WINDMILL DEVELOPMENT GROUP
DOMTAR LANDS
CITY OF OTTAWA

INTEGRATED ENVIRONMENTAL REVIEW STATEMENT

Prepared for: Windmill Development Group
Submitted by: Niblett Environmental Associates Inc.
File: PN 13-066
Date: November 2017
November 25, 2017

Windmill Dream Ontario Holdings LP
130 Wellington St. West. Suite 201
Ottawa, Ontario
K1Y 3B2

Attention: Mr. Scott Demark

PROJECT: INTEGRATED ENVIRONMENTAL REVIEW STATEMENT
PROPOSED DOMTAR LANDS REDEVELOPMENT PROJECT
WINDMILL DEVELOPMENT GROUP/ZIBI ONTARIO
CITY OF OTTAWA, ONTARIO

Dear Mr. Demark:

We are pleased to submit the Integrated Environmental Review (IER) statement for the proposed Domtar Lands Redevelopment project located within the City of Ottawa, specifically on the islands of Chaudière and Albert. This document is required in accordance with the requirements of the City of Ottawa for integrated environmental review statements.

Sincerely,

Chris Ellingwood
Niblett Environmental Associates Inc.
President and Sr. Terrestrial/Wetland Biologist
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WINDMILL DEVELOPMENT GROUP/ZIBI ONTARIO
CITY OF OTTAWA, ONTARIO

1.0 Introduction

Niblett Environmental Associates Inc. (NEA) was retained by Windmill Dream Ontario Holdings LP to complete an Integrated Environmental Review Statement (IER) to fulfill the City of Ottawa’s Condition #27 of Windmill Dream Ontario Holdings LP’s Draft approved Stage 1 Approval Conditions dated March 31, 2016 (#D07-12-14-0075). This final version includes changes made based on City of Ottawa review comments (June 2, 2017). The table matrix with our responses to each comment will also be sent separately.

This Integrated Environmental Review Statement is provided where Condition # 27 of Windmill Dream Ontario Holdings LP’s Draft approved Two Stage Site Plan Control Approval Application states:

The Owner acknowledges and agrees to have an Integrated Environmental Review Statement prepared, in accordance with the policies of the Official Plan and to the satisfaction of the General Manager, Planning and Growth Management, prior to Final Approval of this Two Stage Site Plan Control application.

The integrated environmental review statement will provide:

- A brief overview of the results of individual technical studies and other relevant environmental background material;
- A graphic illustration, such as an air photo, summarizing the spatial features and functions (e.g. natural vegetation, watercourses, significant slopes or landform features, recharge/infiltration areas) as identified in the individual studies;
- A summary of the potential environmental concerns raised, the scope of the environmental interactions between studies, and the total package of mitigation measures, including and required development conditions and monitoring, as recommended in individual studies;
- An indication that the statement has been reviewed and concurred with by the individual sub consultants involved in the design team and technical studies.
The following technical study reports were provided by Windmill Dream Ontario Holdings LP in the preparation of this letter report.


11. **Phase One Environmental Site Assessment, Domtar Lands Redevelopment,**


17. **Erosion and Sedimentation Control Plan; Zibi – Site Wide**, prepared by BuildGreen Solutions, Ottawa, ON, dated October 14, 2015.


2.0 Development Plan

Windmill Dream Ontario Holdings LP has proposed a commercial and residential sustainable community development on Chaudière Island and Albert Island located on the Ottawa River, situated between the City of Ottawa, Ontario and Gatineau, Quebec. The development proposal includes unique, sustainable redevelopment initiatives consisting of residential/office, retail development and connecting vehicle and pedestrian corridors.

The area for redevelopment encompasses approximately 6.07 ha (15 acres) on the Ontario side. The lands are currently owned by Domtar with lands surrounding the subject property owned by Hydro Quebec, Hydro Ontario, MNRF, the National Capital Commission, Public Works and the cities of Ottawa and Gatineau. The subject lands are zoned Parks and Open Space (O1L) (Section 179 – 180) in the City of Ottawa Zoning by-law 2008-250.

At this time, a proposed development and phasing plans are in the works. Current concept plans show the development addressing numerous issues from Heritage Features and First Nations concerns; vehicular networks (roads, pathways, transit) and connecting the Nation’s Capital and Gatineau, Quebec; One Planet concepts; Healthy Living matters by providing pedestrian walkways, bike paths, public parks and large open spaces to creating a more vibrant waterfront by providing softscaped and hardscaped water edges where the public can experience the Ottawa River and establishing viewpoints and access to points of interest.

3.0 Environmental Impact Statement

Niblett Environmental Associates Inc. (NEA) prepared an Environmental Impact Study (EIS) and Tree Conservation Report (TCR) “Windmill Development Group, Domtar Lands, Ottawa, Ontario & Gatineau, Quebec, Environmental Impact Study and Tree Conservation Report” in April of 2014 with an updated version completed November 2017. The statement concluded that the proposed construction of this unique sustainable redevelopment project on the subject lands would not have a significant negative impact on the natural features or ecological functions on site provided the recommendations of the report were implemented.
4.0 Summary of Technical Studies

All of the studies and resulting reports for the Zibi development were in support of development and provided recommendations and mitigation measures targeted to achieve development goals while minimizing impacts to the natural environment. Key reports providing environmental context have been presented in this section and discussed in the context of the IERS objectives.

4.1 Environmental Impact Study and Tree Conservation Report (NEA, 2014; revised NEA, 2017)

4.1.1 Overview

The Environmental Impact Study and Tree Conservation Report was completed by NEA in 2014 with an updated version completed in November 2017 to address the comments from Sami Rehman, of the City of Ottawa. The submission of the development applications included this Environmental Impact Statement and Tree Conservation Report as per the Consolidated City of Ottawa Official Plan (s. 4.7.8 and 4.7.2 respectively). The components of the EIS and TCR include detailed inventories of the flora and fauna, a description of the natural features, description of the environmental values and mitigation measures and recommendations.

The City of Ottawa OP (2003) does not designate any portion of the subjects lands Urban Natural Feature (UNF). Chaudière and Albert Islands are part of the “Central Area” of the City of Ottawa as per Schedule B – Urban Policy Plan. However, in the City's Urban Natural Area Environmental Evaluation Study (Muncaster Environmental Planning and Brunton Consulting Services, Mar. 2005), subject lands are located adjacent to (within 120 m) of Victoria Island, which includes a designated Earth Science Area of Natural and Scientific Interest (ANSI) and a woodland which was identified as Urban Natural Area #131 – Victoria Island Woods. This woodlot was not evaluated in 2003 therefore no significance was placed on this area. The ANSI feature itself, a geologic rock outcrop, was located approximately 130 m at its closest point to the development site.

The EIS was completed to address the natural features and functions associated with the Zibi lands including the woodland, the adjacent environmentally designated lands, as well as fish habitat within Ottawa River which are all part of the City's Natural Heritage System (NHS).
The review of the EIS and TCR, including mitigation measures was completed by the City of Ottawa. In a letter dated July 28th, 2014 to Hieu Nguyen at the City of Ottawa, NEA provided comments to update the EIS and TCR reflected in those comments.

4.1.2 Natural Features System

The property included a total of 7 vegetation communities. This included all landscaped areas surrounding buildings, disturbed areas such as parking and pavement areas where vegetation was growing in through the cracks and all shoreline riparian areas. Vegetation inventories found a total of 87 plant species most of which were common and grow in a variety of habitats including disturbed sites. Overall, the site was highly disturbed with abandoned industrial buildings, cracked pavement areas, unkempt previously landscaped areas and disturbed soils. No significant vegetation communities were found in the study area.

As required under Section 4.7.2 of the Official Plan, a tree conservation report was required. The urban tree inventory conducted by NEA identified 66 trees, including three (3) dead trees. All trees were assessed for their condition and health, species composition and size (cm dbh). This report also identified whether the tree(s) were to be retained or removed with respect to the development of the site. All 66 trees except for three species were planted specimens as part of previous landscaping efforts. Nineteen (19) of the trees examined were determined to be within the development envelope and will require removal. A permit from the City of Ottawa would be required prior to their removal.

A number of trees located within the ecological reserves found on the western tip of Chaudière Island West and the eastern tip of Chaudière Island East are to be retained. These trees are located outside the development envelope. These existing trees have already adapted to the local site conditions and will contribute to the biological diversity and compliment the overall design function of the future development.

4.1.3 Significant Natural Features, Function and Significance

The subject property is almost entirely composed of a disturbed landscape with existing vegetation areas consisting of planted trees and shrubs as part of earlier landscaping efforts or naturalized areas on slopes. There were no Urban Natural Features or Natural Environment Area, or areas evaluated in the Urban Natural Areas Environmental Evaluations Study (UNAEES) found on the subject lands. There are no long term natural woodlands on the subject property and none of the communities are considered significant as per Bakowsky (1997).
A Tree Conservation Report was included in the EIS (NEA, 2014). All trees (>10 cm dbh) found on both Chaudière and Albert Islands (natural or landscape stock) were identified and assessed for condition and health. The number of retainable trees and those required to be removed due to the development were identified.

4.1.4 Species at Risk

NEA conducted a background review for any Species at Risk that may be found within the study area with subsequent field investigations and surveys (COSEWIC, 2017; COSSARO, 2017; SARA, 2017). Due to the highly disturbed nature of the site and the adjacent urban lands, it was determined that apart from bird species and bats, limited habitat was available for any other species. Targeted species surveys were conducted for chimney swift, barn swallow, bank swallow and common nighthawk.

Additionally, targeted surveys for little brown bat, northern long-eared bat, tri-coloured bat and eastern small-footed bat were conducted in 2017 by inspecting the vacant buildings inside and out and only prior to proposed demolition of each building. On February 23rd, 2017, area searches were conducted in day time hours within the Ontario Mill Building on Albert Street. Area searches included inventories of every room, beams, basement level equipment rooms, passages, stair wells, searching behind doors, in corners and gaps in the brick work and ceilings, and on the floor using a flashlight. A total of 1 hour and 45-minutes was spent searching for bats. A visual scan of the building interiors searching for bats or evidence of bats such as guano (bat droppings) was conducted with the use of a high-powered spotlight. Many of the buildings on site continued to have working electrical lights which illuminated most of the rooms. The spotlights were utilized more in the lower levels in buildings, where available light was minimal.

Searches for bat species will continue throughout the project timelines, specifically prior to vacant buildings being demolished and a Survey Memo documenting the bat survey methodologies and results will be provided to the proponent. Bioacoustic surveys were conducted in July 2017, by placing two acoustic bat detectors on the property. The final analysis of the data is pending.

Barn swallow was observed during field investigations. The barn swallow was recently added to the Ontario Endangered Species Act (Government of Ontario, 2007) under an amendment to Ontario Regulation 230/08 (Species at Risk in Ontario List). The species is now listed as ‘threatened’ by COSSARO and is protected under the act and regulation.
Barn swallows are opportunistic and will attempt to nest where open permanent access is available. As the birds require a flight path of sufficient width for their wing span, access during all daylight hours and suitable nesting structures. They do occasionally nest in abandoned or unfinished buildings and buildings under construction. To prevent or mitigate this, a number of recommendations were presented in Section 6.4 of the EIS including timing restrictions – to allow species to continue to utilize the bridges for possible nesting sites and by providing nesting opportunities which may be incorporated into building designs. Birds were noted flying in and under a bridge that crosses from the mainland to Albert Island. The nests were not visible due to safety issues on this intake canal. The birds were not observed in 2017 at that location.

Chimney swifts were observed foraging over the river but no possible nesting chimneys are present on any of the buildings on Chaudière Island. Surveys in 2017 did not find swifts in the project area.

4.1.5 Ottawa River Aquatic Species at Risk

Species at Risk background information was obtained from Kemptville District OMNR, City of Ottawa, NHIC, DFO and COSEWIC. All Endangered and Threatened species receive individual protection under Section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Special Concern species are not protected under the Act.

A detailed background literature search of the study area found the Department of Fisheries and Oceans (DFO) identified approximately 15,000 m² of habitat for Species under consideration to be listed as threatened or endangered along the shoreline of the Ottawa River, adjacent to the study area. The shoreline habitat is located on the left bank (south shoreline) and extends from Britannia Bay to the Rideau Canal. The species that were identified include American eel (*Anguilla rostrata*), lake sturgeon (*Acipenser fulvescens*) and silver lamprey (*Ichthyomyzon unicuspis*) (DFO, 2015).

A review of the list of fish species documented for the study area found that two species are considered significant on a national, provincial or regional level (COSEWIC, 2017; COSSARO, 2017), the lake sturgeon and the American eel. Spawning habitat for Lake Sturgeon was confirmed to be approximately 650 m north east of the study area.

Comprehensive mitigation, recommendations and maintenance measures were identified and have been provided in, Section 5.0 of this report.
4.2 The Isles, Domtar Lands Redevelopment (April 22, 2014)

This document outlined how the Domtar Lands Redevelopment master plan proposes to transform derelict and contaminated land in the Chaudière area into a world-class sustainable community that combines the best of urbanity integrated with a vibrant waterfront. And furthermore how the transformed Domtar Lands will provide public access to sections of the Ottawa riverfront that have been closed off for generations.

This master plan document proceeded to guide and direct the next chapter of this land’s history. Included within it is a discussion of the design principles which have informed the Master Plan and descriptions of each of the districts and places that make up the Windmill Development. A summary of the One Planet Action Plan states the project’s sustainability metrics and aspirations. The Master Plan document also included guidelines for the design and development of the public realm, buildings and site infrastructure.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study. No conflicts were present between this report or other sub-consultant reports.


This drawing identifies the eight phases of the Zibi development and includes information on the development blocks (residential, office, retail or hotel), the area of each block and the number of storeys proposed for each of the buildings.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study.


This drawing identifies existing underground services and utility locations, derived from the best available data, as-constructed drawings, utility drawings and infrastructure mapping provided by the City of Ottawa.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study.

The Grading Plan drawing identifies the floodplain limit as per the City of Ottawa Zoning By-law, the limits of underground parking, proposed and existing spot elevations and the proposed grade (percentage grade) and direction.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study.

4.6 Site Servicing Plan – Master Plan Zibi Ontario, Drawing No. SSP-1, prepared by DSEL, dated March 2016, revision 5 dated May 18, 2016

Drawing No. SSP-1 identifies the site servicing and stormwater management recommendations provide by DSEL and includes the existing and proposed watermain, sanitary sewer and storm sewer locations as well as the location of proposed valve box, Siamese connections and fire hydrants.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study.

4.7 Site Servicing Plan – Master Plan Zibi Ontario, Drawing No. SSP-2, prepared by DSEL, dated March 2016, revision 5 dated May 18, 2016

Drawing No. SSP-2 is a continuation of Drawing No. SSP-1 and includes the southern portion of the development area near Booth Street.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study.

4.8 Booth Street Complete Street Design, Phase 1 Chaudière Island Development – Draft, prepared by Parsons, dated June 2, 2016

This draft drawing provides an overview of the existing sidewalks and traffic lanes along Booth Street (Ontario side only) as well as the proposed amenities related to cycling and other street designs.

No comprehensive mitigation, recommendations and maintenance measures were
identified within this study.

4.9 **Zibi Design Guidelines, City of Ottawa**, prepared by FOTENN Consultants Inc. dated December 17, 2015

This document provides 82 urban design guidelines for the Zibi development and are organized into the following six (6) sections: 1. Layout and Built Form; 2. Pedestrian and Public Realm; 3. Site Circulation and Parking; 4. Open Space Design; 5. Environment; and 6. Servicing and Utilities.

Zibi is the redevelopment of the former Domtar Lands in the City of Ottawa, including both the Chaudière and Albert Islands. It proposed to transform the derelict and contaminated land into a world-class, sustainable community that combines the best of urbanity integrated with a vibrant waterfront. The transformed lands will provide public access to sections of the Ottawa riverfront that have been closed off for generations.

The site consists of both Chaudière and Albert Islands. These islands are physically disconnected from both cities (Gatineau, Quebec and Ottawa, Ontario) by river channels and present an opportunity to create a unique sense of place amongst the heritage buildings on both islands. The redeveloped lands will feature a mix of uses in a compact form integrating existing heritage resources where possible, and emphasizing sustainable and active transportation through a network of shared streets that prioritize pedestrians and cyclists over automobiles.

**PURPOSE AND APPLICATION**

The purpose of these guidelines is to provide urban design guidance at the planning application stage in order to assess, promote and achieve development as was originally planned within the Zibi district. Specific site context and conditions will also be reviewed in conjunction with these guidelines.

These guidelines are to be applied throughout the Zibi Ontario lands, including both the Chaudière and Albert Islands. The guidelines are not to be universally applied to every building proposed, but are instead intended to provide general design direction for the creation of a world-class, sustainable, mixed-use community that will be a destination within the City for years to come.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study. No conflicts were present between this report or other sub-
consultant reports.


The Paterson Group (Paterson) was commissioned by Windmill Dream Ontario Holdings LP to prepare a preliminary geotechnical investigation report for the proposed development to be located on Chaudière and Albert Islands in the City of Ottawa, Ontario. The objective of this report was to interpret and present the test hole information from previous report(s) regarding the subsoil and groundwater conditions at this site and to provide preliminary geotechnical recommendations for the design of the proposed development as known during the issuance of the current geotechnical report including construction considerations which may affect its design.

Observations taken during field investigations for this study included surface conditions, subsurface profiles and groundwater. The geotechnical assessment of the site included discussions on site preparation, including stripping depth, bedrock removal, vibration considerations, fill placement and use of excavated blast rock. The report also discussed and provided information on the design of the foundations, design for earthquakes, basement walls and slabs as well as pavement design. Design and construction precautions were outlined as they pertained to foundation drainage, waterproofing and backfill and protection of footings against frost action, temporary shoring, pipe bedding and backfill, groundwater control and winter construction.

A slope stability analysis was also completed which provided details on existing or static conditions, seismic loading analysis and geotechnical stable slope allowance.

Recommendations of this report stated that the preliminary geotechnical investigation program was prepared for general review and preliminary design purposes and that once the project development is finalized, a detailed geotechnical investigation will be required which will include boreholes and monitoring wells to address soil, bedrock and groundwater conditions.

No comprehensive mitigation and maintenance measures were identified within this study.

The objective of the Phase I ESA was to evaluate actual and potential environmental concerns on the Site and to assess the potential for the Site to be impacted by the current and/or historical uses of the Site and surrounding properties. Information regarding the phase one study area was compiled through a records review, Site reconnaissance and an interview with a knowledgeable phase one property representative.

Federal, provincial, and private agencies and other databases were searched during the records review for indicators of potentially contaminating activities with regards to the Site. A response from the Ministry of Environment was received by DST Consulting Engineers and no new relevant information that would change the conclusions of the report were identified.

Based on the findings of the Phase I ESA, several areas of potential environmental concern were identified within the phase one property and therefore, an intrusive soil and groundwater quality investigation in the form of a Phase II ESA is required.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study.


DST Consulting Engineers Inc. prepared an updated report to the previously completed Phase Two ESA entitled: “Environmental Site Assessment Volume II – Phase II Environmental Site Assessment, Chaudière and Albert Islands, Ottawa Ontario”. Analytical soil and groundwater results from the previous investigation were compared to provincial criteria. Based on the findings of the literature review and historical analytical data update, DST identified areas of soil and groundwater exceedances to provincial standards at the Site (Domtar Lands).

The report proceeded to estimate the approximate volume of contaminated soils found on the Site and furthermore due to the understanding that all the fill material would be removed from the Site as part of the future redevelopment, DST recommended a Remedial Options Plan (ROP) be implemented in order to evaluate the effectiveness of various
remedial techniques. DST also stated that during the implementation of the remediation, a soil management plan should be executed to optimize the management of excess soils generated by the remedial activities. The management of excess soils shall be conducted in accordance with the MOE’s “Management of Excess Soil – A Guide for Best Management Practices”, as this will potentially assist in minimizing the quantities of non-impacted soils that are diverted for landfill disposal.

The report also noted that this Phase Two ESA will be revised at the time of the Site remediation, to support the submission of a Record of Site Condition (RSC), in accordance with Ontario Regulation (O. Reg) 153/04 as amended. As the Site still contains contaminated soil, a RSC filing is not possible based on the current investigation of the property. A RSC filing for the property requires either completion of remediation work or completion of a risk assessment for the property.

Recommendations were identified and have been provided in Section 5.0 of this report, no comprehensive mitigation or maintenance measures were identified within this study.


The purpose of the Stage 1 assessment was to determine whether or not the study area, or portions thereof, exhibited potential for the presence of significant archaeological resources and to make recommendations for appropriate steps to be taken to address archaeological concerns prior to redevelopment.

In order to evaluate the archaeological potential of both Albert and Chaudière Islands, detailed archival research was conducted in order to provide an overview of past land use. Historical mapping was compiled to generate overlay maps showing the locations of nineteenth and twentieth century structures in order to identify areas of archaeological interest that may have escaped disturbance by later industrial development.

The results of this research indicate that parts of the study area exhibit potential for the presence of significant archaeological resources, including those associated with both First Nations and Euro-Canadian settlement and land-uses.

Recommendations were identified and have been provided in Section 5.0 of this report, no comprehensive mitigation, or maintenance measures were identified within this study.

The objective of the Study was to update the current version of the Rideau Valley Conservation Authority (RVCA) hydraulic model to include greater detail immediately at the Site, with the purpose of determining the water surface elevation of the Ottawa River at the Site during the 100-year flood event. The existing RVCA hydraulic model was developed in Hydraulic Engineering Center – River Analysis System (HEC-RAS) developed by the U.S. Army Corps of Engineers (U.S.A.C.E).

This Study presents the hydraulic modelling results of maximum water elevation in the Ottawa River at the Site during the standard 100-year return flood (1 percent annual probability of occurrence). The hydraulic model provides more detail immediate to the Site. This report also documents the engineering methodology employed to create the floodplain map.

The report concluded by stating “the calculated water surface elevation from the upstream to the downstream of the Site ranged from 49.9m to 47.1 Canadian Geodetic Datum. The results showed upstream flooding on the Site only on a limited area at the eastern downstream tip of the Chaudière Island and NCC lands on the Quebec side of the river immediately downstream of Chaudière Bridge. The modelling results indicated that a portion of eastern tip of Chaudière Island (eastern tip of the island to approximately 25 m inland – west) would flood during the 100-year return flood event.”

No comprehensive mitigation, recommendations and maintenance measures were identified within this study. No conflicts were present between this report, its addendums or other sub-consultant reports.

4.15 **Response to Comment dated August 8, 2014, Hydrotechnical Study Update, Reference No. 081099-05, prepared by Conestoga Rovers, dated August 28, 2014.**

This letter prepared by Conestoga-Rovers & Associates (CRA) on behalf of Windmill Dream Ontario Holdings LP was written to provide responses to comments received from the Rideau Valley Conservation Authority (RVCA) on the Hydrotechnical Study Update on the Ottawa River.

The RVCA provided a total of two comments on the Hydrotechnical Study Update Report. This letter addresses the first of the two comments and CRA requested time to discuss the second RVCA comment to clarify the level of detail required to satisfy the request.
Comment No. 1 pertained to a difference in surface water elevations from data provided by RVCA to CRA. CRA provided clarification to the differences.

4.16 **Response to Comment dated August 8, 2014, Hydrotechnical Study Update, Reference No. 081099-05, prepared by Conestoga Rovers, dated September 11, 2014.**

This letter prepared by Conestoga-Rovers & Associates (CRA) was written to provide responses to comments from the Rideau Valley Conservation Authority (RVCA) on the Hydrotechnical Study Update on the Ottawa River. This letter addresses the two comments from the original correspondence and provides the additional information as requested on August 28, 2014.

The additional information requested on Comment No. 1 pertained to ‘selection of the Regulatory Flood Levels’ which CRA responded to. The second comment by RVCA included a lack of discussion in the report with regards to a) water surface profiles under high flows in the presence of ice cover; b) the potential consequence of upstream dam break and c) an extra level of protection beyond the typical freeboard.

CRA responded to all three concerns.

4.17 **Erosion and Sedimentation Control Plan; Zibi – Site Wide, prepared by BuildGreen Solutions, Ottawa, ON, dated October 14, 2015.**

The Erosion and Sedimentation Control Plan (ESCP) was intended to provide guidance for all companies and responsible parties whose work at Zibi may cause erosion, sedimentation or dust during construction activities. The goal of the ESCP was to identify potential sources of pollution that may contribute pollutants to stormwater, and identify Best Management Practices (BMP’s) that, when implemented, will reduce or eliminate negative impacts to water quality.

The plan describes the erosion and sedimentation control (ESC) practices expected on site including preventing the loss of soil during construction by stormwater runoff and/or wind erosion; preventing sedimentation of storm sewers or receiving streams and preventing the pollution of air with dust and particulate matter.
The ESC plan conformed to the following standards:

- One Planet Action Plan
- LEED BD+C: New Construction (v4), LEED Homes: Multifamily Midrise (v4) and LEED ND: Plan (v4) rating systems.
- 2012 U.S. Environmental Protection Agency (EPA) Construction General Permit (CGP), Section 2.
- U.S. Environmental Protection Agency (EPA) best management practices (BMP’s) for controlling construction and post-construction site runoff
- National Pollutant Discharge Elimination system (NPDES) – Stormwater Pollution Prevention Plans for Construction Activities
- All erosion and sedimentation control measures must also comply with local standards.

The report also stated that all ESC measures are to be documented in the site plan and audited regularly through weekly inspection reports and photographs. Furthermore, the ESC plan will be maintained throughout the duration of the project, from initial site mobilization through to project closeout.

Comprehensive mitigation, recommendations and maintenance measures were identified and have been provided in Section 5.0 of this report.


This document describes an environmental noise assessment performed for Phase 1 of a proposed mixed-use redevelopment of the former Domtar Lands in Ottawa, Ontario. The assessment is based on: (i) theoretical noise prediction methods that conform to the Ministry of the Environment (MOE) and City of Ottawa requirements; (ii) noise level criteria as specified by the City of Ottawa’s Environmental Noise Control Guidelines (ENCG); (iii) future vehicular traffic volumes based on the City of Ottawa’s Official Plan roadway classifications; and (iv) architectural drawings received from Barry J. Hobin & Associates Architects Incorporated.

The report provides a current analysis of noise levels ranging from roadway traffic, adjacent existing buildings to indoor noise and stationary noise such as the ambient noise levels from Chaudière Falls.
The results of the preliminary assessment indicate that the dominant source of noise impacting the site is due to roadway traffic with the highest levels occurring along the façades facing Booth Street. On the west side of the islands, noise from falling water over the Chaudière dam will rise above traffic noise during periods of high water levels (early spring runoff).

The report includes information on predicted noises levels and provides a comprehensive list of mitigation measures and recommendations and have been provided in Section 5.0 of this report.


David Schaeffer Engineering Ltd. (DSEL) was retained to prepare a Master Servicing Study (MSS) for the proposed Domtar Lands Redevelopment in support of Windmill Development Group’s application for Stage 1 – Site Plan Approval (SPA). The overall objective of the report was to support the application for Stage 1 – Site Plan Approval by providing sufficient detail to demonstrate that the development is supported by existing municipal infrastructure and that the contemplated site design conforms to current City of Ottawa design standards, in addition to, state of the art design strategies to meet the client’s “One Planet” strategy.

The report provided a detailed explanation of the existing conditions including existing water supply, existing wastewater services and existing stormwater services.

Recommendations were provided and have been provided in Section 5.0 of this report, no comprehensive mitigation, or maintenance measures were identified within this study. No conflicts were present between the original report and other sub-consultant reports.


This document produced by FOTENN provides a summary of the parkland strategy for Zibi Ontario as requested through the Official Plan Amendment No. 143 to the City of Ottawa Official Plan. This document sets forth a vision for the overall redevelopment, including the creation of high-quality, unique public spaces that will contribute to the site’s unique sense of place.
The document noted the redevelopment of the Chaudière and Albert Islands to take place over several years through a total of eight (8) phases. Furthermore, it stated that all phases will include some public space in the form of a shared street, a square or courtyard, pedestrian lane, park or street and that not all phases include significant public space development. Two major public spaces were identified and included the two parkland areas located on the edges of the West end and East end of Chaudière Island respectively.

The document went on to speak to Park Ownership and provided a summary of the concerns and strategies that may become a part of the final agreement between the National Capital Commission (NCC) and the City of Ottawa.

No comprehensive mitigation, recommendations and maintenance measures were identified within this study. No conflicts were present between this report or other sub-consultant reports.
5.0 **Summary of Environmental Recommendations, Mitigation Measures and Monitoring Commitments**

Based on Section 4.0 only studies that identified recommendations, mitigation and monitoring are discussed in this section of the report.

5.1 **Environmental Recommendations**

5.1.1 **Environmental Impact Study and Tree Conservation Report (NEA, 2017)**

In the conclusions of this report, it was noted that at the site plan stage of this development, additional mitigation measures and recommendations specific to this development may be required.

5.1.1.1 **Tree Cover and Vegetation**

**Retention of Larger Existing Trees**

- Recommends retaining some of the native larger diameter trees be explored, especially in those naturalized areas considered ecological reserves on Chaudière Island.
- No removal of trees or other vegetation should take place during the peak breeding bird season (April 15th – August 18th) as per Environment Canada guidelines for the Ottawa region C3.

**Post-Construction Landscaping and Inclusion of Native Species**

- Recommends an alternative landscaping approach including using native groundcovers and native tree and shrub species suitable to the soil conditions, sun/shade and water conditions of the sites.
- Select species that would provide food and shelter for wildlife and insects.
- Eliminate use of fertilizers, pesticides and herbicides by using integrated pest management techniques that will benefit the overall environment and reinforce the development as being ‘sustainable and green’.
- Recommends retaining shoreline and riparian areas to the greatest extent possible. Where this is not possible due to elements associated with construction activities, final landscape designs should incorporate the planting of native trees, shrubs and herbaceous plants along the riparian zones where ever possible. Selection of salt-tolerant and drought hardy species should be selected based on
soil conditions, light requirements and overall suitability of the site.

**Design Features for Naturalization**

- Design features for naturalization of open spaces should include landscaping with native trees, shrubs, wildflowers and grasses, particularly along the riparian zones of the development. This could include salt-tolerant grasses, seasonal wildflowers and tree plantings in areas subjected to heavy use by vehicles and/or public.
- Proposed pathways and trails can be landscaped by planting edges and adjacent areas with hardy, low growing native grasses along with a variety of native shrub species that tolerate harsh urban climates.
- Opportunities to showcase unique environments and native landscapes, on a small scale, could be included in the design. This includes shoreline wetland communities, riparian vegetation, alvar species, native wildflower gardens and native streetscape tree species as well as inclusion of plant species with First Nation traditional/medicinal values.
- Stormwater channels and outlets should be designed with wetland plants that provide additional benefits such as contaminant absorption, filtering pollutants, reducing velocities and erosion and capturing fine sediments, reducing offsite impacts form stormwater flows into the Ottawa River.

5.1.1.2 **Fish and Fish Habitat**

**Fish Habitat (Only Apply if In-Water Works are Proposed)**

- Should work conditions change such that it is possible that fish or fish habitat may potentially be impacted, all works shall cease until the problem has been corrected or authorization has been obtained from the appropriate authorities.
- In the event the final design results in *serious harm to fish habitat*, aquatic habitat enhancements may be required by federal natural resources permitting agency as part of then Offsetting Plan.
- To avoid project review under the fisheries protection provisions of the Fisheries Act, the development and all associated activities must avoid causing serious harm to fish by following best management practices.
Sediment and Erosion Control

- A qualified professional is to develop a site specific Sediment and Erosion Control Plan based on final design. The plan is to include a construction monitoring component.
- Avoid using explosives in or near water as these can produce shock waves that can damage a fish's swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.

Restricted Activity Timing Windows

- No in-water works during lake sturgeon or American eel sensitive life history timing windows (for lake sturgeon – May 1st to June 30th), contact MNRF for timing window for American eel.

Fish Salvage

- It is recommended that a Fish Salvage Plan be developed if in-water works are required. This plan should be developed and implemented by a professional Fisheries Biologist. An OMNRF Fish Collection permit must be acquired by the biologist conducting the salvage prior to fish collection.

Fish Habitat Enhancement

- The Windmill Development Group is recommended to explore lake sturgeon rearing and spawning habitat creation and American eel migration corridor function as potential enhancement opportunities.
5.1.2. Preliminary Geotechnical Investigation (Paterson Group, 2014)

The only recommendation stated in this report stated that “The preliminary geotechnical investigation program was prepared for general review and preliminary design purposes” and that “Once the project development is finalized, a detailed geotechnical investigation will be required which will include boreholes and monitoring wells to address soil, bedrock and groundwater conditions”.

5.1.3. Phase Two Environmental Site Assessment Update – (DST Consulting Engineers, 2015)

The following recommendations are outlined in the report:

- DST recommends that two groundwater monitoring events (at least 90 days apart) are conducted following completion of Site remediation (in accordance with O. Reg. 153/04, as amended).
- Prior to the redevelopment of the Site, DST recommends that a Remedial Option Plan (ROP) be implemented in order to evaluate the effectiveness of various remedial techniques.
- During the implementation of the remediation, a soil management plan should be executed to optimize the management of excess soils generated by the remedial activities.
- It is recommended that the management of excess soils be conducted in accordance with the MOE’s “Management of Excess Soil – A Guide for Best Management Practices”.
- Groundwater quality results for Albert Island indicate improvement of groundwater quality. DST recommends that groundwater sampling is conducted in near future to determine groundwater quality in Area 2 and 3. Two quarterly groundwater monitoring events have to be conducted following completion of Site remediation (in accordance with O. Reg. 153/04, as amended).

5.1.4. Stage 1 Archaeological Assessment of Chaudière and Albert Islands (Past Recovery Archaeological Services Inc., 2014)

The following recommendations are outlined in the report:

- Should development be undertaken within the former Domtar Inc. property, all portions of the study area shown as retaining archaeological potential on Figure 123 should be subjected to Stage 2 archaeological assessment.
• Any future Stage 2 archaeological assessment should be undertaken by a licenced consultant archaeologist, in compliance with Standards and Guidelines for Consultant Archaeologists (MRCS 2011), prior to any planned construction disturbance below grade. Given that potential archaeological resources in the study area are likely to be situated within a deeply buried urban brownfield context, the Stage 2 archaeological assessment strategy should consist of the excavation of test trenches by backhoe or mini-hoe. A comprehensive review of all relevant environmental assessments, including both land use studies and soils and water testing should be undertaken prior to the initiation of the Stage 2 archaeological assessment in order to identify potential human health risks and determine appropriate mitigation measures.

• Proponent should also be aware that if deeply buried archaeological deposits are exposed during construction, work should cease in that area until it has been assessed by a licenced archaeologist.

5.1.5. Erosion and Sedimentation Control Plan; Zibi – Site Wide (BuildGreen Solutions, 2015)

This document provided a comprehensive and detailed narrative on erosion and sediment controls and best management practices for stormwater pollution prevention. The following recommendations have been extrapolated from this section of the report and summarized into the following bullets:

**Potential Pollutants**

• Portable toilets shall be located on the jobsite where they can be accessed for regular service and they will be anchored to prevent the possibility of accidental tipping.

• Vehicle tracking control will include stabilized access points, minimizing traffic to the maximum extent possible during wet conditions and sweeping or scraping paved sections (public or private) when necessary. These vehicle tracking controls will be maintained in good, effective condition during any periods of construction activity.

• Projects are required to design, install and maintain effective pollution prevention measures in order to prevent the discharge of pollutants.

  o Eliminate certain pollutant discharges from your site
  o Properly maintain all pollution prevention controls
  o Comply with pollution prevention standards for pollutant-generating
activities that occur at your site
  o Comply with emergency spill notification requirements
  o Comply with fertilizer discharge restrictions

Best Management Practices (BMPs) for Stormwater Pollution Prevention

Appropriate BMPs shall be installed before earthworks begins (where possible). Implementation of additional BMPs are to be performed as needed, based on site conditions as construction progresses.

The temporary measures to be used in the control of sediment and stormwater from the site during construction are the responsibility of the Contractor and include the following:

a. Follow all local, provincial and federal regulations pertaining to stormwater.

b. Silt fence may be installed, where appropriate, around areas of construction to intercept and detain small amounts of sediment in order to reduce the amount of sediment in runoff leaving the site.

c. Storm drain inlet protection will be used as a secondary BMP to treat runoff. The protection (i.e. fabric filters, sandbags, concrete blocks and gravel barriers) will be changed / cleaned on a regular basis.

d. Vehicle tracking control pads (i.e. gravel ramps) shall be placed at the access / exit points and shall be maintained throughout construction. Restrict vehicle use to properly designated exit points.

e. All construction debris / trash shall be picked up and disposed of in proper containers and hauled off of the site as necessary.

f. Concrete washout facilities shall be placed on site as dictated by the contractor prior to pouring concrete. Each concrete washout area will be located to minimize the combining of wash water contaminates with stormwater. Excess concrete material will be removed from the washout area when the BMP has reached ½ of its capacity and will be disposed at a facility licensed to handle the material. Special care will be taken to place washout facilities in areas where ground water is not likely to interface with liquid wastes. Locations will be indicated on the ESC site map prior to installation.

g. Construction materials that could have a negative impact on water quality will be stored, when not in active use, in a manner that will minimize contact with stormwater. Containment structures for fuel / chemical storage will be located way from surface waters and stormwater inlets to help eliminate the discharge of spilled or leaked chemicals/fuel. The Contractor will provide a Spill Kit on site at all times. If any spillage occurs, the contaminated soil shall be immediately excavated and
removed from the site to a disposal area licensed to handle the contaminated material.

h. Any changes to the proposed erosion control measures shall be noted on the ESC Site Map, in most cases prior to the changes being implemented in the field. When changes are required in the field first, the site map will be amended immediately but in no case longer than seven (7) calendar days.

i. Whenever sediment is transported onto an adjacent street, the street shall be cleaned at the end of the day. Sediment shall be removed from the street by shovelling, sweeping or both.

j. Excavated soil will be immediately removed from the site or else placed in temporary stockpiles and covered with tarps to prevent wind erosion.

k. Earthworks and heavy construction will be minimized during periods of heavy rainfall.

l. Swales to divert surface water from hillsides will be installed where possible.

m. Use tiers, erosion blankets, compost blankets, filter socks, berms, or comparable measures to stabilize soils in any area with a slope of 15% (6.6:1) or more that is disturbed during construction.

n. Project will minimize soil compaction whether possible.

o. During excavation, dust is suppressed by using water or other dust suppression techniques to wet down the work area.

p. Excavated materials stored for re-use onsite will be covered to prevent erosion due to wind and / or rainwater.

q. Temporary dirt stockpiles will be covered with tarps to prevent wind erosion.

r. Dump trucks hauling materials off-site will be covered and wheels will be washed before exiting the site.

s. A street sweeper will be employed on a regular basis to help keep the streets directly outside of the site free of dust.

t. When surface water is located within 50 feet of the project’s earth disturbances, Contractor either:

   i. Will provide and maintain a 50-foot undisturbed natural buffer; or

      Note: if you earth disturbances are located 50 feet or further from a surface water, then you have complied with this alternative.

   ii. Will provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
iii. If it is infeasible to provide and maintain an undisturbed natural buffer of any size, you must implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

u. If installing a sediment basin, project will comply with the following:

i. Provide storage for either (1) the calculated volume of runoff from a 2-year, 24-hour storm or (2) 3,600 cubic feet per acre drained;

ii. When discharging from the sediment basin, utilize outlet structures that withdraw water from the surface in order to minimize the discharge of pollutants, unless infeasible;

iii. Prevent erosion of (1) the sediment basin using stabilization controls (e.g. erosion control blankets), and (2) the inlet and outlet using erosion control and velocity dissipation devices; and

iv. Sediment basins must be situated outside of surface waters and any natural buffers established under Part 2.1.2.1a of the 2012 CGP, and must be designed to avoid collecting water from wetlands.

v. Dewatering Practices: Project is prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls. These controls included but are not limited to sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems (e.g. bag or sand filters) that are designed to remove sediment. Uncontaminated, not-turbid dewatering water can be discharged without being routed to a control.

Project must also meet the following requirements for dewatering activities:

i. Do not discharge visible floating solids or foam;

ii. Use an oil-water separator or suitable filtration device (such as a cartridge filter) that is designed to remove oil, grease, or other products if dewatering water is found to contain these materials;

iii. To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. In no case will surface waters be considered part of the treatment area;

iv. At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.1.3.1 of the 2012 CGP;
v. With backwash water, either haul it away for disposal or return it to the beginning of the treatment process; and

vi. Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer’s specifications.

If a project is using polymers, flocculants, or other treatment chemicals to treat dewatering water or for any other process, it must comply with the requirements in Parts 2.1.3.3 of the 2012 CGP.

w. Projects will stabilize exposed portions of the site in accordance with the requirements of Section 2.2 of the 2012 CGP. The definition of “exposed portions of the site” is areas of exposed soil that are required to be stabilized.

For temporary stabilization, the project will use a combination of the following: hydro-mulch and erosion control blankets.

For final stabilization, the project will use a combination of the following: riprap, gabions, and geotextiles.

x. Water should not be discharged to any surface water body or municipal sewer system. In the event that water must be discharged to either a surface water body or municipal sewer system, the Contractor must notify the Construction Manager prior to discharge and then abide by the Site Remedial Action Plan and municipal and/or provincial and/or federal laws that apply.

5.1.6 Environmental Noise Assessment (Gradient Wind Engineering Inc., 2014)

This report provided a number of recommendations in narrative form.

- To control elevated noise levels from roadway traffic, Blocks 206, 207, 208, 210, 211, 212 and 213 will require upgraded building components, the installation of individual air conditioning units (or similar mechanical system), and the following Warning Clause (Type D – from the Ministry of the Environment – Publication NPC-300) in all Agreements of Lease, Purchase and Sale for residential units:

  “Dwelling units in this building have been supplied with central air conditioning which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the City of Ottawa’s
and the Ministry of the Environment’s noise criteria.”

- Due to traffic noise, Blocks 201, 202, 203, 204, 205 and 209 will require standard building components, the installation of forced air heating with provisions for central air conditioning units (or similar mechanical system) and the following Warning Clause (Type C from the Ministry of the Environment – Publication NPC-300) in all Agreements of Lease, Purchase and Sale:

“This dwelling unit has been fitted with a forced air heating system and the ducting etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the City of Ottawa’s and the Ministry of the Environment’s noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MOE Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and off the immediate vicinity of the subject property).”

- To provide residence on the west side of Blocks 201, 202, 203 adequate protection from any excessive noise from the falls GWE recommends upgraded building components and the providing heating system which would allow for the provision of air conditioning (or similar mechanical system) at the tenants’ discretion to allow doors and windows to remain closed.

- Future noise studies for each phase of development will be required to determine the appropriate sound transmission class (STC) rating for windows and protection for outdoor living areas (such as noise barriers).

5.1.7 Master Servicing Study Stage 1 – Site Plan Approval (DSEL, 2016)

This report combined their conclusions and recommendations in the final Section of the report as follows:

- A proposed connection from the 203mm private watermain south of Mill Street Brew Pub across the Portage Bridge to existing watermains on Victoria Island will provide a redundant connection for the proposed development;

- An internal water distribution model was completed verifying pressures higher then recommended in the average day and peak hour scenario, pressure reducing
controls are recommended;

- Sanitary servicing is proposed to be achieved by a central pumping station on the east edge of Chaudière Island;

- A forcemain is proposed to cross the Union Bridge span to sanitary sewers within the Zibi Gatineau development;

- A minimum TSS removal of 80% will be required for post-development stormwater runoff from the site, this will be provided by bioretention and end of pipe oil/grit separator units;

- Utility services will need to be coordinated with utility companies prior to development;

- Based on the preceding report, adequate servicing capacity exists to support the proposed development.

5.2 Mitigation

5.2.1 Mitigation Measures and Buffers for General Construction (NEA, 2017)

5.2.1.1 General Mitigation

- The Project Manager and Contractor are obligated to ensure that all mitigation measures are strictly observed.
- The entire work area should be fenced (heavy duty silt/snow fencing) prior to the start of construction. No equipment should be allowed to operate outside the fenced area.
- Debris control measures should be put in place to prevent construction materials or foreign materials from falling into the watercourse.
- Wash, refuel and service machinery and store fuel and other materials for the machinery away from the shoreline of the Ottawa River to prevent any deleterious substances from entering the water.
- A spill response kit shall be maintained on site to address any contingency. The Ontario Ministry of the Environment Spills Action Centre, (1-800-268-6060) shall be immediately notified of any spills occurring on site.
5.2.1.2 Vegetation and Soils

- Any treed areas to be retained are to be cordoned off by sturdy fencing or similar barrier to ensure their retention.
- Re-vegetate all areas as soon as possible after construction with native species and/or landscaping.
- All disturbed retained soils including spoil piles, should be stabilized immediately upon completion of work. Stabilize any waster material piles to prevent them from entering the watercourse. Spoil piles should be contained within a silt fence, flattened, covered with biodegradable mats or tarps and or planted with native grasses or shrubs.

5.2.1.3 Sediment and Erosion

- Sediment and erosion control measures should be implemented prior to work and maintained during work phases, and until the site has been stabilized, to prevent entry of sediments into the water.
- All sediment and erosion control measures shall be inspected daily after each rainfall event. This is to ensure they are functioning properly, maintained and upgraded as required.
- In the event that sediment and erosion control measures are not functioning, the construction supervisor shall order the work stopped. No further work shall be carried out until the construction methods and/or the sediment control plan is adjusted to address the sediment/erosion problem.
- Construction shall be undertaken during normal weather conditions, to the extent possible, and the project shall be designed to appropriate specifications to withstand variable weather conditions.
- Remove accumulated sediment prior to removing sediment control measures and in a way that prevents the escape or suspension of sediments.
- In the event the temporary erosion and sediment control measures fail, a contingency plan should be in place, kept on site and followed. Contingency measure(s) should include a list of key personal to be contacted. Additional erosion and sediment control materials (i.e. sand bags, stop logs, straw bales, erosion control blankets, heavy duty silt fence) shall be stockpiled and easily accessible from the project site in the event of an emergency.
- All disturbed areas of the work site should be stabilized immediately and re-vegetated as soon as possible. A landscape plan should be developed for all areas that are to be ‘landscaped’ or rehabilitated and enhanced to diversify existing conditions.
5.2.1.4 **Wildlife**

- If any turtles, snakes or Species at Risk are encountered during construction and grading procedures, they should be left to move out on their own or moved physically out of the construction zone. Any issues or concerns regarding wildlife, including turtles, snakes, birds or bats should be directed to OMNRF.
- Daily ongoing observations for SAR and all wildlife more generally, will be undertaken during construction by all personnel on site. Should any SAR be observed during construction, the OMNRF (Kemptville District) should be contacted immediately for advice.
- If any bats or active bird nests are encountered during building demolition, renovations or remediation, OMNRF should be contacted for advice.

5.2.1.5 **Timing**

- No removal of trees or other vegetation should take place during the peak breeding bird season (April 15th – August 18th) as per Environment Canada guidelines for the Ottawa region.
- Schedule work to avoid significant rainfall events that may increase erosion and sedimentation into the river.

5.2.1.6 **Concrete Leachate**

- Concrete leachate is alkaline and highly toxic to fish and aquatic life. Measures will be taken to prevent any incidence of concrete or concrete leachate from entering the watercourse. Maintain complete isolation of all cast-in-place concrete and grouting from fish-bearing waters for a minimum of 48 hours if ambient air temperature is above 0°C and for a minimum of 72 hours if ambient air temperature is below 0°C or until significantly cured to allow the pH to reach neutral levels.
- Ensure that all works involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials (concrete) will not deposit directly or indirectly, sediments, debris, concrete, concrete fines, wash or contact water into or about any watercourse.
- Completely isolate all concrete work from the watercourse and any water that enters the watercourse or storm water system. Any concrete wash water shall be directed to a collection basin or vegetated area to effectively remove all suspended solids, dissipate velocity and prevent deleterious substances from entering the watercourse. Control turbidity of all water released to watercourse during work, in
the event of silting or turbidity caused by construction activity, contractor will stop work and install additional silt barriers as necessary to ensure watercourse is protected.

- All concrete, sealants or other compounds used for this project shall be utilized according to the appropriate Product Technical Data Sheet, stating guidelines and methods for proper use, and provided by the manufacturer of the product.
- Wash equipment away from water and provide containment facilities for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment.
- Should conditions at the work site indicate that there are unforeseen negative impacts to fish or their habitat, all works shall cease until the problem has been corrected and/or any required input can be obtained from Parks Canada and/or the Department of Fisheries. Parks Canada has a level 3 memorandum of understanding with DFO and can provide limited comments on fish and fish habitat issues on DFO’s behalf.
- Temporary fencing, where practical, shall secure the immediate construction site during the construction phase.
- Spoil/aggregate, or any stockpiled material shall be stabilized a minimum of 30 m from the shoreline, and removed from the site, in accordance with all federal, municipal and provincial regulations.
- Install a tarpaulin/cover on stockpiles and haulage trucks/trailers as appropriate.
- Project materials (e.g. concrete debris) shall not be stockpiled on high-risk areas with unstable slopes; keep vegetation clearing to a minimum to maintain vegetative cover.
- All construction materials, compounds, tools and equipment used for the purpose of site preparation and project completion shall be stored and operated in a manner that prevents any deleterious substances from entering the water.
- Paints and solvents shall be stored, mixed and transferred at a suitable location upland and away from the watercourse, to prevent these materials from entering the watercourse in the event of a spill.
- A spill response kit shall be maintained on site to address any contingency. The Ontario Ministry of the Environment Spills Action Centre, (1-800-268-6060) shall be immediately notified of any spills occurring on site.
- All debris shall be removed from the site, in accordance with all federal, municipal and provincial regulations, to a site licensed to receive them.
- Upon completion of work all materials and debris shall be completely removed and the area shall be restored to its original state or better.
- Concrete debris, or any stockpiled material shall be stabilized a minimum of 30
metres from the shoreline, or removed from the site, in accordance with all federal, municipal and provincial regulations.

- All mortars, sealants or other compounds used for this project shall be utilized according to the appropriate Product Technical Data Sheet, stating guidelines and methods for proper use, and provided by the manufacturer of the product.
- All construction materials, compounds, tools and equipment used for the purpose of site preparation and project completion shall be stored and operated in a manner that prevents any deleterious substances from entering the water.

5.2.1.7 Blasting

- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.

5.3 Monitoring Commitments

5.3.1 Environmental Impact Study and Tree Conservation Report (NEA, 2017)

- A Wildlife Mitigation and Monitoring Plan is recommended to be implemented to minimize the effects of the development to wildlife and wildlife habitat, to monitor the results of mitigation to ensure their effectiveness and to adaptively manage for any unanticipated effects.
- Prior to demolition of any vacant buildings, a qualified biologist should be on site to examine the area to ensure no bats or other SAR are present.
- Monitor the development area post construction, to ensure habitats or structures for any SAR that have been recommended have made a positive contribution to the population (i.e. barn swallows, chimney swifts)
- The presence of invasive plant species should be monitored and specimen removal completed as required.
- Construction and post-construction monitoring of the Windmill Development may be required for environmental components depending on the site plans, remediation and other work.
- Monitoring of sediment and erosion control measures and installation of protective measures will be required during the construction phase and as per plans and as per applicable legislation, permitting or approvals.
The studies examined in Section 4.0 have described existing environmental conditions and identified potential environmental effects related to the development proposed. Table 1 summarizes the scope of environmental interactions between studies, as required by Section 4.7 of the OP.
### Table 1: Scope of Potential Environmental Interactions within each Study Report

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<thead>
<tr>
<th>Studies</th>
<th>Potential Environmental Interactions</th>
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<tr>
<td>Environmental Impact Study and Tree Conservation Report (NEA, Sept. 2016)</td>
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<td>The Isles – Les Iles, Domtar Lands Redevelopment – Redéveloppement des Terrains Domtar, dated April 22, 2014.</td>
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<td>Master Plan Ontario Lands, Drawing No. A001, Hobin &amp; Associates Architects Inc., (June 6, 2016)</td>
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<td>Existing Conditions Plan – Master Plan Zibi Ontario, Drawing No. EX-1, (DSEL, May 18, 2016.)</td>
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<tr>
<td>Grading Plan – Master Plan Zibi Ontario, Drawing No. GP-1, (DSEL, July 18, 2016.)</td>
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<tr>
<td>Site Servicing Plan – Master Plan Zibi Ontario, Drawing No. SSP-1, (DSEL, May 18, 2016.)</td>
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<td>Site Servicing Plan – Master Plan Zibi Ontario, Drawing No. SSP-2, (DSEL, May 18, 2016.)</td>
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<tr>
<td>Booth Street Complete Street Design, Phase 1 Chaudière Island Development – Draft, (Parsons, June 2, 2016.)</td>
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<tr>
<td>Zibi Design Guidelines, City of Ottawa, (FOTENN, Dec. 17, 2015.)</td>
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<tr>
<td>Preliminary Geotechnical Investigation, Proposed Development</td>
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<tr>
<td>Chaudière and Albert Islands Ottawa, Ontario, Report No. PG3202-1, (Paterson Group Inc., April 4, 2014.)</td>
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<td>Phase One Environmental Site Assessment, Domtar Lands Redevelopment, (DST File No. OE-OT-018031, (DST, July 2015.)</td>
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<tr>
<td>Phase Two Environmental Site Assessment Update, Domtar Lands Redevelopment, DST File No. OE-OT-01031, (DST, July 2015.)</td>
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<td>Stage 1 Archaeological Assessment Chaudière and Albert Islands, (PRAS February 10, 2014.)</td>
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<tr>
<td>Response to Comment dated August 8, 2014, Hydrotechnical Study Update, (Conestoga Rovers, August 28, 2014.)</td>
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<td>Response to Comment dated August 8, 2014, Hydrotechnical Study Update, (Conestoga Rovers, September 11, 2014.)</td>
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<tr>
<td>Erosion and Sedimentation Control Plan; Zibi – Site Wide, (BuildGreen Solutions, October 14, 2015.)</td>
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<tr>
<td>Environmental Noise Assessment, Chaudière Islands (Domtar) Ottawa, Ontario, (Gradient Wind Engineering Inc., July 22, 2014.)</td>
<td></td>
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<tr>
<td>Master Servicing Study for Windmill Development Group Ltd. Domtar Lands Redevelopment, (DSEL, May 2016.)</td>
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6.0  Concurrence of Project Team

The final Integrated Environmental Review Statement will be reviewed and concurred with all consultants involved in the design team and technical studies, listed in Section 4.0 of this report. Refer to Appendix I for signed sheets from the consulting team.
7.0 References


Paterson Group Inc. (2014, April). Preliminary Geotechnical Investigation, Proposed Development Chaudière and Albert Islands Ottawa, Ontario, Report No. PG3202-1,
dated April 4, 2014.


SARO. June 2017. List of Species At Risk in Ontario. Committee on the Status of Species at Risk in Ontario, OMNR.

APPENDIX I: CONCURRENCE OF STUDY TEAM MEMBERS
APPENDIX I: CONCURRENCE OF STUDY TEAM MEMBERS

1. Niblett Environmental Associates Inc. (NEA)

I have reviewed the sections of this Integrated Environmental Review Statement for the Zibi development that are associated with NEA’s Environmental Impact Study and Tree Conservation Report (Sept. 2016) and concur with the related content and recommendations taken from my report.

Name: ________________________________

Position: ______________________________

Company Name: _________________________

Signature: ______________________________

Date: ________________________________
2. Barry J. Hobin & Associates Architects Inc.

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Barry J. Hobin & Associates Architects Incorporated’s Master Plan Ontario Lands (Drawing No. A001) dated June 6, 2016 and concur with the related content and recommendations.

Name: __________________________________________

Signature: _______________________________________

Date: ______________________________
3. David Schaeffer Engineering Ltd. (DSEL)

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with DSEL’s Existing Conditions Plan – Master Plan Zibi Ontario (Drawing No. EX-1; May 18, 2016); Grading Plan – Master Plan Zibi Ontario (Drawing No. GP-1; July 18, 2016); Site Servicing Plan – Master Plan Zibi Ontario (Drawing No. SSP-1; May 18, 2016); Master Servicing Study for Windmill Development Group Ltd. Domtar Lands Redevelopment, Project No. 14-717 – Revision 5 (May 2016) and concur with the related content and recommendations.

Name: __________________________________________

Signature: _________________________________

Date: ______________________________
4. Parsons

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Parsons’ Booth Street Complete Street Design, Phase 1 Chaudière Island Development – Draft (June 22, 2016) and concur with the related content and recommendations.

Name: ____________________________________________

Signature: _________________________________________

Date: __________________________
5. FOTENN Consultants Inc.

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Fotenn’s Zibi Design Guidelines (December 17, 2015); Park Ownership and Design Strategy (January 15, 2016) and concur with the related content and recommendations.

Name: __________________________________________

Signature: ______________________________________

Date: ________________________________
6. Paterson Group Inc.

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Paterson Group Inc.’s Preliminary Geotechnical Investigation, Proposed Development Chaudière and Albert Islands Ottawa, Ontario (Report No. PG3201-1); April 4, 2014 and concur with the related content and recommendations.

Name: ____________________________________________

Signature: ________________________________________

Date: ____________________________________________
7. DST Consulting Engineers Inc.

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with DST’s Phase One Environmental Site Assessment (DST File No. OE-OT-018031; Revision C – July 2015); Phase Two Environmental Site Assessment Update (DST File No. OE-OT-01031; Revision C July 2015) and concur with the related content and recommendations.

Name: __________________________________________

Signature: ______________________________________

Date: __________________________
8. Past Recovery Archaeological Services Inc. (PRAS)

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with PRAS’s Stage 1 Archaeological Assessment Chaudiere and Albert Islands; Report No. PR13-38 (February 10, 2014) and concur with the related content and recommendations.

Name: ________________________________

Signature: ____________________________

Date: ________________________________
9. Conestoga-Rovers & Associates

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Conestoga-Rovers & Associates’ Final Report - Hydrotechnical Study Update; Report No. 1 (March 2014); Response to Comment dated August 28, 2014; Response to Comment dated Sept. 11, 2014 and concur with the related content and recommendations.

Name: _____________________________________

Signature: _________________________________

Date: ________________________________
10. BuildGreen Solutions

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with BuildGreen Solutions’ Erosion and Sedimentation Control Plan; Zibi – Site Wide (October 14, 2015) and concur with the related content and recommendations.

Name: __________________________________________

Signature: ________________________________________

Date: __________________________
11. Gradient Wind Engineering Inc. (GWE)

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with GWE’s Environmental Noise Assessment, Chaudiere Islands (Domtar); Report No. GWE14-017; Revision 1 (July 22, 2014) and concur with the related content and recommendations.

Name: ______________________________________

Signature: __________________________________

Date: _________________________________