

SCHEDULE E

Form of Completion Report for Studies

Please do not hesitate to contact your project officer to receive an electronic copy of the template of the Completion Report for Studies.

Upon completion of the Feasibility Study, a copy of the Final Study must be submitted along with this Completion Report for Studies.

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How to complete the Completion Report for Studies

The purpose of the Completion Report for Studies is simple: to share the story of your community's experience in undertaking a Feasibility Study with others seeking to address similar issues in their own communities.

Please write the report in plain language that can be understood by people who are not specialists on the subject. A Completion Report for Studies is typically in the range of 5–10 pages, but may be longer or shorter, depending on the complexity of the Feasibility Study.

GMF grant recipients must enclose **final** copies of the Completion Report for Studies and the Final Study, both in electronic format, with their final Request for Contribution. The reports, including all attachments and appendices, must be submitted in PDF format with searchable text functionality. Reports that are not clearly identifiable as final reports, such as those displaying headers, footers, titles or watermarks containing terms like “draft” or “for internal use only,” will not be accepted by GMF. Additionally, reports must be dated. If you have questions about completing this report, please consult GMF staff.

¹ <http://www.fcm.ca/home/programs/green-municipal-fund.htm>

Completion Report for Studies

GMF number	GMF15133
Name of lead applicant (municipality or other partner)	Winnipeg Metropolitan Region
Name, title, full address, phone, fax and e-mail address of lead technical contact for this study	Colleen Sklar, Executive Director P: 204.989.2048 E: colleen@wmregion.com
Date of the report	August 15, 2018

1. Introduction

- a. Who was involved in doing the Feasibility Study, and what are their affiliations? Please include name, title and contact information. Those involved could include municipal staff, engineers and other consultants, a representative from a non-governmental organization, and others.

The Feasibility Study was completed by HDR Corporation on behalf of the Winnipeg Metropolitan Region. The HDR project team can be contacted by phone at (289)695-4600, and included the following team members:

- Larry Fedec, Project Manager
- Christine Roarke, Project Coordinator and Project Support
- Janine Ralph, Technical Advisor
- Andrew Evans, Engineer
- Sally McIntyre, Senior Environmental Management Consultant

Consultation for the Feasibility Study was completed with various partners and organizations but focused on municipalities and Indigenous communities. These included:

Rural Municipality (RM) officials and staff

- RM of Cartier
Contacts: Reeve Dale Fossay & CAO Virginia Beckwith
P: (204)353-2214
- RM of St. Francois Xavier
Contacts: Reeve Dawyne Clark & CAO Lynne Chapellaz-Krantz
P: (204) 864-2092
- RM of Rosser
Contacts: Reeve Frances Smee & CAO Larry Wandowich
P: (204) 467-5711
- RM of Headingley
Contacts: Councillor Jim Robson & CAO Chris Fulsher
P: (204) 837-5766
- RM of Rockwood (including Towns of Stonewall and Teulon)
Contacts: Reeve Jim Campbell & CAO Chris Luellman
P: (204) 467-2272
- RM of St. Andrews (including City of Selkirk and Town of Dunnottar)
Contacts: Mayor George Pike & CAO Andrew Weremy
P: (204) 738-2264
- RM of St. Clements

- Contacts: Mayor Debbie Fiebelkorn & DJ Sigmundson
 - P: (204) 482-3300
- RM of West St. Paul
 - Contacts: Mayor Bruce Henley & CAO Brent Olynyk
 - P: (204) 338-0306
- RM of East St. Paul
 - Contacts: Mayor Shelley Hart & CAO Sheila Mowat
 - P: (204) 668-8112
- RM of Springfield
 - Contacts: Reeve Bob Bodnaruk & CAO Russell Phillips
 - P: (204) 444-3321
- RM of Taché
 - Contacts: Major Robert Rivard & CAO Christine Hutlet
 - P: (204) 878-3321
- RM of Ritchot
 - Contacts: Major Chris Ewen & CAO Mitch Duval
 - P: (204) 883-2293
- RM of Macdonald
 - Contacts: Reeve Brad Erb & CAO Daryl Hrehirchuk
 - P: (204) 736-2255
- Town of Niverville
 - Contacts: Mayor Myron Dyck & CAO Eric King
 - P: (204) 388-4600

Indigenous Councils:

- Brokenhead Ojibway Nation
 - Contact: Chief James Bear
 - P: (204)766-2494
- Gambler First Nation
 - Contact: Chief David LeDoux
 - P: (204) 773-2525
- Hollow Water First Nation
 - Contact: Chief Larry Barker
 - P: (204) 363-7278
- Lake Manitoba First Nation
 - Contact: Chief Cornell McLean
 - P: (204) 768-3492
- Long Plain First Nation
 - Contact: Chief Dennis Meeches
 - P: (204)252-2731
- Peguis Indian Band
 - Contact: Chief Glenn Hudson
 - (204)645-2359
- Roseau River Anishinaabe First Nation Government
 - Contact: Chief Craig Alexander
 - P: (204) 427-2312
- Sagkeeng Anicinabe
 - Contact: Chief Derrick Henderson
 - P: (204)367-2287

2. The Feasibility Study

- a. Describe the process that you undertook to make this feasibility study a reality, from concept, to council approval, to RFP, to final deliverable.

The MCR Solid Waste Management Rationalization Feasibility Study was completed within the context of the Winnipeg Metropolitan Region's (WMR) recently completed Regional Growth Strategy (RGS)– ***Securing Our Future: An Action Plan for Manitoba's Capital Region*** and transportation plan. The WMR identified, as part of the RGS, the need for the development of a regional approach to sustainably manage and reduce solid waste in the growing region. The RGS identified six strategic pillars with associated actions:

Pillar #1: Coordinated Regional Development

Pillar #2: Stewardship of Land, Water and Resources

Pillar #3: Strategic Transportation Networks

Pillar #4: Coordinated Infrastructure and Service Delivery

Pillar #5: Integrated Regional Economic Development

Pillar #6: Regional Framework for Good Governance

The MCR Solid Waste Management Rationalization Feasibility Study crosses several areas including but not limited to Pillar #2 and Pillar #4.

Environmentally, the WMR faces numerous challenges with 12 landfills and 14 transfer stations across the region, a substantial concern related to the sustainable management of Waste Management Facilities (WMF). Across the WMR, the compilation of the baseline data showed an inconsistent level of service and wide variation in practices for solid waste management throughout in the WMR. It showed that the WMR has a very low waste diversion rate of approximately 13%, yet the RGS set a diversion rate target of 60%. In addition, Manitoba released a new Waste Management Facilities (WMFs) Regulation that would change licensing, permitting, and operational requirements for WMFs and impact WMR municipalities.

It was recognized that addressing waste management issues and objectives for improvement would require an approach that was different to the status quo. In Manitoba, municipalities and planning districts within the WMR prepare provincially approved development plans. While most plans incorporate the principles of sustainability, municipalities still have much progress to make on the initiatives outlined in these plans, and there is no documented process for working together as partners, or regionally, to develop shared solutions and better results. In addition, collaboration with Indigenous groups was essential to any regional solution, as many of their traditional and reserve lands are found within or near the WMR. For many Indigenous groups as well as for Indigenous and Northern Affairs Canada (INAC), waste management is a key priority. However, a framework or criteria for sharing infrastructure in the WMR and the development and planning of regional facilities and solutions did not exist, and projects were undertaken on an ad hoc basis.

As a result, during the summer of 2016 the WMR initiated a first review of solid waste facilities, waste stream and recycling in Metropolitan Region. The review gathered baseline data from existing waste management databases and through site observations. The review was used to support the development of an RFP for the ***WMR Solid Waste Management Rationalization Feasibility Study***. The RFP was released in April 2017 and awarded to HDR Corporation in Fall 2017. A draft report was completed in spring 2018 and presented to stakeholders for consultation. To reflect what was heard from this engagement, the final report included findings from the consultation. The final report was delivered in August 2018.

- b. What were the objectives of the Feasibility Study (what was it seeking to determine)?

The MCR Solid Waste Management Rationalization Feasibility Study was intended to provide strategic planning for WMR solid waste management, by investigating elements of the waste system including: recovery, recycling technology, environmental science, environmental engineering and business development. Further, it intended to include a rationalization of the existing solid waste management systems in the WMR and provide a business case analysis of potential approaches to meet the key goals of the Feasibility Study. Key goals included:

- Develop a solid waste management plan for the WMR to achieve a 60% waste diversion from landfills and transfer stations, and improve material recovery across the communities and sectors in the WMR;
- Create strategies and criteria for more efficient management, location and work flow of solid Waste Management Facilities (WMF);
- Enhance the protection of water, agriculture land, air quality and human health; and
- Reduce WMF GHG emissions and conduct a waste and GHG emissions audit for residential and ICI sector.

c. What approach (or methodology) was used in the Feasibility Study to meet these objectives?

The study followed a three phased approach:

Phase 1 – Project Initiation and Baseline System

Involved a thorough review of existing documentation and site information. HDR worked with WMR municipalities to develop a baseline system by gathering current information available. An extensive data set on waste composition and generation from residential and non-residential sectors was gathered. The WMR completed solid waste review report was used to assist with this. A steering committee was established to provide HDR direction on information sources and to facilitate the collection of information gaps. HDR used this information to estimate generation and diversion rates. Also, this phase documented current waste management systems in the WMR, in terms of services provided, infrastructure, and other information related to governance, operations, and management of waste.

Phase 2 – Gap Analysis and Opportunities

Involved an assessment of existing waste management systems including: programs, sites and facilities, and related organizations and resources in the WMR. HDR developed projections for quantities of waste requiring management in the WMR over the next 20 years and estimates for associated future costs. This also included an overall assessment of the systems and considered anticipated legislation changes. Further, this stage began contemplating three options to assist with achieving targets, recovering or reducing GHG emissions, reducing transportation costs and managing additional waste streams. This part of the assessment focuses on residential waste but looked for opportunities for collaboration with the private sector to address IC&I and CD&R waste. To achieve this goal, a workshop with the steering committee was completed and findings included in the final report.

Phase 3 – Development of Feasibility Action Plan

Involved drafting a feasibility action plan. The plan was reviewed by the WMR Board and steering committee, and the report was presented to a stakeholder group to gauge feedback and incorporate findings in the final report.

d. Please describe any public consultations conducted as part of the Feasibility Study and their impact on the Study.

As part of the Feasibility Study, numerous consultation sessions were completed with various community stakeholders. Initial consultation occurred over the span of one week in Phase 1 of the project and included participants from: WMR Board and staff, senior level municipal staff (i.e. CAOs, Directors of Public Works, Managers of Waste Management, Community Economic Development Officers), Province of Manitoba Ministers of Environment and Infrastructure, Province of Manitoba Department of Sustainable Development, INAC, waste sector (i.e. MARR, MEIA, waste haulers), University of Manitoba, IISD, and Indigenous groups. Many of these consulted stakeholders were again engaged after the report draft was completed to discuss the preliminary findings; comments from this session were taken into consideration and reflected in the final report.

3. Feasibility Study Findings and Recommendations

- a. What were the environmental findings related to the options explored in the Feasibility Study? Please provide quantitative results and summary tables of these results (or the page numbers from the Feasibility Study report).

The following are environmental findings from the Feasibility Study:

- Population and residential waste projections – Page 17
- WMR Residential curbside waste composition, 2013-2016 – Page 18
- WMR Sources of waste landfilled, 2016 – Page 19
- Estimate current and projected tonnes of waste generated in Indigenous communities – Page 22
- Fate of residential waste in WMR, 2016 – Page 27
- Baseline disposal for the WMR communities, 2016 – Page 48
- Baseline disposal for Indigenous communities – Page 48
- Estimate GHG Emissions by scenario for quadrant approach (MTCO₂e) – Page 65
- Estimated GHG Emissions by scenario for regional approach (MTCO₂e) – Page 66
- Estimated GHG Emissions (MTCO₂e) by type of disposal facility – Page 66
- Appendix B: Calculations Methods and Assumptions

- b. What were the financial findings related to the options explored in the Feasibility Study (for example, results of a cost-benefit analysis, financial savings identified, and so on)? Please provide quantitative results and summary tables of these results (or the page numbers from the Feasibility Study report).

- Conceptual Cost for small-medium scale public drop-off facility – page 55
- Estimate scenario costs for quadrant approach – Page 63
- Estimate scenario costs for regional approach – Page 63

- c. Based on the environmental and financial findings above, what does the Feasibility Study recommend?

The Feasibility Study broke recommendations into three major categories:

1) **Recommendations to municipalities and Indigenous communities**

A) *Waste Disposal Grounds (WDG) and Waste Transfer Facilities (WTF)*

- Find an alternative to burning waste which has the greatest potential to increase GHGs (e.g. chipping, mulch, alternative daily cover – depending on type of wood).
- Do the “show me” check:
 - Health and safety, work environment, user protection
 - Environmental compliance
 - Contract process transparency and compliance monitoring

- Address issues at waste depots, WTS, and WDG or find alternatives and close them.
- Continue to find ways to increase diversion and decrease GHG emissions due to avoidance of use of virgin materials in manufacturing and decreased methane emissions from landfills.
- Investigate opportunities to increase waste diversion from the IC&I sector, along with opportunities for partnerships and advancement to a circular economy.

B) Governance

- Use PRO services and grants currently available.
- Collaborate to ensure PRO services meet the needs of your communities.
- Adjust approach to contracting - Include collection from bins in ROWs and municipal buildings in collection contracts.

C) Financial Management

- Adjust approach to annual financial planning and reporting to PROs, provincial or federal government:
 - Use Activity Based Costing (ABC) to track full diversion program costs (e.g. % of staff time spent collecting, handling, accounting for diversion)
 - Track and report asset depreciation to capture annualized cost of capital for facilities.
- Track and report transfers to reserve for landfill closure to capture true cost of landfill ownership.
- Calculate and report cost of GHG emissions.

D) Service Provision

- Collaborate amongst municipalities and Indigenous communities to identify improvements in service delivery and continued progress to implement measures to improve efficiencies and savings including:
 - Changes to existing waste management facilities, including closure, consolidation or upgrading.
 - Equitable service provision to all residents.
 - Establishment of working groups to harmonize service levels, rationalize infrastructure, develop partnerships and framework agreements.

E) Goals and Targets:

- Revisit goal of 60% waste diversion
- Consider a goal based on reduction in waste disposal (e.g. kg/capita/year disposed) to more accurately reflect efforts related to waste reduction.
 - Plan for more/improved opportunities to collect data to support future decisions and measure success.

2) Recommendations relating to Provincial Regulations/Policies

The WMR and member municipalities should look to work with the Province in the following areas to affect change:

- Review WRARS and PRO funding models and methodologies to improve equity, transparency, and full cost recovery from PROs.
- Review PRO programs and services under WRAP Act to ensure that they:
 - Deliver programs and services designed by municipality, waste authority, or waste co-op.
 - Report funds allocated, and results achieved by municipality, waste authority, or waste co-op.
 - Report diversion rates by municipality, waste authority, or waste authority.
- Require annual reporting of residual rates and fate of materials by waste processors.
- Changes to regulations regarding landfill gas management at Class 1 landfills.

3) Recommendations relating to Federal Regulations/Policies:

The WMR and Indigenous communities should look to work with the Federal government in the following areas to affect change:

- Sustainable funding model for Indigenous community waste operations.
- Transition plan for on-Reserve waste management from Current State to desired End State.
- Facilitate knowledge transfer between and amongst Indigenous communities and municipalities.

4. Lead Applicant's Next Steps

- a. Taking the Feasibility Study's recommendations into account, what next steps do you as the municipality plan to take? What potential benefits or internal municipal improvements would result from these next steps?

The Feasibility Report recommended the following next steps for the WMR:

1) Establish quadrant working groups;

By establishing quadrant working groups, the WMR can facilitate collaboration between communities who share a geography, including Indigenous communities. This can set the framework for future collaboration on waste management in the WMR.

2) Develop and implement plans to eliminate open burning

By eliminating open burning, substantial environmental benefits can be achieved, notably the reduction of GHG emissions. This could be achieved by actions including: composting organics like leaves and brush, chipping and composting wood waste, establishing a reuse depot for furniture and the like, use PRO depot for special waste streams, landfilling non-reusable non-hazardous waste, and hauling and disposing waste off-site for proper disposal. By sharing equipment and collaborating on service contracts, these actions may be achieved and GHG emissions can be reduced throughout the WMR.

3) Work to harmonize service levels and facilities

Harmonization of service levels will assist in rationalizing service delivery and could: reduce the distance and time of travel to a WTF for residents in rural areas, harmonize procurement methods and service dates thereby securing comparable pricing and facilitating future contract consolidation, and could enhance overall service levels through collaboration.

5. Lessons Learned

In answering the questions in this section, please consider all aspects of undertaking the Study — from the initial planning through each essential task until the Final Study was prepared.

- a. What would you recommend to other municipalities interested in doing a similar Feasibility Study? What would you do differently if you were to do this again?

As a recommendation, the WMR would suggest municipalities completing similar feasibility studies be vigilant in their data collection and database maintenance. For this project, the Feasibility Study was completed on a regional scope which inherently meant a substantial amount of data would be required and would need to be maintained. As such, having a robust system that can sort, maintain, and update data throughout the project will simplify and facilitate analysis and recommendations.

If we were to complete the study again, we would suggest including Indigenous communities from the onset of the project. The initial project scope only included WMR member municipalities, but

once the project had started it was quickly realized that an important stakeholder group had been missed from the project scope. The scope was amended early in the Phase 1 of the project to include Indigenous communities, yet this created additional work that could have been addressed earlier and simplified the process.

- b. What barriers or challenges (if any) did you encounter in doing this Feasibility Study? How did you overcome them?

The major challenge encountered in the Feasibility Study was associated with maintaining up-to-date data. The project utilised data that was collected prior to beginning the project, which was found to need updating during the project. With a more robust data management system, data could have been maintained in real time and simplified the data gathering and analysis phases of the project.

6. Knowledge Sharing

- a. Is there a website where more information about the Feasibility Study can be found? If so, please provide the relevant URL.

There is not currently, however, the WMR intends to post the final report on its website in the near future.

- b. In addition to the Feasibility Study results, has your Feasibility Study led to other activities that could be of interest to another municipality (for example, a new policy for sustainable community development, a series of model by-laws, the design of a new operating practice, a manual on public consultation or a measurement tool to assess progress in moving toward greater sustainability)? If so, please list these outcomes, and include copies of the relevant documents (or website links).

At this point, no it has not, however, it will. This report will serve as the baseline to all regional activities relating to waste and will be built upon when developing future plans, operating practices, and consultation.

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