Automated Garbage, Yard Waste and Recycling Collection Service

- Automated collection utilizes advanced collection technology and specially designed carts to safely and efficiently collect curbside solid waste

Trucks




- Automatic arms can grab from various distances

Trucks

- Trucks can stay tight to curb

Automated Garbage, Yard Waste and Recycling Collection Service Pilot Project

- Thirteen weeks
  - September18 – December 14
- Testing challenges for homeowners and haulers
  - Hillsides
  - Long driveways (rural)
  - Big lots
  - Small multi-family homes
  - Tight roadways and back alleys
  - Multi-use and varied demographics

Automated Garbage, Yard Waste and Recycling Collection Service Pilot Project

- Education and public relations
- Background for RFP

Pilot Project: Program Design

- 500 homes
  - Glenmore (215)
    - Long drive-ways (rural)
    - Steep hills
    - Small multi-family, seniors, street parking
    - Narrow roadways, small lots and homes
  - Westside (160)
    - Large lots (1/2 acre+)
    - Standard-size lots, single-family, street parking
  - Peachland (125)
    - Mixed use – back alleys
    - Varied multi-family and businesses
    - Seniors complex

Pilot Project: Program Design

- Carts
  - 2 sizes for garbage (140 litres default size, 240 litres optional)
  - 1 size for recycling and yard waste (240 litres)
  - Different colour lids
- Bi-weekly collection of recycling and yard waste
- Yard waste collection optional

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240 litre cart

Height	46.5"
Width	28"
Depth	30.5"

Pilot Project: Program Design

- Surveys
  - “Blind” pre-pilot mail-in survey (August)
  - Post-pilot mail-in survey (November)
- Testing to determine:
  - Behaviours
    - Participation rates
    - Volumes of garbage, yard waste and recycling
  - Attitudes
  - Barriers / challenges
  - Preferences
    - Size of carts
    - Yard waste collection

Costs of Pilot Project

- Carts, delivery, taxes
  - $100,000
- Education, surveys
  - $2,000
- Collection
  - $20,000

- Carts are re-sellable for 80-90% of purchase price

Agenda No: _____

Mtg Date: _____

REGIONAL DISTRICT of CENTRAL OKANAGAN

Regional Board Report

TO: Regional Board

FROM: Engineering Committee (meeting of June 28, 2007)

DATE: July 3, 2007

SUBJECT: Automated Garbage, Yard Waste and Recycling Collection Service Pilot Project

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RECOMMENDATION

THAT the Regional Board recommends the purchase of 1100 -1200 carts in order to commence a pilot project to test the public acceptance and efficacy of automated garbage, recycling and yard waste collection;

BACKGROUND

In May, the Engineering Committee recommended to the Board that the Regional Waste Reduction Office staff research automated collection systems in greater detail and have an independent business analysis completed.

CH2M Hill was contracted to carry out the financial business analysis; the draft report is to be completed by July 9th and the final report by July 27th. The completion timeline is short to help meet tight timelines for RFP development and issuance, and awarding of the contract to meet the July 1, 2008 deadline.

Staff is planning the implementation of a pilot project between September 18 and mid December. The primary objectives of the pilot project are to determine the best size choices of carts for a varied geographic and socio-economic populace and for educational purposes. The three areas chosen for the pilot project are a combination of old and new Glenmore, Glenrosa and the downtown area of Peachland. These regions were chosen as they represent all the areas and homes that could present the greatest challenges to haulers and/or residents.

The potential challenges identified include: limited storage space in small multi-family units (seniors and families), long drive-ways, steep terrain, narrow streets with tight turn space, mixed use (small business and residential), back alleys, large lot sizes and homes, and multi age and socio-economic backgrounds. Approximately 450 homes and businesses will be included in the pilot test.

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The following outlines the plan for the pilot project:

1. The following cart sizes will be delivered to the identified homes and businesses:
   - 2 sizes for garbage (140 litres delivered; 240 litres optional)
   - 1 size for recycling (240 litres)
   - 1 size for yard waste (240 litres)
     - Yard waste optional; however, participants will be told that yard waste will be banned from future garbage disposal
2. 215 homes Glenmore (Tuesday collection)
   160 homes Westside (Thursday collection)
   125 homes and businesses Peachland (Friday collection)
3. Weekly garbage collection, alternating bi-weekly recycling and yard waste collection
4. Blind (no publicity) pre-pilot direct mail survey: August 27th
   a. Reminder letter/phone call week of September 10th
5. Pilot project public relations campaign launch: September 10 (continued throughout pilot program roll-out)
6. Direct mail to each household/business about program: Mail-out September 6
   a. Cover letter
   b. Instructions
7. Deliver carts with instructions: September 11-14
8. Pilot program start: September 18
9. Mid-pilot telephone follow-up (questions/problems): September 24 - October 5
10. Post-pilot direct mail survey to participants
11. Newsletter to participants regarding results

The estimated hard costs of the pilot project are:

Garbage and recycling carts:	$69,500
Yard waste carts:	$16,875
Delivery of carts:	$ 3,500
Taxes:	$11,020
Public relations and education:	$ 2,000
Collection	$20,000
TOTAL	$122,895

NOTE: If automated collection is not pursued for the 2008 contract and the carts can not be reused locally, the supplier has agreed to reimburse the Regional District 80-90% of the costs of the carts. There is a strong market for used carts so they can easily be resold.

REGIONAL DISTRICT of CENTRAL OKANAGAN

REPORT TO THE ENGINEERING COMMITTEE

From: Technical Advisory Committee

Date: May 10, 2007

Re: Automated Garbage, Yard Waste and Recycling Collection Service for 2008

RECOMMENDATION

WHEREAS the garbage, yard waste and recycling collection contracts in the region expire June 2008, and that there have been significant challenges with the existing manual collection services, the Regional Technical Advisory Committee reviewed the processes, benefits, challenges and costs of automated collection systems and determined the benefits to the community;

THAT the Engineering Committee recommends staff research automated collection systems in greater detail and commence preparation of three RFPs (Request for Proposal) for: 1) automated garbage, yard waste and recycling collection services; 2) purchase of carts; and 3) processing and marketing of recyclables for the Regional District, its member municipalities and Westbank First Nations to the Regional District Board of Directors.

BACKGROUND

The existing garbage, yard waste and recycling collection contracts for the City of Kelowna, Regional District and Districts of Peachland and Lake Country concludes in June 2008. An RFP will be issued in July 2007 to allow adequate time for proponent response, evaluation of the responses, acquisition of equipment needed and program set up.

Recently, there have been significant challenges with our collection system resulting in an unprecedented number of missed or late collections and hundreds of instances of irate residents. The Waste Reduction Office, alone, registered more than 1,000 complaints in 2006 and early 2007. Although virtually all the missed collections were reported from the routes served by Waste Management, OK Environmental Services and other haulers in the region experienced similar challenges in service delivery.

The primary problem was the labour shortage in the Central Okanagan. Haulers had difficulty recruiting and retaining employees, which resulted in a stream of new trainees. As it takes several weeks or months for new employees to learn routes, there were near-constant missed collections. There is no expecta5tion that the labour situation will change anytime soon.

In conjunction with the HR issues, the region saw record increases in yard waste collection, and even more significantly, double the amount of yard waste dropped-off at local landfills. This exacerbated the collection challenges and strained operations at the landfills.

In an attempt to counter the labour issues and challenges for haulers, staff researched automated collection systems. The following outlines some of the key points, advantages and disadvantages of automated systems.

Automated collection systems have been used successfully in Europe and many parts of the United States for more than decade. There is a recent trend for Canadian cities to employ automated systems as well. Port Coquitlam, the City of Vancouver, Prince George, Regina, Medicine Hat and Kamloops, to name a few, have implemented automated systems within the last several years. All communities are highly pleased with the system and collection results, including those with a large rural constituency, hilly geography and snow covered icy roads.

The following outlines the major advantages of an automated system:

- One-half to one-third fewer employees. Automation would help address chronic labour shortages by requiring fewer employees.
- There is no repetitive heavy lifting and unprotected outdoor work. This:
    - Significantly reduces WCB claims, insurance premiums and sick leave.
    - Eliminates gender and age bias and improves employee retention as operators can work until they are 65.
- Requires a smaller fleet size. This:
    - Reduces fuel consumption, particulate emissions and wear and tear of roadways.
    - Means fewer large vehicles on residential streets, roadways to landfills and across the bridge (Westside and Peachland waste and recyclables to Glenmore) decreasing risk of collision.
- Bi-weekly collection of yard waste would increase the amount of yard waste collected. However, it would decrease a number of other problems like:
    - Reduce the number of self-hauls to landfills and the resultant risk of employee and public injury and liability.
    - Eliminate the need to de-bag yard waste, which has proven problematic and costly for haulers.
    - Reduce of the amount of yard waste put out for garbage collection during the summer months (estimated to be 20-25%), thereby increasing waste diversion.
    - Decrease the incidence of illegally dumped yard waste in empty lots and rural and crown land, reducing unsightliness and fire hazard.
- Co-mingled automated cart systems collect 30-35% more recyclables and collect 15-20% less garbage, thereby increasing waste diversion.
- Higher customer satisfaction and fewer complaints from residents, reducing resources spent correcting problems and conciliating complainants.
- No need to purchase blue bags for recycling or yard waste bags, saving residents upwards of $40 per year.
- Cost of recycling processing likely to go down because no de-bagging required.
- Carts have expected 10 -20 year life cycle.
- Carts keep products contained, reducing litter.
- Carts are stable so can can't be blown over and lids are attached so no blown away lids.
- Carts are animal resistant; hence no vector strewn materials.
- Less plastic waste disposed in landfills (500 tonnes annually).

- Decreased operating costs:
    - Reduced employee absenteeism
    - Reduced WCB costs and health benefits
    - Fewer employees resulting in less wages and benefits
    - Less time and resources spent recruiting and retaining employees
    - No need to hire seasonal staff for yard waste collection and de-bagging
    - Fewer complaints and costs to correct missed collections and to administer program
    - Less plastic bag waste at processor, decreasing cost of processing recyclables.
    - Less fuel consumption

The disadvantages of an automated collection system include:

- Increased capital costs:
    - Trucks are almost twice as expensive as manual collection trucks.
- Increased maintenance costs (arm maintenance).
- Increased education costs and resources to manage system change in first year of the program.
- Cost of carts – would have to be included on utility bill and/or taxes.
- May be space limitations in homes for three carts.
- May be space limitations in lanes and small cul-de-sacs.
- Long roadways may be problematic for curbside collection in rural areas.

THE COSTS

Although it is impossible to get a detailed assessment of costs, rates from other contracts and conversations with local haulers indicate that the cost of garbage yard waste and recycling collection will be virtually identical to manual collection. [Note: the costs of manual collection have risen dramatically since 2003, when the last waste collection contracts were written. Wages, which comprise one third of the costs of operation, have increased 25-30% and fuel costs have doubled.]

Collection:

The cost for garbage, yard waste and recycling collection and processing presently is approximately $105 per household. It is expected that the cost of manual collection will increase 20-25% for 2008; therefore, the cost of either a manual or automated collection system would increase to $130 per household.

Carts:

The cost of the carts is approximately $75 per cart (delivery and administration included). Assuming that each household will require two or three carts and will have to be financed and amortized over 10 years, the cost to residents will be $28-36 per year.

Combined Costs:

The combined costs to residents would therefore be approximately $166 per household. This rate would be comparable to other communities' rates (i.e., Kamloops - $149 (no yard waste collection), Vancouver $171, West Vancouver $166, Port Moody - $179, Port Coquitlam - $181).

Note:

1. Local haulers have reviewed the above financial assumptions and suggested that they were elevated and that real costs under the bid process for carts and service would likely be lower.
2. Residents will not have to purchase plastic bags for recyling or yard waste collection, savings upwards of $40 per year.