

DATE February 22, 2013**REFERENCE No.** 1314420001-003-TM-Rev0**TO** Russ Smith, Anke Bergner
Capital Regional District**FROM** Sarah Wilmot**EMAIL** sarah_wilmot@golder.com**THE 3RD R: RECYCLING -
COLLECTION SERVICES AND END USES (INCLUDING GARBAGE, RECYCLING AND COMPOST)****INTRODUCTION**

The first two R's of the waste management hierarchy were addressed in the first technical memo and discussed by the Public and Technical Advisory Committee (PTAC) on January 24, 2013. This memo deals primarily with the next step in the hierarchy: recycling. In order to provide a comprehensive view of collection services provided to residents and businesses in the Capital Region it includes the topic of garbage collection despite the fact that the CRD does not have the authority to directly provide collection services. The information and options below are for consideration at the February 28, 2013 meeting of the PTAC. This memo is intended to stimulate discussion both at the meeting and online (before and after the meeting).

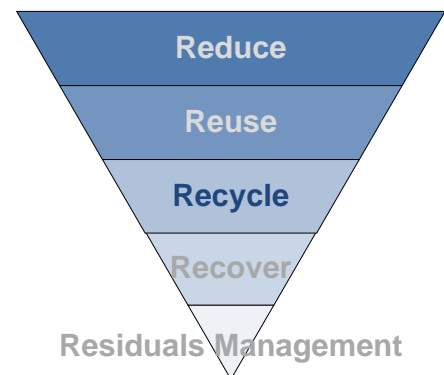


Figure 1: Waste Management Hierarchy

The structure of the memo follows the three main material streams:

- Garbage;
- Recyclables; and
- Organics (kitchen scraps and yard waste).

For each material stream, we present background information from the Stage 1 report, issues and challenges from the Issues Memo, and a range of options for consideration.

As at the last meeting, few of the options require “either/or” feedback. Strategies and practices related to collection and end uses of garbage, recyclables and organic waste are well established in the region and are believed to be well accepted. At the meeting, the PTAC will be asked to review the information presented in this memo, and to provide input on the general direction and options.



1.0 GARBAGE

1.1 Current Garbage Collection Practices

Garbage collection services in the Capital Region are well established and are provided by both public and private sector service providers. The CRD is not directly involved in garbage collection.

The provision of garbage collection to **single family households** is either a municipal service, as in the case Esquimalt, Oak Bay, Saanich, Sidney, Victoria and View Royal, or is managed directly by the homeowner through a private subscription service with a hauler. Municipal services are provided by either municipally-employed crews or by a contractor hired by the municipality. In areas without municipal garbage collection, residents must bring their garbage to a local disposal facility (a transfer station or Hartland Landfill), or they can hire a private garbage collection service on a subscription basis. All municipal collection programs limit the quantity of garbage that can be set out for collection to the equivalent of one can/bag per week. Additional bags are only collected if residents purchase and attach garbage tags. This is known as a *user pay* collection system. Municipal collection programs typically also prohibit the inclusion of materials banned from disposal at Hartland Landfill. Households using private garbage collection services are on a full user-pay system.

Municipalities typically do not provide collection services to **multi-family buildings**, with the exception of some small multi-family dwellings that can be serviced with the same equipment as single-family residences. For the purposes of this memo, those small multi-family dwellings are considered to be single-family residences. Large multi-family buildings are considered to be part of the institutional, commercial and industrial (ICI) sector.

The **ICI sector** contracts privately for collection of garbage. A number of private service providers offer a range of services.

1.2 Current End Uses for Garbage

All putrescible municipal solid waste generated in the Capital Region is disposed of at Hartland Landfill. Some non-putrescible waste from construction, demolition and other activities is disposed of at the privately owned Tervita Landfill or shipped out of region. The operation of these facilities will be discussed in greater detail in a future memo on residuals management options.

1.3 Garbage Issues & Challenges

The Stage 1 Issues Memo did not identify any issues related to garbage collection or any issues related to the disposal (end use) of municipal solid waste. Anecdotally, residents moving from one municipality to another have reported being confused about who to contact for collection services and the different types of services offered (e.g. backyard versus curbside pick-up, collection containers, and quantity limitations).

1.4 Potential Garbage Collection Options

- 1) **Work with municipalities to standardize single-family garbage collection services.** This would reduce resident confusion and streamline education efforts. It would require municipalities to agree on a standard level of service. As the services vary substantially this may be difficult to achieve, and the CRD has no control over how municipalities deliver these services. However, the CRD could play a facilitation role if the municipalities initiated a harmonization effort.

- 2) **Maintain user pay model.** This option would see no change to how garbage is collected from single-family residences; including this statement would require any municipalities that initiate a collection program in the future to follow suit.
- 3) **Implement regional can limits.** This option would ensure that the maximum weekly collection did not exceed standard (region-wide) amounts, e.g. 100 litres. The CRD could work with the municipalities to reach agreement on can limits just like the user pay model. Residents would still have the option to purchase occasional use “tag-a-bag” stickers or to haul additional waste to a disposal facility.
- 4) **Expand services to areas not currently serviced.** This option would see the CRD take on the local government function for garbage collection in some or all electoral areas, following the principles of user pay and/or can limits. (Note: the CRD does provide that service at the Port Renfrew transfer station.)
- 5) **Continue to have multi-family and ICI sectors serviced by private sectors collectors** (inherently user pay at a building/customer scale). No change from current practice.
- 6) **Encourage municipalities to offer garbage collection services to multi-family buildings and commercial generators.** This is the practice in the District of North Vancouver; the District effectively competes with the private sector.

1.5 Potential Garbage End Use Options

For the timeframe of the ISWRMP, the CRD has no plans to change current disposal practices for municipal solid waste. Hartland Landfill and the Tervita Landfill are expected to continue to provide disposal services within the region. The CRD is continually looking at ways to maximize landfill life and investigating innovative approaches to waste management, such as waste segregation facilities, waste to energy processes or other resource recovery methods. These will be the topics of future memos.

2.0 RECYCLING

2.1 Current Recycling Collection Practices

Since 1989, the CRD has been the service provider for **single-family** residential curbside recycling. The CRD provides biweekly blue box and blue bag curbside collection services to all single-family homes in the CRD, except those in the electoral areas where funding is provided to non-profit recycling societies to provide an equivalent level of service. The CRD recycling program collects paper products, rigid plastic packaging, metal cans, foil and foil plates, glass bottles and jars, and polycoated containers. Approximately 19,500 tonnes of recyclable material is collected through the curbside collection program each year. Recycling services for the single-family residential sector will be evolving in response to the new provincially legislated, producer/consumer funded, product stewardship program for packaging and printed paper which will take effect on May 19, 2014.¹

The CRD supports the provision of recycling collection in **multi-family buildings** by providing funding to apartment owners and managers to help pay for private collection services. To qualify for funding, the building must provide collection of the same types of recyclable materials that are collected through the single-family curbside program. The CRD has also provided tote bags, brochures and decals. The CRD’s other activities that

¹ See <http://www.env.gov.bc.ca/epd/recycling/pack/index.htm> and <http://multimaterialbc.ca/> for more details on this upcoming program

support multi-family recycling includes bans on the disposal of recyclable materials at Hartland Landfill, and education on the 3Rs. As with the single family sector, the recycling services for the multi-family residential sectors will be evolving in response to the new product stewardship program for packaging and printed paper.

Recycling collection for the **ICI sector** is well established and is provided by private sector service providers. The CRD's disposal bans provide the incentive for the ICI sector to have their recyclables collected or to bring them to a public or private recycling depot. The ICI sector will not be included in the first phase of the packaging and printed paper product stewardship program.

2.2 Current End Uses for Recyclables

Recyclable materials collected by the CRD's contractor and the private sector are marketed to private processing companies. These companies in turn sell the sorted materials on global commodity markets. These markets are not influenced by the CRD.

2.3 Recycling Issues & Challenges

The top challenges (as identified in Stage 1 issues memo) related to **single-family recyclables collection** are:

- **Multiplicity of Collection Service Providers.** As described above, the CRD provides the recycling collection services, while the municipalities and/or private operators provide garbage collection and organics collection. This can create confusion or frustration for residents regarding whom to contact regarding collection services, and also limits opportunities for standardized waste management education.
- **Need for Increased Curbside Recycling Collection.** It is estimated that 13% of waste from the single family residential sector consists of materials that could be recycled via the existing curbside program.

The top challenges (as identified in Stage 1 Issues Memo) related to **multi-family recyclables collection** are:

- **Unknown Effectiveness of Waste Reduction and Diversion Efforts in Multi-Family Sector.** There is minimal data available on the quantity of garbage and recycling generated by residents living in multi-family buildings, so it is not clear how effective current recycling initiatives are for this sector. This issue will be covered in more detail in a future memo as part of the discussion on monitoring and measurement.

The top challenges (as identified in Stage 1 Issues Memo) related to **ICI collection** are:

- **Need for Increased Diversion of ICI Waste.** An estimated 10% of waste from the ICI sector is recyclable paper even though paper and cardboard are banned from disposal. The challenge is the need to improve diversion of ICI waste to maximize diversion from this sector.
- **Incomplete ICI Data.** There is incomplete data on the quantity of ICI waste collected, recycled and disposed in the CRD. Because of this, the actual diversion rate in the CRD cannot be calculated and it will be difficult to assess the impact of future programs and policies that target these sectors. This issue will be covered in more detail in a future memo as part of the discussion on monitoring and measurement.

- **Lack of Capacity to Track Waste Managed by the Private Sector.** The collection of this type of data is difficult because many private sector waste businesses consider this type of data to be proprietary information and some businesses do not track their material flows in tonnes (the most common unit of data collection). This issue will be covered in more detail in a future memo as part of the discussion on monitoring and measurement.

The Stage 1 Issues Memo identified the following issues related to the end use of recyclables:

- **Film Plastic Contamination.** There is a limited market for post-consumer film plastic due to high levels of contamination, such as food waste left inside bags and biodegradable and compostable plastic shopping bags which are not recyclable and are very difficult to visually distinguish from recyclable plastic.
- **Limited Market for Post-consumer Glass.** There is a limited market for post-consumer glass in BC. On Vancouver Island, most glass collected in recycling depots and through curbside programs is crushed and stockpiled for use as aggregate.

2.4 Recycling Collection Options

In 2011, the British Columbia Recycling Regulation was amended to include packaging and printed paper (PPP) which covers all materials currently collected in the CRD blue box program plus additional recyclables. Multi-Material British Columbia (MMBC), the not-for-profit agency representing a large number of the producers of these materials, will be responsible for their end of life management effective May 2014. MMBC will be offering a funding mechanism called the *market clearing price* to organizations that currently provide PPP collection services to single family households (such as the CRD). This price will allow the CRD to determine if the proposed funding reflects their true costs to collect PPP, and will inform the CRD's decision about choosing to continue providing the service. The decision will be made by the CRD Board prior to the implementation of the ISWRMP. Due to the current uncertainty about who will provide residential recycling services, the options for discussion are limited.

- 7) Work with MMBC to ensure single and multi-family residential recycling services meet expected levels of service in urban, suburban and rural areas.
 - a) **Make decision regarding ongoing provision of service** to single family households, once market clearing price is known.
 - b) **Facilitate the development of depots** to collect materials not covered by MMBC's curbside collection protocol and materials from the multi-family sector.
 - c) **Advocate for the extension of PPP EPR to the ICI sector.** The regulation currently only applies to the residential sector, including multi-family. This would create a level playing field.
- 8) Draft model policies and bylaws that would facilitate increased recycling in multi-family buildings and businesses:
 - a) **Require new multi-family buildings to allocate space for recycling**, both in suite and centralized (needs municipal involvement). Example: Bellevue (WA), Richmond (BC), Metro Vancouver (model

bylaw:

<http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/MFC.aspx>).

- b) **Develop a model bylaw and enforcement model to require recycling in multi-family buildings.** Implementation would be at the municipal level. Examples: Metro Vancouver, Metro Portland.
- c) Require solid waste management reporting by each multi-family and ICI building once waste services in place to facilitate data tracking.

2.5 Recycling End Use Options

The CRD has no plans to change current end uses for recyclables.

3.0 ORGANIC WASTE

3.1 Current Organic Waste Collection Practices

The organic waste collection system is emerging in response to the CRD's Regional Kitchen Scraps Strategy, which includes a ban on the disposal of organic waste as of January 1, 2015.² The CRD has banned the disposal of yard waste since 2006.³ The CRD tested various methods for collecting kitchen scraps from single-family households through a pilot program. Many municipalities are well advanced in terms of delivering or planning for organic waste collection services from single-family households.⁴

There are a variety of **yard waste** collection approaches in the CRD: Sidney provides a monthly collection service, and Oak Bay and Saanich provide annual collection services. The District of Saanich will be providing co-collection of yard waste with kitchen scraps to single-family residences beginning in 2014. The municipalities of Esquimalt, North Saanich, Oak Bay, Saanich, Victoria and View Royal provide yard waste drop off depots, as does the CRD at Hartland Landfill. In addition, there are several private yard waste drop-off locations within the CRD.

Municipal **kitchen scraps** collection services are growing in availability and the six municipalities that provide garbage collection either already provide kitchen scraps collection, or will make arrangements before January 2015. In areas without municipal garbage collection private subscription services are available for the collection of kitchen scraps or combined kitchen scraps/yard waste or residents may use onsite composters or digesters.

The upcoming ban on the disposal of kitchen scraps will drive the **ICI and multi-family sectors** to subscribe to private sector kitchen scraps collection services.⁵

² See the full strategy at: <http://www.crd.bc.ca/waste/organics/kitchen-scraps.htm>

³ See <http://www.crd.bc.ca/waste/organics/yardwasteoptions.htm>

⁴ See http://www.crd.bc.ca/waste/organics/documents/Chart_KitchenScraps.pdf for a complete listing of all municipalities and their plans for kitchen scraps collection

⁵ The CRD estimates that 2000 businesses already subscribe to separate collection of kitchen scraps (<http://www.crd.bc.ca/waste/organics/scraps-strategy2012.htm>)

3.2 Current Organic Waste End Uses

In terms of organic waste processing, the CRD's current role is one of facilitator; its goal is to create conditions favourable for the growth of an organics management industry that is led by the private sector. Organics management could take the form of composting, anaerobic digestion or both. Numerous studies have been conducted evaluating the economic, environmental and social impacts of composting and anaerobic digestion, and the CRD has worked closely with municipalities and industry to facilitate the development of local organics processing capacity.

The CRD's main role with respect to handling and processing organic waste currently is to regulate private facilities, rather than operating or contracting operations. Currently (as an interim measure to support the upcoming ban on the disposal of kitchen scraps), the CRD accepts loads of kitchen scraps at approved transfer stations (including Hartland Landfill) and contracts for the material to be transferred to Foundation Organics in Central Saanich. Foundation Organics is the only licensed in-vessel composting facility in the CRD.

In 2005, the Province approved the CRD's Bylaw to Regulate the Operation of Composting Facilities. The purpose of the Composting Bylaw is to ensure that composting operations do not contaminate ground or surface water, or generate unacceptable levels of nuisance odour, vectors, litter or dust, and to protect the public from composting operations, which violate the requirements of the bylaw. The bylaw supplements existing provincial regulations under the Organic Matter Recycling Regulation (OMRR). The bylaw also deals with issues related to inspection, enforcement, storage and abandonment of materials.

3.3 Organic Waste Issues & Challenges

There are a number of challenges identified in the Stage 1 Issues Memo related to organic waste. Note that many of the challenges were identified during interviews with stakeholders and feedback from the public before the CRD's Regional Kitchen Scraps Strategy was in place. The strategy addresses many of these challenges.

- **Levels of Satisfaction** Respondents to the Stage 1 on-line feedback forms indicate a low level of satisfaction with organic waste collection services. Note: This will likely change as municipalities implement organics collection programs in preparation for the 2015 disposal ban.
- **Limited Local Capacity for Processing Kitchen Waste.** There is currently one facility in the CRD licensed to accept kitchen scraps, and the facility has the capacity to accept a total of 10,000 tonnes per year of a variety of organic wastes. There appear to be challenges to establishing new composting facilities in the region due to land use zoning, high capital costs and other issues. As the disposal ban is rolled out, additional processing capacity will be required. It is anticipated that the disposal ban will encourage the development of additional capacity.
- **Planning.** Plans for organic waste collection and the target date for banning the disposal of kitchen scraps have changed over the past several years. This has made it difficult for businesses to establish or expand services related to organic waste management, and has delayed the roll out of municipal kitchen scraps collection programs. If the plans remain unchanged, this challenge will be mitigated.
- **Implications of 2015 Ban.** Finding ways to comply with the ban is a challenge in areas without municipal collection programs and for the multi-family and ICI sectors. The challenge for the CRD will be in terms of enforcing the ban.

- **Need for Long-Term Commitment.** Private sector composting companies prefer contracts that are long enough to minimize risk their financial risk. The challenge will be for municipalities and private sector haulers once the CRD's interim role as transfer operator is complete.
- **Sourcing Feedstocks for Processing.** Due to the anticipated increase in the amount of food waste collected, there may be a challenge with sourcing carbon rich materials (such as yard waste) to balance the composting process. This will be a challenge for the facility operators, since most municipalities are not planning to offer combined food and yard waste collection.

3.4 Organic Waste Collection Options

In 2012, the CRD Board approved a phased kitchen scraps strategy for the region which includes a financial incentive for source separated kitchen scraps loads in 2013 and 2014 and a surcharge in 2014 for garbage loads containing kitchen scraps. Kitchen scraps will be banned from disposal at Hartland landfill as of January 1, 2015. The CRD is also offering interested municipalities the opportunity to participate in an interim processing contract for the kitchen scraps, until December 2014. As mentioned above, many of the issues identified in the Issues Memo are being addressed by the new CRD strategy.

- 1) **Work with municipalities to standardize kitchen scraps collection services to single-family residences.** This option would require municipalities to agree on a standard level of service. As the services vary substantially now, this may be difficult to achieve. However, it would reduce resident confusion and streamline education efforts.
- 2) **Continue private sector service provision to multi-family buildings and ICI generators.** No change from current practice.
- 3) **Facilitate the development of food waste drop off locations for multi-family generators** (e.g. Food Scraps Drop Spots in Vancouver <http://foodscrapsdropspot.tumblr.com/>).
- 4) **Provide kitchen scraps collection program through regional contractor** to all commercial generators in areas currently serviced by CRD's blue box program (including institutions like schools, churches, clinics, care facilities, etc.).
- 5) **Facilitate the distribution of onsite digesters** in areas without kitchen scraps curbside collection. This is currently being investigated by staff.
- 6) **Mandate that private kitchen scraps services for multi-family and ICI generators must cost less than garbage collection**, e.g. Metro Portland.
- 7) **Require solid waste management reporting by each multi-family and ICI building** once waste services in place to facilitate data tracking.
- 8) **Continue to ban disposal of yard and garden waste.** No change to current policy.
- 9) **Continue to operate yard and garden waste drop-off service at Hartland Landfill.** No change to current practice.
- 10) **Facilitate the ongoing operation of yard waste drop off sites elsewhere in the region (seasonal or year-round).** These facilities include those operated by municipalities and the private sector.

- 11) **Work with municipalities to enact standardized bylaws banning the burning of yard waste and develop bylaws for electoral areas.**
- 12) **Work with municipalities to standardize yard waste collection services.** This option would require municipalities to agree on a standard level of service. As the services vary substantially now, this may be difficult to achieve. However, it would reduce resident confusion and streamline education efforts.
- 13) **Work with municipalities to provide yard waste feedstock to kitchen scraps processors.**

3.5 Organic Waste End Use Options

- 1) **Review the composting bylaw** as required
- 2) **Work with local municipalities to ensure that appropriately zoned sites are available.** Zoning issues will be addressed in a future memo.

Closure

We trust that the information contained in this memorandum meets your present requirements. Please contact us if you have any questions or concerns regarding the above.

GOLDER ASSOCIATES LTD.

Sarah Wilmot, M.Sc., MCIP, RPP
Senior Planner

Michael Cant, B.A.
Principal, Canadian Waste Sector Leader

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