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**ST. ANTHONY  
SAR STATION  
REFURBISHMENT  
P/N: R.089934.001**

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**APPENDIX "A" -  
ENVIRONMENTAL SITE  
ASSESSMENT**

*Updated Phase I Environmental Site Assessment  
St. Anthony MCTS Centre (DFRP #01728)  
Public Works and Government Services Canada  
Prepared by  
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Is provided for information proposes only.*



## UPDATED PHASE I ENVIRONMENTAL SITE ASSESSMENT

St. Anthony MCTS Centre (DFRP#01728)

Public Works and Government Services Canada



# INFRASTRUCTURE AND BUILDINGS

**January | 2014**

REPORT > FINAL

Internal ref. 512579 - P005



**FINAL REPORT**

**UPDATED PHASE I ENVIRONMENTAL SITE ASSESSMENT  
ST. ANTHONY MCTS (DFRP #01728)  
ST. ANTHONY  
NEWFOUNDLAND AND LABRADOR**

**Prepared for:**

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**January 2014**

## EXECUTIVE SUMMARY

SNC-Lavalin Inc. (SLI) was retained by Public Works and Government Services Canada (PWGSC), on behalf of Fisheries and Oceans Canada (DFO), in August 2013 to carry out a Phase I/II Environmental Site Assessment (ESA) at the St. Anthony Marine Communications and Transmissions Station (St. Anthony MCTS) (DFRP #01728) located in the Town of St. Anthony, Newfoundland and Labrador (NL).

The objectives of the Updated Phase I ESA at the above-mentioned property included:

- Complete an Updated Phase I ESA in accordance with Canadian Standards Association (CSA) Standard Z768-01 (R2006) and detailed historical review of the subject property in order to identify and document the presence of sources or potential sources, of soil contamination associated with current and past activities;
- If possible, prepare an indicative estimate of liability/letter of recommendation associated with known contaminated sites, or a record of site condition; and,
- Provide and input necessary data requirements into DFO's Contaminated Sites Module (provided as a separate document).

### Site Description

The site consists of one parcel of land covering an area approximately 0.3421 ha. The site consists of a flat, cleared area located at 72 West Street. A Marine Communications and Traffic Services (MCTS) building and warehouse are located on the subject property (see Appendix A, Figure 2). The St. Anthony MCTS (DFRP #01728) and associated warehouse were constructed in 1996 and are owned by Canadian Coast Guard. The subject property is located adjacent to a Scotiabank to the north, an RCMP building to the east, and an elementary school to the west.

### Site Visit

SLI personnel visited the subject property on October 7<sup>th</sup>, 2013. All observable areas of the subject property and surrounding area were visually inspected for potential sources of environmental liabilities. At the time of the site visit, the ground surface was mostly clear and dry, providing good conditions for the exterior assessment of the property. The southwest corner of the property showed evidence of the former bog.

### Phase I ESA Results

Based on the Phase I ESA, the following conclusions may be drawn regarding environmental concerns at the subject property:

- The proposed Phase II ESA test pit sample was not completed due to extensive underground services in the vicinity of the area of potential concern (underground fuel oil storage tank). Refer to the pages from the Environmental Emergency Response Plan (Appendix D) for the locations of the underground services.
- For the St. Anthony MCTS (DFRP #01728) the potential presence of ozone depleting substances exists in the white goods (refrigerators, coolers, and air conditioners) on site.
- NCS evaluation was not completed for the subject site due to the absence of environmental impacts or concerns.

#### Recommendations

Based on the results of the Updated Phase I ESA at the St. Anthony MCTS (DFRP #01728), the following recommendation are made:

- Apply Best Management Practices in the storage and handling of fuel as outlined in the Petroleum Storage System Compliance Audits/Inspections report (Dessau, 2010).
- Apply Best Management Practices in the storage and handling of hazardous materials and ozone depleting substances.

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# 1 INTRODUCTION

## 1.1 OBJECTIVES

SNC-Lavalin Inc. (SLI) was retained by Public Works and Government Services Canada (PWGSC), on behalf of Fisheries and Oceans Canada (DFO), in August 2013 to carry out a Phase I/II Environmental Site Assessment (ESA) at the St. Anthony Marine Communications and Transmissions Station (St. Anthony MCTS) (DFRP #01728) located in the Town of St. Anthony, Newfoundland and Labrador (NL). The objectives of the Updated Phase I ESA at the above-mentioned property included:

- Complete an Updated Phase I ESA in accordance with Canadian Standards Association (CSA) Standard Z768-01 (R2006) and detailed historical review of the subject property in order to identify and document the presence of sources or potential sources, of soil contamination associated with current and past activities;
- If possible, prepare an indicative estimate of liability/letter of recommendation associated with known contaminated sites, or a record of site condition; and,
- Provide and input necessary data requirements into DFO's Contaminated Sites Module (provided as a separate document).

At the St. Anthony MCTS (DFRP #01728), the proposed Phase II ESA test pit sample was not completed due to extensive underground services in the vicinity of the area of potential concern (UST storage tank). Refer to the pages from the Environmental Emergency Response Plan (Appendix D) for the locations of the underground services.

The following report presents a description of the subject property, location, historical and current land use, adjacent land uses, a summary of findings, and recommendations. Report appendices include: Figures (A), Photographic Record (B), Aerial Photographs (C), Background Information Provided by PWGSC (D), Summary of Interview Questions and Responses (E), Regulatory Documents (F), Field Notes (G), pages from Petroleum Storage System Compliance Audits/Inspections (Dessau, 2010) (H), and ACCDC Species at Risk Search Results (I).

## 1.2 SCOPE OF WORK

The scope of work for the Phase I/II ESA included:

- Review of historical records;
- A search of any regulatory information available for the subject properties;
- A site inspection of the property and adjacent properties; and

- Interviews with individuals familiar with the property and adjacent properties.

At the St. Anthony MCTS (DFRP #01728), the proposed Phase II ESA test pit sample was not completed due to extensive underground services in the vicinity of the area of potential concern (underground fuel storage tank).

### 1.3 FEDERAL CONTAMINATED SITES FRAMEWORK

The investigative work described in this report was conducted in accordance with the Contaminated Sites Management Working Group's (CSMWG) document entitled "Federal Approach to Contaminated Sites" dated November 1999, and SLI's Phase I/II ESA Proposal, dated August 2013. In addition, the following PWGSC Terms of Reference Modules were taken into consideration:

- TOR Module for Phase I/II ESAs for the 2013-2014 DFO FCSAP Program, NL Region (June 2013); and
- TOR Module Cover Document for Contaminated Site Assessment Activities for the 2013-2014 DFO FCSAP Program, NL Region (June 2010).

### 1.4 ASSESSMENT STANDARDS

The Phase I ESA was conducted in accordance with the recommended requirements of the *Canadian Standards Association (CSA), Phase I Environmental Site Assessment Protocol Z768-01 (R2006)*.

## 2 PREVIOUS ENVIRONMENTAL REPORTS

A Phase I Environmental Site Assessment was completed by SNC Lavalin on June, 2001, and did not reveal conditions that would result in environmental contamination at the property identified as the MCTS Centre located at St. Anthony, Newfoundland.

Hazardous materials and ozone depleting substances were located in the warehouse but were not considered a concern. The primary function of the warehouse was identified as the storage of fuel and equipment as well as housing an emergency generator and associated aboveground storage tank (AST).

Hazardous materials such as bleach, household cleaners, oil, grease, butane, lube, and lead acid gel batteries were observed at the site. There is also a possibility of ozone depleting substances present onsite in the form of refrigerants (R12 and freon).

SNC-Lavalin recommended the application of Best Management Practices in the storage and handling of fuel, hazardous materials, and ozone depleting substances.

Background information provided by PWGSC is located in Appendix D.

### **3 PHASE I ENVIRONMENTAL SITE ASSESSMENT**

#### **3.1 METHODOLOGY**

The Phase I ESA was conducted in accordance with the recommended requirements of the Canadian Standards Association (CSA) Phase I Environmental Site Assessment Protocol Z768-01 and the SLI proposal prepared for this project, dated August 2013.

The Phase I ESA was undertaken to identify potential environmental concerns associated with the site. The findings are based on the site visit, review of historical information, and interviews with individuals familiar with the area. The assessment did not include a lien / title search or legal survey of the subject property.

##### **3.1.1 Records Review**

A Phase I Environmental Site Assessment involves the evaluation and reporting of existing information collected through a records review. Files reviewed for the Phase I ESA include:

- A search of the Newfoundland and Labrador Department of Government Services and Lands, Government Services Centre records to investigate the historical and current presence of aboveground storage tanks (ASTs), underground storage tanks (USTs), and fuel spills associated with the subject property;
- A search of the Newfoundland and Labrador Department of Environment and Conservation's records to investigate any environmental concerns related to the subject property;
- A search of Environment Canada's files and databases to investigate the environmental status of the property, as it relates to the Fisheries Act and the Canadian Environmental Protection Act (CEPA);
- A search of the Provincial Department of Tourism, Culture and Recreation records for potential historic resource potential;
- A review of geological and soil mapping; and,
- Various maps and aerial photographs pertinent to the subject property from the years 1948, 1968, 1979, 1988, 1996, and 2008.

Aerial photographs and information obtained from a review of the regulatory documents are included in Appendix C and F and referenced throughout the report.

### 3.1.2 Interviews

An interview was conducted on September 9th, 2013 with Mr. George Smith, a Canadian Coast Guard employee at the St. Anthony MCTS (DFRP #01728). Mr. Smith has stated that he worked at the site since initial site development in 1996.

His information indicates that the St. Anthony MCTS (DFRP #01728) and warehouse was constructed in 1996. Prior to this time the site was a vacant lot. Both buildings are owned by the Canadian Coast Guard. The MF tower located at this site was installed in 1998 and is used for receiving marine communications calls.

Mr. Smith indicated that the St. Anthony MCTS (DFRP #01728) is connected to the municipal water and sewer system. Located around the perimeter of the St. Anthony MCTS (DFRP #01728) is buried weeping tile used to absorb water and diverts it to the town drainage system.

Also, Mr. Smith stated that there is a 455 L AST located inside the warehouse, in the emergency power unit room. This AST is connected to a 4540 L UST located outside the building between the St. Anthony MCTS (DFRP #01728) and the warehouse adjacent to the MF tower. Mr. Smith indicated the 4540 L UST was installed in 1996 and inspected in 2007-2008.

Interviews were also conducted with representatives from the neighbouring school and Scotiabank regarding fuel storage and tank information. These interviews revealed no concerns.

Contact information for the individual interviewed during the Phase I ESA investigation is provided in Appendix E along with a summary of interview questions and responses.

### 3.1.3 Site Visit

SLI personnel visited the subject property on October 9<sup>th</sup>, 2013. All observable areas of the subject property and surrounding area were visually inspected for potential sources of environmental liabilities. At the time of the site visit, the ground surface was mostly clear and dry, providing good conditions for the exterior assessment of the property. The southwest corner of the property showed evidence of the former bog.

The site location plan is provided in Appendix A, Figure 1. A site plan is shown in Appendix A, Figure 2. Photos of the site are located in Appendix B. Copies of the field notes can be found in Appendix G.

### 3.1.4 Property Description

The site consists of one parcel of land covering an area approximately 0.3421 ha. The site consists of a flat, cleared area located at 72 West Street. A Marine Communications and Traffic

Services (MCTS) building and warehouse are located on the subject property (see Appendix A, Figure 2). The St. Anthony MCTS (DFRP #01728) and associated warehouse were constructed in 1996 and are owned by Canadian Coast Guard. The subject property is located adjacent to a Scotiabank to the north, an RCMP building to the east, and an elementary school to the west.

The St. Anthony MCTS (DFRP #01728) and associated warehouse were constructed in 1996 and are owned by Canadian Coast Guard. The MCTS office building and warehouse are in good condition both structurally and on the exterior (see Appendix B, Photos 1 through 4).

Further photos of the property are provided in Appendix B.

### **3.1.5 Physical Setting**

The site is located in the Town of St. Anthony, located on Newfoundland's Northern Peninsula (See Figure 1, Appendix A for the Town's location). The site can be accessed via paved road, West Street, through the Town of St. Anthony.

#### **3.1.5.1 Surficial Geology**

The surficial geology of the area consists of bog having vegetative and peat cover, with patches of exposed rock and other surficial sediment present (Surficial Geology of Insular Newfoundland Preliminary Version, Government of Newfoundland and Labrador, Department of Mines & Energy, Geological Survey Branch, 1990).

#### **3.1.5.2 Bedrock Geology**

The bedrock geology underlying the subject property and surrounding area consists of mainly sandstone, shale, and volcanic rock (Geology of the Island of Newfoundland, Government of Newfoundland and Labrador, Department of Mines & Energy, Geological Survey Branch, 1990).

#### **3.1.5.3 Topography and Regional Drainage**

Site topography is generally flat. Surface water runoff is expected to flow northeast towards St. Anthony bay. Located around the perimeter of the MCTS Centre is buried weeping tile used to absorb water and divert it to the town drainage system.

#### **3.1.5.4 Surface Water Drainage**

The subject property is relatively flat, sloping gently to the northeast in the direction of St. Anthony harbour. It is anticipated that surface water drainage from the subject property follows the site's topography and trends northeast.

It is expected that surface water from adjoining properties also follow the local topography with surface water from the adjacent properties migrating towards the harbour.

### 3.1.6 On-Site Buildings and Structures

A MCTS building and warehouse are located on the subject property (see Appendix B for Site Photos). A summary of the buildings on site is provided in Table 3-1.

**Table 3-1: On-Site Structures and Descriptions.**

Component	Description	
<b>Building</b>	MCTS Centre	Warehouse
<b>Owned By</b>	CCG	CCG
<b>Occupied By</b>	CCG	CCG
<b>Building Use</b>	Marine Radio Station	Storage/Power Backup
<b>Size of Building</b>	32 m x 27 m	10.5 m x 5.0
<b>Date Constructed</b>	1996	1996
<b>Foundation</b>	Concrete	Concrete
<b>Framing</b>	Wooden	Wooden
<b>Exterior Finish</b>	Metal	Metal
<b>Interior Finish</b>	Gyproc	Plywood
<b>Roof</b>	Shingled	Shingled
<b>Insulation</b>	Foam & Styrafoam	Unknown
<b>Lighting</b>	Fluorescent	Fluorescent
<b>Heating</b>	Hot Water Radiation	Hot Water Radiation
<b>Air Conditioning</b>	Yes	Yes (Vent)
<b>Condition of Building</b>	Good	Good

### 3.1.7 Adjoining Properties

The subject property is bordered to the north and east by commercial properties. An elementary school is located adjacent to the west with a vegetated area to the south. The area adjacent to the MCTS Centre and warehouse is a residential and commercial zone. A Scotiabank is located adjacent to the north of the MCTS Centre. To the north of the Scotiabank is an Irving Oil gas station and restaurant. A Royal Canadian Mounted Police station is located across West Street from the MCTS. Also, a shopping centre is located northwest of the site. Through a small wooded area at the rear of the buildings is an elementary school. The remaining area surrounding the MCTS Centre is residential. Refer to Appendix C, Aerials 1 through 6.

The interviews conducted concerning adjacent properties did not reveal any areas of potential environmental concern. Additionally, the Irving Oil fuel station and Shopping Centre are downgradient from the St. Anthony MCTS site.

## 3.2 HISTORICAL LAND USE

### 3.2.1 Subject Property

The historical review of the subject property included an interview with CCG Officer George Smith, and a review of aerial photographs. A summary of interview questions and responses is included in Appendix E. Aerial photographs of the area for the years 1948, 1968, 1979, 1988, 1996, and 2008 were reviewed and are presented in Appendix C.

Mr. Smith reported that the subject property was used as farmland in the past up until the current MCTS centre and warehouse were built in 1996.

### 3.2.2 Adjoining Properties

The historical review of the subject property included interviews with CCG Officer George Smith, Rocky Bromley, Operations Manager for the adjacent elementary school, and a representative from Scotiabank. A review of aerial photographs for the adjoining properties was also completed. The summary of interview questions and responses is included in Appendix E. Aerial photographs of the area for the years 1948, 1968, 1979, 1988, 1996, and 2008 were reviewed and are presented in Appendix C.

The interviews conducted concerning adjacent properties did not reveal any areas of potential environmental concern. Additionally, the Irving Oil fuel station and Shopping Centre are downgradient from the St. Anthony MCTS site.

### 3.2.3 Aerial Review

Aerial photographs of the area for the years 1948, 1968, 1979, 1988, 1996, and 2008 were reviewed and are presented in Appendix C. Aerials 1 through 6 revealed the land use and development of the subject property during this time period. Table 3-3 summarizes the observations and findings of the aerial photograph review.

**Table 3-2: Observations and Findings of Aerial Photograph Review for Subject Property**

Photo Date	Observations and Findings
1948	Property partially wooded. Fields for farming visible.
1968	Fields further developed. No major change from previous photo.
1979	Fields re-vegetated.
1988	Wetland has re-grown over field.
1996	Land clearing and structures visible.
2008	Site fully developed with structures.



A review of aerial photographs of the adjacent sites revealed the development progression of the adjacent properties during this time period. Table 3-4 summarizes the observations and findings of the aerial photograph review for adjacent properties.

**Table 3-3: Observations and Findings of Aerial Photograph Review for Adjoining Properties**

Photo Date	Observations and Findings
1948	Adjacent properties include forested land and agricultural land.
1968	No major change from previous photo.
1979	School constructed to the west. Other structures visible to the east.
1988	Further development to the north and east.
1996	More commercial properties visible to the north, east, and southeast.
2008	No major change from previous photo.

### 3.3 REGULATORY REQUESTS

#### 3.3.1 Provincial

SLI requested a search of the following Provincial Departments:

- Service NL's records;
- Department of Environment and Conservation's records; and,
- A search of the Provincial Department of Tourism, Culture and Recreation records for potential historic resource potential.

Results from the records search of the Service NL's records revealed no environmental concerns with the subject property.

Results from the records search of the Newfoundland and Labrador Department of Environment and Conservation revealed no environmental concerns with the subject property.

Results from the records search of the Newfoundland and Labrador Department of Tourism, Culture and Recreation revealed no environmental concerns with the subject property.

See Appendix F for results of the regulatory searches.

#### 3.3.2 Federal

SLI requested a search of Environment Canada's files and databases to investigate the environmental status of the property as it relates to the *Fisheries Act* and the *Canadian Environmental Protection Act (CEPA)*. Results of the search revealed no findings pertaining to

Environment Canada's legislated mandate under the *Fisheries Act* or the CEPA (see Appendix F).

### **3.4 SITE VISIT AND EVALUATION OF FINDINGS**

SLI personnel visited the subject property on October 7<sup>th</sup>, 2013. All observable areas of the subject property and surrounding area were visually inspected for potential sources of environmental liabilities. At the time of the site visit, the ground surface was mostly clear and dry, providing good conditions for the exterior assessment of the property.

The location of the subject site is shown in Appendix A, Figure 1. A site plan of the property is included in Appendix A, Figure 2. The proposed Phase II ESA test pit sampling was not completed due to extensive underground services in the vicinity of the area of potential concern (underground fuel oil storage tank). Refer to the pages from the Environmental Emergency Response Plan (Appendix D) for the locations of the underground services.

#### **3.4.1 Current Site Operations**

The subject property which houses an office building and warehouse has historically been used by the CCG since 1996 as a marine communications centre.

#### **3.4.2 Waste Generation**

##### **3.4.2.1 Solid and Liquid Wastes**

All solid wastes generated at the MCTS Centre is collected by a certified contractor and transported to a local landfill for proper disposal. A solid waste collection box is located adjacent to the warehouse (see Appendix B, Photo 12).

##### **3.4.2.2 Wastewater Discharges, Drains and Sumps**

The MCTS office building is connected to the municipal water and sewer system. The associated warehouse has no water and sewer supply. Located around the perimeter of the St. Anthony MCTS (DFRP #01728) is buried weeping tile used to absorb water and divert to the town drainage system.

##### **3.4.2.3 Air Discharges**

Air emissions at this site are limited to intermittent diesel generator exhaust. There is an exhaust louver and intake louver located in the Emergency Power Unit section of the warehouse to circulate fresh air through the room.

### **3.5 FUELS, CHEMICALS AND WASTE STORAGE**

#### **3.5.1 Storage Tanks**

A review of the NL Department of Government Services and Lands, and Environment Canada's records did not indicate any fuel storage tank registration or decommissioning, or any other outstanding environmental concerns at the property. Refer to Appendix F for results of this search.

However, during the visit, an AST was observed outside the warehouse and a UST was located adjacent to the warehouse.

There is no fuel storage within the St. Anthony MCTS Centre (DFRP #01728) office building.

The primary function of the warehouse is the storage of fuel and equipment, as well as housing an emergency generator and associated aboveground storage tank. Formerly located within the warehouse and relocated in 2005, a 455 L AST lies against the north exterior warehouse wall and supplies fuel to the generator (see Appendix A, Photo 10). This AST is connected to a 4540 L UST located outside the building between the MCTS Centre and the warehouse adjacent to the MF tower (see Appendix A, Figure 2 for the site plan and Appendix B, Photo 1 through 4). This 4540 L tank is constructed of double-walled fibreglass and supplies the Emergency Generator as well as the MCTS office building furnace. Documentation of inspections and upgrades to the 4540 L UST is provided in Appendix D.

The proposed Phase II ESA test pit sampling was not completed due to extensive underground services (communications and electrical cables) in the vicinity of the area of the underground fuel oil storage tank. Refer to the pages from the Environmental Emergency Response Plan (Appendix D) for the locations of the underground services.

#### **3.5.2 Storage Containers**

Two full cylinders of CO<sub>2</sub> were observed inside the Emergency Power Unit of the MCTS warehouse, as part of a fire suppression system (see Appendix B, Photo 15).

Small fuel storage containers and paint containers were noted within the warehouse itself. Various cleaning supplies were noted inside the MCTS office building.

### **3.6 BUILDING SYSTEMS AND EQUIPMENT**

#### **3.6.1 Heating and Cooling Systems**

The St. Anthony MCTS (DFRP #01728) office building has four air conditioners. There are three in the attic and one on the roof of the structure. The type and quantity of refrigerant is unknown, however potential environmental impacts are not suspected.

The St. Anthony MCTS (DFRP #01728) utilizes electrical heat and an oil furnace fuelled by the 4540 L UST.

#### **3.6.2 Hydraulic Equipment**

Hydraulic equipment was not observed or reported on the subject property at the time of the site visit. Potential environmental impacts are not suspected.

### **3.7 EXTERIOR OBSERVATIONS**

#### **3.7.1 Building Materials**

Due to the age of the building (constructed in 1996), hazardous building materials are not suspected to be present within the subject property buildings.

Staining approximately 1 m<sup>2</sup> in area was observed on the floor and walls of the MCTS office building adjacent to the furnace fuel lines (refer to Appendix B, photo 10).

#### **3.7.2 Surface Features**

The site is predominantly grass, gravel, concrete, and asphalt. The area surrounding the St. Anthony MCTS building and warehouse is grass, with an asphalt parking lot and concrete sidewalk.

#### **3.7.3 Fill Materials**

The subject property is reportedly located on a former wetland area. Fill was imported from a local pit approximately 5 km from the site to construct the foundation of the property buildings.

#### **3.7.4 Wells**

The buildings on the subject site are connected to municipal services. Groundwater, oil, gas or disposal wells (existing or abandoned) were not observed or reported on site.

### **3.8 HAZARDOUS BUILDING MATERIALS**

#### **3.8.1 Asbestos Containing Materials (ACMs), Polychlorinated Biphenyls (PCBs), and Urea Formaldehyde Foam Insulation (UFFI)**

Due to the age of the buildings (constructed in 1996), potential for ACMs, PCBs and UFFI are not suspected.

#### **3.8.2 Lead and Mercury Based Materials**

The use of lead based paint was common in Canada prior to 1976. Based on the age of the subject buildings (constructed in 1996), the site visit and the interview, it is not suspected that lead containing paint is present at this site.

#### **3.8.3 Pesticides**

Potential sources or use of pesticides or herbicides were not observed during the site visit or reported during the interview.

#### **3.8.4 Ozone Depleting Substances**

For the St. Anthony MCTS (DFRP #01728) the potential presence of ozone depleting substances exists in the white goods (refrigerators, coolers, and air conditioners) on site.

### **3.9 SPILL AND STAIN AREAS**

There was no indication of spills or staining at the time of the site visit. During a telephone interview, Mr. George Smith (CCG) reported that, to the best of his knowledge, no spills have occurred at the subject property. Relevant government searches also revealed no history of spills at the subject property.

### **3.10 SPECIAL ATTENTION ITEMS**

#### **3.10.1 Radon Gas**

Based on a review of geological maps (Geoscience online, Dept. of Natural Resources), radon gas is not expected to pose a significant risk at the subject property. According to the geologic information that was reviewed, the bedrock underlying the site is not known to have deposits of uranium or thorium, which generates radon gas.

Other potential sources of radon were not identified on the subject property at the time of the site investigation.

### 3.10.2 Mould

Sources or areas of mould were not observed near the subject property. Potential environmental impacts are not suspected.

### 3.10.3 Electromagnetic Frequencies (EMFs)

Sources of electromagnetic fields were not observed near the subject property. Potential environmental impacts are not suspected.

### 3.10.4 Noise and Vibration

Sources of noise and vibration were not noted at the subject property during the site investigation. Potential environmental impacts are not suspected.

### 3.10.5 Species at Risk

A species at risk search was completed through the Atlantic Canada Conservation Data Centre (ACCDC). The ACCDC species at risk database uses a 5 km buffer zone in the vicinity of the site.

Results of the species at risk search identified twenty-one (21) species of bird which may be encountered at the St. Anthony MCTS (DFRP #01728) site, listed below:

- |                         |                       |                   |                         |
|-------------------------|-----------------------|-------------------|-------------------------|
| • American Tree Sparrow | • Freija Fritillary   | • King Eider      | • Red Crossbill         |
| • Azure Darter          | • Gray-cheeked Thrush | • Emerald Greeb   | • Rough-legged Hawk     |
| • Black Scoter          | • Gyrfalcon           | • Mustard White   | • Sharp-shinned Hawk    |
| • Black-headed Gull     | • Harlequin Duck      | • Peck's Skipper  | • Short-eared Owl       |
| • Common Eider          | • Ivory Gull          | • Pelidne Sulphur | • Song Sparrow          |
|                         |                       |                   | • Three-toed Woodpecker |

For details of the ACCDC Species At Risk search, refer to Appendix J.

### 3.10.6 Other Potential Concerns

Other areas of potential concern were not identified during the site visit. Potential environmental impacts are not suspected.

### **3.11 CONCLUSIONS AND RECOMMENDATIONS OF THE UPDATED PHASE I ESA**

The Updated Phase I Environmental Site Assessment (ESA) was undertaken to identify any areas of potential environmental concern and/or recognized environmental conditions associated with the subject site and adjacent sites. The findings of this assessment are based on the site visit, records review, and interviews with individuals knowledgeable of the property and adjacent properties.

#### **3.11.1 Conclusions**

Based on the Phase I ESA, the following conclusions may be drawn regarding environmental concerns at the subject property:

- The proposed Phase II ESA test pit sample was not completed due to extensive underground services in the vicinity of the area of potential concern (underground fuel oil storage tank). Refer to the pages from the Environmental Emergency Response Plan (Appendix D) for the locations of the underground services.
- For the St. Anthony MCTS (DFRP #01728) the potential presence of ozone depleting substances exists in the white goods (refrigerators, coolers, and air conditioners) on site.
- NCS evaluation was not completed for the subject site due to the absence of environmental impacts or concerns.

### **3.12 RECOMMENDATIONS**

Based on the results of the Updated Phase I ESA at the St. Anthony MCTS (DFRP #01728), the following recommendation are made:

- Apply Best Management Practices in the storage and handling of fuel as outlined in the Petroleum Storage System Compliance Audits/Inspections report (Dessau, 2010).
- Apply Best Management Practices in the storage and handling of hazardous materials and ozone depleting substances.

## **4 CLOSURE**

This report has been prepared by SLI for Public Works Government Services Canada (PWGSC) and Fisheries and Oceans Canada (DFO). It is intended for the sole and exclusive use of PWGSC and DFO, their affiliated companies and partners, and their respective insurers, agents, employees and advisors (collectively, "PWGSC" and "DFO"). Any use, reliance on or decision made by any person other than PWGSC or DFO based on this report is the sole

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The investigation undertaken by SLI with respect to this report and any conclusions or recommendations made in this report reflect SLI's judgment based on the site conditions observed at the time of the site inspection on the date(s) set out in this report and on information available at the time of preparation of this report. This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, interviews with site representatives, and searches of relevant government records. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site, and substances addressed by the investigation may exist in areas of the site not investigated.

If site conditions or applicable standards change or if any additional information becomes available at a future date, SLI requests notification so that we may decide if modifications to the findings, conclusions and recommendations in this report may be necessary.

Other than by PWGSC and DFO, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of SLI. Nothing in this report is intended to constitute or provide a legal opinion.

As required under the Newfoundland and Labrador Impacted Sites Guidance Document (2005), SLI acknowledges that the persons signing this report have demonstrable experience, and are familiar with completing the work as described for the type of contamination at this property. This report has been prepared by Andrew Thorne and reviewed by Derek Heath.



Andrew Thorne  
Environmental Technologist



Derek Heath  
Environmental Manager



## 5 REFERENCES

Table 5-1: References

Ref. No.	Date	Source	Item
1	1948, 1968, 1979, 1988, 1996, and 2008	Government of NL – Department of Services and Lands – Surveys and Mapping Division	Aerial Photographs
2	2001	CSA Protocol Z768-01, Phase I ESA; and Z769-00, Phase II ESA	CSA Protocol Z768-01, Phase I ESA
3	2013	PWGSC	Terms of Reference Cover Document 2013-2014 FCSAP Program
4	2013	SNC-Lavalin Inc.	Proposal for Phase I/II Environmental Site Assessment St. Anthony MCTS, St. Anthony, NL 2013-2014 FCSAP Program
5	1990	Geological Survey Branch, Department of Mines and Energy, NL	Surficial Geology of Insular Newfoundland Preliminary Version
6	1990	Geological Survey Branch, Department of Mines and Energy, NL	Geology of the Island of Newfoundland
7	2005	Government of Newfoundland and Labrador, Department of Environment and Conservation	Guidance Document for the Management of Contaminated Sites. Version 1.01,
8	2013	Government of Newfoundland and Labrador, Department of Natural Resources	Geoscience on line – Interactive maps of mineral occurrences <a href="http://gis.geosurv.gov.nl.ca/resourceatlas/viewer.htm">http://gis.geosurv.gov.nl.ca/resourceatlas/viewer.htm</a>
9	2001	SNC Lavalin	Phase I Environmental Site Assessment, St. Anthony MCTS Centre
10	2007	Newton Engineering, Ltd.	Energy Management Report, St. Anthony MCTS Centre
11	2010	Dessau	Petroleum Storage System Compliance Audits/Inspections



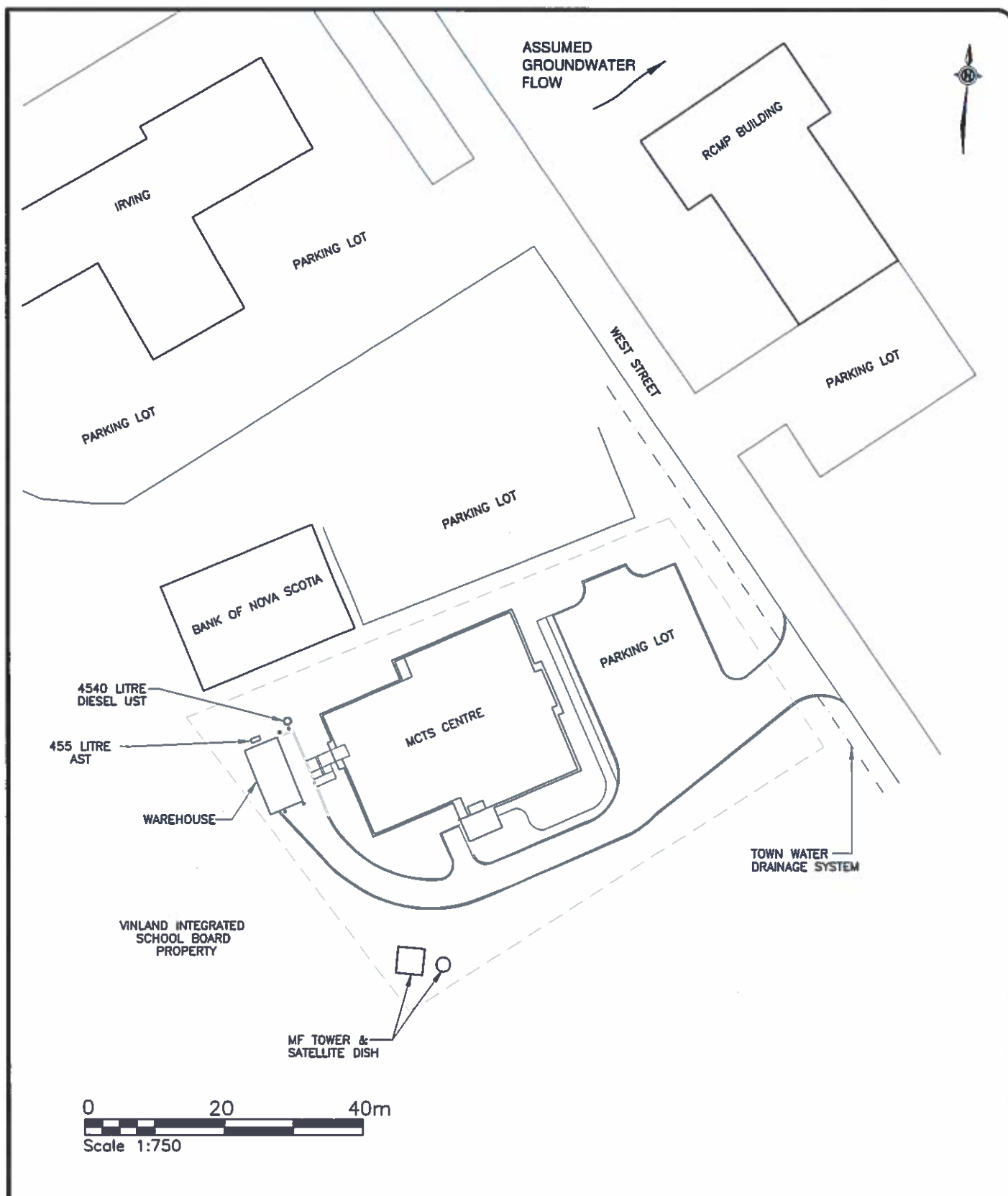
# APPENDIX A

## Figures

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CLIENT:	PWGSC
PROJECT:	UPDATED PHASE I ESA ST. ANTHONY
DRAWING TITLE:	FIGURE 2-SITE PLAN



REV.	REVISIONS	BY	APP.	DATE
DRAWN:	FS	APPROVED:	RH	DATE: 13/11/05
CLIENT PROJ. NO.	BNG PROJ. NO. 512579-PO07			
DRAWING NO. 512579-PO07-SA-DWG-0008	REV.			

# APPENDIX B

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## Photographic Record







**Photo 1: View of main entrance to MCTS office, facing north.**



**Photo 2: View of MCTS office, facing northeast.**



**Photo 3: View of warehouse with Scotiabank in the background, facing north.**



**Photo 4: Alternate view of the MCTS building, facing northwest.**



**Photo 5: Interior walls of MCTS building.**



**Photo 6: Offices and vending machine.**



**Photo 7: Main hallway of MCTS building.**



**Photo 8: Interior floors of MCTS offices.**





**Photo 9: Workshop of MCTS building.**



**Photo 10: Fuel lines adjacent to furnace in MCTS building.**



**Photo 11: Conference room, MCTS building.**



**Photo 12: Adjacent warehouse, with waste bin visible at the right..**



Photo 13: 40 gallon AST.



Photo 14: Filling cap and access to 4540 L UST.



Photo 15: CO2 fire suppression system tanks.



Photo 16: Diesel generator.





**Photo 17: Fuel storage containers.**



**Photo 18: Transmitter tower adjacent to UST and MCTS offices.**

