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# AGENDA



## REGULAR MEETING AGENDA

Council of the City of Lacombe

Monday, June 15 2020 at 5:00 p.m.

in Council Chambers

| Time | Agenda Item   | Representative      |
|------|---|---------------------|
| 5:00 | <b>1. CALL TO ORDER</b>   |                     |
|      | <b>2. ADOPTION OF AGENDA</b>                                      |                     |
|      | 2.1 Additions   |                     |
|      | 2.2 Deletions   |                     |
|      | 2.3 Reordering  |                     |
|      | <b>3. PRESENTATIONS</b>   |                     |
| 5:00 | 3.1   |                     |
|      | <b>4. PUBLIC HEARINGS</b>   |                     |
|      | <b>5. REQUESTS FOR DECISION</b>                                   |                     |
|      | 5.1 Solid Waste System Review                                     | <i>Dir Thompson</i> |
|      | <b>6. INFORMATION</b>   |                     |
|      | 6.1 Administrative Reports  |                     |
|      | 6.2 Council Mailbox   |                     |
|      | 6.2.a Government of Alberta Memorandum: Seniors & Housing, June 5 |                     |
|      | 6.2.b PRL Board Talk - May 28 2020                                |                     |
|      | 6.3 Commission, Board, Committee Reports and Minutes              |                     |
|      | 6.4 Councillor Reports  |                     |
|      | <b>7. ADOPTION OF MINUTES</b>                                     |                     |
|      | 7.1 June 8, 2020 Regular Council Meeting Minutes                  |                     |
|      | <b>8. NOTICES OF MOTION</b>                                       |                     |
|      | <b>9. IN CAMERA</b>   |                     |
|      | <b>10. ADJOURNMENT</b>  |                     |

**Next Meetings:**

- Monday, June 22, 2020
  - Regular Council Meeting: 5:00 p.m., Council Chambers
- Monday, June 24, 2020
  - Council Committee Meeting (*In Camera*): 1:00 p.m., Council Chambers
- Monday, July 13, 2020
  - Regular Council Meeting: 5:00 p.m., Council Chambers

# REQUEST FOR COUNCIL DECISION



**SUBJECT:** Solid Waste Review Results and Recommendations  
**PREPARED BY:** Jordan Thompson, Director of Operations and Planning  
**PRESENTED BY:** Jordan Thompson, Director of Operations and Planning  
**DATE:** May 11<sup>th</sup>, 2020

FILE: 43/661

## **PURPOSE:**

To present the results of the Solid Waste Review.

## **RECOMMENDED MOTION(S):**

1. THAT Council accepts the City of Lacombe Solid Waste Review – Tetra Tech March 30, 2020 as information and endorses the solid waste review implementation plan.

## **RELATED PRIOR MOTION(S):**

1. THAT Council endorse the Solid Waste Review Request for Proposal (RFP) – May 13, 2019.

## **EXECUTIVE SUMMARY:**

Tetra-Tech completed a comprehensive review of the City's solid waste system with the primary goal to benchmark value for service against that of comparable municipalities, to develop a long-term plan for managing the City's solid waste in a sustainable, fiscally responsible manner, and to engage the public about the future of solid waste collection in Lacombe. Tetra-Tech's report (the Report) outlines their findings, observations, and research on the following key aspects of the City's solid waste system.

- Current solid waste overview (chapter 2)
- Operations (chapters 3, & 6)
- Level of service comparison (chapter 4)
- Benchmarking, and performance indicators (chapters 4, & 7)
- Public engagement (chapter 5)
- Alternative technologies (chapter 8)
- Financial review (chapter 9)

Overall, there are no significant changes recommended to the way the City operates its solid waste system for the residential sector. Tetra-Tech did identify areas of improvement that may affect other sectors (including commercial customers) in the future. In total there are 7 areas of improvement outlined in the Executive Summary and chapter 12 of the Report.

Tetra-Tech's most significant finding was that the City's disposal cost per tonne is much higher than other waste management authorities in the region. This inequity is a major factor in why the City's utility rates are the highest of 6 comparable municipalities benchmarked in the Report (chapter 4, section 4.1.1.2). Tetra-tech also found the LRWSC does not charge a tipping fee to private haulers at the Prentiss transfer station which means they (and their commercial, industrial, and institutional clients) are not

# REQUEST FOR COUNCIL DECISION



paying any of the City’s disposal cost which totals approximately \$1M/yr (chapter 2, section 2.1.2). This drives the City’s residential utility rates higher than its comparable municipalities because waste disposal fees, the largest expense for the utility, are primarily borne by residential customers. Reviewing and resolving this inequity with or without the LRWSC is necessary to bring Lacombe’s solid waste rates closer to the average of its comparators.

**Table 9-2: Disposal Rates of Comparable Municipalities vs. the City of Lacombe**

| City       | Waste Management Authority                           | Disposal Rates for Residential Garbage Loads |
|------------|--|--|
| Lacombe    | Lacombe Regional Waste Services Commission           | \$182.67/tonne                               |
| Camrose    | Camrose Solid Waste Authority                        | \$28/tonne                                   |
| High River | Foothills Regional Waste Commission                  | \$102/tonne                                  |
| Beaumont   | Leduc & District Regional Waste Management Authority | \$70/tonne                                   |

There are other recommendations in the report that are summarized in the Analysis section below. It should be highlighted that Administration’s implementation plan varies in some instances from Tetra-Tech’s recommendations.

## ANALYSIS:

### **Benchmarking:**

*This section highlights and summarizes data on the City’s solid waste system for information only. Administration’s recommendations start in the section titled “Managing the City’s solid waste in a sustainable, fiscally responsible manner.”*

Solid waste in the City is generated from 3 main sectors:

- The residential sector, comprised of 4,569 households,
- The institutional, commercial, industrial (or ICI) sector which includes approximately 300 customers, and
- The construction and demolition (or C&D) sector.
- 

The solid waste composition generated from these sectors falls under 4 main categories:

| Waste Composition Category  | Estimated Overall Composition (%) | % Measured in Waste Stream |
|-----------------------------|-----------------------------------|----------------------------|
| Recyclables                 | 28%                               | 15%                        |
| Municipal solid waste (MSW) | 27%                               | 61%                        |
| Compostable organic waste   | 42%                               | 24%                        |
| E-waste and hazardous waste | 3%                                | Unknown                    |

# REQUEST FOR COUNCIL DECISION

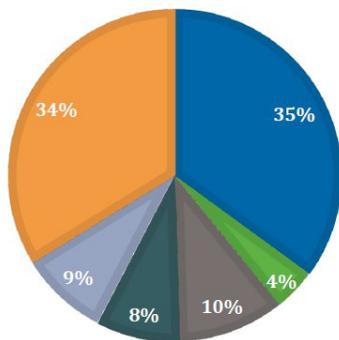


The graphic on the right outlines how the City’s current solid waste system handles waste through 4 waste streams. The “estimated overall composition” in the table above represents the probable waste compositions generated from the City of Lacombe regardless of the waste stream it is processed through ie: not all recyclables end up in the recycling stream. The methodology for this estimate is outlined in chapter 4, section 4.2 of the Report. The “% measured in waste stream” column represents the amount of solid waste actually measured through each of the available 4 waste streams (chapter 2, section 2.3.3). Theoretically, perfect waste diversion in Lacombe would result in the City sending about half as much material to the Prentiss Transfer Station. For instance, Tetra Tech estimates 28% waste generated from the City is recyclable but material processed through all recycling streams represents only 15% of all solid waste. Similarly, it was estimated 27% of waste generated from the City is MSW but material processed through the MSW stream (Prentiss Transfer Station) represents 61% of all solid waste.



**CITY OF LACOMBE WASTE COLLECTION DATA  
ANNUAL AVERAGE 2013 TO 2018**

- Household
- Rubble
- Recycling
- Green Bins (estimate)
- Spring//Fall Clean up
- Not recorded



The City’s waste collection services dispose about 6,000 tonnes at the Prentiss Transfer Station and diverts 3,900 tonnes of waste annually through the Wolf Creek Recycle Depot, downtown cardboard collection bins, and green yard waste collections bins. The Alberta average waste generation rate shows that municipalities generate, on average, approximately 1.03 tonnes of waste per capita annually. With the City’s population of 13,985 (2019 Census), the City should generate approximately 14,000 tonnes of solid waste per year from all sources. Tetra Tech estimates that approximately 34% solid waste (that is not recorded) is collected and disposed from commercial sources. The Lacombe Regional Waste Services Commission (LRWSC) does not record weights from private haulers so it is not

possible to determine if that material is being disposed of and not recorded at the Prentiss Transfer Station, or if it is being disposed of with another waste management authority (ie: City of Red Deer). And vice versa it is not possible to determine if waste from another jurisdiction is being disposed at the Prentiss Transfer Station.

# REQUEST FOR COUNCIL DECISION



In the second half of 2019, after the City discontinued its curb side recycling program, 25% less recycling was diverted from the garbage stream. At the same time, usage of the Wolf Creek Recycle depot increased by 75% which demonstrates many residents are still participating in the City’s recycling program despite it being less convenient. The commercial cardboard collection program (downtown) also increased in usage by 8% (chapter 2, section 2.3.1.2).

Tetra Tech confirmed the shared lane bin system is operationally efficient at 1 tip per 4 households compared to an individual cart system which would otherwise require 1 tip per household and, potentially, double route lengths to pickup carts on both side of the road/lane. However, Tetra Tech found the loads have become lighter over time (chapter 3, section 3.2.3). This means that garbage trucks are not as full as they used to be before hauling the material to the Prentiss Transfer Station. There are several possible reasons for this outlined in the Report, but inefficient routing was identified as a factor.

Chapter 4 includes a detailed comparison of solid waste services available to residential customers in 5 comparable municipalities. Of the 5 municipalities, the City of Lacombe is the only municipality that provides ICI or C&D collection services, so Tetra Tech focused only on residential services. The City of Lacombe was also found to be the only municipality that does not contract its residential solid waste collection’s services. The table below summarizes the comparison at a high level.

|                          | Single family dwelling \$/month | Variable Garbage Options | Recycling Program | Compost/ Green Waste | Diversion Rate |
|--------------------------|---------------------------------|--------------------------|-------------------|----------------------|----------------|
| <b>Lacombe</b>           | \$31.76                         | N                        | Drop off          | Lane bin & Drop Off  | 39%*           |
| <b>Camrose</b>           | \$18.01                         | N                        | Drop off          | Curbside             | 34%*           |
| <b>Fort Saskatchewan</b> | \$27.72                         | N                        | Curbside          | Curbside             | 45%*           |
| <b>Cochrane</b>          | \$22.25                         | N                        | Curbside          | Curbside             | 61%*           |
| <b>High River</b>        | \$11.15                         | Y                        | Drop off          | Drop off             | Unknown        |
| <b>Beaumont</b>          | \$24.24                         | N                        | Curbside          | Curbside             | 34%            |

\*Derived from Administration’s research which may vary from Tetra Tech’s report.

Municipalities with a curb side recycling and green bin program also had the highest reported diversion rates. At 39%, Lacombe’s diversion rate is about average of the comparators.

## ***Engaging the public about the future of solid waste collection***

Chapter 5 of the Report summarizes the public consultation events that took place in the late summer/fall of 2019 as well as results from the solid waste survey. Altogether, 652 responses were received to the survey which is a very good response rate. The top three priorities for solid waste system identified in the survey are recycling, cost, and convenience. Although residents said they would support modest cost increases to the solid waste system (question 18) there was not notable support for cost increases in any one specific area (questions 8, 11, & 16). There was significant support for a curbside recycling program and notable support for a 3-stream curbside collection system.

The results of the survey influenced Administration's recommendations, particularly recommendations 5 & 6 below. Due to the excellent response rate, Administration will continue to analyze and refer to the survey results in the deployment of the solid waste implementation plan. For example, despite the survey being offered online and in person, the majority of respondent's first preference was for the City to use the utility bill as a communication platform, and social media second.

## ***Managing the City's solid waste in a sustainable, fiscally responsible manner:***

*This section summarizes issues with the City's solid waste system that Administration noted in Tetra Tech's report and through discussions with Tetra Tech. It includes several recommendations for Council's consideration.*

### **ISSUE #1: Per Capita Requisition Structure**

The City's solid waste utility rates are higher than comparable municipalities because waste disposal fees are high and are borne almost exclusively by residential customers. The solid waste utility can be split into 2 main components: collection services, and disposal services. The City is a member of the Lacombe Regional Waste Services Commission which provides disposal services for municipal waste (garbage), compostable organics, e-waste, hazardous waste. The current LRWSC requisition (disposal) fee is charged on a per capita basis, not weight, and covers solid waste from all sources in the City. However, commercial businesses contracting to private haulers are not paying tipping fees at LRWSC facilities which means their disposal costs are being passed on to the City with no current mechanism for the City to recover costs from the commercial business.

Tetra Tech determined residential customers are generating 5,500 tonnes annually (measured). Tetra Tech used their experience, and Statistics Canada data to estimate weights from commercial sources: 4,700-5,000 tonnes. If commercial haulers were to be charged the same disposal cost per tonne as residential customers, the residential utility rate could be in line with the average residential rate of the comparable municipalities.

A system at Prentiss Transfer Station to record, report and charge a tipping fee based on waste weights, originating municipality, and hauling company would be ideal. This system would ensure all users pay their fair share of the disposal costs. It would also ensure member municipalities that

# REQUEST FOR COUNCIL DECISION



reduce their waste, see a direct cost savings from the LRWSC. The new revenue from private haulers should be used by the LRWSC to offset a portion of Lacombe's annual requisition costs. However, it is not guaranteed the LRWSC would support this change and even if supported, implementation of the change is out of the City's control. To address this issue in the short term the City would need to implement an interim system to recover costs directly from private haulers through a new fee structure that offsets a portion of the City's requisition costs concurrent to efforts with the LRWSC.

**Recommendation 1:** Administration recommend a utility rate structure to Council that ensures all benefitting sectors share in the LRWSC solid waste requisition costs.

**Recommendation 2:** Advocate the LRWSC conduct an audit of the current financial and operations model. The purpose of this audit is to review revenue and expenses, identify existing fees charged to private haulers, and identify whether their financial and operations model should be modified from a per capita model to a weight-based model.

## **ISSUE #2: Shortfall in Diversionary Credits**

Diversionary credits offered by the LRWSC only apply to recyclable material not diverted organics. The City received diversionary credits for approximately 1,046 tonnes of recyclable material in 2019 and in the same year also diverted 1,139 tonnes of yard and garden waste from the LRWSC through its green bins. In 2019 the City received \$61,042 in diversionary credits from the LRWSC for recyclable material only. If diversionary credits applied to the yard and garden waste as well, the total credit would have been approximately \$127,511. It is important to note that Tetra Tech estimates that City will divert less recyclable material in 2020 (916 tonnes) compared to 2019 (1,046 tonnes).

**Recommendation 3:** Direct Administration to advocate the LRWSC to permit diversionary credits for source separated yard and garden waste.

**Recommendation 4:** Revise the operating budget to reflect less diversionary credit revenue in 2021 (\$54,000)

## **ISSUE #3: Improvements to the Recycling System**

The Wolf Creek Recycle Depot costs the City approximately \$300/tonne on average which includes processing fees, bin rental and transportation of the bins to and from the Red Deer materials recycling facility. The diversionary credit from the LRWSC in 2020 is \$63.77/tonne for a net cost of \$236.23/tonne. For information curbside recycling would cost \$532.77/tonne today including the diversionary credit. Even with the City's high disposal costs, recycling still costs significantly more than landfilling. There is little financial incentive to continue operating the Depot as is, let alone improving the level of service by staffing the Depot and redeploying a curb side recycling program. However, as reported in the solid waste survey, residents support continued recycling initiatives in the City and even indicated support for modest fee increases to improve the program. Residents also reported

# REQUEST FOR COUNCIL DECISION



their top 3 priorities for solid waste services are recycling, cost, and convenience including strong support for the curbside recycling program.

Little has changed in the recycling industry since Lacombe discontinued its curbside recycle program and the City's diversion rates are already in line with comparable communities. Some communities have seen significant success improving their diversion rates at a reasonable cost, but the end use of the material is not known. Without greater provincial or federal oversight of the recycling industry it's difficult to assure residents that the extra cost to divert material results in that material being repurposed – the supply chain is simply too complex and cross-jurisdictional making it impossible for Lacombe to track.

Advocacy for a provincially and/or federally coordinated solution on behalf of municipalities from [AUMA](#) and [FCM](#) continues. Both organizations have adopted resolutions from municipalities to that effect in 2019 and 2020.

If the LRWSC changes their requisition model to be weight based, the City should consider community waste reduction goals.

Historically, the Lacombe County and the City conducted a survey of actual users of the Depot to determine a fair cost sharing formula between the municipalities. Residents in Rosedale for example utilize the Depot. The County grants the City their portion of the cost based on that formula which is budgeted in 2020 to be \$36,900 or about \$40/tonne. This should be reviewed prior to the next ICF update.

Improvements to yard and brush containment are recommended, as well as discontinuing the allowance of commercial business to deposit yard waste at the Depot.

**Recommendation 5:** Maintain operation of the Wolf Creek Recycle Depot with improvements to the containment of yard waste, and brush (ie: concrete interlocking blocks).

**Recommendation 6:** Starting in 2021, issue an RFP for Wolf Creek Recycle Depot Services and residential curbside pickup every 4 years to ensure the City is receiving fair market value for service and to provide an opportunity to reevaluate condition of the recycling market.

**Recommendation 7:** Review the Wolf Creek Recycle Depot cost sharing formula with the County prior to the next ICF update.

**Recommendation 8 (see recommendation 13):** Update the utility bylaw to prohibit commercial businesses from depositing yard waste at the Wolf Creek Recycle Depot.

**Recommendation 9:** Continue to advocate for provincial and national solutions to incentivise recycling at the municipal level (ie: such as Extended Producer Responsibility Regulation).

## **ISSUE #4: Bin Types**

The shared lane bin system is operationally efficient at 1 tip per 4 households compared to a cart system which would otherwise require 1 tip per household and, potentially, double route lengths to pickup carts on both side of the road/lane. However comparable municipalities offer a residential multi cart system with lower utility rates so there is a reasonable likelihood that moving to a private contractor collection system with rollout bins could be done at a similar collections cost as the current City of Lacombe system. A review of collections costs is, unfortunately, not included in Tetra Tech's report. However, in 2018 the City received quotes from private contractors to supply bins and haul solid waste from the Mackenzie Ranch mobile home park at a cost of approximately \$1,400/month. At the time the City charged approximately \$2,600/month. However, the LRWSC requisition was approximately \$1,300/month based on a typical population density for the park. The quoted rate and the requisition cost total \$2,700/month – very close to the City's rate. The City's utility rate already included cost recovery for the LRWSC requisition so it can be reasonably assumed the City's collections costs were in line with private industry and not likely a major contributor to Lacombe's high solid waste rates.

**Recommendation 10:** Maintain the current communal lane bin system instituting roll out bins only in areas where communal lane bins are not feasible.

## **ISSUE #5: Cardboard Collection Program**

The downtown business cardboard collection program costs the City \$70/tonne to process clean cardboard at the material recycling facility. The diversionary credit for this material the City receives from the LRWSC is \$63.77/tonne for a net cost of \$6.33/tonne exclusive of collections and haul costs provided by City forces. This is a cost-effective recycling stream which should be expanded to include industrial customers whose cardboard waste is currently being disposed through the municipal waste stream at the Prentiss landfill.

**Recommendation 11:** Expand the downtown cardboard collection program to industrial customers.

## **Issue #6 Inefficient Routing**

Due to residential growth, garbage truck routes have become inefficient resulting in more frequent but lighter loads being transported to the LRWSC, and less pickups per day compared to industry standards and historical City haul data.

**Recommendation 12:** Proceed with optimizing current garbage routes utilizing in-house forces starting in 2021.

# REQUEST FOR COUNCIL DECISION



## **Issue #7: Utility Bylaw**

The Utility Bylaw is out of date with the discontinuance of curb side recycling.

**Recommendation 13 (see also recommendation 8):** Update the utility bylaw to remove curb side recycling and restrict commercial companies from dumping yard and brush at the Depot.

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**Attached is an implementation plan which outlines the proposed timeline for each of the recommendations above for Councils review and endorsement.**

### **STRATEGIC PLAN ALIGNMENT:**

The completion of the Solid Waste Review is a direct outcome of Council Strategic Goal 4.3.3B: *Review the current solid waste management model.*

### **PUBLIC ENGAGEMENT/COMMUNICATION STRATEGY:**

The attached implementation plan outlines where public communications are planned (recommendations 10, 11, & 12).

### **ALTERNATIVE MOTION(S):**

1. THAT Council accepts this report as information and directs Administration to bring the solid waste review implementation plan to a future meeting for endorsement.
2. THAT Council accepts this report as information and endorses the solid waste review implementation plan.
3. THAT Council Directs Administration how it wishes to proceed.

### **ATTACHMENTS:**

Solid Waste Review Implementation Plan

City of Lacombe Solid Waste Review – Tetra Tech March 30, 2020

City of Lacombe: 2020 Solid Waste Review Implementation Plan

 Work in progress      Estimated completion      Completion based on LRWSC support

| Recommendation   | Action   | 2020<br>Q3  | 2020<br>Q4  | 2021<br>Q1  | 2021<br>Q2  | 2021<br>Q3  | 2021<br>Q4  | 2022+   |
|--|--|---|---|---|---|---|---|---|
| 1. Recommend a utility rate structure to Council that ensures all customers share in the solid waste requisition costs.  | A. Propose a utility rate structure to Council.                          |   |   |   |  |  |  |   |
| 2,3. Advocate for the LRWSC to: <ul style="list-style-type: none"> <li>audit their current financial and operations model in consideration of changing to a weight-based requisition model,</li> <li>to permit diversionary credits for source separated yard and garden waste.</li> </ul> | A. Develop briefing memorandum for LRWSC representatives.                |   |  |   |   |   |  |    |
| 4. Revise the operating budget to reflect less diversionary credit revenue in 2021 (\$54,000).   | A. Update projected revenue in the 2021 operating budget                 |  |  |   |   |   |   |   |
| 5. Maintain operation of the WC Recycle Depot with improvements to the containment of yard waste, and brush (ie: concrete interlocking blocks).  | A. Install interlocking concrete blocks at the Wolf Creek Recycle Depot. |  |   |   |   |   |   |   |
| 6. Issue an RFP for recycle depot services and residential curbside pickup every 4 years to ensure the City is receiving fair market value and to provide an opportunity to reevaluate the condition of the recycling market starting in 2021.   | A. Report RFP results to Council.  |   |   |  |   |   |   |   |
| 7. Review the Wolf Creek Recycle Depot cost sharing formula with the County prior to the next ICF update (2024).   | A. Review prior to next ICF update.                                      |   |   |   |   |   |   |  |
| 8. See recommendation 13.  |  |   |   |   |   |   |   |   |

City of Lacombe: 2020 Solid Waste Review Implementation Plan

 Work in progress     Estimated completion     Completion based on LRWSC support

| Recommendation   | Action   | 2020 | 2020 | 2021 | 2021 | 2021 | 2021 | 2022+ |
|--|--|------|------|------|------|------|------|-------|
|  |  | Q3   | Q4   | Q1   | Q2   | Q3   | Q4   |       |
| 9. Advocate for provincial and national solutions to incentivise recycling at the municipal level (ie: such as Extended Producer Responsibility Regulation).   | A. Monitor AUMA and FCM communications for new advocacy opportunities.                     |      |      |      |      |      |      |       |
| 10. Maintain the current communal lane bin system instituting roll out bins only in areas where communal lane bins are not feasible.   | A. Public communications   | ✓    |      |      |      |      |      |       |
| 11. Expand the downtown cardboard collection program to industrial customers.  | A. Develop an operational plan.  |      |      | ↗    | ↗    |      | ✓    |       |
|  | B. Propose changes to the Utility Bylaw if required.                                       |      |      |      |      | ↗    | ✓    |       |
|  | C. Communicate information about the cardboard collection program to industrial customers. |      |      |      |      | ↗    | ✓    |       |
| 12. Optimize current garbage routes.   | A. Administration lead project using internal resources.                                   |      |      | ↗    | ↗    | ↗    | ✓    |       |
|  | B. Propose changes to the Utility Bylaw if required.                                       |      |      |      |      |      | ✓    |       |
|  | C. Communicate changes to all customers.   |      |      |      |      |      | ✓    |       |
| 13. Update the utility bylaw to: <ul style="list-style-type: none"> <li>remove curb side recycling references,</li> <li>restrict private landscape companies dumping yard and brush at the Depot.</li> </ul> | A. Update the Utility Bylaw  |      | ✓    |      |      |      |      |       |
|  | B. Communicate change to the public.   |      | ✓    |      |      |      |      |       |

## City of Lacombe Solid Waste System Review



PRESENTED TO  
**City of Lacombe**

MARCH 30, 2020  
ISSUED FOR USE – REV 1  
FILE: SWM.PLAN03115-01

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## EXECUTIVE SUMMARY

Tetra Tech Canada Inc. (Tetra Tech) was retained by the City of Lacombe (City) to conduct a solid waste utility review as part of its 2018-2021 strategic plan. This report was prepared to document the City's solid waste services and infrastructure, benchmark service levels and financial considerations against comparable municipalities, engage the public regarding their views and priorities for the future of solid waste collection and management in the City, and develop a baseline document that will assist with long-term planning of the City's solid waste management in a sustainable and fiscally responsible manner.

### Waste System Analysis

The City's solid waste system consists of the following:

- Collection of garbage and yard-garden waste from residential sources;
- Collection of garbage and cardboard from commercial sources;
- Operation of a recycling depot for recyclable materials, yard-garden waste, and brush;
- Transportation of collected materials to external facilities where it is disposed, recycled or composted; and
- Disposal of inert waste at the Prentiss Transfer Station and Class III Landfill which is operated by the Lacombe Regional Waste Services Commission (Commission).

The City's customer base is responsible for funding the solid waste management system. The City's population is 13,985 (2019 census), with an average of 2.6 people per household. Waste collection services are provided to approximately 4,560 residential households and 300 commercial and industrial customers. Of the 4,560 serviced residential households, the City provides waste collection services to (Statistics Canada, 2016):

- 3,095 single-family residential households;
- 665 multi-family residential households;
- 605 other attached dwellings (semi-detached, row, or other single-attached households); and
- 195 movable dwellings (i.e., mobile home parks).

The City's waste collection services disposes an average of 5,500 tonnes of waste annually based on data provided by the City. Alberta's average waste generation rate shows that municipalities generate approximately 1.03 tonnes of waste per capita annually. With the City's population of 13,985 (2019 Census), the City should generate approximately 14,000 tonnes of solid waste per year from all sources. Because private sector waste haulers are expanding their waste collection services from commercial sources, it is estimated that approximately 8,500 tonnes of solid waste (that is not recorded) is collected and disposed from commercial sources.

The City's collection fleet consists of four side-loader collection trucks for collection of residential garbage, residential yard and garden waste, commercial garbage, and commercial cardboard. Three trucks are used daily (from Monday to Friday) and one truck serves as a spare in the event of maintenance or unforeseen circumstances. Each truck is equipped with a Pakmor style hydraulic bin lifter that is capable of lifting 3-yd<sup>3</sup> metal bins and curbside roll-out carts. Details of the City's collection system are discussed in Section 3.0.

Five comparable municipal waste collection systems were investigated, as discussed in Section 4.0. It benchmarked service levels and performance indicators for the jurisdictions including the City of Camrose (Camrose), City of Fort Saskatchewan (Fort Saskatchewan), Town of Cochrane (Cochrane), Town of High River (High River), and Town of Beaumont (Beaumont). Table A lists the utility rates for single-family residential households per jurisdiction and Figure A illustrates the utility rates in comparison to each municipality.

**Table A: Single-Family Rates per Jurisdiction**

| Jurisdiction      | Cart Volume Option | Single-Family (SF) Monthly Rate (2019) |
|-------------------|--------------------|--|
| Lacombe           | 375 L / 2300 L     | \$31.76                                |
| Camrose           | 240 L              | \$18.01                                |
| Fort Saskatchewan | 240 L              | \$27.72                                |
| Cochrane          | 120 L              | \$22.25                                |
| High River        | 240 L              | \$22.32                                |
|                   | 360 L              | \$31.06                                |
| Beaumont          | 240 L              | \$24.24                                |
| <b>Average</b>    |                    | <b>\$25.34</b>                         |

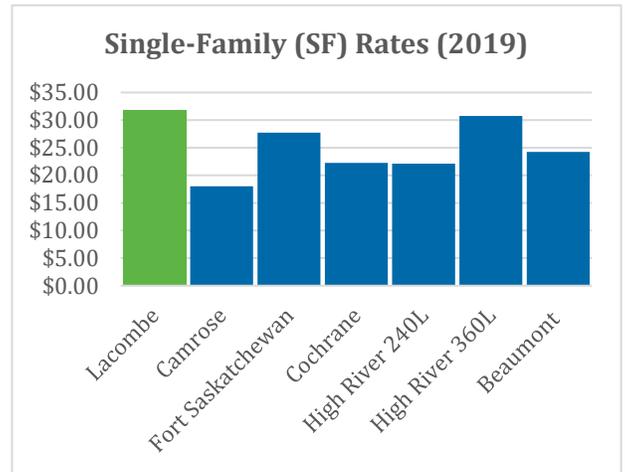


Figure A: Single-Family Utility Rates per Jurisdiction

The average utility fee that is charged to single-family residential households in the benchmarked jurisdictions is \$25.34, which includes the distribution fee for residential carts (i.e., at Beaumont, Fort Saskatchewan, and the City). The City’s current utility fee for single-family residential households is \$31.76 which is about 25% higher than the municipalities benchmarked.

Section 5.0 provides a high level overview of a public engagement exercise that was conducted to obtain the public’s feedback on the City’s solid waste management services and public education program, as well as to understand the public’s priorities and their receptiveness for change. A survey was prepared and 652 survey responses were received. An overview of the responses include the following:

- Most residents were not supportive of the cancellation of the curbside recycling program and they preferred the convenience of the program;
- Residents felt that the Wolf Creek Recycling Depot is experiencing operational issues as the bins are typically full and overflowing, and the signs were confusing as the instructions are unclear;
- Residents would like to see more drop-off locations for recycling and hazardous waste, and more City cleanup events; and
- Residents expressed concern about the cost of the waste services, with most residents indicating that modest increases in utility bills for improvements to solid waste services are acceptable.

The desire for diverting recyclable materials is community driven. Most residents support the convenience of the curbside recycling program and it contributed to 43% of the annual average recycling generated from 2016 to 2018. It is also an essential collection service provided by three out of the five municipalities (i.e. Town of Cochrane, City of Fort Saskatchewan, and Town of Beaumont) benchmarked in Section 4.1, which were also noted to be on the lower end of the benchmarked average single-family utility fee (\$25.34).

Currently, the cost to process mixed recyclable materials is \$169 per tonne. If there are no financial incentives to divert recyclable materials, the City needs to work with the Province to determine whether there is a mandate or incentives to divert waste from disposal to reduce the reliance on landfills.

The collection system was assessed to determine whether there were opportunities to increase efficiency and reduce costs. Details of the assessment are discussed in Section 6.0. An industry norm for cart collection in municipalities of a similar size is between 600 and 800 carts per day. City staff reported that approximately 500 to 600 bins are collected by each truck per day. It would appear there is a potential for route optimization with a redesign of collection routes. Reducing scheduled collection days in residential areas can improve the services for commercial routes and yard-grass routes. A more comprehensive review of the City's macro-route design needs to be completed to optimize the collection schedule.

A performance assessment was conducted to quantify productivity, identify anomalies, and correct weak points in the solid waste management system. Recommended performance indicators to monitor for the solid waste management system are discussed in Sections 7.0 and 12.0.

Section 8.0 discusses alternative technologies that can be employed for solid waste management. One of the open-ended responses in the public survey was the desire for some form of waste-to-energy (WTE) technology for the City. There are several types of WTE technologies that use combinations of physical, chemical, and biological processes to convert waste materials into a usable product (e.g., syngas, electricity, heat) that could be used or sold. Many of these technologies are costly and should be monitored in the event these technologies become feasible. Table 8-1 in the report summarizes the advantages and disadvantages of the described alternative technologies.

## **Financial Analysis**

The City's annual solid waste budget is approximately \$2.3 million dollars. 93% of the City solid waste program is funded through user fees. Those fees are used to pay for collection costs and the disposal/processing costs for collected materials. The City's expenditures for their solid waste program consists of the following items.

- Waste disposal costs
- Contracted services for management of materials
- Management of bins and carts
- Wages and benefits
- Recycling depot
- Education and communications of solid waste programs
- Collection vehicles (Capital and operating costs)
- Franchise fee
- Administrative services

The largest expenditures for the solid waste services are disposal costs paid to the Commission (35%), wages and benefits (19%), collection vehicles (16%), contracted services (14%) and recycling depot (4%). These five main expenditures make up 88% of the total cost for the City's solid waste management system. Details of the financial analysis are discussed in Section 9.0.

The City's largest expenditure is the annual requisition fee paid to the Commission. The cost for waste disposal is estimated to cost \$182.67 per tonne. This cost is significant considering the tipping fees are \$75 per tonne for disposal at the Red Deer Landfill and between \$40 – \$50 per tonne at the Camrose West Dried Meat Lake Landfill, where waste from the City is transferred. During one of Tetra Tech's interviews with the Commission, it was reported that commercial waste from the City that is collected by private sector haulers are not charged any tipping fees. This needs to be reviewed with the Commission since private sector waste haulers are competing with the City's waste collection services and it puts the City at a disadvantage when private sector haulers are not required to pay tipping fees and the City's Commission Fee subsidizes the commercial sector's disposal fees. If disposal tipping

fees are collected from commercial haulers, it may increase the revenue collected by the Commission and reduce the amount the City would have to pay to the Commission.

## **Recommendations**

Based on a detailed assessment of the City's waste management system, it is recommended that the City conduct the following:

1. Work with the Commission to request an audit of the current financial and operations model. The purpose of this audit is to review revenue and expenses, identify existing fees charged to private haulers, and identify whether the financial and operations model should be updated so that cost recovery from private haulers would benefit all commission members thereby reducing annual requisitions.
2. Work with the Commission to update records system such that information about the waste source (community and sector), waste hauler, and waste type are recorded and maintained. This is to allow the City to appropriately identify all waste, including ICI and C&D waste, that is generated in the City and other members of the Commission.
3. Upgrade the Wolf Creek Recycling Depot to optimize residential use and collection frequency that include additional bins from its contractor, controlled and supervised entry to the site during scheduled hours of operation, improved customer service from improved signage and staff assistance, and installation of a storage bunker for brush, trees, sod, and yard-garden waste.
4. Conduct a feasibility assessment of the curbside recycling program since it was identified as a public priority and major contributor to the City's waste diversion. As part of this assessment, the City should assess who can collect the recyclable materials, the volatility of the global recycling end-market and the processing costs at the Red Deer Material Recovery Facility (MRF).
5. Conduct a detailed collection route assessment that develops a macro-route design based on the number of containers each collection truck can service in a day, current residential routes and ICI routes that the City services, and takes into consideration Key Performance Indicators (KPIs) including:
  - Waste diversion rates (tonnes diverted per capita per year);
  - Waste disposal rates (tonnes disposed per capita per year);
  - Collection cost per customer;
  - Annual waste services cost (tipping fees at the Prentiss Transfer Station, annual per-capita requisition with the Commission, labour costs, etc.); and
  - Collection vehicle performance (average bins serviced, average load weights, average loads hauled for each sector).
6. Update the utility bylaw (Bylaw 393) (consolidated January 27, 2020) with the following considerations:
  - Remove Part 7 – Recycling Services (Sections 87.1 – 87.4) unless the City continues to continue the curbside recycling program;
  - Address Section 87.7 Recycle Depot to prohibit commercial haulers from accessing the Depot;
  - Add a section on Private Haulers' Responsibilities similar to Section 83 – City Responsibilities which outlines requirements for commercial collection, collection frequency, and right to refuse:

- Ensure that they contribute to the Commission’s annual-per-requisition membership costs by adding a franchise fee in Schedule B;
  - Prohibit their involvement in residential collection to address Section 83 and 83.1 where the City should be the sole provider of residential garbage collection; and
  - Add a “failure to comply” penalty in Schedule C to regulate residential collection responsibility (and avoid observations in the multi-family dwellings in Section 2.2.1.1);
- Remove modular home park utility rates (\$24.49) in Schedule B.
7. Work with the commercial private haulers to revert garbage collection from multi-family residential households back to the City to comply with Sections 83 and 83.1 of the utility bylaw.

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## ACRONYMS & ABBREVIATIONS

| Acronyms/Abbreviations | Definition                                 |
|------------------------|--|
| ARMA                   | Alberta Recycling Management Association   |
| C&D                    | Construction and Demolition                |
| Commission             | Lacombe Regional Waste Services Commission |
| D&M                    | D&M Concrete Products Ltd.                 |
| EPR                    | Extended Producer Responsibility           |
| HHW                    | Household Hazardous Waste                  |
| ICI                    | Industrial, Commercial and Institutional   |
| LRWC                   | Lacombe Regional Waste Services Commission |
| MRF                    | Material Recovery Facility                 |
| MSW                    | Municipal Solid Waste                      |
| PAYT                   | Pay as You Throw                           |
| RDF                    | Refuse-Derived Fuel                        |
| SSO                    | Source-Separated Organics                  |
| WDMLRL                 | West Dried Meat Lake Regional Landfill     |
| WM                     | Waste Management of Canada                 |
| WTE                    | Waste to Energy                            |

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## LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of City of Lacombe and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than City of Lacombe, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

## 1.0 INTRODUCTION

The City of Lacombe (City) retained Tetra Tech Canada Inc. (Tetra Tech) to conduct a solid waste utility review as part of its 2018-2021 strategic plan. This report was prepared to address the main objectives of the project, including, but not limited to:

- Documenting solid waste services and infrastructure;
- Benchmarking service levels and financial considerations against comparable municipalities;
- Engaging the public regarding their views and priorities for the future of solid waste collection and management in the City; and
- Developing a baseline document that will assist with long-term planning for solid waste management in a sustainable and fiscally responsible manner.

## 2.0 LACOMBE'S SOLID WASTE MANAGEMENT SYSTEM

### 2.1 Solid Waste System Overview

The City's solid waste system consists of collecting waste, recyclables, and organic materials from residential and commercial sources and taking those materials to external facilities where it is disposed, recycled or composted.

The following sub-sections provide an overview of the existing solid waste management system and a delineation of the services provided at the City.

Figure 2-1 is a solid waste management flow diagram that illustrates the sources of the waste stream, how materials are collected, any processing that occurs, and the end points for the materials collected and processed.

#### 2.1.1 Customer Base

The City's customer base is responsible for funding the solid waste management system. The population is 13,985 (2019 census), with an average of 2.6 people per household. The City's Solid Waste Department manages all of the waste from residential sources and a portion of the waste from the Institutional, Commercial, and Industrial (ICI) sector. Waste collection services are provided to approximately 4,560 residential households and 300 commercial and industrial customers. Of the 4,560 serviced residential households, the City provides waste collection services to (Statistics Canada 2016):



Figure 2-1: Overview of Solid Waste Management System at the City of Lacombe

- 3,095 single-family residential households,
- 665 multi-family residential households,
- 605 other attached dwellings (semi-detached, row, or other single-attached households), and
- 195 movable dwellings (i.e. mobile home parks).

### **2.1.2 Disposal - Lacombe Regional Waste Services Commission**

The City is a member of the Lacombe Regional Waste Services Commission (Commission) which is responsible for the management of solid waste within the boundaries of the County of Lacombe. The Commission members include:

- Lacombe County
- Town of Bentley
- Village of Alix
- City of Lacombe
- Town of Eckville
- Village of Clive

The Commission is primarily responsible for transfer and disposal of waste. The Commission owns and operates a network of five municipal solid waste (MSW) transfer stations located at the following locations:

- Alix/Mirror
- Bentley
- Eckville
- Prentiss
- Spruceville

Figure 2-2 illustrates the location of the transfer stations in Lacombe County. The City delivers its garbage to the Commission's Prentiss Transfer Station, and the Commission assumes responsibility for that material. The Prentiss Transfer Station is located approximately 10.5 kilometres (km) southeast of the City. This transfer station is a full-service facility that includes a Class III Landfill for disposal of inert waste. Residential garbage, including food waste, is hauled from the transfer station to the West Dried Meat Lake Regional Landfill (WDMLRL). The landfill is in the County of Camrose approximately 85 km northeast of the City.

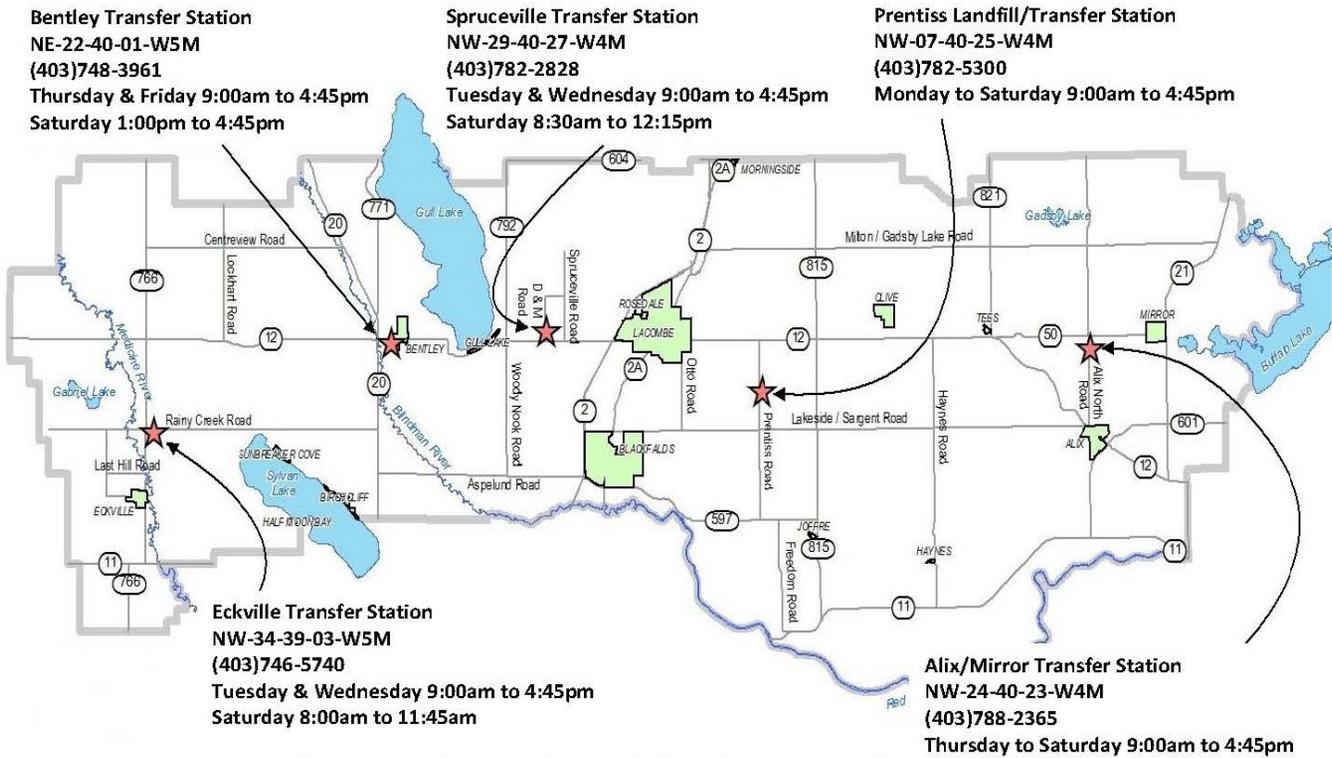


Figure 2-2: Lacombe Regional Waste Services Commission Transfer Station Network

The City contributes to the operation of Commission services through an annual per-capita requisition, which is reported to be \$68.81 per person per year for 2020. Therefore, member municipalities, residents and businesses, and private sector waste haulers who collected waste from within the City limits are not required to pay tipping fees at the Prentiss Transfer Station. The Commission also has a fee structure for rubble loads and states that dry rubble loads larger than a ½ tonne truck or 500 kilogram (kg) are charged \$40/tonne for disposal in the Class III Landfill.

The Prentiss Transfer Station was developed with a scale and office facility, a stationary compactor transfer system, household hazardous waste and used oil facilities, agricultural pesticide storage, storage areas for bulky materials, a burn area for wood materials, and a Class III Landfill site. At the time of preparing this report, the Prentiss Transfer Station does not have a dedicated area for recycling drop off.

Table 2-1 shows the 2020 tipping fees for the following materials being accepted at the Prentiss Transfer Station:

**Table 2-1: Prentiss Transfer Station Tipping Fees (2020)**

| Material Type  | Residents   | Commercial Haulers and Businesses   | City Collection Service   |
|--|---|---|---|
| Municipal and ICI waste for transfer   | <ul style="list-style-type: none"> <li>No charge (part of City utility fee)</li> </ul>  | <ul style="list-style-type: none"> <li>No charge</li> </ul>   | <ul style="list-style-type: none"> <li>No charge (part of annual per-capita requisition)</li> </ul> |
| Wood, metal, dry rubble, concrete  | <ul style="list-style-type: none"> <li>Under 500 kg – no charge</li> <li>500 – 999 kg – \$40/load</li> <li>1,000 + kg - \$40/tonne</li> </ul> | <ul style="list-style-type: none"> <li>Under 500 kg – \$25/load</li> <li>500 – 999 kg – \$40/load</li> <li>1,000 + kg – \$40/tonne</li> </ul> | <ul style="list-style-type: none"> <li>Prohibited by the City in residential collection</li> </ul>  |
| White metal  | <ul style="list-style-type: none"> <li>With freon – \$40 per unit</li> <li>No freon – \$10 per unit</li> </ul>                                |   | <ul style="list-style-type: none"> <li>Prohibited by the City in residential collection</li> </ul>  |
| Batteries, propane tanks, tires, used oil, automotive filters, agricultural chemical jugs and antifreeze | <ul style="list-style-type: none"> <li>No charge</li> </ul>   |   | <ul style="list-style-type: none"> <li>Prohibited by the City in residential collection</li> </ul>  |
| Shingles   | <ul style="list-style-type: none"> <li>\$75/tonne</li> </ul>  | <ul style="list-style-type: none"> <li>\$75/tonne</li> </ul>  | <ul style="list-style-type: none"> <li>Prohibited by the City in residential collection</li> </ul>  |
| Compost, grass clippings, and garden waste   | <ul style="list-style-type: none"> <li>No charge (part of City utility fee)</li> </ul>  | <ul style="list-style-type: none"> <li>No charge</li> </ul>   | <ul style="list-style-type: none"> <li>No charge (part of annual per-capita requisition)</li> </ul> |

Based on interviews with Commission staff, it is understood that the Prentiss Transfer Station does not require commercial private haulers to pay tipping fees, as it is covered in the annual per-capita requisition fee paid by the City.

The Prentiss Transfer Station is registered with Alberta Recycling Management Authority (ARMA) for tires, electronics, and paint. During a site visit by Tetra Tech on October 2, 2019, it was confirmed that these materials are managed at the site.

### 2.1.3 Recycling

Recyclable materials are dropped off by residents at the Wolf Creek Recycling Depot (Depot). Recyclables are collected in roll-off recycling containers supplied by the City’s contractor: Waste Management of Canada (WM). WM delivers the recyclables to their Material Recovery Facility (MRF) in Red Deer, approximately 30 km south of the City. The MRF is owned and operated by WM.

The City also collects cardboard from commercial businesses and hauls these loads directly to the WM facility in Red Deer.

### 2.1.4 Yard Waste

There are two collection programs that the City provides for residents:

- Collection of grass and yard waste in green grass bins located throughout the City; and
- Drop off of yard-garden waste, sod, trees, and brush at the Depot.

The City recently entered into an agreement (September 2019) with D&M Concrete Products Ltd. (D&M) to transport dropped off yard waste from the Depot and stockpiled green waste material from the Len Thompson Industrial Area

to their processing facility. The yard-garden waste will be composted at a stockyard at the D&M site for resale or gravel pit reclamation.

Yard waste collected from the City's green bins is hauled directly to the D&M composting facility. D&M markets compost products through its landscape depot at the Wolf Creek Industrial Park, or uses the compost for land reclamation at their gravel extraction site.

As part of the recent agreement, D&M recommended construction of a concrete lock-block storage compound where yard waste can be stored at the Depot. Tetra Tech understands that the City may upgrade the Depot with a yard waste storage bunker pending the outcome of the Solid Waste Review.

### **2.1.5 Other ARMA Registered Recycling Services in the City**

In addition to the Prentiss Transfer Station, three other locations are listed by ARMA that accept materials for recycling. These are listed below:

- The Lacombe Bottle Depot -- registered with the Alberta Beverage Container Recycling Corporation to accept beverage containers with a deposit return for bi-metal and aluminum cans, clear plastic bottles, glass, tetra paks, polycoat containers with gable tops, and plastic pouches. Also accepts used oil, filters and oil containers;
- Pnewko Trucking -- accepts used oil, filters, and oil containers; and
- City of Lacombe Infrastructure Services -- accepts electronic waste.

## **2.2 City Provided Services**

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### **2.2.1 Collection Programs Overview**

#### **2.2.1.1 Residential Collection**

The City is the sole provider of residential garbage collection<sup>1</sup>. Residential garbage is collected by the City through the following three methods:

- Lane collection via 2300 litre (2300 L) steel bins;
- Commercial, multi-family, and mobile home park collection with 2300 L steel bins; and
- Curbside collection with 375 litre (375 L) carts in residential areas without back lanes.

#### **Single-family Garbage Collection**

The City collects residential garbage from neighbourhoods with back-alleys in communal 2300 L yard bins. Each of the 1,060 lane bins serves approximately four households. The communal bin collection method services approximately 70% of the residential customers.

In residential areas without back-alleys, curbside collection is provided using 375 L roll-out carts at each household. There are 1,365 roll-out carts throughout the City as of October 2019. This represents approximately 30% of the residential customers.

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<sup>1</sup> Bylaw 393 (Utility Bylaw) – Section 83.

Figure 2-3 and Figure 2-4 illustrates the back alley lane placements and curbside roll-out cart collection.



Figure 2-3: Steel Bins in Back Alley Lanes



Figure 2-4: Curbside Roll-out Carts

Both back-alley bins and curbside carts are collected with automated side loading garbage trucks. Residential collection occurs weekly based on a collection schedule from Monday to Friday. Further details on collection are described in Section 3.0. As mentioned previously, the collected waste is taken to the Prentiss Transfer Station.

### Multi-family Garbage Collection

Garbage collection for multi-family residential households is serviced by the City. The City provides 2300 L steel bins for garbage collection, as seen on Figure 2-5. Bins are often placed in alleys behind the apartment unit or placed on the apartment property. The number of bins set out depends on the size of the apartment complex.

During a site visit, Tetra Tech observed that some multi-family residential households contract garbage collection with commercial private haulers. Figure 2-6 shows an apartment complex that have contracted garbage service to private haulers.



Figure 2-5: City Collection at an Apartment Complex



Figure 2-6: Commercial Collection at an Apartment Complex

## Mobile Home Park Garbage Collection

The City provides garbage collection to mobile home park residents. The 2300 L steel bins are placed at drop-off locations in the trailer park.

Figure 2-7 shows a garbage drop-off location in McKenzie Ranch Estates.



*Figure 2-7: Garbage Drop-off Service in McKenzie Ranch Estates*

## Recycling Collection

Between 2014 and 2019, the City provided curbside recycling collection congruent to garbage collection. Due to declining recycling end markets and rising recycling program costs, the City discontinued this service in June 1, 2019. According to the City Council report, dated May 27, 2019, the cost for curbside recycling would increase from \$4.50/dwelling/month to \$7.49/dwelling/month. The rationale for the higher costs was a result of poor market conditions (i.e., revenues) for the commodities and increased capital improvement costs for upgrades to the MRF in Red Deer County. The Council report indicated that the curbside recycling program diverted approximately 900 tonnes per year before the program was cancelled.

The Depot continues to be operated by the City following the discontinuation of the curbside program. The Depot is open at all times for residents to drop off recyclable material in 40-yd<sup>3</sup> (approximately 30 m<sup>3</sup>) bins.

Further information on the Depot is provided in Section 3.2.4 of this report.

## Organics Collection

Grass clippings, leaves, and garden tops are collected by the City using 2300 L steel bins placed in various locations throughout the City (see Figure 2-8). As of October 2019, there are 217 units installed, where there are a number of households served per location. Trees, brush, sod, and excess yard waste (i.e., not collected in the green bins) can also be dropped off in designated storage areas at the Depot.

With the new yard waste service contract, D&M will monitor the yard waste at the Depot and will load and haul it to their compost site located 11 km west of the City. All yard waste collected by the City from community green bins will be hauled directly to the D&M compost site.

The yard and garden waste collection program does not include food waste or food soiled paper.



*Figure 2-8: Grass and Yard Waste Bin*

### **2.2.1.2 Commercial and Industrial Collection**

The City provides commercial collection services to local businesses and other institutions as utility customers. Businesses can alternatively contract collection services to City pre-qualified private waste companies.

With City commercial service, one or more 3-yd<sup>3</sup> steel bins are provided to each business, as seen on Figure 2-9. The City collects commercial garbage and cardboard using the City's side loading trucks. Cardboard bins are located primarily in the downtown area of the City. Cardboard is collected on a separate collection route and is hauled directly to the WM MRF in Red Deer. Current data show that 82 cardboard bins are used for the cardboard collection program.



*Figure 2-9: Commercial Cardboard and Waste Collection*

### 2.2.1.3 Construction & Demolition Waste Collection

Construction and Demolition (C&D) waste is derived from new construction, building renovation, or demolition projects. C&D waste typically includes asphalt, metal, concrete, gypsum, rubble, paper, cardboard, wood and other building materials. The City collects C&D or “rubble” waste in the industrial park. The majority materials in the C&D stream can be defined as “inert” and are suitable for disposal in the Class III Landfill at the Prentiss Transfer Station.

Some components of C&D waste are not permitted in Class III landfills, such as asbestos, contaminated or treated wood products, and wastes that may decompose.

C&D hauling and disposal in the City is provided by individuals, businesses, or private haulers. The Commission weighs these materials at Prentiss Transfer Station but does not track the waste to the source community. As such, verifiable records for the amount of C&D generated in the City is not available.

### 2.2.1.4 Wolf Creek Recycling Depot

Recycling services are available at the Depot to City residents, Lacombe County residents, and City businesses. The Depot is located at 5214 Wolf Creek Drive, as shown on Figure 2-10.



Figure 2-10: Wolf Creek Recycling Depot

The recycling depot is unsupervised and accessible 24 hours per day. As of January 2020, six 40-yd<sup>3</sup> roll-off recycling containers are onsite. Materials collected in the containers include:

- Corrugated cardboard and boxboard;
- Office and mixed paper;
- Polyethylene Terephthalate (PET) #1 plastics and High Density Polyethylene (HDPE) #2 plastics.
- Newsprint;
- Tin cans; and

Glass is not accepted at the Depot. Non-recyclable material (i.e., garbage) is accepted at the Depot through two dedicated 2300 L bins.

The 40-yd<sup>3</sup> recycling bins are provided under a contract with Waste Management (WM). The contract with WM includes hauling and processing the recyclables at their MRF in Red Deer. Figure 2-11 shows a 40 yd<sup>3</sup> roll-off recycling container at the Depot.



Figure 2-11: 40-yd<sup>3</sup> roll-off recycling bin at the Wolf Creek Recycling Depot

The recycling depot also accepts yard waste, brush, trees, and sod which are dropped off in designated storage areas on the site. All organics are to be monitored, loaded and hauled by D&M to their composting site.

### 2.2.1.5 Electronic Waste Drop Off

The City provides a drop-off location for Electronic Waste (eWaste) at the City Public Works facility. Residents can drop off eWaste during regular working hours (Monday to Friday, 8:00 a.m. to 4:00 p.m.). Figure 2-12 shows the Public Works drop off location where a sea container is used to store eWaste.



Figure 2-12: eWaste Collection at the Public Works Drop Off Location

In addition, the City accepts eWaste during the annual Toxic Roundup Event, as discussed in Section 2.2.2.1. Residents can also drop off eWaste at the Prentiss Transfer Station year-round at no charge.

## **2.2.2 Community Cleanup Events**

The City provides residents with opportunities to safely dispose household hazardous waste (HHW), bulky items, and yard waste that are typically prohibited in residential garbage collection. These events are organized by the City and offer either curbside collection or a drop-off location for roundup events.

### **2.2.2.1 Toxic and eWaste Roundup Event**

The City provides annual roundup of HHW and eWaste at the City's Infrastructure Services Building. The roundup occurs once a year in the 3<sup>rd</sup> week of September where the City contracts Clean Harbours Ltd. to manage the annual event. Residents can safely dispose hazardous materials and eWaste at no charge.

Explosives, pressurized gas cylinders, biomedical waste, ICI and agricultural waste, and automotive fluids are not accepted.

### **2.2.2.2 Trash to Treasure Week**

The City organizes a community-wide event where participating residents place any unwanted but reusable items in front of their property. These items should be marked as "FREE" so other residents can pick them up if desired. The "Trash to Treasure Week" events are organized biannually (twice per year) for an entire week usually preceding the Community Clean Up Campaign. Residents can leave out remaining unwanted materials for pick up during the Community Clean Up Campaign.

### **2.2.2.3 Community Clean Up Campaign (Spring/Fall Cleanup)**

The City organizes biannual cleanup events to collect household and yard refuse that are typically not accepted in residential garbage or organics collection. These events occur in the spring and fall following the Trash to Treasure Week. Residents are required to sort into the following categories:

- Brush & Wood (i.e., branches, unpainted and untreated wood);
- Leaves, sod, and garden waste;
- Metals;
- Appliances with freon;
- Furniture; and
- Electrical Waste.

Residents can place items for disposal in front of their property which City staff collect with designated trucks or other collection equipment (e.g. loaders). The collected waste is transported to Prentiss Transfer Station.

Items that are not picked up by the City include HHW, rubble waste, cardboard, and unsorted materials.

## 2.3 Waste Generation Statistics

The following summarizes the City’s data for waste collected in residential and industrial areas. The data was derived from historical records provided by the City. Annual quantities for household waste (residential) and rubble waste are listed in Table 2-2.

The City identifies collected waste as household and “rubble.” “Rubble” refers to waste collected in the industrial park. Household is waste collected from single-family residences, multi-family residential households, and mobile home parks. Collection from the ICI sector is not identified separately and may have been included with the household waste data.

**Table 2-2: Annual City Waste Collection Quantities**

| Year           | Compacted Household Loads | Household Load Tonnage [tonnes] | Rubble Loads | Rubble Load Tonnage [tonnes] | Annual Collected [Tonnes] |
|----------------|---------------------------|---------------------------------|--------------|------------------------------|---------------------------|
| 2006           | 784                       | 4,181                           | 169          | 843                          | 5,024                     |
| 2007           | 782                       | 5,017                           | 212          | 970                          | 5,987                     |
| 2008           | 783                       | 4,690                           | 265          | 1,046                        | 5,736                     |
| 2009           | 808                       | 4,758                           | 235          | 861                          | 5,619                     |
| 2010           | 841                       | 5,333                           | 69           | 269                          | 5,601                     |
| 2011           | 953                       | 5,269                           | 63           | 260                          | 5,528                     |
| 2012           | 959                       | 5,286                           | 98           | 326                          | 5,612                     |
| 2013           | 951                       | 5,423                           | 110          | 414                          | 5,837                     |
| 2014           | 945                       | 5,323                           | 113          | 499                          | 5,822                     |
| 2015           | 856                       | 4,923                           | 159          | 608                          | 5,530                     |
| 2016           | 839                       | 4,639                           | 172          | 504                          | 5,143                     |
| 2017           | 872                       | 4,550                           | 161          | 479                          | 5,029                     |
| 2018           | 895                       | 4,398                           | 173          | 485                          | 4,882                     |
| <b>Average</b> | <b>867</b>                | <b>4,907</b>                    | <b>154</b>   | <b>582</b>                   | <b>5,488</b>              |

Note that Table 2-2 represents combined residential and ICI waste collected by the City. There is currently no data available on ICI waste collected by private contractors.

Solid waste is typically generated and should be recorded based on the following sectors:

- Residential;
- Institutional, Commercial, or Industrial (ICI); and
- Construction and Demolition (C&D).

Based on Tetra Tech’s experience, a general rule-of-thumb for waste generation in Alberta municipalities is that one (1) tonne of solid waste is generated in an urban community from all three sectors. This correlates with Statistics Canada data (2016) which estimates that waste generation in Alberta is approximately 1.03 tonnes per person per year.

Each of the three sectors accounts for about 1/3 of the waste generated in a community. The population of the City in 2019 was 13,985 (2019 Census). Using this value, it can be estimated that the City generates approximately 14,000 tonnes of solid waste per year from all sources. From this assumption, it can be estimated that the annual quantity for each sector may account for about 4,666 tonnes per year. This correlates to the 2016 Statistics Canada data for waste generation in Alberta. Statistics Canada reports that about 31% of the waste generated in Alberta is derived from residential sources and about 69% is derived from non-residential sources (ICI and C&D Waste).

The estimated annual quantity for residential waste of 4,666 tonnes compares to the average quantity of 4,907 tonnes recorded by the City 2006 to 2018. Data for the C&D and ICI streams are not available from the Commission nor the City, except for weights for the rubble loads provided to Tetra Tech, as shown in Table 2-2.

Figure 2-13 illustrates the annual average waste collection by the City from 2013 to 2018.

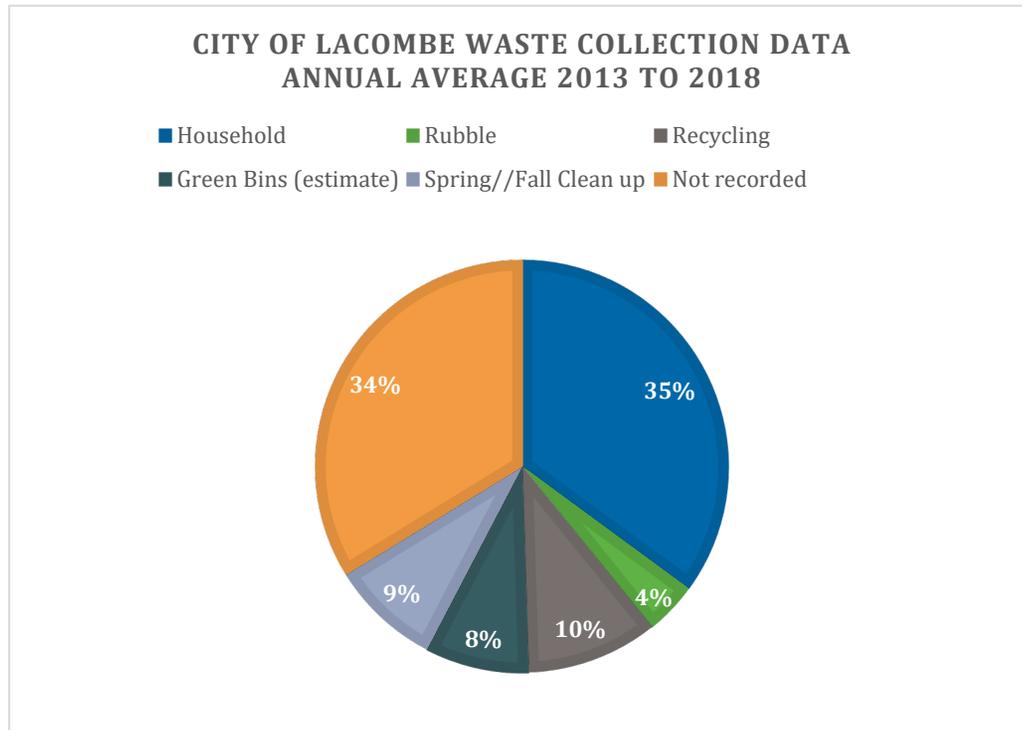


Figure 2-13: City Annual Average Waste Collection (% by Source) from 2013 to 2018

Annual household waste from curbside garbage collection is estimated to represent 35% of the waste collected by the City. Total annual recycling, including commercial cardboard collection, curbside recycling collection, and recycling deposited from the Depot account for about 10% of the total waste generated in the City. Waste from the Spring/Fall Cleanup Events represents 9% and estimated grass and yard waste from the green bins account for 8% of the waste collected by the City. Rubble collected from commercial and industrial sectors account for 4%.

Figure 2-13 shows that there is a minimum data gap of about 34% when waste records provided by the City were compared against the estimated 14,000 tonnes/year of waste generated by the City from all sectors. This data gap potentially represents ICI and C&D waste hauled by private haulers and residents to the Prentiss Transfer Station. This gap suspected to exist because the Commission does not track and record commercial loads and which municipal jurisdiction the waste was generated from. These are details that should be addressed.

### 2.3.1.1 Recycling Generation

Table 2-3 lists the recycling statistics provided by the City. Curbside collection of recyclables began in 2014 and was discontinued on June 1, 2019.

**Table 2-3: Summary of Recycling Collected by the City**

| Year           | Wolf Creek Recycling |                  |                      | Commercial Cardboard [tonnes] | Curbside Recycling [tonnes] | Total [tonnes]  |
|----------------|----------------------|------------------|----------------------|-------------------------------|-----------------------------|-----------------|
|                | Plastics * [tonnes]  | Paper * [tonnes] | Cardboard * [tonnes] |                               |                             |                 |
| 2013           | 106.22               | 236.75           | 235.55               | 273.02                        | -                           | 851.54          |
| 2014           | 91.09                | 155.18           | 203.88               | 272.89                        | 358.35                      | 1,081.39        |
| 2015           | 101.21               | 106.45           | 178.05               | 252.22                        | 432.90                      | 1,070.83        |
| 2016           | 132.58               | 102.91           | 162.18               | 243.21                        | 561.78                      | 1,202.66        |
| 2017           | 88.77                | 113.55           | 183.21               | 260.90                        | 543.59                      | 1,190.02        |
| 2018           | 151.75               | 158.94           | 297.78               | 256.59                        | 576.26                      | 1,441.32        |
| <b>Average</b> | <b>111.94</b>        | <b>145.63</b>    | <b>210.11</b>        | <b>259.81</b>                 | <b>494.58</b>               | <b>1,139.63</b> |

\* From bins picked up at the Wolf Creek Recycling Depot

Recycling collection from the Depot and the discontinued curbside recycling program accounted for 41% and 43%, respectively, of the annual recyclable material from the City. Cardboard collection from the ICI sector accounts for approximately 23% of annual recyclable material collected in the City. Based on staff discussions and Tetra Tech's observations of commercial cardboard, businesses in the commercial areas of the City are cooperating with cardboard recycling (with little to no contamination in the bins during collection). It should be noted that cardboard was observed in rubble loads collected in the industrial park, which may indicate an opportunity to expand the cardboard collection program to industrial businesses.

### 2.3.1.2 2019 Recycling Generation per Source

The City provided recycling collection quantities for 2019 per type of collection, as summarized in Table 2-4. Table 2-4 shows how recycling quantities changed before and after discontinuation of the residential curbside recycling program in June of 2019.

**Table 2-4: Comparison of Recycling Quantities with and without Curbside Collection**

| Material  | Average Diversion (MT/Month)<br>Jan. 2019 to May 2019 | Average Diversion (MT/Month)<br>Jun. 2019 to Nov 2019 |
|---|---|---|
| ▪ Residential Recycling Totals  | 82.8  | 51.3  |
| – Wolf Creek Recycling Totals   | 29.4  | 51.3  |
| – Mixed recycling at the Depot  | 15.4  | 32.1  |
| – Cardboard at the Depot  | 14.0  | 19.2  |
| – Curbside Mixed Recycling Collection                                     | 53.4  | 0.00  |
| ▪ Commercial Cardboard Collection   | 19.6  | 25.0  |
| <b>Total Recycling Diversion<br/>(Residential + Commercial Cardboard)</b> | <b>102.4</b>  | <b>76.3</b>   |

This suggests that the monthly recycling diversion in the City reduced by an average of about 26 tonnes per month after the curbside program was discontinued. This can be attributed to residents preferring to mix their recyclable material in residential garbage collection over dropping it off at the Depot. Additionally, the types of materials accepted at the Depot were reduced, which may have contributed to the reduction in monthly recycling diversion.

Recycling at the Depot increased by 21.9 tonnes per month following the discontinuation of the curbside recycling collection. The data clearly shows that many residents continued the effort to participate in recycling diversion by using the Depot's recycling program.

Figure 2-14 shows the comparison of average recycling diversion per month from January 2019 to November 2019.

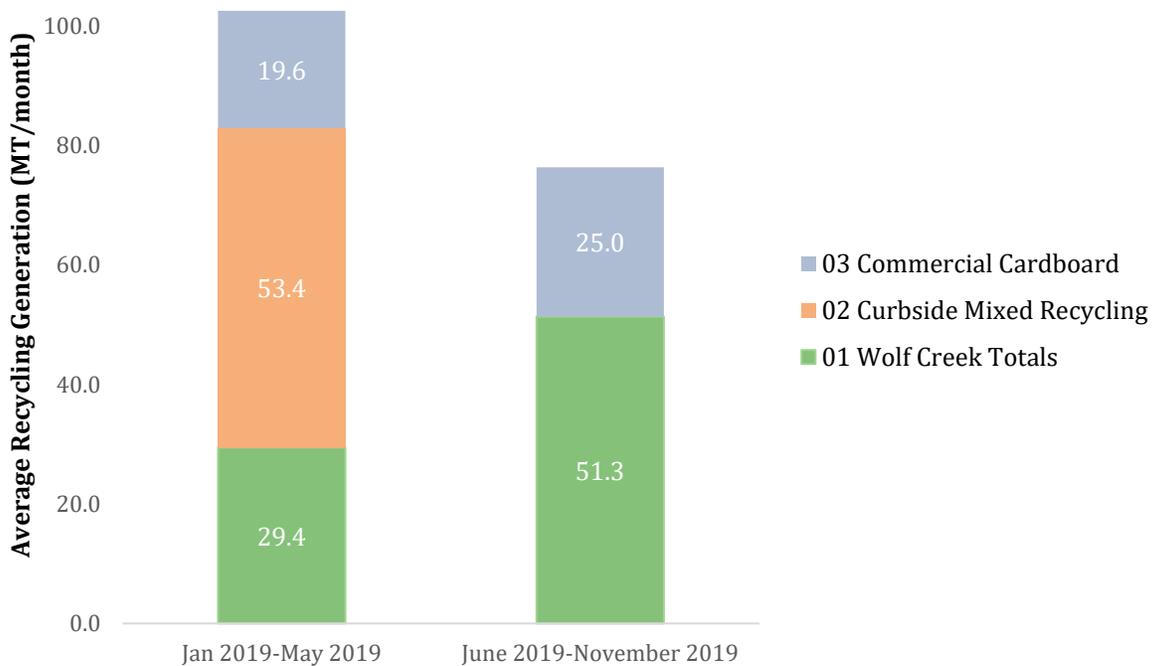


Figure 2-14: Monthly Average Recycling Generation (tonnes/month) from January 2019 to November 2019

The following can be observed from Figure 2-14:

- Wolf Creek Recycling Totals increased from 29.4 tonnes/month from January 2019 – May 2019 to 51.3 tonnes/month from June 2019 – November 2019.
- Commercial cardboard collection increased from 19.6 tonnes/month in January 2019 – May 2019 to 25.0 tonnes/month

### 2.3.2 Yard & Garden Disposal

Scale records at the Prentiss Transfer Station show that brush and trees hauled by the City from the Depot was about 1,274 tonnes in 2019.

Yard and garden waste collected by the City collection crew were dropped off at two locations at the time of this study. Yard waste is dropped off either at the Depot or the Len Thompson temporary stockpile site. The City has

since entered into an agreement with D&M to collect yard waste from the Depot and process yard and garden waste from the green bin collection program. The temporary yard waste stockpile at Len Thompson is to be hauled to the D&M site and will not be used in the future.

Yard waste loads are not weighed, and the City estimates that 1,139 tonnes per year of yard waste collected in the green bins and the Depot.

### 2.3.3 Waste and Recycling Summary

The following data for the City is not available through scale records at the Prentiss Transfer Station:

- Commercial waste collected by third-party contractors;
- Self haul loads by residents and businesses; and
- C&D waste

Data for these loads is not identified by the municipality where the waste is collected.

The disposal and diversion quantities by the Commission at the Prentiss Transfer Station scale for 2019 are shown in Table 2-5:

**Table 2-5: Summary of Disposal and Diversion Quantities at the City (2019)**

| Source   | Sector   | Total Tonnage (MT) |
|--|--|--------------------|
| <b>Disposal at the Prentiss Transfer Station</b> |  | <b>4,886</b>       |
|  | Commercial "Rubble" Sector                       | 488                |
|  | Residential Collected Garbage                    | 4,398              |
| <b>Disposal from Spring/Fall Cleanup</b>         |  | <b>1,199</b>       |
|  | Rubble   | 89                 |
|  | Wood   | 1,109              |
| <b>Materials diverted by the City</b>            |  | <b>3,854</b>       |
|  | Recycling (from Curbside and Depot)              | 1,441              |
|  | Yard and Garden Waste                            | 1,139              |
|  | Brush and Trees at the Prentiss Transfer Station | 1,274              |

## 3.0 CITY OPERATIONS

### 3.1 Collection Overview

#### 3.1.1 Staffing

The City's solid waste staff includes five full time employees and one seasonal employee in the summer season. Table 3-1 summarizes the City's waste collection staff and their respective roles and responsibilities.

**Table 3-1: Collection Staff**

| Title             | Number | Responsibilities  |
|-------------------|--------|---|
| Foreman           | 1      | <ul style="list-style-type: none"> <li>Coordinates and manages collection staff</li> <li>Partially allocated to solid waste department</li> </ul>       |
| Full-Time Driver  | 3      | <ul style="list-style-type: none"> <li>Collect lane bins and curbside carts</li> </ul>  |
| Backup Driver     | 1      | <ul style="list-style-type: none"> <li>Fills in for full-time drivers on an as-needed basis</li> <li>Performs maintenance on collection bins</li> </ul> |
| Seasonal Employee | 1      | <ul style="list-style-type: none"> <li>Performs maintenance on collection bins (typically summer season)</li> </ul>                                     |

#### 3.1.2 Vehicles and Equipment

The City's collection fleet consists of four side-loader collection trucks for collection of residential garbage, residential grass, commercial garbage and commercial cardboard. Three trucks are used daily (from Monday to Friday) and one truck serves as a spare in cases of maintenance or unforeseen circumstances.

Each truck is equipped with a Pakmor style hydraulic bin lifter that is capable of lifting 3-yd<sup>3</sup> metal bins and curbside roll-out carts for collection.

The following table (Table 3-2) describes the collection fleet.

**Table 3-2: City Collection Fleet**

| Unit No.    | GVW <sup>1</sup> | Year Purchased | Scheduled Replacement  | Compatibility (Bins and/or Containers) | Mechanism (Push-out/Tilt Dump) |
|-------------|------------------|----------------|------------------------|--|--------------------------------|
| 204         | 27,215 kg        | 2011           | 2019-20                | Roll-out & 3 yd <sup>3</sup>           | Push                           |
| 242         | 27,488 kg        | 2015           | 2023                   | Roll-out & 3 yd <sup>3</sup>           | Push                           |
| 247         | 25,401 kg        | 2018           | 2026                   | Roll-out & 3 yd <sup>3</sup>           | Tilt                           |
| 201 (SPARE) | 26,650 kg        | 2006           | 2019-2020 <sup>2</sup> | Roll-out & 3 yd <sup>3</sup>           | Push                           |

1. <sup>1</sup>GVW = Gross Vehicle Weight

2. <sup>2</sup>A new unit will replace Unit No. 204 in 2019-2020 and Unit No. 204 will become the new spare vehicle.

A push-out collection truck uses a hydraulic driven ejection plate in the truck body to push the load from the rear of the truck. A tilt truck unloads similar to a dump truck by raising the front of the body to unload to the rear of the truck.

### 3.1.3 Bins and Carts

The City utilizes two basic types of collection containers in the waste collection system. 2300 L bins are used for residential lane collection, commercial waste collection, commercial cardboard collection, and community yard waste bins. The 375 L roll-out carts are used for front street collection in residential areas.

Table 3-3 summarizes the bins used for the City’s waste collection system and provides specifications for each type of container.

**Table 3-3: Summary of Collection Bins utilized by the City of Lacombe**

| <b>Lane Bins – Residential, Commercial and Rubble (Industrial)</b>  |  |
|---|--|
|  <p style="color: #003366; margin-top: 10px;"><i>Figure 3-1: Commercial Lane Bins</i></p>      | <ul style="list-style-type: none"> <li>▪ Material Type: Metal</li> <li>▪ Capacity: 2300 L / 3 yd<sup>3</sup></li> <li>▪ Number of Units: 1,060</li> <li>▪ Approximate Homes Served Per Bin (Residential): 4</li> </ul> |
| <b>Front Curb Bins – Residential</b>  |  |
|  <p style="color: #003366; margin-top: 10px;"><i>Figure 3-2: Garbage Roll-out Cart</i></p>   | <ul style="list-style-type: none"> <li>▪ Material Type: Plastic</li> <li>▪ Capacity: 375 L / or 0.6 yd<sup>3</sup></li> <li>▪ Number of Units: 1,365</li> <li>▪ Homes Served Per Bin: 1</li> </ul>                     |
| <b>Cardboard Bins – Commercial</b>  |  |
|  <p style="color: #003366; margin-top: 10px;"><i>Figure 3-3: Carboard Commercial Bin</i></p> | <ul style="list-style-type: none"> <li>▪ Material Type: Metal</li> <li>▪ Capacity: 2300 L / 3 yd<sup>3</sup></li> <li>▪ Number of Units: 64</li> </ul>   |

## Grass/Yard Waste Bins – Residential



Figure 3-4: Grass Community Bin

- Material Type: Metal
- Capacity: 2300 L / 3 yd<sup>3</sup>
- Number of Units: 217
- Homes served per bin: varies

## 3.2 Collection Observations

### 3.2.1 Residential Curbside

Residential curbside collection occurs once a week from Monday to Friday.

Tetra Tech conducted a ride-a-long on a waste collection truck on August 1, 2019. The collection route included portions of the Lakes, Woodland subdivision, and Lincoln Park where approximately 280 residential curbside waste bins were collected, with Tetra Tech taking note of the collection route, pickup times, travel times, hazards, and comments and concerns from residences and drivers.

Tetra Tech's observations of the residential curbside collection event are listed below:

- Curbside residential collection uses 375 L plastic roll-out carts;
- Each household is serviced with one roll-out cart;
- Collection bins were placed on the curb by residents to allow for pickup by the collection trucks; and
- On this route, the collection truck had to back up once at this particular area of the route to pick up a cart;
  - Backing up several times on a curbside route to pick up curbside carts is typical during collection.

Tetra Tech observations on the residential curbside route include the following:

- Collection drivers sometimes need to exit the truck to reposition carts due to the following:
  - Carts placed too close to the curb;
  - Carts placed too close to vehicles; and/or
  - Carts placed in the wrong orientation (lifting hooks not faced out to the street).
- Carts were placed below overhanging trees causing:
  - Driver to maneuver the truck arm to avoid damaging the tree; or
  - Driver needing to exit the vehicle to reposition the cart.

- On the day of the ride-a-long, issues with the truck’s diesel exhaust regeneration system<sup>2</sup> resulted in two hours of lost time to the residential collection route.
  - Exhaust regeneration systems serve as emission control for diesel engines. When the exhaust system is not working efficiently, carbon builds up and clogs the motor oil filter.
  - Drivers reported that regeneration system issues occurs more frequently with slower travel speeds on collection routes but not at highway speeds.
- Yard waste was observed in curbside collection garbage, which appeared to be influenced by the proximity of the community grass bins.
- A few curbside carts were full or overloaded such that cart lids did not properly close.

### 3.2.2 Residential Lane

Tetra Tech followed the residential lane collection crew and conducted interviews with collection staff on July 23, 2019. Tetra Tech observed approximately 123 residential lane bins collected by the City within this timeframe. The ride-a-long, along with additional discussions with collection crews on August 1, 2019, provided valuable information on operational issues encountered with lane collection.

The following is a list of observations:

- Collection in residential lanes is with 2300 L metal bins;
- Collection bins were spaced at approximately one bin per four households;
- Several bins had observable damage to the plastic bin lids (as seen on Figure 3-5);
- Lane collection was observed in straight lanes;
- There were no T-intersections on the observed route; and
- A few bins had been repaired with bolt-on plastic liners due to rusted bottoms:
  - From discussion with the City staff, it is understood that the plastic base repairs are currently not used and bins are being replaced from a stockpile of excess bins.

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<sup>2</sup> Exhaust Regeneration – A diesel engine emission control system that burns off soot accumulation in the exhaust filter.



*Figure 3-5: Metal Bin with Damaged Lid and a Bottom “Plastic Diaper” Repair*

Issues observed on July 23, 2019 by Tetra Tech include:

- Overhead power or telephone lines along some lanes where drivers needed to take extra time while lifting and repositioning bins to avoid hitting the overhead lines (Figure 3-6).
- Trees overhanging the lanes can be clipped when collection trucks drive by and when waste bins are being lifted by the collection truck (Figure 3-7).

From Tetra Tech’s experience, issues with overhead lines and trees are often encountered at lane collection systems that use collection trucks with high-lifting arm mechanism.



*Figure 3-6: Overhead Power Lines*



*Figure 3-7: Overhanging Trees*

Although not observed in the ride-a-long, other issues the collection crew identified included:

- Heavy bin loads, such as concrete rubble, that cannot be lifted by the truck arms;
- Bins that are overfilled; and
- Bins that are heavy because of wet grass.

### 3.2.3 Historical Collection Performance Data

Figures 3-8 to 3-9 shows the household loads (waste collected from the residential area) and rubble loads (waste collected from the industrial park) that are tipped at the Prentiss Transfer Station. The figures were developed from historical records collected by the City between 2006 and 2018. Trend lines from the performance data are shown as dashed lines.

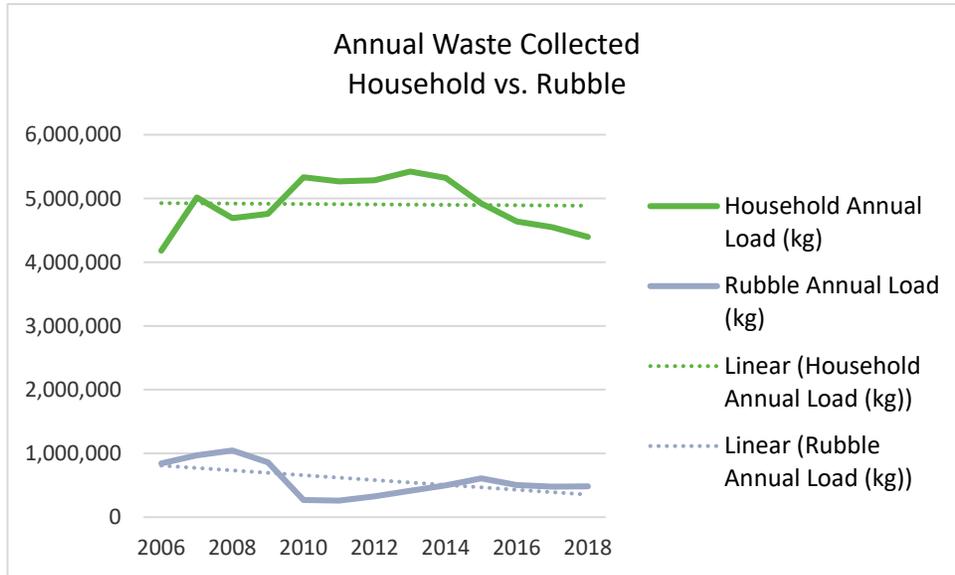


Figure 3-8: City Annual Waste Collection (kg/year)

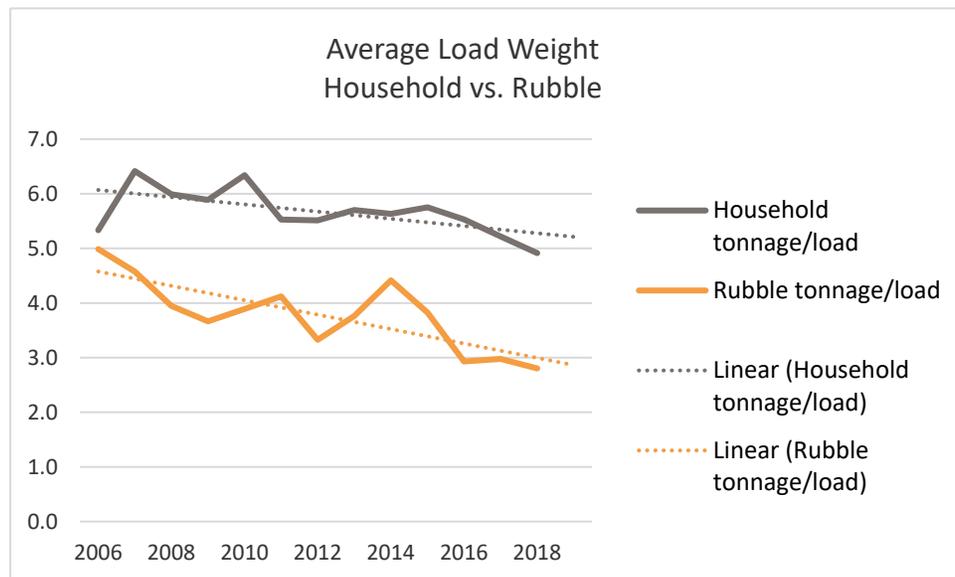


Figure 3-9: Average Loads for Residential Collection(tonnes/load)

The average load weights on Figure 3-9 is of particular interest as the trend lines show that average load weight has declined from 2006 to 2018, approximately by 6.6% for household loads, and 13.2% for rubble loads. There are several possible factors that could contribute to this decrease, including, but not necessarily limited to:

- Aging equipment and reduced hydraulic performance of compacting equipment;
- Diversion programs potentially reducing the amount of waste collected;
- Commercial businesses increasing reliance on private haulers, thereby reducing the amount collected in rubble loads;
- A reduction in waste density as a result of separate grass collection; and
- Collection routes may be inefficient as a result of changes in waste, reduced commercial customers, or small beats added as the City develops.

A more in depth evaluation of collection routes, truck performance factors, and changes in waste composition over time would be needed to determine specific factors impacting load weights in the City. A review of collection of the existing collection routes and completing an updated route plan could be the most effective way to maximize truck loads and collection efficiencies.

### 3.2.4 Wolf Creek Recycling Depot

Tetra Tech visited the City's Depot located at 5214 Wolf Creek Drive, Lacombe on July 23 and August 1, 2019. The recycling facility contains six 40-yd<sup>3</sup> metal recycling bins provided by WM for plastics, paper, cardboard and other mixed recyclables as well as two 2300 L metal bins provided by the City for garbage. Around the perimeter of the depot is a yard waste drop-off area to the north, sod drop-off to the west, and a trees and brush drop-off to the south.

A site plan of the facility is illustrated below on Figure 3-10.



Figure 3-10: Recycling Depot Plan

The following observations were made at the recycling depot.

- **Site Security**
  - The site is open 24/7 so that residents and commercial customers can drop off their recyclable waste at the outdoor recycle bins; and
  - The facility is not staffed so customers must rely on site signage to identify the correct bin/location for their materials. As such there is no on site education and enforcement of the Depot.
- **Recycle Bins**
  - Several residents used the site during Tetra Tech’s site visit;
  - Four 40-yd<sup>3</sup> metal recycling bins are located at the depot;
  - All bins were filled to capacity at the time of Tetra Tech’s visit;
  - Signage above the bins indicate the type of accepted recyclable wastes; and
  - Labels on bin did not match with onsite signage, leading to customer confusion and variety of mixed recyclables within bins.
- **Waste Bins**
  - The City placed two 2300 L waste bins at the Depot for site users to deposit household waste that is not recyclable.
- **Yard Waste Drop-Off Area**
  - City collection trucks also haul material collected from the yard waste collection bins and deposit the waste directly into the middle of the yard waste drop-off area;
  - Customers empty grass and yard clippings over a short concrete block wall at the yard waste drop-off area; and
  - At the time of Tetra Tech’s site visit in July 2019, it was understood that the yard waste is loaded out and hauled to the nearby temporary stockpile site (Len Thompson Industrial Area) on a weekly basis.
- Since the July 2019 site visit, the City has entered into a service contract with D&M to load and haul yard waste from the Depot to a compost operation outside the City.
- **Sod Drop-Off Area**
  - Small piles of sod were observed at the time of the site visit.
- **Trees and Brush Drop-Off Area (Figure 3-11)**
  - Large volumes of tree cuttings including branches and tree trunks;
  - Large load of tree trunks was deposited at the time Tetra Tech was on site;
  - Wood chippings were observed at the site;
  - Wood piles are placed along the site fence, close to buildings on the adjacent lot; and
  - Landscaping companies and tree service companies were observed unloading brush and trees at the depot.

Operational and safety issues include:

- Recycling Bins

- Most of the bins were filled to capacity, leaving little available space for customers to drop off recyclables into the bins (Figure 3-12).
- Confusing signage on bins causing some mixing of recyclable wastes in cardboard bins.
- Prohibited plastics (Polyvinyl chloride #3, Low-Density Polyethylene #4, Polypropylene #5, Polystyrene #6, and Miscellaneous Plastics #7) were found in the mixed recycle bins.



Figure 3-11: Trees and Brush Storage Area at the Depot  
(Note the adjacent industrial building)



Figure 3-12: Resident Using an Overfilled Recycling Bin at the Recycling Depot

- Yard Waste Drop-Off Area

- Site users drop off grass and leaves along a low profile retaining wall with no barriers to prevent falls;
- Tracks and scouring from the loaders causing ponding and poor soggy ground conditions, making it difficult for collection vehicles to navigate the site;
- Ponding water also creates conditions for insect pests and odours to occur; and
- Tetra Tech observed double handling of yard waste when collection drivers would unload grass and yard waste from the green bins to the Depot (Figure 3-13). According to the City, collection drivers would unload the material to the Depot when the temporary stockpile site in Len Thompson Industrial Area was inaccessible. These loads would have been reloaded onto a truck to haul to the Len Thompson stockpile site. D&M is now responsible with hauling the yard waste dropped off at the Depot.



*Figure 3-13: Green Bin Collection unloaded at Wolf Creek Depot on July 23, 2019*

- Trees and Brush Drop-Off Area
  - Large volume of vegetation within the tree and brush drop-off area;
    - This would require several loads to be hauled away to the Prentiss Transfer Station;
  - Wood grinding may be required on site with large wood masses and stumps collected; and
  - Wood chips at the trees and brush area pose a potential fire risk.

Tree waste piles located near adjacent industrial building (directly south of the wood storage area) present a potential fire risk. From Tetra Tech’s experience, chipped wood deposited from yard waste can self-ignite under the right conditions. The City loads and hauls about 1,300 tonnes a year of brush and trees to the Prentiss Class III landfill. At the same time, the Commission may be losing revenue as a result of commercial companies avoiding to pay tipping fees at the Prentiss Transfer Station by opting to use the Depot. As a member of the Commission, the City is not charged tipping fees. Since actual quantities are not known, if we assume that 50% of the brush and trees can be attributed to commercial businesses, the Commission may be losing as much as \$25,000 of potential revenue.

### **3.2.5 Len Thompson Industrial Area**

The City’s temporary stockpile site, where yard waste from the recycling depot was being transferred, is located approximately 400 metres southwest of the Depot in a field north of a stormwater pond or recreational area. The temporary site consists of two large windrows piled that is approximately 4 metres high and 100 metres long.

This site has accumulated over 1,290 tonnes of organic waste at the Len Thompson Industrial Area as of September 2019.<sup>3</sup> At the time of preparing this report, the City contracted D&M to load and haul this material to their composting operation and stockpiling of yard waste at the Len Thompson Industrial Area is to be discontinued.

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<sup>3</sup> Source: Request for Proposal for Yard Waste Hauling and Disposal issued by the City

### 3.2.6 Rubble Collection (Commercial and Industrial Collection)

Tetra Tech followed a collection truck on August 1, 2019 for a half day around the Wes Jackson commercial area. The following observations were made:

- Commercial collection bins are 2300 L metal bins;
- The City defines the collected materials on this route as ‘rubble’ as it is disposed in the Class III Landfill of the Prentiss Transfer Station;
- The rubble loads collected on this date were disposed at the Prentiss Class III Landfill;
- Travel distances between each collection stop vary and pickup times depend on distance between bins and bin location in commercial lots;
- Times for bin pick up was not recorded due to complexity of the route;
- Most pickup bins were accessible by the truck;
- A few bins in this area were on commercial lots with confined space which made access to the bins more difficult; and
- The collection truck backed up numerous times in fenced lots that do not have adequate space to turn around, or where there was no route through the lot.

Key issues identified by Tetra Tech concerning the commercial collection route include:

- Some pickup locations have limited maneuverability and tight corners; and
- Several pickup locations require the collection truck to back up in order to return the collection route.

### 3.2.7 Collection Staff Feedback

Tetra Tech met with City collection staff on August 1, 2019 to review collection operations and discuss day to day issues or challenges they encounter. The following table (Table 3-4) summarizes the feedback with the City’s collection staff.

**Table 3-4: Collection Staff Feedback**

| Subject                       | Collection Staff Feedback  |
|-------------------------------|--|
| Daily Activity                | <ul style="list-style-type: none"> <li>▪ Day typically begins at 7:00 a.m.</li> <li>▪ Downtown collection starts at 6 a.m. to avoid rush hour traffic, pedestrian traffic and parked vehicles</li> </ul>   |
| Equipment                     | <ul style="list-style-type: none"> <li>▪ The fleet consists of four collection trucks, with one truck used as a spare</li> <li>▪ All the trucks, apart from the spare truck, are equipped with backup cameras</li> <li>▪ Newer trucks are equipped with an exhaust regeneration system that removes diesel particulate matter or soot from diesel engine exhaust</li> </ul>  |
| Alley Conditions              | <ul style="list-style-type: none"> <li>▪ Roadways are in generally good condition with a few potholes. Overhanging branches and overhead lines are sometimes an obstacle</li> <li>▪ Roads Department maintains alleyways to minimize potholes</li> <li>▪ Collection drivers report issues (bins or alley ways) that require repair</li> <li>▪ Roads Department clears snow from alleys as requested by the SW department so that snowfall can have minimal effect on collection</li> </ul>   |
| Curbside Conditions           | <ul style="list-style-type: none"> <li>▪ Sometimes front street roll-out carts are incorrectly placed by residents, making it difficult for collection trucks to access. Incorrect placements include the following:                             <ul style="list-style-type: none"> <li>– Bin is placed backwards;</li> <li>– Bin is placed too close to a vehicle or other stationary object/s; or</li> <li>– Bin is overflowing with waste.</li> </ul> </li> <li>▪ Bins are placed backwards making it difficult for the truck lift arms to connect to the bins</li> <li>▪ Collection drivers comment that there is a lack of education for what waste material is allowed for residential garbage collection                             <ul style="list-style-type: none"> <li>– Prohibited items include heavy materials (concrete rubble), bulky materials (furniture) and green waste (tree cuttings, grass and branches), etc.</li> </ul> </li> <li>▪ Drivers express the need for enforcement for prohibited materials and to educate residents on proper bin placement</li> <li>▪ Overloading of bins can cause the roll-out cart cover to break, which leads to the need of cart replacement</li> </ul> |
| Grass/Yard Waste Bins         | <ul style="list-style-type: none"> <li>▪ Bins contain a variety of yard waste not limited to grass clippings; bins also accept garden waste and leaves</li> <li>▪ Bins can be heavy when full</li> <li>▪ Collection drivers comment that wet grass, sod, and dirt can become odorous</li> <li>▪ Residents place yard waste in their curbside or alley garbage bins if the grass bin location is inconvenient</li> <li>▪ Bins for Grass/Yard Waste collection are repurposed from an existing stock of bins, so some are already deteriorating. The bottoms of the grass bins tend to rust and erode frequently.</li> </ul>   |
| Cardboard Recycling           | <ul style="list-style-type: none"> <li>▪ Collected cardboard waste is hauled directly by the City collectors to a MRF in Red Deer (owned by Waste Management)</li> <li>▪ Cardboard waste is relatively clean, with very few instances of contamination                             <ul style="list-style-type: none"> <li>– There are minor instances of contaminated materials such as Styrofoam which are mixed in with cardboard</li> </ul> </li> <li>▪ Contamination not normally an issue as Waste Management rarely imposes additional charges for contaminated cardboard loads</li> </ul>   |
| Curbside vs. Alley Collection | <ul style="list-style-type: none"> <li>▪ From staff perspective, mixed preferences for lane pickup vs. curbside pickup</li> <li>▪ Back alley method (with 3-cubic yard bins) sees less traffic and has fewer stops</li> </ul>  |
| Additional Comment            | <ul style="list-style-type: none"> <li>▪ Drivers comment that current route are inefficient                             <ul style="list-style-type: none"> <li>– Annexed communities are being implemented into collector routes without consideration of efficiency and travel distances.</li> </ul> </li> </ul>  |

### 3.2.8 Observation of Bin and Cart Contents

Tetra Tech made observations of the bin contents during the ride-along event. The following observations were noted about the bin contents encountered during the July 23 and August 1 site visits. Approximately 280 front curbside carts and 123 alley bins were collected during Tetra Tech's ride-a-long events.

- Back-Lane Waste Bins
  - Most bins contained typical residential household waste
  - One bin observed was filled with grass clippings (June 23, 2019)
- Front Curbside Carts
  - Cart contents contained typical household waste
  - Recyclable materials were observed within the carts (e.g., cardboard, plastics, and papers)
  - One cart observed contained small volume of wood and sawdust
  - Some carts contained small amounts of yard waste
- Cardboard Bin
  - Cardboard bins contained recyclable cardboard
  - Very little contamination was observed
- Grass/Yard Waste Bin
  - Contained mostly grass clipping, shrubs and plant trimmings
  - Very little contamination was observed
  - Small tree and shrub branches were commonly observed in the bins
- Commercial Containers
  - Bin contents were minimal at the time of observation by Tetra Tech
  - Commercial collection is completed early in the mornings
- Rubble Collection
  - Observations of rubble loads were made at the Class III landfill upon unloading the collection truck
  - A rubble load on August 1 contained a variety of plastic products, significant amounts of recyclable cardboard, paper products, and bagged waste with unobserved contents (Figure 3-14)
  - The rubble load contained little identifiable yard waste or food scraps
  - Bags were not opened to determine their contents
  - While the load collected by the City contained little or no identifiable organics, Tetra Tech observed other loads deposited in the Class III landfill by commercial haulers that contained significant quantities of wet waste, including organics



Figure 3-14: Rubble Load at the Class III Landfill

## **4.0 BEST PRACTICE RESEARCH IN COMPARABLE COMMUNITIES**

As part of the assessment of the City’s solid waste utility services, Tetra Tech investigated five comparable collection systems. The following section summarizes the benchmarking analysis of service levels and solid waste system performance for the jurisdictions of the City of Camrose (Camrose), City of Fort Saskatchewan (Fort Saskatchewan), Town of Cochrane (Cochrane), Town of High River (High River), and Town of Beaumont (Beaumont). These municipalities are selected based on data availability and similar service level demographics.

### **4.1 Benchmarked Collection Systems**

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Table 4-1 describes the results of the benchmarking analysis conducted for each of the aforementioned municipalities, including the City’s waste collection system. Data in the table represents only the residential portion of the waste stream for each of the municipalities contacted. These municipalities do not provide ICI or C&D collection services and are not reported by the municipalities.

**Table 4-1: Residential Service Delivery Comparison**

| Stream                 | Houses Receiving Curbside | Frequency                          | Collection Type | Container Type                       | Limits                                  | Pay as you Throw (PAYT)   | Cost of Service per household per month   | Disposal Rate (kg/cap/yr) | Diversion Rate (%) | Membership   | Municipal/ City Contractor Collection | Finance Model (tax/utility/ tip fee) | Finance for Cart Roll-Out   | Goals  | Bulky Waste   | Additional Information   |                 |
|------------------------|---------------------------|------------------------------------|-----------------|--------------------------------------|---|---|---|---------------------------|--------------------|--|---------------------------------------|--------------------------------------|---|--|---|--|-----------------|
| <b>City of Lacombe</b> |                           |                                    |                 |                                      |   |   |   |                           |                    |  |                                       |                                      |   |  |   |  |                 |
| Garbage                | 4,550                     | Weekly                             | Automated       | Communal Metal Bins & Roll-out Carts | 3 yd <sup>3</sup> & 0.6 yd <sup>3</sup> |   | \$31.76 – SF<br>\$58.39 – Commercial & MF | 375                       | 23% (2018)         | <ul style="list-style-type: none"> <li>Lacombe Regional Waste Services Commission (\$68.81/tonne)</li> <li>Transfer to West Dried Meat Lake Regional Landfill (80 km)</li> </ul> | Municipal                             | Utility                              | <ul style="list-style-type: none"> <li>Carts are purchased by the City</li> <li>There is no cost recovery identified for bins through fees or utility rates</li> </ul>  | Solid Waste Review underway  | <ul style="list-style-type: none"> <li>Community Cleanup Campaign-biannual collection of bulky household items</li> </ul> | <ul style="list-style-type: none"> <li>Yearly Toxic Round-up Drop-off</li> <li>Biannual “Trash to Treasure” Weeks</li> <li>eWaste drop off at public works yard</li> <li>Wolf Creek Recycling Depot is an unstaffed recycle depot</li> <li>Collection hauled to Prentiss Road Transfer Station then waste transferred to West Dried Meat Lake Regional Landfill (~90 km from Lacombe)</li> </ul>                                     |                 |
| Organics               |                           | Biweekly Spring/ Summer/Fall       | Automated       | Communal Metal Bins                  | 3 yd <sup>3</sup>                       | N.A.  | Included in garbage                       |                           |                    |  |                                       |                                      |   |  |   |  |                 |
| Recycling              |                           | 3 x per week                       | Drop Off        | WM Metal Bins                        | 40 yd <sup>3</sup>                      | N.A.  | Included in garbage                       |                           |                    |  |                                       |                                      |   |  |   |  | City Contractor |
| <b>City of Camrose</b> |                           |                                    |                 |                                      |   |   |   |                           |                    |  |                                       |                                      |   |  |   |  |                 |
| Garbage                | 5000 (2010)               | Weekly                             | Automated       | Cart – 240 L                         | 240 L                                   | <ul style="list-style-type: none"> <li>Garbage Disposal Cost \$3.45 included in utility fee - SF</li> <li>Excess collection tag for \$5.00/tag</li> </ul> | \$18.01 – SF<br>\$45.64 – MF              | 310 (2010)                | 21% (2010)         | <ul style="list-style-type: none"> <li>Camrose Regional Solid Waste Authority (\$28/tonne)</li> <li>Direct haul to Regional Landfill (5 km)</li> </ul>                           | City Contractor                       | Utility                              | <ul style="list-style-type: none"> <li>Collection cart \$2.80/month per household unit included in utility fee</li> <li>Replacement Fee at \$50.00/ occurrence</li> <li>Handling/ Admin fee at \$50/occurrence</li> <li>Additional Organics/Yard Waste Cart and Permanent Collection at \$6.30/month</li> </ul> | <ul style="list-style-type: none"> <li>Residential waste 195 kg/cap reduction target by 2015</li> <li>MSW reduction target to 1000 kg/cap by 2015</li> </ul> | <ul style="list-style-type: none"> <li>Christmas tree collection week</li> </ul>  | <ul style="list-style-type: none"> <li>ReStore Drop-off location for building materials and appliances</li> <li>Recycling drop-off operated by Centra Cam which also receives select household hazardous waste</li> <li>Collected waste is hauled directly to the Camrose Regional Sanitary Landfill (within the City of Camrose)</li> <li>Organics hauled to the City of Calgary compost facility (~300 km from Camrose)</li> </ul> |                 |
| Organics               |                           | Weekly May-Oct<br>Biweekly Nov-Apr | Automated       | Cart – 240 L                         | 240 L                                   | <ul style="list-style-type: none"> <li>Additional Organics Collection and Cart for \$6.30/mo.</li> </ul>  | Included in garbage                       |                           |                    |  |                                       |                                      |   |  |   |  |                 |
| Recycling              |                           | As needed                          | Drop Off        | N.A.                                 | -                                       | N.A.  | \$6.00                                    |                           |                    |  |                                       |                                      |   |  |   |  |                 |

| Stream                                       | Houses Receiving Curbside | Frequency | Collection Type    | Container Type                 | Limits         | Pay as you Throw (PAYT)  | Cost of Service per household per month        | Disposal Rate (kg/cap/yr) | Diversion Rate (%) | Membership        | Municipal/ City Contractor Collection                    | Finance Model (tax/utility/ tip fee) | Finance for Cart Roll-Out   | Goals   | Bulky Waste   | Additional Information   |   |
|--|---------------------------|-----------|--------------------|--------------------------------|----------------|--|--|---------------------------|--------------------|-------------------|--|--------------------------------------|---|---|---|--|---|
| <b>City of Fort Saskatchewan<sup>4</sup></b> |                           |           |                    |                                |                |  |  |                           |                    |                   |  |                                      |   |   |   |  |   |
| Garbage                                      | 7,400                     | Biweekly  | Automated          | Cart – 240 L                   | 240 L          | <ul style="list-style-type: none"> <li>Excess bags to the Transfer Station, \$2.55/bag</li> <li>C&amp;D Waste - \$35.70/m<sup>3</sup></li> </ul>       | \$27.72 – SF<br>\$16.63 – MF                   | No data provided          | 21% (2014)         | No data provided  | City Contractor  | Utility                              | N.A.  | <ul style="list-style-type: none"> <li>Updated recycle sorting list in blue bag collection</li> </ul> | <ul style="list-style-type: none"> <li>Household large item pickup – 2 items at maximum 200 lbs. limit each</li> <li>Christmas tree collection</li> </ul> | <ul style="list-style-type: none"> <li>Spring Extra Yard Waste Collection</li> <li>Household Toxic Round-up Event Drop-Off</li> </ul>  |   |
| Organics                                     |                           | Biweekly  | Automated          | Cart – 240 L                   | 240 L          |  |  |                           |                    |                   |  |                                      |   |   |   |  |   |
| Recycling                                    |                           | Weekly    | Manual – comingled | Blue bags – resident purchased | -              | N.A.   |  |                           |                    |                   |  |                                      |   |   |   |  |   |
| <b>Town of Cochrane</b>                      |                           |           |                    |                                |                |  |  |                           |                    |                   |  |                                      |   |   |   |  |   |
| Garbage                                      | ~6,000                    | Weekly    | Automated          | Cart – 120 L                   | 120 L          | <ul style="list-style-type: none"> <li>Excess bags (\$3.00/bag) at Eco Centre or collected</li> <li>Additional cart collection \$13/cart/mo</li> </ul> | \$22.25 – SF<br>No MF or commercial collection | 185 (2011)                | No data provided   | No data provided. | City Contractor – haul to Landfill in other Jurisdiction | Utility                              | <ul style="list-style-type: none"> <li>Additional or Replacement fee for cart:</li> <li>\$45 waste cart</li> <li>\$70 recycling cart</li> <li>\$70/240L or \$45/120L organics cart</li> </ul> | <ul style="list-style-type: none"> <li>80% Waste Diversion by 2020</li> </ul>                         | <ul style="list-style-type: none"> <li>Seasonal Christmas Tree Collection</li> </ul>  | <ul style="list-style-type: none"> <li>Annual Green Sweep &amp; Electronic Recycling Round Up</li> <li>Public education audit in 2018 using “education tags” on carts</li> <li>Cochrane operates a recycling drop-off facility and with a public drop-off waste transfer station</li> <li>Collected waste hauled to Calgary to Spy Hill Landfill (~30 km from Cochrane)</li> </ul> |   |
| Organics                                     |                           | Weekly    | Automated          | Cart – 120 L<br>Cart – 240 L   | 120 L<br>240 L |  |  |                           |                    |                   |  |                                      |   |   |   |  | <ul style="list-style-type: none"> <li>Additional cart collection \$7/cart/mo</li> </ul>    |
| Recycling                                    |                           | Weekly    | Automated          | Cart –240 L                    | 240 L          |  |  |                           |                    |                   |  |                                      |   |   |   |  | <ul style="list-style-type: none"> <li>Additional cart collection \$7.55/cart/mo</li> </ul> |

<sup>4</sup> Disposal rate per capita reported by each municipality can vary depending on what is included in the data. The higher rate for High River may be attributed to ICI waste streams included in disposal data.

| Stream                    | Houses Receiving Curbside | Frequency | Collection Type    | Container Type              | Limits           | Pay as you Throw (PAYT)  | Cost of Service per household per month                | Disposal Rate (kg/cap/yr) | Diversion Rate (%) | Membership  | Municipal/ City Contractor Collection | Finance Model (tax/utility/ tip fee) | Finance for Cart Roll-Out   | Goals  | Bulky Waste   | Additional Information  |
|---------------------------|---------------------------|-----------|--------------------|-----------------------------|------------------|--|--|---------------------------|--------------------|---|---------------------------------------|--------------------------------------|---|--|---|---|
| <b>Town of High River</b> |                           |           |                    |                             |                  |  |  |                           |                    |   |                                       |                                      |   |  |   |   |
| Garbage                   | 5,473 (2011)              | Weekly    | Automated          | Cart –240 L<br>Cart – 360 L | 240 L<br>360 L   | <ul style="list-style-type: none"> <li>Excess bags at \$2.00/bag</li> </ul>  | \$22.32/bimonthly (240 L)<br>\$31.06/bimonthly (360 L) | 870 (2015)                | No data provided   | <ul style="list-style-type: none"> <li>Foothills Regional Services Commission (\$102/tonne for household and commercial waste)</li> <li>Direct haul to Regional Landfill (10 km)</li> </ul>                               | City Contractor                       | Utility                              | <ul style="list-style-type: none"> <li>Resident fee:                             <ul style="list-style-type: none"> <li>\$10.10/month (240 L)</li> <li>\$14.00/month (360 L)</li> </ul> </li> </ul> | N.A.   | N.A.  | <ul style="list-style-type: none"> <li>Collective waste hauled directly to the Foothills Regional Landfill (~15 km NW of High River)</li> </ul>   |
| Organics                  |                           | N.A.      | Drop Off           | N.A.                        | Yard Waste Only  | <ul style="list-style-type: none"> <li>N.A.</li> </ul>   |  |                           |                    |   |                                       |                                      |   |  |   |   |
| Recycling                 |                           | As needed | Drop Off           | N.A.                        | N.A.             | <ul style="list-style-type: none"> <li>\$5.66/ bimonthly -- SF</li> <li>\$26.41/ bimonthly -- Commercial</li> </ul>            |  |                           |                    |   |                                       |                                      |   |  |   |   |
| <b>Town of Beaumont</b>   |                           |           |                    |                             |                  |  |  |                           |                    |   |                                       |                                      |   |  |   |   |
| Garbage                   | 4,900 (2014)              | Biweekly  | Automated          | Cart                        | 240 L            | <ul style="list-style-type: none"> <li>Collection, processing and disposal fee for additional cart \$9.00/cart/ mo.</li> </ul> | \$24.24 – SF<br>No MF or commercial collection         | 310 (2013)                | 34% (2013)         | <ul style="list-style-type: none"> <li>Leduc &amp; District Regional Waste Management Authority (\$70/tonne for residential waste for member municipalities)</li> <li>Direct haul to regional landfill (20 km)</li> </ul> | City Contractor                       | Utility                              | <ul style="list-style-type: none"> <li>\$62.88 for replacement or additional cart</li> <li>\$9.00/cart/month collection fee for additional cart</li> </ul>  | <ul style="list-style-type: none"> <li>80% Diversion by 2020</li> <li>Reduce solid waste disposal to 100 kg/cap by 2019</li> </ul> | <ul style="list-style-type: none"> <li>Free drop-off at Leduc Waste Mgt. Facility</li> <li>Large Item Collection (May-October) 2 items/yr</li> <li>Christmas tree collection</li> </ul> | <ul style="list-style-type: none"> <li>Brown Bag Yard Waste Collection week (May, October)</li> <li>Household Hazardous Waste and eWaste Roundup</li> <li>Collected waste hauled directly to Leduc and District Regional Landfill (~16 km from Beaumont)</li> </ul> |
| Organics                  |                           | Weekly    | Automated          | Cart –120 L<br>Cart –240 L  | 120 L<br>240 L   |  |  |                           |                    |   |                                       |                                      |   |  |   |   |
| Recycling                 |                           | Weekly    | Manual – comingled | Blue bags                   | One bag-No glass | N.A.   | Included in garbage                                    |                           |                    |   |                                       |                                      |   |  |   |   |

## 4.1.1 Key Findings

### 4.1.1.1 Waste Streams Collected

Fort Saskatchewan, Cochrane, and Beaumont provide curbside collection for the following three streams:

- Garbage;
- Comingled recycling; and
- Organics (yard and garden waste).

Camrose and High River collect garbage through curbside collection programs and operate drop-off locations for recyclable materials. Both drop-off locations at these municipalities are staffed at certain hours of operation; however, Camrose is operated by a not-for-profit organization and High River is operated by a town personnel. High River’s residential drop-off location accepts both recyclable materials and yard waste.

### 4.1.1.2 Cost of Service Structure

All jurisdictions reviewed contract their current curbside collection programs to third-party private sectors with the exception of High River and the City.

Table 4-2 lists the utility rates for single-family residential households per jurisdiction. Figure 4-1 illustrates the utility rates in comparison to each municipality.

**Table 4-2: Single-Family Rates per Jurisdiction**

| Jurisdiction      | Cart Volume Option | Single-Family (SF) Monthly Rate (2019) |
|-------------------|--------------------|--|
| Lacombe           | 375 L / 2300 L     | \$31.76                                |
| Camrose           | 240 L              | \$18.01                                |
| Fort Saskatchewan | 240 L              | \$27.72                                |
| Cochrane          | 120 L              | \$22.25                                |
| High River        | 240 L              | \$22.32                                |
|                   | 360 L              | \$31.06                                |
| Beaumont          | 240 L              | \$24.24                                |
| <b>Average</b>    |                    | <b>\$25.34</b>                         |

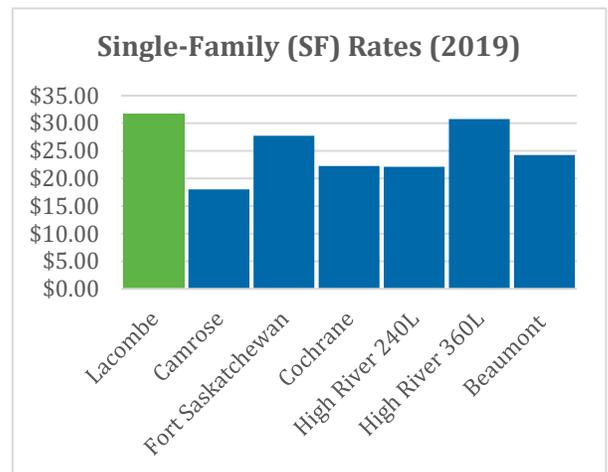


Figure 4-1: Single-Family Utility Rates per Jurisdiction

An average utility fee of \$25.34 is charged for single-family residential households, which includes the distribution fee for residential carts (i.e. at Beaumont, Fort Saskatchewan, and the City). The City’s current utility fees for single-family residential households (\$31.76) are 25% higher than the average utility fees from the benchmarking exercise.

Camrose and High River have disclosed the financing for the cart roll-out as specified in Table 4-1. Replacement or additional carts are made available to Beaumont, Camrose, and Cochrane residents, and collection fees are also imposed at an average of \$9.00 for an additional cart option.

Table 4-3 lists the utility rates for multi-family residential households and commercial sectors per jurisdiction. Figure 4-2 illustrates the utility rates in comparison to each municipality.

**Table 4-3: Multi-Family Rates per Jurisdiction**

| Jurisdiction      | Multi-family (MF) Rate (2019) |
|-------------------|-------------------------------|
| Lacombe           | \$19.97                       |
| Camrose           | \$45.64                       |
| Fort Saskatchewan | \$16.63                       |
| Cochrane          | No MF collection              |
| High River        | \$26.41 (Recycling only)      |
| Beaumont          | No MF collection              |
| <b>Average</b>    | <b>\$27.16</b>                |

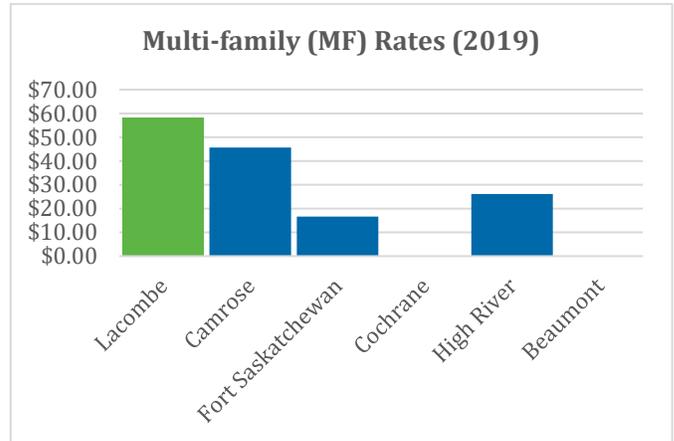


Figure 4-2: Multi-Family Utility Rates per Jurisdiction

Multi-family residential households and commercial sectors pay an average of \$27.16 for collection services with the municipalities in the benchmarking exercise. The City’s current utility fees for multi-family residential households and commercial sectors are \$19.97, which is 26% lower than the average for the benchmarked communities.

#### 4.1.1.3 Collection Frequency

Garbage is collected weekly for all the communities except for Fort Saskatchewan and Beaumont which are collected every-other-week.

Curbside recycling collection is done on a weekly basis for Beaumont, Cochrane, and Fort Saskatchewan. As mentioned previously, Camrose and High River operate drop off depots to accommodate the lack of curbside recycling collection for residents.

Source-separated organics (SSO) are collected weekly in Beaumont and Cochrane, and Camrose has a seasonal collection system such that SSO is collected weekly during from May to October and biweekly from November to April. Fort Saskatchewan collects waste biweekly year-round. The City collects yard waste from the community yard waste bins every two weeks.

#### 4.1.1.4 Collection Programs

Of the collection systems reviewed for this benchmarking exercise, all municipalities included in this review have implemented automated cart-based systems for garbage and organics. The exception is High River where yard waste is collected at a drop-off location.

#### 4.1.1.5 Volume Limits

Volume restrictions and financial incentives are typically applied to the garbage stream. Fees or limits are not commonly applied to recycling and organics collection since these streams are promoting diversion.

For the municipal collection programs reviewed, each limits waste disposal volume through cart size, but offer alternatives such as variable cart sizes, the option to order additional carts, and “Tag a Bag”. Typically, two cart sizes are available: 120 L and 240 L. As an example, High River residents are offered to select a 240 L or 360 L

waste carts utility fees and roll-out cart charges based on cart size. The intent of variable cart sizes is to drive diversion while accounting for customers' variability in waste generation (i.e., volume).

#### **4.1.1.6 Additional Waste Collection Services**

Most jurisdictions offer additional services for disposing of residential bulky items, Christmas trees, and household hazardous waste (HHW). Special collection, drop-off events, or year-round access to a depot is provided. This is completed by all jurisdictions reviewed in this study except for High River. However, residents in High River have access to household waste drop-off at the Foothills Regional Landfill. The Foothills Regional Service Commission assesses a fee for HHW to cover costs for handling.

Some jurisdictions accommodate excess yard waste through collection of bagged grass and leaves during peak seasons. For example, Beaumont and Fort Saskatchewan organize a biannual spring and fall "brown paper bag" program where residents can set out extra yard waste on their regular collection day. Using paper or "kraft" bags instead of clear plastic signifies that yard waste does not have to be emptied out for composting. It also avoids confusion about plastic being accepted in the organics program.

With decreasing recycling markets, some jurisdictions have also opted to operate recycling drop-off depots instead of curbside recycling collection. In the benchmarking review, the City, Camrose, and High River provide this recycling option. In High River, the Recycle & Yard Waste Centre offsets the lack of curbside collection for yard waste and recycling. Cochrane and Fort Saskatchewan provide recycling drop-off sites in addition to curbside programs.

#### **4.1.1.7 Public Education**

Communities included in this review have invested in education and outreach programs addressing resident concerns associated with separating organic materials and explaining how to effectively manage their carts. Cochrane, for example, has completed a waste collection audit in 2018 where the municipality issued "educational tags" to provide feedback to residents about their diversion efforts. The households that received yellow tags, which were issued to evaluate improvement, garnered 30% of some behavioural change, and 25% complete compliance with the Cochrane waste bylaw.

## **4.2 Waste Composition**

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Waste composition studies are typically conducted to understand the types and quantities of materials that are discarded from waste generators and to assist in estimating how much material could be diverted from landfill through waste diversion programs such as recycling or organics collection.

The City has not conducted a waste composition study for waste being discarded or recycled by residents and/or businesses. The use of custom waste composition data is only of benefit to municipalities whose waste systems include key performance indicators that rely on that data. The City is in the process of developing its key performance indicators so readily available representative data was instead used.

Tetra Tech completed visual observations of waste and recycling contents in July and August 2019. Based on these observations, it is believed the City's waste composition is comparable to other similar municipalities. For this study, the City's waste composition can be compared to data included in the following reports:

- Provincial Waste Characterization Framework (Alberta Environment 2005);
- Integrated Waste Management Study completed for Beaumont (Advanced Enviro Engineering Ltd., 2014); and

- Waste characterization studies completed by Tetra Tech at the Town of Okotoks, Chief Mountain Regional Solid Waste Authority, Peace River Regional District, and City of Lethbridge

The estimated solid waste composition in residential garbage, organics, and commercial waste is estimated by summarizing this published data and applying it to the City of Lacombe.

Waste composition studies are usually organized into 9 – 13 primary categories and 60 – 100 secondary categories. Primary categories represent the main materials types such as paper products, plastics, metal, glass, compostable, etc. Secondary categories are the sub-categories of the primary categories such as (for paper products) newsprint, cardboard, mixed paper, etc.

#### 4.2.1 Summary of Residential Waste Composition Data

Based on the waste composition results in Appendix C, the composition of the garbage can be expected to include the materials and proportions shown in Table 4-4. This table lists the average percentage of waste categories of materials in the waste stream for six Alberta communities.

**Table 4-4: Summary of Residential Waste Compositions**

| Primary Category          | Alberta Towns & Villages | Town of Beaumont | Town of Okotoks | Peace River Regional District (Res) | City of Lethbridge (Res) | Chief Mountain |
|---------------------------|--------------------------|------------------|-----------------|-------------------------------------|--------------------------|----------------|
| Paper                     | 21%                      | 16%              | 13%             | 15%                                 | 16%                      | 13%            |
| Plastics                  | 8%                       | 9%               | 13%             | 11%                                 | 14%                      | 12%            |
| Glass                     | 2%                       | 1%               | 2%              | 3%                                  | 1%                       | 2%             |
| Metal                     | 4%                       | 2%               | 2.9%            | 2%                                  | 3%                       | 2%             |
| Compostable Organics      | 42%                      | 34%              | 35%             | 44%                                 | 49%                      | 37%            |
| Non-Compostable Organics  | 14%                      | 38%              | 5%              | 8%                                  | 6%                       | 10%            |
| Building Materials        | 0                        |                  | 2%              | 2%                                  | 1%                       | 11%            |
| Household Hygiene         | 1%                       |                  | 23%             | 11%                                 | 6%                       | 10%            |
| Electronic Waste          | 0                        |                  | 0.1%            | 2%                                  | 2%                       | 1%             |
| Household Hazardous Waste | 1%                       |                  | 2%              | 1%                                  | 1%                       | 1%             |
| Bulky Objects             | 1%                       |                  | 0               | 0                                   | 0                        | 0              |
| Fines                     | 6%                       |                  | 2%              | 1%                                  | 1%                       | 1%             |
| <b>Total</b>              | <b>100%</b>              | <b>100%</b>      | <b>100%</b>     | <b>100%</b>                         | <b>100%</b>              | <b>100%</b>    |

Table 4-5 lists the range of waste composition per primary category and corresponding probable/average waste composition for the City.

**Table 4-5: Range and Probable Residential Waste Composition in the City**

| Primary Category                | Low Range | High Range | Probable Waste Composition City of Lacombe |
|---------------------------------|-----------|------------|--|
| Paper                           | 13%       | 21%        | <b>17%</b>                                 |
| Plastics                        | 8%        | 14%        | <b>11%</b>                                 |
| Glass                           | 1%        | 3%         | <b>2%</b>                                  |
| Metal                           | 2%        | 4%         | <b>3%</b>                                  |
| Compostable Organics            | 34%       | 49%        | <b>42%</b>                                 |
| Non-Compostable Organics        | 5%        | 14%        | <b>8%</b>                                  |
| Building Materials              | 1%        | 11%        | <b>4%</b>                                  |
| Hygiene Products                | 1%        | 23%        | <b>6%</b>                                  |
| Electronic Waste                | 0         | 2%         | <b>1.5%</b>                                |
| Household Hazardous Waste (HHW) | 1%        | 2%         | <b>1.5%</b>                                |
| Bulky Objects                   | 0         | 1%         | <b>1%</b>                                  |
| Fines                           | 1%        | 6%         | <b>3%</b>                                  |
| <b>Total</b>                    |           |            | <b>100%</b>                                |

## 5.0 PUBLIC ENGAGEMENT

### 5.1 Public Engagement Objectives

The objectives of the public engagement activities were to:

- Obtain public feedback on solid waste management services;
- Educate the public on the current solid waste management service levels; and
- Understand the public’s priorities and their receptiveness for change.

At the same time, this provided an opportunity to share information with City residents on the solid waste services provided by the City.

### 5.2 Survey Methodology

The public engagement process included three pop-up events with face-to-face interactions with residents, online surveys that were distributed via Survey Monkey, Google Forms, as well as in-person surveys and hard-copy surveys that were dropped off at City Hall.

Tetra Tech and the City staff worked together to develop survey questions. A total of 21 survey questions were developed, consisting of 15 multiple choice questions and 6 open-ended questions. The various themes of the survey questions include the following:

- General customer satisfaction;
- Solid waste priorities;
- Practices around reuse, organics, household hazardous waste, and recycling.

The survey questions can be found in Appendix E.

### 5.2.1 Survey Delivery/Distribution

Surveys were distributed to residents through various methods:

- In-person requests at each of the community outreach events, either on a tablet or with a paper copy; or
- Online, at [www.lacombe.ca/garbagereview](http://www.lacombe.ca/garbagereview) and through posts on social media and the Lacombe Express.

Residents were able to drop off completed paper surveys at City Hall from September 11 to October 18, 2019.

A total of 652 surveys were completed.

## 5.3 Pop-Up Events

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Three pop-up events were held to obtain public feedback on the City's solid waste management programs and services. A summary of the three events (including the details of the event, the observations, and the general tone of the feedback) are summarized below.

### 5.3.1 Event #1: Coffee with Council – September 11, 2019

Event #1 took place in the Lacombe Memorial Centre during the Active Living Fair, run alongside Coffee with Council, on September 11, 2019. The top comments from the attendees at the fair were the following:

- Residents were unhappy about the cancellation of the curbside recycling program and want the City to bring it back;
- Most residents do not understand why the curbside recycling program was stopped; and
- When asked about the Depot, residents complained that the bins are always full, even when they returned at different times.

Other complaints about the Depot is that it is messy and disorganized, and residents want to see more recycling streams available, such as glass. One person commented that the community yard waste bins works well for them. Some attendees would like to see waste services include the addition of curbside food waste collection. One attendee wanted us to describe the life cycle of waste in our study, present solutions, and consider Waste to Energy alternatives and single-stream waste collection (combine garbage, recycling, and organics).

### 5.3.2 Event #2: Lacombe Culture and Harvest Festival – September 28, 2019

Event #2 took place in the Lacombe Memorial Centre during the Lacombe Culture and Harvest Festival on September 28, 2019. The booth was located next to Anna Maria's Café and received less foot traffic than Event #1.

The interactions with residents revolved around recycling and communal alley bins. The following are the key findings from this event:

- Residents commented that the Depot needs to be larger as it has been the same size for a while, and people are bringing their recyclables to Red Deer because they think it is a better system;
- Residents indicated that they do not trust the system anymore since the Depot no longer asks residents to separate recycling;
- Some residents commented that they cannot recycle everything that they used to, and there is confusion with which items are acceptable and which ones are not;

- One resident commented that there needs to be a balance between the number of services offered versus what the residents pay, due to concerns about rising taxes;
- Some residents expressed concern about the condition of the alleyway communal 2300 L bins as birds can access the bins and often spread garbage everywhere;
- An issue raised about the communal bins was that private contractors or residents outside Lacombe would bring their waste to alleyway bins and illegally dump their waste; and
- Some residents emphasized the importance of having the communal bins due to mobility issues. They preferred the bins because they would not be able to haul individual carts out to the curb.

### **5.3.3 Event #3: Lacombe Farmer’s Market – October 11, 2019**

Event #3 took place at the Lacombe Farmers’ Market on October 11, 2019. Tetra Tech spoke with many of the attendees who did not live in the City, including most of the vendors. One vendor that lives outside of city limits uses the Depot and wishes the soil stockpiles would be kept separate from sand. Another resident mentioned it is difficult to understand labels on the bins. City residents commented that they miss the ease of curbside recycling.

## **5.4 Survey Results**

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The surveys were conducted on SurveyMonkey, Google Forms, and on paper. There were 286 responses on Google Forms, 317 responses on Survey Monkey, and 49 paper surveys, totalling 652 responses altogether, although not every question was answered by each respondent.

Table 5-1 summarizes the results of the 21 questions.

**Table 5-1: Public Consultation Summary**

| Question   | Question Type                    | Number of Responses | Options   | Vote Percentage   | Comments   |
|--|----------------------------------|---------------------|---|---|--|
| <b>Solid Waste Overview</b>  |                                  |                     |   |   |  |
| Question 1: I am replying to this survey as a ___:   | Select one that applies          | 648                 | 1. Resident<br>2. Business  | 99%<br>1%   | 4 responders opted from answering this question. |
| Question 2: What solid waste services provided by the City are you aware of?                           | Select all that apply            | 652                 | 1. Residential Garbage Collection<br>2. Trash-to-Treasure Clean up Events<br>3. Grass/Yard Waste Collection<br>4. Recycling Depot for Recyclables and Yard/Garden Waste<br>5. Annual Toxic Waste Round-Up<br>6. Commercial Garbage Collection<br>7. Downtown Cardboard Collection | 100%<br>95%<br>93%<br>88%<br>69%<br>43%<br>33%            | All responders answered this question.           |
| Question 3: In your opinion, how would you rank the City's delivery of these services overall?         | Rating - select one that applies | 648                 | 1. Unacceptable<br>2. Minimally acceptable<br>3. Neutral<br>4. Acceptable<br>5. Excellent   | 3%<br>13%<br>38%<br>36%<br>11%                            | 4 responders opted from answering this question. |
| Question 4: What is your preferred platform for receiving information about the services listed above? | Select one that applies          | 644                 | 1. With your utility bill<br>2. Social Media – City Facebook and Twitter Pages<br>3. Email and Text Messaging<br>4. City website<br>5. Local newspaper<br>6. TV/radio announcements<br>7. Other (Please specify)  | 51%<br>23%<br>14%<br>5%<br>4%<br>2%<br>0%                 | 8 responders opted from answering this question. |
| Question 5: What are your top three considerations/priorities for solid waste services?                | Select three that apply          | 651                 | 1. Recycling<br>2. Cost<br>3. Convenience<br>4. Waste Reduction<br>5. Community Cleanliness<br>6. Composting<br>7. Reliability<br>8. Education<br>9. Illegal Dumping  | 70%<br>57%<br>49%<br>41%<br>32%<br>20%<br>18%<br>8%<br>8% | 1 responder opted from answering this question.  |

| Question   | Question Type                    | Number of Responses | Options  | Vote Percentage                                   | Comments   |
|--|----------------------------------|---------------------|--|---|--|
| <b>Recycling</b>   |                                  |                     |  |   |  |
| Question 6: I contribute to the reuse of useful materials.                                       | Select all that apply            | 651                 | 1. I give my used items away (i.e. to family and friends, thrift stores).<br>2. I participate in the City's Trash-to-Treasure events [residents only].<br>3. I use online or other resources (i.e. buy/sell pages and websites).<br>4. I do not reuse items often. | 94%<br>80%<br>69%<br>1%                           | <ul style="list-style-type: none"> <li>One responder opted from answering this question.</li> </ul>  |
| Question 7: I would like to see more reuse opportunities in my community such as:                | Open-ended response              | 239                 | 1. Curbside pick-up<br>2. Re-use centre<br>3. Green Bins<br>4. Community Garage Sale<br>5. Don't Change<br>6. More Trash-to-Treasure<br>7. Glass Recycling<br>8. Education   | 29%<br>23%<br>11%<br>11%<br>11%<br>8%<br>3%<br>3% | <ul style="list-style-type: none"> <li>413 responders opted from answering this question.</li> </ul> |
| Question 8: I would pay more to have more reuse opportunities in my community.                   | Rating - select one that applies | 644                 | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly Agree   | 28%<br>21%<br>28%<br>14%<br>9%                    | <ul style="list-style-type: none"> <li>8 responders opted from answering this question.</li> </ul>   |
| <b>Organics</b>  |                                  |                     |  |   |  |
| Question 9: I dispose of my organics (i.e. compost, yard waste)                                  | Select all that apply            | 651                 | 1. I use the green bins in lanes for my grass and yard waste (residents only)<br>2. I don't compost or separate my organics.<br>3. I compost at home or place of business.   | 65%<br>32%<br>27%                                 | <ul style="list-style-type: none"> <li>1 responder opted from answering this question.</li> </ul>    |
| Question 10: I would like to see more organics diversion opportunities in my community, such as: | Open-ended response              | 279                 | 1. Green bin collection<br>2. Community composting<br>3. Don't change<br>4. Education  | 55%<br>19%<br>10%<br>9%                           | <ul style="list-style-type: none"> <li>373 responders opted from answering this question.</li> </ul> |
| Question 11: I would pay more to have more organics disposal opportunities in my community.      | Select one that applies          | 628                 | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree   | 27%<br>18%<br>24%<br>20%<br>11%                   | <ul style="list-style-type: none"> <li>24 responders opted from answering this question.</li> </ul>  |

| Question  | Question Type                    | Number of Responses | Options  | Vote Percentage                    | Comments   |
|---|----------------------------------|---------------------|--|------------------------------------|--|
| <b>Hazardous Material</b>   |                                  |                     |  |                                    |  |
| Question 12: I dispose of toxic waste, and electronics (oils, paints, fertilizers, batteries, computer equipment, etc.) | Select all that applies          | 651                 | 1. I participate in the City's annual Toxic Waste Roundup Event<br>2. I take toxic waste and electronics to the Prentiss Transfer Station.<br>3. I use my rollout or lane bin to dispose of these items. | 56%<br>55%<br>8%                   | <ul style="list-style-type: none"> <li>One responder opted from answering this question.</li> </ul>  |
| Question 13: I would like to see more toxic waste disposal opportunities in my community such as:                       | Open-ended response              | 193                 | 1. More convenient drop-off<br>2. More often<br>3. Don't change<br>4. Education  | 34%<br>28%<br>18%<br>8%            | <ul style="list-style-type: none"> <li>459 responders opted from answering this question.</li> </ul> |
| <b>Recycling</b>  |                                  |                     |  |                                    |  |
| Question 14: The Wolf Creek Recycle Depot is convenient and works well for me.  | Select one that applies          | 626                 | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly Agree   | 22%<br>24%<br>25%<br>19%<br>10%    | <ul style="list-style-type: none"> <li>26 responders opted from answering this question.</li> </ul>  |
| Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:                                       | Open-ended response              | 406                 | 1. More bins/Emptied more<br>2. More types of bins/recycling options<br>3. Clearly Marked/Easier<br>4. Supervision/Education<br>5. Need blue bin/home pickup   | 43%<br>25%<br>20%<br>19%<br>12%    | <ul style="list-style-type: none"> <li>246 responders opted from answering this question.</li> </ul> |
| Question 16: I would like to see more recycling opportunities in my community such as:                                  | Open-ended response              | 367                 | 1. Curbside Recycling<br>2. Grass/Compost/Plastics<br>3. Convenient Drop-Off<br>4. Don't Change<br>5. Wolf Creek Considerations<br>6. Education  | 60%<br>21%<br>8%<br>6%<br>4%<br>3% | <ul style="list-style-type: none"> <li>285 responders opted from answering this question.</li> </ul> |
| Question 17: I would pay more to have more recycling opportunities in my community.                                     | Rating - select one that applies | 626                 | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly Agree   | 20%<br>15%<br>22%<br>24%<br>19%    | <ul style="list-style-type: none"> <li>26 responders opted from answering this question.</li> </ul>  |

| Question  | Question Type                  | Number of Responses | Options   | Vote Percentage | Comments   |
|---|--------------------------------|---------------------|---|-----------------|--|
| <b>Solid Waste Improvements</b>   |                                |                     |   |                 |  |
| Question 18: How would you like to see the City improve the delivery of solid waste services?             | Select one that applies        | 616                 | 1. I support changes to improve the delivery of solid waste services with modest increases in my utility bill.              | 56%             | ▪ 36 responders opted from answering this question.  |
|   |                                |                     | 2. Changes to the delivery of solid waste services in the City are not required.  | 15%             |  |
|   |                                |                     | 3. Major changes are needed to improve the delivery of solid waste services in the City and I accept the costs of doing so. | 15%             |  |
|   |                                |                     | 4. Any changes must lower the overall cost on my utility bill immediately even if it means a reduction in services.         | 14%             |  |
| Question 19: If you could pick one change you would like to see made, what would it be?                   | Select one that applies        | 619                 | 1. Weekly 3-stream collection for garbage, recyclables, and food & yard waste   | 33%             | ▪ 33 responders opted from answering this question.  |
|   |                                |                     | 2. Curbside recycling collection for each household.  | 26%             |  |
|   |                                |                     | 3. Do not make any changes  | 10%             |  |
|   |                                |                     | 4. Cart-based garbage collection for each household.  | 7%              |  |
|   |                                |                     | 5. On-site staff at the Wolf Creek Recycle Depot.   | 6%              |  |
|   |                                |                     | 6. Curbside food waste collection for each household  | 6%              |  |
|   |                                |                     | 7. Accept household hazardous waste at the Wolf Creek Recycle Depot   | 5%              |  |
|   |                                |                     | 8. Large item pick-up (an alternative to taking large items to the transfer station)  | 5%              |  |
|   |                                |                     | 9. Other (please specify)   | 2%              |  |
| Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review? | Open-ended response            | 225                 | 1. Curbside/Upgrades to curbside  | 25%             | ▪ 427 responders opted from answering this question. |
|   |                                |                     | 2. Displeasure with City/Money  | 22%             |  |
|   |                                |                     | 3. Don't Change   | 13%             |  |
|   |                                |                     | 4. New Recycling Strategies   | 12%             |  |
|   |                                |                     | 5. Education  | 10%             |  |
|   |                                |                     | 6. Environment/Bigger Picture   | 5%              |  |
|   |                                |                     | 7. Incineration/New Infrastructure  | 5%              |  |
| Question 21: Can we contact you if we have more questions for the future?                                 | Yes/No - Select one that apply | 568                 | 1. Yes  | 47%             | ▪ 84 responders opted from answering this question.  |
|   |                                |                     | 2. No   | 53%             |  |

## 5.5 Survey Results Summary

The level of response from residents from the City was excellent. 652 survey responses were received. An overview of the responses is summarized below:

- Most residents who responded to the surveys did not support the cancellation of the curbside recycling program. They want the ease of access to recycling and questioned why the program was cancelled;
- Residents feel that the Depot is insufficient to handle the amount of recycling as the bins are always full. Residents were also confused where to put certain items as the labels are unclear;
- Residents would like to see more bins and more types of recycling accepted at the Depot. Residents want the bins to be emptied more often;
- Residents would like to see more drop-off locations for recycling and hazardous waste, and more City cleanup events; and
- Residents expressed concerned about the cost of the waste services, with most residents indicating that modest increases in utility bills for improvements to solid waste services are acceptable.

The top three priorities for the residents of Lacombe are:

1. Curbside Recycling
2. Cost
3. Convenience

The two main changes that the residents would like to see is weekly three-stream collection for garbage, recyclables, and organic waste for each household.

## 6.0 COLLECTION SYSTEMS AND ROUTE OPTIMIZATION

The following section summarizes the review of the curbside collection services provided by the City.

### 6.1 Collection Approach (Bins vs. Carts)

Residential collection methods have evolved over the past several years from manual collection systems to automated collection systems with bins or carts. The trend to automated collection is largely driven by the following benefits:

- Reduction of labour requirements;
- Improve working conditions for employees;
- Reduces risks of injuries caused by slips, falls, strains, and exposure; and
- Reduction of nuisances with improved litter containment and deterrence of pests.

The equipment used in automated collection systems in Alberta communities are compared in Table 6-1.

**Table 6-1: Equipment Used for Automated Collection System**

| System  | Image   | Advantages   | Disadvantages   |
|---|---|--|---|
| Communal Bins<br>(typical 2300 L / 3 yd <sup>3</sup> )                      |    | <ul style="list-style-type: none"> <li>▪ Collection for approximately four homes is equivalent to one bin lift</li> <li>▪ No limits for residents – if a bin is full, they can use another bin in the same alley</li> <li>▪ Collection truck only required to travel one-way through alleys (reduces overall travel distance/time by half compared to cart system)</li> <li>▪ Truck operators can control bin placement for collection</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Unable to assign accountability to the homeowner for misuse</li> <li>▪ Encourages bulky items to be deposited</li> <li>▪ Not able to apply variable rate fees to homeowners (e.g., volume based/tag-a-bag)</li> <li>▪ Homeowners need to carry waste to the bins</li> </ul>  |
| Roll-out Carts<br>(120 L / 30 gallon, 240 L / 65 gallon, 360 L / 95 gallon) |    | <ul style="list-style-type: none"> <li>▪ Carts are assigned to individual home – homeowners can be accountable for bin contents</li> <li>▪ Can be tracked with serial numbers and electronic chips</li> <li>▪ Homeowners roll carts out to pick up location – no need to carry waste.</li> <li>▪ Variable bin sizes provides opportunity to accommodate homeowner needs and to apply variable rates based on size</li> <li>▪ Variable size bins provides options for 2 or 3 stream collection</li> </ul> | <ul style="list-style-type: none"> <li>▪ More collection stops required compared to communal bins</li> <li>▪ Bin collection can be challenging if homeowners place bins incorrectly – incorrect placement can slow collection times. Generally, bins are collected on both sides of the street or alley, thus increasing travel distances/times compared to the large bin systems</li> <li>▪ Two or three stream collection systems can add collection costs</li> <li>▪ Lacombe trucks, with their current configuration, are unable to collect these carts and would require significant retrofit or require purchase of a new fleet.</li> </ul> |
| Roll-out Carts<br>(Lacombe)<br>375 L / 120 gallon                           |  | <ul style="list-style-type: none"> <li>▪ Carts are assigned to individual home – homeowners can be accountable for bin contents</li> <li>▪ Homeowners roll carts out to pick up location – no need to carry waste.</li> <li>▪ Bins are manufactured locally</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Bin collection can be challenging if homeowners place bins incorrectly – incorrect placement can slow collection times</li> <li>▪ Generally, bins are collected on both sides of the street or alley, thus increasing travel distances/times over the large bin systems</li> <li>▪ Large bins harder to manage when full compared to smaller cart systems</li> </ul>   |

Shared lane bin collection systems have been used in several other Alberta communities for a number of years. The following is the current status of other municipalities that were early adopters of the automated collection systems that used the 2300 L lane bin systems:

- *Town of Brooks* – Brooks was an early adopter of automated collection in Alberta with shared lane bins. The Town has transitioned to individual roll-out carts.
- *Town of Vegreville* – Vegreville was another early adopter of automated collection and continues to use the shared 3-yd<sup>3</sup> containers in residential and commercial areas.
- *Town of Hinton* – Hinton continues to use the 3-yd<sup>3</sup> lane bins in conjunction with curbside collection with similar carts as used in Lacombe
- *Town of Taber* – Taber transitioned from the shared 3-yd<sup>3</sup> bins to individual roll-out carts. Residents are supplied with three carts (garbage, organics, and recyclable). The 3-yd<sup>3</sup> side loading bins remain in use for multi-family units, mobile home parks, and commercial collection.

## 6.2 Collection Schedule and Route

Waste collection in the City occurs Monday through Friday, with the exception of holidays. The downtown collection route typically begins at 6 A.M. to avoid rush hour traffic, parked vehicles, and pedestrians. Collection routes outside of the downtown area typically begins at 7 A.M. Table 6-2 lists the collection schedule for each truck.

**Table 6-2: Pickup Schedule for City of Lacombe Collection Trucks**

| Truck      | Monday   | Tuesday   | Wednesday  | Thursday  | Friday   |
|------------|--|---|--|---|--|
| <b>204</b> | <ul style="list-style-type: none"> <li>▪ Cardboard</li> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Cardboard</li> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Cardboard</li> <li>▪ Garbage</li> </ul> |
| <b>242</b> | <ul style="list-style-type: none"> <li>▪ Rubble</li> <li>▪ Garbage</li> </ul>    | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Garbage</li> <li>▪ Grass</li> </ul>     | <ul style="list-style-type: none"> <li>▪ Rubble</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Rubble</li> <li>▪ Grass</li> </ul>      |
| <b>247</b> | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul>                      | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul>                      | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Garbage</li> </ul>                      |

As discussed in Section 2.2.2, the City provides a Fall and Spring cleanup event each year and an annual toxic/electronics waste roundup event.

Figure 6-1 and Figure 6-2 illustrate the waste and grass collection route and pickup days for the City.

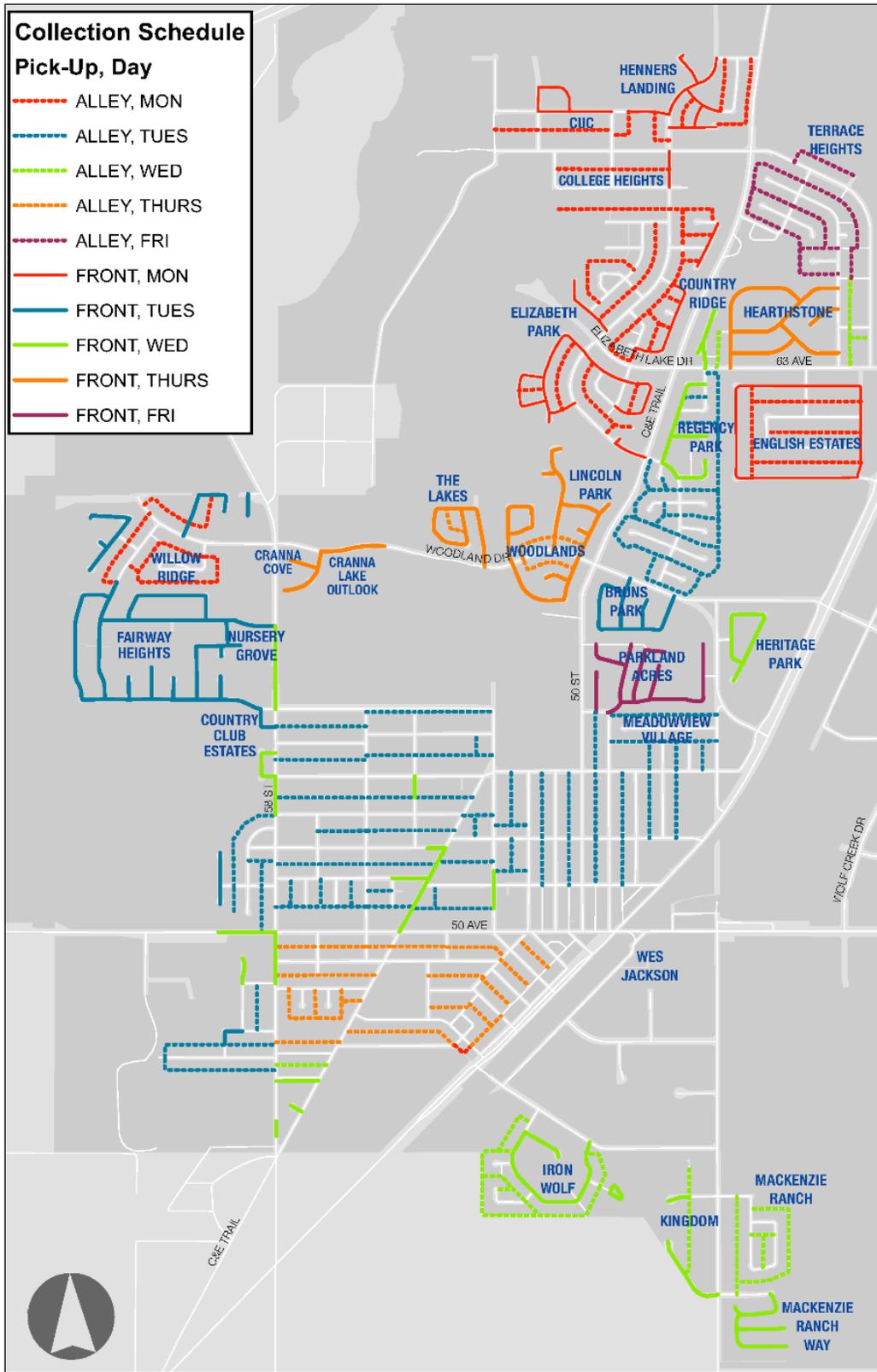


Figure 6-1: Collection Route and Pickup Schedule for the City of Lacombe

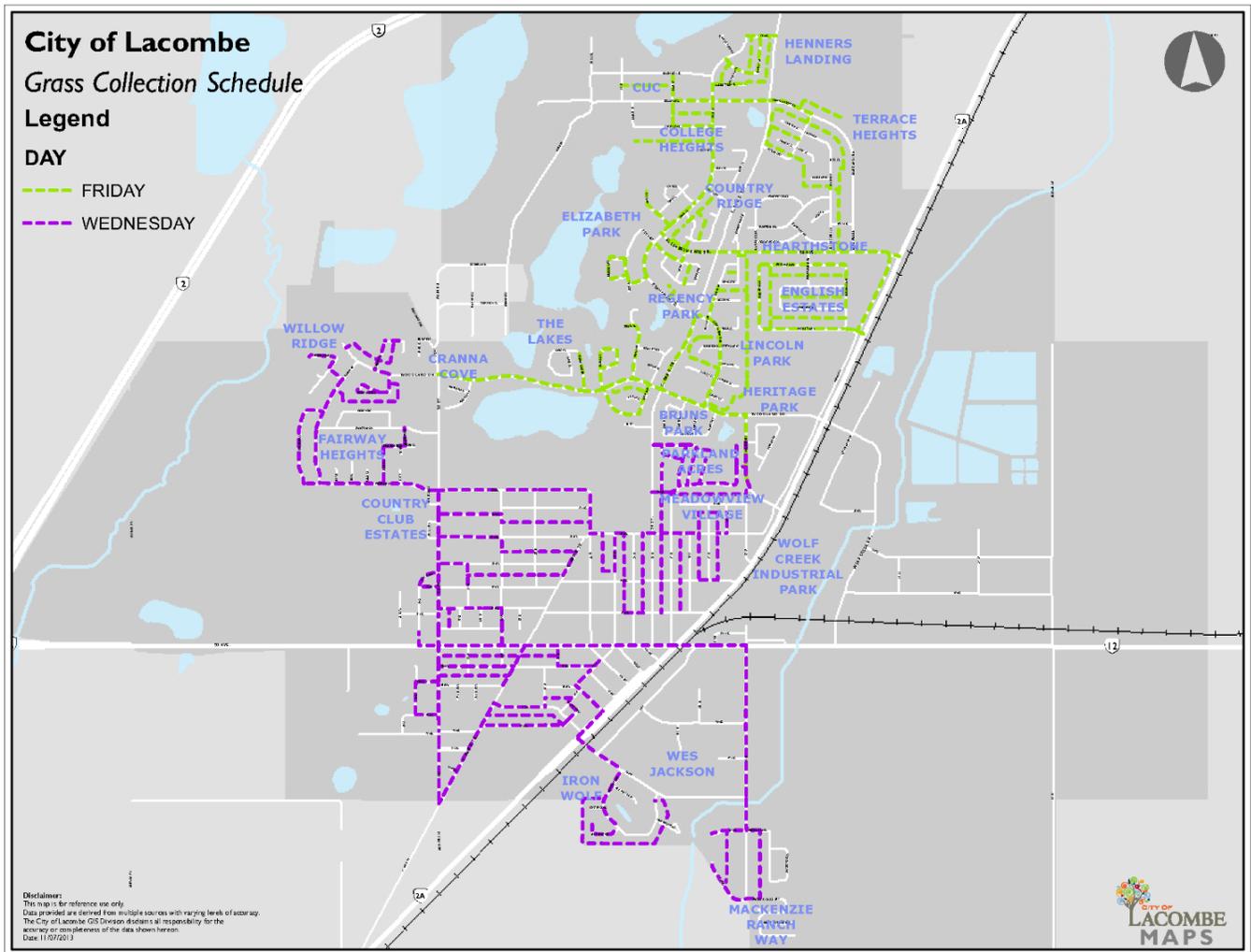


Figure 6-2: Grass Collection Route and Pickup Schedule for the City of Lacombe

### 6.3 Current Collection Route Review

Tetra Tech completed a general review of the current collection route and schedule for residential, commercial, and industrial collection. During the ride-a-long event, Tetra Tech recorded the bin pickup times and travel times between bin pickup for the residential curbside collection route. Times observed on this route are summarized below:

- Average time to pick up a bin was 18 seconds;
- Average travel time between bin pickups was 14 seconds; and
- Average house-to-house time was 32 seconds.

Times for commercial and industrial bin collection was not recorded due to complexity of the route. Bin pickup times and travel times are variable due to the distance between the rubble bins, bin location, and bin access on industrial properties.

The average time it takes to complete the current collection schedule per truck is 6.5 hours per day. This estimation is based on calculated times based on information available to Tetra Tech. Lost times from traffic congestion, vehicle exhaust regeneration, and other transportation factors were not included in the estimation. Actual day to day times can vary from the estimation due to these factors.

The following assumptions were made:

- The City collects materials from:
  - 1060 3-yd<sup>3</sup> lane bins;
  - 1365 0.6-yd<sup>3</sup> roll-out carts; and
  - 213 yard waste bins.
- Collection frequency for each bins are based on City information summarized in Table 6-2;
- Each collection truck makes two trips per day:
  - Commercial cardboard recycling is directly hauled to Red Deer MRF, which is estimated to take 30 minutes per trip or 60 minutes roundtrip; and
  - Residential waste is transported to Prentiss Transfer Station, with an estimated time of 12 minutes per trip or 24 minutes roundtrip.
- Breaks, Off-load times, Vehicle Start-up and Shutdown Time is estimated to be two hours per day;
- The City collects a combination of residential community bins and roll-out carts as follows:
  - One truck is typically designated to collect curbside carts;
  - One truck is typically designated to collect the residential back-alley bins, multi-family bins, and mobile home park bins;
  - One truck is designated for the industrial park ‘rubble’ route;
  - Commercial waste collection is combined with residential routes; and
  - Cardboard collection from ICI sector is collected on a separate route.

Tetra Tech recognizes that collection for back-alley bins will be faster than front street cart collection.

## 6.4 Opportunities for Improvement

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Tetra Tech completed a high level review of the current collection schedule and collection route. From this, the following observations can be made:

- Collection schedule suggests that collection routes are imbalanced between collection days;
  - Some collection routes appear to be scattered, particularly on Thursday and Wednesday;
  - The garbage collection route for Wednesday is overlapping with Tuesday, particularly at Country Club Estates and Regency Park; and

- The collection map suggests that the largest garbage collection day is Tuesday. Friday routes are shown to be the shortest but fragmented.

A high level review of average route collection times, if equalized over 5 days suggests that 212 lane and 273 roll-out carts can be collected each day. Additionally, 107 yard waste bins can be collected every Wednesday and Friday. If collection days were reduced to four days, with equalized routes, the average required time for collection for the same number of bins is estimated to be 8.0 hours per truck, which includes breaks, off-load times, and vehicle start up and shut-down times.

An industry norm for roll-out cart collection in municipalities of similar size is between 600 and 800 carts per day. The City of Lacombe staff reported that approximately 500 to 600 bins are collected by each truck per day. It would appear there is a potential for route optimization with a redesign of collection routes. Furthermore, it can be anticipated that by reducing scheduled collection days in residential areas, City collection can improve their service at commercial routes and grass routes.

A more comprehensive review of the City's macro-route design needs to be completed to optimize the collection schedule. A detailed review of collection routes would include the following:

- Design of balanced collection macro-route based on daily performance expectations for lane collection bins and roll-out carts;
- Route designs that reduce or eliminate fragmented routes on collection days; and
- Development of micro-route maps using a heuristic routing plan.

Heuristic routing is described in the US EPA publication entitled "Heuristic Routing for Solid Waste Collection Vehicles" (1974). Heuristic routing is based on the following principles:

- Routes should not be fragmented or overlapping;
- Each route should be clustered segments and compact in the same area;
- Collection and haul times should be reasonably consistent for each route, or workloads should be equalized;
- Collection routes should begin at the closest point to the garage;
- Routing should take into account congested streets and one-way streets;
- Congested streets should be collected in off-peak traffic periods;
- Services on dead end streets/lanes or T-intersections need to be considered;
- Left turns should be avoided or minimized;
- Collection on steep slopes should be done with the truck moving downhill;
- It is generally best to route with clockwise turns around blocks;
- If collecting on one side of the street/lane it is generally best to plan routes with long straight paths across the grid and loop clockwise; and
- Specific route patterns are necessary in certain block configurations.

The heuristic routing plan should consider truck routes for collection on both sides of the street for roll-out carts and truck routes based on bin lifts on one side of the alley.

## 7.0 PERFORMANCE INDICATORS

Performance assessment is a measure of management progress and resource optimization (Teixeira 2019). It provides a quantification of productivity, identification of anomalies, and correcting weak points in the solid waste management system. More importantly, it quantifies the progress of the system in terms of achieving predefined management targets.

Quantifying efficiency involves two main performance parameters: context indicators which are important for the solid waste management characteristics, and operational indicators which indicate quality of service and financial state of the program. The City can monitor the solid waste management system by keeping track of the following:

### Context indicators:

- Customer Base
- Profile of the Waste Management System
  - Current utility rates per single-family household, multi-family household, and commercial sources
  - Commission disposal rates
  - Prentiss Transfer Station scale data
- Waste diversion rate

### Operational indicators:

- Waste generation
  - Number of bins/carts picked up per day
  - Quantity collected for residential waste
  - Quantity collected for commercial collection (cardboard, waste)
  - Quantity collected for rubble/inert waste that will be disposed at the Prentiss Class III Landfill
  - Quantity collected for yard waste
  - Quantity collected for recyclables
  - Quantity collected for waste per capita per year
- Collection
  - Route duration
  - Missed number bin or carts Loads collected
  - Average load weight
  - Number of trips to end destination (e.g. Prentiss Transfer Station, D&M site, or Red Deer MRF)
  - Distances traveled by vehicles per collection schedule
  - Fuel consumption
  - Equipment down-time for maintenance and repairs

- Financial model
  - Cost of operations
  - Cost of maintenance
  - Cost of cart roll-out
  - Labour hours for collection, administration, and handling
  - Cost per household
  - Cost per tonne
  - Third-party contractor rates

The value of tracking performance indicators is to enable monitoring solid waste activities and costs as well as plan solid waste operations and improve efficiencies. The City could benefit by establishing targets and goals for waste services and waste diversion and to which the system performance can be measured.

Teixeira (2019) recommends that establishing criteria for Performance Indicators (PI's) should:

- Be clear in concept and unambiguous;
- Use independent criteria;
- Use simple procedures;
- Use simple mathematical calculations; and
- Be verifiable.

Recommendations on performance indicators can be found on Section 12.0.

## 8.0 ALTERNATIVE TECHNOLOGIES

This section discusses alternative technologies that can be employed for solid waste management. One of the open-ended responses in the public survey was the desire for some form of waste-to-energy (WTE) technology for the City. There are several types of WTE technologies that use combinations of physical, chemical, and biological processes to convert waste materials into a usable product (e.g. syngas, electricity, heat) that could be used or sold.

### 8.1 Thermal Conversion Technologies

Thermal conversion technologies primarily use heat and oxygen (or air) to breakdown material via thermal chemical reactions such as combustion. The higher the operating temperature (large amounts of heat), the faster the thermal reaction. There are three primary thermochemical conversion technologies: combustion, gasification, and pyrolysis. These processes are associated with high capital and maintenance costs as it requires skilled operation under controlled environments. To optimize the efficiency of these technologies, facilities will require large volumes of feedstock at relatively consistent composition and quantities. These technologies ensure the recovery of value-added products, depending on the end use (e.g. transportation, remediation, electricity generation, heat).

### 8.1.1 Combustion (Mass Burn)

Combustion, also referred to as incineration, is defined as the burning of fuel to produce power and/or heat. Combustion occurs with oxygen in slight stoichiometric excess to rapidly complete a thermal oxidation reaction. Combustion technologies are able to process most types of municipal solid waste (MSW), but operate more efficiently with dry feedstock material with mid to high calorific value. The products of combustion are heat, an ash residue, and an off gas made up of predominantly nitrogen (N<sub>2</sub>), carbon dioxide (CO<sub>2</sub>), and water vapor. The off gas must be treated to meet regulatory emission requirements for chemical pollutants and particulates. The off gas can also be used as steam for generating electricity.

While this technology is conventional and well proven, it is not viewed as environmentally friendly as other conversion technologies. Incineration plant combustion temperatures are in excess of 850 degrees Celsius and require a substantial amount of supplemental fuel to initiate and maintain the combustion process (IPCC 2000).

Capital costs are generally very high for smaller communities, so increased feedstocks from neighbouring municipalities would likely be required in order to decrease the processing costs of an incineration facility. Existing mass burn facilities in Canada are located in large population centres such as Metro Vancouver in Burnaby, BC, Algonquin Power facility in Brampton, Ontario, and Durham York Energy Centre in Durham Region, Ontario.

There is a two stage municipal waste incinerator Wainwright, Alberta that operated between 1995 and 2015. This facility processed about 5,000 tonnes per year (similar to the City) but shutdown due to operational challenges and high costs to upgrade the facility to meet current air quality standards in Alberta.

Application to Lacombe: Mass burn incineration systems require feedstock volumes that are much greater than what is generated in the City of Lacombe to be potentially feasible. This technology would only be applicable if developed for a large geographical region. The Southern Alberta Waste to Energy Alliance (SAWEA) has been exploring development of a large facility for several years.

### 8.1.2 Gasification

Gasification is a partial combustion process in an oxygen-deficient atmosphere (i.e., the oxygen level is limited to convert the solid material). The resulting products are a carbon-rich ash and a “synthesis gas” (syngas) stream. Syngas is composed of various gases – hydrogen, carbon dioxide, and other trace gas. While gasification is a more complex technology, it allows for the recovery of value products (i.e., syngas) which can be used to fuel energy plants, or to generate chemicals such as ethanol or methanol.

Plasco, an Ottawa based company, was approved to construct a 200 tonne a day gasification plant in Red Deer, Alberta in 2008. Plasco intended to utilize MSW collected from nine Central Alberta municipalities. However, the project was abandoned because not enough MSW could be guaranteed by the municipalities in order to reliably feed the gasification system.

Enerkem, an alternative gasification process, is currently being used in Edmonton. It converts non-recyclable and non-compostable waste into biofuels (methanol and ethanol) or other chemical products. It would require construction of a mixed waste Material Recovery Facility “dirty MRF” and processing to produce an Refuse Derived Fuel (RDF) as the feedstock for the gasifier. The City of Edmonton produces the RDF and pays Enerkem for feedstock processed in the gasifier. The City has a ‘put or pay’ contract with Enerkem, whereby the City guarantees a certain quantity of RDF to make the facility financially viable.

Application to Lacombe: The application of gasification systems for processing municipal solid waste is still developing. The City and region is advised to take a wait-and-see approach for the development of gasification systems.

### 8.1.3 Pyrolysis

Pyrolysis is defined as the thermal breakdown of higher chain organic molecules (cracking) into smaller organic components. This thermal cracking is done in the absence or reduced presence of oxygen, sometimes with the addition of a catalyst. The resulting products from the pyrolysis process are: char (high carbon content solids), non-condensable gas, and liquid fuel (acetone, methanol, acetic acid). This liquid by-product can be converted to biofuel, and the char can be used as granular activated carbon for adsorption remediation purposes.

*Application to Lacombe:* Pyrolysis is not commonly applied to municipal solid waste. This technology is more suited to specific and uniform waste streams such as plastics.

## 8.2 Biological Conversion Technologies

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There are two main types of biological conversion technologies – aerobic composting and anaerobic digestion. Both types utilize microbial degradation where microorganisms would breakdown the organic fraction into a valuable product (e.g., energy or compost). These technologies have longer start up times and residence times, and are highly sensitive to factors such as pH, organic waste content, and temperature.

### 8.2.1 Aerobic Composting

Composting is a biological process under aerobic conditions (oxygen environment) that naturally degrades organic materials under a controlled process. Composting results a nutrient rich organic compost that can be used as soil amendment that provides benefits for moisture retention, nutrient addition, and soil health. Composting systems can be generally described as turned windrows, aerated static piles, in-vessel systems. There are a number of technology providers with variations in facility designs, while simple systems (turned windrows, aerate static piles) can be developed with reasonably lower costs than many proprietary systems. Essentially, all composting system, regardless of the technology, rely on basic principles for efficient composting. Aerobic composting requires optimum carbon to nitrogen ratio of organic waste, as well as suitable moisture content, oxygen (i.e. aeration), neutral pH, and particle size.

*Application to Lacombe:* Composting can be a viable option to the City. Yard waste currently collected in the City is being composted at a privately operated site. The compostable fraction in residential waste is considered to be as high as 60% to 70%, with soiled paper products included. The potential capture rate of these materials depends on collection methods, but could be expected to be as much as 30% to 40% with a year-round curbside organics program. If food waste is included, a higher technology compost system would be required to manage nuisance issues, while with only yard waste collection, simple turned windrow or aerate static pile systems can be applied. Should the City wish to increase waste diversion, composting can be a major component of the waste management system, either owned and operated by the City, the Lacombe Regional Waste Services Commission, or through a contract with the private sector. When considering composting at private facilities, the City would be wise complete a due diligence review of the site for capacity, regulatory compliance, and financial viability.

### 8.2.2 Anaerobic Digestion

Anaerobic digestion (AD) is an effective biological process that converts the compostable organic fraction of biomass in the absence of oxygen to biogas. The biogas is a mixture of methane (CH<sub>4</sub>), carbon dioxide (CO<sub>2</sub>), water, and other impurities. Biogas has a medium heat value gas suitable for use in electricity generation. Anaerobic digestion of solid waste is dependent on solids concentration; it can either be a high-solids or “dry” process where approximately 25% to 30% total solids are present in waste on a volumetric basis (as in food waste or garden waste), or a high-moisture or “wet” process where less than 15% total solids are present (typically in municipal sludge). Dry anaerobic digestion uses a batch or sequential batch operation where leachate and biogas may be

recirculated to provide some mixing and moisture. Wet anaerobic digestion, on the other hand, is a continuous or semi-continuous mixing operation with the intent of keeping anaerobic microbes in suspension.

A dry anaerobic digestion facility is currently in the commissioning phase at the Edmonton Waste Management Centre, which is designed to process up to 48,000 tonnes of organic waste per year. It is anticipated to be fully operational in 2020.

***Application to Lacombe:*** There are notable anaerobic digestors in Alberta, three of which were developed for agricultural sourced feedstock, and the Edmonton facility for source separated organics. Anaerobic digestors typically require a clean feedstock that has a high potential for generating methane gas. Anaerobic digestion would only be applicable on a large regional scale where there is a reliable source of clean feedstocks. For municipal waste streams, these systems typically require extensive front-end processing which adds to the overall costs.

## 8.3 Refuse Derived Fuels

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Refuse Derived Fuels (RDF) are typically manufactured from municipal solid waste (MSW) and are suitable solid fuel replacements for fossil fuel equivalents in boilers, the cement industry, or other purposes. In the simplest terms, MSW is processed to remove metal, rocks, stones and other non-combustible materials. The combustible materials are then passed through shredding equipment to produce small particles, sometimes referred to as a 'fluff'. In some cases, the fluff is the fuel, as is the case in Edmonton, while in other cases, the fluff is further processed to produce a fuel pellet.

### 8.3.1 Fogdog Energy

Fogdog Energy is an Alberta-based company that transforms non-homogenous MSW feedstock into a homogenous carbon-rich end product called fluff. The fluff can then be further converted into various energy products such as fuel or electricity, or sold directly to potential end-markets.

The entire Fogdog separation process is conducted after municipal collection at a centralized facility, and requires no source separation by residents.

This system is currently being explored by the Town of Sylvan Lake, Alberta where an estimated 98% of the total MSW could be converted into fluff.

***Application to Lacombe:*** It may be best for Lacombe to take a wait and see approach before considering this technology as it is a new technology provider in Alberta.

## 8.4 Provincial Recycling Programs

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### 8.4.1 Product Stewardship

In a Product Stewardship Program, responsibility for the program is allocated to provincial/territorial, or municipal governments. Environmental fees are legislated and in some cases, public funds are used to fund the programs. Producers are not allocated financial responsibility.

Product Stewardship programs in Alberta are administered through the Alberta Recycling Management Authority (ARMA). The Alberta Beverage Container Recycling Corporation administers the program for collection and recycling of beverage containers through 222 Bottle Depots in the province. Alberta product stewardship programs are funded through environmental fees paid at the point of purchase.

Designated materials administrated by ARMA include:

- Electronics (end of life TV's and computer equipment)
- Paint (leftover and empty paint containers)
- Used Tires
- Used lubricating oil, filters, and oil containers.

Application to Lacombe: The City of Lacombe residents currently benefit from these programs with the City and the Regional Commission actively participating in tire, paint, and electronics recycling through the annual HHW/electronics waste roundup events, a public drop off site at the Prentiss Transfer Station. The Lacombe Bottle depot accepts beverage containers and accepts used oil, filters and containers.

## 8.4.2 Extended Producer Responsibility

The Canadian Council of Ministers of the Environment (CCME) states that an Extended Producer Responsibility (EPR) is an environmental policy approach that extends the responsibility of the producer past the consumer stage of the product's life cycle. This means that with the implementation of an EPR Program, the costs and operational responsibilities for recycling materials will be shifted from local governments or non-profit organizations to the producers of the product.

Alberta currently does not have a producer-funded packaging and paper product (PPP) recycling program. The Province of British Columbia has successfully implemented PPP recycling that is 100% funded by producers.

Alberta municipalities have been voicing support for introducing EPR programs in the province. Should the provincial government proceed with EPR, it should not be expected to become an immediate solution for recycling since it will require drafting of regulations and passing regulations through the legislature. With legislation, producers will require a transition period to establish programs for collecting and processing materials.

Application to Lacombe: The City of Lacombe should continue to show support for EPR in Alberta through discussion through AUMA and may wish to lobby directly with Provincial Government officials.

## 8.5 Summary of Alternative Technologies

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Table 8-1 summarizes the advantages and disadvantages of the described alternative technologies.

**Table 8-1: Summary of Alternative Technologies**

| Alternative Technology    | Process             | Advantages  | Disadvantages  |
|---------------------------|---------------------|---|--|
| Thermochemical Conversion | Combustion          | <ul style="list-style-type: none"> <li>Can reduce up to 90% waste volume and 70-75% by weight</li> <li>Relatively quick residence time (approximately 3 minutes)</li> <li>Ash residue is usually sterile</li> <li>Off gas discharge can be effectively controlled</li> </ul>        | <ul style="list-style-type: none"> <li>High capital costs, over \$200M</li> <li>High operational and maintenance costs. (Approximately \$100/tonne)</li> <li>Requires skilled operations</li> <li>Not all waste are combustible (requires “dry” feedstock)</li> <li>Requires about 300,00 tonnes of annual waste volume to be feasible</li> <li>Off gas needs to meet regulatory requirements</li> </ul> |
|                           | Gasification        | <ul style="list-style-type: none"> <li>Needs minimal aeration or oxygen source to maintain process</li> <li>Less emissions</li> <li>Syngas can be converted to commercial products</li> <li>Fly ash produced from gasifier can be used as construction material</li> </ul>          | <ul style="list-style-type: none"> <li>High capital costs</li> <li>High operational and maintenance costs</li> <li>Requires skilled operations</li> <li>Not commercially proven</li> </ul>   |
|                           | Pyrolysis           | <ul style="list-style-type: none"> <li>No aeration or oxygen source</li> <li>Low emissions</li> <li>Liquid biofuel can serve as catalyst to the process or as transportation by-product</li> <li>Biochar can be repurposed for remediation or permaculture</li> </ul>               | <ul style="list-style-type: none"> <li>Very controlled conditions, needs complete isolation during heating to avoid aeration</li> <li>High capital costs</li> <li>High operational costs</li> <li>Requires skilled operations</li> <li>Better suited to homogeneous materials such as plastics</li> </ul>  |
| Biological Decomposition  | Aerobic Composting  | <ul style="list-style-type: none"> <li>Relatively simple process</li> <li>Can reduce waste volume in an environmental manner</li> <li>Common technology</li> <li>Easy to optimize for many municipalities at any scale</li> <li>Can be used to reduce use of fertilizers</li> </ul> | <ul style="list-style-type: none"> <li>Requires land</li> <li>Can be operational complex</li> <li>Low to moderate capital and operating costs</li> <li>Quality of compost depends on feedstock</li> </ul>  |
|                           | Anaerobic Digestion | <ul style="list-style-type: none"> <li>Produces biomethane which can be used to produce electricity or transportation fuel</li> <li>Digestate can be used as a fertilizer</li> <li>Commercially proven</li> </ul>   | <ul style="list-style-type: none"> <li>Operationally complex and requires specialized operating experience</li> <li>Higher cost than composting</li> <li>Very sensitive to pH</li> <li>Usually requires composting to finish residuals</li> </ul>  |
| Refuse Derived Fuels      | Fogdog Energy       | <ul style="list-style-type: none"> <li>Reduce waste volume and weight</li> <li>No need for source separation, including medical waste</li> <li>End product is carbon-rich and can be a substitute for fossil fuels</li> <li>Fluff end product is presumably sterile</li> </ul>      | <ul style="list-style-type: none"> <li>New technology, and not implemented on a municipal scale yet</li> <li>Requires markets for the end products</li> </ul>  |

## 9.0 FINANCIAL REVIEW

The City’s solid waste department has an operating budget that is approximately \$2.3 million dollars annually. This include the collection costs for discarded materials from residents and businesses and the disposal/processing costs for collected materials.

### 9.1 Expenditures

The City’s expenditures for their solid waste program consists of the following items:

- Waste disposal costs;
- Labour costs for collection of discarded materials;
- Vehicles and fuel for collection of materials;
- Contracted services for management of materials other than garbage;
- Recycling depot;
- Franchise fee;
- Management of bins and carts;
- Education and communications of solid waste programs; and
- Administrative services.

#### 9.1.1 Waste Disposal Costs

Waste disposal costs is the largest budget item and represent approximately 35% of the annual expenditures. This is paid to the Commission through requisitions. An annual fee is calculated based on the estimated population in the City and the requisition rate which is agreed upon by the Commission members. The City is a member of the governing body of the Commission and works with the members to determine how it is operated and how rates are determined. Table 9-1 lists the requisition rates and annual costs since 2014.

**Table 9-1: Summary of requisition rates and annual disposal costs.**

| Year | Requisition Rate | Population | Annual Cost |
|------|------------------|------------|-------------|
| 2014 | \$59.67          | 11,707     | \$678,556   |
| 2015 | \$62.64          | 12,728     | \$797,282   |
| 2016 | \$64.52          | 12,728     | \$821,210   |
| 2017 | \$65.49          | 13,057     | \$855,103   |
| 2018 | \$66.80          | 13,285     | \$887,438   |
| 2019 | \$67.53          | 13,938     | \$941,233   |
| 2020 | \$68.81          | 13,985     | \$962,308   |

In 2018, the City’s requisition cost was \$887,438. Considering 4,858 tonnes of waste was disposed, this equates to be a disposal rate of \$182.67 per tonne. For that disposal rate, the commission provides the following services:

- Coordination and management of the Commission;
- Ownership and operation of the Commission’s network of transfer stations;
- Ownership and operation of the Class III landfill next to the Prentiss Transfer Station;
- Transportation of garbage to the WDMRL for disposal; and
- Payment and administration of the disposal of garbage to the WDMRL.

The Commission provides the City with a diversionary credit for materials that are not hauled to WDMRL for disposal. This is only provided for recyclable materials such as plastics, newsprint and cardboard and represents materials that are diverted away from disposal (i.e. not delivered at the transfer station). The diversionary credit is approximately \$60 per tonne and discussed in more detail in Section 9.2 below.

The diversionary credit does not take into consideration waste reduction or reuse initiatives that would reduce the amount of waste disposed and organics diversion initiatives such as composting that divert yard and garden waste (including grass) away from disposal. Initiatives such as “Trash to Treasure”, toxic/eWaste roundup and the yard and garden waste collection are programs that required significant City resources and should be recognized as part of the diversion credits policy.

The Commission’s calculated disposal cost rate is high at \$182.67 per tonne. Table 9-2 shows the disposal rates for comparable municipalities that belong in other waste management authorities. Tetra Tech understands that the Commission does not charge commercial private sector haulers a tipping fee for material they claim comes from the City. This means the City is subsidizing the disposal costs from commercial customers without any revenue recovery opportunities. Furthermore, the Commission also does not weigh or document the waste quantities that are received from commercial private sector haulers. Considering that the City wants to grow its commercial customer waste collection service and/or recover its disposal revenue, this should be an opportunity for the City to work with the Commission to review their financial and operations model so that better cost recovery measures can be developed and implemented.

**Table 9-2: Disposal Rates of Comparable Municipalities vs. the City of Lacombe**

| City       | Waste Management Authority                           | Disposal Rates for Residential Garbage Loads |
|------------|--|--|
| Lacombe    | Lacombe Regional Waste Services Commission           | \$182.67/tonne                               |
| Camrose    | Camrose Solid Waste Authority                        | \$28/tonne                                   |
| High River | Foothills Regional Waste Commission                  | \$102/tonne                                  |
| Beaumont   | Leduc & District Regional Waste Management Authority | \$70/tonne                                   |

Note: Lacombe cost include transfer and disposal. Camrose, High River, and Beaumont are only landfill tipping fees.

### 9.1.2 Wages and Benefits

Wages and benefits to collect the waste from the City's customers represents about \$440,000 per year (5 year average) which represents 19% of the annual expenditures. The City employs four drivers and one spare driver/bin maintenance personnel.

Typically, public sector employees are paid 10% to 20% more than private sector employees. However, the private sector also incorporates a profit margin which usually narrows the gaps between public sector and private sector employees. In addition, the lower wages for private sector employees usually attracts younger and less experienced worker which can sometimes affect the quality of work delivered.

### 9.1.3 Vehicles

Collection vehicles are listed as Common Service Recovery, this expenditure represents 16% of the annual expenditures and includes truck replacement costs, truck maintenance costs and fuel costs. From 2014 to 2018, this expenditure has ranged from \$332,000 per year to \$442,000 per year. Factors that affect this item include purchasing of a new vehicle or major servicing. Fuel and maintenance are typically around \$120,000 annually. This leaves approximately \$210,000 to \$320,000 per year for vehicle replacement.

Collection trucks cost roughly \$400,000 to purchase and have a service life of seven to eight years. Most cities use seven years as a replacement rate. Considering that the City has four collection trucks and would likely carry a financing timeframe of seven years at 5% interest, the City should expense and replacement cost that is about \$270,000 per year which is in-line with the amount in the Common Services Recovery expenditure.

### 9.1.4 Other Professional Services

Other Professional Services is a budget item that involves contracted services and historically was as high as 14% of the annual expenditures. Contracted services include yard and garden waste collection from the depot and processing of these organic materials from the depot and from curbside collection.

Curbside recycling collection costs were previously accounted for in this expenditure. The budget has decreased from an average of \$325,471 per year to an estimated budget of \$185,000 per year after the curbside recycling program was cancelled. The cost for curbside recycling was approximately \$250,000 per year, which equates to roughly 10% of the annual budget.

The toxic roundup event is paid for out of the other professional services from this budget item. This service is typically approximately \$5,000 per year.

The City recently entered into a contract with D&M for yard and garden waste processing and for collection of this material from the recycling depot. This is a very favourable contract for the City because the tender price received is significantly less than the City's budgeted amount. Nevertheless, it is prudent for the City to maintain approximately \$75,000 in its budget for this service in the event these services end up being more expensive. The \$75,000 contingency budget was estimated based on a processing cost \$50 per tonne and the City's generation rate of 1,500 tonnes per year.

### 9.1.5 Recycling Depot

The recycling depot cost expenditure takes into account collection and processing costs of recyclable materials from the Depot, and cardboard that is collected downtown and hauled directly to the WM MRF. The service provider is WM and their MRF is located in Red Deer, Alberta. Current rates for processing cardboard and mixed recyclables are \$70 per tonne and \$169 per tonne, respectively. This rate has increased dramatically in recent years because

of falling commodity prices. Historically, this expenditure was an average of \$98,000 per year. The forecasted budget for the Depot is estimated to nearly triple because of poor commodity prices in 2020.

### 9.1.6 Franchise Fee

This is an internal fee that is used to recover the City’s costs for all utility rights-of-way in the City. Each utility (such as Atco, Fortis, Telus and the City’s solid waste utility) contributes 6% of the utility fees they collect from their customers. The Franchise Fee budget item is 5% of the annual expenditures.

### 9.1.7 Bin/Cart Replacement and Maintenance

This expenditure for the purchase of new carts and bins and for maintenance of existing carts and bins. The annual expenditure averages to be approximately \$56,000 per year and represents roughly 2% of the total budget. Most jurisdictions with collection programs allocate approximately 10% of the full replacement cost for their waste collection receptacles. The table below (Table 9-3) lists the number of bins and carts in the City and the replacement value of those receptacles. The total replacement cost equates to be almost 6% of the annual expenditures which is reasonable for allocation purposes.

**Table 9-3: Bin and Cart Maintenance Costs**

|              | Units in Service | Unit Cost | Replacement Cost |
|--------------|------------------|-----------|------------------|
| Bins         | 1,060            | \$800     | \$848,000        |
| Carts        | 1,365            | \$80      | \$109,200        |
| <b>Total</b> |                  |           | <b>\$957,200</b> |

### 9.1.8 Public Education and Communication

This budget item represents any public education materials and advertising that is required to support the solid waste utility and the various events such as the Spring/Fall cleanup and toxic roundup events. This budget item is typically 1% of the annual expenditures.

### 9.1.9 Other – Administrative Services Recovery

Administrative Services Recovery represents 2% of the annual expenditures. This budget item represents services that the City provides to the solid waste department.

## 9.2 Revenues

Revenues for the solid waste management program comes primarily from user fees (93%) and to a lesser extent from grants, sale of materials, penalties and general services. The following sections discuss in more detail the source of the funds to support the solid waste management program.

### 9.2.1 Utility Fees

The City charges utility fees to households and businesses for the solid waste services. The utility fees are summarized in Table 9-4 below. More than 80% of the utility fees are funded by residential customers versus the remainder that is funded by commercial customers.

**Table 9-4: Summary of Utility Fees**

| Customer Type          | Utility Fee (\$/month) | Annual Revenue     |
|------------------------|------------------------|--------------------|
| Residential            | \$31.76                | \$1,734,096        |
| Commercial - Garbage   | \$58.39                | \$210,204          |
| Commercial - Cardboard | \$53.39                | \$192,204          |
| <b>Total</b>           |                        | <b>\$2,136,504</b> |

## 9.2.2 General Services and Sale of Materials

The City is able to collect fees for general services and for the sale of materials such as the bins and carts. The combine value of this finding sources represents approximately 2% of the annual revenue for the solid waste department. This might be an area where the City could recover disposal fees from waste collected by commercial private sector haulers as noted above in Section 9.1.1 – Waste Disposal Costs.

## 9.2.3 Grants

The City's solid waste program receives grants from the County of Lacombe and the Commission. The County reimburses the City for County residents who use the Depot. This reimbursement has been growing steadily over the past five years and was \$32,000 in 2018. County grants represent about 1% of the annual revenues that the City receives.

The City's also receives diversionary credits for recyclable materials that are not disposed in the landfill. As noted in Section 9.1.1, this represents the cost of not hauling garbage from the transfer stations to WDMRL. Diversion credits are not received for waste reduction initiative because it is challenging to determine how much material was avoided from disposal and for organic diversion initiatives for yard and garden waste that was collected and diverted to processing facilities.

Diversionary credits have grown steadily from 2015 to 2018. If yard and garden waste was included in the calculation, the diversionary credits could double from its current amount. Table 9.5 summarizes the diversionary credits from 2015 to 2019 (September). Diversion credits currently represent 3% of the City's revenue stream.

**Table 9.5: Summary of Diversionary Credits**

| Year              | Diversion Credit (\$ per tonne) | Diverted (t) | Diversion Credit (\$) |
|-------------------|---------------------------------|--------------|-----------------------|
| 2015              | \$ 61.77                        | 1057.5       | \$ 65,319.00          |
| 2016              | \$ 61.43                        | 1152.2       | \$ 70,782.00          |
| 2017              | \$ 59.61                        | 1208.7       | \$ 72,051.00          |
| 2018              | \$ 59.17                        | 1441.3       | \$ 85,281.00          |
| 2019 (Until Sept) | \$ 59.61                        | 838.9        | \$ 50,005.00          |

## 9.3 Discussion

The City's solid waste program is mostly funded through user fees. Based on the total revenue, the order of the sources of revenue are residential customers (75%), commercial customers (17%), diversionary credits (3%), County grants (2%), general services (2%) and miscellaneous sales and services (1%). If the Commission's diversionary credits were expanded to include yard and garden waste, the revenue potential for diversionary credits could potentially increase to 5% (~\$75,000).

The cost structure that is paid to the commission does not benefit the City if more waste is diverted from disposal. The cost for waste disposal (est. \$182.67/t) and the cost to process mixed recyclables (\$169 per tonne) provides no financial incentive to divert waste. The diversionary credit provides a little incentive that is approximately a third of the disposal cost. The overall cost savings to recycle is negligible.

The processing cost for yard and garden waste is low but is still a cost for the City. If the Commission provided a diversionary credit to yard and garden waste, the City would save money diverting yard and garden waste. Diversion of yard and garden waste is currently an additional cost to the City.

Residents support waste diversion efforts although any waste diversion is considered an additional cost. The City should consider working with Commission members to determine whether waste diversion efforts are a priority and whether there are mechanisms to encourage or support waste diversion efforts.

The City should work with the Commission to review the operations and financial model of the system to determine whether an approach such as a weight-based and hauler based disposal system can be established. By having this type of system, the City would only pay for what it has collected and not subsidize what others have collected. This is also an opportunity for the Commission to collect more revenue from commercial sources so that Commission members pay less for operation of the Commission.

The desire for diverting waste is community driven. If there are no financial incentives to waste, The City needs to work the Province to determine whether there is a mandate or incentives to divert waste from disposal to reduce the reliance on landfills.

## 10.0 OPTIONS CONSIDERATION

Table 10-1 lists the advantages and disadvantages of the City's current options and proposed changes in the solid waste management program.

**Table 10-1: Summary of Options Considered for the City**

| Options   | Advantages   | Disadvantages  |
|---|--|--|
| <b>Wolf Creek Recycling Depot (Depot)</b>   |  |  |
| <ul style="list-style-type: none"> <li>▪ Maintain the Depot as is</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Residents are using the Depot</li> <li>▪ Recycling services are maintained at existing costs</li> <li>▪ WM hauls the materials to MRF</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Proper sorting cannot be monitored due to lack of site supervision</li> <li>▪ Drop off of trees and branches by contractors is difficult to control with financial implications to the City and the Commission</li> <li>▪ Bins commonly overfilled</li> <li>▪ Excess amounts of trees and branches can be a fire hazard</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Upgrade the Depot                             <ul style="list-style-type: none"> <li>– Controlled hours</li> <li>– Site attendant</li> <li>– Additional containers</li> <li>– Organic storage bunker</li> <li>– Upgrade signage</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>▪ Control of site to prevent unacceptable waste being deposited</li> <li>▪ Control is in place to prevent use of the site by contractors avoiding tipping fees at Prentiss</li> <li>▪ Supervision in place to protect potential liability to the City</li> <li>▪ Sorting of recyclables can be monitored</li> <li>▪ Scheduling of bin hauling can be scheduled according to site hours</li> <li>▪ Pickup of litter can be provided by site attendants</li> <li>▪ Save costs for loading and hauling of unacceptable wastes (e.g. trees and branches)</li> </ul> | <ul style="list-style-type: none"> <li>▪ Additional capital upgrades                             <ul style="list-style-type: none"> <li>– Attendant shelter (heated), ~\$20,000 to \$30,000</li> <li>– Storage bunker for yard waste collection, ~\$10,000 to \$30,000</li> <li>– Additional recycling containers</li> </ul> </li> <li>▪ Additional operating costs for an attendant</li> <li>▪ Access may be inconvenient for some residents</li> </ul> |
| <ul style="list-style-type: none"> <li>▪ Discontinue accepting trees and brush at the Depot</li> <li>▪ Prohibit commercial businesses to use the Depot</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Eliminates potential fire risk with stockpile of trees and brush</li> <li>▪ Reduces City cost to load and haul to Prentiss Transfer Station</li> <li>▪ Commission would gain tipping fee revenues from private haulers</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Potential for residents to use green bins for trees and brush</li> <li>▪ Potential for private sector haulers and landscapers to use green bins</li> </ul>  |
| <b>Curbside Recycling Collection</b>  |  |  |
| <ul style="list-style-type: none"> <li>▪ Continue to rely on the Depot for recycling</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Discontinued curbside recycling collection eliminates 10% of overall expenditures</li> <li>▪ Reduces costs associated with supply of recycling carts</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Recycling is not convenient for residents</li> <li>▪ Participation in recycling has decreased</li> <li>▪ Annual average of 43% of recycling diversion is lost (Section 2.3.1.1)</li> <li>▪ Anticipate use of Depot to drop off over time due to inconvenience and reliance on curbside recycling collection</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Reintroduce curbside recycling collection every 2 weeks</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Provides convenient recycling option for residents</li> <li>▪ Public is supportive of the curbside recycling program</li> <li>▪ Biweekly pickup can reduce recyclable collection costs compared to weekly pickup</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Increased utility costs</li> <li>▪ Current recycling market is challenging and resulting increased costs for processing comingled recyclables</li> </ul>  |

| Options   | Advantages   | Disadvantages  |
|---|--|--|
| <b>Commercial Collection</b>  |  |  |
| <ul style="list-style-type: none"> <li>▪ Continue to provide commercial collection services and develop a disposal fee system that commercial haulers would have to pay (i.e. franchise fee)</li> </ul>   | <ul style="list-style-type: none"> <li>▪ City gains revenue from service fees from commercial customers</li> <li>▪ Provides competition to private haulers</li> <li>▪ Commercial cardboard diverts commercial waste from landfill</li> </ul>   | <ul style="list-style-type: none"> <li>▪ City is losing commercial customers to private haulers</li> <li>▪ Private haulers do not pay fees at the Prentiss Transfer Station and can have lower costs compared to the City</li> <li>▪ City has limitations to service to commercial customers due to priorities for residential service</li> <li>▪ Multi-family collection service is combined with residential collection</li> </ul>   |
| <ul style="list-style-type: none"> <li>▪ Transition commercial service to private haulers                             <ul style="list-style-type: none"> <li>– Introduce an annual license fee as part of pre-approval process</li> <li>– Commission to document waste collected from private sector haulers</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>▪ City collection service can give priority to residential collection</li> <li>▪ Potential to reduce the City's equipment and labour costs</li> <li>▪ Reduce City's costs to maintain commercial bins</li> <li>▪ Private haulers can provide businesses with variable container sizes and provide a flexible service to match waste generation</li> </ul> | <ul style="list-style-type: none"> <li>▪ City loses revenue gained from commercial services                             <ul style="list-style-type: none"> <li>– If a fee is charged to private companies to offset the loss in revenue, private companies may not be supportive</li> </ul> </li> <li>▪ May reduce competition and result in increased cost to business owners</li> <li>▪ Lead time for a transition to private haulers would be required to allow businesses to adjust</li> <li>▪ Private business may not be supportive</li> </ul> |
| <ul style="list-style-type: none"> <li>▪ Introduce variable rate utility fees for commercial private sector haulers</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Avoid having the City pay for disposal costs of waste collected by commercial private sector haulers</li> <li>▪ Encourages waste diversion in the commercial sector</li> <li>▪ Fees based on collection and disposal costs</li> <li>▪ Fees can be applied to costs for waste diversion programs</li> </ul>  | <ul style="list-style-type: none"> <li>▪ May be opposed by commercial private sector haulers</li> <li>▪ Requires working with Commission to document weights and source from commercial sector</li> <li>▪ Can result in private sector haulers complaining that changes are not fair</li> </ul>  |
| <b>Organics Collection</b>  |  |  |
| <ul style="list-style-type: none"> <li>▪ Maintain community yard waste bins</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Provides opportunity for capture of yard waste for composting</li> <li>▪ Diverts yard waste from the transfer and landfill system</li> <li>▪ Costs for composting service is very low in 2019/2020</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Cost to maintain green bins must be allocated</li> <li>▪ City pays additional costs for collection from green bins and hauling to compost service provider</li> <li>▪ Cost for composting service may increase in future if service provider raises rates</li> <li>▪ No diversion credits from the Commission</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Seasonal curbside yard waste collection in Kraft paper bags                             <ul style="list-style-type: none"> <li>– Spring</li> <li>– Fall</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>▪ Potential to increase diversion credits from the Commission</li> <li>▪ Convenient for residents to participate in organics diversion with cart system</li> <li>▪ Seasonal collection captures peak yard waste quantities</li> <li>▪ Kraft bags are compostable</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Contract with D&amp;M for composting would need to be revisited</li> <li>▪ Additional cost to homeowners for Kraft bags</li> <li>▪ Use of Kraft bags rely on manual collection at the curb</li> <li>▪ Collection cost would be added to current collection costs</li> </ul>   |

| Options  | Advantages   | Disadvantages  |
|--|--|--|
| <ul style="list-style-type: none"> <li>▪ Year-round source separated organic collection                             <ul style="list-style-type: none"> <li>– Curbside organic carts</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>▪ High potential to increase diversion</li> <li>▪ Convenient for homeowners to participate in organics diversion program</li> <li>▪ Opportunity to reduce frequency of waste collection (once/2 week)</li> </ul>                          | <ul style="list-style-type: none"> <li>▪ Requires an increase in utility fees for single-family households</li> <li>▪ Capital cost for supply of organic carts</li> <li>▪ Potential for additional equipment and labour costs for collection of the organics</li> <li>▪ Weekly collection of organics can to overall cost of collection</li> <li>▪ Can require considerable investment by the City, Commission, or a private service provider to design, construct, and permit a compost facility</li> </ul> |
| <b>Collection Schedule and Route</b>   |  |  |
| <ul style="list-style-type: none"> <li>▪ Maintain existing routes</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Collection crews know and are used to the routes and schedules</li> <li>▪ Few residents have concerns with the current service or schedules</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Collection routes appear to be inefficient</li> <li>▪ Routes are fragmented and overlapping</li> <li>▪ Routes do not appear to be matched to collection performance norms for the industry</li> </ul>   |
| <ul style="list-style-type: none"> <li>▪ Design new macro-routes</li> <li>▪ Design micro-routes using heuristic routing methods</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Optimizes collection routes</li> <li>▪ Balances routes and equalizes workload for collection crews</li> <li>▪ Potential to create more efficient collection and manage costs</li> </ul>   | <ul style="list-style-type: none"> <li>▪ City would need budget for design of collection routes</li> <li>▪ Changes in collection schedules will require additional public engagement</li> </ul>  |
| <b>Establish Waste Management Goals and Objectives</b>   |  |  |
| <ul style="list-style-type: none"> <li>▪ Maintain commission membership</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Commission provides transfer and disposal services with costs shared with the County and other urban municipalities</li> <li>▪ Modest rebate for waste diversion</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Per-capita requisitions by the Commission does not encourage waste diversion by its member municipalities</li> <li>▪ Waste diversion rebate only pays a partial cost for waste diversion programs</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Work with the Commission to complete a financial and operational audit</li> </ul>   | <ul style="list-style-type: none"> <li>▪ The operational audit can reveal areas for improvement in providing optimal services to member municipalities and residents</li> <li>▪ The financial audit can reevaluate and update fee structure for member municipalities</li> </ul> | <ul style="list-style-type: none"> <li>▪ Additional costs that may be charged to member municipalities</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Establish diversion goals and objectives</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Can be used to develop a road map for future waste programs to achieve the goals and objectives</li> </ul>  | <ul style="list-style-type: none"> <li>▪ If goals and objectives are not realistic and flexible, solid waste programs costs can become costly and unattainable</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Establish KPI's (Key Performance Indicators)</li> </ul>   | <ul style="list-style-type: none"> <li>▪ KPI's can provide City management with information that can guide improvements and efficiencies in operations</li> </ul>  | <ul style="list-style-type: none"> <li>▪ KPI's can be time consuming and add administrative costs if too detailed</li> </ul>   |

## 11.0 SUMMARY AND CONCLUSIONS

Following is a general overview of the waste disposed should take into consideration the quantities Solid Waste Services:

- The City provides residential waste collection for 4,560 single-family households. Residents are provided 375 L (0.6 yd<sup>3</sup>) roll-out carts in areas without alleys and 2300 L (3-yd<sup>3</sup>) bins in alleys;
- Alley bins serve approximately four households. Yard waste and grass clippings are collected in 2300 L (3-yd<sup>3</sup>) bins communal grass bins placed throughout the City;
- Residents are charged \$31.76 per month (single-family households) and \$19.97 (multi-family households) which covers the costs of curbside collection, access to the Depot, membership in the Commission, an annual household toxic waste roundup event, a year-round eWaste collection site, Trash-to-Treasure Weeks, and a biannual community cleanup campaign;
- The City also collects recyclable cardboard in the commercial section of the City;
- The City provide commercial collection service and rubble collection in the industrial area;
- The City charges \$58.39 per month for commercial garbage or \$53.39 per month for commercial cardboard; and
- Residents of the City appear to be generally satisfied with the City's waste services but prefer to maintain the curbside recycling program.

The City of Lacombe solid waste metrics are summarized in Table 11-1.

**Table 11-1: City of Lacombe Waste Performance**

| Description  | Metric   |
|--|--|
| Population   | 13,985   |
| Waste Disposed (2018)  | 6,056 tonnes   |
| Per Capita Disposal (Residential)  | 433 kg per capita  |
| Recycling (2018)   | 1,441 tonnes   |
| Yard & Garden Waste (2018)<br>Collection Frequency                         | 1,139 tonnes<br>Biweekly (Spring/Summer/Fall, no collection in Winter) |
| Waste Diverted (2018)  | 2,580 tonnes   |
| Residential Utility Fee<br>Collection Frequency                            | \$31.76 per month (SF) / \$19.97 per month (MF)<br>Weekly              |
| Commercial Garbage Fee<br>Commercial Cardboard Fee<br>Collection Frequency | \$58.39 per month<br>\$53.39 per month<br>Weekly                       |

Overall, the City's current solid waste management services appear to be satisfactory to residents. The following sections describe Tetra Tech's observations after completing a comprehensive review of the City's current solid waste management program.

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## 11.1 Waste Collection Services

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Below is a summary of findings for the City's waste collection service:

- 2300 L / 3-yd<sup>3</sup> back alley bins serve 70% of the residential area;
- 375 L / 0.6-yd<sup>3</sup> curbside roll-out carts serve 30% of the residential area;
- Collection of 2300 L bins appears to be efficient and economical in terms of household served;
- Alley bin collection travel times are expected to be lower than a comparable individual cart system due to one way travel in alleys and each bin servicing approximately four households
- Alley bins are communal with little to no accountability to householders for improper use (Although not observed by Tetra Tech, it was reported by staff and residents that illegal or non-permitted use occurs on the alley bins);
- Curbside roll-out carts and most plastic lids used on the majority of 375 L bins are reported to be manufactured in Lacombe, thus the system supports local industry;
- Collection of roll-out carts requires more stops and collection on two sides of a street (more travel per household served than with alley bins);
- Homeowners can be held accountable for use of the roll-out carts; and
- The utility fee of \$31.76 is charged to all single-family households, however, residents with back-alley lanes receive an impartial waste collection service with the 2300 L back-alley bins. Compared to residents with front-street cart collection (with 375L garbage volume limit per week), residents with back-alley lanes can dispose as much garbage in their designated communal bin, and when filled, they can dispose their remaining garbage in another communal bin. Therefore, there is little accountability to residents in back-alley lanes for volume restrictions.

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## 11.2 Wolf Creek Recycling Depot

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Below is a summary of the findings for the Depot:

- The depot is un-supervised and open 24/7;
- The depot contains a bulk water fill station on site;
- Recycling quantities at the Wolf Creek Recycling Depot show an increase from 29.4 tonnes/month to 51.3 tonnes/month prior to and following the discontinuation of curbside recycling collection:
  - The City may see a decline in recycling quantities overtime due the inconvenience of dropping off recycling at the Depot over curbside recycling collection
- Residents relayed concerns about overfilled recycling bins;
- Signage on bins was inadequate and confusing, but recent improvements from November 2019 show that signages have been upgraded by the City to provide more clarity for residents;
- Yard waste was dropped off by self-hauling residents and contractors that services the green bins;
- The Commission does not accept yard waste for composting from the City, thereby requiring the City to add other costs for composting services;

- As of November, 2019, the City entered into a contract with D&M for loading and hauling of yard waste from the Depot, and collection trucks with direct haul yard waste to the contractor's compost site;
- The drop-off area for trees and brush was observed to be extensively used by private landscape business, tree pruning companies, and self-haul residents;
- Large quantities of trees and brush require the City to load and haul to the Prentiss Class III Landfill;
- The Commission loses revenue due to companies avoiding disposal fees by using the Depot; and
- Large piles of brush and trees close to industrial buildings poses a potential fire risk.

### 11.3 Services at Prentiss Transfer Station

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The Prentiss Transfer Station and Class III Landfill are owned and operated by the Commission.

As a member municipality, the City pays an annual requisition for Commission services. The requisition is equalized among the Commission's municipal members. The requisition costs for the City collection services covers the use of the Prentiss Transfer Station and Class III landfill.

Residents are able to dispose the following at no charge:

- Household waste;
- Compost material (including grass clippings and garden waste);
- Household hazardous material; and
- Dry rubble loads less than 500 kilograms.

The following fees are charged for loads of white goods, asphalt shingles, or dry rubble over ½ tonne or 500 kg, as of 2020:

- 500-1000 kg – \$40.00;
- 1000 + kg – \$40.00 per tonne;
- Shingles – \$75/tonne (clean load);
- White Metal, no Freon – \$10.00 per unit; and
- White Metal with Freon – \$40.00 per unit.

## 12.0 RECOMMENDATIONS

Tetra Tech offers the following recommendations based on the findings in this study. These recommendations include the following:

- The City to approach the Commission to request an audit of the Commission’s current financial model. The purpose of this audit review is to:
  - Review revenue and expenses;
  - Identify existing fees charged to private haulers; and
  - Identify a financial model that includes cost recovery from private haulers to benefit all Commission members by reducing annual requisitions.
- The City to approach the Commission to review the Commission’s operations model to evaluate the efficiency of operations and services provided to all members. This review should consider:
  - Does the current transfer system and disposal service remain efficient, considering the population and waste generation has changed since the system was developed?
  - Reassessment of current record management at the Prentiss Transfer Station where the Commission can track waste tonnage data per source and per member municipality in the future;
  - Options for consolidation of services that could be provided through the Commission to all member municipalities, such as management of organics, recycling services, and household hazardous waste services; and
  - A review of environmental compliance of Commission facilities with respect to current regulatory requirements and Standards.
- The City should require the Commission to record source of waste hauled by private hauling companies and individuals to the Prentiss Transfer Station and Class III landfill. This will allow the City to appropriately identify all waste, including ICI and C&D waste, that is generated in the City.
- The City should upgrade the Depot to optimize resident use and collection frequency by doing the following:
  - Request additional bins from WM;
  - Control entry to site with scheduled hours of operation and a City personnel as site attendant to protect the Depot from potential City liability;
  - Control sorting of mixed recyclables by upgrading signage at eye-level (completed by the City as of November 2019); and
  - Install storage bunker for brush, trees, sod, and yard waste drop-off location to avoid fire hazards.
- The City should conduct a feasibility assessment for curbside recycling since it was identified as a public priority and a major contributor to annual average recycling diversion (i.e. 43% from 2016 to 2018). Residents liked the convenience of recycling collection (as discussed in Section 5.5). However, this study should also assess who will collect the materials, the volatility of the global recycling end-market and the processing costs at the Red Deer MRF.

- The City should conduct a collection route optimization study that takes into consideration the following steps:
  - Develop a macro-route design based on the number of containers each collection truck can service in a day;
  - Develop routes based on residential routes and ICI routes; and
  - Upon completion of macro-routes, a micro-route design should be completed using a heuristic routing analysis.
- The City should develop and adopt Key Performance Indicators (KPI) such as:
  - Waste Disposal Rate for the City (tonnes per capita per year);
  - Waste Diversion Rate (from recycling at the Depot, grass collection, Toxic/eWaste Roundup and Spring/Fall Cleanup Events, and year-round eWaste drop-off) (tonnes per capita per year);
  - Cost of collection service per customer;
  - Track annual waste generation, disposal and diversion rates or quantities;
  - Track annual trends for cost of waste services (i.e. tipping fees at the Prentiss Transfer Station, annual per-capita requisition with the Commission, labour costs, etc.); and
  - Track collection vehicle performance (such as average bins serviced, average load weights, average loads hauled for each sector).
- The City should update Bylaw 393 (consolidated January 27, 2020) with the following considerations:
  - Remove Part 7 – Recycling Services (Sections 87.1 – 87.4) unless the City continues to continue the curbside recycling program;
  - Address Section 87.7 Recycle Depot to prohibit commercial haulers from accessing the Depot;
  - Add a section on Private Haulers’ Responsibilities similar to Section 83 – City Responsibilities which outlines requirements for commercial collection, collection frequency, and right to refuse:
    - Ensure that they contribute to the Commission’s annual-per-requisition membership costs by adding a franchise fee in Schedule B;
    - Prohibit their involvement in residential collection to address Section 83 and 83.1 where the City should be the sole provider of residential garbage collection; and
    - Add a “failure to comply” penalty in Schedule C to regulate residential collection responsibility (and avoid observations in the multi-family dwellings in Section 2.2.1.1).
  - Remove modular home park utility rates (\$24.49) in Schedule B.
- Work with the commercial private haulers to revert garbage collection from multi-family residential households back to the City to comply with Sections 83 and 83.1 of the utility bylaw.

## 13.0 CLOSURE

We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,  
Tetra Tech Canada Inc.

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Prepared by:  
Rochelle DeOmania, E.I.T.  
Project Engineer-In-Training  
Solid Waste Management Practice  
Direct Line: 587.340.3540  
Rochelle.DeOmania@tetrattech.com

---

Reviewed by:  
Wilbert Yang, P.Eng.  
Team Lead – Planning  
Solid Waste Management Practice  
Direct Line: 604.608.8636  
Wilbert.Yang@tetrattech.com

FILE: SWM.PLAN03115-01  
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FILE: SWM.PLAN03115-01  
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Reviewed by:  
James (Jim) Lapp  
Senior Project Technologist  
Solid Waste Management Practice  
Direct Line: 587.460.3630  
James.Lapp@tetrattech.com

/sy

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## APPENDIX A

### OVERVIEW OF OPERATIONS



**To:** Chris Huston  
Jordan Thompson

**Date:** February 13, 2020

**c:**

**Memo No.:** 001

**From:** John Ling, E.I.T.  
Jim Lapp  
Wilbert Yang, P. Eng.

**File:** 704-SWM.PLAN03115-01

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**Subject:** Solid Waste Review for the City of Lacombe  
Solid Waste System Overview

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## 1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by the City of Lacombe (City) for solid waste management consulting and planning services to complete a comprehensive review of the City’s solid waste utility in preparation for the City’s 2018-2021 strategic plan. The City’s primary objective for this project include:

- Benchmarking service levels and financial considerations against comparable municipalities;
- Developing a long-term plan for management solid waste in a sustainable and fiscally responsible manner; and
- Engaging the public regarding their views and priorities for the future of solid waste collection and management in the City.

This technical memo provides an overview of the solid waste system currently used in the City.

## 2.0 CITY INFORMATION

The City has a population of 13,985 (Stats Canada 2019 census) with an average of 3 persons per residence.

The total number of private dwellings within the City is 5,034, with 4,797 of those dwellings being occupied by permanent residences. Approximately 67.4% of residential dwellings are single family residents.

Collection services are provided to approximately 4,550 residential and 300 commercial customers.

## 3.0 OVERVIEW OF EXISTING WASTE COLLECTION SERVICES

The City solid waste management system consists of collecting waste, recyclables, and yard waste from residential and commercial sources and taking those materials to external facilities where it is disposed, recycled, or composted. The following section will discuss in detail the existing waste collection services provided by the City.

Figure 3-1 below provides an overview of the existing solid waste management system and a delineation of the services provided at the City.



Figure 3-1: Overview of Solid Waste Management System at the City of Lacombe

### 3.1 Residential Collection

Residential waste is collected by the City through the following two methods:

- Lane collection via 3-cubic yard (yd<sup>3</sup>) steel bins; and
- Curb side collection with 120-gallon (0.6-yd<sup>3</sup>) bins.

3-yd<sup>3</sup> bins are placed in lanes throughout the City for residential collection. Each bin is strategically located to serve four households.

In residential areas without lanes, curbside collection is provided using 0.6-yd<sup>3</sup> roll-out carts at each household. Both lane and curbside bins are collected with automated side loading trucks. Collected waste is transported to the Prentiss Road Transfer Station.

Grass and yard waste are collected in residential areas using 3-yd<sup>3</sup> steel bins placed at various locations throughout the City. Yard waste was deposited at a stockpile site in the Len Thompson Industrial Area; however, by October 2019, it is directly hauled to a private composting site.



**Photo 3-1: Steel Bins in Lane**



**Photo 3-2: Curb-side Roll-out Carts**



**Photo 3-3: Grass and Yard waste bin**

## **3.2 Commercial Collection**

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Commercial collection in the City can be contracted to the City or to pre-qualified private collection companies.

If the City is providing commercial collection, one or more 3-yd<sup>3</sup> steel bins are provided to each business for collection by side loading trucks. Cardboard bins, located in lanes of business areas, are collected on separate collection routes and hauled directly to a private material recovery facility (MRF) in Red Deer.

The City also collects Commercial & Demolition (C&D or “rubble” by City Collection) waste generated from industrial businesses. This rubble waste is hauled to the Prentiss Road Class III Landfill.



Photo 3-4: Commercial Waste Collection



Photo 3-5: Cardboard Collection

## 4.0 RECYCLING PROGRAM

Other than the commercial cardboard recycling program, recycling services are available for drop off at the Wolf Creek Recycling Depot. The Wolf Creek Recycling Depot is located in the east portion of the City, as shown on Figure 4-1 below.



Figure 4-1: Wolf Creek Recycling Depot

Curbside collection of recyclables was discontinued on June 1, 2019 due to the rising costs for the service. According to the City Council report, dated May 27, 2019, the cost for curbside recycling would increase to \$7.49/dwelling/month from \$4.50/dwelling/month. The new rate was also higher than what some other jurisdictions were being charged. The rationale for the higher costs was a result of poor market conditions (i.e., revenues) for the commodities and increased capital improvement costs for upgrades to the MRF in Red Deer County. Curbside recycling in the City was put in place in 2014 and the Council report indicated that the recycling program was diverting approximately 900 tonnes per year at the time the program was cancelled.

The recycling depot is an unstaffed and ungated facility. Four 40-yard roll-off recycling containers are placed at the site for collection of cardboard, paper, and plastics. A private contractor hauls recyclable material to a MRF in Red Deer.

The recycling depot also accepts yard waste, brush, trees and sod. All collected organics are periodically removed by a private contractor (as of October 2019 with the Green Bin Contract) and hauled to their own composting site. Previously, the City hauled the organics to the Len Thompson Industrial Area, where approximately 1,290 tonnes have been stockpiled for composting. The private contractor will collect this material to their site.



**Photo 4-1: 40-yard roll-off recycling bin at the Wolf Creek Recycling Depot**

## 5.0 LACOMBE REGIONAL WASTE SERVICES COMMISSION

The City is a member of the Lacombe Regional Waste Services Commission. The Commission members include:

- Lacombe County,
- City of Lacombe,
- Town of Bentley,
- Town of Eckville,
- Village of Alix,
- Village of Clive, and
- Village of Mirror.

The Commission owns and operates five (5) transfer stations, including the Prentiss Road Transfer Station located approximately 10 km east of the City. The Commission operates a Class III landfill at the Prentiss site. Municipal solid waste is transported to the West Dried Meat Lake Regional Landfill for disposal at a Class II Landfill.

The City pays for Commission services through a per capita requisition. Thus, member municipalities, residents and businesses are not required to pay tipping fees at the transfer station. Dry rubble loads larger than a ½ tonne truck or 500 kg are charged \$40/tonne for disposal in the Class III landfill. The Commission charges \$50/tonne for shingles, \$10 per unit for white metal goods without freon, and \$40 per unit for white metal goods with freon.

## 6.0 LIMITATIONS OF REPORT

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## 7.0 CLOSURE

We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,  
Tetra Tech Canada Inc.

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Prepared by:  
John Ling, E.I.T.  
Project Engineer-in-Training  
Solid Waste Management Practice  
Direct Line: 587.460.3638  
John.Ling@tetrattech.com

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Prepared by:  
James (Jim) Lapp  
Senior Project Technologist  
Solid Waste Management Practice  
Direct Line: 587.460.3630  
James.Lapp@tetrattech.com

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704-SWM.PLAN03115-01

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Reviewed by:  
Wilbert Yang, P.Eng.  
Senior Planning Engineer  
Solid Waste Management Practice  
Direct Line: 604.608.8648  
Wilbert.Yang@tetrattech.com

/sy

Enclosure:      Limitations on the Use of this Document

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### 1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner

consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

### 1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

### 1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

### 1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

### 1.7 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

# APPENDIX B

## REVIEW OF OPERATIONS



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**To:** Chris Huston  
Jordan Thompson

**Date:** February 13, 2020

**c:**

**Memo No.:** 002

**From:** John Ling, E.I.T.  
Jim Lapp  
Wilbert Yang, P. Eng.

**File:** 704-SWM.PLAN03115-01

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**Subject:** Solid Waste Review for the City of Lacombe  
Review of Operations

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## 1.0 INTRODUCTION

The following technical memorandum has been developed by Tetra Tech Canada Inc. (Tetra Tech) to provide an overview of the Solid Waste Operations at the City of Lacombe (City). Topics covered within this memo include the following:

- Existing system overview;
- Collection staff feedback;
- Ride-a-Long observations;
- Wolf Creek Recycling depot;
- Solid waste events (e.g., Community Cleanup and Toxic Waste Roundup);
- Temporary compost storage site; and
- Waste generation overview.

## 2.0 EXISTING SYSTEM

The following section is an overview of existing solid waste management system and a delineation of the services provided at the City. Figure 2-1 is a solid waste management flow diagram that illustrates the sources of the waste stream, how materials are collected, any processing that occurs and the end points for the materials collected and processed.



Figure 2-1: Solid Waste Management Flow Diagram for the City of Lacombe

## 2.1 Collection Vehicles

The City’s collection fleet consists of four waste collection trucks and collects residential garbage, residential yard and garden waste, commercial garbage and commercial cardboard. Three trucks are used daily and one truck serves as a spare in the event of maintenance or unforeseen circumstances.

Each truck is equipped with a Pakmor style lift arm capable of lifting metal containers and curbside roll-out bins as discussed below. The following table (Table 2-1) summarizes the specifications of the collection trucks.

**Table 2-1: Collection Truck Specifications**

| Unit No.    | Capacity  | Year Purchased | Age | Compatibility (Bins and/or Containers) | Mechanism (Push-out/Tilt Dump) |
|-------------|-----------|----------------|-----|--|--------------------------------|
| 204         | 27,215 kg | 2011           | 8   | Roll-out & 3 yd                        | Push                           |
| 242         | 27,488 kg | 2015           | 4   | Roll-out & 3 yd                        | Push                           |
| 247         | 25,401 kg | 2018           | 1   | Roll-out & 3 yd                        | Tilt                           |
| 201 (SPARE) | 26,650 kg | 2006           | 13  | Roll-out & 3 yd                        | Push                           |

## 2.2 Staff

The City has five full time staff and one seasonal employee to assist in the summer season. Table 2-2 summarizes the City's waste collection staff and their respective roles and responsibilities.

**Table 2-2: Collection Staff**

| Title             | Number | Responsibilities  |
|-------------------|--------|---|
| Foreman           | 1      | <ul style="list-style-type: none"> <li>Coordinates and manages collection staff</li> </ul>  |
| Full-Time Driver  | 3      | <ul style="list-style-type: none"> <li>Drive collection trucks and collect garbage from waste bins</li> </ul>   |
| Backup Driver     | 1      | <ul style="list-style-type: none"> <li>Fills in for full-time drivers on an as-needed basis</li> <li>Performs maintenance on collection bins</li> </ul> |
| Seasonal Employee | 1      | <ul style="list-style-type: none"> <li>Performs maintenance on collection bins (typically summer season)</li> </ul>                                     |

## 2.3 Collection Bins

The City utilizes a variety of waste collection bins for their waste collection system. Table 2-3 summarizes the bins used for the City's waste collection system and provides specifications for each type of bin.

**Table 2-3: Summary of Collection Bins utilized by the City of Lacombe**

| Lane Bins – Residential, Commercial and Rubble (Industrial)                         |  |
|---|--|
|  | <p>Material Type: Metal</p> <p>Capacity: 3-yd<sup>3</sup></p> <p>Number of Units: 1,060</p> <p>Approximate Homes Served Per Bin (Residential): 4</p> |

### Front Curb Bins – Residential



Material Type: Plastic  
Capacity: 120 Gallons (0.6-yd<sup>3</sup>)  
Number of Units: 1,365  
Homes Served Per Bin: 1

### Cardboard Bins – Commercial



Material Type: Metal  
Capacity: 3-yd<sup>3</sup>  
Number of Units: 64

### Grass/Yard Waste Bins – Residential



Material Type: Metal  
Capacity: 3-yd<sup>3</sup>  
Number of Units: 217  
Homes served per bin: varies

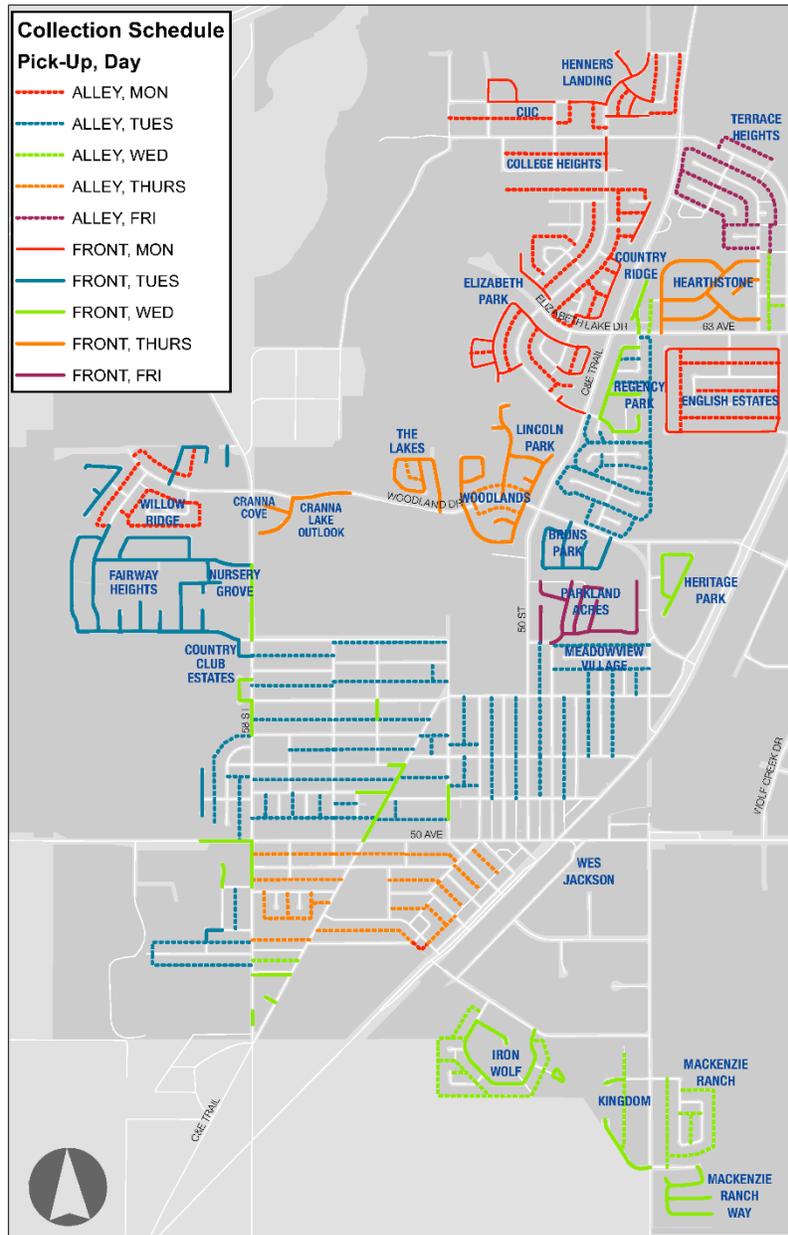
## 2.4 Collection Schedule and Route

Waste collection in the City occurs Monday through Friday. The downtown collection beat typically begins at 6:00 a.m. to avoid rush hour traffic, parked vehicles, and pedestrians. Collection routes outside of the downtown area typically begins at 7:00 a.m. Table 2-4 lists the collection schedule for each truck. Figures 2-2 and Figure 2-3 shows the waste and grass collection route and pickup days for the City.

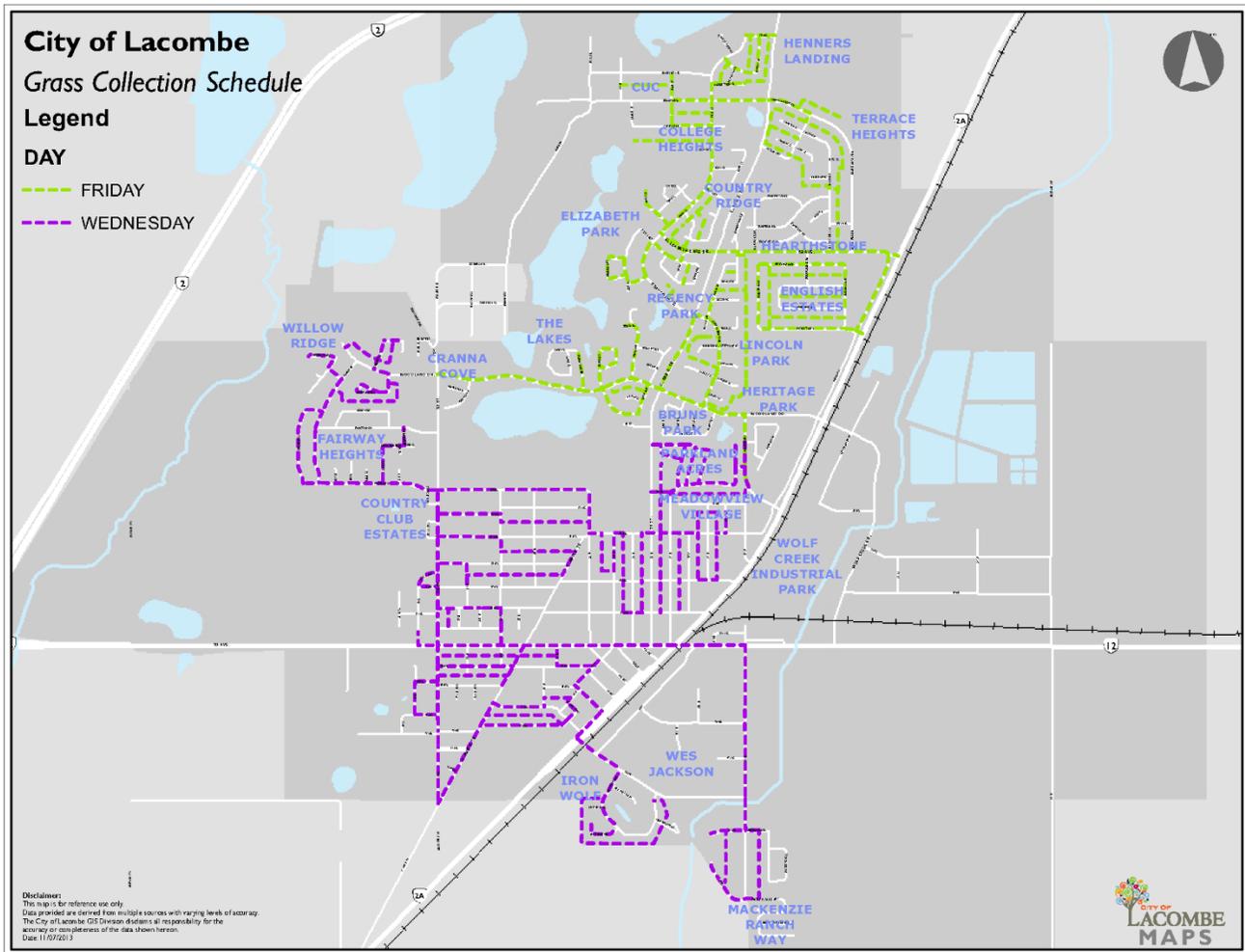
The City also provides a Fall and Spring cleanup event each year. This cleanup event provides residents with the opportunity to dispose household and yard waste that cannot be placed into the provided waste bins.

**Table 2-4: Pickup Schedule for City of Lacombe Collection Trucks**

| Truck | Monday   | Tuesday   | Wednesday  | Thursday  | Friday   |
|-------|--|---|--|---|--|
| 204   | <ul style="list-style-type: none"> <li>Cardboard</li> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Cardboard</li> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Cardboard</li> <li>Garbage</li> </ul> |
| 242   | <ul style="list-style-type: none"> <li>Rubble</li> <li>Garbage</li> </ul>    | <ul style="list-style-type: none"> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Garbage</li> <li>Grass</li> </ul>     | <ul style="list-style-type: none"> <li>Rubble</li> </ul>  | <ul style="list-style-type: none"> <li>Rubble</li> <li>Grass</li> </ul>      |
| 247   | <ul style="list-style-type: none"> <li>Garbage</li> </ul>                    | <ul style="list-style-type: none"> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Garbage</li> </ul>                    | <ul style="list-style-type: none"> <li>Garbage</li> </ul> | <ul style="list-style-type: none"> <li>Garbage</li> </ul>                    |



**Figure 2-2: Collection Route and Pickup Schedule for the City of Lacombe**



**Figure 2-3: Grass Collection Route and Pickup Schedule for the City of Lacombe**

### 3.0 COLLECTION STAFF FEEDBACK

Tetra Tech met with City collection staff on August 1, 2019 to review collection operations and discuss day to day issues or challenges they encounter. The following table (Table 3-1) summarizes the feedback with the City’s collection staff.

**Table 3-1: Collection Staff Feedback**

| Subject                       | Collection Staff Feedback   |
|-------------------------------|---|
| Daily Activity                | <ul style="list-style-type: none"> <li>▪ Day typically begins at 7:00 a.m.</li> <li>▪ Downtown collection starts at 6:00 a.m. to avoid rush hour traffic, pedestrian traffic and parked vehicles.</li> </ul>  |
| Equipment                     | <ul style="list-style-type: none"> <li>▪ The fleet consists of four collection trucks, with one truck used as a spare.</li> <li>▪ All the trucks, apart from the spare truck, are equipped with backup cameras.</li> <li>▪ Newer trucks are equipped with an exhaust regeneration system that removes diesel particulate matter or soot from diesel engine exhaust.</li> </ul>  |
| Alley Conditions              | <ul style="list-style-type: none"> <li>▪ Roadways are in generally good condition with a few potholes. Overhanging branches and overhead lines are sometimes an obstacle.</li> <li>▪ Roads Department maintains alleyways to minimize potholes.</li> <li>▪ Collection drivers report issues (bins or alley ways) that require repair.</li> <li>▪ Roads Department clears snow from alleys as requested by the SW department so that snowfall can have minimal effect on collection.</li> </ul>  |
| Curbside Conditions           | <ul style="list-style-type: none"> <li>▪ Sometimes front street roll-out bins are incorrectly placed by residents, making it difficult for collection trucks to access. Incorrect placements include the following:               <ul style="list-style-type: none"> <li>– Bin is placed backwards;</li> <li>– Bin is placed too close to a vehicle or other stationary object/s; or</li> <li>– Bin is overflowing with waste.</li> </ul> </li> <li>▪ Bins are placed backwards making it difficult for the truck lift arms to connect to the bins.</li> <li>▪ There is a lack of education for what waste material is allowed for curbside waste pickup               <ul style="list-style-type: none"> <li>– Prohibited items include heavy materials (concrete rubble), bulky materials (furniture) and green waste (tree cuttings, grass and branches)</li> </ul> </li> <li>▪ Drivers express the need for enforcement for prohibited materials and to educate residents on proper bin placement.</li> <li>▪ Overloading of bins can cause the roll-out bin cover to break, which leads to the need of bin replacement.</li> </ul> |
| Grass/Yard Waste Bins         | <ul style="list-style-type: none"> <li>▪ Bins contain a variety of yard waste not limited to grass clippings; bins also accept garden waste and leaves.</li> <li>▪ Bins can be heavy when full.</li> <li>▪ Prohibited waste like wet grass, sod, and dirt can become odorous.</li> <li>▪ Residents place yard waste in their curbside or alley garbage bins if the grass bin location is inconvenient.</li> <li>▪ Bins for Grass/Yard Waste collection are repurposed from an existing stock of bins, so some are already deteriorating. The bottoms of the bins tend to rust and erode frequently.</li> </ul>  |
| Cardboard Recycling           | <ul style="list-style-type: none"> <li>▪ Collected cardboard waste is hauled to a Materials Recovery Facility (MRF) in Red Deer (owned by Waste Management).</li> <li>▪ Cardboard waste is relatively clean, with very few instances of contamination.               <ul style="list-style-type: none"> <li>– There are minor instances of contaminated materials such as Styrofoam which are mixed in with cardboard.</li> </ul> </li> <li>▪ Contamination not normally an issue as Waste Management rarely imposes additional charges for contaminated cardboard loads.</li> </ul>  |
| Curbside vs. Alley Collection | <ul style="list-style-type: none"> <li>▪ From staff perspective, mixed preferences for lane pickup vs. curb side pickup.</li> <li>▪ Back alley method (with 3-yd<sup>3</sup> bins) sees less traffic and has fewer stops.</li> </ul>  |
| Additional Comment            | <ul style="list-style-type: none"> <li>▪ Drivers comment that current route design is inefficient.               <ul style="list-style-type: none"> <li>– Annexed communities are being implemented into collector routes without consideration of efficiency and travel distances.</li> </ul> </li> </ul>  |

## 4.0 RIDE-A-LONG OBSERVATIONS

Tetra Tech conducted two separate ride-a-long events with the City collection crew on July 23 and August 1, 2019. Observations, collection times, performance, problems and issues were noted by Tetra Tech and summarized in the sections below.

### 4.1 Residential Curbside Collection

#### 4.1.1 Observations

Residential curbside collection occurs once a week from Monday to Friday. The collection route and pickup schedule is shown on Figure 2-2.

Tetra Tech conducted a ride-a-long with a curbside City collector on August 1, 2019 for half of the day. The collection route included portions of The Lakes, Woodland subdivision, and Lincoln Park. Residential curbside waste bins were collected along this route, with Tetra Tech taking note of the collection route, pickup times, travel times, hazards, and comments and concerns from residences and collectors.

Tetra Tech's observations of the residential curb side collection event are listed below:

- Curbside residential collection bins were constructed of plastic;
- Collection bins were spaced at one bin per household;
- Collection bins were placed by residents away from the curb to allow for easier pickup by the collection trucks; and
- Collection truck had to back up once during the route.

#### 4.1.2 Recorded Performance

Tetra Tech recorded the bin pickup times and travel times between bin pickup for the residential curbside collection route. Times observed on this route are summarized below:

- Average time to pick up a bin was 18 seconds;
- Average travel time between bin pickups was 14 seconds; and
- Average house-to-house time was 32 seconds.

#### 4.1.3 Identified Problems and Issues

Some issues noted by Tetra Tech on the residential curbside beat include the following:

- Some bins were incorrectly placed on curb
  - Bins were placed too close to the curb;
  - Bins were placed too close to vehicles; and
  - Bins were placed in the wrong orientation.
- Collection drivers had to step out of the truck and move the bin so that it can be picked up.

- Some houses placed bins underneath overhanging trees. Trees can be clipped/damaged when bins are being lifted by the collection truck and branches can fall down.
  - Drivers must maneuver the arm to avoid damaging the tree and placing bin at the original placement.
- Collection truck spend a significant amount of time undergoing maintenance of the diesel exhaust regeneration system (Approximately 2 hours on this date).
  - Regeneration maintenance is not limited to the residential curbside pickup route but extends to the commercial and industrial routes as well.
- Yard waste was observed in curbside collection garbage bins from homes where the yard waste bins are inconveniently located.
- Some curbside garbage bins were completely full or over loaded such that the bins did not properly close.
- Tetra Tech spoke to a local resident who stated that the roll-out bins (that service individual households) are not large enough.

## 4.2 Residential Lane Collection

### 4.2.1 Observations

Tetra Tech followed the residential lane collection crew on July 23, 2019 for approximately 1.5 hours. The following is a list of observations:

- Residential lane collection bins are 3-yd<sup>3</sup> metal bins;
- Collection bins were spaced at approximately one bin per every four households;
- A number of bins had observable damage to the plastic bin lids (Photo 4-1);
- Observed lanes were straight; and
- Observed a couple of bins with bolted plastic liners (plastic diapers) used to repair rusted bottoms:
  - From discussion with the collection staff, it is understood that diaper bottoms are no longer used.



Photo 4-1: Metal Bin with Damaged Lid and a Bottom “Plastic Diaper” Repair

## 4.2.2 Recorded Performance

Tetra Tech made observations and recorded the approximate travel and lift time per bin. The average combined travel and lift time was approximately 40 seconds. This compares with approximately 32 seconds travel and lift times for curb side carts. The time difference can be attributed to longer distances between bins in alleys.

## 4.2.3 Identified Problems and Issues

Some items were noted by Tetra Tech to be of concern for the residential lane collection route. The first issue involves the overhead power lines along the specific route which Tetra Tech observed on July 23, 2019. Overhead lines are an issue in many of the lanes since drivers need to take extra caution while emptying and placing bins to avoid hitting power lines. Overhead powerline issue can be seen in Photo 4-2.

Another issue is the presence of trees along the collection route (Photo 4-3). These trees overhang the lanes and tend to get clipped when collection trucks drive by and while waste bins are lifted by the collection truck.



Photo 4-2: Overhead Power Lines



Photo 4-3: Overhanging Trees

## 4.3 Commercial Collection

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### 4.3.1 Observations

Tetra Tech followed a collection truck on August 1, 2019 for a half day around the Wes Jackson commercial area as shown on Figure 2-2. The following observations were made:

- Commercial collection bins are 3-yd<sup>3</sup> metal bins;
- Collection route is defined as 'rubble' collection by the City;
- Rubble loads are disposed at the Class III Prentiss Transfer Station and Landfill;
- Travel distances between each collection stop is varied depending on distance and bin placement in commercial lots and was not recorded;
- Most pickup bins are easily accessible;

- Some bins are not easily accessible as they are placed in confined areas on commercial lots with little room to maneuver; and
- Collection truck backed up numerous times in fenced lots that don't have adequate space to allow for U-turns or where thru routes are not available.

### 4.3.2 Recorded Performance

Tetra Tech recorded the commercial bin pickup times and travel times between bin pickup. The average bin pickup time was 28 seconds. Travel time between bins is variable depending on distance between bin locations and bin placement locations.

### 4.3.3 Identified Problems and Issues

Issues identified by Tetra Tech concerning the commercial collection route include:

- Some pickup locations have limited maneuverability and tight corners; and
- Several pickup locations require the collection truck to back up in order to return the collection route.

## 4.4 Collection Bin Contents & Observations

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Tetra Tech made observations of the bin contents during the ride-along event. The following observations were noted about the bin contents encountered during the July 23 and August 1 events.

- Lane Waste Bins
  - Most bins contained typical residential household waste
  - One bin observed filled with grass clippings on (June 23, 2019)
- Front Curbside Bin
  - Bin contents contained typical household waste
  - Recyclable materials were observed within the bins (e.g., cardboard, plastics, and papers)
  - One bin observed contained small volume of wood and sawdust
  - Some bins contained small amounts of yard waste
- Cardboard Bin
  - Cardboard bins observed contained all cardboard waste with no contamination observe
- Grass/ Yard Waste Bin
  - Contained mostly grass clipping, shrubs and plant trimmings
  - No non-yard waste materials observed within these bins
- Commercial Containers
  - Very small amount of contents within bins
  - Bins recently collected prior to observation

- Rubble Containers

- Observations of rubble were made when the truck was unloaded
- Rubble load on August 1 contained a variety of plastic products, significant cardboard, paper products, and bagged waste (Photo 4-4)



**Photo 4-4: Rubble Load at the Class III Landfill**

It is of Tetra Tech’s opinion that the waste composition content in the collection bins are comparable to the waste composition of other municipalities. Another technical memorandum will further explore the waste composition data of the City.

## 5.0 RECYCLING DEPOT

Tetra Tech visited the City's recycling depot located at 5214 Wolf Creek Drive, Lacombe on July 23 and August 1, 2019. The recycling facility contains four 40-yard metal recycling bins provided by Waste Management for plastics, paper, cardboard and other mixed recyclables. Around the perimeter of the depot is a yard waste drop-off area to the north, sod drop-off to the west, and a trees and brush drop-off to the south. A site plan of the facility is illustrated below on Figure 5-1.



Figure 5-1: Recycling Depot Plan

### 5.1 Observations

The following observations were made at the recycling facility:

- Site Security
  - The site provides 24/7 access so that residents can drop off their recyclable waste at the outdoor recycle bins; and
  - The facility is not staffed to control the materials that enter the site or proper placement of materials into the respective bins or areas.

- **Recycle Bins**
  - Several residents used the site during Tetra Tech’s short site visit duration;
  - Four 40-yard metal recycling bins are located at the depot;
  - All bins were filled to capacity at the time of Tetra Tech’s visit;
  - Signage above the bins indicate the type of accepted recyclable wastes; and
  - Labels on bin do not match with onsite signage, leading to variety of mixed recyclables within bins.
- **Yard Waste Drop-Off Area**
  - City collection trucks also haul material collected from the yard waste collection bins and deposit the waste directly into the middle of the yard waste drop-off area;
  - Customers empty grass and yard clippings over a short wall into the yard waste drop-off area; and
  - Although not observed, it is understood through discussion with a collection truck operator that the yard waste is loaded out and hauled to the nearby temporary stockpile site on a weekly basis.
- **Sod Drop-Off Area**
  - Small piles of sod evident in this area.
- **Trees and Brush Drop-Off Area**
  - Large volumes of tree cuttings including branches and tree trunks;
  - Large load of tree trunks was deposited at the time Tetra Tech was on site;
  - Wood chippings were observed at the site;
  - Wood piles are placed along the site fence, close to buildings on the adjacent lot;
  - Landscapers appear to be using the depot; and
  - Source of yard waste is unknown.

### 5.1.1 Issues

Operational and safety issues identified include:

- **Recycling Bins**
  - Most of the bins were filled to capacity, leaving little room for customers to load waste into the bins (Photo 5-1). More frequent emptying of the recycling bins should be considered; and
  - Confusing signage on bins causing some mixing of recyclable wastes within the bins.
- **Yard Waste Drop-Off Area**
  - Loader operations within grass and yard waste evident;
  - Tracks and scouring from the loaders causing ponding and poor ground conditions; and
  - Double handling of yard waste collected from green bins.

- Trees and Brush Drop-Off Area
  - Large volume of vegetation within the tree and brush drop-off area;
    - Require several loads to be hauled away to the Class III landfill.
  - Stumps and large wood masses may require wood grinding on site;
  - Wood chips at the trees and brush area pose a potential fire risk; and
  - Tree waste piles located near adjacent building poses a significant fire risk.



Photo 5-1: Overfilled Recycling Bin at the Recycling Depot



Photo 5-2: Trees and Brush Storage Area at the Depot

## 6.0 TEMPORARY COMPOST SITE

Tetra Tech visited the City's temporary stockpile site, where yard waste from the recycling facility is being transferred. The temporary site is located approximately 400 m southwest of the Wolf Creek Recycling Depot in a field just north of a stormwater pond/ recreational area. The temporary site consists of two large windrows piled up to a height of approximately 4 m in height, at lengths of approximately 100 m.

It is Tetra Tech's understanding that the City has awarded a Green Bin contract to a contractor in October 2019 to haul collected organics from this temporary site to a private composting facility.

### 6.1 Temporary Yard Waste Stockpile Site Issues

Below list issues observed at the temporary site:

- Large windrows limit passive aeration of windrows;
- Piles appear to have a low moisture content which limits decomposition process;
- Some contaminants were observed in the piles (plastics, metal objects); and
- Anaerobic odours detected at the site – not detected at distance.

## 7.0 WASTE GENERATION OVERVIEW

The following section discusses the waste generation numbers provided by the City. Sectors which will be discussed include garbage disposal, recycling and yard & garden waste. A complete data source of all waste generated in the City was not available at the time of preparing this technical memo. Number of loads for the yard waste, recycling, commercial cardboard will be provided prior to the final report submission.

### 7.1 Garbage Disposal

Tonnages for compacted household waste (residential) and rubble waste were provided by the City and summarized on Table 7-1 below.

**Table 7-1: Summary of Waste Collection Tonnages**

| Year           | Compacted Household Loads | Compacted House Load Tonnage [tonnes] | Rubble Loads | Rubble Load Tonnage [tonnes] |
|----------------|---------------------------|---------------------------------------|--------------|------------------------------|
| 2006           | 784                       | 4,181                                 | 169          | 843                          |
| 2007           | 782                       | 5,017                                 | 212          | 970                          |
| 2008           | 783                       | 4,690                                 | 265          | 1,046                        |
| 2009           | 808                       | 4,758                                 | 235          | 861                          |
| 2010           | 841                       | 5,333                                 | 69           | 269                          |
| 2011           | 953                       | 5,269                                 | 63           | 260                          |
| 2012           | 959                       | 5,286                                 | 98           | 326                          |
| 2013           | 951                       | 5,423                                 | 110          | 414                          |
| 2014           | 945                       | 5,323                                 | 113          | 499                          |
| 2015           | 856                       | 4,923                                 | 159          | 608                          |
| 2016           | 839                       | 4,639                                 | 172          | 504                          |
| 2017           | 872                       | 4,550                                 | 161          | 479                          |
| 2018           | 895                       | 4,398                                 | 173          | 485                          |
| <b>Average</b> | <b>867</b>                | <b>4,907</b>                          | <b>154</b>   | <b>582</b>                   |

Solid waste in an urban municipality can be categorized as:

- Residential;
- Institutional, Commercial, or Industrial (ICI); and
- Construction and Demolition (C&D).

A general rule of thumb for waste generation in Alberta municipalities is that for each person in the community, there is one (1) tonne of solid waste generated from all waste sectors. The population of the City in 2019 was 13,985 (Stats Canada 2019 Census). Using this value, it is estimated that the City generates approximately 14,000 tonnes of solid waste per year from all sources. The residential waste stream typically represents approximately 1/3 of the total waste stream, which would equal to an estimated amount of 4,666 tonnes per year. This compares to the recorded average quantity of 4,907 tonnes from 2006 to 2018.

The remaining 2/3 of the City's waste stream can be attributed equally to the ICI and C&D sectors. The actual quantity of ICI and C&D waste can be variable depending on economic activity. As per Statistics Canada (2016), an average of 2,906,811 tonnes are disposed in Alberta as ICI and C&D waste.

## 7.2 Recycling

Table 7-2 below outlines the recycling tonnages provided by the City.

**Table 7-2: Summary of Recycling Generation**

|                | Plastics *<br>[tonnes] | Paper *<br>[tonnes] | Cardboard *<br>[tonnes] | Commercial<br>Cardboard<br>[tonnes] | Curbside<br>Recycling<br>[tonnes] | Total<br>[tonnes] |
|----------------|------------------------|---------------------|-------------------------|-------------------------------------|-----------------------------------|-------------------|
| 2013           | 106.22                 | 236.75              | 235.55                  | 273.02                              | -                                 | 851.54            |
| 2014           | 91.09                  | 155.18              | 203.88                  | 272.89                              | 358.35                            | 1,081.39          |
| 2015           | 101.21                 | 106.45              | 178.05                  | 252.22                              | 432.90                            | 1,070.83          |
| 2016           | 132.58                 | 102.91              | 162.18                  | 243.21                              | 561.78                            | 1,202.66          |
| 2017           | 88.77                  | 113.55              | 183.21                  | 260.90                              | 543.59                            | 1,190.02          |
| 2018           | 151.75                 | 158.94              | 297.78                  | 256.59                              | 576.26                            | 1,441.32          |
| <b>Average</b> | <b>111.94</b>          | <b>145.63</b>       | <b>210.11</b>           | <b>259.81</b>                       | <b>494.58</b>                     | <b>1,139.63</b>   |

\* Bins picked up from the Wolf Creek Recycling Depot

Curbside collection of residential recyclables began in 2014 and was discontinued on June 1, 2019 due to the rising cost of the collection service. As of June 1, 2019, all recyclable materials were collected from either the Wolf Creek Recycling Depot, or from commercial cardboard collection.

## 7.3 Yard & Garden Waste

A detailed breakdown for tonnages of yard & garden waste was not available at the time of preparing this technical memorandum. However, the City estimates that **1,139 tonnes per year** was diverted from landfill.

Yard & garden waste is collected by the collection crew and dropped off to two locations. During rainfall periods, yard waste is dropped off at the Wolf Creek Recycling Depot. Prior to October 2019, yard waste was transferred to a nearby temporary stockpile site in Len Thompson Industrial Area, as previously discussed in Sections 5.1 and 6.0. A private contractor hauls the yard waste at the Wolf Creek Recycling Depot and Len Thompson Industrial Area to a private composting facility.

## 8.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the City of Lacombe and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than the City of Lacombe, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

## 9.0 CLOSURE

We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,  
Tetra Tech Canada Inc.

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Prepared by:  
John Ling, E.I.T.  
Project Engineer-in-Training  
Solid Waste Management Practice  
Direct Line: 587.460.3638  
John.Ling@tetrattech.com

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Prepared by:  
James (Jim) Lapp  
Senior Project Technologist  
Solid Waste Management Practice  
Direct Line: 587.460.3630  
James.Lapp@tetrattech.com

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Reviewed by:  
Wilbert Yang, P.Eng.  
Senior Planning Engineer  
Solid Waste Management Practice  
Direct Line: 604.608.8648  
Wilbert.Yang@tetrattech.com

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# APPENDIX C

## WASTE AUDIT AND BENCHMARKING



**To:** Chris Huston  
Jordan Thompson

**Date:** February 13, 2020

**c:**

**Memo No.:** 003

**From:** Rochelle De Omania, E.I.T.  
Wilbert Yang, P. Eng.

**File:** 704-SWM.PLAN03115-01

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**Subject:** Solid Waste Review for the City of Lacombe  
Waste Audit and Benchmarking

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## 1.0 INTRODUCTION

The City of Lacombe (the City) retained Tetra Tech Canada Inc. (Tetra Tech) to review the City’s solid waste management system which includes an evaluation of service levels and the expected waste composition based on data from five comparable municipalities.

The municipalities selected for comparison with the City include the City of Camrose, Town of Cochrane, City of Fort Saskatchewan, Town of High River, and Town of Beaumont. Tetra Tech reviewed the solid waste collection programs in these communities by conducting a benchmarking exercise to evaluate performance metrics in terms of annual and seasonal waste tonnage, service costs and levels, governance structure, funding mechanisms, asset management and future targets. The comparison of each municipality’s waste management system will aid in developing recommendations for future program changes in the City.

The composition of the waste materials disposed by the City was estimated based on data in comparable municipalities, including waste composition studies completed by Tetra Tech in other jurisdictions.

This technical memorandum outlines the service level comparison and evaluation component for the overall review.

## 2.0 EXISTING SOLID WASTE MANAGEMENT SERVICES

The City has a population of 13,985 (2019 census), with waste collection services provided to approximately 4,550 residential and 300 commercial customers. The City’s Solid Waste Department manages all of the waste from residential sources and a portion of the waste from the commercial sector. Construction and demolition (C&D) waste is serviced by the private sector.

The City’s residential collection program includes “back-alley bin” collection (where 3-yard metal bins are placed in back-alleys to service approximately four households) as well as curbside collection where roll-out carts are provided to each residence and each cart would service one household. The cart system is more prevalent in neighborhoods without back-alleys. The bins and carts are collected by three automated side-loader collection trucks (and one spare truck). Residential waste is collected on a weekly basis. Garbage is hauled to the Prentiss Landfill & Transfer Station where the waste is unloaded and transferred to the West Dried Meat Lake Regional Landfill for disposal.

The City also collects yard and garden waste in designated 3-yard bins that are placed throughout the City, primarily in residential neighborhoods.

Co-mingled curbside recycling was discontinued on May 31, 2019. However, the Wolf Creek Recycling Depot is available to residents, businesses, and Lacombe County residents to drop-off recyclable materials including paper, plastics, metals, brush, and sod waste. Recyclable materials (including commercial cardboard collection) are collected and transported by Waste Management and processed at their Materials Recovery Facility (MRF) in Red Deer County.

Yard and garden waste collected by the City was previously brought to a temporary stockpile site in Len Thompson Industrial Area. At the time of this report, the City issued a Green Bin Contract for yard waste hauling and processing. Organics collected by the City from the green bins are hauled directly to the private contractor's composting facility. The private contractor is responsible for hauling compost at the Len Thompson Industrial Area as well as yard waste dropped off at the Wolf Creek Recycling Depot.

The City competes with private sector waste haulers to service businesses in the City. Businesses will subscribe to services and the City provides weekly or biweekly collection of garbage, rubble and cardboard. Garbage is taken to the Prentiss Transfer Station, rubble is disposed at the Prentiss Landfill (for inert materials) and cardboard is taken to private MRF in Red Deer.

For City services, residents and businesses are charged monthly utility fees for waste collection services and for the depot. Other services under the City's waste system include collection from multi-family residences, commercial and industrial facilities, community clean ups, toxic/electronic waste round-ups, and administration of the "Qualified List of Approved Solid Waste Contractors" for commercial waste collection. The 2019 fee structure of solid waste services are as follows:

- Residential Utility Fee (UF): \$31.76 per month
- Apartment UF Garbage: \$19.97 per unit per month
- Apartment UF Cardboard: \$19.97 per unit per month
- Modular Home UF Garbage: \$24.49 per month
- Commercial UF Garbage: \$58.39 per month
- Commercial UF Cardboard: \$53.39 per month

C&D waste is collected and transported by the private sector. C&D waste is disposed at the Class III Landfill next to the Prentiss Transfer Station and charges a tip fee of \$40 per tonne.

Table 2-1 summarizes the services offered by the City.

**Table 2-1: Services Provided by the City of Lacombe**

| Services                                    | Garbage | Recycling | Organics | Comments  | Additional Services   |
|---|---------|-----------|----------|---|---|
| <b>City Provided Collection</b>             |         |           |          |   |   |
| Detached/<br>Semi-Detached<br>(SF)          | ✓       |           | ✓        | <ul style="list-style-type: none"> <li>Five collection zones</li> <li>Back-alley bins shared between four homes</li> <li>Front carts service one household</li> <li>Yard and garden waste collected in green bins around residential neighborhoods</li> </ul> | <ul style="list-style-type: none"> <li>Yearly Toxic Round-up drop-off</li> <li>Biannual collection of bulky household and yard refuse</li> <li>Biannual "Trash to Treasure" Weeks</li> </ul>                        |
| Multi-Family Residential Building (MFRB)    | ✓       | ✓         | ✓        | <ul style="list-style-type: none"> <li>Cardboard collected in orange bins</li> <li>Use of 3-yd<sup>3</sup> garbage bins</li> <li>Yard and garden waste collected in green bins around residential neighborhoods</li> </ul>                                    | <ul style="list-style-type: none"> <li>Yearly Toxic Round-up drop-off</li> <li>Biannual collection of bulky household and yard refuse</li> <li>Biannual "Trash to Treasure" Weeks</li> </ul>                        |
| Commercial/<br>Businesses                   | ✓       | ✓         |          | <ul style="list-style-type: none"> <li>Subscription based garbage collection program</li> <li>Cardboard collected in brown bins</li> </ul>  | <ul style="list-style-type: none"> <li>Also collects inert materials termed "Rubble"</li> </ul>   |
| <b>Public Drop-Off Location<sup>1</sup></b> |         |           |          |   |   |
| Wolf Creek Recycling Depot                  | ✓       | ✓         | ✓        | <ul style="list-style-type: none"> <li>Open 7 days per week; unstaffed facility; recycle depot open 24 hrs.</li> <li>Third party contractor hauls materials Monday/Wednesday/Friday</li> </ul>  | <ul style="list-style-type: none"> <li>General blue box materials - paper, plastics, and metal accepted</li> <li>Yard waste, brush, sod, and grass clippings accepted</li> <li>No glass and HHW accepted</li> </ul> |

**Note:**

1. Excluding private drop-offs and depots for beverage containers, clothing donations, residual pharmaceuticals, etc.

## 2.1 Waste Disposal Statistics

The disposal figures reported by the Lacombe Regional Waste Services Commission (LRWSC) for 2018 are as follows:

- Disposal (from residential sector): 4,882 tonnes
  - Rubble/Commercial Sector: 488 tonnes
  - Residential Collected Garbage: 4,398 tonnes
- Disposal from Spring/Fall Cleanup: 1,199 tonnes
  - Rubble: 89 tonnes
  - Wood: 1,109 tonnes

## 2.2 Waste Diversion Statistics

Based on recycling data provided by the City, the following waste generation for the recycling stream were observed in 2018:

- Recycling collected (curbside and depot): 1,441 tonnes
- Yard and garden waste: 1,139 tonnes (estimated by volume and density)
- Total Diverted: 2,580 tonnes

### 2.2.1 Diverted Materials Characteristics

The proportion of collected recyclables were categorized into three categories: plastics, paper, and cardboard. Based on available 2019 data (from January to June 2019), the largest component of the total recycling drop-offs is cardboard (48%), followed by plastics (28%), and paper (24%).

Data for organics and garbage collected are not available at the time of preparing this technical memorandum.

## 3.0 LACOMBE REGIONAL WASTE SERVICES COMMISSION

The City is a member of the LRWSC which is responsible for the management of solid waste within the boundaries of Lacombe County. The LRWSC is primarily responsible for transfer and disposal of waste. Therefore, the City delivers its garbage to the LRWSC, and the commission assumes responsibility for that material.

The LRWSC includes five municipal solid waste (MSW) transfer stations located at the following locations:

- Alix/Mirror,
- Bentley,
- Eckville,
- Spruceville, and
- Prentiss Road.

Garbage is transferred from the transfer stations to the West Dried Meat Lake Regional Landfill (WDMLRL). The landfill is approximately 85 km north east of the City.

The Prentiss Road Transfer Station is a full-service facility that has a Class III Landfill for disposal of inert waste. Table 3-1 lists the services provided at the Prentiss Road site.

**Table 3-1: Solid Waste Services Provided at the Prentiss Road Site**

| Services       | Municipal Solid Waste Transfer | Metal and Appliance Recycling | Yard Waste | Used Oil, HHW Agricultural Chemical Containers | Class III Landfill (Inert Waste Disposal) | Comments  |
|----------------|--------------------------------|-------------------------------|------------|--|---|---|
| Residents      | ✓                              | ✓                             | ✓          | ✓  | ✓   | <ul style="list-style-type: none"> <li>Transfer municipal solid waste</li> <li>Disposal of inert materials such as wood, metal, dry rubble, concrete, asphalt shingles (\$40 /tonne, Shingles \$50/tonnes)</li> </ul>                   |
| Commercial     | ✓                              | ✓                             | ✓          | ✓  | ✓   | <ul style="list-style-type: none"> <li>Batteries, propane tanks, tires, used oil, automotive filters, agriculture chemical containers, antifreeze (free)</li> <li>Appliances (\$10/unit with no Freon, \$40/unit with Freon)</li> </ul> |
| Municipalities | ✓                              |                               |            |  | ✓   | <ul style="list-style-type: none"> <li>Electronic waste and household hazardous waste</li> <li>Grass clippings and garden waste</li> </ul>  |

## 4.0 WASTE COMPOSITION

Waste composition studies are typically conducted to understand the types and quantities of materials that are discarded from waste generators and to assist in estimating how much material could be diverted from landfill through waste diversion programs such as recycling or organics collection.

Tetra Tech completed visual analysis of the City's solid waste and is of the opinion that the City's waste contents are similar to that of the comparable municipalities detailed in the following:

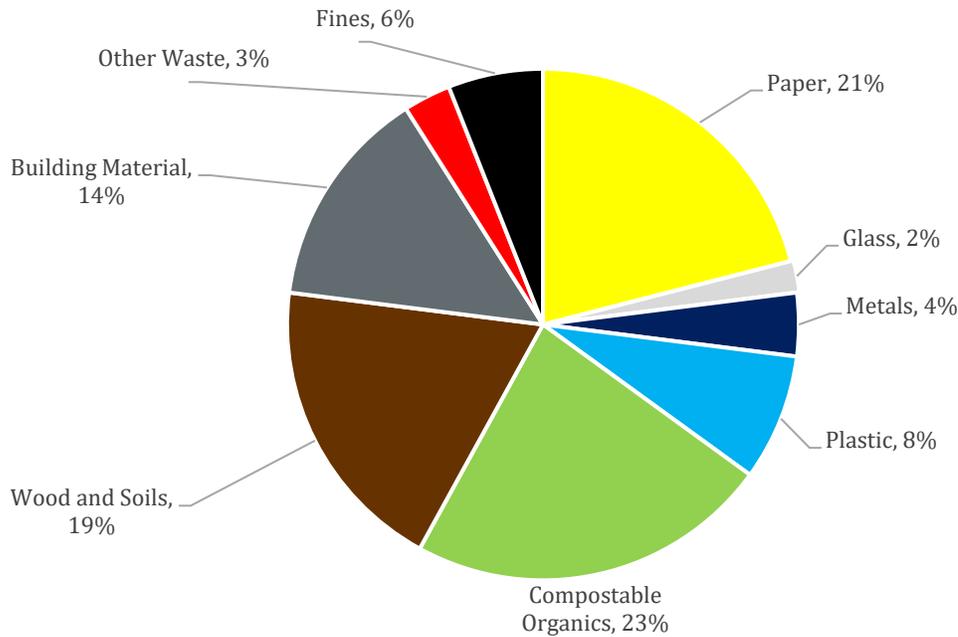
- Provincial Waste Characterization Framework (Alberta Environment 2005);
- Integrated Waste Management Study completed for Beaumont (Advanced Enviro Engineering Ltd., 2014); and
- Waste characterization studies completed by Tetra Tech at the Town of Okotoks, Chief Mountain Regional Solid Waste Authority, Peace River Regional District, and City of Lethbridge

Waste composition studies are usually organized into 9 – 13 primary categories and 60 – 100 secondary categories. Primary categories represent the main materials types such as paper products, plastics, metal, glass, compostable, etc. Secondary categories are the sub-categories of the primary categories such as (for paper products) newsprint, cardboard, mixed paper, etc.

### 4.1 Typical MSW Compositions in Alberta

There is limited MSW composition data in smaller communities in Alberta. A regional solid waste management study for the Town of Cochrane was completed in 2003 that estimates MSW compositions for smaller communities in Alberta.

Figure 4-1 illustrates the typical composition by weight for the MSW stream in small towns/villages in Alberta (Alberta Environment 2005). The waste stream is comprised of four dominant categories: Compostable Organics (23%), Paper (21%), Wood & Soils (19%), and Construction & Demolition (C&D) Waste (14%). These categories account for 77% of the typical MSW stream in Alberta. The remaining components are Plastics (8%), Fines (6%), Metals (4%), Glass (2%), and Other Waste (3%).



**Figure 4-1: Typical MSW Characterization in Alberta Small Villages**

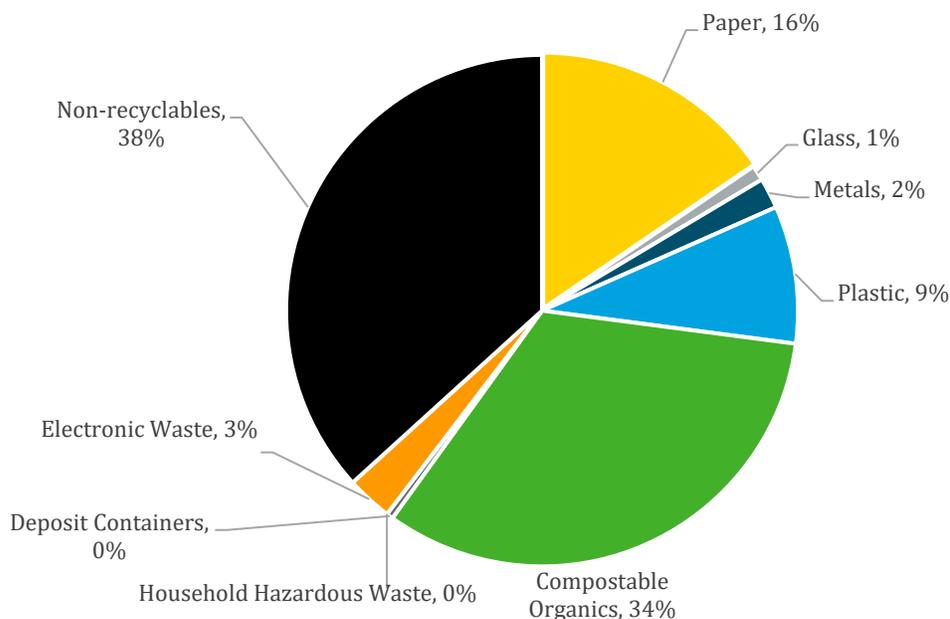
Typical MSW composition categories in Figure 4-1 are further described as:

- Compostable organics – food and yard waste
- Paper – mixed paper (boxboard, newsprint and glossy paper) and compostable papers (paper towels, napkins, etc.)
- Wood & soils – wood-based material, sawdust, and other inerts
- C&D wastes – building materials (ceramics, roofing waste, drywall, etc.)
- Plastics – film and rigid plastic packaging
- Fines – undefined fine particles that are smaller than 2” diameter
- Metals – aluminum, tin cans, and composite metals
- Glass – glass jars, glassware, ceramic dishes, and plate glass products
- Other wastes – electronics, textiles, rubber products, and household hazardous wastes.

## 4.2 Beaumont Waste Composition Study

Based on the 2010-2013 solid waste and diversion data review, the Town of Beaumont (Beaumont) disposed an average of 4,400 tonnes/yr of residential waste to the Leduc Regional Landfill. The waste tonnage represents about 66% of Beaumont's total waste generation. Of the remaining residential waste, 13.6% are diverted recyclables and 20.4% are diverted organics.

Figure 4-2 below displays the Town of Beaumont's garbage composition completed by Advanced Engineering Ltd. The primary categories were based on: paper, glass, metals, plastic, compostable organics, electronic waste & household hazardous, non-recyclables, and deposit containers.



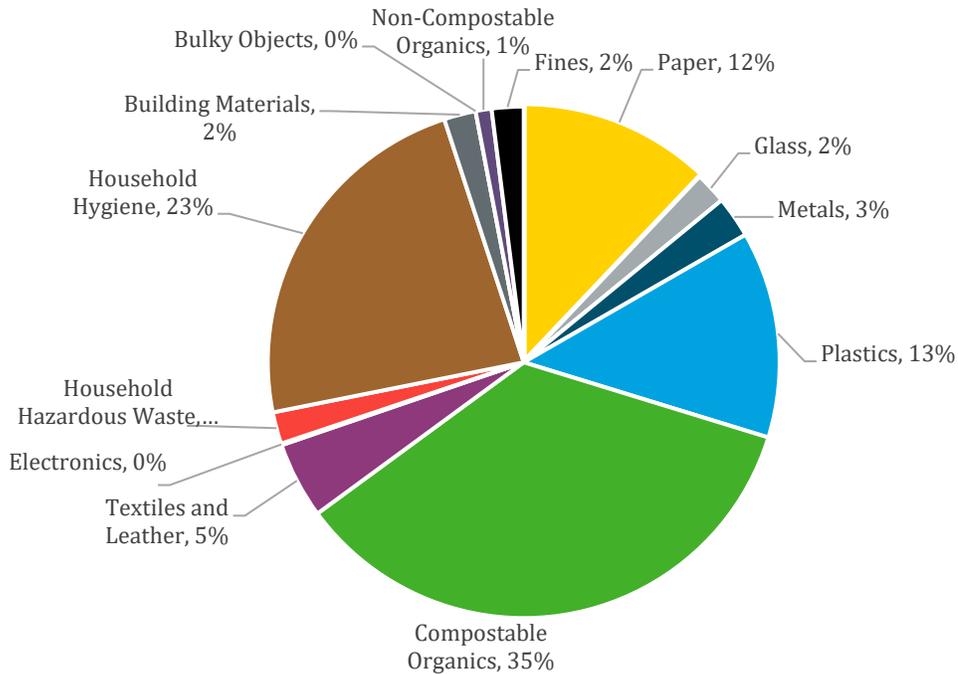
**Figure 4-2: Garbage Stream Composition in Beaumont**

The largest component of garbage stream in Beaumont are non-recyclables (38%), which include plastic film packaging, takeout containers, Styrofoam, and diapers. This is followed by compostable organics (34%), consisting of food and yard waste, then paper (16%), which includes compostable, mixed, and waxed paper. Plastics (9%) are derived from rigid containers and packaging. Minor items include glass products (1%), metals (2%), and deposit containers (0.44%). Household hazardous waste and electronics yielded little to no influence on the overall reported garbage composition.

## 4.3 Okotoks Waste Composition Study

A single-day waste composition study was done by Tetra Tech in the Town of Okotoks in October 2018. The scope of the study was to characterize the waste in the garbage, recycling and organics streams in the residential curbside collection. The Okotoks collection staff decided to eliminate the organics stream from the waste composition study since there was little/no contamination during the visual sampling collection. Hand sorting is completed for garbage and recycling streams.

Figure 4-3 displays the average garbage stream composition in Okotoks.



**Figure 4-3: Garbage Stream Composition in Okotoks**

Residential garbage is collected using an automated cart system. In the garbage stream, the following composition can be observed:

- Compostable organics (35%) – food, yard, and pet waste
- Household hygiene (23%) – diapers, sanitary napkins, medical wastes, etc.
- Plastics (13%) – rigid containers and film packaging
- Paper (12%) – mixed paper (newsprint, glossy paper, box board), cardboard, compostable paper
- Textiles (4.8%) – clothing and composite items
- Metals (2.6%) – foil, ferrous and non-ferrous containers, other metals
- Glass (2%) – food jars, ceramics, deposit containers
- Building material (2%) – wood, drywall, inerts, carpet, etc.
- Household hazardous wastes (2%) – paints, medical items, pesticides, batteries, etc.
- Fines (2%) – unidentifiable items smaller than 2” diameter
- Non-compostable organics (1%) – waxes
- Electronic waste (0.1%) – computer, AV equipment, small appliances, telecommunication items
- There were little/no observable bulky objects.

## 4.4 Peace River Regional District Waste Composition Study

Tetra Tech completed a one-year, four-season waste composition study at three regional landfills in the Peace River Regional District (North Peace, Bessborough, and Chetwynd) to analyze the garbage stream from all sectors. For the purposes of this report, single-family residential garbage, and ICI waste are presented in this section.

### 4.4.1 Single-Family Residential (SFR) Garbage Composition

Figure 4-4 shows the composition of primary materials for all combined SFR garbage characterized at the landfills. These values were extrapolated from waste composition results and weighted according to the 2017-2018 tonnages coming into the landfills.

The largest component of SFR garbage was compostable organics (43.9%), followed by paper (15.1%), plastic (11.1%), and household hygiene (10.5%). Compostable organics was comprised mostly of avoidable food waste (23.8%) and unavoidable food waste (14.4%). Paper was comprised mostly of compostable and food-soiled paper (7.1%) and packaging – dry goods (2.6%). Plastic was comprised mostly of other film and packaging (4.0%) and recyclable rigid plastic packaging (3.2%). Household hygiene was comprised mostly of diapers (5.4%) and pet waste (4.0%).

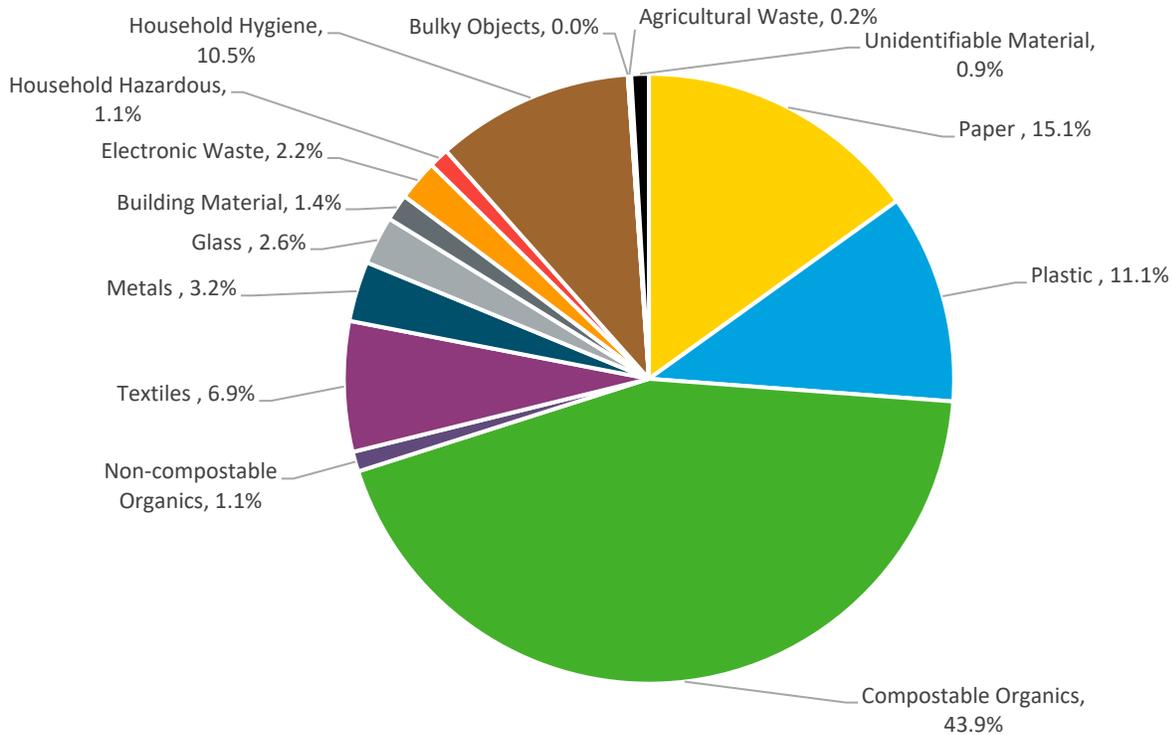


Figure 4-4: Garbage Stream Composition in Peace River Regional District

#### 4.4.2 ICI Waste Composition

Figure 4-5 presents the composition of primary materials for the combined ICI garbage sampled at the landfills during the study. The largest component of ICI garbage was compostable organics (31.5%), followed by paper (19.2%), and plastic (12.1%). Compostable organics was comprised mostly of avoidable food waste (18.5%) and unavoidable food waste (8.1%). The paper material was comprised mostly of cardboard (5.6%) and compostable and food-soiled paper (5.2%).

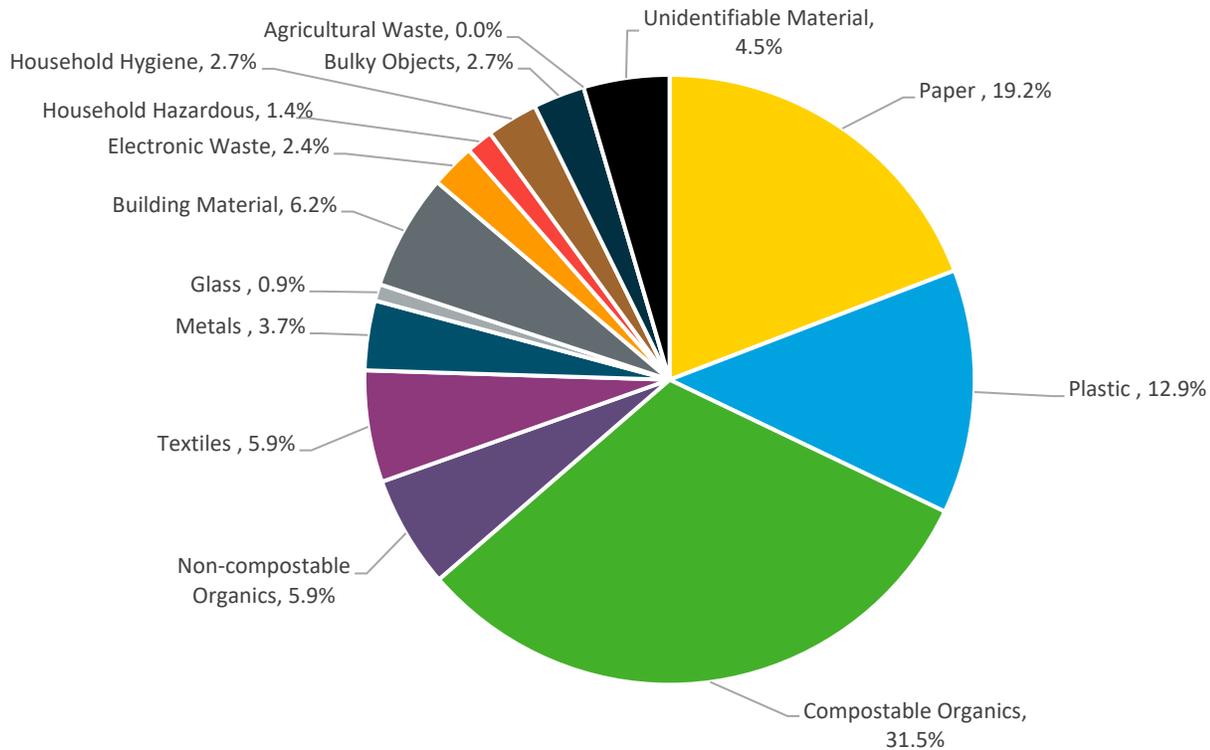


Figure 4-5: ICI Waste Composition in Peace River Regional District

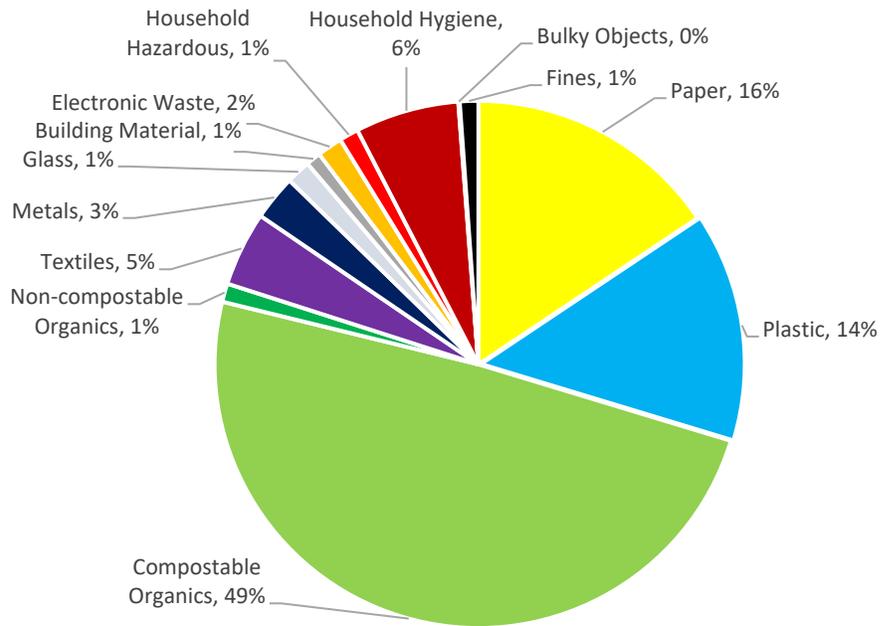
### 4.5 City of Lethbridge Waste Composition Study

A summer waste composition study was completed at the City of Lethbridge in 2019 to establish baseline garbage conditions in preparation to the municipality’s implementation of curbside recycling program. For the purposes of this report, waste composition results from cart collection and ICI sector are presented.

#### 4.5.1 Residential Sector Composition

Residential carts were collected, sampled, and sorted to analyze the waste composition disposed in single-family residential and multi-family residential premises. Figure 4-6 represents the average waste composition from cart serviced residents in June 2019. This is a snapshot of the types and relative quantities of materials that were discarded by residents at this time of the year.

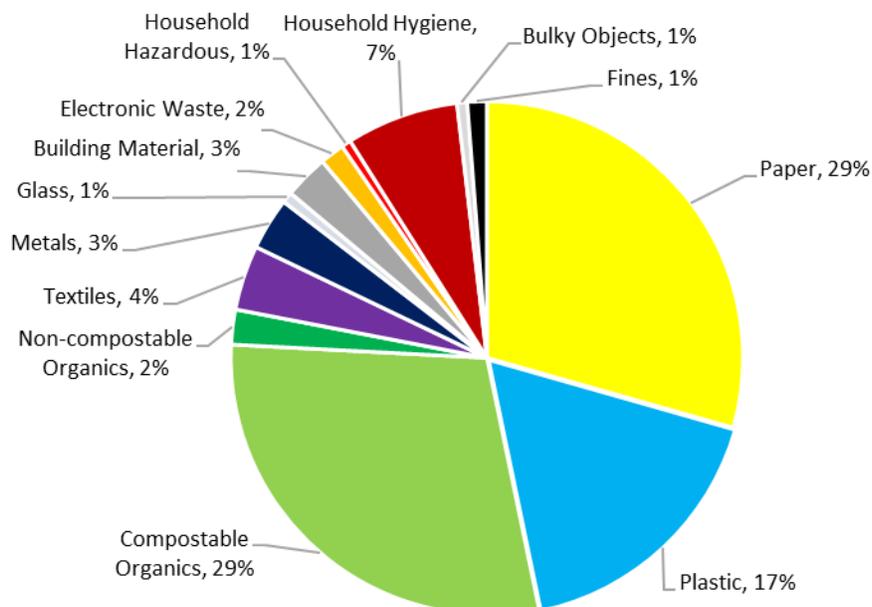
Cart garbage was primarily composed of organics (49.1%), paper products (15.6%), plastic products (14.1%), and household hygiene (6.4%). These four primary categories represent 85% of the waste stream.



**Figure 4-6: Cart Garbage Waste Composition – Summer 2019**

#### 4.5.2 ICI Sector Composition

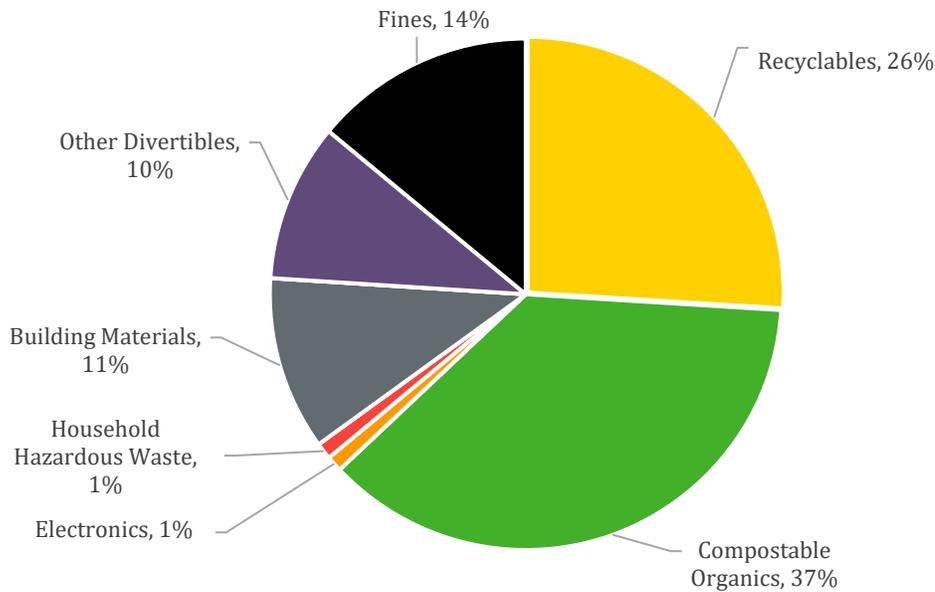
Figure 4-7 represents the average waste composition from the ICI sector in June 2019. The most prevalent primary material categories from the ICI sector were paper products (29.4%) organics (29.1%), plastic products (17.3%), and household hygiene (7.1%). These four primary categories represent nearly 83% of the waste stream.



**Figure 4-7: ICI Waste Composition - Summer 2019**

## 4.6 Chief Mountain Regional Solid Waste Authority Waste Composition

A waste composition study was conducted in September 2014 to assess the garbage stream of 16 transfer stations in the Chief Mountain Regional Solid Waste Authority. A total of 1,400 kg was sorted to derive the following results in Figure 4-8.



**Figure 4-8: Combined Garbage Waste Composition – Chief Mountain**

The predominant categories present are compostable organics (37.02%), recyclables (26.52%), fines (14.44%), building materials (10.67%), and other divertible (9.67%). Compostable organics were primarily yard waste (20%), food waste (13.2%). The recyclable material consisted mostly of the following: cardboard and boxboard (11.6%), recyclable paper (7.4%), and recyclable plastic (5.1%). Scrap metal, shingles, construction paper, house siding, window frames, kitchen counter top, and insulation made up the largest portion of C&D material found. Potentially divertible material represented 9.6% of the composition, consisting of textiles and furniture.

## 4.7 Summary of Waste Composition Results

Based on the waste composition results above, the composition of the garbage should have the following categories and range of proportions. Table 4-1 lists the low and high ranges for various material categories and the likely composition for garbage from the City of Lacombe.

**Table 4-1: Summary of Residential Waste Compositions**

| Primary Category          | Alberta Towns & Villages | Town of Beaumont | Town of Okotoks | Peace River Regional District (Res) | City of Lethbridge (Res) | Chief Mountain |
|---------------------------|--------------------------|------------------|-----------------|-------------------------------------|--------------------------|----------------|
| Paper                     | 21%                      | 16%              | 13%             | 15%                                 | 16%                      | 13%            |
| Plastics                  | 8%                       | 9%               | 13%             | 11%                                 | 14%                      | 12%            |
| Glass                     | 2%                       | 1%               | 2%              | 3%                                  | 1%                       | 2%             |
| Metal                     | 4%                       | 2%               | 2.9%            | 2%                                  | 3%                       | 2%             |
| Compostable Organics      | 42%                      | 34%              | 35%             | 44%                                 | 49%                      | 37%            |
| Non-Compostable Organics  | 14%                      | 38%              | 5%              | 8%                                  | 6%                       | 10%            |
| Building Materials        | 0                        |                  | 2%              | 2%                                  | 1%                       | 11%            |
| Hygiene Products          | 1%                       |                  | 23%             | 11%                                 | 6%                       | 10%            |
| Electronic Waste          | 0                        |                  | 0.1%            | 2%                                  | 2%                       | 1%             |
| Household Hazardous Waste | 1%                       |                  | 2%              | 1%                                  | 1%                       | 1%             |
| Bulky Objects             | 1%                       |                  | 0               | 0                                   | 0                        | 0              |
| Fines                     | 6%                       |                  | 2%              | 1%                                  | 1%                       | 1%             |
| <b>Total</b>              | <b>100%</b>              |                  | <b>100%</b>     | <b>100%</b>                         | <b>100%</b>              | <b>100%</b>    |

Table 4-2 lists the range of waste composition per primary category and corresponding probable/average waste composition for the City.

**Table 4-2: Range and Probable Waste Composition**

| Primary Category                | Low Range (%) | High Range (%) | Probable Waste Composition City of Lacombe (%) |
|---------------------------------|---------------|----------------|--|
| Paper                           | 13            | 21             | 17   |
| Plastics                        | 8             | 14             | 11   |
| Glass                           | 1             | 3              | 2  |
| Metal                           | 2             | 4              | 3  |
| Compostable Organics            | 34            | 49             | 42   |
| Non-Compostable Organics        | 5             | 14             | 8  |
| Building Materials              | 1             | 11             | 4  |
| Hygiene Products                | 1             | 23             | 6  |
| Electronic Waste                | 0             | 2              | 1.5  |
| Household Hazardous Waste (HHW) | 1             | 2              | 1.5  |
| Bulky Objects                   | 0             | 1              | 1  |
| Fines                           | 1             | 6              | 3  |
| <b>Total</b>                    |               |                | <b>100</b>                                     |

## 5.0 BENCHMARKING

As part of the assessment of the City's solid waste utility services, Tetra Tech investigated five comparable collection systems. The following section summarizes the benchmarking analysis of service levels and solid waste system performance for the jurisdictions of the City of Camrose (Camrose), City of Fort Saskatchewan (Fort Saskatchewan), Town of Cochrane (Cochrane), Town of High River (High River), and Town of Beaumont (Beaumont). These municipalities are selected based on data availability and similar service level demographics.

### 5.1 Benchmarked Jurisdictions

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Table 5-1 describes the results of the benchmarking analysis conducted for each of the aforementioned municipalities, including the City's waste collection system.

**Table 5-1: Residential Service Delivery Comparison**

| Stream                           | Houses Receiving Curbside | Frequency                          | Collection Type                                | Container Type                     | Limits                         | Pay as you Throw (PAYT)  | Cost of Service per household per month           | Disposal Rate (kg/cap/yr) | Diversion Rate (%) | Private/ Public Collection | Finance Model (tax/utility/tip fee) | Finance for Cart Roll-Out  | Goals  | Bulky Waste   | Additional Information   |
|----------------------------------|---------------------------|------------------------------------|--|------------------------------------|--------------------------------|--|---|---------------------------|--------------------|----------------------------|-------------------------------------|--|--|---|--|
| <b>City of Lacombe</b>           |                           |                                    |  |                                    |                                |  |   |                           |                    |                            |                                     |  |  |   |  |
| Garbage                          | 4,800                     | Weekly                             | Automated                                      | Communal Metal Bins/Roll-out Carts | 3 yd <sup>3</sup> /120 gallons | C&D Waste - \$40/tonne   | \$31.76 – SF<br>\$58.39 – Commercial & MF         | 375                       | N.A.               | Municipal                  | Utility                             | N.A.   | <ul style="list-style-type: none"> <li>Currently reviewing service levels and bylaws</li> </ul>  | <ul style="list-style-type: none"> <li>Biannual collection of bulky household and yard refuse</li> </ul>  | <ul style="list-style-type: none"> <li>Yearly Toxic Round-up drop-off</li> <li>Biannual “Trash to Treasure” Weeks</li> <li>Commercial cardboard recycling as needed (limit: 3 yd<sup>3</sup>)</li> <li>Collection hauled to Prentiss Road Transfer Station then waste transferred to West Dried Meat Lake Regional Landfill (~90 km from Lacombe)</li> </ul>   |
| Organics                         |                           | Biweekly                           | Automated                                      | Communal Metal Bins                | 3 yd <sup>3</sup>              | N.A.   | Included in garbage                               |                           |                    |                            |                                     |  |  |   |  |
| Recycling                        |                           | Biweekly                           | Automated-Cardboard Only (Commercial) Drop Off | Metal Bins                         | 3 yd <sup>3</sup>              | N.A.   | \$53.39 – Commercial & MF                         |                           |                    | Municipal/City Contractor  |                                     |  |  |   |  |
| <b>City of Camrose</b>           |                           |                                    |  |                                    |                                |  |   |                           |                    |                            |                                     |  |  |   |  |
| Garbage                          | 5000 (2010)               | Weekly                             | Automated                                      | Cart – 240 L                       | 240 L                          | <ul style="list-style-type: none"> <li>Garbage Disposal Cost \$3.45-- SF</li> <li>Excess collection tag for \$5.00/tag</li> </ul>                | \$18.01 –SF<br>\$45.64 – 4-Plex Unit Developments | 310 (2010)                | 21% (2010)         | City Contractor            | Utility                             | <ul style="list-style-type: none"> <li>Collection cart \$2.80/month per household unit</li> <li>Replacement Fee at \$50.00/occurrence</li> </ul> | <ul style="list-style-type: none"> <li>Residential waste 195 kg/cap reduction target by 2015</li> <li>MSW reduction target to 1000 kg/cap by 2015</li> </ul> | <ul style="list-style-type: none"> <li>Christmas tree collection Week</li> </ul>  | <ul style="list-style-type: none"> <li>ReStore Drop-off location for building materials and appliances</li> <li>Recycling drop-off operated by Centra Cam which also receives select household hazardous waste</li> <li>Collected waste is hauled directly to the Camrose Regional Sanitary Landfill (within the City of Camrose)</li> <li>Organics hauled to the City of Calgary compost facility (~300 km from Camrose)</li> </ul> |
| Organics                         |                           | Weekly May-Oct<br>Biweekly Nov-Apr | Automated                                      | Cart – 240 L                       | 240 L                          | <ul style="list-style-type: none"> <li>Additional Organics Collection and Cart for \$6.30/month</li> </ul>                                       | Included in garbage                               |                           |                    |                            |                                     |  |  |   |  |
| Recycling                        |                           | N.A.                               | Drop Off                                       | N.A.                               | Unlimited                      | N.A.   | \$6.00  |                           |                    |                            |                                     |  |  |   |  |
| <b>City of Fort Saskatchewan</b> |                           |                                    |  |                                    |                                |  |   |                           |                    |                            |                                     |  |  |   |  |
| Garbage                          | 7,400                     | Biweekly                           | Automated                                      | Cart – 240 L                       | 240 L                          | <ul style="list-style-type: none"> <li>Excess bags to the Transfer Station, \$2.55/bag</li> <li>C&amp;D Waste - \$35.70/m<sup>3</sup></li> </ul> | \$27.72 – SF<br>\$16.63 – MF                      | N.A.                      | 21% (2014)         | City Contractor            | Utility                             | N.A.   | <ul style="list-style-type: none"> <li>Updated recycle sorting list in blue bag collection</li> </ul>  | <ul style="list-style-type: none"> <li>Household large item pickup – 2 items max, 200 lbs. limit each</li> <li>Christmas tree collection</li> </ul> | <ul style="list-style-type: none"> <li>Spring Extra Yard Waste Collection</li> <li>Household Toxic Round-up Event Drop-Off</li> </ul>  |
| Organics                         |                           | Biweekly                           | Automated                                      | Cart – 240 L                       | 240 L                          |  |   |                           |                    |                            |                                     |  |  |   |  |
| Recycling                        |                           | Weekly                             | Manual – co-mingled                            | Blue bags – resident purchased     | Unlimited                      | N.A.   |   |                           |                    |                            |                                     |  |  |   |  |

| Stream                    | Houses Receiving Curbside | Frequency | Collection Type     | Container Type               | Limits            | Pay as you Throw (PAYT)   | Cost of Service per household per month  | Disposal Rate (kg/cap/yr) | Diversion Rate (%) | Private/Public Collection | Finance Model (tax/utility/tip fee) | Finance for Cart Roll-Out   | Goals  | Bulky Waste   | Additional Information   |
|---------------------------|---------------------------|-----------|---------------------|------------------------------|-------------------|---|--|---------------------------|--------------------|---------------------------|-------------------------------------|---|--|---|--|
| <b>Town of Cochrane</b>   |                           |           |                     |                              |                   |   |  |                           |                    |                           |                                     |   |  |   |  |
| Garbage                   | ~6,000                    | Weekly    | Automated           | Cart – 120 L                 | 120 L             | <ul style="list-style-type: none"> <li>Excess bags (\$3.00/bag) at Eco Centre or collected</li> <li>Additional cart collection \$13/cart/mo.</li> </ul> | \$22.25 – SF   | 185 (2011)                | N.A.               | City Contractor           | Utility                             | <ul style="list-style-type: none"> <li>Additional or Replacement fee for cart:                             <ul style="list-style-type: none"> <li>– \$45 waste cart</li> <li>– \$70 recycling cart</li> <li>– \$70/240L or \$45/120L organics cart</li> </ul> </li> </ul> | 80% Waste Diversion by 2020  | Seasonal Christmas Tree Collection  | <ul style="list-style-type: none"> <li>Annual Green Sweep &amp; Electronic Recycling Round Up</li> <li>Public education audit in 2018 using “education tags” on carts</li> <li>Cochrane operates a recycling drop-off facility and with a public drop-off waste transfer station</li> <li>Collected waste hauled to Calgary to Spy Hill Landfill (~30 km from Cochrane)</li> </ul> |
| Organics                  |                           | Weekly    | Automated           | Cart – 120 L<br>Cart – 240 L | 120 L<br>240 L    | <ul style="list-style-type: none"> <li>Additional cart collection \$7/cart/mo.</li> </ul>   |  |                           |                    |                           |                                     |   |  |   |  |
| Recycling                 |                           | Weekly    | Automated           | Cart –240 L                  | 240 L             | <ul style="list-style-type: none"> <li>Additional cart collection \$7.55/cart/mo.</li> </ul>  |  |                           |                    |                           |                                     |   |  |   |  |
| <b>Town of High River</b> |                           |           |                     |                              |                   |   |  |                           |                    |                           |                                     |   |  |   |  |
| Garbage                   | 5,473 (2011)              | Weekly    | Automated           | Cart –240 L<br>Cart – 360 L  | 240 L<br>360 L    | <ul style="list-style-type: none"> <li>Excess bags taken to Transfer station at \$2.00/bag</li> </ul>   | \$22.10 (240 L)<br>\$30.75 (360 L)<br>\$5.60 – Residential<br>\$26.15 - Commercial | 870 (2015)                | N.A.               | City Contractor           | Utility                             | <ul style="list-style-type: none"> <li>Resident fee:                             <ul style="list-style-type: none"> <li>o \$10.10/month (240 L)</li> <li>o \$14.00/month (360 L)</li> </ul> </li> </ul>   | N.A.   | N.A.  | <ul style="list-style-type: none"> <li>Collective waste hauled directly to the Foothills Regional Landfill (~15 km NW of High River)</li> </ul>  |
| Organics                  |                           | N.A.      | Drop Off            | N.A.                         | Yard Waste Only   | N.A.  |  |                           |                    |                           |                                     |   |  |   |  |
| Recycling                 |                           | N.A.      | Drop Off            | N.A.                         | N.A.              | \$2.50/month  |  |                           |                    |                           |                                     |   |  |   |  |
| <b>Town of Beaumont</b>   |                           |           |                     |                              |                   |   |  |                           |                    |                           |                                     |   |  |   |  |
| Garbage                   | 4,900 (2014)              | Biweekly  | Automated           | Cart                         | 240 L             | <ul style="list-style-type: none"> <li>Collection, processing and disposal fee for additional cart \$9.00/cart/mo.</li> </ul>                           | \$24.24 – SF   | 310 (2013)                | 34% (2013)         | City Contractor           | Utility                             | <ul style="list-style-type: none"> <li>\$62.88 for replacement or additional cart</li> <li>\$9.00/cart/month collection fee for additional cart</li> </ul>  | <ul style="list-style-type: none"> <li>80% Diversion by 2020</li> <li>Reduce solid waste disposal to 100 kg/cap by 2019</li> </ul> | <ul style="list-style-type: none"> <li>Free drop-off at Leduc Waste Mgt. Facility</li> <li>Large Item Collection (May-October) 2 items/yr</li> <li>Christmas tree collection</li> </ul> | <ul style="list-style-type: none"> <li>Brown Bag Yard Waste Collection week (May, October)</li> <li>Household Hazardous Waste and E-waste Roundup</li> <li>Collected waste hauled directly to Leduc and District Regional Landfill (~16 km from Beaumont)</li> </ul>   |
| Organics                  |                           | Weekly    | Automated           | Cart –120 L<br>Cart –240 L   | 120 L<br>240 L    |   |  |                           |                    |                           |                                     |   |  |   |  |
| Recycling                 |                           | Weekly    | Manual – co-mingled | Blue bags                    | One bag- No glass | N.A.  | Included in garbage  |                           |                    |                           |                                     |   |  |   |  |

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## 5.2 Key Findings

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### 5.2.1 Waste Streams Collected

Fort Saskatchewan, Cochrane, and Beaumont provide curbside collection for the following three streams:

- garbage;
- co-mingled recycling; and
- organics (yard and garden waste).

Camrose and High River curbside collect garbage and operate drop-off locations for recyclable materials. Both drop-off locations at these municipalities are staffed at certain hours of operation; however, Camrose is operated by a private organization and High River is operated by a town personnel. High River's residential drop-off location accepts both recyclable materials and yard waste.

The City provides curbside collection for garbage by roll-out carts and community bins. They also operate the Wolf Creek Recycling Depot as a drop off location for recyclable materials and yard waste (i.e., grass clippings, sod, and brush only). The City also collects yard waste from community green bins.

### 5.2.2 Cost of Service Structure

All jurisdictions reviewed contract their current curbside collection programs to third-party private sectors with the exception of High River and City. An average utility fee of \$23.31 is charged for single-family residential households, which includes the distribution fee for residential carts (i.e., at Beaumont, Fort Saskatchewan, and the City). Camrose and High River have a separate charge for the cart roll-out as specified in Table 3. Replacement or additional carts are made available to Beaumont, Camrose, and Cochrane residents, and collection fees are also imposed at an average of \$9 for an additional cart option.

MFRB and Commercial sectors pay an average of \$40.04 for collection services.

### 5.2.3 Collection Frequency

Garbage is collected weekly for all the communities except for Fort Saskatchewan and Beaumont which are collected every-other-week.

Curbside recycling collection is done on a weekly basis for Beaumont, Cochrane, and Fort Saskatchewan. As mentioned previously, Camrose and High River operate drop off depots to accommodate the lack of curbside recycling collection for residents.

Source-separated organics (SSO) are collected weekly in Beaumont and Cochrane, and Camrose has a seasonal collection system such that SSO is collected weekly from May to October and biweekly from November to April. Fort Saskatchewan collects organic waste biweekly year-round. The City collects yard waste from the community yard waste bins every two weeks.

## 5.2.4 Collection Programs

Of the collection systems reviewed for this benchmarking exercise, all municipalities in this review, including the City, have implemented automated cart-based systems for garbage and organics. Within the province of Alberta, manual blue bag collection has been common, as in the case for Fort Saskatchewan and Beaumont; however, there is a trend of moving towards automated curbside collection for recyclables. Cochrane currently collects recyclables using an automated collection system.

Roll-out carts also deter pests, reduce litter, and provide opportunities for a municipality to impose volume limits and user-pay fees directly to residential customers. These benefits can further reduce overall waste disposed and assist municipalities in reducing solid waste expenditures. Currently, the City uses a combination of roll-out carts and communal bins for residential curbside collection. The maintenance and replacement of the carts and community bins are typically the responsibility of the City.

## 5.2.5 Volume Limits

Volume restrictions and financial incentives are typically applied to the garbage stream. Fees or limits are not commonly applied to recycling and organics collection since these streams are promoting diversion.

For the municipal collection programs reviewed, each limits waste disposal volume through cart size, but offer alternatives such as variable cart sizes, the option to order additional carts, and “Tag a Bag”. Typically, two cart sizes are available: 120 L and 240 L. In High River, residents are offered to select a 240 L or 360 L cart for garbage disposal with an increase in utility fees and cart roll out costs for the larger carts. The intent of variable cart sizes is to drive diversion while accounting for customers’ variability in waste generation (i.e., volume).

Variable billing, otherwise known as “pay-as-you-throw” (PAYT), is an incentive approach to collection where customers are charged based on the amount of garbage discarded. PAYT fee structures provide incentives in accordance to the user-pays principle in order to pay for how much is discarded, reduce waste and increase diversion. All municipalities in the review either charged a higher fee for larger carts and/or additional fees for extra carts. PAYT incentives in the municipalities studied are commonly used in combination with cart service with billing based on the size and/or number of garbage carts issued to a customer.

“Tag a Bag” programs can be used to accommodate occasional excess garbage. “Tag a Bag” allows customers to purchase tags or bags with logos to use as needed. Depending on service level expectations, bags can be collected by the contractor or dropped-off at the transfer station. “Tag a Bag” programs are useful to the customer and penalizes them for disposing over the volume limit. However, this option is only recommended if manual collection and/or a staffed drop-off location are already in place.

Another PAYT option is to charge per service or set-out; customers are only charged when they set-out their garbage and it is collected by the contractor. Fee per service billing is common for private hauler arrangements and is equivalent to a contractor charging for snow removal each time it snows versus a flat monthly rate. GPS, RFID tagged carts, and tracking software technologies make per-service billing for curbside customers technically viable.

## 5.2.6 Additional Waste Collection Services

Most jurisdictions offer additional services for disposing of residential bulky items, Christmas trees, and toxic household hazardous waste. Special collection, drop-off events, or year-round access to a depot is provided. This is completed by all jurisdictions reviewed in this study except for High River. However, residents in High River have access to household waste drop-off at the Foothills Regional Landfill. The Foothills Regional Service Commission assesses a fee for HHW to cover costs for handling.

Some jurisdictions accommodate excess yard waste through collection of bagged grass and leaves during peak seasons. For example, Beaumont and Fort Saskatchewan organize a biannual spring and fall “brown paper bag” program where residents can set out extra yard waste on their regular collection day. Using paper or “kraft” bags instead of clear plastic signifies that yard waste does not have to be emptied out for composting. It also avoids confusion about plastic being accepted in the organics program. Similarly, the City hosts a biannual Community Clean Up event where yard waste, bulky items, and C&D Waste can be set out by residents for City collection.

With decreasing recycling markets, some jurisdictions have opted to operate recycling drop-off depots instead of curbside recycling collection. Like the City, Camrose and High River provide this recycling option. In High River, the Recycle & Yard Waste Centre offsets the lack of curbside collection for yard waste and recycling. Cochrane and Fort Saskatchewan provide recycling drop-off sites in addition to curbside programs.

### 5.2.7 Public Education

Communities included in this review have invested in education and outreach programs addressing resident concerns on separating organic materials and explaining how to effectively manage their carts. Cochrane, for example, has completed a waste collection audit in 2018 where the municipality issued “educational tags” to provide feedback to residents about their diversion efforts. The households that received yellow tags, which were issued to evaluate improvement, garnered 30% of some behavioural change, and 25% complete compliance with the waste by-law.

Automated reminders can also be used to prompt people to set out their carts and avoid missed collection.

Outreach and education initiatives are instrumental to successful programs and service changes. The information provided to residents needs to demonstrate how to participate in solid waste programs and explain both what the collection changes are and why they are important. Resident engagement is achieved through good communication, which leads to waste reduction and diversion increase.

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We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully Submitted,  
Tetra Tech Canada Inc.

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Prepared by:  
Rochelle De Omania, E.I.T.  
Project Engineer-in-Training  
Solid Waste Management Practice  
Direct Line: 587.460.3486  
Rochelle.DeOmania@tetrattech.com

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Reviewed by:  
Wilbert Yang, P.Eng.  
Senior Planning Engineer  
Solid Waste Management Practice  
Direct Line: 604.608.8648  
Wilbert.Yang@tetrattech.com

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# APPENDIX D

## PUBLIC CONSULTATION

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|                 |   |                  |                      |
|-----------------|---|------------------|----------------------|
| <b>To:</b>      | Chris Huston<br>Jordan Thompson                                   | <b>Date:</b>     | February 13, 2020    |
| <b>c:</b>       |   | <b>Memo No.:</b> | 004                  |
| <b>From:</b>    | Hilary Wong, E.I.T.<br>Wilbert Yang, P. Eng.                      | <b>File:</b>     | 704-SWM.PLAN03115-01 |
| <b>Subject:</b> | Solid Waste Review for the City of Lacombe<br>Public Consultation |                  |                      |

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## 1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by the City of Lacombe (the City) to review their solid waste management program. As part of this review, a series of public engagement events were undertaken to obtain feedback from residents about the City's current solid waste management services.

This technical memo summarizes the activities of what occurred as part of the public consultation process and describes the following:

1. Public consultation objectives.
2. Survey questions.
3. Survey delivery.
4. Pop-up events and participation.
5. Survey results.

## 2.0 PUBLIC CONSULTATION OBJECTIVES

The objectives of the public consultation activities were to:

- Obtain public feedback on solid waste management services;
- Educate the public on the current solid waste management service levels; and
- Understand the public's priorities and their receptiveness for change.

The public consultation process was limited to three pop-up events to obtain face-to-face interactions with residents and surveys that were delivered via Survey Monkey, Google Forms, in-person surveys and hard-copy surveys that were dropped off at City Hall.

### 3.0 SURVEY QUESTIONS

Tetra Tech and the City staff worked together to develop survey questions. The survey questions are attached in Appendix E. A total of 21 survey questions were developed. The survey questions consist of 15 multiple choice questions and 6 open-ended questions. The various themes of the survey questions include the following:

- General customer satisfaction.
- Solid waste priorities.
- Practices around re-use, organics, household hazardous waste, and recycling.

### 4.0 SURVEY DELIVERY/DISTRIBUTIONS

Surveys were distributed to residents through various methods:

- In-person requests at each of the community outreach events, either on a tablet or with a paper copy.
- Online, at [www.lacombe.ca/garbageview](http://www.lacombe.ca/garbageview) and through posts on social media and the Lacombe Express.

Residents were able to drop off completed paper surveys at City Hall from September 11 to October 18, 2019. A total of 652 surveys were completed.

### 5.0 POP-UP EVENTS

Three pop-up events were held to obtain public feedback on the state of the City's solid waste management program. A summary of the three events (including the details of the event, the observations, and the general tone of the feedback) are summarized below.

#### 5.1 Event #1: Coffee with Council – September 11, 2019

Event #1 took place in the Lacombe Memorial Centre during the Active Living Fair, run alongside Coffee with Council, on September 11, 2019. The top comments from the attendees at the fair include the following:

- Residents were unhappy about the cancellation of the curbside recycling program and want the City to bring it back. Most residents do not understand why the program was stopped.
- When asked about the Wolf Creek Recycling Depot (Depot), residents complained that the bins are always full, even when they returned at different times. Other complaints about the Depot is that it is messy and disorganized, and residents want to see more recycling streams available, such as glass. One person commented that the alleyway yard waste bins work well for them. Some attendees would like to see waste services include the addition of curbside food waste collection. One attendee wanted us to describe the life cycle of waste in our study, present solutions, and consider Waste to Energy and single-stream waste collection (combine garbage, recycling, and organics).

## 5.2 Event #2: Lacombe Culture and Harvest Festival – September 28, 2019

Event #2 also took place in the Lacombe Memorial Centre during the Lacombe Culture and Harvest Festival on September 28, 2019. The booth was located next to Anna Maria's Café and received less foot traffic than the Event #1.

- Residents commented that the Depot needs to be larger as it has been the same size for a while;
- People are bringing their recyclables to Red Deer because they think it is a better system;
- Residents indicated that they don't trust the system anymore since the Depot no longer asks residents to separate recycling; and
- Some residents commented that they cannot recycle everything that they used to be able to, and there is confusion with which items are acceptable and which ones are not.
- One resident commented that there needs to be a balance between the number of services offered versus what the residents pay, as he is concerned about rising taxes. Some residents expressed concern about the condition of the alleyway communal 3-yd<sup>3</sup> bins as birds can access the bins and often spread garbage everywhere.
- Some residents emphasized the importance of having the communal bins due to mobility issues. They preferred the bins because they would not be able to haul individual carts out to the curb.
- One issue regarding the communal bins was that private contractors or residents outside Lacombe would bring their waste to alleyway bins and illegally dump their waste.

## 5.3 Event #3: Lacombe Farmers' Market – October 11, 2019

Event #3 took place at the Lacombe Farmers' Market on October 11, 2019. Many of the attendees we spoke to did not live in the City, including most of the vendors. One vendor that lives outside of city limits uses the Wolf Creek Recycling Depot and wishes the soil stockpiles would be kept separate from sand. Another resident mentioned it is difficult to understand labels on the bins. Most residents missed the ease of curbside recycling.

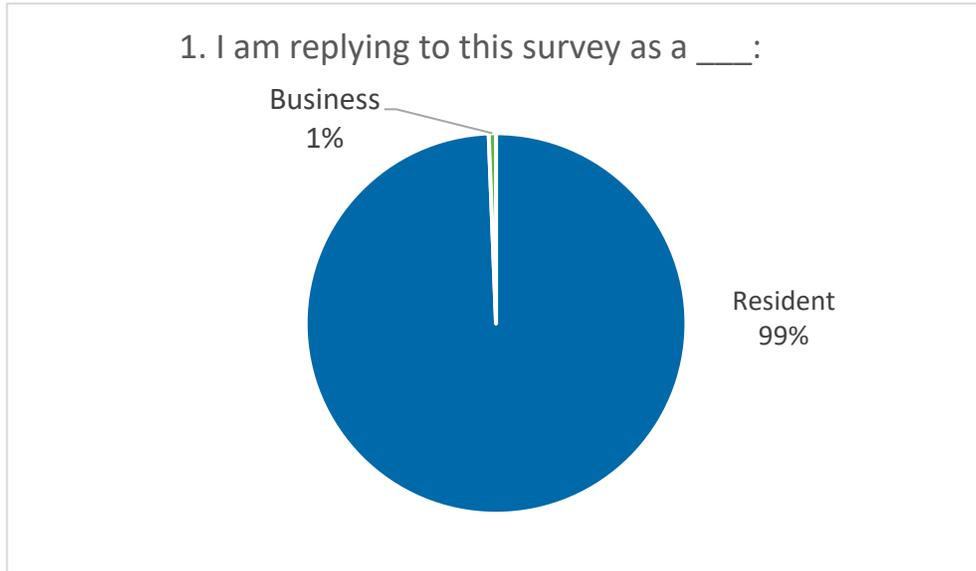
## 6.0 SURVEY RESULTS

The surveys were conducted on SurveyMonkey, Google Forms, and on paper. There were 286 responses on Google Forms, 317 responses on Survey Monkey, and 49 paper surveys, totalling 652 responses altogether, although not every question was answered by each respondent. The following sections summarize the results of the 21 questions.

## 6.1 Solid Waste Overview

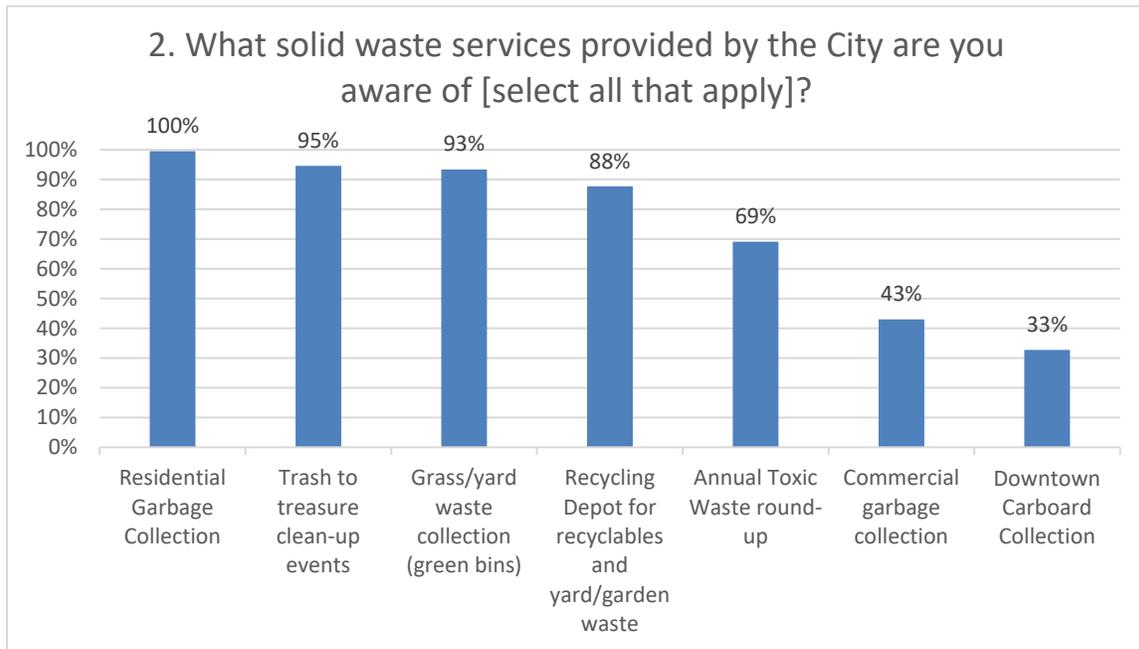
### 6.1.1 Question 1

Of the 652 surveys received, the number of responses for Question 1 was 648.



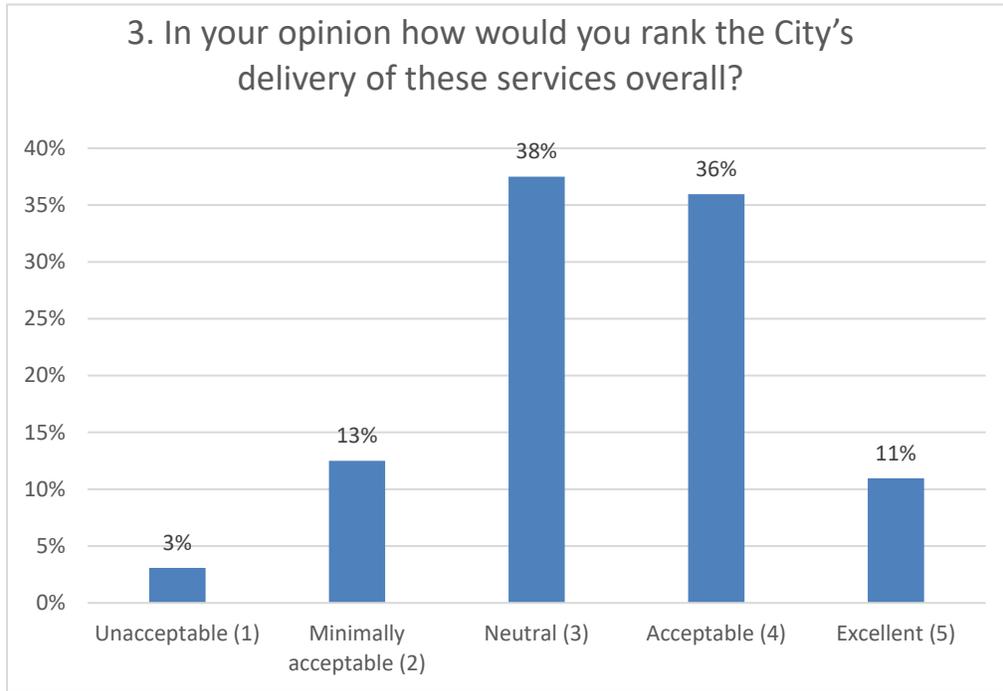
### 6.1.2 Question 2

Of the 652 surveys received, the number of responses for Question 2 was 652.



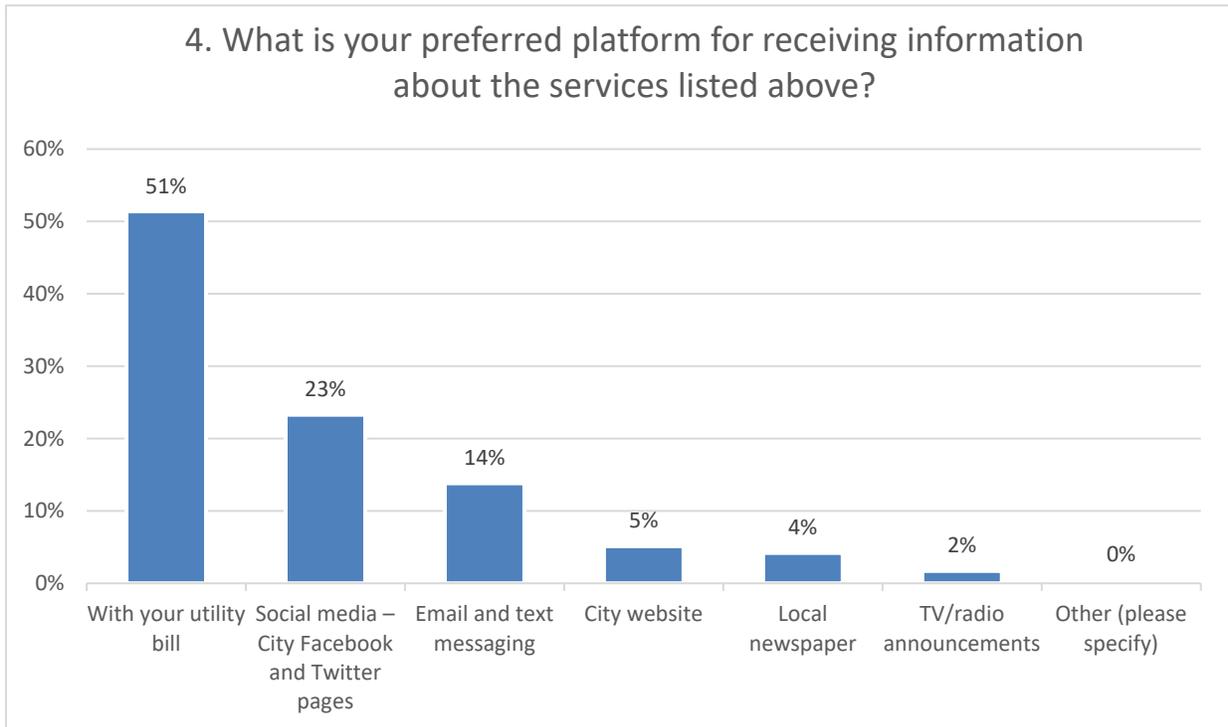
### 6.1.3 Question 3

Of the 652 surveys received, the number of responses for Question 3 was 648.



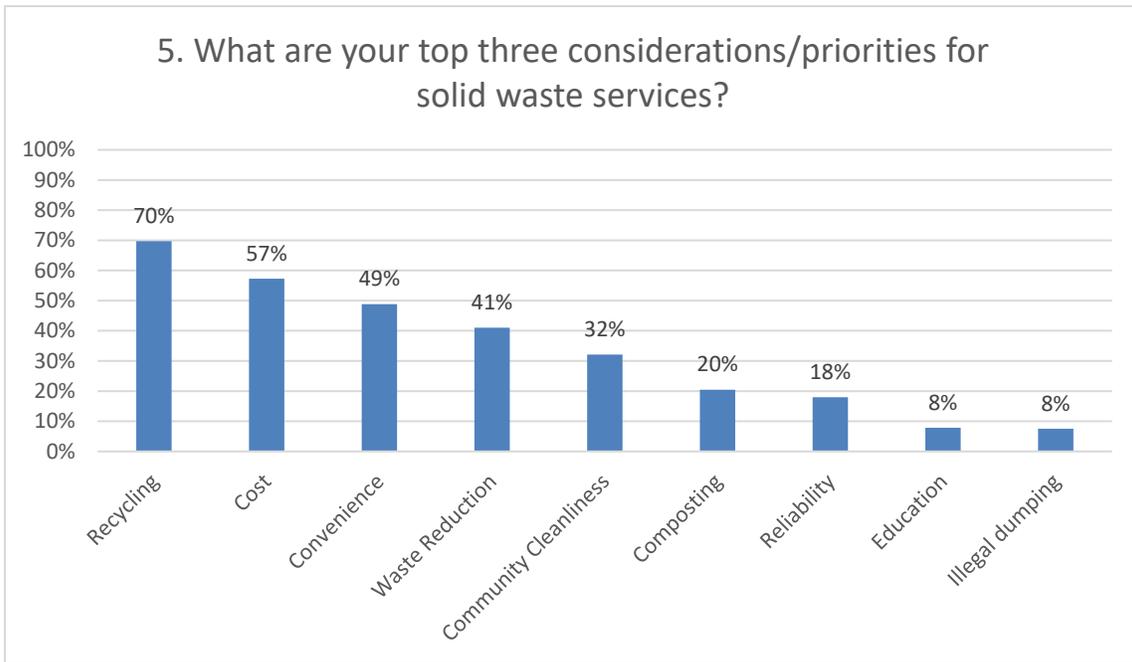
### 6.1.4 Question 4

Of the 652 surveys received, the number of responses for Question 4 was 644.



### 6.1.5 Question 5

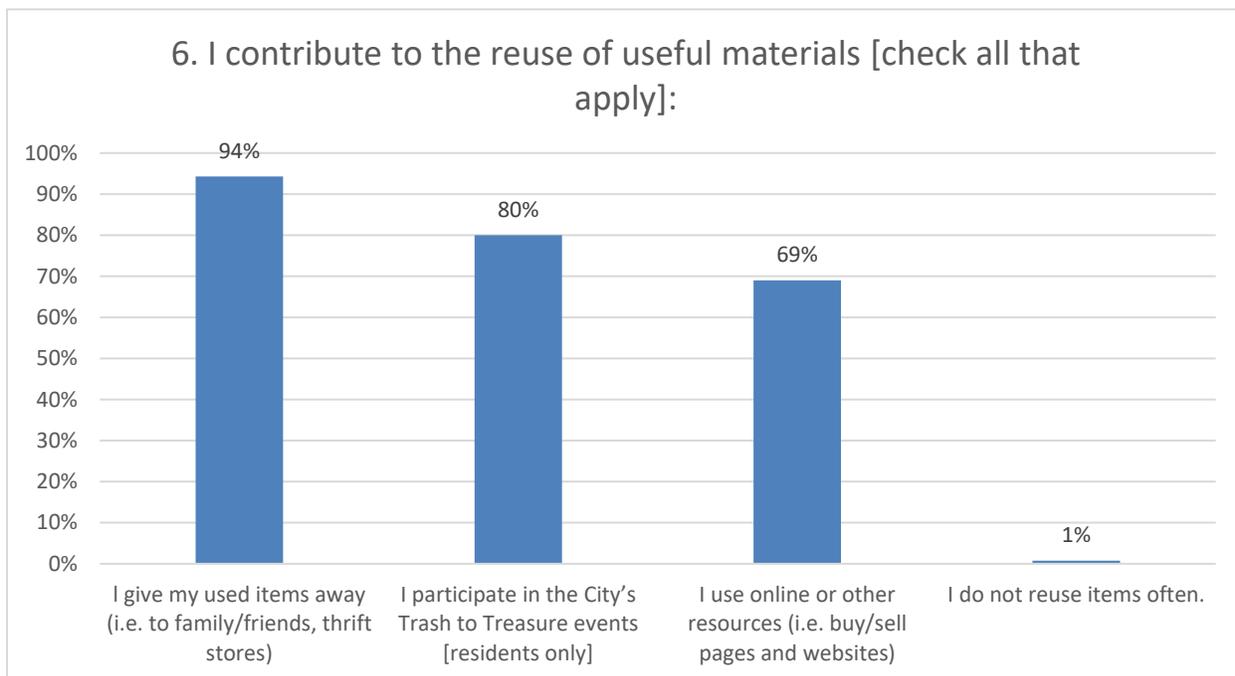
Of the 652 surveys received, the number of responses for Question 5 was 651.



## 6.2 Reuse

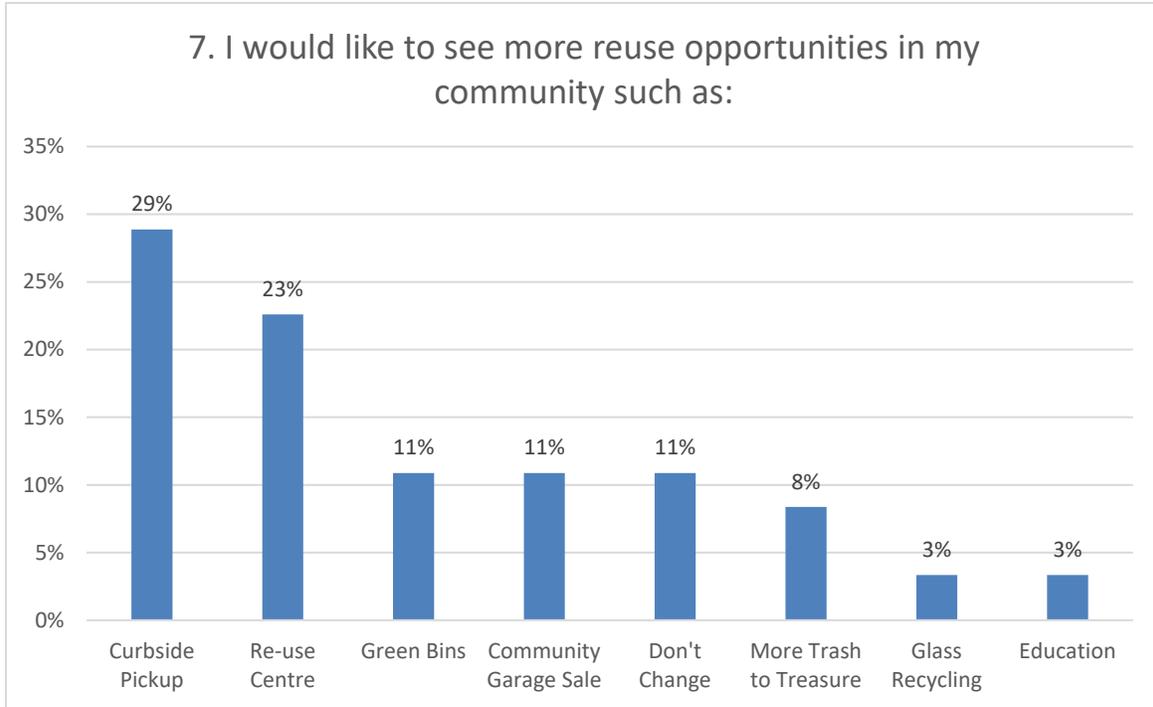
### 6.2.1 Question 6

Of the 652 surveys received, the number of responses for Question 6 was 651.



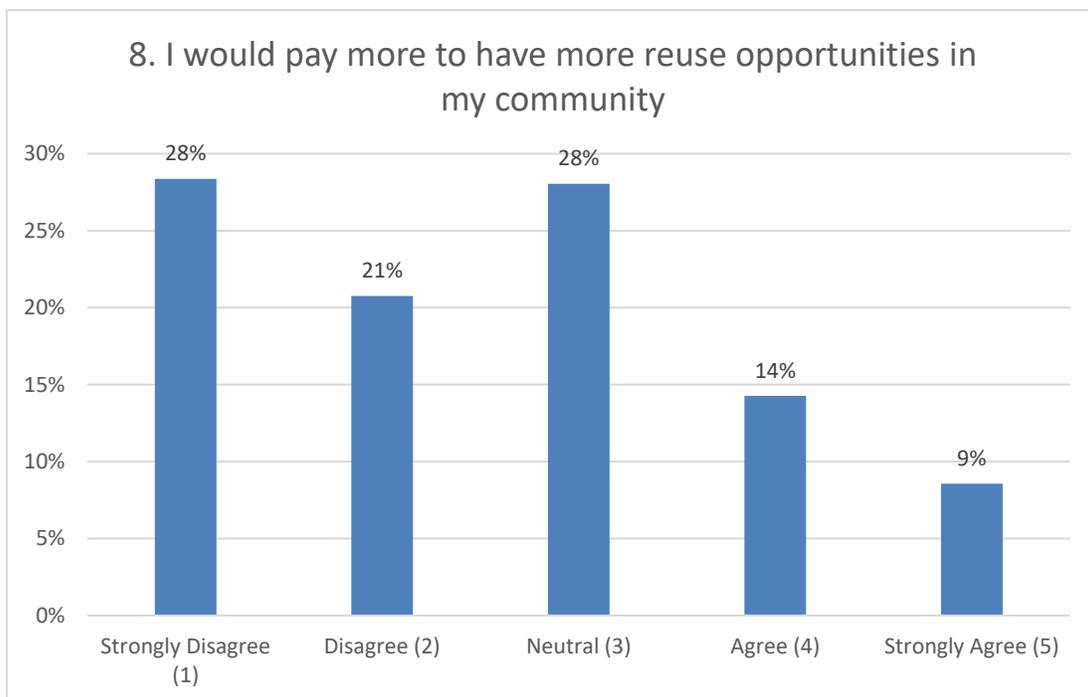
### 6.2.2 Question 7

Of the 652 surveys received, the number of open-ended responses for Question 7 was 239 (open-ended). The full list of open-ended responses is shown in Appendix F.



### 6.2.3 Question 8

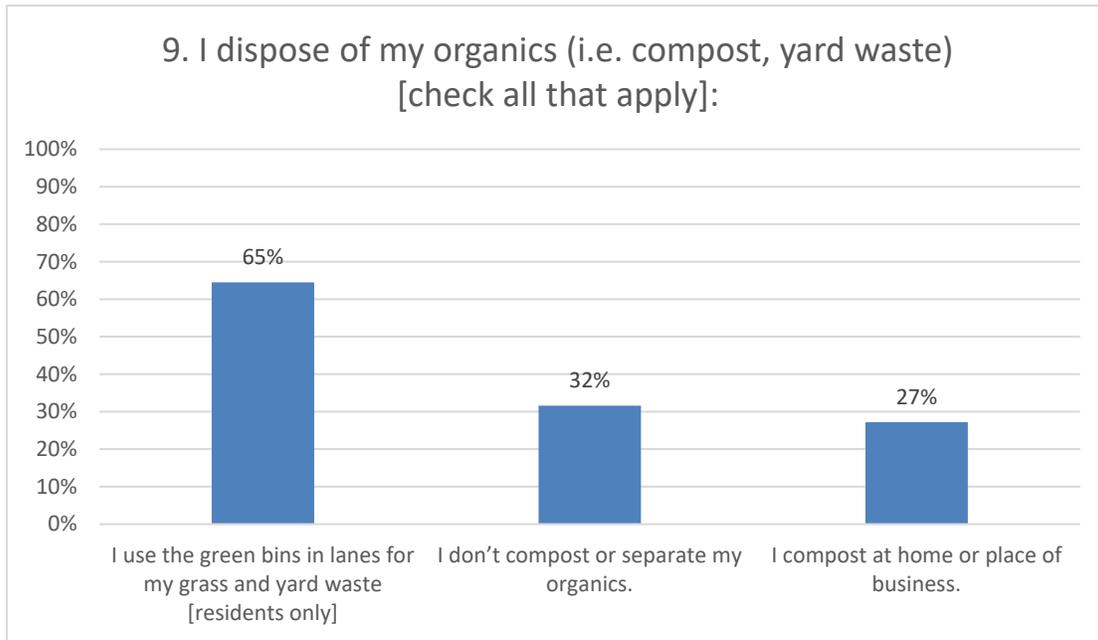
Of the 652 surveys received, the number of responses for Question 8 was 644.



## 6.3 Organics

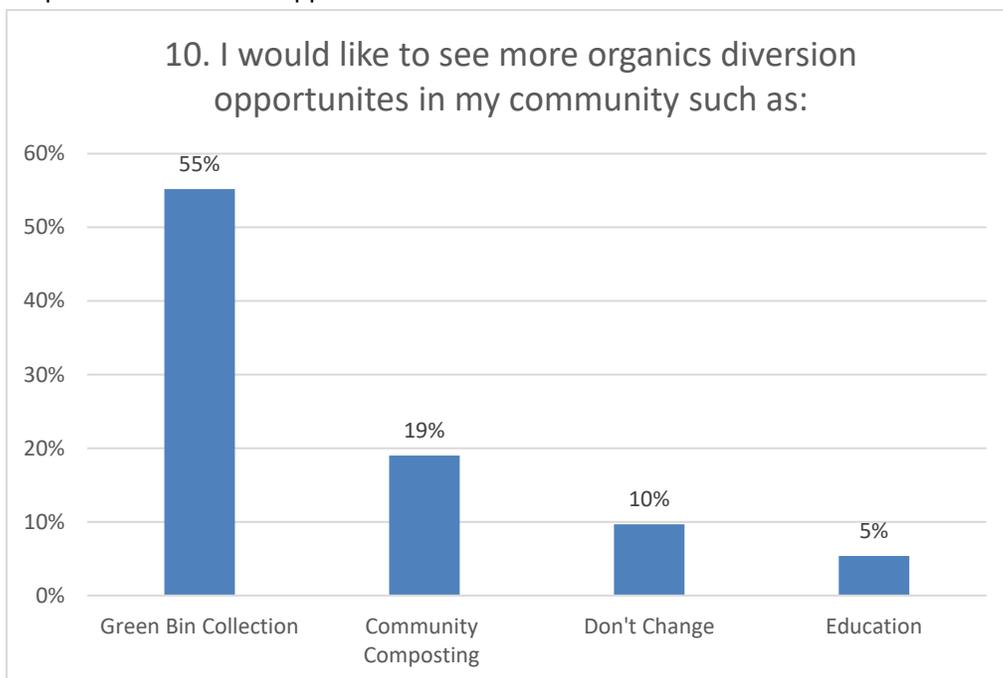
### 6.3.1 Question 9

Of the 652 surveys received, the number of responses for Question 9 were 651.



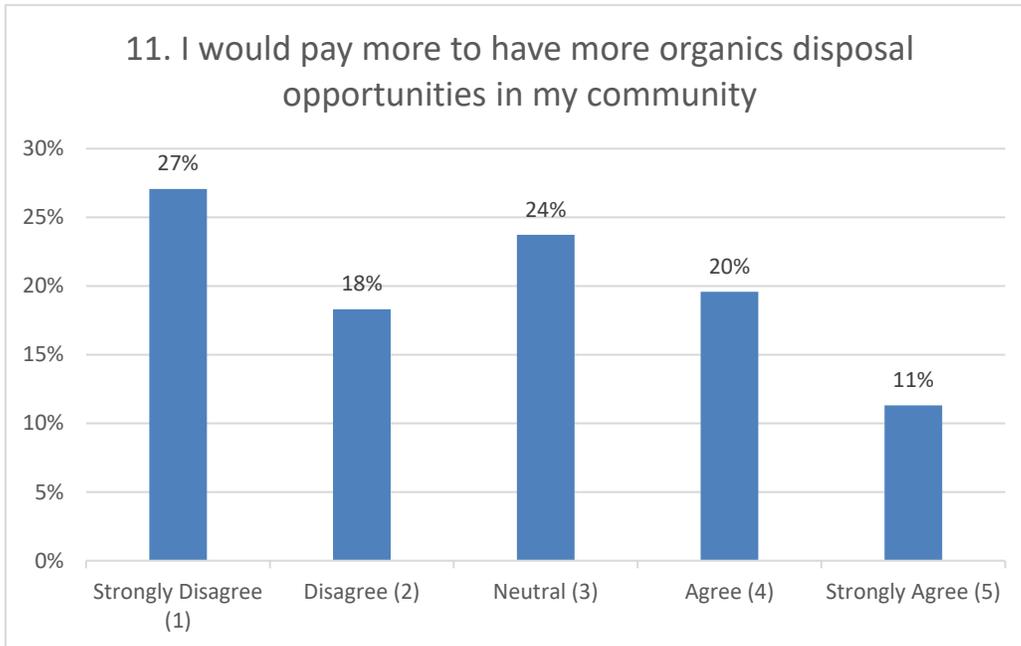
### 6.3.2 Question 10

Of the 652 surveys received, the number of open-ended responses for Question 10 was 279. The full list of open-ended responses is shown in Appendix F.



### 6.3.3 Question 11

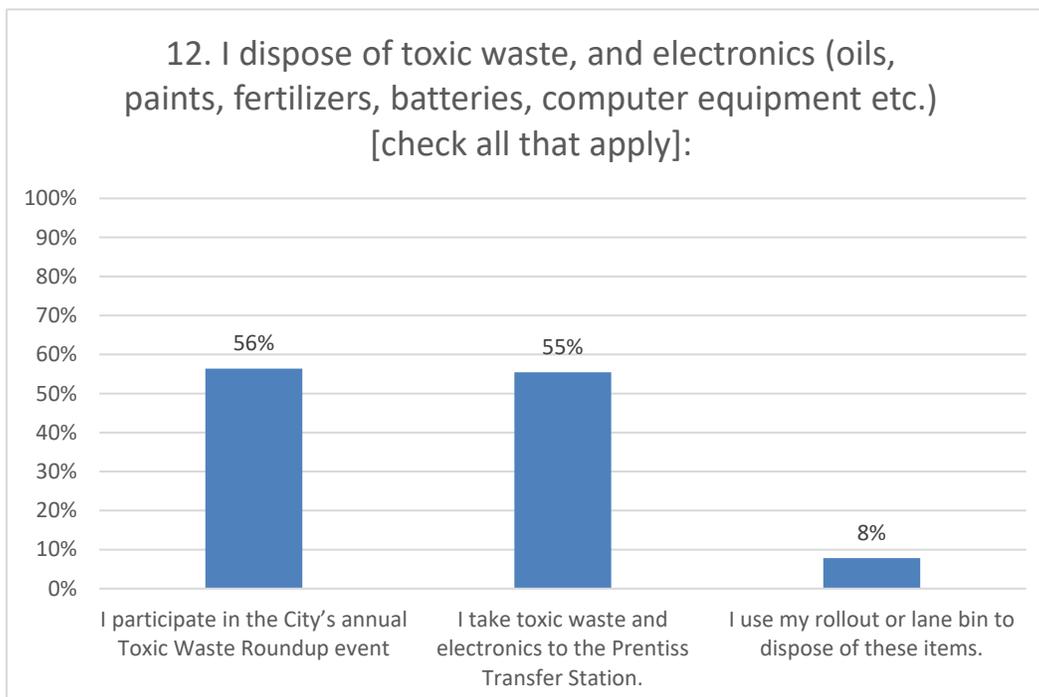
Of the 652 surveys received, the number of responses for Question 11 was 628.



## 6.4 Hazardous Material

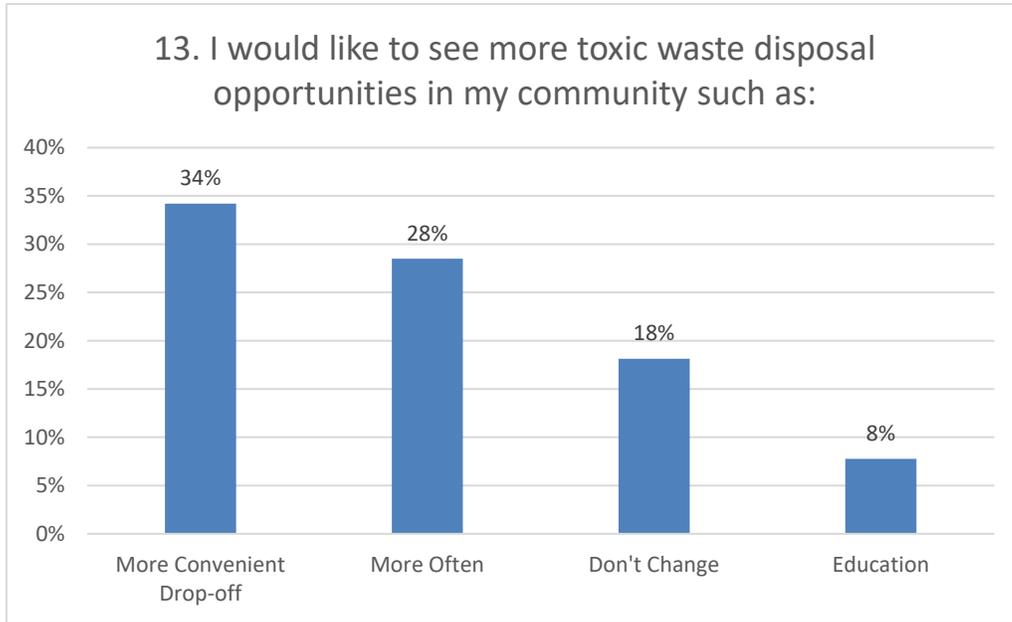
### 6.4.1 Question 12

Of the 652 surveys received, the number of responses for Question 12 was 651.



### 6.4.2 Question 13

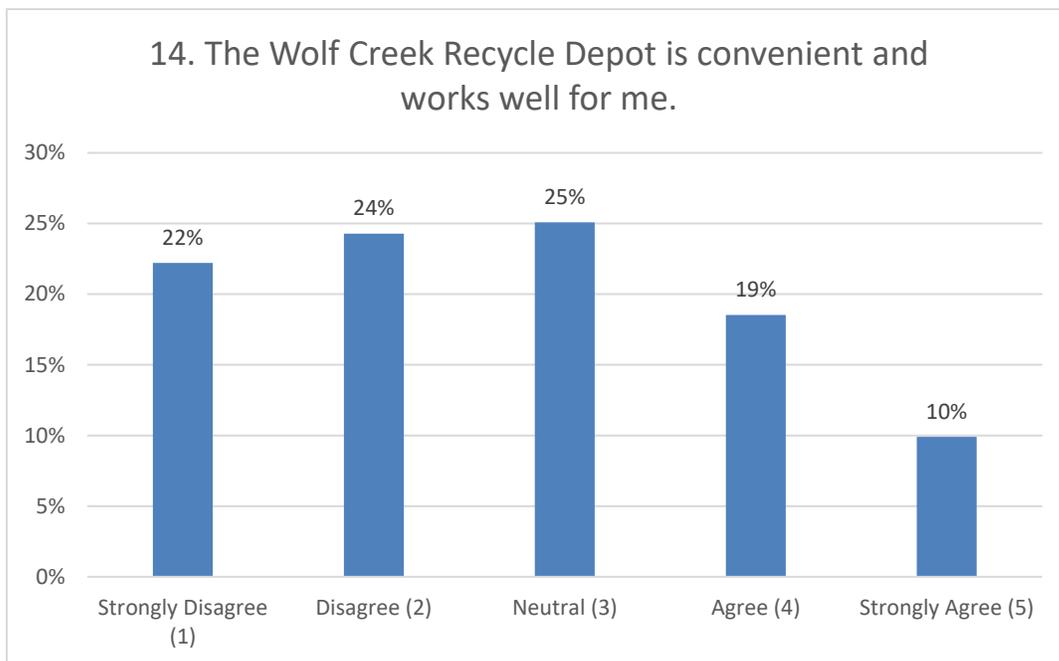
Of the 652 surveys received, the number of open-ended responses for Question 13 was 193. The full list of open-ended responses is shown in Appendix F.



## 6.5 Recycling

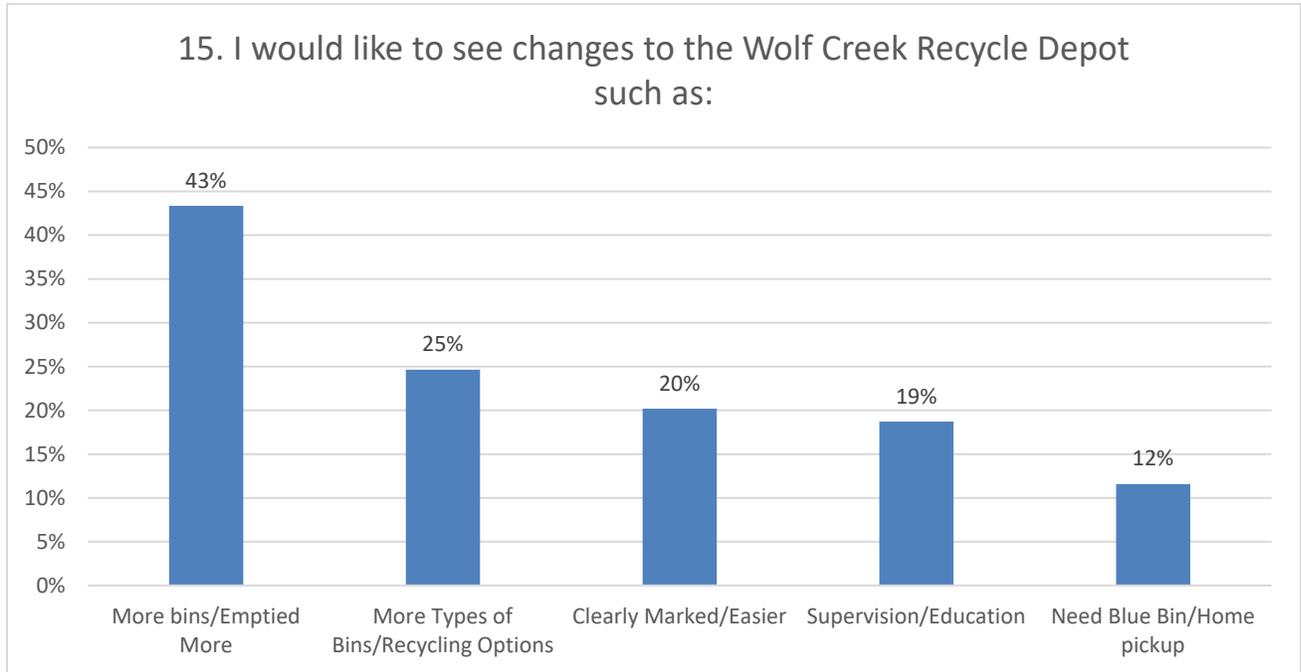
### 6.5.1 Question 14

Of the 652 surveys received, the number of responses for Question 14 was 626.



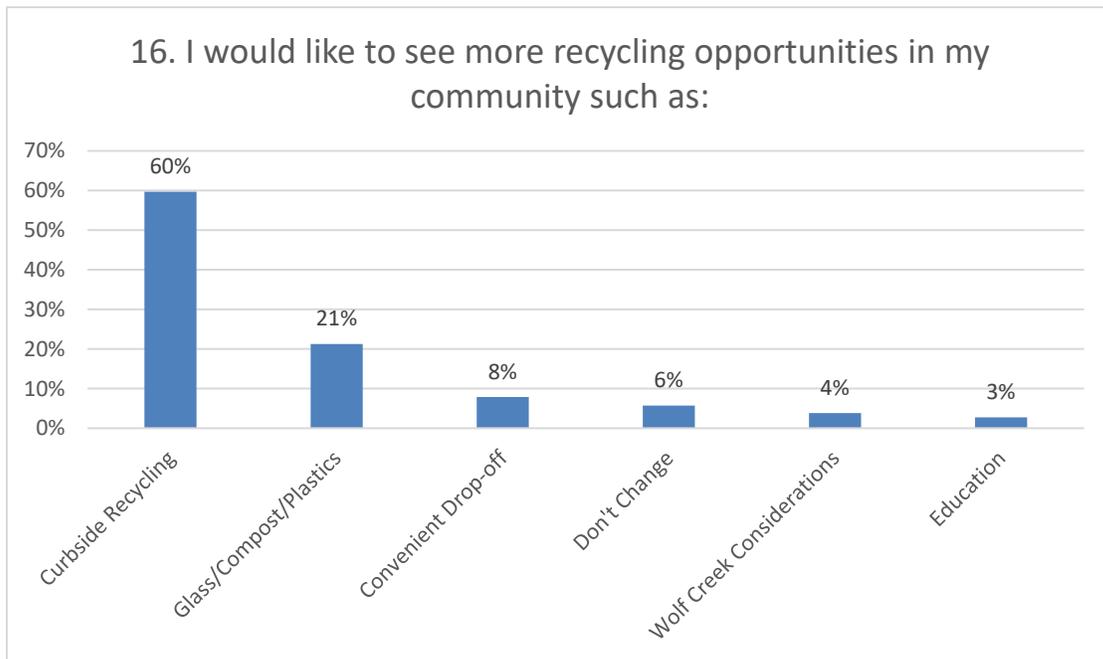
### 6.5.2 Question 15

Of the 652 surveys received, the number of open-ended responses for Question 15 was 406. The full list of open-ended responses is shown in Appendix F.



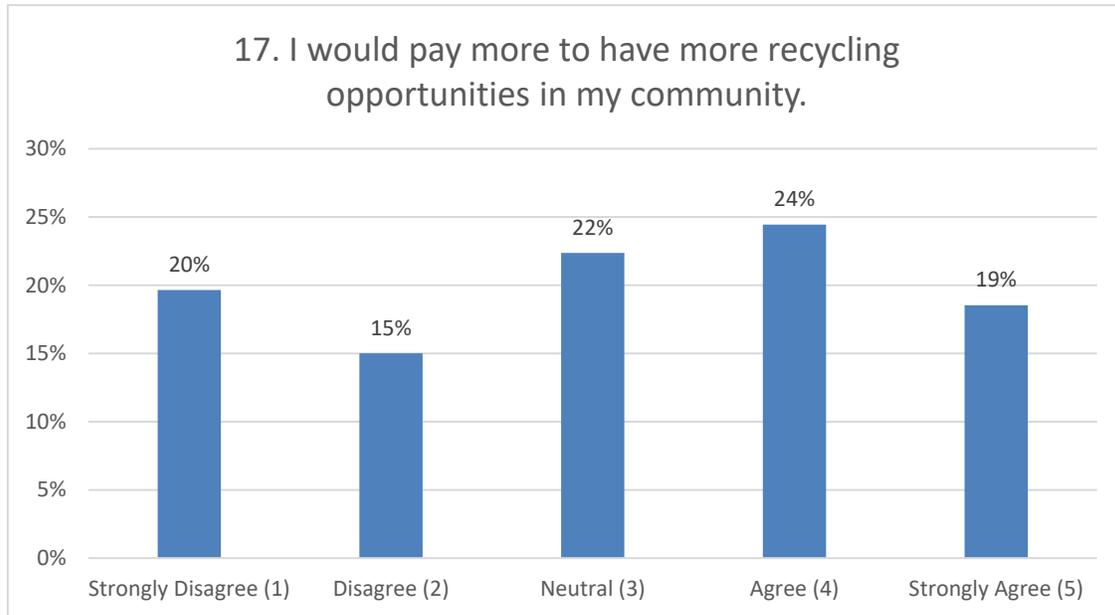
### 6.5.3 Question 16

Of the 652 surveys received, the number of open-ended responses for Question 16 was 367. The full list of open-ended responses is shown in Appendix F.



### 6.5.4 Question 17

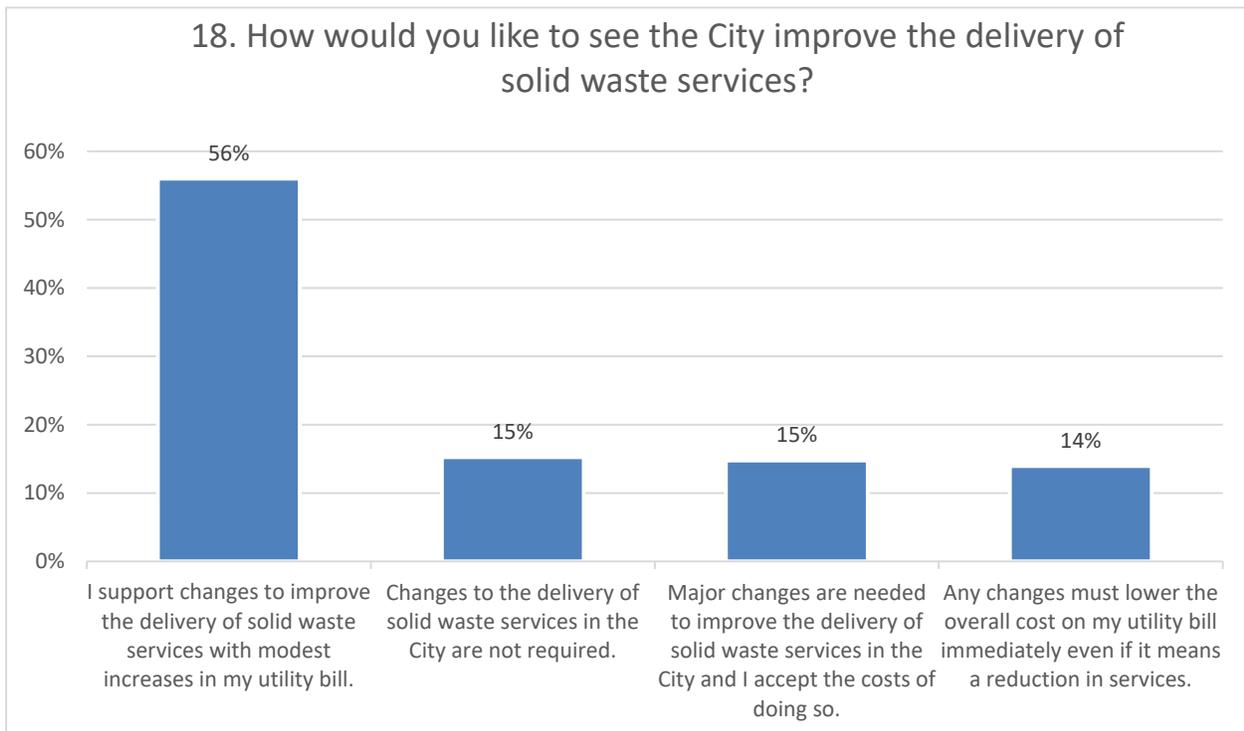
Of the 652 surveys received, the number of responses for Question 17 was 626.



## 6.6 Solid Waste Improvements

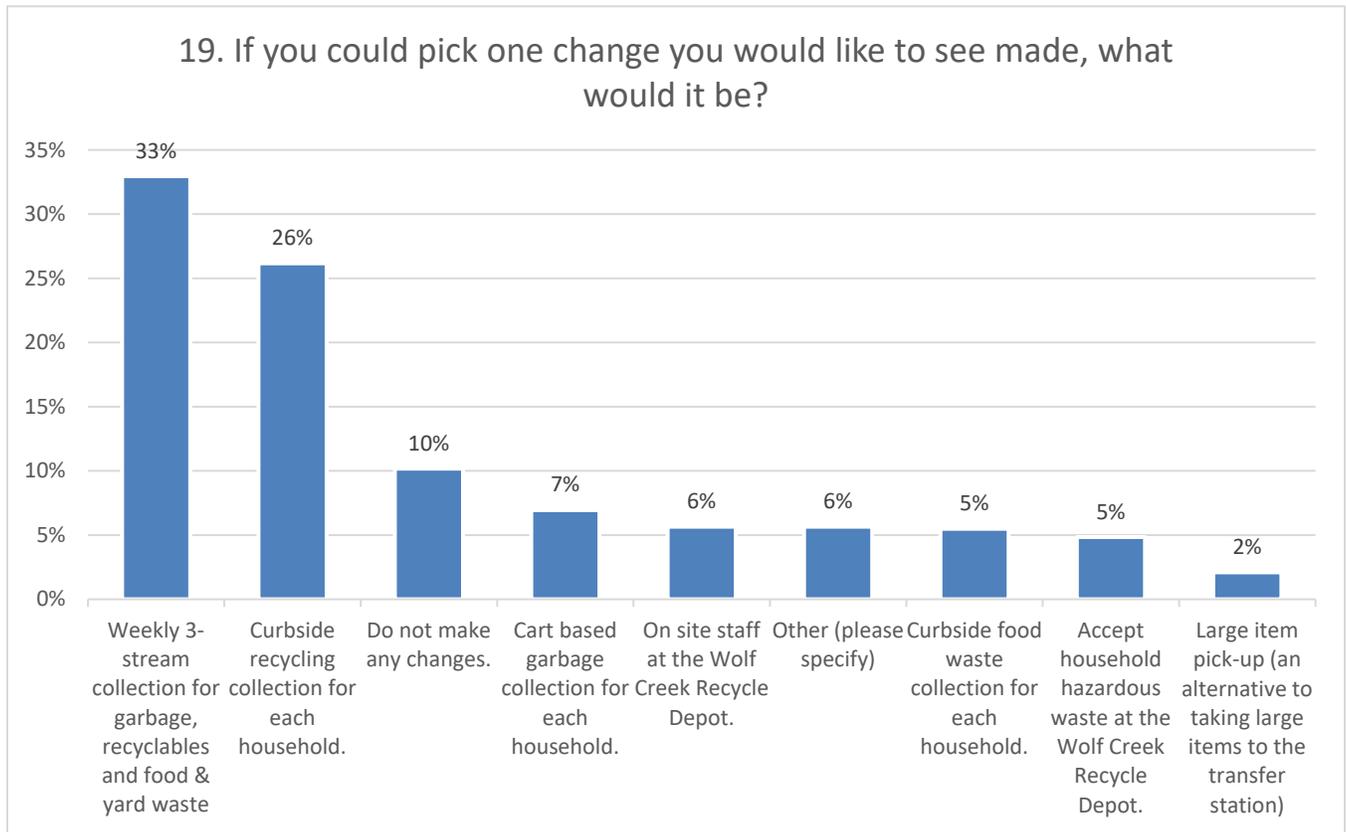
### 6.6.1 Question 18

Of the 652 surveys received, the number of responses for Question 18 was 616.



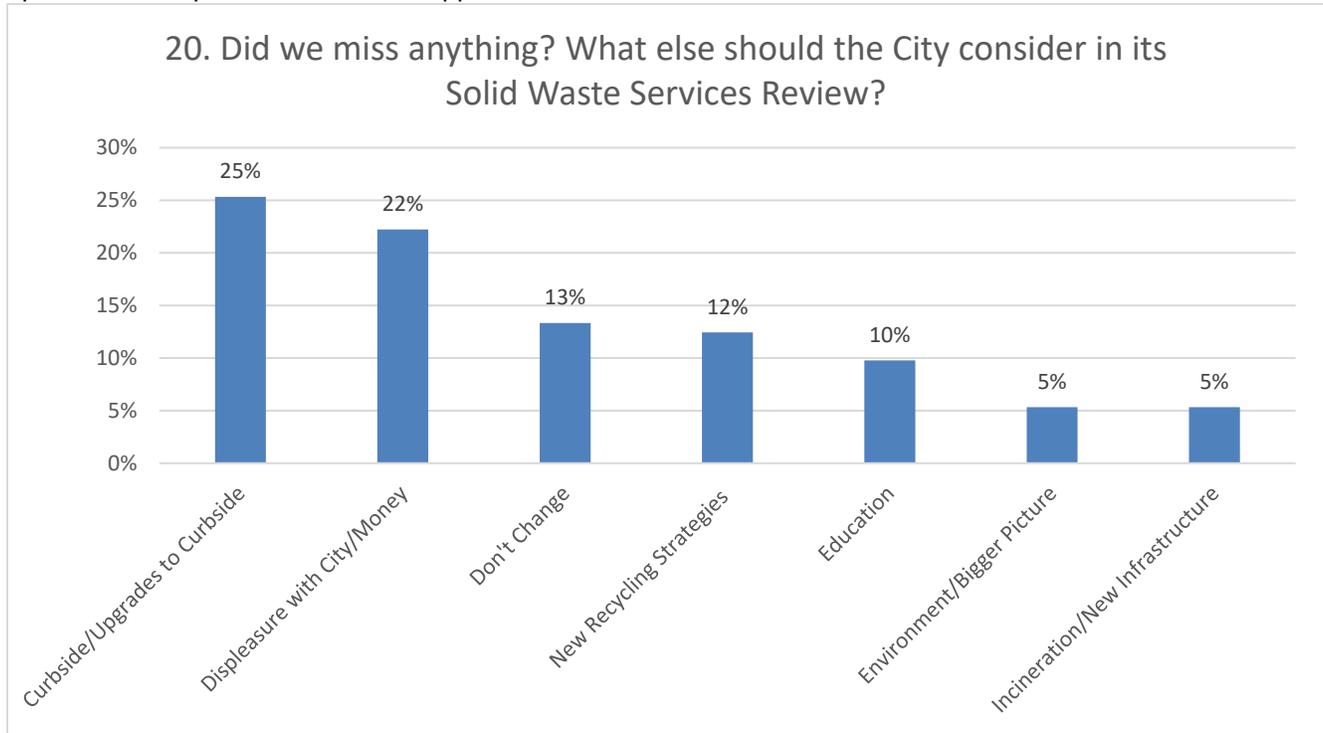
### 6.6.2 Question 19

Of the 652 surveys received, the number of responses for Question 19 was 619.



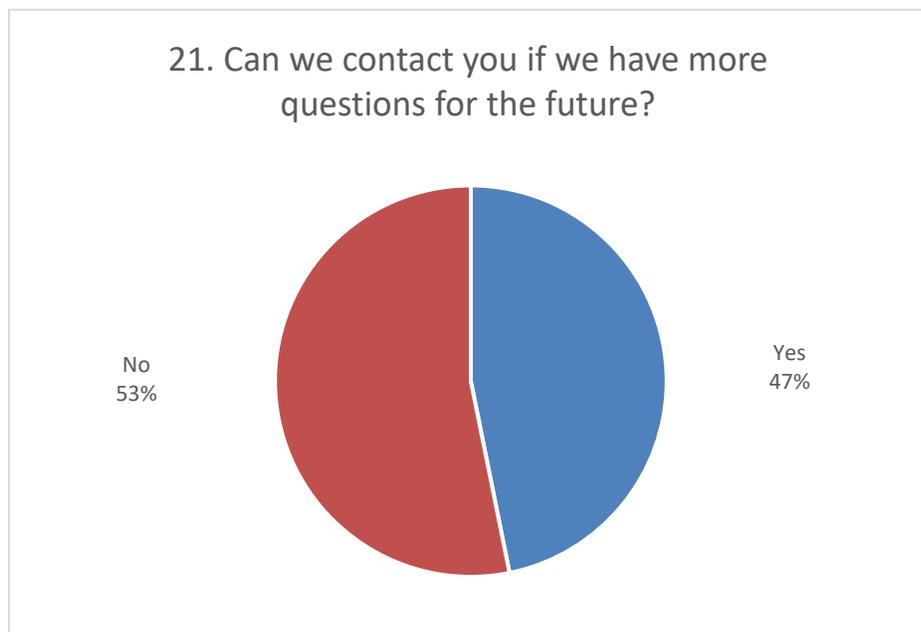
### 6.6.3 Question 20

Of the 652 surveys received, the number of open-ended responses for Question 20 was 225. The full list of open-ended responses is shown in Appendix F.



### 6.6.4 Question 21

Of the 652 survey received, the number of responses for Question 21 was 568.



## 7.0 OVERVIEW OF FEEDBACK

The level of response from residents from the City was excellent. 652 survey responses were received. An overview of the responses from the surveys and the events are summarized below.

- Most residents that Tetra Tech personnel spoke to at the three events did not support cancellation of the curbside recycling program. They want the ease of access to recycling back and questioned why the program was cancelled.
- Residents feel that the Wolf Creek Recycling Depot is insufficient to handle the amount of recycling as the bins are always full. Residents were also confused where to put certain items as the labels are unclear.
- Residents would like to see more bins and more types of recycling accepted at the Wolf Creek Recycling Depot. Residents want the bins to be emptied more often.
- Residents would like to see more convenient drop-off locations for hazardous waste.
- Residents expressed concern about the cost of the waste services, with most residents indicating that modest increases in utility bills for improvements to solid waste services are acceptable.

The top three priorities for the residents of Lacombe are:

1. Recycling
2. Cost.
3. Convenience.

The two main changes that the residents would like to see is weekly three-stream collection for garbage, recyclables, and food and yard waste, and curbside recycling collection for each household.

## 8.0 LIMITATIONS OF REPORT

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## 9.0 CLOSURE

We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,  
Tetra Tech Canada Inc.

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Prepared by:  
Hilary Wong, E.I.T.  
Project Engineer-in-Training  
Solid Waste Management Practice  
Direct Line: 403.723.6850  
Hilary.Wong@tetrattech.com

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Prepared by:  
Wilbert Yang, P.Eng.  
Senior Planning Engineer  
Solid Waste Management Practice  
Direct Line: 604.608.8648  
Wilbert.Yang@tetrattech.com

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If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

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The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

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TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

### 1.7 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

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# APPENDIX E

## SURVEY RESPONSES

Thank you for your time to completing the survey. The survey will close on Friday, October 18, 2019. Please drop off paper submissions to City Hall (5432 56 Avenue, Lacombe, AB).

1. I am replying to this survey as [pick one]:

A Resident

A Business

2. Households, commercial, and industrial businesses in Lacombe pay for solid waste services (garbage collection, recycling, etc.). The cost of these services are reflected on your utility bill. What solid waste services provided by the City are you aware of [select all that apply]?

Residential garbage collection

Grass/yard waste collection (green bins)

Recycling Depot for recyclables and yard/garden waste

Annual Toxic Waste Round-up

Trash to Treasure clean-up events

Commercial garbage collection

Downtown cardboard collection

3. In your opinion how would you rank the City's delivery of these services overall, where 1 is unacceptable and 5 is excellent?

1  
Unacceptable

2

3

4

5  
Excellent

4. What is your preferred platform for receiving information about the services listed above [select one]?

With your utility bill

TV/radio announcements

Local newspaper

Social media – City Facebook and Twitter pages

City website

Other: \_\_\_\_\_

E-mail and text messaging

5. What are your top three considerations/priorities for solid waste services?

- Cost
- Reliability
- Convenience
- Composting
- Recycling
- Illegal dumping
- Community cleanliness
- Education
- Waste reduction
- Other: \_\_\_\_\_

6. I contribute to the reuse of useful materials [check all that apply]:

- I give my used items away (i.e. to family/friends, thrift stores)
- I participate in the City's Trash to Treasure events [residents only]
- I use online or other resources (i.e. buy/sell pages and websites)
- I do not reuse items often.
- Other, \_\_\_\_\_

7. I would like to see more reuse opportunities in my community such as:

---

---

8. I would pay more to have more reuse opportunities in my community

- 1                      2                      3                      4                      5  
Strongly Disagree    Disagree            Neutral Agree      Strongly Agree

9. I dispose of my organics (i.e. compost, yard waste) [check all that apply]:

- I compost at home or place of business.
- I don't compost or separate my organics.
- I use the green bins in lanes for my **grass and yard** waste [residents only]
- Other, \_\_\_\_\_

10. I would like to see more organics diversion opportunities in my community such as:

---

---

11. I would pay more to have more organics disposal opportunities in my community

1                      2                      3                      4                      5  
Strongly Disagree    Disagree           Neutral Agree           Strongly Agree

12. I dispose of toxic waste, and electronics (oils, paints, fertilizers, batteries, computer equipment etc.)  
[check all that apply]:

- I use my rollout or lane bin to dispose of these items.
- I participate in the City's annual Toxic Waste Roundup event.
- I take toxic waste and electronics to the Prentiss Transfer Station.
- Other, \_\_\_\_\_

13. I would like to see more toxic waste disposal opportunities in my community such as:

---

---

14. The Wolf Creek Recycle Depot is convenient and works well for me.

1                      2                      3                      4                      5  
Strongly Disagree    Disagree           Neutral Agree           Strongly Agree

15. I would like to see changes to the Wolf Creek Recycle Depot such as:

---

---

16. I would like to see more recycling opportunities in my community such as:

---

---

17. I would pay more to have more recycling opportunities in my community.

1                      2                      3                      4                      5  
Strongly Disagree    Disagree           Neutral Agree           Strongly Agree

18. Recognizing there may be trade-offs for changes made to the delivery of solid waste services in the City, how would you like to see the City improve the delivery of these services [pick one]?

- Any changes must lower the overall cost on my utility bill immediately even if it means a reduction in services.
- I support changes to improve the delivery of solid waste services with modest increases in my utility bill.
- Major changes are needed to improve the delivery of solid waste services in the City and I accept the costs of doing so.
- Changes to the delivery of solid waste services in the City are not required.

19. Recognizing the City still needs to evaluate the impact of any changes to the delivery of solid waste services, if you could pick one change you would like to see made, what would it be? [select one]

- Cart based garbage collection for each household.
- Curbside recycling collection for each household.
- Curbside food waste collection for each household
- Accept household hazardous waste at the Wolf Creek Recycle Depot.
- Large item pick-up (an alternative to taking large items to the transfer station)
- Weekly 3-stream collection for garbage recyclables and food & yard waste
- On site staff at the Wolf Creek Recycle Depot.
- Other: \_\_\_\_\_
- Do not make any changes.

20. Did we miss anything? What else should the City consider in its Solid Waste Services Review?

---

---

21. Can we contact you if we have more question for the future?

- Yes                       No

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-mail: \_\_\_\_\_

**FOIP Notification Statement**

The personal information that you provide to the City of Lacombe is collected under the authority of the *Alberta Freedom of Information and Protection of Privacy (FOIP) Act* – Section 33(c). The information will be used for the purpose of administering a review of Lacombe’s Solid Waste Systems. Collected personal information is protected from unauthorized access, collection, use, and disclosure in accordance with the *FOIP Act*, and can be reviewed and corrected upon request. Questions regarding the collection of personal information can be directed to: FOIP Coordinator, City of Lacombe, 5432-56 Ave, Lacombe, AB T4L 1E9, Tel. 403-782-1281 or [foip@lacombe.ca](mailto:foip@lacombe.ca).

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# APPENDIX F

## OPEN-END QUESTIONS

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>  |
|---|
| I do not need weekly garbage pickup as I usually have only one bag in the garbage bin. I would like the groceries stores and other stores to stop using plastic bags. Many cities have eliminated or are planning to eliminate the use of plastic bags in their city. Check FT. McMurray. I would like to see an community education program for elimination of plastic bags. Also, an education program for composting. Ask high school. |
| Reinstate a viable recycling program.   |
| Recycled mulch made available to residents would be nice.   |
| blue box program  |
| A reuse site. Such as "habitat for humanity".   |
| Some way of recycling glass. Better publicity of food bank needs and the fb thrift store.   |
| Recycling   |
| free items at curb more often   |
| Plastic recycling, household green bins (organic waste)   |
| Keep up the good work with trash to treasure and community clean up.  |
| Community garage sale like Blackfalds does every year.  |
| Community yard sales  |
| electronics recycling   |
| Community garage sale at arena twice a year   |
| What we currently do is enough for me, not needing anymore  |
| Anything  |
| recycle   |
| Re-store or sharing site or website   |
| Recycle pickup that we are currently paying for but are not getting. Where is all this money going to?????????  |
| More ownership on manufacturers to use packaging that can be reused, providing incentive for 'bring your own containers' at stores, Increased education on how to reuse / reduce waste as well as where our current waste/recycling is processed. Possible community wide rummage sale  |
| Composting, recycling of furniture etc., General recycling  |
| My community already offers 3 second hand stores which, I feel provide enough reuse opportunities of goods.   |
| Bring back the recycling pick up  |
| Recycling pick up / compost program   |
| More frequent "Trash to treasure" Recycle of some materials from "Toxic Round Up"   |
| Blue bins back in homes   |
| We are in desperate need of a comprehensive recycling program, as we are paying for a service we are not receiving  |
| Community Garage Sales or even neighborhood garage sales  |
| Glass recycling   |
| Allow scavenging at recycle station and Prentiss landfill   |
| Recycle of all plastics and glass   |
| Unknown   |
| there are enough  |
| Glass collection  |
| Central reuse depot   |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>   |
|--|
| Can't think of anything right now.   |
| Maybe info sessions on useful repurposed projects for the home. Composting sharing or shared mulching  |
| I would like to see more use of present facilities, such as thrift stores for usable items.  |
| Other than the trash to treasure program Lacombe already has I can't think of anything else that would be practical  |
| Not sure   |
| Freecycling, and community compost (city sells back composted soil to community)   |
| Location for drop-off and pickup of reusable items like wood, garden supplies, toys and cloths   |
| Maybe putting an area for free stuff in the recycling area on wolf creek and once a week (day would need to be set by the town) thrift stores can go pick it up and sell it or the diabetes people. Also being able to go through the dump again would be cool whenever people need a nob or whatever. All kinds of useful and still good things get thrown in the dump  |
| Used Household Renovation outlet, e.g. doors windows etc.  |
| Habitat for Humanity re-store  |
| ReStore  |
| Glass recycling  |
| Nothing to provide   |
| N/a  |
| Spring and Fall  |
| 1. Bring back recycling program 2. Compost recycling program   |
| More Trash to treasure events or community garage sales.   |
| No suggestions   |
| The use of reusable shopping bags and the ban of plastic bags.   |
| If more and more plastic types are no recyclable, a refill "bulk barn" idea for products used often is something we need. E.g. for laundry soap, cleaners, spray 'n' wash  |
| Recycling  |
| We could have a building or sheltered area at the recycle depot for people to drop off items all year round that can then be picked up by those in need of those items. It does need to be monitored so junk isn't left that isn't reusable. Cameras or staffing at depot for everything is crucial to success   |
| Blue bin recycle for cardboard and glass   |
| Continuing the blue box program  |
| I think Lacombe offers enough  |
| an outdoor gear swap would be fun!   |
| Furniture  |
| I would like an affordable blue bin option but since it is not currently affordable I applaud the City for making the sensible decision to close the program down for now.   |
| None.  |
| Not sure if this will be later on the survey, but we simply need composting made widely available in this city. A green bin program. Most of my waste is biodegradable and I compost as much as possible in my own house (I don't have a yard) because there is absolutely no composting made available to the citizens of Lacombe. This frustrates me and seems more pressing than opportunities to reuse more. I'm already reducing on my own. That has to do with my choices and lifestyle. I need support REDUCING with services like RECYCLING and COMPOSTING which should be provided by the city. The Wolf Creek Recycling Depot is ridiculously inefficient and often over-following. Many people don't make the effort to recycle there and frankly, I don't blame them. It's difficult to trust that it's even ending up where it needs to be. Reusing is an |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>   |
|--|
| important part to reducing one's impact but it has more to do with personal choice than tax support. Please make efficient recycling and composting a priority.  |
| Logs cut to useful pieces that are left at the recycle area  |
| Recycling  |
| Toy swaps, baby/child clothing swaps/sales, donation of goods to nonprofit groups  |
| Construction material recycling.   |
| An event for glass jar exchanges   |
| Recycle blue bins put out once a week  |
| Curbside recycling. Everything in one bin, and will absolutely pay extra taxes for it.   |
| Not sure   |
| Bring back blue box  |
| We are doing a good job already.   |
| community garage sales   |
| Free spots like at the dump where I can take things that aren't trash  |
| I want curbside recycle back and composting  |
| Like to see the recycling back again   |
| compost  |
| Recycling  |
| Composting exchange service (provide compost in exchange for soil)   |
| Dump recycle program. Good items be left out for others.   |
| Not sure   |
| Unsure   |
| Host community fundraisers maybe? Like a giant garage sale or swap meet where people can donate what they are not using? The money raised can go to different community organizations such schools. Schools have access to a lot of people and can help promote the community garage sale. Minor sports, children's clubs, etc. might be other organizations who could partner with the city to run community garage sale/swap meets, providing the volunteers to work the sale. |
| Community recycling pick up  |
| Not sure if this is the town's responsibility. There are lots of 2nd hand stores in town. It is up to residents.   |
| More toxic roundups and recycle bins back  |
| More grass bins  |
| Children's clothing, toys, books, check out like a library   |
| A program like Red Deer City which has been brought forth to the CAO numerous times since the last Solid waste survey was done six years, to encourage citizens to compost in their backyards. This City needs to enhance citizens on buying in... education... free back composted. Start on a scale of 25 composters her year and keep enhancing the program each year like RD.  |
| N/A  |
| Recycling programs   |
| ?  |
| Providing for the homeless. I have no idea where to take such things   |
| Don't know.  |
| No thanks  |
| Blue bins  |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>   |
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| Trash to treasure more often. Community 'garage' sale. Drop off items and people buy items what they think they are worth. Different organizations would have to donate their time to run it in order to get paid. More logistics would need to be figured out. Vermilion has something like this once a year. |
| Composting   |
| Yes, but controlled don't need junk around streets all year  |
| Maybe a community garage sale or something like that.  |
| Fixing electronics, bikes, etc.  |
| Blue Bin Recycle   |
| Basic recycling pick up  |
| Education on what/how things can be repurposed   |
| Binging back the blue bin!! Would also like the 3 bin system that red deer has if it was implemented   |
| Glass recycling, more plastics accepted  |
| Treasure heap / Canadian pickers event. Also, stop the stupid garage sale advertising policy which forces folks to park cars dangerously to advertise their yard sales.  |
| A place to drop off furniture, bikes, toys.  |
| Continue to improve the recycle centre in the industrial park and investigate new possibilities for weekly or bi weekly home pickup.   |
| Instead of throwing it in dump. Let other people have a chance to have it. Place where people can drop it off and its free to take. Invest in businesses that melt it down and make it something else.   |
| Recycling pick up at my home again   |
| In my opinion we need more bins at the recycling depot , for accepting a wider variety of recyclable items. Glass , tin etc..  |
| Recycling. I realize that at the moment the City has no options for recycling but I assume it is being vigilant in looking for options.  |
| Better recycling .... the bins are often too full  |
| NA   |
| More than once a year a trash to treasure round up. The community loves this.  |
| ?  |
| Love trash to treasures weeks  |
| A compost program. A household blue box program. Garbage cans around the city.   |
| Community garage sales   |
| Glass container being recycled including homemade wine bottles   |
| Recycling pick up, composting,   |
| Nope   |
| A take it or leave it for paint products at the recycle depot.   |
| In Okotoks they have a location where you can drop off reusable items and they can in turn be purchased for a small amount by another. It is called the Foothills Salvage and Recycling Society. Check it out  |
| Garage sales   |
| I would actually just like my recycling pick up back, we used that service every week.   |
| Recycling programs reinstated. More trash to treasure weeks  |
| Allowed more garage sales.   |
| Composting Recycling   |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>  |
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| Kick it to the curb on weekends, any unselected items back out of view by Monday  |
| More cardboard recycling, glass recycling   |
| Food Waste  |
| Give us back the recycling program...   |
| Unknown   |
| N/a   |
| Bulk food bring your own container  |
| I believe we have adequate reuse opportunities already.   |
| Trade or swap   |
| A building at the recycle depot where good used furniture and appliances can be dropped off or picked up.   |
| N/A   |
| Children sports equip. , tires, paint, possibly community compostable items at recycling area.  |
| increased number of community recycle depots like they have in Edmonton at the malls  |
| Swap meets  |
| Recycling   |
| Community composting led by the City  |
| What we have is fine  |
| Compost   |
| Trash to Treasure section at the recycling centre with strict guidelines  |
| Want to see recycling as it is better for the environment and my children   |
| A reuse building at recycling depot.  |
| Monetary incentives   |
| I feel when the city pick up items spring or fall clean up if the items are re-useable the should go over to Lacombe food bank and help the low income people with household or other items and city need to find them a building to store them .   |
| Garage sale day for whole city  |
| Community garage sale day   |
| Something like Habitat for Humanity   |
| A communal area for people to drop off stuff for free (like trash to treasure week, but year round)   |
| N/a   |
| I wish no frills would bring back boxed for shopping and sell reusable produce bags.  |
| Swaps   |
| A building where one can drop off items like good furniture, couches, lumber, etc. for the next person to pick up and use   |
| Yes, one site drop off for take one leave one idea  |
| Community reuse network to connect surplus items and materials with charitable organizations.   |
| Trash to treasure more often  |
| Recycling program again   |
| I feel that the trash to treasure week is a poor use of tax dollars, is difficult for residents to access "treasure" and has become a community eye sore. People are leaving trash on their front yards for weeks or more both before and after the scheduled time. I would love to see a reuse building at the current recycling Center. Residents can pick up and drop off any good used items. |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>   |
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| Locations to bulk buy and use my own containers.   |
| Yes  |
| Facebook trash to treasure page free items to give   |
| No   |
| A re-store where items can be dropped off or they can arrange pick up and they either resell, refurbish, restore or break down items for parts         |
| I like trash to treasure, not sure what else to do   |
| More frequent trash to treasure  |
| A reuse shed at the dump that ppl could put reusable items in that other ppl could use. I have seen this done at other landfills and it is used often. |
| I think the city does an excellent job of this   |
| Recycle program.   |
| Places to bring plastics and paper for schools, daycare/ dayhomes and community organizations can pick up and use.                                     |
| enough is being done as it stands  |
| Curb side recycling again  |
| Recycling  |
| I think there are adequate reuse opportunities.  |
| I think there are many good options out there. I think trash to treasure is an amazing program. Thank you!   |
| Recycling Bins Back  |
| Get rid of your Trash to Treasure on main streets, host at a facility.   |
| City wide garage sales   |
| Better Recycling   |
| Clothing share   |
| Construction supplies restore (is habitat for humanity)  |
| Bringing back the curb side recycling program  |
| Trash to Treasure is Great, also encourage garage sale/Community garage sales  |
| Compost bin residential pickup   |
| A community re-use depot like Sylvan Lake has  |
| A place where good used furniture can be dropped off or taken from.  |
| Fix it clinics   |
| no   |
| Adequate   |
| classes on repurposing old materials. A location for furniture drop off like the one at the Red Deer Waste Management Facility.                        |
| Like the idea of an electronic median to give away   |
| More trash to treasure times - not just twice a year.  |
| Currently doim enough  |
| Buy Nothing Groups   |
| Fine as is   |
| Compost program  |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>  |
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| Reconstitute the pick of recycling  |
| n/a   |
| Trash to treasher   |
| Regular community garage sales  |
| Better recycling depo   |
| Bring back blue box recycling   |
| Burning of trash to generate power.   |
| A take it or leave it site in the city and quarterly reuse fairs where people can bring items to a central location.  |
| Reuse centre  |
| Not for me  |
| I want to be able to recycle all kinds of plastics  |
| Recycling program   |
| A Trash to Treasure in the summer, the city brings back the recycling program and/or bring in a composting program  |
| Glass and plastic recycling   |
| Perhaps an area at the dump where people can come and look for items and parts that they need.  |
| Sure  |
| More complete recycling facilities, more trash to treasure events   |
| Trash to treasure depot   |
| Salvage Center like in Okotoks area, saves thousands of tons of garbage from the dumps.   |
| An area set aside for items at the collection depot for ppl to pick. Also, if we do not have home pick up for recyclables, we need an attendant at the collection site to maintain the cleanliness, order and to make sure bins are available for fill.   |
| Recycling   |
| Compost pick up and bins  |
| Swaps of sporting goods & equipment, clothing swaps   |
| Red deer's Dump had (has?) an area to place good used large furniture, bikes etc. for free taking. Exploring how this service is utilized and if it is a service that would be useful apart from a dump transfer station is an idea... year round place to share goods. With that said, I think there a lot of barriers to managing that idea, particularly abuse from people who simply want to dump their large trash without going to a waste transfer site. |
| A fix its cafe. Educate people on how to fix items instead of tossing them.   |
| None  |
| A large flea market or swap once or twice a year  |
| an area for trash to treasure more often as the thrift stores are getting really expensive for donated items, most people would like to just give to someone who needs said items   |
| Door to door recycling returned   |
| Bins offered at local grocery stores where you put your extra fabric bags (stettler does this)  |
|   |
| ReStore   |
| More curve side pick up   |
| Sure  |
| Yes   |
| Actual composting of vegetable/fruit scraps to use on city gardens  |

| <b>Question 7: I would like to see more reuse opportunities in my community such as:</b>               |
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| battery disposal   |
| trash to treasures 2x per year is good   |
| composting for residential re-use  |
| trash to treasures(maybe 3-4 times per year)   |
| more frequent emptying of recycle bins in the central site   |
| recycling, especially glass  |
| bring back the recycle bins  |
| I would like the recycle started gain - home - home  |
| An event where people can come and have their broken items fixed                                       |
| Q- take it or leave it place, year round spot to leave paint and aresol containers                     |
| N/a  |
| Emptying of bins at WCRD more often. Currently Mon-Wed-Fri. You need more bins, is overflowing by Sun. |
| N/a  |
| A controlled area where reuse items could be taken such as what was Landfill site                      |
| Glass jar (pickle jar) recycling at the wolf creek station put back                                    |
| Backyard recycling for compost   |
| An annual large "flea market" event  |
| Methods to reduce the use of plastics and to reuse them  |
| going back to weekly pick-up so convenient   |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>  |
| communal compost bins for those who don't have them, with benefit of small community garden plots attached (would be willing to oversee a plot in my neighbourhood)                                   |
| Without examples of what is meant by this statement it is impossible to tell council what we need more of.  |
| green bin pick up program   |
| Examples would be helpful. Can't think of anything that is not already addressed by the city. i.e., recycling depot   |
| Green bin collection. Perhaps households could empty all of their compost into the already existing green bins.   |
| A community composting program like Calgary would be great.   |
| I'm not particularly aware of issues . . . I recycle all kitchen materials in my garden.  |
| More awareness/ use of backyard composters  |
| No, I think the big bins are good enough  |
| No, I wouldn't  |
| not necessary   |
| Household green bins/organic waste (not just yard waste. City sponsored composting  |
| N/a   |
| Green bins for every house, picked up weekly just as the garbage bins are   |
| More Green Bins in back alleys instead just at end of streets   |
| Like what   |
| Collection of kitchen organics  |
| Do not remove current bins.   |
| More compost bins, personal green bins and collection   |
| Composting so I can use it to put back in my garden   |
| Compost bin   |
| I would like to see financial compensation for those households, who can prove that they are already composting organics.   |
| Compost collection bins for household food waste  |
| More green bins in the Woodland/Garden Road back alley...   |
| Neighbourhood compost processing sites  |
| Communal composting   |
| No opinion  |
| I would love to see composting in our city. Whether it be curb side pick-up or even community bins.   |
| Composting. Why do we not have this?  |
| A large part of the garbage that goes out is kitchen waste. Many cities in Canada have programs to reduce garbage pickup and increase the kitchen waste/compost programs. This needs to be done here! |
| Organic waste pickup and compost bins provided would be great.  |
| Community Green bins for all organics   |
| not needed. Most residents can compost at home  |
| We need new garbage bins as well as more green boxes  |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>   |
| A community collection for kitchen/edible organics. My problem is I don't really have a use for compost and I'm sure there are lots of people in the same boat.  |
| Green bins for kitchen organic wastes  |
| Education on how to use the compost in my back yard properly and to know if it is actually composting into the "black gold" it is supposed to be   |
| Shared community mulching or compost   |
| collecting compostable items.  |
| a workable composting for food waste and items that would go into compost  |
| Not sure what else is available in other communities   |
| Community compost collection, organic food donations to food bank or shelter (e.g. grocery store waste)  |
| Please keep the green bins or offer green bins for organics to households for collection at current costs. Such as other cities offer i.e.; Red Deer, St. Albert   |
| Community-wide compost   |
| bi-monthly compost pick-up.  |
| N/a  |
| Community composting. Could be run during school time as part of the LCHS eco club   |
| I think the green bin option should be available in all areas of the community. Not where there are back lanes.  |
| Nothing to provide   |
| ?  |
| Compost recycling  |
| Green bins in my neighbourhood/ household green bins that are picked up  |
| We don't have an alley, so we do not have a yard waste or green bin available, locally.  |
| More green bins  |
| Collection of kitchen scraps.  |
| Community compost bins near multi-family units with education e.g. Terrace Landing, Hafso four-plexes near airport   |
| N/a  |
| Can we have access to the compostable material once ready to put into garden and flower beds. . Is it possible to have more signage at recycle depot   |
| Not sure   |
| a place to dump organic waste as well as a place to be able to get compost from it instead of having to purchase compost for garden and planters from the store  |
| The City offers composting bins for sale. I feel this is probably underused. I plan on getting one   |
| Green bins for kitchen waste and more yard waste bins  |
| I pay over \$6000 in taxes for a [nothing fancy] 2000 square foot home in Lacombe. I also pay over \$30/month for solid waste on my monthly utilities invoice...which in our case is a dumpster. For the amount our household is paying it would be fantastic to see our dollar stretched further. I would LOVE to see a household compost option through the city. Recycling pickup was handy, but the depot is working fine, and compost would be a welcome service. |
| Personal bins  |
| N/A - cost for these services is more important. Our utility bills are high enough without adding more. I know people want more services but then complain about paying for them. No more services are needed. People are never satisfied.   |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>   |
| Curb side composting   |
| Curbside green bin program that picks up your organic waste, like the one's in basically every Albertan city. Ask Fort Saskatchewan about theirs, they even made commercials. Community gardens are great, maybe there's some way to collaborate with them over Summer months? This leaves a problem for Winter. Winter also causes a problem for people who compost at home as the cold slows down the process immensely or entirely. Composting is such a simple way to reduce waste but it needs support from the City to be effective. |
| No   |
| Neighbourhood composting   |
| N/a  |
| Composting programs, household organic pick up   |
| No   |
| Community Compost sites.   |
| No   |
| Green bins already work well.  |
| Compost bins   |
| proper recycle and compost pick up programs. like red deer   |
| Compost  |
| Community composite sites or bins  |
| compost bins   |
| Compost exchange (food waste in exchange for soil)   |
| Household green bins   |
| Don't know   |
| I don't know what the options are, but I would definitely participate in opportunities to compost.   |
| Sure, would consider participating   |
| I have not been successful with composting at home. But if there was a weekly pick up I would participate. A lot of my trash is food waste-related.  |
| I want a green bin pick up at every residence. Currently there aren't nearly enough green dumpsters in the alleys to be of use.  |
| No   |
| compost collection   |
| I would like to see green bins   |
| No people can take some of the initiative on their own with a compost bin on their property. This has been outlined earlier. We do not need to spoon feed.   |
| N/A  |
| ?  |
| Compost bins at eat house that are picked up weekly  |
| Don't know   |
| Don't know   |
| Bins for compost at each home  |
| No thanks  |
| Na   |
| Community gardens with fruit trees/bushes  |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>   |
| Composting   |
| Personal green bins  |
| No fancy word for take it to dump no and again I stress no level of government can do this with cost in mind it will get out of hand with no results |
| A place to turn in organics to add to a compost pile that can be accessible based on your proof of paying utilities.                                 |
| Community composting bins  |
| Compost bins for household compost   |
| Thermal hydrolysis plant that was supposed to come to town?  |
| Actually, recycling the grass and yard waste as the City claims to do.   |
| get rid of green bins they stink and make people lazy  |
| Not sure what this means   |
| Community gardens through city   |
| Yes. Don't want chemical, dog crap in my compost. By using a public green bin composter how can a person know its organic material?                  |
| Pick up of food waste at my home   |
| Composting pick up   |
| Curb side compost  |
| Composting   |
| More green bins in each alley  |
| Organics bin household pick up   |
| Na   |
| Household Compost program similar to Red Deer  |
| Compost bins   |
| Something!! Anything. Red deer can do it, so can Lacombe.  |
| Mandatory composting   |
| Organic composters with secure lids  |
| Yes! Would love to see a biweekly compost bin pick up similar to red deer  |
| Not sure what that is  |
| Nope   |
| individual household green bins for organic compostable waist.   |
| A small composting bin in your home that you set out weekly. Okotoks once again does this  |
| Compost bin service pick up with recycling program reinstated at our homes   |
| Composting Community gardening   |
| Community compost  |
| Food waste pick up   |
| Access to compost made by the grass and yard waste bins.   |
| Pick up of organics  |
| Curbside compost   |
| More bins  |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>  |
| Unknown   |
| Composting and recycling bins that are picked up and taken to the proper facilities   |
| I believe we have adequate organics diversion opportunities. Those who wish to compost in their backyards already do.   |
| Compost bins for homes that the city can then use to create usable for gardens - city and homes.  |
| Green bins in every alley   |
| Charging commercial users for dumping their waste at the recycle depot. Have a weigh scale to charge by the lb. like other communities do. That would pay for a person to be there and ensure things go where they are supposed to. |
| Household compost bins.   |
| I do not want more organics diversion opportunities, as this will make our bills go higher and the cost of living in Lacombe is already extremely high.   |
| Compost site  |
| Green bin, blue bin, black bin  |
| municipal composting program  |
| Community areas instead of going across town  |
| Centralized organics composting and processing to purchasable soil amendments   |
| non-home compostable organics recycled - meat scraps etc.   |
| Education   |
| Composting bin  |
| Compost pick-up program   |
| Community compost?  |
| Community compost bins  |
| Compost pickup  |
| Community compost programs  |
| Compost bins that are picked up by the City to reduce the amount of garbage and recycling each week   |
| City wide composting - like in Red Deer   |
| Compost for household organics  |
| Transporting of materials to recycling depot can be problematic for those without trucks  |
| Not sure  |
| Bring veggie garden leftovers to residents who have chickens for the chickens to eat  |
| Communal compost (using the green bins for other organics). I don't garden so have no use for compost at home, but would happily contribute to a communal compost.  |
| Compositing   |
| More green bins.  |
| More bins. They seem to fill up fast. Especially with ppl pruning their bushes and trees  |
| organized compost   |
| Bins given to each house to compost and dump in green bins  |
| Green bin program, industrial composters instead of just a stagnant pile.   |
| Compost that is picked up   |
| Compost   |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>   |
| Think the city does well for organic recycling   |
| Community compost area/bins.   |
| Compost pickup. Accepting all food waste as compost  |
| Individual green carts   |
| The LMC should have a place to dispose of kitchen/food waste   |
| Composting   |
| More green bins  |
| No   |
| Look at the option of a hot composting unit. They cost a bit but I'm sure some business would chip in and they can turn all compostable (including bones and things) into useable compost in a day.                |
| Community compost pile   |
| Compost collection similar to Red Deer or Calgary  |
| Diverting waste to operations like cello waste solutions. (check it out)   |
| I suck at composting and would love another option (community solution) for dealing with these scraps  |
| Could have a compost bin, but it's not a priority for me   |
| See a compost site for all kitchen waste   |
| Curbside pickup of organic waste   |
| More licenses for urban chickens which happily eat organic scraps.   |
| More green bins in Henner's Landing.   |
| Green compost bins that are picked like in other cities  |
| Community compost program. Either someone to pick it up, or somewhere to drop it off   |
| Weekly compost pickup  |
| Green bins for compost (fruit/vegs!)!!!!   |
| this should be up to the residents to do its own their own at their own cost not forced upon by the city with additional cost.   |
| I would love the city to offer composting and I would use that compost in my yard—I would even pay for it!   |
| A composting program   |
| A community/neighbourhood compost bin  |
| Food compost bins in each block  |
| I would like to see the green bins dumped in a more timely manner.   |
| I would use this if there was an option rather than my own compost bin   |
| Compost  |
| Compost pickup bins  |
| Green bin option   |
| No   |
| Green bin pickup   |
| Community compost bins   |
| i would like to have a bin for compost that gets picked up every week or every other week.   |
| I would like to compost all my organics, but not personally. I would love to have a place to drop off all household organics in a community bin. We don't need a road side pick-up, but a drop off would be great. |
| Community Compost area   |
| Educate us on what's allowed in the Green (Grass) bins   |

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| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>  |
| Compost bins, then converted to usable by-products  |
| Curb side pick-up of compost bins. Too much material for home composting. Even bi weekly pick up alternated with garbage and or recycling would be amazing. |
| Green bins for curbside pickup  |
| Green compost bins  |
| The compost pile by the dog park reeks! Can it be moved elsewhere, and can we take from it in a couple years please.  |
| Curbside composting bins, education programs about mulching lawns instead of bagging and throwing   |
| green bins rollout  |
| Organics bins work well if residents use them properly  |
| Green bins  |
| Compost bins for all households ?   |
| Ability to dispose of household organics such as designated compost other than home   |
| Organics house to house pick up   |
| Household green bins/hot composting.  |
| Organic waste disposal at the Recycle Depot and/or use the large green bin  |
| Want opportunity for residents to pick up compost   |
| Industrial composting that's capable of decomposing all kinds of food (including meat), paper, etc.   |
| No  |
| Compost bins!   |
| Compost program available to all residents regardless of property status(apartments, townhouse, etc.)   |
| Yard waste composting   |
| I would love to have a food waste composting service in the city!   |
| not sure  |
| Grass recycling site  |
| Compost program like Red Deer or Innisfail  |
| Reuse grocery store extra produce etc.  |
| Compost collection  |
| Green household bins for those who can't compost  |
| Organics bins for apartments/condos   |
| Yes   |
| community composting  |
| A green bin program   |
| Compost   |
| Encourage residents to compost at home.   |
| Green bin for kitchen composting  |
| Compost pick up   |
| No  |
| Composting bins   |

|   |
|---|
| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b>                                    |
| I would separate my organics if there were city programs for collection/disposal  |
| Compost bins  |
| Compost bin pick up   |
| More green bins, free compost solutions   |
| Community composting for those of us who don't have a way to use compost.   |
| Managed community compost location  |
| Organic collection - maybe used for compost for the city.   |
| I'm happy with the green bins and composting at home  |
| Would not like to see more  |
| Whatever Steve Schultz is doing at the High School!!  |
| Wood recycling  |
| ?   |
| Collection of composting - I would prefer not to collect it in my yard as I'm concerned about wasps & varmints                            |
| A city compost program would be great   |
| Compost bins  |
| Curb side recycling   |
| Composting  |
| Would like to see residential green bins for not just yard waste but also kitchen waste i.e. veg peelings, eggshells, coffee grounds etc. |
| An organics bin like the garden waste   |
| Compost bins  |
| The same as red deer with a green box.  |
| green cart  |
| Compost bins  |
| Green bins would be a game changer  |
| Compost lessons   |
| more composting   |
| no answer provided  |
| people are too lazy to use the green bins properly. You see plastic bags and branches of trees in there "Education"                       |
| need to empty community bins more often   |
| no answer provided  |
| composting and increased recycling  |
| more education. Resources on how to compost organics at home  |
| no answer provided  |

| <b>Question 10: I would like to see more organics diversion opportunities in my community such as:</b> |
|--|
| no answer provided   |
| organics pick up   |
| no answer provided   |
| no answer provided   |
| no answer provided   |
| build a large compost company-makes great fertilizer   |
| organics/yard waste home pick up   |
| no answer provided   |
| no   |
| composting program similar to Red Deer   |
| no answer provided   |
| I would like to see household composters for food craps, paper products                                |
| composters for households  |
| no answer provided   |
| Nope   |
| no answer provided   |
| no answer provided   |
| no answer provided   |
| Start a community program incentive like Red Deer + increase   |
| Continue to keep area at work creek site for organic material to be disposed of                        |
| Black compost bins offered (no fee) to residents   |
| A separate compost bin picked up every 2 weeks in summer (month oct- apr)                              |
| Education on how to use composted materials. Easy access to compost from the city compost.             |
| Organics drop off in the back alley  |

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| <b>Question 13: I would like to see more toxic waste disposal opportunities in my community such as:</b>   |
| a more local toxic waste deposit station to encourage people to not dump toxics into their bins  |
| Having an area at the recycling place to dispose of these items would make it more convenient to do so. Basically, people are lazy and if it's not convenient they will just throw these items into household waste. |
| a place to take paint etc. on a regular basis here in Lacombe  |
| Again, examples would be helpful to inspire ideas.   |
| I think a biannual event would be appreciated. Most people probably don't want to hang onto their toxic trash that long.   |
| No   |
| Yes, clearly. I would like to see a better way to deal with problematic waste (fluorescent bulbs, batteries, solvents etc.).   |
| At time when I can get to it.  |
| not necessary  |
| Toxic waste station in town  |
| recycling at point of sale (i.e.: return car battery when buying a new one)  |
| Maybe twice a year but good either way   |
| More frequently available in the city  |
| Okay as present opportunities  |
| More than yearly   |
| Empty gas cylinders of mapp, propane, O2.  |
| Easy access to central Disposal site   |
| There are sufficient locations for me to dispose of my toxic waste.  |
| More days than just two Saturdays a year.  |
| Toxic waste shack at recycling yard  |
| no opinion   |
| I would like to see a place for used motor oil and coolant recycling   |
| More collection times  |
| 2 toxic waste cleanup events/yr (one spring, one fall).  |
| Have one more collection day hosted by the city. Once a year is not enough, especially if you happen to miss the only day it's hosted.   |
| Would be nice if the city had this service throughout the year   |
| None come to mind  |
| just more advertising when the opportunity is coming up  |
| Chemicals paints oil   |
| This seems to be fine.   |
| We have a good program for toxic waste.  |
| Not sure   |
| Unsure   |
| N/a  |
| More recycling points within the community.  |
| More disposal sites around town.   |

| <b>Question 13: I would like to see more toxic waste disposal opportunities in my community such as:</b>  |
|---|
| Having the toxic waste roundup twice a year.  |
| Don't think we need more than currently available.  |
| More Used oil, batteries, paints, etc. drop off locations   |
| Not just once in a while.   |
| Once a year issue a long time to hold onto toxic waste.   |
| N/a   |
| Better/ more often advertising of where we can drop off items like batteries, paint cans. There is the bottle depot that does paint cans but most people not aware  |
| If this could be offered at least twice a year it would be great. Toxic roundups.   |
| Bins in the city yard not prentiss  |
| The Prentiss Transfer station is very convenient. We do not need anything else.   |
| Happy with current options  |
| Drop off area   |
| Paints, empty gas cylinders   |
| New recycling facility focused on certain items.  |
| N/a   |
| In city location for disposal.  |
| No  |
| Drop off site at recycling station  |
| At the city yard  |
| We already have a good system.  |
| More frequent, curbside and scheduled pick up   |
| drop off spot all the time like a city building or even every other week somewhere for 4 hr open 1-5  |
| n/a   |
| Pick up during spring and fall clean up   |
| More frequency and Saturday and Sunday drop off times   |
| Unsure  |
| Have a toxic round up more than once per year and go crazy on the advertising of it in advance. Have a place in Lacombe to drop off electronics.  |
| Yes   |
| I think Prentiss is plenty close and they have good hours. We don't need to recreate another facility when one already exists. Perhaps more education or information about the Prentiss Transfer station. |
| .   |
| Drugs, smaller batteries, glass other than bottles,   |
| YES!!! 4 hours once a year is not enough access. Why only 4 hours? At least offer it for a full day a couple times a year! People work weekends too. Maybe offer evening hours for an event.              |
| Where are they  |
| Offered 3 times a year. Do not put this at WCRD. We know how that place gets abused and misused. And becomes an eyesore. It needs to be like we currently have ... monitored.                             |
| N/A   |

| <b>Question 13: I would like to see more toxic waste disposal opportunities in my community such as:</b>                       |
|--|
| No thanks  |
| No   |
| 3 times a year and advertised better. Seem to always miss it but have used in past.  |
| At the recycling depot   |
| none   |
| Collection of toxic waste more than 2 x a year as lineup is too long   |
| I think the 2 times a year you do this is good!  |
| Accepting toxic waste year round   |
| What would "more opportunities" look like?   |
| More information on/of disposal sites  |
| More often   |
| .  |
| Another toxic pickup , instead of 1 time a year make it twice a year   |
| NA   |
| I am not familiar with options or practices.   |
| Once a month   |
| I'm not sure what constitutes toxic waste, or where one is located anywhere else   |
| Quarterly roundup  |
| Perhaps a drop off at the wolf creek drive recycling area.   |
| I'm good with prentiss   |
| A place of disposables open year round   |
| Recycle stations   |
| Food Waste disposal  |
| A convenient one stop drop off with the recycling available all year round.  |
| Have the roundup event at least 2 times a year   |
| More than one round up a year with proper advertising with utility bills as to pick up times for the disposal                  |
| Would be nice to have Toxic Waste Roundup 2x/year so that if I miss one, I don't have 2 years of stuff stockpiled in my house. |
| Make it a more frequent waste roundup  |
| Battery and paint bin at the recycling centre in town. I don't have time to drive further.                                     |
| I do not wish to see more of these opportunities, as they will make our utility bills increase.                                |
| Possibly a pick-up service by request for those that don't have vehicle to take items to Prentiss                              |
| year-round Eco Stations  |
| Dedicated spaces   |
| More dates for City toxic waste round up   |
| Attended drop offs at the recycle depot.   |
| Not sure   |
| Toxic waste drop off in town   |
| Not sure   |
| more toxic round up days   |

| <b>Question 13: I would like to see more toxic waste disposal opportunities in my community such as:</b> |
|--|
| More frequent drop off days  |
| Battery, oil, paint, etc.  |
| Nonprofit organization fundraisers   |
| Resident pick up with trash to treasure  |
| once a year isn't often enough   |
| better advertising   |
| Yes, maybe year round drop off at recycling drop off   |
| Toxic waste round-up is great, maybe more community awareness for it.                                    |
| An in town disposal site   |
| None   |
| An eco-station for year round hazardous waste collection   |
| Convenient Battery Disposal Location   |
| Location to drop off in town at any time   |
| Yes  |
| more regular toxic round ups. 1 or 2 during the year is not very convenient                              |
| No   |
| I think that's fine the way it is  |
| Curbside pick-up would be nice, but that's a luxury item I feel  |
| A convenient drop off spot for materials year-round.   |
| It would be great to have a spring Toxic Round Up, in addition to the fall one.                          |
| I don't think it's necessary.  |
| No suggestions at this time.   |
| Collection and recycle depot   |
| What is in place is more than enough to handle the city's needs.   |
| a location in the city limits  |
| More round ups or drop off location  |
| I would like to see a place to dispose of aerosol cans within the city.                                  |
| No, there are enough opportunities   |
| Waste round up 2-4 times a year  |
| Yes  |
| More convenient drop off locations   |
| More convenient station in town, maybe by recycling depot. Going to prentiss is not easy for me.         |
| Centralized community bins in town.  |
| Toxic waste needs to be easier to dispose of, in town.   |
| 2x/year  |
| A manned drop off station for toxic waste and re-useable goods.  |
| Adequate   |
| Having city come pick up toxic waste more often, bulky items   |
| Collection points for things like batteries in local stores, instead of driving to Red Deer              |
| More information of where  |

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| <b>Question 13: I would like to see more toxic waste disposal opportunities in my community such as:</b>                             |
| More toxic waste roundups  |
| A place in the City to bring these rather than going out to the landfill   |
| It would be nice if more things were taken at any time of year, not just the tiny amount of electronics throughout the year.         |
| More often than annually   |
| not sure   |
| More collection sites or pickup services   |
| Convenient Battery collection site   |
| Yes  |
| A site in the city that would take these items.  |
| A place to bring them anytime  |
| Encourage/educate residents to dispose of them properly on their own.  |
| Places that accept used gasoline from lawn mowers  |
| No   |
| An eco-recycling station   |
| more advertising about or additional round up events   |
| With all electronics that use batteries and more talk of electric cars we are in for hard times ahead. This must be planned out now. |
| Maybe advertise more that we have community-wide toxic waste Roundup because I didn't even know we had one till I did this survey    |
| A central location for drop offs? I paint and electronics Exchange?  |
| Sure   |
| Perhaps a toxic waste pickup at the same time as trash to treasure pickup.   |
| Twice a year would be nice.  |
| More frequently  |
| Electronic disposal  |
| Same   |
| Curbside pickup  |
| All of the above on a regular basis so I wouldn't have to drive out to Prentiss  |
| Electronics, batteries   |
| A local spot to dispose of light bulbs and household batteries! I don't want to drive to Red Deer                                    |
| None, its good   |
| Curb side  |
| Yes  |
| At house round up and schools  |
| More times in the year to dispose of toxic waste   |
| a unit in the city   |
| more education about what toxic waste is and how to properly dispose of it   |
| options are general good, although Prentiss can be hard to get to depending on the vehicle situation                                 |
| no answer provided   |

| <b>Question 13: I would like to see more toxic waste disposal opportunities in my community such as:</b>                            |
|---|
| why can't we do toxic roundup more than 1 time per year   |
| more frequent toxic round-up  |
| have an area to drop & grab, sometimes people can use items no good to others, you cannot take any items away from transfer station |
| no answer provided  |
| more frequent than annual pick up   |
| more advertising of the toxic waste roundup   |
| Yes, this would maybe stop people from throwing it in the bins  |
| no answer provided  |
| More convent drop off location where toxic waste could be disposed of   |
| Yes   |
| 2-3 Times per year  |
| Could be done twice a year instead of the fall  |
| More advertising of this  |
| More times per year   |
| Yes, even longer hours  |
| A drop off at city works building instead of once a year drop off   |
| More time throughout the year   |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| more clear organization of the bins, and a place for glass recycling (they go in the garbage otherwise! - can't see this as being good, but perhaps the landfill doesn't mind?)   |
| Separate, clearly marked bins for glass, metal, etc. would help. the bylaws officer could also make stops there to ensure people are using the correct bins. Tickets don't need to be handed out just information on how to correctly dispose of these items. I would sooner see bylaws doing that then walking the Cranna path handing out tickets to owners of unregistered dogs...what a waste of time and money.  |
| More bins, and bin with separator like before to separate plastic, tin, paper, glass etc.   |
| Yes, the bins need to be marked more clearly cardboard plastics metal and people educated so they put everything in the proper bin not just dump it all into one bin then in that case it might as well just go to the dump instead of being recycled   |
| Bins emptied more often so they are not always full. Bins clearly marked so the correct recyclables are in the correct bins. More recyclable objects (e.g. more than just #1 and #2 plastics in the plastic recycling). Consultation with communities whose recycling programs work well and result in a higher percentage of recyclables actually being recycled. The province of BC has an almost 90% rate for their recycled items actually being recycled, cities in Alberta (Lacombe definitely being one of them) need to consult with cities and townships in BC to find out how and what they are doing to experience such success with their recycling programs.                       |
| More collection bins and a supervisor on site even though it would cost more. With the elimination of the blue box program, that money could be spent making the recycling drop off more efficient. Sometimes it is a disgraceful mess due to lazy people and not enough bins clearly marked. In my opinion this is the most poorly site operated in Lacombe  |
| A switch to multi stream recycling and improved signage. One garbage bin is not enough.   |
| Often when there, the bins are over flowing, recyclables are in bags and aren't sorted properly. I seriously wonder how much actually gets recycled.  |
| A city employee present to ensure things are being disposed of correctly therefore, it should be fenced and gated. I know it would be difficult but charge people who dump outside the fence/gate or anywhere else that is not a designated dumping site.   |
| No Comment  |
| More bins or pick up from there more often. Sometimes the bins are full when I get there.   |
| It takes a bit of personal effort . . . but yes, I do use this recycling centre for cardboard, tin cans etc.  |
| It needs to be emptied more often, and labelled better as to what you can and can't recycle there   |
| Continued education as to what goes where e.g. plastic bags of paper? Paper bin means paper only. Cardboard - is that lightweight cardboard e.g. cereal boxes as well as heavier cardboard? The blue box pamphlet that was sent to us was excellent. Do we use that as a guide for the depot? Clearly marked bins - which ones are for paper only, which for cardboard, which for plastics. It appears that either people aren't reading clearly or they aren't clearly designated. Perhaps if they were always in the same spot? I've only been there a few times so perhaps my suggestions aren't fair but I have been confused as to what to put where even though I do read the billboards. |
| Mostly OK for me except when bins are full ! I worry though about seniors, those without a vehicle, or others who can't easily use the depot.   |
| I do not know for I have not been to it. But I heard that it is over flowing and no place to put stuff.   |
| more bins and staffed   |
| Emptying bins more frequently   |
| Plastic, tin and glass recycling  |
| User friendly guides for each bin   |
| Increased pickup. Provide more public education.  |
| Better signage, it's a mess there and people are dumping things in the wrong bins. People say they are confused where to put things.  |
| More efficiency.  |
| A location to dispose of electronics/batteries/used oils and filters, paints, antifreeze etc. A lot of people will not take anything to the Prentiss disposal site. (most do not even know where it is located) If there at the Wolf Creek depot they would know they can drop these items off at same time. (convenience) A lot of people may not wait till the annual toxic round up day- and even more do not use that day to dispose of these items (and just throw it in their regular weekly disposal bin).   |
| containers emptied more frequently and better labelling for contents  |
| Better labelling on the Green Bins. The ones for cardboards are clearly mark but the others not so. Not sure what the schedule is for emptying the bins but it should be emptied when full. The cancellation of the blue box seems to have increased the use which is great.  |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>   |
|--|
| More bins  |
| Way more bins or emptied daily or at least three times a week  |
| Don't use it anymore as it is pain to now have to find room and store in your garage and then load up your vehicle every week and take it to this location. It is easier to dump in the brown back alley bins.   |
| This may sound crazy, but i think we should build an incinerator that will burn all of our garbage, filter out the toxins, and generate electricity to use/sell. Singapore does it and it seems to work amazingly!   |
| Separate bins for paper products vs being lumped altogether with general recycling. A more organized separation...i.e., paper, glass, plastic. I think it would be more likely to be recycled if it were not all thrown together.  |
| More signs on what can be recycled and which bins to use. More gravel to avoid mud after rain.   |
| Recycle pickup in residential as was previous.   |
| Ability to recycle glass   |
| More bins, glass bin, metal bin for small items. Possibly gated hours of operation to stop illegal dumping of tree removal companies that charge for removal   |
| I would like to have more bins that would take more recycling products and somebody employed to make sure the recycled products are put in the right bins  |
| More separation  |
| Better labels on bins. More city staff present for cleaning and monitoring. Lots of people throwing things in wrong bins or leaving outside of bins.   |
| Supervision of the recycling site and the bins require more frequent emptying.   |
| Recycling for all Items that are recyclable not just select ones. Better labels on the bins would be helpful as they are often containing mixed items due to poor labelling  |
| not sure   |
| More clear direction between general recycling and paper/cardboard. At the moment it's one big mix. Some minor source separation should be fine for residence that use the site.   |
| Accept more money plastic as well a glass  |
| I would like to see the bins emptied more often. Frustrating to find them jammed full. They could be marked better   |
| I would rather have curb side recycling as the recycle depot is always overflowing with people's garbage   |
| Glass recycling, more frequent emptying of cardboard bins.   |
| it would be helpful for us to know where it goes? who is recycling it? where does it get dumped? is it being shipped overseas?   |
| The materials are all dumped together, and are often full or overflowing.  |
| The bins get full quickly so need more bins or they need to be emptied more often.   |
| Accepting glass. Emptying more often.  |
| Better education and signage for the users. A blog post shared via social media with the info on what is acceptable from the actual recycling company in those mass bins that contains info on cost, when/why a load gets converted from recyclable to trash and why increased improper use is actually costing residents more. Maybe occasional have a staff educator at the site to educate people. The paper and mixed bins are unclear as to what goes where (are the separate or together? And should they be?) And lots of people put in things that aren't listed as acceptable. Including bagged up recycling. |
| More frequent pick up  |
| Better organized. Separate bins for different recyclables. Bins that are not stuffed to overflowing. Signs that explain where to put things. Assurance that what we are taking there is actually being recycled (do not want to waste time and effort).  |
| Glass collection. And better signage as to whether or not you are to sort paper from plastic from tin.   |
| I think it needs to be emptied more often as I have gone to use the bins and they are completely full  |
| More bins and more frequent emptying of bins. The site is always full and messy.   |
| It is disappointing to see the mix of recycling when I think it is supposed to be separated. I wonder if it is then just being shipped off to the landfill because it is a mix of paper, plastics and tin and possibly other garbage being thrown in as well.  |
| Raised steps for easier access for children to help participate in recycling   |
| I would like to see the recyclable item placed in the proper bins. It would be great if residents would place recycled items in their proper places. It is often very messy and I am not sure what to do with mine.  |
| I don't know how it could be done but some residents are not sorting their garbage and am told that it ends up in the land fill since there is no sorting done at this depot   |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| Accept other plastics besides 1&2   |
| More frequent emptying of the bins. Better organization/sorting of recyclables into bins like it was, e.g. bin for aluminum. Bin for glass, bin for paper, bin for plastics   |
| Better signage for proper separation of recycle products, more bins: we are a city of 13,000+ and a good amount of county residents also use our facility, 4 bins does not cut it.  |
| Would like to know what happens to the items we recycle   |
| Putting a free still useable section in that charities and thrift stores can go through once a week (specified day)   |
| More monitoring at depot, since blue box ended much more scattered debris around  |
| Residential pick up   |
| Glass and styrofoam options   |
| More bins needed as they are often full. There should also be more containers for recyclables as we no longer have home pick up.  |
| expand the type of item that can be recycled; for example, they do not take glass and the bottle depot only takes glass that contain drinking items.  |
| Better maintenance and cleanliness of the area. Where does the recyclables go after they are hauled away?   |
| BRING BACK THE RECYCLING BINS! I have stopped recycling since they were taken away  |
| Bins emptied more often. Bins for glass/cans etc.   |
| More recycling being accepted (glass, wood, etc.). Employee on site to ensure ppl use it correctly. More frequent dumping, it's normally overflowing.   |
| Pick up more often  |
| There needs to be clear instructions and separate bins for plastics, mixed paper and cardboard. Also there needs to be collection of tin cans and household metals.   |
| What happened to most plastic recycling?  |
| a user-pay system for garbage and rebate for recycling as modeled after systems in Europe and Asia  |
| Being able to accept newspaper, cans (such as soup cans), plastic and other materials   |
| We need it monitored as there is way too much contamination . More bins specific. A fence around the whole facility to avoid wind blowing items away. Manned with volunteers  |
| Not sure  |
| Emptying it more often. I went regularly then it seemed to catch on so there was no room left in the bins. It is very discouraging after taking time to separate out items. I also find the cardboard container labeled well, but the others are not clear what they should be. So better labels on dumpsters holding plastic, or cans or glass.  |
| Recycling glass   |
| Increased education. Perhaps a person to help   |
| an option for glass recycling would be awesome!   |
| From time to time have a city employee on site to instruct items for recycling  |
| It's very dirty and it smells. It could be cleaner.   |
| Bring back curbside recycling. The depot is not convenient to people who don't drive! And the depot is a mess and overflowing. Items are in the wrong bins. I shouldn't have to drive my recyclables to a place when I live in a CITY   |
| I don't even know where to begin... maybe with some of the obvious issues: -it's already ridiculous to ask citizens to drive their recycling across town if they want to reduce their impact -it's equally ridiculous, but more disrespectful, to ask this of us (cancel curbside recycling) after we've paid taxes on it. -it's always over-flowing -the recycling is unsupervised so it's almost entirely contaminated: plastics with paper, metal with cardboard, etc. -the recycling remains unsupported -it demonstrates ZERO support from the City towards empowering their citizens to recycle. It feels like a slap in the face. My wife and I are passionate environmentalists and are at the point where we may drive our recycling to Red Deer instead of the Wolf Creek Recycle Depot. I would like to either see it manned at all times by qualified City personnel who can maintain recycling standards, or hire a company that will. This program does not work. It's supposed to be a backup, in case your personal bin is full. You took away our bins and kept our money then told everybody to use a system that was already in place for something else. I've lived here my whole life and never saw my town do something as shameful as eliminating the curbside recycling program with this kind of lazy follow up. |
| Emptied more often and more than just cardboard   |
| Nothing. This is not a convenient way to recycle and I do not use it. It's a giant mess and I never go there.   |
| Clearer signage More bins   |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>   |
|--|
| Always full when I go  |
| More bins with less ability to allow to people throwing household garbage in them. Slots for broken down cardboard and paper. Maybe some garbage bins.   |
| I dislike using the depot and would much rather prefer curb side pick up   |
| New building. The current one is disgusting and I would guess out of building code   |
| More bins as they are almost always full Signage on bins should match other signage Why can't we recycle cardboard and newspaper?  |
| Greater education and supervision of use.  |
| No   |
| Maned operation to promote proper usage.   |
| Curbside recycling. One bin for everything.  |
| Asking people to take recycling to a depot is not as effective as the blue bin but the blue bin comes with costs.  |
| Bigger bins, other materials accepted  |
| more accessibility   |
| More regular maintenance and glass recycling opportunities   |
| More bins and quicker cleanouts of those bins  |
| Curbside recycle is the only option I agree with. The wolf creek recycle depot is pathetic and inadequate  |
| Less separation of items would make it easier for people who like to recycle   |
| Businesses esp. out of towners need to be paying. i.e. tree services for red deer etc. shouldn't be getting a free dump. Come on wake up and smell the coffee  |
| Better signage, not sure how to make people pay attention and use properly. collector more often   |
| Taking more products   |
| Big trucks trying to fill water at same time as bin drop off and pick up, and no room for the personal vehicles to get in good   |
| Sorted bins  |
| Bins emptied more often. They are always jam packed full. Possibly some education and information regarding what types of materials are acceptable.  |
| People actually placing the right recyclables in the correct bins  |
| Emptied more frequently. Often bins are too full. Also glass recycling.  |
| Include some items that presently go to prentiss   |
| I prefer my recycling picked up at my home   |
| Just to make sure the bins always have room in them. Have a glass recycling option if possible.  |
| Create jobs for recycling to be picked up and sorted   |
| Often overfull. To be honest, I don't use it as much as I did before we had the blue bins. I used the blue bins weekly but I don't use depot as much as I should.  |
| All good   |
| More bins. Emptied more often. You are expecting the whole town to use these now, you have to keep up and keep them emptied.   |
| More frequent pickups. The bins are always overflowing.  |
| Nothing  |
| Glass - seems such a shame to throw it out.  |
| It works fine when not misused and is a mess. Bins need to be available and not full all the time. It needs to have security cameras to curb the dumping and misuse and a hefty fine given out to those that do that and increases with each offence. It is illegal dumping. It is just about easier and less stressful to go to Prentiss that observe the chaos and mess at WCRD. And trying to cram things into bins that are beyond capacity leads to frustration and then it is just dumped. I doubt that this review will change anything... the last one did not either. |
| N/A  |
| Clearer instructions   |
| More bins. But more preferably bring back the recycling program. The dumpsters are always filled with cardboard and recycling since the blue bin pickup was discontinued   |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| The bins Re always full so I guess it would be nice to see them emptied far more often than they are now.   |
| Add a steel bin Most scrap deal companies will put a been there for free this will help to keep heavy metals out of the dumpsters   |
| Na  |
| Please decide how you want it organized. It seems lately it is very unclear whether one needs to separate or have mixed.  |
| Better labeled bins. More categories of material in separate containers   |
| 5 or 6 city truck removing grass and tree limbs, from commercial tree and grass curing services, Another cost on city, as tax payer I never agreed to get into this business  |
| Are these items really being recycled or part of the illusion we've seen so far? are we paying extra to have these items ending up at the dump?   |
| Emptied and cleanness maintained since we no longer have blue bin recycle. I would also appreciate if it accepted more recyclable items.  |
| More bins   |
| Pick up at my home but not with those ridiculous blue box - get with the times & have upright roll out bins   |
| Bins are too full and need to be emptied more often. Also, it's not monitored and other people either make a mess or don't put their recyclables in the proper bins.  |
| More bins, more space, more education for the public and how/what to recycle  |
| More bins!! When we go to take our stuff there they are always full   |
| Glass recycling   |
| There is not enough items that can be recycled so much plastic ends up in the landfill we need a more comprehensive recycling program. Only accepting a minimal amount of plastics isn't enough                             |
| Better signage Less brush, it is a fire hazard More site security and staff manning the site  |
| The recycle depot is a mess and nobody uses it properly! Bins are always full!  |
| Don't use not worth the cost for me to drive there  |
| Please don't take anything away. Would be nice to have a place for compostable items  |
| I haven't found a day when the bins are not nearly full and you don't have to cram stuff in. The openings are too high. The site is often littered... visiting the recycle station is not a very pleasant experience.       |
| Bins are quite often full   |
| More bins   |
| Serves the community better, more organized, cleaner, more user friendly. Emptied more. Its discussing. Don't recycle as much as before due to the condition of site  |
| Recycling pickup at my home   |
| Glass recycled  |
| More variety of bins, emptied more frequent.  |
| .   |
| More options for recycling  |
| Bins dumped more often. Maybe need someone there to monitor what people are doing with their recycling & garden waste, branches, etc.   |
| Return to household pick  |
| Go back to home recycling   |
| Bins are always full and garbage on the ground.   |
| Cleaner and more organized  |
| Them emptying more. On occasion they were full and locked up. We go weekly. More buns or better organization would be best. People throw just everything in there.  |
| Better division of recyclables. It has been a long time that plastics paper and such are in the same bins. Does this make sense? Or maybe it is all being taken to the dump anyways and not to a recycler.                  |
| More pickups, cardboard is always full when I go. Glass recycling   |
| More frequent pickups S the bins are often full. More clean up in the area as there seems to be so much garbage around. Love that you can access it at all hours. What about glass recycling though?!? It was taken away!!! |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>   |
|--|
| It's messy. People dump trash anywhere with no regard to sorting and signage. I have no suggestions on how to improve it, but it is incredibly frustrating   |
| Perhaps indoors, staffed like a bottle depot?  |
| Having these items picked up right from my house   |
| It smells like a garbage dump. I don't wish to contribute to the problem. I use it for the items that are clear to me, the rest now goes in the trash at home. With blue boxes, I didn't have to guess. We pay a lot in taxes already. And for what?   |
| More bins! Always too full   |
| Empty's more often   |
| More bins, more clear labels, more pickups, and the ability to recycle more  |
| Bigger or empty it more often.   |
| A little more supervision at the depot.  |
| Better site maintenance, properly labeled bins.  |
| If we are continuing to use this area it needs to be dumped more often. Also, better signage and education on what can be placed there. We need to be able to recycle more than #1 & 2. Glass is a big one that needs to be addressed  |
| It's a pain. I prefer to pay for convenience.  |
| I feel they are doing a great job. Most times bins are rotated in timely fashion   |
| More pickup times as it is always full. Reinstate the recycling program and that should fix the problem  |
| More empty containers as it is full all the time   |
| Full every time we go  |
| Fine for people illegally dumping  |
| More items being able to be recycled   |
| More separating  |
| Better education or temporary monitoring of grounds as people are still putting bagged items in the bin.   |
| Cardboard bin emptied more often. It is always overflowing and people make a mess just trying to get stuff in it   |
| Bigger bins and more things that can be recycled   |
| Bring back the recycling program. I'll pay more  |
| Bins are always full - more bins or more frequent bin change would be appreciated  |
| The bins are emptied more often  |
| More bins. The items picked up weekly so that there is none on the grounds.  |
| Emptied more often Glass Recycling Residents are terrible at using it properly   |
| Since I'm diligent at separating my cardboard from my other recyclables before I get to Wolf Creek Depot, and since I adhere to the new rules on what is accepted and what isn't, Wolf Creek Depot works for me. But every time I go I see that many (most?) people are not so diligent. How to fix it? Four suggestions: 1. Readable signs at eye level saying what is permitted and what isn't, and what goes where. Signs 15 feet up are useless. 2. Deal with the issue of fixed signage that contradicts stickers on the bins. People do not have patience to deal with contradictory information, nor do they like it when the rules appear to change every time they show up. 3. Tell us (not just on signs at Wolf Creek, but all possible media, and repeatedly!) how much City of Lacombe is saving by moving to recycling at Wolf Creek Depot only versus curbside recycling. People don't like higher taxes - show them how you're keeping them low! 4. Tell us how much extra City of Lacombe pays the contractor when people dump unacceptable / improperly sorted items in the bins. If it's not zero, maybe people will understand there's an incentive to get it right? If it is zero, stop asking people to waste our personal time to separate stuff out. |
| Better labelling.  |
| Proper signage, clean it up and stop having it open at all hours for people to dump what they shouldn't. Big brush shouldn't be dumped at the recycle depot nor landscape contractors, etc. should be allowed to dump for free   |
| Clearer signage on the bins. It's confusing every time I go  |
| If we are not going back to weekly household pickup you need to add more depots  |
| I'd like to see it gone and replaced by a waste to energy facility. People here don't give a rat's ass about what they drop off to be recycled, and it all gets contaminated and buried. Our tax dollars are being spend on disposing of commercial waste that should be going to Prentiss, or at least the companies paying a fee to dump there.  |
| Signage is not clear as to what goes where.  |
| The cardboard bin is always full.  |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| Compost site  |
| Scrap it have three bin program at residence  |
| It needs to have regular pickups to empty the bins out, this needs to be monitored multiple times a day.  |
| - more frequent pickups - different style of bins that are easier to use/better labels - HHW drop off area - manned facility, to assist customers and monitor for cleanliness   |
| More streamlined  |
| Add another depot by zigzag or by woodland  |
| Attendant, free store, and extensive recycling depot for white goods, batteries, paint, tires, all of it etc.   |
| There needs to be more bins. Got rid of curb side pickup and have less bins at recycle depot. Not right   |
| more frequent pick up. It's often full and not sorted as per the instructions   |
| The bins have so many non-recyclable items it's frustrating to see. So better signage. I find it confusing what can and cannot be recycled. Cardboard bins are hard to use as they are often full with tiny slots. As a home based business, we sometimes have bulk cardboard recycling and we take it to the dump because there is nowhere to recycle in bulk. |
| Want household pick up  |
| It's a mess and often overflowing, which means people will stop using it. Empty it more and keep it tidier.   |
| Proper bins for all types of recycling, i.e. metal and glass  |
| I would like the return of recycle pickup, but at very least, more bins at the depot  |
| More bins put in place. More times than not, the bins are over flowing and people aren't using them properly so their recycling is laying all over the ground.  |
| Accept more items. It is very limited.  |
| Emptied more often, will be more work in winter   |
| Much larger   |
| Accept plastics and glass   |
| Be able to recycle ANY plastics, i.e. 1-7   |
| More bins or more regular pick up. Every time I've gone to drop things off, the bins are full. I now just throw my recyclables in the garbage because I can't be bothered wasting my time with the Wolf Creek Recycling Depot.  |
| Restricting use to only town residents  |
| Bins cleared more often they are always full  |
| More bins as frequently are full  |
| more option and containers if we continue this way  |
| Emptied more often - it is such a mess and often full.  |
| as stated earlier some bins at the ball diamonds on the west end of town would be appreciated. see question 5   |
| Bins with larger opening easier to just dump. We separate at home so just a dump and run would be much faster   |
| Its adequate when we have curbside pickup for our recycling but too crowded now.  |
| Make it bigger, accept more and empty more often  |
| Adherence to the rules of what/where you put stuff  |
| More organized  |
| Hazardous waste and paper collection  |
| I would like for it to accept more items - ex. Glass  |
| More frequent emptying of bins. They are always full when I have gone. I would like to see a reuse building for people to use instead of trash to treasure week.  |
| Drop off unsorted items, accept more plastic types, accept plastic  |
| It needs to be Manned! and Cleaner & mote options... why are we dumping everything into one container (i.e. mixed recycling & cardboard are the only bins)  |
| More bins and for it to be maintained by someone.   |
| Bins need to be emptied more often. People dump items on ground if bins are full  |
| Residents held accountable for their dumping  |
| More bins   |
| It's so abused get rid of it  |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| More bins for different types of recyclables  |
| Empty the darn bins more often, daily   |
| Better labels, larger bins, a supervisor if it remains our only recycling option  |
| Obviously better marked bins - it's a disaster but you already know that - people!!   |
| Better sorting  |
| Bring back curbside recycling. More pickups at the depot as it is always full when I go.  |
| Emptied more often  |
| An option for glass recycling. I hate throwing out glass jars   |
| Accepting more types of plastic along with glass  |
| Separate bins for each type of recycling. Need more assurance that this isn't just being dumped at the Solid Waste stations.  |
| It's always full. Maybe more frequent pickups? Clearer signage if what's accepted and what's not.   |
| More bins, ability to recycle glass   |
| I would much rather pick up   |
| I feel that uneducated users are 'spoiling' the bins by adding unauthorized recycling items - and that in the end all the material is ending up in the landfill because it's spoiled  |
| The facility is too small also there are so many restrictions to what is recycled   |
| if household recycling is left as is today, maybe add additional bins at Wolf Creek. We the citizens are not getting our money's worth currently as the blue bin service has been cut but we still pay in...don't seem right. |
| More separation; cleaner and more organized.  |
| glass recycle, toxic waste drop off   |
| Empty bins more often, make another site on the West side of town   |
| It's always full. It's messy. It's inconvenient I don't have a truck to haul stuff  |
| The depot needs larger slots for cardboard, etc. If no curb side recycling, then the depot needs to accept glass, Tin and most plastics   |
| More of them around the city  |
| No changes to what's there... control ( unsure how to do it ) on proper use of the facilities. Some people disregard placement of materials in appropriate location.  |
| Keep the bins maintained and empty  |
| Recycling for more plastics, such as bags and wrap.   |
| Allowance for more recycle products   |
| Proper collection areas and identification as well as more space available  |
| Accept plastics 3-7, empty more frequently, accept glass products   |
| Yes. Clean it up  |
| Accept plastics 3-7 and glass, emptied more frequently  |
| More user friendly. Emptied more often. More monitoring to avoid the mess of people dumping wherever.   |
| more regular pick up and more bins. It has gotten way to full since the removal of curb side service  |
| Just more bins, usually pretty full, not completely full, but getting there.  |
| Needs to be manned - bins are always contaminated with non-recyclable   |
| Glass recycling, organization of various materials, more recyclables taken. Bring back curbside overall!  |
| I believe it needs a big change. Gibsons BC has an amazing site. With people on staff when it is open, making sure things are organized properly. We in Alberta need more accountability with recycling.                      |
| People not throwing everything in one bin. Better signage as to what can be recycled and where  |
| Larger bins   |
| Cleaned up, labeled (Education) & find out cost to staff it   |
| Somehow monitor abuse   |
| More items accepted. Not having to sort all items.  |
| Better labeling on bins.  |
| Commercial landscapers should have to pay to dump trees and grass like they have to in other communities. We need a manned station with a weigh scale.  |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| More bins   |
| There's too much garbage being left in the compostable area. A manned station that directs people, refuses incorrect items and charges for commercial businesses and county residents dropping their greens off would be greatly appreciated. |
| I'm short, hard to get cardboard in the tiny slots  |
| shut it down or control it  |
| Not enough bins for size of city  |
| more bins for a variety of recyclables  |
| Glass recycling   |
| MORE BINS EMTY MORE OFTEN   |
| Monitoring done so it stays clean and everything is in there designated bins  |
| More bins or more frequent pick ups   |
| Too far away from my house, never go to industrial area so it's out of the way to recycle.  |
| Empty the bins more often, so often waste cannot be deposited as the bins are full  |
| Better labelling of bins  |
| The bins seem to be full every time we go and users don't sort the recycling.   |
| An on-site employee to make sure bins are always available and that recycling is sorted properly, e.g. no contamination or non-recyclable items.  |
| Several sites if no blue box  |
| More bins or at least have the bins emptied more often. More opportunity to dispose of all types of plastic, glass etc.   |
| More sorting containers & picked up more  |
| Needs to be to more organized   |
| Being able to recycle glass. Bins being emptied more often.   |
| Do not know   |
| Glass   |
| More space!!  |
| More bins, or more frequently emptied. Items are not put in proper bins and/or overflowing into the parking lot on a continual basis.   |
| Better signs, it's unclear where things go sometimes.   |
| Bins not always stuffed right full  |
| More bins clearly marked  |
| More maintenance, better signage, more supervision so not so much trash ends up in the bins.  |
| Accept larger variety of recyclables  |
| Better signage and explanation of what is acceptable  |
| More bins or more frequent pickup   |
| more bins   |
| Need signs to prevent truckers from dumping large amounts of trees  |
| More room for disposal  |
| I would like a monitored site   |
| Have a person there full time. Get rid of the tree drop off   |
| It is always a disaster since the cancellation of curb side recycling   |
| Getting the service we pay for  |
| Signs are not clear what can be dumped where.   |
| Bring back the blue box recycling   |
| More bins are needed since the discontinuation of the curbside recycling program.   |
| It needs to be picked up weekly from homes like it used to be   |
| Clear and consistent bins for different materials.  |
| More bins and more frequent emptying  |
| Someone who is there during daylight hours  |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>  |
|---|
| A more user friendly cardboard slot. A compactor site could be more effective.  |
| It's always overfilled  |
| Monitored and emptied more frequently. Better lighting.   |
| Making it bigger, actually have empty bins and more bins  |
| Recycling bins for individual products, especially glass  |
| It's usually a mess. I want to be able to recycle all plastics and glass  |
| Open Sundays  |
| Since the blue bins have been dropped more attention is needed to keep up with demand at WCRD. More bins needed and empty more often                  |
| It being cleaned up more on the odd time that I'm able to take my recycling there and is always filled and I'm unable to fit my recycling in the bins |
| Emptied more often  |
| Needs to be kept tidier   |
| Needs to accept recyclables such as glass   |
| Emptying on a Thursday.   |
| add metal bin   |
| Changed to curb side  |
| Kblue bins at houses again.   |
| Better sorting options for recyclables  |
| The cardboard recycle bin could be emptied more. It seems to be fine most of the time though.   |
| curbside recycle like Blackfalds  |
| An attendant  |
| More frequent emptying of bins. No sorting-put clear or blue bags in bins for sorting offsite.  |
| Eliminate and provide home service  |
| Not having to wait in line.   |
| Accepting year round toxic wastes and recycling   |
| More space for recyclables  |
| I would pay the 3\$ difference to have curbside pickup again  |
| Increase in the amount of plastics we can recycle   |
| The city seems unable to keep up with the volume. Whenever I take our recycling, bins are overflowing   |
| I have found it very disorganized. People seem to misuse it and leave trash everywhere.   |
| Bring back curbside pickup  |
| Bins are often full, people dump branches etc. in wrong areas   |
| I prefer curbside pickup - I'm more likely to do it   |
| make the bins easier accessible to seniors and children   |
| Take glass and take plastic bags  |
| The bins need to be emptied more often  |
| Pick up more often. We go once a week and its usually jam packed full and messy   |
| Now that there is no. Door pick up of recycle, we need larger recycling bins!   |
| Not convenient! Bring back curbside!!   |
| More bins and emptied more frequently   |
| Return door side pickup. Have a better recycling plant nearby (build???)  |
| Taking more items   |
| At house recycling  |
| Clearer markings on what goes where   |
| battery and electronic disposal   |
| more accountability of where the waste is going   |
| the bins fill up too fast now with the whole town trying to use 4 bins  |

| <b>Question 15: I would like to see changes to the Wolf Creek Recycle Depot such as:</b>   |
|--|
| change the bins more! They get full and gross and more bins. More education-hoe to recycle   |
| more bins, more frequent emptying in light of curbside end   |
| to drop off batteries, toxic waste, but rest is great  |
| come on can't we do that properly. Maybe pay a person to man it instead of 16 secretaries.   |
| control the large brush pile   |
| more bins or more frequent emptying, always overflowing. More selective sorting.   |
| glass, more separate containers for items  |
| I'm pleased to see bins are changed out frequently. not always in the past   |
| no answer provided   |
| more frequent pick up, bins are very often full  |
| better labeling of bins, pick up more often. I want the return of glass recycling  |
| more bins  |
| cleanliness - manned to stop abusers   |
| more bins  |
| More bins or frequency of them being taken away  |
| Takes more-not always full, it's a mess & joke   |
| clean up more often  |
| no answer provided   |
| pick up, **glass recycling**   |
| More bins.   |
| Bins clearly labeled for items instead of everything in one. Sometimes bins are very full.   |
| More bins, bins need to be completed more often, it's a terrific mess  |
| Keep site clean since blue box recycle has ceased perhaps the collection bins be dumped more often as they seem to fill up quite quickly |
| see #19  |
| Better separation of items. One bin each for paper, glass, metal, etc.   |
| I would like to know where the materials go from the depot and what happens to them.   |
| It pick up more often so bins not so full  |
| They seem to always be full+ I have to go back home with my recycling  |
| grass clippings + branches only. Eliminate cardboard+plastic recycling   |
| more bins/often (more) emptying of bins  |
| more bins  |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>   |
|---|
| re-instating recycling pickup, accepting more plastic varieties for recycling, glass bottle recycling.  |
| Neighborhood drop off containers for paper and cardboard would help make it more convenient for people to recycle these items instead of once again putting them in household waste, since the city no longer picks up recyclables every week.  |
| Blue bins should be brought back to Lacombe households. By eliminated household pick-up, the city has alienated so many people including (but not limited to) disabled persons, non-driving senior citizens, single parents who do not have time to go to the depot, lower income families or individuals who do not have access to transportation. Recycling properly and lowering the amount of waste a household produces is of high importance to the wellbeing of our planet. Our city needs to figure out a way to do better.   |
| Finding a way to deal with glass and all plastic  |
| I really miss our curb side service and all of the recyclables collected.   |
| I would like more education on reducing use of plastics and maybe reusing plastic.  |
| It would be great to be able to still recycle glass and more types of plastics.   |
| See above . . . a viable blue-box program would be a plus.  |
| Blue bin curbside pickup returned!!!  |
| More green bins. The blue box was great. Too bad it's not possible.   |
| Curb side recycling   |
| No, I am not in favour of it as 90% goes to landfill anyways why pay someone or a company to recycle it for no reason. Canada wise has recycling problems as in the form of once collected then what? Waste of money  |
| glass containers  |
| Curbside  |
| Community recycling bins  |
| Business developed markets for plastic and shingles.  |
| First and foremost, does recycling really exist?!? We must be sure that items are truly recycled... not shipped to Asia or dumped in landfills.   |
| Annual garage sale.   |
| Weekly pick up of blue bins again, larger blue bins   |
| As listed above and if not having these additional items added to the Wolf Creek depot- then having them at another location that they can be dropped off on a regular basis. (5 days a week). This could be the City's maintenance yard (example) for toxic or electronic items.   |
| none  |
| The new waste processing plant going into Sylvan Lake seems like a great way to reduce waste as it takes everything from landfill to recycling. The public isn't as informed as they might be.  |
| More locations it's a pain when you can't get across the tracks after you have loaded up  |
| Yes, go back to house pickup. I can guarantee you will get more participation in recycling then you currently have. Know more people, just like me that just use the back alley bins as transporting it to the Depot is a pain or do not have the means to do it. Look at what other municipalities pay for how often they get it picked up before pulling the plug on a great program for our City.(For Example Ponoka they pay approx. \$7 for twice a month and we were paying approx. \$4 for every week with the same company. We were getting an awesome deal and I could see why the price went up, what do expect they were losing money at that price point. Give your head a shake, would you do it for that price?) Go back and do it twice a month at the price increase they were going to charge. Don't need it every week. |
| I think we need to change our approach on how we deal with all of our garbage, as i said above. I would like to know where does our recycling even go? Is it worth all the effort if it just gets shipped overseas to pollute someone else's country or are there actual recycling processing that occurs, or does it just go to the dump   |
| Compost bins...   |
| Okay as is.   |
| Residential pickup.   |
| Curbside recycling and information on where the recycling is processed  |
| Better access to electronic disposal.   |
| Having different sites around the city to make it easier and convenient for people to recycle   |
| Lacombe should be seriously considering an incineration facility to dispose of the plastic waste that is not considered recyclable.   |
| Bringing back the recycling pick up   |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>   |
|---|
| I truly miss the blue bin alley/curb service.   |
| Not sure  |
| Increase the plastic numbers (1-7) that can be accepted   |
| I would like to see a recycling program re-instated.  |
| I would like to see curb side recycling for everything than can be recycled, including glass (not accepted at recycling depot   |
| Bringing back recycling pickup OR stop charging residents for a service that the city is no longer providing.   |
| please reinstated door to door recycling. that it was removed is a travesty   |
| There are materials that aren't accepted, therefore the only place for them is the garbage, increasing the amount of garbage that needs to be picked up. This is not good stewardship! A program for recycling is needed and must be looked into again!   |
| Glass and all plastics need to be recycled. Finding a market is challenging?  |
| Residential pick up - blue box  |
| Not sure. Blue bins are great but only if the recyclables are actually getting recycled. We shouldn't be paying extra for a service/outside company to take our trash to the dump. Smaller drop off centers could be good. In other cities some retail stores accept some recyclables like batteries but in Lacombe I am unaware if any of those things exist. It would be nice to see Lacombe county have a regional recycling program |
| Having it picked up at my house again.  |
| The present system is adequate if the bins were emptied more frequently   |
| Organics  |
| Since we have the land refuse bins, it would be good to have paper recycle bins in the neighborhood as well maybe.  |
| Glass recycling   |
| I liked the curb pick-up of recycling items.  |
| a place for glass disposal other than landfill  |
| Not sure  |
| Curb pick up.   |
| curbside pickup, what about the mayor visiting plants out east that use recycle and garbage to create energy, and reusable material. Maybe we could be a western first! Creating jobs and making a name for Lacombe.  |
| Unknown   |
| Putting a free still useable section in that charities and thrift stores can go through once a week (specified day  |
| Residential pick up   |
| Larger blue bins. Actual pick up that recycles, and doesn't just bring it to the dump.  |
| Go back to home pick up and negotiate a sensible price for the service.   |
| Comment noted in Q 15.  |
| ?   |
| Recycling collection  |
| Go back to the blue recycling bins and picked up every 2 weeks  |
| Bring back curb side. Invest in a better way to recycle. Join with surrounding counties to share costs of state of the art facilities, similar to Halifax   |
| Bring back blue bin service   |
| Return to the blue box pick up  |
| Tin cans, metals, glass   |
| I liked the Blue Bin program  |
| I'd love to have curbside recycling back  |
| Each quadrant could have a paper and cardboard bin  |
| Blue box or a neighborhood bin just for paper or cardboard.   |
| Residential service was nice but costly. Wolf Creek is adequate if the container gets emptied weekly  |
| Kitchen waste bins and more yard waste bins and pet waste bins  |
| I liked the curb side   |
| glass recycling   |
| N/A - there are enough opportunities even without the blue bin program.   |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>  |
|--|
| Curbside recycling back.   |
| Blue bin curbside recycling. Green bin organic waste. Those need to happen before anyone else. Please don't blame the City's efforts on Canada's recycling technologies or their relationship with other countries. There are simple and effective ways to reduce waste and empower recycling in your citizens and the city needs to show some effort to doing that. |
| Curbside pickup.   |
| Empty pressurized gas cylinder disposal  |
| Curb side pickup   |
| Blue bin pick up for residences (including apartments and condos)  |
| Bring back blue bins but make them larger with lids so the recycling doesn't get blown around  |
| Blue recycle household bins  |
| Blue bin service   |
| More! Glass/tin/   |
| Curbside recycling. One bin for everything.  |
| Roll out bin   |
| No   |
| Blue box   |
| Propose options to residents. If they want the blue bin they can pay for it.   |
| Recycling pickup!  |
| proper recycling program that picks up at houses   |
| Glass recycling. Could we not recycle this in some way?  |
| ?????  |
| Curbside recycle. Weekly.  |
| Curb side pickup again   |
| Glass, plastics  |
| Bring back the recycle bin collection  |
| blue bins back. Could we do blue bins one week and then black bins one week? we are a family of 5 and we wouldn't need our garbage dumped weekly   |
| Any as it seems the only recycling left is for cardboard or paper  |
| Not having water station and depot at same place. Besides it's one tiny place for 14 000 people!   |
| household pick up would be nice  |
| Glass recycling.   |
| Recycling that gets picked up, like before   |
| Glass  |
| Bringing the blue recycling bins back  |
| Scrap wood and other construction materials  |
| I would pay an entrepreneur to pick up my recycling. I did this before the city started picking up recycling. Maybe the city can find incentives for private pick up.  |
| Blue bin, compost  |
| I think Council has taken a practical approach to the problem of not having a place to have our waste recycled. However, if there are things that can be recycled that are cost-effective, we definitely need to participate as individuals and as a community.  |
| Recycle box back   |
| Continuation of blue box program   |
| A blue box at the residence. Maybe pick is biweekly instead.   |
| curbside recycling since I still pay for a service that no longer exist. :(  |
| Bring back the blue box curb pick up with a more reliable pick up schedule.  |
| Nothing  |
| Pretty good set up. Wish there was some way to keep people from making such a mess at the recycling bins though.   |
| large curbside recycle bins like blackfalds  |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>   |
|---|
| Blue bin pick up  |
| Return of the blue bin, properly rolled out, if there is a market for all recyclables. Not what it has been whittled down to is currently accepted. Otherwise forget it, as what can be recycled, I may as well take to WCRD. I cannot pay more for less.       |
| N/A   |
| Pick it up in the alley like before   |
| See above. Bring back recycling program   |
| Somehow bring back curbside recycling   |
| Steel been at recycling Centre  |
| Blue bin pick up  |
| Items specifically set up in separate bins. Also, more composting opportunities   |
| Curbside home pickup  |
| No  |
| Roadside/curbside collection  |
| Recycling bottles/cans etc. at grocery and liquor stores  |
| We must be assured that whatever the community wants to see recycled is really recycled... so far, the whole recycling wave has been an illusion... sending items overseas to be piled up and/or return to Canada is not working!                               |
| Blue bin recycle brought back.  |
| Roll out bins   |
| Improvements to the wolf creek recycle depot.   |
| Household recycling programs since apparently our planet isn't important for the City of Lacombe to keep it   |
| Curb side pickup again  |
| Recycling program brought back  |
| There needs to be recycling for more types of plastic and for glass. The green bins are a must as people will just throw yard waste into the dumpsters. The dumpsters are full of plastics and cardboard people are not using the recycling depot nearly enough |
| Converting plastics and other items into fuel as Brooks is doing. Recycling of all plastics as other communities do!  |
| Would love to see door to door weekly pick up again!  |
| We need to find a new way to recycle glass containers.  |
| The curbside pickup was amazing as I find now I am so busy that 2)3 of time I fill blue bin with intention of going to the recycling bin and end up throwing it out   |
| Curb side pickup like red deer has  |
| Recycling pick up at my home again  |
| More options to recycle packaging and plastics  |
| Curbside compost Curbside recycling   |
| .   |
| Blue bins brought back  |
| Bringing back the curbside recycling program  |
| Blue bins   |
| Lane pick up with different coloured bins for sorting recycling, but the City needs to find ways of getting the recyclables processed. Sad to find out that some things are being sent to the dump!   |
| Roll out curb recycling   |
| Residential recycling   |
| NA  |
| Our family loved the recycling program at home where they picked up weekly. Just for the convenience of this. I would pay more for this service.  |
| I do miss the weekly pick up. Even biweekly. Clutter builds up, the cardboard gets wet (winter), wind blows it around   |
| Household recycling pick up   |
| Glass   |
| A recycling bin with the green and brown alley bins that is picked up weekly.   |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>  |
|--|
| The recycling program we used to have  |
| Everything the current century offers!   |
| Back to collecting catbirds, cans, plastics- glass bottles   |
| More single use plastics accepted  |
| More community gardens, more composting, more organized recycling  |
| More community recycle bins in more locations  |
| Door to door recycling. I firmly believe that there is an economical choice put there. Any other communities make it work.   |
| Curbside pick up   |
| Pick up at residential homes   |
| Bluebox  |
| Blue box Composting  |
| Glass, compost   |
| I will use whatever Opportunities are given to us  |
| Food Waste pick up   |
| Recycling pickup program   |
| Bring back the recycling program. I'll pay more  |
| A return of some level of blue box program   |
| Curbside recycling   |
| I miss curbside Recycling!   |
| None, unless it's as convenient and cheap as curbside used to be.  |
| There should be possibilities to recycle glass and more than type 1&2 plastics   |
| Occasional flyers in mail that clearly state what is recyclable and what isn't. Even a fridge magnet would be helpful  |
| More depots  |
| We need a comprehensive plan to deal with all of it. A partial list of things to be recycled frustrates people and they stop recycling all together. We need a waste to energy plant.                  |
| Household recycling pick up.   |
| I would like to see our utility bills lowered, as we are currently paying for recycling services that no longer exist. I would prefer the money in my pocket.  |
| City service for disposal on request for those with no means of disposing it themselves. More than just trash/treasure pickups.  |
| Weekly pickups for recyclable materials.   |
| community recycling depots like in Edmonton  |
| As above   |
| glass  |
| Curbside recycling!  |
| I want household pick up. Halifax is a great model we should try to achieve. I absolutely would pay more for this service. I was appalled when we moved and found out there is no recycling facilities |
| Curbside/alley recycling pick-up. Back to the blue box program.  |
| Bring back curbside recycling if possible  |
| Pick up blue bins again  |
| back to blue box pick up each week at curb   |
| Recycle pickup   |
| Bring back the recycle program   |
| Curbside recycling   |
| Return to curbside recycling with biweekly pickup  |
| Loved the blue boxes....now you see more recycling in dumpsters  |
| Pick up at residence   |
| Recycle plastic and glass  |
| Strategically placed cardboard and plastic bins throughout community   |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>   |
|---|
| Individual recycling bins   |
| Bring blue box back   |
| Compost bins  |
| more plastic and glass recycling  |
| blue box pick up - I agree affordability is a consideration.  |
| see question 7  |
| More green bins around town that would allow more than grass clippings  |
| curbside pickup   |
| Curbside recycling even if it's just for cardboard, tin and certain plastics.   |
| <b>BRING THE RECYCLING BIN SERVICE BACK PLEASE!</b>   |
| Blue bins come back with clear guidelines on what can/can't be included   |
| Blue bin program continuing although it's understandable that its unfeasible  |
| Community compost, expanded acceptable items, regular recycling pick up   |
| Recycling pickup  |
| curbside pick up  |
| Figure out a way to use/bring back the Blue Box.... Find somewhere to recycle that material. Pressure Alberta government to invest in recycling.  |
| Curb pickup   |
| regular toxic and computer drop off locations   |
| All types of plastics   |
| Glass, tin can, plastics recycling  |
| No  |
| Curbside pickup   |
| I would like to recycle more( glass, #3 plastic), compost would be good too   |
| A working residential recycling pickup.   |
| Curb side   |
| Either bring back curbside pickup or lower bill accordingly   |
| Curbside recycling.   |
| I'd love to see something like the facility that is setting up in Sylvan Lake come to Lacombe. Or have municipalities/regional waste try to come up with a regional approach to deal with waste. I understand that it's a worldwide issue, but if we can solve some of the issues at home, it would be amazing! |
| Curbside cardboard and plastics   |
| Larger recycling station where everything can be recycled in one place  |
| Yard waste and organic waste pick up  |
| None are needed as recycling programs are extremely ineffective and expensive.  |
| Recycling programs are a waste of taxpayer dollars and don't actually accomplish their objectives. They only soothe the consciences of uninformed people.   |
| Blue Bin returning.   |
| See number 11   |
| Curb side pick up   |
| Curb side recycle program   |
| Weekly pickup   |
| Diversify curbside options to reduce what is going to landfill - blue green black bins!   |
| More political pressure on manufacturers to reduce unrecyclable be packaging  |
| just add more bins at wolf creek  |
| Obviously, a return to what we had (except that it needs to work for plastics)  |
| glass   |
| Curb side recycle pickup  |
| Curbside recycling of cardboards etc.   |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>  |
|--|
| For glass, Tin, most plastics.   |
| Recycling bins   |
| We participated in the curb side recycling program, even purchasing additional bins. Would like to see this back.  |
| No   |
| Bring back blue bins   |
| Back to the individual recycle bins, I have noticed a large increase in the amount of recyclables in the garbage bin since the residential recycle bin pickup was dissolved.       |
| Door to door pickup again  |
| Yes, today we only have a Bottle depot   |
| Curb side pickup   |
| Collecting bins  |
| Curb side pickup   |
| Curb side pick up  |
| more collection/drop off points  |
| Blue Bins  |
| Manned centre  |
| Curbside pickup for all residents including those in apartments and condos.  |
| a roll out bin for recycling also  |
| Recycling pickup brought back  |
| Recycling pick up. Paying for it anyway with no service  |
| Curb side recycling returned   |
| Getting people to "Re-think" before buying crap  |
| Recycling collection downtown where garbage containers are as well   |
| Curb side pickup back. Alternating with garbage and green bin pick up preferred.   |
| Residential pick up  |
| A facility that turns everything into energy.  |
| Composting   |
| Let's get some European technology here to convert all the waste into energy for the community!  |
| more options for recycling more items (other types of plastics than just 2)  |
| blue bins picked up  |
| I realize the challenging recycling environment right now but curbside was so convenient   |
| Blue bins  |
| Somewhere more central for cardboard recycling.  |
| I really miss the curb side pick up  |
| revamped blue box program  |
| There doesn't seem to be a way to recycle most products now. I am sad that the plant that we were going to have that turned garbage to energy by burning has not come to fruition. |
| Organic matters  |
| Glass  |
| Having multiple recycling facilities around town, instead of just at the Wolf Creek depot  |
| Yes  |
| Return of curbside recycling but combine it with curbside composting pickup.   |
| Recycling program continued in some form.  |
| Household recycling pick up again. Taxes go up but somehow we lost that program and the next question is asking if we'd pay more for recycling                                     |
| Curbside   |
| Glass! Why are we not using a company that recycles the most recyclable packaging!   |
| Household pickup   |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>  |
|--|
| don't know   |
| Need to able to recycle glass jars etc.  |
| Blue bins again  |
| Bring back the curb side recycling   |
| Curb side recycling  |
| We pay for it we should get it   |
| Refundable   |
| Recycle pick up for apartments/condos  |
| Bring back the blue box recycling  |
| Yes  |
| Unknown  |
| It needs to go back to the trucks picking it up from the houses  |
| Encourage/educate residents to take their own recycling to the depot.  |
| All garbage cans also have recycled options there too  |
| Green bin  |
| Residential collection   |
| Curbside pickup  |
| Residential pick up  |
| What it was home pick up, no home pick up I won't recycle  |
| Glass recycling  |
| I want to recycle all plastics   |
| Curb side pickup or skips in the neighbourhood like the green bins   |
| Large bins for more than just cardboard  |
| Curbside pick up   |
| The bringing bac of the blue bin program for all around town would be great benefit to multiple people myself including because getting over to the Wolf Creek site is just a very large hassle that is not as easy to get to for multiple people this community |
| Recycle pick up  |
| Glass and plastic  |
| yes, provided the items are actually being recycled ethically and not just sent to landfill later  |
| Curb side  |
| Blue bins at houses again  |
| More recycling bin stations like Wolf Creek  |
| I would like to see the blue bins being used again and it being collected at our homes.  |
| I wouldn't they are acceptable   |
| Return of glass & other plastics recycling, maybe a textiles program   |
| Curbside big bins like Blackfalds  |
| A green bin at every mailbox centre for composting   |
| I really likes the curb side service. I understand the issues.   |
| Curbside recycling pick up.  |
| Since curbside stop people just throw recyclables out  |
| More plastics accepted   |
| Bring back curbside pickup.  |
| Curbside pickup  |
| Non usable old clothing, mattresses can be recycled, and Styrofoam disposal recycling instead of putting in garbage cans   |
| Curb side pickup reusing blue boxes  |
| More options for recycling plastic , plastic bags  |
| Bring back curbside but do it every two weeks or once a month  |

| <b>Question 16: I would like to see more recycling opportunities in my community such as:</b>  |
|--|
| Curbside   |
| Blue bins back or something else for pick up at home   |
| Larger recycling bins at the Wolf Creek pickup   |
| Curbside recycling   |
| Blue bin pick up   |
| Plastic glass  |
| Information lessons  |
| A day where we could have a freecycle session in the LMC Parking lot   |
| all these years i have been careful sorting recycling material only to have it be landfilled or sent to a third world country to poison kids |
| we are a community with many elderly-how do they get recycling top the depot?? They don't. It gets thrown in their bins.                     |
| curbside and expanded accepted items   |
| no answer provided   |
| Have you ever seen Airdeie's recycle, it is amazing. I realize it is expensive but do it a bit at a time.                                    |
| more locations , more bins   |
| pick up  |
| home recycle pick up reinstated  |
| downtown receptacles for bottle recyclables for pedestrian   |
| another location   |
| Yes, I do not see how you are saving money as people just throw their recycle into the garbage containers which increases the bulk           |
| no answer provided   |
| Would like to see the blue bin program come back once there is a feasible place to sell the goods  |
| Take it or leave it place to deposit paint and aresol and electric year round  |
| pick up program  |
| Back yard composting offered like in Red Deer  |
| 3 bin options: house waste, organic waste, and recycling   |
| Perhaps the city could collect meal material that residents store on their property because they do not have the means to dispose of it      |
| Right now - (from our understanding). All recycle "Blue box" stuff, still (and was) goes to the landfill, what a joke!!                      |
| A compost site to bring organic waste(for the community garden maybe?)   |
| As per above   |
| A place for styrofoam/glass  |
| Bin for wood or renovation garbage   |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| Recycling of valuable materials (cardboards, plastics, tins, etc.) should be generating revenue to offset collection costs, not costing significant amounts of additional money. Perhaps local processing of these products for local use might be a lower cost/higher revenue option? Glass is also overlooked and perhaps grocery stores could provide convenient places to return glass bottles (originating from them) that could be re-used in a more streamlined fashion.   |
| I am still wondering what happened to the \$4.00 per household that was collected when the recycling program was running that we were told was for replacing the blue bins when they needed replacing. We have never had our bin replaced, where is my refund? Did this money just go to city coffers and we are supposed to just forget about it? Doesn't seem very transparent or fair to the taxpayers who were charged this every month. By my rough calculations the city collected over \$1,00,000 for replacement containers that we never saw. Seems pretty shifty to me. Again, our council doesn't feel the need to inform the public of this money which has no doubt been spent in other areas. At least be honest enough to tell people where this money went. |
| This survey feels like an excuse to increase fees without addressing the environmental impact of our choices. I do believe each family or individual needs to own their choice of how to consume things. Having the right methods of recycling and waste handling with different levels of delivering those services with associated costs attached would be a way for people to decide what works for them. Having programs available for those whose circumstances prevent them from having the means to pay for services would help distribute the services to all residents equally.  |
| 1. If curb side recycling resumes sometime in the future, it would be beneficial if the bins had lids. 2. Something needs to be done about residents who receive papers and flyers who do not have mailboxes fixed to their homes. The mess that blows around the neighbourhoods is disgusting and shouldn't be happening!  |
| No. More education.   |
| 1. Pick up garbage only every second week! Our black curbside bins are huge. No single household should produce that much garbage every week. 2. If the city has any say, not have The Globe and The Express (with its ridiculous number of flyers) delivered door to door. This is a huge output of paper, and people can pick up elsewhere if they wish.  |
| I think if we stay with the large garbage bins we have then we can cut back garbage pickup every 2 weeks instead of every week.   |
| No  |
| I think the solid waste collection is wonderful I find my garbage collection lady very punctual and diligent.   |
| if wolf creek site was manned there would be less garbage flying around resulting in cost savings for city staff picking recyclables out of ditches.  |
| Home composting programs or community composting programs to deal with household green waste  |
| Get rid of trash to treasure, toxic round up. These are all "free" options taxpayers pay for in the end. The taxes and utility bill in Lacombe is outrageous. The garbage bins in back alleys are an eyesore and I'm constantly picking up items including grass clippings thrown beside the garbage bin behind my residence  |
| Keep curbside bin size the same. They are perfect size. Media campaign to educate people on how to properly recycle. Do's and don'ts. Better signs at Wolf Creek.   |
| Cannot think of anything.   |
| Please bring back blue bin street side pickup.  |
| Setting up or joining a regional (within an approx. 100 KM of Red Deer) location that can incinerate (cleanly and efficiently) some of these items to produce electricity. (this is being done in other locations throughout the world and Canada). We're already paying the trucking costs to have a lot of our waste sent to Dried Lake landfill near Camrose so it's an opportunity that needs to be reviewed sooner than later. This is something all levels of government should participate in. (similar to the water and waste water idea we are currently doing)  |
| This questionnaire implies the current system is bad, and that is not true. Waste collection in Lacombe is superior to many communities so changes are not necessarily warranted. Recycling is not being carried out in many instances, and running multiple collections just increases cost. For the most part the cost of recycling something is much greater than the purchase of new, so considerable tax subsidy is needed to make it worthwhile. If this material goes into a landfill ANYWAY (as shown in recent Canadian studies) this is wasteful of both resources and tax dollars.   |
| Look into Sylvan Lake/Fogdog Energy or similar ones. Not knowing how much each month the city pays for waste management or the tonnage of waste it's hard to judge.   |
| A separate bottle drop for return items that would generate moneys for the recycling. I for one would bring my bottles and cans and drop them in such a container just for the convenience of not having to go to the bottle depot.   |
| Cart based pickup of all households. When that proposal went out you had an onset of angry "Seniors" go to the meeting which was held during the day (nice when people work and Seniors don't).. They basically steered the Lacombe Council to not consider this for the residence based on Seniors inability to get the cart through the snow etc.. What.. but they can shovel their snow in their back yard so they are able to walk and carry the garbage to the back alley instead.. Wow.. Instead of looking at what is best for the City, let "Angry Seniors" the minority dictate what happens.. Brings this topic back for discussion again, please   |
| I guess i should have wrote about the incinerator here :)   |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| Do residential areas need weekly pickup? I believe we have been charged for Street pickup of recycling, however; as we no longer have this service...has the fee been deleted or could this surcharge be used to better serve an updated recycling service????  |
| No  |
| We pay a great amount for taxes and see very little in the way they are spent. One example is the waste of tax payers money on the east side of the city.   |
| do not change the back alley access or the dumpsters. That is what the back alleys were designed for. It is a beautiful system that is the envy of many towns and cities.   |
| Be open about this survey and take everybody's ideas on board   |
| I think it is unnecessary to purchase more PLASTIC containers to just have the garbage dumped in the land fill anyway.  |
| Plastics incineration. This is the only solution to plastic waste. Recycling does not remove the plastic from the consumer cycle, it only prolongs its life. Eventually the plastic ends up in the land fill. It is time to make a real change to the plastics disposal process in this province.   |
| Please bring back the curb side recycling pick up. We never noticed a reduction in our utility bill for removing the service. I don't feel that is fair. And perhaps consulting with the town citizens first before removing a service should be considered.  |
| Curbside pickup could be less frequent  |
| Question #18 does not have enough answer selection. Clearly an engineered selection of answers. I'd like to see services remaining the same and a reduced cost, even if it means trimming Administration costs.   |
| Organics to energy rather than composting. There may be grant funding for it. Energy can be used for district heating in new developments.  |
| The trash to treasure program with curbside pickup at the end of the week is awesome. Keeps a lot of large trash items out of the alleys.   |
| Please bring back curb side recycling and add composting  |
| No  |
| Cart service at each household would encourage waste reduction and clean up the alleys. However, if it would increase costs, then it may not be a good solution. The City should continue to research new alternatives for waste, such as waste-to-energy incineration.   |
| All of us should be switched to curbside garbage. Frequently people dump in our dumpsters and leave it full, and we can't fit our garbage in the dumpster.  |
| Get your act together. The lack of leadership on curbside recycling was embarrassing. Let's lead the way vs. limp along. Curb side recycling and organics collection needs to happen now.   |
| What is the most cost efficient way of gathering garbage and disposing it in a manner that is actually giving back to the community, i.e. clean burning the garbage to create energy and reduce amounts in the landfill. What are the most eco-friendly options?  |
| It was good.  |
| Just to reduce the amount of garbage that ends up in the land fill  |
| Not sure  |
| Supporting initiatives that help our community be more green. E.g. sale of rain barrels, support for community garden projects, etc.  |
| Our utility bills & taxes are already high enough. Why can't we turn the compost instead of having a proposal to have it hauled away(again paying someone) If we brought in the plant that our Mayor was visiting maybe we could charge others for dumping and make money.  |
| More back ally dumpsters for all of these new multifamily homes   |
| Being able to go pick things from the dump  |
| N/q   |
| Please revamp the recycling program in this city. The tradeoff for a cleaner environment versus increased bills is a no-brainer for me.   |
| We should have cart waste pick up for all households and curb side pickup for all recyclables. Communities in other areas and provinces do at a sensible cost and a reliable service. I know of one that has made enough money on recyclables that some years there is no increase on property taxes. That's something worth looking into.? They also have a compost able green bin pick up at the curb side. |
| Change garbage and recycling curb pickup to every 2 weeks   |
| More public education to the public. People in my area through too many recyclables into the garbage bin.   |
| Keep cost down  |
| All options should be considered. Solid waste services should be looked at in other communities were recycling/ food waste and garbage are working well and saving money which is cost saving to the tax payer  |
| Keep Ally dumpsters for garbage and yard waste, bring back curbside weekly recycling. Join surrounding counties to build a state of the art facility to turn wastes and recycling into biodiesel. I know Thalia is familiar with this structure in Halifax  |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| Thank you for making curbside & household Recycling a priority in our community.  |
| City does not do a good job educating its citizens about garbage, recycling, etc.   |
| Make available details of where the recyclables go from the depot would be useful information to incentivize citizens to continue to recycle. The city also needs to work at encouraging citizens to upcycle and reduce before thinking of recycling.   |
| We still have the yellow bins in the alley for garbage collection. At least in Elizabeth Park....more efficient than collection from each household   |
| Lower our costs since the city stopped picking up blue boxes  |
| As a community, it is too easy for individuals to dispose of waste in Lacombe. The review needs to consider how people can pay for the garbage they generate and be rewarded for their recycling.   |
| N/a   |
| We must keep everyone aware of what options the City is looking at. We are doing a poor job in Our City, our province and our Country of getting our recyclables into an energy source and not fill or landfill sites   |
| The survey covers everything.   |
| I understand food waste is a big problem however I see upset food waste carts and stink from yards from containers and animal problems with it. Don't spend money on recycling unless it is truly being recycled. Separation of plastics is a waste if we don't have a provincial place that recycles it.   |
| Pet waste disposal  |
| Do not give in to the bleeding hearts when it comes to the blue bin program. If it is getting thrown away anyway, there is no point in paying someone to collect it separately. There needs to be true recycling, not just feel good recycling.   |
| The environment needs to be a priority not the tax dollars. I am happy to pay a little extra in order to have a future for the planet.  |
| -The 3 stream selection was not explained well in this survey. -Better advertising of services and products accepted at Prentiss -current state of the yard waste collection bins and how many required for each neighbourhood -how to control the right type of items being placed into the yard waste bins  |
| How the containers are constructed so that they prevent littering when it is windy.   |
| Leave back alley bin service as is  |
| I would like to keep the large bin in the alley   |
| No  |
| Please bring back recycling. We've gone backwards   |
| Lacombe is well known and currently respected and thought to be a great place to live. If proactive changes to recycle and compost are not made Lacombe will soon get a reputation for being behind the times and not environmentally friendly.   |
| Getting rid of the back alley dumpsters that get abused by other residents and have roll out black bins for everyone.   |
| Stuff in bins at Wolf creek depot that should not be there, Education - no glass, regular garbage etc. Maybe put bin there for this particular stuff. Education - re: composting, dropping grass clippings  |
| I appreciate Lacombe taking the time to consider recycling and reuse opportunities. This is a global issue and education and resources will help us all become efficient and less wasteful consumers. I went on a tour of the Red Deer landfill last year and it was life changing. Everyone should learn more about how our cities are doing the best they can with the situation we are in.   |
| Not sure  |
| I really think there should be more emphasis on reducing waste. If your approach is more about making garbage pickup convenient, people will keep generating garbage. If your approach is to provide more places for garbage to be dumped (such as toxic waste), a lot of people will not bother to go to those places, and continue to throw things in dumpsters instead. There needs to be education and scaffolding while people learn new habits. For example, the city offered compost bins. I would have bought one, but I have no idea what to do with it. It might be there are workshops somewhere, sometime, but what about the city having a workshop on composting that comes with a free compost bin? Put the city's money more into reducing waste than cleaning up waste... Take massive steps toward reducing the number of coffee cups in garbage bins. Even the trays for carrying 4 cups of coffee go into garbage bins, and if anything should be easy to recycle, it's those. They are usually used for a very short time, and are still clean at the end of their use! Do a massive campaign about using your own coffee cups. Apply taxes to businesses based on the number of coffee cups they use per year, unless they meet requirements for promoting personal coffee cup use. (Something more than just charging 10 cents less for the coffee.) Putting money into (good quality) personal use coffee cups and brand them with the city's logo. Then promote them everywhere, including as prize baskets for every one of the many silent auctions or door prizes offered in Lacombe (and surrounding areas) throughout every year. But elevate them as worthy prizes, don't make them the cheap cups that don't work long and just get thrown out after a while. People won't put their tickets into a cheap, crappy prize. Model for people what they should be using and doing; investing once in quality items so they don't have keep throwing things away and/or buying new ones. Educate. Model. Motivate. Reward. And scaffold supports while people learn more about the 3 Rs and develop new habits. In other words, spoon feed us; don't enable us and don't make change too big a change right from the |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| start. Have a long term vision, and take pieces of the scaffold away as we become accustomed to each smaller expectation along the way.   |
| No  |
| Do not remove back alley pickup or I will move  |
| I really appreciate having Prentiss close and available. It's a great service. I would like to see personnel at the Recycling Depot in town but can't afford any more on my bill for any service. Retired and it's too high to add anything.  |
| Hear us and work with us. Please listened. Look what has happened in the last six years. We did this review then and spent thousands of dollars on it. Look at the survey results from then. Garbage is garbage. Until you have a place to utilize it nothing is doing to change. And what it is placed in dumpsters or rollouts is irrelevant. And perhaps many citizens within this City could quit dumping in alley dumpsters when theirs is full. Yes, it happens. Clean up the alleys and messes within this City before embarking on another pipe dream that is not doing to solve a problem that every municipality has. And where there are alleys, the collection of any what is picked up in the alley! |
| I'm good with the existing system.  |
| Would like to see the green bins take branches, leaves, weeds and green yard waste  |
| There was mention of recycle costs coming down price wise if the company could also have the garbage contract. What has happened to that thought?   |
| The 3 yard bins in the alleys are the most cost effective Six stops down an alley looks after 20 homes Single bins will mean 20 stops with a garbage truck more time and much more fuel not a choice I would recommend.   |
| Basic service, stay out of business city doesn't understand, all look good on paper ask city of Edmonton  |
| The bins that are currently used get rid of them and change to UP Right ones would be best like Blackflads has  |
| I love our back alley dumpsters, but it is an old dumpster with a broken lid. Could use a new dumpster in the alley. Also need some way of preventing people from dumping large items beside the dumpsters that never end up getting picked up by garbage service.  |
| Stop seeing the ecological benefits to properly removing recycling/waste/organics as an economic concern. There is no price for the earth's wellbeing that is too steep.  |
| All has been covered  |
| Just make it easy for a private sector solution to come to the community.   |
| More green bins for yard waste my area has ONE bin to sustain 30 homes and there are many vacant lots that still need to build on. The garbage bins are full of large items, recycle items, cardboard, electronics and toxic waste. Paints etc. There is not enough options for people to properly dispose of their garbage so they resort to putting anything and everything into the dumpsters. Many dumpsters are full mid-week with items that have no business being placed in there to begin with.  |
| New technology Contractors that accept all types of plastics  |
| Please do not remove the dumpsters from areas without a back lane   |
| Thanks for asking - this survey should give you a lot to work with.   |
| Cost, it's expensive to live in Lacombe compared to Blackfalds. Take away trash to treasure. Make households responsible for their own cleanup  |
| Pay per use at Prentiss to offset costs to residents.   |
| I would very much like to have curbside garbage pick up   |
| Nope.   |
| Find more companies that do something positive with the recyclables.... not throw in in the dump!   |
| NA  |
| Ask the consumers if they would pay more for house hold recyclable bins again. There was quite an uproar when this happened. Otherwise we love Lacombe! Good job guys!  |
| Please keep any current changes on city website up to date.   |
| Keeping our utility prices, the same. Not only the lowered or raised option as set forth. We are still paying for the privilege of NOT having a blue bin.   |
| No  |
| Keep the back alley dumpsters as they are most convenient and easy to use   |
| Keep up the good work - just hurry and get us plastic recycling again!  |
| We need to recycle. Hard to set an example for future generations when we throw everything in the garbage   |
| Looks good to me.   |
| Replacing some bins in commercial areas. Some businesses have terrible bins they need to use  |
| Refund us for the fees we have paid on our utility bill since the recycling program was discontinued  |
| They should consider purchasing an incinerator that will produce electricity for the city by burning the waste. Charge surrounding communities and offer benefits for using our services  |
| Being able to pause the bill if not using the service, i.e. away for six months.  |
| I enjoy the convenience of a bin in the alley- I do not have to store my garbage until garbage day and I love that!   |
| Nothing else  |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>   |
|--|
| Bring back the recycling program. People I'll pay for it. It's ridiculous that we are a growing city without a program.  |
| I would like my recycling pick up curb side again.   |
| Very little in this survey on the green bins. It would be good to review how Lacombe ended up with this service vs. other solutions (yard waste door-to-door pickup is far more common elsewhere I believe) and whether it is more cost-effective.   |
| If it's not convenient people won't use anything you come up with  |
| We need a waste to energy plant for Central Alberta. Band-Aid approaches are not working, and people continue to throw recyclables in the garbage, dump all sorts of crap at the recycle depot, which is currently too small for our community.  |
| Lower the cost of our bills since recycling program has been removed. Do not add services, simply return the finances back into the homes of the residents.  |
| How many need garbage pickup every week? I know for myself once a month would be adequate but possibly every two weeks could be an option, with option of also having 2 roll outs for some as required.  |
| Consider that we pay taxes for service, up to the city admin to supply those services within the tax dollars collected.  |
| LACOMBE  |
| Bring back recycling   |
| in regard to question 19 could be a biweekly pickup instead of weekly  |
| Utility bills are big enough already. Less service received and higher bills already. Leave services the same and cut back in other departments.   |
| education of the citizens. I see a lot of cardboard going into bins, please other recyclables. Although it does present an opportunity for bin divers.   |
| Please don't turn Lacombe's system into Red Deer. Biweekly garbage collection is gross and not practical.  |
| Definitely needs to stay as weekly service. The city I lived in previously was every 2 weeks and it got disgusting and smelled everywhere  |
| Community battery drop off   |
| Please consider the projects in Sylvan and a Blackfalds with the high temp burning to energy   |
| The large item pick up idea is great but should be offered as a call for pick only instead of utilizing man hours and resources traveling all areas for potential items  |
| Use of our waste disposal/recycling by county residents. Our lane bins are constantly used by people from out of town dumping their truckloads of waste and non-permitted items  |
| more education on reuse and reduce, recycle  |
| No   |
| LACOMBE  |
| Lacombe  |
| Lacombe  |
| I think Trash to Treasure is valuable but it goes on too long and residents seem to have started doing it year round. I think it should be reduced to one weekend only twice a year  |
| Our streets are too tight for curbside household bins it would be a nightmare  |
| I would just love to see recycling become more accessible again. we live in an older neighbourhood, and many of the people here are not able to take items to the recycling Depot, especially if they're larger. Even some of the young families nearest have stopped recycling what they're able to, and it's heartbreaking to see so much going into the garbage these days.                         |
| I find question 18 to be very vague and without more detail I don't feel I can give a confident answer.  |
| We understand that the "blue box" was not working (the items were not being recycled) But now we need to be leaders in the province and figure out a way to recycle what we are using, decrease what we are purchasing and reuse more of what we do! It can be done... it will require time & effort and LEADERSHIP but I have faith that our Cities leaders and its citizens are up to the challenge. |
| If you keep the bins then service the lids every year  |
| Cielo waste solutions can take almost all forms of solid waste (even dirty plastics) and recycle it into diesel fuel, I urge council to look into this as it seems very promising.   |
| Don't allow the handful of squeaky, uninformed wheels to land us all with increased bills due to useless recycling programs!! We want to keep our dumpster and don't feel any other recycling programs are needed.   |
| Increasing cost for a bunch of ineffective programs would be a big mistake!  |
| Each household having their own composting box is not practical for apartments and town house. I live in a townhouse and have no use for compost .I would love for it food scraps to be collected and used at the community gardens or other ways to beautify the city   |
| Lacombe  |
| System similar to red deer   |
| Diversify our waste pick up because we look like a joke compared to other urban communities! My friends are like what you don't have blue and green bins?!   |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| keep the cost down, utilities cost are getting out of hand for what we get. Make black bin garbage pickup bi-weekly. Save fuel, man hours and truck maintenance.  |
| Question 18 is frustrating and misleading: we are ALREADY paying for a recycling service that we don't get.   |
| Definitely do not want to loose back alley dumpsters  |
| I would love to see garbage collected every other week and recycled items the in between weld   |
| Do not raise taxes or utility bills to cover. We pay enough already.  |
| I believe the solid waste services are need and not a want. The city council could better evaluate wants to make up the budget needed to provide and efficient and effective Solid Waste Service. I love having bin in the alley which speeds up pickup times for the area. I do not like that people in the neighborhood use it as an industrial waste bin and I will be doing a better job of reporting this in the future if it will help ensure we maintain a solid waste service |
| If reduced services - reduce our costs!   |
| We need to go back to Recyclable removal at residences. You are getting everything in black bins. This is not good policy to implement.   |
| I understand that all these programs come with costs, but recent cuts to the program did not lower our bills, so why should we have to pay so much more for services? Our taxes are already high, perhaps cuts need to be made in different areas so as not to put more financial strain on people. Perhaps cut sidewalk building and maintenance out of the budget since you seem to think that residents need to pay extra out of pocket for that too.                              |
| Penalties for putting recyclable or compostable in garbage. In PEI each household is allowed one bag of garbage and must be in see through bag - waste is "policed"   |
| Appropriate recycling and waste services that reflect 2019. The current system is archaic and lacks ingenuity. This municipality should be working with other Central Alberta communities to partner on solutions that will have positive environmental impacts while working towards reduction of single use plastics sold and used in their communities.  |
| Lacombe   |
| Re-think/Re-use is also very important! Education is huge.  |
| Survey skews answers especially #19. Collection frequency needs to be balanced with cost and amount of materials, not just assuming weekly.   |
| Some people are great about recycling, whereas many are not and choose to and chuck everything into the dumpsters including recyclables and toxic waste. Please get rid of them. Roll out bins are the only way for people to see how much they throw out on a daily basis.   |
| Roll out buns for all who want it. Back lane bins shouldn't be forced on households if other homes on street have rollout bins  |
| If my 80 year old mom can roll out a bin, so can every other person in Lacombe, or else ask a neighbor to roll it out when they take theirs out.  |
| pickup every other week during winter months. Encourage people to reduce their waste amounts instead of just picking them up every week. We are a family of 4 and can go 3 weeks before filling our rollout bin! Educate about packaging and single use products, or make those with excess garbage pay more! Educate on composting and mulching (especially lawn clippings)  |
| Contract the bins no need for city to own its own trucks  |
| Perhaps waste and recycling don't need to be weekly. Maybe biweekly? That would decrease costs, yet still provide citizens with convenience.  |
| By using a cart for each household the back alley bins would be eliminated thereby reducing the untidy areas in back alleys.  |
| Lacombe   |
| Lacombe   |
| Reduction in number of pickups to save money and not increase costs. Weekly pickup not needed. Reduce amount of pick up to 2 weeks and provide 3 bins as occurs in other communities  |
| Use that blue box was cancelled, why were we supporting in the first place anyway   |
| Promotion of lower-waste living through social initiatives similar to the lunch plan or Find The Right Fit; promotion of low-waste businesses such as Bulk Barn; education for businesses to lower their waste  |
| No  |
| Some communities alternate weekly between garbage and recycling/organic curbside pick-up. Is this an option?  |
| If curbside recycling or 3 stream pickup cannot be introduced on site staff at the recycle depot is very much needed  |
| no  |
| We are already paying for curb side recycling but not getting it  |
| We are so far behind other communities! Let's bring recycling, garbage, and compost pick-up   |
| Quit with garbage bins in alley. They are lots of maintenance and an eye sore. People drop things off beside them and I'm responsible to keep the area tidy. Quit household pickup of trash to treasure, costs more in the long run   |
| Why are we paying so much for nothing   |
| Clean up around bins regularly  |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| Considering there are many seniors in town and the garbage bins are heavy to maneuver, especially in winter,, the tall plastic bins on wheels should be provided for household garbage.   |
| Implement bylaws to reduce plastic waste such as banning plastic bags and plastic/styrofoam carryout containers in city businesses  |
| Bring back blue box recycling   |
| No  |
| Ignore the loud voices that are complaining after cancelling the curbside recycling. The city made the right choice. No other changes are necessary.  |
| Considering we are still paying for the blue box program and don't have it makes no sense at all  |
| Providing composting supplies for residents to compost at home  |
| We are paying for recycling pickup but it is not happening. You need to stop collecting and refund the residents  |
| Some options in this survey open up to disaster i.e.: hazardous waste at WCRD.  |
| Please do not bring in curbside bins. That would be a complete nightmare in our already crowded close   |
| Make sure everyone is considered not everyone can drive not everyone is able-bodied not everyone is capable of going out to the sites that you provide and so just ensure that no matter what decision of the city comes to that those people are not overlooked                                      |
| The cost of garbage pickup on the utility bills went up when the blue bins were introduced but did not get reduced when the program was discontinued.   |
| Measures to reduce waste such as a single-use plastics ban, educating the community about how to reduce household waste, and giving incentives to businesses that reduce their overall waste  |
| Roll out bin to the curb only when full. bi weekly service would be sufficient  |
| Education about how to sort recycling is essential, people don't understand how to do it correctly. Banning plastic bags from stores would be great.  |
| Cost comparison to doing garbage collection internally or contracting it out.   |
| Please don't think you need to change for change sake and crank up our costs  |
| Lacombe   |
| The program Blackfalds uses is like High Rover, Okotoks, Calgary, each house has an equal sized blue bin (recycle) & black bin (garbage). Really reduces the garbage in each town if the recycle program is easy (no need for residents to sort recycles, everything just goes into the big blue bin. |
| Separating the types of recycling.  |
| Maybe curb side recycling could be bi-weekly?   |
| Replacing rusted out grass bins with broken lids.   |
| Quit raising the damn bill... over 100 a month and I live alone!!!  |
| No there were things I hadn't thought of on this survey.  |
| The use of A high tech incinerator whose only by-product is water and give off electricity. It is available   |
| I would also like to see styrofoam and glass, a larger variety of plastic collected, however I believe the City government needs to encourage the suppliers of goods to reduce their plastic, cardboard etc.  |
| Garbage is a world problem and we should be looking at how other countries are managing it. Federal, Provincial and Municipal need to work together to solve this issue not just keep putting Band-Aids on it. Get a disposable system in place that works for all Municipal areas to use in Alberta. |
| Coffee pod recycling option   |
| Lacombe   |
| What do with plastics that are not #1-7 and glass jars?   |
| We need to be green. You are no longer accepting our recyclable items at the curb, you must accommodate for more recycling items at Wolf Creek. Larger bins. More bins.   |
| Just compost :-)  |
| no  |
| i think the bins we have are way too large, there should be incentive for less trash  |
| empty the bins more often, people can't unload there when they are overflowing so they dump everything in the garbage   |
| think about the elderly who can't get down to the recycling depot. Please work with other municipalities and the province to come up with a made in Alberta solution for plastic waste, Education is so important-what can we recycle, where it goes and how we can do better                         |
| let people know how expensive and useless recycling is at this time. Need better solutions  |
| i have a back alley and am not willing to get read of the large garbage or green bin. I like them. Would not like the little bins the other people have. lots of complains about them other than that thanks for your hard work you do.   |
| i think sometimes when i go into the office & see 6 of those girls standing there gossiping it really annoys me. They would do better over @ the recycle depot taking care of that. The person who looks after Facebook could work from there. they would have time for that.                         |

| <b>Question 20: Did we miss anything? What else should the City consider in its Solid Waste Services Review?</b>  |
|---|
| The city must make a decision that the majority agree upon and not be influenced by the minority. Cost effect as possible.  |
| What can you do to prevent people that do not live in your area, dumping their garbage? I frequently see construction materials in the bins as well. These 2 things should be policed.  |
| My garbage bin (in the lane) is constantly full with garbage that clearly is not from me or my neighbours   |
| Didn't want to fill out a survey, But: is the recycling for apt buildings? Recycling depot was stuffed, no room. Need to come empty recycling bins more often. Went to recycling depot several times, always full.  |
| Why are we paying for a review where there is no facility to deal with this! Money, money, money. Work with other municipalities + get something going like perhaps Sustain Energy. It (the method) has to be workable + cost effective.  |
| Miss not having the blue box.   |
| This is a common problem for a majority of municipalities and until there is a major universal method of disposing of solid waste, we have to accept the current situation  |
| all counties (including city of Lacombe), and towns etc. have got to take serious action in considering building an incineration plant somewhere in central Alberta, sharing in the cost of this. Society cannot keep quarters of land for more landfills. We are going to have to bear the cost and use, since we are such a throwaway society. Incineration was proposed to this area 35-40 years ago and was turned down. Please have some forward positive thinking on this!! |
| N/A   |
| Do what we ask...not what you want!   |
| Glass recycling. Can't glass be ground up for other uses???   |
| As a community, we need to concentrate on reducing plastics, both as first-time use + in how we dispose of them. Much education is needed in composting + the positive disposal of food waste. Organic food waste + yard waste should not go to landfills in plastic bags.\   |
| n/a   |
| Repair the lids to the existing bins in the warmer days, it really stinks in the area around the bins that have broken lids or openings. Two bins in our alley have had broken lid (like missing part of it), since I lived there, 4 years.   |

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# APPENDIX G

## SELECTED PHOTOGRAPHS



**Photo 1:** Mixed Recycling Drop-Off at the Wolf Creek Recycling Depot



**Photo 2:** Yard Waste Drop-Off at the Wolf Creek Recycling Depot



**Photo 3:** Sod Drop-Off at the Wolf Creek Recycling Depot



**Photo 4:** Trees & Brush Drop-Off at the Wolf Creek Recycling Depot



**Photo 5:** Rubble Waste Tipped at the Prentiss Transfer Station



**Photo 6:** City Truck Collection of Commercial Waste



**Photo 7:** Example of Residential Waste in Roll-Out Cart



**Photo 8:** City Truck Collection of Roll-Out Carts



**Photo 9:** Example of Residential Yard Waste in Green Bins



**Photo 10:** City Truck Tipping Collected Yard Waste to the Wolf Creek Recycling Depot



**Photo 11:** Example of Contents in Mixed Recycle Bin at the Wolf Creek Recycling Depot



**Photo 12:** Garbage Bin at the Wolf Creek Recycling Depot



**Photo 13:** Example of Contents at the Cardboard and Boxboard Bin at the Wolf Creek Recycling Depot



**Photo 14:** Temporary Stockpile Site at the Len Thompson Industrial Area



**Photo 15:** Example of Contents in Commercial Waste Bin



**Photo 16:** State of Residential Community Bins

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# APPENDIX H

## LIMITATIONS ON THE USE OF THIS DOCUMENT

# LIMITATIONS ON USE OF THIS DOCUMENT

## GEOENVIRONMENTAL

### 1.1 USE OF DOCUMENT AND OWNERSHIP

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Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

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Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner

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If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

### 1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

### 1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

### 1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

### 1.7 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

# Age-Friendly Alberta Newsletter



## Message from Honourable Josephine Pon Minister of Seniors and Housing June 5, 2020

### Special Minister's Statement on COVID-19

We all knew that Seniors' Week would be a little different this year, and that pandemic-related restrictions would prevent some of the traditional large gatherings that are such a part of this wonderful Alberta tradition.

However, the spirit of Seniors' Week is as strong as ever. I am so grateful – and impressed – to see the creative and caring ways that individuals and communities are recognizing seniors.

In Rocky Mountain House, Clearwater Regional Family and Community Support Services (FCSS) set up an “appreciation parade.” Staff and volunteers visited seniors, displaying “thank-you” signs on their vehicles and dropped off “appreciation bags” full of goodies.

I know that many seniors look forward to attending Seniors' Week teas every year. Unfortunately, the pandemic forced the cancellation of these events. No matter, the clever FCSS volunteers delivered tea bags and honey, and seniors enjoyed a special cup of tea at home.

In Fort Macleod, FCSS volunteers decorated the sidewalks outside of seniors residences, using their talents with chalk to offer words of encouragement, respect and thanks.

What lovely ways to recognize and celebrate seniors.

On June 4, I was so pleased to have Premier Kenney join me at the Westend Seniors Activity Centre in Edmonton. Premier Kenney and I had a chance to visit, at a distance of course, with some of the seniors and recognize volunteers.

Premier Kenney and I also had the opportunity to assist with a generous donation of face masks and sanitizer from Westend Seniors Activity Centre for Drive Happiness and their volunteers as part of the “We Deliver Happiness” campaign.

Seniors' Week is about recognizing and celebrating all that seniors have contributed to making our families, communities and province so much stronger. Thank you to all those who went the extra mile during these challenging times to make Seniors' Week 2020 a wonderful success.

## Minister's Seniors Service Awards

I know that seniors have been deeply affected by the COVID-19 pandemic, and that many have required support.

It is gratifying that so many individuals – including many seniors – and organizations across Alberta have stepped up to ensure seniors have the supports they need during the pandemic. These individuals and organizations are investing their time, energy and resources, and, while they do not pitch in and help for a pat on the back, it is important to recognize these outstanding Albertans.

I encourage all Albertans to nominate an individual, business or nonprofit organization for a Minister's Seniors Service Award. This year, we will recognize efforts that have exemplified leadership and compassion to serve Alberta seniors during the COVID-19 pandemic.

We all know people like this in our communities. They are the people, nonprofits and businesses who, during this pandemic, are taking time to make sure seniors are getting their groceries, offering enhanced services for free, or are taking the time to check-in with a senior and make sure they are okay.

Please consider nominating an individual, business, or an organization for a Minister's Seniors Service Award. The deadline is August 11.

## CORE Alberta

CORE Alberta is a hub for community-based seniors-serving (CBSS) organization staff, volunteers, and allied professionals engaged in efforts to support and promote healthy aging. This web-based platform and related initiatives are designed to foster connections, communication, coordination, collaboration, and capacity building to help strengthen individual organizations and the CBSS sector at large.

Please consider attending a CORE 101 virtual open house. The open house will include information about the efforts to create a coordinated CBSS sector, and explore what CORE can offer you.

Go to [healthyaging@calgaryunitedway.org](mailto:healthyaging@calgaryunitedway.org) to arrange a tailored CORE 101 session and for more info on upcoming sessions.

I am pleased that CORE membership continues to grow. More than 80 CBSS organizations and partners have participated in online discussions so far. Recent online discussions have focused on issues like business continuity, transportation and food security.

I encourage all seniors-serving organizations to register for CORE Alberta so they can get involved. To do so, follow these steps:

1. Visit <https://corealberta.ca/>.
2. Sign up for a free membership and create a profile.
3. Once your account has been validated by the CORE Alberta team, you will be able to log in, explore the full site, access groups that you can join, and register for upcoming Zoom Forum discussions.
4. Subscribe to the bi-weekly [CORE Alberta newsletter](#).

## Current information

As always, please visit [alberta.ca/COVID19](http://alberta.ca/COVID19) for the most up-to-date information on the Government of Alberta's comprehensive response to the COVID-19 pandemic, including details on the measures in place to help prevent spread and support Albertans. Additionally, please visit the ongoing implementation of [Alberta's Relaunch Strategy](#) – a safely staged COVID-19 recovery plan to relaunch our economy.

I appreciate the opportunity to inform you of our government's ongoing pandemic response

as it relates to seniors-serving organizations and housing providers. By continuing to work together, we can keep our most vulnerable citizens safe, even as we continue the province's transition to a new normal.

Thank you.

Josephine Pon  
Minister of Seniors and Housing

June 5, 2020



Website



Email

For a print-friendly version click on "Read it online" at the top of the page.



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# PRL BOARD TALK

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## Highlights of the Parkland Regional Library Board Meeting

MAY 28, 2020

### Audit Report Approved

PRL's audit was presented to the board by MNPs Lindsey Schmidt and Joey Ingram. In the documents provided, the auditors state:

*The accompanying financial statements present fairly, in all material respects, the financial position of the Library as at December 31, 2019, and the results of its operations, its remeasurement gains and losses and its cash flows for the year then ended in accordance with the Canadian public sector accounting standards.*

Findings from the audit include three recommendations for improving controls. These recommendations relate to 1) fixed asset disposal; 2) impairment testing for property, plant, and equipment; and 3) the review of the Director's credit card transactions. As recommended, staff are preparing additions to the finance policy to meet the auditor's recommendations.

There were no significant changes in the balance sheet. The three recommendations for improving controls were minimal and are already being changed in policy by Parkland staff.

A copy of the Auditor's Report and Report to the Board will be sent to your municipality.

### eContent Purchasing

For 2020, Parkland budgeted \$20,000 each for eBooks and eAudiobooks. Due to the COVID-19 crisis, Parkland has expended almost all of this \$40,000 for eBooks and eAudio books for 2020. The intention was to enhance

the access to eContent since library patrons have almost no access to physical content. The early expenditure of our budget meant that there would be no money for additional eContent later in the year.

Staff asked the Executive Committee for permission to overrun the eContent budget line by \$20,000. Due to the increased demand for eBooks and eAudio books, caused by the shutdown of libraries during the COVID pandemic, the Executive Committee approved the additional eContent expenditures at their April 30th meeting.

In addition, Parkland staff reached out to the Lions Clubs earlier in the year to ask for contributions to purchase eAudiobooks for the regional collection, which supports the visually impaired community. The Lions Clubs in Innisfail, Forestburg, Killam and Clive have graciously donated \$1,828.58, which provided 25 more titles for the Parkland Collection. We are very grateful for their support.

### PRL Advocacy Committee

Earlier this year, the goal that the Advocacy Committee decided they needed to focus on is that municipalities are aware of and support public library services at the regional and local levels. Despite the COVID-19 pandemic, this advocacy goal has not changed.

At their last meeting, the committee considered some important questions:

1. How do we position libraries as essential or at least valued services?
2. How do we continue to prove the value of Parkland and local library budgets in the post-pandemic economy?
3. What do post-COVID libraries look like?
4. What kind of messaging do we need to advocate for Parkland and local library budgets in the post-pandemic economy?

After a lengthy facilitated session, the committee provided an extensive amount of material that can be categorized into a number of themes:

- Libraries need to innovate and continue to provide service even during the pandemic. The worst thing a library board can do is shut down services entirely.
- The board and staff must place a high emphasis on communication within the community to both funders and their patrons. During this

- period of closure to the public, library communication is more important than ever.
- Libraries need to be realistic about the post-pandemic world. Patrons might have developed different service expectations (e.g. want a continuation of virtual services, curbside pickup, etc.), and/or they may be reticent about in-person library visits and using library materials.
  - Library boards need to be realistic about their budget expectations if they want their budgets to pass. Municipalities are struggling, so boards should only be asking for what they absolutely need.

The vast majority of libraries continue to have staff on duty with many providing innovative services. Of Parkland's 50 libraries, 39 are currently providing some level of service to their communities. Furthermore, Parkland continues to serve as a support and distribution hub to share information and resources between member libraries so that they can provide the most service possible at this time.

### Community News from Trustees

**Olds & District Library**- Heather Ryan reported that their library board has been very proud of all the work the staff at the Olds library has been doing during the pandemic. Staff is now working on their re-launch plan.

**Stettler Public Library** - Les Stulberg reported that they now have enhanced online programming and are offering curbside pickup. They are also helping to provide PPE items to their local hospital. They have been both busy and innovative.

**Lacombe County** - Dana Kreil reported that they are using this time to replace the flooring at the Eckville Municipal Library. They anticipate offering curbside pickup when the library is put back together.

**Amisk Public Library** is now offering curbside service. They are also collaborating with the Buffalo Trail School Division to loan Chromebooks for online crafts for their summer reading club.

**Lougheed & District Public Library** is offering craft kits that can be picked up from the library so that children can participate in online craft time.

### Board Members Present via Zoom

Jason Alderson, Doreen Blumhagen, Darlene Dushanek, Kevin Ferguson, Jeanny Fisher, Elaine Fossen, Dwayne Fulton, Sandy Gamble, Bruce Gartside, Barb Gilliat, Megan Hanson, Jeanette Herle, Agnes Hoveland, Cora Knutson, Dana Kreil (late), Gord Lawlor, Faye Leicht, Stephen Levy, Josephine McKenzie, Philip Massier, Leah Nelson, Ray Olfert, Terilyn Paulgaard, Norma Penney, Rosella Peterman, Bill Rock, Chris Ross, Heather Ryan, Sharolyn Sanchez, Janine Stannard, Les Stulberg, Sonia Temple, Patricia Toone, Cindy Trautman, Shannon Wilcox (late), Bill Windsor, Bonita Wood, Ann Zacharias

### With Regrets

Dana Kreil (Late) and Blair Morton

### Absent

Jackie AlMBERG, Wendy Aschenbrenner, Connie Beringer, Jared Booth, Jacqueline Boulet-Boden, Glen Carrit, Amanda Derksen, Colleen Ebdon, Clark German, Trudy Kilner, Lonnie Kozlinski, Daryl Lougheed, Rick Pankiw, Corby Parsons, Doug Weir, Sharon Williamson

### Guests via Zoom

Lindsey Schmidt, Joey Ingram, MNP  
Also in the office, Debra Smith (Board Chair)

### PRL Staff

Ron Sheppard, Tim Spark, Donna Williams, Colleen Schalm, Kara Hamilton, Haley Amendt

**Next Meeting: September 17,  
2020, 1:00 PM.**

For more information or if you want a copy of the draft minutes from this board meeting, please contact PRL.

**CITY OF LACOMBE**  
**MINUTES OF COUNCIL MEETING 20-11**

Minutes of the Regular Meeting of Council held on **June 8, 2020** in the Council Chambers of the City Administration Office.

**Present:** Mayor Grant Creasey  
Deputy Mayor Jonathan Jacobson  
Councillor Don Gullekson  
Councillor Thalia Hibbs  
Councillor Cora Hoekstra  
Councillor Reuben Konnik  
Councillor Chris Ross

**Staff Present:** Matthew Goudy, Chief Administrative Officer  
Deborah Juch, Director of Community Services  
Jordan Thompson, Director of Operations and Planning Services  
Mauricio Reyes, Senior Finance Manager  
Sandi Stewart, Manager of Recreation and Culture  
Guy Lapointe, Manager of Community Economic Development  
Deven Kumar, Communications Coordinator  
Matthew Tomnuk, Computer and IS Technician  
Ross Pettibone, Legislative Coordinator/Executive Support  
(remote)

**Regrets** Diane Piche, Director of Corporate Services

**Media Present:** None

**Others Present:** Wade Oldford, Open Forum

**CALL TO ORDER – Regular Meeting of Council**

Mayor Creasey called the meeting to order at 5:13 p.m. following Open Forum.

**ADOPTION OF AGENDA**

11/178.11 20MO  
THAT the Monday June  
8, 2020 regular meeting  
agenda be adopted as  
amended to include  
Item 5.7 Request for  
Utility Forbearance.  
20-206

**MOVED BY** Councillor Hoekstra:

THAT the Monday June 8, 2020 regular meeting agenda be adopted as amended to include Item 5.7 Request for Utility Forbearance.

CARRIED UNANIMOUSLY

**REQUESTS FOR DECISION**

**Bylaw 379.1 – Tax Penalty Bylaw Amendment**

Mauricio Reyes, Senior Manager of Financial Services, presented Bylaw 379.1, the tax penalty and payment amending bylaw for third reading.

**MOVED BY** Councillor Ross:

THAT Council give third reading to Bylaw 379.1.

CARRIED UNANIMOUSLY

**Q1 Operating Variance Report**

Mauricio Reyes, Senior Manager of Financial Services, presented the first quarter variance report for council information, listing revenue, expenses and variances to March 31.

**MOVED BY** Councillor Konnik:

THAT Council accepts this report as information (Q1 Operating Variance Report).

CARRIED UNANIMOUSLY

13/421.01 20BL  
THAT Council give third  
reading to Bylaw 379.1.  
20-207

13/933.01 20MO  
THAT Council accepts  
this report as  
information (Q1  
Operating Variance  
Report).  
20-208

### Playground Replacement Contract Award

Deborah Juch, Director of Community Services, presented a recommendation for Council approval awarding a contract to Vilmac Systems of Calgary for the replacement of playgrounds at Lincoln Park and Heritage Park, following a request for proposals. A city playground map for reference was requested in future.

75/782.01 20MO  
THAT Council approves the award of a contract to Vilmac Systems in the amount of \$274,445.13 plus GST to replace the playgrounds at Lincoln Park and Heritage Park with their Option 1 proposals for each location.  
20-209

**MOVED BY** Councillor Hoekstra:

THAT Council approves the award of a contract to Vilmac Systems in the amount of \$274,445.13 plus GST to replace the playgrounds at Lincoln Park and Heritage Park with their Option 1 proposals for each location.

CARRIED UNANIMOUSLY

### Street Sweeper Purchase Award

Jordan Thompson, Director of Operations and Planning, presented further information to council with alternatives, and cost impacts involving the replacement of the mechanical street sweeper that would result in shorter times to complete spring street sweeping operations. Council chose an option resulting in no change to street sweeping service levels.

31/631.01 20MO  
THAT Council approve the purchase of the Elgin Broom Bear mechanical street sweeper from Joe Johnson Equipment for a net cost of \$325,093  
20-210

**MOVED BY** Councillor Hibbs:

THAT Council approve the purchase of the Elgin Broom Bear mechanical street sweeper from Joe Johnson Equipment for a net cost of \$325,093

AGAINST:

Mayor Creasey

FOR:

Councillor Hibbs  
Councillor Hoekstra  
Councillor Gullekson  
Councillor Jacobson  
Councillor Konnik  
Councillor Ross

CARRIED

### Snow Clearing Policy Review

Jordan Thompson, Director of Operations and Planning, presented the annual 2019-2020 snow clearing operations report and for council input to the city's snow clearing policy.

32/230.01 20MO  
THAT Council accept Administration's report on the Snow Clearing Policy as information.  
20-211

**MOVED BY** Councillor Hoekstra:

THAT Council accept Administration's report on the Snow Clearing Policy as information.

CARRIED UNANIMOUSLY

### 2020 Pumphouse "A" Generator Tender Award

Jordan Thompson, Director of Operations and Planning, presented a recommendation to replace the standby generator at Pumphouse "A" in accordance with the 2020 Capital Budget, following a tender process.

43/782.01 20MO  
THAT Council Direct Administration to award Setanta Contracting Ltd. for the removal, supply and install of the standby generator at Pumphouse 'A' for \$143,175.  
20-212

**MOVED BY** Councillor Gullekson:

THAT Council Direct Administration to award Setanta Contracting Ltd. for the removal, supply and install of the standby generator at Pumphouse 'A' for \$143,175.

CARRIED UNANIMOUSLY

### Request for Utility Forbearance

Councillor Jacobson made the following motion in response to the Open Forum Presentation.

**MOVED BY** Councillor Jacobson:

13/453.01 20MO  
THAT Council reject the request from Mr. Wade Oldford for forgiveness and direct administration to look at payment arrangements for the entire amount that would assist Mr. Oldford in clearing up his bill.  
20-213

THAT Council reject the request from Mr. Wade Oldford for forgiveness and direct administration to look at payment arrangements for the entire amount that would assist Mr. Oldford in clearing up his bill.

AGAINST:

Councillor Konnik

FOR:

Mayor Creasey  
Councillor Hibbs  
Councillor Hoekstra  
Councillor Gullekson  
Councillor Jacobson  
Councillor Ross

CARRIED

**ITEMS FOR INFORMATION**

Mayor Creasey informed Council of a grant approval for a city project following a letter from the Minister of Alberta Transportation.

1. CAO Report
2. Gov AB Letter – MSI Funding, May 19
3. Gov AB Memo – Seniors & Housing, May 22
4. Lacombe & District Rec. Parks & Culture Board Minutes, Mar 16
5. Municipal Planning Commission Minutes, Apr 1
6. Lacombe Police Commission Minutes, Apr 16
7. Lacombe Public Library Financial Statements, Dec 31/2019
8. Gov AB Letter – STIP Project Funding, May 1/2020.

11/173.14 20MO  
THAT Council receive all reports and items as information  
20-214

**MOVED BY** Councillor Hoekstra:

THAT Council receive all reports and items as information.

CARRIED UNANIMOUSLY

**ADOPTION OF MINUTES**

11/179.11 20MO  
THAT the May 25, 2020 regular council meeting minutes be confirmed as presented.  
20-215

**MOVED BY** Councillor Hibbs:

THAT the May 25, 2020 regular council meeting minutes be confirmed as presented.

CARRIED UNANIMOUSLY

**NOTICES OF MOTION**

*Any submitted Notices of Motion are dealt with at a subsequent regular meeting of Council per City of Lacombe Procedural Bylaw No. 370 Section 6.14(10).*

**IN CAMERA**

11/177.37 20MO  
THAT Council with Administrative staff attending to support Council (Matthew Goudy, Jordan Thompson, Guy Lapointe) move In Camera at 6:40 PM to discuss the following items:  
Land (FOIP Section 24)  
Land (FOIP Section 24)  
Monthly Update (FOIP Section 24, 16)  
20-216

**MOVED BY** Councillor Gullekson:

THAT Council with Administrative staff attending to support Council (Matthew Goudy, Jordan Thompson, Guy Lapointe) move In Camera at 6:40 PM to discuss the following items:

Land (FOIP Section 24)  
Land (FOIP Section 24)  
Monthly Update (FOIP Section 24, 16)

CARRIED UNANIMOUSLY

*Meeting recessed at 6:41 PM  
Meeting resumed at 6:50 PM*

11/177.38 20MO  
THAT Council return to Open Meeting at 7:35 PM.  
20-217

**MOVED BY** Councillor Hibbs:

THAT Council return to Open Meeting at 7:35 PM.

CARRIED UNANIMOUSLY

69/641.03 20MO  
THAT Council accepts  
the offer as presented  
and directs  
Administration to enter  
into a sale agreement  
with the client for lots 9  
and 10, Block 50, Plan  
3583 NY.  
20-218

**MOVED BY** Councillor Hibbs:

THAT Council accepts the offer as presented and directs Administration to enter into a sale agreement with the client for lots 9 and 10, Block 50, Plan 3583 NY.

CARRIED UNANIMOUSLY

**ADJOURNMENT**

11/177.39 20MO  
Adjournment  
20-219

**MOVED BY** Councillor Hoekstra

THAT the meeting be adjourned at 7:36 PM.

CARRIED UNANIMOUSLY

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Chief Administrative Officer

# AGENDA



## REGULAR MEETING AGENDA

Council of the City of Lacombe

Monday, June 15 2020 at 5:00 p.m.

in Council Chambers

| Time | Agenda Item   | Representative      |
|------|---|---------------------|
| 5:00 | <b>1. CALL TO ORDER</b>   |                     |
|      | <b>2. ADOPTION OF AGENDA</b>                                      |                     |
|      | 2.1 Additions   |                     |
|      | 2.2 Deletions   |                     |
|      | 2.3 Reordering  |                     |
|      | <b>3. PRESENTATIONS</b>   |                     |
| 5:00 | 3.1   |                     |
|      | <b>4. PUBLIC HEARINGS</b>   |                     |
|      | <b>5. REQUESTS FOR DECISION</b>                                   |                     |
|      | 5.1 Solid Waste System Review                                     | <i>Dir Thompson</i> |
|      | <b>6. INFORMATION</b>   |                     |
|      | 6.1 Administrative Reports  |                     |
|      | 6.2 Council Mailbox   |                     |
|      | 6.2.a Government of Alberta Memorandum: Seniors & Housing, June 5 |                     |
|      | 6.2.b PRL Board Talk - May 28 2020                                |                     |
|      | 6.3 Commission, Board, Committee Reports and Minutes              |                     |
|      | 6.4 Councillor Reports  |                     |
|      | <b>7. ADOPTION OF MINUTES</b>                                     |                     |
|      | 7.1 June 8, 2020 Regular Council Meeting Minutes                  |                     |
|      | <b>8. NOTICES OF MOTION</b>                                       |                     |
|      | <b>9. IN CAMERA</b>   |                     |
|      | <b>10. ADJOURNMENT</b>  |                     |

**Next Meetings:**

- Monday, June 22, 2020
  - Regular Council Meeting: 5:00 p.m., Council Chambers
- Monday, June 24, 2020
  - Council Committee Meeting (*In Camera*): 1:00 p.m., Council Chambers
- Monday, July 13, 2020
  - Regular Council Meeting: 5:00 p.m., Council Chambers

# REQUEST FOR COUNCIL DECISION



**SUBJECT:** Solid Waste Review Results and Recommendations  
**PREPARED BY:** Jordan Thompson, Director of Operations and Planning  
**PRESENTED BY:** Jordan Thompson, Director of Operations and Planning  
**DATE:** May 11<sup>th</sup>, 2020

FILE: 43/661

## PURPOSE:

To present the results of the Solid Waste Review.

## RECOMMENDED MOTION(S):

1. THAT Council accepts the City of Lacombe Solid Waste Review – Tetra Tech March 30, 2020 as information and endorses the solid waste review implementation plan.

## RELATED PRIOR MOTION(S):

1. THAT Council endorse the Solid Waste Review Request for Proposal (RFP) – May 13, 2019.

## EXECUTIVE SUMMARY:

Tetra-Tech completed a comprehensive review of the City's solid waste system with the primary goal to benchmark value for service against that of comparable municipalities, to develop a long-term plan for managing the City's solid waste in a sustainable, fiscally responsible manner, and to engage the public about the future of solid waste collection in Lacombe. Tetra-Tech's report (the Report) outlines their findings, observations, and research on the following key aspects of the City's solid waste system.

- Current solid waste overview (chapter 2)
- Operations (chapters 3, & 6)
- Level of service comparison (chapter 4)
- Benchmarking, and performance indicators (chapters 4, & 7)
- Public engagement (chapter 5)
- Alternative technologies (chapter 8)
- Financial review (chapter 9)

Overall, there are no significant changes recommended to the way the City operates its solid waste system for the residential sector. Tetra-Tech did identify areas of improvement that may affect other sectors (including commercial customers) in the future. In total there are 7 areas of improvement outlined in the Executive Summary and chapter 12 of the Report.

Tetra-Tech's most significant finding was that the City's disposal cost per tonne is much higher than other waste management authorities in the region. This inequity is a major factor in why the City's utility rates are the highest of 6 comparable municipalities benchmarked in the Report (chapter 4, section 4.1.1.2). Tetra-tech also found the LRWSC does not charge a tipping fee to private haulers at the Prentiss transfer station which means they (and their commercial, industrial, and institutional clients) are not

# REQUEST FOR COUNCIL DECISION



paying any of the City’s disposal cost which totals approximately \$1M/yr (chapter 2, section 2.1.2). This drives the City’s residential utility rates higher than its comparable municipalities because waste disposal fees, the largest expense for the utility, are primarily borne by residential customers. Reviewing and resolving this inequity with or without the LRWSC is necessary to bring Lacombe’s solid waste rates closer to the average of its comparators.

**Table 9-2: Disposal Rates of Comparable Municipalities vs. the City of Lacombe**

| City       | Waste Management Authority                           | Disposal Rates for Residential Garbage Loads |
|------------|--|--|
| Lacombe    | Lacombe Regional Waste Services Commission           | \$182.67/tonne                               |
| Camrose    | Camrose Solid Waste Authority                        | \$28/tonne                                   |
| High River | Foothills Regional Waste Commission                  | \$102/tonne                                  |
| Beaumont   | Leduc & District Regional Waste Management Authority | \$70/tonne                                   |

There are other recommendations in the report that are summarized in the Analysis section below. It should be highlighted that Administration’s implementation plan varies in some instances from Tetra-Tech’s recommendations.

## ANALYSIS:

### **Benchmarking:**

*This section highlights and summarizes data on the City’s solid waste system for information only. Administration’s recommendations start in the section titled “Managing the City’s solid waste in a sustainable, fiscally responsible manner.”*

Solid waste in the City is generated from 3 main sectors:

- The residential sector, comprised of 4,569 households,
- The institutional, commercial, industrial (or ICI) sector which includes approximately 300 customers, and
- The construction and demolition (or C&D) sector.
- 

The solid waste composition generated from these sectors falls under 4 main categories:

| Waste Composition Category  | Estimated Overall Composition (%) | % Measured in Waste Stream |
|-----------------------------|-----------------------------------|----------------------------|
| Recyclables                 | 28%                               | 15%                        |
| Municipal solid waste (MSW) | 27%                               | 61%                        |
| Compostable organic waste   | 42%                               | 24%                        |
| E-waste and hazardous waste | 3%                                | Unknown                    |

# REQUEST FOR COUNCIL DECISION

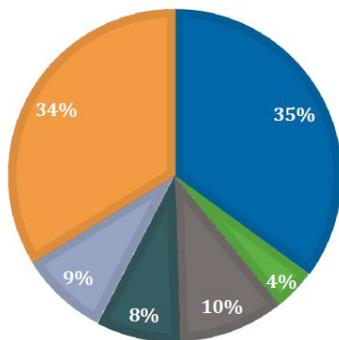


The graphic on the right outlines how the City’s current solid waste system handles waste through 4 waste streams. The “estimated overall composition” in the table above represents the probable waste compositions generated from the City of Lacombe regardless of the waste stream it is processed through ie: not all recyclables end up in the recycling stream. The methodology for this estimate is outlined in chapter 4, section 4.2 of the Report. The “% measured in waste stream” column represents the amount of solid waste actually measured through each of the available 4 waste streams (chapter 2, section 2.3.3). Theoretically, perfect waste diversion in Lacombe would result in the City sending about half as much material to the Prentiss Transfer Station. For instance, Tetra Tech estimates 28% waste generated from the City is recyclable but material processed through all recycling streams represents only 15% of all solid waste. Similarly, it was estimated 27% of waste generated from the City is MSW but material processed through the MSW stream (Prentiss Transfer Station) represents 61% of all solid waste.



**CITY OF LACOMBE WASTE COLLECTION DATA  
ANNUAL AVERAGE 2013 TO 2018**

- Household
- Rubble
- Recycling
- Green Bins (estimate)
- Spring//Fall Clean up
- Not recorded



The City’s waste collection services dispose about 6,000 tonnes at the Prentiss Transfer Station and diverts 3,900 tonnes of waste annually through the Wolf Creek Recycle Depot, downtown cardboard collection bins, and green yard waste collections bins. The Alberta average waste generation rate shows that municipalities generate, on average, approximately 1.03 tonnes of waste per capita annually. With the City’s population of 13,985 (2019 Census), the City should generate approximately 14,000 tonnes of solid waste per year from all sources. Tetra Tech estimates that approximately 34% solid waste (that is not recorded) is collected and disposed from commercial sources. The Lacombe Regional Waste Services Commission (LRWSC) does not record weights from private haulers so it is not

possible to determine if that material is being disposed of and not recorded at the Prentiss Transfer Station, or if it is being disposed of with another waste management authority (ie: City of Red Deer). And vice versa it is not possible to determine if waste from another jurisdiction is being disposed at the Prentiss Transfer Station.

# REQUEST FOR COUNCIL DECISION



In the second half of 2019, after the City discontinued its curb side recycling program, 25% less recycling was diverted from the garbage stream. At the same time, usage of the Wolf Creek Recycle depot increased by 75% which demonstrates many residents are still participating in the City’s recycling program despite it being less convenient. The commercial cardboard collection program (downtown) also increased in usage by 8% (chapter 2, section 2.3.1.2).

Tetra Tech confirmed the shared lane bin system is operationally efficient at 1 tip per 4 households compared to an individual cart system which would otherwise require 1 tip per household and, potentially, double route lengths to pickup carts on both side of the road/lane. However, Tetra Tech found the loads have become lighter over time (chapter 3, section 3.2.3). This means that garbage trucks are not as full as they used to be before hauling the material to the Prentiss Transfer Station. There are several possible reasons for this outlined in the Report, but inefficient routing was identified as a factor.

Chapter 4 includes a detailed comparison of solid waste services available to residential customers in 5 comparable municipalities. Of the 5 municipalities, the City of Lacombe is the only municipality that provides ICI or C&D collection services, so Tetra Tech focused only on residential services. The City of Lacombe was also found to be the only municipality that does not contract its residential solid waste collection’s services. The table below summarizes the comparison at a high level.

|                          | <b>Single family dwelling \$/month</b> | <b>Variable Garbage Options</b> | <b>Recycling Program</b> | <b>Compost/ Green Waste</b> | <b>Diversion Rate</b> |
|--------------------------|--|---------------------------------|--------------------------|-----------------------------|-----------------------|
| <b>Lacombe</b>           | \$31.76                                | N                               | Drop off                 | Lane bin & Drop Off         | 39%*                  |
| <b>Camrose</b>           | \$18.01                                | N                               | Drop off                 | Curbside                    | 34%*                  |
| <b>Fort Saskatchewan</b> | \$27.72                                | N                               | Curbside                 | Curbside                    | 45%*                  |
| <b>Cochrane</b>          | \$22.25                                | N                               | Curbside                 | Curbside                    | 61%*                  |
| <b>High River</b>        | \$11.15                                | Y                               | Drop off                 | Drop off                    | Unknown               |
| <b>Beaumont</b>          | \$24.24                                | N                               | Curbside                 | Curbside                    | 34%                   |

\*Derived from Administration’s research which may vary from Tetra Tech’s report.

Municipalities with a curb side recycling and green bin program also had the highest reported diversion rates. At 39%, Lacombe’s diversion rate is about average of the comparators.

## ***Engaging the public about the future of solid waste collection***

Chapter 5 of the Report summarizes the public consultation events that took place in the late summer/fall of 2019 as well as results from the solid waste survey. Altogether, 652 responses were received to the survey which is a very good response rate. The top three priorities for solid waste system identified in the survey are recycling, cost, and convenience. Although residents said they would support modest cost increases to the solid waste system (question 18) there was not notable support for cost increases in any one specific area (questions 8, 11, & 16). There was significant support for a curbside recycling program and notable support for a 3-stream curbside collection system.

The results of the survey influenced Administration's recommendations, particularly recommendations 5 & 6 below. Due to the excellent response rate, Administration will continue to analyze and refer to the survey results in the deployment of the solid waste implementation plan. For example, despite the survey being offered online and in person, the majority of respondent's first preference was for the City to use the utility bill as a communication platform, and social media second.

## ***Managing the City's solid waste in a sustainable, fiscally responsible manner:***

*This section summarizes issues with the City's solid waste system that Administration noted in Tetra Tech's report and through discussions with Tetra Tech. It includes several recommendations for Council's consideration.*

### **ISSUE #1: Per Capita Requisition Structure**

The City's solid waste utility rates are higher than comparable municipalities because waste disposal fees are high and are borne almost exclusively by residential customers. The solid waste utility can be split into 2 main components: collection services, and disposal services. The City is a member of the Lacombe Regional Waste Services Commission which provides disposal services for municipal waste (garbage), compostable organics, e-waste, hazardous waste. The current LRWSC requisition (disposal) fee is charged on a per capita basis, not weight, and covers solid waste from all sources in the City. However, commercial businesses contracting to private haulers are not paying tipping fees at LRWSC facilities which means their disposal costs are being passed on to the City with no current mechanism for the City to recover costs from the commercial business.

Tetra Tech determined residential customers are generating 5,500 tonnes annually (measured). Tetra Tech used their experience, and Statistics Canada data to estimate weights from commercial sources: 4,700-5,000 tonnes. If commercial haulers were to be charged the same disposal cost per tonne as residential customers, the residential utility rate could be in line with the average residential rate of the comparable municipalities.

A system at Prentiss Transfer Station to record, report and charge a tipping fee based on waste weights, originating municipality, and hauling company would be ideal. This system would ensure all users pay their fair share of the disposal costs. It would also ensure member municipalities that

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reduce their waste, see a direct cost savings from the LRWSC. The new revenue from private haulers should be used by the LRWSC to offset a portion of Lacombe's annual requisition costs. However, it is not guaranteed the LRWSC would support this change and even if supported, implementation of the change is out of the City's control. To address this issue in the short term the City would need to implement an interim system to recover costs directly from private haulers through a new fee structure that offsets a portion of the City's requisition costs concurrent to efforts with the LRWSC.

**Recommendation 1:** Administration recommend a utility rate structure to Council that ensures all benefitting sectors share in the LRWSC solid waste requisition costs.

**Recommendation 2:** Advocate the LRWSC conduct an audit of the current financial and operations model. The purpose of this audit is to review revenue and expenses, identify existing fees charged to private haulers, and identify whether their financial and operations model should be modified from a per capita model to a weight-based model.

## **ISSUE #2: Shortfall in Diversionary Credits**

Diversionary credits offered by the LRWSC only apply to recyclable material not diverted organics. The City received diversionary credits for approximately 1,046 tonnes of recyclable material in 2019 and in the same year also diverted 1,139 tonnes of yard and garden waste from the LRWSC through its green bins. In 2019 the City received \$61,042 in diversionary credits from the LRWSC for recyclable material only. If diversionary credits applied to the yard and garden waste as well, the total credit would have been approximately \$127,511. It is important to note that Tetra Tech estimates that City will divert less recyclable material in 2020 (916 tonnes) compared to 2019 (1,046 tonnes).

**Recommendation 3:** Direct Administration to advocate the LRWSC to permit diversionary credits for source separated yard and garden waste.

**Recommendation 4:** Revise the operating budget to reflect less diversionary credit revenue in 2021 (\$54,000)

## **ISSUE #3: Improvements to the Recycling System**

The Wolf Creek Recycle Depot costs the City approximately \$300/tonne on average which includes processing fees, bin rental and transportation of the bins to and from the Red Deer materials recycling facility. The diversionary credit from the LRWSC in 2020 is \$63.77/tonne for a net cost of \$236.23/tonne. For information curbside recycling would cost \$532.77/tonne today including the diversionary credit. Even with the City's high disposal costs, recycling still costs significantly more than landfilling. There is little financial incentive to continue operating the Depot as is, let alone improving the level of service by staffing the Depot and redeploying a curb side recycling program. However, as reported in the solid waste survey, residents support continued recycling initiatives in the City and even indicated support for modest fee increases to improve the program. Residents also reported

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their top 3 priorities for solid waste services are recycling, cost, and convenience including strong support for the curbside recycling program.

Little has changed in the recycling industry since Lacombe discontinued its curbside recycle program and the City's diversion rates are already in line with comparable communities. Some communities have seen significant success improving their diversion rates at a reasonable cost, but the end use of the material is not known. Without greater provincial or federal oversight of the recycling industry it's difficult to assure residents that the extra cost to divert material results in that material being repurposed – the supply chain is simply too complex and cross-jurisdictional making it impossible for Lacombe to track.

Advocacy for a provincially and/or federally coordinated solution on behalf of municipalities from [AUMA](#) and [FCM](#) continues. Both organizations have adopted resolutions from municipalities to that effect in 2019 and 2020.

If the LRWSC changes their requisition model to be weight based, the City should consider community waste reduction goals.

Historically, the Lacombe County and the City conducted a survey of actual users of the Depot to determine a fair cost sharing formula between the municipalities. Residents in Rosedale for example utilize the Depot. The County grants the City their portion of the cost based on that formula which is budgeted in 2020 to be \$36,900 or about \$40/tonne. This should be reviewed prior to the next ICF update.

Improvements to yard and brush containment are recommended, as well as discontinuing the allowance of commercial business to deposit yard waste at the Depot.

**Recommendation 5:** Maintain operation of the Wolf Creek Recycle Depot with improvements to the containment of yard waste, and brush (ie: concrete interlocking blocks).

**Recommendation 6:** Starting in 2021, issue an RFP for Wolf Creek Recycle Depot Services and residential curbside pickup every 4 years to ensure the City is receiving fair market value for service and to provide an opportunity to reevaluate condition of the recycling market.

**Recommendation 7:** Review the Wolf Creek Recycle Depot cost sharing formula with the County prior to the next ICF update.

**Recommendation 8 (see recommendation 13):** Update the utility bylaw to prohibit commercial businesses from depositing yard waste at the Wolf Creek Recycle Depot.

**Recommendation 9:** Continue to advocate for provincial and national solutions to incentivise recycling at the municipal level (ie: such as Extended Producer Responsibility Regulation).

## **ISSUE #4: Bin Types**

The shared lane bin system is operationally efficient at 1 tip per 4 households compared to a cart system which would otherwise require 1 tip per household and, potentially, double route lengths to pickup carts on both side of the road/lane. However comparable municipalities offer a residential multi cart system with lower utility rates so there is a reasonable likelihood that moving to a private contractor collection system with rollout bins could be done at a similar collections cost as the current City of Lacombe system. A review of collections costs is, unfortunately, not included in Tetra Tech's report. However, in 2018 the City received quotes from private contractors to supply bins and haul solid waste from the Mackenzie Ranch mobile home park at a cost of approximately \$1,400/month. At the time the City charged approximately \$2,600/month. However, the LRWSC requisition was approximately \$1,300/month based on a typical population density for the park. The quoted rate and the requisition cost total \$2,700/month – very close to the City's rate. The City's utility rate already included cost recovery for the LRWSC requisition so it can be reasonably assumed the City's collections costs were in line with private industry and not likely a major contributor to Lacombe's high solid waste rates.

**Recommendation 10:** Maintain the current communal lane bin system instituting roll out bins only in areas where communal lane bins are not feasible.

## **ISSUE #5: Cardboard Collection Program**

The downtown business cardboard collection program costs the City \$70/tonne to process clean cardboard at the material recycling facility. The diversionary credit for this material the City receives from the LRWSC is \$63.77/tonne for a net cost of \$6.33/tonne exclusive of collections and haul costs provided by City forces. This is a cost-effective recycling stream which should be expanded to include industrial customers whose cardboard waste is currently being disposed through the municipal waste stream at the Prentiss landfill.

**Recommendation 11:** Expand the downtown cardboard collection program to industrial customers.

## **Issue #6 Inefficient Routing**

Due to residential growth, garbage truck routes have become inefficient resulting in more frequent but lighter loads being transported to the LRWSC, and less pickups per day compared to industry standards and historical City haul data.

**Recommendation 12:** Proceed with optimizing current garbage routes utilizing in-house forces starting in 2021.

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## **Issue #7: Utility Bylaw**

The Utility Bylaw is out of date with the discontinuance of curb side recycling.

**Recommendation 13 (see also recommendation 8):** Update the utility bylaw to remove curb side recycling and restrict commercial companies from dumping yard and brush at the Depot.

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**Attached is an implementation plan which outlines the proposed timeline for each of the recommendations above for Councils review and endorsement.**

### **STRATEGIC PLAN ALIGNMENT:**

The completion of the Solid Waste Review is a direct outcome of Council Strategic Goal 4.3.3B: *Review the current solid waste management model.*

### **PUBLIC ENGAGEMENT/COMMUNICATION STRATEGY:**

The attached implementation plan outlines where public communications are planned (recommendations 10, 11, & 12).

### **ALTERNATIVE MOTION(S):**

1. THAT Council accepts this report as information and directs Administration to bring the solid waste review implementation plan to a future meeting for endorsement.
2. THAT Council accepts this report as information and endorses the solid waste review implementation plan.
3. THAT Council Directs Administration how it wishes to proceed.

### **ATTACHMENTS:**

Solid Waste Review Implementation Plan

City of Lacombe Solid Waste Review – Tetra Tech March 30, 2020