



**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA**

Submitted to:

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## EXECUTIVE SUMMARY

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (“AMEC”), was retained by Mr. Lou Chubenko of the City of Winnipeg Planning, Property and Development Department (“Client”) to conduct a Phase I Environmental Site Assessment (ESA) of Keenleyside Park located at 480 Keenleyside Street, in Winnipeg, Manitoba (the “Site”). Currently, the Site is owned and operated by the City of Winnipeg.

The purpose of the Phase I ESA was to identify actual or potential environmental concerns at the Site. The Phase I ESA methodology consisted of a review of selected historical and current information pertaining to the Site and surrounding properties; an inspection of the Site on 18 March 2013 to identify practices or circumstances that may present potential environmental liabilities; and interviews with personnel familiar with the Site. Site observations were of a visual, walk-through type and did not include sampling or testing, a process consistent with the industry standard.

Based on the assessment undertaken, the potential for subsurface impacts at the subject property as the result of on or off-Site sources is considered to be low and a Phase II ESA is not recommended at this time.

The following items may require additional attention:

- Potential polychlorinated biphenyls in light ballasts;
- Potential lead-containing paints in areas of the building; and
- Potential mercury in lead-containing paints and fluorescent lamps.

Based on the findings of the assessment, AMEC recommends that a designated substances survey (DSS) be conducted prior to any renovation or demolition given the potential for disturbance of these materials during renovation / demolition activities.

A summary of the on-site environmental issues assessed as part of the Site inspection and addressed in this report are presented below:

Site	480 Keenleyside Street
Environmental Issue	Comments
Air Emissions	None observed or reported.
Asbestos Containing Materials (ACMs)	As the Site was developed in 1973, there is a potential for asbestos containing materials to be present within the Site building, however, were not observed at the time of the Site inspection. ACMs which may be present within the building, but which were not observed or reported during the Site inspection, may include roofing materials and mastics, joint compounds associated with various types of concrete block, vermiculite insulation within wall cavities, and thermal insulating materials such as gaskets associated with mechanical equipment.



Polychlorinated Biphenyls (PCBs)	Fluorescent tube light fixtures were observed throughout the Site building. As the building was constructed prior to the ban on PCBs, there is a potential that the dielectric fluid in the fluorescent light ballasts contain PCBs.
Lead Containing Paints (LCPs)	Based on the construction date of the Site building (1973), LCPs may have been used during initial construction and subsequent renovation, although may have been painted over during renovations completed following the ban on LCPs. Painted surfaces observed in the Site building appeared to be in generally good condition with exception of some areas that had been scraped and peeled.
Hazardous and Non-Hazardous Chemical Use and Storage	Apart from a small quantity of cleaning products and pool chemicals, there was no chemical use or storage observed on-site at the time of the Site assessment.
Storage Tanks <ul style="list-style-type: none"> <li>- Underground (USTs)</li> <li>- Aboveground (ASTs)</li> </ul>	There were no ASTs or evidence of ASTs observed at the Site during the Site visit, nor was there evidence of any current or previous USTs. Mr. Karl Thordarson confirmed that there have never been any ASTs or USTs to his knowledge associated with the Site.
Hazardous and Non-Hazardous Solid Waste	There was no hazardous waste observed at the Site. Non-hazardous solid waste is disposed in litter baskets located in several areas across the Site. It was reported to AMEC that these bins are emptied weekly.
Ozone Depleting Substances (ODSs)	As the Site building did not contain heating or cooling equipment potential sources of ODSs were not observed at the time of the site inspection.
Liquid Effluents	Liquid effluents (i.e. system process water and discharges to sewers or other disposal systems) were limited to domestic sewage, which was directed to the municipal sewer system.
Groundwater Wells	There are no known groundwater wells currently in use at the Site or surrounding area.
Radon	None known or reported at the time of the Site inspection.
Suspect Visible Mould Growth (SVG)	Evidence of SVG was not observed within the Site building. SVG may occur within enclosed spaces and may not be evident from a walk through building assessment.
Mercury	Potential sources of mercury observed at the Site were limited to small commercial switches, the potential use of paint coatings, and fluorescent lamps.
Radioactive Materials	None observed or reported at the time of the Site inspection.
Urea Formaldehyde Foam Insulation (UFFI)	None observed or reported at the time of the Site inspection.



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## **1.0 INTRODUCTION**

### **1.1 PROJECT BACKGROUND AND TERMS OF REFERENCE**

Mr. Lou Chubenko of the City of Winnipeg Planning, Property and Development Department ("Client") authorized AMEC Environment & Infrastructure (AMEC), a division of AMEC Americas Limited, to conduct a Phase I Environmental Site Assessment (ESA) of the property with the municipal address of 480 Keenleyside Street in Winnipeg, Manitoba. The subject property is subsequently referred to as the 'Site' in this report.

### **1.2 SITE LOCATION AND ZONING**

The Site is located in Winnipeg, Manitoba. According to the City of Winnipeg Citizen's Information Service, the Site and adjacent properties are zoned for community and residential uses.

A map showing the location of the Site in relation to Winnipeg is shown in Figure A1, Appendix A. A plan showing the layout of the Site and the neighbouring properties is provided in Figure A2, Appendix A.

## **2.0 ENVIRONMENTAL SITE ASSESSMENT PROCESS**

### **2.1 OBJECTIVES**

The purpose of the Phase I ESA was to identify actual or potential environmental concerns at the Site. A Phase I ESA may assist in reducing the uncertainty about potential environmental liabilities and may be a basis for further investigation of the property. A Phase I ESA may be used to make informed decisions about property transactions, identify certain baseline environmental conditions, assist in meeting regulatory requirements, and as an initial step in Site remediation. Site observations were of a visual, walk-through type and did not include sampling or testing, a process consistent with the industry standard.

### **2.2 SCOPE OF WORK**

As part of the Phase I ESA process, it is necessary to establish past and current activities at the Site and assess the possibility of these activities impacting the Site. The Site assessment consisted of:

- a review of selected historical and current information pertaining to the Site and surrounding properties;
- an inspection of the Site to identify practices or circumstances that may present potential environmental liabilities;
- interviews with personnel familiar with the Site; and
- a summary report.



Specific environmental issues that were addressed included:

- air emissions;
- asbestos containing materials (ACMs);
- polychlorinated biphenyls (PCBs);
- lead containing paint (LCP);
- hazardous and non-hazardous chemical use and storage activities;
- underground and aboveground storage tanks (USTs and ASTs);
- hazardous and non-hazardous wastes;
- ozone depleting substances (ODSs);
- liquid effluent;
- radon;
- suspect visible mould growth (SVG);
- radioactive materials;
- urea formaldehyde foam insulation (UFFI);
- dumps and landfills; and
- potential off-site sources of impact.

While this report provides an overview of potential environmental concerns, both past and present, the environmental site assessment process is limited by the availability of information at the time of the assessment. It is possible that unreported disposal of waste or illegal activities impairing the environmental status of the property may have occurred which could not be identified. A statement of limitations is provided in Appendix B.

### **2.3 METHODOLOGY**

This assessment was conducted in general accordance with the Canadian Standards Association (CSA) guideline (Z768-01, Reaffirmed 2012), which is currently referenced by the Canadian Mortgage and Housing Corporation (CMHC) and most banking institutions. Briefly, this guideline sets standards for review of information pertaining to the Site, development of detailed checklists or protocols, conducting the site inspection and preparation of the final report.

Angela Smith, of AMEC's Winnipeg Operations conducted the Site visit on 18 March 2013. Mr. Karl Thordarson of the City of Winnipeg's Park Services – East Area Department and Ms. Ellen Towers of the City of Winnipeg's Building Servicer with Municipal Accommodations Department, assisted with the Site visit and provided information regarding the history and operations of the Site. Additional persons contacted or interviewed to evaluate the existing/historical Site operations included Ms. Chris Hnat, Coordinator of Environmental File Searches for MC.

The qualifications of the assessors involved in the preparation of this report are provided in Appendix C.



### **2.3.1 Historical Review**

A summary of the Site history was completed through a review of available sources of land use information, in order to assess the potential for site impacts from historic Site activities. The sources reviewed as part of the assessment included:

- Aerial photographs;
- Manitoba Conservation (MC) Files;
- Insurers' Advisory Organization (IAO) Fire Insurance Plans;
- Street Directories (Henderson Directories and MTS Fast Finder Directories);
- City of Winnipeg Property Assessment Department;
- Client supplied or publicly available reports or files; and
- Interviews with people knowledgeable of Site history.

Unless otherwise noted, AMEC's historical review of neighbouring properties was generally limited to a 100 m radius of the Site.

### **2.3.2 Review of Regulatory Information**

A review of the following regulatory information was conducted:

- MC list of Impacted Sites (September 2011 and May 2012);
- MC list of Registered Petroleum Storage Tank Sites (February 2001, 2007, November 2011, and November 2012);
- MC list of Registered PCB Storage Sites (January 1999); and
- MC list of Registered Hazardous Waste Generators, Shippers and Receivers (June 2011 and September 2012).

It should be noted that review of the above regulatory documents is limited to that information which is publicly available. A review of the most current data is undertaken by MC and provided within approximately six weeks of AMEC's request. The above information is reviewed independently by AMEC to gain an understanding of whether any information may exist, within a more reasonable time frame, and is subject to later confirmation by the official MC file search.

## **3.0 SITE AND SURROUNDING LAND USE DESCRIPTION**

### **3.1 SETTING OF SITE AND SURROUNDING LANDS**

In order to facilitate directions in this report, Prevette Street is assumed to be oriented in a north-south direction. The Site is located on the north side of Keenleyside Street between Prevette Street to the east and Kent Road to the west in the Tyne - Tees Neighbourhood of the River East South Ward of Winnipeg, Manitoba. The Site was occupied by a public park with various recreational facilities at the time of the Site visit. The surrounding land consisted of residential uses, as described below. .





- North: A Canadian Pacific (CP) rail line followed by Armstrong Park with Munroe Avenue and residential properties beyond.
- South: Keenleyside Street followed by a residential neighbourhood.
- East: Four apartment complexes followed by Prevette Street with residential properties beyond.
- West: Several townhouse complexes followed by the CP rail line with residential properties beyond.

### **3.2 SITE APPEARANCE AND DESCRIPTION OF FACILITIES**

At the time of the Site inspection, the property was developed with a play structure in the southeast corner of the Site, a wading pool with an associated building near the approximate center of the southern portion of the Site, a skating rink near the northwest corner of the wading pool building, and two baseball diamond backstops in the northern portion the Site. Due to snow cover observations of the ground surface was not of a detailed nature. It was reported to AMEC that the Site groundcover primarily consists of landscaped grass with the exception of a paved area connecting the Site building and wading pool area, a paved path connecting the playground area with the northern portion of the eastern Site boundary, wood chips covering the playground area, and gravel covered baseball diamonds.

According to the City of Winnipeg Assessment and Taxation Department the wading pool building was constructed in 1973. The Site building was constructed on a concrete slab with a steel frame. The interior walls throughout the building were observed to consist of a mixture of wood panelling, stained plywood, and exposed exterior metal siding. Ceilings throughout the building were observed to consist of exposed steel beams and insulation. Additionally, it appeared that suspended ceiling tiles were formally installed within the Site building as tracking associated with suspended ceiling tiles was observed. Flooring throughout the building was observed to consist of exposed and finished concrete. Lighting was provided to the building by fluorescent tube lighting. The roof and exterior walls of the building were observed to consist of corrugated metal. No heating or cooling sources were observed within the Site buildings as the building is only used during the summer months when the wading pool is operational.

The Site building was also observed to house the mechanical equipment associated with the wading pool. A small amount of chemicals associated with pool maintenance were observed to be stored above a concrete floor in the mechanical room of the Site building. Further, at the time of the Site inspection it appeared that an animal had entered the Site building at one point through an opening in the northwest corner near the top of the wall. Pieces of fiberglass insulation and pine cones were observed to be scattered in various areas of the northern portion of the building.

Site photographs taken at the time of the site inspection are provided in Appendix D.



### **3.3 TOPOGRAPHY AND DRAINAGE**

The topography of the Site appeared to be generally flat-lying. It is anticipated that overland storm water collected at the Site would flow south or east toward adjacent roadways and associated catch basins, and toward adjacent drainage ditches north of the Site, or remain standing and percolate into the surface.

### **3.4 SITE GEOLOGY AND GROUNDWATER**

Based on available geological maps, the subsurface stratigraphy in this area of Winnipeg normally consists of topsoil and fill materials underlain by glacio-lacustrine silt and clay to a depth of approximately 15 to 18 m from grade. A deposit of silty till, typically a few metres or more in thickness, occurs between the clay and the underlying bedrock. The bedrock in this area consists of dolomitic limestone with abundant chert nodules in the upper limestone layer and is of the Selkirk Member (Baracos et al., 1983). Bedrock is estimated to occur between about 21 and 24 m below grade.

Fractured zones in the bedrock comprise the major aquifer in the area. There are no aquifers above the bedrock. Given the substantial clay thickness, the potential for impacts to the aquifer, from on or off-site sources is considered to be low.

### **4.0 SITE AND SURROUNDING AREA HISTORY**

The Site consisted of agricultural and grass covered land prior to 1950 until the early 1970s when it was developed as Keenleyside Park with a maintenance building, wading pool, playground, and footpath. Sometime between 1997 and 2012 the baseball diamonds were developed. It was reported to AMEC that the playground in the southeast corner of the Site was updated sometime between 2007 and 2008. There have been no further changes at the Site since 2008.

The history of the surrounding properties is summarized as follows:

A rail line has been located northwest of the Site since sometime prior to 1950. The area beyond the rail line was initially occupied by agricultural land transacted by Monroe Avenue to the north. The area beyond Monroe Avenue began residential development in the 1950s and continued through the 1980s. The area west of the rail line was developed residentially between 1968 and 1988. With the exception of the development of a building in Armstrong Park sometime between 1997 and 2012, there have been no changes to the areas north and west of the Site since 1988.

The areas south and east of the Site were occupied by agricultural land prior to 1950 until sometime between 1968 and 1988 when Keenleyside Street was developed south of the Site and residential neighbourhood to the east and to the south beyond Keenleyside Street. There have been no changes to the areas south and east of the Site since 1988.



A more specific summary of the historic land use, as determined through the various sources, is provided in the following sections.

#### 4.1 FIRE INSURANCE PLAN REVIEW SUMMARY

Fire insurance plans were not available for the Site or the immediate area in the City of Winnipeg.

#### 4.2 STREET DIRECTORY REVIEW

A summary of the Henderson Street Directory and MTS Fast Finder Directory review is provided in Table 2.

TABLE 2: STREET DIRECTORY REVIEW SUMMARY		
Street Address	Occupant	Approx. Date
Site 480 Keenleyside Street	No listings	2000 and prior
	Keenleyside Park	2013
North of Site 1045 & 150 Moncton Avenue	No listings	1975 and prior
	Residential	1980 - 2013
North of Site 130 Munroe Avenue	No listings	2000 and prior
	Munroe Park	2013
Northwest of Site 62 – 82 Byars Bay	No listings	1965 and prior
	Residential	1970 - 2013
Northwest of Site 78 – 110 Byars Place	No listings	1970 and prior
	Residential	1975 - 2013
South of Site 2 – 22 George Suttie Bay	No listings	1970 and prior
	Residential	1975 - 2013
South of Site 481 - 485 Keenleyside Street	No listings	1970 and prior
	Residential	1975 - 2013
South of Site 113 – 135 Pike Crescent	No listings	1975 and prior
	Residential	1980 - 2013
Southeast of Site 22 – 43 Pevette Street	No listings	1970 and prior
	Residential	1975 - 2013
East of Site 50 – 120 Pevette Street	No listings	1970 and prior
	Residential	1975 - 2013
West of Site 432 – 470 Keenleyside Street	No listings	1970 and prior
	Residential and community	1975 - 2013

Notes: Street Directories reviewed on approximate 5 year intervals.  
 Where community use is indicated occupants include care homes and other such uses.



### 4.3 AERIAL PHOTOGRAPHS

A summary of the aerial photograph review is provided in Table 2. Aerial photographs from 1950, 1968, and 1997 are provided in Appendix E. The Site Plan, Figure A2 (Appendix A) is comprised of the 2012 aerial photograph.

TABLE 2: AERIAL PHOTOGRAPH REVIEW SUMMARY		
DATE ROLL NO. SCALE	SITE	SURROUNDING PROPERTIES
1950 A12650-206 1: 8000	Agricultural / grass covered land.	<b>North:</b> A rail line followed by agricultural land with Monroe Avenue and further agricultural land beyond. <b>South and East:</b> Agricultural land. <b>West:</b> A rail line followed by agricultural land.
1960 A16849 Unknown	Grass covered land.	As in 1950 with the exception of the development of a residential neighbourhood northwest of the Site beyond the rail line.
1968 A20412-115 1: 15 000	As in 1960.	<b>North:</b> Armstrong Park now appears with a residential neighbourhood beyond. <b>South, East, and West:</b> As in 1960.
1988 A27254 1: 20 000	The Site building is now visible, as is the wading pool, the playground, and a footpath.	<b>North:</b> Further residential development beyond Monroe Avenue. <b>South:</b> Keenleyside Street is now visible followed by a residential neighbourhood. <b>East:</b> A residential neighbourhood has been developed. <b>West:</b> Residential development appears beyond Armstrong Park.
1997 MB97004-105 1: 20 000	As in 1988.	As in 1988.
2012 Unknown 1: 10 000	As in 1997 with the exception that two baseball diamonds are now visible.	As in 1997 with exception of a building constructed northwest of the Site in Armstrong Park.

## 5.0 REGULATORY INFORMATION

### 5.1 LANDFILLS

According to the City of Winnipeg Landfill Plans, five landfills / dump sites were located within 2 km of the Site. The Elmwood Landfill and the Narin Avenue Landfill were formally located approximately 1 km south / southwest of the Site. The Kimberely Landfill was formally located approximately 2 km north of the Site and the St. Boniface Dump Site and St. Boniface Landfill Number 1 were formally located approximately 2 km south / southeast of the Site.

A review of the contamination buffer zones surrounding the landfills, as illustrated on the City of Winnipeg Landfill Plans, indicates that the Site is well outside of the known impact zones associated with these landfills / dump sites. Further, given the distance from the landfills / dump



sites to the Site, as well as the expected low permeability of the subsurface soil in this area of the City of Winnipeg, impacts to the Site as a result of the landfills / dump sites are not expected.

## **5.2 LOCAL REGULATORY AGENCY**

According to AMEC's preliminary search, the Site and surrounding properties are not listed on MC's Hazardous Waste Generators List, Petroleum Storage Tank Registry, Impacted Sites List, or PCB Storage Facility Registry.

An MC file search was requested to determine if MC had any records pertaining to the Site. At the issuance of this report, the results of the MC file search had not been received. When this information is provided to AMEC, it will be forwarded along with any necessary amendments to the report.

## **6.0 POTENTIAL OFF-SITE SOURCES OF IMPACT:**

A rail line is currently located immediately north of the Site and has been in this location since prior to 1950. Historical rail lines may contain PAHs (Polycyclic Aromatic Hydrocarbons) which originate from a treatment process of the railroad ties, and metals. However, the mobility of PAHs and metals in soil is very limited and any impact would be expected to be localized. As such, there is a low potential for environmental impacts to the Site from the rail line.

## **7.0 SITE ENVIRONMENTAL ISSUES**

The following potential environmental issues were assessed as part of the Site inspection conducted 18 March 2013.

### **7.1 AIR EMISSIONS**

Given that the presence of heating and cooling equipment was not reported or observed at the time of the Site inspection no sources of air emissions were identified on Site.

### **7.2 ASBESTOS CONTAINING MATERIAL (ACMS)**

Manitoba Workplace Safety & Health Regulations (217/2006) defines an ACM as any non-friable material containing 1.0% or greater asbestos fibres and any friable material containing 0.1% or greater asbestos fibres. Part 37 of the Regulation also requires that any potential ACM must be treated as an ACM unless laboratory analysis indicates otherwise. As part of this regulation, employees present in buildings with known or suspect ACMs must be informed and all ACMs must be identified. Generally, buildings constructed prior to the mid 1980s or with building materials manufactured prior to the early 1980s (with exception of potential vermiculite insulation used in the early 1990s) may have higher risk ACMs present, however there was no complete ban of asbestos in building and other materials.



As the Site was developed in 1973, there is a potential for asbestos containing materials to be present within the Site building, however, were not observed at the time of the Site inspection. ACMs which may be present within the building, but which were not observed or reported during the Site inspection, may include roofing materials and mastics, joint compounds associated with various types of concrete block, vermiculite insulation within wall cavities, and thermal insulating materials such as fire door insulation, and gaskets associated with mechanical equipment.

### **7.3 POLYCHLORINATED BIPHENYLS (PCBS)**

PCB-containing products were manufactured for use in applications where stable, fire-resistant, and heat-transfer properties were demanded up to 1977. Most PCBs were sold for use as dielectric fluids (insulating liquids) in electric transformers and capacitors. Other uses included heat transfer fluid, hydraulic fluid, dye carriers in carbonless copy paper, plasticizers in paints, adhesives, and caulking compounds. In Canada, PCBs were prohibited from being used in products, equipment, machinery, electrical transformers and capacitors that were manufactured or imported into the country after July 1980.

Where possible, labelling or other forms of identification on electrical and other equipment are compared to summary documents prepared by Manitoba Hydro. Manitoba Hydro may be contacted to determine the PCB content of electrical transformers based on their serial numbers.

Fluorescent tube light fixtures were observed throughout the Site building. As the building was constructed prior to the ban on PCBs, there is a potential that the dielectric fluid in the fluorescent light ballasts contain PCBs. PCB containing light ballasts must be handled as hazardous waste and can not be disposed of in a commercial dumpster.

### **7.4 LEAD CONTAINING PAINTS (LCPS)**

Lead was used extensively for pigmentation, sealing, and as a drying agent in oil based paints up until the early 1950s. Exterior paints typically contained up to 60% lead by weight. Beginning in the 1960s, a decrease in the content of lead employed in paints was initiated. In 1976, the Canadian Federal Government introduced the Liquid Coating Materials Regulations under the Federal Hazardous Products Act, restricting the maximum total lead content of paints and other liquid coating materials used in or around premises attended by children or pregnant women to 0.5% by weight (5000 mg/kg). In April 2005 the Canadian Federal Government enacted the Surface Coating Materials Regulations which reduce the maximum total lead content of any new surface coatings used in or around premises attended by children or pregnant women from 0.5% to 0.06% and more recently to 0.009%. This reduction does not generally apply to surface coating applied to buildings or other structures used for agricultural or industrial purposes as an anti-weathering or anti-corrosive coating.

Based on the construction date of the Site building (1973), LCPs may have been used during initial construction and subsequent renovation, although may have been painted over during renovations completed following the ban on LCPs. Painted surfaces observed in the Site



building appeared to be in generally good condition with the exception of some areas that had been scraped and peeled.

## **7.5 HAZARDOUS AND NON-HAZARDOUS CHEMICAL USE AND STORAGE**

Apart from a small quantity of cleaning products and pool chemicals, there was no chemical use or storage observed on-site at the time of the Site assessment.

## **7.6 UNDERGROUND AND ABOVEGROUND STORAGE TANKS (USTS AND ASTS).**

There were no ASTs or evidence of ASTs observed at the Site during the Site visit, nor was there evidence of any current or previous USTs. Mr. Karl Thordarson confirmed that there have never been any ASTs or USTs to his knowledge associated with the Site.

## **7.7 HAZARDOUS AND NON-HAZARDOUS WASTE**

MC defines hazardous wastes, with certain exceptions, in general as 'waste dangerous goods' from the use of familiar products that households and businesses use every day. Hazardous waste can include waste paint, paint thinners, oil, oil filters, batteries, and cleaning chemicals, among many others. If the product has a dangerous goods safety mark (label) on the packaging, the waste product is more than likely a hazardous waste.

There was no hazardous waste observed at the Site. Non-hazardous solid waste is disposed of in litter baskets located in several areas across the Site. It was reported to AMEC that these bins are emptied weekly.

## **7.8 OZONE DEPLETING SUBSTANCES (ODS)**

ODS, such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons, may be used as refrigerants, propellants, and in the manufacture of items such as packaging, insulation, solvents, and halon based fire extinguishing agents. Under the Manitoba Ozone Depleting Substances and Other Halocarbons Regulation (Manitoba Regulation 178/05) all ODSs and specified greenhouse gases (GHGs) are subject to regulatory control including spill reporting, worker training, phase-out of materials, and proper recovery and disposal of substances. In Canada, the production or import of CFCs was completely banned in January 1996 and all equipment containing CFCs will be required to be recharged with an alternate refrigerant after December 2014. While less damaging to the ozone layer, HCFCs are being phased out in Canada over a series of cap reduction dates (1996, 2004, 2010, 2015, 2020 and 2030).

As the Site building did not contain heating or cooling equipment potential sources of ODSs were not observed at the time of the site inspection.

## **7.9 LIQUID EFFLUENTS**

Liquid effluents (i.e. system process water and discharges to sewers or other disposal systems) were limited to domestic sewage, which was directed to the municipal sewer system.

## **7.10 GROUNDWATER WELLS**

There are no known groundwater wells currently in use at the Site or surrounding area.

## **7.11 RADON**

Radon is a colourless, odourless gas that occurs naturally from the breakdown of Uranium. Radon can be found in high concentrations where there are soils and rocks containing high levels of uranium, granite, shale or phosphorus. In open air or in areas with high air circulation, radon is not considered a health problem. However, in confined areas (such as basements), radon can migrate through foundation cracks or sumps and become a health hazard. According to the Interdepartmental Working Group on Radon established by the government of Manitoba, bedrock in the Winnipeg area is known for having moderate to high radon gas-generating potential. Levels of radon are not regulated, however, Health Canada have established recommended radon concentrations for residential structures.

AMEC is unaware if there has been a radon gas survey completed at the Site. Generally speaking, maintaining good air circulation limits the potential for radon gas accumulation.

## **7.12 SUSPECT VISIBLE MOULD GROWTH**

Suspected visible mould growth (SVG) on building materials is identified by visual growth or evidence of water intrusion / damage. Evidence of SVG was not observed within the Site building. SVG may occur within enclosed spaces and may not be evident from a walk through building assessment.

## **7.13 MERCURY**

Mercury has historically been employed in the construction of thermostats, switches and lamps. Small commercial switches and thermostats reportedly may contain 2 to 18 mg of mercury with industrial switches and equipment containing 5 kg or more. Older mercury containing lamps can contain up to 80 mg of mercury per lamp. Newer style fluorescent lamps manufactured since 2000 have in the order of 4 to 12 mg of mercury per lamp. Other types of lamps, such as metal halide and high pressure sodium, can also contain mercury in the order of 20 to 250 mg/lamp.

Mercury was also commonly added to paint coatings as a fungal retardant, and other paint coatings, however it is not commonly tested for as the proper handling and disposal of lead containing paints would typically minimize any safety or disposal issues for mercury. The Surface Coating Materials Regulations restricted the maximum total mercury content of paints





and other liquid coating materials to 10 mg/kg in or around premises attended by children or pregnant women.

Potential sources of mercury observed at the Site were limited to small commercial switches, the potential use of paint coatings, and fluorescent lamps.

#### **7.14 RADIOACTIVE MATERIALS**

No evidence of radioactive materials was identified during the Site visit.

#### **7.15 UREA FORMALDEHYDE FOAM INSULATION (UFFI)**

UFFI is a thermal insulation material that is pumped into interstitial spaces between the walls of buildings where it hardens to form a solid layer of insulation. The sale and installation of UFFI was banned for health-related reasons because of the formation of formaldehyde gas, which is released from the UFFI to the building interior. Most installations occurred between 1977 and its ban in Canada in 1980.

Because the building was constructed in 1973, UFFI is not expected to be present.

#### **7.16 SUMMARY OF SITE INSPECTION FINDINGS**

The following issues have been identified as representing a potential environmental concern to the Site:

- Potential PCBs in light ballasts;
- Potential LCPs in areas of the building; and
- Potential mercury in LCPs and fluorescent lamps.

#### **8.0 CONCLUSIONS AND RECOMMENDATIONS**

Based on the assessment undertaken, the potential for subsurface impacts at the subject property as the result of on or off-Site sources is considered to be low and a Phase II ESA is not recommended at this time.

The following items may require additional attention:

- Potential PCBs in light ballasts;
- Potential LCPs in areas of the building; and
- Potential mercury in LCPs and fluorescent lamps.

Based on the findings of the assessment, AMEC recommends that a designated substances survey (DSS) be conducted prior to any renovation or demolition given the potential for disturbance of these materials during renovation / demolition activities.



## **9.0 CLOSURE**

The Canadian Standards Association notes that no environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of a standardized environmental site assessment protocol is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with the property, given reasonable limits of time and cost.

This report was prepared for the exclusive use of the City of Winnipeg Planning, Property and Development Department and is intended to provide a Phase I ESA for the Site located at 480 Keenleyside Street at the time of the Site visit. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from AMEC will be required. With respect to third parties, AMEC has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The report is based on data and information collected during the Phase I ESA of the property conducted by AMEC. It is based solely on the conditions of the Site encountered at the time of the Site visit on 18 March 2013, supplemented by a review of historical information and data obtained by AMEC as described in this report, and discussion with a representative of the owner/occupant, as reported herein. Except as otherwise maybe specified, AMEC disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to AMEC after the time during which AMEC conducted the Phase I ESA.

In evaluating the property, AMEC has relied in good faith on information provided by other individuals noted in this report. AMEC has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the current owner/occupant. AMEC accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

AMEC makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

This Report is also subject to the further Limitations contained in Appendix B.



We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Respectfully submitted,  
**AMEC Environment & Infrastructure**

A handwritten signature in blue ink, appearing to read "Angela Smith".

Angela (Solinske) Smith  
Environmental Technician

A large, stylized handwritten signature in blue ink, appearing to read "Crystal Eyjolfson".

Crystal Eyjolfson, B.E.S., EPT  
Environmental Scientist  
Project Manager

Reviewed by:

A handwritten signature in blue ink, appearing to read "Michael Bertram".

Michael Bertram, P.Eng.  
Senior Environmental Engineer

Dist. (1) Electronic Copy – Addressee

## 10.0 REFERENCES

- Baracos, A., Shields, D. and Kjartanson, B. 1983. Geological Engineering Maps & Report for Urban Development of Winnipeg. The University of Manitoba, Department of Geological Engineering. Winnipeg, MB.
- Canada Mortgage and Housing Corporation (CMHC). 1995, Revised 2007. About Your House: Urea-Formaldehyde Foam Insulation (UFFI), 62032.
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- Province of Manitoba, 1994. Ozone Depleting Substances Act. Regulation 103/94
- US EPA. October 2009. Hazardous Waste Characteristics: A User-Friendly Reference Document.

## **APPENDIX A**

### **FIGURES**



**CITY OF WINNIPEG**

**amec**  
Environment & Infrastructure  
CITY OF WINNIPEG

**SITE LOCATION PLAN  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA**

Drawn: N/A	Scale: ~1:150 000	Date: MAR/2013	Project No.: WX17105	Figure: A1
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**SITE**

**CP Rail Line**

**Keenleyside Street**

**Pevette Street**



**Environment & Infrastructure  
CITY OF WINNIPEG**

**SITE PLAN  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA**

Drawn: N/A

Original Scale: Unknown

Date: MAR/2013

Project No.: WX17105

Figure: A2

## **APPENDIX B**

### **STATEMENT OF LIMITATIONS**



## LIMITATIONS

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
  - (a) The Standard Terms and Conditions which form a part of our Professional Services Contract;
  - (b) The Scope of Services;
  - (c) Time and Budgetary limitations as described in our Contract; and
  - (d) The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Site and attendant structures. Our conclusions cannot and are not extended to include those portions of the Site or structures, which are not reasonably available, in AMEC's opinion, for direct observation.
4. The environmental conditions at the Site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the Site with any applicable local, provincial or federal by-laws, orders-in-council, legislative enactments and regulations was not performed.
5. The Site history research included obtaining information from third parties and employees or agents of the owner. No attempt has been made to verify the accuracy of any information provided, unless specifically noted in our report.
6. Where testing was performed, it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, may be present on Site and may be revealed by different or other testing not provided for in our contract.
7. Because of the limitations referred to above, different environmental conditions from those stated in our report may exist. Should such different conditions be encountered, AMEC must be notified in order that it may determine if modifications to the conclusions in the report are necessary.
8. The utilization of AMEC's services during the implementation of any remedial measures will allow AMEC to observe compliance with the conclusions and recommendations contained in the report. AMEC's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
9. This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report is the sole responsibility of such third party. AMEC accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of AMEC.
11. Provided that the report is still reliable, and less than 12 months old, AMEC will issue a third-party reliance letter to parties that the client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on AMEC's report, by such reliance agree to be bound by our proposal and AMEC's standard reliance letter. AMEC's standard reliance letter indicates that in no event shall AMEC be liable for any damages, howsoever arising, relating to third-party reliance on AMEC's report. No reliance by any party is permitted without such agreement.

## **APPENDIX C**

### **AMEC ASSESSOR QUALIFICATIONS**



### **AMEC Environment & Infrastructure**

AMEC is a highly respected environmental, geotechnical, materials and water resource engineering firm supplying services to clients throughout North America and internationally. The Winnipeg office of AMEC provides specialist expertise in environmental and geotechnical projects, as well as materials testing, combining the best of local understanding, experience and depth, along with AMEC's global reach, experience and support. The Winnipeg AMEC office services the entire province of Manitoba and, if required, beyond the border into Saskatchewan and Northwest Ontario. The Environment & Infrastructure division in Winnipeg conducts over 100 Phase I ESAs each year. In addition the Winnipeg office has conducted over 1000 Phase II and III ESAs in Manitoba, all in accordance with the various and current Manitoba Conservation and CCME guidance documentation publicized over the years. The Winnipeg office of AMEC has a total of 30 full time and seasonal staff, of which nine are directly involved in the environmental field, and has experienced steady growth since opening in 1987. AMEC's Winnipeg office focuses on quality and timely project deliverables to our clients in the manufacturing, mining, commercial and public sectors.

### **Michael Bertram, P. Eng.**

#### **Senior Environmental Engineer**

Michael Bertram, P. Eng. is the Senior Geoenvironmental Engineer in AMEC's Winnipeg Office with nineteen (19) years of experience in the assessment, management, and remediation of contaminated properties. Michael has coordinated and managed environmental projects across Northwest Ontario and Western Canada, including the Northwest Territories and Nunavut.

Michael has conducted extensive site characterization studies on countless sites for such clients as Domtar, Shell Canada, Imperial Oil, Domo Gas, the City of Winnipeg, Transport Canada, BFI, Agricore, Enbridge Pipelines, INCO, and CN Rail. Michael has successfully project managed numerous contaminated site assessments, all of which have involved site characterization, remedial action plan development, and remedial action implementation. Michael has participated in public and regulatory hearings as a Project Manager and as a Technical Advisor regarding environmental studies and is well respected by the regulatory departments of the federal and provincial governments.

### **Crystal Eyjolfson, B.E.S. EPt**

#### **Environmental Scientist**

Ms. Eyjolfson is a Bachelor of Environmental Studies Honours graduate with specialization in Environmental Management. She has 3 years of successful experience providing environmental and regulatory compliance consulting services to numerous energy companies throughout Alberta. Ms. Eyjolfson is an experienced Environmental Auditor and is familiar with applicable federal, provincial, and local legislation and published guidelines. Ms. Eyjolfson is a registered Environmental Practitioner in Training.



**Angela Solinske**  
**Environmental Technician**

Angela Solinske has a Diploma in Environmental Protection Technology. She is an Environmental Technician with one year of experience conducting Phase I ESAs for a variety of properties including residential, agricultural, commercial and industrial land uses. She is familiar with applicable federal, provincial, and local legislation and published guidelines used to evaluate the actual or potential presence of contamination of the property.

**APPENDIX D**  
**SITE PHOTOGRAPHS**



**PHOTOGRAPH 1:** Looking southwest across the Site from the northeast corner of the Site.



**PHOTOGRAPH 2:** Looking northeast across the Site from the southwest corner of the Site.



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**SITE PHOTOGRAPHS  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA**

Drawn: N/A

Scale: N/A

Date: MAR/2013

Project No.: WX17105


Figure: D1



**PHOTOGRAPH 3:** Looking northwest showing the playground located in the southeast corner of the Site.

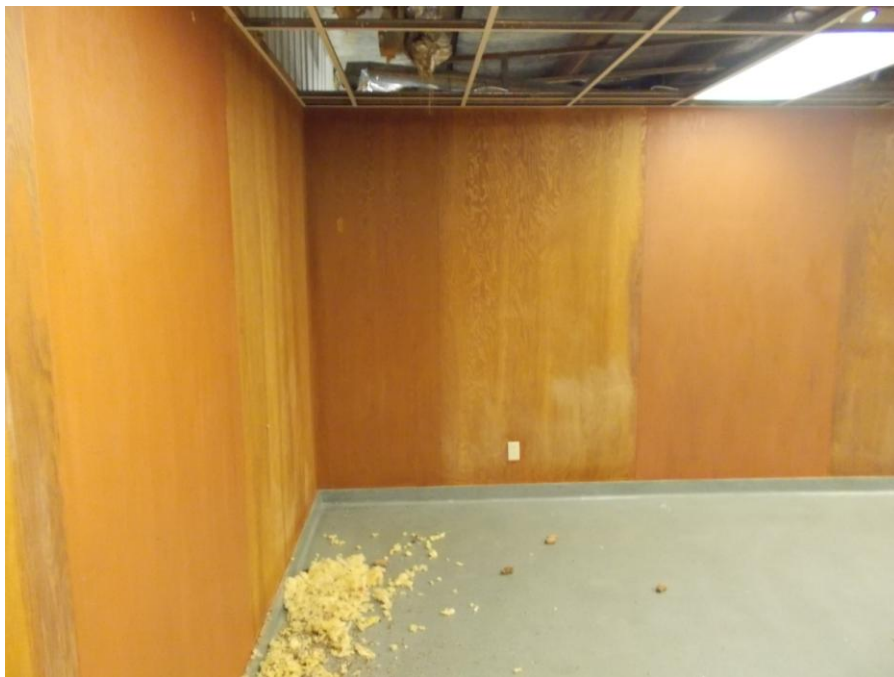


**PHOTOGRAPH 4:** Looking west across the Site from the approximate centre of the eastern Site boundary.

 <b>Environment &amp; Infrastructure</b> <b>CITY OF WINNIPEG</b>		<b>SITE PHOTOGRAPHS</b> <b>PHASE I ENVIRONMENTAL SITE ASSESSMENT</b> <b>480 KEENLEYSIDE STREET</b> <b>WINNIPEG, MANITOBA</b>		
Drawn: N/A	Scale: N/A	Date: MAR/2013	Project No.: WX17105	Figure: D2



**PHOTOGRAPH 5:** Showing the exterior of the Wading Pool building.



**PHOTOGRAPH 6:** Showing interior building materials, also showing insulation and pine cones observed on the floor of the Site building.



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**SITE PHOTOGRAPHS  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA**

Drawn: N/A

Scale: N/A

Date: MAR/2013

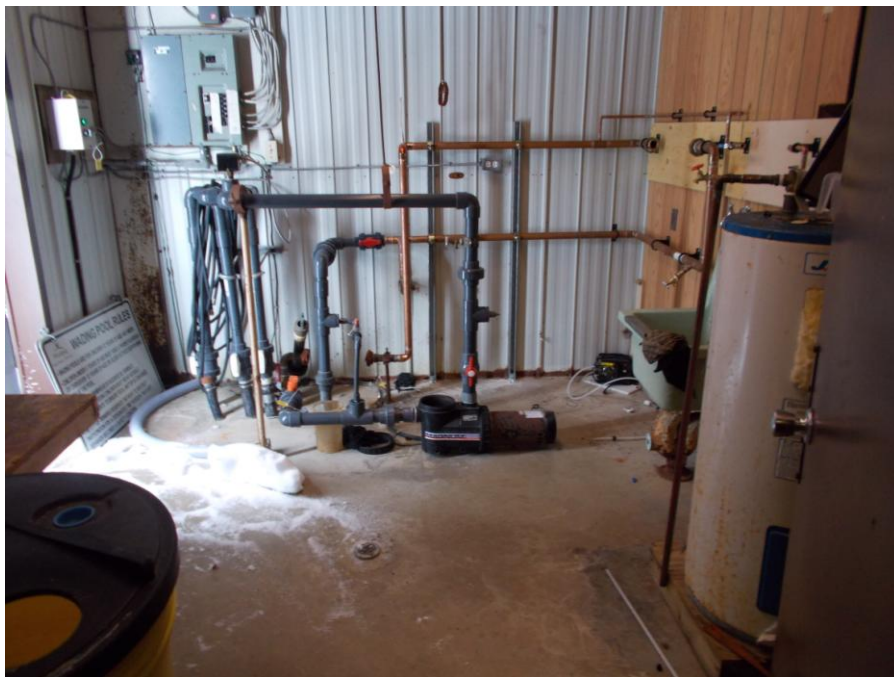
Project No.: WX17105

Figure: D3





**PHOTOGRAPH 7:** Showing interior building materials, also showing insulation observed on the floor of the Site building.



**PHOTOGRAPH 8:** Showing the wading pool mechanical room.



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**SITE PHOTOGRAPHS  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA**

Drawn: N/A

Scale: N/A

Date: MAR/2013

Project No.: WX17105

Figure: D4

**APPENDIX E**

**AERIAL PHOTOGRAPHS**



Environment & Infrastructure  
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1950 AERIAL PHOTOGRAPH  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA

Drawn: N/A

Original Scale: 1: 8,000

Date: MAR/2013

Project No.: WX17105

Figure: E1



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1968 AERIAL PHOTOGRAPH  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA

Drawn: N/A

Original Scale: 1:15,000

Date: MAR/2013

Project No.: WX17105

Figure: E2



Environment & Infrastructure  
CITY OF WINNIPEG

1997 AERIAL PHOTOGRAPH  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
480 KEENLEYSIDE STREET  
WINNIPEG, MANITOBA

Drawn: N/A

Original Scale: 1:20,000

Date: MAR/2013

Project No.: WX17105

Figure: E3