

**TO:** Larry Gardner  
Manager, Solid Waste Services

**DATE:** April 10, 2015

**MEETING:** RSWAC April 16, 2015

**FROM:** Sharon Horsburgh  
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**FILE:** 5365-00

**SUBJECT:** The 3R – Recycling and End Uses

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## RECOMMENDATION

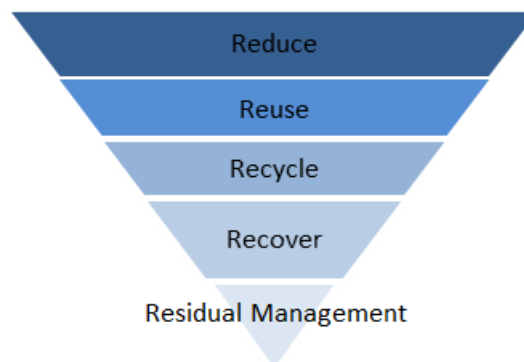
That the Regional Solid Waste Advisory Committee (RSWAC) receive this report for information as part of the 2015 Solid Waste Management Review Process.

## PURPOSE

The following presentation of options related to recycling and end uses is intended to stimulate discussion on future options for consideration during the Solid Waste Management Plan Review Process. These options are presented for consideration by the RSWAC.

## BACKGROUND

The options presented address the 3 R in the hierarchy: Recycling. An overview of collection services that are available to residents and businesses follow the three main material streams: Garbage, Recyclables; and Organics (food waste and yard waste).



*Figure 1: Waste Management Hierarchy*

All single-family homes in the Regional District of Nanaimo (RDN) (approximately 53,500 homes) receive curbside collection of garbage, recyclables and kitchen scraps (food waste and compostable paper). Within the City of Nanaimo, the City's in-house staff collects garbage and food waste scraps and a contractor collects the recyclables. In the RDN service area, which include the Electoral Areas plus the municipalities of Lantzville, Parksville and Qualicum Beach curbside collection services are provided through a contractor, with the exception of the Town of Qualicum Beach where garbage is collected by the Town.

Curbside garbage and recycling for all single-family homes has been in place since 1989; the collection of kitchen scraps was fully implemented by 2011. In 2012, each household set out an average of 400 kg of discards, of which roughly 60% were diverted to recycling or composting.

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. The RSWAC will be asked to review the information presented in this memo, and to provide input on the general direction and options

## **GARBAGE**

### ***Current Residential Garbage Collection Practices***

Garbage collection services in the RDN are provided by both public and private sector service providers. Collection of residential waste at the curb is a mandatory service provided to single family type homes throughout the region. The RDN under contract to Progressive Waste Solutions collects waste from residential customers in the Electoral Areas, and the municipalities of Lantzville and Parksville. The Town of Qualicum Beach conducts garbage collection services for their residential customers. City of Nanaimo residents receive collection from City staff.

Municipal collection programs limit the quantity of garbage that can be set out for collection to one can limit every two weeks. Additional cans are only collected if residents attach a garbage tag that can be purchased for \$2 in the RDN and \$3 in the City of Nanaimo. An additional garbage tag purchase supports the RDN's user pay collection system. Municipal collection programs also prohibit the inclusion of materials banned from disposal at the Regional Landfill.

Residential curbside collection is funded through Utility Fees, not property taxes.

### ***Private Sector collection***

The provision of garbage collection to the commercial sector is conducted by private sector haulers.

The RDN and member municipalities typically do not provide collection services to multi-family buildings, with the exception of townhouse small multi-family dwellings that can be serviced with the same equipment as single-family residences in the RDN. For the purposes of this memo, those small multi-family dwellings are considered to be single-family residences. Large multi-family buildings, such as apartments and strata housing (particularly in the City of Nanaimo) 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.

### ***Current End Uses for Garbage***

Municipal garbage collection, self-haul residential and commercial customers primarily bring their garbage to a local disposal facility (either the CRTS or the Regional Landfill).

Most of the municipal solid waste generated in the RDN is disposed of at the Regional Landfill. Some waste from construction, demolition and other activities is processed as hog fuel at private locally managed facilities. Residue materials are disposed of either at the Regional Landfill or shipped out of region. The operation of private facilities will be discussed in greater detail in a future memo on residuals management options.

### ***Garbage Issues and 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 areas outside of the district have reported confusion regarding different types of services offered (e.g backyard composting versus curbside pick-up, food waste collection and no yard waste collection, and quantity limitations).

### ***Potential Garbage Collection Options***

1. Maintain the utility payment model that is part of the regional user pay model. This option would see no change to how the curbside food waste, recycling and garbage fees are collected from single-family residences.
2. Continue to have multi-family and ICI sectors serviced by private sector collectors (inherently user pay at a building/customer scale). No change from current practice.
3. 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.

### ***Potential Garbage End Use Options***

For the timeframe of the SWMP review, the RDN does not plan to change current disposal practices for municipal solid waste. The Regional Landfill and private licensed facilities are expected to continue to provide disposal services within the region. The RDN is continually looking at ways to maximize efficiencies and the life of the landfill as well as 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.

## **RECYCLING**

### ***Current Recycling Collection Practices***

#### *Public sector collection*

Since 1989, the RDN and the City of Nanaimo have been the service providers for single-family residential curbside recycling. Approximately 6,500 tonnes of recyclable material is collected through the curbside collection program each year. In 2014, recycling services for the single-family residential sector was transferred to Multi Materials BC in response to the new provincially legislated, producer/consumer funded, product stewardship program for packaging and printed paper. Both the RDN and City of Nanaimo continue to provide curbside collection of recycling but under new contractual relationships with MMBC.

### *Private sector collection*

As with residential garbage collection, recycling collection from multi-family and the ICI sector is not provided through municipal services. The RDN works collaboratively with the private hauling community and multi-family building owners to assist to provide recycling collection educational support in the form of brochures and decals. The RDN's other activities that support multi-family recycling includes bans on the disposal of recyclable materials at Regional facilities, and education on the Zero Waste programs

### *Collection Recyclables*

Curbside blue box materials are collected in a vehicle with two compartments, keeping recyclables separate from Green Bin materials.

### *Processing and Consolidation*

Recyclable materials collected from the Regional curbside recycling programs and the commercial sector are sorted and processed at local Multi Material recycling facilities. These products are sold on global commodity markets.

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

- i. **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.
- ii. **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 (where provided) is crushed and stockpiled for use as aggregate.

The top challenges identified in the Stage 1 Issues Memo as they relate to residential recycling collection are:

- i. **No single service provider of recycling collection services to the multi-family housing sector.** This can create confusion or frustration for Multi Family residents regarding whom to contact regarding collection services, and also limits opportunities for standardized waste management education.
- ii. **Unknown effectiveness of waste reduction and diversion efforts in the multi-family sector** as there is minimal data available on the quantity of garbage and recycling generated by residents living in multi-family buildings, so it is unclear how effective current recycling initiatives are for this sector.
- iii. **Need for increased diversion of ICI waste.** An estimated 15% 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.

### *Recycling Collection Options*

In 2011, the British Columbia Recycling Regulation was amended to include packaging and printed paper (PPP) in a province-wide stewardship program. Since May 2014, Multi-Material British Columbia (MMBC), the not-for-profit agency representing a large number of the producers of these materials, is responsible for collection and end of life management of PPP materials. The majority of these materials are collected in the RDN curbside program, with additional recyclables accepted at depots only. Both the City of Nanaimo and RDN receive financial incentives to collect PPP on behalf of MMBC; the funds receive are used to offset the costs to provide respective collection programs.

To support the Multi Family recycling efforts the RDN may wish to continue monitoring multi-family recycling services to determine service levels and review the potential to introduce the following items:

1. 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 are in place to facilitate data tracking.

### **FOOD WASTE COLLECTION PROGRAM**

Organic wastes in the realm of Municipal Solid Waste are typically made up of pre and post-consumer food scraps, and yard and garden waste. In 2005, the RDN introduced a ban to prohibit pre-consumer commercial food waste and the disposal of yard waste.

There is no public sector curbside collection for yard and garden waste within the region. However, there are private collection services, and City of Parksville and the Town of Qualicum Beach offer seasonal chipping programs for their residents. For those needing to self-haul yard waste for disposal the Regional Landfill and Church Road Transfer Station accept it for recycling. Currently, the RDN funds the processing of the yard waste drop off at the Nanaimo Recycling Exchange. In addition, there are several private yard waste drop-off locations within the RDN. (Please see Appendix 1)

#### *Public sector collection*

Following a successful pilot program which commenced in 2007, the region-wide Green Bin program was introduced in 2010 for the collection of residential food waste. This material is collected weekly at the curb.

#### *Private sector collection*

As with residential garbage and recycling collection, food waste collection from multi-family sector is not provided through municipal services. The expansion of the single-family curbside program to include

food waste collection has driven some within the multi-family sector to subscribe to private sector food waste collection services. The RDN works collaboratively with the private hauling community and multi-family building owners to assist to provide food waste collection educational support in the form of brochures and decals.

In June 2005, the Regional District of Nanaimo banned food and organic waste from commercial and institutional sources from disposal at the Regional Landfill. The Commercial Food Waste Disposal Ban is contained in Bylaw 1531.

This ban applies to any commercial or institutional operation that sells or produces food, such as restaurants, grocery retailers, grocery wholesalers, and educational and health care facilities, is prohibited from disposing of food waste in their regular waste stream.

#### *Current Organic Waste End Uses*

Food waste and other acceptable household compostable waste collected in the RDN are taken to Nanaimo Organic Waste's processing facility, located at Duke Point in Nanaimo. The fully enclosed plant uses organic material including yard and garden waste, and household and commercial food waste. These materials are mixed and composted using an aerobic, in-vessel process that generates sufficient heat to kill pathogens. The finished products include compost, fertilizers, and soil amendments, all of which meet the BC Organic Matter Recycling Regulation.

In terms of organic waste processing, the RDN has a five year contract with Nanaimo Organic Waste. The RDN's goal is to create conditions favorable for the growth of organics diversion. Organics management at Nanaimo Organic Waste (NOW) located in Duke Point takes the form of in-vessel aerobic composting. There are numerous studies that have been conducted evaluating the economic, environmental and social impacts of composting and the RDN has worked collaboratively with member municipalities and the commercial sector to facilitate development organics diversion programs. The RDN's commercial organics ban has furthered the market development of composting as a waste management treatment.

The RDN's main role with respect to handling and processing organic waste currently is to regulate private facilities, rather than operating or contracting operations. As a measure to support the commercial organics ban on pre consumer food waste, the RDN accepts loads of organics at the Church Road transfer station. This material is transferred to NOW, which is the only licensed in-vessel composting facility that can accept food waste for composting in the RDN.

In 2005, the Province approved the RDN's Waste Stream Management Licensing (WSML) Bylaw that regulates facilities managing Municipal Solid Waste and this includes Composting Facilities. The purpose of the WSML 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, in the event they 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.

#### *Food Waste Issues and Challenges*

There are a number of challenges identified in the Stage 1 Issues Memo related to organic waste. The organics strategy was developed in 2004 and it should be updated to reflect new challenges.

During stakeholders meetings and from the survey feedback indicates a high level of satisfaction with the curbside food waste collection service. However, there are more challenges in the commercial sector where the RDN has limited influence. Challenges include:

1. Implications of the commercial food waste ban is presenting enforcement challenges for RDN staff that is due to high turnover of staff in the food sector.
2. Difficult to enforce bans when there is the threat of waste export. Enforcement may cause haulers to use facilities that have the capacity to export waste out of district.
3. Bans are a challenge in areas without public sector regulation of private collection programs.
4. Implementing food waste collection in the multi-family sector is a challenge without some form Regional flow management. Flow management would allow the RDN to enforce material bans.
5. A flow management strategy would assist in maintaining private Sector recycling infrastructure as this could minimize financial risk to operators and potentially ensure recyclable materials stay in the region.
6. Due to decreasing enforcement the anticipated increase in the amount of food waste collected from the commercial sector has diminished.

#### *Food Waste Collection – Future Considerations for Review*

In 2011, the roll out of the Region-wide residential food waste collection program was completed. What has been identified through consultation are the following items for consideration as part of the Solid Waste Plan review:

1. Increasing the material bans at the Regional landfill to include food waste from the residential sector & the multi family sector
2. Increasing enforcement of the pre-consumer commercial organics
3. Expanding the scope of the current commercial organics ban to include commercial post-consumer organics
4. Review the use of compostable bags in the residential program
5. Offer drop off of organics at the Regional landfill
6. Continue to encourage and support multi-family buildings to implement food waste collection
7. Facilitate the development of food waste drop off locations for multi-family generators (e.g. food scraps drop spots in Vancouver <http://foodcrapsdropspot.tumblr.com/>)
8. Facilitate the distribution of onsite digesters for MF buildings
9. Consider mandating private food waste services for multi-family and ICI buildings this will facilitate data tracking and increased diversion options
10. Continue to ban disposal of yard and garden waste. No change to current policy
11. Continue to operate yard and garden waste drop-off service at Regional facilities
12. Work with Electoral Areas to enact standardized bylaws banning the burning of yard waste and develop bylaws for electoral areas
13. Evaluate feasibility of curbside collection of yard waste region wide and/or in urban areas

#### **ALTERNATIVES**

There are no alternatives for this report.

**FINANCIAL IMPLICATIONS**

This report is presented for information only therefore has no financial implications.

**STRATEGIC PLAN IMPLICATIONS**

This report was prepared to provide information to Regional Solid Waste Advisory Committee as part of the Regional District's Solid Waste Management Review Process.

**SUMMARY/CONCLUSIONS**

This technical memorandum is intended to provide a an overview of how the RDN supports recycling and area for future consideration that will continue to support recycling initiatives in the region. New programs will depend on future trends and global commodity markets. This memorandum is intended to stimulate discussion by the RSWAC for the purposes of the RDN SWMP review.

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