



**Request for Quotations  
(RFQ)**

***Blue Box Waste Study Program 2019***

***Single-Family and Multi-Family Study  
&  
Material Recovery Facilities (MRF) Study***

**Quotations Due by 4:00PM CST  
January 31, 2019**

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# 1 Background

## 1.1 Multi-Material Stewardship Manitoba Inc. (MMSM)

Multi-Material Stewardship Manitoba Inc., a corporation without share capital, was established to respond to the Printed Paper and Packaging (PPP) Regulation that obligates stewards to develop, implement and operate waste diversion programs for printed paper and packaging normally collected in a residential collection system.

## 1.2 MMSM 2019 Waste Study Program Plan

In order to fulfil the objectives of the MMSM Program, information is required on the types and quantities of PPP managed in the residential waste and recycling streams in Manitoba. This information is primarily gathered by sampling single-family and multi-family households that are considered to be representative of the households in the Province.

Additional information is required on the quantity and composition of materials managed at Material Recovery Facilities (MRFs) in order to allocate comingled tonnes reported by municipalities into appropriate PPP categories.

In order to achieve the information requirements above, the 2019 MMSM Waste Composition Study Program consists of two main components as depicted in the Table 1 below. Sampling for both study components will take place in the 2019 winter season (exact dates to be confirmed with successful proponent).

**Table 1: MMSM Waste Study Program Plan Components**

Study Component	Description	Municipalities/Facilities	Overview
1	Single-Family and Multi-Family Waste Composition Study in 4 municipalities in Manitoba	City of Winnipeg City of Steinbach City of Brandon City of Thompson	100 Single-Family homes sampled in each municipality (garbage and recycling streams)  Two (three in Winnipeg) Multi-Family buildings sampled in Steinbach, Brandon and Thompson municipality (garbage and recycling streams)
2	MRF Sampling: Commodity (Post-sort) Composition and Density Study	1. Emterra MRF – Winnipeg	24 (50kg±5kg) Commodity samples  20 Commodity density measurements

Study Component	Description	Municipalities/Facilities	Overview
			60 Material-specific density measurements  Unit counts for 44 material-specific density measurement samples

**1.2.1 Study Component 1: Single-Family and Multi-Family Waste Composition**

For the 2019 program, MMSM has selected the City of Winnipeg, the City of Steinbach, the City of Thompson and the City of Brandon for sampling single-family and multi-family households. Each of these programs are described below.

**City of Winnipeg**

The City of Winnipeg is the largest city in Manitoba with a population of approximately 705,000. Winnipeg offers city-wide single-family curbside and multi-family dwelling recycling programs with weekly collection of single-stream recyclables and garbage. Depending on the number of units in multi-family buildings recyclables and garbage are collected in either wheeled carts or front end bins. Garbage is collected weekly. If the designated multi-family building has a cart collection system for recycling and garbage the contractor is responsible to transport all waste material to the sorting location for subsequent weighing and sorting. If the designated multi-family building has front end bin service for recycling or garbage, the garbage and recycling will be delivered to the assigned audit location by the regular hauler.

One hundred single-family homes in ten areas of the city and three multi-family buildings will be sampled over two consecutive weeks in winter 2019, representing two full weeks of recycling and garbage generation at each single-family household and one week of generation at multi-family buildings.

City of Winnipeg	Single-Family Curbside		Multi-Family	
	Recycling	Garbage	Recycling	Garbage
Collection Frequency	Weekly	Weekly	Weekly *	Weekly *
Collection Container	Blue – Wheeled Cart	Black - Wheeled Cart	Blue - Wheeled Cart	Front-end bin
Single-stream/Dual Stream	Single-stream	Not applicable	Single-stream	Not applicable

\*Multi-family buildings with 50 plus units may have up to 3 collection pickups per week. To be determined once actual buildings have been selected.

### City of Thompson

The City of Thompson is the largest city in the Northern Region of Manitoba with a population of 13,680 (Census 2016) servicing approximately 2,320 and various size of multi-family dwelling. It is located 760 km north of Winnipeg.

City of Thompson	Single-Family Curbside		Multi-Family	
	Recycling	Garbage	Recycling	Garbage
Collection Frequency	Weekly	Weekly	Weekly	Weekly
Collection Container	Blue cart	Cart	Weekly	Weekly
Single-stream/Dual Stream	Single-stream	Not applicable	Weekly	Weekly

### City of Steinbach

The City of Steinbach has a population of approximately 16,000 servicing approximately 5500 households and 80 Multi-family complexes. The city has weekly curbside collection for recycling using clear bags, blue boxes and depots

One hundred single-family homes in ten areas of the city and two multi-family buildings will be sampled over two consecutive weeks in winter 2019, representing two full weeks of recycling and garbage generation at each single-family household and one week of generation at multi-family buildings.

City of Steinbach	Single-Family Curbside		Multi-Family	
	Recycling	Garbage	Recycling	Garbage
Collection Frequency	Weekly	Weekly	Weekly – buildings with wheeled carts  Front end bins: Frequency to be determined	Weekly
Collection Container	Blue box	Containers or Bags	Light Blue Wheeled Carts or Front-end Bins	Dark Blue Wheeled Cart or Front-end Bins
Single-stream/Dual Stream	Single-stream	Not applicable	Single-stream	Not applicable

## City of Brandon

The City of Brandon is the second largest city in Manitoba with a population of approximately 49,000. Brandon has front and rear lane automated cart collection for garbage and single-stream recycling which is collected weekly. Multi-family buildings also use automated cart collection for garbage and single-stream recycling. The contractor will be required to collect and sort both the recycling and garbage waste streams.

One hundred single-family homes in ten areas of the city and two multi-family buildings will be sampled over two consecutive weeks in winter 2019, representing two full weeks of recycling and garbage generation at each single-family household and one week of generation at multi-family buildings.

City of Brandon	Single-Family Curbside		Multi-Family	
	Recycling	Garbage	Recycling	Garbage
Collection Frequency	Weekly	Weekly	Weekly	Weekly
Collection Container	Blue Wheeled Cart	Black Wheeled Cart	Blue Wheeled Carts	Black Wheeled Carts
Single-stream/Dual Stream	Single-stream	Not applicable	Single-stream	Not applicable

### 1.2.2 Study Component 2: MRF Material Composition

For the 2019 program, MMSM has selected the Emterra MRF in Winnipeg to conduct the necessary MRF Material Composition Study. This facility accepts single-stream materials and processes material from the City of Winnipeg and a variety of other sources.

The Contractor will be required to sample material from post-sort/pre-bale commodities. The following commodities are produced at the facility of which nine (9) will be selected for further sampling and sorting during this study.

- ONP
- OCC
- Super Mix Paper
- Polycoat/ Aseptic & Gabletop
- Mixed Rigid Plastic
- HDPE Natural
- HDPE Colour
- PET Bottles
- PET Thermoform
- Aluminum UBC
- Steel/Tin

- Glass

### 1.3 Study Objectives

This section outlines the objectives of each of the study components.

#### 1.3.1 Study Component 1: Single-Family and Multi-Family Waste Composition

The primary objectives of the Single-Family and Multi-Family Waste Composition Study are to:

- Provide the estimated annual per capita waste generation rate.
- Provide the generation and composition of both the recycling and garbage streams.
- Calculate the recovery rate of all recyclable materials.
- Compare the data to previous waste audits to measure the change in waste generation, composition and recovery rates.

Secondary objectives include the following:

- To provide the participating municipalities with a measure of the effectiveness of their recycling and other waste reduction initiatives.
- To determine the recycling set-out and participation rates in the sample areas studied.

#### 1.3.2 Study Component 2: MRF Material Composition

The primary objectives of the MRF Material Composition Study are to:

- Determine the composition of the various commodities that are produced at the MRF after material sorting in order to quantify the relative proportions of individual Printed Paper and Packaging categories present.
- Calculate the densities of commodities and individual Printed Paper and Paper Packaging categories, in order to estimate the volume of materials managed.

### 1.4 Right to Change Scope

MMSM reserves the right to adjust the scope of work in consultation with the selected Contractor. This may include changes in sorting locations, changes in materials to sort, etc. Any increase in scope will involve the appropriate negotiations with the selected contractor to modify current contract pricing.

### 1.5 Terminology Used in the RFQ

**Contractor:** Company or companies retained to provide single-family and multi-family and MRF material composition sampling and sorting services under this RFQ.

**Host Municipality:** A municipality that has agreed to participate in MMSM's Waste Study Program.

**Sample Area:** One of a number of sampling locations identified by the MMSM Project Manager in conjunction with the host municipality, from which the Contractor will collect material for sorting.



## **2 Scope of Work**

### **2.1 Purpose**

The purpose of this RFQ is outlined for each of the study components below.

#### **2.1.1 Study Component 1: Single-Family and Multi-Family Waste Composition**

MMSM is requesting quotations for a Contractor to conduct waste composition studies in four municipalities in Manitoba, including in the City of Winnipeg, the City of Steinbach, the City of Thompson and the City of Brandon. Both studies will take place in the winter of 2019 and are not required to take place concurrently.

#### **2.1.2 Study Component 2: MRF Material Composition**

MMSM is requesting quotations for a Contractor to collect primary data on the composition of commodities produced at the Emterra material recycling facility (MRF) in Manitoba (see Table 1). Density measurements of the ready-to-be-baled commodities and individual sorted material categories (commodity material only) will also be collected. The data will be collected and sorted over a two to three day period.

## **2.2 MMSM Training and Study Planning**

### **2.2.1 MMSM Training Session**

Depending on familiarity and experience with MMSM's sampling and sorting methods, the successful Contractor may be required to attend a half-day MMSM waste study training session on sampling and sorting methods, material categories and data reporting requirements. MMSM requires all contractors to use the same methods and be familiar with MMSM's printed paper and packaging sort categories.

### **2.2.2 Kickoff Waste Study Planning Meeting**

The Contractor must attend a pre-study planning meeting with representatives of the host municipalities and representatives from MMSM. The purpose of the meeting is to meet one another, sort out any insurance issues, and discuss collection logistics, the sorting location, the management of post-sorting materials and how to handle questions from residents (Single-Family and Multi-Family Study Component only).

## **2.3 Study Component 1: Single-Family and Multi-Family Waste Composition Study**

### **2.3.1 Sampling Design – Sample Areas, Sample Size and Household Selection**

The MMSM Project Manager, in conjunction with the host municipality, will identify the sample areas and the specific households to sample. The host municipality will provide to the Contractor and to MMSM a list of street addresses in each sample area and a collection schedule for the study.

The sample material for the single-family study shall come from 100 single-family homes within the municipality. The material will be sourced from 10 homes in a row in 10 sample areas (10 different streets) that together are as representative as possible of the municipality's single-family housing as a whole.

The sample material from the multi-family buildings will come from two multi-family buildings (three in Winnipeg) and will be collected from these buildings by either commercial haulers, by the municipality or the contractor.

For the purposes of this study the term “multi-family complex”, or “complex”, refers to apartment buildings, condominiums and townhouse complexes where waste and recyclable materials are collected at a central location. Townhouses receiving door to door curbside collection or apartment buildings with fewer than six units are not considered to be “multi-family”.

**Table 2: SF and MF Composition Study - Description of Sample Areas and Sizes**

#	Municipality	No. of sample areas	No. of households per sample area	Collection Frequency	Total No. of Households
1.	City of Winnipeg Single-Family Residential	10	10	Garbage and Recycling: weekly	100
	City of Winnipeg Multi-Family Residential	3 buildings	TBD	Garbage and Recycling: weekly	TBD in final selection by host municipality
2.	City of Thompson Single-Family Residential	10	10	Garbage and Recycling: weekly	100
	City of Thompson Multi-Family residential	2 buildings	TBD	Garbage: weekly Recycling: weekly	TBD in final selection by host municipality
3.	City of Steinbach Single-Family Residential	10	10	Garbage: weekly Recycling: weekly	100
	City of Steinbach Multi-Family Residential	2 buildings	TBD	Garbage and Recycling: Weekly	TBD in final selection by host municipality
5	City of Brandon Single-Family Residential	10	10	Garbage and Recycling: weekly	100

#	Municipality	No. of sample areas	No. of households per sample area	Collection Frequency	Total No. of Households
	City of Brandon Multi-Family Residential	2 buildings	TBD	Garbage and Recycling: weekly	TBD in final selection by host municipality

**2.3.1.1 Length of Study and Collection Scheduling**

The waste composition study in each municipality shall be two weeks long (two consecutive weeks) and the material collected and sorted should represent two weeks of generation of both recyclables and garbage at single-family homes and one week of generation at multi-family buildings

**Single-Family Households:**

The Contractor(s) is responsible for collecting all waste (recycling and garbage) set out at the curb by each sampled household over the two-week sampling period even if the wastes are set out on different days of the week. The 100 households sampled in the first week shall be sampled again in the second week, unless both the collection of recyclables and garbage are on a bi-weekly schedule and collected in the same week. In this scenario, each household would be sampled during the first or second week of the study.

While MMSM recommends that the Contractor collect and sort sample material from 20 or 30 households per day, we recognize that this may not always be possible due to timing issues/collection schedules. Therefore, there is an allowance for sampling from up to 60 households per day if necessary.

**Multi-Family Building Complexes:**

The study will measure the quantity and composition of printed paper and packaging within the garbage and recycling collection streams generated during a one-week (7-day) period, unless the collection schedule is bi-weekly. In these cases two weeks of generation of recyclables and garbage will be sampled.

For material collected in front-end bins, MMSM or the municipality will be responsible to ensure the material is collected from each of the buildings and the delivery to the sorting site. If wheeled carts are used as waste and recyclables receptacles at buildings the transportation to the sorting site will be the responsibility of the Consultant.

**2.3.1.2 Study Timing**

The single-family and multi-family studies at each municipality will be completed over a two-week period in the winter of 2019. MMSM will coordinate the exact sampling dates in the four study locations with the host municipality and the Contractor.

**2.3.2 Specifications for Waste Collection**

- A. Each study shall be two weeks long (two consecutive weeks).
- B. For the multi-family studies the Contractor is responsible for the collection, transportation and weighing of the recycling and garbage to the sorting site if the material is collected in wheeled carts. If the garbage and recycling is collected in front-end bins, MMSM or the host municipality will transport the material to the sorting site and ensure that each waste stream is separately weighed.

- C. The sample material for the single-family studies shall come from 10 homes in a row in 10 different sample areas (streets) within the municipality (i.e. a total of 100 homes).
- D. While MMSM recommends that the Contractor collect and sort sample material from 20 or 30 households per day, we recognize that this may not always be possible due to timing issues/collection schedules. Therefore, there is an allowance for sampling from up to 60 households per day if necessary.
- E. The 100 households sampled in the first week shall be sampled again in the second week, unless the collection schedule is biweekly and garbage and recycling are collected on the same day.
- F. If a household does not set out material; the Contractor shall note this on the Waste Study Collection Log. The Contractor shall not collect substitute material from another home if the sample home does not set out material.
- G. All recycling and residual waste (garbage) set out by the sample households are to be collected (see below for information on yard waste, source separated organics, bulky waste and white goods).
- H. Due to the high variability of yard waste, any yard waste (leaves, grass, branches, etc.) that is outside of the regular garbage containers will not be collected.
- I. Bulky items (large items over 34 kg or 5 feet in any direction such as furniture, carpeting, sofas, mattresses, barbecues and television sets) are collected by special collection only and are not included in this waste study. The Contractor should document any such items left at the curb (e.g. "one large couch at address number 123") on the Waste Study Collection Log.
- J. White goods (large metal bases appliances such as refrigerators, freezers, clothes washers, dishwashers, clothes dryers, ranges, stoves, air conditioners, hot water tanks) shall not be collected.
- K. The Contractor and host municipality are to decide how to handle waste set outs that do not meet municipal waste set out requirements. The Contractor shall collect all materials at the curb (except white goods and very heavy or exceptionally large bulky items) unless the host municipality instructs otherwise. The host municipality must provide "material rejection" tags/stickers for the Contractor to use if the host municipality wants the Contractor to reject unacceptable materials.
- L. Waste collection cannot begin before the time specified by the municipality's waste collection by-laws (typically not before 7:00 a.m.) Contractor shall drive by the sample homes a second time at the end of the first run to look for and collect any late set outs. The intent is to make sure all waste set out is collected.
- M. The Contractor shall complete a record in the Waste Study Collection Log provided by MMSM. The contractor shall record the number of bags/containers per stream at each house.
- N. Weather conditions are to be documented on the Waste Study Collection Log. The Contractor shall note if the material at the curb (particularly the recyclable paper) is wet or not and whether they believe participation could have been hampered due to inclement weather.

- O. A representative from the host municipality will be available by phone to answer questions concerning collection. Questions from residents shall be directed to the representative from the host municipality.
- P. The Contractor is to notify the representative from the host municipality immediately if any problems are encountered during collection, particularly if regular waste collection crews are seen in the sample areas.
- Q. The Contractor's fieldwork manager/supervisor must have a cell phone.
- R. The Contractor shall provide collection staff with personal protective equipment including heavy-duty gloves, safety footwear, traffic vests, protective coveralls, safety masks and safety eyewear.
- S. The Contractor shall provide a marked 16-foot cube van or similar vehicle for waste collection purposes.
- T. The Contractor shall provide bags or containers for collecting loose material or material set out in bins.
- U. Sample material from each sample area shall be kept separate and the data kept separate.
- V. The individual waste streams (recyclables, source separated organics, yard wastes and residual wastes) shall be managed separately and the data recorded separately.
- W. The Contractor shall transport the collected material to the sorting site, a predetermined location provided by the host municipality.

### **2.3.3 Specifications for Waste Sorting**

- A. The Contractor shall provide the following pieces of equipment:
  - Heavy-duty gloves, safety footwear, traffic vests, safety glasses, coveralls and ear plugs for the sort staff.
  - First aid kit.
  - Work tables on which to sort the sample material.
  - Leak proof containers of sufficient volume and in sufficient number such that the sample materials can be sorted and weighed.
  - Other items necessary to complete the sort (e.g. broom, dustpan, knives to open the bags, etc.).
- B. The host municipality shall provide the following:
  - An area for waste sorting, ideally a covered, heated building.
  - Bins for recycling or disposal of the post-sorted and weighed wastes. The host municipality shall empty and return the bins as required. The host municipality shall cover all costs associated with these bins including the hauling and disposal of the post-sorted wastes.
- C. The Contractor must ensure that their collection and sorting staff are familiar with MMSM's material categories and sampling and sorting methods. At the discretion of MMSM, the Contractor's staff may be required to attend a half-day MMSM Waste Study Training Session (see Section 2.2).

*For detailed information on sub-samples from multi-family dwellings, please see **Appendix A – Multi-Family Sub-Sampling Methodology.***

- D. The Contractor should recommend to each member of the waste sorting crew that they have a tetanus shot if they have not had one in the last 10 years.
- E. The Contractor shall provide a suitable electronic weigh scale capable of measuring to 0.01 kg and to at least 60 kg, of sufficient accuracy to provide weight measurements within  $\pm 1\%$  of true weight.
- F. All weight measurements will be expressed in metric units (i.e. kilograms) to two decimal places. MMSM recommends that light materials/items be placed directly on the scale for weighing and not in a bin.
- G. The tare weight of all weigh containers shall be determined prior to any sorting and shall be checked periodically during the sorting process.
- H. The sample material shall be sorted by stream and by sample area into the categories shown in Appendix B.
- I. The Contractor shall make best efforts to separate food wastes and residual liquid from their packaging before weighing. This can be achieved by opening all packaging and shaking out the contents.
- J. Bags/containers found to contain hypodermic needles or other hazardous wastes shall be set aside, weighed, and described on the Waste Sort Worksheet provided by MMSM. They will then be disposed of in a dedicated container provided by the host municipality.
- K. The Contractor will make note of and weigh separately items that dramatically affects the total weight measured for any one waste category (e.g. someone throwing out a collection of magazines).
- L. The Contractor shall sort and weigh 100% of the material collected (see exceptions for multi-family buildings). The Contractor is not required to weigh the sample material before it is sorted.
- M. The Contractor shall record the weights of the separated materials by waste stream and by sample area. To ensure accurate weight measurements, MMSM recommends that very light materials/items be placed directly on the scale for weighing and not in a bin.
- N. The following approach will be used for managing “fines” (items <1 cm across):
  - Estimate the composition of the fines by weight (i.e. 10% kitty litter, 30% food waste, 20% mixed fine paper, 30% clear glass and 10% coloured glass).
  - Split the mix accordingly.
  - Add material to the appropriate bins prior to weighing.
- O. Residual waste and organic wastes must be sorted and disposed of on the day they are collected. If necessary, recyclables and other dry materials can be held over and sorted on another day (space permitting).

- P. The Contractor shall keep the sorting area in a reasonably clean state and will wash/wipe/sweep off the sorting bins, floors, sorting tables and other surfaces in contact with the waste at the end of each day.
- Q. Upon completion of the waste audit, the Contractor shall promptly remove all of the Contractor's equipment and supplies and return the sorting area to state in which it was found at the beginning of the audit.
- R. The Contractor shall count the Polyethylene PE Retail and Carry-out Bags/Sacks as per:
- Reused as a waste receptacle for garbage or recyclables (HDPE or LDPE).
  - Empty was not used as a waste receptacle for garbage or recyclables (HDPE or LDPE).

### 2.3.4 Reporting Study Results

- A. Only the data collection forms and electronic spreadsheets provided by MMSM are to be used for reporting.
- B. Reporting for each two-week study is to be completed and provided to MMSM no later than one week after the final waste collection day.
- C. All data must be checked for accuracy/errors and approved by the Contractor's project supervisor before being submitted to MMSM.
- D. Data collected on the worksheets and logs is to be entered into the electronic spreadsheets provided by MMSM.
- E. The Contractor shall email the completed electronic spreadsheets to Martin Racicot at MMSM ([mracicot@stewardshipmanitoba.org](mailto:mracicot@stewardshipmanitoba.org)).

## 2.4 Study Component 2: MRF Material Composition Study

### 2.4.1 Study Timing

The timing of the MRF Material Composition Study should coincide with the Single-Family and Multi-Family studies in Winnipeg either prior to or after the completion of the two-week study. It is expected that the Contractor will require approximately 2-3 days to complete the work, depending on the number of sorters used.

### 2.4.2 Specification for MRF Sampling

#### 2.4.2.1 Commodity (Post-sort material)

The commodity samples will be obtained in an unbiased way from storage bunkers and/or cages and/or baler in-feed belt by hand using shovels and bins or with the assistance of a MRF staff loader operator. In some cases where access to loose material is restricted, it may be necessary to get the samples from bales that have been opened (this would only be done if the de-baled material could be sorted relatively easily, i.e. the containers are not too stuck together).

The Contractor is to sort two (2) to three (3) 50 kg ( $\pm$  5 kg) samples of each of the targeted commodities that are available at the time of the audit, with the exception of Aluminum UBC in which six (6) samples are to be sorted (assume 9 target commodities will be available at the MRF). The Contractor is required to sort approximately 1,200 kg or 24 total 50 kg ( $\pm$  5 kg) samples of post-sort materials during this study

Before gathering and sorting a sample, the Contractor is required to consult with MRF staff and confirm that the sample material meets the requirements of the study. If the Contractor is aware that the material does not meet the requirements of the study, is unsure, or feel they cannot get sufficient material for the 24, 50 kg samples, they are to contact Martin Racicot at MMSM [mracicot@stewardshipmanitoba.org](mailto:mracicot@stewardshipmanitoba.org) for further direction.

### **Selection of Commodities**

Prior to beginning the field work, the Contractor must ensure their staff and subcontractors have received suitable and appropriate training for the current work environment (i.e. WHMIS) and are familiar with the sampling methods outlined in this document. In addition, staff and subcontractors must understand the nature of the work and the risks presented, and are familiar with techniques to minimize the risk of personal injury.

The post-sort samples will come from post-processed blue box materials that are either ready-to-be-baled or ready-to-be-shipped loose. In the event that only baled material is available, the contractor will confer with MMSM to determine if sorting baled material is the best course of action at the time.

Commodities to sample will include:

- ONP
- OCC
- Super Mix Paper
- Polycoat/Tetrapak
- HDPE Coloured
- HDPE Natural
- Mixed Rigid Plastic
- Steel/Tin
- Aluminum UBC

#### **2.4.3 Specifications for Sorting MRF Material (Commodities)**

The partner MRF is required to provide appropriate space in their MRF for the sorting, ideally a 20' x 20' area in an out of the way area with low traffic flow and adequate lighting and ventilation. An electrical outlet will be required in the vicinity to power the weigh scale. The partner MRF will also be called on to provide assistance obtaining sample material from the tip floor and bunkers and/or cages.

The contractor will provide the following equipment for waste sorting:



- Heavy-duty puncture resistant gloves, safety footwear, reflective safety vests, protective coveralls, ear plugs and air-filter safety masks.
- Work tables on which to sort the waste.
- Leak-proof containers for sorting and weighing the blue box material.
- An electronic weigh scale capable of measuring from 0.005 kg to at least 120 kg, of sufficient accuracy to provide weight measurements within  $\pm 1\%$  of true weight.
- A first aid kit.
- Any other items necessary to complete the sort (e.g. broom, dustpan, etc.).

Each 50 kg ( $\pm 5$  kg) sample will be sorted separately into MMSM's material categories. Refer to Appendix G for a summary of the required material categories.

All material will be processed using MMSM's standard methods for sorting residential waste. Best efforts will be made to empty all food and beverage containers before weighing. Any item that substantially skews the overall weight of a particular category should be weighed separately and the weight noted on the datasheet using the Excel comment function.

All weight measurements will be expressed in kilograms to two decimal places and will be recorded in the Excel workbook provided.

On completion of the sampling, the contractor will promptly remove their equipment and supplies and leave the site as it was prior to the sampling exercise.

#### **2.4.4 Specifications for Density Measurements**

Density measurements are required to be taken for 1) targeted commodities prior to the consultant sorting into the MMSM material categories, and 2) individual material categories after sorting by the Consultant (from commodity samples only) as required in Section 2.4.3. above.

##### 1). Commodity-level Density Measurements of Samples

For the identified commodities to study at the MRF, the Consultant will ensure that two (2) completely full 'Container A' (see Section 3.3 point F. below) samples are weighed and density recorded as per the provided worksheets. For commodities with greater densities (ONP, OCC), a full Container A will have a weight greater than the 50 kg samples that are to be collected and sorted into material categories as required. In these cases, the two full 'Container A' samples can be used to create the 50 kg samples to be sorted as per Section 2.4.3. A total of 18 (9 commodities X 2 Container A density measurements) commodity-level density measurements will be required for this study.

##### 2). Material-Specific Density Measurements

Density measurements are required for sorted materials for each of the identified individual material sorting categories (See Appendix G). The objective for the study is to obtain, at minimum, between two (2) and four (4) density measurements for each specified material category, for a total of 60 samples is expected.

Sorted materials from the same category can be combined from multiple 50 kg samples so that a full Container A or B can be measured. Where it is not possible to obtain two (2) full containers for certain material categories, the Contractor shall notify MMSM to request suitable substitutes.

For 22 of the material categories, a count of the number of units found in each material-specific density samples will be required as noted in Appendix G. Therefore, unit counts for 44 material-specific density samples will be required.

For both commodity-level and material-specific density measurements, during the sorting process and prior to weighing, the contractor will gently shake the container for approximately five to ten seconds periodically to assist the material to settle and level out. Material should not be compressed by hand or stood upon by the contractor.

#### 2.4.5 Reporting Study Results

The Contractor is required to enter the weight data from the MRF Material Composition and Density Study into the electronic spreadsheets provided by MMSM. The file contains the following worksheets:

**Study Description:** The Contractor is required to enter general information about the conditions at the MRF at the time of sampling (i.e. weather conditions, etc.) into this sheet and submit it to MMSM at the end of the study.

**Material Categories:** The Contractor should print this sheet and make it available for reference during the waste sort.

**MRF Commodity/Tip-Floor Sort Results:** The Contractor is required to enter the weight measurements into this sheet and submit to MMSM at the end of the study. Instructions for entering the data are provided on the worksheet.

**Density – Commodity-level/Tip-Floor Results:** The Contractor is required to enter weight measurements into this sheet and submit to MMSM at the end of the study. Instructions for entering data are provided on the worksheet.

**Density – Material-Specific Results:** The Contractor is required to enter weight measurements into this sheet and submit to MMSM at the end of the study. Instructions for entering data are provided on the worksheet.

**Photo documentation** – The Contractor is required to take a pre-sort photo of each sample and a post-sort sample of the materials. The Contractor shall also take a photo of each container when recording the density of commodity-level and material-specific sample measurements.

All data and information must be checked for accuracy and errors and be approved by the Contractor's project supervisor before it is submitted to MMSM.

The Contractor will email the completed electronic spreadsheets to Martin Racicot at MMSM [mracicot@stewardshipmanitoba.org](mailto:mracicot@stewardshipmanitoba.org).

Upon conclusion of each series of this project, MMSM will provide the project partners with the results from the study conducted at their facility.

### **3 General Requirements**

#### **3.1 General Requirements of the Contractor**

- A. The Contractor must have the appropriate qualifications and experience to complete the tasks outlined above and must ensure that the lead person on site has such experience and qualifications.
- B. The Contractor must provide appropriate supporting documentation detailing the qualifications and experience of the people who will be carrying out the work. Please limit qualifications and experience to those relevant to this work.
- C. On the form provided in Appendix D, the Contractor must provide a reference for residential waste studies and a contact for MRF study experience.
- D. MMSM will require the Contractor to enter into a confidentiality agreement that protects all information provided to the Contractor by MMSM or by any municipality or MRF operator or other party contacted by the respondent in order to complete this contract.
- E. The recommended Contractor(s) must provide the necessary certificates of insurance to the host municipality and MMSM prior to award of the contract. MMSM's insurance requirements are given in Section 4. MMSM will make the insurance requirements of the host municipalities available to the recommended Contractor(s) prior to awarding the contract.
- F. On the form provided in Appendix E, the Contractor must list all equipment including collection vehicle, materials, supplies and services they will provide in order to successfully complete the studies in accordance with the specifications of this RFQ.
- G. On the form provided in Appendix F, the contractor must specify the number and roles of persons supplied to complete each waste study and must identify by name the Contractor's project supervisor.
- H. The Contractor must complete Appendix G if they plan to use subcontractors. (MMSM reserves the right to approve or not approve subcontractors suggested by the Bidder for the purpose of a Purchase Order(s) for the work).
- I. The Contractor must complete all studies within the time frames specified in Sections 2.3.1.1 and 2.3.1.2. and Section 2.4.1.

- J. The Contractor's fieldwork waste audit supervisor/manager must attend a half day MMSM Waste Training Session on sampling and sorting methods, material categories and data reporting requirements. The training session is necessary because MMSM requires that all Contractors use the same methods and are familiar with MMSM's printed paper and packaging sort categories.
- K. The Contractor must attend a pre audit planning meeting with each host municipality.
- L. The Contractor shall ensure that all persons participating in the studies have received suitable training prior to commencement and are familiar with MMSM's material categories.
- M. The Contractor shall provide weekly informal progress updates to MMSM.
- N. The Contractor shall ensure that all of their staff understands the nature of the work and the risks presented and are familiar with techniques to minimize the risk of personal injury.
- O. The Contractor shall report all injuries to MMSM and the host municipality.
- P. The Contractor shall take digital pictures of the multi-family complexes chosen and pictures of any anomalies, e.g. unusual items in the waste or recycling streams during the audit period.

### **3.2 General Requirements of the Host Municipality**

- A. The host municipality shall identify the sample areas in conjunction with MMSM.
- B. The host municipality shall provide a suitable sorting location with proper facility (i.e. water, washroom).
- C. The host municipality shall manage the post-sorted material. The host municipality will provide disposal and recycling bins with easy access to the contractor and cover all costs associated with the bins themselves and the hauling and disposal of the material.
- D. A representative from the municipality will meet with the Contractor prior to the study commencing.
- E. The host municipality shall provide a liaison person to deal with questions from residents, staff and councillors and to coordinate with municipal collection services.
- F. The host municipality will provide the contractor with a letter stating the contractor is authorized by the host municipality to collect the garbage and the recyclables for the purpose of the study.

### **3.3 General Requirements of MMSM**

- A. MMSM shall make payments to the Contractor for work originating from this RFQ according to the terms outlined in Section 6.

- B. MMSM shall run a waste training session for the Contractor.
- C. MMSM shall provide the Contractor with all the necessary worksheets and logs for data collection and reporting purposes for both study components.
- D. MMSM shall provide a liaison person to deal with questions related to collection and sorting methods and results reporting.
- E. MMSM will analyze the data and will give a copy of the results to the host municipality.
- F. For Study Component 2, MMSM will provide the Contractor with two different container types with known volumes ( $m^3$ ) to be used for the purpose of measuring material densities of selected commodities and individual sorted material categories.

**Container A:** A Gaylord Box with the dimension of 48" x 38.125" x 38.75" (approx. 122 cm x 97 cm x 98 cm) and a known volume of 41 ft<sup>3</sup> or 1.162 m<sup>3</sup>. This container shall be used for the measurement of the density of the commodities and for measuring the density of individual material sort categories such as corrugated cardboard (OCC), boxboard (OBB) and other materials considered too bulky to use 'Container B'.



**Container A**

**Container B:** A large U Haul moving box with a volume of 127.4 L. This container shall be used for the measurement of less bulky materials including containers used for beverages, food and consumer products, LDPE Film, etc.



**Container B**

## 4 Liability

- A. The Contractor will purchase and maintain in force, at their own expense (including the payment of all deductibles) for the duration of the period the services are to be provided under this Request for Quotations, the following policies of insurance:
- a) Comprehensive General Liability, provided that the policy:
    - I. Is in the amount of not less than one million dollars (\$1,000,000).
    - II. Adds MMSM, the partner municipality and any sub-contractors of the contractor as additional insured.
    - III. Has provisions for cross-liability and severability of interests as between the contractor and any such additional insured.
    - IV. Provides thirty days prior notice to MMSM and the partner municipality of any cancellation, termination or expiry of, or amendment or change (in a material respect) to the policy.
  - b) Standard Automobile Liability provided that the policy is in the amount of at least one million dollars (\$1,000,000) for each occurrence.
- B. The Contractor shall from time to time, and at all times hereafter, well and truly save, keep harmless and fully indemnify MMSM and any of its officers, employees, agents, representatives, invitees, members, volunteers, successors and assigns from and against any and all manner of claims, demands, losses, costs, charges, actions and other proceedings whatsoever which may be brought against or made upon any of them and against all loss, liability, judgments, costs, demands or expenses which any of them may sustain, suffer or be put to in respect of any loss, damage or injury to any person or property directly or indirectly arising out of, resulting from or sustained as a result of the work done by or on behalf of the Contractor or by reason of, or on account of, or resulting from the provision of the services to be provided under this Request for Quotation. The Contractor shall defend, indemnify and hold harmless MMSM, its officers, employees, subcontractors, agents and representatives from any losses that arise or are related to the Contractor's performance or non-performance of its obligation, including payment obligations, under this Agreement. Upon assuming the defense of any action covered under this section the Contractor shall keep MMSM reasonably informed of the status of the matter, and the Contractor shall make no admission of liability or fault on MMSM's part without MMSM's written permission.
- C. MMSM contractors are required to remain in good standing with the Worker's Compensation Board of Manitoba (WCB) during the duration of the project.

## 5 Price Quotation

MMSM prefers that a single contractor conduct both study components outlined in this RFQ, however bids submitted for a single study component will be considered

The Contractor will enter their price quotations for each study in the Price Quotation table below. The price quotes will include all expenses (e.g. supplies, travel, accommodation, etc.). The Contractor's prices will be in effect for a period of 90 days from the date of closing the RFQ.

**Table 3: Price Quotation Table**

Study Component	Description	Municipalities/Facilities	Price not including GST
1	City of Winnipeg Single-Family Study	Winnipeg	
	City of Winnipeg Multi-Family Study	Winnipeg	
	City of Steinbach Single-Family Study	Steinbach	
	City of Steinbach Multi-Family Study	Steinbach	
	City of Thompson Single-Family Study	Thompson	
	City of Thompson Multi-Family Study	Thompson	
	City of Brandon Single-Family Study	Brandon	
	City of Brandon Multi-Family Study	Brandon	
2	MRF Sampling: Commodity (Post-sort) Composition and Density Study	Emterra MRF – Winnipeg	

## 6 Evaluation of Quotations and Award

The Request for Quotations will be reviewed and evaluated by MMSM staff regarding short listing and interviewing respondents as necessary to identify the recommended Contractor. Any decision to accept a submitted quotation, or to proceed with more detailed negotiations with one or more of the bidders, rests with MMSM’s Waste Study Subcommittee.

It is the intent of MMSM to contract with the Contractor with the overall best value to meet MMSM’s current and future needs. Cost will be considered but is not necessarily the sole determining factor for an award.

MMSM may revoke the award for this Request for Quotations if the recommended Contractor does not declare to MMSM within five business days after notification of award that they agree to provide the services outlined in this RFQ.

## 7 Payment

The Contractor will be paid upon completion of each two-week study. The Contractor shall submit an invoice for payment upon completion of each two-week study. The invoice shall reference the study name for MMSM’s Waste Study Program and shall show the amount of GST separately.

The Contractor shall document all costs and provide receipts to MMSM for all expenses associated with the work.

Invoices shall be sent to:

Multi-Material Stewardship Manitoba  
7<sup>th</sup> Floor-259 Portage Ave.  
Winnipeg, MB  
R3B 2A9

Invoices shall be paid by MMSM within thirty (30) days of receipt of the invoice provided that such invoices are proper, accurate and not in dispute.

## **8 Other Information**

MMSM may cancel or modify this Request for Quotation at any time prior to an award. MMSM may reject submissions for this Request for Quotation at any time prior to awarding the contract. MMSM may at its sole discretion choose to award all or part of the waste studies.



## Appendix A – Multi-Family Sampling Methodology

### I. Multi-Family Sampling requirements

#### Garbage:

- A. If a complex generates less than 400 kg of garbage per week, the audit team is required to sort all garbage generated by that complex
- B. If the complex generates more than 400 kg of garbage per week, the contractor can either:
  - 1) Sort it all as one sample (two samples if garbage is collected two times per week).
  - 2) Extract and sort sub-samples (See Section II below).

#### Recycling:

- C. If a complex generates less than 200 kg of recycling per week, the audit team is required to sort all recycling generated by that complex.
- D. If the complex generates more than 200 kg of recycling per week, the contractor can either:
  - 1) Sort it all as one sample (containers and fibres will be sorted separately if they are streamed separately for collection).
  - 2) Extract and sort sub-samples.

### II. Extracting sub-samples

Please skip this section if you are sorting the whole load.

- A. Each sub-sample will be at approximately 100 kg and will be sorted separately.
- B. The Contractor will use the “cone and quarter” sampling method for extracting sub-samples from the recycling and garbage loads collected from the complexes.  
Cone and quartering is done as follows:
  - 1. The hauler unloads the material collected from a complex onto the tipping floor at the sort site.
  - 2. The material is mixed by mechanical shovel, or by hand using rakes or shovels, into a uniform, homogeneous pile approximately 0.8 metres high.
  - 3. The pile is divided into four by running a straight line through the centre of the pile and a second line roughly perpendicular to the first.
  - 4. Opposite quarters are removed and set aside (but not discarded), leaving half the original sample.
  - 5. Steps three through six are repeated until all that remains is the required sub-sample weighing approximately 100 kg. The sub-sample will be set aside for sorting.
  - 6. Steps three to seven will be repeated until the contractor has the required number of 100 kg sub-samples.
- C. Sub-sampling requirements for complexes with **bi-weekly garbage or recycling collection**:

Waste Stream	Sub-Samples	Sub- Sample to be Sorted (kg)
Garbage Pick Up #1	#1	~100
	#2	~100
	#3	~100
	#4	~100
Total garbage sorted per complex →		<b>~400</b>
Recycle Pick Up #1	#1	~100
	#2	~100
Total recycling sorted per complex →		<b>~200</b>
Total waste sorted per complex →		<b>~600</b>

D. Sub-sampling requirement for programs with weekly recycling collection and **more than one garbage pick-up per week.**

Waste Stream	Sub-Samples	Sub- Sample to be Sorted (kg)
Garbage Pick Up #1	#1	~100
	#2	~100
Garbage Pick Up #2	#3	~100
	#4	~100
Total garbage sorted per complex →		<b>~400</b>
Recycle Pick Up #1	#1	~100
	#2	~100
Total recycling sorted per complex →		<b>~200</b>
Total waste sorted per complex →		<b>~600</b>

Appendix B – Waste Sort Categories – Single-Family and Multi-Family Study

<b>Multi-Material Stewardship Manitoba Composition Study 2019 – Material Categories</b>	
<b>Material Category</b>	<b>Description / Examples</b>
<b>PRINTED PAPER</b>	
<b>Newspapers - Daily and weekly</b>	Daily and weekly newspapers published by the Canadian Newspaper Association (CNA) and the Manitoba Community Newspapers Association (MCNA); Winnipeg Free Press, Brandon Sun, Winnipeg Sun, Globe and Mail, National Post, community newspapers. No inserts, flyers and magazines from newspapers.
<b>Other Newspapers/Newsprint - Other</b>	Non MCNA/CNA publications printed on newsprint (e.g. TV guides, Auto Trader, Real Estate News) plus inserts and flyers printed on newsprint.
<b>Magazines and Catalogues</b>	Glossy magazines, catalogues, calendars, annual reports and product manuals (must be bound, i.e. stapled or glued).
<b>Directories / Telephone books</b>	Telephone books and other directories such as the Yellow Pages.
<b>Other Printed Paper (Obligated)</b>	Mixed fine paper, bills and statements, ad mail, etc. Includes non-newsprint flyers and advertising, promotional calendars.
<b>Other Printed Paper (Non-Obligated)</b>	Writing paper, office paper, soft or hard covered books, paper envelopes (blank), gift cards, purchased calendars, gift wrap, construction paper, photographs.
<b>PAPER PACKAGING</b>	
<b>Gable Top Containers - Non-Beverage</b>	Polycoat containers with a gable shaped top used to package sugar, molasses, and other non-beverage products.
<b>Gable Top Containers - Beverage</b>	Polycoat containers with a gable shaped top used to package milk and milk substitutes like soy, almond and rice milk, juices, and other beverages, including alcoholic beverages.
<b>Aseptic Containers - Non Beverage</b>	Polycoat fibre and foil containers (e.g. Tetra Pak) used to package soup, sauces and other non-beverage consumer products
<b>Aseptic Containers - Beverage</b>	Polycoat fibre and foil containers (e.g. Tetra Pak) used to package milk and milk substitutes like soy, almond and rice milk, juices and other beverages, including alcoholic beverages.

<b>Multi-Material Stewardship Manitoba Composition Study 2019 – Material Categories</b>	
<b>Material Category</b>	<b>Description / Examples</b>
<b>Polycoat Beverage Cups</b>	Hot beverage/food containers, with polycoat on inside only, including coffee cups, soup cups/bowls, chili cups etc. Cold beverage/food containers with polycoat on both sides including fountain drinks, take-out ice cream cups.
<b>Spiral Wound Containers</b>	Polycoat or paper containers with steel bottoms including chip containers, frozen concentrate juices, pre-packaged cookie dough, etc. May also have foil and/or plastic on ends.
<b>Ice Cream Containers and Other Bleached Long Polycoat Fibre</b>	Polycoated paper ice cream containers, typically with a lid, excluding boxboard folded ice cream boxes. Food containers with white fibre and a rolled or folded rim, includes Michelina's frozen food, KFC tubs.
<b>Paper Laminate Packaging</b>	Paper with aluminum foil and or plastic composites - Includes microwave popcorn bags, some cookie bags, dog food bags, paper granola bar wrappers, laminated paper carry out bags, etc.
<b>Corrugated Cardboard</b>	Includes micro-flute corrugated containers, pizza boxes, waxed corrugated containers, electronic product boxes such as television and computer boxes, boxes used to direct mail for residential consumers. Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, includes brown, white, and coloured Kraft paper and bags. No bags with bonded plastic or foil liners/layers/coatings.
<b>Boxboard/Cores/Molded Pulp</b>	Boxboard, paperboard, cereal box, shoe box, frozen food box, cores from toilet paper/ toweling/gift wrap, etc. Includes wet-strength boxboard, fast food, ice cream boxes, cartons such as fry/onion ring boxes and paper plates. Molded pulp packaging such as egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.
<b>Other Paper Packaging (Non-Obligated)</b>	Corrugated moving boxes that can be clearly identified as branded products, paper compost & leaf and yard bags
<b>PLASTICS</b>	
<b>#1 PET Bottles, Jugs and Jars - Clear - Non-Beverage</b>	Clear and translucent #1 plastic bottles, jugs and jars used to package food and personal products such as shampoos and other non-beverage products
<b>#1 PET Bottles Clear - Beverage</b>	Clear and translucent #1 plastic bottles, jugs and jars used to package beverages like pop and water as well as alcoholic beverages

<b>Multi-Material Stewardship Manitoba Composition Study 2019 – Material Categories</b>	
<b>Material Category</b>	<b>Description / Examples</b>
<b>#1 PET Bottles, Jugs and Jars - Coloured - Non-Beverage</b>	Solid colour or opaque #1 plastic bottles and jars for foods and personal products such as shampoos
<b>#1 PET Bottles Coloured - Beverage</b>	Solid colour or opaque #1 plastic bottles for alcoholic and non-alcoholic beverages
<b>#1 PET Bottles, Jugs and Jars ≥ 5 L</b>	#1 plastic bottles jugs and jars with a volume of greater than or equal to 5 litres. Includes both beverage and non-beverage containers
<b>#1 PET Thermoform - Clear</b>	#1 clamshells, #1 egg cartons, #1 trays, #1 blister packaging, etc.
<b>#1 PET Thermoform - Coloured</b>	#1 coloured PET microwaveable trays, folded PET cartons
<b>#2 HDPE Bottles, Jugs and Jars - Natural - Non-Beverage</b>	Natural #2 plastic bottles, jugs and jars used to package non-beverage products such as laundry soap, shampoo, windshield washer fluid, etc.
<b>#2 HDPE Bottles - Natural - Beverage</b>	Natural #2 plastic bottles used to package alcoholic and non-alcoholic beverages
<b>#2 HDPE Bottles, Jugs and Jars - Coloured Non-Beverage</b>	Coloured #2 plastic bottles, jugs and jars used to package non-beverage products such as laundry detergent, shampoo, etc.
<b>#2 HDPE Bottles - Coloured - Beverage</b>	Coloured #2 plastic bottles used to package beverages such as milk and milk substitutes, juices and other alcoholic and alcoholic beverages
<b>#2 HDPE Bottles, Jugs and Jars ≥ 5 L</b>	Other #2 plastic bottles, jugs and jars equal to or greater than 5 L. Includes both beverage and non-beverage containers
<b>#2 Other HDPE Containers</b>	Other #2 containers such as margarine and yogurt containers made from HDPE
<b>LDPE/HDPE Retail and Carry-out Bags/Sacks</b>	HDPE & LDPE retail and carry-out bags/sacks. <b>Total Weight and Unit Count</b>
<b>Flexible Film Plastic – LDPE &amp; HDPE</b>	HDPE & LDPE film, dry cleaning bags, bread bags, frozen food bags, milk bags, toilet paper and paper towel over-wrap, lawn seed bags. Non-packaging HDPE & LDPE film (e.g. kitchen catchers, sandwich and freezer bags, etc.) goes in LDPE/HDPE Film - Products (non-packaging)
<b>LDPE/HDPE Film - Products (non-packaging)</b>	garbage bags, kitchen catchers, zip lock bags, leaf bags
<b>#5 PP Bottles, Jugs and Jars - Non-Beverage</b>	# 5 plastic bottles, jugs and jars used to package non-beverage products
<b>#5 PP Bottles - Beverage</b>	# 5 plastic bottles used to package alcoholic and non-alcoholic beverages

<b>Multi-Material Stewardship Manitoba Composition Study 2019 – Material Categories</b>	
<b>Material Category</b>	<b>Description / Examples</b>
<b>#5 Other PP Containers</b>	# 5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP
<b>#5 Other PP Containers (Black)</b>	Black # 5 containers made from PP, including tubs and lids with resin codes #5 PP
<b>#6 PS - Expanded Polystyrene</b>	# 6 Foam take-out containers such as drink cups, large, white or coloured packaging foam, meat trays, etc.
<b>#6 PS - Expanded Polystyrene (Black)</b>	Black # 6 Foam take-out containers such as drink cups, large, black packaging foam, meat trays, etc.
<b>#6 PS - Non-expanded Polystyrene</b>	#6 Polystyrene clear clamshell containers such as berry and muffin containers, opaque clamshell containers such as food take-out containers, yogurt containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.
<b>#6 PS - Non-expanded Polystyrene (Black)</b>	#6 Polystyrene black rigid trays or any other black containers.
<b>Plastic Laminates and Other Film Packaging</b>	Laminated plastic film and bags that are at least 85% plastic (by weight). Includes chip bags, vacuum sealed bags, cereal liners, candy wraps, pasta bags, boil in a bag, plastic based food pouches, etc.
<b>Other Rigid Plastic Packaging</b>	Other rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked/coded packaging, plant pots and trays, pails etc.
<b>Other Rigid Plastic Packaging (Black)</b>	Other black rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked/coded packaging, plant pots and trays, pails etc.
<b>Large HDPE &amp; PP Pails &amp; Lids</b>	Equal to or greater than 5 litres and less than 25 litres
<b>Other Plastics - (non-packaging/durable)</b>	Rubbermaid tubs, toys etc.
<b>METALS</b>	
<b>Aluminum Containers - Non-Beverage</b>	Aluminum containers used to package food and other consumer products (e.g. pet food cans and sardine cans)
<b>Aluminum Containers - Beverage Beer UBC ≤355 ml</b>	Aluminum cans and bottles with a volume of ≤ 355 ml used to contain beer only
<b>Aluminum Containers – Beverage Beer UBC &gt; 355 ml</b>	Aluminum cans and bottles with a volume of >355 ml used to contain beer only
<b>Aluminum Containers – Beverage All other ≤355 ml</b>	Aluminum cans and bottles with a volume of ≤ 355 ml used to contain all other beverages
<b>Aluminum Containers – Beverage All other &gt;355 ml</b>	Aluminum cans and bottles with a volume of >355 ml used to contain all other beverages

<b>Multi-Material Stewardship Manitoba Composition Study 2019 – Material Categories</b>	
<b>Material Category</b>	<b>Description / Examples</b>
<b>Aluminum Foil &amp; Foil Trays</b>	Aluminum foil wrap, pie plates, baking trays, etc.
<b>Aluminum Aerosols</b>	Aluminum aerosol containers, hair products, etc.
<b>Other Aluminum (non-packaging)</b>	Aluminum siding, baking trays etc.
<b>Steel Containers and Packaging - Non-Beverage</b>	Steel cans used to package food and other products
<b>Steel Containers and Packaging - Beverage</b>	Steel cans used to package alcoholic and non-alcoholic beverages
<b>Steel Paint Cans</b>	Empty paint cans
<b>Steel Aerosol Container</b>	Empty spray paint cans, cooking oil, whipped cream, etc.
<b>Other steel (non-packaging)</b>	Non-packaging steel products including baking trays, frying pans etc.
<b>GLASS</b>	
<b>Clear Glass - Non-Beverage</b>	Clear glass containers such as pickle jars, salsa jars, cosmetic containers for creams, and other food and products
<b>Clear Glass - Beverage</b>	Clear glass bottles used to package alcoholic and non-alcoholic beverages
<b>Coloured Glass - Non-Beverage</b>	Coloured glass containers such as pickle jars, salsa jars, cosmetic containers for creams, and other food and products
<b>Coloured Glass - Beverage</b>	Coloured glass bottles used to package alcoholic and non-alcoholic beverages
<b>Other Glass - non-Blue Box</b>	Dishes, ceramics, window glass
<b>MUNICIPAL HAZARDOUS OR SPECIAL WASTE</b>	
<b>Pressurized Containers</b>	All pressurized cylinders used for compresses gases including propane, helium, welding/brazing gases, etc.
<b>Batteries (Consumer-Type Portable)</b>	All batteries (primary and secondary)
<b>OTHER MATERIALS</b>	
<b>Other Waste</b>	All other materials not classified elsewhere, wooden fruit basket, vacuum bags, wax candles, furnace filters, tissue and paper towels, organics, etc.

**Appendix C – Contractor Reference for Residential Waste Studies and MRF Composition Studies**

<b>Name:</b>	
<b>Municipality:</b>	
<b>Phone Number:</b>	
<b>Date Audited Completed:</b>	
<b>Scope of Work:</b>	

<b>Name:</b>	
<b>MRF Operator:</b>	
<b>Phone Number:</b>	
<b>Date Audited Completed:</b>	
<b>Scope of Work:</b>	



**Appendix D – Equipment and Services Provided by Contractor**

<b>Description of Equipment and Services Provided by Contractor:</b>	
<b>Collection Vehicle:</b>	
<b>Materials/Supplies:</b>	
<b>Services:</b>	

**Appendix E – Staff Provided by Contractor**

Specify the number and roles of persons supplied to complete the waste studies.

Role	Number of Persons Provided

Identify the person who will be supervising the project and attach their Curriculum Vitae to the bid document.

**Contractor's project supervisor:** \_\_\_\_\_

**Appendix F – Subcontractors**

If work will be subcontracted, indicate who it will be contracted to and what services they will provide.

Company Name	Contact Name	Phone Number	Service Provided

## Appendix G – Waste Sort Categories – MRF Material Composition Study

Material Category	Material Sub-Category	Description / Examples	Material-specific Density Measurement	Unit Count
Printed Paper	Newspaper and Inserts	Daily and weekly newspapers, community newspapers, free newspapers and other newsprint publications. E.g. Globe and Mail, Star, Metro, Auto Trader, Condo Living, Real Estate News. Includes flyers and advertising made of newsprint distributed with newspapers.	YES	NO
	Magazines and Catalogues	Glossy magazines, catalogues, annual reports (must be bound, i.e. stapled or glued).	YES	NO
	Telephone Books / Directories	Telephone books and other directories such as the Yellow Pages.	YES	NO
	Other Printed Paper	Mixed fine paper, bills and statements, envelopes with company logos, ad mail, etc. Includes non-newsprint flyers and advertising, promotional calendars.	YES	NO
	Other Printed Paper (Non-Obligated)	Writing paper, office paper, soft or hard covered books, blank paper envelopes, gift cards, purchased calendars	NO	NO
Paper	Corrugated Cardboard	Includes micro-flute corrugated containers, pizza boxes, waxed corrugated containers, electronic product boxes such as television and computer boxes, boxes used to direct mail for residential consumers. Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, includes brown, white, and coloured kraft paper and bags. No bags with bonded plastic or foil liners/layers/coatings.	YES	NO
	Boxboard / Cores / Molded Pulp	Boxboard, paperboard, cereal box, shoe box, frozen food box, cores from toilet paper / toweling / gift wrap, etc. Includes wet-strength boxboard, fast food, ice cream boxes, cartons such as fry / onion ring boxes and paper plates. Molded pulp packaging such as egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.	YES	NO
	Gable Top Containers	Polycoat containers with a gable shaped top, milk and milk substitutes like soy, almond and rice milk, juices, some foods, sugar, molasses, etc.	YES	YES
	Aseptic Containers	Polycoat fibre and foil containers (e.g. Tetra Pak) for soy, almond and rice milk, juice boxes, water, wine and other spirits, soup, sauces etc.	YES	YES
	Polycoat Cups	Hot beverage / food containers with polycoat on the inside only, including coffee cups, soup cups / bowls, chili cups etc. (excludes fountain drink cups), and cold beverage / food containers with polycoat on both sides including fountain drinks, take-out ice cream cups.	YES	YES
	Spiral Wound Containers	Polycoat or paper containers with steel bottoms including chip containers, frozen concentrate juices, pre-packaged cookie dough, etc. May also have foil and / or plastic on ends.	YES	YES
	Ice Cream Containers and Other Bleached Long Polycoat Fibre	Polycoated paper ice cream containers, typically with a lid, excluding boxboard folded ice cream boxes. Food containers with white fibre and a rolled or folded rim, includes Michelina's frozen food, KFC tubs.	YES	YES
	Paper Laminate Packaging	Paper with aluminum foil, paper with plastic, multi-layered paper; includes microwave popcorn bags, some cookie bags, dog food bags, paper granola bar wrappers, laminated paper carry out bags, etc.	YES	NO
	Other Paper (non-packaging)	Moving corrugated Boxes, bristol board, paper napkins, tissue (non-packaging only)	NO	NO
#1 PET Bottles and Jars	#1 PET Bottles and Jars	Clear and translucent #1 plastic bottles and jars including pop, juice, liquor, cooking oil, honey, dish soap, etc.	YES	YES
	#1 PET Bottles and Jars	Solid coloured #1 plastic bottles and jars including pop, juice, liquor, cooking oil, honey, dish soap, etc.		

Material Category	Material Sub-Category	Description / Examples	Material-specific Density Measurement	Unit Count
Plastic	Jars - Coloured			
	#1 PET Thermoform - Clear	#1 clamshells, #1 egg cartons, #1 trays, #1 blister packaging, etc.	YES	YES
	#1 PET Thermoform - Coloured	Coloured PET microwaveable trays, etc.		
	#2 HDPE Bottles and Jugs - Natural	Natural #2 plastic bottles and jugs, juice, milk, laundry soap, shampoo, windshield washer fluid, etc.	YES	YES
	#2 HDPE Bottles and Jugs - Coloured	Coloured #2 plastic bottles and jugs, juice, milk, laundry soap, shampoo, windshield washer fluid, etc.		
	#2 Other HDPE Containers	Other #2 containers such as margarine and yogurt containers made from HDPE.	Yes	Yes
	Flexible Film Plastic – LDPE and HDPE	HDPE and LDPE film, dry cleaning bags, bread bags, frozen food bags, milk bags, toilet paper and paper towel over-wrap, lawn seed bags, grocery and retail carry-out bags.	YES	YES
	Flexible Film Plastic – LDPE and HDPE (non-obligated)	Non-packaging HDPE & LDPE film (e.g. kitchen catchers, sandwich and freezer bags, garbage bags, etc.)	NO	NO
	#5 PP Bottles	#5 plastic bottles includes nutritional supplement drinks, shampoos, etc.	YES	YES
	#5 Other PP Containers	#5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP.		
	#5 Other PP Containers - Black	Black #5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP.		
	#6 PS - Expanded Polystyrene	#6 foam take-out containers such as drink cups, large, white packaging foam, meat trays, etc.	YES	YES
	#6 PS - Expanded Polystyrene - Black	Black #6 foam take-out containers such as drink cups, large, white packaging foam, meat trays, etc.		
	#6 PS - Non-expanded Polystyrene	#6 polystyrene clear clamshell containers such as berry and muffin containers, opaque clamshell containers such as food take-out containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.	YES	YES
	#6 PS - Non-expanded Polystyrene - Black	#6 black , rigid trays, snd other black #6 PS packaging		
	Plastic Laminates and Other Film Packaging	Laminated plastic film and bags that are at least 85% plastic (by weight). Includes chip bags, vacuum sealed bags, cereal liners, candy wraps, pasta bags, boil in a bag, plastic based food pouches, and other film plastic not made of LDPE/HDPE or PLA, PHA,PHB.	YES	NO
	PLA, PHA, PHB	All other plastic containers and plastic film consisting of bio-plastics made of either PLA (Polylactic acid), PHA (Polyhydroxyalkanoates) and PHB (poly-3-hydroxybutyrate) polymers	NO	NO
Other Rigid Plastic Packaging	Other rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked / coded packaging, plant pots and trays, pails, etc.	YES	YES	
Other Rigid Plastic	Other black rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked / coded packaging, plant pots and trays, pails, etc.			

Material Category	Material Sub-Category	Description / Examples	Material-specific Density Measurement	Unit Count
	Packaging - Black			
	Other Plastics - (non-packaging/durable)	Rubbermaid tubs, toys etc.	NO	NO
Steel	Steel Food and Beverage Cans	Apple juice, soup beans, peaches cans, etc.	YES	YES
	Steel Aerosol Containers	Empty spray paint cans, cooking oil, whipped cream, etc.	YES	YES
	Steel Paint Cans	Empty paint cans. No steel aerosol cans.	YES	YES
	Other steel (non-packaging)	Non-packaging steel products including baking trays, frying pans etc.	NO	NO
Aluminum	Aluminum Containers - Non-Beverage	Aluminum containers used to package food and other consumer products (e.g. pet food cans and sardine cans)	YES	YES
	Aluminum Containers - Beverage Beer UBC ≤355 ml	Aluminum cans and bottles with a volume of ≤ 355 ml used to contain beer only	YES	YES
	Aluminum Containers – Beverage Beer UBC > 355 ml	Aluminum cans and bottles with a volume of >355 ml used to contain beer only		
	Aluminum Containers – Beverage All other ≤355 ml	Aluminum cans and bottles with a volume of ≤ 355 ml used to contain all other beverages	YES	YES
	Aluminum Containers – Beverage All other >355 ml	Aluminum cans and bottles with a volume of >355 ml used to contain all other beverages		
	Aluminum Foil and Foil Trays	Aluminum foil wrap, pie plates, baking trays, etc.	YES	YES
	Aluminum Aerosols	Aluminum aerosol containers, hair products, etc.	YES	YES
	Other Aluminum (non-packaging)	Aluminum siding, baking trays etc.	NO	NO
Glass	Glass (Clear and Coloured)	Food and beverage containers such as pickle jars, salsa jars and diary tubs, glass cosmetic containers for creams, beverage bottles	NO	NO
	Other Glass - (non-packaging, not accepted)	Dishes, ceramics, window glass	NO	NO
Other	Other Material	All other material not listed above and other prohibited material not typically accepted in each program.	NO	NO