



Town of Okotoks 2020 Waste Management Plan



2016 Community Waste Services Implementation Plan



EXECUTIVE SUMMARY

The Town of Okotoks continues to be committed to reducing waste and maximizing the lifespan of the Regional Landfill. Through the implementation of the revised strategies and programs contained within the 2020 Waste Management Plan, approved in principle by Town Council at the December 15, 2014 Town Council Meeting, Okotoks renews its commitment to working towards achieving an 80% waste diversion rate by 2020.

The Town of Okotoks' community wide solid waste stream consists of waste from three sources; residential (single family and multi-family developments - 26% of waste), IC&I (institutional, commercial and industrial facilities - 29% of waste) and C&D (construction and demolition - 45% of waste). The Town has the greatest impact over the residential sector as it owns and operates the utility, however the revised Plan must include progressive IC&I and C&D waste sector strategies to achieve the Plan's target. As the C&D sector is the largest contributor to Okotoks' waste stream, the Town must actively engage the Provincial government to continue to push forward the C&D waste program that is included in Phase Two of the federal government's Canada-wide strategy for Sustainable Extended Producer Responsibility (EPR), targeted for 2017/2018.

Currently the Town is below the 80% waste diversion target, achieving a 2014 waste diversion rate of 38% in the residential sector alone. This sector represents just a quarter of the community's overall waste stream. As waste diversion is calculated by tonnage, this diversion rate is not considerably off the municipal norm in Alberta, as recycling on average has greater volume and less weight than garbage. The removal of organic waste from the garbage stream has the greatest impact on municipal residential waste diversion rates as organic waste (food and yard waste) represents between 42-56% of traditional household garbage. Our current residential waste diversion rate is an indication that the Town must advance our waste management strategies over the next five years to begin to obtain our target.

For the successful implementation of the strategies included within the Plan, the Town must work in collaboration with its regional partners to develop regional waste material processing facilities and programs. The Foothills Regional Services Commission (FRSC) is a fundamental partner in the development and/or securing of long range processing facilities for single source commingled recycling and organic waste material within the region. These partnerships are essential to the long term financial and environmental sustainability of our municipal waste management program.

The following key strategies are detailed within the 2020 Plan:

- Advocate, lead and promote the development of a sub-regional Material Recovery Facility (MRF) located at the Foothills Regional Landfill or alternate central location.
- Revise the existing resource recovery utility to align philosophically with the Town's water utility; a conservation based user pay system.
- Revise the Town of Okotoks utility rates to incent / reward waste diversion from landfill programs (recycling and organic waste).
- Evolve the Town's subscription based Residential Recycling Collection (Blue Cart) Program to a universal residential-wide program.
- Implement a universal residential-wide Organic Waste Collection (Green Cart) Program.
- Implement a bylaw for Multi-Family and the IC&I Sector facilities to provide on-site single source commingled recycling and organic waste collection services.
- Evolve the Recycling Centre into an Eco Centre, providing a 'one stop' location for the recycling and safe disposal of excess and niche materials.
- Evolve all Town-based services (facilities, open space and community events) to include advanced recycling and organic waste diversion options.
- Progress C&D waste management initiatives in alignment with Alberta Environment and Sustainable Resource Development's (AESRD) implementation of their Extended Producer Responsibility Program.

While the Town of Okotoks was a leader within the waste management field in the late 1990s with the operation of one of the first multi-material Recycling Centres in the Calgary region, over the past ten years our waste management program and diversion rate from landfill has been surpassed by many other progressive municipal waste management programs. The leading municipalities within Canada are achieving a 70% community-wide waste diversion rate through a comprehensive suite of waste diversion programs.

If the Town can successfully implement the strategies contained within the 2020 Waste Management Plan, specifically the organic waste diversion programs, the Town will be on course to achieve our residential and IC&I sector targets. In alignment with Alberta Environment and Parks' action plan for C&D Waste in 2018, the Town can begin to further increase the community-wide waste diversion rate and get ever closer to the 80% target.

FUTURE STRATEGIES

With the decision to move toward a continued growth model, it is inevitable that the current voluntary and optional waste diversion services will not be environmentally or financially sustainable into the future. In 2020, the estimated population of the Town of Okotoks will be 34,000 and growing. As population increases, achieving our waste diversion goal of 80% diversion from landfill, through voluntary recycling and education programs alone, will not be achievable. The new waste diversion strategies must be more rigid and farther reaching than voluntary and single family household programs. Outlined below are the expanded strategies employed to assist the Town in achieving our 2020 waste diversion goal.

To achieve our Plan's objectives in the most environmentally and financially sustainable manner, the implementation of local / sub-regional processing facilities for single stream recycling and organic waste is required. The Town, through its regional partnerships, needs to promote the development of sub-regional Material Recovery Facilities (MRF) for the eventual collection, processing and distribution of waste diversion materials. While contracting the collection and processing services through the existing private sector is a viable option in the interim, it may not be an ideal long term financial or environmental solution for waste management due to current private sector tonnage processing rates and/or hauling distances. These partnerships are fundamental to the long term financial and environmental sustainability of our municipal waste management program. The Foothills Regional Services Commission (FRSC) is a vital partner in the development and/or securing of long range processing facilities for single source comingled recycling and organic waste material.

As a result of community growth and constraints on existing Town of Okotoks facilities, there is a need to determine critical next steps in terms of future recycling facilities and community programs in a way that best achieves the Town's continuous path towards sustainability. The most urgent next steps are outlined in the 2016

2016 IMPLEMENTATION PROGRAM

Table 1: 2015 and 2016 Key Implementation Strategies

EVOLVED WASTE MANAGEMENT UTILITY	
Key Strategy: Restructure Rates and Fees with Waste Management Utility Proposed Implementation Year(s): 2015 - 2020	
Description of Target	Target Update
Revise rates and fees to align with the water utility into a consumption based rate structure ('pay as you throw' PAYT / frequency based collection philosophy). To be continuously reviewed as additional requisite programs are introduced over the five years of this Plan.	Implement a pilot PAYT program for garbage collection only, as collection trucks are Town owned and equipped with the required FleetMind Software. (January, 2017). Implementation Requirements: <ul style="list-style-type: none"> • Administration to analyze the ability of FleetMind to accurately speak to our utility/billing system software (2016). • Implement household alley addressing program to assist with PAYT program (2016).
Implement PAYT program in alignment with the introduction of the residential wide blue cart recycling program.	A PAYT program is not possible for recycling or organic waste collection at this time, as collection services are to be contracted and the private sector trucks are not equipped with FleetMind Software.
Recycling Centre / Eco Centre fee be removed as a detailed line item within the utility bill.	Recycling Centre Fee renamed to Environmental Services Fee (January, 2015). Proposed that this fee also be removed as an individual utility bill line item. Implement new utility bill format with roll out of blue and green cart programs. New format to be one waste management/services rate for all single family households. This combined rate to include garbage, recycling and organic waste collection and the environmental services fee (Fall, 2016).
GARBAGE SERVICES	
Key Strategy: Garbage Collection Services for Single Family Households Proposed Implementation Year(s): N/A	
Description of Target	Target Update
Garbage collection services for single family households.	With the proposed implementation of a pilot PAYT program for garbage collection in early 2017, Administration is proposing that residents have the option to not have their garbage (120L cart) collected weekly. Through the PAYT program, residents would see a retroactive waste services rebate fee applied to their Town utility bill (frequency of rebate not determined at this time (i.e. quarterly or annually) (January 2017)).

EXPANDED COMMUNITY RECYCLING STRATEGY

Key Strategy: Work with FRSC to Establish Regional MRF

Proposed Implementation Year(s): 2015

Description of Target	Target Update
FRSC currently completing a feasibility analysis on the development of a MRF / transfer station at the Foothills Regional Landfill or Aldersyde corridor (2014/2015).	Study completed by CHM2Hill in 2014. Town of Okotoks pursuing the concept of a Regional MRF located at the Foothills Regional Landfill with member municipalities of the FRSC. Presentations to Municipal Councils (November & December 2015).

Key Strategy: Implement Universal Recycling Collection Services for Single Family Households

Proposed Implementation Year(s): 2015

Description of Target	2015 / 2016 Target Update
Single stream automated program (240L blue carts) to be provided to all households in the fall of 2015. Requirements to be included in Waste Bylaw revision in early 2015.	Single stream automated recycling program (240L blue carts) to be provided to all households in combined waste diversion program roll-out with single family organic waste program (Fall 2016). Requirements to be included in a new Waste Bylaw (spring/summer 2016).

Key Strategy: Implement Multi-Family On-Site Recycling Collection Requirements.

Proposed Implementation Year(s): 2015 / 2017

Description of Target	2015 / 2016 Target Update
<p>Revise Waste Bylaw in early 2015, to include the following requirements; owners/managers of multi-family premises must provide on-site recycling storage & collection services for their premises by 2017.</p> <p>Multi-family recycling program at minimum to divert the same materials included within the Town's residential-wide recycling collection (Blue Cart) program, from landfill.</p>	Revise Waste Bylaw (12-12) to include the following requirements; owners/managers of multi-family premises must provide on-site recycling storage & collection services for their premises by January 1, 2018 (spring/summer 2016 with Waste Bylaw rewrite).

Key Strategy: Evolution of the Town Of Okotoks Recycling Centre to the Okotoks Eco Centre

Proposed Implementation Year(s): 2015 / 2017

Description of Target	2015 / 2016 Target Update
Facility to evolve into the collection site for more niche recycling items that are not collected within the residential Blue Cart Program (i.e. polystyrene, household hazardous waste (HHW), CFL bulbs, electronics, appliances, etc.). Facility to also provide waste diversion educational services for the community.	<p>HHW program, electronics and appliance collection services added to facility operations in 2015.</p> <p>To assist with the relocation of the Recycling Facility from its existing location to the new building, the launch of the single family universal recycling and organic waste collection program in the fall and the grand opening of the new facilities at the Town's public works yard, the rebranding of the facility into the Okotoks Eco Centre is planned for fall 2016.</p>

EXPANDED COMMUNITY FOOD/ORGANIC WASTE STRATEGY

Key Strategy: Yard Waste Programs

Proposed Implementation Year(s): N/A

Description of Target	2015 / 2016 Target Update
Current Cut n Call Program to continue in existing format (optional service). Yard Waste drop-off site at newly-branded Eco Centre to remain as a self-haul option for residents.	Cut n Call Program to be discontinued (Fall 2016). Yard Waste drop-off site at newly-relocated Recycling Centre to remain as a self-haul option for residents.

Key Strategy: Implement Food/Organic Waste Early Adopters Program

Proposed Implementation Year(s): 2015

Description of Target	2015 / 2016 Target Update
Recycling Centre/Eco Centre to provide organic waste carts for residents/businesses to drop off their food/organic waste for composting. Yard waste not included in program.	Program to continue at Recycling Centre as a food/organic waste composting option for multi-family residents. Program to be discontinued when multi-family on-site food/organic waste collection requirements are implemented (2019).

Key Strategy: Implement Single Family Organic Waste Collection *Pilot* Program

Proposed Implementation Year(s): 2016

Description of Target	2015 / 2016 Target Update
Organic waste carts (green 120L carts with locking lids) to be provided to approximately 500 households in the spring/summer of 2016. Collection of material to be weekly, the same day as garbage & recycling collection. Program to accept yard waste.	Pilot Program proposed to be cancelled as curbside residential organic waste collection programs have been tested and proven successful elsewhere in the region and across Canada. Alternatively, Administration is proposing the implementation of a full universal single family residential organic waste program in the fall of 2016.

Key Strategy: Implement Universal Organic Waste Collection Services for Single Family Homes

Proposed Implementation Year(s): 2017

Description of Target	2015 / 2016 Target Update
If the 2016 pilot program as designed is successful, organic waste collection services to be implemented to all single family households. Alternative program to be implemented if pilot program as designed is unpopular with program participants.	Automated organic waste program (120L green carts and kitchen catchers) to be provided to all households in combined waste diversion program roll-out with single family recycling program (Fall 2016). Requirements to be included in a new Waste Bylaw (spring/summer 2016).

CONSTRUCTION AND DEMOLITION WASTE

Key Strategy: Develop a C&D Waste Management Policy for Town Construction Projects

Proposed Implementation Year(s): 2015

Description of Target	2015 / 2016 Target Update
Development of a minimum 80% construction and demolition waste diversion from landfill policy for Town construction projects.	Currently achieving target through alignment with LEED® Certified Buildings (i.e. Operations Centre). Policy stating 80% target to be developed in 2016.

Key Strategy: Lobby for Advancement in C&D Waste Diversion Requirements

Proposed Implementation Year(s): 2016

Description of Target	2015 / 2016 Target Update
Lobby senior government (Provincial and/or Federal) for a C&D Management Program.	Federal and Provincial C&D Program potentially replaced by the Canada-wide Action Plan for Extended Producer Responsibility (EPR) and the Canada-wide Strategy for Sustainable Packaging Extended Product Responsibility (2015). Continue to work with FRSC to lobby new Provincial and Federal Government on C&D diversion and its relation to Phase 2 of the EPR Program (2016/2017).

Key Strategy: Facilitate The Revision of the C&D Tipping Fees at the Foothills Regional Landfill

Proposed Implementation Year(s): 2016

Description of Target	2015 / 2016 Target Update
Work with FRSC to evolve the fee structure for C&D waste; promoting recycling through reduced recycling fees and increased landfill fees specific to C&D waste.	Begin discussions with FRSC for amendment to tipping fee structure (2016).

RECYCLING CENTRE AND PROCESSING

A. Current Program Status

To continue providing enhanced services to the growing community, the Town is currently redeveloping the existing public works yard. While site redevelopment is vital, the construction of new and the removal of aging infrastructure has negatively impacted the daily functions of the Town's Waste Services Department, particularly operations related to the collection and processing of recyclable material. Currently, the existing Okotoks Recycling Centre serves as a drop-off and processing site for mixed recyclables from a portion of the town's residential sector (single family households not subscribing to the blue cart program and multi-family residents), the commercial, industrial and institutional sectors and residents and business located in the surrounding M.D. of Foothills. The Town has reached the point where expansion of the existing recycling processing facilities is required, however this expansion is not viable long-term at its current location due to a constrained development footprint. In addition to the constrained site, in 2015, due to increased stringency of the Provincial Transportation of Dangerous Goods Regulations, the Okotoks Recycling Centre became the official collection site for household hazardous waste and electronics. While in the interim, this service is compounding site storage issues, this expanded material program aligns with 2020 Waste Management Plan's strategic goal of Okotoks Recycling Centre evolving into an Eco Centre in the long-term, serving as a collection site for materials that would not be accepted in any of the other waste diversion programs streams.

B. Proposed Strategy – A Regional Materials Recovery Facility (MRF)

The Town of Okotoks has an excellent environmental and economic opportunity to build on past progress and evolve its existing waste diversion collection and processing services for the improvement of waste diversion strategies within the entire Foothills' region. There exists a need for a collaborative regional waste management strategy for all municipalities in the sub-region that will provide a consistent and affordable suite of waste management services including; garbage collection and disposal and recycling and organics collection and processing. The collaborative goal of the sub-regional municipalities should be to maximize the diversion of wastes going to the Foothills Regional Landfill, thus extending its operational life and reducing substantial future capital costs for our communities.

The first step in a collaborative regional waste management strategy should be focused on the development of a sub-regional Materials Recovery Facility (MRF). The ideal location for a sub-regional MRF would be on existing lands at the Foothills Regional Landfill site. The intent would be that the Town of Okotoks would move its current standard recycling centre processing operations to the Regional Landfill site and operate a MRF on lands provided by the Foothills Regional Services Commission (FRSC). If the Regional Landfill is not deemed as the ideal site by all members of the FRSC, Okotoks and supportive member municipalities of the FRSC could find another suitable location in the sub-region. With the development of a sub-regional MRF, the existing Okotoks Recycling Centre would evolve into the proposed smaller Eco Centre (located within the Okotoks public works yard), providing the community with an approved/certified drop off location for niche items such as electronics, HHW, appliances, excess grass and leaves etc.

While this collaborative strategy would provide a solution to the Town in the long term, an immediate short term solution is needed to address current issues at the Okotoks Recycling Centre. The Centre currently operates two balers, and one of the balers needs to be replaced immediately as it is frequently breaking down and has long surpassed its life expectancy. The bale weights from this machine have also dropped significantly resulting in a loss efficiency (lighter loads) leading to financial penalties from our buyers. The second baler is smaller and cannot efficiently manage the recycling volumes currently collected (particularly cardboard and plastic).

Benefits of the Proposed 2016 Implementation Program

- Provide single stream recycling processing at a more cost effective rate than the future rate proposed by the private sector (\$150/tonne for processing) (note: beyond the timeframe of the Town’s RMW collection and processing contract).
- Potential to provide the collection of single stream recycling in house (for the Town and/or the sub-region).
- Significant reductions in the environmental impacts associated with final disposal.
- Increase the life of the landfill by diverting more recyclables.

Additional Operational Recommendations

- Replace the two balers with one new baler that is able to manage all the materials collected. This baler would be one component of the proposed future MRF if approved.
- Relocating the baling process to a new facility would also allow the Town to continue to expand its collection program of materials such as Expanded Polystyrene (EPS-Styrofoam) and continue to explore markets for processed glass.

SINGLE FAMILY UNIVERSAL RECYCLING (BLUE CART) & ORGANIC WASTE (GREEN CART) HOUSEHOLD COLLECTION PROGRAM

A. Current Program Status

Table 2: Town of Okotoks average monthly Waste Diversion Statistics for the Single Family Residential Programs from January to June 2015.

Waste Sector	Tonnes	Percentage
Garbage	338.10	59%
Okotoks Recycling Centre	138.10*	24%*
Recycling (RMW)	96.58	17%
Organic / Food Waste	N/A	0%
Total Tonnes Diverted From Landfill	41%	

* The grass, leaves and organic food waste drop-off pilot program material (collected at the Recycling Centre) are represented in the Okotoks Recycling Centre statistic.

In 2014, Council approved the purchase of 9,700 (240L) blue recycling carts. This included the purchase of the 4,700 carts that were rented through our collection contractor Rocky Mountain Waste (RMW), and the purchase of an additional 5,000 new carts. The first 500 new carts were delivered in June 2015 with the final delivery due in October or early November of 2015. The original timing identified within the 2020 Waste Management Plan was to implement a universal single stream recycling collection (blue cart) program in the fall of 2015.

Throughout the year, Administration researched initiatives that would increase waste diversion including surveying residents during the summer months on proposed single family household programs. The results from the survey indicated positive responses for many of the proposed waste diversion programs the Town is considering within the Plan. Universal recycling (blue cart) and organic waste (green cart) programs were well received with 89% and 82% of residents in support of universal household collection programs, respectively. The proposed bi-weekly garbage collection program received 55% of households in support of the more limited collected schedule, while the user/pay system based on frequency of garbage collection, received a response of 64% of households in support.

B. Proposed Implementation Strategy

In Canada, interring municipal waste in landfills has been the primary way of dealing with the production of waste in the past, however landfilling organic materials produces leachate and methane, both of which have substantial adverse negative impacts on the environment. According to the Recycling Council of Alberta (RCA), organic waste represents 52% of residential waste, while other research suggests it could be as high as 62%. Removing food scraps and other organic waste (grass and leaves) from the garbage stream and processing this material through composting is a critical initiative, as it eliminates organic waste sent to the landfill and alternatively produces a regionally processed marketable product. The same RCA study identified that blue box/cart curbside recycling represents 35% of the residential waste stream. Diverting recycling material from the landfill is also a key environmental initiative, as much of this material is reusable when reprocessed into its virgin material. The Town of Okotoks' current subscription based blue cart program has grown significantly since its implementation in 2013 (62% of households subscribed), however a universal residential program could achieve a higher residential diversion rate while lowering the administration and operational costs of the program.

Additional research conducted by the Waste Services Department has indicated that other municipalities in Canada have had tremendous success in increasing their waste diversion after implementing universal household collection programs. Currently, within the 2020 Waste Plan, a universal single family recycling collection (blue cart) program was identified for implementation in 2015, while an organic waste pilot program was identified for implementation in 2016. Administration recommends that the Town move forward with the implementation of the universal household recycling (blue cart) program as soon as possible and recommends that the organic waste pilot program be eliminated and alternatively a full scale universal single family organic waste program be implemented in tandem with the recycling program roll-out in 2016. Through additional research, Administration has determined that an organic waste pilot program would not provide any additional information to Town, as many residential organic waste collection programs have been tested, implemented and proven successful in other municipalities in the region, Province and across the Country.

Administration recommends the implementation of a combined single family universal collection program for recycling and organic waste in the fall of 2016. The implementation program would consist of an automated curbside (or alley) collection service for single stream recyclables (240L blue cart) and organic waste (120L green cart) collection. The efficiencies gained from implementing these universal programs and the expected reduction in garbage to landfill should result in a decrease in the cost for services in the coming year.

Benefits of the Proposed 2016 Implementation Program

- Waste diversion programs will become more convenient and easier for residents. This will drive participation rate and reduction in waste to landfill
- The Town will not be able to achieve its goal of an 80% of waste from landfill by 2020 without the implementation of these key strategies.
- Up to \$13,000 in direct saving from a one-time cart delivery program (14,000 blue and green carts delivered within the same roll-out contract).
- Administration would have the opportunity to design one program and rebrand the current programs.
- Limit the amount and frequency of revisions to the Waste Bylaw.
- Administration would have the opportunity to consult with residents and provide education to the community.
- Cost savings by standardizing the level of services offered to residents.

APPENDIX A

2016 Capital Costs	
Project	Capital Cost
MRF	
Building (45,000 ft ²)	\$3,500,000
Machinery Cost	\$3,375,000
Truck Scale	\$65,000
3 Phase Power	\$185,000
Total	\$7,125,000
Baler	\$550,000
	(-\$550,000 if baler is transferred to MRF as is also included in the above MRF machinery cost)
Organic Waste Program	
Carts	\$380,000
Kitchen Catchers	\$30,000
Marketing Program	\$60,000
Total	\$470,000

* The baler would be needed immediately but would be integrated into the MRF if accepted by Council and the Town of Okotoks regional partners.

APENDIX B

Proposed Fall 2016 Town of Okotoks Waste Management Utility Rate (To be refined after Request for Proposal (RFP) Process)

	Monthly Rate
Combined Waste Services Rate	\$25.54
Includes:	
Environmental Services Fee	\$3.25
Garbage Collection (120L)	\$10.00
Recycling Collection (240L)	\$7.25
Organic Waste Collection (120L)	\$5.04
Note: It is proposed that the organic waste collection service be weekly in the summer months and bi-weekly in the winter months. Pilot PAYT Program for garbage collection to be trialed in January 2017 (rebates to household's combined waste services rate based on frequency of garbage collection).	

APPENDIX C

2015 MUNICIPAL RATE COMPARISONS

Municipality	Service	Monthly Rate
Town of Okotoks (January 1, 2016 Rate) Note: Each service to remain itemized on utility bill.	Combined Total Environmental Services Fee Garbage (120L Cart - Subscription) Recycling (240L Blue Cart) No Household Organic Waste Program	\$20.50 \$3.25 \$10.00 \$7.25
Town of Okotoks (Proposed Fall 2016 Rate) Note: Combined rate to be indicated on utility bill.	Combined Total Environmental Services Fee Garbage (120L Cart) Recycling (240L Blue Cart) Organic Waste (120L Green Cart)	\$25.54 \$3.25 \$10.00 \$7.25 \$5.04
City of Airdrie	Environmental Fee Garbage (Bags) Organic Waste (Green Cart) No Household Recycling Program	\$25.20
Town of Cochrane	Eco Fee Garbage (120L+ Cart) Recycling (240L Blue Cart) No Household Organic Waste Program	\$24.35
Town of Chestermere	Garbage (1 clear bag) Recycling (360L Blue Cart) Organic Waste (240L Green Cart)	\$23.79
City of Edmonton	Eco Centre Fee 22 community recycling drop off facilities Garbage (Bags) Recycling (Blue Bag Collection)	\$40.69
City of Spruce Grove	Eco Centre Fee Garbage (120L Cart) Recycling (Blue Bag Collection) Organic Waste (240L Green Cart)	\$25.25
City of Leduc	Garbage (240L Cart) Recycling (Blue Bag Collection) Organic Waste (240L Green Cart)	\$21.20