (for example, ban on plastic in compost). By-laws are in place.</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Familiarity</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Municipalities required to continue role and devote staff time to contract development and administration</li> <li>- Overlapping admin requirements continue</li> <li>- Continues overlap in administering set-out requirements and ensuring the quality of materials received at the OVWRC processing facilities</li> </ul>	<p><b>Barriers:</b> None</p> <p><b>Issues:</b> None</p>

<p><b>Option 1 – OVWRC Assumes Responsibility for Collection Contracts (Partner Municipalities)</b></p>		
<ul style="list-style-type: none"> <li>- OVWRC assumes responsibility for development of new collection contract, issuance, award and administration</li> <li>- Administration cost and share of collection cost charged back to partner municipalities with curbside collection</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Reduces overlap in municipal and OVWRC administration, potentially reducing costs to partner municipalities</li> <li>- Improves effectiveness of contract enforcement (by-laws are already in place in other partner municipalities).</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Eganville Ward 1 in Bonnechere valley has collection by municipal forces, issue as to whether OVWRC assumes this service and staff</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Some municipalities may not want to lose role as service provider</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Potentially need to address issues associated with assuming collection provided by municipal forces</li> </ul>
<p><b>Option 2 - OVWRC Coordinates Consolidated Collection Contracts for Renfrew County</b></p>		
<ul style="list-style-type: none"> <li>- OVWRC develops, issues, awards and administers new consolidated collection contract for Partner and Non-partner municipalities</li> <li>- Administration cost and share of collection cost charged back to partner municipalities with curbside collection</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Collection contract consolidation has resulted in lower unit collection costs for municipalities elsewhere in Ontario</li> <li>- Could open door for other non-partners to implement SSO services in accordance with OVWRC requirements and expand use of OVWRC compost site</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Collection contract would be quite complex, given potential inconsistency in collection service levels</li> <li>- Complexity of entering into such arrangements with non-partner municipalities including fee setting</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Some municipalities may not want to lose role as contract administrator</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Cost for collection likely to increase in many municipalities over time, this is an option to mitigate this</li> </ul>

## Construction and Demolition Waste Services

<b>Process Review - Construction and Demolition Waste Services (C &amp; D Operations)</b>	
<b>Current Situation</b>	<b>Future / Potential</b>
<b>OVWRC</b>	
<ul style="list-style-type: none"> <li>- Service Area – 5 partner municipalities</li> <li>- Shares administration, scalehouse and road infrastructure for site (and staff)</li> <li>- C of A No. A411601 (shared with all other on-site facilities)</li> <li>- 8,000 TPY is the maximum amount of C&amp;D waste received and processed at the facility on an annual basis, limit of 16,000 tonnes can be present at any one time</li> <li>- Facility is underused, total tonnes of material managed at C&amp;D site averaged less than 2,000 over 2003/2004</li> <li>- All incoming waste must be processed within 6 months from time of receipt. At no time can waste be stored over one year from when waste was first received.</li> <li>- Accepts drywall, shingles, brush, clean wood, concrete, asphalt, brick and scrap metal. Most materials sent off-site for processing. Concrete is not ground but stored at site. C&amp;D area is also used to store glass and tires.</li> <li>- Shared equipment – front-end loader.</li> <li>- Rent grinder on an as-needed basis</li> <li>- Shared Staff staff, Heavy equipment operator.</li> <li>- Current tip fee is \$54 per tonne for source-separated C&amp;D waste and \$65.87 per tonne of mixed C&amp;D waste.</li> <li>- Gross costs in the order of \$92/tonne and net of \$53/tonne averaged over 2003/04</li> </ul>	<ul style="list-style-type: none"> <li>- Approval to grind asphalt shingles and waste wood and use as cover at the landfill</li> <li>- Asphalt ground on-site and used in road applications</li> <li>- Diversion of C&amp;D materials required to meet Provinces 60% diversion goal</li> </ul>
<b>LINKS to other OVWRC System Components</b>	
<ul style="list-style-type: none"> <li>- Wood waste is chipped on-site and used as landfill cover. Also applied to use ash from local industry (Temple) as cover.</li> <li>- Brush is chipped on-site and used in composting process</li> <li>- Use asphalt, shingles, wood chips as landfill cover – still waiting approval</li> </ul>	
<b>Other Renfrew County Municipalities</b>	

<ul style="list-style-type: none"> <li>- Little information available on C&amp;D management in other municipalities</li> <li>- Some scrap metal and tire recovery through Beaumen operations</li> <li>- Appears that the majority of C&amp;D materials are landfilled (to be confirmed)</li> </ul>	<ul style="list-style-type: none"> <li>- C&amp;D diversion is an important measure to conserve landfill space, and will be required to meet Provinces 60% diversion goal</li> </ul>
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<b>DRAFT OPPORTUNITIES - Construction and Demolition Waste Services (C &amp; D Operations)</b>		
<b>Description</b>	<b>Pros / Cons</b>	<b>Barriers / Issues</b>
<b>Status Quo</b>		
<ul style="list-style-type: none"> <li>- C&amp;D system largely left as is</li> <li>- Amend C of A to use additional materials as landfill cover</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- No additional capital investment or space required</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Current operation is not cost effective</li> </ul>	<p><b>Barriers:</b></p> <p>None</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Amend C of A to use certain materials as landfill cover (in progress)</li> </ul>
<b>Option 1 – Market C &amp; D Processing Services</b>		
<ul style="list-style-type: none"> <li>- Could sell capacity in C&amp;D processing facility at OVWRC or C&amp;D management services to other municipalities</li> <li>- Set Fees at level to recover appropriate share of operational and capital costs</li> <li>- Market the services to municipalities within Renfrew County</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Cost to partners could be reduced (or maintained) based on additional tonnage managed at OVWRC site or sale of services to other municipalities in County</li> <li>- Cost of any new capital investment potentially spread over other municipalities</li> <li>- Offers other Renfrew County municipalities C&amp;D processing option</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Will likely require additional capital investment</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Fees high enough to cover appropriate share of costs, and low enough to be cost competitive with other disposal options</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Competition with other municipalities / private sector service providers</li> </ul>

## Leachate Treatment

<b>Process Review – Leachate Treatment</b>	
<b>Current Situation</b>	<b>Future / Potential</b>
<b>OVWRC</b>	
<p><b>Aggregate Operations</b></p> <ul style="list-style-type: none"> <li>- 200 acres of land zoned for extraction of 2 to 3 million tonnes of material annually. Material to be used as final cover, soil and aggregate.</li> <li>- Share heavy equipment with landfill operations</li> </ul> <p><b>Leachate Treatment System</b></p> <ul style="list-style-type: none"> <li>- Currently issue with leachate impacted ground/surface water entering marshland adjacent to the OVWRC landfill</li> <li>- Development of treatment system linked to OVWRC landfill expansion Three designs evaluated to treat low flow from landfill</li> <li>- Recommendation in November 2005, that a treatment pond and sand filter option be pursued, as it is capable of treating the leachate from the OVWRC landfill, and is the least expensive with respect to capital (approx. \$330,000), operating and maintenance costs (approx. \$20,000)</li> <li>- The capital cost is within the limit of funds accumulated in the capital reserve for leachate system construction</li> <li>- This design cannot accommodate treatment of Septage, recommendation is that a separate septage treatment facility be considered</li> <li>- Costs expected to be reduced as OVWRC aggregate operations could be used as source of fill and construction materials</li> <li>- Looking at issuing contract for Design, Build, and Operate of system</li> </ul>	<p><b>Aggregate Operations</b></p> <ul style="list-style-type: none"> <li>- Landfill cover</li> <li>- Combine cover with biosolids</li> <li>- Additional 28 acres of land nearby site possible for expansion</li> <li>- OVWRC Board supports continued use of Aggregate as a resource to support OVWRC operations only</li> </ul> <p><b>Leachate Treatment System</b></p> <ul style="list-style-type: none"> <li>- Current plans to install on-site treatment facility, discharge to adjacent marshland, immediately following EA and EPA approval of site expansion</li> <li>- Likely timeframe for construction, 2007</li> </ul>
<b>LINKS to other OVWRC System Components</b>	

<p><b>Aggregate Operations</b></p> <ul style="list-style-type: none"> <li>- Landfill Operations, Leachate system construction</li> </ul> <p><b>Leachate Treatment System</b></p> <ul style="list-style-type: none"> <li>- Required to support future operation of landfill site</li> </ul>	<p><b>Aggregate Operations</b></p> <ul style="list-style-type: none"> <li>- Cost effective source of materials to support changes in OVWRC system</li> </ul> <p><b>Leachate Treatment System</b></p> <ul style="list-style-type: none"> <li>- Could potentially be used (if necessary) to treat other waste water sources, such as run-off from compost facility</li> </ul>
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<b>DRAFT OPPORTUNITIES – Leachate Treatment</b>		
<b>Description</b>	<b>Pros / Cons</b>	<b>Barriers / Issues</b>
<b>Option 1- Leachate Treatment, Landfill Only</b>		
<ul style="list-style-type: none"> <li>- Develop small scale leachate treatment facility for discharges from landfill only adjacent to landfill area</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Lower cost, based on three options currently being evaluated</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Little option for expansion to manage any other materials, due to space constraints in landfill area</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>-</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Required to support landfill expansion</li> <li>- Need to make decision soon on design for inclusion in landfill approval documentation</li> </ul>

## Septage Treatment

<b>Process Review – Septage Treatment</b>	
<b>Current Situation</b>	<b>Future / Potential</b>
<b>OVWRC</b>	
<p><b>Regulations</b></p> <ul style="list-style-type: none"> <li>- NASM (2003) requires that municipalities have sufficient capacity to treat septage by 2008</li> <li>- Upgrades to waste water treatment plants require large capital investments and are expensive to operate</li> <li>- Can no longer apply untreated septage to agricultural land by 2008</li> <li>- County wide need for cost effective treatment options</li> </ul> <p><b>Septage Treatment System</b></p> <ul style="list-style-type: none"> <li>- Several options exist for treatment at OVWRC</li> <li>- Reed Bed Stabilization could be feasible treatment option: *assuming 1 m<sup>3</sup> volume of septage is equivalent to 1 tonne</li> </ul>	<ul style="list-style-type: none"> <li>- Could effectively treat septage in an environmentally safe fashion</li> <li>- Potential to market residue as compost or use as landfill cover to increase OVWRC opportunities</li> <li>- Ability to process county septage in a central location</li> </ul>
<b>LINKS to other OVWRC System Components</b>	
<p><b>Composting Operations</b></p> <ul style="list-style-type: none"> <li>- Reed Bed technology is similar to composting technology</li> <li>- Reed may need to be harvested and composted; they can provide a useful bulking agent</li> <li>- Available land, machinery and aggregates for facility</li> </ul>	

**DRAFT OPPORTUNITIES – Septage Treatment**

<b>Description</b>	<b>Pros / Cons</b>	<b>Barriers / Issues</b>
<b>Option 1 – Develop Septage Treatment Facility</b>		
<ul style="list-style-type: none"> <li>- Develop septage treatment facility at current site or on neighbouring property (where aggregate has been extracted) for treatment of septage from Renfrew County municipalities</li> <li>- There are several cost effective solutions for treating Septage and biosolids (Reed Bed Stabilization, Dewatering and Composting)</li> </ul>	<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>- Can design plant and set fees for full cost recovery from user municipalities</li> <li>- Provides option for septage treatment for surrounding municipalities</li> <li>- Four of the five partner municipalities require a long term option for Septage treatment</li> <li>- Municipalities need a long term solution for septage management</li> <li>- Options available with relatively low capital cost and high capital recovery rate</li> <li>- Potential that Residue can be marketed and sold as compost</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>- Long term agreements with haulers are necessary</li> <li>- Large land requirement (up to 38 acres with Reed Beds)</li> <li>- Odour (if not designed properly or if loading rates are exceeded)</li> </ul>	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>- Firm commitment from the partner municipalities requiring septage treatment option</li> <li>- Residents and haulers may resist due to higher transport and treatment costs</li> </ul> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>- Approvals for Septage treatment system required</li> <li>- Lack of operational expertise with current OVWRC staff, would require Staff with appropriate certification and ongoing training requirements</li> </ul>

**Appendix C**  
**Detailed Financial Information**  
**and**  
**Cost Allocation**

### **Allocation of Shared Costs**

For shared personnel salaries expenditures, the allocation methodology involved averaging the percent of staff employed in the OVWRC and the number of loads received per service area. This allocation methodology reflects two of the key cost drivers associated with shared services such as administration and scalehouse operations:

- Staffing, as the number of individuals employed drives costs associated with payroll etc.
- Loads, as the traffic into the site drives costs associated with scalehouse operation, accounts payable etc.

For all other staff related expenses the shared costs were allocated using the overall percent staff, which was derived from the average of the 2003 and 2004 personnel salaries expenditures.

All other shared costs were allocated utilizing the average of the number of loads received per service area and the overall percent staff. An example of the distribution per service area for all other shared costs is illustrated in Figure C-1.

**Figure C-1 Allocation of All Other Shared Costs per Service Area**

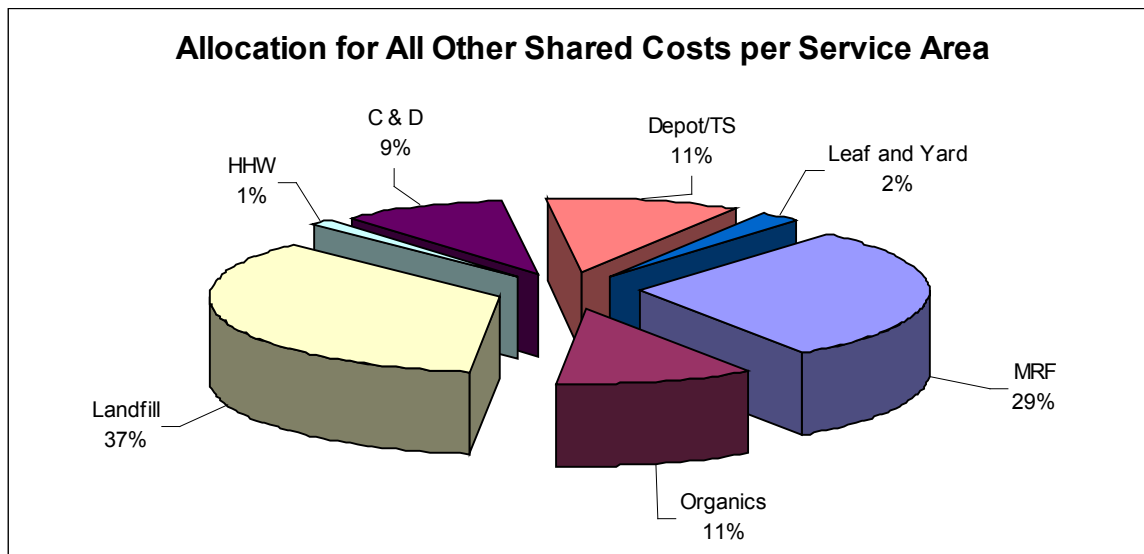


Table C-1

	MRF				
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	2004 Unit Cost/Tonne
<b>Gross Operating Costs</b>	\$1,043,611	\$864,514	\$1,026,278	\$945,396	\$208.82
<b>Annual Capital Expenditures</b>	\$5,500	\$76,318	\$4,857	\$40,588	\$0.99
<b>Annual Capital Reserve Fund Expenditures</b>	\$25,000	\$0	\$25,000	\$12,500	\$5.09
<b>Gross Annual Operating and Capital Expense</b>	\$1,074,111	\$940,832	\$1,056,136	\$998,484	\$214.90
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$915,652	\$505,072	\$977,903	\$741,488	\$198.98
<b>Annual Revenue from Non-Partner Sources</b>			\$851,928		\$173.35
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	\$158,458	\$435,760	\$78,232	\$256,996	\$15.92
<b>Net Total Cost from Non-Partner Sources</b>			\$204,207		\$41.55

	Composting				
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	2004 Unit Cost/Tonne
<b>Gross Operating Costs</b>	\$466,585	\$373,670	\$428,358	\$401,014	\$114.62
<b>Annual Capital Expenditures</b>	\$80,000	\$61,932	\$84,787	\$73,360	\$22.69
<b>Annual Capital Reserve Fund Expenditures</b>	\$25,000	\$0	\$25,000	\$12,500	\$6.69
<b>Gross Annual Operating and Capital Expense</b>	\$571,585	\$435,602	\$538,145	\$486,874	\$144.00
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$225,999	\$228,457	\$225,455	\$226,956	\$60.33
<b>Annual Revenue from Non-Partner Sources</b>			\$32,670		\$8.74
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	\$345,586	\$207,145	\$312,690	\$259,918	\$83.67
<b>Net Total Cost from Non-Partner Sources</b>			\$505,475		\$135.26

	Leaf and Yard				
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	2004 Unit Cost/Tonne
<b>Gross Operating Costs</b>	\$38,631	\$28,523	\$36,233	\$32,378	\$78.08
<b>Annual Capital Expenditures</b>	\$0	\$0	\$0	\$0	\$0.00
<b>Annual Capital Reserve Fund Expenditures</b>	\$0	\$0	\$0	\$0	\$0.00
<b>Gross Annual Operating and Capital Expense</b>	\$38,631	\$28,523	\$36,233	\$32,378	\$78.08
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$16,515	\$12,940	\$22,614	\$17,777	\$48.73
<b>Annual Revenue from Non-Partner Sources</b>			\$4,934		\$10.63
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	\$22,116	\$15,583	\$13,619	\$14,601	\$29.35
<b>Net Total Cost from Non-Partner Sources</b>			\$31,299		\$67.45

	Landfill				
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	2004 Unit Cost/Tonne
<b>Gross Operating Costs</b>	\$756,981	\$537,252	\$681,316	\$609,284	\$21.76
<b>Annual Capital Expenditures</b>	\$5,000	\$132,888	\$4,921	\$68,905	\$0.16
<b>Annual Capital Reserve Fund Expenditures</b>	\$245,000	\$250,000	\$200,000	\$225,000	\$6.39
<b>Gross Annual Operating and Capital Expense</b>	\$1,006,981	\$920,140	\$886,237	\$903,189	\$28.31
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$1,395,951	\$1,409,195	\$1,597,479	\$1,503,337	\$51.03
<b>Annual Revenue from Non-Partner Sources</b>			\$1,189,119		\$37.98
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	-\$388,970	-\$489,055	-\$711,242	-\$600,148	-\$22.72
<b>Net Total Cost from Non-Partner Sources</b>			-\$302,882		-\$9.67

	HHW				
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	2004 Unit Cost/Tonne
<b>Gross Operating Costs</b>	\$35,906	\$140,495	\$32,234	\$86,364	\$645.07
<b>Annual Capital Expenditures</b>	\$2,500	\$15,550	\$105,800	\$60,675	\$2,117.27
<b>Annual Capital Reserve Fund Expenditures</b>	\$0	\$0	\$89,486	\$44,743	\$1,790.79
<b>Gross Annual Operating and Capital Expense</b>	\$38,406	\$156,045	\$227,519	\$191,782	\$4,553.12
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$2,219	\$507	\$3,367	\$1,937	\$67.38
<b>Annual Revenue from Non-Partner Sources</b>			\$3,367		\$67.38
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	\$36,187	\$155,538	\$224,152	\$189,845	\$4,485.74
<b>Net Total Cost from Non-Partner Sources</b>			\$224,152		\$4,485.74

	C & D				
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	2004 Unit Cost/Tonne
<b>Gross Operating Costs</b>	\$219,103	\$166,891	\$201,193	\$184,042	\$84.34
<b>Annual Capital Expenditures</b>	\$0	\$0	\$0	\$0	\$0.00
<b>Annual Capital Reserve Fund Expenditures</b>	\$0	\$0	\$0	\$0	\$0.00
<b>Gross Annual Operating and Capital Expense</b>	\$219,103	\$166,891	\$201,193	\$184,042	\$84.34
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$109,152	\$12,193	\$143,151	\$77,672	\$60.01
<b>Annual Revenue from Non-Partner Sources</b>			\$142,239		\$59.63
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	\$109,952	\$154,698	\$58,041	\$106,370	\$24.33
<b>Net Total Cost from Non-Partner Sources</b>			\$58,954		\$24.71

	Depot/TS				Unit Cost/Tonne
	2005 Budget	2003 Actual	2004 Actual	03/04 Actual Avg.	
<b>Gross Operating Costs</b>	\$214,524	\$126,944	\$166,860	\$146,902	\$0.00
<b>Annual Capital Expenditures</b>	\$0	\$2,343	\$2,873	\$2,608	\$0.00
<b>Annual Capital Reserve Fund Expenditures</b>	\$0	\$0	\$0	\$0	\$0.00
<b>Gross Annual Operating and Capital Expense</b>	\$214,524	\$129,287	\$169,733	\$149,510	\$0.00
<b>Annual Revenue incl. All Tipping Fee Revenues</b>	\$72,928	\$52,126	\$76,257	\$64,192	\$0.00
<b>Annual Revenue from Non-Partner Sources</b>			\$76,257		\$0.00
<b>Net Total Cost incl. All Tipping Fee Revenues</b>	\$141,596	\$77,161	\$93,475	\$85,318	\$0.00
<b>Net Total Cost from Non-Partner Sources</b>			\$93,475		\$0.00

## **Appendix D**

### **Evaluation of Septage Treatment Options**

## Background

The primary objective for the Ottawa Valley Waste Recovery Centre (OVWRC) business and master plan is to expand services and identify potential growth opportunities. Considering the current and future resources and services of the facility, septage and biosolid waste management have been identified as a potential growth opportunity for the OVWRC.

Currently, there are few regulations governing the disposal of septage, and none regarding the treatment of septage. Until recently, the most common method of septage disposal has been the direct application of raw septage on agricultural land and some in landfills, especially during the winter months when land disposal is not permitted.<sup>3</sup> The Ministry of the Environment is currently establishing guidelines for the disposal of septage on agricultural land with the intent of regulating the quantity, quality and frequency of septage land disposal. Guidelines are expected to be similar to ones already in place under the Non-Agricultural Source Materials act (NASM), which already regulates biosolids. However, specific treatment requirements are expected for septage. Under the Nutrient Management Act, which took effect in 2003, all agricultural land applications of septage must be phased out over a five-year period. Additionally, wastewater treatment plants must store biosolids for a minimum of 240 days before land application. Since municipalities are responsible for the waste they generate, there is added pressure for municipalities, with limited resources, to be able to conform to the new laws.

Given the changing regulatory environment, there is a potential growth opportunity for the OVWRC in the management of septage and biosolids. In the coming years, it is believed that there will be a greater demand for these services as new regulations take effect, and as environmentally and socially sound waste disposal practices become necessary. By expanding services, new revenue sources will be available to the OVWRC, an important component of the business and master plan. These waste streams in particular should fit in well with the current business model by the additional revenue streams as well as the business synergies and economies of scale.

Several treatment options were evaluated for possible expansion at OVWRC. All of the them will be discussed in detail in this memorandum and evaluated according to technical feasibility, suitability of location, synergies with existing OVWRC infrastructure and services, social acceptability and the OVWRC mission statement, existing resources, capital and operating costs.

In June 2005, the County of Renfrew released its final report and recommendations on the management plan of biosolids and septage, entitled "County of Renfrew Biosolids and Septage Management Plan." Among their findings, they reported the total average yearly volume of septage and biosolids produced in the county and future population projections. They reported an annual production of 16,260 m<sup>3</sup> of biosolids from sewage treatment plants serving a population of 49,126. A total population of 64,914 is

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<sup>3</sup> County of Renfrew Biosolids and Septage management plan Final Report, June 2005

estimated to rely on private septic systems producing an annual volume of 15,401 m<sup>3</sup>, based on pump out rates of 15-20%. For the foreseeable future, the population of Renfrew County is estimated to remain constant. It is then necessary to consider options capable of handling the aforementioned quantity of septage and biosolids.

In order to evaluate potential treatment options the wastewater qualities of biosolids and septage must also be considered. In the County of Renfrew waste management report, table 6 compares the differences in nutrients, BOD, Metals, and total suspended solids between septage, biosolids and swine manure. From the table it is clear that septage and biosolids have a similar composition from a nutrient management perspective but a substantially higher concentration of heavy metals. This makes the treatment and future marketability of septage and biosolids waste products more difficult due to strict regulations enforced by MOE and OMAF.

### **Treatment Options**

Although multiple options exist for the treatment for septage, only several were considered due to costs and interoperability with existing infrastructure at the OVWRC. The following treatment options are viable under the correct circumstances but were found for one reason or another as unsuitable for this project's purposes. This memorandum will briefly outline the various treatment options for their feasibility, cost and environmental soundness.

#### Anaerobic/Aerobic treatment

While these forms of treatment are the most commonly used approach for wastewater, they require a large capital investment and appropriate personnel to maintain and operate. In this particular case, a wastewater treatment plant is better suited for this type of investment. Additionally, there is little or no potential for utilization of existing resources at OVWRC.

#### Alkaline Stabilization

As with the prior treatment, this method is inexpensive and reliable but would not utilize existing resources. In this treatment, a direct application of lime to the holding tank of the truck is used to stabilize pathogens prior to land application. This treatment option does not provide a revenue model for the OVWRC and therefore should not be considered. However, a potential revenue stream is possible if the OVWRC provided storage services for haulers in the winter, when land application is not permitted, with the addition of a stabilization or storage lagoon.

#### Stabilization lagoon

Stabilization lagoons are a simple and effective method of storing septage. They require a relatively small capital investment and have a low operating cost. If designed properly

waste will be sufficiently treated for land applications. However, Stabilization lagoons require large amounts of land. Furthermore, if aeration systems are required, capital and operating costs can be high and are not as efficient in winter. Odour control can be a problem and may be socially unacceptable. Lagoon stabilization may not be an environmentally safe and sound alternative. In terms of a possible expansion for the OVWRC, this solution could work well with existing infrastructure. The large land requirement does not seem to pose problems for the OVWRC as they have ample unused land next to the centre.

### Composting

Composting, although not currently used in Ontario, has potential. Currently, the Ontario Ministry of Environment is considering several options including a pilot project in Grey County. Composting would work well with the existing infrastructure at the OVWRC since there are already on-site composting services at the OVWRC. However, there are drawbacks: Septage must be dewatered prior to composting, which would require additional capital investments. The simplest solution identified by the Renfrew County report was to use geotubes™ for dewatering. Dewatering can be expensive especially for the liquid portion and it is not clear whether a leachate treatment pond would be sufficient to process the liquid effluent, in which case it would be processed at a wastewater facility at a greater cost. In total, an investment of \$308,000 per hauler would be required and the average pump out cost would be approximately \$241. A total of ten haulers operate in Renfrew County. Eight of the haulers are within range of the OVWRC, while two of them are far enough away that it may preclude them from using the facility. This would require a capital investment of between \$2,464,000 to \$3,080,000. Geotubes also have a considerably higher operating cost than other solutions. One of the major advantages of this solution is the ability to treat biosolids as well.

### Reed Bed Stabilization

Considering the requirements of the OVWRC, reed bed stabilization is the best option at present. Reed Bed Stabilization requires low capital investment and operating cost. An initial investment of \$187,000 per hauler would be required with an average septic pump out cost of approximately \$169. Assuming 8-10 haulers, an investment of approximately \$1,870,000 and \$1,496,000 would be required. A treatment facility of this size would require up to 38 acres of land. This depends, however, on the quantity of solids present in the sludge (7% was used for the preceding calculation). Given that septage is up to 97% water, a significantly smaller amount of land could be required. The reed bed solution is advantageous to the OVWRC since septage does not need to be dewatered and any effluent that is discharged requires very little treatment, if any. If required, a leachate treatment pond or a polishing wetland in this case should suffice. Additionally, Reed Bed Stabilization works best when the septage is mixed with biosolids as well. Currently in the County, biosolids are normally landfilled during the winter, so more waste could be diverted than is presently. In terms of the existing resources at the OVWRC, Reed Bed Stabilization seems to be the most practical solution, as well. A lower capital investment

than estimated could be possible due to the existing land and aggregate resources, as well as existing infrastructure. If constructed properly, odour control should not be a concern as reed rhizomes provide a continuous flow of oxygen to supply aerobic digestion of sludge. After the process is complete, leftover residue is considered good soil and can be marketed. Phytoremediation effects should be further investigated but show potential for removal of heavy metals, which would make reed bed residue more marketable. At this time, Reed Bed Stabilization provides the best alternative solution for septage/biosolid treatment for the OVWRC.

**Appendix E**  
**OVWRC Business Plan Implementation Summary**  
**Worksheet**

**Ottawa Valley Waste Recovery Centre**

**Business Plan Implementation Summary - April 2006**

Category	Action Item	Leader*	Status	Target Finish	Priority	Budget	Notes
Board - Strategic Planning	Define the Centre's strategic planning process	JH	Yet to start	2006 Q2	1	\$ 15,000	
Board - Strategic Planning	Determine strategic planning objectives	JH	Yet to start	2006 Q2	1	\$ -	
Board - Organizational Change	Develop Amendments to the Partner agreement	JH	Yet to start	2006 Q4	1	\$ 50,000	
Board - Organizational Change	Develop alternative Surcharge Fee (buy-in fee) for new partners	JH	Yet to start	2006 Q4	1	\$ 25,000	
C&D	Investigate options to increase use	JH	Yet to start	2006 Q2	2	\$ -	
C&D	Develop a competitive tipping fee	JH	Yet to start	2006 Q4	2	\$ -	
C&D	Develop communications materials	JH	Yet to start	2006 Q4	2	\$ -	
C&D	Explore markets within reasonable haul distance	JH	Yet to start	2006 Q4	2	\$ -	
Collection	Assist in preparing new collection tender for partner municipalities	JH	Yet to start	2006 Q4	1	\$ -	
Collection	Determine interest, and potentially approach WDO for E&E funded study of collection options	JH	Yet to start	2007 Q3	2	\$ 50,000	
Depot	Assess potential Depot improvements	JH	Yet to start	2006 Q4	2	\$ -	
Depot	Assess options for improved service	JH	Yet to start	2007 Q4	2	TBD	
Finance	Review cost allocation methodologies	JH	Yet to start	2006 Q4	2	\$ -	
Finance	Research Tipping Fee and ABC allocation methods	JH	Yet to start	2006 Q4	2	\$ -	
Finance	Assess/obtain resources for OVWRC costing analysis	JH	Yet to start	2006 Q4	2		
Finance	Develop financial tools/ABC and tipping fee calculations	JH	Yet to start	2007 Q2	1	\$ 75,000	
Landfill	Identify potential for shared services options	JH	Yet to start	2007 Q4	2	\$ -	
Landfill	Retain consultant to assess landfill gas recovery	JH	Yet to start	2007+	2	TBD	
Leachate	Develop small scale leachate treatment facility	JH	Yet to start	2007 Q4	1	\$ 420,000	
Measurement	Business Plan Implementation Summary spreadsheet	JH	Yet to start	2006 Q2	1	\$ -	
Measurement	Define relevant key performance indicators	JH	Yet to start	2006 Q2	1	\$ -	
Measurement	Become active in Stewardship Ontario's benchmarking initiative	JH	Begun	2006 Q2	1	\$ -	
MRF	Recommended minor efficiency changes	JH	Done	2006 Q1	1	\$ -	
MRF	Revise Tipping Fees	JH	Done	2006 Q1	1	\$ -	
MRF	Incremental tonnage cost analysis	JH	Yet to start	2006 Q1	1	\$ -	
MRF	Investigate additional processing contract opportunities	JH	Yet to start	2006/2007	1	\$ -	
MRF	Investigate alternative methods of increasing throughput	JH	Begun	2006 Q1	1	\$ -	
Organics	Undertake SSO audit	JH	Yet to start	2006 Q3	1	\$ -	
Organics	Trial elimination of pre-sort	JH	Yet to start	2006 Q3	1	\$ -	
Organics	Monitor emerging biosolid mgmt issues in Renfrew Cty	JH	Yet to start	2006 Q1+	3	\$ -	
Organics	Develop engineering design for expansion	JH	Yet to start	2007 Q2 +	2	TBD	
Organics	Develop operating cost scenarios	JH	Yet to start	2007 Q2 +	2	TBD	
Organics	Begin informal promotion of future capacity	JH	Yet to start	2006 Q2 +	2	\$ -	
Organics	Retain engineer assess remaining life of containers	JH	Yet to start	2006 Q3	1	\$ 10,000	
Organics	Estimate costs for expansion of outdoor composting pad, pond, equipment	JH	Yet to start	2006 Q4	1	\$ 50,000	
Organics	Application to amend C of A for all-outdoor composting	JH	Yet to start	2006 Q4	1	\$ -	
Organics	Market in-vessel capacity	JH	Yet to start	2006 Q4	1	\$ -	
Septage	Monitor Renfrew County studies of Septage treatment options	JH	Yet to start	2006 +	3	\$ -	
* note project leader assignments to be determined (TBD), JH assigned by default							

**Appendix F**  
**Documentation of the Review of the Draft**  
**Business and Master Plan**

**Includes:**

- **Presentation of the Draft OVWRC Business and Master Plan (Jan. 26, 2006)**
- **Participants of Jan. 26, 2006 Business and Master Plan Meeting**
- **Business and Master Plan Comments**

# OVWRC Business and Master Plan



January 26, 2006



## Outline

- ▲ Project History and Overview
- ▲ Project Workplan and Schedule
- ▲ Project Objectives
- ▲ Status and Overview of Draft Report
- ▲ Review of Options
- ▲ Next Steps

## Project History and Overview

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- ▲ OVWRC in operation since Jan 2002
- ▲ Board Planning session in 2003 identified strategic objectives
- ▲ Strategic objectives have been linked to annual business planning, budgeting and performance review
- ▲ Need for comprehensive Business and Master Plan identified as part of 2005 activities

## Project History and Overview

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- ▲ Focus of Project
  - Establish a Business Plan
  - Create a Waste Management Master Plan
- ▲ Recommendation to combine into single report
- ▲ First Major Longer term Planning initiative for all operations of the OVWRC

## Project History and Overview

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- ▲ RFP for consulting services issued in June 2005
- ▲ Proposals submitted mid-July 2005
- ▲ Project awarded to MacViro Team August 2005
- ▲ Project initiated September 2005

## Project History and Overview

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- ▲ Project Requirements:
  - Identify opportunities for growth
  - Identify options to increase efficiency and cost effectiveness
  - Identify opportunities to expand service provision, particularly for diversion
- ▲ Objectives for MRF operations, focus for E&E funding

## **Project Workplan and Schedule**

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- ▲ Project Initiation – September 2005
- ▲ Investigation and Information Review (process review for all areas of operation)– Sept/Oct 2005
- ▲ Board Strategy Session – October 20<sup>th</sup>, 2005
- ▲ Business Case Analysis – Oct/Nov 2005

## **Project Workplan and Schedule**

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- ▲ First Draft Report – November 23, 2005
- ▲ Additional Review and Analysis – Nov/Dec 2005
- ▲ Second Draft Report – December 15, 2005

## Project Objectives

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- ▲ Ensure cost effectiveness of programs
- ▲ Maximize use of MRF capacity
- ▲ Encourage Diversion as integral part of OVWRC strategy
- ▲ Promote system that is economic, socially sound, environmentally safe
- ▲ Provide effective/efficient governance and corporate structure

## Project Objectives

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- ▲ Expand services to partner municipalities
- ▲ Provide diversion options to partner and non-partner municipalities
- ▲ Increase public, government and stakeholder awareness
- ▲ Implement a quality management program
- ▲ Operate in accordance with OVWRC mission to “walk lightly on the environment”

## **Status and Overview – Draft Report**

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- ▲ Draft Report issued for review in mid-Dec
- ▲ Comments from Stakeholders by end of January/early February
- ▲ Based on results of today's session and follow-up comments, will proceed to finalize report

## **Status and Overview – Draft Report**

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Report consists of:

- ▲ Review of Project Objectives
- ▲ Overview of Current OVWRC operations
- ▲ Business & Master Plan – Common Elements
- ▲ Overview of Process Reviews
- ▲ Business Case Analysis
- ▲ Summary of Recommendations

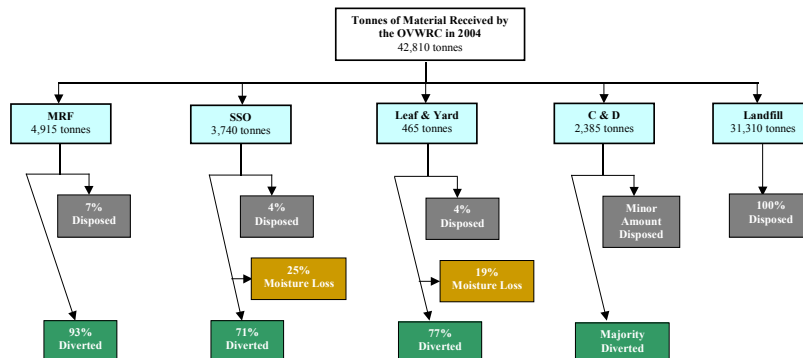
## Status and Overview – Draft Report

Reviewed the following:

- ▲ Organization
- ▲ OVWRC services (tonnages, gross/net/unit costs, staffing)
- ▲ Financial Structure

## Status and Overview – Draft Report

### Overview of Current Operations



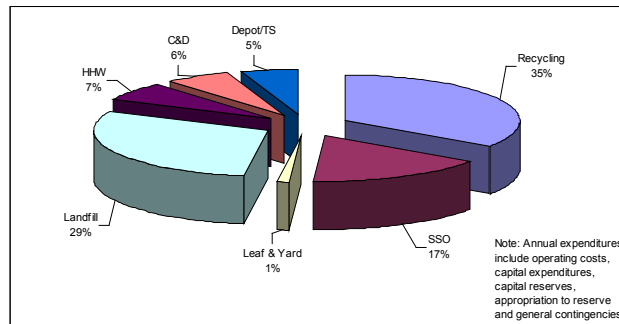
## Status and Overview – Draft Report

### Overview of Unit Costs (2004)

	MRF	SSO	Leaf & Yard	C&D	Landfill
Gross Annual Operating and Capital Expense	\$ 213	\$ 143	\$ 77	\$ 84	\$ 25
Annual Revenue (not including tipping fees from partners)	\$ 173	\$ 9	\$ 11	\$ 60	\$ 38
Net Total Cost (not including tipping fees from partners)	\$ 40	\$ 134	\$ 67	\$ 24	( \$13)
Annual Revenue (including tipping fees from all sources)	\$ 199	\$ 60	\$ 49	\$ 60	\$ 51
Net Total Cost (including all tipping fee revenue)	\$ 14	\$ 83	\$ 28	\$ 24	( \$26)

## Status and Overview – Draft Report

### 2003-2004 Average Gross Operating and Capital Cost per Service Area



## Review of Options – Common Elements

### Organizational Change:

- investigation of partnership not part of project
- Improvements to organizational structure recommended

### Recommendations:

- Proceed with necessary improvements to partnership structure
- Focus on implementing recommendations associated with reducing costs and increasing revenue
- Attract waste and diversion streams from IC&I sector and non-members
- When ready to investigate buy-in model, recommends investigation of certain options

## Review of Options – Common Elements

### Finances:

- Large proportion of costs are 'shared'
- Need appropriate allocation methods for reporting and determining 'true' cost of service provision
- Need formal mechanism to calculate tipping fees
- Need ABC for MRF operations to allocate costs to material streams

### Recommendations:

- Develop financial management tools including:
  - Cost allocation
  - Tipping fee calculation methodology
  - Activity Based Costing (ABC) methodology

## **Review of Options – Common Elements**

### **Strategic Planning:**

- OWRC is new venture without established priorities and protocols
- Long-term objectives from 2003 require clarification , set priorities and stronger link to annual business planning and performance review

### **Recommendations:**

- Institute a more formalized and comprehensive strategic planning process

## **Review of Options – Common Elements**

### **Measurement, Review and Reporting:**

- Current Reporting measures not well linked to each other and not 'regular'
- Need measurement and reporting to support Business plan implementation
- Measures to increase residential diversion are needed, as have reached plateau of 55% diversion

### **Recommendations:**

- Bi-weekly staff meetings – report on progress implementing business plan
- Monthly status reports to Manager, quarterly reporting to Board

## **Review of Options – Common Elements**

### **Measurement, Review and Reporting:**

### **Recommendations Continued:**

- Annual Report Card on Business Plan implementation
- Implement internal and market benchmarking system
- Undertake seasonal waste audits and link to education/promotion and other changes to improve residential diversion performance

## **Review of Options – OVWRC Operations**

### **Material Recycling Facility – Base Case**

- Data suggests that just processing residential materials from partners is not-sustainable
- Costs higher than typically found in industry due to:
  - Capital cost to build facility
  - Labour costs
  - Low overall tonnages – this facility can handle more throughput

### **Recommendations:**

- Need to increase tonnage processes
- Status Quo not sustainable over long-term

## **Review of Options – OVWRC Operations**

### **Material Recycling Facility – Market Capacity**

- Need to address lack of incentive for new partners to join (buy-in formula)
- At current MRF tip fees, competition undercuts OVWRC

#### **Recommendations:**

- Determine incremental cost for “next tonne” of material
- Use this to determine appropriate charge for non-partners / IC&I sector to use MRF capacity
- Approach local collection operators so OVWRC act as processing arm of local competitive bids for other municipalities

## **Review of Options – OVWRC Operations**

### **Material Recycling Facility – Expand System**

- Examine option to consolidate MRF operations in Renfrew County

#### **Recommendations:**

- Investigate alternative joint service arrangements with Beaumen that have benefits for both parties

## **Review of Options – OVWRC Operations**

### **Landfill Operations – Status Quo**

- Site used by only member municipalities
- Tipping fee revenues generate net surplus, contribute to reserves and offset costs of other areas of operation
- EA for site expansion, will require Leachate Treatment System

### **Recommendations:**

- Status Quo meets needs of OVWRC partners
- Evaluate options for landfill gas collection and energy recovery

## **Review of Options – OVWRC Operations**

### **Landfill Operations – Market Capacity**

- Increasing tonnages to site can increase economies of scale and lower cost to OVWRC partners
- Seven non-partners in Renfrew could use landfill capacity (approx. 14,000 TPY) and are close enough to use OVWRC site without transfer

### **Recommendations:**

- Consider marketing capacity to non-partners

## **Review of Options – OVWRC Operations**

### **Landfill Operations – Shared Service Arrangements**

- OVWRC and other Renfrew County municipalities contract out for landfill services (equipment, monitoring)
- Economies of Scale related to Joint Tenders

### **Recommendations:**

- Initiate discussions with non-partners on shared service options

## **Review of Options – OVWRC Operations**

### **Landfill Operations – Management of Renfrew Landfills by OVWRC**

- Increase cost effectiveness of OVWRC and non-partners by distributing Admin costs etc. over larger group
- Increase environmental performance, through dedicated compliance staff
- Apportion costs back to OVWRC and non-partners

### **Recommendations:**

- If discussions with non-partners on shared service options are positive, raise option of new landfill management structure

## **Review of Options – OVWRC Operations**

### **Depot / Transfer – Status Quo**

- Cost per lift of waste is significant
- Options to improve performance are being considered by partner municipalities
- 35 Depots located throughout Renfrew County

### **Recommendations:**

- Continue with current system in OVWRC and Partner municipalities
- Consider option for OVWRC to assist in implementing approved depot operations in partner municipalities

## **Review of Options – OVWRC Operations**

### **Depot / Transfer – OVWRC Service**

- Expand role of OVWRC as service provider to partner and non-partner municipalities
- OVWRC design cost effective alternative for depot services
- Depot materials hauled to OVWRC for processing

### **Recommendations:**

- Consider option for OVWRC assume responsibility for implementing approved depot operations in partner municipalities
- Potentially offer service to non-partners

## Review of Options – OVWRC Operations

### Composting – Status Quo

- Current facility nearing approved capacity
- Expansion required, Comptainer option requires over \$500,000 in capital
- Majority of materials composted in Comptainers, could be managed via lower cost option (outdoor) which is more cost effective
- Pre-sort of SSO may not be necessary

### Recommendations:

- Status Quo requires expansion and investment
- Audit SSO Stream
- Conduct a trial without pre-sort
- Evaluate life-span of existing Comptainers and develop cost estimates for expansion

## Review of Options – OVWRC Operations

### Composting – Move to Outdoor Windrow

- Could use Comptainers only for certain materials (high food waste content)
- Market capacity in Comptainers to IC&I & non-partners
- Phase in the composting of SSO and L&Y in outdoor windrows
- Will reduce capital investment for expansion and overall cost for composting

### Recommendations:

- Seek MOE approval for expanded outdoor windrow composting area
- Increase overall composting capacity by 2,000 TPY and in further increments in the future once success of outdoor approach demonstrated

## **Review of Options – OVWRC Operations**

### **Composting – Significant New Capacity**

- Large and Growing demand for compost capacity in Ontario
- Could seek larger expansion once outdoor windrow approach proven
- Set tipping fee levels to compete with other facilities used in ON and Quebec

#### **Recommendations:**

- Create new capacity 'on paper' by 2007/08 and determine appropriate market price to be advantageous to OVWRC
- Use this information to compete for long-term contracts for SSO processing
- Only implement expanded facility if successful in winning long-term contract(s)

## **Review of Options – OVWRC Operations**

### **Composting – Expand Organic Stream**

- Capacity is required in Renfrew and in ON to manage Biosolids
- Can create materials with restricted use from Biosolids, which can be used in landfill operations

#### **Recommendations:**

- Undertake preliminary investigation on scale of Biosolids management function that OVWRC could offer
- Monitor Biosolids Management in Renfrew and come back to Board to determine if should market this service

## **Review of Options – OVWRC Operations**

### **Collection – Status Quo**

- Partner municipalities responsible for collection service
- OVWRC has no direct role
- Need to tender for collection in 2007
- Some current duplication in contract admin, primarily on contractor performance and complaints

### **Recommendations:**

- Status Quo is low risk, continue in short term
- Consider efficiencies if OVWRC to assume some role

## **Review of Options – OVWRC Operations**

### **Collection – OVWRC Admin Responsibility – Partner Municipalities**

- OVWRC develops tender documents, issues and administers on behalf of partners
- Will increase efficiency in administration, and OVWRC able to negotiate directly with contractor
- Level of service set by municipalities
- Allocate costs to partners with collection service

### **Recommendations:**

- OVWRC assume responsibility for issuing and administering collection contracts
- Determine changes to budget structure necessary to allocate costs to partners with collection service

## Review of Options – OVWRC Operations

### Collection – OVWRC Admin Responsibility – Renfrew County

- OVWRC develops tender documents, issues and administers on behalf of partners and non-partners in Renfrew County
- Contract consolidation has reduced unit collection costs in other municipalities
- Level of service set by municipalities
- Allocate costs to municipalities with collection service

### Recommendations:

- If OVWRC assume responsibility for issuing and administering collection contracts for Partners, then initiate discussion with non-partners
- Seek E&E funding for investigation of consolidated Renfrew County collection contract

## Review of Options – OVWRC Operations

### Construction and Demolition – Status Quo

- Current OVWRC service used only by partners
- Current use (2,000 TPY) is well below permitted capacity (8,000 TPY)
- Most C&D is diverted from landfill disposal
- Unit costs are high as facility is underused
- Tipping fees may be discouraging use

### Recommendations:

- Status Quo continue in short-term but not cost effective in long-term

## **Review of Options – OVWRC Operations**

### **Construction and Demolition – Market Capacity**

- Market capacity to non-partners and IC&I sector
- Increase cost effectiveness and environmental performance
- Could fund purchase of equipment to improve site operations
- Very little C&D diversion in non-partner municipalities
- Could also provide off-site C&D services (I.e. portable grinder)
- Materials can be marketed or used by OVWRC on-site

### **Recommendations:**

- Investigate options to market existing capacity
- Develop tipping fee calculation for cost recovery
- Develop communication materials

## **Review of Options – OVWRC Operations**

### **Leachate / WasteWater Treatment – Develop Treatment Facility for Landfill**

- Small scale leachate treatment facility is needed to support landfill expansion
- Recommended treatment option (pond and sand filter) very cost effective
- Cannot accommodate any other materials

### **Recommendations:**

- Build recommended treatment option

## Review of Options – OVWRC Operations

### Leachate / WasteWater Treatment – Develop Septage Treatment Facility

- Land application of non-treated septage to be phased out by 2008
- Few local options for treatment
- Four of the partner municipalities need capacity, other non-partners also need capacity
- Significant cost to develop facility
- Certain approaches (I.e. Reed bed stabilization) could be viable for OVWRC
- Develop on full cost recovery basis

### Recommendations:

- Investigate option to build septage treatment facility for partner and non-partner municipalities

## Next Steps

- ▲ Business Plan Implementation Summary (Appendix E), significant number of recommendations for short-term implementation time frame
- ▲ Need to set Priorities and Focus
- ▲ Amend Summary and Schedule (and report) based on Board Priorities
- ▲ Comments on Current Version of Report by \_\_\_
- ▲ Report Finalized and to Board for Adoption in February 2006

**Participants of the January 26, 2006 Meeting**

<b>Name</b>	<b>Position</b>	<b>Municipality</b>
Cy Steele	Councillor	Petawawa
Lorenz Kelo	Councillor	North Algona Wilberforce
Rick O'Brien	Councillor	Laurentian Valley
Bruce Lloyd	Treasurer	Laurentian Valley
Mitchell Stillman	CAO	Petawawa
Darryl Ryan	CAO	Laurentian Valley
George Hodgekinson	Councillor	Laurentian Valley
Tom Mohns	Councillor	Laurentian Valley
Kellard M...	P.L.C. Member	Laurentian Valley
David Unran	Manager	Pembroke
Cheryl Lowr	Councillor	Pembroke
S. Bennett	Councillor	Laurentian Valley
Ed Chow	Deputy Mayor	Petawawa
Dan Scissons	Treasurer/Deputy Clerk	Petawawa
Cairine Cybulski	Councillor	Bonnechere Valley
John Shane	P.L.C.	Bonnechere Valley
Merv Buckwald	Councillor	Bonnechere Valley
Bryan Martin	CAO	Bonnechere Valley
Zig Mintha	Mayor	Bonnechere Valley
Karen Schaenfeldt	P.L.C.	North Algona Wilberforce
Bob Sweet	Mayor	Petawawa
Treena Lemay	Councillor	Petawawa

# *The Corporation of the Township of Bonnechere Valley*

49 Bonnechere Street East  
P.O. Box 100  
Eganville, Ontario K0J 1T0



Phone (613) 628-3101  
bonvalley@renc.igs.net  
Fax (613) 628-1336

March 3, 2006

Ottawa Valley Waste Management Board  
C/o Mr. Joe Hall, General Manager  
Ottawa Valley Waste Recovery Centre  
900 Woito Station Road  
Pembroke, ON  
K8A 8K1

Dear Members of the Board,

Bonnechere Valley Township Council's (BVT's) position is the following:

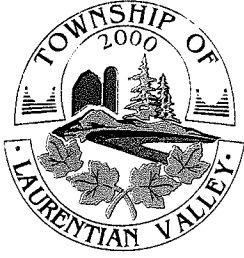
- 1) BVT recognizes that in order for the MRF to operate more cost-effectively, and effectively, additional material is required.
- 2) In order to obtain the additional material, and ultimately additional contracts, OVWRC must be able to compete in the current market environment (main competitor being Beauman – who offers “tipping fee-free” disposal of recycled materials):
  - a. Therefore BVT agrees with the proposal that OVWRC needs to remove the tipping (and royalty fees paid to the host municipality) charged on recyclables
  - b. Obtain the overall contract (waste and recycling) by means of new partners, otherwise it is difficult to obtain the recycling without the waste
  - c. Commercial recycling contracts should be sought: i.e. Pembroke Mall, etc
- 3) BVT agrees with the other partners that the purchase of the Beauman business is not seen as an option.
- 4) Additional partnership buy-ins should be less punitive. The OVWRC's main partners are the larger “urban” municipalities. While any new additional partners should pay their fair share, the current buy-in formula utilizing assessments and population is too costly to smaller “rural” municipalities:
  - a. consider: under the current formula, BVT Ward 3's buy-in portion was **2%** based on the current formula, yet the landfilled tonnage is only **0.005%**
  - b. Many smaller municipalities have little commercial tax basis,
  - c. farmland and managed wood lots which may have hefty assessments, but are “tax rate discounted” (nor they generate much landfill waste)
  - d. most have much waterfront with seasonal populations that “dispose waste for only one quarter of the year” (these seasonal waterfront properties have seen assessments almost double over the past five years – disproportionately increasing to other property levels)

- 5) Under a revamped fair-share formula, rather than pay a one lump sum buy-in amount, yearly contributions to the Perpetual Care reserves, closure costs, monitoring, etc. could be made by new partners based on their calculated fair share. Ultimately the original current partners would be paying the original debenture costs, etc., while the share of the new partners could be funding reserves and perpetual care costs, monitoring and closure costs, etc. on an annual basis rather than the one time lump sum which is beyond many small municipal budgets.
- 6) The Partnership Agreement needs to be updated to reflect the current operations of the Centre (despite it not moving towards a Joint Municipal Services Board in the immediate future).
- 7) A Joint Municipal Services Board would have eliminated the need for the Centre to contribute to increasingly large reserves and its current financial structure. It would also allow the Centre a certain level of autonomy, obviously still only under the direction of the **respective Council representatives**. The current structure is seen as a deterrent to new partners who are considering the buy-in.
- 8) BVT also concurs that the OVWRC need not pursue a role in the septage disposal study based on ongoing studies within Renfrew County and MOE. WE agree with the Town of Petawawa's position that the facility may be identified as a possible option at a later date.

Sincerely,

*Cairine Cybulski*

Cairine Cybulski  
Councillor



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TOWNSHIP OF LAURENTIAN VALLEY

460 WITT ROAD, RR4

PEMBROKE, ONTARIO

K8A 6W5

TEL: 613-735-6291 OR 735-3955 FAX: 613-735-5820

February 16, 2006

Ottawa Valley Waste Management Board  
Att: Mr. Joe Hall, General Manager  
900 Woito Station Road  
Pembroke, ON  
K8A 6W5

Dear Sir:

Re: Draft Report Business and Waste Management Master Plan

Municipalities were asked to reply to the draft report by February 28, 2006, and after our meeting of February 7, 2006 we have the following recommendations from the Council of the Township of Laurentian Valley

Leachate/Wastewater Treatment

1. Leave out the recommendation to Investigate options for Septage Treatment for partner and non-partner Municipalities.

Collection Services

2. Leave out the following recommendations:  
Assume responsibility to administer and issue new collection contract for partner municipalities.  
Review current arrangements to determine if the OVWRC should also assume administrative responsibility for existing contract in the short term.  
If partners agree to OVWRC management of new collection contract, initiate discussions with non-partner municipalities to determine interest in studying options for a consolidated collection contract.  
Prepare an application for E&E funding for a detailed investigation of consolidated collection services in Renfrew County.  
Add: Have General Manager prepare a new collection contract for partner municipalities in 2006 for Public Tender in early 2007.

3. Material Recycling Facility/Processing Operations

Leave out the following recommendations:

To pursue the option of purchasing Beaumen's operations.

Add:

Look seriously at pursuing markets in the ICI sector by purchasing a truck and hiring a employee to go out and pick up the business at small companies and corner groceries etc..

4. Organizational Change

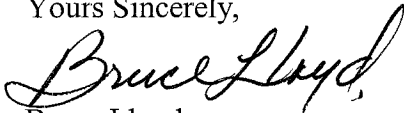
Add:

Look at ways to change the Buy in Formula, method of paying etc. to attract new partners in the OVWRC.

One last note, on the question as to whether or not the Township had any comment on plans by the board to reduce to zero the tipping fees on recyclables for 2006 to attract additional materials. The Township has no objection to the 2006 tipping fees on recyclables being reduced to zero. This would apply to Commingled Containers, Fibres, and Organics. The Township is still expecting to receive it's royalty fees on these materials.

Should you wish clarification on any issue, please don't hesitate to contact me.

Yours Sincerely,



Bruce Lloyd  
Treasurer

c. Steve Bennett



North Algona Wilberforce Township  
 1091 Shaw Woods Road RR #1  
 Eganville, Ontario K0J 1T0

Phone: 613-628-2080  
 Fax: 613-628-3341

February 8, 2006

MacViro Consultants Inc.  
 600 Cochrane Drive, Suite 500  
 Markham, ON L3R 5K3

Dear Sirs:

RE: Statements from North Algona Wilberforce Township

These are North Algona Wilberforce Township's statements to MacViro Consultants: -

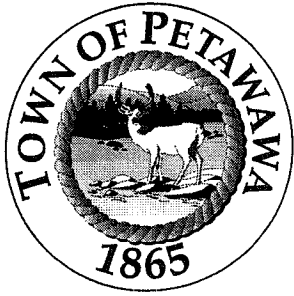
1. North Algona Wilberforce Township Council would only approve of new partners to Ottawa Valley Waste Recovery Centre if the air space in the landfill could be lowered by grinding all our garbage, or better recycling to keep approximately forty years of usage to the landfill. North Algona Wilberforce Township Council would invite all municipalities to join the Ottawa Valley Waste Recovery Centre in the recycling part of the business.
2. The tipping fees for recyclables should be removed. This will hopefully increase the volume of recyclables and increase revenues.
3. There should be an updated cost structure to allow new partners, provided the Ottawa Valley Waste Recycling Centre could reduce air space and keep our forty-year landfill capacity. The new partners should only have to pay for remaining debt and expenses.
4. The Ottawa Valley Waste Recovery Centre should follow Beaumen's approach to collecting recyclables at no cost to clients. The Ottawa Valley Waste Recovery Centre should start this business slowly and try to get contracts.
5. Septage studies should be put on hold as some municipalities are doing their own studies.
6. North Algona Wilberforce Township will maintain transfer sites.
7. The Ottawa Valley Waste Recovery Centre should explore different composting operations, i.e. using worms to compost paper and cardboard that would normally go to landfill.
8. All garbage should go through a plant to open bags and complete 100% recycling.

Yours truly,

Councillor Lorenz Kelo

LK/mm

✓ c.c Joe Hall



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# TOWN OF PETAWAWA

1111 Victoria Street, Petawawa, Ontario K8H 2E6 • Telephone: (613) 687-5536 / Fax: (613) 687-5973  
www.petawawa.ca

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February 7, 2006

Ottawa Valley Waste Management Board  
C/O Mr. Joe Hall, General Manager  
Ottawa Valley Waste Recovery Centre  
900 Woito Station Road  
Pembroke, ON K8A 8K1

Dear Members of the Board,

Re: Draft Report for the Ottawa Valley Waste Recovery Centre  
Business and Master Plan

The Council of the Town of Petawawa has reviewed the above referenced report dated December 15, 2006 and considered the consultant's presentation and discussions of the report held January 26, 2006 at the Pembroke Travelodge.

The following are the Town of Petawawa comments to the report in no particular order or priority:

1. The Town of Petawawa does not wish to give up any landfill capacity to non- party municipalities or groups.
2. The Town of Petawawa is in agreement with review and implementation of operational changes to enhance the various recycling streams.
3. The Town of Petawawa is prepared to look at the partnership process to make it easier for new partners to buy in while ensuring that new partners pay their fair share.
4. The Town of Petawawa requests confirmation in writing that the OVWRC is no longer considering a Joint Municipal Services Board.
5. The Town of Petawawa does want to be involved in purchasing any competitive business (eg. Beauman) and wishes confirmation in writing that the OVWRC will no longer consider this option.

6. The Town of Petawawa recognizes the need for more material tonnage at the MRF but is of the opinion that any material should come from inside Renfrew County. The same holds true for composting.
7. The Council of the Town of Petawawa feels that the OVWRC does not have a role in municipal garbage pickup tenders and that tenders should be administered and let by the municipalities singular or in conjunction.
8. The full co-operation of the OVWRC is requested with municipal garbage contractors.
9. Currently the Town of Petawawa does not see a role for the OVWRC in the issue of a septage disposal study although the facility may be identified as a possible option and further discussions could take place at that time.

I trust that the above satisfactorily outlines our comments. If there are any questions please contact Tom Mohns OVWRC member or Mitch Stillman, CAO/Clerk.

Yours truly,



Mitchell W. Stillman, B.Sc.(Hons.), C.M.O.,  
Chief Administrative Officer/Clerk

Cc Councillor Tom Mohns