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Wood Project No. WX19057

Manitoba Conservation & Climate
Environmental Stewardship Division
Environmental Programs and Strategies
1007 Century Street
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Attn: Mr. Warren Rospad
Contaminated Sites Program Specialist
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**RE: Remediation Plan – 16 Speers Road, Winnipeg, Manitoba
Environmental Soil Remediation MCC File 74682**

On behalf of Star Building Materials Ltd., Wood Environment & Infrastructure Solutions (Wood) has prepared this Remediation Plan (RP) for the Department's review and approval.

1.0 Introduction

A limited Phase II ESA was recently completed at 16 Speers Road in Winnipeg, Manitoba (the Site). The objective was to determine if impacts associated with former above ground fuel storage tanks (ASTs) were present below a newly constructed retail Site building.

Prior to re-development of the Site, Wood (formerly Amec Foster Wheeler) conducted a Phase II ESA dated 1 June 2017 to confirm the subsurface conditions in the area of two diesel fuel ASTs which were present at the time of the assessment. The assessment determined that a petroleum hydrocarbon (PHC) F2 fraction concentration of 1390 mg/kg, exceeding the assessment guideline value of 1000 mg/kg was collected from a test hole northeast of the ASTs. The report was submitted to Manitoba Conservation and Climate (MCC) who acknowledge the receipt of the report and status of the site in a letter dated 18 December 2018.

It was understood at the time of the 2017 assessment, that a new retail building and warehouse was scheduled to be constructed over the AST area. As such, Wood recommended that PHC impacted soil from the area surrounding the AST be excavated as part of any new construction and disposed of at a licensed soil treatment facility. However, the removal of impacted soil, as part of the construction activities, was not documented and could not be fully confirmed.

2.0 Site Conditions

Wood recently conducted a limited Phase II ESA to confirm the extent of the impacts in preparation for this RP. Based on the recent limited Phase II ESA, the following Site conditions are understood:

- The soil profiles encountered at the six test hole locations generally consisted of 15 cm of concrete underlain by granular fill followed by clay fill and/or high plastic clay to the termination depth (3.0 m) of the test holes. gravel surface followed by organic clay underlain by a medium to high plastic clay. All six test hole locations also contained a silt lense at approximately 1.5 m below grade and extending to between 1.7 m and 2.1 m bgl.
- A maximum combustible vapour concentration of 360 ppm was detected in TH20-04 at 1.8 m bgl.
- Of the six soil samples, one from each test hole, submitted for laboratory analysis, two contained PHC F2 concentrations greater than the applicable commercial guidelines.
 - TH20-01 @ 2.1 m bgl had a PHC F2 fraction concentration of 2800 mg/kg and TH20-04 @ 1.8 m bgl had a PHC F2 fraction concentration of 5400 mg/kg, exceeding the guideline value of 1000 mg/kg

Based on the results of the limited Phase II ESA, PHC F2 impacts appear to be limited to the silt lense located at and below approximately 1.5 m bgl. The impacts above the applicable soil criteria were present in two the six test holes drilled. The extent of the impacts appears to be reasonably delineated vertically and horizontally.

3.0 Proposed Remedial Activities

The site owner, Star Building, proposes to conduct a remedial excavation to remove the on-Site PHC impacts identified in the limited Phase II ESA. Based on the approximate area of impacts, 21 m² (4m x 5.3m), and the maximum thickness of the silt lense at TH20-01 and TH20-04 (0.6 m), Wood anticipates a maximum contaminated soil thickness of 1.0 m. Therefore, the estimated quantity of impacted soil is in the order of 21 m³ located beneath the concrete floor slab of the warehouse portion of the newly constructed Site building.

During the remedial excavation, which is expected to commence immediately, impacted material will be removed from the Site and disposed of at a licensed soil treatment facility such as GFL's MidCanada soil treatment facility near Ile Des Chenes, Manitoba.

Upon completion of the excavation a soil sampling investigation of the sidewalls and base will be conducted. It is expected that one sample from each sidewall and one from the base will be collected and submitted for laboratory analysis of BTEX and PHC fractions F1 to F4.

Following the completion of the soil removal the excavation will be backfilled with clean fill to Site requirement specifications. Groundwater is not expected to be encountered during the remedial excavation.

On completion of the on-Site activities, a summary report will be submitted, outlining the activities conducted and summarizing analytical testing and soil disposal details.

A Wood field technician will be on-Site to provide environmental consultation, and to collect confirmatory samples from the base and walls of the excavations where appropriate.

A summary of the outlined Site information and proposed plan is as follows:

SUMMARY OF REMEDIAL PLAN	
Recent Reports:	Amec Foster Wheeler. 1 June 2017. Limited Phase II Environmental Site Assessment, 16 Speers Road, Winnipeg, Manitoba. Wood Environment & Infrastructure. 15 April 2020. Limited Phase II Environmental Site Assessment, 16 Speers Road, Winnipeg, Manitoba.
Remediation method:	Excavation of on-Site impacts. Soil impacts are not expected to extend off-Site. The surficial concrete slab will need to be cut, broken and removed prior to the excavation.
Target Remediation Criteria:	Canadian Council of Ministers of the Environment (CCME) Canada Wide Standard 2008 and Environmental Quality Guidelines 1999 (updated in 2018).
Site Plan(s):	Appended to this submission.
Estimated quantity of impacted media:	Estimated contingent value of 21 m ³ of impacted soil on-Site to be removed. Groundwater not expected to be encountered during the excavation.
Destination of excavated material over applicable commercial guideline criteria:	GFL's MidCanada Soil Treatment Facility near Ile Des Chenes, Manitoba or other licenced soil treatment facility near Winnipeg, Manitoba
Remediation work to commence on:	May 2020
Confirmatory analysis	An allowance of 5 confirmatory samples, including one from each sidewall and base of the excavation is anticipated to be submitted for laboratory analysis of BTEX and PHC fractions F1 to F4.
Expected completion date of remedial activities report.	May 2020



Wood trusts that this meets your present requirements. Please contact this office if you have any questions.

Respectfully submitted,

Wood Environment & Infrastructure Solutions
a Division of Wood Canada Limited

Reviewed by:



Justin Huberdeau, C.E.T.
Senior Environmental Technologist




Patrick Campbell, B.Sc., CSR.P.
Senior Associate Environmental Scientist

Attachments: Proposed Excavation Plan

Cc: Mr. Mark Kennedy, Star Building Materials



LEGEND:

APPROXIMATE BUILDING LAYOUT	
TEST HOLE	
APPROXIMATE AREA OF EXCAVATION	

NOTE:
- SITE FEATURES AND LOCATIONS ARE APPROXIMATE
- IMAGES FROM AUTODESK IMAGERY AND TOPO MAP.



NO.	REVISION	DATE	BY

PHASE II ENVIRONMENTAL SITE ASSESSMENT

16 SPEERS ROAD
WINNIPEG, MANITOBA

EXCAVATION PLAN

SCALE: AS SHOWN
DATE: APRIL 2020
DRAWN BY: MD
PROJECT NO.: WX19057

FIGURE 1



APPROXIMATE AREA OF EXCAVATION

EXTENT OF ARC
16 SPEERS ROAD

TH20-03

TH20-01

TH20-02

TH20-04

TH20-06

TH20-05

5.0m

4.0m

Meters