

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.

FCM will post your report on the [Green Municipal Fund™ \(GMF\) website](#).¹ This is because one of FCM's mandates is to help municipal governments share their knowledge and expertise regarding municipal environmental projects, plans and studies. Before you submit a report to FCM, make sure you hold the copyright for the report (you own all the rights to the content and can decide who is allowed to reproduce and distribute the report) and that it does not contain any confidential information.

If the report contains confidential information, you need to submit two versions: one containing confidential information, to be read by FCM staff, and one that does not contain confidential information, which can be posted on the GMF website. Please contact FCM if you have any questions about copyright and confidentiality.

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	15139
Name of lead applicant (municipality or other partner)	EdgeCorp Developments Ltd.
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Date of the report	August 31, 2017

1. Introduction

- i. 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.

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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 site – formerly the Transcona Public Works Yard operated by the City of Winnipeg – was historically used for vehicle maintenance and fueling related to fleet management. The site contained two vehicle fueling underground storage tanks (USTs) and served as the main outdoor storage facility for road salt and sand for the City of Winnipeg. The City of Winnipeg was aware that there were environmental problems related to the site and engaged the services of AMEC to undertake a Phase 1 and Phase 2 environmental review of the site in when the City decided to relocate and consolidate their operations in a new larger more central location.

The Phase 1 and 2 identified several problems with the site and estimated the total cost to clean it up would be in excess of \$7.0m. The City declared the land surplus and identified it as a major redevelopment brownfield site. The City rezoned the property to its highest and best use and

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provided a credit against any land dedication for any costs associated with the remediation of the land.

At first, the City decided to sell the Site. The site was offered for sale with full disclosure of the identified environmental problems however the City received no offers. The lack of interest was a direct result of the potential environmental problems with the site even though the City understood that any price offered for the land would be discounted by the cost of the environmental cleanup and any environmental.

Frustrated by the lack of interest the City decided to solicit expressions of interest from the private sector for a Joint Venture partner who would work with the City to remediate the site and ready it for sale on the market. By taking this approach the City would be sharing the risks associated with environmental cleanup with their developer partner and therefore providing a level of comfort to their partner that was not available under the outright sale option the City first explored.

The City was successful in securing a Joint Venture partner in EdgeCorp Developments Ltd. As managing partner EdgeCorp undertook the following steps:

1. Performed a Market Assessment to determine the highest and best use for the Property
2. Hired Dillon Consulting to review the Phase 1 and 2 reports and provide options for remediation
3. Took the results from #1 and #2 and developed a land use plan that would allow the land to be put to its highest use while mitigating the cost of remediation. These steps included:
 - i. Public Consultations to determine if the end use had market acceptance
 - ii. Rezoning a portion of the Property to Commercial Mixed Use
 - iii. Designing the development in a way to minimize remediation costs
 - iv. Marketing the end use to potential developers and tenants to gauge interest
 - v. Determining market value
4. Armed with the data from #3 a remediation strategy was developed that was consistent with the intended end use but was also cost effective as no more remediation was done than was necessary to facilitate the end use.

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

Dillon Consulting Limited (Dillon) was retained to assist in developing an Environmental Management Plan (EMP) for the redevelopment of the brownfield site at 1500 Plessis Road and 849 Ravelston Avenue West, in Winnipeg, Manitoba. Dillon was hired to assess whether there was an alternative strategy(s) to reduce the costs of remediation identified in a prior Environmental Site Assessment (ESA) for the site. The previous Environmental Assessment indicated a significant quantity of salt-impacted soils along with hydrocarbon impacted soils with an associated remedial cost estimate of in excess of approximately \$7 million. There was an underlying hypothesis that the more traditional hydrocarbon impacts would likely need to be remediated with traditional methods however the salt impacted soil impacts may be allowed to remain if the end use permitted.

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

Dillon took an innovative approach to address the road salt and fuel-related hydrocarbon impacts by applying risk assessment and management approaches in conjunction with more traditional soil

remediation practices. Dillon initially undertook a selective drilling and soil sampling program to confirm the findings in previous reports. Next Dillon conducted a site-specific risk assessment to evaluate the potential risk to human health and the environment related to hydrocarbon impacted and salt impacted soils by evaluating remediation options against potential end uses for the land. Based on Dillon's findings EdgeCorp and Dillon determined the highest and best use for the property that maximized the return on the remediation investment.

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

The highest and best use for the site was determined to be a mixed use development consisting of commercial retail businesses integrated with apartment style residences. (see Figure 1). A Public Open House was held to gauge potential stakeholder interest or opposition. The feedback was overwhelmingly supportive of the concept which facilitated the path to rezoning the land to accommodate the end uses.

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).

A summary below is provided of where the items of concern are outlined in the The Environmental Management Plan along with the options explored, the quantitative results and the summary tables of these results:

- i. Section 1.2 & 1.3 - Salt/Sand Outdoor Storage Area (page 14)
 - ii. Section 2.4 & 2.5 & 2.5.1 – Former Pump Island & USTS Located between Building H & G (page 268)
 - iii. Section 3.4 & 3.5 – Hydraulic System & Floor Drains in Building A (page 456)
 - iv. Section 4.2 & 4.3 – Sodium Chloride ASTs (page 533)
 - v. Section 5.4 & 5.5 & 5.5.1 - Abandoned USTs Located North of the Current Pump Island (page 743)
 - vi. Section 6.4 & 6.5 – Abandoned Waste Oil UST North of Building C (page 866)
 - vii. Section 7.4 & 7.5 – Abandoned Waste Oil UST Northeast of Building A (page 945)
- 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).

The combination of a risk management and remediation strategy proved to be a very cost effective and practical means to remediate this site. Working around the planning and design of the buildings and infrastructure for the redevelopment allowed the majority of the salt impacts to be managed on-site and reduced the preliminary estimate of \$6.0m down to just under \$1.5m.

The oil and gas contaminated soil was removed for off-site remediation as this was the most cost effective approach. Additional drilling and soil tests confirmed that the extent of the problem identified was less than estimated in the Phase 1 and Phase 2 reports and the final cost came in \$200,000 under budget.

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

The results of the risk assessment indicated the salt impacted soils could effectively be managed in-place. Dillon's recommended Remedial Action Plan (RAP) for the salt impacted soils was the implementation of a clean fill cap and selective planting of more salt-tolerant tree and shrub species. Dillon also recommended that corrosion inhibitors be used for any pre-stressed concrete that will be exposed to chlorides from de-icing salt, that new hard surfaces (i.e., buildings and paved surfaces) be constructed to reduce potential adverse effects to off-site ecological receptors via generation of wind-blown soil particulates, and that salt-impacted fill material below and adjacent to foundation structures be excavated and removed from the area.

The recommendation for both UST sites was the removal of the tanks and the excavation of impacted soils to be remediated off-site. As well, there were additional potential petroleum hydrocarbon (PHC) impacts associated with the hydraulic system and floor drains in a building on the site. A similar recommendation was determined for this impacted soil – it was also to be excavated and removed off-site for remediation.

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 site was sold to a developer in January 2018 who is bringing the planned concept in Figure 1 to reality. Construction begins on the Commercial side of the development in March 2018. In the fall of 2018 the first of the 7 Residential Apartment Buildings will begin construction.

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.

- i. What would you recommend to other municipalities interested in doing a similar Feasibility Study?
 - i. Look at all potential uses of the Land and the potential revenue from them first before engaging an Environmental Consultant
 - ii. Have the Environmental Consultant identify all the problems with the site and the potential remediation strategies for each based on the Land Uses identified in #1
 - iii. Determine accurate cost estimates for the remediation strategies identified. Class D estimates should be avoided as they are sometimes misleading and can lead your evaluation down the wrong path.
 - iv. Consult with the public and private sector developers to confirm your conclusions as to land use(s)

What would you do differently if you were to do this again?

Engage an environmental consultant(s) earlier in the process to gain a better understanding of the problem(s) but more importantly to determine the remediation options. There are more ways to deal with remediating sites than just excavating and hauling away.

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

None as we were fortunate to have hired an excellent professional team – Environmental Consultants, Civil Engineers, Architect and Urban Planners that all worked towards the common goal of finding land use(s) that were market acceptable while at the same time provided opportunities to mitigate remediation costs.

6. Knowledge Sharing

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

There is no website but we are available by email or phone to discuss our experiences.

- ii. 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).

The success of this Joint Venture has led the City to believe that they should explore more opportunities to use such a business structure to remediate the Brownfield sites that they currently own. They are currently developing a Brownfield Strategy which will likely contain the use of Joint Ventures as one of the cornerstones.