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# MIXED BROKEN GLASS

**The Solid Waste Management Committee recommends the adoption of the recommendations contained in the following report, May 2, 2007, from the Commissioner of Transportation and Works:**

## 1. RECOMMENDATIONS

It is recommended that:

1. Regional Council approve the purchase and installation of a mixed broken glass clean up system in the Region's Material Recovery Facility.

2. The proposed glass clean up system be sole sourced through Miller Waste Systems, the contract operator of the facility, provided a mutually satisfactory agreement can be negotiated between Miller Waste Systems and the Region within 30 business days.

3. The Regional Solicitor be authorized to negotiate contract terms and conditions with Miller Waste Systems.

4. An independent third party engineering firm be retained to review Miller's proposal to ensure its cost competitiveness.

## 2. PURPOSE

This report provides an update on the Region's current marketing status for mixed broken glass and recommendations to ensure long-term sustainable markets for this material.

## 3. BACKGROUND

In July, 2005, the Region commissioned the Garfield Wright Waste Management Centre. The new facility was designed, in consultation with the local municipalities, to process commingled blue box recyclables. One of the consequences of its automated design is that roughly 97% of the estimated 12,000 tonnes of glass containers recycled annually in the facility are shattered during processing. The shattered glass is recovered as mixed broken glass.

On January 3, 2007, the Region's mixed broken glass recycler, Nexcycle Industries, advised the Region that the price to recycle the Region's glass would increase to $44 per tonne from $18.74 per tonne due to contamination by shredded paper and other materials. On February 9, 2007, they subsequently advised the Region that effective February 28, 2007 the Region's mixed broken glass would no longer be accepted due to ongoing

contamination. Shredded paper and bagged recyclables have never been part of the Region's blue box program. Since the start up of the new commingled blue box program, curbside contamination in the form of shredded paper and bagged recyclables has been a growing problem at the Region's recycling facility.

## 4. ANALYSIS AND OPTIONS

Loss of the Region's only market for mixed broken glass is serious. In the absence of alternatives, the Region may be forced to begin landfilling this material and could suffer a loss in credibility if the public perceives the Region to be landfilling recyclables. The inability of the Region to recycle its glass will reduce its current diversion rate by up to 4%, increase program operating costs and potentially jeopardize the Region's ability to meet its target of 65% waste diversion from landfill by 2010.

### 4.1 Current Mixed Broken Glass Diversion Efforts

Since early February, Regional staff has been working with their local municipal counterparts and contractors to reduce the level of shredded paper and bagged recyclables collected curbside. Additionally, Regional staff has been developing an ad campaign, to better educate local residents about blue box program restrictions.

Contact has also been made with known glass recyclers and brokers in Ontario, Quebec, Michigan and New York to source an alternate market. Working with equipment suppliers and aggregate processors, staff has also been exploring interim options to clean up the Region's mixed broken glass and produce a marketable material.

Despite these ongoing efforts staff has, to date, not been able to identify an alternate recycling processor willing to accept the Region's mixed broken glass at its current level of curbside contamination. At this point, the only market willing to accept the Region's glass has been the Greenlane landfill for use as road base as an alternative to gravel.

### 4.2 Joint Municipal-Industry Glass Clean Up Initiative

In the summer of 2005, the growing number of municipalities developing commingled blue box programs created a demand for a market for mixed broken glass in Ontario. To address this need, municipalities across Ontario, including York Region, issued a Request for Proposals (RFP) in conjunction with Stewardship Ontario. The RFP was developed to secure a private sector proponent willing to build a mixed broken glass processing facility in Ontario.

In the summer of 2006, Stewardship Ontario, awarded a contract under the RFP to Unical of Montreal. Unfortunately, before individual negotiations could be concluded with the participating municipalities, the Province announced the LCBO packaging deposit-return plan. This plan directs LCBO containers to be returned to The Beer Store rather than be placed in the blue box. The effect of this decision was that the municipalities involved in the RFP could not commit to providing the required amount of glass needed for the

contractor's operations. Therefore, the contractor has not proceeded on the expected timeline with the processing facility, leaving the municipalities to find alternative arrangements. Unical has recently advised the Region that it is awaiting site plan approval from the City of Brampton for its proposed facility. If approvals are received this spring, the plant may be operational early 2008.

### 4.3 Installation of a Glass Clean Up System

During the design of the Garfield Wright Waste Management Centre, installation of a mixed broken glass clean up system was considered. At that time the development of a centralized mixed broken glass processing facility to service the GTA commingled blue box programs was under development as noted in Section 4.2. As a result, installation of a glass clean up system in the Region's recycling facility was deferred.

With loss of the Region's current glass processor, the delay of the Unical facility, the lack of an alternative market and the potential for contamination levels to increase, staff believes installation of a glass clean up system in the facility is necessary at this time.

The estimated system cost is $500,000 including installation retrofits to the existing facility. Under the Region's current purchasing by-law, an expenditure of this value should undergo a formal open bid process. Staff is aware of at least three companies who could, in principle, provide such a system. However, staff recommends that the system be sole sourced by Miller Waste Systems. Staff's recommendation is based on three important factors:

- Sourcing the new equipment from Miller Waste Systems will ensure compatibility with the existing system and minimize any potential processing disruptions at the facility.

- The existing equipment in the facility was installed by, and is operated by, Miller Waste Systems with a contract term of five years (including renewal options). Given their familiarity with the existing equipment, it is expected they will be able to install the new equipment more effectively and efficiently.

- Time is of the essence due to the glass marketing problem and issuance of an RFP will unnecessarily delay installation of the required system.

This recommendation is consistent with Section 10 of the Region's purchasing by-law which permits "sole-source" purchases where timeliness and integration are paramount decision-making factors.

To ensure a cost competitive price is obtained from Miller Waste Systems, it is recommended an independent third party engineering firm be hired to review Miller's price proposal before it is accepted by the Region. The cost of this service is estimated to be less than $8,000.

### 4.4 "Do Nothing" Scenario

As the impact of the LCBO deposit/return decision takes hold across the Province, staff anticipates that the quantities of LCBO glass collected in the blue box program will decline. LCBO glass accounts for approximately half of the glass collected in the blue box therefore, the impact could be significant. Moreover, as the glass content decreases, the non-glass content increases exponentially, further degrading the quality. The end result of this trend will be that the mixed broken glass will not be marketable and have to be landfilled.

## 5. FINANCIAL IMPLICATIONS

It is expected that 7,000 tonnes of mixed broken glass will be processed by the Region in 2007. Diversion of the Region's mixed broken glass to Green Lane Landfill for use as road base will cost $66.62 / tonne or approximately $470,000 annually. In addition, marketing mixed broken glass as road base is not considered diversion by the Province of Ontario. As a result, the Region and local municipalities can anticipate a reduction in Waste Diversion Ontario (WDO) blue box funding of approximately $500,000 annually. The cost of marketing the glass as road base will result in a price per tonne increase from $18.74 to $66.62 or a net increase of $335,000 annually. The combined annual impact to the Region and local municipalities totals approximately $0.83 million. This represents an unbudgeted increase in the tax levy of approximately 0.1% annually. The introduction of the LCBO bottle return program was implemented in February 2007. The Region has seen a significant decrease in LCBO glass at the Material Recovery Facility to date. If the bottle return program is successful, the cost estimates noted will change accordingly.

The capital cost of purchasing and installing a glass clean up system in the Region's recycling facility is expected to cost approximately $500,000. If successful, the cost of marketing the resulting product is expected to be reduced to $30 per tonne or $210,000 annually based on the 2007 projected tonnes.

**Table 1**
Cost Implications of Reduced Diversion of Mixed Broken Glass

| | 2007 Estimate | Projected Actual Cost (Annualized) | |
|---|---|---|---|
| | | Option 1 "Do Nothing" Scenario | Option 2 Install Glass Clean Up System |
| Tonnes Processed | 7,000 | 7,000 | 7,000 |
| Cost to Market Glass ($/MT) | $18.76 | $66.62 | $30.00 |
| Gross Marketing Costs | $131,320 | $466,340 | $210,000 |
| WDO Funding[1] | $(250,000) | $0 | $(250,000) |
| Capital Costs | NA | | $500,000 |
| Net Impact | $(118,680) | $466,340 | $460,000 |

[1] WDO funding is split equally between the Region and local municipalities. The change in this number represents the loss in funding the Region would expect to see from under a "do nothing" scenario.

The pay back period for the new system is, therefore, expected to be approximately one year. There are sufficient funds in the Waste Management Capital Reserve for this expenditure.

## 6. LOCAL MUNICIPAL IMPACT

Loss of the Region's glass recycler due to curbside contamination will result in a reduction in the diversion rate of the local municipalities of up to 4% assuming an alternate market is not found. This impact on diversion rate potentially jeopardizes the Region and local municipalities' commitment to achieve a minimum 65% diversion rate from landfill. Higher operating costs and reduced diversion will result in an estimated $500,000 per year reduction in Provincial blue box funding to the local municipalities and Region. More importantly, the current situation opens the Region and local municipalities up to potential criticism by the public for landfilling recyclables.

Timely installation of a glass clean up system and continued efforts by the Region and local municipalities to reduce curbside contamination is expected to address the problem and ensure a long-term stable market for the Region's blue box glass.

## 7. CONCLUSION

The Region requires the installation of a mixed broken glass clean up system to support its blue box program and waste diversion efforts. It is recommended that Region pursue a sole-source purchase on the basis that timeliness and integration into the existing Material Recovery Facility is paramount.

For more information on this report contact Michael J. Birett, Manager, Waste Diversion of the Solid Waste Management Branch at extension 5738 in the Transportation and Works Department.

The Senior Management Group has reviewed this report.